1981 - 1983 Fuel Injected Imperials

Technical Advice

Here are nearly 3 years of email on the 1981-83 Imperial, primarily on fuel injection issues. There are more than 400 pages of messages here, loosely organized into fuel injection, electrical, chassis, A/C and other categories. The "late 1999" messages are at the end and are not categorized.

Bob Schmitt, January 15, 1999
bsbrbank@pacbell.net

To best use this document, use the Bookmarks at the left of the screen, which index the "*Subject*" headings throughout the document. Also use the search feature (binoculars button) of PDF to do a keyword search of the document.

This document is huge (473 pages and 200,000+ words), and contains a great deal of invaluable information from the early years of the Imperial Mailing List. The emails collected here have been organized in the best way possible, given the constraints of time and technology.

There is no way to thank everyone who contributed their knowledge to this document. Thanks certainly go to Bob Schmitt, who saved and organized all of the information presented here.

Subject: 81-83 FI Imperials - Technical Advice Introduction

Sent: Wed, 20 May 1998 00:06:31 -0700

From: Bob Schmitt <bsbrbank@pacbell.net

Dick, Carl, Frank, etc. -

I talked to Carl briefly today (about the statewide meet) and think you guys are very close to creating the definitive document - I know about 80% of it has already been posted as messages and Carl probably has the finishing touches.

I suspect the hardest part is to "get your arms around" the topic. I'd like to help, but don't know a things about the cars (and don't own) but strongly suggest you try the "Frequently Asked Questions" style. Heck, most of the posts were written as a reply to a specific question.

You could start off:

What is unique about the FI on the '81 - '83 Imperials?

What are the components of the FI?

How do I troubleshoot a hard-starting condition? etc.

I'm sure you can pick up on this and refine it. One nice thing about questions is that they also lend themselves to an "outline" format and, if you're using Word and never have tried the "outline" feature, it is pretty slick for organizing.

I've got a lot of old messages and could start, but I know there are many more people who could do a better job because they know what they are writing about. Do it! And thanks in advance!

Bob (still working on the Imperial FAQ)

As for volunteering to organize, edit and post all the info on these cars that has been submitted in the year and a half that I have been a member, Tony and I discussed my doing this at one time, but I have not done anything with the assignment, due to a total lack of understanding as to how to proceed, and my belief that others with more computer savvy would be better at it than I, while I can probably make the most significant contribution to the IML by continuing to field technical questions that I have some experience or knowledge about, and let others manage the web site files. As far as I am concerned, the assignment is still unfilled, and definitely would be valuable contribution from whoever was willing to tackle it. Perhaps Tony will have a comment also.

Dick Benjamin

Subject: 81-83 FI Imperials - Technical Advice Introduction

Sent: Tue, 01 Dec 1998 13:47:04 -0800

From: Bob Schmitt <bsbrbank@pacbell.net

Carmine -

Thanks for the FI tips. I've collected all the e-mail on this topic from the last 2 years and sent it to Dick Benjamin so that he can put it into a good order for eventual posting on the web site. Carl Baty also has a wealth of info on this topic and will hopefully help with review and comments.

Bob

Subject: 81-83 Imperial - General Description

From: "Dick Benjamin"

Sent: Sun, 1 Feb 1998 22:23:59 -0800

Walter;

The '81-'83 cars are delightful drivers, with styling and features that rival much newer cars.

The standard engine was a normal 318 (5.2L) with a computer controlled EFI system and combustion control computer, which gave excellent performance and economy, at the expense of difficult maintenance and parts availability if problems do occur, especially with poorly trained mechanics.

If this car has the factory conversion to carburetor, it will be the same in characteristics and serviceability as any other carbureted early 80's Chrysler product. It will still have a computer controlled ignition system, dash board, and mixture control on the carburetor, the same as any other car from that era. It should be no more and no less trouble to maintain.

If the conversion was not done at a dealership with factory supplied parts, you are going to need more information about the car, since the manuals will not cover it. If you'd like to take a look at the fuel system and see if it is a 2 barrel carburetor, and if so what number, and also check the numbers on the computer module on the air cleaner, we can probably tell you if it is the authorized conversion.

Another thing to note is whether or not the fuel MPG readout is functional, and all other dash features seem to work OK. For instance, check the average MPG readout to see if it is reasonable. With a carburetor I would expect the long term average to be about 14 -15 MPG.

If the conversion is not the authorized one, I think you may have trouble passing the smog inspection (I know you would not pass in California) and you will have trouble getting the car serviced unless you have a really savvy mechanic.

Dick Benjamin

Subject: 81-83 Imperial - General Description

From: Eddenbud@aol.com

Sent: Tue, 3 Feb 1998 00:18:27 EST

Dear Grady,

I've owned my '81 for about four years and my '82 FS for about seven months. My '81 has been converted (by the previous owner) to a non-Chrysler carb. setup, a Holley 4-barrel, while my '82 has the original EFI system. So I'm pretty familiar with the contrast between the two systems and peculiarities of the cars.

As Dick Benjamin pointed out, if a car you're considering has been converted, it's best if it's the Chrysler-designed and supplied conversion. This conversion replaced A LOT of parts, including the gas tank, wiring harness, manifold, etc., and it provided reliable performance AND all of the inputs to the computer necessary for proper fuel calculations on the Information Center. Non-Chrysler conversions may not; for example, my '81, with it's non-standard conversion, does not have an input for fuel burn rate, and so always reads 99.9 MPG (I WISH!!!). Despite these shortcomings, the car does run very well.

I feel that the EFI system is very good too, although it can be very difficult to properly diagnose problems, even to the experienced mechanic--You should see the terrified reactions I've gotten from Chrysler mechanics when pulling into the dealership with one of these cars!! Nonetheless, my '82 is generally a pleasure to drive as well.

Whether you choose an EFI or converted model, you MUST get the complete service manual set, including the service manual, engine performance manual, and (if you can find it) service-bulletin manual. These will prove an invaluable source in leading you and/or your mechanic through diagnostic procedures.

Although both of my Imperials have very good reliability records, I would not rely on one as my only source of transport; they're just not as reliable as a brand new modern car, but how could they be? Since they can be finicky and difficult to diagnose, you might be without wheels for a few days while you or your mechanic tries to figure out what the problem is. On the other hand, I've never had a sudden failure of one of these cars. They always give you signs of an impending problem, and if you heed those warnings, you won't be left stranded.

Here are some other things to watch for when car shopping: The '81's (at least early- run '81's) were notorious for the deck lid rotting out as Chrysler did not provide a proper drain hole (this was an early service bulletin), and the lid would rust from the inside out. My '81 did this, and I was able to replace it with a like-new one. On the other hand, my '82 shows no signs at all of such a problem, as the drain hole problem had probably been corrected on the line by that point.

If the car's been converted to carb., look carefully at how the fuel lines have been routed. You could wind up with a fire if the lines are not properly routed and secured.

As per my previous IML letters, the '81 search-tune radio is an atrocity in engineering, and finding anyone who'll actually touch the thing to work on it is about as easy as finding one that actually works! I'd suggest replacing it with a modern stereo if you get a car with one of those, and hang on to the radio for posterity!

The GOOD NEWS is these cars are really a pleasure to drive. I love driving both of mine. They ride super quiet, soft and comfy, yet still handle better than the whales of previous generations. And the styling is contemporary even on today's roads with aerodynamic "bubble" cars everywhere you look. You will draw admiring glances from any car enthusiast you pass, and you'll hear countless words of praise.

Good luck in your search!!

ED F

Subject: 81 Basic Operation of the EFI ASDM & Other Components

Sent: 8/11/97 2:15 PM

From: bondotmec@alphainfo.com

The last few days, Jeff Gaurino, Frank C, Mike Bleznyk, Bob Harris and I have been having an off-line discussion about the operation of an important component of the EFI system. Our jump off point was a very thorough analysis that Jeff did back in June, and sent to me for comment. I was too busy to respond until this weekend, but now I have made a few observations about Jeff's work and bounced them back to him and the rest of the group, and between us we have come up with an analysis that is pretty damn close, we think. I have not been copying you and the IML thus far, because we are still arguing about some items, and because our discussions really are not going to make sense unless one has access to Jeff's schematics (which of course you have posted on the web page) and unless one is an EE or close to it.

Now, though, I think we are ready for prime time. Close enough to put it out to the whole IML, at least those who have an interest in the frailties and foibles of the '81-83 EFI system. I am going to delete some of the detailed circuit analysis from this message, however, you are welcome to a copy of any and all of our discussions, warts and all, if you want to archive it. What I am sending you now is probably still more detailed than most will want, but some members probably will want to see this level of detail, and the others can just let their eyes glaze over.

So, here goes:

Restating Jeff's theory of operation:

The ASDM (AKA ASD) connections:

pin 1 is solid battery voltage when the starter is cranking, is pulled firmly back to 0 when not cranking, (by the starter solenoid).

pin 2 (the output from the ASD) is solid battery voltage when the fuel pumps and EFI system are up and running (ASD makes the decision based on the other 4 inputs)

pin 3 is solid battery voltage when the ignition is on (starting or running)

pin 4 is the control pump drive signal, which varies from battery voltage to zero depending on how much fuel the system is calling for. It will be solid battery voltage during the initial purge cycle (a second or so) and then settle down to some low value depending on what the open loop program calls for in the CCC.

pin 5 is the drive signal to the ignition coil. It will chop from almost 0 to about 6 or 7 volts while the car is running.

NOTE WELL THAT THERE IS NO GROUND CONNECTION WIRE TO THE ASDM, rather it relies on the mounting bolt to the fender, and note also that the circuitry is likely to be quite sensitive, since it involves TTl logic NAND gates connected as latching bistable circuits, thus making Bob Harris'

recommendation of a separate ground wire to the reference ground for the CCC a mandatory design fix. Those cars still running without this added ground are asking for starting and mysterious cutting out trouble.

I would suggest at least a #14 wire right to the ground lug on the right rear of the Intake manifold, where most of the EFI system is grounded. The ASD should be isolated from the body ground at its mounting to prevent noise on the body ground from upsetting the circuit.

NORMAL OPERATION OF THE ASD

Upon initial power up, the Ignition comes on, then the Cranking signal. The control pump will not be running since its power source (the power module in the hydraulic support assembly) does not receive power until the ASD says so.

Therefore the pin 4 input to the ASD is held low by the pump windings, and the ASDM is waiting for the crank signal

As soon as that occurs, This pulls in the relay inside the ASD which supplies power to the rest of the EFI system, including the intank fuel pump. The control pump starts to run in the HSA, and its drive signal appears at pin 4 of the ASD.

The pin 5 signal also appears at this time, and if the engine starts, takes over holding up the ASDM in the "ON" state after the cranking signal goes away.

Thus the ASD continues to supply power to the system and we are merrily on our way.

FAILURE TO START :

If the engine does not start, and the cranking persists, the running of the control fuel pump will continue until about 20 seconds elapse, then the ASDM shuts down to avoid hydrostatic (fluid) lock from too much fuel being pumped.

The owner only knows his car isn't starting, he doesn't realize all power has been removed from the EFI system including the fuel pumps. Bye and bye, he gets the hint, and releases the key to the IGN position.

If he goes back to cranking without cycling the switch to off, the car will crank but it won't fire because the whole system is dead. He has to reset the ASDM circuit to normal by turning the key off for an instant, then the whole process can proceed again. If he does this immediately, ASDM shutdown will occur much quicker this time, since the ASDM has a memory which persists for a minute or so and will prevent pumping more than a few seconds the second and subsequent tries. That is why the control fuel pump (the one inside the air cleaner) runs for about 20 seconds the first time you try, then progressively shorter periods down to only a few seconds or until the car starts.

When the car starts, the coil drive signal takes over as detailed above, and the ASD ignores the Crank signal until the next cycle.

If for some reason the car stalls, the coil drive signal goes away and the ASD shuts down immediately. If a noise pulse finds its way into the logic circuit, the same thing will happen. The only way to get the engine running again is to turn the key off and restart.

THIS EXPLAINS THE MYSTERIOUS SHUTTING DOWN OF THE ENGINE DURING NORMAL DRIVING THAT MANY HAVE EXPERIENCED! Add the ground wire and isolate the ASDM box from the fender electrically, as discussed above, to avoid this dangerous possibility.

Subject: 81-83 FI Schematic board layouts and Theory of Operation

Sent: 3/15/97 10:42 PM

From: bondotmec@alphainfo.com (Dick Benjamin)

The project to make available the schematics, board layouts, and tentative theory of operation of the three major components of the 81-83 Imperial Fuel Injection system has reached a major milestone. Tony now has available the information in downloadable format, please contact him for color copies if you need them. Color is required to follow the board layouts since the two sides of the board are shown in contrasting colors. Be warned, they are large, roughly 1.2 Megabytes.

[If you want a copy of these eight GIF files, please e-mail me at XXLTONY@CTS.COM and ask for a copy! - Tony]

The components covered are:

Automatic Shutdown Module (schematic, board layout)
Fuel Flowmeter (schematic, board layout)
Power Module: (board layout) ""
Fuel Control Pump Driver (schematic, theory of operation) ""
Power supply (schematic)

This has turned out to be a major advance in knowledge about this system, and much gratitude is due IML member Jeff Guarino, who had the skill, interest, and fortitude to remove the gunk from the boards on his '82 and trace the circuits. IML member Chris Hoffman has taken many hours of his time to convert the hand drawn input from Jeff to a downloadable graphic format and nursemaid the undersigned through getting them to display properly on a PC. (Both Chris and IML meister Tony use MAC's).

We know there are a few typo's and other minor errors in these, do not take them as guaranteed perfect. The EE's in the group who have the time and interest will hopefully study them, as will I, and feed in corrections as discovered. I will be the contact point for this, and will update Tony's files as needed.

What a group we've got here with the IML, guys - when even the Chrysler Corporation threw up its hands over trying to keep these things on the road, our little seat of the pants operation is going to be the main source of maintenance and repair information in their stead.

Now if we can only find a test set!

Dick Benjamin bondotmec@alphainfo.com

Subject: 81 FI - CCC Electronics Circuit Diagrams

Sent: 2/13/97 9:47 AM

From: jguarino@pangea.ca (jeff guarino)

Hello Dick,

I'm glad you got the diagrams and that you got them in good shape. I've been fairly busy the last week, only now getting time to reply. Your right about the amount of time it took to decipher the circuit boards and put it down on paper but I spread it out over a month or so doing a little every now and then when I felt like it. The hardest part is scraping all of the jelly or whatever you want to call it off the components. At the time (two years ago) I wanted to analyze it future but I shorted out my power supply and a bunch of other more pressing things came up after which I kinda lost interest. Just this year I bought a used FI system for $200 CDN and the car ran fine. I tried substituting back the old parts one at a time and found out none of them were any good. That is all four boards were shot (the CCC, fuel flowmeter, air flowmeter, and ASD). I still don't know what caused the original fault.

You were asking about the 30 ohm resistor in series with the output. Well when I was experimenting around with the board the output would go up to about 60v when I removed that resistor, that is with no load on the output.

I wanted to let you know about a transistor on the power module. I forgot to write it in on the diagram. It's Q37 and it had these numbers on it: o39m 1196, if that means anything to you. Maybe you could write it down on the schematic before you get it scanned? Some of the components on these boards were impossible to read or had no numbers on them at all. So I left those blank with a question mark.

I'm glad to see there is so much interest in these circuits. I did try in vain to get the schematics from Chrysler. I know they're out there somewhere. I would really be interested in getting the CCC schematics and info on how it works.

Jeff Guarino

Subject: 1981 - 1983 Imperial EFI - Web Site Tips?

Sent: 1/17/97 4:04 PM

From: fc3@bellatlantic.net (Frank Cannavale, III) Reply-

Seems like there are a few people out there who are having some problems with the EFI on 80s Imperials. I just added my 1983 Imperial to my web page (see below) and included some pkzipped (everyone should have pkzip) files you can download. The files are GIF format. (Everyone should be able to display GIF files.) Each file is a scan of one page. The filenames are in the format of "PageSS-NNN" where SS is the manual section number and NNN is the page in that section. (That's Chrysler's convention, I did not make up my own, which would be confusing if you wanted to compare with someone else who has a manual.)

BTW, I also stopped by two dealers that sold 81-83 Imperials. Both stated that they still are willing to service them. Maybe some day I'll send mine in, but it is working OK for the little I do with it.

Subject: 81 FI - CCC Electronics Circuit Diagrams

From: bondotmec@alphainfo.com (Dick Benjamin)

The diagrams arrived today in fine shape. Since you made the very considerable effort for use color coding to make them easier to decipher,

I am going to take them in to Kinko's to get them reproduced in color the next time I go into town, which should not be more than a couple of days (I live about 15 miles from civilization). Frank, and anybody else on the line here, Jeff has spent (I would estimate) at least a week carefully tracing out the schematic and board layouts for the 81-83 ASD, Power Module, Fuel Pump Driver and Fuel Flowmeter circuits.

He has color coded to show the printed wiring on both sides of the printed wiring boards, and suggested a theory of operation for most of the circuitry. This, folks, is dedication. Also, one helluva lot of work! MY scanner is only a black and white scanner, but any of you on the IML who would like me to e-mail you scanned images of all Jeff's work, just let me know by e-mail and I will send this all on to you. There are 8 Pages, so the file is BIG!

Any of you who want the color copies, let me know also and I will let you know what it costs to produce a set. I will return the originals to Jeff as soon as I have a good reproducible set. Frank, I assume you want a set of the color copies too, but I will send you the B&W images right away.

Jeff, I have not taken the time to try to analyze the circuits at all, but as I do (and/or if anyone else out there does,) I would like to have a discussion with all parties to see if we can thoroughly understand what is going on with these critters.

From what I can see so far, they don't look too tough. I would comment, Jeff, that the resistor you found burned out in the power module, if I understood you right, was the 30 ohm in series with the 23 volt output, and unless it burned up in such away that it shorted across itself (very unlikely, right?) it would have just interrupted the 23 volts to the other units, which I would not think would damage anything.

Whatever caused the resistor to burn out, however is another story. I hope it was just a bare wire short in the harness somewhere. Did you ever find the cause?

Dick Benjamin bondotmec@alphainfo.com ------

Subject: 81 Imp - General

Sent: 1/20/97 6:27 PM

From: grad@cts.com (Carl F. Baty)

Tony, I wonder if it would be possible for those Imperial owners who are writing about a specific year Imperial could put the year up front in the subject. Something link 81 Torsion Bars, or 76 Radiator Needed. In doing this way it would be possible to find the those messages which are

most meaningful to us without having to open each and every submission - and those that have time can still open every submission.

I am having my 81 Imperial Ltd. Edition painted over the next 4 days. Wish me luck in getting the job I am paying for. Nancy Kramer and I both own 81 Imperial Limited Editions. We are going back and forth to find out why these exist and how they are different. Anyone out there have a Limited Edition? Anyone know anything about them. Thanks Carl

Subject: 1980's Imperial diagnosis, continued... O2

Sent: 3/4/97 9:14 PM

From: bondotmec@alphainfo.com (Dick Benjamin)

From: George E.Pearson

What is apparently the O2 sensor wire is thin and black. It exits from the cable bundle where it enters the plug at the front bottom of the engine computer it is a foot or so long and ends with a male bullet connector. What I assume is the O2 sensor is like a spark plug and is on top of the left side of the block toward the rear. It has a short thin black wire with a female bullet connector. I have been trying to get the reading you asked for and have been puzzled because I was now getting 0 volts on cranking at the light green wire. Then found that I also got 0 volts from the battery. One of my test leads was intermittent as if I didn't have enough mysteries! I will have to repeat the measuring of the normal mode when the engine cools off in about 4 hours. The cranking voltages at the light green wire in the no-restart mode with the O2 sensor disconnected aa surge of about 8 Volts and then a steady 1 1/4 volt. With the O2 sensor connected the surge was between 7 and 9 1/2 volts and the more or less steady voltage was between 1 and 2. It varied each time I tried. More later.

Subject: 81 FI Diagnosis, ASD Module problems

Sent: 3/4/97 9:56 AM

From: bondotmec@alphainfo.com (Dick Benjamin)

As you have probably noticed I have been using your schematics to try to solve the mystery as to why George Pearson's car won't restart when it is warm.

I seem to remember a remark you made a month or so ago that you have been running your car with the ASD module bypassed, and the thought suddenly occurred to me that you might have had a related problem. In George's case, the CCC is sending out a shutdown signal to the ASD when the car warms up and he tries to restart it. It would be a simple matter to cut the offending wire (#4 pin on the ASD) and tie it back in the harness, and just ground the pin on the ASD to defeat the shutdown command. I'm wondering if that's what you did, and if so, what were the circumstances that led you to do it?

Right now, I'm following the fact that his so called mechanic sent him home with his O2 sensor disconnected, and it the thought that it may have become contaminated from lack of feedback controlling the F/A ratio. I'd like to see what effect a new O2 sensor will have on his problem. Did you cover any of this same ground?

Chris Hoffman has scanned your color schematics and is forwarding them to Tony for posting on the IML website. I can't wait to see them out there for everyone to use. It is such a pleasure to have some helpful and interested people to pitch in to help these beautiful cars, even if Chrysler has disowned them!

Dick Benjamin bondotmec@alphainfo.com

Subject: 81 FI Diagnosis, ASD Module problems

From: Jeff

Sent: March 8, 1997 1:09 AM

Hi Dick.

I've finally found the time to sit down and do some serious investigating.

I had the same problem you had in trying to figure out the logic behind the ASD operation. After almost giving up I took another look at the manual. Apparently to prevent hydrostatic engine lock(?) during cranking only, ASD pin#4 receives an input from the power module to shut down (see p 14-95 of manual).

If the control pump is signaled to operate at full speed for more than 10 to 20 seconds shutdown will occur. The control pump should operate at full speed for a second or two to pressurize and flush out vapors (see p 14-86).

By taking another module apart I found out the chip is a 4011 chip. Simply 4 nand gates, which I had already suspected. By testing the circuit I've discovered the following: ASD pin#4 must be grounded before power is applied to the circuit. This ensures pin 12 stays low. The circuit consisting of the two nand gates (pins 8,9,10,11,12,13) and D26 act like a flip flop. If ASD pin #4 is left open pin 12 always jumps high when power is applied disabling the start pin ASD pin#1.

So we've established that ASD pin #4 must be low before power is applied to ASD pin #3 (run). When it's done in this order pin 12 stays low and if ASD pin#1 is now held low the relay comes on. Now leaving ASD pin#1 low and disconnecting ASD pin#4 (to simulate hydrostatic lock) C21 and C31 charge up, taking 15 to 20 seconds and cause pin 12 to go high and the relay shuts off.

Next I disconnected ASD pins #1 and #3 and connected back ASD pin #4. C31 is discharged but C21 still has some voltage across it (8v).

Then I connected back ASD pins #3 and #1 in that order and the relay came on. Now disconnecting ASD pin #4 caused the relay to shut off after only 5 seconds because C31 and C21 charged up faster due to remaining charge on C21. This is exactly what it says should happen in the manual.

So after the engine starts (which I simulated by making pin 5 high), I disconnected the voltage on ASD pin #1 and the relay stayed on. Then I disconnected ASD pin#4 from it's grounded state and nothing happened, the relay stayed on indefinitely.

Actually I've been trying to figure this out on and off for the last couple of years and now I'm extremely pleased that I've figured it out. Let me know if this makes sense to you or have I made more mistakes?

The first ASD that I took apart had what looks like a diode added on as a cure for something. That is Dx between pin 5 and pin 3. This second ASD doesn't have this diode and has only a 100k resistor in place of R15 and Rx.

Also I received a circuit diagram, one I've never seen before from Glen Nettelton. It clearly shows a feedback signal originating from pin 6 of the power module going to the CCC and ASD.

Well I think this is enough for one day, isn't it?

hear from you later, Jeff Guarino

Subject: 82 FS EFI and some Electrical problems - O2

Sent: 6/11/97 12:40 AM

From: HarrisWerks@worldnet.att.net (Robert J.Harris)

I feel like I came in the middle of the movie, but it sounds like your bulkhead disconnect on the firewall is not tight, moisture is getting in and affecting your electrical system. This is neither hard to check nor to fix.

I also tend to think that the oil in the Air Cleaner is from a bad PCV Valve, or the rest of the system is blocked - the hose or port in the base of the Throttle Body. It's not a bad idea to remove the Throttle Body and clean it up with carburetor, (spray), cleaner.

You can also check the Oxygen Sensor circuit in the following manner:

Engine must be warm. Separate the lead coming from the sensor at the rubber connector. With the engine running, hold the male end of the lead in your right index and thumb fingers and rest your left index finger on the battery positive post. The engine idle speed should decrease and if you hold it long enough, the engine will stall. The alternate response is to then switch the left hand fingers to the battery negative post - the idle speed should increase and the engine will run very rich.

If you get no response at all, then the electrical circuit from the connector to the CCC is broken, (open), or the computer is defective. Often the very end of the wire to the CCC at position number 12 on the CCC connector is open due to too much handling, but it can be repaired.

If the CCC responds to both of these tests, but the engine does nothing when the connection to the sensor is replaced, the Oxygen Sensor is defective. When defective or the electrical connection to the CCC is bad, the CCC will default a rich mixture to the fuel system, the engine

will smell rich at idle, but the idle speed will become most steady but funniest of all, the gas mileage difference is not measurable!

There are two metal breather ports inside the intake manifold on these engines that deliver the exhaust gases to the incoming air when the EGR valve is open. I would say that these are probably blocked solid if you haven't cleaned them and hence the EGR system is not working even if the valve is working. On the good side, the EGR system only reduces gas mileage and tends to cool the Air/Fuel mixture to the extent that it helps prevent "pinging" on a hot, dry day.

There is another quirk on these cars that many of you might not know about and it is this: The metal-to-hose connection on the AC discharge line near the muffler is very prone to leak. The AC lubricant will drip down onto both of the Field Brush pockets on the rear of the 114 amp alternator and render them useless. The ultimate damage is a highly overcharged battery which will boil and the case will swell and distort. The hose will have to be replaced and the alternator disassembled to clean the slip rings. Good time to replace the brushes.

I believe there were two kinds of wheels available on these cars, two kinds of tires and either leather or Chesterfield cloth interior fabrics. Your choice was at a no-cost basis, the moon roof was an extra cost item.

There is one other item that I wanted to say about the EFI component parts:

Late in the eighties, Chrysler undertook an unprecedented task and refined all of the EFI component parts for this car line, and bear in mind that this happened AFTER production was stopped, long after! All of the tooling, unassembled new parts and returned used parts were gathered along with all of the bits and pieces and transported to a new location and over a year was spent restoring the tooling and test equipment to original specs, and even better.

Then the assemblies were modified to include superior components to avoid early failure and operate the way they were originally intended. The results were vastly improved Power Modules, and Support Plates, to the extent that the bulk of the complaints went away.

To be more up-to-date, Chrysler was ready to rebuild a production run of EFI Combustion Computers just last month, the unavailability of cores was the restraint. This is important because many EFI equipped owners cars will never run right no matter what they do because the parts are inherently defective, right off the line.

New Support Plates are still available and the Computers should be available now.

Despite all this there are still some nagging problems, but I am not afraid to take my Imperial anywhere for an extended trip and there were many years when that was not possible.

As for the Sun EFI tester, I bought one of these from Sun in 1984, new in the box. The price was nowhere near the 1850 to 2000 dollars which was the original price. I called them a few months later to inquire for a friend and they told me that they had taken the last eighty two of these brand new instruments to the dump and bulldozed the dirt over them. On the good side, I can say that use of this tester only helped me on two occasions in diagnosing the problems with the system, all other times it was the way we all are probably trying to get these things running right.

And to boot, the Service Manual Diagnostics are not right.! Knowing all of this, it might be futile to go ahead with the schematics of the various components because either the circuit is different or the components are different - or both.

Lastly, I have come upon an opportunity to acquire many of the little pieces of the EFI components and that includes the Instrument Cluster. I have four pages of part numbers of all the little resistors, capacitors, switches etc., for this system and this may be a great opportunity, my question is would this be a wise investment and are there enough 81-83 EFI owners in need of these pieces. If I don't act soon, I'm afraid another bulldozer will be put to work and that would be sad. I would appreciate some feedback on this item soon.

Thanks to Dick Benjamin for your response.

Bob Harris

Subject: 81 - Dangling tube is an air bleed

Received: 3/1/97 10:52 AM

From: bondotmec@alphainfo.com (Dick Benjamin)

Yeah, the dangling tube is an air bleed, and should be there.

Related to your problem? I don't think so, but let me study some.

Dick

Troubleshooting

Subject: 81 FI warm no start problem

Sent: 2/28/97 10:37 PM

From: bondotmec@alphainfo.com (Dick Benjamin)

I agree it does not sound like it will be a failure of the secondary ignition circuitry. I would still be very interested in the health of the temperature sensors and air plumbing I mentioned.

Would you be able to produce the symptom (non-start condition) and then, loosen the wing nut on the top of the air cleaner, and pour one tablespoon of gasoline down the center screw, retighten the wing nut and immediately try to start the car. If it starts right up for you, which I suspect it will do, we have eliminated a whole bunch of possibilities. If it still will not start, then we have eliminated another large set of problems. Lets try that, and take our next path of diagnosis from what we learn.

We'll find it, don't give up!

Dick

Subject: 81 FI warm no start problem

Sent: 3/1/97 11:11 PM

From: bondotmec@alphainfo.com (Dick Benjamin)

George;

The next thing to check is to look at pin #2 on the ASD (Auto Shut Down Module) when the problem is occurring and see if there is 12 volts on the pin. You will have to jury rig some way to probe it while everything is connected and someone is cranking the starter.

The ASD module is the square thingy mounted with two screws to the right inner fender. It has 5 wires going to it; one is tan, one is black with a yellow tracer, one is dark blue, one is light green, and one is dark green. Only two of them are large wires (#12). The one we are interested in here is the dark green wire. The same wire (other end) goes to the resister mounted on the firewall, toward the top on the right side. It might be easier to get to there. The resistor has another wire to its other end, which is also dark green, but that one has a white tracer on it. I think you are going to find that there is no 12volts on the pin when the engine is warm and you are trying to start it, but I don't want to jump to any conclusion just yet.

Stay with us here, we are gonna get it!

Dick Benjamin bondotmec@alphainfo.com

Subject: 81 FI warm no start problem

Sent: 3/1/97 10:06 AM

From: bondotmec@alphainfo.com (Dick Benjamin)

OK, George, now we're getting somewhere.

The fact that the car started when you manually introduced fuel leads us to the conclusion that the fuel supply is not turning on when the car is warm. We have eliminated anything to do with ignition (as it appears you already knew from your ignition analyzer).

the air cleaner temp controlled flapper, I guess what you have to do is take the flex duct off the fender air scoop so you can see the flapper valve operate. It should be opening to let the air from the exhaust manifold area into the air cleaner when the car is running cold, and should close off that passage to allow only cool air from the 4 inch flex duct passageway when the underhood air reaches about 100 degrees.

Now, I am wondering if the air flow sensor is the whole cause of your problems with this car. We need to get a test meter on the signal from this air flow sensor and see if it is telling the fuel system to start up and supply fuel when the car is warm. (Once you get the engine running, it is apparently OK, so we seem to have a chicken and egg situation). Another possibility is that the Automatic shutdown module is telling the fuel system to sleep.

Unfortunately my Engine manual is down at my shop and I need to study it some before I can tell you specifically what wire to look at. Since you have an IGN analyzer, can I also assume you have a VOM?

We'll get this critter straightened out, never lose hope!

I'll talk to you more later (this evening)

Dick.

Subject: 81 FI warm no start problem

Sent: 3/2/97 5:37 PM

From: bondotmec@alphainfo.com (Dick Benjamin)

Ah HAH! We're homing in on this one. Not to brag, but that's two for two as to what we though you would find (the 14 volts is right with the engine running, and it should have had battery voltage while cranking, which would be between 10 and 12 volts). Let me think about this for a while.

the history of the problem as described in the note to your son;

MY GAWD! You must be an extraordinarily patient man. I think you have an excellent small claims case (but I'm no lawyer). At the very least, you should contact the appropriate corporate management and tell them the facts just as you did here, with no emotion or flamethrowing. If I were running the business, I would certainly want to know how my customers were being treated. Damn, they really screwed up a beautiful and valuable car.

We'll fix the FI, just hang in there.

Dick

Subject: 81 FI warm no start problem

Sent: 3/3/97 10:07 AM

From: bondotmec@alphainfo.com (Dick Benjamin)

OK, George, I printed out your results and rearranged the columns. I wish I knew why the E-mail does that to tables.

Anyway, I got most of the info I need. The pin 4 voltage of 1.3 volts in the no-start condition. is probably the root of the problem, unfortunately this lets the ASD off the hook, we've got to look into the CCC and the power module. I would like to know what this voltage is when the car is cranking in the conditions where it will start. I assume its 0 or thereabouts, and I know its hard to

do, since the car will start pretty quickie and only give you an instant to notice, but if you could get someone to crank it for you when it cools off so that you know it will restart, it would be nice to know what the normal voltage is here. As I say, anything below about 1/2 volt is OK.

Some time way back when we started this discussion, you told me about a wire you found the dealer had not reconnected. You fixed it, and it did not seem related to the problem, but just for completeness, I'd like to know what color the wire is, and where it comes from/goes. If it came from the O2 sensor, it is probably related to the problem, because the car would have been driven with no power to the O2 sensor, which would probably poison it.

It is out of the picture on a cold start, and would cause the same symptoms as you are seeing, I think. (Not sure about this, anybody else out there ever run one of these puppies any distance without the O2 sensor hooked up?)

Still at it, Dick.

Subject: 81 FI warm no start problem

Sent: 3/4/97 9:57 AM

From: bondotmec@alphainfo.com (Dick Benjamin)

OK, George, I think you've identified the wire correctly. The O2 sensor is actually threaded into the left exhaust manifold/header, it samples the oxygen percentage in the exhaust once the engine is warmed up and it is the main control signal for the CCC. It is a black #18 wire (small wire) with bullet connections to the sensor pigtail. Is this the wire that you found disconnected previously? I mean when the garage screwed your car up in the first case.

If you are out and about today, you might pick up new one (they are only few bucks) and install it. They are easily contaminated and it is possible that your whole problem started here. When you install it, if you see the need to use thread sealer on the threads, be sure that you use sealer that is specifically approved for use with Oxygen sensors.

The # you want is an OS 101 sensor, very common, should be available off the shelf at any parts store. (I use NAPA, a little more expensive parts, but reliable quality).

In another message, which I will CC to you, I am going to ask another guy who is knowledgeable about these critters for a little help here. Stay tuned.

Dick

Subject: 81 FI warm no start problem

Sent: 3/2/97 11:45 PM

From: bondotmec@alphainfo.com (Dick Benjamin)

George,

The next step is to see what is going on with the ASD module. It might be bad, or it might not be seeing the right information from the other devices. One by one, then, on the ASD:

1. Check the voltage on pin 3: (heavy dark blue wire) -- should show 12 (volts more or less) whenever the key is on in either the run or start position. (This is really a check of your ignition switch, which is not likely to be the culprit, but lets be sure)

2. Check Pin 1: (a smaller tan wire). Should show 12 volts when you are cranking, (a little less because of the load on the battery, but not less than about 10 volts. (This is really a check of the starter relay, which is also an unlikely candidate for blame, but lets be sure.)

3. Check pin 4 (a small light green wire) while you are cranking when the non-start condition is occurring: It should be 0 volts (not more than 1/2 volt max.) and stay there while you crank. Ill bet its not staying down when the car is not starting, but is down when it starts OK.

Lets verify these facts and then take it to the next step. We will know, after these measurement whether its the ASD or something else.

Dick.

Subject: 81 FI warm no start problem

Sent: 3/4/97 9:11 AM

From: bondotmec@alphainfo.com (Dick Benjamin)

George

OK, I understand the "bad test lead" phenomenon, having fought such all my life. I knew it would be a tough measurement for you to make, but it would be good to have the information. I might have misled you in the discussion about the O2 sensor - I did not mean to ask you to make the measurements of voltage on the light green wire with the O2 sensor disconnected - just leave it connected.

Another message follows for you.

Dick

Subject: 81 FI - vacuum sensing information

Sent: 3/5/97 10:39 PM

From: bondotmec@alphainfo.com (Dick Benjamin)

George;

I owe you an apology. You said a dangling vacuum tube that was black with a yellow stripe and I assumed without checking that you were noticing the unused port on the ERG control valve that sits near the left front of the engine. This is the device you mentioned with the part number 4227670 on it. The "unused" connection to the vacuum circuit is indeed an air bleed, and would not have anything to do with our mystery problem. HOWEVER!!! This evening, I got smart and had my wife come out to my 81 with me and point out a black tube with yellow stripe on it...

You were right all along, there is such a tube, and it should be hooked up. It goes into the bottom of the air passageway that is the continuation of the 3" flex duct that pipes air over from the fender air ducting. The purpose of this little black/yellow tube (I always though this one was black/green, so I didn't make the mental connection when you told me about it) is to provide vacuum sensing information to the EGR valve. Having this tube disconnected would screw up the smog readings on the car, but I do not think it will turn out to have any effect on our starting problem. Sorry.

One thing we still have not investigated that is warm-up related is the temperature sensor and flapper valve that controls whether the air cleaner gets air from the outside world or under the hood.

This is the device that is right up against the fender next to and a little behind the battery. If you look under the main (3") flexduct, you will see a smaller (2") duct that comes from the exhaust manifold area of the engine. Its purpose is to provide warm air during startup when the underhood temp is under 100 degrees.

When the car warms up, this 2" tube should be closed off and the main tube that goes out to the front of the car should be open. If this changeover were not taking place correctly, it is possible that you are not getting sufficient airflow when starting if the car is warm.

I think this is a slim chance, but just to eliminate it as a possible cause, take the 3" ductwork completely off the car, and just let it run without it for testing purposes. This is the duct with the plastic click-down strap clamps on each end, one on the air cleaner "snorkel" as you call it, the other at the flapper valve we discussed above.

Dick Benjamin bondotmec@alphainfo.com

Subject: 1981 Imperial - Running rough

Sent: 3/28/97 6:04 AM

From: lester@cnwl.igs.net (Shawn Thompson)

Just took my car out of the garage after a five month rest It started well, I let it run for about twenty minutes, I was hoping that my problems would've cured itself. Well, no luck.

The roads were clear of snow and nice and dry, so I decided to venture over to see my mechanic once again, I explained how the car was running. After thinking for a couple of minutes, he reached down and unplugged something and ask me to try the car like that.

I made a appointment to have him check it out completely NOW THE GOOD NEWS: my car was running GREAT.

I called him when I got home to let him know. He claims that what he unplugged controls the amount of fuel going to the FI system and that the engine wasn't getting enough gas.

He told me what this sensor was, but I guess I wasn't listening. When I take it back to have it replaced, Ill let you know EXACTLY what my problem was.

(RELIEVED) for now - keep up the good work:

Cliff Thompson Ontario Canada

Subject: 81 FI problems

Sent: 3/31/97 8:48 PM

From: bondotmec@alphainfo.com (Dick Benjamin)

Most likely what he unplugged was the oxygen sensor (AKA O2 sensor). This is a thingie that looks sort of like a spark plug, and it is threaded into the left exhaust manifold.

There is a one wire plug dangling from the Air Cleaner electronics unit that plugs into the one wire receptacle on the pigtail from the O2 sensor. These are easy to replace (like a spark plug) and cheap, and easily available from any parts store.

Running without it connected is giving you substandard power and economy, and excessive pollution. If a faulty O2 sensor is all that has caused your problems, you are a very lucky man. Replace it and go back to enjoying your car the way it was meant to run!

Dick Benjamin

Subject: 81 FI problems

Sent: 4/7/97 11:20 AM

From: bondotmec@alphainfo.com (Dick Benjamin)

I think you have proven that the air flow sensor IS working, or else it would not have had such a noticeable effect when you restricted the air intake. In fact, you have led me to believe the real culprit is the fuel flow sensor, which was suggested way back in the beginning of this discussion by Frank C. (and who I have copied with this response). Frank described a method of dealing with the problem which included investigation of the fuel flow sensor, and I remember him making the point that this is a likely cause of your problem, and also that it is much cheaper than the air flow sensor to take care of. You should review his original posting on the subject, it was just after this car and its problems were first discussed. Unfortunately I've had a crash on my system so I do not have the comments Frank made at the time, but he will see this response, and

perhaps you can get in touch with him through the IML to obtain his thoughts again. Listen to the man, he knows his stuff.

Good luck, now

Dick Benjamin

Subject: 81 FI problems FF Sensor

Sent: 4/9/97 2:15 AM

From: bmb@zoomnet.net (Brian, Barb and now Dennis)

We will definitely explore the fuel flow sensor as soon as the car can be started again.

What I don't understand is how the AF sensor could be good. If the fuel sensor was feeding too much gas and then we choked the air wouldn't that make it burn even more rich? or would that in effect tell the gas flow sensor to lack off the gas and that is why it temporarily straightened out?

Help me I'm confusing myself with all these possibilities!!! Brian

Subject: 81 FI - Start problems

Sent: 4/9/97 11:19 AM

From: DBaker5197@aol.com

Brian,

First off, you can't tell a sensor ANYTHING! (They are kinda like teenagers) Sensors send signals to the main processor and that is ALL they do. From a strictly operational standpoint, if a sensor is missing or sending a signal that the processor has been programmed to ignore (i.e. a voltage or resistance which is too high or too low) then the processor will substitute a static reference signal in its' place (which is pre-programmed at the manufacturer) which causes the computer to operate in either the "open loop" mode (if the engine has just been started) or the "limp in" or "limp home" mode (if the sensor(s) go bad after warm-up).

If the car will not start at all (either hot or cold) then you have a more basic fuel and/or ignition problem. A basic test for the fuel pump is to park the car in a quiet place and have someone listen at the rear of the car while you turn the ignition to the "ON" position. The listener should hear the electric fuel pump run for approximately one second and then shut off. (Do NOT turn the key to start position).

If this does not happen, then you have a fuel pump/wiring, or auto shut down relay problem, or a blown fuel pump fuse. (Check all of your fuses first, since there may be a fuse blown that

supplies power to a portion of the computer) Remember on a fuel injected Chrysler product, the engine control computer is in two separate modules.

The power module is the one under the hood, and the logic module is in the passenger-side kick panel, along with the auto shut down relay and MAP (manifold absolute pressure) sensor (which could also be causing the problem). Also, the coolant temperature sensor (located in the thermostat housing) could be bad. This sensor, when cold, allows the logic module to "demand slightly richer fuel mixtures and higher idle speeds until normal operating temperatures are reached.

The coolant temperature sensor allows the logic module to act like an "automatic choke" (quoted from Chilton's service manual). Basically, you will (assuming that the fuel supply and ignition systems are healthy) have to check all of the sensors in a step by step fashion or lay out a lot of money trying to substitute parts in a hit or miss fashion.

Your best bet would be to call your local public library and see if they have a Chilton Manual (most libraries do) and check it out and use it. If you like it, you can contact them for a copy of the manual covering your model year (they usually cover 4-5 model years in one edition) at the following:

Chilton Book Company Chilton Way Radnor, Pa. 19089

Or go to the parts department of your local Chrysler dealer and get an order form for the factory manual. I do this every time I get another car, and they have been invaluable to me, since I do all of my own service/repair. Good luck and let me know if I can be of further assistance.

Dave

Subject: 81 FI - Start problems

Sent: 4/9/97 7:25 PM

From: bondotmec@alphainfo.com (Dick Benjamin)

Just focus on the fact that your changing the air flow had an obvious effect on the EFI system, or else the result would have disappeared as soon as you removed your hand instead of persisting for a few minutes. The computer must have made an adjustment in response to your restricting the air flow, thus something detected that restriction, it had to be the air flow sensor. (I think).

Reread Frank C's posting about cleaning out the fuel flow sensor, and give that a try. It won't cost you anything, and there is a good chance it will straighten the car out.

Dick Benjamin

Subject: 81 FI problems - FF Sensor

Sent: 4/9/97 7:25 PM

From: bondotmec@alphainfo.com (Dick Benjamin)

Just focus on the fact that your changing the air flow had an obvious effect on the EFI system, or else the result would have disappeared as soon as you removed your hand instead of persisting for a few minutes. The computer must have made an adjustment in response to your restricting the air flow, thus something detected that restriction, it had to be the air flow sensor. (I think).

Reread Frank C's posting about cleaning out the fuel flow sensor, and give that a try. It won't cost you anything, and there is a good chance it will straighten the car out.
Dick Benjamin

Subject: 81 FI problems - AFS

Sent: 4/9/97 7:25 PM

From: bondotmec@alphainfo.com (Dick Benjamin)

Just focus on the fact that your changing the air flow had an obvious effect on the EFI system, or else the result would have disappeared as soon as you removed your hand instead of persisting for a few minutes. The computer must have made an adjustment in response to your restricting the air flow, thus something detected that restriction, it had to be the air flow sensor. (I think). Reread Frank C's posting about cleaning out the fuel flow sensor, and give that a try. It won't cost you anything, and there is a good chance it will straighten the car out.

Dick Benjamin

Subject: 81 FI - Start problems

Sent: 4/10/97 8:20 PM

From: bmb@zoomnet.net (Brian, Barb and now Dennis)

OK sounds good. we will try it when we get the starter changed. I guess what I was thinking was the AFS was way out of calibration and that's why when we choked it straightened out. but we'll definitely do the FFS thing ASAP. I should really thank you for all your help on this subject. And everyone else too THANKS!!!

I read a message that someone had a good GIF or JPEG of the system. Could I possibly get it?

Do you know how many 81s were produced? The dealer in Huntington that sold the car said 1000 but I've heard more like 4000. Brian

Subject: 81 FI problems - GIF

Sent: 4/11/97 11:19 PM

From: bondotmec@alphainfo.com (Dick Benjamin)

Tony has the GIF files on his web site. There was a posting (by me) as to how to get them printed out in a useable size about 2 weeks ago. Unfortunately I have had a disastrous system crash, and I can no longer make a copy for you, but I think Tony has the info at his fingertips.

Tony's web site also has the production statistics for the three years of the cars, I believe. If not, bug me and I will repost them.

Dick Benjamin

Subject: 81 FI problems - AFS

Sent: 4/10/97 8:20 PM

From: bmb@zoomnet.net (Brian, Barb and now Dennis)

OK sounds good. We will try it when we get the starter changed. I guess what I was thinking was the AFS was way out of calibration and that's why when we choked it straightened out. but we'll definitely do the FFS thing ASAP.

I should really thank you for all your help on this subject and everyone else too THANKS!!! I read a message that someone had a good GIF or JPEG of the system. could I possibly get it? Do you know how many 81s were produced? The dealer in Huntington that sold the car said 1000 but I've heard more like 4000. Brian

Subject: 81 FI problems

From: grad@cts.com (Graduate, Ltd)

I have my 81 FI Imperial up and running well now. I will share what I learned very soon. I just met a guy named Gary who owns an 81 Imperial FI that just (80 miles ago) came out of a computerized tune up at a dealership in Anaheim, CA. named McPeek. He drove the car back to San Diego and it was running great. Suddenly he has a problem which has stopped him cold. He let the car sit for awhile and it needed a jump. When he applies the cable it arcs back a him. I told Gary about the IML and that I would seek the wisdom of the group for him. Reply to Grad@cts.com

Carl Baty. Thanks folks.

Subject: 81 Overheating

Sent: 4/20/97 11:17 AM

From: lvovski9@idt.net (Brian Liberman)

Hi, I am Brian, live in Libertyville, IL, own 1981 Imp. Some time ago as a member of IML I received your mail regarding Lou's Garage in Lake Forest.

Today, I am looking for a place to fix my car which suddenly presented me with the overheating problem. All displays, except battery(VOLT) light which stays on all the time, went down and antifreeze was shooting from all places and angles in engine compartment and under the car.

Would you be kind enough to provide few more details about your particular experience with that place? What kind of car they fixed for you, what was the problem and how long did it take them to do it. Did they give you a written estimate in advance? At $56/hour ongoing labor rate and peculiar FI on my '81, it's highly desirable not to make a mistake in choosing mechanic.

Thanks in advance. lvovski9@mail.idt.net

Subject: 1981 Imperial - Fuel stop valve

Sent: 5/4/97 8:15 PM

From: bondotmec@alphainfo.com (Dick Benjamin)

OK, Shawn I think we're on the same page now.

If you have the shop manual for the car, go to page 8-195 and look at the components on the driver's side inner fender. About 1/3 of the way from the hood hinge to the front of the car is the "throttle body switch relay".

This is a metal box of the size you describe, and it has 6 wires going to it. The wires atwo black wires with a faint pink stripe, three solid black wires, and one violet wire with a faint black stripe on it. There are actually only 4 contacts used on the relay, two of the 6 wires are paired up with identical wires in single cavities of the connector to the relay. The connector to the relay may consist of two separate pieces of plastic with wires crimped to terminal sockets that mate with the prongs on the relay, or it may be all in one piece.

To understand the purpose of this relay, you can read about it on page 14-86 of the "engine performance" manual. It is the device described under "Back-up Circuit for Closed Throttle Switch". In case you don't have these manuals, let me explain that the purpose of this relay is to retard the timing and enable the automatic Idle speed motor (to regulate your curb idle) under conditions that are rather unlikely, namely that the idle stop contact (which does the same thing) has for some reason failed, and the driver is holding his foot on the brake pedal. In any event, this will only affect the engine operation at curb idle, and only if failure has also occurred at the idle stop contact.

You can check this out yourself by pulling the connector off the relay, and temporarily grounding the violet wire via the exposed end of the terminal socket in the connector, while the engine is idling. I'll bet you don't notice any effect. If you do notice an effect, then investigate the violet wire that plugs on to the contact that is touched by the throttle valve lever (when the accelerator is released) on the passenger side of the car, near the right front of the throttle body. You'll have to remove the top part of the air cleaner to get a good look at this contact. Either the contact is dirty, or the wire is not plugged in.

Remember, this only affects curb idle, don't waste your time with this if you are having driveability problems at speeds above idle.

I have forgotten what symptoms you are trying to cure, so I am not sure if this is germane to your situation.

Dick

Thanks for taking time to help solve my problem, after having my car checked out, it still isn't running up to par. Carl Baty suggested to check the fuel stop valve, well, I have to admit that I wouldn't know one if I was holding it in my hands. After receiving your Email, I checked for a parts number and I came up with this. 1411576. Does this number sound right? The box which I checked is roughly 1"x2" and it has four prongs on it. It is located on the right side under the hood directly over top of the wheel well. Yes, my car is still EFI. I may have checked the wrong box. You may have guessed, by now, Dick, that I'm far from being mechanically inclined. If you would take time, Dick, to check out this number, I'd appreciate it

Subject: 1981 Imperial "symptoms" - EGR

Sent: 5/7/97 8:33 AM

From: bondotmec@alphainfo.com (Dick Benjamin)

Good list, Shawn(or is it Cliff? I just noticed the signature is not Shawn).

One thing that is very suspicious on your list is the EGR valve. This would cause approximately the symptoms you describe if it were stuck in the "on" or open position. If the mechanic bypassed it, he probably had the same suspicion. It is quite possible that even though it is "bypassed", it could still be allowing exhaust gases into the intake manifold. I would rather he took it off and cleaned it out (you don't say how many miles are on the car, but often these things get horribly carboned up, especially if the car is over 100,000 MI.)

He could also apply an external vacuum source to it and verify that it operates properly. The only thing that concerns me about blaming the EGR valve is that the car only does it after warming up thoroughly. If the EGR valve was bad and stuck open, I would have expected it to be that way all the time.

The first thought that occurred to me is that your low speed injection nozzles don't seem to be working, at least when the car is acting up. If your mechanic is comfortable with doing it, I would ask him to take the fuel injection rail assembly off the hydraulic support plate, and carefully disassemble it into its component parts, which include both a high speed and a low speed

(pressure controlled) fuel valve, a small fuel filter, and four separate little squirt holes that aim the fuel down into the maw of the throttle body.

The assembly comes out with two screws and disconnection of a fuel line, and disassembly only involves two additional screws. There are 3 or 4 O-ring seals, but they are never bad in my experience, and they are available at any parts store anyway. After a careful and thorough cleaning, your car will either be fixed, or exactly the same. It won't be any worse (which with these critters often happens when you try to fix them).

Your need to depress the accelerator to start is telling us that something isn't kosher with the Automatic Idle Speed system. Verify that the violet wire (it has a faint black stripe on it) is connected to the switch contact at the front passenger side corner of the throttle body. Verify that the switch contact is working properly such that the violet wire is grounded when the car is at idle. Just for the heck of it, try to start the car with your foot on the brake.

(This activates a backup system to the idle switch contact we just discussed, and should produce the same result if it is working, about a 50-50 chance.) This would also explain your problem with stalling at idle, which these cars never do if the AIS system is working right. Did you ever happen to notice if it DOESN'T stall if you have your foot on the brake?

It is also possible, of course that the AIS (throttle positioning) motor has failed or is unplugged, it is near the switch contact we just discussed, and it is connected to the throttle linkage via an adjustable link. The motor is in a gray rectangular metal box about 2 1/2 X 1 X 1 1/2 inches, with an electrical connector, and it is held to the throttle body with two screws. These seldom fail, but they often get disconnected when people are fiddling around with the fuel injection. (There is also a throttle position sensor in the same area, but this seems to be working OK. It is a round black deally, with an electrical connection).

Lets take baby steps from here, and see if these suggestions lead to pay dirt.

I am going to copy the IML with both sides of this correspondence, there are a lot of members interested in these cars, and there are some other very knowledgeable people in the group also, I may have missed something that they can add, and others may want to save the info for future trouble shooting.

Dick

Subject: 1981 Imperial "symptoms" - EGR

From: Shawn Thompson <lester@cnwl.igs.net

Good morning Dick:

Thought I'd get back to you to let you know exactly how my car is running. On a cold start, I have to press the throttle slightly when starting. After starting, it will run a bit on the rough side until it warms up. It runs well for about 15 to 20 minutes, then at low speed, lets say, from 0 to 40 km, it seems to be starving for fuel. After reaching 40 and upwards, it runs well. When coming to a complete stop, most of the time it will stall. A month back I thought we had found the problem after taking it in for a complete check-up, but I guess it was only wishful thinking on my part because it's still running the same way. Dick, my car is still in mint condition and we'd love to find out what's causing this problem, so anything you suggest, I willing to try.

I'm listing the parts which I've replaced:

Computer in 1994
Fuel flow meter
Valve seals
Timing chain
Distributor pick-up
Plugs and wires

Now, this is a partial list of things we've checked:

Coolant sensor
Oxygen sensor
Fuel pressure switch

and for some reason we bypassed the EGR valve Well, Dick once again, thanks for your time and knowledge.
Cliff

Subject: 1981 Imperial Backfires - Adjusting Idle?

Sent: 5/8/97 9:57 AM

From: wes@direct.ca (Wesley T Foulds)

I have a 1981 Imperial with 128 thousand miles on it and want to know how to adjust the idle on it. It idles too fast.

I also need to know why it backfires. It seems to backfire when it is in neutral and I push on the gas to rev the engine if any one has info I would be very happy to hear from them on Imperial mailing list or at my Email wes@direct.ca

[My request is that we keep all such technical discussions here on the IML, so I can archive them on the IML's websites for future reference - Tony]

Subject: 1981 Imperial Backfires - Adjusting Idle?

Sent: 5/8/97 5:39 PM

From: DBaker5197@aol.com

Wesley,

Backfiring is a symptom of a mixture which is too rich. (If it's through the exhaust and not through the throttle body. If through the throttle body, then your mixture is too lean, you've jumped a tooth on the valve timing, which is a possibility with a high miler, or your base ignition timing is

WAY too far advanced, which would also cause the car to idle too fast) I don't have my service manual handy but I don't believe that the idle speed has a screwdriver adjustment. The AIS motor controls a small air valve, which is just like pulling a vacuum hose off. The speed picks up, but the engine doesn't go rough because the computer increases the fuel flow. Try checking out the O2 sensor in the exhaust manifold. It will be a relatively cheap and easy fix. Good Luck. Dave

Subject: 1981 Imperial Backfires - Adjusting Idle?

Sent: 5/9/97 7:52 AM

From: bondotmec@alphainfo.com (Dick Benjamin)

Wesley;

Is your car still EFI, or has it been converted to carburetor? The answers to your questions depend on knowing this. If you are not sure, look to see if it has a fuel pump mounted to the front passenger side of the engine under the Air conditioner compressor. It will have fuel lines going up under the air cleaner from this location rather than up the right rear of the block, which is where they are for the EFI system.

Dick Benjamin

From: wes@direct.ca (Wesley T Foulds)
To: ImperialML@aol.com

I have a 1981 Imperial with 128 thousand miles on it and want to know how to adjust the idle on it. It idles too fast. I also need to know why it backfires. It seems to backfire when it is in neutral and I push on the gas to rev the engine if any one has info I would be very happy to hear from them on Imperial mailing list or at my Email wes@direct.ca

Subject: 1981 Imperial Backfires - Adjusting Idle?

Sent: 5/9/97 8:32 PM

From: bondotmec@alphainfo.com (Dick Benjamin)

Just for accuracy, the AIS system adjusts the throttle butterfly position in response to control signals from the CCC to maintain a constant idle speed on the EFI system. Vacuum leaks, AC clutch cycling, dropping it into gear, time of the month, tidal waves, altitude, attitude, temperature, phase of the moon etc. have no effect on the idle speed (other than a brief transient) if the CCC is working properly.

If the car has been converted, Dave's comment is probably correct, I have no experience with converted cars in this area (even though I own one, I have so far managed to ignore it.) With a carbureted car of any stripe, however, another and very common cause of a "backfire" through

the exhaust system is an intermittent spark to one or more cylinders. (Remember guys, when we were teenagers, how we got the girls walking down the street to notice us???)

Dick Benjamin

Subject: 1981 Imperial Backfires - Adjusting Idle?

Sent: 5/12/97 8:02 PM

From: fc3@bellatlantic.net (Frank Cannavale, III)

Don't forget the obvious:

Check the ignition timing is to spec.

Check that the distributor mechanical advance is OK, springs and weights attached

Check that the timing chain is not too worn and allowing the timing to "walk"

-- Frank Cannavale, III fc3@bellatlantic.net http://nj5.injersey.com/~fc3

Subject: 1981 Imperial Backfires - Adjusting Idle?

Sent: 5/14/97 4:56 PM

From: CUDAIZE@aol.com

I have also heard that it could be as simple as gapping the spark plugs correctly.

I know of at least one car that a guy sold because he couldn't get it to run properly and the new owner took it to his mechanic and all he did was gap the plugs properly.

The guy who got rid of the car felt pretty bad, needless to say.

Mike Afflerbach

Subject: EFI parts FI

Sent: 5/28/97 3:19 PM

From: jguarino@pangea.ca (jeff guarino)

Hi Jeff. I currently have 2 FS models 1982 and 2 others but only one with fuel injection.

I may be able to help you out with some of your electrical problems. I'll get out my manual and take a look.

In the meantime you mentioned a bunch of nonfunctional fuel injection parts. I would be interested in knowing what you have exactly and what you would want to sell it for. I may be able to salvage something. I currently have a set of nonworking parts and have some knowledge of electronics so I might be able to make use of the parts to restore one of my FS models. I'll get back to you with some suggestions about your electrical problems.

later Jeff Guarino

Subject: 1981-83 ASDM, Analysis, EFI

Sent: 8/13/97 9:50 AM

From: Greg.Campbell@GAT.COM (Greg Campbell)

Tony and all,

Thanks to Dick Benjamin, Jeff Guarino, Bob Harris, Mike Bleznyk and Frank Cannavale for schematics and analysis of the EFI system.

When I bought my '82, the control pump would run at full speed all the time during crank and run. It was undrivable needless to say. A mechanic took the air cleaner cover loose (unknowingly disabling the mass flow sensor too) and just told me to CRANK IT! Quite a ball of fire came out and singed his hair. I was in such a hurry to drive the car that I just told him to fix it. He replaced the entire hydraulic plate, electronics included, for (only!) $1600.

I could have waited until I got the shop manuals, at which time I gained an understanding of the system such that I could do some intelligent diagnosis. I still keep the old hydraulic plate in case any mechanical parts wear out. I bet with those schematics I can find the component that allows that pump to run full speed.

I am an EE after all! I've even thought about taking one of those cheap single board industrial microcontroller or digital signal processor demo units and redoing the whole thing. It would be a fun project but I guess the EPA and CARB would have a cow.

[Still, I think it would be a worthy project - It sounds like we have another top-quality 1980's Imperial expert on our team! - Tony]

Greg ('60, '67, '82)

Subject: 1981-83 ASDM, Analysis, EFI

Sent: 8/13/97 4:59 PM

From: Imperial@utkux.utcc.utk.edu (Elijah Scott)

I don't own an '81-'83 Imperial (well, not yet anyway), but I've always been fascinated by them, and especially the electronic fuel injection.

And I must say that I am just impressed all to hell by the work done by our crew on this topic. It's really great to be part of a group of such ingenious and intelligent people. In less than a year, these guys have managed to get together and investigate and solve problems that Chrysler Corporation was never able or willing to deal with. Wowsers!

Elijah

Subject: 1981-83 ASDM, Analysis, EFI

Sent: 8/16/97 9:58 PM

From: bondotmec@alphainfo.com (Dick Benjamin)

been fascinated by them, and especially the electronic fuel injection. solve problems that Chrysler Corporation was never able or willing to deal with.

Well, speaking for myself, the posies are nice, and thank you.

But I feel that what we are doing is largely revisiting most of the fixes that the better Chrysler service reps must have figured out when the cars were new or nearly new. Bob Harris has remained close to the Chrysler crew, and is providing a lot of insight into some of the things they have done to try to make these cars more reliable. I think they never really cured all the problems, thus the official recommendation to convert to conventional carburetion (at the owner's cost!).

We still need to get access to the schematics for the CCC/ESA unit, the whiz-bang dash electronics, and the EFI portion of the Combustion Control Computer. We may have to do the same on those items (disassembly, depotting, and painstaking circuit tracing work) that Jeff Gaurino did to produce the information we have on the power module and the Automatic Shutdown Module.

The cars are definitely worth preserving in their original form, both because they are a delight to drive when everything is right, and for historical honesty.

Dick Benjamin bondotmec@alphainfo.com

Subject: 1981-83 ASDM, Analysis, EFI

Sent: 8/17/97 5:05 PM

From: Greg.Campbell@GAT.COM (Greg Campbell)

When I bought my '82, the control pump would run at full speed all the time fix it. He replaced the entire hydraulic plate, electronics included, for (only!) $1600.

I bet with those schematics I can find the component that allows that pump to run full speed. I am an EE after all! I've even thought about taking one of those cheap single board industrial microcontroller or digital signal processor demo units and redoing the whole thing. It would be a fun project but I guess the EPA and CARB would have a cow.

From: bondotmec@alphainfo.com (Dick Benjamin)

Greg:

You certainly can figure out what would cause the control pump to run full time. Most likely the output PNP punched through and clamped the control pump drive signal to 12 volts. Of course it could have been a failure of one of the previous stages in the power module, but in any case it would be child's play for an EE with the schematic to track it down.

Have you downloaded the schematics from the web site yet? Take a look at them, if you have, and tell me what you think of the circuit surrounding Q52. We are not sure what kind of device it is, the board is labeled A, G, and C, which we now think probably means anode, gate and cathode, but we are (so far) in the dark as to what the electrical characteristics of this critter are. (I retired in 1979, and was really out of direct responsibility for circuit design for 10 years before that, so by this time I am really out of touch with semiconductor technology.)

There are a couple of really minor errors on the schematics, we will update them when we feel we have tracked down all the facts. I do not think the errors will bother you, but if you see something you are puzzled about, contact either me or Jeff Gaurino, who really did the lion's share of the work.

So glad to have another EE to talk to about this critter.

I will copy the other guys who have been following these discussions, please join us and throw in any thoughts you care to. If you would like copies of our previous discussions, let me know and I will dig out a set and sent them to you.

Dick Benjamin bondotmec@alphainfo.com

Subject: 81 / 83 EFI Imperials - Some Service Info

Sent: 8/17/97 11:19 AM

From: HarrisWerks@worldnet.att.net (Robert J. Harris)

Dick,

Read your latest - here's some info, that is general in nature, but applicable to all 318 and 360 LA block engines.

The intake manifolds are prone to leak air at the rear, horizontal flange area, in front of the distributor mounting. A tube of RTV Sealer, Mopar part 4026070 and part 4105671 will repair that

manifold leak see Service Bulletin 09-04-82 for details. It is NOT necessary to remove the manifold to effect the change.

For the small piping details in the fuel system within the Support Plate there is a note about avoiding fuel leaks - this is the new Pressure Switch TSB - and in essence it states that you should use Locktite 290 on the threaded ends of the fasteners of each respective joint that you may have disassembled and this will prevent any future fuel leakage. This stuff is available at many places. Too bad, the Pressure Switch is NOT available from Chrysler.

Bob Harris

[I'm getting goose-pimples! This is so cool, to have such wise folks sharing such useful tips - It's unprecedented in the hobby! - Tony]

Subject: 81 / 83 EFI Imperials - Some Service Info

Sent: 8/20/97 7:23 AM

From: bondotmec@alphainfo.com (Dick Benjamin)

From: HarrisWerks@worldnet.att.net (Robert J. Harris)

Bob wrote:

Dick,

The intake manifolds are prone to leak air at the rear, horizontal flange area, in front of the distributor mounting.

Bob;

I saw all the discussion in the service manual leaks at this point, and the use of the anaerobic and RTV sealers, and did follow the procedures described. What intrigues me about your posting is the mention that the leak would be an air leak! I always assumed that the leaks that were problematical were oil leaks, and the consequences were merely cosmetic.

Now I am wondering if this could some way be a cause of my mysterious low speed idle problems. I'm not sure how air could get into the intake passages through this (failed) seal, however. Do you understand it?

there is a note about avoiding fuel leaks - and in essence it states that you should use Locktite 290 on the threaded ends of the fasteners of each respective joint

One of the cars had Locktite on the threads, I forget if it was the one that leaked later or not, I had them both apart so many times! But the one with Locktite was a bear to get apart! I had to remove the whole fuel rail assembly to the bench vise to avoid scarring up the fittings on the little curlicue line, my Snap-On line wrench was rounding off the corners!.

When I put them back together, I did not use any sealer, but I did have to check and retighten the fittings a couple of times. As you no doubt know, you can make the control pump put out its

maximum pressure (about 80 PSI!) by disconnecting the FPS and powering the S5 18TN wire from the starter relay directly from the battery. Sure get a good look at the 8 spray patterns that way, and find any leaks.

Thanks for the tips, I'll be out looking at the back of that intake manifold!

Dick Benjamin

Subject: 81 / 83 EFI Imperials - Some Service Info

Sent: 8/21/97 12:09 PM

From: fc3@bellatlantic.net (Frank Cannavale, III)

The intake manifolds are prone to leak air at the rear, horizontal flange area, in front of the distributor mounting. A tube of RTV Sealer, Mopar part 4026070 and part 4105671 will repair that manifold leak see Service Bulletin 09-04-82 for details. It is NOT necessary to remove the manifold to effect the change.

Wait a minute, there! Are you suggesting that the intake manifold can develop a leak at the rear of the manifold so that extra air enters the manifold, such that the air-fuel mixture is substantially leaned out?

If so, I think I know what is wrong with my '83!

Frank Cannavale, III fc3@bellatlantic.net

Subject: 81 / 83 EFI Imperials - Some Service Info

Sent: 8/22/97 12:26 PM

From: HarrisWerks@worldnet.att.net (Robert J. Harris)

Wait a minute, there! Are you suggesting that the intake manifold can develop a leak at the rear of the manifold so that extra air enters the manifold, such that the air-fuel mixture is substantially leaned out?

If so, I think I know what is wrong with my '83!

Frank,

What I suggested to Dick was that it is possible to have the intake manifold - head interface leak under the manifold rather than on the top be even more pronounced if there were an air leak, in addition, at the Manifold/Block. The PCV system would enhance such a leak since it pulls air from this internal cavity.

If the gasket interface on the underside, (Manifold/Head), is not tight, then you could indeed have this problem - which is certainly not limited to these EFI cars by any means. What is peculiar about Dicks' car is that he feels that the problem is located in the center of the engine, but moreover, on both sides. This doesn't sound right, but he's about to remove the manifold again.

It should be remembered that a manifold flange leak, such as we are discussing, could indeed disrupt the mix ratio because the PCV system is now drawing air from an additional area - the atmosphere - and this could change the intended allowable mixture ratio. An additional gasket leak at the Manifold/Block area would be more detrimental than a defective PCV system because the cylinder vacuum is not limited by the spring loaded PCV valve. The PCV valve hose connects to a cavity on the Throttle Body, which is in the center, but I feel that I'm getting far afield from the real problem and speculating.

I'd like to know more about your problem.

Bob Harris

Subject: 81 FI Problem with Stalling

Sent: 8/30/97 12:16 AM

From: grad@cts.com (Graduate, Ltd)

I need some advice in curing a problem that has thrown me. About two months ago my 81 w/ intact FI started stalling during the warm up period. I am defining the warm up period to be about 15 minutes. She starts every morning beautifully and then will stall, usually three times, before she starts running consistently. I have hard wired the fuel shut off module ground. I have installed a new in tank fuel pump.

I have replaced the fuel filters. I have re-calibrated the computer. I have checked the back pressure on the converter.

I need suggestions on what to try next. She will stall on freeways at 65 mph, or at idle, or at a restarts after she cools off some, but she always starts perfectly the first time in the morning and she runs consistently after the first 15-20 minutes and at least 3 stalls in that time period.

Looking forward to your responses.
Carl Baty, San Diego.

Subject: 81 FI Problem with Stalling

Sent: 8/31/97 4:09 AM

From: STUDELICHP@aol.com

I have a similar problem at startup and have been unable to find the problem. I also had the high speed problem but was able to fix that by changing the sensors on the engine. You know

map, oxygen etc. Didn't cost a lot and they need to be replaced every 50K anyway and I did not do that.

Let me know if you find out what the other problem is mine only started when I retired mine from everyday to weekend use only.

Subject: 81 FI Problem with Stalling

Sent: 9/1/97 6:42 PM

From: HarrisWerks@worldnet.att.net (Robert J. Harris)

I need some advice in curing a problem that has thrown me. About two months ago my 81 w/ intact FI started stalling during the warm up period. I am defining the warm up period to be about 15 minutes. She starts every morning beautifully and then will stall, usually three times, before she starts running consistently. I have hard wired the fuel shut off module ground. I have installed a new in tank fuel pump.

I have replaced the fuel filters. I have re-calibrated the computer. I have checked the back pressure on the converter.

I need suggestions on what to try next. She will stall on freeways at 65 mph, or at idle, or at a restarts after she cools off some, but she always starts perfectly the first time in the morning and she runs consistently after the first 15-20 minutes and at least 3 stalls in that time period.

Hello Carl,

I have experienced your problems some years ago and will pass on to you some ideas to stop the problem. My problems always occurred after some warm-up period. Upon cooling, it would usually restart.

It is my opinion that the fault is Ignition rather than Fuel. During warm-up, when it stops, remove the Air Cleaner Cover and have someone go through the Start cycle, you should see some fuel squirting from the Spray Bars. It's a good idea to have grounded the secondary wire from the coil to the distributor prior to Start. Two tries may be necessary to get the fuel to spray. Recycle the Ignition key to Off, then repeat. If you get the fuel, proceed to Ignition tests.

Remove the 10 Way connector from the rear of the Computer, and connect an ohmmeter between connector terminals 5 and 9; you should read 150 to 900 ohms. If yes, connect one ohmmeter connector to a good ground, the other to connectors 5 and 9 alternately; there should be no continuity; if there is, disconnect the Pick-Up Coil connector at the Distributor and connect one lead of the ohmmeter to ground, the other to each terminal, on the Distributor end of the connector, there should be no continuity. If there is no continuity, check the wire from the Computer to the Pick-Up Coil for a short to ground, this may be an intermittent thing, so carefully trace the path and look for abraded insulation on this wire. If there is continuity, replace the Pick-Up coil.

Because you cannot predict when this fault will occur, I have been able to warm the Pick-Up coil with a hair dryer, while the ohmmeter is connected to the two wires, and in less than ten minutes, under mild warming, the ohmmeter will open and this will indicate that there is a

problem within the Pick-Up Coil - replace it. There were a bunch of 81's with this problem and it was due to a bad production run of these coils.

By the way, where did you get the new In-Tank Fuel Pump?

Let us know how you're doing.

Bob Harris

Subject: Sluggish '81?

Sent: 9/7/97 8:31 AM

From: Imperial@utkux.utcc.utk.edu (Elijah Scott)

On Friday, I was driving along and saw a bright flash of big red fin -- naturally, I followed it.

The result was that I met a guy who lives a couple of miles from me who's a big Mopar enthusiast. The big red fin I saw fit onto a '58 300D convertible, replete with tan leather interior. I followed the owner back to his warehouse, which had about 15 or so cars, including a '59 Plymouth Fury convertible, a '74 'Cuda convertible, and a bunch of other fun cars.

This gentleman also owns an '81 Imperial. He said that he really likes the car, but he can't find anyone locally who can work on it. His current problem is that the car is just very sluggish. He said that he initially thought the catalytic converter was clogged, but he had it replaced with no resulting improvement.

Can anyone offer some suggestions here? The gentleman does not have e-mail, so he cannot participate directly with our club, but I don't mind relaying messages. I'm sure he would also be willing to contact people by phone.

Thanks!

Elijah

Subject: Sluggish '81?

Sent: 9/8/97 11:39 PM

From: bondotmec@alphainfo.com (Dick Benjamin)

Elijah;

I guess question #1 is, is the car still EFI, or is it carbureted, and if it has been converted to carburetor, was it the factory conversion or a backyard job?

If it is an EFI car, it should never be sluggish! See if you can get more definition of what he means, for example, missing? Flat spot? How about variations from cold to hot?

First step on ANY car with driveability problems is to replace the plugs (AL945 or RN13LYC, gapped at 0.035-0.040" for an EFI car), wires, cap and rotor.

Next, make sure the air filter is clean, when in doubt, look through it at the sun, if you can see light through it is OK.

Next, Unless it has been done in the last few thousand miles, I would replace the O2 sensor. They are supposed to last 50,000 miles, but if the car has been run with a miss, or on the wrong gas, or with the wrong gasket compound, it could be contaminated. Usually, the driveability impact of a bad O2 sensor is small, however.

On an EFI car, it is important that the 8 fuel nozzles are atomizing the fuel properly. This can be checked on the car, but it might just be easier to take them off and clean them with a good spray can carburetor cleaner.

After taking off the air cleaner upper section, the fuel nozzles are removed by disconnecting one fuel line and unscrewing two Phillips screws - it's not rocket science. The nozzle assembly has to be taken apart (two more Phillips screws), but if he has an affinity for mechanical repair, he can do it without a problem.

It is also imperative with these cars that all vacuum hoses and electrical connections are clean and tight, especially those inside the air cleaner assy. If all of that is shipshape, I would put a timing light on it. It should be at 12 BTC at idle.

Has he done a compression check? How many miles on it? Does it still have the original exhaust system and smog equipment? There are many opportunities to screw these up by playing around with the original design.

There are 4 or 5 people on the IML who really know these cars, if he wants to fix it, we'll help.

Dick Benjamin bondotmec@alphainfo.com

Subject: Sluggish '81?

Sent: Monday, September 08, 1997 6:19 PM

Sent: 9/7/97 8:31 AM

From: Imperial@utkux.utcc.utk.edu (Elijah Scott)

On Friday, I was driving along and saw a bright flash of big red fin -- naturally, I followed it.

The result was that I met a guy who lives a couple of miles from me who's a big Mopar enthusiast. The big red fin I saw fit onto a '58 300D convertible, replete with tan leather interior. I followed the owner back to his warehouse, which had about 15 or so cars, including a '59 Plymouth Fury convertible, a '74 'Cuda convertible, and a bunch of other fun cars.

This gentleman also owns an '81 Imperial. He said that he really likes the car, but he can't find anyone locally who can work on it. His current problem is that the car is just very sluggish. He said that he initially thought the catalytic converter was clogged, but he had it replaced with no resulting improvement.

Can anyone offer some suggestions here? The gentleman does not have e-mail, so he cannot participate directly with our club, but I don't mind relaying messages. I'm sure he would also be willing to contact people by phone.

Thanks!
Elijah

Subject: Sluggish '81?

Sent: 9/11/97 1:41 AM

From: Imperial@utkux.utcc.utk.edu (Elijah Scott)

I guess question # 1 is, is the car still EFI, or is it carbureted, and if it has been converted to carburetor, was it the factory conversion or a backyard job?

If it is an EFI car, it should never be sluggish! See if you can get more definition of what he means, for example, missing? Flat spot? How about variations from cold to hot?

I do know that this car does have the original EFI system. I've tried to call the guy to give him the information you provided, as well as to get a more detailed diagnosis of his problems. I'll post what I find out...

Thanks for the help!

Elijah

Subject: 81-83 problems listed/Let's finish the EFI pages!

Sent: 9/16/97 6:50 AM

From: TZRX85A@prodigy.com (PATRICK J LE)

OK; there's a few specifics...

1. New battery and starter, new resistors (on the firewall).

2. Extremely difficult starting. Didn't even turn over last time I tried! (I do get the 'click' of the solenoid activating.) If it does turn over, engine doesn't fire. Sometimes takes up to 1/2 hour to get it to actually catch and run.

The original carb has an electronic module that was fried. I got hold of a replacement carb (complete, used) off an 82 that someone had converted to a standard carb. Put this one in and had the same problems, although not as bad. The module was fairly intact when I got the replacement carb, but after a couple of weeks, it started to fry (melt). So I think I've got some kind of electrical problem, in addition to a fuel flow problem (probably tied together!!) I also got the complete wiring harness with the replacement carb, which I swapped in; didn't seem to help matters any. So there ya' go!!

Frustrating?? You bet!! Did I go searching for live hand grenades?? Yes!! Do I still have the car?? Of course!! It's like an old dog you just don't want to get rid of!! When it did run, the ride was very smooth and pleasurable. So I guess, like anything, there are 'trade offs'...

I did go to the Web page to search for the answers, but the link to the EFI section didn't work. Also, the link to Doug Crowder's (?) Web site (something like 'fourtyfour.com') also came up as invalid. Don't know that he's still with his ISP.

[Yeah, I need to yank that reference. The EFI web-pages are at a dead standstill because we have TOO MUCH information for me to process alone - The past discussions need to be broken into separate threads, and I'm simply not qualified, since I don't know the topic very well. All we need is some text-editing skills and somebody with some time! - Tony]

As far as personal data, I'm still in Tujunga, CA (just outside of Glendale, in the LA area); my wife and I are moving to the San Francisco Bay Area in about 3 or 4 months; this necessitates getting the ol' Imperial off the ground and back among the land of the living.

Any help I can get from ANYONE will be greatly appreciated! (So all you EFI 'gurus', how 'bout some tips?)

Pat tzrx85a@prodigy,com

Subject: 81-83 Carb Fix/WHERE? Re Imperial 81-83

Sent: 9/15/97 3:56 AM

From: SAMDNEW@aol.com

I have found a local in Baton Rouge, LA who has a cheap fix for the EFI system.

EMail SAMDNEW @ aol

My 82 sat up for 2 years with no parts or kits. Darrell Bacon can adapt a Plymouth carb. to the system and everything works with original equipment except the computed mpg.

Subject: 81 w/ FI stalls during warm up

Sent: 9/16/97 7:57 PM

grad@cts.com

From: bondotmec@alphainfo.com (Dick Benjamin)

OK, Carl.

I did not recall seeing your earlier post on the subject, I would have responded if I had.

Not that I have any brilliant ideas, though.

Grounding the Automatic Shutdown Module is the right move, and is recommended to anyone with an EFI car. The ASM aka ASDM (which you are calling the fuel shut off valve) is actually a quite sensitive logic circuit which decides based on numerous sensor and condition inputs whether or not to allow the EFI system to have the power it needs to operate. Thus bypassing the power to just the in-tank pump will not cure the problem if this circuit is screwing up, because it will still shut the car off even though you have kept the in-tank pump alive with a bypass. Once this occurs, the key must be cycled to off and back to start to reinitialize the system.

Your symptoms are still consistent with a poor ground at the ASDM, and I would first verify that the ground wire is securely connected, and is of least #14 Gauge. It should go to the engine ground either at the alternator bracket or to the master ground point at the rear of the intake manifold on the passenger side (there are two braided ground straps there already.) It is also a good idea to isolate the ASDM electrically from the fender where it is screwed down, by arranging some rubber grommets or the like and preventing metal to metal contact via the bracket or the screws.

The reason for this is the ASDM circuit is hair trigger, and due to a surprisingly amateurish error, was not protected from random noise spikes which could occur even due to static discharge.

Assuming this has all been done, the next area for investigation is any ground connection elsewhere in the system. Be sure not to overlook the grounded terminal inside the Hydraulic Support Assembly (under the air cleaner housing, next to the right front mounting bolt that come up from the throttle body through the HSA.) While you are at it, disconnect and clean with contact cleaner (Radio Shack is a source) all the connectors in the system. There are 4 on the air cleaner assembly, one on the HSA, one on the ASDM, two large ones in the main harness under the heater control valve. Check the connections to the EFI coolant sensor (next to the water outlet from the intake manifold to the radiator upper hose) and to the components mounted on the firewall.

Verify that all the vacuum hoses are in good shape, and properly routed. There is a diagram on the left inner fender just under the speedometer cable sender module in front of the left hood hinge. Verify that the air cleaner lid is well sealed and tightly fastened.

The fact that this seems to be related to the warm up period, brings to mind that it is possible that the air switching timer is somehow causing the problem, although it is hard to see how it would cause a shutdown. If the above steps do not cure this problem, we'll pursue bypassing the various smog devices including the air switching system to see if there is any improvement. This is not likely, and I wouldn't suggest going in that direction unless all the more common problems are eliminated.

It is possible that your ASDM is defective, but I rather doubt it. If you have already gotten a replacement, by all means try it, but I would save your money otherwise, until we prove it is the

culprit. If you start on an Easter Egg hunt hoping to stumble on the offending part, you will waste a lot of money, and possibly never figure out what was really wrong.

A quite likely culprit is the pickup coil in the distributor. If you are fairly handy with tools, this is not a difficult or expensive item to change. You will need a feeler gauge in addition to common hand tools, but if you carefully mark the position of the rotor and the distributor body before you disturb it, you can get by without a timing light.

I am interested in your mention of a fuel pressure gauge. I take it this is something someone has added to the car? If so, what point in the system is monitored, and what is the usual reading?

I know you will get other suggestions from the members of the IML, I hope one of us can make it go away for you. Keep us posted, and good luck (you'll need it!).

bondotmec@alphainfo.com

Subject: 81 w/ FI stalls during warm up

Sent: Tuesday, September 16, 1997 2:38 PM

From: Graduate, Ltd <grad@cts.com

I wrote on 29 Aug asking for suggestions. Now I am begging for help and ideas. I don't know what to do next.

I am still fighting a stalling problem with my 1981 Imperial. Most of the fuel injection system was replaced when the car had about 73,000 miles on it. The car still did not run consistently and the owner let the car sit from 1987 until I bought it 18 months ago. I have added 13,000 miles since then. The basic problem the car had with the erratic running was fixed by cleaning the ground to the fuel shut off valve (located high on the right front fender wall). I did not have the heart to tell him. Recently I hard wired the ground to the fuel shut off valve and I recommend this to anyone with fuel flow problems, particularly in starting.

My stalling problem started about 4 months ago. The first morning start is always clean and then during the next 15-20 minutes the engine quits, usually 3 times, at any RPM (freeways included) but never during acceleration. It starts again without problem. After the 3 stalls the car runs well until I let it sit for a time and it cools off. The next start is then again followed by 3 stalls within the first 15-20 minutes. Typically, this partially cold start is followed by stalls within seconds of the start although a stall 15 minutes later is still possible.

I have by-passed the fuel shut off valve so the current ran directly to the in- tank pump and it still stalls. When wired directly to the in-tank fuel pump I was getting normal fuel pressure even when the car stalled. In stalls with the fuel shut off valve hooked up I registered zero fuel pressure. On freeways I watched the fuel pressure gauge and when it fell like a rock I began the restart so quickly that I didn't lose speed. Tomorrow I will replace the fuel shut off valve although I know it is not the source of the stalling problem. I have replaced the in-tank pump and fuel filters. I have re-calibrated the computer and hard wired the ground on the fuel shut off valve.

Now I will sit back and wait for the those more enlightened to come to the rescue. Thanks in advance.

Carl Baty, San Diego

Subject: 81-83 problems listed/Let's finish the EFI pages!

Sent: 9/17/97 6:03 AM

From: bondotmec@alphainfo.com (Dick Benjamin)

Patrick;

I never saw the previous messages regarding your problems, I have been away a bit the last few weeks, sorry. Let me get myself on board here and maybe I can help some.

bondotmec@alphainfo.com

OK; there's a few specifics... 1. New battery and starter, new resistors (on the firewall). 2. Extremely difficult starting. Didn't even turn over last time I tried! (I do get the 'click' of the solenoid activating.)

This does not sound like an EFI related problem, unless we have an hydrostatic lock problem here. What do you do to get it to turn over?

If it does turn over, engine doesn't fire.

Sometimes takes up to 1/2 hour to get it to actually catch and run.

This is quite likely a failure of the fuel system to prime the pump in the HSA and to purge the vapor from the lines. Next time you can bring this symptom about, try putting about 1 ounce of fuel in the depression in the center of the air cleaner lid before you try to start the car. Loosen the wing nut long enough to let the fuel drain down the center screw threads, then retighten it and try to start the car. If it starts immediately, we know where to look next. Let's not jump the gun, though. Try this test and let me know.

Of course, you mean to say throttle body injection unit, or Hydraulic Support Assembly (HSA for short). I don't mean to nit-pick, but we don't want to confuse the rest of the readers.

The original carb has an electronic module that was fried. I got hold of a replacement carb (complete, used) off an 82 that someone had converted to a standard carb. Put this one in and had the same problems, although not as bad. The module was fairly intact when I got the replacement carb, but after a couple of weeks, it started to fry (melt). So I think I've got some kind of electrical problem, in addition to a fuel flow problem (probably tied together!!) I also got the complete wiring harness with the replacement carb, which I swapped in; didn't seem to help matters any.

I think what you are probably seeing is the running out of the potting compound from the electronic modules. This happens to all the early production modules, and does not affect the operation dramatically, as long as it has not run down into the throttle valves and gummed up the butterflies.

The EFI web-pages are at a dead standstill because we have TOO MUCH information for me to process alone -

Tony, all I can do is apologize. I have been saving all the threads since the beginning of time, and I just seem to be too intimidated to start on what I agreed to do for you. Perhaps when I am more confident of my ability to do the work, I will get going on it again. In the meantime, I am happy to take over personally to field all the EFI questions, at least to direct them to the right guy to answer them. We have 4 or 5 guys who are very willing and able to help, and I am trying to keep them from repetitive tasks by fielding the questions myself so far as I am able. I know this is taking more time than it would take me to do it right, I just need to get some time ahead so I can look at the task again. I am sorry to let you down.

bondotmec@alphainfo.com

Subject: 81 w/ FI stalls during warm up

Sent: 9/17/97 8:12 AM

From: bondotmec@alphainfo.com (Dick Benjamin)

Carl, I reviewed the traffic from the IML during my inattentive period and I do now see your earlier posting of your problem.

I see that at that time, Bob Harris also suggested you look at the distributor pickup coil, and gave some suggestions for diagnosing it and perhaps prodding it to fail for you with a hair dryer. If you have access to a VOM, why don't you try his suggestions also, in addition to the others you will receive.

If you do not have the equipment, the pickup coil is cheap, readily available at NAPA (make SURE they give you the one for an EFI car!). I looked up the number, it is Echlin # MP811 $20.50, and for another $5.51 why don't you change the reluctor # MP800 also. They are both easy to change (I hope you have the manuals), so you might just try the shotgun approach on these items if everything else we suggested leads nowhere.

bondotmec@alphainfo.com

Subject: 81 w/ FI stalls during warm up

Sent: 9/18/97 7:54 AM

From: mblez@juno.com

Hi Carl,

Have you taken Bob and Dicks advice yet on testing or changing your pick-up coil?? It would only take you a minute to test it when the car quits. This is the perfect time to see if it's good. We

need your feedback so we can help you. If you can't do these tests or don't have the equipment please, tell us. Later M Blez.

Subject: Fuel injection reliability on '81

I am making an offer on an '81 Imperial with only 56,000 miles on it.

It still has original everything including fuel injection system.

What has to be changed out to convert to a carb?

What is the source of the change out parts? Which model cars can I use for the parts sources?

What is the reliability of the original fuel injection system?

T. Hogan

Subject: Fuel injection reliability on '81

I have one that has 97K on it and I have owned it since 1983, It has given me minimal problems through the years.

Subject: Fuel injection reliability on '81

I bought an '81 with 99K from my uncle. At 99K, it still had its FI system, but it had become very unreliable (no hot starts, stalling, etc.). Anyway, I decided to rebuild the top-end of the motor and convert to a 4 BBL carb. I also used parts from a wrecked '82 that had been covered to a carb. Well, one of the main parts used in the conversion is a little part that installs "in-line" before the fuel line gets to the carb. It's like a waterwheel (I forget the correct name of the part). It works by generating a voltage in relation to the speed of the wheel. The computer compares this voltage to the vehicle speed. From this calculation, you get your MPG, DE etc. Now for the bad news. After installing and wiring the hole shebang as per the factory manual, I learned that you must also change some electronic parts within the digital dash. I decided to live without the mileage function for two reasons:

A. Couldn't get the right dash.

B. My dash still worked and I wasn't about to risk messing it up.

If you are willing to live without the mileage functions and the emissions garbage, the conversion is actually pretty easy. It's best just to use a new MAP electronic ign. kit, new carb and intake. It'll take about a full day and should cost no more than $500.00 if you use all new parts. Just save all the original parts in case you ever want to go back. Just ask me if you want some more details, I might even be able to scan my "81 manual to show the wiring. (I believe that export models did not receive FI and as such the carb.-style wiring was even shown in the '81 manual).

Subject: Fuel injection reliability on '81

Sent: Tue, 7 Oct 1997 12:21:39 -0600

Hello Tom,

To answer your questions, we have to know more about your knowledge of these cars, the EFI system is not the car to learn on. There may be someone in this country with a factory EFI to Carb conversion kit from Chrysler, (try Hemmings), but if not, you will have a lot of retrofitting to do. The carb system is that found on all Chrysler, Dodge and Plymouth cars that came equipped with a two barrel Carter; there were many of these built for several years. To enable the fuel consumption rate, mpg and remaining fuel data to be displayed in the instrument cluster, you'll need to get a special part that is not available from Chrysler. If you don't have the Service Manuals for these three years, you'll have to get a set.

The EFI system components were upgraded in the 80's and are very reliable. There are several Injection System, (Hydraulic Support Plates), still avail from Chrysler for close to $800, (I also have several of these assemblies, new and rebuilt). A new computer will be a wise investment and they are currently available.

In either event, if you are not familiar with this car, but are willing to try, there are some good people in this organization that can help you; let us know.

Bob Harris

Subject: Fuel injection reliability on '81

Conversion of '81:

I'm a good enough mechanic and will have a professional helping but not a Chrysler dealer mechanic.

I am not concerned entirely about all dash computer functions such as gas mileage but certainty need gas available and speedo etc.

Would like list of best cars that are candidates for major parts needed:

manifold carb fuel pump new "Lean Burn" control computer? etc.

I have been told that this conversion is done quite frequently but not as a result of some Chrysler or 3rd party formal "kit."

Any specific info would be helpful

Thanks again!

Tim Hogan '81 with sunroof but not FS 56,000 miles Silver with red leather interior stereo with rear am but no tape, good but not great condition (little run at rocker panels in front of rear wheel wells)

Subject: '81 Fuel Infection/injection

Sent: 10/7/97 4:25 AM

From: THoganGOAT@aol.com

I'm making an offer on an clean '81 with only 56,000 miles on it.

All original. Including fuel injection system -- or is that fuel infection system.

I've hear it isn't very reliable. No parts available, etc. I would appreciate any help in putting together a cheap conversion to carb system.

What cars are part sources and what parts will need?

Anyone have quick info and experience?

Thanks in advance!

T. Hogan

Subject: 81 FI Attn: Tim Hogan

THoganGOAT@aol.com wrote:

Great news! I'll take all the specific details I can get if you would be good enough to provide them.

Tim,

Are you specifically speaking to me, Chris (t3176@flash.net)? You see, I'm new to the IML and I'm not sure if my posts are getting through. I would hate to post a huge list of conversion steps only to find that no one saw them. If you can hear me, I would first like you to tell me a few things.

1. What is your experience/ability? Have you ever done an intake/carb swap before?

2. Do you have a Chrysler manual for your IMP? Can you get one or should I scan a few pages?

3. Done much auto electric work? Trace wires etc.?

4. What is your budget?

5. Where do you live? (I ask this because in my area, Detroit MI, Chrysler products are very common on the roads and in the scrap yards. Thus if you live in Podunck, Oklahoma and haven't seen another V8 RWD Chrysler product since the Oil shortage of '73, I would list some new parts (and good places to order them from) instead of telling you to check the salvage yards).

Write back...

Subject: 81 w/FI Stalls During Warm up

I had good responses from Dick Benjamin and Bob Harris.

My 81 is stalling about 3 times after start, but within the first 15 minutes. The temperature where I was working on the car today exceeded 100 degrees so I started with Bob's suggestion that I go back to basics and run the in tank pump, by passing the Automatic Shut Down Valve. Guess what? IT STALLED ANYWAY. What next Dick? Bob Harris, Your suggestions were up next. Does this finding alter what you are suggesting? Anyone else have ideas? Thank all of you for your guidance. I suddenly feel that I am dealing with something that can be cornered and fixed.
Carl Baty San Diego Grad@cts.com

Subject: 81 w/FI Stalls During Warm up

OK Carl;

I think I am the guilty party for the suggestion about bypassing the ASD. Even though it did not make your problem go away, the fact that doing so had no effect on the problem adds to our knowledge about the situation. Now we know that failure of power supplied to the fuel pumps or the EFI/CCC system is NOT the problem. You can put that whole category of investigation on the back burner.

If the car stalls when it is just sitting there idling normally, with a good strong steady idle, and then just dies on you, then restarts with no special fiddling (please verify that this is indeed your symptom), I come around to a suggestion Bob Harris made a while ago, namely a possible temperature induced momentary failure in the distributor's pick up coil. I think we talked about this possibility one time before. Did you replace the pickup coil at that time?

Bob suggested that if the pickup coil is suspect, one could take a VOM and measure continuity from one wire to the other of the 2 wire pickup coil connector (it comes out of the side of the distributor, unplug it and connect to the end which goes into the distributor), while heating the coil assembly with a hair dryer.

When the coil is OK, you will see a quite low resistance (I forget the number at the moment, but it would be no more than a few hundred ohms, probably much less) and when the coil opens, you would see very large resistance, over 10,000 ohms for sure. This is an easy test to make, and can be done without disturbing any of the settings. I am not absolutely sure this will always identify a failing part, however, perhaps Bob can shed some light on how foolproof this test is.

Personally, if I suspect this part, I just replace it with a new one, since they are cheap and relatively easy to change, see procedure below.

They are available from NAPA, and possibly other parts sources. You need to remove the reluctor magnet to get at the pickup coil to replace it (it comes only as a complete assembly, already attached to the "breaker" plate). I think it is a good idea to replace both pieces at the same time (pickup coil and magnet), since they are cheap, and you might damage the old magnet getting it off.

If you decide to replace these parts yourself, be advised that you will have less trouble in the long run if you pull the distributor to work on it. There is only the one 2 wire coil connector to deal with (after you get the rotor and cap out of your way), but of course you will have to be careful to reinstall the distributor and rotor in the same position that it was in when you removed it, and make sure no one bumps the engine over while it is out, or else you will have to go to plan B to find #1's TDC point. Then you will have to reset the timing (12BTC at idle).

Be very cautious when pulling the magnet off the end of the shaft, if you put any more than a few pounds force on it, you can easily damage the bottom thrust washer, which is pretty feeble. It would be best to hold the shaft itself rather than the distributor body to pull the magnet; this is difficult without removing the distributor.

Even if you do not disturb the distributor, you will also need to set the gap from the tips of the 8 finned rotating magnet to the pole piece of the pickup coil to .006 ", which will take a non-magnetic feeler gauge. This will be hard to come by, I use a piece of .005" shim stock (brass) and set the gap a little loose.

I'd like to hear what Bob has to suggest on this problem too, he has a world of experience with these cars and their teething problems, and I gather this was not unheard of even when the cars were new. I'll be quiet until I hear more.

Dick Benjamin bondotmec@alphainfo.com

Subject: 81 w/FI Stalls During Warm up

From: Dick Benjamin <bondotmec@alphainfo.com

Sent: Wednesday, October 15, 1997 11:18 PM

OK Carl, I think I am the guilty party for the suggestion about bypassing the ASD.

Even though it did not make your problem go away, the fact that doing so had no effect on the problem adds to our knowledge about the situation. Now we know that failure of power supplied to the fuel pumps or the EFI/CCC system is NOT the problem. You can put that whole category of investigation on the back burner.

If the car stalls when it is just sitting there idling normally, with a good strong steady idle, and then just dies on you, then restarts with no special fiddling (please verify that this is indeed your symptom), I come around to a suggestion Bob Harris made a while ago, namely a possible temperature induced momentary failure in the distributor's pick up coil. I think we talked about this possibility one time before.

Did you replace the pickup coil at that time? Bob suggested that if the pickup coil is suspect, one could take a VOM and measure continuity from one wire to the other of the 2 wire pickup coil connector (it comes out of the side of the distributor, unplug it and connect to the end which goes into the distributor), while heating the coil assembly with a hair dryer.

When the coil is OK, you will see a quite low resistance (I forget the number at the moment, but it would be no more than a few hundred ohms, probably much less) and when the coil opens, you would see very large resistance, over 10,000 ohms for sure.

This is an easy test to make, and can be done without disturbing any of the settings. I am not absolutely sure this will always identify a failing part, however, perhaps Bob can shed some light on how foolproof this test is.

Hello again - Carl and Ben,

First I must apologize for the sloppy composition of the text that I sent Carl in response to his needs, I left things out and assumed that he could read between the lines; I was in a hurry.

I did not mention the Harris Pick-Up Coil test since Carl's' was a Cold Driveability problem. The Pick-Up coils would be prone to failure at any time.

My experiences tell me that this problem was due to a large number of these things that were defective when manufactured, then being installed early in the 81 production. There were many complaints - there are lots of "Starts But Stalls" conditions in the Service manuals.

The problem was, if you shut-down for a while, the thing would restart and talk about a perplexed mechanic wondering what he did or why there was a complaint in the first place. I've also noted that Chrysler electronic components that are available as rebuilt parts are advertised as "Temperature Tested" at the factory!

This all goes to illustrate that it is mandatory to IML 81-83 owners who need help to inform us just what their level of knowledge is. This problem illustrates, more than any other malfunction, that the various components of this system are interrelated such as when you have a No Fuel failure you must realize that the ASD shut it down because there might be a No Spark Failure and you're off looking in the wrong place.

Hence my Service Manual text on the Idle Stop Switch, temp and vacuum sensors and faulty damper door operators. As I said in my first response, there are more stalling diagnostics, but they are not necessarily on a cold engine.

Let us know what we need to help. Is your EFI system original, or has the Support Plate been replaced with the up-graded parts? Keep it Goin....Bob Harris

Personally, if I suspect this part, I just replace it with a new one, since they are cheap and relatively easy to change, see procedure below. They are available from NAPA, and possibly other parts sources.

You need to remove the reluctor magnet to get at the pickup coil to replace it (it comes only as a complete assembly, already attached to the "breaker" plate). I think it is a good idea to replace both pieces at the same time (pickup coil and magnet), since they are cheap, and you might damage the old magnet getting it off.

If you decide to replace these parts yourself, be advised that you will have less trouble in the long run if you pull the distributor to work on it. There is only the one 2 wire coil connector to deal with (after you get the rotor and cap out of your way), but of course you will have to be careful to reinstall the distributor and rotor in the same position that it was in when you removed it, and make sure no one bumps the engine over while it is out, or else you will have to go to plan B to find #1's TDC point.

Then you will have to reset the timing (12BTC at idle). Be very cautious when pulling the magnet off the end of the shaft, if you put any more than a few pounds force on it, you can easily damage the bottom thrust washer, which is pretty feeble. It would be best to hold the shaft itself rather than the distributor body to pull the magnet; this is difficult without removing the distributor.

Even if you do not disturb the distributor, you will also need to set the gap from the tips of the 8 finned rotating magnet to the pole piece of the pickup coil to .006 ", which will take a non-magnetic feeler gauge.

This will be hard to come by, I use a piece of .005" shim stock (brass) and set the gap a little loose. I'd like to hear what Bob has to suggest on this problem too, he has a world of experience with these cars and their teething problems, and I gather this was not unheard of even when the cars were new.

I'll be quiet until I hear more..Dick Benjamin

Subject: 81 w/FI Stalls During Warm Up

Fellow list members.

The finding that the car stalls when by passing the ASD has left me at a loss. In answer to Bob Harris and Dick Benjamin the distributor was replaced about 4 months ago. Given your more recent suggestions the pick up coil was replaced two weeks ago, and yes, we removed the distributor in order to do this.

In approximately 1988 the then owner was a car dealer. He in a fit of frustration replaced the Fuel Injection parts up to the (as he said) "the damn hole the gas goes in." The CCC was replaced then at a cost of just under $500.00 because he was a dealer himself. The Dealership that replaced all of these parts went bankrupt the following month. He never got the car running and put only 300 miles on it from then until I bought it a year ago. I suspect we are dealing with lots of 1983 parts here.

Bob, can I somehow get a copy of the revisions in wiring to the 1981 shop manual. Like Tony I have a high quality scanning capability.

Dick in answer to your questions it stalls at normal idle and restarts without a problem. It stalls at 65 mph and starts again without difficulty. Then stalls again.

Folks, given the outcome of the bypass test I have no ideal what to do next. Your suggestions and guidance would be greatly appreciated. What can shut down the car so quickly and so absolutely that is not in any way related to the ASD?

Thanks Carl

Subject: 81 w/FI Stalls During Warm Up

From: Graduate, Ltd <grad@cts.com

Sent: Thursday, October 16, 1997 2:50 PM

Fellow list members.

The finding that the car stalls when by passing the ASD has left me at a loss. In answer to Bob Harris and Dick Benjamin the distributor was replaced about 4 months ago.

Given your more recent suggestions the pick up coil was replaced two weeks ago, and yes, we removed the distributor in order to do this. In approximately 1988 the then owner was a car dealer. He in a fit of frustration replaced the Fuel Injection parts up to the (as he said) "the damn hole the gas goes in."

The CCC was replaced then at a cost of just under $500.00 because he was a dealer himself. The Dealership that replaced all of these parts went bankrupt the following month. He never got the car running and put only 300 miles on it from then until I bought it a year ago. I suspect we are dealing with lots of 1983 parts here.

Bob, can I somehow get a copy of the revisions in wiring to the 1981 shop manual. Like Tony I have a high quality scanning capability.

Dick in answer to your questions it stalls at normal idle and restarts without a problem. It stalls at 65 mph and starts again without difficulty. Then stalls again.

Folks, given the outcome of the bypass test I have no ideal what to do next. Your suggestions and guidance would be greatly appreciated. What can shut down the car so quickly and so absolutely that is not in any way related to the ASD?

The Ignition Coil, for one thing, the ignition switch itself. The wiring Diagrams for 83 differ from 81 only in the removal of one of the relays on the Left wheel house and the Educator from the Oxygen Sensor to CCC connection 12.

Test the Pick-Up coil anyway. Check for loose or corroded connections, (I think there are 85 of them on this car).

Most of all, be patient - these babies are not easy to diagnose; more later. Please elaborate - is this definitely a Cold Drive problem, or after warm-up too?

Bob Harris
Thanks Carl

Subject: 81 w/FI Stalls During Warm Up

Sent: Thu, 16 Oct 1997 20:56:23 -0700

Carl;

You seem to have eliminated all the possibilities. Obviously, there is still something wrong with the car. The only suggestion I have at this point is to put it on an analyzer and watch what goes away when it dies. If it isn't one of the things that has already been replaced, it must be something that has not been replaced (how's that for logic). Thus we are down to the wiring

harness, the sensors on the engine (see Bob Harris' tips on those) or perhaps the left door and the rear bumper. Just to make sure, do you have a detailed list of the "everything" that was replaced so far? Of course the suspicion is that something was missed. I have no idea what that might be, but if there is a list, at least we could eliminate those items. The alternative is to somehow believe that the replacement parts are also somehow bad, not a happy thought.

I will not have any time for the next two weeks, but after that, I would volunteer to put it on my analyzer and watch what happens. Of course, you would have to leave it overnight to reproduce the failure, but we could arrange that. If there is no one closer that you trust, I guess I'm elected. I have to tell you though, I have one of these critters myself (one of my three) that I can't figure out either, so I'm perhaps not your best bet. Randy Weir said he found an "expert" up at Poway Dodge that said he could fix anything on these cars, I certainly don't claim that!

I wish I could come up with a magic cure, I guess today's not my day for magic.

Dick Benjamin bondotmec@alphainfo.com

Subject: '81-83 EFI support/conversion issues

Sent: Fri, 17 Oct 1997 09:07:09 -0700

Randy;

Thanks for the heads-up. You probably saw the posting I made to Carl Baty their services. Once again, we are on our own. Chrysler Corp. support for these cars is a blot on their reputation, for sure, but it doesn't seem to have hurt them.

We have put together quite a body of knowledge about these cars in the last year, but there are still some unexplained mysteries.

I have one I can't fix also, although I do not think it's problem is EFI related. In my case, the prickly nature of the EFI/CCC system makes it very difficult to track down anything affecting the quality of operation of the engine, even if the problem is totally unrelated to the system.

I think it is time for me to confess an error of major proportions, and to retract something I have said repeatedly over the last year: I have stated that the carburetor conversion kit offered by Chrysler was a poor choice, that the converted cars ran poorly, got worse mileage and much poorer driveability and performance in general.

During our recent CHVA old car tour to Grand Canyon and environs, I became re-acquainted with an old friend who I had not seen for about 5 years. I knew he had bought a new '81, and maintained it in superb condition all the years since. He is not a mechanic, and began to feel he was in a dangerous situation with the car when his local dealer told him about the lack of factory support for the car, and the availability of the conversion kit. Although his car was still running perfectly, and had never given trouble, he was talked into converting it about 4 years ago. He claims that the car runs just as well, with no difference in any parameter that he can detect!

I am not about to accept one anecdote as proof of anything, but his remarks stimulated me to drag out of the barn the car I bought in 1992 and never drove because it had the conversion kit

on it and ran very poorly, was hard to start, impossible to adjust electrically assisted choke, none of the dash functions that depend on the fuel flowmeter were working, etc.

I decided to give the car the benefit of the doubt: I rebuilt the carburetor (float was stuck open), replaced the plugs (the converted cars use a colder plug, RN12YC), and DISCOVERED THAT MOST OF THE VACUUM HOSES WERE SCREWED UP!

Well, as you've already guessed, the car is MUCH better now. It really starts and runs almost as flawlessly as an EFI car, and does seem to pull as well at least at low speeds. (The tires are poor, I have not been over 65 with it yet). I have not tackled the dash problem yet, but I know that has nothing to do with driveability, most probably the hang-on flowmeter is not working. I have no idea of the economy, I expect it to be worse, but maybe not severely, judging from the way it runs.

So this is me, stepping out to find some humble pie for breakfast. Sorry.

Dick Benjamin bondotmec@alphainfo.com

Subject: Help from Poway Dodge?

To: Dick Benjamin <bondotmec@alphainfo.com

Sent: Friday, October 17, 1997 7:46 AMMorning

Dick,
Poway Dodge turned out to be just a lot of hype and nothing more. I had my Imperial towed back to Lemon Grove and is currently sitting in my driveway. Will keep you posted. Randyrweir@mysurf.com

Subject: 81 w/FI Stalls During Warm Up

Sent: Sun, 19 Oct 1997 10:13:37 -0700

From: "Graduate, Ltd" <grad@cts.com

Yes list members, I am still here and my 81 is still stalling. Bob Harris, the stalling only occurs in the first 15 minutes after a cold start. I am about to put the car in a place I can work on it easily and go through every one of those 85 ground connections Dick Benjamin mentioned. Yes Dick please sign me up for a visit to your analyst. I need it as much as the car. Maybe you could find a local motel for me to stay at.

I had a short conversation with Ted Otcasek in Colorado yesterday. He suggested that I had, in essence, built the stalling during the first 15 minutes of running from a cold start into the computer and that is why it stalled when I by passed the shut off valve. Bob, Dick, is this possible? He advised me to check the contacts on the 5 pin hood attaching to the shut off valve. They were clean and making good contact.

This morning I started the car and ran it through 15 minutes. With the door and window open and the hood up and the quiet of a Sunday morning, I could hear the beginning of the stall. It happened the usual three times. I had my foot on the gas and gave it a quick pump each time she started to fail. All three stalls were avoided this way. I had the low pressure fuel gauge on and it didn't flicker at all during these attempted stalls. It is a 20 PSI gauge so if I had a fuel pressure drop, I would have seen it. Open to suggestions, help, advice, prayer. Carl

Subject: 81 w/FI Stalls During Warm Up

Sent: Sun, 19 Oct 1997 15:16:33 -0700

Yes Dick please sign me up for a visit to your analyst.

Carl, the offer was to put your car on my analyzer. While my wife often suggests I need an analyst to help me deal with my Imperial obsession, I do not actually have one.

Maybe you could find a local motel for me to stay at.

Well, since we live only about 1 hour apart, I was assuming maybe you could have someone help you drop it off here, then we could work on it together the next morning. But there certainly are motels in Temecula, most of the major chains are here, Best Western and Doublet and Motel 6 for sure, but there are about 5 or 6 others. We live about 10 miles out of town, but it would not be a problem to drop you off and pick you up.

I had a short conversation with Ted Otcasek in Colorado yesterday. He suggested that I had, in essence, built the stalling during the first 15 minutes of running from a cold start into the computer and that is why it stalled when I by passed the shut off valve. Bob, Dick, is this possible?

I assume he was thinking about the self calibration ability of the computer, which modifies the program from the default settings after seeing what an individual engine does on the original program. I do not think that it would program itself to shut the engine fuel supply or ignition off, under any circumstances, so I would say, this is very unlikely, although all things are possible.

Have you gone through the automatic calibration procedure since the last time the battery was disconnected? If not, its worth a try.

He advised me to check the contacts on the 5 pin hood attaching to the shut off valve. They were clean and making good contact.

In our test with pins 2 and 3 jumped together, we completely eliminated this device from consideration your stalling problem. This morning I started the car and ran it through 15 minutes. With the door and window open and the hood up and the quiet of a Sunday morning, I could hear the beginning of the stall. It happened the usual three times. I had my foot on the gas and gave it a quick pump each time she started to fail. All three stalls were avoided this way.

Now this is new input, I did not realize you could stave off a stall by pumping the accelerator. Hmmm, interesting.

I had the low pressure fuel gauge on and it didn't flicker at all during these attempted stalls. It is a 20 PSI gauge so if I had a fuel pressure drop, I would have seen it.

Where in the system have you installed this gauge? I assume it is outside the HSA, so it would be looking only at the 13PSI or so from the tank.

This is pretty far upstream from the injection system. I would, however, be interested in the action of the control fuel pump during one of these stalls (or near stalls). No gauge is required, but an oscilloscope watching the fuel control voltage would be illuminating (no pun intended)

Open to suggestions, help, advice, prayer. Carl

Well, I can offer the first 3, anyway.

Subject: 81 w/FI Stalls During Warm Up

Sent: Sun, 19 Oct 1997 22:19:21 -0400

Dick Benjamin bondotmec@alphainfo.com

Carl, I have been reading bits and pieces of your conversations with Dick about your stalling problem w/ your '81. Since your stalling is happening during the warm up the EFI is operating in the open loop mode until the oxygen sensor reaches it operating temp.. In the open loop mode the EFI circuit is dependent on the programming of the electronic memory of the input sensors..

I would first check the whole operation of your heated air mixing assembly then check your EFI coolant sensor to see what your cold and hot resistance readings are. If these are fine I would set my sights on the CCC even if it's new because this is where the memory is for the open loop operation and I have gotten several bad brand new CCCs over the years and when I return they back to the dealer guess where they go.

That's right they go right back into the system so the next guy like you can drive himself nuts thinking every thing is fine because it's new. How do I know they go back into the system because I have marked the bad ones and have gotten them back.

Also, try Ted's idea of recalibrating the CCC first this will correct the programming of the electronic memory of the EFI to the right air fuel ratio in the open loop mode if every thing is working right..... Later M. Blez

Subject: 81-83 web-pages are on the way!

Sent: Tue, 21 Oct 1997 12:06:07 -0400 (EDT)

From: ImperialML@aol.com

First let me tell you how much I admire your site. It is one of the best on automotive clubs.

I have visited before, but now that I have an Imperial, I decided to join the mailing list. As my registration says I purchased a 1981 Imperial, that has seen better days, but at least I have one, I will be looking for another probably in the spring.

Perhaps you could help me. I am looking for technical info on the 81-83 coupes, and all links listed on the home page are dead ends, or simply there is no info.

Any help you can give on acquiring info on these cars is certainly appreciated.

David McIntire

Subject: 81 Imperial Condition

From: "Dick Benjamin" <bondotmec@alphainfo.com

Sent: Mon, 27 Oct 1997 10:26:57 -0800

Randy:

I'm glad you are getting some assistance with your '81. Carl certainly has been down the road with these cars many times, he know what he is doing for sure.

One question: did you ever do my "tablespoon of fuel down the center screw of the air cleaner" trick to get it to start?

If not, please try this before you go to all the trouble and dangerous effort of pulling it into the garage with come-alongs etc. Even though you are certain that fuel is getting to the EFI system, this does not necessarily mean it is getting to the intake manifold in sufficient quantity to start a car which has not run in a while. I speak from experience here. Just try it. It is hazard free (just pour an oz or so of gas into the depression in the center of the air cleaner, loosen the wingnut to allow the fuel to drain down, retighten the wing nut, then jump in and start her up.) If this doesn't work, 1. I'll be amazed, and

2. You've got ignition problems, start checking the connections to the coil, ballast resistor, and distributor pickup coil. Use a VOM and check from the appropriate terminals in the harness (I think you have a manual, right?) to the various ignition components.

Your problem should not be hard to track down since the car won't run at all. It has to be either fuel, spark, compression or timing. Lets attack it in that order and get this thing running for you.

Subject: 81 Imperial Condition

From: Randall Weir <rweir@mysurf.com

Sent: Sunday, October 26, 1997 7:27 PM

My Multiple Sclerosis is in remission enough that Carl came over today and helped run a diagnostic on my Imperial. So far this is what we found:

1. It's getting fuel

2. Jumpering between terminals 2 and 3 of the power module plug causes the fuel pump to start.

3. We cleaned the ground connections on the power module (really needed it) without any affect one way or another

4. Determined I need to pull the starter/solenoid and take a look at it. It didn't have that characteristic "Mopar" whine to it. We got to come up with a way of getting the car up into my garage. It's sitting on my inclined driveway. I think I can use my truck as an "anchor" and use a comealong to get it most of the way up; at least to where a friend or two of mine can push it into the garage. Once there I can put it up on truck stands and get under it to do the starter. Will keep you posted.

Randyrweir@mysurf.com

Subject: '81 EFI

From: "Chip Hood" <Chip.H@worldnet.att.net

Sent: Fri, 31 Oct 1997 11:18:07 -0500

I have been following with great interest the problem that Carl Baty has been having with his '81 Imperial to see if it might be related to one of two problems I am having with my '81. If anyone knows of the cause or has any suggestions toward the following, it would be greatly appreciated.

The first problems is the car suffers from a very erratic idle if the car has been idling for some time. The car has the EFI intact and has 46K miles. Under normal driving, traffic lights and stop signs do not seem to cause a problem. But if I'm in heavy stop and go traffic or the car has been sitting idling for some time (2 minutes plus) the engine will almost stall, then rev high, then smooth out for a while. It will continue doing this at erratic intervals. This happens regardless of whether the car is in gear or in neutral or park. The car runs fine otherwise. The second problem is a very loud fuel pump. The radio or road noise will drown it out, but if you are sitting in the back seat it is very annoying. The car was a late '81 so it has the '82 fuel tank and pump setup.

Though I haven't completely ruled it out, I though I might have a fuel pump going bad causing both of my problems. But most people I have talked with say that when a pump goes out, it goes out completely. So I'm stumped. Any suggestions?

Chip & Christopher : '78 New Yorker Brougham/'81 Imperial

--

Subject: '81 EFI

Sent: Fri, 31 Oct 1997 09:21:57 -0800

From: "Graduate, Ltd" <grad@cts.com

Chip -

I am taking a couple of days off from working on my car. I will be sharing information as I proceed with search the causes Of the problems I face (stalling during warm up period). I have noticed RPM swings at idle after I have cut and restored power to the computer and before I have recalibrated the computer. After the recalibration the swings start diminishing in range and a couple of driving days later they are gone. Good luck, Carl Baty Grad@cts.com

Chip Hood wrote:

I have been following with great interest the problem that Carl Baty has been having with his '81 Imperial to see if it might be related to one of two problems I am having with my '81. If anyone knows of the cause or has any suggestions toward the following, it would be greatly appreciated.

The first problems is the car suffers from a very erratic idle if the car has been idling for some time. The car has the EFI intact and has 46K miles. Under normal driving, traffic lights and stop signs do not seem to cause a problem. But if I'm in heavy stop and go traffic or the car has been sitting idling for some time (2 minutes plus) the engine will almost stall, then rev high, then smooth out for a while. It will continue doing this at erratic intervals. This happens regardless of whether the car is in gear or in neutral or park. The car runs fine otherwise.

The second problem is a very loud fuel pump. The radio or road noise will drown it out, but if you are sitting in the back seat it is very annoying. The car was a late '81 so it has the '82 fuel tank and pump setup. Though I haven't completely ruled it out, I though I might have a fuel pump going bad causing both of my problems. But most people I have talked with say that when a pump goes out, it goes out completely.

So I'm stumped. Any suggestions?

Chip & Christopher: '78 New Yorker Brougham/'81 Imperial

Subject: 81-83 Fuel Injection on line library

Sent: Fri, 31 Oct 1997 09:26:47 -0800

From: "Graduate, Ltd" <grad@cts.com

Tony where are you in the process of getting the discussions about the 81-83 Fuel Injection together so we can access it. Can I help? Carl Baty 569-5995

Subject: '81 EFI

From: "Dick Benjamin" <bondotmec@alphainfo.com

Sent: Fri, 31 Oct 1997 10:03:02 -0800

Chip;

Your problem with the erratic idle is not going to be easy to track down. I think the first thing to do is to replace the O2 sensor, since this only happens at idle, and only when the car is thoroughly warm. Another possibility is the EGR valve or its controls, but the O2 sensor is so cheap and easy to change, (and is certainly due if it is still the original) that I would tackle that possibility first. If that does not cure the idle problem, then we will disconnect and plug the vacuum line that goes to the EGR valve to see if that affects the problem. Lets take those first steps and see where they lead us.

On the noisy fuel pump; these cars all have a noticeable whine from the fuel pump, which is worse in the back seat. When the car has accumulated many miles, or if it has often been driven with a low fuel tank (below about 7 gallons in it), the bearings in the pump get hot and wear, and begin to get much more noisy.

Your car does not appear to have enough usage on it to have worn out the pump, if the odometer is the original and does not show the asterisk. It is possible, though, that your fuel pump is failing for some other reason.

I have one '81 which has high mileage (probably over 200,000) and a very noisy pump, but the noise only occurs on very hot days, (which in Temecula unfortunately occur quite often). It has the worn bearing syndrome, and I am about to convert it to an externally mounted pump, which I did successfully to another of my '81's a few years ago after the original pump split its housing. Unfortunately, after the conversion (to a Mustang 5.0 Ltr's pump), I can still hear the whine, even though I rubber mounted the new pump and tried to isolate it acoustically as best I could.

I am quite certain your two problems are unrelated, by the way.

Dick Benjamin bondotmec@alphainfo.com

From: Chip Hood <Chip.H@worldnet.att.net

The first problems is the car suffers from a very erratic idle if the car has been idling for some time. The car has the EFI intact and has 46K The second problem is a very loud fuel pump. I might have a fuel pump going bad causing both of my problems. -

Subject: 81 Fuel Injection

Sent: Fri, 31 Oct 1997 09:55:06 -0800

From: "Graduate, Ltd" <grad@cts.com

I found Randy Weir through messages on the web. Randy has an 81 which is identical to mine and he lives about 30 minutes away. As soon as Randy gets his starter to stay engaged we can proceed with some part switching, back and forth. Are there any potential problems we might run into doing this kind of diagnosis? Dick Benjamin, you know something of both cars. Can you place any priority on parts to start test swapping.

I hope that this kind of buddy system can result in both new knowledge for everyone with FI. Carl Baty
--

Subject: 81 EFI Imperial - erratic Idle

From: "Robert J. Harris" <HarrisWerks@worldnet.att.net

Sent: Fri, 31 Oct 1997 18:20:14 -0600

Chip, sounds like a problem we've all had at one time or other. Does your car have the upgraded EFI equipment? This is readily identified by the potting compound on the exposed face of the Power Module and the Fuel Flow Meter; the new stuff is clear with large granules and won't "melt."

If you are not having a stalling problem you might consider these tips:

Disconnect the Oxygen Sensor at the In-line connector, the engine will run at a constant speed but maybe faster. If aggressive "Bracketing" still occurs with this removed, then remove and cap all of the vacuum nipples on the tree behind the Throttle Plate.

If the engine then smoothes out, you can reconnect the Oxygen Sensor and have a normal, mild "Bracketing."

Bracketing is defined as the rise and fall of idle speed as the Oxygen Sensor constantly adjusts the Fuel/Air mixture via the computer, most noticeable at idle. If okay now, you probably have a vacuum leak. If not okay, test the Oxygen Sensor with the engine running by grasping the male end of the connector between your right thumb and index fingers.

Alternately touch each battery post with your left hand fingers and see a rise or fall in idle speed. If you do, the Computer is okay, If you don't, it isn't. If okay, reconnect each vacuum circuit and test for the culprit.

In any event, the idle speed must be correct or you may experience occasional stalling. For all three years, try 580 RPM, in Drive, without AC ON, raise it to no more the 650 RPM. Higher idle speed with a warm engine aggravates the clunk in the drive line in reverse due to the high rear servo apply pressure.

If your In-Tank fuel pump is noisy, perhaps whining, it may have suffered a low fuel event and was damaged. These pumps must remain submerged in gasoline to stay alive.

If the pump is noisy, you may find a replacement at Auto Zone under their part number E-8094 or Western Auto, if still open, under their part number EP-7101 or P-27; Chrysler no longer has these pumps available.

I suspect that these pumps are universal applications. the important thing is that they operate in the necessary pressure range as did the original. This car had a low pressure pump in the tank, and a high pressure pump in the Support Plate. Hope this is of some assistance.

Bob Harris.

Subject: 81 Fuel Injection

From: "Dick Benjamin" <bondotmec@alphainfo.com

Sent: Fri, 31 Oct 1997 22:54:25 -0800

Carl and Randy;

I think the first thing to do is to localize the problem to lack of which: either fuel or spark. Since they are interrelated on an EFI car in ways that are not obvious, I think very strongly the thing to do is the gas down the air cleaner bit that I e-mailed to Randy a week or so ago. When we know the results of that, we'll know which way to jump next.

With the problems we have had on the IML of some messages not getting through, I wonder now whether my previous posts on this subject were received by Randy.

I did not realize that his starter won't stay engaged. I'd like more information on this. I was under the assumption that it sounded unusual, but was not aware that it wasn't cranking the engine. If the engine is balking and kicking back when cranking, we've got a totally different situation here, which may involve hydrostatic lock and can be VERY DANGEROUS to deal with. I think we better understand this situation first, or someone may be badly hurt, not to mention damage to the engine.

Once we get beyond that hurdle, I would like to confirm that the car will not run at all, under any conditions. That is how I remember his car, but it is getting close to a year since he first described the problems, and there has been a lot of water over my dam since then.

I am here just about 100% of the time, and if you guys want to consult on the phone, please call me anytime from 8AM to 10PM PST at 909 676 2232.

Dick Benjamin bondotmec@alphainfo.com

is identical to mine and he lives about 30 minutes away. As soon as Randy gets his starter to stay engaged we can proceed with some part switching, back and forth. Are there any potential problems we might run into doing this kind of diagnosis? Dick Benjamin, you know something of both cars. Can you place any priority on parts to start test swapping.

Subject: Randy 81 FI

Sent: Wed, 17 Dec 1997 12:21:32 -0800

From: Carl Baty <grad@cts.com

Randy - I am ready to start diagnosis through part swapping so both of our 81s with fuel injection run better and longer. Waiting to hear from you.

Carl Baty

Subject: How could this happen? 81 in Vegas

My Imperial has been sitting in the garage for 5 months now. I have been starting it on a weekly basis. Now it won't start. I do not here the fuel pump when I turn the key. Is there a fuse or something that could be doing this? Where can I look? What can I do?

Stunning 81 in Vegas

Subject: How could this happen? 81 in Vegas

From: RonSmithAZ <RonSmithAZ@aol.com

Sent: Tue, 23 Dec 1997 09:12:57 EST

Check the manual as to the location of a circuit breaker and also the roll-over safety switch. Is the battery fully charged? When you turn on the ignition, does everything else come to life?I should mention that auto's with electric fuel pumps in the tank wiil have the C/Breakers and Roll-over safety switches in the system.Good Luck!

Subject: How could this happen? 81 in Vegas

From: "Dick Benjamin" <

Sent: Tue, 23 Dec 1997 08:59:19 -0800

Tony;

A simple thing to do first, is to take a tablespoon of gas and place it in the center of the air cleaner with the wing nut loosened, this will allow the gas to drip down into the throttle body. Right after you do this, start the car, it should start right up. The question is, will it keep running, or will it die right away? This will tell us what sort of problem has occurred.

If it dies again right away, the problem is that the fuel pumps are not running for some reason, which you already suspect, but let's confirm it.

If it does not start, even for a moment, when you do this, there is a more serious problem.

The device that runs the fuel pumps momentarily when you first turn the key, and after that, provides power to the whole EFI/CCC system, is the module on the right front inner fender with a

5 wire plug screwed into it. This is the infamous ASDM, or automatic Shutdown Module. It must be securely grounded to operate. It relies on a metal to metal contact through its mounting screws, AND on the good connections between the inner fender and the main structure of the body.

This is a poor design, and most of these cars have had an additional wire added from one of the mounting screws to somewhere on the engine which is known to be a good ground. Most people have been using the alternator housing or one of its brackets.

There is also a good grounding point at the rear of the right head, where you will see 3 or 4 other ground wires and braids connected. If your car does not have this wire, try at least a temporary clip lead from the ASDM mounting flange to the alternator case to see if that cures your problem. Since the right fender area of your car is damaged, the original ground may have lost its integrity.

Dick Benjamin

Subject: How could this happen? 81 in Vegas

Sent: Monday, December 22, 1997 9:49 PM

My Imperial has been sitting in the garage for 5 months now. I have been starting it on a weekly basis. Now it won't start. I do not here the fuel pump when I turn the key. Is there a fuse or something that could be doing this? Where can I look? What can I do?
Stunning 81 in Vegas

Subject: How could this happen? 81 in Vegas

From: Hhrp <Hhrp@aol.com

Sent: Tue, 23 Dec 1997 21:03:43 EST

This happened with my Mazda Pick-Up. had lights, battery was okay, but nothing when I turned the key--no click, nada. Turned out I needed a new alternator as starter checked out Okay. Don't know if this helps in your situation but it sure was an unusual occurrence for me.

Subject: '82 EFI Rough-Idle

From: Eddenbud (Eddenbud@aol.com)

Sent: Tue, 13 Jan 1998 23:28:44 EST

I've owned my '81 with a carb. conversion (Holley 4-barrel) for many years, but I have only had the '82 since July '97. It has the original Electronic Fuel Injection system, and I am not especially familiar with working on it, though I have read through the '81 service manual on the system, including the nightmarishly long troubleshooting charts.

The motor has an unusual rough-idle problem. Though I live in Florida, I keep the '82 in Cincinnati, where, of course it is driven in colder weather than my '81 and I are used to here in Orlando. Oddly, the '82 (from Minneapolis) seems to really like the cold weather! When the motor is cold and the ambient temperature is low, it runs great. However when the motor warms up, it begins to idle unevenly. When the weather is warm, it will even repeatedly stall.

I've done a complete tune-up (all the filters, plugs, wires, etc.) I also found a vacuum leak in the brake-booster line, and changing the lines and brake booster filter assembly helped a lot. I've also changed the oxygen sensor (just because it's easy to get to and I needed an easy task that day (!!) and it looked like it might have even been the original (115,000 miles) one. Yet the rough idle/warm weather stall persists.

I'm guessing perhaps the airflow sensor. Does anyone have any ideas. Would I need to replace the sensor, or perhaps just clean it somehow??

ALSO, here's a really odd one: I was driving on I-75 the other night with the cruise control engaged. I tapped the accel. lever to speed up a bit (coincidental or related, I'm not sure) when the entire instrument panel FROZE. It was very strange--the speed was stuck at 56, the clock stopped where it was, the odometer stopped counting--Had I driven into the Twilight Zone?! I've never seen this in my '81 nor heard of any other incidents like this.

When safely off of the interstate, I stopped the car, turned off the ignition, waited a moment, restarted the car, and all was back to normal!! Has anyone else experienced this freakishness? (I don't really know if that's a word, but I think it fits!)

I'd appreciate anyone's input on these matters.

Thanks,

ED F

Subject: '82 EFI Rough-Idle

From: "Dick Benjamin" <

Sent: Tue, 13 Jan 1998 22:09:27 -0800

Ed;

I doubt this would be related to the air flow sensor. There is no way to clean it that I am aware of, anyway. It is best left alone, it is very delicate.

I would suspect the EGR valve is sticking open, either due to carbon build up or because of some failure in the EGR control system. To eliminate the latter, just pull the actuating vacuum line off the EGR valve (it is under the throttle position sensor at the passenger side center of the intake manifold, there is just one vacuum line going to it.) Pull the line off and plug it with a golf tee or equivalent, the see if you notice any difference in driveability. If the problem is gone, then we have to do some more investigating, but lets take it in steps, these cars are quite complex, and if too many things are disturbed at once, we may never figure it all out.

Another thing to check, is to pull the PCV valve out of the driver's side valve cover, and make sure it is pulling a vacuum, and that it will rattle when shaken. If no rattle, replace it or soak it to clean it in lacquer thinner. If no vacuum, your throttle plate is gunked up with carbon or the hose has a problem.

A couple of questions: What kind of fuel mileage is it getting at, say a steady 65 MPH? (assuming your readout is working), or if not what does it average?

How did the plugs look when you pulled them out. Did you use AL945 plugs, and gap them at .038? If not, how close did you come?

Your mystery with the freeze-up of the display sounds to me like something derailed the program in the display computer. When you shut down and restarted, you basically did a reset. This is not a problem I have ever experienced, but it does not sound serious to me.

Dick Benjamin

temperature is low, it runs great. However when the motor warms up, it begins to idle unevenly. When the weather is warm, it will even repeatedly stall. I've done a complete tune-up (all the filters, plugs, wires, etc.) miles) one. Yet the rough idle/warm weather stall persists. I'm guessing perhaps the airflow sensor. Does anyone have any ideas. Would I need to replace the sensor, or perhaps just clean it somehow??

when the entire instrument panel FROZE. It was very strange--turned off the ignition, waited a moment, restarted the car, and all was back to normal!!

Subject: '82 EFI Rough-Idle

From: Stude1966 <Stude1966@aol.com

Sent: Wed, 14 Jan 1998 05:49:52 EST

My 81 has had the dash problem since almost new and it has never been isolated, but it also happens very infrequently. But it has at times in the last 10 years gone off for days at a time. And what really is amazing is that it adjusts the mileage etc. when it comes back on.

Subject: Starter status

From: Randall Weir <rweir@mysurf.com

Sent: Tuesday, January 13, 1998 3:52 PM

Hi Dick,

Just a FYI item. Got the starter out (with the help of a friend) and got it tested. Worked fine on the test stand. The shaft the Bendix gear slides on is dry so I'm going to lightly lube it with a dry

lithium grease before reinstalling. Hopefully my friend will be here sometime this week, or weekend, to put it back in. Will keep you posted.
Randy rweir@mysurf.com

Subject: '82 EFI Rough-Idle

From: "Dick Benjamin" <

Sent: Wed, 14 Jan 1998 08:51:49 -0800

Well, this supports the idea that it is only the display driver that is getting derailed. The actual accumulation of information in the memory continues, you just cant monitor it.

Dick Benjamin

And what really is amazing is that it adjusts the mileage etc. when it comes back on.

Subject: '82 EFI Rough-Idle

From: Eddenbud (Eddenbud@aol.com)

Sent: Thu, 15 Jan 1998 00:12:45 EST

Dick,

Thanks for all of your input in regards to my 82's rough-idle problem.

Until you mentioned it, I'd forgotten how my old Cordoba (with the 318) had a similar rough-idle/stalling problem until I replaced the EGR which quickly remedied it. I'll certainly give that some attention!

I replaced the PCV with a new one, and the vacuum line seemed to be pulling OK as I recall. That was several months ago, but I'll check it again.

The car actually gets very good highway mileage - at 65 mph, about 22 mpg. Around town, it gets only about 15 mpg.

I replaced the plugs with Champion RN12Y's and gapped them to .035 inches. I have an old Technical Service Bulletin (08-14-81) which applies to all 1981 Chryslers with the 318 and all 1982's with EFI that advises to set the plug gap to .035. Apparently the original spec. was .048, which was too great and caused drivability problems.

What do you suggest?

Thanks again,

ED F

Subject: '82 EFI Rough-Idle(Mystery Dash)

From: Eddenbud (Eddenbud@aol.com)

Sent: Thu, 15 Jan 1998 00:21:56 EST

In a message dated 98-01-14 06:18:18 EST, you write:

My 81 has had the dash problem since almost new and it has never been isolated, but it also happens very infrequently. But it has at times in the last 10 years gone off for days at a time. And what really is amazing is that it adjusts the mileage etc. when it comes back on.

That is peculiar! It sounds different than what my '82 did, though. In my case, the dash displays remained illuminated, but they were absolutely frozen. The speed, odometer mileage, even the clock had all frozen, as if caught in a time warp!!

It was about ten minutes before I was off of the highway and was able to shutdown and restart the car. When I did so, all functions returned to normal. However, the odometer still indicated what was shown when the freeze- up occurred and the clock had to be "caught-up" as it was now ten minutes behind. Those 5 or 6 miles and ten minutes had not existed, as far as my car was concerned!

ED F

Subject: '82 EFI Rough-Idle

From: "Dick Benjamin" <

Sent: Wed, 14 Jan 1998 23:08:18 -0800

OK, Ed, I agree with everything you did except the plug selection. I really doubt it will have a major effect, but they did specify a special plug for the EFI cars only, the number was 68 ER as I recall, it will be on a sticker under the hood. I had trouble locating that number, but I found by comparing specs that the Autolite 945 is very close in dimensions, heat range and extended tip design. I am going from memory here, but I think the closest Champion number was RN13LYC. The plug you are using has a more conventional tip design, and is also one step cooler, so the next time you change plugs, I would go to the closer design.

Let me know how you make out with the EGR and PCV investigations. Your mileage sounds pretty decent, maybe a little low for city driving, but conditions are probably much worse than I am used to here in the boonies. By the way, how does that compare with the carbureted car? Also, how does the power compare?

Dick Benjamin

The car actually gets very good highway mileage-- at 65 mph, about 22 mpg. Around town, it gets only about 15 mpg. I replaced the plugs with Champion RN12Y's and gapped them to .035 inches. I have an old Technical Service Bulletin (08-14-81) which applies to all 1981 Chryslers with the 318 and all 1982's with EFI that advises to set the plug gap to .035. Apparently the original spec. was .048, which was too great and caused drivability problems.
ED F

Subject: Rough Idle Revisited Again!

From: Eddenbud (Eddenbud@aol.com)

Sent: Thu, 15 Jan 1998 11:12:05 EST

In a message dated 98-01-15 02:31:21 EST, you write:

Let me know how you make out with the EGR and PCV investigations. Your mileage sounds pretty decent, maybe a little low for city driving, but conditions are probably much worse than I am used to here in the boonies. By the way, how does that compare with the carbureted car? Also, how does the power compare?

Dick, I'll certainly let you know how things work out with the EGR. I may have to wait until warmer weather sets in in Cincinnati before I get to it!!

My '81, with the Holley 4-barrel, does not seem to have quite the power as the '82 with EFI. The '81 does not get very good mileage with the carburetor, despite all the tweaking my mechanic and I have attempted, only about 14 mpg. On the highway, it might only go up a bit to 15 or 15.5 mpg.

ED F

Subject: Randy Weir's '81 EFI problems

From: "Dick Benjamin" <

Sent: Wed, 21 Jan 1998 09:01:18 -0800

OK, Randy, good news (if it now cranks, that is)

Don't forget the first step, now. Put a tablespoon of gas down the Air Cleaner center bolt and try to start it, before you disconnect anything, just to see if it's a fuel problem.

Dick Benjamin

Subject: Ring gear

From: randall weir <rweir@mysurf.com

Sent: Wednesday, January 21, 1998 6:10 AM

Dick, The ring gear looks good. The starter is in. Carl will be helping me.
Randy

Subject: EFI problems, '81

From: "Dick Benjamin" <

Sent: Fri, 23 Jan 1998 22:35:22 -0800

OK, now we're getting somewhere. If I understand correctly, it fires when you add a teaspoon of gas, but does not fire when you don't. Somehow, I missed this essential information. I don't care how it runs when it fires, I just want to demonstrate that the problem is or is not lack of fuel. Now it appears we have demonstrated that it is lack of fuel. Now the next step is to see if the ASDM is supplying 12 volts to the EFI system when you are cranking. Do you have a test light, or a VOM?

Dick Benjamin

Dick, I used just a tablespoon this time. Got in and cranked it until it dropped out. After a few more times it fired, albeit rough. The longest it stayed running was mere seconds.

Randy

Subject: Fwd: 81-83 Imperial Questions

From: "Dick Benjamin"

Sent: Sun, 1 Feb 1998 22:23:59 -0800

Walter;

The '81-'83 cars are delightful drivers, with styling and features that rival much newer cars.

The standard engine was a normal 318 (5.2L) with a computer controlled EFI system and combustion control computer, which gave excellent performance and economy, at the expense of difficult maintenance and parts availability if problems do occur, especially with poorly trained mechanics.

If this car has the factory conversion to carburetor, it will be the same in characteristics and serviceability as any other carbureted early 80's Chrysler product. It will still have a computer controlled ignition system, dash board, and mixture control on the carburetor, the same as any other car from that era. It should be no more and no less trouble to maintain.

If the conversion was not done at a dealership with factory supplied parts, you are going to need more information about the car, since the manuals will not cover it. If you'd like to take a look at the fuel system and see if it is a 2 barrel carburetor, and if so what number, and also check the numbers on the computer module on the air cleaner, we can probably tell you if it is the authorized conversion.

Another thing to note is whether or not the fuel MPG readout is functional, and all other dash features seem to work OK. For instance, check the average MPG readout to see if it is reasonable. With a carburetor I would expect the long term average to be about 14 -15 MPG.

If the conversion is not the authorized one, I think you may have trouble passing the smog inspection (I know you would not pass in California) and you will have trouble getting the car serviced unless you have a really savvy mechanic.

Dick Benjamin

From: Walter <mediaink@mindspring.coml

was thrilled to find so much information about the Imperial on your home page and links--and to find so many proud owners. I am contemplating the purchase of a 1981 and this page has increased my enthusiasm. I am worried about thinks like on-board computers and the like, that is, the serviceability of the car as I am not a mechanic and would have to pay to have everything done. Also, the car I am considering has had the standard fuel-injected engine replaced by a regular 318 V8.

Subject: More 81-83 Imperial Questions

From: "Dick Benjamin" <

Sent: Monday, February 02, 1998 10:59 AM

If he has indeed switched the engine, I would have to ask why. There is no difference, the uniqueness of the original setup only involves the intake manifold and fuel pump, the rest is all standard 318. There is no reason to be afraid of this car if the engine is from a car which is standard for some car, so long as you know what that car is so you can get service work performed and order parts. The computers are not as deeply involved in engine management as in cars of the late 90's, but do control the ignition functions and the dash display. This is not usually a problem, and if you can tell the mechanic to "play like" it is, for example, an '84 Fifth Avenue, there should not be a reason to worry about it, assuming your state's smog police are not going to black ball the car because it is not an approved conversion. In California, this would be the death knell for the car, because getting it certified would cost way more than the $1000 to $1500 the car is worth, you'll have to check with your local authorities to see what is involved there (maybe nothing).

Dick Benjamin

- Regardless, it's not a factory authorized conversion. horrific ignition problems on a car with this kind of electronics and computer control? Grady Walter

Subject: Fwd: 81-83 Imperial Questions

From: Eddenbud@aol.com

Sent: Tue, 3 Feb 1998 00:18:27 EST

Dear Grady,

I've owned my '81 for about four years and my '82 FS for about seven months. My '81 has been converted (by the previous owner) to a non-Chrysler carb. setup, a Holley 4-barrel, while my '82 has the original EFI system. So I'm pretty familiar with the contrast between the two systems and peculiarities of the cars.

As Dick Benjamin pointed out, if a car you're considering has been converted, it's best if it's the Chrysler-designed and supplied conversion. This conversion replaced A LOT of parts, including the gas tank, wiring harness, manifold, etc., and it provided reliable performance AND all of the inputs to the computer necessary for proper fuel calculations on the Information Center. Non-Chrysler conversions may not; for example, my '81, with it's non-standard conversion, does not have an input for fuel burn rate, and so always reads 99.9 MPG (I WISH!!!). Despite these shortcomings, the car does run very well.

I feel that the EFI system is very good too, although it can be very difficult to properly diagnose problems, even to the experienced mechanic--You should see the terrified reactions I've gotten from Chrysler mechanics when pulling into the dealership with one of these cars!! Nonetheless, my '82 is generally a pleasure to drive as well.

Whether you choose an EFI or converted model, you MUST get the complete service manual set, including the service manual, engine performance manual, and (if you can find it) service-bulletin manual. These will prove an invaluable source in leading you and/or your mechanic through diagnostic procedures.

Although both of my Imperials have very good reliability records, I would not rely on one as my only source of transport; they're just not as reliable as a brand new modern car, but how could they be? Since they can be finicky and difficult to diagnose, you might be without wheels for a few days while you or your mechanic tries to figure out what the problem is. On the other hand, I've never had a sudden failure of one of these cars. They always give you signs of an impending problem, and if you heed those warnings, you won't be left stranded.

Here are some other things to watch for when car shopping: The '81's (at least early- run '81's) were notorious for the deck lid rotting out as Chrysler did not provide a proper drain hole (this was an early service bulletin), and the lid would rust from the inside out. My '81 did this, and I was able to replace it with a like-new one. On the other hand, my '82 shows no signs at all of such a problem, as the drain hole problem had probably been corrected on the line by that point.

If the car's been converted to carb., look carefully at how the fuel lines have been routed. You could wind up with a fire if the lines are not properly routed and secured.

As per my previous IML letters, the '81 search-tune radio is an atrocity in engineering, and finding anyone who'll actually touch the thing to work on it is about as easy as finding one that actually works! I'd suggest replacing it with a modern stereo if you get a car with one of those, and hang on to the radio for posterity!

The GOOD NEWS is these cars are really a pleasure to drive. I love driving both of mine. They ride super quiet, soft and comfy, yet still handle better than the whales of previous generations. And the styling is contemporary even on today's roads with aerodynamic "bubble" cars everywhere you look. You will draw admiring glances from any car enthusiast you pass, and you'll hear countless words of praise.

Good luck in your search!!

ED F

Subject: Fwd: 81-83 Imperial Questions

From: "Dick Benjamin" <

Sent: Tue, 3 Feb 1998 08:30:36 -0800

Ed;

Thank you for joining the conversation with Grady Walter. I notice he is not a member of the IML, so unless you CC'd him directly, he will not get your posting. Probably you already know that.

I agree with everything you say, and I am especially interested in the drain hole discussion. I was aware of the rust problem, but I was not aware of the service note on the subject. It did not show up in the hyper expensive CD ROM I bought which was supposed to have all the available factory information on the '82. They do not cover the '81, but I didn't think there was that much difference. Perhaps, if you have a copy of the bulletin, or could check for us, you would let us know where and how the drain hole is drilled, it might save the rest of us some grief.

Dick Benjamin

Subject: Fwd: 81-83 Imperial Questions

From: Eddenbud@aol.com

Sent: Monday, February 02, 1998 9:18 PM

Dear Grady,

I've owned my '81 for about four years and my '82 FS for about seven months. My '81 has been converted (by the previous owner) to a non-Chrysler carb. setup, a Holley 4-barrel, while my '82 has the original EFI system. So I'm pretty familiar with the contrast between the two systems and peculiarities of the cars.

As Dick Benjamin pointed out, if a car you're considering has been converted, it's best if it's the Chrysler-designed and supplied conversion. This conversion replaced A LOT of parts, including

the gas tank, wiring harness, manifold, etc., and it provided reliable performance AND all of the inputs to the computer necessary for proper fuel calculations on the Information Center.

Non-Chrysler conversions may not; for example, my '81, with it's non-standard conversion, does not have an input for fuel burn rate, and so always reads 99.9 MPG (I WISH!!!). Despite these shortcomings, the car does run very well.

I feel that the EFI system is very good too, although it can be very difficult to properly diagnose problems, even to the experienced mechanic--You should see the terrified reactions I've gotten from Chrysler mechanics when pulling into the dealership with one of these cars!!

Nonetheless, my '82 is generally a pleasure to drive as well. Whether you choose an EFI or converted model, you MUST get the complete service manual set, including the service manual, engine performance manual, and (if you can find it) service-bulletin manual. These will prove an invaluable source in leading you and/or your mechanic through diagnostic procedures.

Although both of my Imperials have very good reliability records, I would not rely on one as my only source of transport; they're just not as reliable as a brand new modern car, but how could they be? Since they can be finicky and difficult to diagnose, you might be without wheels for a few days while you or your mechanic tries to figure out what the problem is.

On the other hand, I've never had a sudden failure of one of these cars. They always give you signs of an impending problem, and if you heed those warnings, you won't be left stranded.

Here are some other things to watch for when car shopping: The '81's (at least early- run '81's) were notorious for the deck lid rotting out as Chrysler did not provide a proper drain hole (this was an early service bulletin), and the lid would rust from the inside out. My '81 did this, and I was able to replace it with a like-new one. On the other hand, my '82 shows no signs at all of such a problem, as the drain hole problem had probably been corrected on the line by that point.

If the car's been converted to carb., look carefully at how the fuel lines have been routed. You could wind up with a fire if the lines are not properly routed and secured. As per my previous IML letters, the '81 search-tune radio is an atrocity in engineering, and finding anyone who'll actually touch the thing to work on it is about as easy as finding one that actually works! I'd suggest replacing it with a modern stereo if you get a car with one of those, and hang on to the radio for posterity!

The GOOD NEWS is these cars are really a pleasure to drive. I love driving both of mine. They ride super quiet, soft and comfy, yet still handle better than the whales of previous generations. And the styling is contemporary even on today's roads with aerodynamic "bubble" cars everywhere you look. You will draw admiring glances from any car enthusiast you pass, and you'll hear countless words of praise. Good luck in your search!!
ED F

Subject: '81 won't start, EFI problems

From: "Dick Benjamin" <

Sent: Wednesday, February 04, 1998 9:29 PM

Data is arriving piece by piece. I did not realize you had been able to verify fuel spraying from the nozzles. That eliminates all the questions we had about 23 volt power supplies, ASDM modules, Control fuel pumps etc. etc. etc..

You are mistaken about one thing, however. The air flow sensor gets upset when you take off the top of the air cleaner because in that condition NO AIR flows across the venturi tube that protrudes into the snorkel, it all just goes down the maw of the intake manifold, that is why the engine won't run with the cover off, the computer shuts down the fuel flow because it cannot detect the air flow through the snorkel.

But this function is not operative when you are cranking, so that is not the reason it does not start, unless I am mistaken about the start-up lockout of the air sensor input to the computer. I intended to verify that today but I got too involved in removing my truck's transmission and throwing out the throw out bearing. In any case, you have just proven that the problem is ignition, since all you need is fuel, compression (I assume it is OK?) and spark.

Maybe it is intermittent, but if it didn't start when you saw fuel going in, there just about HAS to be an ignition problem.

The only other possibility is something mechanical, like jumping time, or perhaps the EGR valve stuck open. It would be educational to run a compression check on it, just to make sure. How many miles on this car, and do you know any previous service history on the engine (mechanical)?

By the way, I posted this before but it must have been in one of the messages you never got: there is no "starter solenoid". The starter pulling in to the ring gear is a purely mechanical function. If it is not engaging, there is a problem with it. As many of the members might recall, I have been battling one of mine for over a year, that does run, but not right.

I have finally concluded that when the machine shop did the heads, he forgot to trim the valve stems off so the lifters are working in the right part of their range. I am about to pull the valve covers and the rocker shafts off to verify this. Strange things happen when you let someone else work on your engines. I had insisted that he return the heads to me unassembled so I could check his work carefully, but his staff went ahead and buttoned them up before I got there, and I accepted them that way. Dumb.

Dick Benjamin

Subject: Fuel Inj Message

From: Randall Weir <rweir@mysurf.com

To: Dick Benjamin <

Sent: Wednesday, February 04, 1998 8:35 PM

Hi Dick,

One of the things Carl and I checked was if fuel was spraying into the manifold. It is; on both sides. If there were no spark why would the engine fire sometimes?

Friday afternoon I'll have time to remove #1 plug, lay it on the block and turn the engine over to check for spark. I expect there will be spark. Refresh my memory if I'm wrong about the Mass AirFlow Sensor. My past experience is that if the air cleaner nut isn't tight enough, too much air comes in - is detected by the mass airflow sensor - and the engine just turns over but won't start. My back pocket logic tells me 1) the starter is good (albeit the solenoid may be marginal - the screws were so tight I was afraid of breaking them and didn't get into it), 2) fuel is getting into the manifold as per visual inspection and 3) some spark must be present (i.e. the coil is putting out although I'd like to check it but I don't have the primary/secondary resistance data) so it must be something else. Perhaps my logic is faulty but that's the way I see it.

Randy rweir@mysurf.com

Subject: Carl's 81 w/FI

From: "Dick Benjamin" <

Sent: Wed, 4 Feb 1998 21:40:38 -0800

Carl,

Glad to hear from you again. I have updated my address book. Are you getting messages to your old address still, or should I go back and forward the last few I have sent to Randy?

Yes, I have butted in again, and you will see more input from me tonight. I don't want to get in your way, but I am trying to learn and perhaps help with getting Randy's car going again. I meant to ask and forgot, how does it crank as far as speed of turning over. In other words, do you think it sounds like the compression is OK? If it is poor, it will crank very fast, and if it is dropping a cylinder or two, it will crank unevenly.

I cannot think of a thing to do with your problem that you have not already thought of. I actually thought you had it solved the last time, wishful thinking on my part, I guess.

Almost every one of the mysterious quitting or failure to start problems we have heard about on the IML has turned out to be a poor connection somewhere under the hood. I don't remember, did we ever talk about getting some contact cleaner from Radio Shack and going over all the connectors?

Dick Benjamin

Subject: Carl's 81 w/FI

From: GRADLTD@aol.com

Sent: Wednesday, February 04, 1998 8:44 PM

Hi again Imperial lovers.

I am back from extended travels and eager to hear from all of you. My e-mail address has changed. Please send any direct messages

To: GradLtd@aol.com.

I came back on line yesterday and found that Dick Benjamin had apparently responded to a message from Randy (Weir). Randy and I have identical cars and we spent some time under the hood last weekend in an attempt to get Randy's started and to keep mine from stalling.

On Randy's car we found we had both fuel and spark. We by-passed the shut off module and found the in tank fuel pump was pumping fuel. Also we found that the transmission linkage was involved, to some degree, in the previous starter problems. A lack of battery power stopped us short at that point.

The engine caught several times and sputtered to a stop quickly. Fuel dropped through the air cleaner had no effect. My 81, also with fuel injection, has a repeated stalling problem in the first 15-20 minutes after a cold start. Cold here means the car has not run for 90 plus minutes. This problem goes back in time 8 months. The stall is a complete shut down, as fast and sure as if I had turned of the ignition.

I have watched the stall occur with fuel pressure gauges and voltmeters running. Both fuel and spark stop as a result of the stall, not before it. We have by- passed the shut down module without effect.

I am temporarily stumped and open to any advice or suggestions as I start all over in a search for the cause of the stall. I intend to continue cleaning every connection and ground in the hope that this is a source of the problem. Hopefully, in a continuing swapping of parts, Randy and I will both find the cause of these problems, but we need your collective help and guidance to point the way. Thanks to all. It is great to be home.

Carl Baty

Subject: 81w/FI stalls

From: GRADLTD@aol.com

Sent: Thu, 5 Feb 1998 10:03:04 EST

Thanks for your responses. Dick, please resend send on the messages I missed. If you were going to use part swapping as a diagnostic on these 81s where would you start?

Carl Baty, San Diego

Subject: 81w/FI stalls

From: "Dick Benjamin" <

Sent: Thu, 5 Feb 1998 10:02:39 -0800

OK, Carl, I will strip the older messages in below.

As for part swapping, I guess with Randy's, I would try just changing the air cleaner top housing assy first, which will changeout the air flow sensor (in case I am wrong about that), the air temp sensor, the Combustion Control Computer, and the Memory module. I'd place my money on the CCC now, with the things I have heard so far, but it is easy to change the whole assembly as a unit, and it also exercises the 22 connections which may just work wonders. Before you do that, have you run a continuity check on the distributor PU coil, and does the connector from there seem OK? You can find the two wires where they go into the CC and check back toward the distributor from there (with the connector unplugged at the CCC), you should see the same resistance. The pin numbers and wire colors are in the manual. Of course, disconnect the battery before you do anything.

With yours, I really think it is going to be much harder. It is possibly your CCC getting screwed up by some combination of sensor readings while the car is warming up, but there are so many, and what ever they are, it should not shut down the ignition.

Your note that the ignition and the fuel system shuts off simultaneously is to be expected, since the ASDM shuts off all power to the system as soon as it detects more than a millisecond or so of ignition drop-out, so I don't think you can sort cause from result that way. I would bypass the ASMD on your car, and go through a complete warm up cycle that way, and see what the symptoms are when the troubles come. You might get a totally different picture without the ASDM "turning out the lights on you" while you are trying to see what is happening.

The other thing that happens when one of these cars is warming up is there is a changeover to a situation in which the O2 sensor begins to affect the CCC and the AIR injection system is switched from the back exhaust ports on the heads to the catalytic converter. The control for these changeovers are described in the manuals, and you might want to reread that area. I think both of these warm-up functions are supposed to be long over with by the time your car is acting up, but maybe there is something wrong with a timer or a vacuum hose routing. I think it is possible to defeat and bypass just about everything, and make the car just run on the initial startup program indefinitely, and maybe that would be the next thing to do to diagnose it.

You are probably going to have to print all this out and cut and paste to sort by date or something, because they are all jumbled up. generally, the replies come before the questions. Sorry about that. If I had more time, I would do it for you, but I'm being pressed by other problems here. Dick Benjamin

Data is arriving piece by piece. I did not realize you had been able to verify fuel spraying from the nozzles. That eliminates all the questions we had about 23 volt power supplies, ASDM modules, Control fuel pumps etc. etc. etc..

You are mistaken about one thing, however. The air flow sensor gets upset when you take off the top of the air cleaner because in that condition NO AIR flows across the venturi tube that protrudes into the snorkel, it all just goes down the maw of the intake manifold, that is why the engine won't run with the cover off, the computer shuts down the fuel flow because it cannot detect the air flow through the snorkel.

But this function is not operative when you are cranking, so that is not the reason it does not start, unless I am mistaken about the start-up lockout of the air sensor input to the computer.

I intended to verify that today but I got too involved in removing my truck's transmission and throwing out the throw out bearing.

In any case, you have just proven that the problem is ignition, since all you need is fuel, compression (I assume it is OK?) and spark. Maybe it is intermittent, but if it didn't start when you saw fuel going in, there just about HAS to be an ignition problem.

The only other possibility is something mechanical, like jumping time, or perhaps the EGR valve stuck open. It would be educational to run a compression check on it, just to make sure. How many miles on this car, and do you know any previous service history on the engine (mechanical)?

By the way, I posted this before but it must have been in one of the messages you never got: there is no "starter solenoid". The starter pulling in to the ring gear is a purely mechanical function. If it is not engaging, there is a problem with it.

As many of the members might recall, I have been battling one of mine for over a year, that does run, but not right. I have finally concluded that when the machine shop did the heads, he forgot to trim the valve stems off so the lifters are working in the right part of their range. I am about to pull the valve covers and the rocker shafts off to verify this. Strange things happen when you let someone else work on your engines. I had insisted that he return the heads to me unassembled so I could check his work carefully, but his staff went ahead and buttoned them up before I got there, and I accepted them that way. Dumb.

Dick Benjamin

Subject: 81w/FI stalls

From: Randall Weir <rweir@mysurf.com
To: Dick Benjamin <

Sent: Wednesday, February 04, 1998 8:35 PM

Hi Dick,

One of the things Carl and I checked was if fuel was spraying into the manifold. It is; on both sides. If there were no spark why would the engine fire sometimes?

Friday afternoon I'll have time to remove #1 plug, lay it on the block and turn the engine over to check for spark. I expect there will be spark.

Refresh my memory if I'm wrong about the Mass Air Flow Sensor. My past experience is that if the air cleaner nut isn't tight enough, too much air comes in - is detected by the mass air flow sensor - and the engine just turns over but won't start.

My back pocket logic tells me:

1) the starter is good (albeit the solenoid may be marginal - the screws were so tight I was afraid of breaking them and didn't get into it),

2) fuel is getting into the manifold as per visual inspection and

3) some spark must be present (i.e. the coil is putting out although I'd like to check it but I don't have the primary/secondary resistance data) so it must be something else.

Perhaps my logic is faulty but that's the way I see it.

Randy Weir

that matter(?)

The air flow sensor is the device that is mounted with 4 screws in the air cleaner "snorkel" that is connected to the flexible duct. I need to check in the manuals to be sure, but I seem to recall that it has nothing to do with the car's starting, since the air flow is always zero or nearly so when the car is cranking, so the computer assumes a value until the other sensors tell it the engine is running. If this is the case, it is not likely to be your problem, at least with starting, which is the first thing to fix.

Next I would like to check to see that the control fuel pump is getting a signal from the power module, should be around 10 to 12 volts, and that the fuel is actually flowing out of the spray nozzles while cranking. (It is necessary to fool the computer by adding a connection to one wire in the starter relay plug, per the directions posted by Bob Harris a few months ago, so that you can see what is going on.) Perhaps Carl did that?

If that is not happening, with the ASDM out of the picture, I would bet a buck the 23 volt power supply has died. This is one of the more common problems with the design. Has the HSA (hydraulic support plate assembly) been changed out during your attempts to solve this problem?

The ignition question is still up in the air, since while you got it to start one time briefly by adding liquid fuel to the intake, unless I am confused, that is not a consistent result.

I've mentioned this before, and I don't want to be insultingly repetitive, but there should be no reason to crank so long as to wear the battery down. If the car is going to start, it will start immediately. Lets not cook your starter and add to the problems.

I will CC Carl and the IML with this, so you should get it both ways.

Dick Benjamin

Subject: 81w/FI stalls

From: Randall Weir <rweir@mysurf.com

To: Dick Benjamin <

Sent: Tuesday, February 03, 1998 4:31 PM

I haven't a clue why you aren't getting through. You're the only one who has trouble. I don't think Carl did a coil check. Now way back when, the wrench down at Colonial Dodge said he 'knew' the mass air flow sensor was bad but didn't know if it'd been replaced. What is it and what does it look like? How does one test it?

Can you get through to Carl on email?

Randy

Thanks for the report. I wish we were closer, I would have loved to be there working with you guys. I don't have any more ideas beyond what I suggested last time. I assume Carl checked the ignition coil etc. to determine that you were getting spark. I'd really like to come down sometime and get into this with you, but the next few weeks are grim for me. My clutch went out in my PU this week, so that is the high priority item for me, since I need it to pull our trailer to Jack Murphy stadium for the swap meet, and I was going to bring my car hauling trailer down to try to sell it too, if I can get it cleaned up in time. Maybe after the first of March, I can come down at some time that is convenient for you guys. I sure wish we could get your car on the road again!

Dick Benjamin

Subject: '81 Status update

From: Randall Weir <rweir@mysurf.com
To: Dick Benjamin <

Sent: Sunday, February 01, 1998 1:40 PM Hi Dick,

Carl came over today. We poked around some and checked a number of things. We did the ASDM checks; disconnected the plug and jumpered the two biggest wires together. No change. There is 12 volts across pins 1 - 5 when starting.
OK, now we're getting somewhere. If I understand correctly, it fires when you add a teaspoon of gas, but does not fire when you don't. Somehow, I missed this essential information. I don't care how it runs when it fires, I just want to demonstrate that the problem is or is not lack of fuel. Now it appears we have demonstrated that it is lack of fuel. Now the next step is to see if the ASDM is supplying 12 volts to the EFI system when you are cranking. Do you have a test light, or a VOM?

Dick Benjamin

Dick,
I used just a tablespoon this time. Got in and cranked it until it dropped out. After a few more times it fired, albeit rough. The longest it stayed running was mere seconds.
RandyOK. If the car is going to start, it will start essentially immediately. If it does not, don't keep cranking, it just wears out the starter. Just a few seconds of cranking will tell you if we are on the right track.

If you want to get around a major possible source of your problem, unplug the 5 pin connector from the electronic module on the right front inner fender (the plug has a screw in the center of it to hold it in place) and observe that there are 3 small wires and 2 large wires in the harness of wires leading to the plug. Take a small length of wire, strip it bare, and push one end into the socket that each of the large wires comes to in the plug. Leave the plug lay loose on the fender. Now we know that the ASDM is out of the picture. See if the car will start now. You can try the

tablespoon of gas again if you want to give it a little head start, but now it should keep running when it fires.

I'll stop here to hear what you find out.

Dick Benjamin

From: randall weir <rweir@mysurf.com
To: Dick Benjamin <bondotmec@alphainfo.com
The battery is charging after cranking and cranking and cranking...

OK, that settles it. 1 OZ is fine, maybe a little too much, but it should have shown some sign of life. (I assume the cover was on the air cleaner).

No ignition.

Time to check the connections to the CCC, and the coil, ballast resistor and distributor pickup coil. Carl is very familiar with this area.

Dick Benjamin

Ummmm, just a tablespoon? I put a shot (1 oz.). No effect.
Randy
Please reply

OK, Randy, as you know, I was afraid the problem was somewhere else.
The starter drive is supposed to be dry. Do not lube it unless you think it is actually hanging up due to some interference, in which case find the cause and file off the burr or whatever.

Before you reinstall the starter, get under there (or have someone do this) with a strong flashlight and a dentist mirror and INSPECT THE RING GEAR! Most likely, from the symptoms I understand you suffer, this will be the problem area. The bad area may be only in one small part of the ring gear, but even so, you will be playing Russian Roulette with the car every time you turn it off.

I hope you don't mind, but I am going to post this along with your report to the whole IML, in case someone else is lurking out there with the same symptom, which as I understand from Carl is that the starter "whirrs" but the engine does not turn over (fan doesn't move).

Dick Benjamin

Subject: 81w/FI stalls

From: GRADLTD@aol.com

Sent: Thursday, February 05, 1998 7:03 AM

Thanks for your responses. Dick, please resend send on the messages I missed. If you were going to use part swapping as a diagnostic on these 81s where would you start? Carl Baty, San Diego

Subject: '81-'83 EFI Question: Air flow sensor

From: "Dick Benjamin" <

Sent: Thu, 5 Feb 1998 20:40:33 -0800

Randy, Carl and list;

Completing a thought I had yesterday, I did go look up the details of startup operations on the EFI system. The air flow sensor has no effect on the starting of the engine. As long as the starter is engaged, the air flow signal is ignored by the computer. The car should start normally even if the air flow sensor is defective. On the other hand, if the car starts normally, and then dies quickly after the key is released to go back to the run position, the air flow sensor is a possible culprit.

It is possible, using the method posted by Bob Harris, to lock the CCC into thinking the starter is cranking, and thus using the preprogrammed air flow quantity indefinitely, for diagnostic purposes. If this makes the car run, (albeit poorly since the parameters will be correct for only one RPM), this would support the conclusion that the air flow sensor is a problem.

This diagnostic technique is the same one used to view the fuel flow from the low speed nozzles with the cover off the air cleaner, so perhaps this has already been done with Randy's car.

Dick Benjamin

Subject: 81 w FI Stalls

From: GRADLTD@aol.com

Sent: Fri, 6 Feb 1998 01:32:30 EST

Hi again

Previously - my 81 stalls after starting during the first 15-20 minute of warm up.

I note over and over that air seems to have something to do with the stall. When I open the hood or take the air cleaner off and replace it the car seems to run normally. There is something here which involves the flow oxygen. This is why I keep going back to things like the air flow sensor. I am able to avoid the stall sometimes by hitting the accelerator hard as soon a I sense a stall starting. These two things are the only way I have been able to impact the stall. Could they be related? Thanks Carl

Subject: 81 w FI Stalls

From: "Dick Benjamin" <

Sent: Fri, 6 Feb 1998 07:35:19 -0800

Well, I hate to see you spending money on an Easter Egg hunt for the problem, but if you have access to a known good Air Flow sensor, they are easy to change so you could certainly try that.

You are welcome to the one off my brown car for a temporary test, but this is my daily driver, I would not want to put it out of commission too long. I do not have any spares. Maybe Gary Hasey or Mike Bleznyk could come up with one.

Dick Benjamin

Subject: 81 w FI Stalls

From: GRADLTD@aol.com

Sent: Thursday, February 05, 1998 10:32 PM

Hi again Previously - my 81 stalls after starting during the first 15-20 minute of warm up. I note over and over that air seems to have something to do with the stall. When I open the hood or take the air cleaner off and replace it the car seems to run normally. There is something here which involves the flow oxygen. This is why I keep going back to things like the air flow sensor. I am able to avoid the stall sometimes by hitting the accelerator hard as soon a I sense a stall starting. These two things are the only way I have been able to impact the stall. Could they be related?

Thanks Carl

Subject: '81-'83 EFI Question: Air flow sensor

From: mblez@juno.com

Sent: Sun, 8 Feb 1998 20:06:27 -0500

Randy, Carl, and Dick,
My experience with bad air flow modules is that when they are bad, the car will start then immediately die. Dick is correct in his diagnosis of this component. Also, Carl if you have checked all the basic cold stalling culprits and they are working properly, I would put my money on the CCC being bad. I have replaced many CCC for this coldstalling problem.

Your comments about air flow having something to do with your stalling. The CCC has a air temp. sensor (thermistor) located in its housing that extends into the air cleaner. This resister measures the temp. of the air after it passes through the airflow sensor. Which helps the CCC more accurately process the weight of the air entering the intake. This info. is also compared to info. from the fuel flowmeter to help control the air/fuel mixture. This resistor can be easily tested with a DMM, a good resistor should read about 2.0 ohms on the 20K scale when warm, if my memory serves me right. Make sure the system is disconnected during this test. This resistor can be replaced. I do have a good spare airflow module if you would like to try it.
Later, M Blez.

Subject: '81-'83 EFI Question: Air flow sensor

From: GRADLTD@aol.com

Sent: Sun, 8 Feb 1998 23:32:17 EST

Dick, M Blez, Bob Harris

Thank you for your suggestions. I am starting over redoing tests which I think might uncover the source of the problem of repeated stalls before the engine is warmed up. I had a fairly comprehensive list with input from many, including Dick, Nancy and Bob Harris. A major network crash at my office wiped out my past IML files. I would appreciate any help in pulling past suggestions from archives, or re-sending suggestions. I know I lost one particular specific suggestion from Bob Harris which I was about to implement.

My car has to pass smog this month in California and I need to start preparing for that wonderful experience. Please send on any old or new suggestions you might have. I do have the ability to interchange parts with Randy's 81 across town. Our goal is to have both cars up and running well for the Escondido meet.

I have additional room for people who don't mind a sofa bed 12 miles south of Escondido on Interstate -15. Lodgers would be welcome. Carl Baty.

Subject: 81 Imp Engine Pipes

From: Stude1966 <Stude1966@aol.com

Sent: Mon, 2 Mar 1998 19:07:49 EST

Looking for engine pipes with cats for 81, anyone know where and how much, my Chrysler dealer just laughs.

Bill

Subject: 1981 Imperial Stalls after Warmup!

Sent: Tue, 10 Mar 1998 07:20:11 -0800

From: Tony Lindsey <xxltony@crash.cts.com

New Subscriber(s): Cliff ThompsonEmail Address is: Lester@cnwl.igs.netMember Location: Cornwall Ontario Canada

Car(s) owned: 1981 Imperial97 kmHeather Gray

Self-Introduction: Hi, my name is Cliff Thompson and I've owned my Imperial for nine years. This has been a very good car and is still in nice shape. I only have one problem with it which is it has started to stall on me after warm-up. I'm looking for help in this area.

Subject: 83 Stalls -Warm up

From: GRADLTD <GRADLTD@aol.com

Sent: Tue, 17 Mar 1998 19:41:07 EST

Hi new Imperial owner.

I am Carl Baty in San Diego. I have been away from my home and my email most of the last 2-3 months. I picked up on the tale end of a message today regarding an 82 w/FI that stalls during the warm up period (first 15-20 minutes by my definition). Is this information correct?

I have learned a great deal about the EFI and the strange symptoms it can produce. I have my car running very well now and maybe I can help you get yours going too. Please give me all the symptoms related to stalling. How long after you start the car in the morning does it take to start stalling. How many times does it stall during the first 15-20 minutes. Does it start easily after a stall? If the car has been sitting for two or three hours does it go through the stalling process again. How soon after this somewhat coldstart does it start stalling and does it follow the same pattern as a totally cold start? Since I must have missed an earlier message to the mailing list please send that directly to me. I think we can fix this one. Carl

gradltd@aol.com

Subject: new '83 Imperial

From: "Dick Benjamin" (bondotmec@dte.net)

Sent: Mon, 16 Mar 1998 22:42:37 -0800

Walter;

I am sorry, I do not have a source for translating these numbers into real world measurements. I expect that they are just voltage measurements picked off the various inputs to the CCC, but I don't know the scale used to convert them to volts. There does not seem to be any source of information on the factory test set. I am sure it was not very sophisticated, though.

The symptom you are fighting has been an epidemic this winter, and Carl Baty in San Diego has done as much work as anyone in trouble shooting his and another IML member's '81s. Perhaps he will chime in with some information for you.

My only thought on the off idle sag is that perhaps the fuel rails are not spraying a healthy stream, especially the low power nozzles. The fuel rail assembly is easily removed (two mounting screws and a brass fuel line fitting) and easily disassembled and cleaned. I have used a spray aerosol bomb of carburetor cleaner to flush out each of the 8 nozzles individually by pressuring the cleaner back through the whole assembly until it runs all over your hands. Be sure to remove all 3 "O" rings from the assembly before you do this, I assume the rubber does not look upon the carb cleaner as a friendly substance.

After this cleanout and reassembly, my pet '81 ran much better, and more importantly, passed the CA smog test with flying colors, which it had flunked badly before. I assume you have all the air passageways tightly connected, so that all the intake air is forced to go past the air flow sensor. This means the lid has to be on tight, with the clamp ring around it, and that the PCV valve and any other potential vacuum leak is verified to be A-OK. When everything is right on these cars. they pull strongly from first rotation of the engine, no matter how cold the engine or the ambient, so there IS an answer to your problem, we just have to figure out where!

Dick Benjaminbondotmec@dte.net

Fuel - 3-25Air - 2-25Fuel Temp - 16-21Throttle position - not to exceed 13.8Vac. Sol. - .1-.2Water Temp - 8-12 Does anyone know the units for these numbers or can anyone tell me how to further troubleshoot these sensors?

Subject: new '83 Imperial

Sender: andydymek@pop.pipeline.com

Sent: Tue, 17 Mar 1998 17:25:59 -0500

From: Walter Dymek <andydymek@pipeline.com
Walter;

I am sorry, I do not have a source for translating these numbers into real world measurements. I expect that they are just voltage measurements picked off the various inputs to the CCC, but I don't know the scale used to convert them to volts. There does not seem to be any source of information on the factory test set. I am sure it was not very sophisticated, though.

The symptom you are fighting has been an epidemic this winter, and Carl Baty in San Diego has done as much work as anyone in trouble shooting his and another IML member's '81s. Perhaps he will chime in with some information for you.

My only thought on the off idle sag is that perhaps the fuel rails are not spraying a healthy stream, especially the low power nozzles. The fuel rail assembly is easily removed (two mounting screws and a brass fuel line fitting) and easily disassembled and cleaned. I have used a spray aerosol bomb of carburetor cleaner to flush out each of the 8 nozzles individually by pressuring the cleaner back through the whole assembly until it runs all over your hands. Be sure to remove all 3 "O" rings from the assembly before you do this, I assume the rubber does not look upon the carb cleaneras a friendly substance.

After this cleanout and reassembly, my pet '81 ran much better, and more importantly, passed the CA smog test with flying colors, which it had flunked badly before. I assume you have all the air passageways tightly connected, so that all the intake air is forced to go past the air flow sensor. This means the lid has to be on tight, with the clamp ring around it, and that the PCV valve and any other potential vacuum leak is verified to be A-OK. When everything is right on these cars. they pull strongly from first rotation of the engine, no matter how cold the engine or the ambient, so there IS an answer to your problem, we just have to figure out where!

Dick Benjaminbondotmec@dte.net

Fuel - 3-25Air - 2-25Fuel Temp - 16-21Throttle position - not to exceed 13.8Vac. Sol. - .1-.2Water Temp - 8-12 Does anyone know the units for these numbers or can anyone tell me how to further troubleshoot these sensors?
I have checked all vacuum lines, PCV valve, etc. to make sure that no vacuum leaks exist. Air cleaner is down tight. I have also removed and cleaned the fuel rail because I didn't like the squirt I got when I checked for fuel. I would assume that the water temp sensor and the vacuum solenoid could be checked by either disconnecting the sensor or jumpering it, just don't know which would be the right method.

Subject: new '83 Imperial

From: "Dick Benjamin" (bondotmec@dte.net)

Sent: Thu, 19 Mar 1998 19:13:20 -0800

The important thing here is to recognize that there are two entirely separate water temp sensors. The one which controls the warning light on the dash is a simple switch, and of course could be bypassed with a wire for diagnosis purposes, but the one which is important to the warm up performance is a variable resistance, that changes from under 1000 Ohms to about 3000 OHMS under temperature variations. These are delicate, and usually break when trying to remove them from the water jacket. They are mounted next to the water outlet to the radiator on the Driver's side front of the intake manifold, and have a 2 wire connector with the terminals arranged in an "L" shape. You could certainly unplug it and substitute a variable resistor, to experiment with the effect on the CCC, but do not substitute a short or you may damage the CCC.

If you disconnect this sensor, try reading the resistance between the two terminals with the engine cold and with it hot, and see if the readings are in reasonable agreement with the above range. If the sensor reads more than an order of magnitude out of range, it has failed for sure, and possibly the tolerable error is much smaller than that, I do not know.

The last time I checked, these were still available from Chrysler dealers, but they have to use their parts locator to track one down for you, and the price will be about $50. If you order one, be sure to get return privileges, since many of them on the shelves have failed over the years. I speak from bitter experience.

Dick Benjaminbondotmec@dte.net

further troubleshoot these sensors? for fuel. I would assume that the water temp sensor and the vacuum solenoid could be checked by either disconnecting the sensor or jumpering it, just don't know which would be the right method.

Subject: 81-83 with EFI

From: GRADLTD <GRADLTD@aol.com

Sent: Sun, 22 Mar 1998 11:46:28 EST

Hi 81-83 EFI Drivers

As many of you know I have been daily driving my 81 with FI for over two years now. I have leaned a great deal. I have been humbled many times. I have put an additional 20,000 miles on the clock in those two years. Many people like Dick Benjamin and too many others to mention have helped me along. Many thanks to the Imperial Club.

My 81 (named Beauty) is now running beautifully. I have been through a series of problems dealing with 5-10 minute waits before she would restart while the engine was still warm. That one was finally fixed by a solid regrounding of the ASD. This Automatic Shutdown Module (On the passenger side fender wall) looked as if it had a decent ground but after cleaning it and running for a time, I ran a new ground from the ASD to the engine, and found additional gains in performance. I recommend hard grounds for everyone. Cleaning and checking grounds and contacts throughout the EFI is also recommended.

Just as I was putting the non restart problem behind me "Beauty" started to shut down (as if I had shut off the ignition) 3 to 4 times, between 9 and 20 minutes of a cold start. After 20 minutes she would run without problem. She restarted OK rapidly after each shut down, but the shut down could and did occur at 70 MPH or idle. I remember the first time this happened on a freeway. I put on the blinker and started motioning to the driver on my right to get out of the way and, of course, he watched my antics and slowed down to match my declining freeway speed and blocking me from the road side perfectly.

If the car had been sitting for 2-3 hours she would shut down within 3-20 minutes after start and the number of required restarts then varied from 1-9. I spent lots of time working on this problem and leaning some more as I went along. The first thing I learned is that it pays to find someone else with an 81-83 w/EFI. I matched up with Randy Weir here in San Diego and we started making gains in knowledge through part swapping parts. Randy's problem was that his car did not restart one day and hasn't run since.

We switched CCCs (Computer Control Modules), ($200-$250 at a Chrysler dealer) and found My car mimicked Randy's by catching and then dying instantly. Putting my CCC on Randy's car resulted in the car running but only as long as we poured fuel down the hole in the center of the air cleaner housing. We installed an entire Hydraulic Support Plate and Throttle Body Assembly. Same result. We welcome suggestions. Next weekend we hope to return to Randy's problem so please give us your input before next Saturday.

Mean time, back at the ranch, I replaced my CCC and still found sluggish acceleration during the first 15 minutes of warm up but no more shut downs. I went to NAPA and purchased an EFI Coolant Temperature Sensor for about $25 and replaced mine. It is located on the driver's side of the intake coolant manifold crossover. Right up against the largest radiator hose. It is a tight fit in there for a 15/16 open end. Be careful with the plastic two-pronged ERG Coolant Control Valve next to it.

This replacement cut my sluggish cold acceleration to a problem a new driver would not notice. NAPA has two other sensors I will replace next weekend. These are the also temperature sensors and neither are expensive. The part numbers are TS 5003 (labeled Cool. Temp. Sensor) and, part number 2-2250 (labeled Temp Sensor.
Both of these parts are very visible when the air cleaner housing is removed. That is about all I can offer this day. Next week may produce more knowledge and if it does, you folks will be the first to hear.

Carl Baty
San Diego

Subject: 81-83 with EFI

From: "Dick Benjamin" (bondotmec@dte.net)

Sent: Sun, 22 Mar 1998 09:19:41 -0800

Carl;

This is great info - thanks so much for posting it for the rest of us.

I'd appreciate knowing which part number you found at NAPA for an acceptable match for the EFI coolant sensor (the one with two wires). I went through their books and did not see one with the exact resistance values, so I bought mine from Chrysler, at about $50.

Also, if you have a VOM, would you measure the resistance of the sensor with the harness unplugged, both the one that you replaced and the new one? I am trying to gather data so we can check these things without having to remove them from the car, which as you found out is difficult, and as I found out often results in a busted sensor if the threads are at all corroded.

On Randy's car, I think the next thing to try is to measure the fuel delivery from the in-tank pump. There should be fuel available at about 13 PSI anytime +12 Volts is jumpered to the large dark green wire on either end of the in-tank dropping resistor. You don't even need to turn on the ignition so there should be no risk of a major spill.

If you put a temporary hose on the main supply line (the metal line coming from the tank) and run it outside the car so you can measure fuel delivery rate, This would also be important to know. By the way, if the pressure is fine but the delivery rate is very low, say less then 10 OZ in a minute, I would suspect either a plugged fuel filter assembly under the passenger's door, or a crimped rubber hose at the same location. Been there, had that, at the side of the road in the middle of the desert!

Have you made contact with the fellow in your area whose info I posted the other day who had a spare EFI system for sale?
Dick Benjaminbondotmec@dte.net

Putting my CCC on Randy's car resulted in the car running but only as long as we poured fuel down the hole in the center of the air cleaner housing. We installed an entire Hydraulic Support Plate and Throttle Body Assembly. Same result. We welcome suggestions. Next weekend we hope to return to Randy's problem so please give us your input before next Saturday. went to NAPA and purchased an EFI Coolant Temperature Sensor for about $25 and replaced mine. It is located on the driver's side of the intake coolant manifold crossover.

Subject: Stalling '83 Imperial

Sender: andydymek@pop.pipeline.com
From: Walter Dymek <andydymek@pipeline.com
It has been raining here most of the weekend so I have not had the chance to measure any sensors and use the great troubleshooting information received so far but I have been reading

my service manual. A question that comes up is this: On key up, should fuel squirt out of the low power and the high power fuel rails or just the low power fuel rails? The service manual seems to imply that the initial shot of fuel comes from both fuel rails. Thanks! AndyD

Subject: Stalling '83 Imperial

From: "Dick Benjamin" (bondotmec@dte.net)

Sent: Sun, 22 Mar 1998 20:44:35 -0800

Both rails should squirt, since there is no pressure regulation going on yet, the Control Fuel pump is going through it's purge cycle, just running a Max speed for an instant, thus both the low pressure and high pressure valves are open, and all 8 nozzles should be squirting.

From Carl Baty's info, I have a strong suspicion that your EFI coolant sensor is going to turn out to be the culprit. Carl found an acceptable substitute at NAPA, and I hope he will tell us which part number he used. I had concluded they couldn't supply it, but I must have missed one in their book.

Dick Benjaminbondotmec@dte.net

Subject: Stalling '83 Imperial

From: Walter Dymek <andydymek@pipeline.com

Sent: Sunday, March 22, 1998 6:59 PM

It has been raining here most of the weekend so I have not had the chance to measure any sensors and use the great troubleshooting information received so far but I have been reading my service manual. A question that comes up is this: On key up, should fuel squirt out of the low power and the high power fuel rails or just the low power fuel rails? The service manual seems to imply that the initial shot of fuel comes from both fuel rails. Thanks! AndyD

Subject: Stalling '83 Imperial

From: GRADLTD <GRADLTD@aol.comSent: Mon, 23 Mar 1998 10:09:34 EST

Hi Dick and Everyone

Caught we awake this time. The NAPA (COOL. TEMP. SENSOR) which is the EFI Coolant Sensor in the manual is NAPA part TS5008. I am getting together a list of parts from Chrysler. I am finding that the dealer parts people are finding it easier to say "No longer Available" than to try to figure out which part you want. If anyone has part numbers for 81-83 Imperials send them on and I will get back to everyone with a collection of sorts.

Carl Baty San Diego

Subject: 81-83 with EFI

From: GRADLTD <GRADLTD@aol.comSent: Tue, 24 Mar 1998 01:47:28 EST

Dick

I posted the EFI sensor number this morning. Will repost if needed. Both of the EFI sensors I purchased (Yes, 2 prongs) are now in my and Randy's cars. They are such a bear to get in and out that it is too late to measure voltage. That sensor was positively the source of many of the poor warm up problems and I think it only cost $25.00

We ran out of time and energy working on Randy's car last weekend. We start again, and I hope for the last time, early next Saturday. We know a tremendous amount more than we started. You're right that we will be looking at fuel, but thanks to everyone's help, only fuel, only in a couple of places. Will let you know Carl

Subject: 81-83 with EFI

From: GRADLTD <GRADLTD@aol.comSent: Tue, 24 Mar 1998 01:58:30 ESTDick Benjamin

Here is the resend of this morning's message. I was able to find center caps for wire wheels here in San Diego. I could track them down again if you needed.

Hi Dick and Everyone

Caught me awake this time. The NAPA (COOL. TEMP. SENSOR) which is the EFI Coolant Sensor in the manual is NAPA part TS5008. I am getting together a list of parts from Chrysler. I am finding that the dealer parts people are finding it easier to say "No longer Available" than to try to figure out which part you want. If anyone has part numbers for 81-83 Imperials send them on and I will get back to everyone with a collection of sorts.

Carl Baty San Diego

Subject: 81-83 with EFI

From: "Dick Benjamin" (bondotmec@dte.net)

Sent: Tue, 24 Mar 1998 07:58:18 -0800

OK, Carl. Yes, I got your message with the part numbers.

I hadn't asked you to measure any voltage on them, what I wanted you to do was to take your VOM, set it on the resistance scale, and measure the resistance between the two prongs of the sensor with nothing else connected to it.

You do not need to take it out to do this, just pull the connector off it and measure between the two prongs. You will get a reading in the 500 OHM to 5000 OHM range, if the sensor is still electrically functional. It is important to make the reading without touching the prongs with your fingers, since that would lower the reading.

I also wanted to know the value you read the same way on the one that you removed from your car, since we think that was the source of your problem with cold stalling.

It will also be important to know the temperature of the sensors (approximately) when you make the measurement.

There is no other way to determine what the threshold values of resistance are for a good, marginal, and bad sensor than to start compiling statistics as to what the readings are for ones that work well, work poorly, and work not at all. I have already take the measurements on the new ones I got from Chrysler, and the ones in my two cars, and I plan to gather as many of these readings as I can and chart them, finally to publish them on the IML for all the '81-83 owners as soon as I get enough readings to make some decisions about cut-off values.

Thanks for helping with this. I have a feeling that the work you have done is getting close to a problem that most of our cars seem to develop at one time or another.

Dick Benjamin (bondotmec@dte.net)

Subject: 81-83 with EFI

From: GRADLTD <GRADLTD@aol.com

Sent: Monday, March 23, 1998 10:47 PM

Dick
I posted the EFI sensor number this morning. Will repost if needed. Both of the EFI sensors I purchased (Yes, 2 prongs) are now in my and Randy's cars. They are such a bear to get in and out that it is too late to measure voltage. That sensor was positively the source of many of the poor warm up problems and I think it only cost $25.00.

We ran out of time and energy working on Randy's car last weekend. We start again, and I hope for the last time, early next Saturday. We know a tremendous amount more than we started. You're right that we will be looking at fuel, but thanks to everyone's help, only fuel, only in a couple of places. Will let you know

Carl

Subject: 81-83 with EFI

Sent: Tue, 24 Mar 1998 08:04:48 -0800

From: "Dick Benjamin" (bondotmec@dte.net)

Carl;

Apparently AOL is having message delivery problems again. I had already responded to your message (yesterday some time), but it looks like you did not get it.

Anyway, on the center caps, if you have address or phone number handy, I would appreciate it. This is not my highest priority, but if I came across a couple of nice caps at a price I can stand,

I would definitely pick them up. Please do not go to any trouble for this, as I say, there are higher priority things on my list, (like getting my new intake manifold on my Black '81, so I can enjoy my favorite car again with its all new (internally) engine and transmission.

Dick Benjamin (bondotmec@dte.net)

From: GRADLTD <GRADLTD@aol.com

Dick Benjamin
I was able to find center caps for wire wheels here in San Diego. I could track them down again if you needed.

Subject: Advice, & info concerning 81-83's

From: "Dick Benjamin" (bondotmec@dte.net)

Sent: Sun, 29 Mar 1998 17:38:10 -0800

Kevin;

Some of these cars are incredibly durable and trouble free, others seem to be a pain in the BUTT!. I have 3 of them, one is a factory conversion, and it runs like any other 318 with a 904 tranny built in the early 80's, in other words, reluctant to start and balky when cold, somewhat poorer performance and mileage than the EFI ones, but basically, if it's the looks that attracts you, that is probably the best choice if there is no mechanic around who is brave enough to maintain an EFI car for you.

My EFI daily driver is getting close to 300,000 MI, runs perfectly even though the engine is very tired, noisy and smoky. I know the car from new, and it has never given a moment's trouble in all those miles. Tired as it is, it starts immediately in any weather, pulls strongly from the first instant even when very cold, gets about 26 MPG at 65 MPH, and will run rings around the carbureted car performance wise.

My mint original near show condition car has always been somewhat troublesome, in fact I have it because the original owner did not want to pay the $4500 to the local dealer to have it converted, which they advised her to do. (The service manager is a friend of mine, and he tipped me off the car would be for sale, I had admired it for years, it is a beautiful example of the breed.) Shortly after buying it, I discovered the problem with the car, and fixed it, then drove it almost 7 years without a hitch. Now it is acting up in a new way, and even though I feel fairly competent to deal with these cars, it so far has me stumped. I will have to fix it myself, no one else has volunteered, so I know the feeling of frustration with a car that the dealer won't service.

That's what makes the world go around, choices.

If you have an EFI car and would like to convert it to carburetor, just say so, there are people on the IML who would jump at a chance to convert one back, including me.

Dick Benjamin (bondotmec@dte.net)

Subject: Advice, & info concerning 81-83's

From: Kev. <Anthurium@webtv.net

Sent: Sunday, March 29, 1998 5:04 PM

Some of my questions may sound stupid, but I really REALLY have some concerns about owning and maintaining one of these cars. I bought my 83 not knowing about there unusual EFI, or there troubled past with this. There just one of the many Chryslers that I love looks wise. Can these cars be maintained and be reliable by someone not all that mechanically inclined? No garage, or even Chrysler here in Salt Lake City will touch my car. Are factory carb converted cars problem free if I were able to locate one? I love these cars and want to enjoy mine by driving it, but I'm concerned about wear & tear, and not being able to fix it...or being able to afford to fix it & find parts. Any help or advice from any one?

Kevin, 83 Imperial SLC, UT

Subject: '83 Imperial stalls no more

Sent: Mon, 30 Mar 1998 17:18:47 -0500

From: Walter Dymek <andydymek@pipeline.com

Well, thanks to the good advice from a number of IML'ers, my '83 no longer stalls. Turns out that the EFI coolant temp. sensor was bad. When cold (about 40F) the sensor reads 120K ohms and hot it reads 6K ohms. The new one, from NAPA, reads 1.012K ohms at 65F.

I haven't tried to measure the resistance of the new sensor when its hot yet. Interestingly, the sensor is still available because it is used on all RWD Chrysler cars (Gran Fury, Diplomat, Cordoba, Mirada) from '81 to '89. Apparently this sensor is also used on some Dodge trucks. Thanks again for everyone for the help.

Subject: '83 Imperial stalls no more

From: "Dick Benjamin" (bondotmec@dte.net)

Sent: Mon, 30 Mar 1998 18:58:18 -0800

Wow. Good data. Thanks, now we have something to go on. The 120K is so close to an open circuit that I assume it had failed completely. Carl Baty, have you had a chance to measure either of the ones you were changing out?

Walter:

please verify that we are talking about NAPA # TS 5008 here.

Your 65F reading is right in the range with others I have checked. I would like to know what you read hot also, but preliminarily, it seems that "you've got the right one, Baby".

Dick Benjamin (bondotmec@dte.net)

From: Walter Dymek <andydymek@pipeline.com Well, thanks to the good advice from a number of IML'ers, my '83 no longer stalls. Turns out that the EFI coolant temp. sensor was bad. When cold (about 40F) the sensor reads 120K ohms and hot it reads 6K ohms. The new one, from NAPA, reads 1.012K ohms at 65F. I haven't tried to measure the resistance of the new sensor when its hot yet.

Subject: '83 Imperial stalls no more

From: GRADLTD <GRADLTD@aol.com

Sent: Tue, 31 Mar 1998 09:55:39 EST

Congratulations for sticking to it. Getting any 81-83 tuned up and running right is a thrill I can enjoy as much as if it were my own car. This Weekend Randy Weir's 81 is going to join the club and start running great. Fingers crossed for luck

Dick I thought Randy had taken the measurements you needed. If that is not accurate let me know I still have both the old sensor

Carl Baty San Diego

Subject: '83 Imperial stalls no more

Sent: Tue, 31 Mar 1998 21:31:19 -0500

From: Walter Dymek <andydymek@pipeline.com

At 06:58 PM 3/30/98 -0800, you wrote:

Wow. Good data. Thanks, now we have something to go on. The 120K is so close to an open circuit that I assume it had failed completely. Carl Baty, have you had a chance to measure either of the ones you were changing out?

Walter: please verify that we are talking about NAPA # TS 5008 here.

Your 65F reading is right in the range with others I have checked. I would like to know what you read hot also, but preliminarily, it seems that "you've got the right one, Baby".

Dick Benjamin (bondotmec@dte.net)

From: Walter Dymek <andydymek@pipeline.com

Well, thanks to the good advice from a number of IML'ers, my '83 no longer stalls. Turns out that the EFI coolant temp. sensor was bad. When cold (about 40F) the sensor reads 120K ohms and hot it reads 6K ohms. The new one, from NAPA, reads 1.012K ohms at 65F. I haven't tried to measure the resistance of the new sensor when its hot yet.

Yes, the sensor is the TS 5008. I will let you know what my hot resistance is when I get a chance to measure it.

Subject: 81-83 Imperials

From: Anthurium@webtv.net (Kev.)

Sent: Tue, 31 Mar 1998 18:03:02 -0700

Thanks Bill & Dick for your comments. I'm not a strict purist, but I'd never convert my EFI car to a carb. I would however own a car all ready converted and enjoy it just as much. Some of your comments got me feeling that I've been overly paranoid.

I've only got 80,000 miles on my 83 and it runs good once its warmed up. So here's a few more questions and I'll leave ya all alone. My car is very slow to warm up & run well. Is this a symptom of a serious problem? And are there some signs leading up to a fuel pump failure, and are new fuel pumps still available from some one?
Thanks, Kevin-83

Subject: 81-83 Imperials

From: "Dick Benjamin" (bondotmec@dte.net)

Sent: Wed, 1 Apr 1998 07:42:46 -0800

OK, 900 ohms is close enough to nominal that we don't learn anything yet. The one that I had fail on me was completely open, and it turns out the nichrome wire inside was broken. The resistance measurement was off scale on the 1K scale.

(I note you said 900k ohms. I am assuming you meant 900 ohms).

Dick Benjamin (bondotmec@dte.net)

Subject: 81-83 Imperials

From: GRADLTD <GRADLTD@aol.com

Sent: Wednesday, April 01, 1998 7:09 AM

Dick

We had essentially the same ohms reading on old and new EFI Coolant Sensors when they were cold. Randy measured the new one in his car at 900k ohms at 70 degrees. I measured the old Coolant Sensors and found both to be 955k ohms at 50 degrees. I to was hoping for a diagnostic clue here but with cold sensors we don't find it.

Carl Baty San Diego.

Subject: 1981 Imperial Fuel Injection 1981 Imperial EFI

From: R Westra <RWestra@aol.com

Sent: Fri, 3 Apr 1998 14:15:28 EST

Help - Owners of 81 Imperials with EFI

My frustration level with an otherwise great car is rising to a point that may force me to sell it by the pound.

I have a decent original '81 with 80,000 miles that will run only short distances before it dies and will not immediately restart. I will describe it's behavior then tell you what I have done to it. Maybe someone can suggest next steps.

The car starts reasonably well when it is cold and runs OK until it starts to warm up (5 to 10 minutes). As it begins to warm up it seems to loose power. This is especially noticeable on acceleration. Steady state operation seems OK. After I drive for 20 or more minutes in town (I don't dare take it on the highway) it will die(usually at a stopsign). It may start and run another few blocks before it will die again and then it probably will not restart. If I let it set 45 minutes or so it will restart and run normally for another 20 minutes.

Within the last two years I have: Replaced plugs, plug wires, distributor pick up plate, ignition coil (this seemed to correct the problem for a while), engine coolant temperature sensor, oxygen sensor, air filter and fuel filters (I am not sure these are the same as the original equipment).

I have reprogrammed the computer dozens of times with little noticeable improvement. The starter and battery are new. It cranks good. I have taken voltage measurements at a number of the EFI electrical connections both starting and running. Although I am not sure what the correct voltages should be there is nothing alarming.(no zero voltages where there should be power). I have observed fuel flow both starting and running with a Lexan cover replacing the factory air

cleaner cover. I have the shop manual but I do not have the diagnostic tool needed to analyze problems with this system.

I have studied the manual extensively so I am becoming familiar with the system. So far this has only increased my knowledge without improving the car. I have a fuel tank, intake manifold, carb and air cleaner for a conversion but I would really like to retain the fuel injection.

I am open to any and all suggestions. Is anyone familiar with the Holley conversion package for this car? Is it available and does it work?

Thanks for your input.

Rolland O.Westra

Subject: 1981 Imperial EFI

From: "Dick Benjamin" (bondotmec@dte.net)

Sent: Fri, 3 Apr 1998 11:50:10 -0800

I should have added, that your loss of power when cold does not seem to be related to this ASDM problem. This is more likely a problem with the EFI coolant sensor. I know you have replaced it, but it would be prudent to verify that the resistance of this sensor is around 1K ohm when cool, and about 3 times that when hot. These are also troublesome critters. I have often thought of running the wires to a 5K pot inside the car and adjusting it while I drive to see if that will clear up the cold balkiness. Haven't done it yet, but everytime I hear of one of these, I wonder.....

As to your question about the conversion package: the only one that will pass Smog in California is the factory authorized conversion, I suspect these are getting hard to find. They also definitely affect the performance and economy of the car.

I understand other states will grant waivers so that a backyard conversion can be used, but I don't know anything about where to get one. I would suggest one just locate any mid-80's Mopar with a 318 and take the whole system, including intake manifold.

Dick Benjamin (bondotmec@dte.net)

The car starts reasonably well when it is cold and runs OK until it starts to warm up (5 to 10 minutes). As it begins to warm up it seems to loose power. This is especially noticeable on acceleration.

Subject: 1981 Imperial EFI

From: "Dick Benjamin" (bondotmec@dte.net)

Sent: Fri, 3 Apr 1998 11:41:52 -0800

We had a rash of this problem occurring about this time last year. I do not remember how many cars were involved, but there were definitely more than one. It is a springtime disease, apparently.

The cure for most of the cars was to run a separate ground wire from the ASDM on the right front fender to the alternator case. The original design relied on the case of the ASDM to make contact to the inner fender by virtue of the fact that it is mounted to it with screws. As the cars age, and especially after a temperature and moisture cycle, this ground begins to fail intermittently. The problem might be either at the mounting tabs themselves, or where the inner fender is connected to the rest of the body.

This is a very poor design, and there was a factory service letter about this telling the mechanic to isolate the ASDM by rubber mounting washers so that it is not grounded to the fender, and then provide a solid ground to the engine directly. The reason for this is that there is a TTL bistable circuit in the ASDM that will trigger on any disturbance of the ground connection and lock you out of any power to the CCC until the system is reset by turning off the key and restarting. If the ground is poor, this can prevent a restart also.

First, just try adding a wire from the mounting screw to the alternator bracket, making sure everything is clean an shiny where the connections have to take place. If this seems to make the problem go away, or at least much better, then go the whole route and isolate the device from the sheetmetal completely.

In case you are not familiar with the ASDM, this is the automatic shut down module, which is really present to shut the system down if it detects anything that could conceivably be a safety problem, like "key on, no RPM" for example. If you are comfortable with driving with this function disabled, you can jumper between the two #12 wires at the ASDM connector, leave it out of the circuit, and it should never bother you again. Many of these cars are running without the ASDM in the circuit.

You can of course temporarily bypass it to see if it is what is causing your problem.

Keep us posted, please, and don't give up!

Dick Benjamin (bondotmec@dte.net)

Subject: 1981 Imperial EFI Fuel Injection

From: R Westra <RWestra@aol.com

Sent: Friday, April 03, 1998 11:15 AM

Help - Owners of 81 Imperials with EFI

My frustration level with an otherwise great car is rising to a point that may force me to sell it by the pound. I have a decent original '81 with 80,000 miles that will run only short distances before it dies and will not immediately restart.

I will describe it's behavior then tell you what I have done to it. Maybe someone can suggest next steps. The car starts reasonably well when it is cold and runs OK until it starts to warm up (5 to 10 minutes). As it begins to warm up it seems to loose power. This is especially noticeable on acceleration. Steady state operation seems OK.

After I drive for 20 or more minutes in town (I don't dare take it on the highway) it will die (usually at a stopsign). It may start and run another few blocks before it will die again and then it probably will not restart. If I let it set 45 minutes or so it will restart and run normally for another 20 minutes.

Within the last two years I have: Replaced plugs, plug wires, distributor pick up plate, ignition coil (this seemed to correct the problem for a while), engine coolant temperature sensor, oxygen sensor, air filter and fuel filters (I am not sure these are the same as the original equipment).

I have reprogrammed the computer dozens of times with little noticeable improvement. The starter and battery are new. It cranks good. I have taken voltage measurements at a number of the EFI electrical connections both starting and running. Although I am not sure what the correct voltages should be there is nothing alarming.(no zero voltages where there should be power). I have observed fuel flow both starting and running with a Lexan cover replacing the factory air cleaner cover.

I have the shop manual but I do not have the diagnostic tool needed to analyze problems with this system. I have studied the manual extensively so I am becoming familiar with the system. So far this has only increased my knowledge without improving the car.

I have a fuel tank, intake manifold, carb and air cleaner for a conversion but I would really like to retain the fuel injection. I am open to any and all suggestions. Is anyone familiar with the Holley conversion package for this car? Is it available and does it work? Thanks for your input.
Rolland O.Westra

Subject: 1981 Imperial EFI

From: R Westra <RWestra@aol.com

Sent: Fri, 3 Apr 1998 20:31:45 EST

Thanks for the quick reply and all the information Dick. I will try the things you suggested and let you know how it works out.

Rolland Westra

Subject: 1981 Imperial EFI

From: GRADLTD <GRADLTD@aol.com

Sent: Fri, 3 Apr 1998 23:44:31 EST

I note that you reprogrammed the computer many times. Have you tried replacing it? Rebuilt CCCs cost $200 wholesale ($250) retail from the Chrysler Dealer. Given the multiplicity of problems you are dealing with a new CCC would be my next step.

Carl Baty
San Diego

Subject: Safety message 81-83 EFI cars!!!

From: "Dick Benjamin" (bondotmec@dte.net)

Sent: Fri, 3 Apr 1998 22:00:24 -0800

Carl Baty reminds me that if one bypasses the ASDM, as I suggested in an earlier post today, he must be careful to turn off the key if the car is not running. If the key is left on, the EFI system will remain powered even with the engine not running, which could result in too much gas pooling in the intake manifold, with possible dangerous results.

Thanks, Carl.

I will have to do some thinking about how much fuel is pumped when the air flow sensor sees no flow. Probably the default open loop idle quantity, since there is no O2 signal, no throttle position except idle, and no primary ignition drive to the CCC. Hmmm. Enough to make a big whooop when it does fire up, and possibly enough to get into a hydrostatic lock situation, which could be really dangerous.

If it were to become necessary to run a car this way for long periods, or by inexperienced drivers, one should use the racer's trick of having a fuel cut off wired into the oil pressure sender circuit, bypassed by the start signal from the ignition switch.

Dick Benjamin (bondotmec@dte.net)

Subject: '83 EFI drivability problems

From: t3176@flash.net

Sent: Tue, 07 Apr 1998 20:55:44 -0400

Allright, I mentioned in my first post that I'd be calling upon the collective knowledge of this group to help me preserve my EFI Imperial.

First, let me tell you about the car and why I want to preserve it. It's an '83 with 85,000 miles. It still has it's original paint and stripes (although the paint is very faded and I lose more of the stripe every time I wash it). It's Glacier blue with a silver velour interior (mint interior). I have the original window sticker, which states that the car was originally owned by Chrysler VP J.B. Naughton. Whomever owned the car next took very good care of it, as it has no rust or body damage. The front bumper is fine, and I've already replaced the peeling rear bumper. (I would like to find a "better" rear bumper). Mine, although not peeling, is pretty dull. The car drives excellent, and it's still super quiet. It's been a long time since I've seen a better candidate for an easy resto.

One thing that I have altered from stock is the exhaust system. The original was shot when I got it. Quiet duals w/H pipe have really improved passing ability from 30+.

I'm going to layout all the problems. They might be related, or they might be a number of smaller problems.

1. Had the gas tank out, the "sock" was pretty clean, but it was coming apart. (I'd like to find a new one)? The tank was very clean, no rust or varnish. Changed the fuel filters, they had been done before, gas was clean.

2. Fuel pump is loud, no matter if tank is full or empty.

3. Crank time seems a bit long. It always starts and runs. 2-3 seconds after a cold crank, it "catches" for a moment, I don't let off the key, and it starts/runs in a couple seconds.

4. You can't go WOT at any speed under 20 MPH. It will "pop" (Lean?) and stall. It's worse from a dead stop. However, if you floor it at 25 MPH+, it kicks down and takes off very well. (Especially since the duals w/out cats. were added).

5. If you slow for a turn (10-15 MPH) and then get back on the gas, you have to put up with crummy acceleration until about 25 MPH+. I'm sure this relates to #4.

The car will get an honest 25 MPG at 65MPH+, high speed/cruise operation is fine. I'd like to keep the EFI, but I want the car to perform the way it should. Plugs/cap/rotor/wires are new. I took the "fuel bar assembly" apart and cleaned it. Compressed air & carb. cleaner show that it flows fine.

If there's a place on the IML web page that archives EFI problems, please tell me how to find it. However, if anyone can give me some quick advice on the mailing list, I'd appreciate it.

Thanks again,

Carmine F.

Subject: '83 EFI drivability problems

From: GRADLTD <GRADLTD@aol.com

Sent: Wed, 8 Apr 1998 11:37:41 EDT

Its sound silly, but I have learned that it is sometimes necessary to re-time the car after you have cut the power to the combustion computer. I know where there is a rear bumper but the guy

who has it does this as a way of making money. If you are willing to pay more than you would pay at a junk yard I will check it out for you. Carl Baty San Diego 81Imperial

Subject: References: '83 EFI drivability problems

From: t3176@flash.net

We have had reports before of driveability problems in EFI cars that have had alterations to the exhaust system.

Problem existed before and after exhaust modifications. Exhaust mods to this system (and most other early EFI systems) shouldn't cause any problems, because the system doesn't monitor anything after the O2 sensor. Newer ('95+ OBD II) engine management systems have two (four with dual exhaust) O2 sensors, they monitor exhaust before and after the catalytic converters. Removing the converters on one of these systems WILL have a detrimental effect on performance.

All of these discussions were archived, and as Tony gets a round to it, will be posted on the web site. I do not think they are posted.

Thanks for telling me this, I was wondering why I couldn't access them.

I think your fuel pump may have been damaged from running with low fuel levels. My brown EFI car has a very noisy pump, and I know the bearings are shot, but it still pumps, and the car is worn out anyway, so I just drive it that way.

Thanks, this is probably the reason.

I posted a message to you a few weeks ago suggesting you check the resistance of the EFI coolant sensor. Have you done that yet?

That wasn't me. This is only my second post to the list.

(I am assuming here that your driveability problem is occurring when the engine is cold).

All the time, warm or cold.

If the sensor is OK, the next thing to try is to replace the CCC.

I'm pretty sure this problem is related to one of the components getting weak/old. (Fuel pump, secondary pump, etc.) I was just wondering if this was a "classic" problem that many people had encountered.

As for your starting difficulties, the system is designed to put a small amount of liquid fuel into the intake manifold in the initial instant when you first twist the key to the on position. If you listen carefully to the control fuel pump (this is the one in the HSA, not the tank pump) while someone turns the key to on, you will hear it pump for an instant.

I've heard it.

Anyway, the duration of this "purge" cycle, and consequently the amount of gas injected, is dependent on the value of a very large tantalum capacitor, which type are notoriously inaccurate, so some cars left the factory with inadequate charging of gas in to the intake system for the initial start, and with age, this problem has gotten worse.

I'll look into this. Now I'm wondering, if my secondary pump is weak, could it be delivering inadequate fuel for both start-up & hard acceleration?

Thanks for your response

Carmine F.

Subject: 81 Imperial drivability

From: R Westra <RWestra@aol.com

Sent: Wed, 8 Apr 1998 17:03:27 EDT

Dick:

I really appreciate your suggestions and comments regarding "this group of nuts trying to keep the '81-83' EFI cars going and original.

Per your recommendation I have grounded the ASD and so far so good. I really have not had a good opportunity to give a good test though. I will let you know when I do.

My drivability problem is somewhat different than Carmine F's situation I believe. Mine runs quite well when cold but as it warms up it loses power on acceleration. The acceleration between 15 and 35 is quite poor. Road load operation is OK.

I measured the resistance at the coolant temperature sensor. When cold (about 40F) it measures 1 K as you suggested. However, when the thrermostat opens (around 180F I expect) it only reads 1.7K. Is this satisfactory?

Also I have read two recommendations to replace the CCC. Are these particularly prone to failure? My experience with other spark control computers is that they are quite reliable.

I have learned also that cycling the ignition key on and off prior to starting will improved results. Where is this Tantalum capacitor that you mentioned located and is it replaceable?

Thanks again for the good advice. I will stay tuned for more information.

Rolland Westra, Rockford, IL

Subject: '83 EFI drivability problems

From: "Jeff Guarino" <jguarino@pangea.ca

Sent: Thu, 9 Apr 1998 09:47:38 -0700

Hello Carmine.

I was reading your post about a noisy pump and remembered something written last June by Bob Harris. Here it is. Jeff Guarino

From: HarrisWerks@worldnet.att.net (Robert J.Harris)

Thanks again for your response, but I do have the correct side of the throttle body and the linkage is tight, I have a low mileage car anyway. Also, 83 models came with a 270 microhenrie inductor in the Oxygen Sensor circuit to the CCC to alleviate this bracketing, and the inductor didn't fix it either.

I want to pass along some tips and facts that may be of interest to other EFI owners - from Chrysler Class notes taken during mechanic instructions at the time that these cars were announced. Some of these items are now common knowledge, but may be new to other people, here goes:

All of the fuel hoses are double lined, the inside being abrasion resistant, to prevent the black dust from clouding the optical sensors in the Fuel Metering Module. In connecting a fuel pressure test gauge to the system, avoid connections with barbed ends to prevent the problem in item 1, above. The rubber sleeve around the In-Tank pump is a noise suppressor, nothing else; the pump was made by Tokheim. The Throttle Body was cast by Holley. The electrical leads to the In-Tank pump are polarized, and if reversed, the pump will whine. Allowing the fuel level to drop below 6 gallons will often result in pump failure since it must be submerged to keep cool. The Fuel Pressure Regulator inside the casting at the end of the Control Pump was revised and can be identified by a dab of Yellow paint instead of the Green, on the top screw. The Fuel Pressure Switch is closed @ pressures of 20 to 22 PSI; it has been modified and now carries PN 4091901 and was made to be a fix in TSB 14-30-83. I have many of these, but they have become quite expensive. Alcohol or dye coloring in the fuel can adversely affect the Fuel Flow Meter and Chrysler has issued notices to avoid these fuels - as if you could tell - but there have been problems with fuels in certain localities that do cause problems.

Some drivers are Left-Footed using the brakes, this is not good on these cars since there is a back-up switch to supplant the Closed Throttle Switch on the Throttle Body in the event it becomes dirty and doesn't return the engine to idle speed with the spark advance defaulted to 12 degrees. Pushing both pedals simultaneously confuses the CCC.

Some Problems Within The System:

Mounting tabs on the Power Module break off and ground path is lost. Corroded wire connectors cause multiple problems Air Switching Solenoids shorted to ground. A/C turn ON stalls the engine. Oxygen Sensor wire broken, especially at terminal 12 in the connector to the computer. Battery Feed to the CCC Memory, (the round part of the computer), has a 620 ohm resistor in line to limit current, check for continuity. If feed is lost, the memory is lost and this memory is required to operate the engine in Closed Loop during Cold Start-Up until the water and Oxygen Sensor are warm. The Red lead is this wire and Battery voltage must always be present here. Fuel flow has a 10k ohm resistor in its feed to the Instrument Panel and when it fails, the MPG readings go bad, often 99.99 mpg

EGR valves often leak at the mounting, a new gasket number is substituted and also the valve is changed and the vacuum nipple is at an angle. A service package was made available to make a more positive close for the Throttle Stop Switch, but I have found this to be not much better than not having one, I believe it is no longer available. The ASD module by virtue of electrolysis corroded the fender beneath it and the cure is to solder a ground strap to the one mounting ear and run it to the screw on the top, back of the Alternator. The ASD should be elevated off the fender house steel and two water valve washers work fine here as insulators.

The Fuel Pressure Switch, mentioned above, was replaced because the original unit had excessive resistance in the circuit and resulted in difficult restarts when hot. Apparently early units came with loose Screws on the Idle Speed Motor which became a problem.

If anyone is interested, I can tell you how to run the engine without the Air Flow Sensor connected and the Air Cleaner cover removed. You can observe fuel flow from the spray bars and it also serves as a test for the Air flow Sensor itself. In this mode the engine should not be expected to run throughout its full power range, but it is nice to see.

As to the unpublished Chrysler EFI Diagnostics that I have, I want to stress that unless you have a Sun EFI tester, they aren't much good. I never finished cleaning them up suitable for use and want to do this. however, I will compare the invalid diagnostics in the 81 through 83 Service Manuals and these new ones and pass this along later for those who care and have particular problems in Starting, Fuel Flow, Starts-But-Stalls, and Cold and Warm Driveability.

That's enough for now.....Bob Harris [This is VERY useful information, and we're all very grateful - You really know how to make yourself popular! - Tony]

Subject: '83 EFI drivability problems

From: t3176@flash.net <t3176@flash.net

Sent: Tuesday, April 07, 1998 5:58 PM

Allright, I mentioned in my first post that I'd be calling upon the collective knowledge of this group to help me preserve my EFI Imperial.

First, let me tell you about the car and why I want to preserve it. It's an '83 with 85,000 miles. It still has it's original paint and stripes (although the paint is very faded and I lose more of the stripe every time I wash it). It's Glacier blue with a silver velour interior (mint interior). I have the original window sticker, which states that the car was originally owned by Chrysler VP J.B. Naughton. Whomever owned the car next took very good care of it, as it has no rust or body damage. The front bumper is fine, and I've already replaced the peeling rear bumper. (I would like to find a "better" rear bumper). Mine, although not peeling, is pretty dull. The car drives excellent, and it's still super quiet. It's been a long time since I've seen a better candidate for an easy resto.

One thing that I have altered from stock is the exhaust system. The original was shot when I got it. Quiet duals w/H pipe have really improved passing ability from 30+.

I'm going to layout all the problems. They might be related, or they might be a number of smaller problems.

1. Had the gas tank out, the "sock" was pretty clean, but it was coming apart. (I'd like to find a new one)? The tank was very clean, no rust or varnish. Changed the fuel filters, they had been done before, gas was clean.

2. Fuel pump is loud, no matter if tank is full or empty.

3. Crank time seems a bit long. It always starts and runs. 2-3 seconds after a cold crank, it "catches" for a moment, I don't let off the key, and it starts/runs in a couple seconds.

4. You can't go WOT at any speed under 20 MPH. It will "pop" (Lean?) and stall. It's worse from a dead stop. However, if you floor it at 25 MPH+, it kicks down and takes off very well. (Especially since the duals w/out cats. were added).

5. If you slow for a turn (10-15 MPH) and then get back on the gas, you have to put up with crummy acceleration until about 25 MPH+. I'm sure this relates to #4.

The car will get an honest 25 MPG at 65MPH+, high speed/cruise operation is fine. I'd like to keep the EFI, but I want the car to perform the way it should. Plugs/cap/rotor/wires are new. I took the "fuel bar assembly" apart and cleaned it. Compressed air & carb. cleaner show that it flows fine.

If there's a place on the IML web page that archives EFI problems, please tell me how to find it. However, if anyone can give me some quick advice on the mailing list, I'd appreciate it.

Thanks again,

Carmine F.

Subject: '83 EFI drivability problems

From: R Westra <RWestra@aol.com

Sent: Thu, 9 Apr 1998 11:50:01 EDT

Jeff G.

Thanks a million for the information on EFI that you posted today. It is exactly the kind of information that is so very helpful for us 81 - 83 EFI owners that want to keep these machines original.

I have an 81 with EFI that is in pretty decent shape and when it runs it is a delightful car to drive. However, I have had numerous reliability problems with starting, starting and then dying and just quitting when I come to a stop sign, then failing to restart. The car has 80,000 miles.

I will be using the information you provided and also any other service bulletin information or corrections to the 81 shop manual that would be helpful.

Thanks again. Because of you and others in IML I believe I can scrub my plans to convert the 318 to a carburetor. Something I dreaded doing, not so much because of the work, but because the factory fuel injection is great when it works. I will just store my fuel tank, manifold, carb, air cleaner and wiring harness for a period of time and hope I never need it.

I do have need for front and rear bumpers or a source for rechroming aluminum if anyone has some information on this.

Rolland Westra

Subject: 81 Imperial drivability

From: R Westra <RWestra@aol.com

Sent: Thu, 9 Apr 1998 15:09:35 EDT

Dick Benjamin

Thanks again for your prompt reply. I may order a new CCC and try to find a coolant temperature sensor (the local dealer told me they were no longer available even though they are used on several models).

When you mentioned that gunky, runny potting substance in the ASDM I was reminded that my "Power Module" and the "fuel flow" module located within the Hydraulic support plate have lost most of this encapsulating material. It has collected at the bottom of the hydraulic support plate. I removed it once but it is collecting again. Will this cause these two units to fail or is it a sign they are already failing? Are replacements available?

Rolland Westra

Subject: '83 EFI drivability problems

From: "Dick Benjamin" (bondotmec@dte.net)

Sent: Thu, 9 Apr 1998 09:45:38 -0700

Your comments about the location of sensing are of course correct. However, the system is calibrated to work with a particular back pressure characteristic, so it is still possible for there to be an effect. I would not have mentioned it but for the fact that we have heard this before, from people who have modified the exhaust system and then learned, to their sorrow, that it has affected the driveability. Perhaps this is not the case in your car, I don't know.

Dick Benjamin (bondotmec@dte.net)

Problem existed before and after exhaust modifications. Exhaust mods to this system (and most other early EFI systems) shouldn't cause any problems, because the system doesn't monitor

anything after the O2 sensor. I posted a message to you a few weeks ago suggesting you check the resistance of the EFI coolant sensor. Have you done that yet? That wasn't me. This is only my second post to the list

Sorry, My error. We're getting confused here. Since your problem is also present when warm, the probability is that the cause is elsewhere anyway.. (I am assuming here that your driveability problem is occurring when the engine is cold).All the time, warm or cold.,

If my secondary pump is weak, could it be delivering inadequate fuel for both start-up & hard acceleration?

If you mean the "Control Fuel Pump", the one in the HSA, this is inside a feedback loop, in which the CCC calls for a particular fuel flow rate, and just applies power to the motor until the flow rate comes up to the programmed amount. If the pump was weak, I suppose that would show up ultimately as fuel starvation, when the pump deteriorated to the point where it could no longer supply an adequate flow even wide open. I would think it would have to be really sick, possible just about non-functional. It is a simple pump, you can probably take it off the car and test it for flow rate. I have not done this, but there is nothing tricky about it, it is just a 12 volt DC motor running a rotary pump.

OR, with a lot of work, you could plumb in a pressure gauge and route it out through the air intake so you could monitor the pressure, and also bring out a test lead on the power supply to the motor, but since you are looking at a point within a feedback loop, I do not know what the readings would mean to you. If you saw a situation where the pump was getting the full 12 volts from the CCC and still not putting out Max pressure (60 PSI), I guess you could assume the pump is failing.

It is also possible that your in-tank pump is not up to snuff. The in tank pump is designed to supply an generous oversupply of fuel, and it would have to be really, really feeble to affect the running of the car. You could tee in a pressure gauge in the line from the tank, perhaps the easy place would be a the rubber hose connections to the fuel filters, and remote the gauge in through the window, take the car out and floor it, and see if the pressure falters. It should hold 13 PSI more or less no matter what the driver does. If it doesn't, Bob's your uncle, as someone said here last week. Good luck, and keep us posted.

Dick Benjamin

Subject: 1981 Imperial EFI

From: lester@cnwl.igs.net

Sent: Mon, 13 Apr 1998 18:03:49 +0000

Members:

Would any member know where I could find a used Automatic idle speed motor. My car is idling very fast and we can't get it to idle at the proper idle speed. This may be the try before switching to carb.

Hoping some one can help

Cliff

Subject: Stunning 81 the first 500 miles

From: Aholland19 <Aholland19@aol.com

Sent: Tue, 14 Apr 1998 00:16:30 EDT

Well I have been driving my 81 for about 3 weeks now and so far so good. I have noticed a few things about it since I started driving it again. The fuel pump seems to be quite a bit louder than I remember. A deep steady hum clearly heard anytime the radios off. It also wanders a little on the freeway. About 75 or so. All in all it seems to be dependable around town and in heavy traffic. Sometimes it will stall after a harder than normal stop but it always starts right back up. The idle is rough and seems to fluctuate at times. If anyone has had these things happen to there EFI Imperial after a long " sit " in the driveway let me know. All advice is appreciated.

Tony Holland

Subject: 1981 Imperial EFI

From: "Dick Benjamin" (bondotmec@dte.net)

Sent: Tue, 14 Apr 1998 12:02:32 -0700

I may have one in the stuff one of the IML members sent me for the IML EFI "lending library". I will test it and report. Have you adjusted the mechanical linkage to try to get the idle speed down and have you checked to see that the throttle stop contact is good. Also, test to see if stepping on the brake pedal affects the idle speed.

If the one I have is good, I will exchange it with yours and try to fix yours, if it turns out yours is really bad. Question: does it ever move? You can rest a finger on one end of the linkage and feel it "breathing" if it is trying to work. If you put a little pressure on the linkage, it should try to resist your finger, to keep the idle at whatever set point it is trying to maintain. If you feel it move, the motor is probably OK and you have another problem.

Is this the car that has a non-stock exhaust system on it?

Dick Benjamin (bondotmec@dte.net)

Subject: 1981 Imperial EFI

From: lester@cnwl.igs.net

Sent: Monday, April 13, 1998 11:03 AM

Members:

Would any member know where I could find a used Automatic idle speed motor. My car is idling very fast and we can't get it to idle at the proper idle speed. This may be the try before switching to carb. Hoping some one can help
Cliff

Subject: 1981 Imperial EFI References:

From: t3176@flash.net

Sent: Tue, 14 Apr 1998 23:06:41 -0400

Is this the car that has a non-stock exhaust system on it?

Dick Benjamin (bondotmec@dte.net)

No, that would be me,
Carmine's '83.

Carmine F.

Subject: 1981 Imperial EFI

From: lester@cnwl.igs.net

Sent: Wed, 15 Apr 1998 05:02:27 +0000

From: "Dick Benjamin" (bondotmec@dte.net)

Subject: 1981 Imperial EFI

Sent: Tue, 14 Apr 1998 12:02:32 -0700

Dick

My name is Cliff Thompson And I'm the one that wrote regarding a Idle speed motor. Dick, I just found and bought a 81 parts car that is carburated. I picked it up yesterday and drove it home, this was the first time that I had a chance to drive one that was carburated and was quite impressed with the way it operated. I think, Dick, that I'm going to have my car converted. In this

part of Ontario you can't find a mechanic to work on these cars. With this parts car that is carburated, I have all the parts to convert. About six months back I asked and received the steps one has to take when converting, would you please take the time to send this to me again. Dick, when bringing this parts car home, I checked the dash and every thing worked

Cliff Thompson

Subject: 1981 Imperial EFI

From: "Dick Benjamin" (bondotmec@dte.net)

Sent: Wed, 15 Apr 1998 22:26:20 -0700

Cliff;

I do have a car that has the factory conversion, but I have never actually converted one, so I will not be much help there. Someone else may have posted a detailed procedure, but that was not me, and I do not have it archived. I think you will find it pretty straightforward however, and since you have one to look at for comparison, I think you can figure it out.

Possibly Jeff Gaurino will offer more on this subject. I'll wait to see if he picks up on this thread.

I'm interested in your comment that everything works on the dash. I take it you include the MPG readout? Yours is the only converted car I have heard of in which the MPG readout stays working.

You know, I guess, that you have to change the intake manifold, add a mechanical fuel pump (there is a blank off plate on the timing cover on the EFI car, but the standard 318 pump will bolt right up) and of course all the EFI and CCC stuff comes off, along with the relays, ballasts, ASDM, etc. The factory conversion also included a different dash, and fuel system including the tank, but I think you can work around that requirement with a little creativity.

Good luck on this, Cliff. Please, PLEASE, do not damage or discard any of the EFI stuff. Anything you do not want to keep in case someone wants to put the car back to original someday, let us on the IML know and we will arrange to take if off your hands. You can offer it for sale, and whatever doesn't sell, I'd be happy to pay the shipping to add it to the IML "lending library" which I am trying to assemble, of all known tested good parts to use for exchange pieces for people to troubleshoot their cars.

Dick Benjamin (bondotmec@dte.net)

Subject: 1981 Imperial EFI

From: lester@cnwl.igs.net

Sent: Tuesday, April 14, 1998 10:02 PM

From: "Dick Benjamin" (bondotmec@dte.net)

Sent: Tue, 14 Apr 1998 12:02:32

Dick My name is Cliff Thompson And I'm the one that wrote regarding a Idle speed motor. Dick, I just found and bought a 81 parts car that is carburated. I picked it up yesterday and drove it home, this was the first time that I had a chance to drive one that was carburated and was quite impressed with the way it operated. I think, Dick, that I'm going to have my car converted. In this part of Ontario you can't find a mechanic to work on these cars. With this parts car that is carburated, I have all the parts to convert. About six months back I asked and received the steps one has to take when converting, would you please take the time to send this to me again. Dick, when bringing this parts car home, I checked the dash and every thing worked Cliff Thompson

Subject: 1981 Imperial EFI

From: Stude1966 <Stude1966@aol.com

Sent: Thu, 16 Apr 1998 23:26:53 EDT

I converted one several years ago using a 83 Mirada setup, I was able to get everything working with the original dash except the MPG.

Subject: 1981 Imperial EFI

From: "Dick Benjamin" (bondotmec@dte.net)

Sent: Thu, 16 Apr 1998 21:47:09 -0700

Yes, it is an unresolved mystery why Chrysler supplied a replacement dash for the conversion package. No one has put forth a reason, as far as I know.

Most of the converted cars, (as far as I know, actually all but the one that surfaced this week here) have MPG readouts that do not work, and that includes the ones converted with the factory kit.

Dick Benjamin (bondotmec@dte.net)

Subject: 1981 Imperial EFI

From: Stude1966 <Stude1966@aol.com
To: Multiple recipients of list mailing-list <mailing-list@Imperialclub.com

Sent: Thursday, April 16, 1998 8:26 PM

I converted one several years ago using a 83 Mirada setup, I was able to get everything working with the original dash except the MPG.

Subject: 1981 Imperial EFI

From: lester@cnwl.igs.net <lester@cnwl.igs.net

Sent: Wednesday, April 15, 1998 9:49 PM

Dick

My name is Cliff Thompson And I'm the one that wrote regarding a Idle speed motor. Dick, I just found and bought a 81 parts car that is carburated. I picked it up yesterday and drove it home, this was the first time that I had a chance to drive one that was carburated and was quite impressed with the way it operated. I think, Dick, that I'm going to have my car converted. In this part of Ontario you can't find a mechanic to work on these cars. With this parts car that is carburated, I have all the parts to convert. About six months back I asked and received the steps one has to take when converting, would you please take the time to send this to me again. Dick, when bringing this parts car home, I checked the dash and every thing worked

Cliff Thompson

Subject: Fw: 1981 Imperial EFI

From: "Dick Benjamin" (bondotmec@dte.net)

Sent: Tue, 21 Apr 1998 21:43:25 -0700

The factory package included a replacement dash, so all the cars converted that way had their odometers replaced, thus the zero mileage. It is interesting that the MPG readout worked, I assumed it must have been engineered to work after the conversion, I just had not heard of one that did.

Thanks for the info.

Dick Benjamin (bondotmec@dte.net)

:Yes, it is an unresolved mystery why Chrysler supplied a replacement dash for the conversion package. No one has put forth a reason, as far as I know. Most of the converted cars, (as far as I know, actually all but the one that surfaced this week here) have MPG readouts that do not work, and that includes the ones converted with the factory kit.

Dick Benjamin (bondotmec@dte.net) had an '82 that had the factory conversion. All the trip computer stuff worked including the MPG readouts. As far as I know, the dash was not replaced (I was not the owner when it was converted.) Inside the drivers side door jamb was a Chrysler sticker showing the date of the conversion and the mileage of the car at the time. For some reason the conversion included resetting the odometer. (The odometer asterisk was illuminated.)

Christopher Conway jcc@majure.com

Subject: Fw: 1981 Imperial EFI

From: "Dick Benjamin" (bondotmec@dte.net)

Sent: Wed, 22 Apr 1998 09:28:08 -0700

OK, thanks Jeff. That's at least 3 of them that I have heard of recently that work, so I guess I will change my opinion, and see what the heck gives with mine. I'll stick a scope on the EFI car and see what goes through the 20K (?) resistor to the dash, it is probably just the chopped signal from the flow meter, which I would guess is counted down in the dash unit. Why they used such a high impedance connection, I cannot fathom. If it is TTL logic, which they seemed to be using, a 5K resistor would have been adequate to protect things, and a whole lot less likely to be screwed up by contamination.

On another subject, the cruise control on my Chevy PU has been acting goofy lately, and I discovered that a mud splash had left a deposit all over the circuit board, it somehow got through the packaging to the component side of the board. Searching around for a good PC board cleaner, I tried various things I had handy, and I found that Spray on Brake Cleaner smells, acts, and works just like the MEK we used to use for cleanup of PC boards before the OHSA people outlawed it. File in your bag of tricks.....

Dick Benjamin (bondotmec@dte.net)

Subject: Fw: 1981 Imperial EFI

From: Jeff Guarino <jguarino@pangea.ca

Sent: Wednesday, April 22, 1998 10:20 AM

Hi Dick.

The mpg readout on the white 81 w/moonroof I have works fine. This is the car I bought last year. It is a factory conversion with 30,000 miles. Jeff Guarino

Subject: Fw: 1981 Imperial EFI

From: Dick Benjamin (bondotmec@dte.net)

Sent: Tuesday, April 21, 1998 9:52 PM

The factory package included a replacement dash, so all the cars converted that way had their odometers replaced, thus the zero mileage. It is interesting that the MPG readout worked, I assumed it must have been engineered to work after the conversion, I just had not heard of one that did. Thanks for the info.

Dick Benjamin (bondotmec@dte.net):

Yes, it is an unresolved mystery why Chrysler supplied a replacement dash for the conversion package. No one has put forth a reason, as far as I know. Most of the converted cars, (as far as I know, actually all but the one that surfaced this week here) have MPG readouts that do not work, and that includes the ones converted with the factory kit. Dick Benjamin (bondotmec@dte.net) I had an '82 that had the factory conversion. All the trip computer stuff worked including the MPG readouts. As far as I know, the dash was not replaced (I was not the owner when it was converted.) Inside the drivers side door jamb was a Chrysler sticker showing the date of the conversion and the mileage of the car at the time. For some reason the conversion included resetting the odometer. (The odometer asterisk was illuminated.)

Christopher Conwayjcc@majure.com

Subject: 81 EFI Fixes

From: R Westra <RWestra@aol.com

Sent: Thu, 23 Apr 1998 12:21:14 EDT

Dick and all:

Thanks for the advice on 81 EFI. The 81 seems to be running pretty well now. It has not died since I grounded the ASDM to the alternator as you suggested. I also replaced the coolant temperature sensor with the NAPA part. The resistance of the NAPA part was 950 ohms when cold and only 1400 Ohms when the thermostat opened compared to 1K and 1.7 K on the one I removed. I cannot tell any difference in drivability or performance.

Acceleration still is not good but I can live with it. My remaining problem (assuming the reliability is OK) is the hard hot starting. It starts pretty good when cold (cranks a few seconds then starts and usually keeps running). When it is hot it will crank a long time (I haven' t it) but it seems that just about the time I am about to overheat the starter it will start. Cycling the ignition switch doesn't seem to help. Sometimes when I cycle it, it will fire almost immediately then die before the long crank begins.

You mentioned a tantalum capacitor the I assume times the purge cycle. Is this bled down by a resistor? It seems that maybe this capacitor stays charges and causes a very short duration

purge time. Does that make sense? My background is Mechanical Engineering so please forgive the dumb questions regarding electronics. Also, I am considering the purchase of a new CCC but I am not sure what effect this will have on starting. Anyone have any experience with the new CCC? Does it improve acceleration?

One other question. Is there a location where I can check the output of the 23 volt power supply. Sometimes it seems that if I had just two more volts everything would be fine. Perhaps this is another silly ME assumption.

We are getting there. Any comments from anyone would be much appreciated. It seems that Carl, Carmine, Jeff and you are those with the greatest experience.

Thanks again for the discussion.

Rolland Westra

Subject: 81 EFI Fixes

From: "Dick Benjamin" (bondotmec@dte.net)

Sent: Fri, 24 Apr 1998 09:39:16 -0700

Adding to what Jeff Gaurino has just posted, it is really easy to clean out the nozzles, as the whole nozzle assembly comes off with two screws and one fuel fitting. I have found it very common that one or the other nozzles is not spraying a good stream. I just take the assembly out, pull the top pressure valve assembly off the nozzle weldment (two more screws), and put the carburetor cleaner squirt can plastic straw right into the fuel passage and squirt. You can see easily whether or not all of the nozzles are clear, and if not, you can push the cleaner in reverse back through the tubing until you flush the offending particle of crud out. The orifices are really small, it does not take much to plug one up, even a partial obstruction will goof up the pattern.

If you want to observe the flow, you can temporarily run a 12 volt wire to the control fuel pump on the HSA. Pull the two wire plug off the pump motor, and check with your VOM to see which one is grounded. The other one is driven by the electronics to various voltages in accordance with the CCC's required fuel flow. If you disconnect the pump harness, you can do this with no danger of feeding voltage back into the fuel pump driver, which might be hard on things. One side of the pump harness is ground, the other is hot, so take two clip leads and connect the appropriate terminals for just a second, while you look at the spray stream. This pumps a lot of fuel in a hurry, so don't linger at the task.

Dick Benjamin (bondotmec@dte.net)

From: Jeff Guarino <jguarino@pangea.ca

spray patterns in the hydraulic plate can get screwed up because of leaks etc. in the fuel bars. I haven't checked my cars for this yet but you can't see the spray pattern with the air cleaner cover on and the car won't run with it off. There is a way to bypass so the airliner cover can be removed. I'm making a cover with glass dinner plate siliconed to it.

Subject: Fuel pump for '81-'83

From: t3176@flash.net

Sent: Mon, 27 Apr 1998 13:54:21 -0400

Are there any reasonable sources for a new fuel pump? Mine still works, but it's loud. From what I hear, most any used one will be just as loud.

Has anyone ever tried to rebuild one or substitute something newer?

I could also use a new fuel sock, any leads?

Carmine F.

Subject: I like my '83 Imperial...

From: t3176@flash.net

Sent: Mon, 18 May 1998 13:21:29 -0400

Just finished driving from Detroit to Boston, and back in my '83. (Went to look at the '81 FS on the list).

Happy and proud to report the following....

Cruised mostly @ 80-85+? MPH with the A/C on most of the way. Used no oil (which surprised me, because I know the valve stem seals are history). Averaged 21.6 MPG w/87 octane. When driving 65, got 26 MPG. (But what FUN is that?)

However, I did notice this...

Now that I have the climate control up and running again (retrofitted to R134a, cross fingers), I notice that upon hard acceleration, the air which should be blowing from the dash vents starts coming out of the defrost vents. Obviously I have a vacuum leak related to my HVAC system. This could explain my still unsolved sluggish acceleration and unstable idle. DUH!

It's a typical mistake to blame the most complicated part of a system, while overlooking the basics. So I apologize to my EFI system.

Now, before I start searching under that mass of hoses and wires that hides the engine, I'll ask the group...

Anyone else run into this problem? I'm wondering if there's an especially weak point in the system where I should begin troubleshooting. I'm pretty sure that I could rule out the control

head. I just replaced it, and visually it appears fine, I also hear no "hissing" form inside the car. Any especially problem HVAC parts?

Carmine F.

Subject: 81-83 FI Imperials

From: R Westra <RWestra@aol.com

Sent: Mon, 18 May 1998 14:33:32 EDT

I support your idea that a diagnostic guide would be very helpful to us 81-83 EFI owners. My 81 is working quite well now except for occasional hard starting. I don't have the expertise that you and Dick have on these cars but I do have a long experience with cars in general, specifically Chrysler products. I have also learned something about the 81-83 EFI cars by trial and error (mostly error) on my 81. I would be willing to assist wherever my limited expertise can be utilized. I live in Illinois and have been retired for two years so I have a fairly flexible schedule.

Again I applaud your plan to prepare a diagnostic guide. Let me know if I can help.

Rolland O. Westra rwestra@aol.com 815 226 8046

Subject: I like my '83 Imperial...

From: "Richard W. Gebhard" <gebhard@EC.Rockwell.COM

Sent: Tue, 19 May 1998 10:20:07 -0400

However, I did notice this...Now that I have the climate control up and running again (retrofitted to R134a, cross fingers), I notice that upon hard acceleration, the air which should be blowing from the dash vents starts coming out of the defrost vents. Obviously I have a vacuum leak related to my HVAC system. This could explain my still unsolved sluggish acceleration and unstable idle. DUH! My 75 HVAC has operated like that for so long, I think that it may be the way the thing works. My truck does it too, but not as easily.

Most Mopar's have the HVAC doors 'park' in the defrost position. When vacuum disappears, that's where they go. Auto-Temp systems include a vacuum reservoir under the hood that is used to regulate manifold vacuum applied to the vent doors.

Long shot -- but check the diaphragms on the vent door actuators, I've had em leak.

RWG

Subject: I like my '83 Imperial... References:

From: t3176@flash.net

Sent: Tue, 19 May 1998 23:44:11 -0400

My 75 HVAC has operated like that for so long, I think that it may be the way the thing works. My truck does it too, but not as easily.

True enough, it's really a problem on 'lil 4-cylinder Mopar's, since they have to work a lot harder to accelerate, and therefore take longer to re-build vacuum. But they aren't supposed to work this way, especially a regal and beautiful '75 Imperial. (had a '77 NY'er, and it worked right). Unless you were just kidding, in which case I say haha.

Most Mopar's have the HVAC doors 'park' in the defrost position. When vacuum disappears, that's where they go. Auto-Temp systems include a vacuum reservoir under the hood that is used to regulate manifold vacuum applied to the vent doors.

Long shot -- but check the diaphragms on the vent door actuators, I've had em leak.

Thanks, I'll look. Been so busy I haven't even had time to open the hood. ;-)

Carmine F.

Subject: 81-83 FI Imperials

From: "Dick Benjamin" (bondotmec@dte.net)

Sent: Mon, 18 May 1998 21:11:56 -0700

That's great that you have sorted out all your problems with your beautiful car.

The people who I always think of when trying to put together an answer to technical questions on the EFI system are Bob Harris, Jeff Gaurino, Frank Cannavale III. There are quite a few other people on the IML who have some knowledge of the foibles of these cars, as you might well imagine since we have 78 of them on the IML, if I remember Tony's last posting on the subject.

Bob Harris has some contacts within Chrysler Corp and their vendor for the test sets, and has done a lot of work on his own cars, so his advice is knowledgeable and practical.

Jeff Gaurino is the source of all the information we have on the detailed electrical schematics of the various circuit boards, due to his spending hours and hours melting and scraping goo off the boards and tracing the circuits, plus making measurements of electrical parameter.

Frank C. is an all around good head, although not an EE, he has always made cogent and germane comments based on his experience with his own car, which he bought new, and has struggled to keep running all these years.

I have done some repairs on the individual circuit boards, and have been busy trying to accumulate a "lending library" of EFI components for IML members to use when trouble shooting

their cars. So far, we have had donated an HSA, with power module, control pump and hydraulic assemblies, and fuel flow meter. I do not yet have an ASDM, or a CCC, or an in tank pump. I am determined not to spend my own money to accumulate these parts, as I feel my time in testing and repairing them is contribution enough. So far, everything donated that had a problem when received, I have been able to fix and test, but I am not confident that I will be able to keep batting 1000 on this. I have yet to try to fix a CCC or an air flow meter.

As for volunteering to organize, edit and post all the info on these cars that has been submitted in the year and a half that I have been a member, Tony and I discussed my doing this at one time, but I have not done anything with the assignment, due to a total lack of understanding as to how to proceed, and my belief that others with more computer savvy would be better at it than I, while I can probably make the most significant contribution to the IML by continuing to field technical questions that I have some experience or knowledge about, and let others manage the web site files. As far as I am concerned, the assignment is still unfilled, and definitely would be valuable contribution from whoever was willing to tackle it. Perhaps Tony will have a comment also.

Dick Benjamin (bondotmec@dte.net)

Dick, I think it is time for us to put together a diagnostic guide for these cars. I have some knowledge I have not had time to share. I am aware that there are other people in the Imperial Club who also have valuable knowledge, but I do not have their names and e-mail address. Can we start by listing people beside myself and you who may have something to contribute? I will look for such a listing from you, and then contact these member to determine who else might be able to contribute. I am aware that Tony has a mass of messages on these systems that goes back years. We need someone to volunteer to organize these material so that they can be accessed.

Carl Baty San Diego

Subject: 81-83 FI Imperials

From: GRADLTD <GRADLTD@aol.com

Sent: Mon, 18 May 1998 12:52:05 EDT

Dick et al

I am back home after extended time away. I picked up your comments about the 81-83 sedans and the mention that owners either love or hate them. I agree with the comment but I no long see any reason for people to hate them. Beyond what we already know about the fuel injection system, I now carry an entire spare fuel injection system in the trunk with tools to replace a faltering one. I have timed myself in full replacement at 1 hour and 10 minutes including sensors. I have verified that the back up system is fully functional.

Dick, I think it is time for us to put together a diagnostic guide for these cars. I have some knowledge I have not had time to share. I am aware that there are other people in the Imperial Club who also have valuable knowledge, but I do not have their names and e-mail address. Can we start by listing people beside myself and you who may have something to contribute? I

will look for such a listing from you, and then contact these member to determine who else might be able to contribute.

I am aware that Tony has a mass of messages on these systems that goes back years. We need someone to volunteer to organize these material so that they can be accessed.

I no longer see any reason for anyone with 81-83 fuel injected Imperials to hate their cars. My 81 fuel injected Imperial (Beauty) is logging about 500 miles per week as I travel between LA and San Diego in great comfort and style.

Carl Baty San Diego

Subject: Further troubleshooting the '83 EFI Imperial

From: t3176@flash.net

Sent: Thu, 21 May 1998 17:19:01 -0400

Again, just looking for some ideas here before I go tearing stuff apart.

I'm still trying to find my low-speed stumble problem. As I mentioned, there is a possibility of a vacuum leak (During conditions of low engine vacuum, such as passing, the HVAC system goes from whatever mode it's in to defrost. When vacuum is restored, foot off the accelerator, the HVAC returns to the original setting). I've poked around under the dash and hood looking for anything obvious, but even when spraying vacuum connections and lines with carb. cleaner, I can find no change in idle. Occasionally, the idle feels a bit "rough" anyway. However, as those of you with EFI systems know, it's really hard to get at much with the air cleaner on, so I might be missing a leak.

What was the procedure to make the car run without the air cleaner fastened?

I have done the following....

New plugs, cap, rotor, & wires. Adjusted the idle back to original specs, (as close as possible due to rough, erratic idle) Set the timing back to the proper setting, following FSM procedure. Re-programmed the computer, following FSM procedure. Cleaned the injector bars

The car runs great when cruising or light acceleration, it got 22 MPG last week during a trip to Boston from Detroit @ 80 MPH with the A/C on, so I don't suspect any serious problems (valve timing, bad computer, etc).

The "symptoms" aStumbles under hard acceleration, it will even "pop" and then stall if you put the pedal down too fast. This problem occurs regardless of load, even if the car is in park and you jab the throttle, it will stumble or die. Hard acceleration at high speed is normal. Idle quality could be a bit better. These symptoms sound (to me) like the classic vacuum leak or bad accelerator pump on a carburated car. But before I get too deep, and therefore render the car undrivable, I'd like to see if any of the EFI experts have been down this road before.

I'd really like to get this one little mechanical problem fixed. I'm anxious to get started on a fresh paint job so that I can enjoy the car through the summer, but I'm not going to lean all over freshly painted fenders trying to fix this problem! Please help my faded Imperial look as beautiful as it should!

Carmine F.

Subject: Further troubleshooting the '83 EFI Imperial

From: GRADLTD <GRADLTD@aol.com

Sent: Thu, 21 May 1998 21:48:39 EDT

Carmine F

I think that it is possible that what you are experiencing is normal as part of the system to provide more power to the engine when it is needed. I have experienced this on other cars and it was intended. I should have an answer about this for you by Saturday. Carl Baty San Diego

Subject: Further troubleshooting the '83 EFI Imperial

From: "Dick Benjamin" (bondotmec@dte.net)

Sent: Thu, 21 May 1998 22:15:47 -0700

Carmine;

The problem with the vacuum powered air direction flaps relaxing toward some unenergized state is indeed, as you have already figured out, a problem with low vacuum. These cars have a vacuum reservoir behind the right headlight that may not be doing its job, or your engine may be tired enough that pulling hard really drops the vacuum more severely than the designers allowed for when the reservoir was sized.

Since you are suffering other symptoms of vacuum leaks, I think you would be well advised to take the air cleaner off the HSA so you can see the vacuum "Tee" that comes out of the back of the intake manifold, and plug every line that comes from it to see if it cleans up your idle. It would also be nice to know what your idle vacuum is. At sea level, or thereabouts, you should be pulling at least 19", at idle. If you are not, there is definitely something wrong. Many of the possible leaks will be masked by the EFI system, and of course would be inconsequential at anything above idle, since the main air flow would be so much greater, this is consistent with your good results at high speed touring. You need to measure your vacuum at idle, and track down all the many places where it can be leaking. These include the items connected to the Tee, plus the PCV system, the EGR valve, the throttle body gaskets, and the air cleaner and HSA gasketing. Once the idle vacuum is known to be up to snuff, lets see what if any problems remain.

The poor throttle response at initial tip-in can be caused by an out of calibration Throttle Position Sensor, or by an incorrect EFI coolant sensor, in addition to calibration problems in the power module, fuel flow meter, and control fuel pump, and of course, a large vacuum leak. This may be very hard to find. One of my cars acts this way once in a while, then cures itself mysteriously. I have never been able to correlate the symptom with anything. Just nature of the beast.

To run the car with the air cleaner open, you need to fool the CCC into thinking the car is cranking continuously. The way to do this is to pull the small brown wire out of the multiwire connector to the starter relay near the left hood hinge, and prepare a clip lead to connect that wire to the +12 post of the battery, at the same time you start the engine. DO NOT CONNECT THE WIRE UNTIL THE STARTER IS CRANKING. All the time this wire is connected, the EFI system will be delivering fuel into the intake manifold, you can get a big boom or even hydrostatic lock, which is even more dangerous, if you leave it on there with the engine not running.

By the way, the engine will run, but not very well, and only at low RPM in this condition, since the air flow meter is ignored during "cranking". The only reason to do this is to verify that the fuel rails and their connections are all ship shape, and all 8 of the fuel nozzles are squirting fuel. You can't learn much else from this test.

Dick Benjamin (bondotmec@dte.net))

Subject: Further troubleshooting the '83 EFI Imperial

From: t3176@flash.net

To: Multiple recipients of list mailing-list <mailing-list@Imperialclub.com

Sent: Thursday, May 21, 1998 2:19 PM

Again, just looking for some ideas here before I go tearing stuff apart.

I'm still trying to find my low-speed stumble problem. As I mentioned, there is a possibility of a vacuum leak (During conditions of low engine vacuum, such as passing, the HVAC system goes from whatever mode it's in to defrost.

When vacuum is restored, foot off the accelerator, the HVAC returns to the original setting). I've poked around under the dash and hood looking for anything obvious, but even when spraying vacuum connections and lines with carb. cleaner, I can find no change in idle.

Occasionally, the idle feels a bit "rough" anyway. However, as those of you with EFI systems know, it's really hard to get at much with the air cleaner on, so I might be missing a leak. What was the procedure to make the car run without the air cleaner fastened?

I have done the following....New plugs, cap, rotor, & wires. Adjusted the idle back to original specs, (as close as possible due to rough, erratic idle) Set the timing back to the proper setting, following FSM procedure. Re-programmed the computer, following FSM procedure. Cleaned the injector bars.

The car runs great when cruising or light acceleration, it got 22 MPG last week during a trip to Boston from Detroit @ 80 MPH with the A/C on, so I don't suspect any serious problems (valve timing, bad computer, etc).

The "symptoms" aStumbles under hard acceleration, it will even "pop" and then stall if you put the pedal down too fast. This problem occurs regardless of load, even if the car is in park and you jab the throttle, it will stumble or die.

Hard acceleration at high speed is normal. Idle quality could be a bit better. These symptoms sound (to me) like the classic vacuum leak or bad accelerator pump on a carburated car.

But before I get too deep, and therefore render the car undrivable, I'd like to see if any of the EFI experts have been down this road before.

I'd really like to get this one little mechanical problem fixed. I'm anxious to get started on a fresh paint job so that I can enjoy the car through the summer, but I'm not going to lean all over freshly painted fenders trying to fix this problem! Please help my faded Imperial look as beautiful as it should!

Carmine F.

Subject: '82 EFI HELP--PLEASE!!!

From: Eddenbud (Eddenbud@aol.com)

Sent: Sat, 23 May 1998 18:26:01 EDT

Tell me, when you were trying to restart, did you press the accelerator all the way to the floor for a while, while cranking (to clear out any flooding)?

Dick,

I knew I could count on you for some useful insights into this problem. To make matters even more complicated, yes I did try flooring the accelerator, which did cause the car to restart once or twice, but was then unsuccessful after that.

I won't be up in Cincinnati for a few weeks to further investigate these troubles, but I will try your suggestions, and let you know how they work out.

<<Have you considered moving to Minneapolis? How about International Falls?

BRRRRRRRR. I don't want to live anywhere north of Interstate 10!!!

Thanks Again,

ED F

Subject: '82 EFI HELP--PLEASE!!!

Sent: Sat, 23 May 1998 09:14:56 -0700

From: "Dick Benjamin" (bondotmec@dte.net)

Ed;

After I sent off my tome on the EFI coolant sensor, I had another thought, after rereading your posting, I focused on the time it would not restart. This may have still been the EFI coolant sensor problem I mentioned, but it seems rather a severe result for that failure. Tell me, when you were trying to restart, did you press the accelerator all the way to the floor for a while, while cranking (to clear out any flooding)? If you did, and it still did not start, I am getting suspicious about your EGR valve or its controls.

If this is the problem, we will have to do some detective work to figure out whether the valve itself is acting up, or the passages in the intake manifold are gunked up with carbon (very likely), or the control devices that tell the EGR valve when to operate are involved.

Lets start by disabling the valve itself, as follows: Next time you can get into a situation where you think it may act up, pull the control vacuum line off the EGR valve (under the HSA, right side of intake manifold, right about even with the throttle body, close to the Throttle Position Sensor (TPS), it has a little restrictor valve in the line, it is a very small vacuum line) and plug the vacuum line. See if this makes any difference at all.

I'll stop there for now, and try to think it through a little farther.

Have you considered moving to Minneapolis? How about International Falls?

Dick Benjamin

This past week, I could not even get it restarted

Subject: '82 EFI HELP--PLEASE!!!

From: "Dick Benjamin" (bondotmec@dte.net)

Sent: Sat, 23 May 1998 08:58:53 -0700

Ed;

I think the 81 set is the only one available, but I am not aware of any big differences.

Your problem sounds like a failed or disconnected EFI coolant sensor. This is the sensor that has a two wire connector, with the connection arranged in an "L" shape. It is located just to the left of the water outlet connection to the radiator hose on the top of the intake manifold, at the front left-hand (Drivers side) of the engine. The connector will pull off fairly easily. The sensor is an odd size, and I would recommend being armed with a deep, thinwall socket that fits very well, and a breaker bar or large drive ratchet so you can get it out without too much drama. Since it

threads into the water jacket, you will lose coolant while you are changing it, so be prepared for that, and have the new one at the ready.

If you have access to a VOM, you might want to just check it before you go to all this trouble, it might not be the problem's cause. To check it, remove the connector from it, and measure the resistance between the two copper prongs on the sensor, you should get a reading of around 900 to 1000 Ohms with the engine cold, and much higher with the engine up to operating temp, in the 2000 to 3000 OHM range. There should be no contact to the engine ground (Very high resistance, over 100,000 OHMs.) If resistance you measure is in this range, this is not your problem, so save your money. In that case, check carefully the connector and the wires in the harness to make sure you are getting a good connection.

IML member Carl Baty discovered that NAPA carries a close equivalent, which I believe he is using successfully in his San Diego car, so it is close enough that it will get you from cold start to medium warm temperatures, if not the whole range. I believe he said it was their part no. TS 5008. They also should have a socket to use when removing it, such are specially made for sensors and senders and switches, about the size and shape that a regular 12 point will fit, but not too well. I forget at the moment whether it is a 1" or 1 1/16" that fits it fairly well, but the special socket is the one to have in your tool box for many uses. Mine is 1/2" drive. I did have a problem with one of the sensors being so corroded into its hole that it twisted apart when trying to remove it, and had to be picked out in pieces. Not fun.

Chrysler dealers with a helpful counter man can also look it up in their part finder system, I was able to find two on the shelf at a dealer in northern CA, but when received, one had been opened and did not work, the other one is fine. They get $40 apiece for them, and there are no refunds on bad electrical parts, so I got stuck. The NAPA sensor is much cheaper, and readily available, so I would try that.

Dick Benjamin (bondotmec@dte.net)

Subject: '82 EFI HELP--PLEASE!!!

From: Eddenbud (Eddenbud@aol.com)

Sent: Saturday, May 23, 1998 7:57 AM

Dear IML Friends,

I've been keeping a file of all of the EFI-related messages on the IML, but none seem to address the problem I am encountering.

While I've owned my '81 for 5 years now, it is carb.-converted, so I have little experience with the EFI which is still on my '82 that I bought last year. Although I live in Florida, I keep this car in Cincinnati as I am based there and commute from Orlando. Now that the warm weather has returned to the Midwest, so have my car's troubles:

When the car is cold and the ambient temp. is cold, he runs great (He's from Minneapolis, so maybe after 16 years, he got accustomed to it up there!!). Even with the warm weather now in place, the car starts right up when the motor is cold. However, once warmed up, the motor idles unevenly and stalls.

This past week, I could not even get it restarted and had to call AAA for a tow. The problem is that since, I don't live there full-time, I have not been able to find a shop to work on the EFI (a problem all 81-83 owners are familiar with). Also, since my home is in Florida, I only have limited tools and equipment in Cincinnati to work on the car. Ideally I will find a Chrysler dealer with the original test equipment in the area (Jake Sweeney Chrysler is listed in my owner's manual as an original Imperial dealer), but any help in troubleshooting on my own would be greatly appreciated.

I've recently changed all of the filters, plugs, wires, cap & rotor, oxygen sensor, and some leaking vacuum lines. There is a considerable amount of dirt and dust accumulations under the hood, and I plan to clean up all of the connections with electrical contact cleaner as well, but I really don't expect that to correct the problem. Has anyone got a hint as to where I should begin my troubleshooting??

Also, I have the full set of '81 service manuals, but not the '82 set. Can I use the '81 data, or were there any important changes from '81 to '82? Thanks in advance.

ED F.

Subject: Further troubleshooting the '83 EFI Imperial

From: GRADLTD <GRADLTD@aol.com

Sent: Sat, 23 May 1998 11:35:03 EDT

I had a chance to check manual on this yesterday. The system has two electronic switches which control vacuum as well are the vacuum system itself. I will copy and send the pages of the manual which show the locations of all components if you provide me with an address. Carl - San Diego

Subject: '82 EFI HELP--PLEASE!!!

From: Eddenbud (Eddenbud@aol.com)

Sent: Sat, 23 May 1998 10:57:37 EDT

Dear IML Friends,

I've been keeping a file of all of the EFI-related messages on the IML, but none seem to address the problem I am encountering. While I've owned my '81 for 5 years now, it is carb.-converted, so I have little experience with the EFI which is still on my '82 that I bought last year.

Although I live in Florida, I keep this car in Cincinnati as I am based there and commute from Orlando. Now that the warm weather has returned to the Midwest, so have my car's troubles: When the car is cold and the ambient temp. is cold, he runs great (He's from Minneapolis, so maybe after 16 years, he got accustomed to it up there!!). Even with the warm weather now in

place, the car starts right up when the motor is cold. However, once warmed up, the motor idles unevenly and stalls.

This past week, I could not even get it restarted and had to call AAA for a tow. The problem is that since, I don't live there full-time, I have not been able to find a shop to work on the EFI (a problem all 81-83 owners are familiar with). Also, since my home is in Florida, I only have limited tools and equipment in Cincinnati to work on the car.

Ideally I will find a Chrysler dealer with the original test equipment in the area (Jake Sweeney Chrysler is listed in my owner's manual as an original Imperial dealer), but any help in troubleshooting on my own would be greatly appreciated. I've recently changed all of the filters, plugs, wires, cap & rotor, oxygen sensor, and some leaking vacuum lines. There is a considerable amount of dirt and dust accumulations under the hood, and I plan to clean up all of the connections with electrical contact cleaner as well, but I really don't expect that to correct the problem. Has anyone got a hint as to where I should begin my troubleshooting??

Also, I have the full set of '81 service manuals, but not the '82 set. Can I use the '81 data, or were there any important changes from '81 to '82?

Thanks in advance.

ED F.

Subject: Further troubleshooting the '83 EFI Imperial

From: "Jeff Traylor" <jstraylor@mindspring.com

Sent: Fri, 22 May 1998 10:53:16 -0400

Hello to all,

Carmine, you just described the problems that I am having with my Imperial to a 'T'. It does not seem to be making any kind of difference to the overall driveability of the car, just annoying to occasionally stall out at a traffic light. (Imagine doing that at the intersection of Michigan Ave. & Outer Drive). I would be very interested in your final solution to the problem as it is probably identical (or nearly so) to my problem.

From my personal experience, listen to Dick B's ideas, he is usually right when it comes to the engines on these cars. I guess that he is the voice of experience.

Jeff Traylor '82 Frank Sinatra

PS Anyone else with a FS edition - do you still have the tape that came with the car? If so could you please provide a listing, in order, of the songs that were on the tape. I'm dying to recreate the cassette and be able to listen to the music that came with my car.

Subject: Losing patience with '83 Imperial

From: t3176@flash.net

Sent: Thu, 28 May 1998 18:46:09 -0400

First of all, I'd like to thank Dick B. for giving me some good leads in troubleshooting my problem. I know that typing that much tech. stuff can be a pain, but thanks Dick. You must be a Hell of a nice guy to go through all that trouble.

Second, that being said, I'm still having problems.

Checked vacuum @ idle, it was around 17 in. Of course, idle was around 600-650 RPM, so I think it would probably pull 19 in. at 750 RPM. Idle fluctuates a little bit too much to really get a good reading.

Plugged all vacuum lines @ manifold, no difference. Although the vacuum line "sticker" on the fender shows a reserve canister, I'll be danged if I can find it. (I was hoping to at least find the source of my HVAC problem, if not the acceleration stumble).

Here is another symptom, maybe this will help with diagnosis.

As I mentioned earlier, the car will not accelerate smoothly unless you treat the accel. pedal like it's made of fine crystal (subtle Imperial reference). If you give the accelerator a quick jab, the engine will stumble, sputter or stall. This condition exists whether I'm idling in park or drive (no-load or with a load). When I do this (quick jabs at the gas) while trouble shooting in the driveway, the car will return to idle, but fluctuate WILDLY. Idle jumps from 400-800 RPM on it's own for a few seconds, then it usually dies. It's as if the engine is ready to stall, then idle speed motor does its best to prevent stalling, running the idle up & down.

Oddly, the car will respond to W.O.T. very well as long as you are rolling at 30+ MPH.

Now I don't want anyone to think I'm trying to drive this thing like a Hot-Rod, I do not expect this car to burn rubber away from every light. But I'm getting a little sick of waiting for HUGE gaps in traffic whenever I need to turn left or pull out of a driveway. In fact, what really sucks is that I'm afraid to let anyone else drive the car. I'm used to it, but I'd feel like crap if somebody who was accustomed to a properly running car was to turn left in front of a truck only to have the engine sputter or stall. And that's a shame because...

Other than the acceleration problem, the car is a beautiful driver. Handles nice, rides smooth, mega-quiet.

I've got to admit it's really tempting to just pull the whole engine and install a nicely built 360. But part of me doesn't want to do that. The car is so original and clean I really don't want to alter it, plus I love the gadgets! I have a feeling that this is a simple problem, but it's starting to seem simpler to just change everything over to a carb.

Is anybody with more time on their hands interested in it? To give you an idea of the condition, I ignored this problem when I bought it because I was so blown away by the condition of the body/interior. It still wears its original paint and stripes (Glacier blue). Paint is faded, but it has no rust worth mentioning, (small paint chips, etc.) No body damage. The gray cloth interior is also in

excellent shape, always well cared for and showing almost no wear. Even the aluminum rims still shine. Chrome is very nice, no peeling, just the slightest bit dull. I'd have to get around $3200 for it to cover what I paid for it + 4 new ball joints, new calipers, pads, hoses, exhaust and the repaired A/C system. Actually, I'd be losing a little.

If I can't sell it and I do convert it, is anyone interested in the complete motor/trans/wiring/EFI set-up? I'd like to get back some of what I'll spend for a new motor, so I can't give it away. Otherwise the set-up will be sold with the converted car when I'm ready to part with the car.

As you may have guessed by my earlier post regarding the sale of my '69 LeBaron Coupe, I've just got too may projects and I need to clean house. Again, price on that '69 is $1000 as is.

Carmine F.

Subject: Losing patience with '83 Imperial

From: "Dick Benjamin" (bondotmec@dte.net)

Sent: Thu, 28 May 1998 23:15:09 -0700

Hmmm. There should be a round can just behind the right side headlight with some vacuum hoses going to it. It is painted black, and is about 4 " in diameter, maybe 3" deep. It should be there.....

Your problem with initial throttle response is a frequent complaint with these cars, I think you have already checked to see that all the fuel nozzles are shooting a good stream? I now wonder about your throttle position sensor. Let me see if I can think up a way to check it easily. The next day or so is pretty busy here, but let me noodle on it for a bit. We should be able to check it. I wish you had a spare Computer around handy to try. They are so expensive that it doesn't make sense to buy one just in case, is there anyone else near you with an EFI car that you could maybe swap units with? That is how Carl Baty and Randy Weir worked on their cars, Carl's is doing much better, Randy's is still a mystery but I think we are closing in on it too. I have some of his electronic modules here and I am trying to test them, so far all checks out OK, but I am not done yet.

Carl, what do you think about all this?

Carmine, did we verify that your coolant sensor is OK? I posted the correct resistance readings here the other day at 70 and 180 degrees, they are 970 and 1310 OHMs respectively. Apparently, this is fairly critical.

The wrong Temp sensor reading would definitely affect the throttle tip-in response (make it run to lean, like inadequate choke in a carb car).

Dick Benjamin (bondotmec@dte.net)

Checked vacuum @ idle, it was around 17 in. Of course, idle was around 600-650 RPM, so I think it would probably pull 19 in. at 750 RPM. Idle fluctuates a little bit too much to really get a good reading. Plugged all vacuum lines @ manifold, no difference. Although the vacuum line "sticker" on the fender shows a reserve canister, I'll be danged if I can find it. (I was hoping to at least find

the source of my HVAC problem, if not the acceleration stumble).Here is another symptom, maybe this will help with diagnosis. As I mentioned earlier, the car will not accelerate smoothly unless you treat the accel. pedal like it's made of fine crystal (subtle Imperial reference). If you give the accelerator a quick jab, the engine will stumble, sputter or stall. This condition exists whether I'm idling in park or drive (no-load or with a load). When I do this (quick jabs at the gas) while trouble shooting in the driveway, the car will return to idle, but fluctuate WILDLY.

Subject: Losing patience with '83 Imperial

From: <GRADLTD@aol.com

Sent: Fri, 29 May 1998 10:24:30 EDT

Carmine -

Are you working without a manual? I agree fully with Dick's statements. Please back off the problem for a couple of days to give us time to come up with the best routes to fixing what I see a single source problem. If you are not working with an EFI manual I can send you a copy of one.
Carl Baty
San Diego

Subject: Losing patience with '83 Imperial

From: t3176@flash.net

Sent: Fri, 29 May 1998 11:10:45 -0400

References: GRADLTD@aol.com wrote:

Carmine -

Are you working without a manual?

No, I have both ('81). Although, as you know, the diagnostics are useless without the "special" tester. I agree fully with Dick's statements. Please back off the problem for a couple of days to give us time to come up with the best routes to fixing what I see a single source problem.

I'm not ripping anything out just yet, luckily for the EFI system, I've got a bunch of other problem havin' cars on my hands! I'll amuse myself with one of them for a while.

If you are not working with an EFI manual I can send you a copy of one. Carl Baty
San Diego

Thank you for the offer.

Carmine F.

Subject: Losing patience with '83 Imperial References:

From: t3176@flash.net

Sent: Fri, 29 May 1998 11:25:28 -0400

Hmmm. There should be a round can just behind the right side headlight with some vacuum hoses going to it. It is painted black, and is about 4" in diameter, maybe 3" deep. It should be there.....

To my knowledge, this is the fuel vapor canister. It does have vacuum lines, but they are for operating purge solenoids.

Your problem with initial throttle response is a frequent complaint with these cars, I think you have already checked to see that all the fuel nozzles are shooting a good stream?

Not with car running, but I took them out and flushed carb cleaner through them. A good stream from all 4 holes.

I now wonder about your throttle position sensor. Let me see if I can think up a way to check it easily.

I know that on newer FI cars, you use a voltmeter. Run the throttle from idle to WOT and look for any "spikes" or dead spots. This TPS looks a little different than what I'm used to seeing on newer cars.

Carmine, did we verify that your coolant sensor is OK? I posted the correct resistance readings here the other day at 70 and 180 degrees, they are 970 and 1310 OHMs respectively. Apparently, this is fairly critical.

I'll give this a try.

The wrong Temp sensor reading would definitely affect the throttle tip-in response (make it run to lean, like inadequate choke in a carb car).

Reason I haven't tried coolant temp sensor is because the problem occurs both hot and cold, to my knowledge the CTS is ignored until the car is out of open loop, therefore it should be plenty rich when cold.

Carmine F.

Subject: "As the Throttle Shaft Turns" warning, EFI related, PG-45

From: "Dick Benjamin" (bondotmec@dte.net)

Sent: Fri, 29 May 1998 10:30:58 -0700

Yes, but it's the EFI coolant sensor that tells it when to go closed loop. If it is malfunctioning, that could be related to the problem, I think.

On the charcoal canister, I guess you are right. I think my brain went open loop on me for a while there, now you've got me wondering, where is the vacuum reservoir, if any. Also, there is a vacuum amplifier that might get involved here.

Monitoring the voltage coming out of the moveable tap on the TPS would be a way to check it for sure, but you would have to have the engine running (roaring!) or the ASDM would shut down the 23 volt power supply, and you'd see nothing. Maybe putting a VOM on the resistance scale would do the same thing, with the engine off and the harness unplugged from the TPS. Its worth a try, but I don't know what resistance you should see "as the throttle shaft turns" (New soap opera title for EFI fans).

Dick Benjamin (bondotmec@dte.net)

To my knowledge, this is the fuel vapor canister. It does have vacuum lines, but they are for operating purge solenoids.

I know that on newer FI cars, you use a voltmeter. Run the throttle from idle to WOT and look for any "spikes" or dead spots. This TPS looks a little different than what I'm used to seeing on newer cars.

Reason I haven't tried coolant temp sensor is because the problem occurs both hot and cold, to my knowledge the CTS is ignored until the car is out of open loop, therefore it should be plenty rich when cold.

Subject: "As the Throttle Shaft Turns" warning, EFI related, PG-45

From: t3176@flash.net

Sent: Fri, 29 May 1998 16:01:48 -0400

Dick Benjamin wrote:

Yes, but it's the EFI coolant sensor that tells it when to go closed loop. If it is malfunctioning, that could be related to the problem, I think.

Well, here's what I'm thinking. The CTS serves only: 1) To tell the computer when the engine is warm enough to begin relying on the O2 sensor for air/fuel ratio data. 2) Operate dashboard idiot light. Based on reason number 1, the computer should stay either in open loop or closed loop depending upon how the sensor failed (hi or low resistance). This means that the car should at least run correctly either when it's warm or cold, again, depending on how the sensor failed. I believe that someone on the list had a problem with the car running poorly when warm, but fine when cold. My car on the other hand runs poorly (tip-in) at ALL times.

I think my brain went open loop on me for a while there,

Haha.

Also, there is a vacuum amplifier that might get involved here.

Sprayed carb cleaner around vacuum amp searching for leaks, couldn't detect a change in idle. There is also another black round thing near the vacuum amp. (looks like a Hostess ding-dong) that has one vacuum line connected to it, I'll check to see what this is.

Monitoring the voltage coming out of the moveable tap on the TPS would be a way to check it for sure, but you would have to have the engine running (roaring!) or the ASDM would shut down the 23 volt power supply, and you'd see nothing.

This circuit stays energized on newer cars with the key on, do you think there could be a way to keep it powered?

Maybe putting a VOM on the resistance scale would do the same thing, with the engine off and the harness unplugged from the TPS.

Thinking of this also, actual numbers wouldn't be as important as noting any shorts or opens. I'll give this a try.

"as the throttle shaft turns" (New soap opera title for EFI fans).

But you had better drop the PG-45 rating, as I was only ten when this car was new. (You do the math).

Carmine F.

Subject: Losing patience with '83 Imperial

From: <GRADLTD@aol.com

Sent: Sat, 30 May 1998 00:14:13 EDT

Carmine F / Dick Benjamin

I am working from memory of what you have replaced/dealt with in trying to solve the acceleration problem. I would suggest that if you have not done so please look at Chapter 14 page 84 of the 1981 Engine Performance Manual. The "Control Pump" sits prominently at the rear of the throttle body. It is easy to remove and take apart for examination. The danger in doing this is that there is a white band around the pump armature, which contains a series of small springs. Avoid doing anything, which would release these springs. They are almost impossible to replace once released.

1. Fuel residue builds up on the walls of this pump cutting performance dramatically. It is possible to simply clean this residue and then try pump functioning by applying power.

2. The armature on this pump can be rebuilt by most electronic shops without much difficulty or cost.

3. The Power Module, which is one of Dick's specialties, directly affects the performance of this pump. These can be purchased for about $150 or if Dick is so inclined, checked out and rebuilt if necessary. I would bet that your problem is in the pump itself. Since it is not a big job to check it out I would start there.

Dick, we had Randy's car running perfectly with my backup power module. If he sent you his old once for testing and rebuilding, I can guarantee you that it is bad. Randy lost enthusiasm for dealing with the car as he prepared to take his trip to the Viet Nam Memorial with his Harley and missed the Smog II deadline. We all backed off finishing the job when that happened and nothing has been done since then. Randy is due back soon and I hope we can finish the job, Smog II or no Smog II. I believe a properly functioning power module is all that is needed to have the car running well. If you have one for him please send it on and I will put it on my car first to check out the performance.

Carl

Subject: More EFI trivia, shield your eyes, non-EFI buffs!

From: "Dick Benjamin" (bondotmec@dte.net)

Sent: Fri, 29 May 1998 22:31:41 -0700

Dick,

W had Randy's car running perfectly with my backup power module. If he sent you his old once for testing and rebuilding, I can guarantee you that it is bad. Carl

Yes, Carl, I told him I would swap a known good one for his. He sent me two power modules, I checked the obvious things without finding a problem so far, they both have good 23 volt supplies, and seem to process the inputs properly. I am planning to put them on my car one at a time to see if I can figure out what performance difficulties they are causing. I perhaps misunderstood him but I thought he told me both units he sent had caused his car to have problems. One would not start readily, the other made the car run way too rich. I was looking for that kind of problem, not knowing for sure which one is which (he told me how to tell the two apart, but I either did not understand, or else these are not the two units he thought they were). In any case, I don't find any problem so far, but as I said I will put them on my car and see what gives. I do not have a really good way to exercise the whole program of the device, I have to do it piecemeal, since I do not have the factory test set, or enough information to duplicate it.

The one I have available is one I repaired, it was donated to the IML by Jeff Traylor, and I have run it successfully on my car, but I would sort of like to know what characteristic of the failed units to look for, so I will be sure we are fixing the right thing on his car.

It is encouraging that you had good performance with another unit on his car, we should be able to figure out what is wrong knowing that.

I would suggest that if you have not done so please look at Chapter 14 page 84 of the 1981 Engine Performance Manual. The "Control Pump" sits prominently at the rear of the throttle body. It is easy to remove and take apart for examination. The danger in doing this is that there is a white band around the pump armature, which contains a series of small springs. Avoid doing anything, which would release these springs. They are almost impossible to replace once released.

1. Fuel residue builds up on the walls of this pump cutting performance dramatically. It is possible to simply clean this residue and then try pump functioning by applying power.

2. The armature on this pump can be rebuilt by most electronic shops without much difficulty or cost.

3. The Power Module, which is one of Dick's specialties, directly affects the performance of this pump. These can be purchased for about $150 or if Dick is so inclined, checked out and rebuilt if necessary. I would bet that your problem is in the pump itself. Since it is not a big job to check it out I would start there.

From: GRADLTD@aol.com

I would really be interested in what experience you have had with failed or poor performing control fuel pumps. I must admit I have never suspected one of causing a problem, although it is certainly plausible that they must have some failure modes. The only one I ever had problems with would not run at all, it seemed to be open circuit, and I have not yet gotten around to taking it apart, I just installed another pump I had.

I was working on IML member Pat Lee's car today, and I had the experience that you and Randy apparently had one time with his car with the starter problem. I did not really understand the report at that time, but if you recall, the report was that on trying to crank the car, a whirring noise was heard, but no engine cranking. On Pat's car, I experienced that exact symptom, and after scratching my head and tracing some current drain, I discovered that his freshly "rebuilt" and still shiny starter has failed in such a way that while it draws massive current, it does not perform any mechanical work, it just sits there and gets hot. (It has a shorted field winding.)

So, what is the "whirring noise", you ask? The EFI doing its thing, which is to run the pumps in the "I'm cranking, get ready to run" mode, just as it is supposed to. Normally you wouldn't ever hear this noise, since the starter and engine sounds would mask it, of course. So, it probably was not Randy's starter that was whirring, but rather the EFI pumps, while the starter, for whatever reason, was not turning at all. Just thought you'd like to know that the reported symptom turned out to be spot on, I just hadn't understood it correctly, thinking he meant the whirring noise was coming from the starter, and therefore that the ring gear/starter pinion was not meshing, either due to a messed up ring gear or a failed starter drive.

Dick Benjamin (bondotmec@dte.net)

Subject: Losing patience with '83 Imperial

From: <GRADLTD@aol.com

Sent: Sat, 30 May 1998 13:30:01 EDT

Dick, Carmine F, and Cheerleader Bob.

The two power modules Randy sent you were both isolated as non-performing. We went so far as to totally replace his throttle body with mine. This worked. We then isolated individual parts of the throttle body, and after much work, changes, etc., ended by isolating the power module as the only remaining problem. The short time we ran Randy's car with my power module but his entire fixed up throttle body was pure pleasure to me. The car idled and accelerated smoothly. The one, which was on Randy's car, had more of the clear packing substance on it than the second one. With Randy's original power module the car would sometimes catch and sputter for a 10-20 seconds before shutting down. A corollary of the original power module was that black soot was expelled from the exhaust in great quantity. The second power module was one provided by Bob Baker of San Diego. It had almost no packing material left but was thought to be functioning. It took a very short time to determine that it was not functioning at all. Bob has five 81-83 Imperials parted out in a storage garage. He also owns (this week) two with EFIs in place and is a great source of inspired wisdom. I enjoy working with Bob. He volunteers his time with no thought to profit although his parts are not at all give-aways. He is the person who showed me how to take apart the pump and how it could interfere with the car's performance in exactly the way Carmine F. is describing. Bob is an occasional scanner of the IML. It would be great if we could encourage him into being a more constant and direct resource.

Putting either of the power modules on your car should answer your question about their functioning quickly. A word of caution when swapping parts. In the process of finding and isolating the problems on Randy's car, I freely and knowingly put my entire system at risk. I paid for that. My car, which had been running perfectly for several months, came back together without any idling capability and halting performance on acceleration. It took several weeks for me to get her back to her normal excellent performance level. Much of that involved running the car after recalibrating the CCC. These systems sometimes take several days of running before the integrated performance reaches a steady point. I have learned and confirmed that what you see and get on first starting a newly configured system is not at all what you might have 3 days later. The good news is that the time in running only improves and, in my experience, never degrades performance. It certainly causes consternation for the person who is trying to fix a particular problem. The positive results are not always immediately evident. A level of Zen-like patience is a requirement.

We should discuss the implications of Smog II, which went into effect last month, for California owners of EFI systems. I believe my car would pass at this point with several days work. I am fortunate in having almost two years before I face this, but it requires a new level of knowledge and preparation. Modifications in wiring, fuel system, any hoses, and emission tubing, etc., automatically result in a fail without even starting the car or testing the car's emissions. I will try to get some relevant details out when time allows.

Dick, in regard to the starter on Randy's car, please just disregard this problem until Randy chooses to fix it. The problem is in the starter and it simply needs to be pulled and repaired.

I have found that there is a measurable difference in the temperature sensors purchased from NAPA and the original equipment. I will have a new, original equipment sensor sometime next week. As of this month, Chrysler no longer has any in their inventory so used sensors are necessary alternatives if these affect the running of the car. Certainly the NAPA sensors work. My question is how well do they work?. I should have details on the measurable and performance differences available in about two weeks.

That's all I have to offer this morning. I'm with Bob, Don't Give Up. The rewards are worth the struggle. Carl

Subject: "As the Throttle Shaft Turns" warning, EFI related, PG-45

From: (Eddenbud@aol.com)

Sent: Sat, 30 May 1998 13:40:03 EDT

Well, here's what I'm thinking. The CTS serves only:

1) To tell the computer when the engine is warm enough to begin relying on the O2 sensor for air/fuel ratio data.

2) Operate dashboard idiot light.

Carmine,

Just to further complicate things, I'm certain that there's another sensor, a Coolant Temperature "Switch," located on the right side of the engine that operates the idiot light. Unlike the CTS, the Coolant Temp. Switch is an on or off switch that merely completes the circuit for the HOT light when a predetermined temp. is reached.

ED F

Subject: EFI saga continues

From: <GRADLTD@aol.com

Sent: Sun, 31 May 1998 10:59:12 EDT

Good Morning Dick

It seems the only free time I have these days is in the 1/2 hour after getting up, even before the coffee is perked. I am therefore not responsible for anything I write.

In response to your message pointing to an ASDM as a potential problem with the stalled car, I have talked to more than a dozen mechanics who serviced these EFI systems in the past and everyone else who had experience to offer both currently and over time. I am told repeatedly that the ASDM has never been known to be the source of a non-running car, although I carry a backup ASDM anyway. We have seen the ASDM ground as a problem and improved several cars performance by hard wiring it. What confuses me is a diagnostic you suggest which I have done religiously. Bypassing the ASDM with a shunt to the large green/brown (from memory) will indeed isolate the in-tank pump. My experience tells me it does not exclude any aspect of the

rest of the EFI system from being the source of a problem. Is this what you intended to communicate or did I misunderstand?

I hope the problem with the stalled car is no spark. I have never been so lucky, and with your expertise, I expect the car to be running again before I finish my second cup. Carl

Subject: EFI saga continues

From: <GRADLTD@aol.com

Sent: Sun, 31 May 1998 11:23:20 EDT

Dick,

After cup # 1, I checked my garage and the sensor box is not there. It may be at my office storage location and it may be at Randy's garage. As soon as I locate it I will send the number on to you. I suspected the problem in locating it is what it is called. NAPA in LA (Regional Warehouse) lists 2 "temp sensors" for the car. If I recall they were both called "temp sens" on the box. My memory tells me that you have the correct part number. Carl

Subject: EFI saga continues

From: "Dick Benjamin" (bondotmec@dte.net)

Sent: Sun, 31 May 1998 21:15:53 -0700

Well Carl and EFI fans, as you might have already guess, when I went to tow the car home this morning, it started right up, and drove perfectly the short trip to home. So, I have not yet learned anything about the reason for it dying yesterday. The ASDM has not had the added ground wire installed, so that will be the first thing I do to it.

The question about the importance of the ASDM needs an answer, and I will see if I can help here;

The ASDM is a device whose sole purpose in life is to decide whether or not to supply power to the EFI system. It takes the 12 volt supplied via the ignition switch and passes it through to the power module in the HSA if and only if it "thinks" conditions are such that it should turn on the system. The components in the main assembly (the HSA and the CCC and their accessory devices) accept the 12 volts when it is supplied, and use it to power everything in the system, via the 23 volt power supply, which is part of the power module. The sensors are supposed to be bypassed (ignored) for the first few seconds of cranking, while the fuel system is purged of vapor and the pressure comes up to 20 PSI at the pump output, but as soon as the car starts, the designed function comes into play.

There are a few different reason why the ASDM may "decide" not to supply power. If the Engine RPM, which it monitors, drops below 150 RPM, it shuts the system off. If the fuel pumps stay on too

long without the engine firing, it shuts the system off. If fuel is flowing, for whatever reason, with the engine not turning above 150 RPM, it shuts the system off.

Unfortunately for the mental health of the drivers of these cars, the ASDM sometimes "imagines" things are not right. If one is driving along a 65 MPH on the freeway, and the ASDM gets a wild hair, it will shut the car down, and no amount of cranking will restart it until the driver cycles the key completely to "off" to reset the logic circuit in the ASDM. This is why, sometimes, the car will refuse to start no matter how long you crank, but if you cycle the key to off and then on, it will restart immediately.

The logic circuit that monitors the sensor inputs to make its "decision" is unfortunately a poor design in that it is very sensitive to any disturbance on ground or other connections. (For the Tech Types on the list, it is a TTL tied back NAND type of bistable or "Flip/Flop", with no decoupling on either the Vcc or ground lines, and no filtering on the logic inputs.) This means that if there is any deterioration at all in the grounding at the fender well, it is likely to suddenly shut the car down on a bump, or with a temperature change, or just because because.

Incredibly, there is no ground wire on this circuit, the engineers relied on the sheet metal screw which fastens its case to the inner fender to ground it. That is why the service material from Chrysler recommended that a wire be added to connect the case of the ASDM to the system ground, preferably at the master EFI ground point at the rear of the right head, but also, and nearly as good, more conveniently at the alternator case.

There are many EFI cars still working OK without this wire, but generally, it is just a matter of time before it begins to cause trouble of the most irritating kind, mysterious stalling and cutting out, which comes and goes without rhyme or reason.

I would add to the suggested fix, that the ASDM should be deliberately insulated from the fender, which is likely to pick up static discharge or other contaminating signals as the car ages and the mounting bolts get crud under them. When the added wire is put on the ASDM, it no longer needs the potentially troublesome connection to the body sheet metal.

Dick Benjamin (bondotmec@dte.net)

In response to your message pointing to an ASDM as a potential problem with the stalled car, I have talked to more than a dozen mechanics who serviced these EFI systems in the past and everyone else who had experience to offer both currently and over time. I am told repeatedly that the ASDM has never been known to be the source of a non-running car, although I carry a backup ASDM anyway. We have seen the ASDM ground as a problem and improved several cars performance by hard wiring it. What confuses me is a diagnostic you suggest which I have done religiously. Bypassing the ASDM with a shunt to the large green/brown (from memory) will indeed isolate the in-tank pump. My experience tells me it does not exclude any aspect of the rest of the EFI system from being the source of a problem.

Subject: EFI saga continues

From: "Dick Benjamin" (bondotmec@dte.net)

Sent: Sat, 30 May 1998 22:55:22 -0700

Carl, thanks for the very clear explanation, I will be on the lookout for the reasons for problems with Randy's two power modules. I will also try a pump refurbish as you suggest to clear up a balky acceleration in my brown car.

Will you confirm that the NAPA sensor you have tried is TS 5008? I am not able to find it in their catalog, and I am afraid I copied down the number wrong.

I got Pat Lee's car running today, it had not run for about a year. It actually runs quite well, and has good performance right off the bat, but after about 1/2 hour of running, after which it restarted well a couple of times, when it cooled for an hour, it would not restart, apparently due to no ignition at all. Unfortunately I was about 1/2 mile from my shop when this happened, and it was getting quite dark, so I will have to go tow it home tomorrow and continue the investigation. I suspect the ASDM, but that is just a guess at this point. I did give it a dollop of gas down its maw without noticeable effect.

Dick Benjamin (bondotmec@dte.net)

A level of Zen-like patience is a requirement.

OMMMMMMMMMMM. (You're right, I do feel better!) We should discuss the implications of Smog II, which went into effect last month, for California owners of EFI systems.

I should knock wood when I say this, but the last time I smogged my black car, it passed with astonishingly clean numbers. I'll find out how it goes in December with it next time. Gulp.

I have found that there is a measurable difference in the temperature sensors purchased from NAPA and the original equipment. I will have a new, original equipment sensor sometime next week. As of this month, Chrysler no longer has any in their inventory so used sensors are necessary alternatives if these affect the running of the car. Certainly the NAPA sensors work. My question is how well do they work?. I should have details on the measurable and performance differences available in about two weeks.

Subject: EFI Coolant Sensor

From: <GRADLTD@aol.com

Sent: Mon, 1 Jun 1998 23:30:36 EDT

Dick et al.,

The NAPA EFI Coolant Temperature Sensor Number is TS5008. I am looking at one now, so it is certain. It's good and bad news that the car you went out to tow started right up. Now you get to experience the suspense of trying to make it fail again.

Later Carl

Subject: EFI saga continues

From: <RWestra@aol.com

Sent: Tue, 2 Jun 1998 09:57:56 EDT

Good work on diagnosing the EFI problems guys. The information you are disseminating is helpful to all of us EFI car owners. My 81 is working quite well now after implementing Dick's recommendation to ground the ASD module. It still is erratic as far as starting is concerned. When cold it will start with a 5 to 8 second crank. When it is warm about half the time it starts on the second revolution of the engine and other times it may start and die after the second revolution. Then it will take a 15 to 20 second crank to get it started.

I replaced the coolant temperature sensor with the NAPA TS 5008 and it works the same as the one I removed which was an original equipment Chrysler. The resistance readings I recall are as follows: 70 F180F Chrysler 950 OHMs 2300 OHMs NAPA950 OHMs 1700 OHMs There was no detectable difference in performance with either sensor. Rolland Westra

Subject: EFI saga continues

From: <RWestra@aol.com

Sent: Tue, 2 Jun 1998 10:08:02 EDT

The recommendation to ground the ASD module is extremely accurate. My 81 has not quit since installing the ground wire. Prior to that I could not rely on it running 20 minutes without dying and failing to restart. I also had the experience that returning after 30 to 45 minutes the car would start and run fine (for another 30 minute) It acted like a temperature problem but I don't believe that is the case.

Try it you'll like it. Rolland

Subject: EFI saga continues

From: "Dick Benjamin" (bondotmec@dte.net)

Sent: Tue, 2 Jun 1998 10:18:52 -0700

OK, Rolland, thanks for the note.

I have recently been on the track of an identical erratic starting situation, and I think I have tracked it down into being a faulty Fuel Pressure Switch. Just to confirm it is easy, finding a new one will be a little tougher, although the function is very similar to that of an idiot light sender for a car with an oil pressure warning light, in that it closes on low pressure and opens on high pressure. The threshold values are probably not right, the EFI switch closes at 10 PSI and opens at

20 PSI, but maybe anything is better than one that does not work. I am going to go through the NAPA catalogs today to see if I can find one that is passably close. These may still be available from Chrysler, I haven't tried yet.

To confirm a bad FPS, take off the lid of your air cleaner, find the FPS, it is identical in appearance to any other pressure switch, like a brake light (hydraulic type) or an oil pressure idiot light sender. It hangs upside down like a sleeping bat from the fuel lines connected to the control fuel pump, and has one wire clipped to its lowest part. Pull this wire off (sideways in the direction of the wire travel) and take your VOM, measure the resistance from the FPS terminal to the fuel line. It should be zero OHMs, or close to it. If it is higher than about 50 OHMs, it is probably what is causing your problem. I found one of them that is very high, like an open circuit, in a car that was acting the way you describe. I loaned the one from my brown car, which was good, and the problem went away completely.

Let us know what you find out, OK?

Dick Benjamin (bondotmec@dte.net)

My 81 is working quite well now after implementing Dick's recommendation to ground the ASD module. It still is erratic as far as starting is concerned. When cold it will start with a 5 to 8 second crank. When it is warm about half the time it starts on the second revolution of the engine and other times it may start and die after the second revolution. Then it will take a 15 to 20 second crank to get it started.

Subject: EFI saga continues

From: RWestra@aol.com

Sent: Tue, 2 Jun 1998 16:19:15 EDT

Thanks for the tip on the fuel pressure switch Dick. I replaced this switch about 6 years ago. I will try out the resistance measurement and see what I find. It certainly sounds like it could be vapor in the line that is not being purged quickly enough.

Thanks again and keep up the sound advice.

Rolland

Subject: EFI saga continues

From: <RWestra@aol.com

Sent: Wed, 3 Jun 1998 18:20:31 EDT

Dick:

I checked my fuel pressure switch and it shows continuity with little or no resistance. However, the car has been starting fine all day so I am wondering if an intermittent fuel pressure switch is a possibility. I will be carrying an ohmmeter along for the next couple of days to check it out. I will probably be the only one in the parking lot with an ohmmeter under the hood before I start the car.

I will let you know what I find out.

Regarding my poor acceleration that you made suggestions for a few weeks ago. I do have the factory tires. Also the timing is correct. I get a slight pinging at WOT during an upshift from 1-2 and again from 1-3. My zero to 60 time with a warmed up engine is no better than 16 seconds. Even though it should be better than that I can live with this if everything else works OK. My reliability seems to have been regained and the car drives like a dream.

Rolland Westra
PS Can I be of some help on the diagnostic piece you are considering for EFI cars

Subject: EFI saga continues

From: "Dick Benjamin" (bondotmec@dte.net)

Sent: Wed, 3 Jun 1998 18:50:31 -0700

The ohmmeter under the hood seems like a good idea to me. I have resorted to that a few times myself, as an intermittent FPS is a bear to diagnose otherwise, and I have seen a lot of them, like maybe most of them get intermittent after a while?

It wasn't me who questioned your tires, but it was a good thought. I put 215X15's on my black car, made a difference in the performance, but helped the true mileage (actual readout was poorer of course, but my miles were bigger miles), and generally made the car drive nicer, so I really like the change.

Your timing sounds right on, the light pinging is just right, the knock sensor doing its job. Chrysler claimed 12 sec 0 to 60, I wonder how accurate that was. Premium fuel would help, since the knock sensor would allow more advance, thus improving power.

I like the idea Carl Baty put forth about your control fuel pump perhaps being down on capacity. I have yet to take one apart, but since I have been getting in trouble that way since I was 8 years old with my first New Departure coaster brake, I have a feeling the time is near. I'll take apart one of the spare units I have here and see what I see. I'll file a report with the EFI committee (there are 78 of us long suffering types on the IML here, can you believe it?)

Thanks for the offer of help. Carl Baty has the ball on this for the moment, I really dropped it when I realized my contribution should be technical, not editing and computer wizardry, which I definitely lack.

Dick Benjamin (bondotmec@dte.net)

intermittent fuel pressure switch is a possibility. I will be carrying an ohmmeter along for the I do have the factory tires. Also the timing is correct. I get a slight pinging at WOT during an upshift from 1-2 and again from 1-3. My zero to 60 time with a warmed up engine is no better than 16 seconds.

My reliability seems to have been regained and the car drives like a dream.

Rolland Westra
PS Can I be of some help on the diagnostic piece you are considering for EFI cars

Subject: EFI Sensors

From: (Eddenbud@aol.com)

Sent: Mon, 8 Jun 1998 23:38:02 EDT

Well I finally got out that old EFI system from my 81 that's been sitting in the garage and began testing some of the sensors using guidelines Dick Benjamin has provided in past letters. I had hoped that I might be able to use these on my 82 which is still EFI.

I found the Coolant Temp. Sensor to be within tolerances Dick provided at low temp's, but how do I test it at 180 degrees? Should I immerse it in some hot water along with a candy thermometer?

Dick also pointed out that the Fuel Pressure Switch should be very low resistance, around zero OHMs. Mine indicated infinite resistance until I tapped it with a wrench and then it dropped to around 7-15 OHMs. Doesn't sound too reliable, does it?

I also located the Auto Shutdown Module in my box of goodies. It had this sticky goop that appeared to have leaked out of it. Is this some type of filler adhesive Chrysler used? It looks like it was just poured in on top of the circuits and has now run out. The Fuel Flowmeter Module on the Hydraulic Support Assembly has no back to it (!) and it appears to have the same goop in it, also running out and making a sticky mess of everything. If this is an adhesive they used inside these components, I wonder what would cause it to soften and run out. I mean it does get HOT in my Florida garage on the southwest corner of the house, but gosh, I think it gets kind of hot under the hood of an Imperial with a 318 humming along under there too, don't you?!!

Hmmm...Doesn't sound like I have too many spares for the 82, does it?!

ED F

Subject: EFI Sensors

From: "Dick Benjamin" (bondotmec@dte.net)

Sent: Mon, 8 Jun 1998 22:04:54 -0700

Ed;

The goop running out is not a problem, they all do that, it does not affect the operation of the devices. Chrysler apparently hired some engineers right out of school to work on this project, they made so many amateurish mistakes I have lost count. Picking the wrong potting compound was one of the least serious of these. I'm sure your ASDM and the flow meter (no back is correct) are just fine. You will probably find this same goop running around inside your support plate, make sure it has not gotten down into the throttle butterfly area, it can plug up some passages there. In fact this might be part of your driveablity problems, it wouldn't hurt to take it all apart and clean it out. The stuff is extremely difficult to get off, it is incredibly sticky, as you have no doubt noted. If you do disassemble the throttle body, be very careful not to damage the gaskets between the intake manifold, the throttle body and the bottom of the support assembly. They are tough to find, and very expensive.

Your fuel pressure switch is doing what most of them do when they get old. My recommendation is to replace it with a NAPA OP6415 (direct replacement, lower threshold, now running in my daily driver with no problems) or a NAPA OP6604 (Closer match pressure threshold, but you need a 1/8 pipe street elbow and a 1/8 pipe male to 1/4 pipe adapter female to install it).

Yes, the hot water bath with a candy thermometer is exactly the way to test the coolant sensor. Most likely, if it is OK at room temp, it is going to be OK everywhere, it is just a simple wire resistor, made of a wire with the right resistance and temperature coefficient. It is either making contact to the terminals or it isn't, it is not likely to go out of calibration. The ones that fail are open or intermittent.

Dick Benjamin (bondotmec@dte.net)

temp's, but how do I test it at 180 degrees? Should I immerse it in some hot water along with a candy thermometer? Dick also pointed out that the Fuel Pressure Switch should be very low resistance, around zero OHMs. Mine indicated infinite resistance until I tapped it with a wrench and then it dropped to around 7-15 OHMs. Doesn't sound too reliable, does it? I also located the Auto Shutdown Module in my box of goodies. It had this sticky goop that appeared to have leaked out of it. Is this some type of filler adhesive Chrysler used? It looks like it was just poured in on top of the circuits and has now run out. The Fuel Flowmeter Module on the Hydraulic Support Assembly has no back to it (!) and it appears to have the same goop in it, also running out and making a sticky mess of everything.

Subject: 81 Imperials

Sent: Thu, 11 Jun 1998 20:53:22 -0400

From: tbenvie@bu.edu (Thomas M. Benvie)

Still have the two cars, still hoping to sell. A few people were interested in some digital pictures, but I lost all my mail, all my bookmarks, etc. Somehow "Surfwatch" was turned on in my computer and I didn't have a password so tried to disable it-well, I did, but at the expense of all my files. So who wanted the Pictures?

I was saving all those 81-83 Imperial posts, but lost them all. Are they saved anywhere else?

Thanks

Subject: "As the Throttle Shaft Turns" warning, EFI related, PG-45

From: "Dick Benjamin" (bondotmec@dte.net)

Sent: Tue, 9 Jun 1998 22:22:00 -0700

Carmine,

I see I never responded to part of this. You can keep the TPS energized without running the engine, what you have to do is unplug the two wire connector that goes to the control fuel pump so that it does not fill your intake manifold with liquid fuel (this is the one inside the HSA "air cleaner"), then jumper from pin 2 to 3 of the ASDM plug, then, when you turn on the key, that will supply 12 volts to the power module, which in turn will supply 23 volts to the TPS. In re-reading the whole batch of messages on the subject of poor throttle response, I am struck by the fact that a large number of these cars show this symptom at some point in their life (including one of mine), and I think Carl Baty's suggestion about possible crud buildup in the control fuel pump might bear further investigation. I will look into this and see if I can learn anything.

Dick Benjamin (bondotmec@dte.net)

This circuit stays energized on newer cars with the key on, do you think there could be a way to keep it powered?
Carmine F.

Subject: More EFI stuff-

From: GRADLTD@aol.com

Sent: Thu, 25 Jun 1998 09:14:50 EDT

Carmine F

Your input is great. It will be published in a series of EFI releases and summaries in August or September so that EFI people (current owners and those to come) will have access to it. Anything up can add, now or later, would be greatly appreciated.

Do you think that your local expert would write up what he knows in addition to what you have given us so that we can publish it for the everlasting future of EFI owners? His input could make a lot of difference to a lot of people who are running these cars. I will make sure it gets out on the net in accessible form and stays there. Maybe if you show him this e-mail it would help. Maybe also print the e-mail, Bill Heard-Further adventures EFI on today's IML listing, he would understand what we are doing.

Would you be willing to pass itemized problem details, and our best current information regarding specific cars to this guy? We would love to have him as a resource for members, but a

few of us with experience, would summarize the information before it gets passed on, to keep his time expenditure limited.

Carl Baty, San Diego

Subject: Further adventures in EFI-land. Imperial is fixed!

From: <WHeard8100@aol.com

Sent: Thu, 25 Jun 1998 07:24:19 EDT

I have an '81 which has been stored for about 10 years and looks beautiful, but in trying to get it on the road, we are having difficulty with the electronic fuel injection. The service technician has gotten fuel up to the injector assembly, but cannot get fuel through it. The Chrysler dealer in Danville, VA does not have the test equipment which I remember was only issued to certain Imperial dealers who had gotten the training. I am trying to locate a knowledgeable individual who could talk the mechanic or me through procedures or who could help us locate the loan or use in place of the testing equipment special to this car...or any other approach to getting it running. The mechanic has gotten the engine running by pouring gas down the intake.

Can you help?

Respectfully,

Bill Heard

Subject: 81-83 EFI Temp Sensors

From: <GRADLTD@aol.com

Sent: Fri, 26 Jun 1998 23:34:37 EDT

All interested EFI Buffs

I replaced my NAPA temperature sensor with a new Chrysler temperature sensor two days ago. The difference in performance is very significant. I did not take measurements, either hot or cold, I just put in the new one and every problem related to cold starts are simply gone. I talked to Bob Baker about this. He has had knowledge of Chrysler original temp sensors that were bad straight out of the box. I read a message a couple of weeks ago from a fellow IML member who was getting identical readings at high and low temperatures for both original and NAPA parts. I have seen others who showed some variation. I believe NAPA specs give a 1/2 ohm variation for the original specs from the original. My performance results mean more to me than anything else. It could be that both NAPA and Chrysler parts are actually varying part to part. I will still keep the NAPA sensor as backup but if problems are experienced trying an original seems like a good idea. Carl Baty, San Diego

Subject: 81-83 EFI Temp Sensors

From: <GRADLTD@aol.com

Sent: Sun, 28 Jun 1998 10:32:53 EDT

Rolland and other interested IML members,

I now have all the discussions and measurement information sent to the IML since sometime in 1996 which relate to these sensors (thanks to Bob Schmitt). I ask that anyone with information relating to this sensor or any other EFI related information, send it to my office system at Grad@cts.com (Dr. Baty Only) so that it can be included in the summaries and discussions to come. I will do an edit search on the text files on this subject and present the results. I know that we are getting a range of both measurement and functioning on both NAPA and Original Equipment sensors. I do not know, and to my knowledge, the data is not available, on how these sensors vary with use and age.

Chrysler no longer has stock on the original sensors anywhere. Bob Baker, here in San Diego, has a couple in reserve for his use, (Bob now has six 81-83 Imperials parted out in storage with parts for sale, but the new sensors he has are not for sale) so used sensors are the only option I know of. Can anyone out there find me a backup original? Can anyone suggest a source for those of us who have systems which seem to prefer the original?

Some NAPA/Originals are identical in measurement and some show no difference in performance. My most recent experience indicates that if you are having any cold running problems, replacing this sensor is the fastest route to a solution. I suspect that much of the variation in performance is do to the EFI system characteristics on the particular car, the CCC settings which I have learned adjust to a new situation over a 3+ day period of running (although my 81 responded to the Original Equipment sensor on the first start), and the age and mileage and characteristics of the particular sensor itself.

The NAPA sensor costs about $24.00. If that doesn't do it, try an original or a second NAPA sensor from a different production run. They do not seem to break down easily. Bob estimates that they should hold up for about 10 years of running without problems. The replacement calls for a 15/16th deep socket with a very thin wall because of the lack of room around the sensor base. I had to put my socket on a grinder to make it narrow enough to fit in that space. Be careful of the gray plastic EGR valve which sits next to it. I have broken 2 in replacing the temp sensors on different cars.

Now, for those of you who found that boring, stand by for a recap of all that has been written about these sensors. Warning, this information will cause drowsiness. Do not read while driving or after a heavy meal.

Carl Baty, San Diego

Subject: It Begins 81-83 EFI Temp Sensors

Bob,

Sent in response to Rolland's IML message today. See what a monster you have helped create

Sent: 98-06-28 10:32:53 EDT

From: GRADLTD

Rolland and other interested IML members,

I now have all the discussions and measurement information sent to the IML since sometime in 1996 which relate to these sensors (thanks to Bob Schmitt). I ask that anyone with information relating to this sensor or any other EFI related information, send it to my office system at Grad@cts.com (Dr. Baty Only) so that it can be included in the summaries and discussions to come. Old e-mail messages are needed as well as any current thoughts. I will sort out duplicates. I will do an edit search on the text files on the EFI temperature sensor subject and present the results. I know that we are getting a range of both measurement and functioning on both NAPA and Original Equipment sensors. I do not know, and to my knowledge, the data is not available, on how these sensors vary with use and age.

Chrysler no longer has stock on the original sensors anywhere. Bob Baker, here in San Diego, has a couple in reserve for his use, (Bob now has six 81-83 Imperials parted out in storage with parts for sale, but the new sensors he has are not for sale) so used sensors are the only option I know of. Can anyone out there find me a backup original? Can anyone suggest a source for those of us who have systems which seem to prefer the original?

Some NAPA/Originals are identical in measurement and some show no difference in performance. My most recent experience indicates that if you are having any cold running problems, replacing this sensor is the fastest route to a solution. I suspect that much of the variation in performance is do to the EFI system characteristics on the particular car, the CCC settings which I have learned adjust to a new situation over a 3+ day period of running (although my 81 responded to the Original Equipment sensor on the first start), and the age and mileage and characteristics of the particular sensor itself.

The NAPA sensor costs about $24.00. If that doesn't do it, try an original or a second NAPA sensor from a different production run. They do not seem to break down easily. Bob estimates that they should hold up for about 10 years of running without problems. The replacement calls for a 15/16th deep socket with a very thin wall because of the lack of room around the sensor base. I had to put my socket on a grinder to make it narrow enough to fit in that space. Be careful with the gray plastic EGR valve which sits next to it. I have broken 2 in replacing the temp sensors on different cars.

Now, for those of you who found that boring, stand by for a recap of all that has been written about these sensors. Warning, this information will cause drowsiness. Do not read while driving or after a heavy meal.

Carl Baty, San Diego

Subject: 81-83 EFI Temp Sensors

From: <RWestra@aol.com

Sent: Sat, 27 Jun 1998 20:49:07 EDT

Carl;

Thanks for the input on EFI temperature sensors. My experience is somewhat different but your cold starting experience is good information.

I replaced a Chrysler sensor which read approximately 900 ohms at room temperature and 2300 ohms at engine operating temperature with a NAPA sensor that read about 950 ohms at room temp. and 1800 ohms at operating temperature with no discernible difference is starting or running. This doesn't seem quite right to me but to the best of my observation both perform the same.

Thanks again.

Rolland

Subject: Further adventures in EFI-land. Imperial is fixed!

From: t3176@flash.net

Sent: Wed, 24 Jun 1998 19:06:00 -0400

If anyone remembers (or cares), I have been troubleshooting a problem with my '83 EFI off & on for about 2 months. Today I solved it. Everyone with mid/late-sixties Imperials, please knock on your dashboards for me...The '83 is made of plas-ti-wood, and my '61 is chrome, neither has any good luck properties.

Problem: Poor acceleration at low speeds; chuggs, pops, etc. Always starts, runs great at high speeds. Related Problem; A/C-HVAC system goes to defrost mode upon hard acceleration.

This problem sounds like a classic vacuum leak, and as such I checked EVERYWHERE looking for the cracked hose, loose fitting, etc. Then I spent endless hours checking sensors, etc.

Finally, through some contacts at work (CHRYSLER), I was introduced to a guy who is supposed to be the EFI guru. He worked at Birmingham Chrysler/Plymouth in the early 80s and he was the EFI mechanic at the dealer. Now he works in the Chrysler dyno lab.

I dropped the car off for him to look at. He called me back with the following problems.

1. Battery was charging at 18 volts constantly. One of the two voltage regulator pins vibrated loose inside the connector. This made for some really screwy sensor readings. (he has an EFI tester) Problem solved with a new voltage regulator ($9.99)

2. He noticed that the Combustion Control Computer (CCC) was not perfectly sealed to the air cleaner.

He stopped his diagnosis here. He said he could fix the problems, but would have to charge for labor. Since they were so minor, he'd just give me the car back and let me fix them, then he'd continue the diagnosis. Now I understood how the voltage regulator could cause weird problems, but in all honesty, this guy seemed just a bit too anal-retentive. Don't get me wrong, he's a really NICE guy, but he talked with me for about two hours non-stop on the phone explaining the most MINOR details of this EFI system. Let's just say he's VERY thorough.

One of the seemingly minor points that he made a very big deal about was having a "smooched" seal between the air-cleaner and the HSA. Being an old school carburetor guy, I didn't see this as a cause for such a dramatic problem, but I listened. He never removed my air-cleaner, but he did mention the seal anyhow. I was sort of thinking, "typical dealership guy, just replaces everything until it starts working again".

I was wrong.

Normally, I think of a vacuum leak as something either just above or just under the throttle blades. This is true on a carb, but not with this EFI system. ANY air that enters AFTER the "air-meter" on the air-cleaner housing is a vacuum leak. Well guess what?

My seal was "smooched". I cut a new seal out of high density 1/2" foam and reinstalled it, not expecting much. I also re-did the seal between the CCC and the air-cleaner. Not only did this solve my acceleration problem 100%, it also cured the HVAC problem.

I've got a whole bunch more EFI stuff to tell, but I've got to get going...I'll write back soon.

Carmine F.

Subject: Further adventures in EFI-land. Imperial is fixed!

From: <RWestra@aol.com

Sent: Wed, 24 Jun 1998 22:36:26 EDT

Thanks for sharing your experiences Carmine. What you have learned is very helpful to all of us 81 - 83 EFI owners. I will be checking my air cleaner seals in the morning to see if the acceleration problem can be improved and the hard starting can be helped.

Any information you can provide is another piece in this huge puzzle we call "keeping those EFI cars running"

Thanks again and tell us the rest of your story when you have time.

Rolland Westra

Subject: Further adventures in EFI-land. Imperial is fixed!

From: "Dick Benjamin" (bondotmec@dte.net)

Sent: Wed, 24 Jun 1998 20:50:55 -0700

Carmine, this it great news, and it confirms my experience with "minor" air leaks around the air cleaner lid. I posted my thoughts on this about 2 weeks ago, after finding it was the main problem with another IML member's car (Pat Lee). I'll add it to the data bank on EFI funnies. Thanks for the info.

Dick Benjamin (bondotmec@dte.net)

Subject: Further adventures in EFI-land. Imperial is fixed!

From: t3176@flash.net

Sent: Wednesday, June 24, 1998 4:06 PM

If anyone remembers (or cares), I have been troubleshooting a problem with my '83 EFI off & on for about 2 months. Today I solved it. Everyone with mid/late-sixties Imperials, please knock on your dashboards for me...The '83 is made of plas-ti-wood, and my '61 is chrome, neither has any good luck properties.

Problem: Poor acceleration at low speeds; chuggs, pops, etc. Always starts, runs great at high speeds. Related Problem; A/C-HVAC system goes to defrost mode upon hard acceleration.

This problem sounds like a classic vacuum leak, and as such I checked EVERYWHERE looking for the cracked hose, loose fitting, etc. Then I spent endless hours checking sensors, etc.

Finally, through some contacts at work (CHRYSLER), I was introduced to a guy who is supposed to be the EFI guru. He worked at Birmingham Chrysler/Plymouth in the early 80s and he was the EFI mechanic at the dealer. Now he works in the Chrysler dyno lab.

I dropped the car off for him to look at. He called me back with the following problems.

1. Battery was charging at 18 volts constantly. One of the two voltage regulator pins vibrated loose inside the connector. This made for some really screwy sensor readings. (he has an EFI tester) Problem solved with a new voltage regulator ($9.99)

2. He noticed that the Combustion Control Computer (CCC) was not perfectly sealed to the air cleaner.

He stopped his diagnosis here. He said he could fix the problems, but would have to charge for labor. Since they were so minor, he'd just give me the car back and let me fix them, then he'd continue the diagnosis. Now I understood how the voltage regulator could cause weird problems, but in all honesty, this guy seemed just a bit too anal-retentive. Don't get me wrong, he's a really NICE guy, but he talked with me for about two hours non-stop on the phone explaining the most MINOR details of this EFI system. Let's just say he's VERY thorough.

One of the seemingly minor points that he made a very big deal about was having a "smooched" seal between the air-cleaner and the HSA. Being an old school carburetor guy, I didn't see this as a cause for such a dramatic problem, but I listened. He never removed my air-

cleaner, but he did mention the seal anyhow. I was sort of thinking, "typical dealership guy, just replaces everything until it starts working again".

I was wrong.

Normally, I think of a vacuum leak as something either just above or just under the throttle blades. This is true on a carb, but not with this EFI system. ANY air that enters AFTER the "air-meter" on the air-cleaner housing is a vacuum leak. Well guess what?

My seal was "smooched". I cut a new seal out of high density 1/2" foam and reinstalled it, not expecting much. I also re-did the seal between the CCC and the air-cleaner. Not only did this solve my acceleration problem 100%, it also cured the HVAC problem.

I've got a whole bunch more EFI stuff to tell, but I've got to get going...I'll write back soon.
Carmine F.

Subject: More EFI stuff

From: t3176@flash.net

Sent: Thu, 25 Jun 1998 00:19:44 -0400

OK, here's some more info (in no particular order) for crazy people who drive EFI Imperials...

1. It is not unusual for the car to surge SLIGHTLY at idle. This is because the CCC is always "searching" for the perfect mixture of air/fuel/spark. The "guru" even showed me the changing readouts on different sensors (temp, O2, etc.) during idle. The reason that this effect is more noticeable on an 81-83 Imp (as compared to "modern" cars) is simply the fact that the CCC is late 70s computer technology. In other words, its little brain cannot process the info fast enough and therefore causes a delay between sensor data and mechanical action (re-action of engine).

2. As I stated earlier, this system has NO tolerance for air leaks. For example, after fixing my seals, I took the car for a drive around the block. The problem seemed to be only 90% cured. As I stood around watching the engine surge just a bit more than it should at idle, I noticed the oil breather to air cleaner hose was loose. I pushed it on better, and the idle improved measurably. Another ride around the block confirmed this problem and the car was running 100%. On a carburetor car, this same problem would have a .0005% effect on performance (if at all)!

3. The cars can be prone to "internal" vacuum leaks. This is because Imperial 318s used 360 intake gaskets. (Paper instead of steel). The paper seal can break-down between the lifter valley and intake port, thus a vacuum leak you'll NEVER find. The guru had no idea why the factory did this, but he always uses the proper 318 gasket on any rebuilds. Cars that do this will burn oil on the freeway, but none during city driving (Unless of course there are other problems like stem seals, rings, etc. then, it will always burn oil).

4. Vacuum leaks are also common near the distributor, at the rear of the intake (this applies to any smallblock Mopar). Typically, you see the gasket squishing out from its proper place.

5. It's easy for the CCC to go into what he termed "lean-lock". (runs too lean) Apparently this happens quite often, and can be triggered by almost anything. The only fix is to reset the CCC.

6. To reset the CCC, you don't have to go through all that "rev @ 2500 RPM for 90 seconds" B.S. He says just unplug the white connector and re-connect. The computer will "learn" on its own. I believe him, because I've done it a few times now with no ill effect. The guru is also not the type to cut-corners, unless it's really, really OK.

7. The "lean-lock" problem was caused by the computer's programming. It was told, when in doubt, go lean. Blame the EPA. There was no fix for this problem, and this was the reason for carb-conversion. The EPA wouldn't grant a wavier to allow the car to have slightly higher HC emissions (only under certain conditions). By the way, the EPA grants waivers all the time, at least two that I know of are the Pontiac Fiero or any Mazda rotory.

8. A slack timing chain will cause lots of grief.

9. An idle that goes down when you step on the brake has a bad throttle stop ground. I knew the brake switch was tied into the idle circuit, but I didn't know it would reduce idle ONLY if the throttle stop lost its ground (corrosion, dirt, etc.)

10. If you run good gas (premium), you can set the timing to 14 degrees instead of 12 degrees. He says the timing was backed off purely for emissions, it will run better at 14 degrees.

11. 1-2 seconds worth of spark knock at the 1-2 and 2-3 shift is normal (under hard acceleration).

12. Not having catalytic converters won't cause any driveabilty problems, BUT, not having the air pump injecting air at the O2 sensor (upstream air) could cause a problem with cold weather warm-up. The fresh air helps heat the O2 sensor (it only begins to work above 600 degrees). So if you don't heat it up with fresh oxygen, the computer will be looking at a cold O2 sensor when it goes to closed loop. Once the 70 second timer has "timed-out", the air from the air pump is directed to the converters to help them warm up. However, even he admitted that the problem would be very slight, possibly unnoticeable.

Any part (voltage regulator, alternator, a/c compressor, p/s pump, etc.) marked with a silver/black Pentastar was tested after being built and performed better than average, thus it was given the silver/black star and destined for Imperial use only.

This is all I can remember for now, I'll be staying in touch with the guru. If I didn't cover your questions, just ask me, I'll try to give an answer.

By the way, the guru loves Chrysler products and is happy to help keep them on the road. He has the obligatory "Proud to be a part of Chrysler Engineering" front license plate on his mini-van. Like me, guru also gets sick whenever he remembers that we're being bought-out. It's like a bad dream for many of us. E

Chrysler defense employees (the guys who brought you the M-1 tank) are really ticked-off.

Although he does remind me a little of the "Doc" in the "Back To The Future" movies, he is exactly the type of employee I was talking about when I wrote how disappointed I was that e

GM guy Bob Eaton had sold-out the company to Daimler-Benz. There really are a lot of people at Chrysler like this, and I can honestly say it's not nearly as common to run into GM or Ford Engineering employees who are this passionate about their jobs. There are a lot of "mad scientist" types at Chrysler who couldn't care less about Detroit football/baseball/hockey teams, but could probably go on for days telling you why the rod bearings on a 3.3l V6 are better than the bearings on a GM 3.4l V6. Not exactly fun at parties, but very proud of their jobs.

Sorry for the soapbox, but it's somewhat relevant.

Carmine F.

Subject: Rough Acceleration

From: "Dick Benjamin" (bondotmec@dte.net)

Sent: Sun, 12 Jul 1998 08:25:50 -0700

Check your plug wire routing, make sure the wire to #5 is a far as possible from the wire to #7, and where they must cross, do so at as close to a right angle as you can arrange.

See the following recent conversation with Ken Yorke:

From Ken; Sometimes you find the solution in the funniest places. Same said Dart had been developing an intermittent/cyclical vibration, driving me nuts, getting worse and worse, changed harmonic balancer, fan, put in new u-joints, tried THREE different drivelines, changed wheels etc. One thing though, vibration seemed to be coming from the engine. But I kept telling myself......how can an engine go "out of balance"???

Decided on a hopeless desperation long shot. Only thing I could figure was that some cylinders were cross-firing, setting up a vibe.

Changed plugs and plug wires.

Vibration gone.

?!?!?!?!?!??!!

Ken Yorke.

Reply:

Yeah, I have seen the plug wire thing on a couple of cars now, both with the 18436572 firing order. In fact, there is a service letter on it, cautioning the mechanic to never route the #5 plug wire parallel to the #7 plug wire, always cross it, even if it means a less than neat appearance. It seems the pulse for #5 will inductively couple to and trigger #7 also, which is also charged up and ready to fire 90 degrees after #5 fires, so it will kick the engine backwards (#7 will be on its compression stroke) for a microsecond when this happens, usually on part throttle around 2000 RPM, as I recall. Feels like an intermittent miss or rough spot on acceleration.

Dick Benjamin (bondotmec@dte.net)

From: Cary Pittman - quelller_drive@hotmail.com

Now I seem to be having a problem with the 440 itself. I think I may need a new distributor unit. I installed a new one approximately 3-4 years ago. Does anyone know if it is normal for these things to malfunction this quickly? The car runs like it is missing under load (driving down the interstate) and idles out of rhythm so to speak. This only happens intermittedly. It did this before--when I had the old distributor unit, when I put in the new one--the problem disappeared. I am perplexed since the new unit is not that old (and the car sat for 2.5 years of that 3-4). CP

Subject: 81 IMPERIAL

Sent: Mon, 20 Jul 1998 13:24:01 -0700 (PDT)

From: Mike McShea - m_crash_mcshea@yahoo.com

I need help locating someone in the Boston area to perform an engine swap? How do I post such a request?

Mike in Boston

Subject: 81 IMPERIAL

From: <Mopargary@aol.com

Sent: Mon, 20 Jul 1998 22:59:15 EDT

Try to find a good reliable shop [AAA] recomended. Why not rebuild the original engine, using the block & heads. The Imperial will be worth more then. PS: Make sure they know how to work on these fine cars & they are Mopar friendly.

Gary mopargary@aol.com 82 Frank Sinatra Imperial 79 LRE 71 Barracuda Convertible 98 Jeep Cherokee

Subject: Losing the battle with my '83 EFI

From: Anthurium@webtv.net (Kev.)

Sent: Mon, 20 Jul 1998 21:42:45 -0600 (MDT)

Well I took my '83 out for a Sunday drive in the country, and of course in the middle of no-where had problems with it...an electrical short & small fire under the dash. So far a power surge from somewhere blew up the battery, digital display, original working cassette stereo, all the interior lights, and the intank fuel pump. I won't know if the EFI is damaged until the mechanic gets an externally mounted fuel pump working. The way things are going though its probably toast too, and not enough money to keep playing with the car. Why didn't the fusible links work? None of them were blown. I feel sick. Kevin, SLC Utah.

Subject: Losing the battle with my '83 EFI

From: "Jeff Guarino" - jguarino@pangea.ca

Sent: Mon, 21 Jul 2098 21:10:53 -0500

Hi Kevin. I don't understand it either. The cause of a high drain or short on your battery is usually your starter motor gone bad. A direct short could cause it to explode but shouldn't damage any other systems. I believe the fusible links don't blow that fast. A high voltage for a short time could blow everything and leave the fusible links intact. If I understand you correctly, when you installed a new battery everything was dead?

Jeff Guarino

Subject: Losing the battle with my '83 EFI

From: Kev. - Anthurium@webtv.net

Sent: Tuesday, July 21, 1998 5:32 AM

Well I took my '83 out for a Sunday drive in the country, and of course in the middle of no-where had problems with it...an electrical short & small fire under the dash. So far a power surge from somewhere blew up the battery, digital display, original working cassette stereo, all the interior lights, and the intank fuel pump. I wont know if the EFI is damaged until the mechanic gets an externally mounted fuel pump working. The way things are going though its probably toast too, and not enough money to keep playing with the car. Why didn't the fusible links work? None of them were blown. I feel sick. Kevin, SLC Utah.

Subject: 81 Imperial

From: Mike McShea - m_crash_mcshea@yahoo.com

Let me elaborate on my posting about the engine swap. I have a white with white/blue interior that had about 90K when the original EFI 318 went to greener pastures. I located a replacement 360 and a seemingly qualified yet unreliable individual to do the swap (this was all on a shoe-string budget mind you) but naturally complications set in and 1 year later I have an engineless car, two loose engines, a mess of parts and a headache. I am trying to locate someone who can do the job in my garage with the tools I'll provide. The major engine replacement shops

wouldn't touch the job because of the troubles with the EFI (i.e. they don't want me blaming them for its failures), the Chrysler dealers didn't have anyone left who knows the cars and my last attempt at blind posting of a "need help" ad was a failure.

Mike Former cars..69 Conv't Barracuda, 76 (how I love these cars) Cordoba, 71 Dart.

Subject: 81 Imperial

From: <RWestra@aol.com

Sent: Wed, 22 Jul 1998 09:13:45 EDT

Mike:

Where are you located and what tools do you have? Are you interested in retaining the EFI or are you planning a carbureted 360?

Rolland

Subject: 81 IMPERIAL References:

From: t3176@flash.net

Sent: Wed, 22 Jul 1998 10:39:35 -0400

Mike McShea wrote:

I will get this right someday. When I ask for help I must remember to state who and where I am. My name is Mike and I live in the Greater Boston area. I have access to air-tools and an engine hoist as well as having the usual array of tools, etc.

Mike, I don't live anywhere near the Boston area, so I can't give you any help. Maybe you could get that know it all guy from Cheers to help. HAHA.

However, having recently completed a 318 to 360 swap in a B-body, here are a couple points to be aware of:

1. Keeping the EFI on a 360 is an interesting idea, one that I have pondered myself. I have always thought that Chrysler should have done it this way to begin with. My optimistic side says that the additional air/fuel required by the 360 should be within the "tolerance level" of the original EFI. My pessimistic (i.e. real world) side says you could be inviting problems that would require a genius level mechanic to trouble-shoot.

2. You may need to do a little "fabrication" with the left motor mount (i.e. using parts combinations from both engines). But, this is no major hurdle.

3. If you plan on retaining the EFI, you should find a 360 exhaust manifold that includes a provision for an O2 sensor since the exhaust ports on a 360 are larger than a 318 and I assume you are using a 360 for additional performance gain.

4. Remember that a 318 is internally balanced, whereas a 360 is externally balanced. This means that you'll either need to change torque converters (one with weights on the outside) or I believe there is a special B&M flex plate that will allow you to retain your original converter. I would choose the latter route, since this would avoid any hassles with a lock-up/non-lock-up torque converter.

5. Remember that a 360 would generate more heat, so at the least your water pump, radiator, fan, etc., should be in tip-top shape.

Carmine F.

Subject: -82 FS Imperial running problem

From: <DBKEMPER@aol.com

Sent: Thu, 30 Jul 1998 16:11:07 EDT

Electronic ignition will take care of the problem....been runnin mine with carb mechanical fuel pump and electronic ignition for 4 years...

Subject: Got Home -81

From: <DBKEMPER@aol.com

Sent: Sun, 2 Aug 1998 07:29:52 EDT

Jack that is great news! I sent Tom an e-mail on the FS but haven't heard from him yet. Now that you have her home the real fun begins. I will be back later today to see how you are doing. Got a pick-up load of parts last night to go with my garage full of parts car....this is getting nuts! If you formulate a list of what you need for your car I may be able to see what I have in inventory.....the biggest help is the Chrysler Parts book...shows you how every thing comes apart and goes together. If I don't have something I may know who does and NOT at Brads NOS Prices....he has lots of stuff but thinks they suddenly became gold! Tell me all about your car!!!!
Don Kemper

Subject: 81 Imperial

Sent: Tue, 4 Aug 1998 09:40:46 -0700 (PDT)

From: "Jack R. Lindholm" - jrl-black@rocketmail.com

Hi List, Well, the journey begins.....I got home with my 81-carb converted mahogany originally silver, 140K+ Imperial Bargain on Saturday Night.. The 200+ miles to NYC in this Imperial mystery were actually rather uneventful, and a good introduction to the task ahead..... some observations..... 'damn this thing is big' rides smooth... even with bad shocks... (gas shocks ordered soon) Major hesitation... doesn't like to run steady state... once over the stumbling... accelerates smoothly,,, really quiet with the windows up... A/C not working... speedo + odo work... rest of digital panel (including gas gauge) NADA front end sheetmetal 'dances' when we hit bumps..... front end sheet metal was replaced @ some point in history, and not attach with all of the original brackets and bolts... also misalignment inside and outside...bearings and all that rolls seem OK, no growly noises or vibrations... I'm wondering about the factory carb conversion... (there is a sticker on the door jamb) It apparently leaves a lot of the FI stuff in place, including the original air cleaner which has much of the wiring and boxes attached.... I unattached the wiring and the air cleaner,, and it wouldn't start, so I guess it's needed for the moment.... Is there a way to remove this stuff and maintain the normal function of everything..... anybody done this? Also, any carb experience? this has a 4 barrel, which I'm sure is in need of rebuilding or replacement..... I'd love to hear you thoughts on all of this..... When I drive this car, I can feel what it can become..... Looking forward to getting there, and the fun on the way.. Thanks!

Manhattan Jack 81 Imperial (tired but hopeful)

Subject: 81 Imperial

From: "Dick Benjamin" (bondotmec@dte.net)

Sent: Tue, 4 Aug 1998 17:36:05 -0700

We'd have to get pretty specific as to what was left on and what was taken off when the car was converted from EFI to Carb. It is not a factory authorized conversion (they were all 2 bbls).

The fact that it will not run with the air cleaner cover loose sounds like the EFI air flow sensor is still in the loop.

I have a little trouble visualizing what you got there, maybe the EFI version of the ESA (electronic spark advance) electronic brain, somehow made to coexist with the 4 barrel carb from whatever?

Sounds to me like you might be best off to find an early 80's Mopar with the 318 engine and swap out the control boxes and wiring harness.

Can you find out more about the car's history, especially who converted it (and what they did with the rest of the EFI system). Maybe you could put it back right, someday, if you could find all the pieces.

This is probably why some of your dash functions don't work also, by the way. The factory conversion provided signal sources for all the inputs, if yours was taken of some other line of cars, there would be no way to hook it all up again.

Dick Benjamin (bondotmec@dte.net)

Subject: 81 Imperial

From: Jack R. Lindholm - jrl-black@rocketmail.com

Sent: Tuesday, August 04, 1998 9:40 AM

Hi List,

Well, the journey begins.....I got home with my 81-carb converted mahogany originally silver, 140K+ Imperial Bargain on Saturday Night.. The 200+ miles to NYC in this Imperial mystery were actually rather uneventful, and a good introduction to the task ahead..... some observations..... 'damn this thing is big' rides smooth... even with bad shocks... (gas shocks ordered soon) Major hesitation... doesn't like to run steady state... once over the stumbling... accelerates smoothly,,, really quiet with the windows up... A/C not working... speedo + odo work... rest of digital panel (including gas gauge) NADA front end sheetmetal 'dances' when we hit bumps..... front end sheet metal was replaced @ some point in history, and not attach with all of the original brackets and bolts... also misalignment inside and outside... bearings and all that rolls seem OK, no growly noises or vibrations... I'm wondering about the factory carb conversion... (there is a sticker on the door jamb) It apparently leaves a lot of the FI stuff in place, including the original air cleaner which has much of the wiring and boxes attached.... I unattached the wiring and the air cleaner,, and it wouldn't start, so I guess it's needed for the moment.... Is there a way to remove this stuff and maintain the normal function of everything..... anybody done this? Also, any carb experience? this has a 4 barrel, which I'm sure is in need of rebuilding or replacement..... I'd love to hear you thoughts on all of this..... When I drive this car, I can feel what it can become..... Looking forward to getting there, and the fun on the way..

Thanks! Manhattan Jack
81 Imperial (tired but hopeful)

Subject: 81 Imperial

Sent: Tue, 4 Aug 1998 18:15:42 -0700 (PDT)

From: "Jack R. Lindholm" - jrl-black@rocketmail.com

Hi Dick,

Thanks for your response... There's a sticker on the door jam that defines this as factory blessed. The car is @ my local mechanics getting inspected, so when I get it back I'll take some detailed notes and digital pics I can study while I'm trying to describe this.... will pass on info when I figure it. Also, I don't think the info trail is still warm from the original owner. My desire is to have a fine running car, more than an original one... (sorry, resto guys..) More soon..

Manhattan Jack 81 Imperial

Subject: 81 Imperial

From: <DBKEMPER@aol.com

Sent: Tue, 4 Aug 1998 22:39:00 EDT

Jack,

Hope the inspection goes well. I was thinking about the air cleaner and one from a Diplomat (etc) 318 4 bbl car should do the trick....a non-lean burner would be the best choice. I can see you have things under way. I hope to start the Manila car this week.....tomorrow we work on the girlfriends 83 Imp.....tune up...drop the tank and fresh gas and hope that starts too.....neither car has been on the road in two years! Keep me posted on what is happening! Don

Subject: 81 Imperial

From: "Dick Benjamin" (bondotmec@dte.net)

Sent: Tue, 4 Aug 1998 21:57:26 -0700

OK, well if it is a 4 bbl, something is strange here. In any case, you gather the info, including part numbers on the electronic box on the air cleaner, and tell me how many wires come out of the base of the distributor (2 or 4), and if you can see the casting number on the intake manifold (somewhere in front of the carb), (and no, it isn't "18436572"), I'll pore through my parts book (thanks to Elijah Scott!) and my "engine performance manual" and see what I can figure out to get this puppy running as good as it can run.

Dick Benjamin (bondotmec@dte.net)

Subject: 81 Imperial

From: Jack R. Lindholm - jrl-black@rocketmail.com

Sent: Tuesday, August 04, 1998 6:15 PM

Hi Dick,

Thanks for your response... There's a sticker on the door jam that defines this as factory blessed. The car is @ my local mechanics getting inspected, so when I get it back I'll take some detailed notes and digital pics I can study while I'm trying to describe this.... will pass on info when I figure it. Also, I don't think the info trail is still warm from the original owner. My desire is to have a fine running car, more than an original one... (sorry, resto guys..) More soon.. Manhattan Jack 81

Subject: Pin-out for a 1981 Imperial dash

From: <Imp75coupe@aol.com

Sent: Wed, 5 Aug 1998 19:55:40 EDT

Hey list. This guy needs help on his 81 Imperial Dash. Can anyone help?

****

I'm looking for a diagram that shows the wiring going to the blue connector on the back of the digital dash. It is a 1981 Chrysler Imperial. I need to know which are the power wires to fire it up. There should be a battery lead, switched ignition lead, and a ground. I believe I can repair it, but I have looked inside the unit, and have decided I don't want to guess where the voltage comes in, fearing that I will destroy what is still working inside it.

Bill Regan vfo@earthlink.net

Subject: Pignut for a 1981 Imperial dash

From: "Dick Benjamin" (bondotmec@dte.net)

Sent: Wed, 5 Aug 1998 19:21:56 -0700

OK, I'll send him a private e-mail with the info tomorrow (when I can get my manuals from the shop). If someone else has the info right handy, you do it, just let me know and save me the trip.

Dick Benjamin (bondotmec@dte.net)

From: Imp75coupe@aol.com

Hey list. This guy needs help on his 81 Imperial Dash. Can anyone help?

****

what I am looking for is a diagram that shows the wiring going to the blue connector on the back of the digital dash. It is a 1981 Chrysler Imperial. I need to know which are the power wires to fire it up. There should be a battery lead, switched ignition lead, and a ground. I believe I can repair it, but I have looked inside the unit, and have decided I don't want to guess where the voltage comes in, fearing that I will destroy what is still working inside it.
Bill Regan
vfo@earthlink.net

Subject: temp sensor

Sent: Tue, 18 Aug 1998 08:49:00 -0700 (PDT)

From: "Jack R. Lindholm" - jrl-black@rocketmail.com

Hi List! This should be an easy one, I'm putting a Viper V10 and 6 speed in my Studebaker Hawk, and..... On sorry, wrong project..

I'm putting some manual gauges in my 81 Imperial, to get to know it better. Is there an unused port(or what ever you'd call it) for the temp sensor? I've gotten the necessary T fittings for oil pressure, but wondering if I can find a place I can dedicate to the temp.

Thanks!

Manhattan Jack 81 Imperial

Subject: temp sensor

From: <DBKEMPER@aol.com

Sent: Tue, 18 Aug 1998 22:39:19 EDT

The sending unit for the temp light is up on the front of the intake manifold just about under the a/c compressor. I am going to switch to a sending unit for a gauge when I do the Cordoba dash in my white car. That should work for your gauge.....normally temp gauges need a sending unit and some wire to do their thing. The sending unit is immersed in coolant and actuates from there.

When your service manuals arrive it will make more sense.....now if someone only sent your parts book up you would have some great reference material. Basically you need a sending unit for water temp for a gauge. Other than that how is the Imp coming!!! We tried to start the Sable Brown 83 again and this time no luck. According to the vin number the 83 was built as a carb car. I didn't even realize this was the case in 83 only.....but sho'nuff there is the EFI unit from the factory on that car! Looks like I will try to limp my white car with the bad lifters over there and just swap the set up form that. I need some kind of fuel sensor between the mechanical fuel pump and the carb to make the computer keep on computing...there is a part number but I bet that ain't available any more...nor is it a cheap date, I just read one e-mail that said to the effect that any restoration other than to perfect factory condition is a tummy turner.....very narrow sighted.

This hobby is about keeping the cars and the breed alive and the fulfillment of the people who own and enjoy them. I see all schools of thought as a good thing. There are the purists who make every nut and bolt just perfect.....good for them.....but I can see the thinking of those who like something different too.....I see my white car with a Cordoba analog dash and console adapted by cutting my drivers seat down to match the passengers...all factory parts...and Chrysler could have done it with ease. Now the only choice is to go 360 or 440 under the hood....but that too has to look like it came from Mother Mopar that way. My other car is bone stock and will remain that way. Some day my Pale Stale Green Imperial could be a red 81 Pro-Street Imperial....enough soap box...this is all about fun and enjoyment... Oh, hi Jack....how is the car coming?

Subject: temp sensor

Sent: Tue, 18 Aug 1998 20:13:21 -0700 (PDT)

From: "Jack R. Lindholm" - jrl-black@rocketmail.com

Hey Don,

Should have changed the starter last weekend..... It spins It whirs It sits.....No engaging action.. well, a tow and we'll see how much they think of a starter on Canal St. So, an 83 carbed from the factory? Oh, the water temp gauge is Manual, not Electric, no wires... capillary tube. And the sensor under the AC compressor is an 1/8" electrical unit, but there is another to the starboard side of the thermostat housing that looks the part, size wise.....More as it develops.. Also, my mechanic fiddled with the timing a bit, which lessened the huge hesitation, and made the car more drivable (Holley 4 bbl) but in the last few days, if I'm not really gentle in accelerating, I get a stumble and then a backfire..... I'm also missing intermittently.. (timing chain?) Thoughts.....?

Ahh the adventure continues.....

Manhattan Jack 81 Imperial

Subject: temp sensor

From: <DBKEMPER@aol.com

Sent: Wed, 19 Aug 1998 16:40:00 EDT

Intermittent miss could be carb....timing.,...but cap rotor plugs and wires are the best place to start. That you can do in an hour where she is parked. Sounds like you are on the right track but it would be nice if you could put her somewhere and have at it! I gotta admit that you are having TOO much fun!

Subject: temp sensor

Sent: Wed, 19 Aug 1998 15:12:48 -0700 (PDT)

From: "Jack R. Lindholm" - jrl-black@rocketmail.com

Hi Don,

Well, it doesn't end there.... so it seems that there are teeth missing on the flywheel.... I rolled into the shop like thunder hung over on a hot Oklahoma afternoon..... expressed my 'displeasure' @ the price of parts which I can purchase retail for $40, and all, and told him to button it up, I'm taking it to my trans shop... he suddenly got very motivated to accommodate.... so, here's the

deal.. starter-flywheel-trans overhaul....$610 I still don't quite trust this, but if I can get this work done, well,,,,, I'll find out on Friday.... So, 440, great idea! thetas the way it should've been made! I'd love to drive that when it's done. Got to do some photography stuff, and maybe post some Ford stuff to the IML.. (heh, sorry)

catch you later...

J

Subject: temp sensor (intermittent miss)

Sent: Thu, 20 Aug 1998 12:45:13 -0700

From: Jay Mckee - jbmckee@wlv.hp.com

Hi,

I missed the first posts on this thread, but I might be able to help on the intermittent miss if it is what I'm thinking of.

Dick Benjamin once taught me about the intermittent miss on my '66 440 could actually be attributed to a premature fire of the #5 cylinder. I wonder if the 413 could have the same problem.

Seems that if your #7 ignition wire runs parallel to the #5, the wires can "couple" their energy. This can cause the #5 cylinder to be fired by the juice intended for the #7 cylinder, effectively firing #7 & #5 at the same time. Dick says that this is a common problem with the 440.

The fix is to get #7 and #5 wires away from each other. If they have to be near each other, keep them from being parallel as much as possible. If they must cross, try to make the cross as close to 90 degrees as possible.

This problem on our '66 was most noticeable between 15 - 35 MPH under light acceleration. The problem vanished when I routed the #7 wire completely around the right side of the engine, across the firewall, and over to the #7 plug. Luckily my new set of plug wires had one that was long enough to do this.

Just a thought.

Imperial Regards,

Jay Mc Kee '62 & '66 Crwon 4-doors

DBKEMPER@aol.com wrote:

Intermittent miss could be carb....timing.,...but cap rotor plugs and wires are the best place to start. That you can do in an hour where she is parked. Sounds like you are on the right track but it would be nice if you could put her somewhere and have at it! I gotta admit that you are having TOO much fun!

Subject: temp sensor (intermittent miss)

Sent: Thu, 20 Aug 1998 12:58:27 -0700 (PDT)

From: "Jack R. Lindholm" - jrl-black@rocketmail.com

Jay,

Thanks for your thoughts on my intermittent miss.... As always, it seems, Dick's vast knowledge is involved..... (thanks, Dick!) I was wondering about the plug wires... small detail... this is an 81 with a small block, but I think the same principles apply, Will let you know.....

Thank You!

Manhattan Jack 81 Imperial

Subject: 1981-83 In-tank fuel pumps.

Sent: Thu, 20 Aug 1998 21:08:25 -0400

From: mblez@juno.com

If any member is interested in a new replacement in-tank pump for their 81-83 please, contact me directly at mblez@juno.comAlso, I've been having a good success repairing the dash modules. The ones I can't fix is due to parts that are no longer made because, the technology is obsolete.. I will get back to these this fall when things slow down for me. I'm presenting working seven days a week but, I try to read my e-mail every other night..... Later, Blez....

Subject: 81: old message about a troublesome '81

From: "Dick Benjamin" (bondotmec@dte.net)

Sent: Sun, 30 Aug 1998 14:02:26 -0700

This appears to be a repost of a message that came through almost 6 weeks ago.

I, among others, wrote a response, but I did not receive a reply, nor did anyone else to my knowledge. Unfortunately, the messages have not been archived here, so I do not know for sure what help was offered.

There are a number (like 40 or so) of IML members who know and care for these cars, and you will find us a ready and willing group of helpers, but we need to know more about what you are asking for.

The kits you mention are no longer available from Chrysler. There is a debate amongst IML members as to whether or not they are the right thing to do to the car, anyway. I have examples of each system, 3 with EFI and one with the factory conversion. All run pretty well, but the EFI system provides better performance and economy, and of course is THE major feature of the car. That attracts some collectors (and frightens off others).

Tell us, did you receive the previous messages about your car? If so, were any of them helpful?

Can we perhaps help you to get your car running right with the current setup?

Tell us as precisely as you can what problems it evidences, and when (under what conditions).
Dick Benjamin (bondotmec@dte.net)

Subject: Imperial Mailing List - Specific Information

Sent: Sun, 19 Jul 1998 20:08:22 -0700

From: Bob Dupee - abddupee@xcelco.on.ca

I own a 1981 Imperial - Pearl White, red interior (velour) AM.FM.CB. This car had 30,000 mi on it had been stored for several years inside. I purchased the car, it had minor rust to the body. I had these areas repaired by a local restoration shop. They performed a great job on the car, brought it back to original show room condition using Chrysler specks paint, trim, etc. I drove the approx. 600 miles and stated having trouble with the EFI I realize that Chrysler had problems with this and came out with a carbureted retrofit Kit. From what I have found out a number of Imperials have been converted to carburation. I would like any information with regards to this problem from the readers.

THANK YOU, R.J.DUPEE
E-MAIL OR CALL COLLECT 519 336 1728 Sarnia,Ontario,Canada. Zip N7T 2G7

Subject: '81 EFI timing Advance

From: "Dick Benjamin" (bondotmec@dte.net)

Sent: Sun, 30 Aug 1998 14:18:43 -0700

The spark advance is provided by the computer, there is no advance device on the distributor, either centrifugal or vacuum.

If your computer is not advancing the timing, it is probably operating in a "limp home" mode - the cause of this may be as simple as a disconnected sensor lead, or as major as a failed component in the computer itself.

The first thing to do is to unplug, clean the contacts, check for good fit, and reconnect all the electrical connections to the various units of the system.

If you do not have one, get a set of service manuals for the car. These are still available, you can get an order form from your Chrysler dealer, at last report. There are two manuals, you need both. These will show you the elements of the system and how they interrelate, including all wiring connections. You must have this information to trouble shoot one of these cars.

Two areas of frequent problems with these cars a

1. Air leaks around the air cleaner assembly. Make sure all gaskets are in place and not cracked, and that the lid fits tight, and is both held down by the wing nut and the circular clamp. Verify that the PCV valve in the left valve cover is not interfering with the bottom of the air cleaner, causing it to sit up a hair from its designed location.

2. Dirty or rusty connection to the inner fender of the automatic shut down module (ASDM). This problem occurs sooner or later on all of these cars that are operated in the rust belt, and even some of them in the southwest. You can solve this easily, by fabricating a 18", #12 stranded copper wire with two ring lug terminals soldered, not crimped onto the ends, then placing one end under a mounting screw for the ASDM (clean the metal of the ASDM flange to bright and shiny first!) and the other end on the ground lug of the alternator.

Don't get frustrated or hurl profanity at the car (or us), we're here to help, and your car can be fixed. It might take a while, but we seem to be able to figure out what is going on most of the time, with no help from Chrysler.

Dick Benjamin (bondotmec@dte.net)

Subject: 1981-82 Imperial

Sent: Sun, 30 Aug 1998 15:23:55 -0700

From: Roland Ellsworth - amas@colusanet.com

EFI info: I had two Imps with EFI and drove many thousands miles with a constant struggle to keep them running. There was always some little thing the matter: too numerous to mention, but I did keep them running. This is with no thanks to Chrysler Corporation!! The inadequacies of each Chrysler garage I brought the Imp to did not make the matter any better either, and I was refused retrofitting to a carburetor.

Chrysler knew these EFI units were a disgrace to common automobile operation, and retrofitted many, many of them to Carburetors. From my experience, if you own an Imp with EFI and you expect to drive it feeling satisfied with its' operation you are going to be disappointed. However, if you want to keep the car original, and need some parts, I have two complete EFI units that I removed from my vehicles. I did the work myself, (shade tree mechanic). It wasn't that big a job, and parts are available. The California Smog Law lists the car with either EFI or two bbl carburetor so it wasn't big job smogging. If anyone needs additional info and problems of this job perhaps I can assist.

Extra cars and Parts: I have four 81 or 82 Imperials. Two I am trying to keep running, and two I have decided to use as parts. One 82 gold with gold leather and one white 81 with blue cloth interior. Mostly all very good condition.. not wrecked.

I have pulled the blue headliner out one good car. Whole interior had to come apart to do it to, and now need new headliner. Any one know where can buy one new, or obtain blue headliner material?

Sorry I made my first post so long, and I do hope I am getting it out correctly.

Roland Ellsworth, Colusa, California

Subject: 1981-82 Imperial

From: "Dick Benjamin" (bondotmec@dte.net)

Sent: Mon, 31 Aug 1998 09:09:52 -0700

For your first post, Roland, you did great! Welcome to the largest and most passionate forum supporting the dreaded Bustle Back Coupe.

On the availability of conversion parts, I agree with Roland. I would add that the California permit mentions only the Factory Authorized conversion, with all the appropriate stickers and disclaimers as applied from the Factory Kit, so for those few unfortunates who live out here, be careful if you convert a car that you get all the pieces, including the special labels.

On your headliner cloth, I have replaced the headliner in two of mine, also using the same cloth to cover the inside window trim pieces the same as they were from new. I found the headliner material from a local Auto Upholstery supply warehouse, called UFO in Vista, CA, but I do not think it would be hard to track down in other areas. The cloth appears to be a perfect match to the original, however, the color did seem to fade kinda fast on the brown car with cinnamon interior, which unfortunately sits outside in the high desert sun much of the time. Severe conditions, to be sure.

Dick Benjamin (bondotmec@dte.net)

However, if you want to keep the car original, and need some parts, I have two complete EFI units that I removed from my vehicles. I did the work myself, (shade tree mechanic). It wasn't that big a job, and parts are available. The California Smog Law lists the car with either EFI or two bbl carburetor so it wasn't big job smogging.

Any one know where can buy one new, or obtain blue headliner material? Sorry I made my first post so long, and I do hope I am getting it out correctly.
Roland Ellsworth, Colusa, California

Subject: New Member with '82 has driveability problem.

From: "Dick Benjamin" (bondotmec@dte.net)

Sent: Thu, 3 Sep 1998 10:13:54 -0700

You'll find a lot of help here! Welcome.

The manuals are still available new, I believe, at least they were when last I checked, and at much more reasonable prices. You can get an order form at your Chrysler dealer. There are two manuals, and you need both to maintain one of these cars. If that doesn't work let us know, someone may have an extra set they may part with.

To help you on your driveability complaint, we need to know if your car still has the EFI system, or carburetor. If the latter, we need to know if it has the factory conversion to 2 bbl, or was it perhaps delivered in Canada as a carbureted car?

The initial timing is set at 12 BTC, and should never change. The computer adjusts the timing as it sees the need during road operation.

Vibration on acceleration, (if it originates from the engine) has just about got to be a miss under load, so the first step is to replace the distributor cap, rotor, plug wires, and spark plugs. The original 68ER plugs (if it is an EFI car) are no longer available. I have had good luck with Autolite AL945, they seem to be the closest available in specifications. There is a Champion equivalent, which I would use in a pinch. I think it is RN13 LYC, but let your parts man verify that, my memory ain't too good.

While you are changing the plugs, do a compression check on the engine, to verify there are no mechanical problems. How many miles does the odometer show, and is the asterisk lit in the mileage display?

Dick Benjamin (bondotmec@dte.net)

From: Todd Swekla - tswekla@planet.eon.net

My name is Todd. I am working on first restoration project, a 1982 Imperial. There seems to be excessive vibration and hesitation on acceleration, I mean the car shakes and comes close to stalling. Can you attribute this to something simple or not? Will adjusting the timing help this? It would be nice to get some manuals (repair and service) for the 1982 Imperial,

Subject: 81 Imperial, Now running Imperial - Carb

Sent: Thu, 3 Sep 1998 19:25:11 -0700 (PDT)

From: "Jack R. Lindholm" - jrl-black@rocketmail.com

Hi List, When we last left off, I was wondering if the engine in my 81 was a 360..... (it wasn't) and finding out that the decidedly non-factory carb conversion didn't run very well..... I'm here to report that with the guidance of your experience wisdom, and all.... Things are a few thousand percent better..... With the tireless on-line help of my 81-83 carb Imperial guru, Don, as well as some seriously on the nose diagnosis and suggestions of Dick and Carmine..... (Thanks All!) I have a very smooth, quiet, powerful, running Imperial..... As the carb conversion was casual at best, and They had installed an Edelbrock Performer manifold, and a Holley 4 bbl.. I decided to stay with the 'carb performance' theme..... I ordered the Mopar electronic ignition kit, which allowed me to remove the rest of the EFI stuff on the aircleaner, and accompanying harness. For the moment, I have a generic 14" chrome air cleaner on it.. Oh, I also replaced the (heavily fouled)

plugs, with Splitfires..... noticeable difference, right away.. and today, I just installed a Carter AFB 625 CFM carb.... Beautiful piece of work, bright aluminum... runs great right out of the box..... (I had been plagued with massive hesitation, and back firing) The car was just barely functional 1 week ago, and now.... I'm amazed anything that ran so poorly, could run so well....I've been ordering stuff from Summit Racing.... Great prices, great service..... Well, much more to do.... (much..), but I've made great strides in the last month, and with your help, my Imperial education continues boldly forward.....

More soon..
Manhattan Jack 81 Imperial (running smoooooothly)

Subject: 81 Imperial, Now running Imperial esq....

From: DBKEMPER@aol.com

Sent: Fri, 4 Sep 1998 16:22:19 EDT

Keep up the good work.....the Manila car is having one fit after another.....next order is drop the oil pan....no oil pressure!!!! AM I HAVING FUN YET?

Subject: 81-83 parts needed

From: Stude1966@aol.com

Sent: Wed, 30 Sep 1998 23:14:48 EDT

I replace my antenna motor with an aftermarket unit and used the top fender mounting. Works fine, looks fine.

Subject: Starting problems

Sent: Thu, 08 Oct 1998 20:48:45 -0600

From: Todd Swekla - tswekla@planet.eon.net

Hi again group

A question/ inquiry into a starting problem I have with my 82 Imperial.

When you turn the key you get NOTHING. Turn it again, you get NOTHING, turn it for the third time and vroooom. Is the problem related to the starter or another ignition part??

I would assume that if the starter is missing teeth on the flywheel, it would cause this delayed start.

Please confirm or deny my assumption.

Thanks a bunch

Todd 82 Imperial

Subject: Starting problems

From: t3176@flash.net

Sent: Thu, 08 Oct 1998 23:16:10 +0000

Todd Swekla wrote:

Hi again group

A question/ inquiry into a starting problem I have with my 82 Imperial. When you turn the key you get NOTHING. Turn it again, you get NOTHING, turn it for the third time and vroooom. Is the problem related to the starter or another ignition part?? I would assume that if the starter is missing teeth on the flywheel, it would cause this delayed start.

If you were missing teeth, you would hear the starter run regardless. Perhaps grinding noises.

Suspect bad starter relay.

Carmine F.

Please confirm or deny my assumption.
Thanks a bunch
Todd 82 Imperial

Subject: Starting problems

Sent: Fri, 09 Oct 1998 02:01:41 -0700

From: Bob Schmitt - bsbrbank@pacbell.net

Todd -

Also check the neutral safety switch (on trans). It also could be an ignition switch going bad. When you turn the key you get NOTHING. Turn it again, you get NOTHING, turn it for the third time and vroooom. Is the problem related to the starter or another ignition part?? I would assume that if the starter is missing teeth on the flywheel, it would cause this delayed start. If you were missing teeth, you would hear the starter run regardless. Perhaps grinding noises. Suspect bad starter relay.

Subject: Starting problems

From: DBKEMPER@aol.com

Sent: Fri, 9 Oct 1998 17:07:21 EDT

When you say you get nothing do you mean she is dead.....starter not kicking in sort of the dead battery like deal.....I have 3 81's....so I pretty much have been through it all including the conversion to carb. My Manila car hasn't been run since 92 and pretty much EVERYTHING is wrong! It could just be your ignition switch....check the service manual...or a new starter.....I went through three just to get one that works....first one was dead and did NOTHING....second one spun but did not engage the flywheel.....third one was the charm.....and it was brand new!

Sent: Mon, 12 Oct 1998 20:50:30 -0600

From: Todd Swekla - tswekla@planet.eon.net

I know the battery is working properly because I have power and electrical for the accessories and when the car finally does start.

I do think it's the starter, so I might drop it out and take a closer look at the teeth and flywheel to determine if it's the problem or not.

Now that I know you own 3 81's I know where to go for questions and answers.

Thanks

Todd

DBKEMPER@aol.com wrote:

When you say you get nothing do you mean she is dead.....starter not kicking in sort of the dead battery like deal.....I have 3 81's....so I pretty much have been through it all including the conversion to carb. My Manila car hasn't been run since 92 and pretty much EVERYTHING is wrong! It could just be your ignition switch....check the service manual...or a new starter.....I went through three just to get one that works....first one was dead and did NOTHING....second one spun but did not engage the flywheel.....third one was the charm.....and it was brand new!

Subject: 1982 Fuel pump

Sent: Wed, 14 Oct 1998 20:49:53 -0600

From: Todd Swekla - tswekla@planet.eon.net

It appears you're looking for the fuel pump compared to you having one for sale. If you do find one, please let me know I think my 82 also needs one. I understand that the fuel pump is a two parter. One piece in the tank and the other at the engine.

Please confirm or deny my assumption.

Thanks

GTAofUSA@aol.com wrote:
Need a fuel pump for an 82 ------ any suggestions? No longer available from Chrysler of course.!
Gary

Subject: 1982 Fuel pump

Sent: Wed, 14 Oct 1998 22:14:17 -0500

From: Bob and Robyn Clark - bobandrobyn@sprintmail.com

Hi Guys,

I dislike speaking for others but since Dick B. is off the list for a bit I will add this bit of information and if you have any questions you can save them for Mr. B.

In earlier posts Dick said that he had replaced his in tank pump, for which he could not find a NOS replacement, with an external 5.0L Ford Mustang fuel pump. Advantages; cheap, easy to find if it fails again, easy to do. Disadvantages; not stock, makes a bit more noise than the in tank pump.

As to where and how to mount the pump as Dick when he gets back.

Just thought you would like to know.

Later,

Bob C.

Todd Swekla wrote: It appears you're looking for the fuel pump compared to you having one for sale. If you do find one, please let me know I think my 82 also needs one. I understand that the fuel pump is a two parter. One piece in the tank and the other at the engine. Please confirm or deny my assumption. Thanks

GTAofUSA@aol.com wrote: Need a fuel pump for an 82 ------ any suggestions? No longer available from Chrysler of course.! Gary

Subject: 1982 Fuel pump questions

From: t3176@flash.net

Sent: Thu, 15 Oct 1998 00:00:50 +0000

Todd Swekla wrote:

It appears you're looking for the fuel pump compared to you having one for sale. If you do find one, please let me know I think my 82 also needs one. I understand that the fuel pump is a two parter. One piece in the tank and the other at the engine.

Please confirm or deny my assumption.

You are sorta right. There are two pumps in the system. But only one is a "fuel" pump. (The one in the tank).

The other pump is called the "control" pump. It's located under the air-cleaner, and from what I've heard it rarely goes bad. It's job is to re-pressurize and meter fuel for the system.

Carmine F.

Subject: Flex Plate Fear

From: "Richard W. Gebhard" - gebhard@EC.Rockwell.COM

Sent: Thu, 12 Nov 1998 20:43:00 -0500

From: Dick Benjamin (bondotmec@dte.net)

If he's right about the source of the noise, I would not be so sanguine about the prospects! I'm far too paranoid to take this kind of noise lightly. On the other hand the mechanic in question has been working on TorqueFlights for 30 years and runs a small fleet of Dodge van taxis.

You could check by removing the cover plate over the front of the flex plate and inspecting it with a strong light. Pry on the ring gear with a screwdriver and look for a crack or any source of monkeymotion. Already had the small inspection plate off, but couldn't see squat. Tomorrow I'm gonna yank the starter and torque struts so that I can get the bigger cover off.

If you see any, I would lose no time pulling the tranny to replace it before it comes loose and tears up your bell housing, rear main, or front pump. Sorry to be an old graybeard, but you did ask for opinions. And yours was one I was hoping to get.

From: Frank Winnips

I think I had the same thing with my Dodge W200, a couple of months ago. My transmission made a clicking sound that got worst over a couple of weeks.

Sounds like what I've got. At first it sounded like an octane ping. Later it started sounding like a heat riser valve. Now you can definitely hear it coming from the bell housing, and it's getting louder.

After removal of the inspection cover I found out that the flex plate was cracked at 3 of the 4 bolt holes. None of the bolts were loose, although some small pieces of the flex plate were

actually broken off. My quick and dirty fix was to put an extra washer under each bolt to keep the cracks together. For now it works wonderfully but next year I'll have to replace the entire flex plate.

See above. BTW, anybody got a recommendation for a tranny jack fitting for my big floor jack and/or advice on getting the flex plate out without a tranny jack??

Renting a tranny jack is not an option, as it's a tool I'm sure I'll have use for again.

RWG

Subject: Fuel Injection system for 83 Imp.

From: t3176@flash.net

Sent: Tue, 01 Dec 1998 15:28:16 -0500

Currently the car is performing in an acceptable manner. However, it requires an embarrassing amount of crank time especially when warm after it has been shut off for a period of time. Also the acceleration is substandard but tolerable. (Zero to 60 at WOT in about 18 seconds).

Some things that have helped my '83 EFI....

Make sure there are ABSOLUTELY NO air leaks from the "nozzle" of the air cleaner to the FI support plate. This includes: CCC to air cleaner gasket, air cleaner base to EFI base gasket. (Both gaskets tend to flatten-out and leak after 15-years or so, I made new ones). Although they are not "vacuum" leaks per se, the car will act like they are. The amount of air is "metered" as it flows into the air cleaner, so any extra air will make the car run lean.

Another typical EFI problem is "internal" vacuum leaks. Sort of like internal bleeding, you'll never see it, but you'll notice the effects. The intake manifold gasket "leaks" between the lifter valley and intake port. Because this system is SOOO sensitive, the car will idle and perform poorly. Noticed a big improvement after replacing this gasket (big job, not fun).

If you suspect your car is running lean, try disconnecting the O2 sensor (one simple wire). These cars are always running way too lean. Chrysler did that to squeeze the maximum MPG rating for the EPA. No data from the O2 sensor will keep the fuel mix richer and help compensate for "vacuum leaks".

If your EFI system encounters any type of trouble, (air leaks, phases of the moon, etc.) it will revert to a "lean-lock" condition. The cure is to disconnect the battery, pause, pray, re-connect the battery. Don't bother with the huge re-cal procedure---An experienced EFI tech showed me why this is just a waste-o-time formality. Any time it runs crappy, try this.

PURISTS, STOP READING HERE!

A "guy I know", NOT ME I SWEAR, installed dual exhaust w/h-pipe (Quiet mufflers, no catalysts). This guy noticed a big improvement in the 30+ MPH kickdown response.

This same guy also removed the air-to-catalysts balance tube and welded it shut, then reinstalled it. He then took the guts out of the air-pump so that it freewheels.

Then he insulated the end of the O2 sensor wire, so it wouldn't send data when connected.

Result: Car runs much better, looks stock under the hood, and is probably cleaner than a backyard carb-conversion anyway. Remember, the car is never going to be fast, (2.41 rear axle), but now I, ..er,uh...I mean the "guy" can merge onto freeways, and pass Geos with ease.

Carmine "the guy" F.

Subject: Fuel Injection system for 83 Imp.

From: RWestra@aol.com

Sent: Tue, 1 Dec 1998 16:20:23 EST

Carmine:

Thanks for the advice Carmine. I will try some of these changes. Some have already been tried with a measure of success.

I share your experience with the computer recalibration procedure. It has never made any noticeable difference when I have done it.

On the subject of 81 Imperials, have you experienced the torque converter lock up clutch shudder problem? Mine has done it since I have owned it. More of an embarrassment than a real problem but I wonder if there is a fix short of replacing the converter.

Thanks again for the advice. I think these are great cars but need coddling to continue to enjoy them.

Rolland

Subject: Fuel Injection system for 83 Imp.

From: DBKEMPER@aol.com

Sent: Tue, 1 Dec 1998 20:10:20 EST

Rolland

One note.....when I converted this 81 to carb I left the gas tank alone and am pulling the fuel through the electric pump which now is powerless due to the brown ballast resistor being removed. The car has much more power and the dash still works except for the mpg function.....the only gas line I replaced was from the cowl to the mechanical fuel pump to the carb and the return line.....what a difference.

My other 81 has dual exhaust but not as radical at "the guy" aka Carmine.....I converted that one at around 100m miles.....now she needs a new engine with some other changes in the works too like true bucket seats using the Imperial seats soon as I find an 80 to 83 Cordoba console in blue or red...but that is another story!

I have a green "parts' car too and may be getting another white car for sheet metal.....so I want one stock.....one stock like it should have been and one that will get tubbed and a 440.....hooked on these Imperials....you bet!!!

Subject: New Member with '82 has driveability problem.

From: "Dick Benjamin" (bondotmec@dte.net)>

Sent: Thu, 3 1354 -0700

You'll find a lot of help here! Welcome.

The manuals are still available new, I believe, at least they were when last I checked, and at much more reasonable prices. You can get an order form at your Chrysler dealer. There are two manuals, and you need both to maintain one of these cars.

If that doesn't work let us know, someone may have an extra set they may part with.

To help you on your driveability complaint, we need to know if your car still has the EFI system, or carburetor. If the latter, we need to know if it has the factory conversion to 2 bbl, or was it perhaps delivered in Canada as a carbureted car?

The initial timing is set at 12 BTC, and should never change. The computer adjusts the timing as it sees the need during road operation.

Vibration on acceleration, (if it originates from the engine) has just about got to be a miss under load, so the first step is to replace the distributor cap, rotor, plug wires, and spark plugs. The original 68ER plugs (if it is an EFI car) are no longer available. I have had good luck with Autolite AL945, they seem to be the closest available in specifications. There is a Champion equivalent, which I would use in a pinch. I think it is RN13 LYC, but let your parts man verify that, my memory ain't too good. While you are changing the plugs, do a compression check on the engine, to verify there are no mechanical problems. How many miles does the odometer show, and is the asterisk lit in the mileage display?
Dick Benjamin
bondotmec@dte.net

> From Todd Swekla - tswekla@planet.eon.net>
> My name is Todd. I am working on first restoration project, a 1982 > Imperial.
> "There seems to be excessive vibration and hesitation on acceleration, I
> mean the car shakes and comes close to stalling. Can you attribute this
> to something simple or not? Will adjusting the timing help this?"
. It would be nice to get some manuals
> (repair and service) for the 1982 Imperial,

Subject: 81 Imperial, Now running Imperial esq....

Sent: Thu, 3 2511 -0700 (PDT)

From: "Jack R. Lindholm" - jrl-black@rocketmail.com>

Hi List,

When we last left off, I was wondering if the engine in my 81 was a 360..... (it wasn't) and finding out that the decidedly nonfactory carb conversion didn't run very well..... I'm here to report that with the guidance of your experience wisdom, and all.... Things are a few thousand percent better..... With the tireless online help of my 81-83 carb Imperial guru, Don, as well as some seriously on the nose diagnosis and suggestions of Dick and Carmine..... (Thanks All!) I have a very smoooth, quiet, powerful, running Imperial.....

As the carb conversion was casual at best, and They had installed an Edelbrock Performer manifold, and a Holley 4bbl.. I decided to stay with the 'carb performance' theme..... I ordered the Mopar electronic ignition kit, which allowed me to remove the rest of the efi stuff on the aircleaner, and accompaning harness..For the moment, I have a generic 14" chrome air cleaner on it..

Oh, I also replaced the (heavily fouled) plugs, with Splitfires.....noticeable difference, right away.. and today, I just installed a Carter AFB 625cfm carb....Beautiful piece of work, bright aluminum... runs great right out of the box..... (I had been plagued with massive hesitation, and back firing) The car was just barely functional 1 week ago, and now.... I'm amazed anything that ran so poorly, could run so well.... I've been ordering stuff from Summit Racing.... Great prices, great service..... Well, much more to do.... (much..), but I've made great strides in the last month, and with your help, my Imperial education continues boldly forward.....
More soon..
Manhatan Jack
81 Imperial (running smoooothly)

Subject: 81 Imperial, Now running I

From: DBKEMPER@aol.com

Sent: Fri, 4 2219 EDT

mperial esq....Keep up the good work.....the Manila car is having one fit after another.....next order is drop the oil pan....no oil opressure!!!! AM I HAVING FUN YET?

Subject: 81-83 parts needed

From: Stude1966@aol.com

Sent: Wed, 3 1448 EDT

I replace my antenna motor with an aftermarket unit and used the top fender mounting. Works fine, looks fine.

Subject: 1982 Fuel pump

Sent: Wed, 1 4953 -0600

From: Todd Swekla - tswekla@planet.eon.net>

It appears you're looking for the fuel pump compared to you having one for sale. If you do find one, please let me know I think my 82 also needs one. I understand that the fuel pump is a two parter. One piece in the tank and the other at the engine. Please confirm or deny my assumption.
Thanks

GTAofUSA@aol.com wrote
> Need a fuel pump for an 82 ------ any suggestions ? No longer
> availible from Chrysler of course.!
> Gary

Subject: 1982 Fuel pump

Sent: Wed, 1 1417 -0500

From: Bob and Robyn Clark - bobandrobyn@sprintmail.com>

Hi Guys,

I dislike speaking for others but since Dick B. is off the list for a bit I will add this bit of information and if you have any questions you can save them for Mr. B. In earlier posts Dick said that he had replaced his in tank pump, for which he could not find a NOS replacement, with an external 5.0L Ford Mustang fuel pump. Advantages; cheap, easy to find if it fails again, easy to do. Disadvantages; not stock, makes a bit more noise than the in tank pump.

As to where and how to mount the pump as Dick when he gets back. Just thought you would like to know.
Later,
Bob C.
Todd Swekla wrote:

> It appears you're looking for the fuel pump compared to you having one for
> sale. If you do find one, please let me know I think my 82 also needs one.
> I understand that the fuel pump is a two parter. One piece in the tank and
> the other at the engine.
> Please confirm or deny my assumption.

> Thanks
> GTAofUSA@aol.com wrote
> > Need a fuel pump for an 82 ------ any suggestions ? No longer
> > availible from Chrysler of course.!
> > Gary

Subject: 1982 Fuel pump questions

From: t3176@flash.net

Sent: Thu, 1 050 +0000

Todd Swekla wrote:
> It appears you're looking for the fuel pump compared to you having one for
> sale. If you do find one, please let me know I think my 82 also needs one.
> I understand that the fuel pump is a two parter. One piece in the tank and
> the other at the engine.
> Please confirm or deny my assumption.

You are sorta right. There are two pumps in the system. But only one is a fuel pump. (The one in the tank). The other pump is called the "control" pump. It's located under the air-cleaner, and from what I've heard it rarely goes bad. It's job is to re-pressurize and meter fuel for the system.
Carmine F.

Subject: Fuel sending unit 'sock-type' filter question

From: "Paul A. Riggio" - BADCATCENTRAL@email.msn.com>

Sent: Sat, 7 4544 -0500

Does anyone have experience with the 'sock-type' filter that goes on to the end of the fuel sending unit? I was paging through the Year One catalog and saw there was one available for my year,etc and bought it. I had the fuel sending unit replaced before I brought the car home so I don't know if one came on it originally.

A) Did one come on it?

2) Should I put it on? (and if I do, is there any special way beyond just pushing it on tight as possible?)

I took the tank in for the Renu process and it looks great! I look forward to everyone's input.
Thanks to all,
Paul R.
1972 Imperial w/ a like new gas tank

Subject: Fuel sending unit 'sock-type' filter question

From: "Marty Tracz" - tfb@elnet.com>

Sent: Sat, 0 3914 PST

Paul

When I had the tank done by renu both my 67 imp and my 70 coronet had socks on mine seemed to slide over a slight ridge in the line, since the only force will be sucyion it will not fall off. good luck with your project
Marty

> Does anyone have experience with the 'sock-type' filter that goes on to the
> end of the fuel sending unit? I was paging through the Year One catalog and
> saw there was one available for my year,etc and bought it. I had the fuel
> sending unit replaced before I brought the car home so I don't know if one
> came on it originally.
> A) Did one come on it?
> 2) Should I put it on? (and if I do, is there any special way beyond just
> pushing it on tight as possible?)
> I took the tank in for the Renu process and it looks great! I look forward
> to everyone's input.
> Thanks to all,
> Paul R.

> 1972 Imperial w/ a like new gas tank

Subject: Fuel sending unit 'sock-type' filter question

From: Watchfatha@aol.com

Sent: Sat, 7 3729 EST

In a message dated 98-1 5012 EST, you write
<< A) Did one come on it?

YES
pushing it on tight as possible?)

YES. To the end of its travel
Norm

Subject: Fuel sending unit 'sock-type' filter question

Sent: Sat, 0 5206 -0800

From: Michael Mann - mann340s@ix.netcom.com>

My 68 HAD one. I know some of you will disagree, but I now with any MOPAR take the sending unit out and discard the sock filter at the first opportunity. Filter in the tank - whoever heard of such nonsense! To protect the pump, and let out anything that might get caught in the filter and thus stay in the tank, I added another typical inline filter in the line between the tank. I got tired of having the car go dead every time I accelerated other than very gently.
Michael
68 Crown

Subject: Fuel sending unit 'sock-type' filter question

From: RonSmithAZ@aol.com

Sent: Sun, 8 5218 EST

Yes, they all came with the sock filter on the fuel pickup tube/sending unit. You just slide the new one on the end of the tube by hand and you're finished. The sock type filter is still available from the local Mopar dealer.....They were used for many years.

Subject: Manhattan Jack's 81 Dreamboat!

Sent: Tue, 2 4749 -0800

From: "Jack R. Lindholm" - jrl-black@rocketmail.com> (by way of Tony Lindsey)

Hi Tony

So glad to see you back and cooking on the list!

Don't know if you got the email I sent a while back, but I purchased an '81 Imperial from Thomas Benvie. It originally was silver, but is sporting a interesting burgandy hue, (rather poorly painted) and about 150k miles..... I've done a lot of mechanical work on it, not the least of which was sorting out the poorly converted fi>carb situation. It now sports a Carter AFB on a Edelbrock performer manifold, and new Mopar Performance electronic ignition.. aside from a trans rebuild, I've had the rubber cushions on the cross member replaced with Mopar cast iron units, and the suspension bushings replaced with polygraphite, and larger sway bars installed.....runs great now... firm, controlled, still very Imperial, yet rather agile for a car of it's heritage.... Also added digital gauges for volts,oil press. temp, as well as a tach, All blended quited well with the digital cluster....(I can send jpegs if you wish.....) I'm quite proud it now... (rare, for an IML'er, I know) Don Kemper has been my primary Imperial Guru..... He's helped me beyond measure with this.. The rest of the list has been, as always, entertaining, and very educational...This spring I'll embark on the body work, and all of that.. hmmm thats a rather long winded discription.... how about this....81 Imperial, Burgandy with red leather.. 150k Carter 4bbl driven daily on the mean streets of

NYC Runs Great! Scares cabs...or something like that... let me know if you want me to tighten anything up...
Thanks Tony..
again, glad you back!!
Manhattan Jack - -as you named me.....
81 Imperial
[It's always a pleasure to hear from you - I'm dee-lighted to hear about your dreamboat! The database is updated... - Tony]

Subject: Fuel Injection system for 83 Imp.

From: t3176@flash.net

Sent: Tue, 0 2816 -0500

> Currently the car is performing in an acceptable manner. However, it requires
> an embarrassing amount of crank time especially when warm after it has been
> shut off for a period of time. Also the acceleration is substandard but
> tolerable. (Zero to 60 at WOT in about 18 seconds).

Some things that have helped my '83 EFI....

Make sure there are ABSOLUTELY NO air leaks from the "nozzle" of the air cleaner to the FI support plate. This includes CCC to air cleaner gasket, air cleaner base to EFI base gasket. (Both gaskets tend to flatten-out and leak after 15-years or so, I made new ones). Although they are not "vacuum" leaks per-say (sp?), the car will act like they are. The amount of air is "metered" as it flows into the air cleaner, so any extra air will make the car run lean.

Another typical EFI problem is "internal" vacuum leaks. Sort of like internal bleeding, you'll never see it, but you'll notice the effects. The intake manifold gasket "leaks" between the lifter valley and intake port. Because this system is SOOO sensitive, the car will idle and perform poorly. Noticed a big improvement after replacing this gasket (big job, not fun).

If you suspect your car is running lean, try disconnecting the O2 sensor (one simple wire). These cars are always running way too lean. Chrysler did that to squeeze the maximum MPG rating for the EPA. No data from the O2 sensor will keep the fuel mix richer and help compensate for "vacuum leaks". If your EFI system encounters any type of trouble, (air leaks, phases of the moon, etc.) it will revert to a lean-lock condition. The cure is to disconnect the battery, pause, pray, re-connect the battery. Don't bother with the huge re-cal procedure---An experienced EFI tech showed me why this is just a waste-o-time formality. Any time it runs crappy, try this.

PURISTS, STOP READING HERE!

A "guy I know", NOT ME I SWEAR, installed dual exhaust w/h-pipe (Quiet mufflers, no catalysts). This guy noticed a big improvement in the 30+ MPH kickdown response.
This same guy also removed the air-to-catalysts balance tube and welded it shut, then reinstalled it. He then took the guts out of the air-pump so that it freewheels. Then he insulated the end of the O2 sensor wire, so it wouldn't send data when connected.

Result Car runs much better, looks stock under the hood, and is probably cleaner than a backyard carb-conversion anyways. Remember, the car is never going to be fast, (2.41 rear axel), but now I, ..er,uh...I mean the "guy" can merge onto freeways, and pass Geos with ease.

Carmine "the guy" F.

Subject: Fuel Injection system for 83 Imp.

From: RWestra@aol.com

Sent: Tue, 1 2023 EST

Carmine:

Thanks for the advice Carmine. I will try some of these changes. Some have already
been tried with a measure of success. I share your experience with the computer recalibration procedure. It has never made any noticeable difference when I have done it.

On the subject of 81 Imperials, have you experienced the torque converter lock up clutch shudder problem? Mine has done it since I have owned it. More of an embarrassment than a real problem but I wonder if there is a fix short of replacing the converter.

Thanks again for the advice. I think these are great cars but need coddling to continue to enjoy them.

Subject: Fuel Injection system for 83 Imp.

Sent: Tue, 0 4704 -0800

From: Bob Schmitt - bsbrbank@pacbell.net>

Carmine -

Thanks for the FI tips. I've collected all the e-mail on this topic from the last 2 years and sent it to Dick Benjamin so that he can put it into a good order for eventual posting on the web site. Carl Baty also has a wealth of info on this topic and will hopefully help with review and comments.
Bob

Subject: Fuel Injection system for 83 Imp.

From: DBKEMPER@aol.com

Sent: Tue, 1 1020 EST

Rolland -

One note.....when I converted this 81 to carb I left the gas tank alone and am pulling the fuel through the electric pump which now is powerless due to the brown ballast resistor being removed. The car has much more power and the dash still works except for the mpg function.....the only gas line I replaced was from the cowl to the mechanical fuel pump to the carb and the return line.....what a difference. My other 81 has dual exaust but not as radical at "the guy" aka Carmine.....I converted that one at around 100m miles.....now she needs a new engine with some other changes in the works too like true bucket seats using the Imperial seats soon as I find an 80 to 83 Cordoba console in blue or red...but that is anothe story! I have a green parts' car too and may be getting another white car for sheet metal.....so I want one stock.....one stock like it should have been and one that will get tubbed and a 440.....hooked on these Imperials....you bet!!!

Subject: 81 Ignition systems

From: t3176@flash.net

Sent: Sat, 2 4820 -0500

> Something else, the coil will only produce as much spark as the engine "demands".
> Example, higher engine speeds with their increased combustion turbulance require
> more voltage than a simple idle. The coil re-acts accordingly. Hate to disagree with you, but an ignition coil does not produce a 'hotter' spark as demands such as higher rpm or increased cylinder pressure are placed on the system.

Perhaps I should have phrased this differently. Of course the coil doesn't react to engine demands, they have no ability to "sense" a need for higher voltage. I should have said "coil voltage COINCIDES with engine demands". However, I stand by these points...

It's harder to ignite a high RPM air/fuel mix because:

A. Higher RPMs create more cylinder turbulance. A weak flame front can actually be "blown-out" by this turbulance.

B. High RPM air/fuel mixtures are harder to ignite because less time between power-strokes mean less time to re-load the cylinder with fresh air/fuel mix AND less time to evacuate the burned air/fuel mix.

Luckily for the internal combustion engine, ignition coil voltage INCREASES when Magnetic flux lines move more rapidly--Faster collaspe of the magnetic field caused by an abrupt end to current flow. (Higher engine RPMs mean that either breaker points open/close faster (points) or a hall effect switch opens/closes faster (electronic). Thus ign.coils produce more voltage at higher RPMs. An engine "scope" will bear this out.

> The output voltage of the coil will actually drop
> as rpm increases past 4500. This is a result of the shorter amount of time
> the primary circuit has to build the required magnetic field.

This is the pont of diminishing returns. Obviously, you'll hit a point where the collaspe of the magnetic fields occurs so fast as to decrease voltage.

> At around 6000 rpm (3000 rpm distributer speed) a conventional breaker point or
> electronic ignition is just about done.

As is your big-block Imperial engine!

> A high output coil (25K+ volts) will give
> you easier starting, better driveability and increased overall performance
> provided the rest of the system is up to the task.

While I agree with this in "the real world", I disagree in principal. First of all, even a 30-year-old coil can deliver 25KV. The newest Constant Discharge ignition coil-packs can do over 50KV. Second, an electric spark can jump the typical sparkplug gap at less than 5KV. So, all other conditions being ideal, a fuel mix that ignites at 5KV from a CDI system is no better than one ignited at 5KV by a points system. Any coil will stop charging as soon as the spark jumps. As components age, spark gaps increase, air/fuel mixes are less than ideal, cylinder pressures are higher, the CDI system will show its advantage. I consider a high output coil a waste for the typical, stock Imperial engine because...

1. Because of their reciprocating mass, intake systems, valvetrain limitations, they'll never see 5500+RPM (for very long)!

2. An engine kept in good tune (carb, plugs, wires, timing, etc.) will never require more than 25KV to ignite the air/fuel mix.

Only when the engine has been modified in some manner (reciprocating mass lightened, valvetrain improved, induction/exhaust system improved) will the benefits of the higher RESERVE CAPACITY offered by a HP coil be realized.

> We do agree that by-passing the resistor will destroy the coil in short order.

Actually, if somebody wanted to bypass the ballast resistor for a very short period, they could do so without harm. As a science project, you could run your Imperial this way for a few full-throttle runs and see if it makes a difference. Just be sure to re-install the ballast when you're done. I've connected the two ballast connections together for short periods when ballast resistors have failed. Running it like this for a short time won't kill
anything.

Carmine F.

Subject: Dick's EFI suggeston

From: "Sir Buddy Enterprises" - eddenbud@magicnet.net>

Sent: Sun, 3 2238 -0500

> Might I humbly suggest that you search out and install a magical new system
> introduced in 1981 by Imperial. It is called "EFI".

DICK,

Yeah, yeah, I hear ya'! But, where does one find an entire EFI system? It is true that my 81 could be easily converted back to EFI, since the carb-conversion was done half-assedly (is that a word?) by the previous owner. The original wiring harnesses are still in the engine bay, in fact. PLUS, I do need this car to be RELIABLE, as it is the car I usually drive to work. So I'm still thinking Carter Carburetor..
ED FERRARA

Subject: Dick's EFI suggeston

Sent: Sun, 0 1757 -0800

From: Joe George - jgeorge@inreach.com>

The "half-assedly" conversion was probably done by a Chrysler dealer. I had to have my '81 done and that's the way it looks. The original wires are just tied off and left there. Changing it back may not be a simple task.

You see, part of the conversion kit was a replacement gas tank. The old one had the fuel pump in the tank and it was some sort of funny demand type of thing according to the service manager of Nehgerbon (I'll bet I spelled that wrong) in Oakland, CA where mine was done. The end result is supposed to be like a mid '80s 5th Ave.

Both my '81 and '82 are this way. They are kind of sluggish cars are far as excelleration goes. Once you get them rolling they go ok. My wife averaged 92 MPH for 20 miles once in NV on I80 (I timed her since the trucks seemed to be really slow while she was driving). I've seen throttle body injection conversion systems for carburated cars. If anyone knows about one that will work on these cars (or mid '80s 5th Aves) I would like to know about it.
Joe

Sir Buddy Enterprises wrote:
> > Might I humbly suggest that you search out and install a magical new
> system
> > introduced in 1981 by Imperial. It is called "EFI".
> DICK,
> Yeah, yeah, I hear ya'! But, where does one find an entire EFI system? It
> is true that my 81 could be easily converted back to EFI, since the
> carb-conversion was done half-assedly (is that a word?) by the previous
> owner. The original wiring harnesses are still in the engine bay, in fact.
> PLUS, I do need this car to be RELIABLE, as it is the car I usually drive
> to work. So I'm still thinking Carter Carburetor..
> ED FERRARA
> This message was sent to you by the Imperial Mailing List. Please
> reply to mailing-list@imperialclub.com and your response will be
> shared with everyone. Private messages (and attachments) for the
> Administrator should be sent to xxltony@cts.com - To UN-SUBSCRIBE,

Subject: EFI suggeston

From: t3176@flash.net

Sent: Sun, 0 3550 -0500

> I've seen throttle body injection
> conversion systems for carburated cars. If anyone knows about one that will
> work on these cars (or mid '80s 5th Aves) I would like to know about it.

It works. I did it to my '77 NYB. Made by Holley. Typical Holley quality (sucks). Like I said, it worked. But it had injector problems right out of the box, the non-02 sensor "adjustments" are crap, and the fuel pump is noisy. Accel makes a kit called DFI. Don't know about that one.
Carmine F.

Subject: Dick's EFI suggeston

From: "Dick Benjamin" - bondotmec@ez2.net>

Sent: Sun, 3 2921 -0800

Well, they told you sort of right. The in tank pump is exclusive to the EFI cars, but it is really nothing special. It just runs at Max output while you are cranking, then slows down a bit for normal running. It puts out 13 PSI, and lots of volume. I have replaced one of mine with an external pump from a Mustang (UGH) that works just fine. The tied back harness ends is normal for the factory authorized conversion.

If you have a 2 bbl carburetor, and an added on fuel flow module in the fuel line from the pump to the carburetor, it is pretty likely you have the correct authorized conversion. If your car is registered in CA, I think it has to be the legit conversion to pass smog. If your car has been converted by a dealer, there should be a new smog sticker on the radiator support, and another sticker in the door jamb with the date and mileage when the conversion was done.

These are the conversions that we are complaining about. They seem to be very sluggish, and get much poorer mileage than the EFI system.
Dick Benjamin
bondotmec@dte.net

From: Joe George - jgeorge@inreach.com>

The "half-assedly" conversion was probably done by a Chrysler dealer. I had have my '81 done and that's the way it looks. The original wires are just tied off and left there. Changing it back may not be a simple task. You see, part of the conversion kit was a replacement gas tank. The old one had the fuel pump in the tank and it was some sort of funny demand type of thing according to the service manager of Nehgerbon (I'll bet I spelled that wrong) in Oakland, CA where mine was done. The end result is supposed to be like a mid '80s 5th Ave. Both my '81 and

'82 are this way. They are kind of sluggish cars are far as excelleration goes. Once you get them rolling they go ok.
Joe

Subject: Dick's EFI suggeston

From: "Dick Benjamin" - bondotmec@ez2.net>

Sent: Sun, 3 2056 -0800

Yes, GVWR is total weight of car, passengers, luggage and fuel. It was sold as a 6 passenger car, so subtract 6X150, plus say 200 # of luggage, plus 100 # of other fluids etc., you get right around 4000, plus whatever the driver and fluids actually weighed. I never looked up the 68's weight, I am surprised it is so much! But still, with twice the HP, at least - - ?
Dick Benjamin
bondotmec@dte.net

From: Bob Schmitt - bsbrbank@pacbell.net>
Dick -

> The test weight would have been around 4200. weight" for the '68 is 4,900 (Crown; 4,970 for the convertible) and 3,961 for the '81. I'd guess this is curb weight or close to test weight after fuel and driver are added. Isn't the GVWR the fully loaded (passengers & luggage) "legal limit"?

Subject: Dick's EFI suggeston

From: MNTwin1@aol.com

Sent: Mon, 4 5055 EST

In a message dated 1/3/ 2242 PM Central Standard Time, jgeorge@inreach.com writes:

<< I've seen throttle body injection conversion systems for carburated cars. If anyone knows about one that will work on these cars (or mid '80s 5th Aves) I would like to know about it. Chrysler used fuel injection on the '89 5th Avenue. I don't know if it will work on the '81 - '83 Imperial but at least it may be a place to start.

Anyone know more?
Dale

Subject: EFI suggestons

From: t3176@flash.net

Sent: Tue, 0 921 -0500

> Chrysler used fuel injection on the '89 5th Avenue. I don't know if it will
> work on the '81 - '83 Imperial but at least it may be a place to start.
> Anyone know more?

I don't want to be a wet blanket, but then again, I hate to see anyone on a wild goose chase.

'89 5ths still use carburetors. (I've had three of them) It is true that truck V8 engines were EFI by '89, and there WAS a plan to add EFI to the 5th in '88, but it was dumped. Again, the cost of re-certifing the engine package for the EPA couldn't be justifed since the car was supposed to be dead years previous to '89. (Engine packages must be certified in the vehicle they'll be used in--I don't know why).

The truck system isn't all that great either. Very complicated to swap over to an Imperial.

I would look into the Accel and Edelbrock systems. If you're really looking for a challenge, consider swaping the an entire Magnum 360 drivetrain into your Imperial. I plan on this same swap for my current '89 5th Ave.
Carmine F.

Subject: Please Welcome '81,82,83 Imerial

From: "Dick Benjamin" - bondotmec@ez2.net>

Sent: Sat, 2 2141 -0800

They're still available at your local friendly Imperial dealer. Bring money.
Dick Benjamin
bondotmec@dte.net

Subject: Please Welcome '81,82,83 Imperial

From: auto-bot - auto-bot@dte.net>

Sent: Saturda57 AM

>Self-Introduction 1982 Imperial 2 door- need wiper motor arms-

Subject: Please Welcome Bob Harris BACK!

From: "Dick Benjamin" - bondotmec@ez2.net>

Sent: Sun, 2 1029 -0800

Bob;
So glad to have you back on the list.

For those who are new to the IML, Bob is one of the major contributors of knowledge regarding EFI problems on the '81-83 Imperials.

Bob, in your absence we have continued along here, using what we learned in the first year on the IML from you, Jeff Gaurino, Carl Baty and others, and have generally kept 'em flying pretty well. Recently, IML'r Bob Clark has stripped the system off an '82 he found in a junkyard in Texas and is shipping it to me to be checked out, repaired if needed, and added to the IML lending library of known good components. Most items I have received have either had nothing wrong with them or very minor problems which I have fixed, and supplied to people as needed (on receipt of a core from them). I have a test bed '82 which is my guinea pig; a worn out car which nevertheless runs fairly well, and whose characteristics I know well enough to be a help in diagnosing problems.

We still have not gotten any response to my desperate query about the component ID for Q52 in the power module. Did you ever make contact with your buddy about a schematic with parts list for this board? This is a common failure point, and I cannot fix it if I don't know what it is!?! I had thought that if this got to be too time consuming, I would try to figure a way to charge for my services, but so far that has not been the case, and I am still doing this for the "fun" of it.

Actually, we have been able to fix most problems on line, without replacing components, which is easier and cheaper.

My black '81 and my blue '81 with carburetor conversion are both now so close to perfect that I would not touch a thing on either of them, except perhaps to convert the blue car back to EFI if I can obtain enough parts to do it without using any of the IML donations. My brown '81 has crossed the 300,000 MI mark, and now needs so many chassis refurbishments that I have begun to drive one of the others for daily transportation (I was afraid the front end would fall out from under it!), but it still runs perfectly as far as the EFI is concerned.

So, great to have you back, Bob. You'll find the list is much expanded, and while I have not kept accurate count, I think the '81-'83 count is over 100 cars now, probably about 1/2 still with EFI.
Dick Benjamin
bondotmec@dte.net

Subject: Please Welcome Bob Harris

From: auto-bot - auto-bot@dte.net>

Sent: Sunday,#######

>New Subscriber(s) Bob Harris
>Email Address is HarrisWerks@worldnet.att.net
>Member Location Houston, Texas

>Car(s) owned 1981 Model YS-22, EFI equipped, Mahogany Star Mist w/matching leather.
>Self-Introduction Wanting to keep interested with what the group is doing with these cars, I'm going to rejoin after a years absence and contact some friends of the past and discuss progress in analyzing problems and solutions.

Subject: EFI electronics design discussion

From: "Dick Benjamin" - bondotmec@ez2.net>

Sent: Sun, 2 3316 -0800

>>From Harris - HarrisWerks@worldnet.att.net>
>>Re the Q42 (?) part in the Power Module.
>>difference between the new and old Power Modules,

OK, Bob, anything you can do to identify this part (by the way, it's Q52, not Q42) will be a big boost to my repair operations. I was unaware there was a difference between early and late power modules, I'd love to see a later one to see what the differences are. There are some obvious design errors on the ones I have repaired, but these do not affect the operation in normal circumstances. They only crop up when someone is poking around with a test prod or wiggling connectors with the power on, both very foolish things to do!

The most outrageous mistake is to take the feedback point for the 23 volt power supply from the output point AFTER the series protection resistor in the output. This means that any even temporary short on the output (which blows the protection wire wound resistor) will cause the internal supply to skyrocket to whatever the supply can generate - about 65 volts! This quickly fries many of the electronic components in the HSA. I always find this one easy, all the Tantalum Capacitors have blown their seals!

There are also some very amateurish design boo-boos in the ASDM, and these are responsible for it's incredible sensitivity to ground problems. I have a feeling that the electronics engineering was done by some really green EE's, and not design reviewed by the graybeards in the company before release. The designs are creative, but treat circuit design as if there is never any deviation from ideal conditions in the real world, and we all know how that goes!
Dick (once green, is now a gray EE) Benjamin
bondotmec@dte.net

Subject: '81-'83 EFI In-Tank Fuel Pumps

From: "Harris" - HarrisWerks@worldnet.att.net>

Sent: Wed, 3 1508 -0600

The older NAPA InTank Pump part no. EP-7109 is no longer available; however, they do have at least one, P-74040, that is 12volt, 29gph and 15psi, which will drop when the resistor turns on after

start. They also have several In-Line units that are easily adapted to the system; be careful for those that are not self-priming. Also, I would probably shy away from solenoid types. GM apparently had many pumps and a mounting bracket array very similar to the Chrysler. The unit above is insulated with dimensions of 5 1/2" by about 3 1/4"' in diameter. They cost $85 and are usually in stock. Thanks to Dick Benjamin for getting me motivated to investigate this serious concern of Imperial owners since the original EFI pump has not been available for many years.
Bob Harris

EP-7109 is no longer available; however, they do have at least one, P-74040, that is 12volt, 29gph and 15psi, which will drop when the resistor turns on after start. They also have several In-Line units that are easily adapted to the system; be careful for those that are not self-priming. Also, I would probably shy away from solenoid types. GM apparently had many pumps and a mounting bracket array very similar to the Chrysler. The unit above is insulated with dimensions of 5 1/2" by about 3 1/4"; in diameter. They cost $85 and are usually in stock. I'm motivated to investigate this serious concern to Imperial owners since the original EFI pump has not been available for many years.
Bob

Subject: 81 to 83 EFI Exhaust

From: Stude1966@aol.com

Sent: Sun, 7 2254 EST

Major problem here is if you have to replace the system, the duel CAT head pipe is virtually unavailable new. It may be found used but at a real premium. I have had quotes in the five and six hundred dollar area for a used set of pipes with no guarantee of the condition of the CAT's.
Bill
'81 Imperial EFI

Subject: 81-83 EFI ASDM Module Grounding

From: "Sir Buddy Enterprises" <eddenbud@magicnet.net>

Sent: Sun, 7 5729 -0500

Hey List,

I could probably address this message directly to our guru, Dick Benjamin, but it could be of interest to others, so I'm sending it to the IML. In regards to the Automatic ShutDown Module (ASDM) on 81-83's, Dick has repeatedly suggested running an additional ground wire to the ASDM which is prone to shutting down the car for no apparent reason whatsoever. Well, Dick, I'm finally getting around to doing this on my 82. It has never seemed to display these odd problems of sudden shutdown, and I am generally of the "if it ain't broke, don't fix it" school. But, as you have previosly pointed out, it's probably just a matter of time, as this is a trouble-prone area. I saved your previous message of last year on adding the ground wire, but you also

suggest insulating the entire ASDM from the fender to prevent spurious charges from interfering with the ASDM's operation. How should I go about doing this?

I'm guessing that I should just get a piece of thin rubber material or something and cut it to the shape of the ASDM. Then use some non-conductive screws to reattach to the fender. Does that sound about right?

Thanks in advance for the help.
Ed Ferrara

Subject: EFI Imperial ASD Module grounding

From: "Harris" <HarrisWerks@worldnet.att.net>

Sent: Sun, 7 2506 -0600

The insulation / isolation of the module can be easily done by using two water valve rubber washers under each tab of the module case then reuse the screws. The ground wire should be soldered at one one of the housing ears ans run to the ground screw protruding from the top, rear of the alternator, factory installations on the '83 used one of the thru bolts of the alternator.

Intermittant shut-down is frequently caused by a thermal condition within the pick-up coil windings in the distributer - most early '81s were prone to this, a manufacturing defect - replace the pick-up coil, even if it tests good. module can be easily done by using two water valve rubber washers under each tab of the module case then reuse the screws. The ground wire should be soldered at one one of the housing ears ans run to the ground screw protruding from the top, rear of the alternator, factory installations on the '83 used one of the thru bolts of the alternator caused by a thermal condition within the pick-up coil windings in the distributer - most early '81s were prone to this, a manufacturing defect - replace the pick-up coil, even if it tests good

Subject: 81-83 EFI ASDM Module Grounding

From: "Dick Benjamin" <bondotmec@ez2.net>

Sent: Sun, 7 1031 -0800

You've got the right idea, but instead of non-conductive screws, I use screws that will pass through the mounting flange holes with enough clearance that normal rubber grommets (as available at any electronics store, for instance Radio Shack) will keep the screws from contacting the ASDM mounting flange.

For interest sake, the 82 that I bought from former IML'r Pat Lee last year had this problem develop, and I was a few miles from home on a neighbor's ranch. The car died and would not restart, (I later found rusty crud between the ASDM mounting flange and the inner fender). I simply added a ground wire from the ASDM to the alternator from junk wire I found in my neighbor's tool box, and I have been running the car around the ranch that way ever since,

without any further trouble on that score. This was on a California car, so they are all susceptible sooner or later.
Dick Benjamin
bondotmec@dte.net

Subject: 81-83 EFI ASDM Module Grounding

From: Sir Buddy Enterprises <eddenbud@magicnet.net>

Sent: Sunday,52 AM

Hey List,

I could probably address this message directly to our guru, Dick Benjamin, but it could be of interest to others, so I'm sending it to the IML. In regards to the Automatic ShutDown Module (ASDM) on 81-83's, Dick has repeatedly suggested running an additional ground wire to the ASDM which is prone to shutting down the car for no apparent reason whatsoever. Well, Dick, I'm finally getting around to doing this on my 82. It has never seemed to display these odd problems of sudden shutdown, and I am generally of the "if it ain't broke, don't fix it" school. But, as you have previosly pointed out, it's probably just a matter of time, as this is a trouble-prone area. I saved your previous message of last year on adding the ground wire, but you also suggest insulating the entire ASDM from the fender to prevent spurious charges from interfering with the ASDM's operation. How should I go about doing this? I'm guessing that I should just get a piece of thin rubber material or something and cut it to the shape of the ASDM. Then use some non-conductive screws to reattach to the fender. Does that sound about right? Thanks in advance for the help.
Ed Ferrara

Subject: 81 EFI Car components Grounding

From: "Harris" <HarrisWerks@worldnet.att.net>

Sent: Fri, 1 2058 -0600

Re the ASD Module grounding - prior to the grounding of the device, you probably saw the rust that accumulated under the ASD module, this because of the galvanic corrosion that occurred as the module case tried to seek its own ground, the electrolysis caused the corrosion. The added ground strap provides a good path to return electricity to the source while avoiding the rust; the path of least resistance.

>From what I hear, the two braided ground straps at the Radiator to Condenser also avoid an electrolytic reaction within the cooling system - apparently this is due to a reaction of the particles travelling in the coolant as a result of a reaction of the dissimilar metals which the radiator is made of and assembled with; nothing new here, just an added life enhancer idea.

The latest Popular Mechanics has a fine story about coolants/antifreezes that is important because of the problems newer engines with aluminum castings had with the older coolants. If you've disassembled some of those engines with iron blocks and aluminum heads you'll often find the steel bolts rusted to half the original diameter and they often break upon removal. So the Imperial ground straps were a beginning attempt to retard the damage caused by this electro/chemical reaction.

The reason for the spacers under the ASD Module is to prevent contact with the wheel house metal and have rust.....Bob Harris to the grounding of the device, you probably saw the rust that accumulated under the ASD module, this because of the galvanic corrosion that occurred as the module case tried to seek its own ground, the electrolysis caused the corrosion. The added ground strap provides a good path to return electricity to the source while avoiding the rust; the path of least resistance ground straps at the Radiator to Condenser also avoid an electrolytic reaction within the cooling system - apparently this is due to a reaction of the particles travelling in the coolant as a result of a reaction of the dissimilar which the radiator is made of and assembled with; nothing new here, just an added life enhancer idea fine story about coolants/antifreezes that is important because of the problems newer engines with aluminum castings had with the older coolants.

If you've disassembled some of those engines with iron blocks and aluminum heads you'll often find the steel bolts rusted to half the original diameter and they often break upon removal. So the Imperial ground straps were a beginning attempt to retard the damage caused by this electro/chemical reaction. the reason for the spacers under the ASD Module is to prevent contact with the wheel house and have rust.....Bob Harris

Subject: 81 EFI Car components Grounding

From: "Sir Buddy Enterprises" <eddenbud@magicnet.net>

Sent: Fri, 1 5928 -0500

>Re the ASD Module grounding - prior to the grounding of the device, you probably saw the rust that
>accumulated under the ASD module, this because of the galvanic corrosion that occurred as the module
>case tried to seek its own ground, the electrolysis caused the corrosion.

Bob,

You're right, I did see that bit of rust under the ASDM, but it did not occur to me that it was from the electrical current there.

>From what I hear, the two braided ground straps at the Radiator to Condenser also avoid an electrolytic
>reaction within the cooling system - apparently this is due to a reaction of the particles travelling in the
>coolant as a result of a reaction of the dissimilar metals which the radiator is made of and assembled
>with; nothing new here, just an added life enhancer idea.
THANKS again. I will add these grounding straps to my 81 shortly.

Ed Ferrara

Subject: Well grounded discussion of '81-83's

From: "Dick Benjamin" <bondotmec@ez2.net>

Sent: Fri, 1 5437 -0800

I have isolated the ASDM with rubber on one of my cars, but didn't bother on the others, and so far no problem. I was the booster for doing this, because of the extreme sensitivity of the circuit design they used, but perhaps I was over reacting. It couldn't hurt, but it may not be necessary. I was unaware of any grounding straps on the condenser and/or Radiator, I will go look at my 82 tomorrow to see if there are any such. Before hearing of this, I would have bet those components are well grounded by their mounting, but perhaps not. If not, I suppose there could be an electrical discharge in very dry weather that could upset the system (the ASDM would be a prime suspect here), but the chance seems pretty remote to me. Are you pretty sure these are factory wires? The diode cure is most likely a "backswing" diode, installed to stop the discharge across the compressor control switch, both for the reason you mention, and for longevity of the switch. I was also unaware of this. You must have service bulletins I have not seen, any chance you could post them to the web site? Or else send them to me and I will include them in my web page if I ever get it done. If you have a scanner, send them along and I will try to take it from there.
Dick Benjamin
bondotmec@dte.net

From: Sir Buddy Enterprises <eddenbud@magicnet.net>

Is it important to isolate the ASDM, or is that just an "extra"?

Anyways, I also changed both of the grounding straps connecting the condensor to the radiator. I do recall there was a Service Bulletin (08-18-81) for the 81 where a POP would be heard on the stereo every time the a/c compressor would be signalled to kick on. The fix was a special diode assembly (#4222597), that was to be attached to the compressor connector. I performed this SB years ago, and it did correct the popping.

Subject: 80's Imperials

From: "Rob Shapiro" <shapiro@interport.net>

Sent: Thu, 2 4157 -0500

>Is an 80's model a viable alternative? How do these cars run? Do they ride nice?

Dick Benjamin swears by 'em (I think he's got three), and there are plenty of people on the list who use them as daily drivers. The only topic of any heated discussion among them that I've

heard regarding these cars is the viability and stability of the EFI system used from '81-'83. I'd say go for it; they're beautiful, very unique cars, and, in the Imperial tradition, epitomize their time.
Rob

Subject: Re 80's Imperials

From: Stude1966@aol.com

Sent: Thu, 2 1808 EST

I have an 81 that is driven daily, it has in excess of 170,000 miles on it. Mine is still fuel injected and in the beginning had problems, but Chrysler replaced my engine at 52,000 miles under warrantee. I had bought the car used in 83 with 16,000 miles on it and they gave me a Chrysler extended warrantee. Since they replaced the engine the car has run without a missed beat. I use a fuel injection cleaner in it once a month and use high test fuel. The ride, comfort and look of the car are the best, many people think it is much newer than it is. If one did chose to go this way with an 81 to 83 I would strongly suggest you get another EFI system just in case. They are around, I bought a complete one from a good running car that was destroyed in an accident for $100. This was all the computers, sensors, harness, and hydraulic plate. I have even picked up a factory conversion kit at a swap meet if I ever get desporate. I will drive mine till it has to be shovelled off the road. Bill 81 EFI

Subject: 80's Imperials

Sent: Thu, 25 1110 -0800 (PST)

From: David Duft <imperial_man@hotmail.com>

Chad,

Are you convinced yet to get one? If not, here's my 2 cents worth (or is it 5 now).

I have an 81 that had the EFI and was my daily driver for a couple of years. They are onery, but do get excellent mileage and after you get used to it's eccentricities you'll rarely have a problem with it. I'm sure the 440 won't get the mileage, but that wasn't a consideration.lol

I also have an 83 that has the carb refit. It is my current daily driver. I paid $500 for it and have driven it for about 3 years now with NO problems despite the 187,000 miles. I say no problems because I blame the transmission failure on the fact that for the last year I have pulled a car trailer with it carrying heavy loads such as 3 vehs, 5 or 6 loads of railroad ties, and several loads of trees that made the trailer squat.

I love the styling of these cars and at 4,000 lbs they ride great. I also love the digital dash and leather interior. If I had to spend an hour a day in a car this would be my choice.

If anyone has a spare tan front seat arm rest for my 83 I would be interested in getting it. I have a pick up now so my 83 can relax as I start to restore it.

Dave

Subject: Re 80's Imperials

From: RWestra@aol.com

Sent: Thu, 2 5605 EST

I might just affirm what has already been said about the 80's Imperials. I have owned an 81 for the past 6 or 7 years. It has the original EFI and when it is working it is hard to beat. It is however, temperamental and does not respond well to diagnosis and repair. I believe if it were not for Dick B. and others on the IML it would have been converted to a carburetor two years ago. I have most of the components needed for conversion. The EFI aside it is a very fine automobile. I doubt there is another personal luxury car that can match it (of any vintage). Its quiet, smooth, rides well and behaves well on the highway. I would rather drive it on the highway than my 94 New Yorker and that is a fine automobile. If you like the challenge of keeping a car original and are willing to tolerate a few sticky problems then the EFI Imperial will be hard to beat. If you need the reliability of a carburetor and are willing to give up a little on warm up drivability and fuel economy then go with the carb. The EFI car drives the same hot or cold and will deliver in excess of 20 mpg on the highway at any speed (80 to 85 is very comfortable). When it is working well nothing comes close. Ed and Dick have comparisons with carb and EFI cars, however, I doubt you will hear anything negative about the rest of the car.
PERSONAL LUXURY at its finest.

Subject: 80's Imperial Service Bulletins

From: RWestra@aol.com

Sent: Fri, 26 2048 EST

Bob

I noted in your post today that copies of all service bulletins on the 80's Imperials has been archived. I assumed this means that IML has them available. What do I need to do to get copies of these? Is there a cost? Who do I contact?

As one who is committed to keeping an 81 EFI car as it came from the factory these bulletins may be very helpful.

Also I would like to build an inventory of spare parts for this car without spending a fortune. Would you have any suggestions or sources?

Subject: 81 fuel inj. problem

Sent: Sat, 2 3158 -0500

From: sp-racer@juno.com

To all club members with a 81 injected imperial, help! I would like to know if the large pump-like unit under the air cleaner is a pump and if I am able to take it apart and service it. With my ignition switch in the on position and the car off sometimes the squirt tubes will just keep dumping fuel and sometimes not.any info would greatly be appreciated!! I checked the fuel pump in the tank via a fuel press. guage and it's putting out 10 psi. I miss driving my baby. You guys-n-gals are my only reliable sourse of info. Thanks in advance. Scott.

Subject: 81 fuel inj. problem

From: DBKEMPER@aol.com

Sent: Sat, 2 2514 EST

Scott, be patient you will get a ton of replys here shortly. First do you have the Factory Service Manual for your car. If not get one. It takes you through the problems step by step. The Hydrulic unit can be serviced and I think Flight Systems in Mechanicsburg Pa may still rebuild these and the computers upon request. There are source out there for the parts you need I have some and so do several IMLers. Yes that is a pump up front.....chances are it is being told electronically to pump fuel.....in start up mode the back pump just energizes the system and shuts down the front pump takes it from there.....I will let the real experts take you through the diagnostics.

Subject: '81-'83 EFI Imperials

From: "Harris" <HarrisWerks@worldnet.att.net>

Sent: Sat, 2 1206 -0600

Re the front Control Pump question from sp-racer@juno.com and DBKemper response.

New HSP units are available from Chrysler with the improved electronics for close to $900/unit. There is a LIMITED number still available from dealers. Flight Systems will not rebuild used units because new component parts are no longer available, especially the Power Module. There is a small semi-circular mesh filter inside this pump, but unless you have exceptional dexterity, avoid disassembling this pump. If the pump makes an initial "squirt" at start-up, it's okay; continuous stream indicates a problem with the Power Module. The pump takes orders from the Combustion Computer via the Power Module and increases or decreases its speed to provide the correct mix at idle, (hence the term "Bracketing"), resulting in a normal rise and fall in engine RPM. The water temp Sensor, located near the Thermostat housing, can also be a cause for the continuous pumping. Check this part with a digital ohmeter. Water 550 to 1200 to 1500 ohms. Replace if defective.

Initial pump pressure to the HSP should be 12psi; normal pump pressure after start is 7.5psi.

Rebuilt Combustion Computers are also still available, sporadically, depending on the quantity of cores they get back to rebuild. There are no new ones avail.

The Chrysler Service Manuals for these cars are filled with errors and poor procedures and in some tests, it actually led to the damage to both the Sun EFI Tester and the computer and the Idle Speed Control Motor on the car. Revised Diagnostics were never made avail by Chrysler. Bob Harris and DBKemper improved electronics for close to $900/unit. There is a LIMITED number still available from dealers. Flight Systems will not rebuild used units because new component parts are no longer available, especially the Power Module. this pump, but unless you have exceptional dexterity, avoid disassembling this pump.

Start-up, it's okay; - continuous stream indicates a problem with the Power Module. The pump takes orders from the Combustion Computer via the Power Module and increases or decreases its speed to provide the correct mix at idle, (hence the term "Bracketing"), resulting in a normal rise and fall in engine RPM. The water temp Sensor, located near the Thermostat housing, can also be a cause for the continuous pumping. Check this part with a digital ohmeter. Water cold 550 to 1150 ohms; water 1200 to 1500 ohms. Replace if defective normal pump pressure after start is 7.5psi available, sporadically, depending on the quantity of cores they get back to rebuild. There are no new ones avail filled with errors and poor procedures and in some tests, it actually led to the damage to both the Sun EFI Tester and the computer and the Idle Speed Control Motor on the car. Revised Diagnostics were never made avail by Chrysler.
Bob

Subject: 81 fuel inj. problem

From: "Dick Benjamin" (bondotmec@dte.net)>

Sent: Tue, 2 4215 -0800

You've already gotten some good hints for this problem, but I would like to add that you should check the ground screw inside the air cleaner near the fuel line to the nozzle assembly, make sure it is clean and tight, and also inspect the wire to the fuel pressure switch (in the same area, looks like a brake light or oil pressure sending unit, one wire clips to it in the center), I suspect the FPS has failed or is intermittent. If you would like to test it, take the 'sending unit' off the fuel line and rig up a pressure testing set up (air pressure works just fine) and see if the switch 'snaps' from less than 10 ohms at pressures from zero to 20 PSI or so to over 10000 Ohms at pressures above this.

How are you observing the fuel running out of the nozzles? Is this happening with the key on, engine stopped, air cleaner lid off. (I assume so)? Or is is only when you are cranking?
Dick Benjamin
bondotmec@dte.net

Subject: 81 fuel inj. problem

From: sp-racer@juno.com <sp-racer@juno.com>

Sent: Friday,41 PM

>To all club members with a 81 injected imperial, help! I would like to
>know if the large pump-like unit under the air cleaner is a pump and if i
>am able to take it apart and service it. With my ignition switch in the
>on position and the car off sometimes the squirt tubes will just keep
>dumping fuel and sometimes not.any info would greatly be appreciated!! I
>checked the fuel pump in the tank via a fuel press. guage and it's
>putting out 10 psi. I miss driving my baby. You guys-n-gals are my
>only reliable
>sourse of info. Thanks in advance. Scott.

Subject: 81-83 Air Cleaner Gasket

From: "Harris" <HarrisWerks@worldnet.att.net>

Sent: Mon, 8 3754 -0600

Subject: 81-83 Air Cleaner Gasket

From: t3176@flash.net <t3176@flash.net>

Sent: Monday,18 PM

> Does anyone know the part number for the gasket that goes at the base of
> the air cleaner assembly for the EFI 81-83 Imperial?

This gasket is number 4111042 and is listed with the HSP, not the Air Cleaner proper. The advice below is probably good. This Air Cleaner cover gasket became unavailable last summer; unless there are some back in the bins. Bob Harris

I don't think you'll find one. The EFI Imperial expert friend of mine has not been able to find one for years. However, all is no lost. We simply made a gasket for my car out of some dense foam purchased at an upholstery shop. I've been using it for months now with no complaint. This is a very important part, and it is vital to have absolutely no leaks at this gasket.

> The linkage arm broke on my 82's windshield wiper assembly, as they all
> seem to do after anbout 15 years or so, and so I I just came from the MOPAR
> counter at my Chrysler dealer.

If you get lucky, you might find an unbroken one on a junked Mirada/Cordoba. (I did). I'd also check out the M-bodies of that era. Possibly cross-reference something in the parts book. M-bodies (Diplomat-Gran Fury-5th Ave) were built until '89. I've found more than a few common parts between my '89 5th and my '83 Imperial.

Carmine F.

Subject: 81-83 Air Cleaner Gasket

Sent: Mon, 0 840 -0800

From: t3176@flash.net

> Does anyone know the part number for the gasket that goes at the base of
> the air cleaner assembly for the EFI 81-83 Imperial?

I don't think you'll find one. The EFI Imperial expert friend of mine has not been able to find one for years. However, all is no lost. We simply made a gasket for my car out of some dense foam purchased at an upholstery shop. I've been using it for months now with no complaint. This is a very important part, and it is vital to have absolutely no leaks at this gasket.

> The linkage arm broke on my 82's windshield wiper assembly, as they all
> seem to do after anbout 15 years or so, and so I I just came from the MOPAR
> counter at my Chrysler dealer.

If you get lucky, you might find an unbroken one on a junked Mirada/Cordoba. (I did). I'd also check out the M-bodies of that era. Possibly cross-reference something in the parts book. M-bodies (Diplomat-Gran Fury-5th Ave) were built until '89. I've found more than a few common parts between my '89 5th and my '83 Imperial.
Carmine F.

Subject: Ignition System HELP

From: "Sir Buddy Enterprises" <eddenbud@magicnet.net>

Sent: Tue, 9 5947 -0500

Last week on the IML chat, I mentioned a problem that I thought was carburetor-related on my 81. The 81 had been "backyard" conveted to carburetion by the previous owner. I recently changed the crappy Holley carb. to a Carter 9636.

Recently the car had very difficult starting problems SOMETIMES, and it has stallled out a few times. Upon stalling, sometimes it would start right up and other times, I thought I was going to be stranded. Finally, it would miraculously start.

I disconvered that it was an intermittent "no spark" condition. I've given up on it and have left the car with my mechanic. The conversion included a change of distributor and Chrysler electronic ignition module, placed on the fender where the ASDM had been mounted. The module checks good, and I replaced the coil a year or two ago.

This is, of course, very difficult to diagnose, as it is an intermittent problem.

Any hints where to look next? I need this car to be reliable as it is the car I usually take to work.
Thanks in advance,
Ed Ferrara

Subject: '83 PROBLEMS

From: "Leo L Heligas" <LLHELIG@prodigy.net>

Sent: Tue, 9 220 -0600

Hi List,

I have a couple of problems I though perhaps someone could help with. First, the horn on my 83 works intermittently and only when it feels like it, never when you really need it. Every time I try to check it out it is working. Secondly, I have a buzzing emitting from behind the dash panel towards the left side. It sounds like a relay making and braking very fast.

It decreases in volume when I turn the lights or another high draw electrical item on. Sometimes it comes and goes with the curves in the road and bumps. HELP!
Leo
'83EFI Mark Cross

Subject: '83 PROBLEMS

From: "Sir Buddy Enterprises" <eddenbud@magicnet.net>

Sent: Wed, 1 2208 -0500

> I have a couple of problems I though perhaps someone could help with.
> First, the horn on my 83 works intermittently and only when it feels like
> it, never when you really need it. Every time I try to check it out it is
> working. Secondly, I have a buzzing emitting from behind the dash panel
> towards the left side. It sounds like a relay making and braking very fast.
> It decreases in volume when I turn the lights or another high draw
> electrical item on. Sometimes it comes and goes with the curves in the road
> and bumps. HELP!
> Leo

Leo,

Do the buzzing from under the dash and the horn operation/inoperation seem to be related? The horn relay is located on the fuse block, in the precise area you describe, so perhaps your horn relay is stuck. However, I genuinely believe that your horn ailments lie elsewhere.

My 81 horn used to come and go as you describe, and now my 82 does the same. You will find that there are some contacts within the steering wheel hub that wear out. This is not the

contacts under the horn button, but within the wheel. I got my 8's horns working flawlessly by correcting this problem, though that was years ago, so I don't remember the details of it.

On my 82, I have changed all three horns, since they were either inop. or sounding like weak, miserable cows that had been hit by a train. I also replaced the horn relay, yet the intermittent probelem persists. I am sure that when I get around to it, I will find that it is also those contacts within the steering wheel.

In any case, I would definitely investigate the source of that buzzing right away. If you have a relay sticking, it could cause an electrical fire under there. Inspect the fuse block area, paying close attention to the Illuminated Entry Delay relay, which I had problems with some years ago too.
Good luck.
Ed Ferrara

Subject: 81 Imperial EFI

From: RWestra@aol.com <RWestra@aol.com>

Sent: Monday,27 PM

>Dick

>I am about to embark on a reliability improvement on my 81 Imperial
>and I am seeking advice. You have been very helpful in the past.
>Since your advice on grounding the ASD module the car has been
>running pretty good. Still a little sluggish on acceleration but I can
>live with that. The problem I would like to correct is the hard starting
>problem. During this past year it has never failed to start but it has
>caused some nail biting at times. Let me describe its behavior. It
>follows a pretty set pattern.
>1. When it is cold (in the morning or after setting for 3 or more hours)
> it will fire and continue to run after 3 or 4 seconds of cranking. This
> is about 8 to 10 turns of the engine.

This is acceptable.

>2. When it has warmed up and I stop at a store or business for 10
> to 20 minutes it will fire and continue to run after a couple of
> turns of the engine. (maybe 2 to 3 seconds)

this is also acceptable.

>3. However, when it has warmed up and sets for 30 minutes to 2
> hours it is necessary to crank for approximately 15 seconds. It
> will then fire and continue to run.

This is a long time on the starter.

> Sometimes it will fire and die immediately after 2 seconds of

> cranking, then it is necessary to crank for 15 seconds before it
> starts.
>As I said it has never failed to start but after ten seconds of cranking
>you begin to draw a crowd wondering if you need help.

I expect the major concerns are the anxiety and the embarrassment. I keep a spare starter rebuilt and ready to go.

>I can buy a used Hydraulic Support Plate which is claimed to be good
>for $400 and if I was sure it would correct the problem I would not mind
>spending the money. However, I would not like to change out the HSP
>and find I had made no improvement. Also the $250 price for a new
>(or maybe it is rebuilt) computer is not a bad investment if it corrects
> the problem and improves reliability.

I guess my thinking is if I know I am correcting the problem I would not mind spending the money.

>I have replaced the coolant temperature sensor. One from Chrysler and
>one from NAPA with no noticeable improvement. I have replaced the
>oxygen sensor, the low fuel pressure switch on the HSP, the Hall pick
>up in the distributor, plugs, wires, and checked the timing. I also repaired
>the throttle body gasket (it was restricting my PCV system airflow). I also
>replaced the fuel filters and hoses (I am not sure they are the correct ones
>but they were listed in the Parts America book). I have cleaned dozens of
>electrical terminals and checked voltages and resistance where possible. I
>am not real sure what I am looking for in this area though.
>Is it possible the air cleaner is leaking and causing a faulty flowmeter
>signal when starting hot? Is there a fix for this?
>After the ASD module grounding the car ran well enough to encourage me
>to bring it back to original appearance. I repaired some minor Midwest
>rust spots and put a base clear finish on it. It looks very nice. I need
>new bumpers but I have a set located for $400 and as soon as I
>correct the starting problem I will buy them. I love the car but I want
>it reliable.
>Any thoughts on the starting problem, Dick? Also what is your
>thinking on a new HSP and computer?
>I would appreciate any advice you can give. If it would be better to discuss
>this over the phone send me your number and a good time to call and
>I will call you.
> Rolland Westra
> Rockford, IL

Subject: '83 PROBLEMS, buzzing under dash

Sent: Fri, 12 1621 -0800 (PST)

From: D D <icewolf65@yahoo.com>

Leo,

I had a buzzing under my dash on my '83 like you describe that turned out to be the headlight door relay. It has power only when the ignition is on and on mine the sound would change with the opening and closing of the doors. This relay is also mounted on the side of the fuse box and has a 12v breaker attached to it. I would try unplugging the power to it and see if that stops your buzzing. I was out of town when mine went out so I temporarily rewired it with another relay so that the doors would work wether the ign was on or not. I think after driving it a while this will probably become permanent though.
Dave

Subject: EFI problems, long - EFI addicts only!

From: "Dick Benjamin" (bondotmec@dte.net)>

Sent: Thu, 4 5413 -0800

Roland;

I hope you don't mind, but I posted this to the IML because many folks are interested in these cars and your symptoms are similar to those all of us have had to deal with at one time or another.

>Hi Dick,
> I just picked up a 1982 Imp It would not start, and couldn't
>hear fuel pump operation, so thought it might be that; but grounded ASDM,
>and it started. Still can't hear fuel pump when first turn on key like I
>could on others, but it started. The ASDM had a ground going to a spot
>about a foot in front of it, that had three other wires grounded. This
>appears to be factory grounded, and I don't know if it helped, or just was
>time for the darned thing to start.

Sometime in 82 Chrysler woke up to the grounding problem on the ASDM, and yours may be built after that date, thus the ground wire. But if it goes to the fender sheetmetal, I think it is still suspect. I would run a ground directly to something on the engine, I use the ground terminal on the alternator, I think this is a much better ground.

I don't know why you are not hearing the fuel pump. It isn't clear if you mean the control pump in the HSA or the rear pump in the tank, but in either case, you can see if it is getting voltage during cranking by putting a test light on the electrical feed. The feed to the rear pump is on the firewall, there is a large resistor with green wires going to it, just put your test light from there to ground, it should light up whenever you are cranking and after the engine starts, it will stay lit. Of course we know it is, because the car is running.

The control pump is a little harder to check, but if you have someone crank it while you probe the hot lead to the pump motor inside the HSA (of course you need the lid off to do this, unless you get tricky and route a wire out through the air inlet), so it will not keep running, but you should see the light on momentarily every time you turn on the key, and while you are cranking. You can tell from the manual which wire is the hot one, I forget the color now, but there are only two wires, and one is ground.

If the light is not coming on when you first turn on the key, the fuel pressure switch has probably quit. Look for it on the fuel line from the pump to the nozzle assembly, it has one wire clipped to it. If you take a test meter and measure the ohms from its terminal to ground with everything off and the wire disconnected, you should measure 10 ohms or less. If you get way more than 10 ohms, you have a bad fuel pressure switch.

>It idles very rough, attempdting to
>stop much of the time, but catches itself, and continues to roughly idle.
>Did stop after rough idling for awhile, and three times started right up.
>Fourth stop would not start, however if I push accelerator down does start
>momentarily, and runs down to stop. I realize, pushing throttle down
>relieves a flooded condidtion, but can't believe it is flooded, but maybe,
>and maybe it was getting too much gas while was idling, and that caused
>rough idle. Black sooty residue accumulated on cement from exhaust while
>it was idleing.

The bad running at idle is usually one of two things. Since you see black soot from the exhaust, I would suspect the fuel nozzles are not squirting a clean pattern. If you watch them while someone cranks the engine (pull the center wire out of the distributor cap AND GROUND IT TO THE BLOCK while you do this so you don't get a flame in your face!) you can see the pattern. There are 8 nozzles, I'll bet one of them is drizzling, or else there is a leak in the plumbing inside the air cleaner, and liquid gas it running into the manifold.

If you see a poor spray pattern, pull the nozzle assembly apart (watch those springs and "O" rings) and clean it out good, with spray type carb cleaner until all 8 nozzles squirt clean.

The other possibility is an air leak somewhere. Make sure all the gaskets around the air cleaner assy are good. This means the one sealing the power module (7 wire) connector, the base gasket to the intake manifold, both above and below the throttle body, and the rim gasket around the lid, the lower gasket on the base of the air cleaner housing, the clamp on the lid, the wing nut washer, and any gasketing around the CCC mounting hole. ANY air leak, no matter how small, into the air cleaner assembly will screw up the engine's smoothness, especially at idle. If you suspect this problem, try squirting WD40 around all the suspect orifices to see if you get any change in the idle.

Do you know how to run the engine with the lid off? This is a trick you can play on the computer by making it think you are cranking the engine, it ignores the air flow sensor and lets the engine run with the lid off. This is very useful for working on the nozzles and the fuel pressure switch problems.

By the way, when you get it running, how does it drive? Does it have normal power on the road?

Where the heck is Colusa? Is it anywhere within driving distance to Temecula? If so, if you bring it by, I will try to help you figure out what is wrong. No promises, and e-mail me for a time first and directions, but maybe I can help.

>Since I have three of these EFI units, guess I could start methodically
>changing parts, but would like a little mor info into the basics. If you
>know of other literature, books, etc. that I should have would appreciate
>knowing about them. Also if there is any inform ation you can afford me, I
>would really appreciate hearing from you. Sorry about the long message,
>and didn't post to IML, as I sort of get tired of going thru these type

>messages, and maybe athat is wrong.
> Best Regards, Roland Ellsworth, Colusa, Calif.

My advice is to NOT start changing parts around. Let's figure out what is wrong with what you've got on it, then if you need to rob a part off another setup, fine, but there is more likely hood of damaging something if we start fiddling around changing parts.

Dick Benjamin

Subject: 81 EFI - warm restart problems, long discussion

From: "Dick Benjamin" <bondotmec@ez2.net>

Sent: Fri, 1 2203 -0800

Rolland;

I actually thought I had responded to this last week, but apparently not, as I don't see a message to you in my "sent" file. I apologize for the delay, then. We have had a very busy week here with family goings-on, and I didn't pay as much attention to the IML as I usually do. I have read and re-read your posting as to what you have already done, without any bright lights going off in my head.

If you had not already changed it, I would have said you have a bad fuel pressure switch, which is somehow failing only under heat soak conditions. Now I wonder if your power module (which processes the signal from the FPS) has a heat problem. The circumstances you describe are consistent with lack of fuel flow on startup, which means probably the control fuel pump is not running while you are cranking to purge the vapor out of the lines; the usually cause of this is a bad FPS.

Of course, the temperature peaks in the HSA area under exactly the conditions that you describe, due to all the engine heat rising into the assembly. I guess one thing I would do before throwing money at the problem is to take a small quantity of gas with you (you only need a few ounces) and when you have produced the condition you think will cause the symptom, before you do try to start the car, open the hood, momentarily loosen the wingnut in the center of the air cleaner, and pour about 1 1/2 oz of gas into the center depressed part of the lid, this will quickly rundown the screw threads and into the intake manifold. Now quickly tighten the wingnut, and try to start the car.

If it now starts every time and quickly, we have isolated the problem to delay of fuel delivery. Now we have to figure out why.

Next step, assuming this is the problem, is to run a wire out of the HSA area (you can snake it through the air inlet so you do not have to violate the tight air seal) and connect it to the hot side of the control fuel pump connector, which has only two wires. (I think you want the light green wire, but I'm color blind, so make sure the other wire [black?]is ground, then the light green wire is the one you want). Outside, connect the wire to a test light so you can see when the pump is being told to run.

This light should light brightly every time you cycle the key to off, then back to on-crank. Only very briefly, mind you, if the car has just been running, but it should at least flash bright, showing

the purge cycle is happening. If it is, and no gas is being delivered, I think you have a fuel leakage or vaporization problem in the nozzle or tubing area inside the HSA.

If the light is not coming on, there is an electronic problem, but there are a couple of possible locations. One is our old friend the ASDM. The ASDM can be eliminated as a culprit by bypassing it totally. Take a short length of #12 wire and connect the two LARGE wires (one blue, t'other green, both #12) in the 5 socket connector that you disconnect from the ASDM. If the problem persists, the FPS is still suspect, along with the power module.

Before I continue to construct the whole diagnosis tree in my head, lets have you take these steps, so we have some more info to proceed on. I hope you don't mind, but I think we should post this problem and our efforts at solving it to the whole IML. There are others with similar problems, and perhaps they will appreciate our flopping around trying to learn something, and find an answer to other's problems.
Dick Benjamin
bondotmec@dte.net

Subject: 81 EFI - warm restart problems, long discussion

From: RWestra@aol.com

Sent: Sat, 1 1101 EST

Dick

Thanks for the guidance. I will install the light and check out the power profile to the HSA pump. Also I will carry a little container of gasoline to isolate the problem as a fuel problem as opposed to ignition.

I agree this should be posted because of the general interest to us 81-83 EFI fanatics.
Thanks again. I will keep you posted.

Subject: 81 EFI - warm restart problems, long discussion

From: RWestra@aol.com

Sent: Sun, 1 335 EST

Dick

An update on results of some testing on my '81. Here are the results. Any comments?

Regarding the light test to evaluate the control pump voltage. I have installed the light (a #90, 12 volt map light bulb) and placed it just under the cowl in front of the 1 Idle - when the engine is idling the bulb glows dimly.

2. Wide open throttle (WOT). At this position the bulb glows with what I would consider normal brightness for this bulb. It may be just a little less than normal. I realize that the brightness is variable and this can be detected but I have no way to describe intermediate brightness levels. The wire has been snaked out through the air inlet past the flow meter. I removed the air cleaner element for this test.

This is what I have learned by starting and driving the car with the light installed.

1. When starting cold the light goes on (near normal brightness) for 1 second max. when the ignition is moved from off to on. When I move the ignition switch from on to start there is a dim bulb glow after less than a second after the starter engages. This dim glow continues until engine start.

2. When starting with a warm engine immediately after shut off there is a scarcely perceptible millisecond glow when turning the ignition switch from off to on. When going to crank position the light begins to glow at idle brightness after less than a one-second delay. The engine starts after 2 to 3 seconds.

3. When starting a warm engine after an hour wait, again the bulb exhibited a very faint, short duration glow when the ignition was moved from off to on. With 1 to 2 ounces of gasoline poured down the air cleaner screw the car cranked for about 10 to 12 seconds before starting. The engine seemed a little flooded when it started. The one-second delay in the bulb illumination was evident when the starter was engaged. Adding the fuel may have helped a little.

4. Waiting another ten minutes and trying another restart the same short duration bulb glow was experienced when turning the ignition switch on. Without priming, the car cranked for about 3 to 4 seconds before the bulb began to glow. The car started after 12 to 14 seconds.

5. Waiting another 15 minutes and trying a restart, the short duration, dim glow, when going from off to on was observed. The bulb again started glowing after about a second and the car started in about 10 to 12 seconds.

6. I then bypassed the ASDM and the car started in about 2 to 3 seconds but the bulb exhibited the same characteristics as in 5 above. I tried another restart with the ASDM bypassed and it took about 14 seconds.

7. As a final check I connected a jumper wire from the disconnected FPS wire to ground (the fuel line) and tried a restart. The bulb exhibited the same characteristics as 5 above. Engine started in 8 to 10 seconds.

It is beginning to look like a problem with the power module. I have never seen the bulb glow brightly when starting. The only time it glows bright is when I push the accelerator to the floor. The delay from starter engagement seems to vary a little. From less than a second to almost 4 seconds. I cannot say this directly correlates with starting time.

While driving the car with the light bulb connected I noticed a very distinct flat spot when accelerating and the bulb would dim or momentarily (less that a second) go out. I don't know if this is related to the starting problem but may contribute to the sluggish acceleration. This flat spot seemed to be worse with the bulb connected and the air cleaner element removed. Any possible relationship.

Your analysis would be appreciated Dick.

Subject: 81 EFI - warm restart problems, long discussion

Sent: Mon, 15 3435 -0800

From: Dick Benjamin <bondotmec@ez2.net>

Well, you have certainly spent some time on this!

All seems normal to me. The dim glow only means that the purge cycle has completed, or perhaps was not needed since the Fuel Pressure switch was already satisfied (20 PSI at the switch). The flat spot is possibly caused by the extra current being demanded by the bulb. If you want to investigate this further, try a much smaller bulb, say a 57 or an 1895, I don't think that would pull enough current to upset the system. I don't think running without the air cleaner would have much effect.

I doubt you have a problem with the power module, but it is possible. I think you have named the problem when you mentioned that when you added gas, it actually acted flooded. Bob Harris has also picked this up, I notice, when he suggested you try cranking with the throttle on the floor to clear out the intake manifold.

If it is flooding, I have been leading you in the wrong direction. Now I think that the nozzle assembly may be weeping fuel into the intake after shutdown. This could be due to seepage at the fuel line connections inside the unit, or it could be due to poor condition o-rings inside the fuel valves (part of the nozzle assembly). If you want to just investigate those o-rings and the fuel line connections, it is easy to get the assembly out and apart, and it is pretty foolproof to reassemble. You will have to find o-rings of the proper size (easy) that are qualified to operate in modern fuels (probably need to ask about this).

A way to see if this seepage is happening would be to run the car with the air cleaner lid off. To do this, you have to fool the computer into thinking that you are cranking to start (so it will ignore the air flow sensor). You do this by providing 12 volts to the #18 tan wire which you remove from the starter control relay connector. This wire is labeled "S518TN". This is a tricky operation, because the system will provide fuel for as long as this wire is energized, and you'll have a really flooded engine unless you do th You need to have someone else start the car in the normal fashion (or else you start it from under the hood by leaving the key on, then touching the starter control wire "S5 12BR" to the battery + post to crank the engine) while simultaneously, putting the tan wire on the + post, this will keep it running with the cover off the air cleaner indefinitely.

Now you are in a position to observe the fuel nozzles doing their thing (don't get your eyebrows singed!) and you should be able to see any seepage around the connections. If the seepage is occurring inside the nozzle assembly, though, you will have to detect it by shutting the engine down and then observing if any fuel seeps out the nozzles, perhaps by putting a paper towel under them. This by the way is a pretty common thing, I have had a couple of these cars do this to me, and it is damn hard to find, since normally there is no way to watch while the car is running.

Dick Benjamin

bondotmec@dte.net
Dick

An update on results of some testing on my '81. Here are the results.
Any comments?

Subject: 81 EFI - warm restart problems, long discussion

Sent: Mon, 15 5259 -0500 (EST)

From: RWestra@aol.com

Dick

Thanks for the analysis. I thought the absence of a bright glow meant the purge cycle was not working. I believe you indicate that it was not required under the conditions I described. Well, you probably saved me $400. I will continue to pursue the problem. I agree the current draw of the bulb dropped the voltage to the control pump enough to affect acceleration. I removed the bulb and I just got back from an errand and it worked fine. I did one other thing last week. I checked the gasket between the air cleaner and the throttle body. I was amazed at how resilient this still is after 18 years. I am not sure there was any problem here but just in case I shimmed up the gasket with two thickness of 1/16 gasket material. The acceleration seems better but that may just be the power of suggestion. I will let know what I find.
Thanks again.

Subject: 81 EFI - warm restart problems, long discussion

From: "Dick Benjamin" <bondotmec@ez2.net>

Sent: Mon, 1 3748 -0800

If we have it figured out right, the purge cycle is only to pump the vapor out of the fuel plumbing inside the HSA. Thus, if the lines are all full of liquid fuel, the purge cycle will be abbreviated by the quick rise in pressure as detected by the fuel pressure switch, probably too fast for the eye to react. When the car has sat long enough for the fuel to evaporate, the purge cycle will be longer.
Dick Benjamin
bondotmec@dte.net

Subject: 81 EFI - warm restart problems, long discussion

From: RWestra@aol.com <RWestra@aol.com>

Sent: Monday,57 PM

Dick

Thanks for the analysis. I thought the absence of a bright glow meant the purge cycle was not working. I believe you indicate that it was not required under the conditions I described. Well, you probably saved me $400. I will continue pursue the problem. I agree the current draw of the bulb dropped the voltage to the control pump enough to affect acceleration. I removed the bulb and I just got back from an errand and it worked fine.

I did one other thing last week. I checked the gasket between the air cleaner and the throttle body. I was amazed at how resilient this still is after 18 years. I am not sure there was any problem here but just in case I shimmed up the gasket with two thickness of 1/16 gasket material. The acceleration seems better but that may just be the power of suggestion.

I will let know what I find.
Thanks again.
Rolland

Subject: 81 EFI - warm restart problems, long discussion

From: RWestra@aol.com

Sent: Tue, 1 235 EST

Dick

I agree pretty well with your analysis of my '81 situation. One question still bothers me. When I disconnected the wire to the fuel pressure switch and grounded the wire to the fuel lines inside the air cleaner why did the light not glow brightly. Was I not sending a signal to the power module that the fuel pressure was low and full voltage was required at the control pump? I understand this switch is normally closed and goes to open with fuel pressure in excess of 20 psi. If I bypass the switch and give the power module a ground path would that not provide full voltage to the control pump? I did not experience this with the light bulb test. Your thoughts?
Rolland

Subject: Fuel pressue switch operation - EFI cars.

Sent: Tue, 16 4733 -0800

From: Dick Benjamin <bondotmec@ez2.net>

Rolland I've forgotten for the moment which way the fuel pressure switch works - I need to consult my analysis of that circuit, and it is not here at my office, so bear with me while I dig it out tomorrow. It may be that open is no pressure, and closed is pressure, or it may be the opposite, I'm having a mental block on it just now (grey matter atrophying). Sorry.

I do recall that the operation of the circuit is rather strange, in that the first time the switch operates, it brings the control pump full on, but in subsequent tries, it is locked out, until the key is turned off and back on again (sort of like the old VW starter switch).
Dick Benjamin
bondotmec@dte.net

Subject: 81 EFI - warm restart problems, long discussion

From: RWestra@aol.com <RWestra@aol.com>

Sent: Tuesday 9:00 PM

Dick:

I agree pretty well with your analysis of my '81 situation. One question still bothers me. When I disconnected the wire to the fuel pressure switch and grounded the wire to the fuel lines inside the air cleaner why did the light not glow brightly. Was I not sending a signal to the power module that the fuel pressure was low and full voltage was required at the control pump? I understand this switch is normally closed and goes to open with fuel pressure in excess of 20 psi. If I bypass the switch and give the power module a ground path would that not provide full voltage to the control pump?I did not experience this with the light bulb test.
Your thoughts? Rolland

Subject: Electric fuel pump

From: "bzubkow" <bzubkow@netcom.ca>

Sent: Wed, 1 2246 -0700

I had problems with my electric fuel pump last year when I got it installed. The Crusier would not start in the morning or after sitting for a few hours without pouring gas down the carb. The problem which my friend solved yesterday is as follows:

The fuel pump instructions state that you must hook up the power in such a way that the pump will start when the oil level comes up. This is a safety feature to prevent fuel from pumping in an accident. The problem with this is. The 1966 Imperial like many others of the time period, have oil pressure units that work not just on electricity but temperature. Therefore the fuel pump will not send fuel when you try and start the car after sitting for long periods. He hooked the power of the pump to a 12 volt line that only works when the key is in the on postion. So when if finally stops snowing I can take my babe for a spin.
Zub

Subject: Re Electric fuel pump

From: Curlytop54@aol.com

Sent: Wed, 1 5643 EST

The folks at M.A.D. or Painles Wiring could probably come up with a schematic to safely set up your electric fuel pump. I have a few photocopied articles along this line (though not as specific as your problem), I'd be glad to mail copies to you.
Ross Alexander

Subject: Starter Problems - Temporary 'Fix'

Sent: Fri, 03 Apr 1998 16:44:57 -0800

From: Michael Friedman <walrusmk@pacbell.net

Jay & Everyone,

When you starter has been fine and suddenly goes 'kaput', you can sometimes get a temporary reprieve by banging it a few times GENTLY on the side with a hammer or rubber mallet! If the armature has developed flat spots the brushes may not make contact to energize it if it happens to have stopped at the wrong point of its rotation when last used. Banging it will cause the armature to turn a bit, hopefully enough that it will work and you won't be stranded. It will still need replacement or repair, but this can get you out of a jam. I don't remember where I learned this little trick, but it's been helpful to me (and my friends), a few times over the last few years. Remember, KEEP A HAMMER OR MALLET IN YOUR TRUNK! Mike

Subject: 81-83 Air Gasket Materials

From: "Sir Buddy Enterprises" <eddenbud@magicnet.net>

Sent: Wed, 1 1257 -0500

OK everyone, I finally got around to poking around under the hood of Frank, my '82 with EFI. He generally runs great, but then also tends to idle unevenly. Also, on occasions, when cold, he will hesitate terribly off of a stop or even stall out. Once warm this problem stops.

I began checking all of the air seals today. I got one OEM seal from Chrysler, part number 4111042, which on their computer, showed up as the seal under the air cleaner lid. Unfortunately, that is not what it was at all; it was too short to reach the full circumference of the lid. It looked similar to the gasket at the base of the air cleaner, but was longer than that circumference, and it is not a formed circular piece, but just a length of gasket.

So, I took the Air Flow Meter off and I cleaned out the snorkel and guide vanes really good. The seals on the Air Flowmeter housing look OK, though not pristine. In fact all of the seals I could see looked OK, including the one under the air cleaner lid and under the air cleaner housing, but I'm not sure they are really selaing very well.

I tried spraying some WD-40 around the CCC housing gasket area with the car running as Dick B. has suggested, but saw no noticeable chang in idle. It is hard to tell, though, as the idle is constantly varying from about 625-700 rpm.

I recall some members mentioning making their own gaskets, but what material do you use. Someone mentioned an upholstery type material, but is that heat-resistant enough?

I was tempted to spray the seals with Son of a Gun spray to recondition them, but I'm afraid that product may have silicone in it. As I understand it, silicone will quickly destroy the oxygen sensor, so I didn't want to risk that.

Thanks in advance, everyone, for your help.
Ed Ferrara

Subject: 81-83 Air Gasket Materials

Sent: Wed, 1 5930 -0800

From: baker-michaels@home.com
Organization @Home Network

Ed, try checking your EFI coolant temperature sensor, it could be bad. (stuck on lean) Bob

Sir Buddy Enterprises wrote
> OK everyone, I finally got around to poking around under the hood of Frank,
> my '82 with EFI. He generally runs great, but then also tends to idle
> unevenly. Also, on occasions, when cold, he will hesitate terribly off of
> a stop or even stall out. Once warm this problem stops.
> I began checking all of the air seals today. I got one OEM seal from
> Chrysler, part number 4111042, which on their computer, showed up as the
> seal under the air cleaner lid. Unfortunately, that is not what it was at
> all; it was too short to reach the full circumference of the lid. It
> looked similar to the gasket at the base of the air cleaner, but was longer
> than that circumference, and it is not a formed circular piece, but just a
> length of gasket.
> So, I took the Air Flow Meter off and I cleaned out the snorkel and guide
> vanes really good. The seals on the Air Flowmeter housing look OK, though
> not pristine. In fact all of the seals I could see looked OK, including the
> one under the air cleaner lid and under the air cleaner housing, but I'm
> not sure they are really selaing very well.
> I tried spraying some WD-40 around the CCC housing gasket area with the car
> running as Dick B. has suggested, but saw no noticeable chang in idle. It
> is hard to tell, though, as the idle is constantly varying from about
> 625-700 rpm.
> I recall some members mentioning making their own gaskets, but what
> material do you use. Someone mentioned an upholstery type material, but is
> that heat-resistant enough?
> I was tempted to spray the seals with Son of a Gun spray to recondition
> them, but I'm afraid that product may have silicone in it. As I understand
> it, silicone will quickly destroy the oxygen sensor, so I didn't want to

> risk that.
> Thanks in advance, everyone, for your help.
> Ed Ferrara

Subject: 81-83 Air Gasket Materials

Sent: Thu, 18 5705 -0500

From: Sir Buddy Enterprises <eddenbud@magicnet.net>

> Ed, try checking your EFI coolant temperature sensor, it could be bad.
> (stuck on lean) Bob
> Sir Buddy Enterprises wrote
> > OK everyone, I finally got around to poking around under the hood of Frank,
> > my '82 with EFI. He generally runs great, but then also tends to idle
> > unevenly. Also, on occasions, when cold, he will hesitate terribly off of
> > a stop or even stall out. Once warm this problem stops.

Bob,

I will add this to the list of items to check. I believe I have a file saved from a past message from Dick B. on checking the Coolant Temp. Sensor. As I have discussed with Dick, I am also going to clean out the Fuel Injector spray nozzles.
Thanks,
Ed Ferrara

Subject: 81-83 Fuel Injector Cleaning

From: "Sir Buddy Enterprises" <eddenbud@magicnet.net>

Sent: Thu, 1 5929 -0500

Well, bit by bit I am working on the EFI on my 82 in an attempt to get that uneven idle and hesitation worked out. Today I cleaned out the throttle body fuel injuector nozzles as previously posted on the list by Dick B. and others.

I removed the fuel pressure valve and sprayed the nozzles out with carb. cleaner. I found it diificult to get the spray can tube to mate securely to the injector rail assembly (Good thing I was wearing safety eye glasses!), but I think that I did a pretty good job of cleaning out the nozzles; I could see the carb. cleaner spray coming out all 8 of the nozzles freely.

I then tried to observe the fuel spray with the air cleaner lid off. Several methods have been given on the IML for doing this, and I chose the easiest. I merely grounded the coil plug wire and had an assistant crank the motor. I recognize that this is the "start" program of the computer and that it bypasses the sensor inputs for this to work with the air cleaner lid off; but, oddly, I could only see fuel spraying from two of the fuel rails, or four of the eight nozzles, when doing this. I can only assume that the start cycle only applies pressure to those two fuel rail (four nozzles) as all

eight of them seemed to flow freely when I was cleaning them out. Does this sound right??? I have only idled the car and have not yet test driven it.

Anyway, the idle seems to have smoothed somewhat. Next I will check the coolant temp sensor, and then I will try Carmine's approach to clearing the CCC memory and disconnecting the O-2 sensor to see what effect this has on idle quality.

Thanks,
Ed Ferrara

Subject: 81-83 Fuel Injector Cleaning

From: "Dick Benjamin" <bondotmec@ez2.net>

Sent: Thu, 1 3133 -0800

There is a pressure controlled valve in the nozzle assembly, such that only the low speed 4 nozzles operated unless the pressure exceeds some threshold value, which I forget at the moment but it is seen only when the control pump is running near max output, like 50 PSI or so. You would only need to see a good pattern from the starting test to achieve a good idle, so you have eliminated that as a problem, for sure.

When you disassemble the nozzle assembly, you will see the spring loaded pressure control valves that gate fuel into one or both sets of rails depending on fuel pressure.

This is just a pair of simple pistons pushed by fuel pressure against springs, so unless there is a bad seal somewhere, it is a pretty foolproof system.

Some years ago, I had a problem passing smog with my black car, and I discovered that even though the car seemed to be running fine, one of the nozzles was dribbling liquid fuel into the intake rather than a strong spray. This was all it took to screw up the combustion in 2 of the cylinders (each nozzle feeds two cylinders, due to the passages in the intake manifold.) When I fixed it (by doing exactly what you just did), I did notice an improvement in idling and low speed running, even though I had thought it was fine before, it was even finer!
Dick Benjamin
bondotmec@dte.net

Subject: 81-83 Fuel Injector Cleaning

From: Sir Buddy Enterprises <eddenbud@magicnet.net>

Sent: Thursda51 PM

Well, bit by bit I am working on the EFI on my 82 in an attempt to get that uneven idle and hesitation worked out. Today I cleaned out the throttle body fuel injuector nozzles as previously posted on the list by Dick B. and others.

I removed the fuel pressure valve and sprayed the nozzles out with carb. cleaner. I found it diificult to get the spray can tube to mate securely to the injector rail assembly (Good thing I was wearing safety eye glasses!), but I think that I did a pretty good job of cleaning out the nozzles; I could see the carb. cleaner spray coming out all 8 of the nozzles freely.

I then tried to observe the fuel spray with the air cleaner lid off. Several methods have been given on the IML for doing this, and I chose the easiest. I merely grounded the coil plug wire and had an assistant crank the motor. I recognize that this is the "start" program of the computer and that it bypasses the sensor inputs for this to work with the air cleaner lid off; but, oddly, I could only see fuel spraying from two of the fuel rails, or four of the eight nozzles, when doing this. I can only assume that the start cycle only applies pressure to those two fuel rail (four nozzles) as all eight of them seemed to flow freely when I was cleaning them out. Does this sound right??? I have only idled the car and have not yet test driven it.

Anyway, the idle seems to have smoothed somewhat. Next I will check the coolant temp sensor, and then I will try Carmine's approach to clearing the CCC memory and disconnecting the O-2 sensor to see what effect this has on idle quality.
Thanks,
Ed Ferrara

Subject: Uneasy EFI (81-83) Idle Again

Sent: Fri, 19 2338 -0500

From: Sir Buddy Enterprises <eddenbud@magicnet.net>

For those who might be interested, but haven't followed this particular string of messages, allow me please to briefly summarize. My 82 with EFI has experieienced an uneven idle at all times, and sometimes a severe hesitation/stallout when cold.

As per guru Dick B's and others' suggestions, I have checked for AIR LEAKS and found none, though there may be some I have not detected. I may need to go back and inspect the vacuum lines, some of which I changed not long ago and some of which are 17 years old.

Yesterday I cleaned out the Fuel INJECTOR NOZZLES, which seemed to help smooth the idle, but I think it is still varying more than it should, maybe 50-75 rpm.

Today, I checked the COOLANT TEMP. SENSOR. It appears that to pull it out without draining down the system first would cause anti freeze to spew about, as it is not at the highest point in the system. I'm not sure if that would have happened, but I decided to test the CTS right on the car.

Dick B. gave acceptable resistance readings of 970 ohms at 70-degrees F and 1310 at 180-degress F. Also Bob Harris gave the figures 550-1150 ohms with water cold and 1200-1500 with water warm. My CTS seems to be operating perfectly, to my surprise. With engine cold (garage temp. about 80-deg F), it tested at 990 ohms. I started the motor with CTS disconnected, and as expected, the idle was very uneven; I believe this is because the infinite resistance of the disconnected CTS plug is interpreted as a HOT engine by the CCC?

As the engine warmed, the idle evened out and the CTS gradually rose to 1320 ohms, at which point I assume the thermostat opened, as the CTS stabilized at 1317-1319 ohms. That seems to be right inline with what has been provided as acceptable.

Next, I will try Carmine's suggestion to disconnect the Battery to clear the CCC memory and try running with the O-2 sensor disconnected to force a rich condition and see if that evens the idle, indicating an air leak. Any other suggestions would be greatly appreciated.
Thanks to all,
Ed Ferrara

Subject: fuel pump changing techniques

Sent: Sun, 2 2054 -0800

From: Bornino <bbornino@slonet.org>

Instead of a bolt, use a stud. Easier to put the nut on then to find the threaded hole with a bolt

Subject: fuel pump changing techniques/ Reply

Sent: Mon, 22 1628 -0500 (EST)

From: Curlytop54@aol.com

Don't know if there is a simpler way to do the job of changing the fuel pump. The first week the The Tan Sedan became mine I replaced the battery, battery cables, starter and fuel pump because I knew all of them to have been themselves replacement parts and I wanted no surprises after changing ALL of the fluids and filters after a major tune-up. Luckily I changed the pump last. . . and felt just the way you did, cursing myself for changing something already working. (But not so sorry as to be glad of it 40m miles later). My attitude is that the easier I think the job is going to be, then an inverse amount of difficulty wi WIth the car on a lift, holler over to your service manager with 30-yrs Mopar experience to show you how to use the slick tool he welded up from scrap for just this job.
. . .
With appreciation for the "cursing moments",
Ross Alexander

Subject: fuel pump changing techniques/ Reply

Sent: Mon, 2 5435 +0000

From: Mark <tomswift@bellsouth.net>

Thanks, Ross & others,

My fuel pump actually did need changing - it was leaking - so I had to do it, but I think now I would get a long rod or something and just stick it through the left side to make sure I was lined up right, and THEN tighten the other side up.

As for the suggestion to putting studs there, the block already has holes cut in it there for bolts, so I was sort of forced to use the bolts . . . unless there's a way to replace with studs??? . . . but yes, you are right, that would be easier.
Mark
bring the children inside when I raise my hood and starting foolin' with
things . . .

Subject: Uneasy EFI (81-83) Idle Again

From: "Sir Buddy Enterprises" <eddenbud@magicnet.net>

Sent: Wed, 2 4429 -0500

Well, thanks to all again for the input on what to do about that uneasy idle/severe hesitaiton on my 82 with Electronic Fuel injection(EFI). As you may recall, I have looked for vacuum leaks and tested the Coolant Temp. Sensor(CTS), which checked out good.

By Carmine's suggestion, I have disconnected the battery to erase the Combustion Control Computer (CCC) memory and then disconnected the oxygen sensor. As I understand the system, only after the CTS indicates the engine is warm does the CCC start to look at the O2 sensor inputs in determining fuel mixture. is that correct?

in any case, after I performed the above and started the engine with the O2 sensor disconnected, the engine idled very smoothly. I then drove long enough for the engine to warm up, and there was no noticeable hesitation off of idle, as I had had previously, but there was still some high-speed
hesitation.

When I got home, I hooked up the tach and found the engine idling very smoothly around 775 rpm (in park). Then as soon as I reattached the plug to the O2 sensor, the idle immediately became very uneven again, varying around 700-800 rpm. Does this indicate that I still need to keep looking for a vacum leak??? BTW, the O2 sensor is only about 1 1/2 years old, a Bosch, with about 5,000 miles on it.

I don't have a vacum gauge, but maybe I should go to Sears and pick one up! In any case, I will attempt Bob Harris' suggestions of checking the EGR system and to disconnect the vacuum tree at the back of the manifold when I can get to it.

Thanks again in advance for everyone's inputs thus far. I look forward to your replies to these continuing symptoms.
Ed Ferrara

Subject: Uneasy EFI (81-83) Idle Again

Sent: Wed, 24 1232 -0600

From: Harris <HarrisWerks@worldnet.att.net>

First off, to answer your question about the CCC looking to theOxy Sensor, after warm-up is correct. I 've forgotten but I thought the idle problem was prior to warm-up, not after. Anyway, at about the same time that the Water Temp Sensor announces warm-up, the EGR System Water Temp Sensor says the same thing - activate the EGR system; that Sensor is next to the Water Temp Sensor, has two vacuum nipples on it to supply vacuum to the valve upon warm up. But in addition to this, the initial Water Temp Sensor message to the CCC also triggers the 70 second Timer Circuit to shunt vacuum at the Diverter Valve, (on the Smog Pump), to the Downstream Cat Converter but also vacuum is applied to the valve on the Purge Cannister. So you can see, there is a sound reason to suspect a vacuum leak; a gage will not find it, just disconnect all of the hoses and replace each,one at a time, until the rough idle returns, if blocking them cures the problem. Also, we assume you know about the Braketing - the rise and fall of engine RPM due to fuel pump speed change as the CCC and Oxy Sensor talk. If this braketing gets too wild, you should look at the '83 engine and obtain the 270 micro henries Inducter for the wire between the Oxy Sensor and the CCC, (black wire to CCC terminal 12). Finally t 580 for '81's and 650 for '82 and '83 cars IN GEAR, no AC. If the car runs okay at the lower setting, keep it since it will reduce the Transmission Rear Apply Band harsh engagement when you shift into reverse. ...Bob Harris

Subject: Re EFI Imperial problems

Sent: Wed, 2 2032 -0800

From: t3176@flash.net

> The SB detailed the c With engine
> warm, park on level surface, with engine idling, set parking brake, and run
> gear selector through each gear postion, pausing at each, and then leave
> the selector in Neutral. If the fluid is "HOT", the dipstick cannot
> comfortably be held in the portion that was in the tranny, and the fluid
> level should check in th "OK" crosshatched area. If the fluid was "WARM",
> the dipstick could be held without discomfort, the level should check
> between the "ADD" and lower portion of the "OK" levels.

Actually, this is the super-duper-correct procedure for all 904/727's. Probably re-issued it to remind sloppy techs the right way to check it. Usually, running in neutral on a level surface is good enough.
Carmine F.

Subject: EFI Imperial problems

Sent: Wed, 24 5800 -0500

From: Sir Buddy Enterprises <eddenbud@magicnet.net>

> You may or may not have a vacuum leak. My advice? Leave it disconnected
> and
> search out the high-speed problem for now. (Let's have more details, is
> it
> possibly a reluctance to downshift?)
> Carmine F.

It's funny you mention that Carmine, because while under the hood earlier, I found that the transmission fluid was quite low. I have now brought it up to the correct level. BTW, did you know there was a Service Bulletin for these transmissions for checking the tranny level? Apparently they were being overserviced quite a bit. The SB detailed the cor With engine warm, park on level surface, with engine idling, set parking brake, and run gear selector through each gear postion, pausing at each, and then leave the selector in Neutral. If the fluid is "HOT", the dipstick cannot comfortably be held in the portion that was in the tranny, and the fluid level should check in th "OK" crosshatched area. If the fluid was "WARM", the dipstick could be held without discomfort, the level should check between the "ADD" and lower portion of the "OK" levels.
Ed Ferrara

Subject: EFI Imperial problems

Sent: Wed, 2 1626 -0800

From: t3176@flash.net

> By Carmine's suggestion, I have disconnected the battery to erase the
> Combustion Control Computer (CCC) memory and then disconnected the oxygen
> sensor. As I understand the system, only after the CTS indicates the
> engine is warm does the CCC start to look at the O2 sensor inputs in
> determining fuel mixture. is that correct?

Yes. Disconnecting the O2 sensor keeps the car in a richer, "open-loop" mode.

> in any case, after I performed the above and started the engine with the O2
> sensor disconnected, the engine idled very smoothly. I then drove long
> enough for the engine to warm up, and there was no noticeable hesitation
> off of idle, as I had had previously, but there was still some high-speed
> hesitation.
> When I got home, I hooked up the tach and found the engine idling very
> smoothly around 775 rpm (in park). Then as soon as I reattached the plug
> to the O2 sensor, the idle immediately became very uneven again, varying
> around 700-800 rpm. Does this indicate that I still need to keep looking
> for a vacum leak??? BTW, the O2 sensor is only about 1 1/2 years old, a
> Bosch, with about 5,000 miles on it.

The sensor is doing it's job. In fact, it might be doing it too well. One of the things you must remember here is that the CCC is always trying find the perfect mix of air/fuel. It does this through the O2 sensor. However, you must realize that your dealing with 20-year-old computer technology. Space-age in 1980, but really slow by modern standards. In other words, the CCC

corrections are always a bit behind reality. You may or may not have a vacuum leak. My advice? Leave it disconnected and search out the high-speed problem for now. (Let's have more details, is it possibly a reluctance to downshift?) I drive mine sans O2 sensor input. You'll go nuts trying to get it to idle perfect if it's always correcting itself. It's as if these Imperials have an obsessive compulsive disorder. If you live in a smog-check area, just clear the computer before any testing, then reconnect the O2 sensor.
Carmine F.

Subject: Uneasy EFI (81-83) Idle Again

From: "Dick Benjamin" <bondotmec@ez2.net>

Sent: Wed, 2 4354 -0800

Sometimes this hunting up and down in idle speed is because of slop and lost motion in the Automatic Idle Speed system. Next time you experience this, reach under the left front edge of the air cleaner assembly and push on the linkage that goes from the idle speed motor to the throttle shaft in such a way as to take all the slop out of the mechanism. This requires a steady push of maybe a pound or so, and it gets hot in there so wear a glove, or push with a long screwdriver against the idle speed adjustment screw (you have to weave it through the heater hoses etc from near the end of the dipstick). If this smoothes things out, you could try to rebush the joints in the linkage, and make very sure the idle speed control motor is securely fastened to the throttle body, they do work loose over time, adding to this problem. BUT, be advised, the hunting up and down of idle speed is one of the endearing characteristics of this car, and they all exhibit this to some extent if the AIS is working properly. Hunting around from 700 to 800 RPM is not all that unusual. Hope you can improve it -
Dick.
Dick Benjamin
bondotmec@dte.net

Subject: Uneasy EFI (81-83) Idle Again

From: Sir Buddy Enterprises <eddenbud@magicnet.net>

Sent: Wednesd36 PM

Well, thanks to all again for the input on what to do about that uneasy idle/severe hesitaiton on my 82 with Electronic Fuel injection(EFI). As you may recall, I have looked for vacuum leaks and tested the Coolant Temp. Sensor(CTS), which checked out good.

By Carmine's suggestion, I have disconnected the battery to erase the Combustion Control Computer (CCC) memory and then disconnected the oxygen sensor. As I understand the system, only after the CTS indicates the engine is warm does the CCC start to look at the O2 sensor inputs in determining fuel mixture. is that correct?

in any case, after I performed the above and started the engine with the O2 sensor disconnected, the engine idled very smoothly. I then drove long enough for the engine to warm up, and there was no noticeable hesitation off of idle, as I had had previously, but there was still some high-speed hesitation. When I got home, I hooked up the tach and found the engine idling very smoothly around 775 rpm (in park). Then as soon as I reattached the plug to the O2 sensor, the idle immediately became very uneven again, varying around 700-800 rpm. Does this indicate that I still need to keep looking for a vacum leak??? BTW, the O2 sensor is only about 1 1/2 years old, a Bosch, with about 5,000 miles on it. I don't have a vacum gauge, but maybe I should go to Sears and pick one up! In any case, I will attempt Bob Harris' suggestions of checking the EGR system and to disconnect the vacuum tree at the back of the manifold when I can get to it. Thanks again in advance for everyone's inputs thus far. I look forward to your replies to these continuing symptoms.
Ed Ferrara

Subject: Uneasy EFI (81-83) Idle Again

From: "Dick Benjamin" <bondotmec@ez2.net>

Sent: Thu, 2 1158 -0800

No, I am not familiar with the choke addition to the O2 sensor line. I think this came out after my latest set of Service Bulletins - I only have 82 and a few 81's. IT is probably a good thing to try. I didn't mean to imply that 100 RPM hunting was normal, but I don't think it is all that unusual, either. Even my best car does this, to the tune of plus or minus 50 RPM. A 270 Microhenry choke would be available from your local radio shack, it will look like a big resistor. It places an inductive reactor in series with the O2 sensor, most likely the intent is to de-spike or "smooth out" the signals from the sensor, perhaps the constant chattering which an O2 sensor puts out is bothersome to the CCC, but I would have thought that this chatter or hunting from the O2 sensor was at a much slower rate than the choke would affect. Perhaps the impedance of the circuit is much higher than a modern design. They did make that mistake in a couple of other parts of the circuitry, most notably in the purge cycle timing circuit. As I've said before, this design was most likely a committee effort, with some of the work done by creative but very junior circuit designers, and no review process. Anyhow, I'll be very interested in the results. You are a pioneer for us all, Ed!
Dick Benjamin
bondotmec@dte.net

Subject: Uneasy EFI (81-83) Idle Again

From: Sir Buddy Enterprises <eddenbud@magicnet.net>

Sent: Thursda18 AM

> Sometimes this hunting up and down in idle speed is because of slop and lost
> motion in the Automatic Idle Speed system. ...If this smoothes things out, you could try to rebush the >joints

Dick,

I will add this to my long list of to-do's now!

>Hunting around from 700 to 800 RPM
> is not all that unusual.

Is that right? I knew the system "brackets" as has been discussed before, but I did not realize that 100 rpm varitaion was acceptable! Bob Harris has mentioned a 270 micro-henry inducter (whatever that is!) that was used in the O2 sensor to CCC line on '83's to help smooth out this variation. Are you familiar with this? I wonder if it is something that could be addded on to earlier models.

> Hope you can improve it -

So do I! I will coninue to test all of the possible trouble areas that have been proposed on the IML. Of course, this can be quite time-consuming, but I am gaining ever more confidence in my abilities to work on this system, which at one time seemed entirely alien to me! Now it just seems like its "from another planet", instead of "from another galaxy."
THANKS TO YOU ALL FOR YOUR HELP!
Ed Ferrara

Subject: 81 EFI oozing

Sent: Sun, 14 1040 -0500

From: sp-racer@juno.com

Hi to all!,

I've been seeing some valuable info here and have a few questions. I considered swapping to a carb set up but after reading letters here and realizing the wealth of information available, it seems I can keep my baby original. Ok, here goes, My hot start problem seemed very similar to Rolland's as read the other day. I've recorded Dick Benjamin's advise to him as I have Dick's suggestion to check the coolant switch by the thermostat(it is bad). Haven't had time to check the fuel press. switch yet. I would greatly appreciate if some one could give me some help in identifying some of the EFI components. I see initials in every one's letters but can't put them to the parts under the hood, I don't know which units they refer to. I've read that the air cleaner housing needs to be sealed. Is there a seal for the lid to the main body of the air cleaner, mine only has the band clamp around it. My wing nut also has no seal. One of the srangest things is the ooze if you will migrating down to the throttle plates. It is coming from the back of the electrical box mounted to pump under the air cleaner, also the box on the fender well is oozing and has no additional ground strap, something I've read it should have. The ooze in the air cleaner is actually coming of in a sheet, like slow moving lava.

I have the unit off the car now and don't want to put it back on till I know that attention to critical details has been covered. Even though I've been A.S.E. certified master tech. and master tech for Porsche, I feel like a novice when it comes to this EFI. but I don't care, I love this car! It was passed on to me from my father, he knew how much I loved it. So I plan to keep "Frankie", till

it's my time to pass him down. As those of you who have one know,this car defines class and elegance. Thanks to all of you who have shared so much of your knowledge and concerns for the preservation of these cars, I only wish I had more to offer every one, maybe in time I will.
Scott

Subject: 81 EFI oozing

Sent: Sun, 1 836 -0800

From: Bob Schmitt <bsbrbank@pacbell.net>

Scott -

There is a picture and legend of the FI underhood components, courtesy of Dick Benjamin, on the Imperial FAQ page - it's one, long, long page, so keep paging down until you get to the '61 models (or search for it):

http //teamchicago.com/imperial/impfaq.htm

A number of people are also working to put all the email's on the FI in one sensible format.
Bob

Subject: 81 EFI oozing

Sent: Sun, 14 2949 -0500

From: Sir Buddy Enterprises <eddenbud@magicnet.net>

>One of the srangest
> things is the ooze if you will migrating down to the throttle plates. It
> is coming from the back of the electrical box mounted to pump under the
> air cleaner, also the box on the fender well is oozing and has no
> additional ground strap, something I've read it should have. The ooze in
> the air cleaner is actually coming of in a sheet, like slow moving lava.

Scott,

I'm sure Dick B. will be able to give you the technical aspects of this oozing goo, but I can tell you basically that it is the "goop" that Chrysler used to set all of the electronics components in. It seems that this material is not very heat-tolerant, making it quite perplexing to understand how they chose this particular substance to use under the hood of an automobile!

I had some spare EFI parts, a Combustion Computer and an Auto ShutDown Module from my 81, that I had stored in a non-upright position in a plastic conatiner in my HOT Flo When I opened the container one day, I found that goo had slowly run out all over the place! It's a realt treat to clean up, too!
Ed Ferrara

Subject: 81 EFI oozing

Sent: Sun, 14 2811 -0600

From: Harris <HarrisWerks@worldnet.att.net>

Hot Start problem - Chrysler TSB 14-30-83 for all EFI Imperials talks about Hot Start problems. This usually occurs 10 to 15 minutes after shut-down, requires excessive cranking, rough running for 30 seconds and is much worse in warm climates. The ohmeter test is correct, the Pressure Switch must read no more than 10 ohms between the tip of the switch and the Tee in the piping. It then says to replace the pressure switch with part no. 4091901 which has not been available for years.

Also a dealer training session listed "excessive resistance" in the pressure switch as a cause of the problem. I think that heat soak is the larger part of the problem and that this heat literally boils the gas out of the injection system much like a carbureted system also reacts to heat. If the resistance test is okay, try the method of putting the throttle almost wide open while cranking - this will not only tend to clear the rich mix in the manifold, but will also prevent additional fuel pumping and you should get a better start.

The Air Cleaner Cover must have a gasket under the lid, I think I talked about this last week. I have never run with the clamping band, but be sure the gasket is still soft, turning it upside - down can return some resiliance, best to replace. There is no seal at the wing nut. The oozing is from the melting of the original potting compound used in the Power Module and the Fuel Metering Module. It has caused many cars to idle poorly since it kept the throttles open, not allowing the Throttle Switch to close and returning the engine to normal fuel mix and spark timing. If you need help with these parts and find none on the "List" you may write me.

14-30-83 for all EFI Imperials talks about Hot Start problems. This usually occurs 10 minutes after shut-down, requires excessive cranking, rough running for 30 seconds and is much worse in warm climates. The ohmeter test is correct, the Pressure Switch must read no more than 10 ohms between the tip of the switch and the Tee in the piping. It then says to replace the pressure switch with part no. 4091901 which has not been available for years. Also a dealer training session listed "excessive resistance" in the pressure switch as a cause of the problem. I think that heat soak is the larger part of the problem and that this heat literally boils the gas out of the injection system much like a carbureted system also reacts to heat. If the resistance test is okay, try the method of putting the throttle almost wide open while cranking - this will not only tend to clear the rich mix in the manifold, but will also prevent additional fuel pumping and you should get a better start lid, I think I talked about this last week. I have never run with the clamping band, but be sure the gasket is still soft, turning it upside - down can resiliance, best to replace. There is no seal at the wing nut potting compound used in the Power Module and the Fuel Metering Module. It has caused many cars to idle poorly since it kept the throttles open, not allowing the Throttle Switch to close and returning the engine to normal fuel mix and spark timing. you may write me

Subject: 81 EFI oozing

Sent: Mon, 15 5259 -0800

From: Dick Benjamin <bondotmec@ez2.net>

You've gotten excellent responses to most of your questions, I don't need to wade in, other than to apologize for using jargon in discussing the various parts.

The ooze seems to cause no problems in operation, so long as it does not interfere with the operation of the throttle butterflies. If you just keep scraping it away from there, I wouldn't worry about it.

The page I posted with component locations and identification should have more information on it, I just don't seem to get around to improving it. I'd say it is essential for you to get a set of manuals for the car. They were still available from Chrysler last I checked. With those manuals, you can read about the system and the names and locations of the various components will become second nature to you.

Flip over your air cleaner lid to see if the soft rubber gasket is still there (I think it will be, since the car probably would run really poorly if at all without it, unless you have a perfect metal to metal seal). This seal, and all of the seals that prevent air from entering the HSA (Hydraulic Support Assembly, the main unit consisting of the air cleaner and everything under and around it) without going past the AFS (Air Flow Sensor, the square top unit in the air snorkel with the 3 wire connector) is a very important factor in letting the system work the way it is supposed to in metering fuel.
Dick Benjamin
bondotmec@dte.net

some help in identifying some of the
>EFI components. I see initials in every one's letters but can't put them
>to the parts under the hood, I don't know which units they refer to.
>I've read that the air cleaner housing needs to be sealed.
Is there a
>seal for the lid to the main body of the air cleaner, mine only has the
>band clamp around it.

Subject: 81 EFI "OOZE"

Sent: Fri, 19 2126 -0800

From: Dick Benjamin <bondotmec@ez2.net>

The main purpose of the potting compound was to prevent vibration failures of the components and solder joints. Usually, while its running out of the units makes a mess, it still leaves enough residue to perform its job. I have not replaced it in any of my cars. The later production units have a better grade of potting compound which does not suffer this problem, and also incorporate some reliability and performance improvements. As a long range plan, you might want to keep an eye out for a source of a later production power module (the runny one in the HSA) and ASDM (the one on the fender), but other than that, don't sweat the problem.

The oxygen sensor is cheap, easy to change, and has a normal design life of 50,000 MI, so my advice is to just replace it - it's no tougher than changing a spark plug.

If the car has been well maintained and run only on unleaded, the catalytic converters are good for hundreds of thousands of miles. If the car has been run with a screwed up mixture, or with a faulty ignition system for any length of time, it is possible for the cat to be plugged up, but you would note severe loss of power in driving the car.

You're certainly welcome here, and any advice you get is given with the same spirit as you demonstrate in wanting to keep your car original and in good condition, that is the way most of us on the IML feel about these cars.
Keep up the good work!
Dick Benjamin
bondotmec@dte.net

From: sp-racer@juno.com <sp-racer@juno.com>

Sent: Friday,53 PM

, is their something that should
>be used to repot the ooze from the problem electrical components
One more question, are the catalytic
>converters prone to blocking up
>simple test for the oxy sensor

Subject: 81 EFI "OOZE"

Sent: Fri, 19 5059 -0500

From: sp-racer@juno.com

Hi to all.

I want to thank everyone for their info. I'm sorry for the delay in the thanks as I'm been ill lately. I now feel I have the needed info to hunt down most of my problems, soon as it warms up a little here in Pa.

I forgot to ask in my last letter, is their something that should be used to repot the ooze from the problem electrical components? Would clear epoxy be suitable or is their a specific product? I would tend to think that without this sealant the components would be subject to additional, possibly damaging, heat. One more question, are the catalytic converters prone to blocking up? I'm going to pull them off and check unless I can be assured it's a rarity. Ok one last question, is their a simple test for the oxy sensor? I'm at about 60,000 miles and probably should replace it anyway, but if it checks out ok I'll leave it be.

Once again, a very big THANK YOU ! to DIck B., Ed H., and every one else for sharing their wealth of experience and knowledge with me. The preservation of my 81 as it passes it way down our family tree will be a direct result of every one in this club.

Subject: 81 EFI REPOTTING

From: sp-racer@juno.com

Sent: Sat, 2 5611 -0500

To Bob Harris and Dick Benjamin,

Thanks for the info on repotting the electrics. Dick, you mentioned possibly upgrading to a later more reliable power module and a.s.d.m., If in your travels you should come upon said units, please contact me. There is nothing I would like better than to have the best that is available since there is such limited options with this system. If it looks like the odds are going to be slim to none then it might be in my best interest to have Bob Harris repot mine. His offer to redo mine seemed most worthwhile. I really don't wan't to have to reclean the thick ooze which currently has coated nearly the entire base of the HSA assembly. No matter which option prevails, I know I'll be on the track to the reliability and performance Chrysler intended these cars to have. So until I get some of the existing problems attended to,since I now have been able to locate with this plethora of info, maybe the upgraded components will come about.

Again, as always, sincere thanks to the both of you for your cherished knowledge and time spent educating so many with the hunger to learn.

Subject: 81 in Houston/Important New Info

Sent: 6/4/97 1:08 PM

From: bondotmec@alphainfo.com (Dick Benjamin)

Bob;

I am one of the guys in the IML who enjoys playing with the EFI problems on the 81-83's. I am not sure what you mean by bracketing, but if you mean hunting up and down with idle speed/mixture etc., one of my 81's does that in spades.

I have discovered that the mechanical linkage from the AIS motor to the throttle shaft is so worn that the servo control dynamics are upset by the lost motion, causing continuous (bang bang) overcorrection, alternately too fast, then too slow (stalling occasionally), then back to too fast etc.

This one is out of service for other reasons at the moment (plates, smog certificate expired), so I have not fixed this particular problem, other than to grab the linkage and hold it so as to take the monkey motion out of it and observe that the problem goes away, so I am fairly confident I've got it.

As Tony says, there are a very large number of '81-83' admirers on the IML, and about 5 or 6 of us have worked to disseminate all the technical information we can find or learn about these cars. We are a hands-on bunch, you will be pleased at the support you'll find here.

Any documentation from Chrysler that might shed light on the testing or design of this system will be like gold to us. Please let us see it!

Dick Benjamin (3 '81's, one converted {sob}, but not by me!)

Subject: 81 FI Diagnosis, ASD Module problems

From: Dick Benjamin <bondotmec@alphainfo.com

Sent: March 8, 1997 1:09 AM

Jeff;

Thank you for responding to my message George Pearson's problems.

I told him to do exactly what you suggest to bypass the function of the ASD, but he seems timid about running the car without the shutdown functions operating. I do not want to urge him into something he would worry about.

In diagnosing his problems, I had him measure the signals on all 5 pins of his ASD both in the cold (working OK) condition and in the hot (no start unless manually fed some gas into the intake) condition. There is no significant difference, thus I conclude his ASD is bad., since when the car is warm, it won't pull in the relay until after the car starts. (Chicken and egg problem).

I was also confused about the function or purpose of the signal that comes back on pin 4 from the CCC/PM, but I finally realized that since there is no power supplied to the power module unless the ASD relay is pulled in, it cannot be the source of an input to the ASD. Also, the output has to be either a solid HI (if the PNP is on) or a solid LO (if the NPN is on), so the floating voltages George was measuring on pin 4 were really meaningless if there was no +12 to the power module.

I would like your input on the following, please. I left the electronics field when I retired (the first time) in 1979, and have been completely out of touch since then. At that time, I was somewhat familiar with TTL logic, although by training and experience I was an analog circuit designer. I saved some of my old catalogs and tried to look up the chip in the ASD in them, but I cannot find any listing of an "1132", which is what you noted on your schematic. Could you help me out with a truth table for this critter, and is it TTL or something more exotic like a Schmidt trigger, or CMOS or what?

I puzzled over the function of the pin 4 input to the ASD, and kept getting conflicting conclusions about the truth table for the logic device. Since the last gate has one input strapped up, and since the relay won't pull in unless the last gate is in the pin3HI condition, I deduce that the last gate is acting only as an inverter. This would lead to the conclusion that the device requires both inputs HI to pull the output LO. But if this is the case, I'm not sure I understand the action of the first two gates.

With the relay pulled in, the 8,9 pins are held HI, so pin 10 is LO, and the first gate is out of the picture. The 12,13 &11 gate is the "trouble detector" and is waiting for the 12 pin AND the 13 pin to go HI and pull down the 11 pin. If everything is OK, pin 11 is HI, thus the 8,9,10 gate is latched in the pin 10 LO state via diode D26.

OK so far, but we know the during cranking, pin 1 of the ASD goes HI, pulling the pin 13 HI, and also the pin 5 input to gate 3 is held HI. This is the run state also, since the coil signal is rectified and holds pin 5 HI. It must be the case that pin 2 & 4 have to be held LO to keep the car running, thus pin 6 &11 have to stay HI.

But we know 13 is HI as long as there is cranking, so it must be that pin 12 is supposed to stay LO during start up. Once cranking is over, it appears pin 13 goes back LO because of external loads on this wire (the in-tank pump bypass relay coil, for one).

But this holds pin 11 HI, and means the input to pin 12 (pin 4 of the ASD) makes no difference at all!?

The only "shutdown" circumstance is if the coil input goes away. Does this seem sensible? Why did they even bother with the CCC signal to the ASD?

We have to assume, then, that the normal pre-start condition at the ASD pin 4 terminal is to be held down, but once the car starts, it becomes a "don't care".

Also, if you look at the circuit diagram of the PM, I don't see how it is held down if when there is no power to the PM. What am I missing? Have I got the truth table screwed up?

Tell me the truth - has the gray matter atrophied? I need someone who speaks the language to look over my shoulder, your input will be a godsend to me.

Thanks in advance, Dick.

Subject: 81 - 83 EFI Bracketing

Sent: 6/6/97 2:28 AM

From: bondotmec@alphainfo.com (Dick Benjamin)

OK, I will look forward to hearing more about this.

I may have misled you as to the where the sloppy linkage is: it is not in the throttle linkage in the way we usually think of it, but rather in the linkage from the AIS motor to the passenger side of the throttle shaft. This makes the AIS motor move further than it would have to, to cause a corrective effect (if it weren't dealing through a lost motion situation), thus it over corrects by a mile before it realizes the fact, and thus over corrects in the other direction to compensate, causing a major hunting and often a stall at idle.

Dick

Ps: I have taken the liberty to repost your reply and my re-reply to the IML in order to keep everybody who is interested in this subject on board.

[Yes, please - I insist upon it! How else can I post the discussion on our web-pages so more can learn as the years go by? - Tony]

Subject: 81 - 83 EFI Bracketing

From: Robert J.Harris <HarrisWerks@worldnet.att.net

To: bondotmec@alphainfo.com

Sent: Thursday, June 05, 1997 7:48 PM

Thanks for your response and interest. Your loose or worn throttle linkage is not my problem.

I have recently read an article on poor idle characteristics on newer cars with a lot of sophisticated electronics and I have determined that the Oxygen sensor will respond to vacuum leaks with a passion and so, with the Imperial EFI, it will constantly increase and then decrease the control pump speed to enrich or lean-out the mixture and this just goes on and on.

I've been blaming the sensor and the system for what may well be a bad hose, broken hose nipple or manifold fit-up. I had a broken EGR Valve nipple and couldn't believe the breakdown in performance.

I will talk about the Chrysler EFI Diagnostics that I have in a general letter to the whole group; these diagnostics void all of the diagnostics in the Service Manuals for the three years and moreover, there were some details in the original text that were actually harmful to the CCC and the AIS, these items were eliminated, but you would have to have had the Sun EFI tester to do the damage. When I obtained these new diagnostics and saw this in it, I then knew that some dealership mechanics probably were inadvertently doing damage to these cars because of the bad data; but then the replacement parts were of poor quality anyway - but this may well be part of the story. More later...

Subject: 81 - 83 Bracketing, (again), and some other good info

Sent: 6/6/97 7:21 PM

From: HarrisWerks@worldnet.att.net (Robert J.Harris)

Thanks again for your response, but I do have the correct side of the throttle body and the linkage is tight, I have a low mileage car anyway. Also, 83 models came with a 270 microhenrie inductor in the Oxygen Sensor circuit to the CCC to alleviate this bracketing, and the inductor didn't fix it either.

I want to pass along some tips and facts that may be of interest to other EFI owners - from Chrysler Class notes taken during mechanic instructions at the time that these cars were

announced. Some of these items are now common knowledge, but may be new to other people, here goes:

All of the fuel hoses are double lined, the inside being abrasion resistant, to prevent the black dust from clouding the optical sensors in the Fuel Metering Module.

In connecting a fuel pressure test gauge to the system, avoid connections with barbed ends to prevent the problem in item 1, above.

The rubber sleeve around the In-Tank pump is a noise suppresser, nothing else; the pump was made by Tokheim.

The Throttle Body was cast by Holley.

The electrical leads to the In-Tank pump are polarized, and if reversed, the pump will whine.

Allowing the fuel level to drop below 6 gallons will often result in pump failure since it must be submerged to keep cool.

The Fuel Pressure Regulator inside the casting at the end of the Control Pump was revised and can be identified by a dab of Yellow paint instead of the Green, on the top screw.

The Fuel Pressure Switch is closed @ pressures of 20 to 22 psi; it has been modified and now carries PN 4091901 and was made to be a fix in TSB 14-30-83. I have many of these, but they have become quite expensive.

Alcohol or dye coloring in the fuel can adversely affect the Fuel Flow Meter and Chrysler has issued notices to avoid these fuels - as if you could tell - but there have been problems with fuels in certain localities that do cause problems.

Some drivers are Left-Footed using the brakes, this is not good on these cars since there is a back-up switch to supplant the Closed Throttle Switch on the Throttle Body in the event it becomes dirty and doesn't return the engine to idle speed with the spark advance defaulted to 12 degrees. Pushing both pedals simultaneously confuses the CCC. Some Problems Within The System:

Mounting tabs on the Power Module break off and ground path is lost.

Corroded wire connectors cause multiple problems

Air Switching Solenoids shorted to ground.

A/C turn ON stalls the engine.

Oxygen Sensor wire broken, especially at terminal 12 in the connector to the computer.

Battery Feed to the CCC Memory, (the round part of the computer), has a 620 ohm resistor in line to limit current, check for continuity. If feed is lost, the memory is lost and this memory is required to operate the engine in Closed Loop during Cold Start-Up until the water and Oxygen Sensor are warm. The Red lead is this wire and Battery voltage must always be present here.

Fuel flow has a 10k ohm resistor in its feed to the Instrument Panel and when it fails, the MPG readings go bad, often 99.99 mpg

EGR valves often leak at the mounting, a new gasket number is substituted and also the valve is changed and the vacuum nipple is at an angle.

A service package was made available to make a more positive close for the Throttle Stop Switch, but I have found this to be not much better than not having one, I believe it is no longer available.

The ASD module by virtue of electrolysis corroded the fender beneath it and the cure is to solder a ground strap to the one mounting ear and run it to the screw on the top, back of the Alternator. The ASD should be elevated off the fender house steel and two water valve washers work fine here as insulators.

The Fuel Pressure Switch, mentioned above, was replaced because the original unit had excessive resistance in the circuit and resulted in difficult restarts when hot.

Apparently early units came with loose Screws on the Idle Speed Motor which became a problem.

If anyone is interested, I can tell you how to run the engine without the Air Flow Sensor connected and the Air Cleaner cover removed. You can observe fuel flow from the spray bars and it also serves as a test for the Air flow Sensor itself. In this mode the engine should not be expected to run throughout its full power range, but it is nice to see.

As to the unpublished Chrysler EFI Diagnostics that I have, I want to stress that unless you have a Sun EFI tester, they aren't much good. I never finished cleaning them up suitable for use and want to do this.

however, I will compare the invalid diagnostics in the 81 through 83 Service Manuals and these new ones and pass this along later for those who care and have particular problems in Starting, Fuel Flow, Starts-But-Stalls, and Cold and Warm Driveability.

That's enough for now.....Bob Harris

[This is VERY useful information, and we're all very grateful - You really know how to make yourself popular! - Tony]

Subject: 81 - 83 Bracketing, and some GREAT info

Sent: 6/7/97 9:54 PM

From: bondotmec@alphainfo.com (Dick Benjamin)

Bob;

This information is absolutely pure gold! I thought I was fairly knowledgeable about these systems, but some of this is a complete revelation to me. My 3 cars are all '81's, so I was unaware

of the RF choke fix in the '83 O2 sensor lead. I'm sure other's in the IML will find the information as fascinating as I do too.

There has been some discussion in the past of duplicating the test set, some of us have been contemplating methods of "reverse engineering" it since there seem to be none still in captivity. You wouldn't by any chance know of a source of information on the test set, would you?

I for one would like to know anything you can tell us about operating the system with the air cleaner cover off. I was actually planning to make myself a Plexiglas cover so that I could observe the fuel spray, and perhaps that is still something I will do in order to see the system operate over a wider range than a bypassed air flow sensor would provide, but I would still find your information very useful.

We have had a couple of members who have had problems with warm restart, and have traced the problem to the ASD, but have been unsuccessful in solving the problem short of bypassing the ASD completely during start up (or dumping a teaspoon of fuel down the air cleaner stud). Your suggestion of a poor ground is intriguing.

One of my '81's does have a very noisy in-tank pump. I always assumed that the pump's bearings were probably worn out (it is a high mileage car) but I'll have to investigate the polarity question.

Thanks again for your contributions. They will help a lot of people.

Dick Benjamin

Subject: 81 - 83 Bracketing, and some GREAT info

Sent: Friday, June 06, 1997 7:33 PM

From: HarrisWerks@worldnet.att.net (Robert J.Harris)

Thanks again for your response, but I do have the correct side of the throttle body and the linkage is tight, I have a low mileage car anyway. Also, 83 models came with a 270 microhenrie inductor in the Oxygen Sensor circuit to the CCC to alleviate this bracketing, and the inductor didn't fix it either.

I want to pass along some tips and facts that may be of interest to other EFI owners - from Chrysler Class notes taken during mechanic instructions at the time that these cars were announced.

Some of these items are now common knowledge, but may be new to other people, here goes:

All of the fuel hoses are double lined, the inside being abrasion resistant, to prevent the black dust from clouding the optical sensors in the Fuel Metering Module. In connecting a fuel pressure test gauge to the system, avoid connections with barbed ends to prevent the problem in item 1, above. The rubber sleeve around the In-Tank pump is a noise suppresser, nothing else; the pump was made by Tokheim. The Throttle Body was cast by Holley. The electrical leads to the In-Tank pump are polarized, and if reversed, the pump will whine. Allowing the fuel level to drop below 6 gallons will often result in pump failure since it must be submerged to keep cool. The Fuel Pressure Regulator inside the casting at the end of the Control Pump was revised and can be identified by a dab of Yellow paint instead of the Green, on the top screw. The Fuel Pressure

Switch is closed @ pressures of 20 to 22 psi; it has been modified and now carries PN 4091901 and was made to be a fix in TSB 14-30-83. I have many of these, but they have become quite expensive. Alcohol or dye coloring in the fuel can adversely affect the Fuel Flow Meter and Chrysler has issued notices to avoid these fuels - as if you could tell - but there have been problems with fuels in certain localities that do cause problems. Some drivers are Left-Footed using the brakes, this is not good on these cars since there is a back-up switch to supplant the Closed Throttle Switch on the Throttle Body in the event it becomes dirty and doesn't return the engine to idle speed with the spark advance defaulted to 12 degrees. Pushing both pedals simultaneously confuses the CCC. Some Problems Within The System: Mounting tabs on the Power Module break off and ground path is lost. Corroded wire connectors cause multiple problems Air Switching Solenoids shorted to ground. A/C turn ON stalls the engine. Oxygen Sensor wire broken, especially at terminal 12 in the connector to the computer. Battery Feed to the CCC Memory, (the round part of the computer), has a 620 ohm resistor in line to limit current, check for continuity. If feed is lost, the memory is lost and this memory is required to operate the engine in Closed Loop during Cold Start-Up until the water and Oxygen Sensor are warm. The Red lead is this wire and Battery voltage must always be present here. Fuel flow has a 10k ohm resistor in its feed to the Instrument Panel and when it fails, the MPG readings go bad, often 99.99 mpg EGR valves often leak at the mounting, a new gasket number is substituted and also the valve is changed and the vacuum nipple is at an angle. A service package was made available to make a more positive close for the Throttle Stop Switch, but I have found this to be not much better than not having one, I believe it is no longer available. The ASD module by virtue of electrolysis corroded the fender beneath it and the cure is to solder a ground strap to the one mounting ear and run it to the screw on the top, back of the Alternator. The ASD should be elevated off the fender house steel and two water valve washers work fine here as insulators. The Fuel Pressure Switch, mentioned above, was replaced because the original unit had excessive resistance in the circuit and resulted in difficult restarts when hot. Apparently early units came with loose Screws on the Idle Speed Motor which became a problem. If anyone is interested, I can tell you how to run the engine without the Air Flow Sensor connected and the Air Cleaner cover Removed. You can observe fuel flow from the spray bars and it also serves as a test for the Air flow Sensor itself. In this mode the engine should not be expected to run throughout its full power range, but it is nice to see. As to the unpublished Chrysler EFI Diagnostics that I have, I want to stress that unless you have a Sun EFI tester, they aren't much good. I never finished cleaning them up suitable for use and want to do this. however, I will compare the invalid diagnostics in the 81 through 83 Service Manuals and these new ones and pass this along later for those who care and have particular problems in Starting, Fuel Flow, Starts-But-Stalls, and Cold and Warm Driveability. That's enough for now.....Bob Harris

[This is VERY useful information, and we're all very grateful - You really know how to make yourself popular! - Tony]

Subject: 82 FS EFI and some Electrical problems

Sent: 6/11/97 12:40 AM

From: HarrisWerks@worldnet.att.net

You can also check the Oxygen Sensor circuit in the following manner:

I was playing under the hood of my '83 Imperial. Since I have a new HP DVM (the 974A), I also wanted to play with that. I put a jumper between the two oxygen sensor connectors and

connected the DVM to measure the voltage. Rich, the voltage was .98. Lean and it was 0. (I forget the exact 4 digit fractions.) The system switches between rich and lean about once per second. A complete cycle is about .5 Hz. (So I was wrong in a previous post, guess I had a bad connection.) Since the system, without feedback from the oxygen sensor runs rich, you can test the sensor with a SENSITIVE meter to see if there is +1V once you disconnect the lead to the CCC and measure between ground and the lead to the sensor.

There is one other item that I wanted to say about the EFI component parts - Late in the eighties, Chrysler undertook an unprecedented task and refined all of the EFI component parts for this car line, and bear in mind that this happened AFTER production was stopped, long after! All of the tooling, unassembled new parts and returned used parts were gathered along with all of the bits and pieces and transported to a new location and over a year was spent restoring the tooling and test equipment to original specs, and even better.

Then the assemblies were modified to include superior components to avoid early failure and operate the way they were originally intended. The results were vastly improved Power Modules, and Support Plates, to the extent that the bulk of the complaints went away.

To be more up-to-date, Chrysler was ready to rebuild a production run of EFI Combustion Computers just last month, the unavailability of cores was the restraint. This is important because many EFI equipped owners cars will never run right no matter what they do because the parts are inherently defective, right off the line. New Support Plates are still available and the Computers should be available now.

[Where!?!? How? Who do people talk to? - Tony]

I am very interested in this! If this is true, and I can get my '83 in like-new running condition, I'll take back most of the nasty things I've been saying about Chrysler. (Like how they... never mind, I'm going to behave.)

Despite all this there are still some nagging problems, but I am not afraid to take my Imperial anywhere for an extended trip and there were many years when that was not possible.

A few years ago, I needed to go from NJ to DC and my wife's car was out of commission, (before we bought her a Lincoln) so she had my Town Car, and I drove the Imperial. The only problem was that the power antenna died. (The nylon cord in the mast broke.) I had a few "no power" problems, but they did not linger too long. Would be nice to not have that problem though...

Lastly, I have come upon an opportunity to acquire many of the little pieces of the EFI components and that includes the Instrument Cluster. I have four pages of part numbers of all the little resistors, capacitors, switches etc., for this system and this may be a great opportunity, my question is would this be a wise investment and are there enough 81-83 EFI owners in need of these pieces. If I don't act soon, I'm afraid another bulldozer will be put to work and that would be sad. I would appreciate some feedback on this item soon.

I'm interested, if you are not. I am willing to put whatever time and money is necessary to keep this beast running right. Since I bought it new in '83, I already have a sizable figure tied up in this car. More if I include the 3 $1,000 service visits.

-- Frank Cannavale, III

Subject: 81-83 Electricals and Hydraulic Support Plate

Sent: 6/13/97 10:10 AM

From: HarrisWerks@worldnet.att.net (Robert J.Harris)

To both Tony and Dick Benjamin, et al

Tony, you have asked about replacement Hydraulic Support Plate availability. I have several of these and they are brand new, in the box. These support plates are assembled using all of the new components I referenced in my notes and are not rebuilt units. They are filled with a preservative to avoid damage during shelf storage. These are the last available since the components are exhausted.

If anyone is interested, let me know, the price is not out of line with current prices for extinct four barrel carburetors such as the Ford Variable Venturi model. Delivery should take less than two weeks. I don't hesitate to say that I am somewhat reluctant to sell these because they are easily damaged electrically unless installed with care. If there are problems with other systems on the car, a new Support Plate is not the answer.

Dick, here is the procedure to run your EFI car without the Air Flow Sensor and the Air Cleaner Cover removed:

Ignition OFF 1) Disconnect the larger, angled connector at the Starter Relay. 2) Remove the S5 18TN wire from the connector. 3) Replace the connector 4) Connect a jumper wire from this loose end to the Battery Positive post / terminal 5) Start the engine and remove the S5 12BN wire from the Starter Relay. 6) While running, remove the Air Cleaner Cover and observe the fuel droplets or streams from the Spray Bars. There is limited Throttle Response. If the engine runs better than it did before this experiment, it may well be a defective Air Flow Sensor. Also, the Air Cleaner Cover gasket may be a poor seal after all these years, I don't know if these are available.

More later, Bob Harris

Subject: 81 EFI/Odometer Trivia/Computer WHERE?

Sent: 6/26/97 1:47 AM

From: HarrisWerks@worldnet.att.net (Robert J.Harris)

Tony,

Yes, I did mention both Support Plates and Computers for the 81-83 EFI cars. I also mentioned, early on, that many small parts were available to me - those being the various resistors, capacitors, diodes, chips, boards, etc. that were used to make-up the main assemblies.

I intentionally made these statements to establish, in my mind, the number of people who were interested enough in these scarce Imperials to want to buy the parts that are now relatively

extinct. Dick Benjamin was right a couple weeks ago when he talked to me about reverse engineering the three main electronic components and also those lesser pieces.

I got very little feeling of interest; enough for me, or even a group, to invest in this inventory. The list of parts had a grand total of over twenty thousand dollars on it, that being the list price Chrysler had established for them years ago. I still have difficulty in arriving at a reasonable bid price; but I feel strongly that I could get these at an extremely low price.

As for the Computers and Support Plates, as separate items, I do have several of each; I also expressed hesitation because extreme care is required to not damage these things electrically by innocent people, but unknowingly installing them incorrectly. Anyone who buys an expensive part is entitled to expect it to work right but they must know what not to do, to avoid damage. There are lots of signs in parts stores about not being able to return electrical parts, and the reasons for this are justified in many cases. It is well known that Chrysler dealership mechanics did their share of ruining these components, even when they followed instructions; which we now know were not quite right.

Soon all of the new Support Plates and remaining, rebuilt Computers will be gone and we'll have to make do with what we have. I want to help to preserve this car line and can help by giving what I know, and maybe be a source of some parts.

I am convinced that many of us are not able to get help from parts people because they don't know how to access the system or, as is more common, ..."we stopped carrying parts for that car ten years ago"...or.. "no longer available"

Bob Harris... New Support Plates are still available, Computers are supposed to be available now but I'm not sure if they finished the batch. The In-Tank pump is a problem, (it's not available), but I feel there must be a substitute somewhere.

[Bob, you mentioned the new computers several times - WHERE does one get them, and how? What do folks ask for, from parts-department staff that will not know as much as you do? - Tony]

Subject: 81 EFI in Las Vegas!

Sent: 6/23/97 4:58 PM

From: HarrisWerks@worldnet.att.net (Robert J.Harris)

To Tony in Vegas:

It's great to see an enthused 81 EFI owner again, you got a low mileage one at that. If there is a small asterisk in the instrument cluster just above the total mileage accumulated, then that mileage shown is not correct. There were many cluster problems early in this cars history and Chrysler removed and repaired them, but the mileage went back to zero, the asterisk informs the viewer that the true mileage is recorded on paper elsewhere - usually a 1" wide X 4" long label was attached to the door end below the striker. You ask if these cars have a good track record and the answer is no, but if you read my earlier postings, you can see what improvements were made, after production stopped in APR 83.

I know several owners of these cars who have well over 100k miles on them and they still run on the original electronic components in the Support Plate, but most others had troubles, the worst being that the dealers couldn't correct the problems and the replacement parts were often worse than those just taken off.

You can best identify the newer components by just looking at the Power Module and Fuel metering Module within the Support Plate. The old parts had a potting compound that turned to goo and ran down to the bottom of the cavity of the Power Module and the Metering Module goo ran across the plate itself.

If you do not have this condition, then you must assume that the original Support Plate has been replaced with the revised design and with a little care, this equipment will run a very long time. Most Imperial EFI owners are not the original owner, but then car collector people are, as a group, rarely the original owners.

New Support Plates are still available, Computers are supposed to be available now but I'm not sure if they finished the batch. The In-Tank pump is a problem, (it's not available), but I feel there must be a substitute somewhere.

[Bob, you mentioned the new computers several times - WHERE does one get them, and how? What do folks ask for, from parts-department staff that will not know as much as you do? - Tony]

Good luck...Bob Harris

Subject: 81 EFI in Las Vegas - Advice

Sent: 6/26/97 4:37 AM

From: HarrisWerks@worldnet.att.net (Robert J.Harris)

Tony Holland - re your 81 EFI

You asked for some advice, here's a little. You should purchase the Service Manual for this car. You can get them from Chrysler. Call 1-800-890-4038 and ask if they still have publication 81-270-1001 available.

There are two items to be treated with care. One, the In-Tank Fuel Pump. Don't allow the fuel level to drop below 6 gallons - the pump will run dry and overheat. I don't have a replacement pump idea but I think someone in IML does.

[Wasn't Dick mentioning a recent-model Mustang pump? - Tony]

Second, don't "jump" start someone else's car or have yours "jumped". That surge at start-up has killed many computer units. In an emergency, turn ON all electricals to absorb some of this surge. That last item is becoming common throughout the country. Another good idea is to disconnect and clean all of the terminals in the various connectors. Use TV tuner cleaner, for example; dry with compressed air.

On the 81, you should remove the ASD and clean the rust from the top of the wheel house, solder a lead and connector to one of the ears on the ASD and connect the other end to the

rear-facing screw, (ground), on the top of the alternator. Use a couple rubber valve washers to insulate the assembly from the sheet metal and reinstall.

There are two distribution ports threaded into the Intake manifold under the Throttle Body. Remove these and with a small drill, clean the asphalt out, the holes are covered by a hood, but they are drilled on an angle.

I have posted several tips and other info on the IML within the last three weeks and you'll find several things there to help you. If you can't find them, let me know and we'll get 'em back. There are so many little things to know, I'd like you to find these first, then we can go on.

[Would somebody like to help me edit them down so we can post them on the web? We're a little overloaded at this end! - Tony]

This is one smart looking car, keep it alive....Bob Harris

Subject: 81 EFI in Las Vegas/Shop-Manual Source & Advice

Sent: 6/27/97 5:39 PM

From: fc3@bellatlantic.net (Frank Cannavale, III)

On the 81, you should remove the ASD and clean the rust from the top of the wheel house, solder a lead and connector to one of the ears on the ASD and connect the other end to the rear-facing screw, (ground), on the top of the alternator. Use a couple rubber valve washers to insulate the assembly from the sheet metal and reinstall.

Why the new ground and the insulation?

There are two distribution ports threaded into the Intake manifold under the Throttle Body. Remove these and with a small drill, clean the asphalt out, the holes are covered by a hood, but they are drilled on an angle.

What are these ports, and why drill them out?

I have posted several tips and other info on the IML within the last three weeks and you'll find several things there to help you. If you can't find them, let me know and we'll get 'em back. There are so many little things to know, I'd like you to find these first, then we can go on. [Would somebody like to help me edit them down so we can post them on the web? We're a little overloaded at this end! - Tony]

If someone will send me all of the 81-83 EFI tips, I can turn them into some rather decent web pages.

[Actually, plain text is MUCH better - I just paste it into my automated web-page-builder, and all of the links are taken-care of automatically. I have many megs of text for you, and a place to put everything when y'all are done! I've sent a tiny subset to Dick Benjamin, but I think the process is intimidating him. Let's make it a team effort! - Tony]

-- Frank Cannavale, III fc3@bellatlantic.net

Subject: 81 EFI in Las Vegas/Questions & Editing

Sent: 7/3/97 9:50 AM

From: HarrisWerks@worldnet.att.net (Robert J. Harris)

Why the new ground and the insulation?

TO PREVENT FURTHER CORROSION BETWEEN THE WHEEL HOUSE AND THE ASD MODULE, IT REQUIRES A BETTER GROUND THAN THE SHEET METAL - WORKS BETTER TOO.

There are two distribution ports threaded into the Intake manifold under the Throttle Body. Remove these and with a small drill, clean the asphalt out, the holes are covered by a hood, but they are drilled on an angle. What are these ports, and why drill them out?

THESE TWO PORTS ARE FOR ADMITTING EGR GASES INTO THE AIR-FUEL MIXTURE IN THE INTAKE MANIFOLD. THEY WILL CLOG-UP WITH ASPHALT, (DRIED, BURNED OIL), AND WON'T FUNCTION. IF YOUR CAR PINGS, THIS MAINTENANCE WILL HELP. I DISLIKE EGR IN THEORY AND FACT.

Subject: 80's EFI computer bought

Sent: 6/27/97 8:02 AM

From: jguarino@pangea.ca (jeff guarino)

Hello all.

Some of you were wondering about availability of CCC computers. I just purchased one through the Chrysler dealer. The cost was $254.00 CDN or about $184.00 US. The source was in the U.S. though.

The address on the box it came in is Chrysler Corporation, 10030 SW Allen Blvd., Beaverton Or. 97005.

Another address on the box is from Texas so I'm not really sure where they're coming from.

What I do know is that the part number is different from the one in the manual. The original number is 4145726 and the new number is R4240487. The computer says remanufactured on it and the housing is all marked up, so it looks like they recycled the old housings.

I bought this computer as a backup. It'll make me feel more secure when I take a long cross-country trip. Now I've got a complete spare system to take with me on my next road trip.

later, Jeff

[Thanks very, very much - VERY useful tips! - Tony]

Subject: 80's EFI - Problems

Sent: 6/28/97 2:02 AM

From: fc3@bellatlantic.net (Frank Cannavale, III)

[Bob, you mentioned the new computers several times - WHERE does one get them, and how? What do folks ask for, from parts-department staff that will not know as much as you do? - Tony]

This is all so gawd-awfully frustrating. I have an '83 Imperial that I bought new. I paid a lot of money to buy this car. Paid the dealer a lot of money to maintain this car. I've talked to a few dealers about resolving some drivability problems with this car. No one has any information about these new, improved parts. I can't find any references to a parts list, sources of components. I just get a lot of: "Leave the car here and we'll work on it when we have some free time..." Usually the word "expensive" slips in somewhere.

I've tried and given-up finding tech specs on the EFI components. I only have one almost working set of components, (the ones on the car) and hesitate to unpot and reverse-engineer new ones.

Right now, the only future for my car looks like that it will remain in the garage except when I tow it to a show behind my always reliable Lincolns.

Chrysler, despite supposed good intentions, still is proving that they really don't give a damn. I may collect old Chryslers, but I'll continue to buy and drive new Lincolns until their rotten attitude changes.

-- Frank Cannavale, III fc3@bellatlantic.net

Subject: 81 - 83 EFI Bracketing

Sent: 7/4/97 1:21 AM

From: HarrisWerks@worldnet.att.net (Robert J. Harris)

I may have misled you as to the where the sloppy linkage is:

It is not in the throttle linkage in the way we usually think of it, but rather in the linkage from the AIS motor to the passenger side of the throttle shaft. This makes the AIS motor move further than it would have to, to cause a corrective effect (if it weren't dealing through a lost motion situation), thus it over corrects by a mile before it realizes the fact, and thus over corrects in the other direction to compensate, causing a major hunting and often a stall at idle.

Dick,

I must tell you of the latest development in this quest for perfecting this 81 EFI car. Like I said earlier, I'd read an article in Popular Mechanics about poor idling in Fuel Injected cars, wild bracketing, and decided to pursue this tack. Well, I looked again, at the vacuum system diagrams, and decided to disable each of them until I found the culprit.

The theory of diagnosis being that both Fuel and Ignition were NOT the problem - it must be AIR. I removed the vacuum hose from the nipple on the tree that supplies vacuum to the Air Switching Solenoid. Upon restart, the engine behaved as it should, no stalling after a hot start or when the AC was turned on no more wide swings in the bracketing mode, (bracketing was quite subdued and acceptable), and no rich fuel mixture at idle.

The problem is not, however, solved. The purge valve in the canister may be faulty, the vacuum amplifier may be faulty, but the solenoid valve is both functional and working correctly with the timer. With this present situation, the canister is not being purged, (I have removed the Smog Pump for 14 years now), and that Diverter Valve cannot function. More to follow.

Can someone from California tell me how these EFI cars fare in your state registration / smog test program?

Bob Harris

Subject: 81 - 83 EFI Bracketing

Sent: 7/4/97 7:37 PM

From: mfarr@chollian.dacom.co.kr (Michael P. Farr)

Could someone explain what the term "bracketing" means? I get the impression it's like what I would call "surging" or "hunting", as in spontaneously changing engine RPMs without changing the throttle position? Is this correct? Is the term peculiar to EFI because it's an electronic, rather than mechanical, problem?

Thanks, Mike Farr

Subject: 81 - 83 EFI Bracketing

Sent: 7/4/97 11:17 PM

From: bondotmec@alphainfo.com (Dick Benjamin)

Bob;

I need to noodle around about your experiment with the air switching system, but I can definitely comment on the situation in California. One cannot get away with anything here such as disabling the EGR system or the purge system. The technician has accurate diagrams for all hookups for every car I have ever taken in, and actually applies vacuum to the EGR valve to determine that it is functional from the change in fuel/air ratio.

Thus your posting in another thread about cleaning out the passages is not news to a CA resident! The EFI cars will also fail if the fuel rails are not spiffy spotless clean so they atomize the fuel properly, as I learned the hard way.

My 81's pass with exceptionally clean readings, for example: idle HC limit 100 PPM, measured 18 PPM idle CO limit 1.00% measured 0.03%, 2500 RPM HC limit 220 PPM, measured 9 PPM, 2500 RPM CO limit 1.20% measured 0.03%.

This was the latest test on the 107,000 MI car with the floppy timing chain and 0.020 wear on the cam lobes due to poor maintenance by the selling dealer (It appears that the oil was never changed during the 6 year ownership of the previous owner, even though the receipts for the service were all in order!) I am in the final stages of undoing all this damage, I will report on the change when I put the car back on the road, it will have to be smogged before I can drive it (even to the smog station, typical California chicken and egg situation)

I'm lurking in the background absorbing and archiving everything you are posting about the EFI system and parts availability, I certainly appreciate your efforts in educating us. I feel we have been wandering around in the darkness for years with these cars.

I think you referred to a posting I had made regarding replacing the in-tank fuel pump: What I did, and it was brought about by the emergency of being 1200 miles from home with a car that would not run, was match the fuel delivery rate and pressure specs as close as I could, which turned out to be a 5.0 Liter Mustang with the high output engine (which seems like overkill for a mild 318). This is not an in-tank pump, so I had to fabricate a mounting bracket and plumbing arrangement so that I could bolt it to the body near the tank and suck fuel off the bottom of the tank without losing the gauge and vapor return provisions of the original system. Other than a slight increase in noise from the pump, it works like a charm and has for about 4 years now.

Dick Benjamin

Subject: 81 - 83 EFI Bracketing

Sent: 7/7/97 2:19 AM

From: HarrisWerks@worldnet.att.net (Robert J. Harris)

Could someone explain what the term "bracketing" means? I get the impression it's like what I would call "surging" or "hunting", as in spontaneously changing engine RPMs without changing the throttle position? Is this correct? Is the term peculiar to EFI because it's an electronic, rather than mechanical, problem?

I first ran across this term in the Chrysler publication, "EFI", The Electronic Fuel Injection System, a booklet on the 81 system. In the discussion on Fuel, Air and Ignition Commands it describes that the Oxygen Sensor switches its voltage output to the CCC as the Oxygen content of the exhaust varies.

If the mixture is too lean, the voltage is low, and the CCC increases control pump speed thereby increasing the amount of fuel; the opposite occurs when the voltage is high, the exhaust is too rich. This constant change in pump speed, intended to maintain the stoichiometric ideal of 14.7 parts of air to 1 part of fuel, raises and lowers the engine speed, (most notable at idle), and is called bracketing.

On these cars, it becomes very evident because it uses the rotary, centrifugal "Control Pump". Newer cars, with their individual cylinder squirters also respond to Oxygen sensor voltage output

signals, but it is less "violent" because of the way the fuel gets into the cylinder - no central pump dumping into the intake manifold. Hope this helps.

Bob Harris

[Bob, you don't happen to have access to a computer image-scanner do you? I'd sure love to see this sort of thing get spread around - Tony]

Subject: 1980's Parts - Random Ramblings

Sent: 7/15/97 9:26 PM

From: bondotmec@alphainfo.com (Dick Benjamin)

OK Jeff, good to hear you're back among us. I am always amused by the reaction of even car people to the '81. Most people walk by it not even realizing its anything out of the ordinary, a just modern looking car which they assume is new or nearly new. Then someone who knows what it is will stop to compliment the car, and up goes the hood to show off the engine weirdities, and soon there is a crowd. I love to point out to the unwashed that the car is almost 17 years old, and probably out performs, gets better mileage, and is more comfortable than their modern luxomobile.

I'm just this week finishing a complete engine rebuild (caused by the previous owner's mechanic charging for and not doing oil changes for the first 7 years of the car's life, what a mess), and hope to have it ready for a maiden voyage by Tony's party on the 27th.

If you can send me the tracking number of the package, I will track it across the country and be sure to be here when the UPS truck comes. (Its a 70 mile round trip to the nearest UPS depot if I have to go pick it up.)

Dick Benjamin

Subject: '81 - fuel filter swap

Sent: 7/18/97 3:58 PM

From: bondotmec@alphainfo.com (Dick Benjamin)

how to change a fuel filter on a 1981 Imperial with the e-f-i?

Wes;

There are two filters, both are mounted under the passenger door, tucked up into the underside of the car. Just disconnect the lines, take down the clamp that holds them, and take the old filters to your local NAPA store.

They have an exact match, or near enough that no one will ever know.

Dick Benjamin

Subject: 81 in Vegas - Changed filter & Plugs & it stalls!

Sent: 7/19/97 4:49 PM

From: Aholland19@aol.com

Help!!! What could I have done?????????????

All I did was change the air filter and put in a fresh set of spark plugs and now my 81 starts up, runs for about 1 second and shuts off. What could I have possibly done to it?? I checked the owners manual and gapped to 048 instead of 035. I'm stumped! Can anybody give me some suggestions??????

Tony Holland 81 Imperial in Vegas

Subject: 81 in Vegas - Changed filter & Plugs & it stalls!

Sent: 7/20/97 10:39 AM

From: bondotmec@alphainfo.com (Dick Benjamin)

Tony;

First thing to check is the air cleaner situation. The top must fit down tight and seal around the housing perfectly. You might try reinstalling the old air cleaner, and if this cures the situation, compare the dimensions accurately. As a test, you can also install the cover and tighten the wingnut and clamp securely without an air cleaner element in place. The car should run that way.

If that doesn't lead you to the solution, I suspect you knocked a wire connection loose when you were fiddling with the spark plug wires.

(By the way, did you notice the special plug requirement on the sticker under your hood or in your owner's manual? The auto parts places always give you the wrong plugs, you have to ask for the correct ones by number for the EFI cars. They are different!) This will not have anything to do with your current problem, though. I think you will need to retrace your steps very carefully under the hood, something is loose or disconnected around the CCC or the ASM.

Dick Benjamin

All I did was change the air filter and put in a fresh set of spark plugs and now my 81 starts up, runs for about 1 second and shuts off. What could I have possibly done to it

Subject: 81 in Vegas - Changed filter & Plugs & it stalls!

Sent: 7/20/97 7:15 PM

From: mblez@juno.com (Michael J Bleznyk)

Sounds like your air cleaner top is not on tight. The '81-'83s won't run with the air cleaner top loose or off. Did you put the air cleaner ring clamp back on? Do you have the correct air filter? Also, you're better off with a spark plug gap of 35. Blez

Subject: 81 EFI still acting up

Sent: 7/23/97 1:19 AM

From: HarrisWerks@worldnet.att.net (Robert J. Harris)

After close inspection, I found that the EFI is not giving the engine any fuel to start. I can remove the breather top and pour gas down the butterflies and the car will start and run as normal. When I turn it off it won't start until I prime it again. What controls start up fuel flow? Who has what I need to fix this problem?

Sorry about your difficulties, I'm wondering if you have the Service Manual so that you can have the schematics necessary for diagnosis; also, to diagnose this car properly, (or any new, electronic car), you'll need a digital VOM, similar to a Radio Shack Micronta 22-167, (a low resistance meter - about 100 ohms per volt).

I have some "Starts-But-Stalls" and "No Start - Fuel" tests for you that do not require the EFI Tester and if you have the tools, we can work on this problem.

I mentioned the air filter in a previous note on Sunday. Try to run the engine without an air filter, but be sure that the cover is tight and the PCV Inlet Filter is installed. Also, since you changed the plugs, take a good look at the ADS module and see if you inadvertently disturbed the wiring connector. Also, in the lower, front area of the support plate there is a large connector, right behind the water outlet hose to the radiator - make sure that the connector is tight.

While you are concentrating on the problem of not having any fuel to start and run the engine, you must remember that unless an ignition signal from the coil is present at the ASD there will be no fuel pumping, therefore the lack of fuel may well be caused by the lack of ignition. Look at the wiring to and from the coil and all of the connections on the top of the coil.

Let us know how you're doing....Bob Harris

Subject: 81 EFI still acting up

Sent: 7/21/97 2:39 PM

From: bondotmec@alphainfo.com (Dick Benjamin)

After close inspection, I found that the EFI is not giving the engine any fuel to start. I can remove the breather top and pour gas down the butterflies and the car will start and run as normal. When I turn it off it won't start until I prime it again. What controls start up fuel flow?

Tony;

First, a safety related issue!!!!!!!! When you put some gas down the maw of the intake, you do not need to remove the air cleaner cover, and it is dangerous to do so. Just loosen the wing nut a few turns and put the teaspoon of gas into the depression in the center of the air cleaner lid.

With the lid off, there is a strong danger of a sudden flame shooting out of the intake, you can lose your eyebrows or worse.

You know, I assume, that the car is designed not to run with the air cleaner seal broken in any way, that was the reason for my last message.

If this is like the other 3 or 4 cases of this same symptom we have been discussing over the last month or so, there seems to be something about disturbing the grounding or harness wires that are associated with the Automatic Shutdown Module.

Bob Harris suggests running an additional ground wire from the mounting flange of the ASM (its on the right fender, has a 5 wire connector) to a solid engine ground. Of course, you would clean all the paint off the flange, and make sure the connection is clean and tight. While you are in the mood, double check all the ground wires on the system, especially inside the Hydraulic Support plate.

Do you have the Chrysler manuals for this car? You can see where all the connectors in the system are, and as I said in the last message, I suspect one of them got disturbed when you were changing the plugs.

This is a tough problem to trouble shoot, since it boils down to a chicken and egg situation. Some of us have bypassed the ASM to get around the problem, and one of the IML members only had the symptom when the car was warm, and his problem seems to have magically gone away by itself.

So, take a deep breath, take baby steps and hopefully, we'll stumble on the answer to all these car's problems.

Dick Benjamin

Subject: 81 EFI still acting up

Sent: 7/23/97 9:32 AM

From: HarrisWerks@worldnet.att.net (Robert J. Harris)

Sent: 7/20/97 9:48 PM

From: Aholland19@aol.com

After close inspection, I found that the EFI is not giving the engine any fuel to start. I can remove the breather top and pour gas down the butterflies and the car will start and run as normal. When I turn it off it won't start until I prime it again. What controls start up fuel flow?

I've just read your note again, and although I have sent you a message earlier, I just thought of something else and want to pass it on.

In the Support Plate there is a Fuel Pressure Switch to which a small yellow wire is connected. The purpose of this switch is to run the Control Pump at full speed for just a second to get enough fuel into the Injectors to start the engine. Why this thing would fail just because you replaced the filter is a mystery, but there is a simple test for it. By the way, if the switch is okay, you might try to cycle the ignition key a few times and see if there is enough to start the engine. It is not unusual for these cars to require some extra tries to get them started.

To test the switch you'll attach an ohmmeter to the terminal on the bottom of the switch, after having removed the yellow wire connector. The other lead of the meter should be attached to a ground. Have a friend crank the engine. The meter should show continuity and then show no continuity. If this does not happen, the switch must be replaced. Before you do any of this, be certain that you can hear the In-Tank Pump slug the front pump when you turn on the key, but before you crank it. If this is not happening, then there are some more checks to make.

More later.....Bob Harris

Subject: 81 EFI - Stalls

Sent: 7/20/97 9:48 PM

From: Aholland19@aol.com

After close inspection, I found that the EFI is not giving the engine any fuel to start. I can remove the breather top and pour gas down the butterflies and the car will start and run as normal. When I turn it off it won't start until I prime it again. What controls start up fuel flow? Who has what I need to fix this problem?

Tony Holland 81 Imperial

Subject: 1981 EFI burned up.....

Sent: 7/21/97 12:31 PM

From: jingraha@esu3.esu3.k12.ne.us (Jeff Ingraham)

Hi,

Well, with manual in hand I am ready to start on my 81 Imperial which had a fire in the air breather. I am hoping the group buy comes together but I was thinking of trying to work on what I have now and see if anything can be salvaged. I have posted the pictures to my web page. If any of you 81 Imperial GODS can help I would appreciate it. Here is the directory with the picts;

http://ingraham.esu3.k12.ne.us/My%20Shared%20Documents/Imperial/81Engine%20 /

Let me know what you think can be done. THANKS!

Jeff

Subject: '81 - Fire tips

Sent: 7/23/97 2:13 AM

From: bondotmec@alphainfo.com (Dick Benjamin)

Hi Jeff:

I came over here to look at your pictures. They look kinda grubby, but I've seen worse, and that's on a car that is running (my brown beater).

Have you already described what caused the fire, or do you know much about it? I would like to try to offer some help, but I need to understand what the symptoms were. From the pictures, I do not see really a lot of serious damage. There are a couple of voltages we can check if you have a VOM, after you get the wiring repaired.

If you've already got some help, I don't want to get in the way, but if you are at the end of your rope, let me help before you toss in the towel.

Dick Benjamin

Subject: EFI parts have arrived

Sent: 7/24/97 11:06 PM

From: bondotmec@alphainfo.com (Dick Benjamin)

Jeff;

The parts have arrived in good condition. I have not had time to look them over yet, but I do not see anything obvious. As soon as I am done rebuilding my black '81, I will test them on the bench and then on one of the cars to see what I can learn about them, then announce to the IML what we have ready to go. I think the way to do it is to ask members to send their (repairable) old parts for exchange, and hopefully I can keep repairing things on them and keep at least one set ready to go at all times. Kind of a lending library deal.

I thought I would tabulate the changing part numbers on the various components from the three sets I now have access to (my two EFI cars and the set you sent me), to see if we can make any sense out of the engineering changes made during the Chrysler attempt to improve the performance and/or reliability.

I have had bad luck with trying to get tabulated data to transmit over the e-mail system without screwing up the column alignments, so I will make the table in "Word" and attach it as a file. I would particularly like those of you with access to other '81-'83 EFI cars to check the numbers on your parts too, maybe we can compile a history file showing which revisions to the design have which problem.

I would like to reimburse you for the shipping cost, could you let me know what it cost?

Thanks again,

Dick Benjamin bondotmec@alphainfo.com

Subject: 81 EFI is Working Fine!

Sent: 7/23/97 9:20 PM

From: Aholland19@aol.com

Hey everybody,

I have been getting a lot of help the last couple of days and I want to thank everybody. I did what I was instructed to do and it is acting normal again. Starting every time just like it should.

I ran the extra ground wire from the flange of the ASM. Then I took the entire air cleaner off (first time!). I went over every connector of any kind and made sure they were clean and not burned or cracked. Then I broke out the contact cleaner and gave them all a bath. I followed up with a shot of WD-40 and put them back together. I also pulled the plugs and regapped them to a "loose 035".

After careful reassembly of the air cleaner and every wire back in its factory place I turned the key and it started right up!! It has not failed to start since I put it back together early today.! I can't find my hard copy of the number to call to order the manual for this car. I need this and the part number.

I have a few questions, what is the best plug to run in this car? Did they ever make any 81, 82, or 83 Imperials with a carb? Would you define ASM and ADS module? I hate to sound stupid but this is my first electronic car that has everything intact and untouched. My fuel pump is loud and clear when you turn the key and I have not let it run below 7 gallons.

Is it just a matter of time before those modules under the breather cover go out? They no longer have any goop left in them. It all ran out on the plate. I don't think it helps things living in the desert heat.

Once again I want to thank everybody who gave me advice on this problem. I couldn't have fixed it without you.

Tony Holland STUNNING 81 CHRYSLER IMPERIAL

Subject: 81 EFI is Working Fine!

Sent: 7/25/9_Ev 59 AM

From: bondotmec@alphainfo.com (Dick Benjamin)

Tony in Vegas;

That's great news, glad we were able to help.

I have the ordering address for the manuals at my shop, I will get it and sent it to you tonight, if no one else has it handy. I originally got it from my Chrysler dealer, in fact they ordered them for me (you know there are two manuals, right?)

The ASM is sometimes called the ASDM or the ASD in various places in the manual, it is the Automatic Shutdown Module. Its purpose is to prevent the fuel pump from continuing to deliver fuel to the Hydraulic Support Plate if the engine is not running. It senses the Ignition signal and a couple of other status conditions to decided whether or not to energize a relay which provides 12 volts to the in-tank fuel pump. There is more to it, but reading the manuals is the way to get yourself educated. ADS is a new one on me, I'll look in the manual to see if I can decipher it.

As for spark plugs, as it says in your owner's manual and across the front of the engine compartment, the right plug for the car is Chrysler 68 ER.

These are hard to find, and by comparing specs and various catalogs, I have decided that AL 945's are as close as we can come today. I mentioned this before because almost all the catalogs are wrong for these cars. The proper gap is. 048, which is what I thought you had set them at. Did someone advise differently? If there is a reason to not follow the factory recommendation, I am not aware of it.

Regarding carbureted models, there is reference in the manuals to a carbureted version, but I am not aware of any being delivered that way.

There is a factory supplied conversion kit, but it is very expensive, and now getting very hard to find. Also, there are penalties in driveability, performance and economy.

There a quite a few cars that have been converted by independent garages and owners, these are not smog legal in California, and probably will be tough to get past a smog inspection in any state, but I have no personal knowledge of this. I am sure their dash displays don't all work.

If I had all the money in the world, I would convert one of mine to a 97 EFI system off a 5.2 Liter Dakota, but I would have to spend a month of Sundays trying to get the dash displays to work right.

You've got a great car the way it is. If it ain't broke.....

One of my cars is a beat up very high mileage car from Dallas, and I have had it here in the high Mojave desert east of Temecula (almost as hot as Las Vegas, 115 daytime highs are very common from July to October) for about 5 years. All the goop has long since run out of the electronic modules, and is laying in the bottom of the hydraulic support plate (WHAT A MESS!!).

This has been my daily driver since I have owned it, and I have never had a problem with any of the EFI systems. I have another friend who uses one for a daily driver, and he is over 275000 MI on it. The 318 will run forever if properly taken care of.

Dick Benjamin

Subject: 81 EFI is Working Fine!

Sent: 7/25/97 3:28 AM

From: HarrisWerks@worldnet.att.net (Robert J. Harris)

The original plug for the EFI Imperial is a Champion RN14LY but the gap was revised down to .035" with a Service Bulletin 08-14-81, Sep 8, 1981. These plugs had a long reach into the combustion chamber. The only other cars that used them were made by American Motors; they are hard to find. I am delighted with Bosch Platinum number 4137 which also has the long reach of the original.

There were some cars built, mainly for the Canadian market, with 4 barrel Carter Thermoquad carbs. Two barrel Carters were used to convert EFI cars that were failing and driving their owners crazy, These kits were mandated by the Feds, but are no longer available. It took about a week to convert the car and was a nice job except I felt the wiring was a cheap fix.

The ASD - Automatic Shutdown Module - is on most fuel injected cars as a safety device to stop fuel pumping when there is no ignition, this reduces large fires since, without it, there may well be unnecessary continued fuel delivery which would spill all over the hot engine.

The Service Manuals are number 81-270-1002 and MAY be available from Chrysler at 1-800-890-4038. If not there, someone in the IML listed a source and price early this month.

You should replace both the Support Plate and the Computer, both are improved over what you have. The computers are available now from Chrysler under part number R4240487 for roughly $250 list price, exchange.

There are only a few Support Plates left, and they list for $775 and when they're gone, that's it because there are no more component pieces with which to build new ones. The computers can be rebuilt, but they need a demand to run a batch through.

Bob Harris

Subject: 81 Imp in Vegas - Need light!!!

Sent: 7/24/97 11:49 PM

From: Aholland19@aol.com

I need the turning light assembly for the left side. The connector is intact but the light assembly is simply not there. This is the light that comes on and lights the way when you turn. I need this for my 81 that is by the way doing just fine.

Tony Holland Stunning 81 Imperial

Subject: 81 EFI is Working Fine!

Sent: 7/25/97 9:21 AM

From: bondotmec@alphainfo.com (Dick Benjamin)

Bob;

I was unaware of the service bulletin on the plug gap. Do you know what precipitated the change? I have been using the original spec, but I will change my book notes now.

On the Champion equivalent, the closest appears to be the RN13LYC, according to my interchange books, but I see your documents specify a hotter plug. Again, do you know the reason? I have never experienced any fouling.

I would of course love to have the latest improvements in my cars, but the expense is a little more than I can justify since both seem to be working just fine. Do you know what operational problems were addressed in the updates?

You are an invaluable resource of information on these cars, thanks for being there!

Dick Benjamin

Subject: 81 - Support Plate for EFI

Sent: 7/25/97 4:35 PM

From: jguarino@pangea.ca (jeff guarino)

Hi Bob.

How can you tell the difference between a newer support plate and the original? Did they change the circuitry on the new ones? I have "remanufactured" stamped on the side of my support plates.

Do you know if the Canadian Imperials with Thermoquads had a functioning mpg reading on the digital dash? On one of my Imperials I have the letters EFM stamped on my digital dash assembly and on the other is stamped NON EFM. Do you know what this means?

Jeff Guarino

Sent: 7/25/97 4:57 PM

From: jguarino@pangea.ca (jeff guarino)

I need the turning light assembly for the left side. The connector is intact but the light assembly is simply not there. This is the light that comes on and lights the way when you turn. I need this for my 81 that is, by the way, doing just fine.

Hi Tony.

The light assembly is the same as the one on a lot of Cordobas. I think 1983's. The lens is just held on by some kind of butyl. I've lost mine twice already. You can usually get them at the junk yard for $5 to $15.

Jeff Guarino

Subject: 1980's Parts-Car In Dallas/Instant EFI?

Sent: 7/25/97 5:56 PM

From: jguarino@pangea.ca (jeff guarino)

I guess I should jump in and say that other than one hub cap for my blue car, I really don't need anything for my 81's, but I would be willing to contribute any help I can give, especially mechanical help in disassembly or testing components. I gather the car is not in CA, but if it is within 500 miles or so, I would be willing to go pick it up with my trailer and haul it back here to my shop, strip off the pieces with or without help, and ship the stuff for the shipping cost. Where is this puppy?

Hi Dick.

The car is in Dallas. On my map that's about 1300 miles (probably too far). Thanks for the offer anyway, I know you would do a good job stripping it. Maybe someone closer to Dallas wants to join in for the group buy or maybe someone would offer take it and strip off the vital parts for us?

On a different topic. When you turn your key to run (before starting), does the EFI system come on for an instant? Both of mine do and I can't figure out the purpose of it. The whole system powers up and then shuts off completely in 1/2 second.

Jeff Guarino

Subject: 81 - 83 EFI Cars - ACC servicing tip

Sent: 7/26/97 6:21 AM

From: HarrisWerks@worldnet.att.net (Robert J. Harris)

To all the EFI owners in the group,

I just read Tony Holland's success message again and remembered something that caused me a ton of grief years ago and wanted to pass along this tip.

Whenever the complete Air Cleaner Can is removed, usually after disconnecting all the wires and hose, you normally set it aside, over in the brake master cylinder area. Well, take a look at the underside of the CCC and note the three wires going into the memory module - these will get frayed, then eventually broken when it is placed over toward the fender, out of the way. Soon, the memory is gone, it's running bad, and you're saying, "Now What?"

I made an elliptical guard out of a piece of heavy radiator hose and surrounded the three wire cluster and attached it with Mopar Black Power - their silicone rubber adhesive sealant. Have a look at yours and see if you have this abrasion damage going on and do the stitch in time.

Bob Harris

Subject: 81 Support Plate for EFI /Group Purchase?

Sent: 7/27/97 11:52 AM

From: HarrisWerks@worldnet.att.net (Robert J. Harris)

How can you tell the difference between a newer support plate and the original? Did they change the circuitry on the new ones? I have "remanufactured" stamped on the side of my support plates.

Do you know if the Canadian Imperials with Thermoquads had a functioning mpg reading on the digital dash? On one of my Imperials I have the letters EFM stamped on my digital dash assembly and on the other is stamped NON EFM. Do you know what this means?

Hi Jeff,

It is easy to tell the difference between the newer components on the Support Plates and it is the potting compound used to protect the innards.

The new ones have a very clear, gel-like appearance and a larger granule gravel filler chip. Saying remanufactured does not necessarily get you the later upgrade part; moreover, the part number is not changed. You should also find a small, white sticker with both the part number and date on the Power Module - this date would be in the mid 80's.

The new Support Plates also included the revised Pressure Switch although that part carries no part number marking. Only a few, new Support Plates are still available, I doubt if there will be any more rebuilt units either because there are no more little pieces with which to build them.

Quality of the components was greatly improved, but I cannot speak of the circuitry design, I just don't have that first-hand knowledge to be absolutely sure; I do strongly feel that the

workmanship is greatly improved and consistent between pieces, this was also part of the problem(s).

The Canadian Imperials with carburetors did have a full functioning instrument cluster, I believe, using the same German made fuel flow meter that was later incorporated into the carb conversion kits that were mandated when the failure rate on the EFI cars got the government into the fray. However, the Instrument Cluster did have a different part number - in both cases.

The terminology EFM came early on in development of the EFI cars at Chrysler, (some of their original schematics have this on them), and it means "Electronic Fuel Management" and you will see this in a few other places; this confirms what I said above about the two different Instrument Cluster part numbers.

I know what this carb equipped Flow Meter part number is, but in trying to obtain one from Chrysler they told me: "No longer Available". The Flow Meter was mounted in the fuel line just prior to the inlet fitting on the carburetor.

In an earlier message I spoke about many of the small parts used to make-up the Instrument Cluster were available to me, but I did not get the response that would warrant the purchase. If I do get some interest, I may try to get some of them at affordable prices; on the other hand, there is a place here in Houston that will repair and rebuild the Instrument Cluster and that, to me, is the way to go.

Bob Harris

Subject: 1980's Parts-Car In Dallas/Instant EFI?

Sent: 7/28/97 1:00 AM

From: bondotmec@alphainfo.com (Dick Benjamin)

Hi Dick.

The car is in Dallas. On my map that's about 1300 miles.(probably too far).

On a different topic. When you turn your key to run (before starting), does the EFI system come on for an instant? Both of mine do and I can't figure out the purpose of it. The whole system powers up and then shuts off completely in 1/2 second.

Jeff;

Yes, the 1300 MI is kind of a little bit much for me.

I hope someone else steps forward.

As to the EFI start up routine, what you are hearing is the in-tank pump charging the fuel hydraulic system to purge the vapor from the lines, and provide initial pressure to the control pump. If you read the appropriate section of the "Engine Performance Manual", it describes this operation quite well.

As an aside, and for anyone who is having initial starting problems, sometimes this one or two second purge cycle is not sufficient, and you can get it to repeat by cycling the key all the way off and back on again a few times before engaging the starter. This usually makes the car start immediately.

At Tony's get- together today, Carl Baty brought his '81, and told us about having suffered another instance of problems caused by a poor contact to ground of the ASM, so the additional ground wire proposed by Bob Harris seems more and more like a good idea. At the least, it cannot hurt anything, and it has made the problems go away on 3 or 4 of the cars we have been trying to trouble shoot.

Dick Benjamin

Subject: 81- 82 EFI numbers catalogued

Sent: 7/28/97 12:14 PM

From: jguarino@pangea.ca (jeff guarino)

Hello Dick.

Here are the part numbers I have on my components.

Gold 82. HSP 4271868 &2035,AF?, PM 4091383, ASD 4091345. CCC?.

Brown 81, HSP 4271868& 2310, AF 4267128 & 3492, PM?, ASD?.CCC 4145726 & 2310.

Not working set, HSP 4271868& 2443, PM 4091383, CCC?.

Spare hydraulic plate, HSP PN 4145065 & SR 12593 &3061, PM 4091383.

New CCC, R4240487

HSP hydraulic support plate AF air flow PMpower module

note: all my hydraulic plates are marked remanufactured.

Jeff Guarino

Subject: 81- 83 spark plugs.

Sent: 7/31/97 7:38 PM

From: mblez@juno.com

Dear members,

I am back on line. I had a computer breakdown and just got my e-mail back tonight. There are over 300 messages I need to read and try to remodel my house at the same time. Anyway, I believe I was the one who told the person to gap his plugs @ .035" There is a Tech service bulletin No. P1723C which recommends this change because of a poor driveability condition during engine warm-up. I believe this was revised because cold fuel does not atomize well and the weak spark caused mis-firing. I myself use Bosch platinum's. I can't think of the plug # off the top of my head, but I will get it if any one is interested.

Mike Bleznyk

Subject: 1981 Imperial Owners Online

Sent: 8/2/97 3:04 PM

From: floyd@cci-29palms.com

hi I would like to know how long will it take to have Doug Carman's link fix? and is or do you have another way to contact him. This is a great site Floyd sent

Subject: '81-'83 Intank fuel pumps - Interchange?

Sent: 8/4/97 8:55 PM

From: mblez@juno.com

Do we have a source for new intank fuel pumps? Is there a exact match after market pump? Is there anything that can be used from another year or model with only minor modifications? Over the years I have told other owners to take their bad pump to a auto parts store to see if, it could be matched up with something.

Fortunately, I haven't had to do this because I have managed to hang on to a used pump. The feedback I did get from a few, was that they had good luck at the Western Auto parts store. I made notes of the pumps model # they bought when they called back.

One model # is EP7101. The guy told me it was a perfect match I think he said it was for a Ford Pinto I didn't think Pintos had intank pumps. The other model # is P-27. The guy told me that the pump was smaller and that the wiring was different, but he made it work.

I don't have a Western Auto parts store anywhere near me so I could not verify any of this.
M. Blez

Subject: '81-'83 Intank fuel pumps - Interchange?

Sent: 8/5/97 7:59 AM

From: bondotmec@alphainfo.com (Dick Benjamin)

Mike;

I posted a message on this subject some time ago, but due to my own overload, it has not gotten put on the 81-'83 pages I am supposed to be doing for Tony (It looks like I bit off more than I can chew, again).

Anyhow.....I was unable to find an exact in-tank replacement when my pump cracked its case in Boise a couple of years ago, but I did find that a Mustang 5.0 HO pump had very close to the same specs as to volume and pressure. Unfortunately it is not an in-tank pump, so I had to mount it near the tank and plumb it in to use the original pickup and sender hardware.

If anyone is interested, I will dig out the invoice and see what the part number is. The only negative I can see from this solution is that the pump noise is a little more noticeable from outside the rear of the car. A positive benefit is that I do not have to worry about never going below 7 gallons to keep the pump cool.

Dick Benjamin bondotmec@alphainfo.com

Subject: '81-'83 Intank fuel pumps - Interchange?

Sent: 8/6/97 4:45 PM

From: bondotmec@alphainfo.com (Dick Benjamin)

Mike;

I dug out the old invoice, the Mustang pump I used is EP 7109, it is made by a division of Echlin called "Blackstone", so I would guess it is available at any NAPA store.

Dick Benjamin bondotmec@alphainfo.com

Anyhow.....I was unable to find an exact in-tank replacement when my pump cracked its case in Boise a couple of years ago, but I did find that a Mustang 5.0 HO pump had very close to the same specs as to volume and pressure. Unfortunately it is not an in-tank pump, so I had to mount it near the tank and plumb it in to use the original pickup and sender hardware. If anyone is interested, I will dig out the invoice and see what the part number is. The only negative I can see from this solution is that the pump noise is a little more noticeable from outside the rear of the car. A positive benefit is that I do not have to worry about never going below 7 gallons to keep the pump cool.

Do we have a source for new intank fuel pumps?

Subject: 81 EFI - Air Pump

Sent: 8/8/97 5:19 PM

From: mblez@juno.com

Dick,

This is a long shot, but since you said you changed all the EFI components have you checked the air pump? I worked on a '81 yrs. ago that had a real bad rough idle it drove me nuts. I can't remember if it was the valve in the pump that was bad or the coolant vacuum switch or the vacuum solenoid. Hey, what have you got to lose.

I also had this problem with a '83 Mirada (rough idle) it had a bad diverter valve, but it was carbureted. Later M. Blez

Subject: 81 EFI - Air Pump

Sent: 8/9/97 3:34 AM

From: bondotmec@alphainfo.com (Dick Benjamin)

have you checked the air pump?

MIke;

That is an intriguing thought. I never even considered that the AIR pump system could be causing the car to run rough. Since the output of the pump is injected into the exhaust manifolds upstream of the O2 sensor, I guess it is theoretically possible that it would affect the CCC via the O2 reading, once the sensor is warmed up enough to be effective. I'll try unhooking the O2 sensor to see if the warm running is improved any.

I don't offhand see how it could affect the cold start, since the O2 is ignored until it warms up, but in case I am mistaken, I shall disable the system and block the lines to see what effect it has, and I'll give you a report.

Thank you for helping me with this mystery!

Dick Benjamin bondotmec@alphainfo.com

More EFI

Subject: 81-83 Fuel Injector Cleaning

From: "Dick Benjamin" <bondotmec@ez2.net>

Sent: Sun, 2 2535 -0800

Ed;

This is an old post, but I'm not sure we ever discussed this issue of when 4 nozzles are supposed to squirt, and when 8 nozzles. As you realized I'm sure, when you cleaned out the nozzle assembly, this is controlled by the level of pressure being produced by the Control Fuel Pump. The two valve assemblies in the nozzle have different threshold settings. I believe the lower valve is set to open around 20 PSI, and the higher one much higher, like 50 PSI. during cranking, you were only asking for fast idle RPM, so the lower pressure was the only one reached. Situation normal.
Dick Benjamin
bondotmec@dte.net

From: Sir Buddy Enterprises <eddenbud@magicnet.net>

Well, bit by bit I am working on the EFI on my 82 in an attempt to get that uneven idle and hesitation worked out. Today I cleaned out the throttle body fuel injuector nozzles as previously posted on the list I removed the fuel pressure valve and sprayed the nozzles out with carb. cleaner. I found it diificult to get the spray can tube to mate securely to the injector rail assembly (Good thing I was wearing safety eye glasses!), but I think that I did a pretty good job of cleaning out the nozzles; I could see the carb. cleaner spray coming out all 8 of the nozzles freely.

I then tried to observe the fuel spray with the air cleaner lid off. Several methods have been given on the IML for doing this, and I chose the easiest. I merely grounded the coil plug wire and had an assistant crank the motor. I recognize that this is the "start" program of the computer and that it bypasses the sensor inputs for this to work with the air cleaner lid off; but, oddly, I could only see fuel spraying from two of the fuel rails, or four of the eight nozzles, when doing this.

I can only assume that the start cycle only applies pressure to those two fuel rail (four nozzles) as all eight of them seemed to flow freely when I was cleaning them out. Does this sound right??? I have only idled the car and have not yet test driven it. Anyway, the idle seems to have smoothed somewhat.

Subject: Ed's EFI Saga Continues

From: "Sir Buddy Enterprises" <eddenbud@magicnet.net>

Sent: Thu, 1 3600 -0500

Well, I finally got back to experimenting with the EFI on my 82, which has sufferred an uneasy idle and hesitation, sometimes a very severe hesitation.

With all of the input from IMLers, I've come to the conclusion that the uneasy idle is pretty normal for this car. It is about a 50 rpm fluctuation when the engine is cold (closed loop) and 100 rpm fluctuation when warm (open loop). I plan to try Bob Harris's suggestion to add a 270 micr-henry inducter to the oxygen sensor circuit, but the less-than knowledgeable (I'm being very kind!) salespeople at Radio Shack looked at me like I was from Mars when I told them what I was looking for. They did direct me to a nearby store that might be able to help me out, though; I will try again soon.

Today I also disconnected the EGR circuit. Bob also suggested that this might be a cause of hesitation, and that reminded me of my 1980 Cordoba with 318 (2-barrel carb.) that had a similar hesitation. I changed its EGR, and that helped alot.

I pluggged the vacuum lines to the coolant switch that commands the EGR to become active and drove 'til the engine was warm, and it did seem to help. Alas, Spring is finally arrivin, and a big ol' thunderstorm blew in during my test drive, so I had to cut it short; however, I do think that helped. But GEEZ, this EGR looks like it will be a pain to get out.

On my Cordoba, it was right up top, free of obstructions on the left side of the manifold. This one appears to be buried on the right side under the hydraulic Support Assembly, which it appears I will have to remove to get to the EGR. Is this a good idea???? WHat effect does leaving the EGR disconnected have on the motor besides increased emiisions? Also, if I leave the coolant temp. switrch disconnected, as I understand it the air pump will not send air to the catalyst. Will that harm it???? Oh well, I gues I will juist change the EGR, if I can find one. Maybe NAPA???
Thanks again,
Ed Ferrara

Subject: More EFI-Sensor Diagnostics

From: "Sir Buddy Enterprises" <eddenbud@magicnet.net>

Sent: Thu, 1 4821 -0500

Oh yeah, While doing all this work on my 82, I found some stuff in the attic that I forgot all about. Namely, the lower portion of the air cleaner assembley (sans Combustion Combuter) from my 81 that's been converted to carb. AND an entire air cleaner assembly including the CCC that I bought at a junkyard a few years back as a spare. I stupidly had stuck this stuff in the attic, exposed to lots of Florida heat, so I hope it is OK. I've cleaned up the asemblies for return to the attic and removed the electronics for storage in air conditioned comfort (Guests at our house can always play an exciting round of "Guess What Car This Goes To" while hanging clothes in the closets in the guest bedrooms!!!) Does anyone know how to test these items?

I have the two Airflow Meters, which physically look fine and the CCC, which has "Remanufactured" stamped on the side of it. Interestingly, when I got this assembly at the junkyard, it was lying alongside the car, which had already been strippped of its 318; today I found this form-fitting packing materil in the electrical connector jacks on the CCC. I wonder if it had been rebuilt by the previous owner and then not installed? Could I be that lucky?
Ed F

Subject: 81 EFI Saga Continues

From: "Dick Benjamin" <bondotmec@ez2.net>

Sent: Thu, 1 603 -0800

Yes, NAPA still stocks them, I recently bought one for my black car. They have a universal EGR valve that comes with a set of orifices that you install in the unit as you put in into the car. The air sealing around the mounting is very important here, even a tiny leak will show up in driveability problems. I think you can get it out without removing the HSA first, but I have never actually done it that way. Just clear all the wiring junk out of the way, and you may have to disconnect the throttle position sensor connection.

While you are in there, be sure to check for "lost motion" in the Automatic Idle Speed linkage and motor mounting, as was suggested earlier for your erratic idle problem. I suppose it won't do any damage to the car to run it with the EGR system disabled, but you should at least remove the valve and seal off the passages with a metal plate.

For a test, I did this with a flattened out piece of a WD40 can, then put the EGR valve back in place to hold everything tight. (Didn't help the problem I was looking for at the time, but it sure eliminated all the possibilities included with the EGR control System, so it's a good diagnostic trick anyway.)

Try to do all this without moving the HSA, so you don't cause another problem by disturbing the mounting gaskets. A leak there is another thing you don't want to have to deal with. I can't imagine what the problem was at the Radio Shack, a 270 Microhenry choke is not an unusual size or type of component. If you draw a blank there, try a CB repair shop or an electronic hobbiest store.
Dick Benjamin
bondotmec@dte.net

Subject: 81 EFI Airflow Meters

From: "Sir Buddy Enterprises" <eddenbud@magicnet.net>

Sent: Fri, 2 4837 -0500

Dick Benjamin Replied:
> flow meters are similarly pretty robust, as long as the dip tube is intact.
> Dick Benjamin

How does that thing work anyway? Just curious. Before I ever got into the workings of these EFI systems, I picutred a kind of fan device in my mind. But all I see on these is two little probes. Do they measure pressure changes as the air rushes by at varying rates?
Ed Ferrara

Subject: 81 Where Dat AIS motor?

Sent: Fri, 02 4046 -0800

From: Dick Benjamin <bondotmec@ez2.net>

The AIS motor hangs under the HSA, at the front of the throttle body casting, to which it must be fastened tightly or you will have an erratic idle. It is a rectangular case about 1 1/2 X 3 X 3/4, with an arm coming out of it going to a long screw and turnbuckle arrangement which is connected to the throttle shaft lever at the right side of the intake manifold. This is where you adjust your idle speed, by the way. You turn the end screw (5/16 capscrew), each turn changes the set point for the warm curb idle by 50 RPM. (You do have warm curbs in Florida, as I recall?)
Dick Benjamin
bondotmec@dte.net

From: Sir Buddy Enterprises <eddenbud@magicnet.net>

check for "lost motion" in the Automatic
> Idle Speed linkage and motor mounting,
This Automatic idle Speed Motor is one compnent I have not yet located.

Subject: EFI Airflow Meters

From: "Dick Benjamin" <bondotmec@ez2.net>

Sent: Fri, 2 4542 -0800

> flow meters are similarly pretty robust, as long as the dip tube is intact.
How does that thing work anyway?

Ah Yes, the old venturi effect. That guy Ken sure got around, didn't he. All the golf trophies, and then a successful career as a physicist! I assume there is a set of pressure transducers set up in a bridge circuit to compare pressure in the snorkel to ambient, and report the difference in volts per flow rate. I actually have not analyzed this circuit, since a failure is most likely to be in the transducer, which would be a bear to identify and replace.
Dick Benjamin
bondotmec@dte.net

Subject: 81 EFI part #'s

From: sp-racer@juno.com

Sent: Sat, 3 406 -0500

Hi to all.

I need some help (again)! I've cleaned the ooze from the air cleaner housing but I can't assemble the unit without the gasket between the hsg. and the throttle plate. Mine is shot. I would greatly appreciate if someone has the part # for the 2 gskts for the throttle assm. Also I tested the coolant temp switch as per Dick B's recommendation and it bad. I may have located a source for a new one, however they are a warehouse subsidiary for a dealer and go only by

part # listings. I was told the part # for the cts is 4091471. Can anyone verify this? Sure would help.

And most importantly, I may finally have something to offer everyone in return for their enormous amount of information and support I've received. If any one hasn't tried getting parts from this dealer, it may be of great value to give them a call. I was told they stock old chrysler parts all the way back to the 30's !!! Again they only list parts by part # so you're going to need to know them. Ok, the dealer's name is Freehold Dodge(not sure of the spelling). They are located in N.J. where exactly, I'll find out and let everyone know. The phone # is 1-800-211-3010. Ask for Jack.

He was very knowledgable(or seemed to be). I told him about the club and that he may be expecting some calls, he said "great". I hope this turns out to be a good source for everyone. Hope this info helps. I'm trying my best to return the care and concern so many of you have shown me.

Thanks again, Scott Pianowski 81 Imp

Subject: 81 EFI part #'s

Sent: Sat, 03 3957 -0500 (EST)

From: RWestra@aol.com

Scott

I have purchased a new coolant temperature switch for my 81 about 3 years ago and the Chrysler part number is 4091471 as you suggested. I have also purchased one from NAPA which is supposed to be a direct replacement. The NAPA number is TS5008.

I have taken resistance measurements on the original, the Chrysler replacement, and the NAPA replacement and found considerable variation. I cannot recall the exact numbers just now but they were different by perhaps 100 to 200 ohms. However, I have run all three sensors and I cannot observe any difference in engine operation or performance from one to the other. My conclusion has to be that the EFI system is very tolerant of resistant variations on Coolant temperature sensors.
Good luck.

Subject: 81 EFI part # Thanks

From: scott pianowski <sp-racer@juno.com>

Sent: Sat, 3 2721 -0500

To Rolland and Bob,

Thanks for the part #'s. Really going to make things easier. For what its worth, Jack at Freehold Dodge in N.J. told me that if the # for the cts is in fact 4091471 that he has 46 of them in stock!

The phone # there is 1-800-211-3010. When I get the parts and reassemble the EFI and put it back on the car I'll let you know everything turns out. Once again, Kudos, to the collective brain trust in the club! Hope I can be of some help to everyone in the future.

Subject: EFI coolant temp sensor

From: "Dick Benjamin" <bondotmec@ez2.net>

Sent: Sat, 3 1939 -0800

Scott:

we are leaving on a trip and I don't have time to go to the shop and look up the number, but that seems to be correct, as well as I remember it (my aging brain is still pretty good for numbers). However, be advised the NAPA stores still stock the item also, and I'm sure it will be a lot cheaper there. Just take in the MOPAR number and have them cross it. Seems to me it comes back to a TS 5008 or something like that. Note the terminal configuration and the thread size, if it fits, it is most likely correct.
Dick Benjamin
bondotmec@dte.net

Subject: 81 EFI part #'s

From: sp-racer@juno.com <sp-racer@juno.com>

Sent: Saturda 5:00 AM

> Hi to all.
> I need some help (again)! I've cleaned the ooze from the air
>cleaner housing but I can't assemble the unit without the gasket between
>the hsg. and the throttle plate. Mine is shot. I would greatly appreciate
>if someone has the part # for the 2 gskts for the throttle assm. Also I
>tested the coolant temp switch as per Dick B's recommendation and it
>bad. I may have located a source for a new one, however they are a
>warehouse subsidiary for a dealer and go only by part # listings. I was
>told the part # for the cts is 4091471. Can anyone verify this? Sure
>would help. And most importantly, I may finally have something to offer
>everyone in return for their enormous amount of information and support
>I've received. If any one hasn't tried getting parts from this dealer,
>it may be of great value to give them a call. I was told they stock old
>chrysler parts all the way back to the 30's !!! Again they only list
>parts by part # so you're going to need to know them. Ok, the dealer's
>name is Freehold Dodge(not sure of the spelling). They are located in
>N.J. where exactly, I'll find out and let everyone know. The phone # is
>1-800-211-3010. Ask for Jack. He was very knowledgable(or seemed to be).

>I told him about the club and that he may be expecting some calls, he
>said "great". I hope this turns out to be a good source for everyone.
>Hope this info helps. I'm trying my best to return the care and concern
>so many of you have shown me.
> Thanks again, Scott Pianowski 81 Imp

Subject: 81 EFI and Ignition spark

From: scott pianowski <sp-racer@juno.com>

Sent: Sun, 1 2816 -0400

HI all,

Hopefully someone can answer my question as I'm totally lost on this subject! After grounding the a.s.d.m. as recommended and checking the fuel press. switch, which is bad and the new one will be installed tomorrow, after the car sits about an hour or more, spark from the coil wire is lost. Does the EFI control ign. spark? the coolant temp switch checks out ok also. Any suggestions would be greatly appreciated. I'm really tired of waiting an hour or more with the hood open till it cools down and starts.

Subject: 81 EFI and Ignition spark

From: "Jack R. Browning" <jack@clinic.net>

Sent: Sun, 1 5339 -0400

after the car sits about an hour or more, spark from the coil
> wire is lost. Does the EFI control ign. spark? the coolant temp switch
> checks out ok also. I'm really tired of waiting an hour or more with the
hood open till it cools down and starts.
> Thanks, Scott Pianowski 81 EFI

> Sounds like the coil is bad. Get a multi-meter and check its resistance when its hot and the spark quits. Can't remember the exact value to look for but a dead giveaway would be an open circuit between the + and - terminals or an open between the + and high voltage (coil wire) terminal.
Hope this helps.
Jack 65 Crown

Subject: 81 EFI Ign. & spark.

From: mblez@juno.com

Sent: Sun, 1 817 -0400

Scott,

Sure sounds like you got a distributor pick-up coil heading south on you. If the pick-up is bad, when it gets hot it will OPEN. Next time this happens unplug and check the pick-up coil with a ohmmeter. If it opens when it's hot you will get a very low reading on your meter or none. As it cools off you will begin to get a reading, of several hundred ohms. later, Blez...

Subject: 81 EFI fuel press. switch

Sent: Fri, 2 2204 -0400

From: scott pianowski <sp-racer@juno.com>

Hi All,

Having some fuel pressure problems and I found the press. switch to be intermittent. Thought I had the part # for it but I don't. Does anyone have the factory # or an aftermarket source?I was at the local NAPA parts store to pick up a coil and ign. dist pick-up coil and asked about a FPS. They didn't list one. Any input would be greatly appreciated as I think this very well may be the last item to straighten out all my running problems, I hope!

Subject: 81 EFI fuel press. switch

From: JRHEYER@aol.com

Sent: Fri, 2 5235 EDT

you are talking about the on/off switch on the fuel line inside the aircleaner I assume. I had one that leaked and another that shorted out melting everything. You have rocks in your head driving that potential heartbreaker around the countryside! Putting the apparatus in a museum would be wise. Get some drywall screws a put everything on display on a handy wall. THEN! put a 2 barrel carb and a 73 ignition setup and distributor in the engine.

Subject: '81-'83 EFI Fuel Pressure Switch

From: "Harris" <HarrisWerks@worldnet.att.net>

Sent: Fri, 2 4124 -0500

Scott - This item is PN 4091901 and it has not been available for many years. there is a simple test for it which was posted on these pages last month or so and I assume from your letter that yours failed. I have several of these, if you are interested, write me at HarrisWerks@worldnet.att.net

and we can talk some more; let me know all of your difficulties.....Bob Harris it has not been available for many years. there is a simple test for it which was posted on these pages last month or so and I assume from your letter that yours failed interested, write me at HarrisWerks@worldnet.att.net. we can talk some more; let me know all of your difficulties.....Bob

Subject: FUEL PUMP NOISE

From: "Leo L Heligas" <LLHELIG@prodigy.net>

Sent: Mon, 2 1834 -0500

Hi list,

Was gone for a week so just re-subscribed. My 83 EFI has developed a whining noise emanating from the trunk area. Actually it has just gotten louder, almost to the point of drowning out the radio. I'm sure it is the fuel pump.

Anybody have an idea where I can get a new one?; If that is what is indicated.
Thanks - Leo, 83 Mark Cross EFI

Subject: 81 fuel press switch

From: scott pianowski <sp-racer@juno.com>

Sent: Tue, 2 2247 -0400

Bob,

Thanks for saving me a switch. I'll be patient till you find it.

As for the looking under the air cleaner after hot start attempts, I have and everything is dry. It was at this time that I checked the ohms on the press. switch and found the reading to be in the hundreds. I also cracked open the fuel line to the injector and it too was dry. If there is something else I should be testing or looking for let me know and I'll give it a try.
Thanks again for your help!
Scott Pianowski 81 Imp

Subject: 81 fuel press switch

From: "Harris" <HarrisWerks@worldnet.att.net>

From: scott pianowski <sp-racer@juno.com>

Sent: Tuesday48 PM

>Bob,
> Thanks for saving me a switch. I'll be patient till you find it.

Scott -

Just a quick note to you about this fuel system, in general. Basic tools req'd are a fuel pressure gauge, often a combination pressure / vacuum gauge, a digital VOM - Radio shack has 'em - must be digital, some miscellaneous wires and alligator clips. First, quick check when cold - remove the connector to the Control Pump, jump directly from the battery to the two terminals on the pump - does it pump Fuel? If not, reconnect that pump and connect a pressure gage to the hoses from the It-Tank Pump and crank the engine, got pressure, 12 pounds? if not, check fuel filters etc. If okay, you may need to go further. I'll get back with you this evening on the pressure switch....Bob Harris

Subject: 81 fuel press. switch

From: scott pianowski <sp-racer@juno.com>

Sent: Wed, 2 3107 -0400

Bob H.

Have more tools than I probably need. I turned wrench professionally for over 10 years, just not on domestic cars. Feel like such an amateur especially with this EFI. Thanks to everyone in the club I can feel confident that all my EFI problems will be resolved. It would be much easier to change over to a carb, but that would take away from what makes the Imperial so special. Plus I don't give up easy when there is a challenge at hand. As for the cold test to the pump, I'll do that this weekend for sure. I have a fuel press. gauge already inline and do have 12 psi.. Well I'll wait till I hear from you in case you have more input for me. Till then thanks a million!

Subject: Fwd: 81-83 EFI Data Summary

Sent: Thu, 25 Jun 1998 10:17:00 EDT

To: BSBrbank@PacBell.net

Bob

If this doesn't get it going, nothing will. Thanks for your help. Maybe a direct message to Tony would help at this point. Dick B has given up trying to communicate with him.

Subject: 81-83 EFI Data Summary

From: GRADLTD@aol.com Return-path: <GRADLTD@aol.com

Sent: Thu, 25 Jun 1998 10:12:18 EDT Mime-Version: 1.0

Tony, This is my 4th direct message to you in the last 3 months on this subject. Because of severe cervical problems I am losing the use of my arms and hands. I can not wait any longer to do the work necessary in getting the EFI information together. Dick is not able or interested in doing this. Please respond to my phone at 569-5995. I need to understand completely. Maybe we can meet at my office at 4710 Ruffner Street, two blocks east of 1-805 south of Clairemont Mesa Blvd. or north of Balboa. This work has to begin now or I will not be able to do it at all. Carl

Message sent to IML today follows. Please also see the other messages I sent today. they should appear in a row.

Sent: 98-06-25 09:49:14 EDT

From: GRADLTD@aol.com

For all EFI owners:

I have received no response from Tony after sending multiple messages (and after over two months of waiting), in getting access to the IML files related to 81-83 EFI past e-mail for editing purposes.

Bob Schmitt has sent kindly me his files dating back over 18 months. I will start editing these and some I have without input from Tony. The purpose is to create a resource for all current and future 81-83 EFI owners so that they can learn to fix their own cars and keep them running great.

I know many of you have information and files which you can send to me to be included. It is now time to do this. Please, those with knowledge and experience which can be included, send me a summary of what you have to include as well as any old files you have. Zip files or pain text are fine.

I myself will, be writing up everything I have learned and adding the input of several non-IML people to my summary. This will be included. Please send any old files you have and new summaries to Grad@cts.com. At this address I have the equipment and software to deal with these files. Please reference, For Dr. Baty Only, so that my staff does not process these messages.

All other e-mail should continue to come to GradLtd@aol.com. This is my Imperial related and personal home address.

Tony, I need information on format for inclusion of all this information on the IML I am available at 569-5995. Please leave your name and reason for the call explicitly. I receive over 30 solicitation calls a day and phone messages which give no reason for the call are screened out of my message box.

Thank you, Carl Baty San Diego (1981 EFI "Beauty")

Subject: 81-83 EFI Summary Information

From: <GRADLTD@aol.com

Sent: Thu, 25 Jun 1998 09:49:14 EDT

For all EFI owners:

I have received no response from Tony after sending multiple messages (and after over two months of waiting), in getting access to the IML files related to 81-83 EFI past e-mail for editing purposes.

Bob Schmitt has sent kindly me his files dating back over 18 months. I will start editing these without input from Tony. The purpose is to create a resource for all current and future 81-83 EFI owners so that they can learn to fix their own cars and keep them running great.

I know many of you have information and files which you can send to me to be included. It is now time to do this. Please, those with knowledge and experience which can be included, send me a summary of what you have to include as well as any old files you have. Zip files or pain text are fine.

I myself will, be writing up everything I have learned and adding the input of several non-IML people to my summary. This will be included. Please send any old files you have and new summaries to Grad@cts.com. At this address I have the equipment and software to deal with these files. Please reference, For Dr. Baty Only, so that my staff does not process these messages.

All other e-mail should continue to come to GradLtd@aol.com. This is my Imperial related and personal home address.

Thank you, Carl Baty San Diego (1981 EFI "Beauty")

81-83, Fuel Injection & Carburetors

Subject: Starting a carburetor engine

Sent: Tue, 7 Jul 1998 21:20:17 +0200

From: StadtApoAchern@t-online.de (Dietmar Frensemeyer)

As far as I made the mistake with the "gas bottle" to the "non experts", I would like to excuse me by writing in my Italian vacancies mood how to start an carburetor engine (without pumping xx times)

I think myself a bit expert using cars with one (600, 750, 850) four, six and twelve carbs. So first we differ two situation:

The cold or the warm engine:

Cold engine with carburetors of any type (with a manual choke - pull):

Push the pedal once! To the metal, then crank without "help" of your foot. If ignition is perfectly adjusted, it will start at once. If it starts not at once you have to THINK. Was the car parked hot or cold or long time ago?

If yes - You have no mixture to fire in your combustion chamber or worth no gas in your carburetor chamber.

So is it a daily driver? Pump two or three times and crank again. If it starts not, then the carburetor chamber is empty and probably the gas line.

So crank without "help" of your foot about ten seconds to fill the line and chamber. Then pump two times and it should start. If not you have to check your ignition or the entire gas line and carburetor (better buy an Edelbrock with electric thermostat and an electric gas pump).

Warm or hot engine is totally different:

Open the throttle wide open by pressing the pedal to the metal once and stay there while cranking till it runs - don't pump! Carburetor is lot of physics and today people are used to the comfort of the computerized engines. Carburetor means think and visualize what happens inside.

Subject: How to remove 81-3 EFI - goodbye, CCC.

Sent: December 10, 1996 9:54 PM

From: JTKleen@aol.com

Brian Liberman,

The conversion of my '81 was rather uneventful. Again, I must remind you that modifying the emissions system on a car is, in the eyes of the federal government, right up there with kiddie porn and acts of terrorism. Don't tell anyone and deny it to everyone unless under oath!! ;).

You will need an intake manifold. I used a 2 bbl. As the car is not overpowered, I would be interested to know the result of using a 4 bbl. Use the one that will accommodate the newer compressor. I got one by accident that was made for the RV-2 comp. It won't work. I purchased a remanufactured carb to avoid having to monkey around rebuilding one that may or may not be serviceable. It was not cheap, but I feel it was worth the ease of installation. I think an intake from a 360 will fit the 318.

To keep things simple, I used a single pickup electronic distributor. I would discourage the use of the double pickup. Too many wires!! I think it may be possible to modify the EFI dist. I don't remember if there is a hole on the side of the body for the necessary vacuum advance thingy. Anyway, small block distributors are plentiful. I would encourage replacement of the vacuum control (if you use a junkyard distributor), as they are relatively inexpensive and subject to

deterioration after fifteen or twenty years. To provide spark, the tried and true electronic ignition module plus suitable wiring harness is required. The EFI ballast resistors may be used.

To provide fuel, a mechanical pump may be added. There is an eccentric on the cam to drive a pump. I used the in-tank pump with a pressure regulator. When that pump died, I put a small electric pump where the fuel filters live. To facilitate this, it was necessary to disconnect the rubber hose between the in-tank pump and the metal feed tube. Yes, this requires removing the petrol tank. My 82' FS was also converted (not by me or Chrysler) and it has a petrol tank from a Cordoba or something.

What do you get for a good days' worth of work? A car that is no longer subject to erratic operation because of the CCC, ASD module, support plate, those wacky little cylindrical fellows who repose in the wiring harness on top of the intake, or any other of the fortyelevenhundred devices that all work together sometimes to make the car run. Don't get me wrong. This car had around 120,000 miles on it when it was converted. The FI delivered around 20-25 mpg, depending on conditions. It ran exceptionally well at highway speeds, and would propel the car well in excess of the legal limits. Now, you have to pump it (uggh!) before you crank, and (eeeww!!) let it warm up. But I enjoy the peace of mind. As most Imperial owners know, parts are hard to find, and expensive. It doesn't matter what year Imperial, because there were never many of them made. But the EFI parts are kind of special.

Anyway, that is about it. Remember, before you try to remove the original intake be sure to loosen or remove a valve cover. This will facilitate sufficient clearance for the intake to be lifted up. Also, don't be a moron like me. DO NOT use the top of the timing cover to pry or otherwise gain a mechanical advantage for loosening the intake. The timing cover is not real tough, and will not tolerate that kind of treatment (guess how I found that out??).

If I've left anything out, please don't hesitate to ask. If I can't answer a question or find an answer, I'll say so. And if you elect to pursue this, let me know how things work out.

Cordially, Jim

Sent: 1/9/97 3:17 PM

From: chuck@hotrodparts.com (Chuck Barnow)

Dick;

I have the same conversion on my Imperial that had the same problem. I fixed it easily, There is a small tin cover on the top of the Carb that is riveted on with little push-in pins.

With a pocket knife remove them & the cover. Now you can readjust the cam that controls the rods, only move it a little and try it. It might take several tries but it will fix that bugger. I did mine 3 years ago and it still works like a charm, Hot or Cold with no change in MPG, still POOR!

Good Luck; Chuck

Subject: 80's Carb vs. FI

From: bondotmec@alphainfo.com (Dick Benjamin)

OK, Dan I hear you on the carburetor. But my car has the standard factory/dealer conversion, complete with the MPG readout that never works. The carburetor is a 2 BBL Stromberg, very similar to the one on my wife's 62 Studebaker Hawk, and I have the same trouble with both of them. The automatic choke is impossible to set for a good clean quick start in any weather, with strong pulling from the engine from the first second (the FI cars do just that every time).

Once the car is warmed up, it runs OK, but it still doesn't have the snap that the FI cars have, and the mileage runs around 13-15, which is almost half what the FI cars get. It might be important to note that I live in the High Desert, where morning temperatures range all the way from mid teens to over 100 (sometimes in the same month!).

Mounting a 4 bbl carb on it might help, would you suggest a suitable intake manifold to scavenge from the wrecking yard? Isn't 600 CFM a little much for a 318?

Thanks for your suggestions.

Dick Benjamin

Subject: 80's Carb vs. FI

Sent: 1/8/97 5:29 PM

From: fc3@injersey.com (Frank Cannavale, III)

From: bondotmec@alphainfo.com (Dick Benjamin)

OK, Dan I hear you on the carburetor. But my car has the standard factory/dealer conversion, complete with the MPG readout that never works. The carburetor is a 2 BBL Stromberg, very similar to the one on my wife's 62 Studebaker Hawk, and I have the same trouble with both of them. The automatic choke is impossible to set for a good clean quick start in any weather, with strong pulling from the engine from the first second (the FI cars do just that every time). Once the car is warmed up, it runs OK, but it still doesn't have the snap that the FI cars have, and the mileage runs around 13-15, which is almost half what the FI cars get. It might be important to note that I live in the High Desert, where morning temperatures range all the way from mid teens to over 100 (sometimes in the same month!). Mounting a 4 bbl carb on it might help, would you suggest a suitable intake manifold to scavenge from the wrecking yard? Isn't 600 CFM a little much for a 318?

With regard to the carb on the 80's Imperial, I did not let the dealer convert my car, I just put it away since it runs OK, just not great. Most 318's of the period had Carter carbs. I had a 78 LeBaron (the Chrysler version), my brother had an 84 Fifth Ave and my dad uses an '86 Fifth Ave for work. They ALL had choke problems. The solution is to adjust the choke linkage, by bending the links (When the engine is dead cold) so that the choke just barely closes when you tap the throttle open.

Thus when the engine starts the vacuum pull-off opens the choke nearly the entire way. Cold and hot starts are exactly the same. Unless it is very cold (single digits or less) DON'T pump the throttle, just push it about a 1/4" to set the choke and crank. Then my engines would always catch right away. When the RPMs start to come up, tap the throttle a bit to un-set the choke and drive off. My LeBaron was my daily beater so it only was tuned about once per year (25K

mi/yr) and this always worked until a combination of body rot (floor pan at the front subframe mount) and trans convinced me that the car was it was time to donate the car to the first aid squad for some "extraction practice" With the exception of re-doing the valve seats the engine was untouched for 185,000 miles.

The factory choke set-up is just TOO MUCH choke. The 318 runs fine with much, much less choke. Try it and believe, brother!

Subject: 80's Carb vs. FI

Sent: 1/9/97 3:17 PM

From: chuck@hotrodparts.com (Chuck Barnow)

Dick;

I have the same conversion on my Imperial that had the same problem. I fixed it easily, There is a small tin cover on the top of the Carb. that is riveted on with little push-in pins.

With a pocket knife remove them & the cover Now you can readjust the cam that controls the rods, only move it a little and try it. It might take several tries but it will fix that bugger. I did mine 3 years ago and it still works like a charm, Hot or Cold with no change in MPG, still POOR! Good Luck; Chuck

From: bondotmec@alphainfo.com (Dick Benjamin)

OK, Dan I hear you on the carburetor. But my car has the standard factory/dealer conversion, complete with the MPG readout that never works. The carburetor is a 2 BBL Stromberg, very similar to the one on my wife's 62 Studebaker Hawk, and I have the same trouble with both of them. The automatic choke is impossible to set for a good clean quick start in any weather, with strong pulling from the engine from the first second (the FI cars do just that every time).

Once the car is warmed up, it runs OK, but it still doesn't have the snap that the FI cars have, and the mileage runs around 13-15, which is almost half what the FI cars get. It might be important to note that I live in the High Desert, where morning temperatures range all the way from mid teens to over 100 (sometimes in the same month!).

Mounting a 4 bbl carb on it might help, would you suggest a suitable intake manifold to scavenge from the wrecking yard? Isn't 600 CFM a little much for a 318?

Thanks for your suggestions.

Dick Benjamin

Subject: 1981 Imperial - Conversions

Sent: 6/19/97 7:41 PM

From: bondotmec@alphainfo.com (Dick Benjamin)

Well, Hi

Congratulations on owning such beautiful pieces of functional automotive history. (Maybe I'll get challenged on the "functional", hunh?)

I'm sorry to admit I do not know much about what is involved in doing a conversion, other than the dealer installed factory conversions. In that case, the complete fuel system was changed, including the fuel tank and the intake manifold, and even the dash.

There have been "backyard" conversions done (this is, after all, the same old 318 that has been around since dirt) which I'm sure have just installed intake manifolds from carbureted cars, whatever was available at the local junk yard. The problem in California, and probably in some other states too, is that unless you have a very good relationship with your smog test station, it will not be approved, since that configuration was never certified. The only way to avoid this situation with a conversion is the factory conversion, which is very expensive, and now getting hard to find.

The intank fuel pump probably will not allow fuel to be sucked through it, as it is a rotary pump. I've never tried, though. It is a simple matter to drop the tank and replumb things so you have a simple dip tube instead of the pump, I had to do this in my daughter's back yard in Boise a couple of years ago in order to convert to an externally mounted pump from a SVO 5.0 L (ugh) Mustang in order to get home to Southern California when my factory fuel pump split the scene (literally!).

I believe the Cartier crystals on the "opera" lights are standard issue. They were usually stolen early in the car's life, and the dealer replacements are plain polystyrene, no insignia. Cheap!!, but expensive, I think I paid $80 for a pair of them on one car.

I am posting your question and my response to the whole IML, which will probably elicit more information from others who have actually done conversions (I recommend against it, and I have not done one.) I hope you will consider joining the IML, it is a great source of information about your cars.

[Yes - ALL '81-83 discussion needs to be archived as time goes by, so everybody who follows can learn from it! - Tony]

Dick Benjamin

Subject: 81 Retrofit to the carb conversion

From: walrusmk@pacbell.net (Michael Friedman)

Well, folks, a mixed bag of news here. I spent some time today talking with a mechanic that was at a Chrysler dealership during this period, and what he could tell me about the repair and service of these wasn't good news.

Even at the time, the dealership encouraged their customers to retrofit to the carb conversion, and that there was virtually NO factory support for the fuel injection system. He told me that the intake manifold from the '83 or newer non-FI. 318 will just bolt on, and said that he'd detail all the steps required for carb conversion when he gets the time. As he is expecting to get a computer in the next few weeks, and get on-line, I suggested that he join the club (he also owns a '64 Crown or LeBaron, I'm not sure which).

I will forward all info that he gives me regarding these cars. He was surprised that ANY of the fuel injected ones are still on the road! More when it comes to me
Mike Friedman

Subject: 81 Conversion from EFI to CARB

Sent: 6/10/97 1:33 PM

From: lester@cnwl.igs.net (Shawn Thompson)

Dear Tony and IMLers:

I think the time has come to make the big move to change from fuel injection to carb. In the past month or so, my mechanic has spent days trying to find and solve this problem with my car.

My car starts well, runs great for roughly 15 minutes or until it warms up, then at low speed, it seems to be starving for gas. When coming to a stop, it will stall, but will restart with no problem. When reaching the speed of 40 plus, it runs GREAT.

The only part which he could find that was faulty, was the timer box for the Air Pump System which is on order. All other switches and sensors along with all relays seem to be working. One other part which we've ordered is the fuel pressure switch. He seems to think that this could be causing my problem.

I'd love to keep this car intact with EFI, BUT, what is the sense of having such a nice beautiful car, like my 1981 IMPERIAL, if you can't drive it.

I consider my car to be in MINT shape, with only 104 thousand miles on it. NEVER winter driven, and all factory options working well, other than the EFI system.

NOW for the question; what parts do I need to convert to carburetion.

I've had loads of help from Dick Benjamin, and we've tried all that he suggested, with no luck. once again, Dick, thanks. If someone would please send me a list of parts needed, it would be appreciated.

Cliff, in Ontario Canada

Subject: 1981 conversion from EFI to CARB

Sent: 6/10/97 7:58 PM

From: bondotmec@alphainfo.com (Dick Benjamin)

Cliff:

One more thing to try, just for giggles. See if the EGR valve is closing all the way. An easy way to eliminate it is to cut a thin piece of sheet metal and mount it like a gasket under the EGR valve. This will block the passages through the valve, so it can't screw you up no matter what the control system is telling it to do. I don't remember discussing it, but we did check the EFI coolant temp sensor, didn't we?

I'm sorry to have you arrive at this decision (to convert it), but I do understand the frustration. Chuck Barnow at one time offered to swap someone straight across EFI for Carb setup (I'm not certain he was serious). I have never done one, but I know the Factory conversion was very expensive and included everything in the system from the fuel tank to the Dashboard.

Dick Benjamin

Subject: 1981 Imperial - Carb Adapter

Sent: Wednesday, June 18, 1997 8:55 AM

From: A. Champa <thepub@surfsouth.com

Dear Dick,

Hello! We saw your name on the IML and hoped you wouldn't mind lending your advice. We're planning to convert one of our 81's to carburetion. Does anyone make a carb. adapter plate for the fuel inj. manifold? Do you think a mechanical fuel pump will pull fuel through the old electric pump system? These are my husband's (Bill) questions, I'm mostly in charge of wet-sanding, polishing, detailing, and keeping cold drinks on ice! We bought two 81's from Dave at Imperial Motors. Although they are in pretty good condition, not much left in the way of fuel injection! Can you tell me why Bill's white '81 has Cartier on the crystals and our other '81 Imperials do not? He has gotten quite an attitude over this. Thanks a bunch for listening!

Sincerely, Denise & Bill Binner

Subject: 81-83 differences in EFI/Carb

From: Liv Rat <LivRat@aol.com

Sent: Tuesday, March 17, 1998 1:06 PM

Hello everyone:

I have a question for the 81-83 Imperialists, can anyone tell me the differences in the standard EFI dash and the factory carb conversion dash? I have a "back yard converted 81" that still has the factory dash, every thing seems to work except the trip computer, it has me puzzled. any

insight would be most welcome. also any other differences that I might have missed, The car runs great and is driven 100 miles every day, so I know all of the mechanical things are okay. Thank you: Mark Chance
(PS if anyone needs the EFI please let me know)

Subject: 81-83 differences in EFI/Carb

From: Liv Rat <LivRat@aol.com

Sent: Tuesday, March 17, 1998 1:13 PM

Hello every one: I have a question for the 81-83 Imperialists, can anyone tell me the differences in the standard EFI dash and the factory carb conversion dash? I have a "back yard converted 81" that still has the factory dash, every thing seems to work except the trip computer, it has me puzzled. any insight would be most welcome. also any other differences that I might have missed, The car runs great and is driven 100 miles every day, so I know all of the mechanical things are okay.

Thank you: Mark Chance (PS if anyone needs the EFI please let me know)

Subject: 80's Carb vs. FI

Sent: Wed, 18 Mar 1998 00:09:09 -0800

Hello mark.

In answer to your question about the dash computer, it only gets one input from the EFI. And that is the indirectly from the fuel flow meter. When these cars are backyard converted the mpg readout will no longer work. Any other functions in the computer that depend on this input to do a calculation won't give the proper value.

I have a factory converted 81 and it has a special little add on fuel flowmeter. This allows all of the dash computers functions to work. I would be interested in purchasing your EFI. I have plans to convert my 1982 FS from carb back to EFI. It still has the in tank pump in series with a mechanical pump (I believe). I also need the intake manifold. Let me know what your asking.

Jeff Guarino

Subject: 81-83 differences in EFI/Carb

From: Dick Benjamin (bondotmec@dte.net)

Sent: Thursday, March 19, 1998 7:23 PM

Jeff;

I am glad you have stepped up to rescuing the spare EFI parts. I am still collecting all I can get my hands on, still short a few pieces for my IML "lending library of known good EFI parts" but the ones others have sent me I have repaired and tested, as best I can. Glad you are planning to put a converted car back right, let me know how it goes.

If the only difference in the dash unit is an external input, why then did the factory conversion change out the dash assembly? I am aware of the add-on fuel flow sensor, my factory conversion has it also, but I always thought there was some other reason that they had to change out the whole dash. Perhaps I have bad info, but the service writer at the local Chrysler dealership told me the package included a new dash.

Dick Benjamin (bondotmec@dte.net)

Subject: 81-83 differences in EFI/Carb

From: "Dick Benjamin" (bondotmec@dte.net)

Sent: Thu, 19 Mar 1998 19:22:52 -0800

Any EFI parts you have left after the IML members have told you their needs, I would appreciate your letting me have a crack at them. I am trying to put together at least one, and hopefully more, complete EFI systems to make available to IML members as an exchange service where the member pays only for whatever repairs I have to do on each piece, and shipping, plus his repairable core, to get a tested repaired part to fix his car. I do not have a CCC yet, or a fuel flow sensor, or a decent control fuel pump. I could also use any other spare parts that you no longer need. Be sure that anyone who has a current need for these parts is taken care of first, because this is not intended to get in the way of your helping another member fix his own car, or, as in Jeff Gaurino's case, returning his car to factory configuration (which I applaud!).

Dick Benjaminbondotmec@dte.net

Subject: 81-83 differences in EFI/Carb

From: "Dick Benjamin" (bondotmec@dte.net)

Sent: Thu, 19 Mar 1998 19:01:55 -0800

Jeff;

I am glad you have stepped up to rescuing the spare EFI parts. I am still collecting all I can get my hands on, still short a few pieces for my IML "lending library of known good EFI parts" but the ones others have sent me I have repaired and tested, as best I can. Glad you are planning to put a converted car back right, let me know how it goes.

If the only difference in the dash unit is an external input, why then did the factory conversion change out the dash assembly? I am aware of the add-on fuel flow sensor, my factory conversion has it also, but I always thought there was some other reason that they had to

change out the whole dash. Perhaps I have bad info, but the service writer at the local Chrysler dealership told me the package included a new dash.

Dick Benjaminbondotmec@dte.net

Subject: 81-83 differences in EFI/Carb

From: "Dick Benjamin" (bondotmec@dte.net)

Sent: Fri, 20 Mar 1998 21:35:56 -0800

No, please don't be sorry. If all the parts are going to be used to get or keep one of these beautiful cars running and original, I'm happy. That is all I was about anyway.

Dick Benjaminbondotmec@dte.net

Subject: Fw: 81-83 differences in EFI/Carb

From: "Jeff Guarino" <jguarino@pangea.ca

Sent: Wed, 25 Mar 1998

Hello Dick.

I didn't manage to get the EFI parts, someone else was ahead of me. He is selling me the intake manifold and dig. dash. I'll keep looking around for a set. This is a long term project for me anyway.

I also heard that the dashes were changed out when the cars were converted. Mark Chance was wondering about the dig. dashes too. Some are marked "EFM" and others are marked "non EFM". I posted this question last year but didn't get any response. It could be that the add on fuel flow meter in the factory converts needed a modified dash. I say this because the supply would only be 12v instead of 23v in the EFI cars.

The fuel flowmeter output might only range from 0 to 12v instead of 0 to 23 as in the EFI models.? I'm glad there is some progress on the temp. sensors. Both EFI cars that I have will start good and run good until they warm up. Then they stall and run rough. I've suspected the temp sensors. Chrysler tells me they're NLS.

I'm also making a special aircleaner cover. I got a cover from the junk yard and bought a clear glass plate from wall mart. I'm going to cut a hole in the cover and silicone the plate on. This will give me a good view of the fuel bars working. I was going to use Plexiglas but I was worried that the gas might dissolve the plastic and the engine heat might affect the plastic too.

Later Jeff

Subject: 81-83 Carb. Suggestions

From: "Sir Buddy Enterprises" <eddenbud@magicnet.net>

Sent: Mon, 2 1244 -0500

Dear IMLers,

My 81 has been carb-converted since before I bought her, to a Holley Model 4160 four-barrel carburetor. I think that it is time for a new carb, but I'm not sure I want the same model replacement. I've never been especially happy with this carb. It seems to be leaking fuel back intothe manifold when the engine is off, and I've had it rebuilt once already, with unimpressive results. Plus, I've always hated the the doofy electric choke, which actuates a cheap plastic cam that always gets stuck in fast-idle. (I must lube it with oil periodically and have added a small weight to the cam to coax it to perform as it should, but it is still troublesome.)

Has anyone got suggestions for carb's used in conversions successfully. Of course, when the EFI-carb conversion was done, the intake manifold was changed (previous owner), presumably from any other carbureted-Chrysler 318, so I imagine a carb. that will fit the standard 318 will fit on my manifold.
Thanks,
ED FERRARA

Subject: 81-83 differences in EFI/Carb

From: Jeff Guarino <jguarino@pangea.ca

Sent: Wednesday, March 18, 1998 12:09 AM

Hello mark:

In answer to your question about the dash computer, it only gets one input from the EFI. And that is the indirectly from the fuel flow meter. When these cars are backyard converted the mpg readout will no longer work. Any other functions in the computer that depend on this input to do a calculation won't give the proper value.

I have a factory converted 81 and it has a special little add on fuel flowmeter. This allows all of the dash computers functions to work. I would be interested in purchasing your EFI. I have plans to convert my 1982 FS from carb back to EFI. It still has the in tank pump in series with a mechanical pump (I believe). I also need the intake manifold. Let me know what your asking.

Jeff Guarino

Subject: 1981 EFI to carb conversion

From: Stude1966 <Stude1966@aol.com

Sent: Fri, 17 Apr 1998 16:46:06 EDT

I have driven '81 since 1984 with the exception of the first two years with virtually no problems other than a ballast resistor. But in 1986 I met a fellow in my neighborhood who also had an '81, and at that time I was experiencing all the same problems most have now. But this fellow put me on to a shop that replaced every sensor in the engine compartment, and they did one hell of a job of straightening the car out. Its been basically very reliable with the exception of normal stuff. And most recently I was able to purchase a complete EFI unit with all the sensors, computer, plate, etc. for a hundred bucks. This hopefully will ensure my driving for another couple of hundred thousand miles.

Subject: 1981 EFI to carb conversion

Sent: Fri, 17 Apr 1998 20:39:46 -0700

From: "Dick Benjamin" (bondotmec@dte.net)

Hi again, Rolland;

Did you note my post cycling the key on/off/on/off a few times when starting the car? If not, I will re-post it for you.

Reliability of these cars is very variable. When you have a good one, it will be very very good, when you have a troublesome one, it can be a pain in the butt. Most of the problems have been identified and cures are available, but these cars have a lot of potential tricks up their sleeves, so we will never know that we have them all figured out. I think I already mentioned most of the things you could try to fix the things that are bothering you.

As for performance, as you are no doubt aware, even though this is just a coupe, it is a very heavy car, and the 318 is pulling all that weight through a 2:20 rear axle ratio, so it is not going to be a quick off the line car. But the performance at high speed, and the MPG for a car of this level of luxury and features, is outstanding!

If you do decide to convert it, please be sure that none of the EFI stuff gets damaged or discarded. Spare parts are very hard to find, especially ones that are known functional, which yours would be.

There are a few vendors who specialize in Imperials, and they source the EFI parts too. Check the vendor info on the IML, I think they are listed there. If not, just post your needs on the IML, someone will pipe up with a suggestion.

Dick Benjamin (bondotmec@dte.net)

I read with a great deal of interest the discussion on EFI conversion to carburetion today. I have an 81 with 80,000 miles with EFI. When it works I really like it. My problems have been dying and not starting and hard starting. It is not a powerhouse on acceleration but this is perhaps as much the 318 as the EFI and I can live with that. Thanks to Dick Benjamin's advice regarding the grounding of the ASD I can now leave the neighborhood without making sure I have a quarter

to call my wife to come get me when it stalls. It still starts hard (when it feels like it). The battery is good and it usually is a race to see whether the car starts, the battery runs down, or my heart rate goes from 72 to 120.. My problem is that I am not sure the car with EFI can be made reliable enough to really enjoy.

? Can it be made reliable?

some tips on parts sources, new, used, worn out or whatever. Thanks. I love the IML.Rolland Westra -

Subject: 1981 EFI to carb conversion

From: lester@cnwl.igs.net <lester@cnwl.igs.net

Sent: Saturday, April 18, 1998 3:35 AM

Jeff

thought I'd get back to you regarding your last letter, I have to admit, Jeff, I'm know mechanic and have no experience working on any car. I understand what your saying and will have all your help checked out. Yes, I have the manual and have turned it over to a qualified mechanic. Jeff, this car is the only one with in the area and most of the mechanics have never seen nor worked on one of these cars. I've contacted Chrysler Dealers in Montreal and Ottawa, which are the two biggest cities within 100 miles and they have not got the equipment to check it out, so they say. I'll keep in touch, and be assured, your suggestions are being tried.

Thanks for the help
Cliff

Subject: 1981 EFI to carb conversion

From: lester@cnwl.igs.net

Subject: 1981 EFI to carb conversion

From: "Jeff Guarino" <jguarino@pangea.ca

Sent: Fri, 17 Apr 1998 09:10:31 -0700

Hello Cliff. The following is the letter I sent you last year. It gives most of the rough details on conversion. You have the option of keeping your intank pump or changing out the gas tank. Study the following letters for now and I'll write up a more detailed step by step set of directions with a wiring diagram included. Jeff Guarino

June 11,1997 Hello Cliff I can assist you in your conversion to a carb. The following was posted on the IML some time ago and is, I find a very good guide to get started on. Do you have a wiring

diagram? If you can find a good Cordoba in the junk yard you can get all of the parts off the same car. You will need an intake manifold, carburetor, air cleaner, distributor, mechanical gas pump, electronic ignition module and the linkage between the carb and the transmission. There is an adjustment on the transmission for shifting speeds that will more than likely have to be done. When I bought my car it was already converted but was not shifting into third soon enough and wouldn't down shift when I floored the accelerator. This is easy to do yourself. One of my cars still has the electric in tank pump. I think somehow the pressure has to be reduced because the float valve in the carburetor can't hold back the pressure. I'll take a look at how it's set up today. If you keep the electric pump it will save you having to replace the gas tank. I may be missing telling you a couple of things so I will get back to you with any further thoughts. If you need a wiring diagram I can send you one. You should be able to do the whole conversion in one or two days. I also have one 1983 with a 4 barrel carb, this is the one that still has an electric in tank pump. This is all for now

.....Jeff Guarino

Subject: 1981 EFI to carb conversion

From: lester@cnwl.igs.net

From: "Jeff Guarino" <jguarino@pangea.ca

Sent: Fri, 17 Apr 1998 09:10:31 -0700

Jeff

Thanks for taking the time to write me again. I didn't print your last letter out and lost it when the Hard drive went on this machine. Jeff, I'd like to tell you a bit about this car. I'm taking it to the best Chrysler mechanic in the area and he has checked it out completely. Everything seems to work other than the idle motor which we're trying to find at the present time. I would love to leave the EFI system on, but, if we can't find some way to get this idle speed down, I'll have no other way to go. Last week I found a 81 Imperial that was carburated and bought it for a parts car. Now I have to admit that it's quite tempting to have it switched over, BUT, I love to drive this car when it's running well. Once I reach a speed of twenty to twenty five, it runs great. Do you think that it could be the idle motor. Also, Jeff, would you know where I could locate a idle motor.

Cliff

Subject: 1981 EFI to carb conversion

From: "Jeff Guarino" <jguarino@pangea.ca

Sent: Sat, 18 Apr 1998 15:06:01 -0700

Hi Cliff.

I was going to see if my spare idle speed motor worked or not. The throttle plate in the car it came out of was seized which caused the car to idle at a high speed. It was rusted bad, I had to put it in a vice and hammer the sleeve out. Relubricated it and it looked like it should work fine.

I went downstairs to get the idle motor. I couldn't remember whether it worked or not. Not!!. I tried a 6v battery on it.. nothing happened. Then I tried a car battery with a 10 ohm resistor is series.. nothing except some sparking when connected (which indicated there wasn't an open circuit). Next I removed the four screws and took of the cover. Things looked OK except it the gear box was dirty. There is an opening in the box that lets in dirt. I connected my little 6v lantern battery and could see the motor just barely turn. Reversing the leads it turned the other way. From this I knew the motor was OK and the gear box was seized. I sprayed the gearbox with carb cleaner and applied 6v, and kept reversing the leads when it stopped. After 10 or 12 times it loosened right up and appears to work fine. I cleaned out all of the old grease and dirt and regreased it. The arm only goes so far each way and then hits a stop. I think the current limiting ballast resistor may have saved the motor from burning out when the gears became seized. This could be what's wrong with yours. You'll have to undo the two screws holding down the idle speed motor and use needle nose pliers and or a screwdriver to pop off the connecting rod. Take it inside and undo the four little screws and take a look. If the motor is bad you can take this one I have here and give me yours in return. I think I can either fix or find a replacement for the reversible dc motor....I found a spare motor just now in my junk pile. There 6v reversible motors made in Hong Kong, about 5000 rpm or 80 rev/sec. So check out the motor and get back to me, it comes off pretty easily.

Jeff Guarino

Subject: 1981 EFI to carb conversion

Sent: Fri, 17 Apr 1998 11:33:10 EDT

Hi to all 81 to 83 Imperial owners:

I read with a great deal of interest the discussion on EFI conversion to carburetion today. I have an 81 with 80,000 miles with EFI. When it works I really like it. My problems have been dying and not starting and hard starting. It is not a powerhouse on acceleration but this is perhaps as much the 318 as the EFI and I can live with that.

Thanks to Dick Benjamin's advice regarding the grounding of the ASD I can now leave the neighborhood without making sure I have a quarter to call my wife to come get me when it stalls. It still starts hard (when it feels like it). The battery is good and it usually is a race to see whether the car starts, the battery runs down, or my heart rate goes from 72 to 120.

I have stripped an 81 Mirada of the intake, carburetor (four barrel), distributor, engine compartment wiring harness, fuel pump and fuel tank. My problem is that I am not sure the car with EFI can be made reliable enough to really enjoy. I am a bit of a stickler on originality (particularly with my 300's) but an original car in the driveway isn't much fun.

What has been the collective experience with EFI among the car buffs? Can it be made reliable? I don't mind working on the car but not by the side of the road. Give me some tips to keep it going. Also would like some tips on parts sources, new, used, worn out or whatever.

Thanks. I love the IML. Rolland Westra - Illinois

Sent: Mon, 20 Apr 1998 09:53:32 +0000

Good morning Jeff:

After receiving your letter, I went to the garage and followed your instructions and I managed to check the Idle motor which turned out to be OK. Sorry for having you go to all that trouble. Jeff, I've decided to have my car converted. I took your list to my mechanic and he is going to take the parts off of the parts car today. If it wouldn't be to much trouble could you send me information on the wiring. Just to have something to go buy. I noticed Jeff, on one of the past letters which you wrote that you are from Canada or am I wrong Again. I'll keep in touch and let you know how we make out with the conversion

Thanks again Cliff Thompson
Cornwall Ontario Canada

Subject: 1981 EFI to carb conversion

From: "Dick Benjamin" (bondotmec@dte.net)

Sent: Mon, 20 Apr 1998 08:21:45 -0700

Not to sound like a cracked record here, Cliff, but please make sure none of the EFI components get damaged or discarded in this process here. If you don't want to keep them around, let Jeff or I or the whole IML know so we can make sure they are preserved somewhere.

Dick Benjamin (bondotmec@dte.net)

Idle motor which turned out to be OK. Sorry for having you go to all that trouble. Jeff, I've decided to have my car converted. I took your list to my mechanic and he is going to take the parts off of the parts car today. Cliff Thompson

Subject: 1981 EFI to carb conversion

From: lester@cnwl.igs.net

Sent: Mon, 20 Apr 1998 16:42:04 +0000

Jeff

Thought I'd let you know that for now I'm thinking of keeping the EFI system for the time being, If I decide to part with it, I'll let you know. Jeff, what is a lean burn computer and a ECU I don't know

the difference, I just drive this classic, when it's running half way decent. I'll appreciate all the help that you send.

talk to you later Cliff

Subject: 1981 EFI to carb conversion

From: lester@cnwl.igs.net <lester@cnwl.igs.net

Sent: Monday, April 20, 1998 7:55 AM

Good morning Jeff:

After receiving your letter, I went to the garage and followed your instructions and I managed to check the Idle motor which turned out to be OK. Sorry for having you go to all that trouble. Jeff, I've decided to have my car converted. I took your list to my mechanic and he is going to take the parts off of the parts car today. If it wouldn't be to much trouble could you send me information on the wiring. Just to have something to go buy. I noticed Jeff, on one of the past letters which you wrote that you are from Canada or am I wrong Again. I'll keep in touch and let you know how we make out with the conversion Thanks again

Cliff Thompson Cornwall Ontario Canada

Jeff: Well, we've started the conversion, the EFI system is off the car and the intake manifold is changed. the carb is just about ready to be installed. We're using a Cartier two barrel. Is this a good carb to use. To-morrow, the mechanic plans on starting the wiring. Jeff, any advice which you could offer at this time would be greatly appreciated. He is leaving the in tank fuel pump on. Also, Jeff, if I decide to part with the EFI, what would be a fair price to let it go for. Hoping that you'll get back with some advice.

Cliff

Subject: 1981 EFI to carb conversion

From: "Jeff Guarino" <jguarino@pangea.ca

Sent: Mon, 27 Apr 1998 21:32:21 -0700

Hi Cliff.

As far as I know the Carter carb is a good carb, all of the converted cars I have are using Carter carbs. When the weather is damp or rainy my carburated cars idle rough. If I increase the idle they run fine again but I have to put the idle back down again when is gets dry out. These cars have ECU's. I'll get together some wiring diagrams and send them to you. I really don't know what a fair price for the EFI would be. Recently a set sold for $100 US. I purchased a set a couple of years ago for $200 CDN. The brand new ones are worth a lot more. The new computers are available for $250.00 CDN. They are different from the old computers in that they are improved.

There are also newer improved hydraulic plates but there are none left at the dealer. I think these can be bought for a $250-$300 us each. I would be willing to offer about $200 cdn for the set if you decide to sell it. I want to convert my Frank Sinatra back to EFI. By leaving the fuel pump in, it will have to be wired so that it comes on off course when you turn the key. Also I think the pressure might have to be reduced. I'm not sure about this but I'll find out. I probably won't be able to get back to you with the diagrams until tomorrow morning.

Jeff Guarino

Jeff: Well, we've started the conversion, the EFI system is off the car and the intake manifold is changed. the carb is just about ready to be installed. We're using a Cartier two barrel. Is this a good carb to use. To-morrow, the mechanic plans on starting the wiring. Jeff, any advice which you could offer at this time would be greatly appreciated. He is leaving the in tank fuel pump on. Also, Jeff, if I decide to part with the EFI, what would be a fair price to let it go for. Hoping that you'll get back with some advice.

Cliff

Subject: 81 NOT Factory carb conversion

Sent: Sat, 8 Aug 1998 12:27:31 -0700 (PDT)

From: "Jack R. Lindholm" <jrl-black@rocketmail.com

Hi List, and my 81 guru's Don and Dave.....

Well, given the time to digest, chill, meditate, and then look at the car in the light of day.... get this... It's got a Holley 4 barrel on a Edelbrock Perfomer manifold. eh, not factory? heheh The official looking sticker inside the front door describes the instrument cluster replacement @ 10K miles back in 81..(opps)couldn't tell a model# on the carb, where would I look? The distributor has 2 wires coming from it, and there isn't a electronic control unit on the fire wall, or at least one with the 4 conductor odd shaped plug and the cap in the heat sink..... There is something with the same exterior shape, but with a smaller rectangular plug.... Now, the engine.....(you can guess what I'm hoping for....) 1st. There's a sticker on the drivers side valve cover, with some code #s, and instructions to use a certain sealer on the studs(I think) and to torque them to a certain ft lb. when installing heads.. 2nd. again, on the drivers side. the motor mount is about .5" behind the ear from the frame, with a spacer in it..... hmmmmmmmmm 3rd, and unrelated?! dented oil pan... oil looks a bit over filled after the oil change... Any thoughts? Where would I look for engine info, and what would I be looking for?? It really does sound good, and quiet, with out any of the drama I'd expect from an engine with over 140K, on it.... Pulls strong too, once it's done stumbling..... even in neutral, the engine stumbles a lot when I give it gas..... As I said before, it has the original FI air cleaner on it with the combustion control, and megaphone, on it, with wires plugged into both... It runs with the aircleaner off... but not with the wires unplugged from it..... there are two or three more heavy plugs in the harnesses to the air cleaner that aren't plugged into anything... I spent a while replacing rusted twisted ground and solenoid wires with proper connectors and eyes..... (starter sounds a bit more robust...hmmmm) Going back out when the sun comes around a bit....Installing a 3 gauge panel.... idiot lights don't work..... like to know what's going on with this new mystery car.... Thanks for any thoughts you might have here.....

Manhattan Jack 81 Imperial (high performance?)

Subject: 81 NOT Factory carb conversion

From: <DBKEMPER@aol.com

Sent: Sat, 8 Aug 1998 16:30:40 EDT

Jack

Gee that well could be a 360 with the spacer thingie to make the motor mount work. I know how disappointed that would make you!!!! NOT! The electronic ignition would solve a lot of those problems. The electronic ignition mounts on the passenger side fender well in the same holes one of the old modules comes out of! I got the Manila 81 running today!!! even backed it up the driveway under its own power. Now there is a revolution!!!!! Gotta clean up and get ready to get my 13 year old at the air port at 9 tonight.....Air Canada, eh!

So with a new fuel tank and pump and plugs wires cap and rotor and new fuel she runs pretty good. It needs hoses and a real good clean under the hood....oil change and rad flush and she should be ready to see use. Oh, shocks and tires too....is life good or what! How did you make out today.....I forgot to tell you that you need to use a wire to keep the front shocks compressed so you can get them in the tubes they come out of....other wise it is an exercise in frustration! But these things are like that! Let me know how you make out....I will be home later tonight.

I told Bob you might call him about the Service Manual and other parts. Bob is an honest guy and has been a lot of help getting the car I got from him running. He knows a lot about the technical end of things. Sounds to me that they (whoever THEY are) did a mix and match on your car. Keep me posted. So if you talk to Bob don't be afraid to ask him questions!

Subject: 81 NOT Factory carb conversion

From: "Richard W. Gebhard" <gebhard@EC.Rockwell.COM

Sent: Sat, 8 Aug 1998 17:25:05 -0400

Now, the engine.....(you can guess what I'm hoping for....)

1st. There's a sticker on the drivers side valve cover, with some code #s, and instructions to use a certain sealer on the studs (I think) and to torque them to a certain ft lb. when installing heads..

2nd. again, on the drivers side. the motor mount is about .5" behind the ear from the frame, with a spacer in it..... hmmmmmmmm

3rd, and unrelated?! dented oil pan... oil looks a bit over filled after the oil change...Any thoughts? Where would I look for engine info, and what would I be looking for?? It really does sound good, and quiet, with out any of the drama I'd expect from an engine with over 140K, on it.... Pulls strong too, once it's done stumbling..... even in neutral, the engine stumbles a lot when I give it gas.....

Take a bunch of rags and some carb cleaner with you when you crawl under the car from the driver's side. Disconnect negative terminal of battery first or work in vicinity of hot lead attached to starter at own risk.

Look for a variety of numbers and symbols cast into side of block.

Cubic inches of block is sometimes cast, but seven digit part # always appears.

If it is a late model block, may have more digits in P.N. (?)

Look also for casting date.

Ignore sticker on valve cover while removing valve cover & rocker arm.

Look for casting marks above, although heads generally don't have C.I.D. stamps.

Any dealer parts counter can turn the PNs into meaningful descriptions, though some may not want to. If that doesn't work, give us the PNs and we'll tell you what they mean.

RWG

Subject: 81-83 Carb. Suggestions

Sent: Mon, 28 Dec 1998 21:41:25 -0800

From: "Dick Benjamin" <bondotmec@ez2.net>

The factory conversion kit for these cars used a 2 bbl carburetor, very likely the same as used in the other contemporary 318 applications. Since you have a 4bbl, the manifold was obviously from some other intended use. In the older applications of the 4160 (which I agree often has leakage problems, especially if it has been overtightened by someone who is not familiar with the right way to assemble the end caps), the AVS Carter is a bolt on replacement, and in fact is used almost interchangeably on the late 60's 440's. Either of these seems like way too much carburetor for a 318 in my opinion, but perhaps some of our performance minded guys can steer you better.

Dick Benjamin
bondotmec@dte.net

Subject: 81 Carb. Connections

From: Watchfatha@aol.com

Sent: Wed, 2 2438 EST

In a message dated 1/19 5614 PM Pacific Standard Time,
eddenbud@magicnet.net writes:

On a similar topic, the EGR valve has been disconnected entirely since I've owned the car. >>

Doesn't that make the car run hotter? (Dick?)
Norm

Subject: 81 NOT Factory carb conversion

From: <Stude1966@aol.com

Subject: 1981 EFI to carb conversion

From: "Jeff Guarino" <jguarino@pangea.ca

Sent: Wed, 29 Apr 1998 09:14:51 -0700

Hello ED F

My black Imperial still has the intank fuel pump. This is the only pump. I was looking at it yesterday and it looks like it simply uses a three outlet fuel filter. The fuel input, fuel return line connected to the side and the supply line to the carburetor on the other end. I guess most of the fuel simply circulates.

Jeff Guarino

Subject: 1981 EFI to carb conversion

From: Eddenbud (Eddenbud@aol.com)

Sent: Tuesday, April 28, 1998 7:54 PM

By leaving the fuel pump in, it will have to be wired so that it comes on off course when you turn the key. Also I think the pressure might have to be reduced. I'm not sure about this but I'll find out

In my converted Imperial (which was converted by a previous owner), the mechanic installed a discretely located switch to manually turn on and off the fuel pump, only when the ignition is on of course. Though this may seem primitive, it works great and serves as yet another layer of protection against theft, as was recently discussed on the IML.

If you're interested, I know that Holley also makes an oil-pressure control switch for such applications. It is designed to automatically cut off the electric fuel pump when the switch senses low oil pressure, as when the motor stalls or perhaps in an accident scenario where the driver is disabled and cannot turn off the key.

ED F

Subject: 1981 EFI to carb conversion

From: lester@cnwl.igs.net

Sent: Wed, 29 Apr 1998 14:32:10 +0000

Jeff

Everything went well with the conversion on my car. I'm not quite sure what the mechanic did, but the car drives great, better than I expected. Thanks for your help. Now I can enjoy driving this GREAT car. Talk to you later. If I have any trouble, I'll let you know.

Cliff

Subject: 1981 EFI to carb conversion

From: lester@cnwl.igs.net <lester@cnwl.igs.net

Sent: Monday, April 20, 1998 2:43 PM

Jeff

Thought I'd let you know that for now I'm thinking of keeping the EFI system for the time being, If I decide to part with it, I'll let you know. Jeff, what is a lean burn computer and a ECU I don't know the difference, I just drive this classic, when it's running half way decent. I'll appreciate all the help that you send.
talk to you later

Cliff

Subject: 1981 EFI to carb conversion

From: IMPERIAL61 <IMPERIAL61@aol.com

Sent: Wednesday, April 22, 1998 4:01 PM

In a message dated 98-04-22 13:39:03 EDT, you write:

I might add here that I have no idea what is necessary in order to keep the electronic instruments functional. Paul could swear I remember hearing somebody say a long time ago that the converted cars (and maybe the FI cars) had some sort of fuel flow sensor mounted

inline with the fuel line. This sensor is what was used for the mpg readout and maybe something to do w/ the FI also. Does this sound right?

Dan Dale

Subject: 1981 EFI to carb conversion

From: "Jeff Guarino" <jguarino@pangea.ca

From: lester@cnwl.igs.net

Sent: Mon, 27 Apr 1998 16:06:40 +0000

Sent: Mon, 20 Apr 1998 10:49:47 -0700

Good morning to you Cliff Yes I'm in Winnipeg. What I'll do is make a better write up on "how to convert EFI to Carb" and make a couple of diagrams. This will be good for future reference. Does your parts car have a lean burn computer or are you going to use an ECU? This is the only question for now. Jeff Guarino

Subject: 1981 EFI to carb conversion

From: "Jeff Guarino" <jguarino@pangea.ca

Sent: Tue, 21 Apr 1998 20:21:41 -0700

Hi Cliff.

The lean burn computer is a souped up ECU (electronic control unit). If you have a lean burn computer in your parts car then it's mounted right on the air cleaner in the same place as the EFI computer in your other Imperial. The lean burn computer will have the label " electronic spark control system" stuck on the top of it. If your parts car was a factory conversion it'll have the lean burn computer and if it was backyard converted it will more than likely have an ECU. The ECU is a small module mounted on the pass side fender in the engine compartment. It has a 4 wire plug going to it. In you EFI car in the same place will be the ASDM (auto shutdown module) which is a safety device to shut of the fuel pump. It picks up signals from the distributor and allows power to the whole EFI system. If this ASDM is not grounded properly it could cause erratic problems. It is only grounded to the chassis through a rusty hold down bolt. It's best to run a ground wire from the module case to a clean ground on the car chassis.

You were saying that your car was idling way to high. You can adjust the idle speed motor by adjusting the long bolt on the idle speed motor connecting arm. If you can find the right tool, 5/16 inch or 8mm socket, you can do this while the engine is running. This I find easiest to do by using a screwdriver with socket on the end. The longer the better. Wiggle it through the air conditioning hoses and it should just make contact with the adjusting bolt nicely. Turning this bolt

out, counterclockwise will make it idle faster, turning it in will make it idle slower. Why did your mechanic think the idle speed motor wasn't working? Maybe someone got this way out of adjustment. Mine show about an inch of thread on the adjusting bolt. If you push or pull on the connecting rod the idle speed will go up or down. When you let go the speed should go up and down and settle at a certain speed.

Cliff if we keep at it maybe we can locate the problem.

Jeff Guarino

Subject: 1981 EFI to carb conversion

Sent: Wed, 22 Apr 1998 19:01:43 EDT

I might add here that I have no idea what is necessary in order to keep the electronic instruments functional.

Paul

I could swear I remember hearing somebody say a long time ago that the converted cars (and maybe the FI cars) had some sort of fuel flow sensor mounted inline with the fuel line. This sensor is what was used for the mpg readout and maybe something to do w/ the FI also. Does this sound right?

Dan Dale

Subject: 1981 EFI to carb conversion

From: "Dick Benjamin" (bondotmec@dte.net)

Sent: Wed, 22 Apr 1998 21:51:42 -0700

Yes, Dan, that is how they replaced the fuel flow sensor that was an integral part of the EFI fuel management system.. The only function of the replacement fuel meter was to keep the dash gadgets working.

In the original EFI system, the fuel flow meter, along with the fuel temperature sensor, and many other sensor inputs, was what drove the computer system to run the car. When it works, it is marvelous!

Dick Benjamin (bondotmec@dte.net)

Sent: Sat, 8 Aug 1998 21:09:03 EDT

The ignition is probably running off the computer system which probably is a lean burn off of a Mirada or Cordoba with the 4 barrel 318. They probably left the original air cleaner so it wasn't so obvious the change was made to pass inspections. Some states like Conn and Mass have a cardiac if any of the deliverable car emissions are changed.

Just a guess because its similar sounding to an 81 that pasted through my hands a few years ago. The one I have now that I have since it was 6 months old is an excellent running EFI car. I'm fortunate since I have had really minor problems with the car in the 17 years I've owned it.

Good luck Bill from Massapequa

Subject: 81-83 Carb. Suggestions

Sent: Tue, 29 Dec 1998 01:24:17 -0500

From: t3176@flash.net

Dick and list,

> The factory conversion kit for these cars used a 2 bbl carburetor, very likely the same as used in the other contemporary 318 applications. Since you have a 4bbl, the manifold was obviously from some other intended use.

Probably a 360 4BBL.

> the AVS Carter is a bolt on replacement,

But it is slightly different than the newer Edelbrock/Carter carbs.

> Either of these seems like way too much carburetor for a 318 in my opinion, but perhaps some of our performance minded guys can steer you better.

Reasons I recommened the 625CFM AFB...

1. 4BBL carbs are about the only thing you can get in the aftermarket. You could get a rebuilt 2BBL from a place like NAPA, but you'd be paying more than the $250 for a brand-new AFB.

2. Judging by the fact that this car already has a 4BBL, I'd guess that most of the emmisions/OEM ignition system are gone. The feedback 2BBL would never work without them.

3. The Edelbrock/Carter AFBs are rock-solid reliable, they run great out of the box. Even the electric chokes work well.

4. They'll fit any intake, Thermoquad or AVS. (Dual bolt patterns)

While it would be ideal to do a cam change with the 4BBL, I've done the 2BBL to 4BBL swap on quite a few 318/360s (one had 194,000 miles). They've always solved driveability problems, without a single downside.

Also keep in mind that Chrysler offered both the Thermoquad and later the GM Quadrajet on police-package 318s. I've even got an '81 Imperial service manual that shows a 4BBL instead of the EFI (I know they never made these, but it does show it!).

By the way Dick, thanks for sending me pictures of your Imperials last week. I was starting to write you back, but my computer crashed mid-reply.

Carmine F.

Subject: 81-83 Carb. Suggestions

Sent: Mon, 28 Dec 1998 16:12:44 -0500

From: "Sir Buddy Enterprises" <eddenbud@magicnet.net>

Dear IMLers,

My 81 has been carb-converted since before I bought her, to a Holley Model 4160 four-barrel carburetor. I think that it is time for a new carb, but I'm not sure I want the same model replacement. I've never been especially happy with this carb. It seems to be leaking fuel back intothe manifold when the engine is off, and I've had it rebuilt once already, with unimpressive results. Plus, I've always hated the the doofy electric choke, which actuates a cheap plastic cam that always gets stuck in fast-idle. (I must lube it with oil periodically and have added a small weight to the cam to coax it to perform as it should, but it is still troublesome.)

Has anyone got suggestions for carb's used in conversions successfully. Of course, when the EFI-carb conversion was done, the intake manifold was changed (previous owner), presumably from any other carbureted-Chrysler 318, so I imagine a carb. that will fit the standard 318 will fit on my manifold.

Thanks,

ED FERRARA

Subject: 81-83 Carb. Suggestions

Sent: Mon, 28 Dec 1998 15:02:53 -0800 (PST)

From: "Jack R. Lindholm" <jrl-black@rocketmail.com>

hey Ed,

I acquired an 81 with a Holley 4bbl on top of an Edelbrock Performer. It hardly ever ran, without backfiring and loading up the plugs. Then, based on the sterling advice of the members here, I got a Carter AFB 625cfm (CRT9636) only $239.95 from Summit Racing. It was like a major religious icon had blessed my 318. After a simple 1/2 hr installation, it ran like a charm, right out of the

box. I've since put many miles on the car (which has 147k) in city, highway hot and cold, and it never fails to start with the first turn of the key, and runs like a champ. I Highly Recommend the Carter! Oh, yes, on a recent drive from NYC to the midwest & back, I averaged around 18 mpg while traveling between 70 & 80 mph, with a high of 21. Not too bad...

Manhattan Jack
81 Imperial

Subject: 81 Carb. Connections

From: "Sir Buddy Enterprises" <eddenbud@magicnet.net>

Sent: Tue, 1 5906 -0500

As you all may recall, I recently installed a Carter AFB carb. on my '81, previously retrofitted with a Holley. I've been really impressed with the performance of the Carter. Also, on a recent trip, the car got about 16.5 MPG on the hiway, averaging about 70 mph and including about 50 miles around town--not outstanding, but much improved from the 14 MPG the Holley would deliver.

I have a few QUESTIONS concerning the hookup of my new carb. Now I know that prior to 1971, carburetors were vented to the atmosphere; my previous Holley was vented in that manner, and my mechanic has also allowed the bowl vent on my new Carter to gas to the outside world. I can only imagine that the only disadvantage to leaving the vent open is increased fuel fumes in the atmosphere and the occasioanal odor of gas fumes after I shut the car down in the garage.

My car still has the charcoal evaporative-capture canister, but there are no vehicle/smog inspections in my county in Florida, so should I reenable this system? I was wondering, if I were to feel particularly moral to Mother Earth, how reenabling the system might affect the car's drivability. Also, where would I attach the purge vent from the canister--to a "T" in the PCV line? There is also a continous-vaccuum source at the base of the carb that is unused and capped; would that be a good hookup point? ANY INPUTS???

On a similar topic, the EGR valve has been disconnected entirely since I've owned the car. This emission-control systme looks considerably more complicated then the above evap. canister hookup, entailing the Charge Temp. Sensor, Vacuum Amplifier, Time Delay Switch, etc. Is leaving this system disconnected a problem? Could it be causing my slight hesitation off of idle?
Thanks, as always,
ED FERRARA

Subject: 81 Carb. Connections

From: "Dick Benjamin" <bondotmec@ez2.net>

Sent: Wed, 2 1920 -0800

Norm, and list -

I followed the discussion of disconnected EGR valves, but was not going to respond, until Norm's question. The purpose of the EGR system is to reduce the temperature of the combustion process, thereby reducing the NOX content of the exhaust gases. There is probably some effect on the running temperature of the engine, but I suspect it would be very small.

Disconnecting or blocking off this system in California would put your car into the "Gross Polluter" category at the BI-annual smog test (yes, the machines pick this up immediately), and you don't want that to happen. A typical consequence of being so labled is that you wind up not being able to register the car without extra hassle, and you have to go through this hassle EVERY YEAR! Of course, if your car is too old for the smog test (73 in CA) or you have a more lax state, then you're free to do this, if you have no concern about the environment.

I see little reason to do this, as the EGR valve only operates under special conditions (which I have forgotten for the moment, but someone posted them here a few days ago, and they are listed in your FSM), and I have never noticed any performance or economy difference with it disabled (yes I have done it, when my '81 was suffering unexplained idling problems, since solved, and I thought it might be a leaky EGR valve.)
Dick Benjamin

On a similar topic, the EGR valve has been disconnected entirely since I've owned the car. >>
Doesn't that make the car run hotter? (Dick?)
Norm

Subject: 81 Carb. Connections

Sent: Wed, 2 4312 -0800

From: Jeff Ceurvorst <vagabond@scvnet.com>

Dick,

It was interesting to see your clarification on how EGR systems performed. I hadn't remembered that it lowered combustion temperatures at all. I thought it raised them. I thought it was simply a way for them to "reburn" some of the exhaust in order to clean it up even further. I do know that hot exhaust gases introduced into the intake stream have caused problems because of the exhaust heat.

The EGR tubes sometimes perforate, though Ford's attempt at lengthening them to cool them then caused perforation because of the acids. GM had problems with their 350 small black because the hot exhaust gases would cause premature failure of a few intake valves, notably one or two that didn't have cooling characteristics as the others.

I guess I've forgotten an awful lot of what I learned, but I sure have been around the block a few times with these systems on '70s Ford vehicles.
Jeff Ceurvorst

Dick Benjamin wrote:

> Norm, and list

> I followed the discussion of disconnected EGR valves, but was not going to
> respond, until Norm's question.
> The purpose of the EGR system is to reduce the temperature of the combustion
> process, thereby reducing the NOX content of the exhaust gases. There is
> probably some effect on the running temperature of the engine, but I suspect
> it would be very small.
> Disconnecting or blocking off this system in California would put your car
> into the "Gross Polluter" category at the BI-annual smog test (yes, the
> machines pick this up immediately), and you don't want that to happen. A
> typical consequence of being so labled is that you wind up not being able to
> register the car without extra hassle, and you have to go through this
> hassle EVERY YEAR! Of course, if your car is too old for the smog test (73
> in CA) or you have a more lax state, then you're free to do this, if you
> have no concern about the environment.
> I see little reason to do this, as the EGR valve only operates under special
> conditions (which I have forgotten for the moment, but someone posted them
> here a few days ago, and they are listed in your FSM), and I have never
> noticed any performance or economy difference with it disabled (yes I have
> done it, when my '81 was suffering unexplained idling problems, since
> solved, and I thought it might be a leaky EGR valve.)
> Dick Benjamin

> On a similar topic, the EGR valve has been disconnected entirely since I've
> owned the car. >>
> Doesn't that make the car run hotter? (Dick?)
> Norm

Subject: 81 Carb. Connections

From: ViaJoaquin@aol.com

Sent: Thu, 2 4938 EST

Both EGR (exast gas recirculation) and air injection are designed to, along with other things, reduce unburned hydrocarbons at the tailpipe. EGR does this by taking some of the exaust gases and recycling them through the cylinders again. Air injection injects air into the exaust manifold at the point where the still burning gases leave the engine, in order to prolong the burning to reduce the unburned hydrocarbons at the tailpipe. Neither provides any performance benefit and on an individual basis has little effect on the enviornment. If there are no governmental controls on a given car, it would probably have less impact on the enviornment with a well tuned conventional system than a marginal controlled system.

Roy
67 Crown FDHT

Subject: 81 Carb. Connections

Sent: Thu, 2 2133 -0800

From: Jeff Ceurvorst <vagabond@scvnet.com>

Dick,

The air injection in the exhaust manifolds is not intended to dilute the exhaust, rather, it provides oxygen in order to keep the exhaust gases burning AFTER they've left the combustion chamber. This does cause exhaust manifolds to run hotter, and I've seen horribly overheated manifolds in these cars, but it doesn't affect intake valve temperatures. Simply diluting the exhaust wouldn't reduce any emissions, it would just increase exhaust volume.
Jeff

Dick Benjamin wrote:
> Jeff Are you sure you are talking about the EGR system? This sounds like
> problems I have seen on the AIR injection system, which came in about the
> same time, and involved a belt driven air pump to force air into the exhaust
> stream to dilute the exhaust gasses under some driving conditions.
> At any rate, I'm pretty sure the purpose of the EGR system is to reduce
> combustion temperatures to lower the Oxides of Nitrogen produced.
> I'll re-read the section on this in my manual and give a report if there is
> a correction, but it will not happen tonight.
> Dick Benjamin

> From Jeff Ceurvorst <vagabond@scvnet.com>
> To
> I hadn't remembered that it lowered combustion temperatures
> at all. I thought it raised them.
> The EGR tubes
> sometimes perforate, though Ford's attempt at lengthening them to cool
> them then caused perforation because of the acids.

Subject: 81 Carb. Connections

From: "Dick Benjamin" <bondotmec@ez2.net>

Sent: Thu, 2 5017 -0800

Jeff is right, of course. His analysis of the AIR system is right on, mine missed the mark. To recap, we started asking about whether or not the EGR system could make the engine run hotter. I found the passage I remembered from the FSM, this is in the '81 manual, but I suspect the same statement would be in any manual EGR Control Valve: Directs exhaust gases drawn from the crossover passage into the intake manifold through a special passageway and floor openings.

By mixing exhaust gases with the incoming fuel mixture, NOx is controlled through lower combustion temperatures."
Dick Benjamin
bondotmec@dte.net

From: Jeff Ceurvorst <vagabond@scvnet.com>
Simply diluting the exhaust wouldn't reduce any emissions, it would just increase exhaust volume.
Jeff

Subject: 81-83 Carb. Suggestions

Sent: Mon, 2 253 -0800 (PST)

From: "Jack R. Lindholm" <jrl-black@rocketmail.com>

hey Ed,

I acquired an 81 with a Holley 4bbl on top of an Edelbrock Performer..It hardly ever ran, without backfiring and loading up the plugs.. Then, based on the sterling advice of the members here, I got a Carter AFB 625cfm (CRT9636) only $239.95 from Summit Racing...

It was like a major religious icon had blessed my 318. After a simple 1/2 hr installation, it ran like a charm, right out of the box. I've since put many miles on the car (which has 147k) in city, highway hot and cold, and it never fails to start with the first turn of the key, and runs like a champ. I Highly Recommend the Carter!

Oh, yes, on a recent drive from NYC to the midwest & back, I averaged around 18mpg while traveling between 70 & 80 mph, with a high of 21. Not too bad.....
Manhattan Jack
81 Imperial

Subject: 81-83 Carb. Suggestions

From: t3176@flash.net

Sent: Mon, 2 1156 -0500

> I think that it is time for a new carb,

I agree, Holleys are usually junk. I would recommend the Carter/Edlebrock AFB 4BBL. The Carter version is usually cheaper. I've been told that the Edelbrock is "performance" oriented, but I've owned both, and have seen little difference. Electric choke set-ups on both of these work fine for me. About $250 for a 650 CFM w/choke.
Carmine F.

Subject: 81-83 Carb. Suggestions

From: "Sir Buddy Enterprises" <eddenbud@magicnet.net>

Sent: Mon, 2 5221 -0500

> hey Ed,
> I acquired an 81 with a Holley 4bbl on top of an Edelbrock Performer..
> It hardly ever ran, without backfiring and loading up the plugs..
> Then, based on the sterling advice of the members here, I got a Carter
> AFB 625cfm (CRT9636) only $239.95 from Summit Racing...
> It was like a major religious icon had blessed my 318...
> Manhattan Jack
JACK,

Thanks for the good advice. I hope that said major religious icon will soon alos bless my 318!
ED FERRARA

Subject: 81-83 Carb. Suggestions

From: "Dick Benjamin" <bondotmec@ez2.net>

Sent: Mon, 2 4125 -0800

The factory conversion kit for these cars used a 2 bbl carburetor, very likely the same as used in the other contemporary 318 applications. Since you have a 4bbl, the manifold was obviously from some other intended use. In the older applications of the 4160 (which I agree often has leakage problems, especially if it has been overtightened by someone who is not familiar with the right way to assemble the end caps), the AVS Carter is a bolt on replacement, and in fact is used almost interchangeably on the late 60's 440's. Either of these seems like way too much carburetor for a 318 in my opinion, but perhaps some of our performance minded guys can steer you better.
Dick Benjamin
bondotmec@dte.net

Subject: 81-83 Carb. Suggestions

From: Sir Buddy Enterprises <eddenbud@magicnet.net>

Sent: Monday, 4:00 PM

Dear IMLers,

My 81 has been carb-converted since before I bought her, to a Holley Model 4160 four-barrel carburetor. I think that it is time for a new carb, but I'm not sure I want the same model replacement. I've never been especially happy with this carb. It seems to be leaking fuel back intothe manifold when the engine is off, and I've had it rebuilt once already, with unimpressive results. Plus, I've always hated the the doofy electric choke, which actuates a cheap plastic cam that always gets stuck in fast-idle. (I must lube it with oil periodically and have added a small weight to the cam to coax it to perform as it should, but it is still troublesome.)

Has anyone got suggestions for carb's used in conversions successfully. Of course, when the EFI-carb conversion was done, the intake manifold was changed (previous owner), presumably from any other carbureted-Chrysler 318, so I imagine a carb. that will fit the standard 318 will fit on my manifold.
Thanks,
ED FERRARA

Subject: Re 81-83 Carb. Suggestions

From: t3176@flash.net

Sent: Tue, 2 2417 -0500

Dick and list,

> The factory conversion kit for these cars used a 2 bbl carburetor, very
> likely the same as used in the other contemporary 318 applications. Since
> you have a 4bbl, the manifold was obviously from some other intended use.
Probably a 360 4BBL.
> the AVS Carter is a bolt on replacement,

But it is slightly different than the newer Edelbrock/Carter carbs.

> Either of these seems like way too much carburetor for a 318 in
> my opinion, but perhaps some of our performance minded guys can steer you
> better.

Reasons I recommened the 625CFM AFB...

1. 4BBL carbs are about the only thing you can get in the aftermarket. You could get a rebuilt 2BBL from a place like NAPA, but you'd be paying more than the $250 for a brand-new AFB.

2. Judging by the fact that this car already has a 4BBL, I'd guess that most of the emmisions/OEM ignition system are gone. The feedback 2BBL would never work without them.

3. The Edelbrock/Carter AFBs are rock-solid reliable, they run great out of the box. Even the electric chokes work well.

4. They'll fit any intake, Thermoquad or AVS. (Dual bolt patterns) While it would be ideal to do a cam change with the 4BBL, I've done the 2BBL to 4BBL swap on quite a few 318/360s (one had 194,000 miles). They've always solved driveability problems, without a single downside.

Also keep in mind that Chrysler offered both the Thermoquad and later the GM Quadrajet on police-package 318s. I've even got an '81 Imperial service manual that shows a 4BBL instead of the EFI (I know they never made these, but it does show it!).

By the way Dick, thanks for sending me pictures of your Imperials last week. I was starting to write you back, but my computer crashed mid-reply.

Carmine F.

Subject: 81-83 Carb. Suggestions

From: PinkertonK@aol.com

Sent: Tue, 2 3208 EST

In a message dated 12/2 2140 PM Central Standard Time, t3176@flash.net writes:

> I agree, Holleys are usually junk. I would recommend the Carter/Edlebrock AFB
> 4BBL. The Carter version is usually cheaper. I've been told that the
> Edelbrock
> is "performance" oriented, but I've owned both, and have seen little
> difference.
> Electric choke set-ups on both of these work fine for me.
> About $250 for a 650 CFM w/choke.

Periodically you can find a factory rebuilt 650 Edelbrock for less than 200. I bought one last year for my 440. Its still in the case but one of these days...
Kerryp

Subject: Re 81-83 Carb. Suggestions

From: "jgeorge" <jgeorge@inreach.com>

Sent: Tue, 2 453 -0800

I had a thermoquad on a 360 and it was a mess! It's got a plastic body that warps. I replaced it with a Holley and got better fuel milage and more power. That carb was on an engine from a '76 Dodge Corenet station wagon. I stuffed it in a '65 IH 4X4 when the old cornbinder 304 died. Throwing away the thermoquad sure helped the old truck.
Joe

Subject: Re 81-83 Carb. Suggestions

From: t3176@flash.net <t3176@flash.net>

Sent: Monday,21 PM

Dick and list,
> The factory conversion kit for these cars used a 2 bbl carburetor, very
> likely the same as used in the other contemporary 318 applications. Since

> you have a 4bbl, the manifold was obviously from some other intended use. Probably a 360 4BBL.
> the AVS Carter is a bolt on replacement,

But it is slightly different than the newer Edelbrock/Carter carbs.

> Either of these seems like way too much carburetor for a 318 in
> my opinion, but perhaps some of our performance minded guys can steer you
> better.

Reasons I recommened the 625CFM AFB...

1. 4BBL carbs are about the only thing you can get in the aftermarket. You could get a rebuilt 2BBL from a place like NAPA, but you'd be paying more than the $250 for a brand-new AFB.

2. Judging by the fact that this car already has a 4BBL, I'd guess that most of the emmisions/OEM ignition system are gone. The feedback 2BBL would never work without them.

3. The Edelbrock/Carter AFBs are rock-solid reliable, they run great out of the box. Even the electric chokes work well.

4. They'll fit any intake, Thermoquad or AVS. (Dual bolt patterns) While it would be ideal to do a cam change with the 4BBL, I've done the 2BBL 4BBL swap on quite a few 318/360s (one had 194,000 miles). They've always solved driveability problems, without a single downside. Also keep in mind that Chrysler offered both the Thermoquad and later the GM Quadrajet on police-package 318s. I've even got an '81 Imperial service manual that shows a 4BBL instead of the EFI (I know they never made these, but it does show it!).

By the way Dick, thanks for sending me pictures of your Imperials last week. I was starting to write you back, but my computer crashed mid-reply.
Carmine F.

Subject: 81-83 Carb. Suggestions

Sent: Tue, 2 1108 -0500

From: Elijah Scott <escott@mail.gcsu.edu>

In-Reply-To <19981228230253.8772.rocketmail@web1.rocketmail.com>
At 03 02 PM 12/28/98 -0800, you wrote:

>Then, based on the sterling advice of the members here, I got a Carter
>AFB 625cfm (CRT9636) only $239.95 from Summit Racing...
> It was like a major religious icon had blessed my 318. After a simple
>1/2 hr installation, it ran like a charm, right out of the box.
>I've since put many miles on the car (which has 147k) in city, highway
> hot and cold, and it never fails to start with the first turn of the
>key, and runs like a champ. I Highly Recommend the Carter!
>Oh, yes, on a recent drive from NYC to the midwest & back, I averaged
>around 18mpg while traveling between 70 & 80 mph, with a high of

>21. Not too bad.....

The Carter AFB is an *excellent* carburetor! I put one on my '71 Imperial last year, and it's been a super addition to the 440's already formidable performance. It's given very crisp response, with low maintenace demands. All you really need to set one up is a vacuum guage (to perfectly adjust the mixture screws), and a tachometer or multimeter to set the idle speed. I've been very pleased with mine!
Elijah
****) Ina Dillard Russell Library (****

From: Liv Rat <LivRat@aol.com
Sent: Friday, March 20, 1998 4:33 PM Dick,

Sorry but everything from the 81 EFI has been spoken for, boy it makes me wish I had more. I didn't realize there was going to be such a demand for it. I did here tails of another Imperial coupe in my area being parted out, guess I better go see what it is. Will keep you posted.

Mark Chance

Subject: Retrofit C.C.C.to carb.

From: Bob Dupee <abddupee@xcelco.on.ca

Sent: Sunday, August 30, 1998 12:33 PM

I am have trouble with this f~~~~~~~ EFI fuel system I would like to know, if one of the imp crew, might be able to help me out, as to the pros, @ Cons, with regards to my 1981 imp. I understand, that there was a retro-fit system, that was available for this car. I have managed to solve most of the problems, but I am having a problem with a distributor advance, (i.e.)no advance. I am getting tired, of playing with this situation. I would just like to keep it as close to factory specs, as possible.

thanks
MR.MOPAR

Subject: Retrofit C.C.C.to carb.

From: DBKEMPER@aol.com

Sent: Sun, 30 Aug 1998 19:50:23 EDT

Mr. Mopar, well I have done the conversion and have taken it past the factory conversion to Lean-burn. I kept all the smog stuff intactbut went to a two barrel manifold with the good old electronic ignition conversion. It is a simple and wise choice....if you work at it you can keep the dash working as Mother Mopar intended. It is curious that the electronic ignition module fits the two bolts that hold the automatic shut down module perfectly. I have a conversion book and other information if you are interested. I have three 81 Imperials...my girlfriend has an 83...hers is

about to be carbed. My white car is converted the Manila car is EFI...the green car will some day get a 440....but that is a whole different conversion. e-mail me direct dbkemper@aol.com.....alias MOPAR DR.

Electrical

Subject: Fwd: 81 Imperial fuse cavity #6.....HELP

From: DBKEMPER@aol.com

Sent: Wed, 30 Sep 1998 21:51:47 EDT

Did a typo following is the request for info!

Subject: 81 Imperial fuse cavity #6.....HELP

From: DBKEMPER@aol.com Return-path: <DBKEMPER@aol.com

Sent: Wed, 30 Sep 1998 19:13:49 EDT Mime-Version: 1.0

After a couple of months of fixing EVERYTHING I am down to one problem short of getting the car inspected.....NO BRAKE LIGHTS. Now this is on good old fuse cavity #6 which has half the car hooked to it....interior lights, radio, stop lights, power mirrors and much much more. I have worked two nights and have not found what is blowing the fuse....crazy as it sounds I am leaning toward the headlight switch.....each circuit and relay I tested so far has been OK.....now the headlight covers don't open and close.....naturally all this stuff worked two weeks ago when I started working on the engine.....blow out the crud....new valve seals...oil pump...gaskets....hoses thermostat etc.....so I did NOTHING inside the car. Touched NOTHING inside the car.....understand that this has not been on the road since the inspection ran out in 1992..... So has any 81-83 Imperial owner run into this before??? Suggestions???? No getting rid of the car is NOT a suggestion. I am really stumped here. I haven't checked the brake light switch....YET.

Subject: 81 Imperial fuse cavity #6.....HELP

From: "Jeff Guarino" <jguarino@pangea.ca

Sent: Thu, 1 Oct 1998 09:40:14 -0500

Hello I had a similar problem a couple of years ago and used my volt meter to track down a short. It turned out it was my fault I had removed one of the sun visors to repair it. I undid the three screws holding it in. When I put it back I pinched one of the wires to ground and caused a short. But since that happened the wires have broken on both sides due to constant wear from

moving the sun visor around. If any of your wires are broken here and are shorting to ground you'll blow #6 fuse.

Jeff Guarino.

Subject: 81 Imperial fuse cavity #6.....HELP

From: DBKEMPER@aol.com <DBKEMPER@aol.com>

Sent: Wednesd13 PM

>After a couple of months of fixing EVERYTHING I am down to one problem short of getting the car inspected.....NO BRAKE LIGHTS. Now this is on good old
>fuse cavity #6 which has half the car hooked to it....interior lights, radio,
>stop lights, power mirrors and much much more. I have worked two nights
and have not found what is blowing the fuse....crazy as it sounds I am leaning
>toward the headlight switch.....each circuit and relay I tested so far has been ok.....now the headlight covers don't open and close.....naturally all this stuff worked two weeks ago when I started working on the engine.....blow out the crud....new valve seals...oil pump...gaskets....hoses thermostadt >etc.....so I did NOTHING inside the car. Touched NOTHING inside the >car.....understand that this has not been on the road since the inspection >ran out in 1992.....
>So has any 81-83 Imperial owner run into this before??? Suggestions????

No

>getting rid of the car is NOT a suggestion. I am really stumped here. I
>haven't checked the brake light switch....YET.

years ago and used my volt meter to track down a short. It turned out it was my fault I had removed one of the sun visors to repair it. I undid the three screws holding it in. When I put it back I pinched one of the wires to ground and caused a short; But since that happened the wires have broken on both sides due to constant wear from moving the sun visor around. If any of your wires are broken here and are shorting to ground you'll blow #6 fuse.

Subject: 80's Electrical / EFI Sun Tester

Sent: 6/11/97 7:50 AM

From: bondotmec@alphainfo.com (Dick Benjamin)

Man, this is GOOD stuff!!

Thanks, Bob. Do you have any technical info on the Sun Tester? Is it the one referred to in the Chrysler Shop manual?

Dick Benjamin

As for the Sun EFI tester, I bought one of these from Sun in 1984, new in the box. The price was nowhere near the 1850 to 2000 dollars which was the original price. I called them a few months later to inquire for a friend and they told me that they had taken the last eighty two of these brand new instruments to the dump and bulldozed the dirt over them.

Subject: Not Cranking

If your starter sounds different, but cranks the engine OK, it is not necessarily bad. There were some different starter designs used on these cars, my blue '81 has a totally different starter on it than what is on my black one or my brown one. The one on the blue car is not a gear reduction starter, it runs much quieter than the normal Mopar starter, and seems to spin the engine much faster too. It also looks weird, with a sort of stovepipe shroud around it to protect it from the heat of the Cat. I assume it is the original starter, since this is a quite low mileage car, and nothing else seems to have been done to it. It certainly sounds weird, but it really spins that 318! If it's working, leave it alone is my advice!

Dick Benjamin bondotmec@alphainfo.com

Subject: Starter

From: "Mark Allen (Marshfield)" <MARKA@coos-bay.k12.or.us

Sent: Mon, 3 Nov 1997 13:18:11 -0800

I saw Kelvin's answer to your e-mail. If the 53 tarter came from a PowerFlite car, it should work. I have a 54 New Yorker and it is the same as a 53. I don't know about the 51 starter since it was probably Fluid-Torque or Torque-Matic Drive and has a HUGE block extension.

Subject: Starter

From: "Dick Benjamin" <bondotmec@alphainfo.com

Sent: Tue, 4 Nov 1997 08:54:58 -0800

What year Imp are you working on? Mark One of the dreaded '81 EFI cars. Never saw the underside of an 81 Imp..... but I'd say try it a few times before putting the steering back together. RWG

Well, its nothing special, should be identical to a Mirada or a Cordoba. Your ideas as to how to remove it are very helpful advice. In my experience, with an '81, I have not had to remove any other parts to get it out, but I have not dealt with the apparently special starter that is on my blue car and also on Randy's car, it is larger in diameter than the usual Mopar starter, or perhaps that's just the heat shield. Randy will give us a report, I'm sure.

Dick

Subject: Starter 81/wFI

Sent: Fri, 02 Jan 1998 20:03:45 -0800

From: Graduate Ltd <grad@cts.com

Hi Randy -

I getting ready to call you to see where you were. I assume you had a temporary lapse -- at any rate it is good to know you are making progress.

When I heard your starter wheeze I thought that the solenoid was not staying engaged. The whirring noise was the spinning solenoid. If you need a new or rebuilt one they are not very expensive (relatively).

I have had "Beauty" (sometimes known as "Beast") parked in my garage while I ran around taking care of business. I sent a note to the Imperial Club telling the tale of trying to keep the car at my office so I could work on cleaning grounds and other contacts. I am sure that this is the reason for the stalls during warm up. I bought a cover for it and had the cover stolen right away. The car has been siting in my garage since then very much neglected..

I started her today and let her run for a while. I can tell she is running very rich. I found a guy named Rudy who has been a Chrysler mechanic for ever. He is very experienced with the 81-83 Fuel Injection. The dealership where he works will no longer work on these but he is willing to give the car his best shot later this month. If we can get your car running again maybe you could drive it to Clairemont where my office is (he lives near there) and he could give both cars his best advice.

I am hoping to get up the car up to Dick Benjamin sometime soon and plan to do that when he is able to fit me into his schedule and I can fit it into mine.

I am also eager to try some part swapping. I could come to your place and we could try various critical parts on each others cars all day. I can't think of a faster way to diagnosis and pin point problems.

I will be on the East Coast from Jan 9 to through the 20th. No travel plans after that. I will check with you when I return and we will get both these cars running better than ever. Carl

Subject: Starter 81/wFI

From: "Dick Benjamin" <

Sent: Sat, 3 Jan 1998 08:45:28 -0800

Carl;

A couple of thoughts on running rich. The CCC should be adjusting the fuel flow such that the mixture is correct. If it is not, I would suspect one of two causes.

1.The most likely cause is a fuel leak in the plumbing from the control fuel pump to the nozzle assembly, which includes the fittings on the little curly Q line from the FPS to the Nozzles. In my experience, I have seen these open up and dribble fuel continuously, screwing up the idle. The only way to see this is to power the system with the cover off the air cleaner and inspect carefully with a bright light.

Bob Harris suggested a method to run the car with the cover off, you can follow his procedure and just stop short of starting the car (or you can start it if you like, it just makes it a little more exciting to stick your head in far enough to see while you are worrying about a sudden backfire, in other words, it could be dangerous to your eyelashes.)

2. A failed or disconnected O2 sensor will make the car run rich, although this would not be noticed until the car is warmed up. The system runs open loop until that time.

Dick Benjamin

Subject: Starter 81/w FI

From: Graduate Ltd <grad@cts.com

Sent: Friday, January 02, 1998 8:03 PM

Hi Randy -

I getting ready to call you to see where you were. I assume you had a temporary lapse -- at any rate it is good to know you are making progress. When I heard your starter wheeze I thought that the solenoid was not staying engaged. The whirring noise was the spinning solenoid.

If you need a new or rebuilt one they are not very expensive (relatively). I have had "Beauty" (sometimes known as "Beast") parked in my garage while I ran around taking care of business. I sent a note to the Imperial Club telling the tale of trying to keep the car at my office so I could work on cleaning grounds and other contacts.

I am sure that this is the reason for the stalls during warm up. I bought a cover for it and had the cover stolen right away. The car has been siting in my garage since then very much neglected.. I started her today and let her run for a while. I can tell she is running very rich.

I found a guy named Rudy who has been a Chrysler mechanic for ever. He is very experienced with the 81-83 Fuel Injection. The dealership where he works will no longer work on these but he is willing to give the car his best shot later this month.

If we can get your car running again maybe you could drive it to Clairemont where my office is (he lives near there) and he could give both cars his best advice.I am hoping to get up the car up to Dick Benjamin sometime soon and plan to do that when he is able to fit me into his schedule and I can fit it into mine.

I am also eager to try some part swapping. I could come to your place and we could try various critical parts on each others cars all day. I can't think of a faster way to diagnosis and pin point problems.

I will be on the East Coast from Jan 9 to through the 20th. No travel plans after that. I will check with you when I return and we will get both these cars running better than ever. Carl

Subject: Starter 81/wFI

From: "Dick Benjamin" <

Sent: Sat, 3 Jan 1998 08:56:07 -0800

By the way Carl;

Another thought just struck me Randy's starter. We discussed the strange sounding starters fitted on some of these cars (my blue one, the twin to yours, has one). They do not sound at all like a Mopar starter, much quieter, with a bigger case, and apparently not gear reduction. I am not sure these are factory, but the whirring noise is a perfect description.

When you were watching and listening to Randy's car, did the engine actually not crank when this was going on (fan blades not move)? Or did it just refuse to start? If this is a stupid question, forgive me, but I have been noodling about this for a long time.

It is beside the point, and admittedly a nit to pick, but these starters do not have a solenoid, either the "normal" starter or the whirling dervish type. They engage the flywheel with a purely mechanical arrangement like the old time "Bendix" system, also used on Studebakers and probably many others in the olden times.

Dick Benjamin

When I heard your starter wheeze I thought that the solenoid was not staying engaged. The whirring noise was the spinning solenoid. If you need a new or rebuilt one they are not very expensive (relatively).

Subject: Randy's Starter

Sent: Sat, 03 Jan 1998 13:42:29 -0800

From: Carl Baty <grad@cts.com

Dick et. al. --

The reason that this stopped our attempt to find out why the car was not starting was beause the engine turned over one, mabe two times before the whirring noise began. It sounded to me as if the starter disingaged and ran freely for at high RPM a few seconds. Any attempt to drop

fuel in directly was not possible because we did not have enough engine turnover to start the car in any case.

The reason that this stopped our attempt to find out why the car was not starting was beause the engine turned over one, maybe two times before the whirring noise began. It sounded to me as if the starter disingaged and ran freely for at high RPM a few seconds. Any attempt to drop fuel in directly was not possible because we did not have enough engine turnover to start the car in any case.

Subject: Starter status

From: Randall Weir <rweir@mysurf.com

Sent: Tuesday, January 13, 1998 3:52 PM

Hi Dick,

Just a FYI item. Got the starter out (with the help of a friend) and got it tested. Worked fine on the test stand. The shaft the Bendix gear slides on is dry so I'm going to lightly lube it with a dry lithium grease before reinstalling. Hopefully my friend will be here sometime this week, or weekend, to put it back in. Will keep you posted.
Randyrweir@mysurf.com

Subject: 318 Starter won't crank engine, 1981 Imperial

From: "Dick Benjamin" <

Sent: Tue, 13 Jan 1998 21:11:55 -0800

OK, Randy, as you know, I was afraid the problem was somewhere else.

The starter drive is supposed to be dry. Do not lube it unless you think it is actually hanging up due to some interference, in which case find the cause and file off the burr or whatever.

Before you reinstall the starter, get under there (or have someone do this) with a strong flashlight and a dentist mirror and INSPECT THE RING GEAR! Most likely, from the symptoms I understand you suffer, this will be the problem area. The bad area may be only in one small part of the ring gear, but even so, you will be playing Russian Roulette with the car every time you turn it off.

I hope you don't mind, but I am going to post this along with your report to the whole IML, in case someone else is lurking out there with the same symptom, which as I understand from Carl is that the starter "whirrs" but the engine does not turn over (fan doesn't move).

Dick Benjamin

Subject: 318 Starter won't crank engine, 1981 Imperial

Sent: Wed, 14 Jan 1998 09:31:02 -0600

From: "Dwight M. Cannon" <dwightc@geocities.com

We had a '66 Newport that suffered from "whirring starter syndrome"... When it got to where it wouldn't start, you just had to keep spinning the thing until it engaged. Finally, got so tired of it that I pulled the starter to check it out and found that half the teeth on the gear were worn off. Replaced the starter and never had a problem again...

Dick Benjamin wrote:

OK, Randy, as you know, I was afraid the problem was somewhere else.

The starter drive is supposed to be dry. Do not lube it unless you think it is actually hanging up due to some interference, in which case find the cause and file off the burr or whatever.

Before you reinstall the starter, get under there (or have someone do this) with a strong flashlight and a dentist mirror and INSPECT THE RING GEAR! Most likely, from the symptoms I understand you suffer, this will be the problem area. The bad area may be only in one small part of the ring gear, but even so, you will be playing Russian Roulette with the car every time you turn it off.

I hope you don't mind, but I am going to post this along with your report to the whole IML, in case someone else is lurking out there with the same symptom, which as I understand from Carl is that the starter "whirrs" but the engine does not turn over (fan doesn't move).

Dick Benjamin

Subject: Starter status

From: Randall Weir <rweir@mysurf.com
To: Dick Benjamin <
Sent: Tuesday, January 13, 1998 3:52 PM Hi Dick,
Just a FYI item. Got the starter out (with the help of a friend) and got it tested. Worked fine on the test stand. The shaft the Bendix gear slides on is dry so I'm going to lightly lube it with a dry lithium grease before reinstalling. Hopefully my friend will be here sometime this week, or weekend, to put it back in. Will keep you posted. Randy

Subject: 1981 Dimmer/Radio Switch

Sent: 8/6/97 7:56 PM

From: mblez@juno.com

What looks like a dimmer switch on your floor is used to change the channels on your radio. Blez.

Subject: Electrical

From: "Dick Benjamin" <bondotmec@alphainfo.com

Sent: Sun, 16 Nov 1997 19:20:00 -0800

Ouch! Sounds like you have a really bad short in your headlight system. The clicking you hear is the circuit breaker in the headlight circuit disconnecting from the car's wiring to avoid burning something out.

You will need to track this down before you can turn your lights on again. Apparently the short is so bad that it is pulling so much current from the system that the coil voltage is dropping too low to run the engine. Wow!

Probably a bare wire rubbing on metal somewhere in the headlight harness. If your car does not have an automatic headlight system (either "twilight sentinel" or automatic dimming), a very likely place to look is around the dimmer switch. In fact, just for information, see if the short clears when you switch beams from whatever it is now to the other one. If that clears it, it narrows down the location of the short muchly.

Give me a report and we'll home in on this quickly. I'll be on line off and on for a few hours yet.

Dick Benjamin.

Subject: Electrical

From: Bill Johnson <bjj@easilink.com

When I turned on the lights there would be a clicking noise form a circuit breaker. After a couple of these clicks, it would die. I could hear another click and it would start. Over and over.

Subject: Horn problems, '81-'83 cars

From: "Dick Benjamin" <bondotmec@ez2.net>

Sent: Thu, 1 014 -0800

Leo

The horn blowing contacts are in the spokes of the steering wheel, and are often the culprits in this type of problem. If you pry off the center pad, you will see a pair of wires connected to the spokes, with one wire going to the structure of the wheel, and the other going out to the spoke area. If you momentarily connect the wires together, the horn should blow for as long as you make this contact. If it does so solidly, every time, your problem is in the spoke assembly.

If it does not blow reliably under this test, your problem may be in one of many other places. The most common of these other places is a poor ground to the steering column itself. If you remove

the dash trim panels, you will see that one of the two bolts that hold the column to the dash assembly has a special added dealy that provides a ground path from the column to the structure of the car (at the dash bracket). These develop oxide and crud over the years, and make the horn intermittent. You can temporarily clip a test lead from the ground contact on the steering wheel to a known good ground (I use the metal dome light switch in the door jamb) to see if this brings your horn back to life.

The cure is to take the connection apart and clean it. Much more likely, though, is that the insulating foam sandwich in the spoke assemblies has deteriorated to the point that contact is a sometime thing.

Be grateful, a more common symptom when this stuff fails is to have the horn blow constantly. This often has a deleterious effect on your neighbors tolerance of your hobby.

This insulating foam assembly in the spokes can be replaced with a sheet of thin felt, punched with a paper punch in the correct pattern, and held in place with upholstery adhesive. I have repaired four of them this way, all successfully. Just use your common sense and good eyesight. You will also need the dexterity of a neurosurgeon, but I am sure you can muster that, right?

Back to the initial test - if you find the problem is elsewhere than the spokes (bypassing them as in the first paragraph does not make the horn blow consistently), and fixing the grounding of the column doesn't do it, your problem could be in the wiring, the horns themselves, (but this would mean all 3 horns are acting up at once, not too likely), or most likely, in the horn relay. This is located in the fuse panel. You have already taken the cover off the underdash area to troubleshoot the clicking you describe in your initial message, I assume. Thus you are familiar with the layout of the fuse panel. By the way, if any of the following your glove box light, your cigar lighter, or your power antenna are working, you know the horn fuse is OK, so don't bother looking at that. The horn relay is the only large plug-in device on the fuse panel that has 3 terminals arranged so they are parallel to each other. The other large devices on the panel are the turn signal flasher, which has only two terminals, and the time delay relay, which also has 3 terminals, but one of them is at right angles to the other two. The horn relay should be readily available at your friendly local parts store, but don't run out and buy it until you are sure that is the problem, They seldom fail, and you are very likely to be disappointed.

Howsa bout giving us a report when you find the culprit, OK?
Dick Benjamin
bondotmec@dte.net

From: Leo L Heligas <LLHELIG@prodigy.net>

First, the horn on my 83 works intermittently and only when it feels like it, never when you really need it. Every time I try to check it out it is working. Secondly, I have a buzzing emitting from behind the dash panel towards the left side

Subject: 1981 Radio Schematics

Sent: 1/20/97 3:38 PM

Try your local public library ------ most of them carry a publication called "Sam's Photofacts ". With the model number of your radio you can check the index and it

GTA of USA

Subject: Electrical components

From: "Dick Benjamin" (bondotmec@dte.net)

Sent: Thu, 6 Aug 1998 09:00:48 -0700

Maybe I can help a little bit;

If only your right side turn signal does not work, it is not the relay (AKA flasher), but to answer your question, the flasher is either mounted on the fuse block (probably a round plug in can about 1 1/4 inch diameter) or the same can is plugged into its socket which is simply wired into the wiring harness bundle under the dash somewhere near the steering column.

Back to the original problem: If you tell me exactly what happens when you try to activate the right turn signal, I can probably lead you to the problem. Specifically, what if any, bulbs light (front, dash indicator, rear), and do you see any motion on the ammeter (compare with what you see when you turn on the left turn signal). How does the switch action feel? Same as the left turn, or more sloppy, or no detent?

On to the horn. Horn relays do fail, but it is rare. See next paragraph for how to check one out. More likely, the problem is at the steering wheel. If you can remove the center trim from the steering wheel and inspect the horn contacts, you may be able to spot the black wire coming from the horn relay. Take a test lead and ground this wire, the horn will probably blow. (Your car may require the key to be on, I am not familiar with 65's). If this happens, then investigate the horn blowing mechanism at the steering wheel, and follow your nose until you see what is not making good contact. It may simply be because of non-use, in other words, you may only have to clean the contacts.

If grounding the black wire does not blow the horn, you need to locate the horn relay itself. It will be somewhere under the hood, probably near the left side front of the engine compartment, but possibly in front of the core support. Locate it by following the wire from the horns. The horn relay is a black rectangular can about 1" by 2", with 3 wires going to it. The 3 terminals are labeled "H" (the wire to the horns), "S" (wire to the steering wheel switch) and "B", wire to a source of 12 volts. When you find it, temporarily ground the S terminal, you should hear a click at the relay, and the horns should blow. If you do not, verify that there is 12 volts at the "B" terminal. If there is, you do have a bad relay. They are available at any NAPA store, cheap.

I do not know the specifics of the 65 manual, but in general, they are very complete as to wiring diagrams. Emissions equipment vacuum diagrams came into currency much later than 65, so you are probably going to have to go on common sense, here. There should not be a great number of vacuum hoses, I don't think, except in the AC control system, and those are covered in the manual.

On your driver's window, that fact that it still moves at all tells you that most of the system is OK. If you are not comfortable with working inside the door, I think you should take it to a trusted auto

glass shop and ask them to replace the guides and channels, and lubricate the mechanism. All these parts are available through the glass trade, although the minimum order is very high, and you will not be able to find stuff yourself at any reasonable price unless you deal through a vendor that specializes in such stuff. JC Whitney has a lot of the window channels and guide strips in stock, but there are hundreds of different sizes and shapes, you need a pro to tell you what to order. If after all this, the window is still sluggish, you can have the motor rebuilt, or you can interchange it with a later model motor, see the IML website for suggestions here.

Dick Benjamin (bondotmec@dte.net)

From: Jim Thompson <jthomp@QNET.COM

Can anyone tell me where the turn signal relay lives? I have no right turn signal or horn. The horn used to work but quit. Applying power at the horn activates it so I'm thinking horn relay if I could find it. Also drivers window very slow up or down and a little crooked. What wears and are parts available? Does the FSM have the electrical and vacuum schematics in it? Previously someone suggested getting the 1966 book instead of the 1965 as the latter was lacking in completeness. Is this so?

I'm going to keep the old battlewagon instead of giving up in disgust. THAT'S THE SPIRIT!!!!!1

Dick.

Subject: FS Imperials -radio - Odd radio problem (81-83)

Subject: 82 EFI - dash display problems

Sent: 5/28/97 2:58 PM

From: jguarino@pangea.ca (jeff guarino)

Hello Jeff,

I think the chatter coming from behind your dash might be the servo unit. It isn't a relay but a small motor that blends the inside and outside air depending on information from two sensors and the settings on your climate controls.

I looked in my car to try and locate the thing since my car is also making strange noises there. You have to take out the radio. and on the right side of the hole about a foot in behind some insulation you can find the servo unit. It's bolted in so it'll be some job getting it out.

I've looked through the different schematics and can't find a relay that might be making the noise.

Now your digital dash sounds like a problem. I checked my own. When I get in the car and sit down the display comes on for about 30 seconds and then shuts off except for the gear selector LED's. My voltage on pin one was low 10.5 volts (this car has been sitting) and the display still works fine.

Then I tried it with just the 9 pin plug in (the others out) and the display lit up and stayed lit indefinitely. The only other thing you could check into would be the dimmer on your headlight control. If it's turned right down your display will go dark k(usually only at night though because it has a light sensor), and your radio LED will go dark too. If the problem is along these lines then you might be able to fix it.

About your next problem with your car running rough. You're right it could easily be a sensor. From experience my oxygen sensor was defective and it gave me similar symptoms. But first you should check all of the ordinary things not related to EFI like timing, spark plugs, distributor, fuel filters, air filters.

Dick Benjamin might be able to help you more with your problems. He has helped quite a few of us.

Good motoring, Jeff Guarino

From: "Richard W. Gebhard" <gebhard@EC.Rockwell.COM

Sent: Sat, 8 Aug 1998 17:03:20 -0400

Cassette playing radio, since it came with the cassettes. The other radios were the signal seeking ETR radio, non-cassette, with a foot control, and the AM FM CB radio, which used a special antenna. I have one of each, and for my money, the best sound quality and user satisfaction is from the ETR radio. The others are not ETR, and therefore subject to drift and difficult tuning. Speaking of AM/FM/CB antennas, anybody got an extra or know of a suitable generic replacement?

RWG

Subject: FS Imperials -radio

From: <DBKEMPER@aol.com

Sent: Sat, 8 Aug 1998 23:41:03 EDT

I picked up one a couple of years ago with a "Chrysler" base and it worked great with the am/fm/cb in my Imperial. May want to try some of the custom radio shops or check the junkyards for a New Yorker with the radio in....they show up at Carlisle once in a while. If you find one in a mid to late 70's New Yorker you man find a power one. Radio shack has some sort of "booster" that they sell to make the regular mast work right....so they say. A cb supply place may help too. I been trying to find one myself for a while. Never could figure where to hand the mike on the Imperial so I used the ashtray.....where did they hand them?

Subject: '81 Stereo Installation Wiring-EUREKA

From: Eddenbud (Eddenbud@aol.com)

Sent: Tue, 30 Dec 1997 23:18:25 EST

A few weeks ago, I wrote looking for assitance in repairing my '81's dreadful Electronice Search Tuning Stereo or installing a modern stereo. I received many good references from members for possible repairs to my original radio as well as leads for possible wiring kits. Thank you all for your suggestions. After many weeks (actually, months) of procrastination, I chose to install a new stereo in my car. The problems I encountered included deciphering the complex wiring (which, just to exacerbate things, runs from the stereo to that awful Rear Amp before continuing on to the speakers, etc) and figuring out how to get the power antenna to operate.

Well, if any one is interested, I finally have some answers, arrived at through patient use of a Voltmeter and careful study of the Service Manual. Of course, the first problem in installing a modern, self-contained stereo is figuring out which wires go where!! In addition to the normally encountered four sets of speaker wires, the 12-volt continuous power supply, and the 12-volt switched power supply, you will find a wire that provides the dimming command to the display when the parking lights are turned on and an additional wire that provides variable voltage through the panel lamps rheostat for further dimming of the display. In addition you will need to attach the grounding strap to the new radio.

In an attempt to maintain some semblance of originality, I chose to install the stereo tape-deck that we removed from our '98 Dakota as it is of the correct double-din size and fit perfectly in the dash. I purchased a wiring harness kit at my Chrysler dealer to "ease" installation (HA!), and fortunately this radio accepted all of the power inputs mentioned above.

Yet I was still left with a power-antenna output from the new radio with no apparent place to hook it up to my old car!! Surprisingly, when I turned the ignition on, the antenna was resurrected from it's lengthy hiatus and rose to its once familiar task of providing signals to the radio. Only problem was, the radio wasn't turned on!! I was perplexed that this antenna somehow would rise and descend as the ignition was turned on and off even though I had not yet hooked up the power lead from the new radio. Again I studied the Service Manual to discover the obsure statement, "...an external electronic controller (which senses radio power lead current)..."

EUREKA! Suddenly it made sense: the Imperial's odd electronic controller does not get an input from the radio to tell the antenna when to go up and down, as on a modern car. Instead, the controller senses when power is being drawn by the radio to decide when to raise the antenna. All of the early '80's radios were either on or off, with no current draw when off. But most modern radios, like the one I installed, have some draw as soon as the ignition is turned on, in my case to power the clock display which is on even when the radio is off. And so, as soon as the ignition is turned on, the radio draws power to illuminate the clock, the "brilliant" controller assumes the radio is on, and raises the antenna.

I hope this info. is of help to anyone considering changing out their 81-83 radios. I'm so glad to have music in my car again. If anyone needs more details on the color-codes for the wiring, let me know.

ED F.

Subject: 81 Electrical

Sent: 4/19/97 10:47 AM

From: grad@cts.com

Subject: 81 Electrical question

I have my 81 FI Imperial up and running well now. I will share what I learned very soon.

I just met a guy named Gary who owns an 81 Imperial FI that just (80 miles ago) came out of a computerized tune up at a dealership in Anaheim, CA. named McPeek. He drove the car back to San Diego and it was running great. Suddenly he has a problem which has stopped him cold. He let the car sit for awhile and it needed a jump. When he applies the cable it arcs back a him. I told Gary about the IML and that I would seek the wisdom of the group for him. Reply to Grad@cts.com Carl Baty. Thanks folks.

Subject: 1981 EFI Specs Wanted - Where is Fuse Box?

Sent: 5/23/97 9:37 PM

From: wes@direct.ca (Wesley T Foulds)

Hello every one if any one has any specs on a 1981 Imperial with EFI could you e mail them to me, I am interested in any info on that car that I can get.

Where the heck is the fuse box?

wes

Subject: 1981 EFI Specs Wanted - Where is Fuse Box?

Sent: 5/24/97 10:23 AM

From: wes@direct.ca (Wesley T Foulds)

Hello every one if any one has any specs on a 1981 Imperial with EFI could you e mail them to me, I am interested in any info on that car that I can get. Where the heck is the fuse box? wes WT,

The fuse box is up under the dashboard, to the left of the steering column. You'll have to remove that black plastic thing (velcro'd aft, with a clip on the front) that is secured to the column to gain access to the miles of wire under there.

Was there any particular kind of EFI info you want? The system is rather complex (needlessly, IMHO). You are welcome to my limited resources of knowledge about the system (I have 3), and if you can be specific it will help.

Jim

Sent: 4/19/97 10:10 PM

From: bondotmec@alphainfo.com (Dick Benjamin)

The arc is caused by the dead battery suddenly seeing a source of current from the donor car and is probably a symptom not a cause. (I hope he knew to turn off the motor on the donor car BEFORE jumping the 81, if not he took a real chance of burning out the alternator on the donor car). It is also a good idea to disconnect the white cable connector that powers the EFI while you are hooking up the battery cables to jump start. You have to reconnect it, of course before it will start!

The real problem is that something is on in the 81, and it is draining the battery. The method for finding the culprit has been discussed here many times, but basically it involves disconnecting loads one at a time until the current drain (as monitored with a Multimeter) goes to zero. The last item disconnected is the culprit.

Something's to check first are the glove box and all other interior lights, the seat controls, the power door locks, the hazard warning system, the power antenna, the sunvisor vanity lamps and garage door opener, the underhood lamp, and anything else that is powered even with the key off.

The EFI system also draws a small amount of current (assuming the car still has its original systems), but you are looking for something upwards of 0.1 AMP. The alternator is also a possible culprit. If you are not comfortable with trouble shooting electrical problems, you would be best advised to find an honest auto electrical shop to do it.

Dick Benjamin

Subject: 1981 Imperial Stereo Help??

From: Eddenbud (Eddenbud@aol.com)

Sent: Wed, 17 Dec 1997 19:17:17 EST

My 1981 Imperial has the complicated (and awful) electronic search-tune AM/FM stereo. It's never worked very well: The LED displays are erratic and unreadable; the audio will suddenly cut out while playing; and the radio will seemingly lose it's memory while playing. I know these problems are difficult to diagnose since they are intermittent, but I've never found anyone who will even look at the radio. Modern radio shops won't touch the monstrosity, and even antique radio shops shun it. Does anyone know of a shop that might work on this stereo??

Alternatively, I've attempted to install a modern CD player in the car, but I can't figure out how to wire the power antenna. The new stereos come with one 12-volt output wire to run to the power antenna, but the 81-83 Imperials apparently have a complex electronic power antenna

control module (of course!) that has numerous inputs to it. And so, I have been unable to figure out how to get the darned antenna to go up and down with a modern radio! Any help out there??

Subject: 1981 Imperial Stereo Help??

From: "Dick Benjamin" <bondotmec@alphainfo.com

Sent: Wed, 17 Dec 1997 19:36:58 -0800

You might just have to wire it to a separate switch, then raise the antenna by operating the switch when you need it.

I would be very interested in buying your search tune radio (one of my '81s has an aftermarket radio). Be sure when you remove it that you get all of it, the control module for the antenna, the power booster thingy, and the RF chokes in the dash assembly, plus all the harnesses. Whether you sell it or keep it, the whole thing is much more valuable than just the control head alone.

Dick Benjamin bondotmec@alphainfo.com

My 1981 Imperial has the complicated (and awful) electronic search-tune AM/FM can't figure out how to wire the power antenna. The new stereos come with one 12-volt output wire to run to the power antenna, but the 81-83 Imperials apparently have a complex electronic power antenna control module (of course!) that has numerous inputs to it.

Subject: 1981 Imperial Stereo Help??

From: "Dick Benjamin" <bondotmec@alphainfo.com

Sent: Thu, 18 Dec 1997 09:37:35 -0800

OK, I think that is the right thing to do. There are a couple of antique radio specialists out there, I recall seeing the ads in various old car magazines. One I have noticed is in the Florida area, so maybe "Spence" can lead you to them. This is a much newer technology than they are used to dealing with (ETR), but probably they have some techs that are pretty sharp.

If it works even once in a blue moon, you know all the chips are good, so the problem is going to be in corroded plated through holes, or failed connections of some kind, or possibly bad potentiometers.

My Black '81 has the AM-FM Cassette radio (non signal seeking), and also had intermittent audio quality problems, and occasional complete silence. I found a whole bunch of failing interconnections from one side of the PC board to the other, which is typical of aging '70's board manufacturing technology. The boards were not cleaned adequately, and the flux and contaminants left on the board slowly degrade the connections, especially in the plated through holes. Sometimes the only cure is to replace all of them with jumper wires, a massive

task! Also, the front to rear fader developed a dead area, which made maddening squraKKKKing sounds in the middle of a tune. Lovely.

Good luck with getting it fixed, it would be nice to find a vendor who would tackle these critters.

Dick Benjamin bondotmec@alphainfo.com

Subject: 1981 Imperial Stereo Help??

From: Eddenbud (Eddenbud@aol.com)

Sent: Thursday, December 18, 1997 7:42 AM

Dick,

Thanks for the info. on the '81 stereo. I plan to keep the radio (and associated hardware) whether or not I get it working properly. I'm a real music lover, and I've had no tunes in that car for a year now (!) so I'll be doing something about it very soon.

Ed Ferrara--

Subject: 1981 Imperial Stereo Help!!

Sent: Thu, 18 Dec 1997 09:47:56 -0800

From: Bill Johnson <bjj@easilink.com

Eddenbud, You can access Crutchfield stereo @ http://www.crutchfield.com/ Then you can search for your year, and I checked a 1981 Chrysler Imperial is available. They should be able to find a replacement, perhaps even help with the antenna. Terry

You may also want to contact Classic Car Radio. I believe they can do conversions and also repair your existing radio. Their conversions are guaranteed to be 100% factory appearance. http://www.clasiccarradio.com

-- "Whiteshoes"

Subject: 1981 Imperial Stereo Help??

From: "Dick Benjamin" <bondotmec@alphainfo.com

Sent: Thu, 18 Dec 1997 10:20:22 -0800

Thanks Bill;

I dropped my Hemmings subscription, the print got too small for me (or my arms got too short!). Tony might want to consider putting the list on the IML somewhere, especially if someone could offer advice as to which are good vendors.

I do my own electronics work (all that book learning has to be good for something) but the rest of the IML will thank you for the info.

Dick Benjamin bondotmec@alphainfo.com

I was just browsing the December issue of Hemmings Motor News and counted 25 ads for radio repair and/or conversions. If anybody needs a list and doesn't have access to Hemmings let me know and I will fax the appropriate pages to you if you give me a fax number. Boy, why didn't I ask Santa for a scanner?!!-- "Whiteshoes"
--

Subject: 1981 Imperial Stereo Help??

From: "Teufel, Gregory W" <Gregory.Teufel@PSS.Boeing.com

Sent: Thu, 18 Dec 1997 11:29:39 -0800

Hi All,

I thought you all should know that if you are technically inclined and want to attempt to repair your own radio. The schematics are available from the Howard S. Sams co. You need the master index to find the correct volume for your radio, I get the master index free at the local electronics wholesale store (not Radio Shack) Then I go to public library and copy the schematic. So, then the fun begins. Hope you can use this tip. Greg Teufel K7VHV Imperialist

Subject: 1981 Imperial Stereo Help??

From: Bill Johnson[SMTP:bjj@easilink.com]

Sent: Friday, December 19, 1997 1:56 AM

Dick Benjamin wrote:

OK, I think that is the right thing to do. There are a couple of antique radio specialists out there, I recall seeing the ads in various old car magazines. One I have noticed is in the Florida area, so maybe "Spence" can lead you to them. This is a much newer technology than they are used to dealing with (ETR), but probably they have some techs that are pretty sharp.

Ed, Dick and anybody needing radio service: I was just browsing the December issue of Hemmings Motor News and counted 25 ads for radio repair and/or conversions. If anybody needs a list and doesn't have access to Hemmings let me know and I will fax the appropriate pages to you if you give me a fax number. Boy, why didn't I ask Santa for a scanner?!!-- "Whiteshoes"

Sent: Tue, 23 Dec 1997 00:49:34 EST

Subject: '81-'83 Fuel Gauge

From: "Jeremy W. Dickerson" <jeremyd@cameron.edu>

Sent: Fri, 1 954 +0000

Good afternoon, IMLers, here is new problem with my '83. I am really beginning to question the accuracy of my digital fuel gauge. It will fall from 5 gallons to 2 gallons almost immediately. Maybe it is my imagination. I don't know. Has anyone else had this sort of problem? With the exception of the U-joints and front shocks, everything on this car is original. I have never had any problems with the digital dash. The car is still fuel injected. It runs well, with occasional hesitation and low idling. I have owned the car for 5 years and I don't ever remember the fuel gauge being quirky. Appreciate any feedback.
Jeremy
jeremyd@cameron.edu
jeremyd25@hotmail.com

Subject: '81-'83 Fuel Gauge

From: "Sir Buddy Enterprises" <eddenbud@magicnet.net>

Sent: Fri, 1 4929 -0500

> Good afternoon, IMLers, here is new problem with my '83. I am
> really beginning to question the accuracy of my digital fuel gauge.
> It will fall from 5 gallons to 2 gallons almost immediately. Maybe
> it is my imagination. I don't know. Has anyone else had this sort
> of problem?

Jeremy,

My 81 and 82 exhibit OPPOSITE fuel inaccuracies. The 81 tends to read a bit higher than actual and the 82 a bit lower than actual fuel remaining in the tank. The 81 in particular will read unusually HIGH when first started up, then the gallons will quickly count down in a minute or so to closer to actual, particularly when the tank is getting low. It has alway performed this way, so I guess I'm just used to it.
Ed Ferrara

Subject: '81-'83 Fuel Gauge readings

From: "Harris" <HarrisWerks@worldnet.att.net>

Sent: Fri, 1 3234 -0600

The problem is likely in the tank sending unit. Had mine out last summer, found a "last' MoPar replacement in Brooklyn, NY, installed it and adjusted it with an ohmeter while a helper read the digital values. If you want to try a new sending unit, let me know and I'll dig up the resistance range for the sending unit. There is probably nothing wrong with the instrument panel. It is a time consumuming effort, the replacement may be difficult to obtain; there was a change in early '81, is a function of when you car was manufactured. A unit from a conventional carb equipped car may work, I'm not sure right now. Bob Harris

Sending unit. Had mine out last summer, found a “last” MoPar replacement in Brooklyn, NY, installed it and adjusted it with an ohmeter while a helper read the digital values. If you want to try a new sending unit, let me know and I'll dig up the resistance range for the sending unit. There is probably nothing wrong with the instrument panel. It is a time consumuming effort, the replacement may be difficult to obtain; there was a change in early '81, is a function of when you car was manufactured. A unit from a conventional carb equipped car may work, I'm not sure right now. Bob Harris

Subject: Re '81-'83 Fuel Gauge readings

From: DBKEMPER@aol.com

Sent: Fri, 1 3708 EST

Bob, tried the conventional unit and it worked in the Cordoba but not the Imperial.....and I still can't figure the difference.....if you find out let me know too....I need to get the gauge working in the white car.....it is next on the new engine list.

Subject: '81-'83 Fuel Gauge

From: "Dick Benjamin" <bondotmec@ez2.net>

Sent: Fri, 1 4903 -0800

The unpredictable nature of the fuel level indication is part of the charm of these cars. They often perform unusual and random changes without necessarily meaning anything, I have just learned to trust the trip odometer and refill when I think I have used up about 10 to 12 gallons. Sometimes the gauge agrees with the facts, and sometimes it doesn't. All 4 of my cars exhibit the same schizoid behavior.
Dick Benjamin
bondotmec@dte.net

Subject: '81-'83 Fuel Gauge

From: Jeremy W. Dickerson <jeremyd@cameron.edu>

Sent: Friday,#######

Good afternoon, IMLers, here is new problem with my '83. I am really beginning to question the accuracy of my digital fuel gauge. It will fall from 5 gallons to 2 gallons almost immediately. Maybe it is my imagination. I don't know. Has anyone else had this sort of problem? With the exception of the U-joints and front shocks, everything on this car is original. I have never had any problems with the digital dash. The car is still fuel injected. It runs well, with occasional hesitation and low idling. I have owned the car for 5 years and I don't ever remember the fuel gauge being quirky. Appreciate any feedback.
Jeremy
jeremyd@cameron.edu
jeremyd25@hotmail.com

Subject: '81-'83 Fuel Gage, continued

From: "Harris" <HarrisWerks@worldnet.att.net>

Sent: Sat, 1 3508 -0600

The difference between the two units is the value of the resistance band within the arc of travel in the housing. The amount of travel is the same, but the amt of resistance is different. Part number 4051674 is supposed to be available for the EFI Imperials.

However, I have "adjusted" a conventional unit as follows:

The float arm is forced into a hole inside the housing and can be gently repositioned in the hole, in either direction by moving it further at one end or the other of travel limit. Without removing the fuel tank, disconnect the wire leads from the existing level indicator and connect them to the new unit.

With another person in the car with the dash illuminated, "on," position the float assy in a vertical position and move the float up and down and get the dash reading from the other person.

Adjust the float arm shaft in the hole in the housing as described above. Check the level at approx the half-full mark by moving the float arm to half its travel - read 8 or 9 gallons on the dash readout.

Try the extreme down position to get as close as possible to the empty and read again. Play with this until it's where it ought to be.

The float only package part number 4051622 is for early '81 cars, build date up to 6 April 1981, after, use number 4051484. I doubt if you'll be obtain any of these, but I've had some great luck by searching several Chrysler dealer parts people.

If you need resistance values for bench settings, let me know.....
Bob Harris

is the value of the resistance band within the arc of travel in the housing.

The amount of travel is the same, but the amt of resistance is different be available for the EFI Imperials. However, I have "adjusted" a conventional unit as follows inside the housing and can be gently repositioned in the hole, in either direction by moving it further at one end or the other of travel limit. Without removing the fuel tank, disconnect the wire leads from the existing level indicator and connect them to the new unit. With another person in the car with the illuminated, "on" position the float assy in a vertical position and move the float up and down and get the dash reading from the other person. Adjust the float arm shaft in the hole in the housing as described above. Check the level at approx the half-full mark by moving the float arm to half its travel - read 8 or 9 gallons on the dash readout. Try the extreme down position to get as close as possible to the empty and read again. Play with this until it's where it ought to be.

4051622 is for early '81 cars, build date up to 6 April 1981, after, use number 4051484. I doubt if you'll be obtain any of these, but I've had some great luck by searching several Chrysler dealer parts people bench settings, let me know.....Bob Harris

Subject: '81-'83 EFI In-Tank Fuel Gage Sending Unit

From: "Harris" <HarrisWerks@worldnet.att.net>

Sent: Fri, 1 1333 -0600

The following are the resistance readings for the In-Tank Fuel gage Sending Unit. These readings are from a new unit for applications after 6 April 1981, (most prior built cars were dealer corrected). There are two sets of resistance values, the first as measured at the float resistor terminals, the second at the terminals that are external to the tank - where the plug-in connectors are. there is innate resistance in the wires themselves.

First set Empty, lowest float at 149 ohms
Full, highest float at 18.5 ohms
Second set Empty 169 ohms
Full 39 ohms

The best way to determine if the unit is fit for use is to connect it to the harness connectors and holding it in the vertical position, move the float arm from empty to full and have a helper verify the readings on the instrument cluster; half full should read 8 or 9 gallons. I hope this is some help to those in need..Bob Harris

Readings for the In-Tank Fuel gage Sending Unit. These readings are from a new unit for applications after 6 April 1981, (most prior built cars were dealer corrected) as measured at the float resistor terminals, the second at the terminals that are external to the tank - where the plug-in connectors are. there is innate resistance in the wires themselves set is to connect it to the harness connectors and holding it in the vertical position, move the float arm from empty to full and have a helper verify the readings on the instrument cluster; half full should read 8 or 9 gallons. I hope this is some help to those in need..Bob Harris

Subject: Here's an(other) odd radio problem (81-83)

From: Eddenbud (Eddenbud@aol.com)

Sent: Wed, 25 Mar 1998 23:24:28 EST

Hey, Members,

Just thought I'd share another unusual oddity with the stereo, this one in my '82 with the electronic am/fm stereo cassette player.

The radio played fine, but the tape deck would not play tapes. When inserted, a tape would be pulled into the player, but would not play or eject. I found a very accommodating radio shop that worked on it and got the tape deck to play properly, but it exhibits a high-frequency squeal when playing. The repair shop put it back on the bench and found everything perfectly in order. So I reinstalled it in the car, and the technician and I found the same squeal was still present!

He was certain that it must be one of the externally mounted filters, which we plan to inspect next. So as I drove off, playing the radio, I decided to dare the squeals and enjoy some classic Frank (Sinatra, of course) on the tape deck. Miraculously the squeal was gone!! "Oh, fine," I thought, "I have yet another car with that odd but much appreciated ability of fixing itself!!" "What was I doing differently sans the squeal that I wasn't doing with the squeal?" I thought.

It turns out it was the lights, of all things. Since it was a rainy day, I turned the lights on when I drove off from the radio shop. I found that if I turned the lights off, the tape deck is through

Subject: 81 Electrical Shorts

From: GRADLTD <GRADLTD@aol.com

Sent: Fri, 10 Apr 1998 10:46:56 EDT

We I purchased my 81 a couple of years ago the first thing that happened of note was that it caught fire. I had a mechanic working on the engine and he noticed the car was filled with smoke. The fire actually burned the fuse box until it was a hunk of melted plastic. I had some auto electrical people go after the cause and it turned out that the problem started in the small motor which helps retracts the shoulder harness on the passenger side. The wiring was stock. I believe fuse 3 was thought to be the source of the fire.

Last week I started hearing a sound like a small rock hitting the rear window. Remembering the passenger side harness problem I checked and the drivers side motor was not only very hot it showed burn marks on the bottom half. No fuse had kicked. I fear that this may be a problem generic to the cars and not just specific to mine. My wiring checks out as all proper and original and it and fuses are where they where suppose to be.

Carl Baty
San Diego

Subject: 81 Electrical Shorts

From: "Dick Benjamin" (bondotmec@dte.net)

Sent: Fri, 10 Apr 1998 09:09:21 -0700

This is scary. Since I would bet the same hardware was used across the Mopar line, there should be other examples of this too. I wonder if there is a recall on it.

I went to the '82 - up (oldest I could find) recall site, no mention of it. Hmmm. have to look at the schematic. This retractor is powered only when the door is closed and the car is running, right?

Damn safety equipment.

Dick Benjamin (bondotmec@dte.net)

note was that it caught fire. I that the problem started in the small motor which helps retracts the shoulder harness on the passenger side. The wiring was stock. I believe fuse 3 was thought to be the source of the fire. Last week I checked and the drivers side motor was not only very hot it showed burn marks on the bottom half. No fuse had kicked. I fear that this may be a problem generic to the cars and not just specific to mine. My wiring checks out as all proper and original and it and fuses are where they where suppose to be.

Carl Baty San Diego

Subject: 81 Electrical Shorts

From: Eddenbud (Eddenbud@aol.com)

Sent: Tue, 14 Apr 1998 00:20:20 EDT

I went to the '82 - up (oldest I could find) recall site, no mention of it. Hmmm. have to look at the schematic. This retractor is powered only when the door is closed and the car is running, right?

I thought the retractor was only powered when the door was opened. In fact when you open the door (either passenger or driver's), you can hear the solenoid in the retractor activate to allow the belt to retract out of the way.

I've never heard of this being a fire hazard in any of the Chrysler cars it was used in. On an interesting side note, however, I was reminded of an "amusing" (not so amusing at the time!) story when I replaced the headliner in my '81 (Claire). I had pulled out all of the upper trim panels that were upholstered so that I could recover them with the same color fabric as my new headliner kit.

The project took quite a few days, sweating away in my westerly-facing mid- Florida garage (read HOT!) But after much hardship, I found my handiwork to be quite pleasing. I almost gloated over it!! Until I drove off only to discover that Claire for some reason thought the driver's

door was open. The headlights-on chime sounded continuously while driving, even though the door was closed (I normally do like to close the doors while driving!)

After much digging through the schematics, I was lead back to those seatbelt retractors. Indeed, when I pulled off the driver's side retractor, I discovered that I had inadvertently crushed the retractor wire to the metal roof structure when reassembling the headliner. This short made the car sense an open door, thus sounding the chimes.

Who would have thought!

ED F

Subject: 81 Electrical Shorts

From: "Dick Benjamin" (bondotmec@dte.net)

Sent: Tue, 14 Apr 1998 15:35:48 -0700

I guess I should have thought about this a little more. Yes, of course you are right, the belt retracts when the door is open. But what is confusin' to me is that when the door is closed, there is also a tension in the belt that keeps it tight against you unless you pull it out a little and let it catch against something in the mechanism. So there must be more to the mechanism than a simple retractor. Dick Benjamin (bondotmec@dte.net)

From: Eddenbud (Eddenbud@aol.com)

In a message dated 98-04-10 12:23:27 EDT, you write:. This retractor is powered only when the door is closed and the car is running, right? I thought the retractor was only powered when the door was opened.

From: Eddenbud (Eddenbud@aol.com)

Sent: Wed, 25 Mar 1998 23:28:54 EST

Hey, Members,

Just thought I'd share another unusual oddity with the stereo, this one in my '82 with the electronic am/fm stereo cassette player.

The radio played fine, but the tape deck would not play tapes. When inserted, a tape would be pulled into the player, but would not play or eject. I found a very accommodating radio shop that worked on it and got the tape deck to play properly, but it exhibits a high-frequency squeal when playing. The repair shop put it back on the bench and found everything perfectly in order. So I reinstalled it in the car, and the technician and I found the same squeal was still present!

He was certain that it must be one of the externally mounted filters, which we plan to inspect next. So as I drove off, playing the radio, I decided to dare the squeals and enjoy some classic Frank (Sinatra, of course) on the tape deck. Miraculously the squeal was gone!! "Oh, fine," I thought, "I have yet another car with that odd but much appreciated ability of fixing itself!!" "What was I doing differently sans the squeal that I wasn't doing with the squeal?" I thought.

It turns out it was the lights, of all things. Since it was a rainy day, I turned the lights on when I drove off from the radio shop. I found that with the lights on, the squeal was gone, but when I turned the lights off, the squeal returned!!

It must have something to do with the input that dims the radio display. I'll let you all know if I figure it out

ED F

Subject: '81 Stereo Installation Wiring-EUREKA

From: PinkertonK <PinkertonK@aol.com

Sent: Wed, 31 Dec 1997 07:29:29 EST

In a message dated 97-12-30 23:29:24 EST, you write:

I hope this info. is of help to anyone considering changing out their 81-83 radios. I'm so glad to have music in my car again. If anyone needs more details on the color-codes for the wiring, let me know. ED F. Ed, I feel your pain. I keep remembering things I don't like about working on cars. I had automatic transmissions and Carbs. I had forgotten electrical. How could I forget. That sick feeling as you lay on your back with your feet up over the front seat, peering into the darkness with the top of your glasses (the part that is NOT bifocal and will NOT allow you to see something that is 6 inches from your nose). The cramps in your hand as you try to put your body through motions it was never intended to perform. Trying to read colors off 40 year old wiring. Figuring out changes that previous owners have made to the harness. GAD I love it!

Actually one of the main reasons I like OLD cars is because they are so simple. I put installing radios in newer cars right up there with assembling a new gas grill (an experience I will NEVER repeat..buy them assembled...it's worth the 20 bucks!)

Kerry

Subject: '81-'83 STEREO WIRING REVISITED

From: (Eddenbud@aol.com)

Sent: Thu, 4 Jun 1998 19:06:25 EDT

Dear IMLers,

A few months ago, I sent the list a guideline I developed for wiring a modern stereo into the wiring harness on the '81-'83's. (If anyone wants this original info., let me know and I'll resend it). The wiring information I supplied works very well, but I've since discovered a bit of a nuisance with it.

Since the '81-'83's used a separate "REAR AMP," the radio itself did not have a big power draw, as it had only a low-power amplifier. Thus the 12-volt power supply line did not need to carry a lot of current to the radio. Upon installing my new high-power stereo, I've found that the power-supply was inadequate for it. Keeping in mind that I like to play some music at relatively high volume, I found that the display would dim with each bass "boom" in a song (high-amplifier draw), and, worse still, the tape deck would repeatedly "kick off" at high-volume settings.

So I've rerouted some of the wring as follows: (Note that if the stereo you install is not a very high-power unit or if you do not play your music loudly, you will not need to do this)

MODIFICATION NOTE:

Route the new stereo's 12-VOLT IGNITION-SWITCHED LINE to a tap on FUSE BLOCK CAVITY # 14. This was the fuse used for the rear amp (only) and so was now not providing power to any accessories. I've used an in-line ATO-style fuse connector with a 10-AMP fuse. (Since the stereo I've installed is out of a '98 Dodge Dakota, I've used the same rating of fuse that is used in the truck by Dodge on that circuit, 10-amps, which powers only the stereo on the truck.)

NOW, since the original equipment power-supply line (BLACK w/ RED) is not powering anything, the power antenna controller will not recognize that the stereo is on and will not raise the antenna. Thus this line must be wired to an alternate switch. I chose to use the original-equipment "REAR AMP" switch, since it was not being used anymore and to maintain an originality appearance, reducing the clutter of extra "aftermarket" switches. I've wired as follows:

1. Cut the wiring to the "REAR AMP" switch between the switch and the connector and wrap wires individually with electrical tape (some are still powered with ignition on). 2. Connect the car's original 12-volt power-supply ignition-switched line (BLACK w/RED) to the RED wire on the "REAR AMP" switch wiring harness (I've used a 3-amp AGC-style in-line fuse to connect them). 3. Connect a jumper line to the BLACK wire on the "REAR AMP" switch wiring harness and connect it to the STEREO GROUNDING STRAP or other suitable ground. 4. Wrap the BLUE wire coming from the "REAR AMP" switch with electrical tape. (Just for kicks, I don't think it actually gets any power now.) 5. Reinstall "REAR AMP" switch in instrument panel.

NOW the "REAR AMP" switch may be used as a "power antenna" switch. Press it to illuminate the LED, and it will cause the antenna to rise. Press again (or turn off ignition,) and the antenna will retract!

That's all there is to it. The stereo now plays perfectly, even at the most deafening volumes, and the antenna may be raised and lowered as needed "at the touch of a button"!

Again, if anyone wants the full wiring crossover that I sent previously, let me know, and I will resend it.

ED F

Transmission

Subject: 81 transmission delay

Sent: Sun, 2 4650 -0800

From: Bornino <bbornino@slonet.org>

reverse band might be glazed or varnished. My 73 plymouth Torqueflite acted like that, A can of Trans-x cured it. If not replace the band RWestra@aol.com wrote

> I have a problem with my 81 Imperial that seems to be getting worse. When I
> move the transmission selector into reverse there is a long delay before the
> reverse band engages. This ranges from 5 to 20 seconds. If the car has been
> setting for one or more days the delay is longest. If it has been setting for
> an
> hour or less it seems to generally be a short delay. When the transmission
> engages it is solid and I can detect no slippage. If I put it into drive it
> engages
> immediately no matter how long it has been setting. Putting it is drive first
> and
> then moving the selector to reverse does not appear to shorten the reverse
> delay. The transmission shifts good, the shift points seem correct and there
> is
> no evidence of slippage. I changed to the new ATF + 3 fluid recommended
> for the later Chrysler transmissions as a means to correct the converter
> clutch
> lock up chatter. It seems to have eliminated this problem and I have
> experienced
> no other adverse effects (unless this delay is caused by the new fluid). The
> car
> has about 80,000 miles.
> Any ideas on what I might look for. I can take the transmission out but I
> would
> like to know what to look for when I get it out.
> Thanks.
> Rolland

Subject: 81 transmission delay

From: RWestra@aol.com

Sent: Sun, 2 939 EST

I have a problem with my 81 Imperial that seems to be getting worse. When I move the transmission selector into reverse there is a long delay before the reverse band engages. This ranges from 5 to 20 seconds. If the car has been setting for one or more days the delay is longest. If it has been setting for an hour or less it seems to generally be a short delay. When the transmission engages it is solid and I can detect no slippage.

If I put it into drive it engages immediately no matter how long it has been setting. Putting it is drive first and then moving the selector to reverse does not appear to shorten the reverse delay. The transmission shifts good, the shift points seem correct and there is no evidence of slippage.

I changed to the new ATF + 3 fluid recommended for the later Chrysler transmissions as a means to correct the converter clutch lock up chatter. It seems to have eliminated this problem and I have experienced no other adverse effects (unless this delay is caused by the new fluid). The car has about 80,000 miles. Any ideas on what I might look for. I can take the transmission out but I would like to know what to look for when I get it out.
Thanks.

Subject: 81 Rear Main Seal Leak(Bill)

Sent: Sat, 2 2433 -0800

From: kne303b@juno.com (k n e)

On Fri, 1 Jan 1999 22 4002 EST GRADLTD@aol.com writes

>outcome. If it is a two piece seal do you have suggestions for mating
>the two
>ends in a way that will form a solid seal. Thank you for your help.

One or two "tricks" that may make the seal seal better. If you can get the two halves of the seal to mate a little bit off from the parting line of the main cap and block that will help. What I mean is keep the parting line between the cap and block and the parting line of the two halves of the seal meet a bit off from each other by pushing on one end of the upper seal half when it is in the block.

Hope someone can explain this better than I. Also, make sure the seal is lubed with some grease when you bolt it up. Sometimes people put it in dry, and like most seals it will "wear out" in those first few moments of running dry. Have to have some first-start-up protection to prevent this. And of course put a SMALL amount of sealer on the mating surfaces of the seal halves.

Good luck and may the force be with you!!!
Kne Racing.

Subject: 81 Rear Main Seal Leak(Bill)

From: Stude1966@aol.com

Sent: Fri, 1 5330 EST

Unfortunately it is a two piece seal, but so are 80% of the rest of the engines on the road. Use at the bottom of each RTV sealant, a dab at the meeting points is what you want. Yes, success is a problem, but achievable.

You may know I am also into Studebaker's, and they have the worst rear main seals around. But you can do the job and make it if not 100% dry at least 97% dry. Its just such a pain job, nobody wants to do it. There is so much work to replace this relatively inexpensive part.

If I was a mechanic I would think twice about guarantee for this type of job. The last one I had done because I did not have time was about 9 years ago and cost me $250.00. But I also learned something, make sure you check the pan before you reinstall, because they can be warped, thus making the seal useless on reinstallation. This can happen for a number of reasons. Hitting something, a floor jack, or torking it up improperly.

Again, not a job I like but it can be done very effectively, just make sure its right before you button it up.
Bill

Subject: 81 Rear Main Seal Leak(Bill)

From: GRADLTD@aol.com

Sent: Fri, 1 4002 EST

Bill - Thank you for your input. it is good news compared to what I have been hearing. I still have a question about the seal itself. Is it one or two pieces? I understand that a two piece seal is very difficult to seat so that it no longer leaks. So difficult, that the mechanics I have been talking to decline the job because they do not believe they will have a sucessful outcome. If it is a two piece seal do you have suggestions for mating the two ends in a way that will form a solid seal. Thank you for your help.
Carl Baty, San Deigo

Subject: 81 Rear Main Seal Leak

From: DBKEMPER@aol.com

Sent: Fri, 1 3321 EST

It is possible...the dealer has a tool no doubt....I redid the pan gasket on one of my 81's.....generally the upper half is a "rope" gasket.....checked the book and it says it can be done with the tranny in.....use one to pull the other one in place.....if it is cost effective let them do it! gettting the pan out can be a bugger!!!

Subject: 81 Rear Main Seal Leak

From: Stude1966@aol.com

Sent: Fri, 1 3000 EST

I have never dropped a tranny to replace a rear main seal in a Mopar 318. Although I have not done it to my Imperial, I done my 77 Volare and 71 Charger. I can't believe they are any different.

The way I have been able to accomplish the task successfully is by dropping the pan and then removing the rear main bearing cap and then loosening all the other mains to let the crank hang as low as possible. You then have to use a fine very stiff wire to move the old seal out of the grove in the block, you will work the new one in the same way. Make sure you lube everything generously when reinstalling.

You should have more than one seal available in case you blow it. The manual is needed and follow the instructions. Obviously this is not the fastest way or the preferred way at a dealer, but if you do not want to take the whole thing out or totally drop the bottom of the motor this is the only way.

Have lots of aspirin around. If you get flustered walk away and come back. Working on your back like this is a real bummer.
Bill
1981 Imperial

Subject: 81 Rear Main Seal Leak

From: GRADLTD@aol.com

Sent: Fri, 1 1647 EST

DB Kemper _

Thanks for your response. I think you are saying that it is indeed a two piece seal. The Chrysler dealer that Bob Baker used was changing the oil pan gasket and went on to fix the seal without dropping the transmission. Is this possible?
Thank you, Carl Baty, San Diego

Subject: 81 Rear Main Seal Leak

From: DBKEMPER@aol.com

Sent: Fri, 1 107 EST

A two piece seal is possible to fix according to the service manual. If you have this book it tells you how to go about it.....not an easy task but doable. The worst part is getting the transmission out and the torque converter. I helped a friend do one.....I cheated on my 81 and put in a new engine!

Subject: 81 Rear Main Seal Leak

From: GRADLTD@aol.com

Sent: Fri, 1 3400 EST

Happy New Year to all.

My 81 "Beauty" has developed a rear main seal leak. I maintain my car in near perfect condition. The leak is more than I can tolerate. I have been told that the seal is a two part seal and therefore very difficult, if not impossible to replace. I also have Bob Baker's experience of having a Chrysler dealer fix a similar leak.

Does anyone have information or suggestions? Thanks, Carl Baty - San Diego

Subject: 82 trans problems

From: psbrust@prodigy.net

Sent: Thu, 2 445 -0500 (EST)

My 83 Imp has a bad shudder between 45-60 MPH-it occurs after lock-up when approx half throttle or less is applied...usually when going up moderate hills. When enought throttle is applied to unlock & downshift to 2nd, the engine comes on s I initally suspected the torque converter & had it replaced with a new one. No change. My trans mech suggested an engine problem but everything checks out perfectly. (engine converted to carb & Mopar ign) At this point, I'm wondering about lock-up valve circuit in trans...
I'd be grateful for any suggestions.
Phil Brust, Jefferson GA

Subject: 82 trans problems

From: RWestra@aol.com

Sent: Thu, 2 420 EST

I would have expected the new converter to solve your problem. I believe this chatter is due to the converter lock up clutch but I have never been sure.

Mine had done this for a number of years. I changed the fluid in mine twice to the new fluid recommended for the current Chrysler transmissions. It is a 7176 fluid or Quaker State ATF+3. The chatter is gone. I am not sure whether there are any adverse effects on the transmission but it works fine. However, I have only driven it a thousand miles or so since changing. Perhaps someone with lube formulation knowledge can shed some light on the new fluid. I know it does wonders for the converter chatter problem.

Subject: 82 trans problems

From: "Dick Benjamin" <bondotmec@ez2.net>

Sent: Thu, 2 2815 -0800

This is the normal symptom of a worn out direct drive clutch, which should have been corrected when your converter was replaced. How much trust do you put into the fact that the converter was actually changed?
Dick Benjamin
bondotmec@dte.net

Subject: 82 trans problems

From: psbrust@prodigy.net <psbrust@prodigy.net>

Sent: Thursda 4:00 PM

My 83 Imp has a bad shudder between 45-60 MPH-it occurs after lock-up when approx half throttle or less is applied...usually when going up moderate hills. When enought throttle is applied to unlock & downshift to 2nd, the engine comes on strong. Similarly, the engine is strong through the lower gears at any throttle setting. I initally suspected the torque converter & had it replaced with a new one. No change. My trans mech suggested an engine problem but everything checks out perfectly. (engine converted to carb & Mopar ign) At this point, I'm wondering about lock-up valve circuit in trans...
I'd be grateful for any suggestions.
Phil Brust, Jefferson GA

Subject: 82 trans problem

From: "timothy and susan porter" <porter@net-port.com>

Sent: Thu, 2 1215 -0800

Yes a fresh fill of quality fluid and filter change may help. On the stubborn ones the trans tech would change the lock up spring tension in the valve body. The trans would then only lock up at 45 - 50 mph. What a difference! Tim and filter change may help. On the stubborn ones the trans

tech would change the lock up spring tension in the valve body. The trans would then only lock up at 45 - 50 mph. What a difference! Tim

Subject: 82 trans problems

Sent: Thu, 2 5436 -0800 (PST)

From: D D <icewolf65@yahoo.com>

Phil,

I have the same problem with my 83, only it's between about 60-70. I thought at first it was a tire problem, but after changing all the wheels and tires, it remained. I changed the tranny in it last summer, but used the same converter. It's still there. I've been thinking of having the driveshaft checked for balance and straightness. I also had a scare with it the other day. I had to have the alternator rebuilt and while reinstalling it I dropped a nut. While feeling around under the motor for it I found a loose washer on a bolt. I crawled under the car and found that the nut had come off my lower control arm and the bolt had worked out about 2-3 inches. I had recently noticed the steering getting a little squirly but thought it was just a tierod end going bad. I do a lot of highspeed driving and an glad my alternator went out.

Anyway back to the original problem, I hope some one can give us some help on this.
Dave

Subject: Late upshifts on my 81

From: "Sir Buddy Enterprises" <eddenbud@magicnet.net>

Sent: Sat, 1 2154 -0500

> > However, since I had the carb. installed, I have noticed that my
> > transmission is very reluctant to upshift. When accelerating rapidly, it
> > shifts as one would expect. However, under very light acceleration, it is very hesitant to upshift.

> This is a pretty simple problem, but you must fix it soon or you risk damaging
> your trans. Your kickdown trans linkage is mis-adjusted or not installed. If
> you didn't purchase & install a Chrysler throttle linkage kit with that carb,
> you couldn't have installed your shift linkage correctly ($5.00).
> Carmine F.

Carmine,

Of course!! I WAS mixing up my Caddy with my Imperial's downshift linkage. What I found was that my mechanic had jury-rigged the kickdown linkage adjustment by putting a screw in the slot to cause earlier kickdowns--TOO EARLY, much too early, and thus prevented my tranny from upshifting on schedule.

I removed the screw, and was left with normal upshifts, but practically no kickdown to second when accelerating. Obviously, there is a happy medium, and I will get under the car next week, to do the proper adjustment at the transmission. I found this procedure and diagrams in my 81 Chrysler manual, looking at the V-8, 4-barrel carb's, section, same kickdown linkage as on the Imperial.

As far as the Chrysler throttle linkage goes, the carb. I purchased was the Carter AFB-9636, which is already set up for the Chrysler linkage. The kit (Carter #3-2087, if anyone is interested) is not needed with the 9636; however, Carter "suggests" it be used when a cruise-control hookup is used on the car, as on the Imperial. I have not used it yet, though the throttle linkage was binding a bit. It turns out, that it was catching up on the crz. control cable, which I have gotten straightened out now. If it recurs, then I'll buy one of those linkage kits.

Thanks for your help!
ED FERRARA

Subject: Late upshifts on my 81

From: DBKEMPER@aol.com

Sent: Sun, 1 1210 EST

sounds like you need to adjust the kick-down.....it may be holding things in a kicked down mode.....mine did when I converted it to carb....just some adjustment and the service manual and you should be fine!!!

Subject: 81 transmission delay

From: "Dick Benjamin" <bondotmec@ez2.net>

Sent: Sun, 2 923 -0800

Rolland;

I am no transmission expert, but I believe your reverse engagement piston seal has hardened from age. This would be worse in cold weather, if the car has been sitting overnight, and get better as the car is driven more than miles or so. I do not know if the fluid change might have made this worse. Since your direct drive clutch is getting tired also, you have a transmission rebuild in your future, probably within the next 10,000 Miles, but I don't think it is about to leave you stranded by the side of the road. The A904 is not as long lived as the 727, in my experience, and 80 to 90K miles is pretty typical for these symptoms to begin. I hesitate to tell you my "used car salesman's" trick, but you could try putting about 4 OZ of Dot 3 brake fluid in the transmission. This will probably improve the delay problem, until you the complete rebuild, because it will soften all the seals.
Dick Benjamin
bondotmec@dte.net

From: RWestra@aol.com <RWestra@aol.com>

I have a problem with my 81 Imperial that seems to be getting worse. When I move the transmission selector into reverse there is a long delay before the reverse band engages. This ranges from 5 to 20 seconds. If the car has been setting for one or more days the delay is longest. If it has been setting for an hour or less it seems to generally be a short delay. When the transmission engages it is solid and I can detect no slippage. If I put it into drive it engages immediately no matter how long it has been setting. Putting it is drive first and then moving the selector to reverse does not appear to shorten the reverse delay. The transmission shifts good, the shift points seem correct and there is no evidence of slippage. I changed to the new ATF + 3 fluid recommended for the later Chrysler transmissions as a means to correct the converter clutch lock up chatter. It seems to have eliminated this problem and I have experienced no other adverse effects (unless this delay is caused by the new fluid).

The car has about 80,000 miles. Any ideas on what I might look for. I can take the transmission out but I would like to know what to look for when I get it out.
Thanks.
Rolland

Air Conditioning and SATC

Subject: 81 EFI in Vegas - AC

Sent: 7/6/97 10:43 PM

From: bondotmec@alphainfo.com (Dick Benjamin)

Tony:

One of the differences between the normal AC position and the MAX position is that the temperature moderating ability of the slide dial "temp control" is locked out. Thus, your symptom seems to indicate that the automatic temperature regulation feature on your car is screwing up. It seems odd that this takes 30 minutes or so before it begins to happen.

If you did not live in a zero humidity environment, I would suspect that something was icing up in your evaporator, but you do so I don't. Did this happen before the outside temps went so high? I wonder if this is a marginal component reacting to a severe situation, as opposed to a real design or component failure. (In other words, you might have to live with it and run the car on MAX AC until conditions return to normal, not a big problem, really.)

Your gas mileage seems terrible! I have never gotten less than 17 in around town driving and that's in a really worn out car, but maybe your conditions are truly awful. I know the strip is a disaster to drive on when all us Californians show up on the weekend. Maybe you should show your car off during the off-peak hours?

Seriously, you should be getting about 25 or 26 MPG at a steady 65 MPH on the interstate, and slightly better at lower speeds down to about 50, when the MPG will start to drop off again. Try to

get a two way average to take out the variation due to grade and wind. Have you got the readings from the smog test?

I'd like to know what the HC and CO readings are. (They can't be too bad or it wouldn't have passed.) Also, what size tires are you running. I have 215R15's on one of my cars, and the difference shows in the MPG, if I don't correct for the odometer error, which is about 5%.

Dick Benjamin

Subject: 81 EFI in Vegas - AC

Sent: 7/7/97 9:30 PM

From: fc3@bellatlantic.net (Frank Cannavale, III)

First, when the A/C is on the push or normal settings it will go to heat by itself. This happens after about 20 or 30 minutes of operation. I can correct this by simply pushing the off button, waiting a few seconds and turning it back on. If I leave the A/C on max this never happens. I have had no overheating problems or battery problems.

It should not do anything like mode switching. Could you describe what is happening?

If you mean that the system discharges via the heating ducts (on the floor) then there is a vacuum leak, or the switch is bad.

If you mean that the discharge air temp gets hot, there may be a problem with the servo, controller, H-valve, refrigerant system, etc...

Since the system is a semi-automatic temperature control system, all the automatics control is discharge temperature. This system is unlike the fully automatic systems used in the 60s and 70s. Those fully auto systems controlled:

- discharge air temperature - discharge vent selection (panel vents, or floor vents) and - blower speed.

There were two different fully auto systems. Chrysler dropped the all-in-one servo system when it re-did the C bodies in '74.

How do you tell the difference between 81, 2 and 3 anyway? Are they the same body?

All bodies, are the same. Grille and rear ends are the same also. Some minor changes in options (like the 82 FS edition) and color selection.

Does anyone have a proper way to change the speakers out of the back? Mine have had it and need changed. This car is so mint inside I'm almost afraid to mess with it. I looked at them in the trunk and they seem to be put in from the top under the package tray.

You need to remove the rear seat and then the package shelf. Some of the trim panels on and around the C-pillar will need to be removed to get the package shelf out. Then you can get access to the speakers.

My computer says I get 11.7 Mpg. around town. A small price to pay for such a fine ride as this!

I have not driven by '83 in quite a while, but sub-twelve sounds low. I think that mine does about 15-17 mostly around town -- 18-19 combined -- 22+ highway. Best ever was a long trip @ 60-65 MPH was around 25-26 mpg

-- Frank Cannavale, III fc3@bellatlantic.net

Subject: 81 EFI in Vegas - AC

Sent: 7/8/97 11:45 AM

From: fc3@bellatlantic.net (Frank Cannavale, III)

First, when the A/C is on the push or normal settings it will go to heat by itself. This happens after about 20 or 30 minutes of operation. I can correct this by simply pushing the off button, waiting a few seconds and turning it back on. If I leave the A/C on max this never happens. I have had no overheating problems or battery problems.

It should not do anything like mode switching. Could you describe what is happening. If you mean that the system discharges via the heating ducts (on the floor) then there is a vacuum leak, or the switch is bad. If you mean that the discharge air temp gets hot, there may be a problem with the servo, controller, H-valve, refrigerant system, etc... Since the system is a semi-automatic temperature control system, all the automatics control is discharge temperature. This system is unlike the fully automatic systems used in the 60s and 70s. Those fully auto systems controlled, discharge air temperature, discharge vent selection (panel vents, or floor vents) and blower speed. There were two different fully auto systems. Chrysler dropped the all-in-one servo system in when it re-did the C bodies in '74.

How do you tell the difference between 81, 2 and 3 anyway? Are they the same body?

All bodies, are the same. Grill and rear ends are the same also. Some minor changes in options (like the 82 FS edition) and color selection.

Does anyone have a proper way to change the speakers out of the back? Mine have had it and need changed. This car is so mint inside I'm almost afraid to mess with it. I looked at them in the trunk and they seem to be put in from the top under the package tray.

You need to remove the rear seat and then the package shelf. Some of the trim panels on and around the C-pillar will need to be removed to get the package shelf out. Then you can get access to the speakers.

My computer says I get 11.7 Mpg. around town. A small price to pay for such a fine ride as this!

I have not driven by '83 in quite a while, but sub-twelve sounds low. I think that mine does about 15-17 mostly around town -- 18-19 combined -- 22+ highway. Best ever was a long trip @ 60-65 MPH was around 25-26 mpg

-- Frank Cannavale, III fc3@bellatlantic.net

Subject: 81 EFI in Vegas - AC

Sent: 7/10/97 10:31 PM

From: fc3@bellatlantic.net (Frank Cannavale, III)

It just starts blowing hot out of the A/C ducts. It does not transfer to the floor. I can be driving down the street and it will do it. Never does it on Max setting. If it is on a normal A/C setting and it starts blowing hot, I can put it in the Max A/C setting and it will blow cold again but it won't blow half as hard as if I had turned it all the way off and started over with Max A/C setting. As long as I start out and stay on Max A/C it's all right. I hope you can make sense of all that!

According to the service manual "System operates properly but intermittently drives to full reheat position" which sounds like your problem. You need to check "Intermittent open circuit in circuits H4, C22, C21, C23, control head sliding resistor or sensors." If you don't have the manual, let me know and I'll scan the pages.

As far as the speakers go I think I'LL leave that one alone. It's just too perfect to take anything apart.

I had to remove the rear package shelf when I installed the cell-phone. It is not difficult, but you do need to be careful. Since not too may "pros" work on Imperials, there is not much experience out there to buy. So, who will be more careful, you or a "pro".

I think Dick and I agree that 12 is really low. Unless you are doing all of your driving on the strip, I'd check the EFI. How do the plugs look? Do they look light gray in color?

Vegas driving is like no other place I've ever driven in. Rental cars everywhere. Thousands of people who are here for a few weeks and are gone. They don't care how they drive or who or what they pull out in front of. For that reason I have been putting a few more miles on our "mule" 86 fifth avenue, and leaving the Imperial in the garage. I can't say what I might do if some +:/?""//? plowed into it.

Was there for a trade show this year. Traffic is bad, but not worse than NYC. Cabbies ARE worse than NYC. Glad I rented a Grand Marquis and took the insurance option when I was there. Probably safer walking than driving the strip, but then again there was that cabbie, so maybe not...

-- Frank Cannavale, III fc3@bellatlantic.net

Subject: '81 Heater problems cont'd

From: "Sir Buddy Enterprises" <eddenbud@magicnet.net

Sent: Tue, 1 Dec 1998 22:01:20 -0500

Dick,

Thanks again for all of the good info.

The first thing to do, after correcting the error, is to make sure that the vacuum controlled water valve moves from one extreme of position

I've done this and the water valve seems to work fine, hot on both sides of the valve, normal vacuum to the valve. If you determine that there is no vacuum supplied to the water control valve, check to see if the vent controls are moving when you switch from floor to face vents etc.

I've checked the vacuum manifold, and all seems normal. ALL doors move normally as commanded by the mode of operation, i.e. NORM, BI-LEVEL, DEF, etc.

I also followed the shop manual procedure to bypass the control head by disconnecting the harness behind the glove box; this is supposed to command the door to FULL HOT, but I still got no heat.

I am suspecting that electronic servomotor, but I can't find it anywhere, and I had the whole dash apart the other day!!!

By way, I thought you lived in Florida, what the H do you need heat for down there? (Just kidding, I used to live in Ocala, I know what it feels like to try to get warm when the temp is in the 50's and the humidity is in the 90's).

You're right, Dick, I'm in Orlando. I'll be driving into the airport at 5:30 tomorrow morning, and it will be in the FIFTIES, which is pretty cold, as you say, when the humidity is soaking the windshield with fog!

ED FERRARA

Subject: Heater problems in '81-83's

Sent: Wed, 02 Dec 1998 09:17:41 -0800

From: "bondotmec" (bondotmec@dte.net)

(Pre-note: This went out while I was having IML vs. ISP conflicts, and will be a duplicate to some of you. It did not have a subject line when originally issued, and may have gone in the trash. Also, I did not know it when I wrote this, but Ed already knows much of the following [sorry, ED] but some of you may still find it useful or interesting. If not, sorry for the unnecessary ring, and limber up that delete finger!)

Ed (and others with '81-83 Imperials)

The heat control system on these cars is quite unlike other cars. The system is call SAIC, for Semi-Automatic-Iforget-Control. In this system, heater water circulation is constant, regardless of the driver's setting of the internal comfort thermostat, as long as the engine is running and the system is on in other than the "MAX AC" position. The regulation of the amount of cabin heat is performed by a (gulp) electronic servomotor which positions a deflector vane in the air plenum to modulate the amount of cool air (from the outside {push button out} and/or AC evaporator {push button in}) and warm air (from the heater core) which reaches the in-dash delivery

venting system. The vent through which this air is delivered is controlled by the position of the push buttons (floor, face, defrost etc.) but the temperature of the discharge air and thus the cabin heat is controlled by the servomotor.

This system is extremely reliable, I have never seen one fail. The easy way to check the operation of the system is to put the system in the heat mode, with the engine running, all doors closed so it is quiet inside the car, set the blower on minimum speed, and move the thermostat lever from one extreme to the other. You should hear the little motor start up and

run for a few seconds each time you move the control. It is slow, and very quiet, sounds a lot like a mouse scurrying around in there.

If you hear the noise, your SAIC is working fine. If you don't, break out the manual and read how to access the test points, and have fun with your meter. This is a little too much to try to explain in this medium, but if you have a problem following what they are saying, get in touch, and I will try to translate into the King's English for you.

In Ed's case, I agree that reversing the hoses would not cause damage to anything. The first thing to do, after correcting the error, is to make sure that the vacuum controlled water valve moves from one extreme of position (you can see it move, it is on the hose just to the right side of the EFI system, strapped to one of the rods which brace the front fender to the firewall). The valve should be in the closed position when the engine is running with the system in the MAX AC position, and in the open position (you can feel the hoses warm up when it opens with the engine warm and running) when you turn on the system in any other mode. If this happens, there is nothing wrong with your heater core, or plumbing. If it does not happen, check to see if there is vacuum at the control tube which is plugged into the water control valve. (It IS, plugged in, isn't it?). If there is, and the valve lever does not move as you turn the system on and off in the non-MAX AC mode, the valve has failed (ruptured diaphragm). This would cause a vacuum leak, by the way, but not a serious one.

If you determine that there is no vacuum supplied to the water control valve, check to see if the vent controls are moving when you switch from floor to face vents etc. If they are, vacuum is getting to your control assembly, but not to the water valve, the problem is in the hoses or the control assy somewhere, you will have to take things apart and find the broken or disconnected hose.

If the vent controls are also not working, your vacuum supply to the whole system is suspect. Check the small vacuum hose which exits the intake manifold vacuum tree next to the anti-knock sensor at the rear of the intake manifold. It may not be connected there, or where it goes through the firewall.

Lets do these things first, then if you still don't got no heat, we'll go farther. By way, I thought you lived in Florida, what the H do you need heat for down there? (Just kidding, I used to live in Ocala, I know what it feels like to try to get warm when the temp is in the 50's and the humidity is in the 90's).

Dick Benjamin (bondotmec@dte.net)bondotmec@ez2.net

Subject: '81-'83 Imperial SATC

From: "Jeremy W. Dickerson" <jeremyd@cameron.edu

Sent: Mon, 14 Dec 1998 13:58:57 +0000

I have a question for all you '81-'83 Imperialists out there. I own an '83 Imperial that has a Freon leak. It has been that way for a year or more. When the weather warms up here in SW Oklahoma in the spring, I will have the leak repaired. I am also contemplating having the a/c converted to the new R134 coolant. Has anyone out there had this conversion done? I understand that the conversion is not as expensive as when the new coolant first became available. I also understand that the new coolant does not get as cold as the R12.

Appreciate any feedback.
Jeremy
jeremyd@cameron.edu
jeremyd25@hotmail.com

Subject: '81-'83 Imperial SATC

From: RWestra@aol.com

Sent: Mon, 14 Dec 1998 17:27:54 EST

I converted my 81 to the R134. Perhaps my conversion was the cheap, quick and dirty method but the system works well. However, we are not in southwest Oklahoma. The temperature in northern Illinois exceeds 90F and the car is still quite comfortable.

I evacuated the system, changed the high pressure and low pressure fittings from the retrofit package purchased from Parts America for $34, installed the new oil and the R134 also included in the package. I applied the sticker saying the system had been changed over and that was it. For a little over $50 the job was done.

I did not take measurements before and after and the system had been inoperative for two years so I am relying on my memory regarding performance. The only difference I believe I detect is the greater time to cool down. It is possible that the cooling is not quite as good as with Freon but it was very comfortable in the car all summer here in Rockford Illinois. I will convert other cars as it becomes necessary.

Rolland

Subject: '81-'83 Imperial SATC

From: Stude1966@aol.com

Sent: Mon, 14 Dec 1998 15:12:50 EST

I have had all my old cars with AC converted. Yes, it is a lot cheaper, you can do most of it yourself if your so inclined making it cheaper yet. But you have heard correctly it is not as frigid

as the R12 was. But even the A/C in the newer cars are not as cold. I noted that with both my 94 Intrepid and my 96 Sable. But my 81 Imp has been changed and I'm not unhappy with it, I have also changed my two Avanti's with no problems.

Good Luck Bill

Subject: '81-'83 Imperial SATC

From: Joe.Stefanick@smed.com

Sent: Mon, 14 Dec 1998 16:33:03 -0500

Jeremy,

I wrote the following article for the Lamda Car Club International. It pretty much speaks for itself!

Fallacy Corner - by Joe Stefanick A/C Retrofit to R134a -- What I Need to Know?

About a year ago, I wanted to get the A/C fixed on my 1974 Imperial LeBaron, and started researching the costs and what was involved. After much research and conversation, I came to the conclusion that the A/C fix could be costly, as the cost of materials (Freon R12 in particular) is very expensive. At any rate, right smack dab in the middle of the A/C fix research process, and totally unrelated, I ended up buying a real nice, relatively low mileage 1976 Chrysler New Yorker. I put the 1974 LeBaron's A/C fix on hold, as I now wanted to concentrate on the New Yorker, again whose A/C was not functioning. After more research, I came to the conclusion that only solution to my non functioning A/C was to convert the system to the newer R134a gas.

The Driving Force to Convert to R134a

The main reason for going to the conversion was the prohibitive cost of the R12. On a good day R12 costs start at about $30 per pound. With this large New Yorker requiring about 3 pounds of A/C gas, we are talking about an expensive proposition using R12. Especially if after the system is recharged (which can happen when the system is re-pressurized) the gas escapes and you have to refill the system again. Wow $90 for gas times 2. Knowing this bit of gas cost information, and knowing that R134a costs about $6 per pound, made the decision to convert very easy.

The Fallacy

I am sure all of you have heard when you convert from R12 to R134a that you must swap out the compressor, all the system "O" rings, the receiver/dryer, etc.. Oh, my God, the whole system needs to be replaced!? Well guess again.

What is Necessary for the Conversion:

Actually, very little is required, as long as your compressor, expansion valve, dryer, condenser, and evaporator are sound. A good auto technician will be able to check the functioning of the components mentioned and replace those that are malfunctioning. (See my previous article and what to look for in a good auto technician.) Assuming that the system was functioning before the R12 escaped.

What needs to be done is:

Find gas leak in the A/C system and repair flush system with a compound of Hydrochloroflourocarbon-141B and Dichloroflouroethane, which cleans and dries the old oil residue, moisture, and any other junk that may be in the system completely evacuate the system install new gas input and output stems, this prevents R12 being mixed with the R134a gas in the future load the new Ester oil into the A/C system, which is compatible with the new R134a gas load the new R134a gas into the A/C system change the A/C system pressure & timing settings to accommodate the new R134a gas place a retrofit sticker on the A/C system stating it was converted to R134a usage

An Idea of The Costs Involved to Convert my 1976 Chrysler New Yorker: My system needed a number of things as it had been sitting for quite some time:

Compressor and Clutch	$201.08
Receiver/Dryer	26.39
Expansion Valve	29.63
Conversion Kit (Oil & New System Valve Stems)	27.50
EPR Valve	41.74
Retrofit Conversion Labor	200.00
Total	$526.34

I recently had a conversation with a close friend of mine who has considered getting the A/C repaired on his fine antique automobile, and was quoted $1,300 for a conversion from R12 to R134a. I am not sure what they were doing for the conversion, but even if you factor in market price for the parts, the cost will be at most about $1,000. I didn't get a chance to find out exactly what was being done for $1,300. BUT it sounds like the fittings are to be gold plated, or more likely the repair shops pockets are to be gold lined. A word of warning, find out exactly what is to be done when your system is converted (i.e. the actual conversion process and what non-functioning components are to be replaced).

An Experience You Won't Forget:

If you are ever in the Philadelphia area, and want to experience how cold the converted system in my New Yorker gets, give me a call and I'll give you a ride. I had my New Yorker out for our LCCI Invitational in New Hope this past May. On the drive to the meet, the ambient temperature was about 90 degrees Fahrenheit. The New Yorker's R134a A/C system put out about 42 degrees at the A/C registers -- it was very comfortable in my New Yorker on that hot day.

Subject: '81-'83 Imperial SATC

"Jeremy W. Dickerson" <jeremyd@cameron.edu on 12/14/98 08:58:57 AM

I have a question for all you '81-'83 Imperialists out there. I own an '83 Imperial that has a Freon leak. It has been that way for a year or more. When the weather warms up here in SW Oklahoma in the spring, I will have the leak repaired. I am also contemplating having the a/c converted to the new R134 coolant. Has anyone out there had this conversion done? I understand that the conversion is not as expensive as when the new coolant first became available. I also understand that the new coolant does not get as cold as the R12. Appreciate any feedback.

Jeremy
jeremyd@cameron.edu
jeremyd25@hotmail.com

Subject: '81-'83 Heating system

From: "Jeremy W. Dickerson" <jeremyd@cameron.edu>

Sent: Thu, 2 2745 +0000

This is a question for all of the '81-'83 Imperial gurus. When I turn on the front defrost in my '83, it produces a knocking that seems to be coming from under the hood. None of the other climate settings produce this sound. Does anyone have a clue as to what this could be? Appreciate any input.
Jeremy
'83 in SW OKla.
jeremyd@cameron.edu
jeremyd25@hotmail.com

Subject: '81-'83 Heating system

From: Stude1966@aol.com

Sent: Thu, 2 1210 EST

The only thing I can suggest is the A/C Compressor since that system works in conjunction with the defrost system.
Bill
1981 EFI

Subject: '81-'83 Heating system

From: "Dick Benjamin" <bondotmec@ez2.net>

Sent: Thu, 2 4137 -0800

Not sure what you mean be "Front defrost", as there is only the one defroster, for the windshield. But assuming you mean this, when you turn the SAIC system to defrost, it automatically turns on the AC Compressor, so I would first check for a problem there by listening under the hood to the Compressor area while someone else turns on the defrost mode for you. If you hear a noise from the compressor that persists (there should be an initial click as the clutch pulls in), there is a problem, you need an AC professional to take it from there.

If this is not the source of the noise, what you may be hearing is the electronic servomotor adjusting the temp mixing doors in the air plenum to Max heat. If this is the case, it should not persist, and you should be able to produce the same noise by setting the Heat mode, then moving the temp dial from one extreme to the other. These are usually pretty quiet, if yours is making a racket, someone has probably taken off the sound padding, but it should not cause a problem other than the noise, if it seems to be working well (the temperature is well regulated inside the car on Heat or AC mode).
Hope this is clear enough.
Guru #7, AKA
Dick Benjamin
bondotmec@dte.net

Subject: '81-'83 Heating system

From: Jeremy W. Dickerson <jeremyd@cameron.edu>

Sent: Thursday 23 AM

This is a question for all of the '81-'83 Imperial gurus. When I turn on the front defrost in my '83, it produces a knocking that seems to be coming from under the hood. None of the other climate settings produce this sound. Does anyone have a clue as to what this could be? Appreciate any input.
Jeremy
'83 in SW OKla.
jeremyd@cameron.edu
jeremyd25@hotmail.com

Subject: Re '81-'83 Heating system

From: "Jeremy W. Dickerson" <jeremyd@cameron.edu>

Sent: Thu, 2 3650 +0000

Dick,

What you said makes sense. I knew that the A/C compressor kicks in with defrost, I had just forgotten. See, I already have a freon leak in this car. I don't know if you remember, but I asked for suggestions from the IML members on converting the A/C system to the new coolant. Do you think that I will have to replace the compressor? Because if I do, I will just wait until I convert the coolant.

When the SATC is on the heat mode, it maintains the temperature well. I will play with the temperature control while the SATC is on defrost and see what happens.
Thanks for your response.
Jeremy
jeremyd@cameron.edu
jeremyd25@hotmail.com

Subject: '81-'83 Heating system & A/C

Sent: Thu, 2 4139 -0800

From: Bob Schmitt <bsbrbank@pacbell.net>

Jeremy -
I don't know if you remember, but I asked for
> suggestions from the IML members on converting the A/C system to the
> new coolant. Do you think that I will have to replace the
> compressor? Because if I do, I will just wait until I convert the
> coolant.

I think there's as many opinions on A/C updates as there are A/C units! However, before we get in to this (still cool here in SC), you may want to check the "official" word from the EPA - much added since I last looked and sounds accurate & practical:

http //www.epa.gov/docs/ozone/title6/609/609.html#factsheets
Bob (AC OK)

Subject: Re '81-'83 Heating system

Sent: Thu, 2 3843 -0800

From: Matthew Wappler <matthew_wappler@bc.sympatico.ca>
Organization The Wappler Family

Isn't there a switch that will detect a leak(ie pressure loss)there by preventing the compressor from engaging?In that case , with a freon leak, the compressor wouldn't engage leaving the knock a mystery again.When my 74 got a freon leak, the a/c modes ceased to work but the defroster worked normally ,albeit without the compressor.

Jeremy W. Dickerson wrote:

> Dick,
> What you said makes sense. I knew that the A/C compressor kicks in
> with defrost, I had just forgotten. See, I already have a freon leak
> in this car. I don't know if you remember, but I asked for
> suggestions from the IML members on converting the A/C system to the
> new coolant. Do you think that I will have to replace the
> compressor? Because if I do, I will just wait until I convert the
> coolant.
> When the SATC is on the heat mode, it maintains the temperature well.
> I will play with the temperature control while the SATC is on
> defrost and see what happens.
> Thanks for your response.
> Jeremy
> jeremyd@cameron.edu
> jeremyd25@hotmail.com

Subject: Re '81-'83 Heating system

From: RWestra@aol.com

Sent: Thu, 2 2602 EST

My guess is the knocking you hear is the compressor cycling on and off with the heater in the defrost mode. There is a low freon shut off switch that will allow the compressor to run only a very short time if the freon is low. This is to prevent compressor failure with low freon (and oil). If you are planning to use the defrost mode I would disconnect the compressor clutch to keep from wearing it out due to continuous cycling. You can still defrost the windshield. It will not be as effective since only hot air (with it's higher humidity) will be used to clean off the windshield, however, prior to air conditioning that is all that was available and it worked.
Good luck.

Subject: 81-83 ac

From: vip67@webtv.net (mike)

Sent: Thu, 2 4359 -0500 (EST)

Jeremy

If your compressor is knocking then you should replace it. It should also be changed along with the expansion valve and drier when converting to 134a. 134a is the only EPA legal refrigerant to replace r-12 with.
Mike
G
MOPARS RULE!!!!!
IMPERIALS ARE KING!!!!!

Subject: Re '81-'83 Heating system

From: "Sir Buddy Enterprises" <eddenbud@magicnet.net>

Sent: Thu, 2 2413 -0500

> If you are planning to use the defrost mode I would disconnect the compressor
> clutch to keep from wearing it out due to continuous cycling. You can still defrost
> the windshield. It will not be as effective since only hot air (with it's higher
> humidity) will be used to clean off the windshield, however, prior to air conditioning
> that is all that was available and it worked.

You do not need to go to even this much trouble on the 81-83 SATC System. You will note that the a/c NORM switch is labeld "pull-vent". By pulling out any of the buttons, you automatically disconnect the compressor. Just pull out the DEF button, and the a/c compressor will not be engaged!
ED FERRARA

Subject: Re '81-'83 Heating system

From: "Dick Benjamin" <bondotmec@ez2.net>

Sent: Thu, 2 2548 -0800

If the freon is low, the compressor will not be coming on (there is a lockout to save it from running with low freon because that is what distributes the lubrication oil around the system). If this safety lockout has been bypassed, the compressor may be coming on even with low freon, which will ruin the compressor sooner or later. You still need to determine if the source of the noise is the compressor. If it is, you are in for a compressor replacement, but to repeat, if you are low on freon, the noise cannot be coming from the compressor unless someone has been playing around with the safety switch.

To further clarify about the electronic servomotor which controls the cabin heat regulation, you should be able to exercise this function in AC, BiLevel, and Heat modes, you don't have to put it in defrost to see if it's doing its job. Just turn on your heat and move the temp dial from one extreme to the other, and wait a few seconds, you should hear the little critter scurrying around under the dash. If you put the system on low blower speed, you'll hear it better. You can also make sure the compressor is out of the picture by pulling the push button back out after you select the mode, in all but the Defrost position (and possibly even in that, I just don't remember at the moment).

I stay away from advising about the refrigerant conversion. There are much more knowledgeable people here on the IML to handle that question, I have never done a conversion, I just fix the leaks when I have to. Fortunately, I don't have any leakers at the present time. So, I have been able to limp along with some hoarded Freon in reserve, not sure how much longer I can hold out, but here in the HOT country, every little bit of AC performance is needed.

Dick Benjamin
bondotmec@dte.net

Subject: Re '81-'83 Heating system

From: Jeremy W. Dickerson <jeremyd@cameron.edu>

Sent: Thursda32 AM

Dick,

What you said makes sense. I knew that the A/C compressor kicks in with defrost, I had just forgotten. See, I already have a freon leak in this car. I don't know if you remember, but I asked for suggestions from the IML members on converting the A/C system to the new coolant. Do you think that I will have to replace the compressor? Because if I do, I will just wait until I convert the coolant.

When the SATC is on the heat mode, it maintains the temperature well. I will play with the temperature control while the SATC is on defrost and see what happens. Thanks for your response.
Jeremy
jeremyd@cameron.edu
jeremyd25@hotmail.com

Subject: '81 Heater problems cont'd

From: "Sir Buddy Enterprises" <eddenbud@magicnet.net>

Sent: Tue, 1 120 -0500

Dick,

Thanks again for all of the good info.

The first thing to do, after correcting the error, is to make sure that the vacuum controlled water valve moves from one extreme of position. I've done this and the water valve seems to work fine, hot on both sides of the valve, normal vacuum to the valve.

> If you determine that there is no vacuum supplied to the water control valve, check to see if the vent controls are moving when you switch from floor to face vents etc.

I've checked the vacuum manifold, and all seems normal. ALl doors move normally as commanded by the mode of operation, ie. NORM, BI-LEVEL, DEF, etc. I also followed the shop manual procedure to bypass the control head by disconnecting the harness behind the glove box; this is supposed to command the door to FULL HOT, but I still got no heat. I am suspectoing

that electronic servomotor, but I can't find it anywhere, and I had the whole dash apart the other day!!!

> By way, I thought you lived in Florida, what the H do you need > heat for down there? (Just kidding, I used to live in Ocala, I know what > it feels like to try to get warm when the temp is in the 50's and the > humidity is in the 90's).

You're right, Dick, I'm in Orlando. I'll be driving into the airport at 530 tomorrow morning, and it will be in the FIFTIES, which is pretty cold, as you say , when the humidity is soaking the windshield with fog!
ED FERRARA

Subject: Heater problems in '81-83's

Sent: Wed, 0 1741 -0800

From: "bondotmec" (bondotmec@dte.net)>

Pre-note This went out while I was having IML vs.ISP conflicts, and will be a duplicate to some of you. It did not have a subject line when originally issued, and may have gone in the trash. Also, I did not know it when I wrote this, but Ed already knows much of the following [sorry, ED] but some of you may still find it useful or interesting. If not, sorry for the unnecessary ring, and limber up that delete finger!) Ed (and others with '81-83 Imperials)

The heat control system on these cars is quite unlike other cars. The system is call SAIC, for Semi-Automatic-Iforget-Control. In this system, heater water circulation is constant, regardless of the driver's setting of the internal comfort thermostat, as long as the engine is running and the system is on in other than the "MAX AC" position. The regulation of the amount of cabin heat is performed by a (gulp) electronic servomotor which positions a deflector vane in the air plenum to modulate the amount of cool air (from the outside {push button out} and/or AC evaporator {push button in}) and warm air (from the heater core) which reaches the in-dash delivery venting system. The vent through which this air is delivered is controlled by the position of the push buttons (floor, face, defrost etc.) but the temperature of the discharge air and thus the cabin heat is controlled by the servomotor.

This system is extremely reliable, I have never seen one fail. The easy way to check the operation of the system is to put the system in the heat mode, with the engine running, all doors closed so it is quiet inside the car, set the blower on minimum speed, and move the thermostat lever from one extreme to the other. You should hear the little motor start up and run for a few seconds each time you move the control. It is slow, and very quiet, sounds a lot like a mouse scurrying around in there.

If you hear the noise, your SAIC is working fine. If you don't, break out the manual and read how to access the test points, and have fun with your meter. This is a little too much to try to explain in this medium, but if you have a problem following what they are saying, get in touch, and I will try to translate into the King's English for you. In Ed's case, I agree that reversing the hoses would not cause damage to anything. The first thing to do, after correcting the error, is to make sure that the vacuum controlled water valve moves from one extreme of position (you can see it move, it is on the hose just to the right side of the EFI system, strapped to one of the rods which brace the front fender to the firewall). The valve should be in the closed position when the engine is

running with the system in the MAX AC position, and in the open position (you can feel the hoses warm up when it opens with the engine warm and running) when you turn on the system in any other mode. If this happens, there is nothing wrong with your heater core, or plumbing. If it does not happen, check to see if there is vacuum at the control tube which is plugged into the water control valve. (It IS, plugged in, isn't it?).

If there is, and the valve lever does not move as you turn the system on and off in the non-MAX AC mode, the valve has failed (ruptured diaphragm). This would cause a vacuum leak, by the way, but not a serious one. If you determine that there is no vacuum supplied to the water control valve, check to see if the vent controls are moving when you switch from floor to face vents etc.

If they are, vacuum is getting to your control assembly, but not to the water valve, the problem is in the hoses or the control assy somewhere, you will have to take things apart and find the broken or disconnected hose. If the vent controls are also not working, your vacuum supply to the whole system is suspect. Check the small vacuum hose which exits the intake manifold vacuum tree next to the anti-knock sensor at the rear of the intake manifold. It may not be connected there, or where it goes through the firewall. Lets do these things first, then if you still don't got no heat, we'll go farther. By way, I thought you lived in Florida, what the H do you need heat for down there? (Just kidding, I used to live in Ocala, I know what it feels like to try to get warm when the temp is in the 50's and the humidity is in the 90's).
Dick Benjamin
bondotmec@dte.net

Subject: '81-'83 Imperial SATC

From: RWestra@aol.com

Sent: Mon, 1 2754 EST

I converted my 81 to the R134. Perhaps my conversion was the cheap, quick and dirty method but the system works well. However, we are not in southwest Oklahoma. The temperature in northern Illinois exceeds 90F and the car is still quite comfortable. I evacuated the system, changed the high pressure and low pressure fittings from the retrofit package purchased from Parts America for $34, installed the new oil and the R134 also included in the package. I applied the sticker saying the system had been changed over and that was it. For a little over $50 the job was done.

I did not take measurements before and after and the system had been inoperative for two years so I am relying on my memory regarding performance. The only difference I believe I detect is the greater time to cool down. It is possible that the cooling is not quite as good as with Freon but it was very comfortable in the car all summer here in
Rockford Illinois. I will convert other cars as it becomes necessary.

Subject: '81-'83 Imperial SATC

From: Joe.Stefanick@smed.com

Sent: Mon, 1 3303 -0500

Jeremy,

I wrote the following article for the Lamda Car Club International. It pretty much speaks for itself! Falicy Corner - by Joe Stefanick

A/C Retrofit to R134a -- What I Need to Know?

About a year ago, I wanted to get the A/C fixed on my 1974 Imperial LeBaron, and started researching the costs and what was involved. After much research and conversation, I came to the conclusion that the A/C fix could be costly, as the cost of materials (Freon R12 in particular) is very expensive. At any rate, right smack dab in the middle of the A/C fix research process, and totally unrelated, I ended up buying a real nice, relatively low mileage 1976 Chrysler New Yorker. I put the 1974 LeBaron's A/C fix on hold, as I now wanted to concentrate on the New Yorker, again whose A/C was not functioning. After more research, I came to the conclusion that only solution to my non functioning A/C was to convert the system to the newer R134a gas.

The Driving Force to Convert to R134a

The main reason for going to the conversion was the prohibitive cost of the R12. On a good day R12 costs start at about $30 per pound. With this large New Yorker requiring about 3 pounds of A/C gas, we are talking about an expensive proposition using R12. Especially if after the system is recharged (which can happen when the system is represurized) the gas excapes and you have to refill the system again. Wow $90 for gas times 2. Knowing this bit of gas cost information, and knowing that R134a costs about $6 per pound, made the decision to convert very easy. The Falicy I am sure all of you have heard when you convert from R12 to R134a that you must swap out the compressor, all the system "O" rings, the receiver/dryer, etc.. Oh, my God, the whole system needs to be replaced!? Well guess again.

What is Necessary for the Conversion

Actually, very little is required, as long as your compressor, expansion valve, dryer, condensor, and evaporator are sound. A good auto technician will be able to check the functioning of the components mentioned and replace those that are malfunctioning. (See my previous article and what to look for in a good auto technician.) Assuming that the system was functioning before the R12 excaped. What needs to be done is find gas leak in the A/C system and repair flush system with a compound of Hydrochloroflourocarbon-141B and Dichloroflouroethane, which cleans and dries the old oil residue, moisture, and any other junk that may be in the system completely evacuate the system install new gas input and output stems, this prevents R12 being mixed with the R134a gas in the future load the new Ester oil into the A/C system, which is compatible with the new R134a gas load the new R134a gas into the A/C system change the A/C system pressure & timing settings to accommodate the new R134a gas place a retrofit sticker on the A/C system stating it was converted to R134a usage.

An Idea of The Costs Involved to Convert

My 1976 Chrysler New Yorker My system needed a number of things as it had been sitting for quite some time I recently had a conversation with a close friend of mine who has considered getting the A/C repaired on his fine antique automobile, and was quoted $1,300 for a conversion from R12 to R134a. I am not sure what they were doing for the conversion, but even if you factor in market price for the parts, the cost will be at most about $1,000. I didn't get a

chance to find out exactly what was being done for $1,300. BUT it sounds like the fittings are to be gold plated, or more likely the repair shops pockets are to be gold lined. A word of warning, find out exactly what is to be done when your system is converted (i.e. the actual conversion process and what non-functioning components are to be replaced).

An Experience You Won't Forget

If you are ever in the Philadelphia area, and want to experience how cold the converted system in my New Yorker gets, give me a call and I'll give you a ride. I had my New Yorker out for our LCCI Invitational in New Hope this past May. On the drive to the meet, the ambient temperature was about 90 degrees Fahrenheit. The New Yorker's R134a A/C system put out about 42 degrees at the A/C registers -- it was very comfortable in my New Yorker on that hot day.

Jeremy W. Dickerson <je 5857 AM
cc (bcc Joe Stefanick/SMS)

Subject: '81-'83 Imperial SATC

I have a question for all you '81-'83 Imperialists out there. I own an '83 Imperial that has a freon leak. It has been that way for a year or more. When the weather warms up here in SW Oklahoma in the spring, I will have the leak repaired. I am also contemplating having the a/c converted to the new R134 coolant. Has anyone out there had this conversion done? I understand that the conversion is not as expensive as when the new coolant first became available. I also understand that the new coolant does not get as cold as the R12.
Appreciate any feedback.
Jeremy
jeremyd@cameron.edu
jeremyd25@hotmail.com

Subject: '81-'83 Imperial SATC

From: Stude1966@aol.com

Sent: Mon, 1 1250 EST

I have had all my old cars with AC converted. Yes, it is a lot cheaper, you can do most of it yourself if your so inclined making it cheaper yet. But you have heard correctly it is not as fridged as the R12 was. But even the A/C in the newer cars are not as cold. I noted that with both my 94 Intrepid and my 96 Sable. But my 81 Imp has been changed and I'm not unhappy with it, I have also changed my two Avanti's with no problems.
Good Luck
Bill

Subject: '81-'83 Imperial SATC

From: "Jeremy W. Dickerson" <jeremyd@cameron.edu>

Sent: Mon, 1 5857 +0000

I have a question for all you '81-'83 Imperialists out there. I own an '83 Imperial that has a freon leak. It has been that way for a year or more. When the weather warms up here in SW Oklahoma in the spring, I will have the leak repaired. I am also contemplating having the a/c converted to the new R134 coolant. Has anyone out there had this conversion done? I understand that the conversion is not as expensive as when the new coolant first became available. I also understand that the new coolant does not get as cold as the R12.
Appreciate any feedback.
Jeremy
jeremyd@cameron.edu
jeremyd25@hotmail.com

Chassis

Subject: EFI Imp Spotting References:

From: t3176@flash.net

Sent: Wed, 12 Aug 1998 09:08:12 -0400

Richard W. Gebhard wrote:

I recently got engaged in a discussion of differences in bumper design among the 81-83 Imps. In short does any body know for sure if the 81, 82 & 83 bumpers are identical in every detail, and if not how do they differ?

No difference to my knowledge, they all suck. I wish they had built them out of steel, then I wouldn't worry every time my '83 got wet. (I took everything apart and insulated all pieces from each other).

Carmine F.

Subject: EFI Imp Spotting & bumpers...

Sent: Wed, 12 Aug 1998 08:31:21 -0700 (PDT)

From: "Jack R. Lindholm" <jrl-black@rocketmail.com

Carmine,

I just got an 81, with bumpers that need rechroming. You mention isolating all the pieces? Any more you could add to this? Also, I find that this has a Edelbrock performer manifold with a Holley 4 barrel carb, with mechanical secondaries... and I think a 360... (there's a 1/2 inch spacer between the mounting ear on the frame and the engine mount.....) Any experience with a Holley 4 barrel? Its got an obvious hesitation.. thanks in advance.....

Manhattan Jack 81 Imperial

Subject: EFI Imp Spotting & bumpers...

From: <DBKEMPER@aol.com

Sent: Thu, 13 Aug 1998 17:01:18 EDT

The place in Arizona is supposed to be the original platers...they used to be $100 per bumper!

Subject: EFI Imp Spotting & bumpers...

From: <Stude1966@aol.com

Sent: Thu, 13 Aug 1998 05:32:47 EDT

There are several shops that do chrome plating and repair of aluminum bumpers, one is Faith Plating in CA. I just got the name of another in Arizona that I am calling today because of the prices another Imp owner told me they quoted him a year ago. This shop was supposed to be Chryslers plater for those bumpers.

Bill

Subject: EFI Imp Spotting & bumpers... References:

From: t3176@flash.net

Sent: Wed, 12 Aug 1998 22:15:57 -0400

Carmine,

I just got an 81, with bumpers that need rechroming.

You'll never get anyone to do it. They are aluminum with chrome plating, 99% of chrome shops can't do aluminum bumpers. You'll have to get new (good used) ones if yours are "swelled" or peeling. That's one reason why they suck.

Ironically, my "good" rear bumper came from a yard in New York. Sorry.

You mention isolating all the pieces? Any more you could add to this?

Yes. They corrode because of an electro-chemical reaction between the steel car frame and the aluminum bumper. They are supposed to be electrically isolated from the factory, but either they didn't do a good job, or the insulation breaks down (usually just some green-looking paint). I disassembled my good bumpers and caulked every mounting point with silicone. That's strictly preventive---no good if they're already shot. That's the other reason they suck.

Also, I find that this has a Edelbrock performer manifold with a Holley 4 barrel carb, with mechanical secondaries... and I think a 360... (there's a 1/2 inch spacer between the mounting ear on the frame and the engine mount.....)

318/360's have the CID cast into the side of the engine (passenger side I think) But it will be covered in crud, and you'll have to see it from underneath.

Any experience with a Holley 4 barrel? Its got an obvious hesitation..

Yes, just like the bumpers, Holley carbs also suck. Sell the Holley to some hot-rod kid, them get a Carter AFB 625CFM (about $250 for a brand new one w/electric choke). You'll be a lot happier. thanks in advance.....

No problem

"Detroit"
Carmine F. (who drives a New Yorker)

Subject: EFI Imp Spotting

From: <DBKEMPER@aol.com

Sent: Wed, 12 Aug 1998 21:08:22 EDT

Too bad some enterprising person doesn't reproduce the bumpers in steel.....they could sell a set for almost every 81-83 Imperial still alive!

Subject: EFI Imp Spotting

From: "Dick Benjamin" (bondotmec@dte.net)

Sent: Wed, 12 Aug 1998 20:58:46 -0700

All 8 of mine (4 cars) are perfect, so this must be another east coast problem, or at least not a high desert problem.

Dick Benjamin (bondotmec@dte.net)

From: DBKEMPER@aol.com Too bad some enterprising person doesn't reproduce the bumpers in steel.....they could sell a set for almost every 81-83 Imperial still alive!

Subject: 81 Alloy Wheels

Sent: Wed, 12 Aug 1998 14:51:02 -0700 (PDT)

From: "Jack R. Lindholm" <jrl-black@rocketmail.com

Hi List..

I have a set of alloy wheels, I'll be mounting tires on soon... but the wheels have various levels of corrosion etc. under the clear coat. Has anyone refurbished & refinished these? Thanks in advance..
Manhattan Jack 81 Imperial

Subject: 81 Alloy Wheels

From: <DBKEMPER@aol.com

Sent: Wed, 12 Aug 1998 20:50:29 EDT

Jack,

Guess who has done alloy wheels!!! Did them on my daughters LeBaron Convertible....89 and helped a friend so Shelby wheels for his Aries.....yes I said K-car...it is also an 89 and we put the leather fwd New Yorker interior with 6 was electric seats in it.....bolt in! But I get off the subject. Bosch makes a clear coat remover which I got at A&A Auto Parts....they are all over the place. If not a home center can give you a good paint remover that will not attack the alloy. Aircraft Paint remover available at body shop supply will do it too. then you need some 0000 steel wool (4 ought) I like Mother's Mag wheel polish since it protects too....some 600 grit sand paper and a Dremmel tool with a brass brush then all it takes is time. Not a bad job just time consuming! Another choice is take them to a plater or the like and have them dip them and polish....not a cheap date!

Subject: 81 Alloy Wheels

From: <Stude1966@aol.com

Sent: Wed, 12 Aug 1998 22:20:18 EDT

YOU CAN HAVE THEM PLASTIC MEDIA BLASTED FOR ABOUT $10.00 PER WHEEL AND THEN BRING THEM UP, A LOT LESS WORK.

BILL

Subject: 81 Alloy Wheels

From: <DBKEMPER@aol.com

Sent: Wed, 12 Aug 1998 23:24:35 EDT

Where do you get alloy wheels plastic media blasted for $10.00 each!

Subject: 81 Alloy Wheels

From: <Stude1966@aol.com

Sent: Thu, 13 Aug 1998 05:35:29 EDT

I had some work done a couple of years ago at a shop on Long Island, I could check to see if they are still around. They were doing an entire car for $300

Subject: 81-83 Bumpers, Re-chrome

Sent: Sun, 2 3214 -0500

From: Bob Dupee <abddupee@xcelco.on.ca>

I realize,that aluminum is somewhat difficult to re-chrome,but WOW.....

I got a couple of prices here in Canada,and could not believe it, $1200.00 Can. Plus Plus,front and rear bumpers. I feel my 81 Imperial is in fine shape except for pitting around side window moldings,I may have live with for the time being,or untill I find more parts. If any of the imp.club members can give me some feed back as per. the above it will be greatly appreciated.
THANKS
Mr.Mopar

Subject: Rechrome 81-83 Imperial Bumpers

From: Stude1966@aol.com

Sent: Mon, 1 4043 EST

The shop in Arizona will not replate them anymore. I called them after the last discussion. They can be done by several platers around the country for the going rate. Your looking at $150 per end and 200 to 250 for the center. There is no rocket science to plating them. The are priced

about 30% higher than other 3 piece bumpers. My Avanti bumpers 3 piece cost me $450 to get done the Imperial would run about $550 to $600 there is a shop in Mass that I talked about to do mine, but I'm not will to go the bucks right now. In my area there is a Mahogany 83 with the bumpers done body color it is really beautiful.
Bill
81 EFI

Subject: 81-83 Imperial Bumpers

From: DBKEMPER@aol.com

Sent: Mon, 1 520 EST

Maybe it is time to think about reproduction bumpers.....any ideas.....fiberglass, steel, I have heard that the shop that originally did the bumpers in Arizona will replate solid originals.

Subject: 81-83 Wiper Systems

From: "Sir Buddy Enterprises" <eddenbud@magicnet.net>

Sent: Wed, 1 5444 -0400

Well, I tired of working on that "uneasy idle" on my 82, Frank, so today I tackled another problem, the windshield wipers. As usual with Frank, the failure ocurred at the perfect time--really. We were driving in the Mystery Driving tour at a car meet in St. Pete last month when a line of rain and thunderstorms moved through. As the rain ended, I turned off the wipers and KLANK---PLUNK, and they parked. That was the end of their action. What had happened , which I have seen on both of the other Chryslers that I've owned with this system including my 81 Imperial, is that the Drive Linkage from the motor to the left wiper, had fallen off of the motor linkage, due to wear of the plastic assembly that holds it on. I also needed to replace the motor, as it was intermittently failing to reverse and park the wipers; this too happened on my other cars, so I did not even bother to check the wiper switch, as I was sure it was the same failure again internally in the motor.

So I got all the genuine MOPAR parts I needed, including a new MOPAR wiper motor and put them in today! Boy, I really skinned some knuckles with this task (as I had on the previous two Chryslers!) Anyways, the wiper arms are attached to the pivots with this clever little locking device. To unlock it, you must lift the arm up off of the glass and then slide the locking tab up---This all came back to me VERY SLOWLY, and only after a string of profanities that drove my dog Buddy to seek solace inside under a bed!!! Well, I found that the left (driver's) side arm did not have this locking device on the arm. You could see that it was once there, but must have been broken off under previous maintenance. Nonetheless, it was a real PAIN to get that one off. It was really on there tight. Well, I got everything all back together, but now I am worried that that left arm may come loose at an "inopportune" time, as happened on my 81 once in the midst of a monsoon. I'm afraid that by removing and replacing it a few times as I got the arm placement adjusted that it will not be as securely attached as it was before.

Does anyone know if ther is a repair kit or something for that locking device; perhaps I could drill out the rivets and screw in a new one. The arm is in very good shape, and I hate to go to my friendly MOPAR shop only to have them tell me that I must buy a new arm (if it is even still available.)
Any ideas?
Ed Ferrara

Subject: 81 - mirror

From: wes@direct.ca (Wesley T Foulds)

My mirror is not working on my 1981 Imperial and the outer case is cracked.

Does any one have any specs they can send me or know how they come apart?

Subject: 1981 mirror removal?

Sent: 5/30/97 9:36 AM

From: bondotmec@alphainfo.com (Dick Benjamin)

Wes;

This information should be in the manuals. If you don't have them yet, you should get yourself a set. It is very difficult to maintain one of these cars without a manual, because there are so few mechanics who are familiar with them. The manuals are available through your local friendly Chrysler dealer (he will give you a mail order form).

What doesn't work on it? Positioning and heating are electrical worries, of course, and are not necessarily the fault of the mirror itself. Does the one on the other side work OK?

Of course the only cure for the crack is to replace it. The various Imperial wrecking yards should have them.

The mirrors are still available from Chrysler, too, last I checked.

Dick Benjamin

Subject: Tilt wheel

From: "Mark Allen (Marshfield)" <MarkA@coos-bay.k12.or.us

Sent: Wed, 7 Oct 1998 18:02:02 -0700

Yup. For the most part it's pretty much a bolt in situation. That's the way it was on my 66 "300" anyway. It helps if it is from the same year/model car.

Subject: Tilt wheel

From: Riskntrade@aol.com [SMTP:Riskntrade@aol.com]

Sent: Wednesday, October 07, 1998 3:56 PM

Has anyone successfully transplanted a tilt wheel mechanism from a donor car to a car equipped without tilt wheel? Whew...anxiously awaiting replies. thanks

Subject: 81-83 Imperial garage door openers

From: <RWestra@aol.com

Sent: Sat, 6 Jun 1998 14:52:46 EDT

Hi:

Anyone had any success using the garage door operator installed in the left visor to operate a different brand of opener? If so what brand of opener and what modifications were necessary? Was this opener installed on all 81-83's?

Has anyone installed their opener in the visor space? What kind of opener and how big is this task?

Thanks.

Rolland Westra

Subject: 81-83 Imperial garage door openers

Sent: Sat, 6 Jun 1998 14:27:50 -0700

From: "Dick Benjamin" (bondotmec@dte.net)

Rolland;

I had this same idea myself, and I asked Bob Harris about it. He says he has the whole kit available for sale, so you can put the proper receiver on your garage door. It was something I still think about, but if I did that, then my wife's car wouldn't work the same door, I'm afraid.

If you want Bobs e-mail, (He has gone off the IML), tell me, I'll send it to you.

They were on all 81-83's

Dick Benjamin (bondotmec@dte.net)

Subject: 81-83 Imperial garage door openers

From: RWestra@aol.com

Sent: Saturday, June 06, 1998 11:52 AM

Hi: Anyone had any success using the garage door operator installed in the left visor to operate a different brand of opener? If so what brand of opener and what modifications were necessary? Was this opener installed on all 81-83's? Has anyone installed their opener in the visor space? What kind of opener and how big is this task? Thanks. Rolland Westra

Subject: 81-83 Imperial garage door openers

From: <RWestra@aol.com

Sent: Sat, 6 Jun 1998 18:12:53 EDT

Thanks Dick.

I hadn't thought about the problem with the wife's car. I suppose I could buy another 81-83 Imperial for her but I'm not sure how that would fly. She has very strong feelings about reliability on her vehicle. One failure and she is ready to sell.

I guess I will hold off on converting the garage for now. That feature of the opener in the visor has some pizzazz but from a practical standpoint an operator clipped to the visor works as well.

Thanks again.

Rolland

Subject: 81 in Vegas - Accident

Sent: 8/9/97 3:27 AM

From: bondotmec@alphainfo.com (Dick Benjamin)

Tony;

My chin fell when I saw your subject line. What a crying shame! May the offender rot in the Las Vegas sun for a month of Sundays.

Repair parts are probably not too hard to find, except for the trim items that are unique to the Imperial. The basic structure and underpinnings were used on many Mopars of the era, specifically the Mirada and Cordoba line. If you go to a big, well-run wrecking yard, their Hollander manuals will tell you what parts you can interchange, and they will "run" your needs over their tie lines, and you will be surprised by how efficient this all is.

I think you should let your body man decide what is to be replaced and what can be repaired, and also let him deal with the frame and alignment shop and the parts suppliers. Chrysler dealers may still be able to locate some of the trim items for you, but it will be a time consuming process for the counterman. Be prepared to beg.

I would try to get your insurance to approve your going to a high quality collector car type body and paint shop, using the rarity and collectability of your car as an argument. There are good shops, and there are cheap shops. You know which ones the insurance carrier is going to try to jawbone you into using for "that old car".

Dick Benjamin bondotmec@alphainfo.com

Subject: 81 in Vegas - Accident

Sent: 8/9/97 6:48 AM

From: RonSmithAZ@aol.com

I would be more than happy to check the AZ salvage yards for you if you either have a list or can send pictures of the damaged area.

I live in the Scottsdale area of AZ, which is approx. 5 hrs. from you. I travel back and forth to Las Vegas, so if we get lucky, I can bring the parts to you.

Check the Las Vegas salvage yards, something I have always wanted to do but never have, and see what you can find.

I'm not sure if Mike Sheffield, a Las Vegas resident and owner of "CARBOOKS@ aol.com", has had any experience with salvage yards but you can check with him for a possible source.

For body and fender work, I usually check with the local Automotive paint & supply shops for their recommendation on people who perform work at home AND do very good work. Remember, most body and fender guys keep scrap books of their work and you can always ask to contact some of their clients.

Hope this is of some help. If you need to contact me, RonSmithAZ@aol.com.

Subject: 81 in Vegas - Accident

Sent: 8/10/97 12:42 PM

From: Aholland19@aol.com

Its Sunday afternoon, raining and my Imperial is crashed. In Vegas, who would have believed it. Now that it has been a few days since the crash I can reflect on just what happened. I am working as a computer training consultant here in Vegas and was calling on a client at the time of the wreck. I had made a right turn on E. Tropicana off of Eastern Ave. I'm new here and still sometimes forget the addresses get higher to the left not the right. I saw my mistake and looked for a turnaround. I am from the south. Born and raised in Atlanta Ga. and lived the last 16 years in Chattanooga. There is no such thing as a U-turn. Personally I like U-turns. I was going to make one at the first corner I came to. Spencer Ave. was the corner. The light was green and a white Firebird was to my left on Spencer getting ready to make a right on red. I was watching him so we did not cross paths in our turns. I was more than half way through my turn when I see this 89 Caddy pasted all over my right fender. I continued on with my U-turn and he bounced off and hit the right curb. I never felt or heard any impact. It really was like slow motion. I drove on up in the parking lot of a 7-11. There's on every corner here. The guy got the Caddy started and we exchanged information. For the most part I thought he was going to stop and he thought the same thing about me. The Caddy is hurt pretty bad. The Imperial is bad but fixable. As far as insurance goes I do have it. Tennessee Farmers Insurance will NOT cover any car over 10 years old for collision. I am still a legal resident of Tennessee and saw no reason why I should cancel my policy as long as I still have not established residency. Insurance is twice as expensive here. I'm on my own as far as fixing the Imperial. I took a chance and am going to pay for it. I would like to know what interchanges as far as fenders. I would like to find both of them. The nose is OK for the most part. The only thing is the "flap" piece that is joined with the fender and touches the bumper is "torn" loose. The left fender was forced back and bowed out at the top. I can not open the drivers door without damaging it. I'm so lucky everything damaged was forward of the doors. It looks like the right front tire took a lot of the blow. I want to thank everybody for your E-Mails and I'm sure with your help I will get this Stunning 81 back on the road.

Tony Holland

Subject: 81 Frame-Straightening, swapping advice

Sent: 8/19/97 1:57 AM

From: fc3@bellatlantic.net (Frank Cannavale, III)

Sent: 8/14/97 8:46 PM

From: Aholland19@aol.com

All I can say is it isn't good. The frame guys told me the right side is bent up and over and the left side is down and back. The K-Member is bent, along with the upper control arms on both sides and the sway bar on the front end. "The price to fix all of this is far more than the car is worth". I don't agree. I am going to take the Imperial to another frame shop and get a second opinion.

Unibody cars are difficult to isolate from road and engine noise, when compared to body on frame designs. So Chrysler built two separate "sub-frames" for its unibodies. The rear sub-frame mounted the axle and associated suspension components. The sub-frame was then mounted to the body with isolators. A K shaped frame (turned 90 degrees), mounts the front-end suspension components, the engine, and the transmission.

Isolators then are placed between that frame member and the body. Thus, the isolating properties of body on frame construction are met, without building a whole frame car.

K-Frames are nearly impossible to fix (I tried on my '72 Imperial). The Ks are rubber mounted and the isolators allow so much flex that the straightening equipment can't pull everything back into alignment. The Ks are also pretty compact and don't have a whole lot of attachment points for the straightening machine, which does not help matters, either.

Since the Ks have ALL of the front-end components, plus engine and transmission mounted to it, they are very heavily built, which further complicates repair. They also don't straighten well because of the shape complexity. You can replace the K-frame. And, unlike my (departed) '72, the 81-83s do NOT have Imperial-only front-end components.

When the K is out, the rest of the frame rails can be more easily straightened. Some of the new frame equipment available now is pretty good. (My '90 Town looks new after being hit by a panel truck, which forced it into the center divider @ 65 MPH on the LIE 2 years ago. Frame bends are totally gone! BTW - I like driving a car that can DRIVE away from a serious collision. Forget about walking away from one!)

So, "all" you need to do is find a K-frame from an 81-83 Imperial, Cordoba, or Mirada. The front end stuff for Diplomats, Fifth Avenues, etc. are a bit different. While there, grab the control arms and all. It appears, from the manual, that you can actually remove the K-frame and all of the FE components as one assembly, so I'd do that. Of course, in order to remove a K-frame, the engine/transmission have to be removed first...

Specifically:

Locate donor car.

Remove donor car engine/transmission UNWIND tension from donor car's torsion bars Remove K-frame with components attached. It drops down.

Replace ball joints and rubber bushings/isolators (you'll never find a better time to do this.)

On your Imperial Remove engine/transmission (need to have any rebuild work done?) Remove bent K-frame (unwind the torsion bars FIRST) Good time to detail the engine compartment with some cleaner and paint.

Might as well do the engine too.

Install K-frame Reinstall engine/transmission

Obviously, this is neither a simple, or a cheap job. BUT, if you want to keep the car, don't want to drive a car that has a "wandering" front-end, and don't want to replace front tires every 5K miles, I don't see any alternative.

-Sorry

I guess this illustrates a good point. Many people maintain (and I agree) that it probably does not make much sense to use a special interest car as a daily driver. The investment of time, effort, money, and affection (for lack of a better word) makes it very, very hard to walk away from a badly damaged car. (If you were driving, say an '84 K-car based LeBaron, would you really care if the car was damaged like this? Probably not, just chuck it and get "disposable" car. For some that means used, for others new. It really does not matter as long as you consider it disposable with respect to replacement value, insurance, and budget.)

Looking at it from a statistical perspective. (I have a degree in mathematics, after all.)

<<I have edited down the explanation text from the following section, since it did not add much to the argument. But, I will explain where the numbers came from, it anyone really cares. As a (former) mathematician, I have always maintained that cooked statistics are useless without having reference to the raw numbers and survey methods. (You know: 4 out of 5 people surveyed believe.... Those things are so full of holes that they hold no more credence than saying "My dead Aunt Edna told me at the seance that... Phttttt!)

From my records, it appears that, on average one car or another has been involved in some kind of incident every 150K miles. Furthermore, everyday driving seems to be more "hazardous" than weekend/vacation driving. (For example, you may have to drive to work in bad weather, but you don't have that same imperative to drive on your day off.) Given that my daily driver gets about 25K mile/year and my "special" cars never got more than 7K miles/year the raw probability is 3.5 times better that the daily driver will get crunched somehow as opposed to the "special" car. The daily vs. weekend driving environment actually biases this more, but I can't quantify on the basis of the very limited data that I have. Being conservative lets say 4 time worse for the daily driver.

Analysis:

Daily driver: 25K miles/year, damage every 150K miles 1 incident every 6 years Special car: 7K miles/year, damage every 150K miles 1 incident every 22 years, or biasing in favor of weekend/vacation usage (4:1 ratio) every 24 years.

Those "incidents" requiring repair include everything from minor ($100) touch-ups to major ($10K) body and frame repairs.

Subject: 81 In Vegas - Back from the frame shop/Advice?

Sent: 8/17/97 8:19 AM

From: gebhard@switch.rockwell.com (R.W.Gebhard)

1. Good thing you didn't sell the RR!!

2. The k-frame and control arms are 'bolt-in' items. Ok, so it's a bunch of bolts and a whole lot of work, but it's do-able. The good news is that boneyards are just littered with Mirada/Cordobas that should have the same k-frame. I may be wrong, but I think the NY'er 5th Ave used the same suspension.

3. As for Tony suggesting a Mercedes shop for the frame work: The only frame guy I know has an amazing reputation and works for a Mercedes dealer.

4. Improperly operated frame racks can pull a car apart, shop w/ care.

RWG

Subject: '81-'83 Imperial Fenders

From: Chip Hood <Chip.H@worldnet.att.net

Sent: Wednesday, December 31, 1997 7:13 PM

Although they look very similar to the Cordoba/Mirada fenders, Chrysler actually made the Imperial's fenders out of a thicker gauge steel. The Imperial also lacks the decorative vent indentations found on the Cordoba/Mirada, and the hoods will not interchange. I'm not sure if this would make it totally impossible to swap body parts between the cars, but I would guess it makes it a lot more difficult.

Christopher '78 New Yorker & '81 Imperial

Subject: '81-'83 Imperial Fenders

From: "Dick Benjamin" <

Sent: Thu, 1 Jan 1998 18:13:49 -0800

Chip;

I was aware of the metal thickness difference in the case of the hood, but unaware there was any difference in the fender metal thickness. It probably wouldn't matter, but the need to block off the vent indentations would certainly add to the body man's bill.

Tony HOLLAND!! please copy. I lost your e-mail address.

Dick Benjamin

Subject: 81 Imp. - Headlight

Sent: 8/4/97 4:27 AM

From: thepub@surfsouth.com (Denise A. Champa)

Hi!

Solved the problem thus far: doors will close when dimmer switch is in high beam position only. Could this be because headlamps are removed from circuit causing a ground problem when in low- beam position? We can't figure out why the '81 (Mahogany Firemist) we're working on has what looks to be a dimmer switch on the floor. On the driver 's vanity mirror is a sticker that reads as follows: Chrysler Security Code on 1 3 6 8 off 2 45 7 9

Can you please tell us what that means?

Thanks!!!!!

Bill & Denise

Subject: 1981 Imp. Headlight Doors/Garage Door Remote

Sent: 8/6/97 5:39 PM

From: bondotmec@alphainfo.com (Dick Benjamin)

Chrysler sent a "gift box" containing: A garage door receiver.

Ah HAH! I wondered how they managed that! Now I have to start looking for an original Garage door receiver.

Dick Benjamin bondotmec@alphainfo.com

Subject: 1981 Imp. Headlight Doors

Sent: 8/4/97 7:22 PM

From: fc3@bellatlantic.net (Frank Cannavale, III)

Have you checked the fuse? Since your doors operate fine when you apply an outside power source I would check to see if you are getting power to the motor.

There is no fuse in this circuit. The headlight motor is powered by the J2 circuit.

NOTE: All checks are with the ignition switch on (Run position) unless otherwise noted! All measuring should be between the noted test point and a good ground, unless otherwise noted!

Power feeds from the fusible link to the ignition switch via J1 circuit.

(12 ga Red). This also feeds intermittent wipers, speed control, warning lights, etc.

These other things don't work, wiring or ignition switch problem. OR continue...

Check to see if there is power on fuses 10 & 11.

No power, wiring problem, bad splice J2-2. OR continue...

From there power goes to a door motor relay/circuit breaker combination attached to the fuse box. Pull the single connector off the little box of the two and see if there is power there. (Circuit J2 14 gauge dark blue wire) Reconnect wire after testing No power, wiring problem, bad splice J2-2. OR continue...

Check that there is power from the circuit breaker to the relay, it is carried by a little bus bar that connects the two components.

No power, bad circuit breaker. OR continue...

Relay is controlled by the headlight circuit L2. Remove the 14 gauge light green wire from the relay and test. If the headlights are on, then there should be power on the L2 circuit. Measure for 12V at the door motor relay on the 14 gauge light green wire. There should be power when the headlights are ON and no power when they are OFF. If there is no power in either case, then there is a defect in the L2 circuit from the L2 splice to the relay. Reconnect the wire after testing. OR continue.

Remove the connector with the 18 gauge wires (black with pink tracer (circuit L28-open) and dark blue with white tracer (circuit L31-close)).

Headlights off should have 12V on the relay terminal that the dark blue with white tracer wire connects. Headlights on should have 12V on the relay terminal that the black with pink tracer wire connects. If not, you have a bad relay. OR continue...

Each circuit has a single plug connector. L28 has connector #23. L31 has connector #19. Locate and test. (I have no clue where Chrysler hid these connectors)

Behind the radiator grill there is a connector with both L28 & L31 circuits. Disconnect and measure voltage on each lead. Note that you will need to turn the headlights on to measure circuit L28-open (black with pink tracer) and the headlights off to measure circuit L31-close (dark blue with white tracer.) Reconnect after testing. If no voltage, bad circuit, OR continue.

Remove the single wire connector from the motor and measure the resistance from that wire's terminal to ground. (Meter's Rx1 scale) Reading should be near zero ohms. If not, bad wire, ground splice # 1-L9, or ground point behind the left headlight. (On the wheelhouse reinforcement.) (Circuit L9) OR continue...

Last thing, bad motor.

Frank Cannavale, III fc3@bellatlantic.net

Subject: 81 - Headlight Doors

Sent: 8/2/97 5:44 AM

From: mblez@juno.com

Dear Bill and Denise,

From your message is sounds like your headlamp door motor is fine. Have you checked the fuse? Since your doors operate fine when you apply an outside power source I would check to see if you are getting power to the motor. Using a 12 volt test lamp or DMM check for voltage at your wiring connector that plugs to your motor leads. With the ign. & headlamp switch on you should have voltage at the female socket and nothing at the male spade. Then with the ign. on and the headlamp switch off you should have voltage at the male spade and nothing at the female. If you don't get any voltage during these tests then your problem is in your wiring circuit etc..

Since you swapped a know good circuit breaker/relay and this didn't help you either you have a bad headlamp switch or a bad wire/corroded connection in the circuit. It doesn't take much to stop 12 volts. I have repaired many problems by just disconnecting and reconnecting the connections. One last thought, make sure your motor has a good ground there is a grd. terminal just above your manual hand wheel. You do know that you can open your doors manually by turning the knob clockwise but disconnect your motor leads first. I hope this helped.....Mike Bleznyk

Subject: 1981 Imp. Headlight Doors/Garage Door Remote

Sent: 8/5/97 10:35 PM

From: fc3@bellatlantic.net (Frank Cannavale, III)

Solved the problem thus far: doors will close when dimmer switch is in high beam position only. Could this be because headlamps are removed from circuit causing a ground problem when in low- beam position?

OK! Looking at the information from above, we see that the "Concealed headlamp relay" is fed power from the J2 circuit and the relay's ground for the magnetic coil is via circuit L2. The relay's NC connection drives circuit L28 and the NO connection drives circuit L31.

Normally, when the ignition is on, J2 has power. If the lights are off, the relay is grounded through the headlamp dimmer switch to the headlights (either hi or low beam, it should not matter) and then to ground. Since the relay has a complete circuit, it trips from NC close and NO open to NC closed. Now 12V is applied to L31 and the doors close.

When the lights are turned on, there is 12V on the L2 circuit. The relay de-energized, NC goes back to closed and NO opens again. The L28 circuit is powered and the doors open. The reason the system is setup this way is so that a failure will most likely leave the doors OPEN since that is the default state (un-energized) of the relay.

So, the reason that the doors only close when the high beam are on is because the relay only sees ground when the headlamp dimmer switch is in the high beam position. You need to check circuit L4 (14 gauge violet /w white tracer) from the dimmer switch to cavity #36 on the bulkhead connector (where it splits on the engine side), with one lead going to each headlight.

Perhaps both low beam bulbs are burned out, or there is high resistance in the circuit.

BTW, if you prefer, I can scan and e-mail the wiring diagram.

[Send a copy to me, please!- Tony]

We can't figure out why the '81 (Mahogany Firemist) we're working on has what looks to be a dimmer switch on the floor.

The '81 had a radio option where the driver could scan the radio's tuner to the next station by pressing a floor mounted button. I assume that is the button you mention. Is the original radio system still in the car?

On the driver 's vanity mirror is a sticker that reads as follows: Chrysler Security Code on 1 3 6 8 off 2 45 7 9

Can you please tell us what that means?

That's pretty easy. The car has a garage door opener integrated into the driver side sun visor. It sends commands to a Chrysler supplied garage door receiver. Some time after the initial owner received a new 81-83 Imperial, Chrysler sent a "gift box" containing:

Mark Cross leather folder, Mark Cross umbrella with zippered cover, Ignition key (uncut) with a Cartier crystal inset at the top of the key,

A garage door receiver.

The receiver is designed to connect, in parallel, to the push button wiring of your home's electric garage door opener. Of course, it would be a logistical nightmare to make certain that each car got the appropriately coded receiver, and it would not be very secure if every Imperial worked with every Imperial's garage door receiver.

So there is a 9 position dip switch inside of the sun visor and the receiver. The owner would set the same switches on/off for each device. Once set a "unique" key from car to garage is made (2^9512 combinations).

Apparently, the previous owner set that switch combination for his transmitter that is in the sun visor. If you remove the lens from the vanity mirror and remove a screw (I think) you will find the dip switch.

-- Frank Cannavale, III fc3@bellatlantic.net

Subject: 1981 Headlight Door/Garage-Door Opener Codes

Sent: 8/5/97 8:18 AM

From: bondotmec@alphainfo.com (Dick Benjamin)

The "security code" is the programmed in code for the garage door opener which is built into the left sunvisor on every '81-83. I have never known what brand of opener was supposed to work with this device, and our Genie does not seem to be able to communicate with any of our 3 81's. But, that is what the label is all about.

Your suspicion of a grounding problem affecting your headlight doors sounds to me like a very good area to investigate.

One of mine had a dimmer switch on the floor too. Klutz who owned the car before did not know how to adjust the original dimmer switch on the column, and he just wired in a replacement switch and screwed it through the carpet. Arrgh!

Dick Benjamin bondotmec@alphainfo.com

Solved the problem thus far: doors will close when dimmer switch is in high beam position only. Could this be because headlamps are removed from circuit causing a ground problem when in low- beam position? We can't figure out why the '81 (Mahogany Firemist) we're working on has what looks to be a dimmer switch on the floor. On the driver 's vanity mirror is a sticker that reads as follows: Chrysler Security Code on 1 3 6 8 off 2 45 7 9

Can you please tell us what that means?

Subject: 81 - Garage Door Remotes

Sent: 8/7/97 8:30 PM

From: walrusmk@pacbell.net (Michael Friedman)

Though my experience is limited to GM & Ford vehicles on this topic, the units were self-contained and consisted of a transmitter in the car and a special companion receiver that got mounted in the garage, and wired up through the same contacts as your keyswitch on the outside or pushbutton on the inside. It has a simple relay inside that duplicates the 'momentary on' connection that the garage door opener uses to trigger it. The Cadillac version actually has THREE different codes per unit, so you can trigger your garage 'in town', the gates at your country manor, and the garage in your country manor. The unit came with one receiver; you would need to buy two more to live this fantasy. Very upscale.

Back to Mopar, chances are that what you would need to use this built-in remote would be the receiver. I guess your first inquiry should be a dealer, but you may need to resort to PartsVoice or some other locating service.

Mike

Subject: 1981 Imp. Garage Door Remote

Sent: 8/8/97 6:29 PM

From: bondotmec@alphainfo.com (Dick Benjamin)

OK Bob, thanks. I will hold off on the garage door receiver until I get the car back on the road, if I ever do. I will be eager to see whatever you have in the way of diagnostic information. I'm sure anything you can send will help to decipher what is going on, I am totally stumped at this point.

Dick Benjamin bondotmec@alphainfo.com

This Garage Door Opener Receiver will cost $150 plus some shipping and insurance, I'll say $160 total.

Sorry the car isn't corrected yet. I have some Sun/EFI Tester diagnostics that may help to more quickly fix the location of the problem - I'll look them up and get back to you later today or early tomorrow morning.

Subject: 1981 Garage Door Remote

Sent: 8/9/97 9:16 AM

From: fc3@bellatlantic.net (Frank Cannavale, III)

Chrysler sent a "gift box" containing: A garage door receiver.

Dick,

Since I bought the car new, I have all of that stuff. (Even the umbrella - real guys don't use umbrellas. -)

The receiver is model number G4781 and is labeled by "Chrysler Corporation."

I would not know if you can find one, but if not maybe we can clone this one that I have. The only problem is I don't know what frequency it operates on and my HP 974A only counts to 100 KHz. Makes it tough on those RF circuits since some of the tuning elements are just wire coils.

-- Frank Cannavale, III fc3@bellatlantic.net

Subject: 83 headlight door relay

From: "Leo L Heligas" <LLHELIG@prodigy.net>

Sent: Wed, 3 040 -0600

HOW do you remove the headlight door relay & circuit braker from the fuse block? I assume these are the two (one large and one smaller) on the front of the fuse block. I am tring to replace them to try to eliminate the buzzing emminating from behind my dash!! At 66 yrs. the body parts just don't bend the right way when crawling under a dash and I would like to do this as fast as possible!!
Leo
83 EFI Mark Cross
59 Fury Sport Sedan
46 P-15 Conv't.

Subject: 83 headlight door relay

From: DBKEMPER@aol.com

Sent: Thu, 1 2926 EST

That buzzing is supposed to be a sign that the headlight doors are not open or closed entirely. those come out with a little wiggling.....there is a tab that they fit through and it is real snug.....a very small flat screw driver is a great help.....first unplug then of course.....not a bad job.....actually the fuse panel hangs on a flat hanger and slides off of that and will almost lay on the floor.....makes it easy for us more mature car guys!!!!!!

Subject: 1981 Garage Door Remote Frequency

Sent: 8/10/97 9:15 AM

From: bondotmec@alphainfo.com (Dick Benjamin)

I can probably figure out the frequency by snooping with my grid dip meter around my sun visor. (Hope my neighbor isn't watching, this will be fairly hard to explain.) The type of modulation won't be evident, but is probably something pretty simple. Anyway, its not a high priority item right now, I'd rather get my favorite car driveable first.

Dick Benjamin bondotmec@alphainfo.com

The receiver is model number G4781 and is labeled by "Chrysler Corporation." operates on and my HP 974A only counts to 100 KHz. Makes it tough on those RF circuits since some of the tuning elements are just wire coils.

Subject: 81-83 Tires

Sent: Thu, 11 Jun 1998 19:55:42 -0400

From: Scott <kytitan@lex.infi.net Organization: InfiNet

Gary:

I don't know if you have a Cooper Tire dealer in your area, but I used to get Cooper tires with the wider whitewall when I had my '82 Cordoba and my mom and dad have Coopers on their '81 Mirada.....

Hope this helps!

Scott

Gary Hasey wrote:

Anyone know where I can get new tires like the originals on my 82? (The wider whitewall) P215 75R15 THANKS, Gary

Subject: 81-83 Tires

From: <PinkertonK@aol.com

Sent: Thu, 11 Jun 1998 17:30:25 EDT

In a message dated 98-06-11 04:31:39 EDT, you write:

Anyone know where I can get new tires like the originals on my 82?,(The wider whitewall) P215 75R15 THANKS, Gary

Coker tire, Tennessee. If they don't have them I will be amazed.

Probably not cheap however.

Kerry

Subject: 81-83 "A'' PILLAR MLDGS.

From: Imperialdrivein@webtv.net (Gary Hasey)

Sent: Thu, 26 Mar 1998 21:48:04 -0500

How do I replace interior cloth on the "A'' pillar garnish mouldings? Does the dash have to be "rolled down"?

Thanks,Gary

Subject: 81-83 "A'' PILLAR MLDGS.

From: "Dick Benjamin" (bondotmec@dte.net)

Sent: Thu, 26 Mar 1998 22:35:44 -0800

Gary;

I already sent you my experiences with this. Maybe it didn't arrive for some reason. Anyway, I took the moldings over the doors off first, (they snap off), then took the "A" pillar molding off. I think they snap off too, but you have to pull the top toward the rear of the car so the bottom has room to rotate up and away from the dash top. As I told you before, I also had the top off the dash to replace a speaker at the same time, and maybe it was off when I changed the "A" pillars, I do not remember, but it was easy to do, and I definitely did NOT have to move the dash itself.

Dick Benjamin (bondotmec@dte.net)

Subject: 81-83 "A'' PILLAR MLDGS.

From: Gary Hasey <Imperialdrivein@webtv.net

Sent: Thursday, March 26, 1998 6:48 PM

How do I replace interior cloth on the "A'' pillar garnish Mouldings? Does the dash have to be "rolled down"? Thanks,Gary

Subject: 83 with dual exhaust

From: "Leo L Heligas" <LLHELIG@prodigy.net>

Sent: Fri, 5 1651 -0600

Hey List!

Has anyone had any experience with installing a dual exhaust system on an '83 wirh EFI? What do you do about the extra catalystic converter (I think that's what is is)?, or for that matter, what about the other one? I live in South Dakota where the air is clean(most of the time)

Leo; '83 EFI exhaust system on an '83 wirh EFI? What do you do about the extra catalystic converter (I think that's what is is)?, or for that matter, what about the other one? I live in South Dakota where the air is clean(most of the
time)

Subject: 83 with dual exhaust

From: "Dick Benjamin" <bondotmec@ez2.net>

Sent: Sat, 6 4639 -0800

I would advise against it. This system is pretty fussy about any changes that affect backpressure, we have had some IML'rs get in trouble trying this. If you decide to do it anyway, be sure to keep the original system parts, so you can go back if you start getting weird driveability problems.
Dick Benjamin
bondotmec@dte.net

Subject: 83 with dual exhaust

From: Leo L Heligas <LLHELIG@prodigy.net>

Sent: Saturda21 PM

Hey List!

Has anyone had any experience with installing a dual exhaust system on an '83 wirh EFI? What do you do about the extra catalystic converter (I think that's what is is)?, or for that matter, what about the other one? I live in South Dakota where the air is clean(most of the time)
Leo; '83 EFI

Parts

Subject: 81 Imp in Vegas - I need a light!!!

Subject: 81-83 Imperial Parts Source

Sent: 1/29/97 9:31 PM

From: Imperial@utkux.utcc.utk.edu (Thomas Elijah Scott)

Here's an item for all you '81 - '83 enthusiasts. I have seen this ad several times over the years, but have had no actual contact, since I don't own an '81. However, perhaps some of you will find it useful.

'81 - '83 Imperial parts largest supply anywhere Wizzard, (719) 547-0414

This ad ran a lot in the old Imperial Owner's Club Int'l newsletter, and I have also seen it in Hemmings.

Good Luck!

Elijah

Subject: 81-83 Imperial Parts Source

Sent: 1/31/97 8:29 AM

From: jguarino@pangea.ca (jeff guarino)

I've talked to the "Imperial Wizzard " a couple of times last summer. I was in search of the upper front chrome molding. My car was in a slight accident resulting in a cracked upper molding.

I called the Wizzard [his real name is Ted] and he has a yard somewhere around Pueblo Colorado. Apparently he has over 100 81-83 Imperials for parts.

The only problem is that he wants an arm and a leg for his parts and he won't sell anything unless it's no longer sold by the Chrysler dealer. He wanted $350.00 US for the upper chrome molding. I managed to find one the same day for $75 US [in very good condition]. So you can be your own judge, maybe his prices will drop some but I think he is hoarding until everything is obsolete.

Jeff Guarino

Subject: 81-83 Imperial Parts Source

Sent: January 30, 1997 2:59 PM

Fuel Injection circuit diagrams

Sent: 1/29/97 9:31 PM

From: Imperial@utkux.utcc.utk.edu (Thomas Elijah Scott)

Here's an item for all you '81 - '83 enthusiasts. I have seen this ad several times over the years, but have had no actual contact, since I don't own an '81. However, perhaps some of you will find it useful. '81 - '83 Imperial parts largest supply anywhere Wizzard, (719) 547-0414 This ad ran a lot in the old Imperial Owner's Club Int'l newsletter, and I have also seen it in Hemmings.

Subject: 80's Medallions - Breather Cover "IMPERIAL" Plate?

Sent: 2/16/97 9:58 PM

From: bondotmec@alphainfo.com (Dick Benjamin)

On the clear Pentastars that go on the opera lights on the 81-83, yes they are still available from your friendly local AMC-Jeep-Eagle-Renault-Fargo-Alliance-whatever dealer, but they are about $80 a pair, if I recall accurately, and they are only plastic. They look pretty decent for about 6 months, then they start to cloud over. Nothing like the original Cartier crystal. If you've got a car with the originals, keep it out of south central LA or equivalent neighborhoods, unless you've got two Rottweilers to keep chained to either side of the car.

Dick Benjamin

Subject: 81 Fuel Injection Parts

From: GRADLTD <GRADLTD@aol.com

Sent: Sat, 28 Feb 1998 21:14:02 EST

Greetings

"Beauty" my 81 Imperial, is up and running well. I was able to do some part swapping with Randy Weir's 81. The primary benefit was to Randy's car. When I put his Combustion Computer on my car it ran (or failed to run) in exactly the same his car was running. It turned over, caught and then died.

My car, with a new combustion computer, stopped stalling during the warm up period and generally runs beautifully. I have lingering cold car problems. She will idle OK, but when I start to hit the gas petal she flattens out and sputters. This happens within 15 minutes from start. Suggestion?

It's great to be back among the daily drivers of great cars.

Carl Baty
San Diego

Subject: '81 Imperial parts for sale

From: "Dick Benjamin" (bondotmec@dte.net)

Sent: Sun, 1 Mar 1998 22:06:19 -0800

At the swap meet this weekend in San Diego, there was an '81 for sale that had a home brew conversion to 4 bbl carb. The owner had saved most of the EFI components, and they are also for sale. I was going to buy them to keep them from getting scrapped, but I would rather see anyone who has a current need get first crack at them, then I will pick up and keep in stock whatever is left over.

The owner's name is:

Charles Watkins619 442 2996

His car is black, original and decent, with a poor gray leather interior, snowflake wheels, moon roof, aftermarket radio, runs well and he says it is smog legal, he is asking $2500.

He has the HSA, Dash, Fuel pumps, and a few other loose parts including the intake manifold and all sensors mounted thereon. He does not have the CCC. Former member Bob Harris has the CCC's available, as I recall.

Dick Benjaminbondotmec@dte.net

Subject: 81 Fuel Injection Parts

Sent: Sun, 1 Mar 1998 22:17:11 -0800

From: "Dick Benjamin" (bondotmec@dte.net)

Carl;

This sure sounds like a bad EFI coolant sensor. Take your VOM and measure the resistance cold and hot of the sensor with the harness unplugged from it. I do not have the correct ohmage values in memory, but I will look them up for you.

I'm betting you will measure a very high resistance, rather than the 1000 ohms or so that is correct. We are talking here about the sensor that is right next to the water outlet on the front of the intake manifold, driver's side of the car. It has a two wire plug on the top, which you will remove to make the measurement.

Do not attempt to remove the sensor, they usually crumble in your hands when you try to unscrew them. If it turns out to be bad, wait until you obtain a replacement before you remove the old one.

There are numerous temperature sensors on the car, be sure we are checking the right one. This was checked the last time you had this trouble, I thought. Bring me up to date on this please.
Dick Benjaminbondotmec@dte.net
My car, with a new combustion computer, stopped stalling during the warm up period and generally runs beautifully. I have lingering cold car problems.
She will idle OK, but when I start to hit the gas petal she flattens out and sputters. This happens within 15 minutes from start. Suggestion?

General

Starting

Sent: Wed, 04 Nov 1998 15:24:21 -0800

From: Jay Mckee <jbmckee@wlv.hp.com

Hi Karl,

I have a '62 Imperial 4-door that was parked for several years by the former owner. It was quite an education in getting it started after I bought it.

Here are my recommendations base on what I have learned from the experience. (in no particular order)

Change the oil and filter. A brand name 30 wt is all a big standard performance 440 should ever need. Now is a good time to replace the fuel filter as well.

Pull the plugs and shoot some motor oil or WD-40 into all the cylinders. Check the condition of the plugs. Clean, gap or replace as necessary. If you decide to reinstall the plugs at this point, remove the coil wire.

Get some jumper cables and connect the Imperial's battery with one from another car (preferably a car that is running). This will give your battery a break for my next suggestion which is to crank the engine intermittently for 10-15 seconds at a time until you accumulate about 1 1/2 to 2 minutes total. this should loosen up the engine and get her life's blood (read: oil) flowing.

Keep an eye on the oil pressure gauge. As you crank it (if the gauge is alive) you should eventually see the needle start to rise. (getting a rise out of an oil pressure gauge is always a good thing)

One thing to consider is that the gasoline in the tank may have gone bad, turning into something like varnish. This gunk can clog the fuel lines pickup strainer in the bottom of the tank.

I recommend siphoning the old gas out of the tank, and put in a few fresh gallons of the highest octane you can find. (on the '62, I went to the local airport and filled a 5 gallon can with some of their 100 low lead aviation fuel)

In the engine compartment, remove the rubber fuel line where it connects to the hard line that runs to the back of the car. Using low PSI compressed air (or a long piece of fuel line and your lungs) blow air backward through the line. You should hear bubbling from the tank. If you are met with a blockage, I recommend unstrapping the gas tank, and lowing it slightly with the help of a floor jack and remove the fuel pickup/sender assembly. Clean it and replace the strainer if necessary.

Plan on replacing the fuel pump soon, or at least have a new spare one in the trunk. (our original '62 fuel pump failed at a most inconvenient time) I have heard that a long period of inactivity followed by daily or semi-daily use will surely lead to a reduced life expectancy (for the fuel pump that is!)

Loosen the air cleaner's wing nut and pour a few ounces of gas into the depression in the top of the air cleaner. The gas will trickle down right were it needs to go. Leaving the air cleaner on, you won't have to worry about a fire if it decides to back-fire through the carb when you attempt to start the engine.

Good Luck Karl, and let us all know how things are progressing. There are many of us out here that love to help as well as others that will learn from your experiences.

Imperial Regards,

Jay Mc Kee '62 & '66 Crown 4-doors
I'm about to try an start my 1967 LeBaron. The original owner quit driving it three years ago and it has been sitting outdoors since then. Other than the battery, is there anything else I need to do before trying to start it? How bout putting oil in each spark plug hole, draining gas, etc? I need some advice...Thanks...KARL

Subject: PARKED THREE YEARS

From: "Dick Benjamin" (bondotmec@dte.net)

Sent: Wed, 4 Nov 1998 21:30:25 -0800

A caution on jumping one car from another, or cranking one car with another battery:

In the olden days (before alternators) the proper way was to have the donor car's engine running, this provided maximum juice for cranking the recalcitrant lump, but in today's world, where all cars (OK, Norm, Almost all) built since the mid 60's have alternators, this is a good way

to zap a diode or two. Much safer is to turn OFF the engine in the donor car BEFORE you connect the booster cables, and leave it off while you crank the dead one.

If you crank so long you are worried about running down the good battery, then stop cranking the dead one and restart the healthy car and let it idle for a while to recharge the battery, then repeat the process with the good car off. If you have to crank this long, chances are there is some other problem, though.

Seldom encountered these days, but be alert for a positive ground car also, if you are dealing with a car of the mid 50's or before. If you have one of these critters, be sure the bumpers are not touching when you hook up the booster cables!

Dick (most of whose cars are positive ground) Benjamin
bondotmec@dte.net

From: Jay Mckee <jbmckee@wlv.hp.com

Get some jumper cables and connect the Imperial's battery with one from another car (preferably a car that is running).

Subject: 318/360 Engine Swap

From: "Dick Benjamin" (bondotmec@dte.net)

Sent: Sat, 1 Aug 1998 21:35:42 -0700

Ken;

The smog rules you mention regarding engine swaps were what used to be the law here too, they tightened things up when the LA area continued to fall short of the smog goals, in about the early 80's. Pre smog in CA is 1973 and older, and that will begin advancing in a few years, finally stabilizing at 30 years old or older. I have a long way to wait for my '81's, though.

Did I understand correctly that the later 5.2L engines (and the 5.9L?) have stud mounted rocker arms, instead of the shaft? I sure would not like to have to have that, I wonder how they are making out with it. Also, when did they make the changeover?

Dick Benjamin (bondotmec@dte.net)

Subject: 318-360 Engine Swap

Sent: Sat, 01 Aug 1998 09:59:04 -0700

From: KNE <kne303b@thefuture.net

We have had quite a thread on this before.

I still maintain that the 360 was the engine that should have been used in the 80's Imperials, and that using the 318 (which I dearly love) was MOST Un-Imperialistic. Kind of like regular mustard instead of gray poupon. What was Mother Mopar thinking?

I know I know....."emissions". Mother had "emissions" in her brain.

I'm not experienced with the "Magnum" 318's and 360's, but I believe the motor-mounts and balance are the same so the following should apply. I would also say that swapping a Magnum 318 for a regular 318 (or would it be visa-versa....you know what I mean) would be a lot of expense and trouble for very little gain and a sleezy rocker-arm arrangement.....go to a pre-magnum 360, save a couple bucks and have real shaft mounted rocker arms, not brand-X type save-the-factory-money ball-stud INFERIOR rockers.

Heck you could port the heads on the current 318, run a better cam and see the same gains or better than a Magnum 318.

Just port the pre-magnum 360 heads to flow as well or better then the Magnum heads.

I have put many a 360 where a 318 was, my Duster, Barracuda and Boat being a few of them. My Single-Drat (DART) is next.

Two concerns when doing this swap. One, driver's side motor mount is about 1/2" farther forward on the 360. No problem. Just stack some washers for a spacer, no need to buy $$$$$ special motor mounts that they sell for the same purpose. Roller tappet wheels from a Harley engine make nice spacers if you have some laying around. (!?!?!?)

Two, the 318 is internally balanced, the 360 is externally balanced, so get a B&M weighted flexplate for $70.99. You can also get a template from Mopar Performance to weld weights on your 318 converter.

IF the 80's used the 727 trans rather than the 904, then you could use a 360 torque converter. 318's generally use 904's, don't know what was behind the 80's Imperials 318s. All things considered the B&M plate with the converter that was in the car will save you a lot of guess work and running around.

Kne.

Subject: 318-360 Engine Swap

From: "Dick Benjamin" (bondotmec@dte.net)

Sent: Sat, 1 Aug 1998 11:42:11 -0700

The '81-83's use the A904 Trans, with the lock up torque converter (copied from Packard's 1949-1958 Ultramatic).

The service manual's specification section shows that they originally planned to use 360 heads, with the larger port and valves, and stronger springs, but for some reason, apparently none were

built that way, at least I have never seen one. I suspect they had problems passing the emissions test with that combination. By the way, all the good ideas about engine swaps make me very jealous, since you cannot legally do it in California. How do you guys get away with it?

Dick Benjamin (bondotmec@dte.net)

Subject: 318-360 Engine Swap

From: KNE <kne303b@thefuture.net

Sent: Saturday, August 01, 1998 9:59 AM

We have had quite a thread on this before. I still maintain that the 360 was the engine that should have been used in the 80's Imperials, and that using the 318 (which I dearly love) was MOST Un-Imperialistic. Kind of like regular mustard instead of gray poupon. What was Mother Mopar thinking? I know I know....."emissions". Mother had "emissions" in her brain. I'm not experienced with the "Magnum" 318's and 360's, but I believe the motor-mounts and balance are the same so the following should apply. I would also say that swapping a Magnum 318 for a regular 318 (or would it be visa-versa....you know what I mean) would be a lot of expense and trouble for very little gain and a sleezy rocker-arm arrangement.....go to a pre-magnum 360, save a couple bucks and have real shaft mounted rocker arms, not brand-X type save-the-factory-money ball-stud INFERIOR rockers.

Heck you could port the heads on the current 318, run a better cam and see the same gains or better than a Magnum 318. Just port the pre-magnum 360 heads to flow as well or better then the Magnum heads. I have put many a 360 where a 318 was, my Duster, Barracuda and Boat being a few of them. My Single-Drat (DART) is next.

Two concerns when doing this swap. One, driver's side motor mount is about 1/2" farther forward on the 360. No problem. Just stack some washers for a spacer, no need to buy $$$$$ special motor mounts that they sell for the same purpose. Roller tappet wheels from a Harley engine make nice spacers if you have some laying around. (!?!?!?)

Two, the 318 is internally balanced, the 360 is externally balanced, so get a B&M weighted flexplate for $70.99. You can also get a template from Mopar Performance to weld weights on your 318 converter. IF the 80's used the 727 trans rather than the 904, then you could use a 360 torque converter. 318's generally use 904's, don't know what was behind the 80's Imperials 318s. All things considered the B&M plate with the converter that was in the car will save you a lot of guess work and running around.

Kne.

Subject: 81-83 Imperial moonroof

Sent: Sat, 07 Feb 1998 18:12:28 -0500

From: Walter Dymek <andydymek@pipeline.com

I looked at an 83 Imperial today which is equipped with a power moonroof. The fender tag does not contain code M53 which (I think) is the code for the power moonroof, can anyone confirm this? I believe at this point that the moonroof is an aftermarket/dealer installation.

One thing that leads me to think that this is a dealer installation is that the switch for the moonroof is the same shape and style as all the other switches in the car. Would anyone know if Chrysler offered a "kit" for dealer installation of the moonroof? The glass in the moonroof is PPG and has no Chrysler markings on it. Also, the moonroof has a stainless steel ring around the roof mounting flange. Did the factory roof have a similar band or was there a special roof assembly so that the flange was not needed? Any help from you 81-83 experts (or anyone else) would be greatly appreciated!

AndyD

Subject: Cartier Crystal Needed

Sent: Sat, 1 Nov 1997 06:54:50 -0500 (EST)

From: Stude1966@aol.com

If you can't get an original, you can replace them with pillar crystals off of a 1989 NY'er. just remove the metal frame and with a Dremel, bore a small opening in the back so the light can illuminate it from the Post the way the original did.

Bill

Subject: Top speed on 83

From: "timothy and susan porter" <porter@net-port.com>

Sent: Wed, 5 2148 -0400

Bob, seeing as you have spare clusters,do all of us a favor. If I remember correctly there is a micro switch on the back of the clusters. If memory serves me correctly (questionable) I think it was to switch between the limited speed and no limit. Whenever I replaced a cluster I set them at unlimited. I do know I've had my 82 up to 105 as indicated on the speedo.
Tim Porter

Subject: Top speed on 83

Sent: Wed, 5 1324 -0700 (PDT)

From: Dave <icewolf65@yahoo.com>

Tim, About that switch on the cluster, is that a momentary switch with a short piece of hose attached that sticks out the bottom? It would be really cool if it were that easy. Thanks Dave

Subject: Top speed on 83

Sent: Wed, 0 4935 -0700

From: baker-michaels@home.com
Organization @Home Network

I'm not Tim, but I understand that is for running a check on the instrument cluster only. Bob
Dave wrote
> Tim, About that switch on the cluster, is that a momentary switch
> with a short piece of hose attached that sticks out the bottom? It
> would be really cool if it were that easy. Thanks Dave

Subject: Top speed on 83

From: "timothy and susan porter" <porter@net-port.com>

Sent: Thu, 6 3207 -0400

Dave, that switch with the hose is for self checking the clusters. I may be confusing the Imp cluster with the front wheel drive electronic clusters.
Sorry (. Tim Porter

Subject: 81's - 440s used in /Axles Compared/ID'ing?

Sent: 7/7/97 4:54 PM

From: pac@mcc.cc.tx.us (Paul Concilio)

'81 Imperial owners

With regard to the weak rear axles. All of those 1980 through 1989 Dodge Diplomat and Plymouth Gran Fury "Police Package" cars have big, tough rear axles with stiffer springs and rear anti-sway bars. (You might check out '78-'81 Diplomat or LeBaron Station wagons too. My '81 LeBaron Station Wagon has the big axle.) I think that the rear cover has 12 bolts.

The whole assembly will bolt up to any of the Aspen/Volare, Cordoba/Mirada/Imperial, and 5th Avenue cars. I put one in my '87 5th Avenue. Much better handling when you have several people in the car. You do need to have your drive shaft shortened by about 1.5 inches or use the shaft from the police car.

[This sounds like "News You Can Use" to me! - Tony]

Paul Concilio pac@mcc.cc.tx.us

Subject: 440 in an 81'

Sent: Sun, 0 5021 -0800

From: Jeff Ceurvorst <vagabond@scvnet.com>

Why not you ask? Well, at least for us Californians, it's downright illegal. We are getting all the government we pay for. A second thought enters my mind, however. How many of the more "modern" collectible cars are going to be restored, and how many are going to be modified to make them "as they should have been?" Some of us feel our cars were wonderful from the start, and so we preserve their heritage. To each, happily, their own!
Jeff C.

Subject: 440 in an 81'

From: DBKEMPER@aol.com

Sent: Sun, 7 5327 EST

Come one now.....let us be inaginative.....an Imperial deserves a 440...it is heritage. Schumacher makes a motor mount kit for the swap. The weight don't make that much difference.....but CUBIC INCHES do! One of my 81's is gonna get a 440.....it is a given....one may get a 360. The 440 in the Imperial is a natural.....most of the other swaps are into Cordoba's Mirada's and even a Diplomat wagon with a 440 6 pack. Remember the Imperial weighs more to start with.....especially from the engine bay back. SO don't hold back....go for it!!!!

Subject: 440 in an 81'

Sent: Tue, 0 3457 -0800

From: kne <kne303b@thefuture.net>

>OK, I had a 67 Charger with a 440 that I built from the ground up and in 73 I >had a Roadrunner with a 440 in that. The 81-83 Imperial is pretty comperable >to the old B-body Mopars in a lot of ways including size and weight....

Hmmmmmmm.....not being familiar with the 81's I thought they were more along the lines of an A-body. I guess if they are bigger than that a 440 is not such a problem. I was just kind of thinking of guys that manage to get a big block into an A-body and discover it wasn't worth the effort, especially with a 383 which is so close power-wise to a 360. Anyhow don't forget to move the battery into the trunk for a 50 pound reduction in weight right there, and a aluminum intake sheds quite a few pounds also. Do all that and put on a set of aluminum heads and you are

probably right at the weight of a small block. Then again...do the same thing to a smallblock and get even lighter!
Just a thought.
kne.

Subject: 440 in an 81'

From: "Simo Harkila" <simo.harkila@megabaud.fi>

Sent: Thu, 1 1012 +0200

> The chrysler Lebaron/dodge diplomat from 77 and up are also stretched
> Aspens/Volares.
> I always thought these cars (81-2-3 Imperials were Cordoba/Mirada based.
> Were the Cordoba/Mirada twins derived from the Aspen/Volare platforms too?
> Norm

Yes, they are. There has been quite good article changing the 440 to an F-body (or to it's derivates) in Mopar Action magazine. I can find that article if interested.
Simo

From: DBKEMPER@aol.com

Sent: Thu, 1 852 EST

Subject: 440 in an 81'

From: Watchfatha@aol.com

Sent: Thu, 1 417 EST

In a message dated 2/10 2048 PM Pacific Standard Time, Waginator@aol.com writes:

Not to split hairs, but it is so much fun! From what I have researched, the to 83 Imperials were reskinned Aspen/Volares. I believe they have the same "transverse torsion bar suspension" as opposed to the more common Longitudinal bars. The Chrysler Lebaron/dodge diplomat from 77 and up are also stretched Aspens/Volares. I always thought these cars & 81-2-3 Imperials were Cordoba/Mirada based. Were the Cordoba/Mirada twins derived from the Aspen/Volare platforms too?
Norm

Subject: 440 in an 81'

From: DBKEMPER@aol.com

Sent: Tue, 9 5146 EST

OK, I had a 67 Charger with a 440 that I built from the ground up and in 73 I had a Roadrunner with a 440 in that. The 81-83 Imperial is pretty comperable to the old B-body Mopars in a lot of ways including size and weight.....if one were to put a 440 in one of these latter day Y bodies and one took the time to set up the suspension it would have no adverse effect on handling in corners.

First and foremost you should use the cast iron K-member insolators. Then you take that flex joint out of the steering and install a u-joint for exaust manifold clearance. Using the right tire/wheel/shock combo will make the car handle like it should. In fact with the right combo and the stock engine they will do curves like crazy. I have found that using cop car wheels with 225-70x15 in the front and 275-60x15's on the back with good gas shocks on the front and load levelors on the back will make the Imp do corners with Scumaros and Rustangs. Naturally the front torsion bars need dropped slightly so there is about 1/2 to 1 inch between the top of the tire and the top of the wheel well on the front. There are no clearance problems with the rubber and the car goes in snow too.

My white 81 has had this setup for over 5 years now. My manila creame has just gotten this treatment.....and for purists you can use the wire hubcaps with the cop wheels if they are the ones with the holes drilled to accept the center cap. That or you can paint them argent.....add 15x7 stainless trim rings and the dog dish hubcaps and get yet another look. The tire setup works on the snowflake wheels too. Since I drive mine every where and every day keeping it totally factory is not important.....and yes I am the heritic that has dual exaust on the white car....two of my 4 are carbed and I like them that way because they go when I want them too and with electronic ignition and a 2 bbl setup they get gas mileage in the low 20's.

I must love these cars to have 4 of them and drive them every day. I respect those who keep the injection and deal with it and I have done that too. BUT for a daily driver I like a carb. My green car.....known as FUGLY(the color not the car).....is going to not be green and will get a 440 in the next year or so.....my girl friend has two 83's ..both fuel injected.....and we willkeep them that way .....ok, one of them. MY POINT you ask.....no matter how we make ours.....stock modified what ever.....we keep them on the road.....THAT is the important thing. There is no right or wrong.....just personal taste.....

Subject: 440 in an 81'

I gotta learn NOT to comment,,,,,,but.....this is NOT the time not to comment! Both cars.....the Gutlass and the Blunderchicken have coil spring front ends and most likely no sway bars.....the Mopars...Aspen, Volare, Diplomat, Mirada Cordoba and the Imperial have torsion bars.....even the transverse bars work good if you use the cast iron k-menber insolators....and naturally HD gas shocks.....been there done that and KNOW how they work and KNOW how to get them to handle.....so a 440 in one of these cars is not the kiss of doom that every one is thinking.....talked a long time to the guy that did the 440 6 pack in the Diplomat station wagon.....so try it you may just like the end result! Imperials by heritage are big block cars.....

Subject: 440 in an 81'

From: Waginator@aol.com

Sent: Mon, 8 3807 EST

weight...200 lbs. I think I would say about 200 pounds. If you put a 440 in it, it might go fast, but dont try to corner with it! I take a lot of grief because of my preferences, but I believe a 318, 340, 360 in anything smaller than a C body is best. Who was the one that said 360's are better and cheaper? I'll go along with that, as long as were not talking about the 360-2v that Chrysler introduced in the early 70's. My buddy Scott, the one with the Charger, had a 74 Fury when he was a kid, and he swore that 360 2v was adog. Now if you're talking about the 360-4v that they put in the later cop cars and trucks, that E-58option, like in the lil red express, now you're talking. Also, I hear the crate motors are great, too. The small blocks are easier to put plugs in, too. My buddy chris, as you all know, had that 72 Newport (G-d rest its soul) and I had to really reach to get the plugs in under the exhaust manifolds.

Subject: 440 in an 81'

Sent: Thu, 1 1132 -0800

From: Bob Schmitt <bsbrbank@pacbell.net>

Hi -

>been there done that and KNOW how they work and
> KNOW how to get them to handle.....so a 440 in one of these cars is not the
> kiss of doom that every one is thinking.....

Just a thought - Although I'm sort of a purist about keeping cars with their original engines, several cars lighter than the '81-83 Imperials had big blocks originally - Facel-Vega, Jensen, and Monteverdi come to mind. That implies that many of the problems of more weight in the front can be solved in such a swap, as others have written. However, I owned both 3 cylinder (2 stroke, light engine) and 4 cylinder (4 stroke, heavy engine) Saabs long ago at the same time. The "lump" in the newer 4 stroke car ('68) was always noticed and not very sporty.

Best of all worlds? An aluminum block 440!
Bob

Subject: IS a gorgeous automobile

Sent: 4/8/97 7:52 PM

From: rweir@mysurf.com (Randall Weir)

Dave - It still IS a gorgeous automobile. I tried starting mine today with no luck. My MS is getting a little better so hopefully I'll be able to do some troubleshooting.

Randy

Subject: 1981 440 Imperial

From: "Joseph Crossen" <440hp@gte.net

Sent: Fri, 10 Apr 1998 00:38:49 -0400

Hi all,

Had a guy stop in today that has dropped a 1977 440 motor into a 1981 Imperial car. Said the motor mounts used are stock 1977 and the 727 was also a bolt in piece. The problem is the exhaust manifolds....he wants to use a pair of swooping early Mopar HIPO units but there is not enough room....he's had the heads redone with stainless steel seats plus a nice high-end duration cam.

I've seen a picture of the car and it appears to be a light gold color. He got his inspiration from an article he read awhile back about the 1981 Imperial: the car and motor the way it should have been done. He says the 318 just doesn't do justice in a 4,000 LB car.

I will keep you all posted as the car comes to life. Oh yea, the trans is tricked out too.

Joe

Subject: 81 440 Imperial

From: "Joseph Crossen" <440hp@gte.net

Sent: Sat, 11 Apr 1998 00:03:43 -0400

Hi Dave, he mentioned the only clearance problem was with the exhaust manifolds and the gearbox referring to the early swooping HIPO units....he has no exhaust manifolds at this time and the rebuilt heads are not on the engine yet. I told him 440 exhaust manifolds of '70's big blocks are of the "log" type and slam right against the valve covers. I won't have an answer for you until this guy tries to fit them in the car as far as clearance. Keep in touch.

Joe

440hp@gte.net

Subject: 81 440 Imperial

From: David Duft <davegbks@ckan.com

Sent: Friday, April 10, 1998 3:14 AM

I am also building a 440 to put in my customized 81 Imperial. What did he do with the steering box?

Subject: 1981 Imperial - original carpet

Sent: 3/16/97 4:23 PM

From: lester@cnwl.igs.net (Shawn Thompson)

Hi Tony and members

Just a brief note, thanking you for all the information which I've received since I first contacted you.

Every day I can't wait to turn this toy on to check your new mail.

I'd like to know if you could put me in touch with a company that would have the original carpeting which is in the 1981 Imperial. I did receive some names from your list and made a few calls, but had no luck.

[Hmmm - I'll re-post what I have on the topic, but I haven't heard of anyone specifically aiming at 80's Imperials. Anybody out there in IML-Land who can help? I just checked my archives, and it appears that you joined one day AFTER the last time I posted the Carpeting Resources. I'm glad you'll be able to snag it this time! - Tony]

My wife and I are planning to attend the Carlisle meet in July and we're looking forward to meeting some of your members there. Keep up the good work,

Cliff and Diane Thompson Cornwall Ontario Canada

[I really have to figure out a way to get to Carlisle this year - I'm dyin' to meet everybody out yonder! - Tony]

Subject: 1981 Towing option

Sent: 7/21/97 9:52 AM

From: lvovski9@idt.net (Brian Liberman)

I purchased towing bars to be used for towing vehicles up to 5000 lb., which I intend to modify and carry in the trunk of 81' Imp, so I do not feel helpless when this "stubborn animal" decides to quit, The question in my mind is how fast and how far can I tow my 1981 Imp (in neutral) behind my Jeep without disconnecting transmission and causing damage to the transmission, which I recently had rebuilt.... Does anyone has similar experience?

Subject: 1981 Towing option

Sent: 7/21/97 2:13 PM

From: bondotmec@alphainfo.com (Dick Benjamin)

My advice is to forget flat towing under any circumstances. Your Jeep is lighter than your Imperial, and you will find that you have an impossible to control juggernaut when you try to go around a corner or stop.

The laws of physics are against you.

Been there, done that. Very sorry.

[Me, too - VERY SCARY - Don't do it! - Tony]

Dick Benjamin

Subject: 1981 Towing option

Sent: 7/21/97 12:05 PM

From: goeditor@pe.net (Robert Smith)

I purchased towing bars to be used for towing vehicles up to 5000 lb., which I intend to modify and carry in the trunk of 81' Imp, so I do not feel helpless when this "stubborn animal" decides to quit, The question in my mind is how fast and how far can I tow my 1981 Imp (in neutral) behind my Jeep without disconnecting transmission and causing damage to the transmission, which I recently had rebuilt.... Does anyone has similar experience?

An often repeated limit for towing vehicles with automatic transmissions in neutral is no faster than 25 mph, no more than 25-30 miles. Reason being, the old Hydramatics had two oil pumps, one connected to the rear shaft that turned with the rear wheels, the other at the front turned by the engine.

The rear wheel pump turned enough to create oil pressure to keep the internal moving parts of the transmission lubricated. Of course if you can tow with the rear off the ground, the distance and speed are irrelevant.

Bob Smith goeditor@pe.net

Subject: Driving your Imperial without functioning power steering

Sent: Tue, 21 Apr 1998 14:12:21 -0700

From: Jay Mckee <jmckee@wlv.hp.com

Hi IML'ers,

Thanks to all that responded for their great tips, reassurances and leads. I feel much better knowing I have options. I'll let you all know how things turn out.

Mike,

Thanks for the warning. I will be extra cautious if I have to "power-down" the steering.

I don't have any experience driving without PS on a PS equipped car (other than running out of gas and coasting to a stop) so I can't speak from experience. The fact that your Imp, less it's power steering, wanted to swing the wheels abruptly when you make a course correction at high speeds sounds like your front caster might have been set to zero or in the negative. This, I would think, would cause the wheels to want to snap to one side or the other if you let go of the wheel at highway speeds. I have driven cars backwards and high speeds (over 45 mph) and just trying to negotiate a sweeping turn or keep it going straight is an exercise in precision and patience. The steering is so sensitive if you just make one little mistake or let go the wheel the car will spin out violently. I think this is a combination of the negative caster (car going against the caster negative for rearward motion) and the steering wheels being behind the mass of the car (rear of car wants to pass the front AKA spin-out).

Maybe our Imperials, being designed for power steering, were designed with little or no caster in the front end geometry. If this is true, then it would cause the steering to be squirrely at high speed.

Just a theory.

Imperial Regards,

Jay

A word from personal experience heUnlike their non-power steering brethren, part of the power steering's function is to assist the wheels to go back to 'straight ahead' when you release the steering wheel. Though your car MAY be manageable at street-traffic speeds, it will be TERRIFYING at freeway speeds as every time you go to make a 'minor course correction', THE WHEELS WILL WANT TO DO A U-TURN! I had the power steering go out in my '66 C******c convertible, and needed to make a 10 mile freeway trip. I thought that it would be easy at highway speeds. Every time I made minor adjustment of the steering wheel, the wheels obviously wanted to go fully in the direction I was 'correcting' to. BE VERY CAREFUL IF YOU ATTEMPT TO DRIVE YOUR IMPERIAL AT FREEWAY SPEEDS WITH THE POWER STEERING OUT!!!!!!!!!!!!!!!!!! Mike

Subject: Driving your Imperial without functioning power steering

Sent: Wed, 22 Apr 1998 09:57:22 -0700

From: Jay Mckee <jmckee@wlv.hp.com

I have driven cars backwards and high speeds (over 45 mph) and just trying to negotiate a sweeping turn or keep it going straight is an exercise in precision and patience. The steering is so

sensitive if you just make one little mistake or let go the wheel the car will spin out violently. Were you driving one of your Imperials when you did this? I'm interested in knowing what kind of car is capable of this kind of speed in reverse. I have always assumed that with the steeper reverse gear ratio in most cars that this kind of velocity was near impossible to obtain. I think the fastest I've ever gone was about 35 in my '72 Olds 98 hearse right before I did a J-turn to chase somebody. Of course, I did have to come back later and look for a couple of hubcaps! Dan Dale

Hi Dan,

No, I wouldn't do that to an Imperial no matter how tight the steering is. My favorite backward car is the wife's 95 T-bird. It has a rev limiter which comes in handy when you are looking out the back window instead of the front and can't possibly keep an eye on the tach. The car also has speed-sensitive steering which is helpful in giving you more road feel as your speed increases. Your right about the speed. I'm sure it just feels like 50 when in reverse, but I'm probably only getting to about 40 mph.

This type of driving happens very rarely and only when 1) there are no other cars around 2) no people/livestock in the area 3) No police of course 4) not on public streets or roadways 5) I feel physically and mentally capable. This only leaves us with 1) late at night and 2) either large empty parking lots or 3) THE AIRPORT with lots of flat concrete and asphalt.

The brakes are another story altogether as they are not designed to stop a car in reverse from high speed without locking up the front wheels which of course leads to a spin-out!

But just for the record, I would rather go forward in an Imperial than backward in any other car.

Best Regards,

Jay Mc Kee '62 & '66 Crown 4-doors

Subject: '81 -'83s as daily drivers

From: "Dick Benjamin" (bondotmec@dte.net)>

Sent: Thu, 2 145 -0800

Those who have been on the list for a while will recognize that I exercised great restraint in not responding until now. I wanted to avoid dominating the discussion with my own well known biases. Yes I have a few of these critters, and I love them. They are all the things people have said here in the last few hours, I have very little to add. I would say that for a 6 passenger rear wheel drive luxury car, they are remarkably easy to handle in traffic and parking situations, although they are 17 feet long, (which passes for a full size car these days) and have rather long doors.

3 of mine are still the original EFI system, and yes, as a retired Electronics Engineer, I seem to have pretty good luck with keeping mine running right. And, when they run right, the EFI cars provide better starting, driveability, performance and economy than the factory converted cars. There are a few around with non-factory conversions to 4 bbl or whatever, I have no experience with

these, but I suppose those are likely to give somewhat better performance than the factory 2 bbl. In California, the factory conversion is the only legal one.

My Blue one is a factory conversion, and it drives like any other mid-80's 318. In other words, you pump the pedal once to start, it will stall once on a cold morning, it will be a little feeble until it warms up, it will get around 14 in town driving, and perhaps 20 or so on the road (we always use the EFI car for trips, and you can add about 4 -5 MPG to both of those numbers for it).

I bought the Blue one about 6 years ago as a replacement for my wife's then dying 79 Eldo, and after doing some cosmetics on it, presented it to her. I chose a converted car because it can be fixed in any service department, you don't need to find an EFI expert if you have a problem on the road. (She often travels alone, we have family all over the place.) She liked the car, but commented it did not feel as easy to park as her Eldo, and she really had wanted a 4 door car anyway, so I gave up and got her a modern car.

I would say that I definitely prefer to drive the EFI cars, but I recognize they are not everyone's cup of tea.

Dick (who is taking the Blue one to the swap meet this weekend with a for sale sign!) Benjamin
bondotmec@dte.net

Subject: 80's Imperials as Drivers

Sent: Thu, 25 3352 -0500 (EST)

From: DBKEMPER@aol.com

81-83 Imperials are good cars. I have 4 of these vehicles and just can't get enough of them. Right now I only have one running and that is with a carb instead of the EFI but either way they are comfortable dependable cars that look good from any angle. They show up for sale and can be reasonably priced. The nice thing is with EFI or carb you are around 20 mph or better on the highway. YOU can not go wrong with one.....sometime I will get deeper into how to set them up and all if you are interested.

Subject: 80's Imperials as Drivers

Sent: Thu, 2 2323 -0800

From: Bob Schmitt <bsbrbank@pacbell.net>

Hi to all -
> The nice thing is with EFI or carb you are around 20 mph or better on the
> highway. YOU can not go wrong with one.....sometime I will get deeper into
> how to set them up and all if you are interested.

We have all the tech messages on the Fuel Injection archived and there's an ongoing project to sort/extract/ & otherwise put together a guide based on these messages from 1-97 to date. The original messages are from 20+ authors, plus the well-known "gurus".

Subject: 82 Mark cross for sale

From: "matthew esposito" <cadmat@hotmail.com>

Sent: Wed, 0 5449 PST

Hi Group, I'm very intrigued by this ...it could possibly be my first real Imperial (I have a 69 New Yorker now) but I don't know what a computer plate is or what it costs.. Can anybody tell me what such a repair would run if I did it myself and the level of difficulty that may be involved?

>> I have a 1982 Mark Cross Imperial that needs a computer plate I believe.

>> Are you interested?
>> RSVP to
>> Hank Jordan

Subject: 82 Mark cross for sale

From: Bob Hoffmeister <impparts@gpcom.net

Hank Jordan wrote:

I have a 1982 Mark Cross Imperial that needs a computer plate I believe. Are you interested? RSVP to Hank Jordan Hank10@home.com

Subject: 1981 Frank Sinatra Imperial for sale in NM

From: "Richard W. Gebhard" <gebhard@ECD.Rockwell.COM

Sent: Thu, 1 Jan 1998 03:22:18 -0500

I have an extra couple of grand to play with. Would this be worth pursuing versus the 66 Vert or excuse me, a 69 Super Bee with matching numbers? I am about 550 miles from Albuquerque so it is not too far away to pick up if it is driveable that far. Any help is appreciated.

A #s matching Super Bee will cost you alot more than a couple of grand. Unless it's a total resto project. On the other hand a 318 Coronet coupe should be pretty cheap and Year One sells the tail stripe.....

RWG

I remember dad's 'conservative republican' 69 Coronet. 318, power nothing, beige, and too good looking to be optioned that way.

Subject: 81 FS

Sent: Sat, 03 Jan 1998 13:32:40 -0800

From: Carl Baty <grad@cts.com

Bill -

I have an 81 with fuel injection. I have spent a great deal of money bringing it up to very good condition. With the contacts I have made through the Imperial Club I know that I can find (almost) any part I could possibly need. Much is still available through dealers parts departments. Otherwise, it is a matter of making a few calls and paying the cost of a used part which I have found to be equal to, or up to double what Chrysler would have charged. The fuel injection is the big question. I have become convinced that a systematic cleaning of all grounds and FI contacts will yield a running vehicle. I am also arranging with Randy Weir (who also has an 81 w/FI in San Diego) to swap parts to see which are faulty. These factors make it possible to own and drive one of these beautiful cars. Good luck - Carl Baty

Bill Johnson wrote:

I have been talking to the owner of a 81 FS, thanks to the referral from Tony. I have a few questions and problems. The problem is convincing my wife to let me spend the money to buy it. Any help with some sales pointers to give her will be appreciated. The questions that I have are concerning parts and reliability. I am very nervous about the Fuel Injection. I see post that nobody will work on them so I assume that if anything is wrong parts wise, your SOL. The car is missing the following:

Hood ornament, opera lenses, Infinity am/fm cassette, drivers side visor with the garage opener. The windshield wipers don't work. Motor is ok but some plastic bushing/gear in the so-called transmission of the wipers is broke.

Can this parts be found? Are they expensive? I really want the car if I am making a good investment. I will probably have to sell some other stuff to eliminate my junk pile. The car needs paint and about $500.00 worth of upholstery work. He will sell it to me for $2000.00 plus he'll through in a 4.0 Jeep short block. (he found out I owned a Jeep) Any feedback will help me. I need to let him know by Monday!

"Whiteshoes"

Subject: 81 FS

From: "Dick Benjamin" <

Sent: Sat, 3 Jan 1998 20:34:45 -0800

Bill;

I think that's an awfully steep price to pay for a car needing that much work. While FS models are quite rare, especially in '81, it would have to have all the special FS goodies to make it worth more than a standard '81. There was really no difference in the cars, just the special paint and all the extra goodies. If you want a complete list of the goodies, I can dig it out for you.

I was told my Blue car was an FS, but it turned out to be somebody's pie in the sky, since it did not have any of the special goodies with it, and it had been repainted anyway so I don't even know if it ever had the special paint. By the way, this was a 58,000 MI car from southern CA, with perfect interior (Tony has seen it, I mean it is PERFECT), including carpets and scrumptious dark blue leather interior (by the way, they all said "Mark Cross") etc. The paint is oxidized, but it runs like a deer, (although it has been converted to carburetor), and is noticeably tighter than my other two, one of which (the black one) is as close to mint in cosmetically as you'll every find, but at 110,000 MI feels a little more used in things like the power window action etc. The price, you ask? Asking price was $1000, but since the plates had expired, and was due for smog, I talked the guy down to $800.

My daily driver, a cinnamon brown '81 with original everything, but getting tired at 130,000 (or possibly much more), a Texas car with no sign of ever having been out in the rain, although it has been hit and poorly repaired on the right door, and the paint there is darker than the original on the rest of the car, which has noticeably faded, and a brown cloth interior, still in nice condition but somewhat faded, and, by the way, still running perfectly with the original EFI, cost me $600.

The only car I paid more for was my special treat, a mint black original with red leather interior, moon roof, snowflake wheels, CB, etc., all perfect inside and out 75,000 MI when I bought it, 110,000 now, which I paid the proverbial little old lady $3100 for, and was glad to get it. It was a local car from the retirement town of Hemet, never out of Riverside county, always service at the local dealer, so I thought and still think I got a bargain. But, it has to be a nearly perfect car to be worth that kind of money.

My opinion, which I am sure will tick off some people who would like to think these cars are an investment. I don't think so, Tim.

Dick Benjamin

Tony.

I have a few questions and problems. The problem is convincing my wife to let me spend the money to buy it. Any help with some sales pointers to give her will be appreciated. The questions that I have are concerning parts and reliability. I am very nervous about the Fuel Injection. I see post that nobody will work on them so I assume that if anything is wrong parts wise, your SOL. The car is missing the following: Hood ornament, opera lenses, Infinity am/fm cassette, drivers side visor with the garage opener. The windshield wipers don't work. Motor is ok but some plastic bushing/gear in the so-called transmission of the wipers is broke. Can this parts be found? Are they expensive? I really want the car if I am making a good investment. I will probably have to sell some other stuff to eliminate my junk pile. The car needs paint and about $500.00 worth of upholstery work. He will sell it to me for $2000.00 plus he'll through in a 4.0 Jeep short block. (he found out I owned a Jeep) Any feedback will help me. I need to let him know by Monday!"Whiteshoes"

Subject: 81 Frank Sinatra

Sent: Sat, 10 Jan 1998 09:25:15 -0800

From: Bill Johnson <bjj@easilink.com

With the help of Greg in New Mexico, I have made a deal to buy the 81 which I discussed around the Holidays. Not sure when we will complete the transaction yet but I will be adding another Imperial to the pack. Wondering if any body has a parts manual for these? I would like to get the part numbers for the driver's side visor w/ remote control, the opera crystals, hood ornament and the am/fm cassette infinity radio. If any body has these numbers, I would appreciate the help.

-- "Whiteshoes"

Subject: IML: 81 - 83 EFI

From: RWestra@aol.com
Date: Tue, 25 May 1999 19:38:16 EDT

This is an update on my hard hot starting problem for all the folks committed to keeping the EFI's going.

I have done a number of things to improve the hard hot starting on my 81. Many of these were suggested by our guru Dick Benjamin and several have helped the reliability of the car. However, not even two new fuel pressure switches could correct the only remaining problem hard hot starting. When it was warmed up and left to soak for more than 30 minutes it would require 30 to 40 seconds of cranking (an eternity when the starter is turning) before the car would start. It would, however, always start.

To correct the problem I purchased a used but remanufactured Hydraulic Support Assembly. It had the fuel pressure switch with it so the first thing I changed was the switch to make sure that I had not received two bad switches in a row. There was no change in the starting with the third switch. I then changed the HSA, putting the new switch back on the HSA.

The car now works good. Hot starting occurs after 3 to 4 seconds of cranking. It is now a pleasure to shut it off knowing it will start immediately.

I don't know which component was faulty but I suspect it was the power module. Maybe someday I will get ambitious and change out each component to find out which was the culprit. For now "if it ain't broke don't fix it" seems like a wise policy.

Good luck to others with similar problems. It takes patience but they can be repaired. The car now works like it was intended and is a real pleasure to drive and shut off.

Subject: IML: '81 badging

From: "Harris" <HarrisWerks@worldnet.att.net>
Date: Sat, 28 Aug 1999 20:29:46 -0500

Ed -

Your correct on the applications for the '81 except for the one on the front headlight door, that does not belong there. I cannot speak for the '82 FS model, but I think it had FS added to the trunk lid. Nice to see you're keeping it pure...Bob Harris

Subject: IML: 81 EFI and Ignition spark

From: scott pianowski <sp-racer@juno.com>
Date: Sun, 18 Apr 1999 14:28:16 -0400

HI all,
Hopefully someone can answer my question as I'm totally lost on this subject! After grounding the a.s.d.m. as recommended and checking the fuel press. switch, which is bad and the new one will be installed tomorrow, after the car sits about an hour or more, spark from the coil wire is lost. Does the EFI control ign. spark? the coolant temp switch checks out ok also. Any suggestions would be greatly appreciated. I'm really tired of waiting an hour or more with the hood open till it cools down and starts.
Thanks, Scott Pianowski 81 EFI

Subject: IML: '81 EFI Car Windshield Wiper

From: "Harris" <HarrisWerks@worldnet.att.net>
Date: Wed, 28 Jul 1999 20:56:29 -0500

Ed -
A part called a CONTROL, is listed for this car - with standard two speed with intermittent wipers. This part number is 4222 060. hope this helps.....Bob Harris

Subject: IML: 81 EFI fuel press. switch

Date: Fri, 23 Apr 1999 18:22:04 -0400
From: scott pianowski <sp-racer@juno.com>

Hi All,
Having some fuel pressure problems and I found the press. switch to be intermittent. Thought I had the part # for it but I don't. Does anyone have the factory # or an aftermarket source? I was at the local NAPA parts store to pick up a coil and ign. dist pick-up coil and asked about a FPS. They didn't list one. Any input would be greatly appreciated as I think this very well may be the last item to straighten out all my running problems, I hope!
Thanks Scott Pianowski 81 Imp

Subject: IML: 81 EFI fuel press. switch

From: JRHEYER@aol.com
Date: Fri, 23 Apr 1999 19:52:35 EDT

you are talking about the on/off switch on the fuel line inside the air cleaner I assume. I had one that leaked and another that shorted out melting everything. You have rocks in your head driving that potential heartbreaker around the countryside! Putting the apparatus in a museum would be wise. Get some drywall screws a put everything on display on a handy wall. THEN! put a 2 barrel carb and a 73 ignition setup and distributor in the engine.

Subject: IML: 81 Electronic Voltage Regulator

From: "Sir Buddy Enterprises" <eddenbud@magicnet.net>
Date: Sat, 26 Jun 1999 11:21:24 -0400

Hey Gang,

I just changed the voltage regulator on my 81, and I am concerned that it is not properly calibrated. I replaced the old one because it seemed erratic: while driving at night, the headlights would periodically get very bright, then return to normal. I also have had to replace two electronic ignition modules over the past three years, and I've replaced two headlights in the past year, so I think the old one was commanding too much voltage from the alternator at times.

I replaced it with a new MOPAR regulator, part # 05234625. The data that came with it states that it the voltage should read between 13.8 and 14.8 at 70 degrees. When I first started the motor with the new regulator installed, ambient temp. about 80 degrees, it was reading about 15.2 volts. After a few minutes, it had come down to about 14.7-14.8 volts, right at the top of the acceptable range. I figured that perhaps the battery was slightly discharged when first started and so the v. r. was commanding more volts to charge it. So I loaded the system up at idle, with headlights, full fan speed, and turn signals/cornering lamps on, and the voltage dropped to about 12.3, as expected. Then when I turned the accessories off, the voltage returned to about 15.2 volts again, presumably to recharge the now slightly weakened battery. Eventually it dropped to about 14.8 volts again.

Does this seem ok? When I shut down the engine and checked the battery voltage, it was at about 12.7, a bit higher than the max. of 12.6 volts that I would expect. My concern is that the regulator may overcharge the battery, causing a fire or explosion, or at least damage to other electrical components. Any input would be greatly appreciated.

Thanks,
Ed Ferrara

Subject: IML: 81 Electronic Voltage Regulator

From: "Dick Benjamin" <bondotmec@ez2.net>
Date: Sat, 26 Jun 1999 22:37:06 -0700

OK, you car's in good shape.

I would check your voltmeter against a known good standard sometime when you're in the avionics maintenance shop - 15.2 volts at the battery terminals is pretty darn high for a healthy battery, unless you are dumping close to the maximum 100 amps into it and the temperature is low.

As to the wire from the alternator to the battery, don't bother checking it - since you measured this high a voltage at the battery, we know the juice is getting there will bells on!

Dick Benjamin
bondotmec@dte.net
bondotmec@ez2.net (for graphics and file transfers)

From: Sir Buddy Enterprises <eddenbud@magicnet.net>

Resistance in this wire will make the alternator run > toward the high side as to voltage.

I have not checked this, but I will.

I measured the voltage directly at the battery,

Subject: IML: 81 fuel press switch

From: scott pianowski <sp-racer@juno.com>
Date: Tue, 27 Apr 1999 21:22:47 -0400

Bob,
Thanks for saving me a switch. I'll be patient till you find it. As for the looking under the air cleaner after hot start attempts, I have and everything is dry. It was at this time that I checked the ohms on the press. switch and found the reading to be in the hundreds. I also cracked open the fuel line to the injector and it too was dry. If there is something else I should be testing or looking for let me know and I'll give it a try.
Thanks again for your help!
Scott Pianowski 81 Imp

Subject: IML: 81 fuel press. switch

From: scott pianowski <sp-racer@juno.com>
Date: Wed, 28 Apr 1999 21:31:07 -0400

Bob H.
Have more tools than I probably need. I turned wrench professionally for over 10 years, just not on domestic cars. Feel like such an amateur especially with this EFI. Thanks to everyone in the club I can feel confident that all my EFI problems will be resolved. It would be much easier to change over to a carb, but that would take away from what makes the Imperial so special. Plus I don't give up easy when there is a challenge at hand. As for the cold test to the pump, I'll do that this weekend for sure. I have a fuel press. gauge already inline and do have 12 psi.. Well I'll wait till I hear from you in case you have more input for me. Till then thanks a million!
Scott Pianowski 81 Imp

Subject: IML: 81 Imperial set-up for longitudinal torsion bars!

From: DBKEMPER@aol.com
Date: Sun, 13 Jun 1999 18:42:37 EDT

While taking apart my 81 Imperial "parts car" I discovered plugs in the front stub frames.....exactly like on the 79 Dodge St Regis....in the same place. On the Dodge these are to

allow the longitudinal torsion bars to pass through to meet the assembly that anchors them. Provisions are there to mount these anchor sub-assemblies.....now if I had a mid to late 70's B-body big block K-frame....it looks like all things are present to install the straight bars....the big block K.....and have one REAL Imperial.....unfortunately this car is not one to do that to since it is a parts car.....since I just happened to have a Saint Regis handy to park beside it for comparison it sure looks possible....now I have to check my other three 81's.....or is the parts car some kind of odd ball???

Subject: IML: 81,82,83 EFI Imperials

Date: Sun, 18 Jul 1999 22:17:58 -0700
From: Roland Ellsworth <amas@colusanet.com>

Several years ago, I owned a 1981 EFI equipped Imperial that ran beautifully to about 55,000 miles. Just past warranty. After spending many dollars. and believing Chrysler Garage mechanics that, "knew all about everything except what they were talking about", or "doing"; I bought a retrofitted to carburetion 81 Imp to obtain the parts needed to change my original EFI over to carburetion, which I did myself. Because of the "You can't do that yourself, you won't be able to get it smogged" and other "crap" I heard from Chrysler garage mechanics; I complicated this first job I did by changing gas tank, fuel lines, and everything else.

After this change-over, I was so happy with the way the car operated, that I never noticed any of the negative aspects that I have read on IML about carburetion.----no constant problems---and my wife started driving the car again. This original EFI car was her's, and before change-over, it did manage to convince her she never wanted to own another XXXX Chrysler. However, she currently drives a little Chrysler TC which she thinks is The Greatest; which it isn't!! She refuses to get near a Chrysler garage, though, with this car.

Real purpose of this post: I have been reading just enough--"yes, you can keep these EFI equipped cars running" info on IML that I weakened. I found an excellent, (probably an 8), EFI 82 Imp, and decided owning an original EFI might bea pretty good again. Well, it isn't!!! I find I have neither the time, the patience nor the confidence needed to trust this car to get me there and home again. I am ready to convert it to Carburetion, Congratulations, and I envy you people who have what it takes to keep these EFI cars running. It is Admirable of those that also donate so much time and valuable info to the IML in consideration to keeping these cars running. I am sorry I can't offer something positive.

A question: Can gasoline be pulled thru the EFI equipped electric in tank fuel pump. I didn't try this, and the last change over I made I drilled thru the electric fuel pump, which is a shame, as I have observed; some people need them

Also, does any one know where a carburetor, manifold, etc. to convert this EFI system to Carburetion can be found? Also will have EFI parts, (some new) if any one need them.

Roland Ellsworth,
Colusa, California

Subject: IML: 81-83 Badge Responses

From: "Sir Buddy Enterprises" <eddenbud@magicnet.net>
Date: Mon, 30 Aug 1999 00:00:48 -0400

THANK YOU ALL who responded with the detailed information in regards to proper placement of the IMPERIAL nameplates on my 81.

What is interesting is that I never even noticed that the IMPERIAL badge on the decklid on my 82 is smaller than the ones on the fenders! I'll be darned! And sure enough, it is the same size as the "smaller" IMPERIAL badge that I noted is on the left concealed headlamp door on my 81. Since the 81 was repainted by the previous owner, in a white that was not the original Chrysler Pearl White, I am sure that he probably just attached what was the deck lid badge to the headlamp door. I must say it looks very nice there, and even if it is not the original placement, I am going to leave it, rather than risk damaging the paint. Although I do lean towards the "purist" in keeping cars original, as I say my 81 is not the same white as the Chrysler color anyway; in fact, I find this white much more stunning than the "Pearl White" of 81-83, which, to me, did not seem to be a very opulent shade of white for a luxury car.

I have pulled the badges that I got with the car in 1993 out of storage, and they are not in very good shape. I am wondering if the badges are the same as on the 90's Imperials (meaning I may be able to get new ones at the dealer.) I have looked at these '90's Imperials, and certainly the style of the badge is the same, but I don't know about the dimensions. Perhaps my local friendly Chrysler dealer will be able to tell me if new badges are still available.

Thanks again,

Ed Ferrara

Subject: IML: 81-83 EFI vs Carburetor conversion

Date: Tue, 01 Dec 1998 22:27:55 -0800
From: "bondotmec" <bondotmec@dte.net>

This discussion seems to come up about once a year. My feelings are definitely biased, but perhaps my experience since rebuilding my 110,000 Mi Black car will be interesting: As just pointed out by Carmine, the system is astonishingly sensitive to ANY air leak. I found that when I had cleared out the accumulated carbon in the EGR passages in the intake manifold, cleaned the fuel rails thoroughly, set the timing to spec, and basically returned the car to the condition it was in when new, that I have an exceptionally well tuned car.

As some of you know, I have 4 of these cars, one of which is an 85,000 mile car in superb condition, very obviously a low mileage car in every aspect of its operation, from the smooth and quiet operation of the windows to the rattle-free and wind noise free way it goes down the road. The engine sounds tight and smooth. It is a pleasure to drive except for one thing, and that is its lack of performance. Even the worst of the EFI cars, my worn out, nearly 300,000 MI brown daily driver, which smokes, rattles, misses at idle since one cylinder is down to about 50 PSI compression, will run rings around the Blue car (The low mileage one). On a recent trip to Tahoe, with the Black freshly rebuilt engine, I kept careful track of the economy, it AVERAGED over 23 mpg, this was at 75 mph much of the way, and included traversing 4 very high altitude passes (9000 feet and more) and traffic through commuter hours in the Riverside- San Bernardino area, plus around town in Tahoe for two weeks. This was a total of over 1100 miles, so the average is a decent measure of the cars economy. The Black car will out accelerate most cars if I lean into it hard, not to the point of burning the tires like my 68, of course, but when I take off from a light, I am never embarrassed the way I am in the carbureted car. This thing GOES when you step on it. Plus, it always starts on the first twist of the key, hot (we live in the desert, daytime temps over 115 are not unusual) or cold (in the teens and lower, at Tahoe). It pulls strongly from dead cold, it is

totally insensitive to altitude variations, its throttle response is immediate and strong under all conditions. I personally would never consider putting a carburetor on one of these cars, especially if one were forced to pass Smog as in CA, since you would be limited to the factory authorized setup which is what is on the blue car. By the way, regarding the rear axle ratio, it is 2:20 to 1 on these cars. Since the car has a GVWR of 5240#, and only a 318 CU IN engine, there is no surprise that it must be in perfect tune with all the advantages of the computerized system working right to get the kind of performance that was designed into it.

OK, off the soapbox for another year.

Dick Benjamin

Subject: IML: 81-83 Garage Door Openers

From: "Sir Buddy Enterprises" <eddenbud@magicnet.net>
Date: Thu, 19 Aug 1999 23:13:44 -0400

After completing the weather strip installation on the 81, I decided to attach the garage door-interface from my 82 to the garage door opener. My 82 has the original sun visor-mounted garage door opener switch, which works in conjunction with an interface that you mount in the garage and hook up to your garage door opener. (My 81 does not have the original visor, so if anyone knows where I can get one, preferably in mahogany, you know where to reach me...)

Anyway, the garage door interface has its own switch on the unit to operate the door from the control box or as an interface with the car's opener. Since I did not need to use that switch, I decided to just attach the interface right to the side of the Genie door opener, where I could plug it right into the extra plug on the ceiling by the opener. It worked fine like this...Until I tried using the Genie Remote from another car. Oddly, I had to hold the Genie remote within a few feet of the opener to get it to work. When I unplugged the Imperial interface, it all returned to normal! How strange!

After some experimenting, I found that I had to move the interface unit away from the Genie opener for both the Imperial remote and Genie remotes to work. it seems that placing the interface right on the side of the opener caused so much interference that the opener would not respond to the Genie remotes until they were very close up. Since it is not very convenient to use a remote in that manner...Park in front of garage door, walk in front door of house, hold Genie remote up to opener, activate door, walk back out to car, move car into garage, hold remote up to opener again to close door..., I elected to remotely locate the interface on a sidewall of the garage.

Now it all works as advertised. I guess those powerful 1970's resistors and diodes and all were just too much for those wussie 1990's chips in the opener to handle!

Ed Ferrara

Subject: IML: 81-83 Horn Switch

From: "Sir Buddy Enterprises" <eddenbud@magicnet.net>
Date: Fri, 9 Jul 1999 20:29:40 -0400

Hey Gang,

The horn on my 82 is very intermittent, and I recall that Dick B. gave some brief advice on repairing the contacts in the steering wheel hub previously. I have replaced all three horns, which were faulty, and I have also replaced the horn relay (which was not faulty, it turns out.) I'm sure the trouble is in the hub of the steering wheel.

Can someone provide the correct, detailed procedure for repairing this? How do you get the vinyl center pad, with the Cartier crystal, off. Does it just pry out? I'm reluctant to just "go at it" with a screwdriver for fear of damaging this pristine piece.

Please advise.
Thanks,
Ed Ferrara

Subject: Re: IML: 81-83 Horn Switch

Date: Fri, 9 Jul 1999 19:19:39 -0700 (PDT)
From: "Jack R. Lindholm" <jrl-black@rocketmail.com>

Hi Ed,
I went through this when I changed the wheel on my '81 last fall. You can pretty much "go at it" though I think I'd use a putty knife with the blade wrapped in electrical tape, or something of the like. The center piece is rubberlike, and held in place with metal spring clips, and the whole thing slides out quite easily.

I also have a wheel, cracked, though I think the contacts are ok, if you need them...

good luck

Manhattan Jack
81 Imperial

Subject: Re: IML: 81-83 Horn Switch

Date: Fri, 09 Jul 1999 21:17:13 -0700
From: Bob Schmitt <bsbrbank@pacbell.net>

Ed -
> The horn on my 82 is very intermittent, and I recall that Dick B. gave some brief advice on repairing the contacts in the steering wheel hub
> previously. I have replaced all three horns, which were faulty, and I have
> also replaced the horn relay (which was not faulty, it turns out.) I'm
> sure the trouble is in the hub of the steering wheel.
> Can someone provide the correct, detailed procedure for repairing this?
> How do you get the vinyl center pad, with the Cartier crystal, off. Does
> it just pry out? I'm reluctant to just "go at it" with a screwdriver for
> fear of damaging this pristine piece.

Dick B is out camping, but here's his advice from the '81-'83 archive, which will get better organized when we get snow-bound...

Subject:_ Horn problems, '81-'83 cars

From:
Dick Benjamin <bondotmec@ez2.net>
Sent:
Thu, 1 014 -0800
Leo

The horn blowing contacts are in the spokes of the steering wheel, and are often the culprits in this type of problem. If you pry off the center pad, you will see a pair of wires connected to the spokes, with one wire going to the structure of the wheel, and the other going out to the spoke area. If you momentarily connect the wires together, the horn should blow for as long as you make this contact. If it does so solidly, every time, your problem is in the spoke assembly.

If it does not blow reliably under this test, your problem may be in one of many other places. The most common of these other places is a poor ground to the steering column itself. If you remove the dash trim panels, you will see that one of the two bolts that hold the column to the dash assembly has a special added dealy that provides a ground path from the column to the structure of the car (at the dash bracket). These develop oxide and crud over the years, and make the horn intermittent. You can temporarily clip a test lead from the ground contact on the steering wheel to a known good ground (I use the metal dome light switch in the door jamb) to see if this brings your horn back to life.

The cure is to take the connection apart and clean it. Much more likely, though, is that the insulating foam sandwich in the spoke assemblies has deteriorated to the point that contact is a sometime thing.

Be grateful, a more common symptom when this stuff fails is to have the horn blow constantly. This often has a deleterious effect on your neighbors tolerance of your hobby.

This insulating foam assembly in the spokes can be replaced with a sheet of thin felt, punched with a paper punch in the correct pattern, and held in place with upholstery adhesive. I have repaired four of them this way, all successfully. Just use your common sense and good eyesight. You will also need the dexterity of a neurosurgeon, but I am sure you can muster that, right?

Back to the initial test - if you find the problem is elsewhere than the spokes (bypassing them as in the first paragraph does not make the horn blow consistently), and fixing the grounding of the column doesn't do it, your problem could be in the wiring, the horns themselves, (but this would mean all 3 horns are acting up at once, not too likely), or most likely, in the horn relay. This is located in the fuse panel. You have already taken the cover off the underdash area to troubleshoot the clicking you describe in your initial message, I assume. Thus you are familiar with the layout of the fuse panel. By the way, if any of the following your glove box light, your cigar lighter, or your power antenna are working, you know the horn fuse is OK, so don't bother looking at that. The horn relay is the only large plug-in device on the fuse panel that has 3 terminals arranged so they are parallel to each other. The other large devices on the panel are the turn signal flasher, which has only two terminals, and the time delay relay, which also has 3 terminals, but one of them is at right angles to the other two. The horn relay should be readily available at your friendly local parts store, but don't run out and buy it until you are sure that is the problem, They seldom fail, and you are very likely to be disappointed.

Howsa bout giving us a report when you find the culprit, OK?
Dick Benjamin

bondotmec@dte.net

Subject: Re: IML: 81-83 Horn Switch

From: "Harris" <HarrisWerks@worldnet.att.net>
Date: Sat, 10 Jul 1999 10:28:25 -0500

Ed -

The horn switch on these cars is an extremely poor design. They offered an all-metal replacement, but it didn't fit right. The sponge deteriorates with time and the horns may not operate at all; or, like on my '81, they were partly "on" all the time, creating a small resistance that ruined the battery, (finally smoked the horns), but you can make an acceptable repair by using a new piece of resilient sponge, transfer the contact buttons over to the new pieces and clean any sticky adhesive from the contacting surfaces. Bob Harris

Subject: Re: IML: 81-83 Horn Switch

From: Bob Schmitt <bsbrbank@pacbell.net>
Date: Friday, July 09, 1999 11:23 PM

Ed -
> The horn on my 82 is very intermittent, and I recall that Dick B. gave some
> brief advice on repairing the contacts in the steering wheel hub
> previously. I have replaced all three horns, which were faulty, and I have
> also replaced the horn relay (which was not faulty, it turns out.) I'm
> sure the trouble is in the hub of the steering wheel.
> Can someone provide the correct, detailed procedure for repairing this?
> How do you get the vinyl center pad, with the Cartier crystal, off. Does
> it just pry out? I'm reluctant to just "go at it" with a screwdriver for
> fear of damaging this pristine piece.

Dick B is out camping, but here's his advice from the '81-'83 archive, which will get better organized when we get snow-bound...

Subject: Horn problems, '81-'83 cars

From: "Dick Benjamin" <bondotmec@ez2.net>

Sent: Thu, 1 014 -0800

Leo

The horn blowing contacts are in the spokes of the steering wheel, and are often the culprits in this type of problem. If you pry off the center pad, you will see a pair of wires connected to the spokes, with one wire going to the structure of the wheel, and the other going out to the spoke area. If you momentarily connect the wires together, the horn should blow for as long as you make this contact. If it does so solidly, every time, your problem is in the spoke assembly.

If it does not blow reliably under this test, your problem may be in one of many other places. The most common of these other places is a poor ground to the steering column itself. If you remove the dash trim panels, you will see that one of the two bolts that hold the column to the dash assembly has a special added dealy that provides a ground path from the column to the structure of the car (at the dash bracket). These develop oxide and crud over the years, and make the horn intermittent. You can temporarily clip a test lead from the ground contact on the steering wheel to a known good ground (I use the metal dome light switch in the door jamb) to see if this brings your horn back to life.

The cure is to take the connection apart and clean it. Much more likely, though, is that the insulating foam sandwich in the spoke assemblies has deteriorated to the point that contact is a sometime thing. Be grateful, a more common symptom when this stuff fails is to have the horn blow constantly. This often has a deleterious effect on your neighbors tolerance of your hobby.

This insulating foam assembly in the spokes can be replaced with a sheet of thin felt, punched with a paper punch in the correct pattern, and held in place with upholstery adhesive. I have repaired four of them this way, all successfully. Just use your common sense and good eyesight. You will also need the dexterity of a neurosurgeon, but I am sure you can muster that, right?

Back to the initial test - if you find the problem is elsewhere than the spokes (bypassing them as in the first paragraph does not make the horn blow consistently), and fixing the grounding of the column doesn't do it, your problem could be in the wiring, the horns themselves, (but this would mean all 3 horns are acting up at once, not too likely), or most likely, in the horn relay. This is located in the fuse panel. You have already taken the cover off the underdash area to troubleshoot the clicking you describe in your initial message, I assume. Thus you are familiar with the layout of the fuse panel. By the way, if any of the following your glove box light, your cigar lighter, or your power antenna are working, you know the horn fuse is OK, so don't bother looking at that. The horn relay is the only large plug-in device on the fuse panel that has 3 terminals arranged so they are parallel to each other. The other large devices on the panel are the turn signal flasher, which has only two terminals, and the time delay relay, which also has 3 terminals, but one of them is at right angles to the other two. The horn relay should be readily available at your friendly local parts store, but don't run out and buy it until you are sure that is the problem, They seldom fail, and you are very likely to be disappointed.

Howsa bout giving us a report when you find the culprit, OK?
Dick Benjamin
bondotmec@dte.net"

Bob of Burbank
Under Assistant West Coast Promotion Man
www.sainthood.com, _Where Goodness is Rewarded_

Subject: Re: IML: 81-83 Horn Switch

From: "Sir Buddy Enterprises" <eddenbud@magicnet.net>
Date: Sun, 11 Jul 1999 00:35:29 -0400

> Ed -
> The horn switch on these cars is an extremely poor design. They offered an
> all-metal replacement, but it didn't fit right. The sponge deteriorates with
> time and the horns may not operate at all; or, like on my '81, they were

> partly "on" all the time, creating a small resistance that ruined the
> battery, (finally smoked the horns), but you can make an acceptable repair
> by using a new piece of resilient sponge, transfer the contact buttons over
> to the new pieces and clean any sticky adhesive from the contacting
> surfaces. Bob Harris

Bob,

I'll be out of town for some time, so I'm not sure when I'll get to look at this, but are you referring to the actual horn switches under the buttons on the spokes of the steering wheel here, or the contacts under the center-hub pad of the wheel that has also been referred to. My 81's horn work perfectly, but my 82's horn buttons are very sticky, and as I pointed out previously, are intermittent in operation.

Ed Ferrara

Subject: Re: IML: 81-83 Horn Switch

From: "Harris" <HarrisWerks@worldnet.att.net>
Date: Sun, 11 Jul 1999 11:49:26 -0500

From: Sir Buddy Enterprises <eddenbud@magicnet.net>
Date: Saturday, July 10, 1999 11:46 PM
Subject: Re: IML: 81-83 Horn Switch

> Ed -
> The horn switch on these cars is an extremely poor design. They offered an
> all-metal replacement, but it didn't fit right. The sponge deteriorates with
> time and the horns may not operate at all; or, like on my '81, they were
> partly "on" all the time, creating a small resistance that ruined the
> battery, (finally smoked the horns), but you can make an acceptable repair
> by using a new piece of resilient sponge, transfer the contact buttons over
> to the new pieces and clean any sticky adhesive from the contacting
> surfaces. Bob Harris

Bob,

I'll be out of town for some time, so I'm not sure when I'll get to look at this, but are you referring to the actual horn switches under the buttons on the spokes of the steering wheel here, or the contacts under the center-hub pad of the wheel that has also been referred to. My 81's horn work perfectly, but my 82's horn buttons are very sticky, and as I pointed out previously, are intermittent in operation.

Ed Ferrara

Ed -

I'm referring to the two aluminum bars, in the spokes and the contactors underneath them - that's where the spongy material with the buttons are. Bob Harris

Subject: IML: 81-83 Horns

From: "Sir Buddy Enterprises" <eddenbud@magicnet.net>
Date: Wed, 21 Jul 1999 21:30:06 -0400

Well since I didn't have the correct weather-strip for my 81, I decided to get to work on that intermittent horn on my 82. In contrast to what others had posted for me about the horn contact setup, I did not find the spongy material arrangement under the spokes of the wheel. Instead I found a contact device that screws into each spoke and has a plastic retainer with two springs and two contacts in each spoke. Perhaps this is the all-metal replacement that Bob Harris mentioned and was installed by the previous owner; or perhaps Chrysler changed the design of the horn contacts somewhere in production for 82.

In any case, I found that the device was not making a good contact with the ground point, a single metal contact under the ring. So I ran an extra ground wire from each contact assembly and attached to a screw I put into the steering well hub in a hole that was already present for some reason--there are two large threaded holes, presumably for use of a wheel puller, plus a small threaded hole to the upper left side. Anyway, I placed a screw into that hole and grounded each of the horn contacts to it.

This has helped somewhat, but the horn is still intermittent, so I suspect that the ground point to the steering column is loose and/or dirty. I will try to check that out tomorrow.

Ed Ferrara

Subject: IML: '81-'83 Imperial Digital Dash / Odometer

From: "Harris" <HarrisWerks@worldnet.att.net>
Date: Tue, 3 Aug 1999 20:43:13 -0500

The asterisk means that the mileage currently displayed is not the true mileage - simple. If you bought one of these cars from a dealer, he was usually obligated, by Chrysler, to add a sticker to the car at the door back face and to the documentation, that would indicate the true mileage; usually more than that displayed. Many '81's had the digital display fail early on, in which case Chrysler replaced it under warranty, the innards were improved, and they covered their inability to "reset" the odometer to the original number. There are some people who can revert the mileage to 0, but it cannot be run "backwards" to a lower, or the former amount, and the asterisk may also, in some cases, be removed.....Bob Harris

Subject: IML: 81-83 Imp's with Carburetors

From: "Dan Crone" <croned@gemair.com>
Date: Tue, 20 Jul 1999 01:08:14 -0400

1981 Imperial with Carb Conversion. Not in California anymore. I want to adjust the idle mixture. It idles smoothly if you consider 1200 rpm idling... Carburetor seems 'sealed'. If I drill out the plugs do I have: a) a mess, b) access to a screw, c) something else.

Gas Tank pressure. Do all these cars blow out gas fumes for 2 minutes upon unscrewing the gas cap?

Finally, how many gallons to the mile can one expect from these beasts?

Conversion; Not in California anymore; I want to adjust the idle mixture. It idles smoothly if you consider 1200 rpm idling..; Carburetor seems 'sealed'; If I drill out the plugs do I have: a) a mess, b) access to a screw, c) something else; gas fumes for 2 minutes upon unscrewing the gas cap these beasts

Subject: IML: 81-83 EFI 0-2 Sensor

From: "Sir Buddy Enterprises" <eddenbud@magicnet.net>
Date: Thu, 2 Sep 1999 22:23:15 -0400

I was driving my 82 today, and I notice that the hesitation that I thought I had corrected has intermittently returned. I believe it may just be an intermittent air leak somewhere. Anyway, I remember that Carmine mentioned that he always just left the Oxygen Sensor disconnected to keep the engine in closed (or is it open-?) loop mode. So after driving about ten miles to pick our dog up from the groomer's today, I disconnected the Oxygen Sensor to compare the performance.

I understand that this should make the fuel mixture a bit richer than the engineers had planned. To be honest, I don't think that running this engine a bit richer could be too bad, since I'm sure that in attempts to gain the absolute maximum fuel mileage figures which was so important in the early 80's, and to meet emissions requirements, that they may have tweaked these EFI's a bit too much to the lean side.

I am curious what exactly the oxygen sensor is doing. I understand that it senses oxygen (duhhhh!) in the exhaust, but how is this information transmitted to the computer? I guess that the resistance is varied with regards to the oxygen content in the exhaust, but I'm not clear on which way the resistance is effected by these changes. And then, how does the computer use this information to determine changes in the fuel mixture?

What impact will leaving the Oxygen Sensor Disconnected have on the engine? I'm sure fuel mileage will be slightly lower, but that's a small price to pay for improved performance at today's relatively low gas prices. Also emissions may be slightly higher, but I do not live in an emissions-testing community; honestly, in the interest of social responsibility, I can't imagine that even with the O2 Sensor disconnected that these cars would be big polluters. Would leaving the O2 Sensor disconnected cause such a rich mixture, though, that I might risk damage to the catalysts?

Some of this is just for my own "continued learning" of this system, but I would also like guidance on best options for the engine's health.

Thanks in advance,
Ed Ferrara

Subject: IML: '81-'83 EFI Fuel Pressure Switch

From: "Harris" <HarrisWerks@worldnet.att.net>
Date: Fri, 23 Apr 1999 20:41:24 -0500

Scott - This item is PN 4091901 and it has not been available for many years. there is a simple test for it which was posted on these pages last month or so and I assume from your letter that yours failed.

I have several of these, if you are interested, write me at HarrisWerks@worldnet.att.net and we can talk some more; let me know all of your difficulties.....Bob Harris

it has not
been available for many years. there is a simple test for it which was posted on these pages last month or so and I assume from your letter that yours failed. interested, write me at HarrisWerks@worldnet.att.net
we can talk some more; let me know all of your difficulties.....Bob Harris

Subject: IML: 81-83 Information Summary

From: "Sir Buddy Enterprises" <eddenbud@magicnet.net>
Date: Sat, 21 Aug 1999 16:28:41 -0400

I am in the process of organizing all of the 81-83 information I have saved from the IML over the years. I am deleting all of the e-mail headers and impertinent stuff like that and transforming the data into Word documents by subject.

Is there somewhere that I might attach this info and send it to the list without clogging up the server?

Ed Ferrara

Subject: Re: IML: 81-83 Information Summary

From: RWestra@aol.com
Date: Sun, 22 Aug 1999 20:01:03 EDT

Ed:

I don't know how to transmit this information without clogging up the system of those not interested but I would love to get a copy. Could you send it as an
attachment. MS 95 Word.

Fax or mail would be fine. Can I pay something for the copy and postage?
Rolland

Subject: IML: 81-83 Nameplate Locations

From: "Sir Buddy Enterprises" <eddenbud@magicnet.net>
Date: Sat, 28 Aug 1999 21:17:33 -0400

OK, you 81-83 fanatics, here is a tough one for you:

When I bought my 81, Claire, six years ago, the previous owner had had it the Electronic Fuel Injection nameplates to the side of the car, nor the IMPERIAL badge to the trunk lid. Oddly, the car does have one smaller IMPERIAL nameplate on the left concealed-headlamp door. I have

always enjoyed driving the car sans nameplates, as it is amusing to me to watch interested passersby on the freeway staring the car up and down, trying to figure out what the heck it is!

Well, I guess I've grown tired of that game, and so I want to reattach Claire's nameplates, as Captain Iacocca had intended her to roll of the line with. Since the car is carb.-converted, I will not reattach the EFI nameplates, as I know that the "officially-sanctioned" Chrysler conversion called for the removal of these plates--truth in advertising and all that jazz, I suppose. Yet I am really uncertain about the original locations of nameplates for the 81. The ads and company literature that I have for the 81 are no help at all: It seems that the car was still in prototype stages when they took the press photos, and so they very amateurishly airbrushed on the IMPERIAL names in the "some" of the photos.

I know that one IMPERIAL plate goes on each front fender, aft of the wheelwells. But is there one on the trunklid, on the right side, on the 81?

My 82 is a Frank Sinatra, and so the placement of the badging is slightly different, to even out the additional "FS" gold plaques. It does have the badge on the right side of the trunk lid, but being Frank is an 82, I am not sure if the badging was done the same as in 81.

And what's with the smaller IMPERIAL badge on my 81's concealed headlamp door? It does look very nice there, but I am not sure if this was original or if the previous owner just "stuck it on there."

Looking forward to your responses,

Ed Ferrara

Subject: Re: IML: 81-83 Nameplate Locations

Date: Sat, 28 Aug 1999 18:24:54 -0700
From: mopowerd@flash.net

Sorry, don't have any measurements.

> I know that one IMPERIAL plate goes on each front fender, aft of the
> wheelwells. But is there one on the trunklid, on the right side, on the
> 81?

Yes. also '82,'83

> My 82 is a Frank Sinatra, and so the placement of the badging is slightly
> different, to even out the additional "FS" gold plaques. It does have the
> badge on the right side of the trunk lid, but being Frank is an 82, I am
> not sure if the badging was done the same as in 81.

It's moved over a bit for the FS badge.

> And what's with the smaller IMPERIAL badge on my 81's concealed headlamp
> door? It does look very nice there, but I am not sure if this was original
> or if the previous owner just "stuck it on there."

It doesn't belong. It's probably the one for the trunk.

Carmine F.

Subject: IML: 81-83 Odometer Readings

From: "Sir Buddy Enterprises" <eddenbud@magicnet.net>
Date: Mon, 2 Aug 1999 23:10:01 -0400

I was just browsing through Auto Trader Online, and there is an ad for an 81 that had been stored for six years. The ad claims that the car has 47,000 miles, but that the dash "cancelled" the mileage to zero from sitting for six years. I've never heard of such a thing in these cars. Any other inputs as to what the real cause for this might be?

Ed Ferrrara

Subject: Re: IML: 81-83 Odometer Readings

From: Imperial67@aol.com
Date: Mon, 2 Aug 1999 23:43:34 EDT

Ed wrote:

>I was just browsing through Auto Trader Online, and there is an ad for an
>81 that had been stored for six years. The ad claims that the car has
>47,000 miles, but that the dash "cancelled" the mileage to zero from
>sitting for six years. I've never heard of such a thing in these cars.
>Any other inputs as to what the real cause for this might be?

>From my former engineering days, this sounds totally plausible. Dick B, do you agree?

Subject: Re: IML: 81-83 Odometer Readings

Date: Mon, 02 Aug 1999 22:04:21 -0700
From: "Dick Benjamin" <bondotmec@dte.net>

Sir Buddy Enterprises wrote:
> I was just browsing through Auto Trader Online, and there is an ad for an
> 81 that had been stored for six years. The ad claims that the car has
> 47,000 miles, but that the dash "cancelled" the mileage to zero from
> sitting for six years. I've never heard of such a thing in these cars.
> Any other inputs as to what the real cause for this might be?
> Ed Ferrrara

I have often wondered about this. From my experience with other electronic items, and I have some, I have to believe that at some point the keep-alive circuit that provides a permanent record of the last updated odometer reading will finally run down, but I don't know how long that would take, nor do I know what the result would be. If I were designing it, I would certain make sure it did not simply reset everything to zero and start over - rather I would have it post some kind of a warning that the reading is wrong (similar to the asterisk that indicates the dash has been replaced - same reason), but I would devise some different indication. But who knows what the engineers who designed these cars did. Certainly in the design of the analog circuitry

of the EFI system they made some really sophomoric mistakes - I have the feeling there was no credible design review process, but this is all guess work on my part. Perhaps someone out there knows - Maybe someone who has a dash that has been unused for many years? Bob Harris? Jeff Gaurino? Bob Baker? Jeff Ingraham? Jeff Traylor? Anybody? HElP?

Dick (who used to make his living designing this sort of thing) Benjamin

Subject: Re: IML: 81-83 Odometer Readings

Date: Mon, 02 Aug 1999 22:29:54 -0700
From: elroyj@pacbell.net

Imperialists-

I was just starting at GM in the early eighties and recall that the digital odometer was kind of a controversial thing. I recall that, on GM cars, the electronic odometer would fail after an extended period of time with no battery power- it was definitely more than a year. The data was stored on a chip called the NVM (non-Volatile Memory) chip.

Certain GM electronic odometers actually have a redundant mechanical odometer secreted in the dash- a 1984 Somerset Regal is one. It was done because the confidence level in the technology was not 100%....

Jeff S..

> I have often wondered about this. From my experience with other electronic items, and I
> have some, I have to believe that at some point the keep-alive circuit that provides a
> "permanent" record of the last updated odometer reading will finally run down, but I
> don't know how long that would take, nor do I know what the result would be.

Subject: Re: IML: 81-83 Odometer Readings

Date: Mon, 02 Aug 1999 23:01:10 -0700
From: baker-michaels@home.com

Dick and Ed, The only experience I have had with mileage changing on one of these dashes was when I first bought my brown car. Not long after I brought it home the battery went dead. When I put a new battery in it, I noticed the mileage change from around 92,000 to 88,000. ??????????. I just recently checked all of my extras to be sure what mileage was on each one, and they all seem to be what I remembered them being. They are all now marked. Bob Baker.

Dick Benjamin wrote:
> Sir Buddy Enterprises wrote:
> > I was just browsing through Auto Trader Online, and there is an ad for an
> > 81 that had been stored for six years. The ad claims that the car has
> > 47,000 miles, but that the dash "cancelled" the mileage to zero from
> > sitting for six years. I've never heard of such a thing in these cars.
> > Any other inputs as to what the real cause for this might be?
> > Ed Ferrrara

> I have often wondered about this. From my experience with other electronic items, and I
> have some, I have to believe that at some point the keep-alive circuit that provides a

> "permanent" record of the last updated odometer reading will finally run down, but I
> don't know how long that would take, nor do I know what the result would be. If I were
> designing it, I would certain make sure it did not simply reset everything to zero and
> start over - rather I would have it post some kind of a warning that the reading is
> wrong (similar to the asterisk that indicates the dash has been replaced - same reason),
> but I would devise some different indication. But who knows what the engineers who
> designed these cars did. Certainly in the design of the analog circuitry of the EFI
> system they made some really sophomoric mistakes - I have the feeling there was no
> credible design review process, but this is all guess work on my part. Perhaps someone
> out there knows - Maybe someone who has a dash that has been unused for many years?
> Bob Harris? Jeff Gaurino? Bob Baker? Jeff Ingraham? Jeff Traylor? Anybody? HElP?
> Dick (who used to make his living designing this sort of thing) Benjamin

Subject: Re: IML: 81-83 Odometer Readings

From: "Sir Buddy Enterprises" <eddenbud@magicnet.net>
Date: Tue, 3 Aug 1999 10:52:27 -0400

Bob Baker replied:

> Dick and Ed, The only experience I have had with mileage changing on one
> of these dashes was when I first bought my brown car. Not long after I
> brought it home the battery went dead. When I put a new battery in it, I
> noticed the mileage change from around 92,000 to 88,000. ??????????. I
> just recently checked all of my extras to be sure what mileage was on
> each one, and they all seem to be what I remembered them being. They are
> all now marked. Bob Baker.

HMMMMM! Just another "fun fact" in working on these cars. Sometimes when
I am getting really frustrated with a project I am working on one of my
cars, I wonder why I am still so infatuated with them.

Then I will see the car from an objective viewpoint. Perhaps from across the parking lot at Home Depot, where I have been digging tediously through hardware bins in search of that one elusive distinctly-sized screw that flew at Warp speed across the garage into that dimension where only small irreplaceable car parts seem to go! It is then, peering across the lot at Claire or Frank, that I say to myself, "God, what a beautiful car."

ED

Subject: Re: IML: 81-83 Odometer Readings

Date: Tue, 3 Aug 1999 07:58:25 -0700 (PDT)
From: Dave <icewolf65@yahoo.com>

I had some alternator problems on my 83 this spring which resulted in ruining the battery, but it had no affect on the odometer. I guess it's had pretty good power all it's life too as it is getting ready to turn 196,000. I'll let you know when it hits the big 200. Dave

Subject: Re: IML: 81-83 Odometer Readings

Date: Tue, 03 Aug 1999 11:00:29 -0400
From: Elijah Scott <escott@mail.gcsu.edu>
In-Reply-To: <199908030308.XAA29049@mx-new.magicnet.net>

At 11:10 PM 8/2/99 -0400, you wrote:
>I was just browsing through Auto Trader Online, and there is an ad for an
>81 that had been stored for six years. The ad claims that the car has
>47,000 miles, but that the dash "cancelled" the mileage to zero from
>sitting for six years. I've never heard of such a thing in these cars.
>Any other inputs as to what the real cause for this might be?

I remember reading in the Car and Driver review of the new '81 Imperial (it's so great to come from a family of librarians!) that the digital odometer of the Imperial was designed to hold the mileage for five years without battery power. At the time, this concept was presented as a positive feature of the car.

So if one had been stored for six years without battery power, ye olde odometer reading will be gone.

Elijah

Subject: Re: IML: 81-83 Odometer Readings

Date: Tue, 03 Aug 1999 09:34:16 -0700
From: "Dick Benjamin" <bondotmec@dte.net>

baker-michaels@home.com wrote:
> Dick and Ed, The only experience I have had with mileage changing on one
> of these dashes was when I first bought my brown car. Not long after I
> brought it home the battery went dead. When I put a new battery in it, I
> noticed the mileage change from around 92,000 to 88,000. ?????????. I
> just recently checked all of my extras to be sure what mileage was on
> each one, and they all seem to be what I remembered them being. They are
> all now marked. Bob Baker.

Had any of them been without power for a really long time? - like the 6 years that Ed mentioned? I suspect it would take a very long time for the nanoamp drain of the odometer memory to drain the polystyrene capacitor to below 3 volts, which is probably how they did it (late 70's technology), but at some point, it is going to go down below threshold for the CMOSs memory.

The reset to 88,000 is odd - I cannot explain that - I would have predicted a reset would bring up 188888 or 288888 (whichever the POST brings up, I've forgotten at the moment) plus the dreaded asterisk. An interesting question - what does it read if you switch to metric (in other words, does it correspond to the same distance in Kilometers - roughly 147,000)?

Dick

Subject: Re: IML: 81-83 Odometer Readings

Date: Tue, 03 Aug 1999 22:15:36 -0700
From: baker-michaels@home.com

Dick, The dash registers correctly in metric mode. I think it was just one of those Imperial mysteries. Also, about the longest any of the dashes I pulled have been without power is about 5 years. Bob

P.S. Randy's (my) car is back on the road again and running beautifully.

Dick Benjamin wrote:
> Had any of them been without power for a really long time? - like the 6 years that Ed
> mentioned? I suspect it would take a very long time for the nanoamp drain of the
> odometer memory to drain the polystyrene capacitor to below 3 volts, which is probably
> how they did it (late 70's technology), but at some point, it is going to go down below
> threshold for the CMOSs memory.
> The reset to 88,000 is odd - I cannot explain that - I would have predicted a reset
> would bring up 188888 or 288888 (whichever the POST brings up, I've forgotten at the
> moment) plus the dreaded asterisk. An interesting question - what does it read if you
> switch to metric (in other words, does it correspond to the same distance in Kilometers
> - roughly 147,000)?
> Dick

Subject: Re: IML: 81-83 Odometer Readings

From: "JAMES KLEEN" <H8CLNTN@prodigy.net>
Date: Wed, 4 Aug 1999 19:55:17 -0400

When home last June (where the 81's are stored) I had both of them running- the brown one for the first time in maybe 3 or 4 years. Its odometer was just fine.

jim k

Subject: Re: Re: IML: 81-83 Odometer Readings

From: "Paul Niemi" <lebaron62@excite.com>
Date: Thu, 05 Aug 1999 17:19:56 PDT

For a computer, or an electronic dash to remember data, some electrical current or electrical potential has to be available to the chip all the time. There must be a little dry cell battery, just like on the mother board of your computer, somewhere in there. If it dies, the memory dies with it, of how many miles are on the car, what date it is, what time it is, act. If the little dry cell has died, then all this would necessarily happen when the main battery was disconnected or went dead. Disclaimer: I have never worked on a 81-83, so please take this for what it is worth.
PEN

On Tue, 3 Aug 1999 07:58:25 -0700 (PDT), Dave wrote:

> I had some alternator problems on my 83 this spring which resulted in
> ruining the battery, but it had no affect on the odometer. I guess
> it's had pretty good power all it's life too as it is getting ready

> to turn 196,000. I'll let you know when it hits the big 200. Dave

Talk online at http://voicechat.excite.com

Subject: Re: IML: 81-83 Odometer Readings/dreaded asterisk

From: CRUISER66@aol.com
Date: Tue, 3 Aug 1999 19:23:20 EDT

In a message dated 8/3/99 4:16:42 PM Central Daylight Time,
jrl-black@rocketmail.com writes:

What does the dreaded asterisk signify, other than passing the
blessed 100K mark? >>

On Chry and Ford w/digital dash a star or asterisk means the odometer has passed 1 complete set of numbers; ie, on 99,999 max mile units its passed 100,000 miles on 999,999 max mile units its passed 1,000,000 miles it is also what happens when someone tries to pulse the unit around past 0 to a lower mileage ...BUSTED!
Ron

Subject: Re: IML: 81-83 Odometer Readings/dreaded asterisk

Date: Tue, 03 Aug 1999 21:40:19 -0700
From: "Dick Benjamin" <bondotmec@dte.net>

Jack R. Lindholm wrote:
> So,
> What does the dreaded asterisk signify, other than passing the
> blessed 100K mark?
> hmmmmm
> Manhattan Jack
> 81 Imperial (148,539 miles)

The asterisk has nothing to do with 100,000 Mi or any other specific mileage. It comes on if the odometer has been tampered with or replaced for any reason. It is to warn you if the car has different mileage than what is shown. If the odometer change was by a factory authorized dealer, there will be a sticker on the left door jamb or on the inside of the glovebox lid telling when and why the odometer was replaced, and the previous reading, and if any, the reading on the unit now installed before it was put in the current car. You see this on all the factory converted cars, since they changed out the whole dash electronic assembly.

By the way, the odometer reads to either 199,999 or 299,999 (I forget which) before it rolls over (and you can always figure out if it has rolled over by punching the "metric" button to see if the readings correspond with the first time around or second, or whatever.)

Dick Benjamin.

Subject: IML: 81-83 resin models

In-Reply-To: mailing-list-request@imperialclub.com's message of Sun, 22 Aug

From: imperialdrivein@webtv.net (Gary Hasey)
Date: Sun, 22 Aug 1999 21:32:42 -0400 (EDT)

Hello all, A company called TKM models had a resin cast 81 Imp. I bought one about 5 years ago (never finished it) price was about 25.00 .It came in pretty rough shape ,cheap sheet metal undercarriage and out of round tires also body lines were not straight. On the other hand it was something to work with, more for the advanced builder. They were out of Oklahoma City, OK. Hope this helps,
Imperially,Gary

Subject: IML: 81-83 sheet metal

Date: Sat, 21 Aug 1999 09:12:43 -0700 (PDT)
From: Dave <icewolf65@yahoo.com>

81-83 Cordoba and Mirada sheet metal look and fit the same (give or take some trim holes), but the Imperial sheet metal is a slightly heavy gauge. Adds about 500 lbs to the Imperial. Dave

Subject: IML: 81-83 Water Leak

From: "Sir Buddy Enterprises" <eddenbud@magicnet.net>
Date: Thu, 2 Sep 1999 22:38:09 -0400

Also today, I did a bit of work on my 81. After a particularly long rainshower the other day, I notice that there was a bit of water on the carpet by the driver's foot area, below the fusebox. I had the same leak last year that I thought I had corrected, but it has recurred. At that time, I had to seal around the left hood hinge with silicone sealant, and the leak stopped.

What I now found was that a tiny rust hole had perforated the steel just aft of the left hood hinge. Thus when the car was parked on an incline, as it was in my driveway, in a rainstorm/washing, water would run back and drip through this hole. I applied a bit of rust converter to the area, waited a day, and then applied some silicone sealant to it, which should solve the problem.

I believe that this is probably an isolated case, not necessarily a common problem area (my 82 does not show signs of corrosion there). However, I think this is a particularly insidious problem if your car has it: I just happened to leave the underdash kick-guard off of the car from when I was doing some work a few weeks ago, and so I noticed the water on the carpeting. If your car's kick guard is in place, this small leak might only cause wetting of the insulation on the guard. Thus you might not even know you have a leak.

The problem is that the leak, at least in my 81's case, was right above the fuse box and all of that nice hot electrical wiring! Obviously, this could be quite a hazard. I would suggest that all 81-83 drivers take a look for signs of a leak in this area. Remove the kick guard and see if the insulation shows signs of having been wet, and check around the hood hinge for corrosion and good sealing of the hinges to the body.

I hope this may help someone.

Ed Ferrara

Subject: IML: 81-83 Weatherstrips

From: "Sir Buddy Enterprises" <eddenbud@magicnet.net>
Date: Thu, 19 Aug 1999 22:59:45 -0400

Well, I FINALLY got around to installing that Left Outside Beltline weather-strip that I got from Brad's NOS. This job certainly is time-consuming! I already had the inner door panel off of my 81, and I had replaced the power door lock switch on it, and also added a "homemade" brace to support the door-mounted power control console, where the OEM plastic support had broken away. In addition to removing the inner door panel, you must remove the window from its support structure to access the screws that attach the weather-strip to the door. (You do not have to remove the window from the door, just place it down in the bottom of the inner door, out of the way.)

On inspecting the Brad's NOS part , I found that it had been manufactured by Chrysler quite recently; the date of manufacture was stamped on the inside of the part, June 22, 1997. This turned out to be one of those jobs that seemed to hit a snag at each turn, as so many jobs do! The part fit perfectly, except I found that the forward-most hole drilled in the door structure was really down too low, which would explain why the original weather-strip did not sit quite right on the trim molding at the front. After numerous frustrating attempts at making it fit (#&*@!), I re-drilled a new hole a bit higher, and the other eight or nine holes lined up perfectly. Of course, if you are like me when working in a tight space in the door in a 100-degree garage, you will drop at least two or three of the tiny screws two or three times and have to dig for them in the bottom of the door!

Anyway, the part went in very nicely. I did not use any cement, as the original did not have any, and it is such a secure fit, it does not appear that any is necessary. I neglected to mark the window attach points where they had been, thinking that there would be enough dirt buildup to serve as a marker when reinstalling the window. I was wrong. So after some experimenting, I got the window lined up nicely, as best as I can tell. Lesson to me and others: Mark the window frame with chalk before removing the bolts!

Finally, you must reinstall the door panel. I used caulk strip to hold the plastic door liner in place while reattaching the door panel. Of course, it was at this point that I discovered that the bracket I had added to the power control consol was "kind of" in the way, but I managed to get it all back together.

One more important point for whenever you have the door panel off of these cars: Take some CRC Electric Contact Cleaner, and spray it into the illuminated entry switch thoroughly. I find that these switches often get gunked-up, rendering the illuminated entry inoperative. All it takes is a good spraying of cleaner to get the contacts cleaned up, and the system works fine again. So that is it. Now for the RIGHT side. I am waiting on that part from Brad's NOS, as it is on backorder.

Ed Ferrara

Subject: IML: 81-83 Wiper Delay

From: "Sir Buddy Enterprises" <eddenbud@magicnet.net>
Date: Wed, 28 Jul 1999 21:20:50 -0400

Well my 81 has certainly been moody lately! While I still have the left door in pieces looking for that elusive outer belt molding weather-strip, Claire has had other unrelated displays of temper. Perhaps she is just embarrassed to be seen around with her inside driver's door panel removed.

Anyway, most recently my windshield wiper delay has stopped delaying! When turned to delay mode, the wipers make half of a sweep up the windshield, stop for a moment, and then resume continuous operation, failing to delay. In the past I have periodically heard the wiper-delay module below the dash clicking repeatedly before moving the wipers to action; I think that it has finally delayed its last wiper! Does anyone have this part number for the wiper-delay module so that I might also begin a search for it?
Thanks,

Ed Ferrara

Subject: IML: 81-83 Wiper Systems

From: "Sir Buddy Enterprises" <eddenbud@magicnet.net>
Date: Wed, 14 Apr 1999 23:54:44 -0400

Well, I tired of working on that "uneasy idle" on my 82, Frank, so today I tackled another problem, the windshield wipers.

As usual with Frank, the failure occurred at the perfect time--really. We were driving in the Mystery Driving tour at a car meet in St. Pete last month when a line of rain and thunderstorms moved through. As the rain ended, I turned off the wipers and KLANK---PLUNK, and they parked. That was the end of their action.

What had happened , which I have seen on both of the other Chryslers that I've owned with this system including my 81 Imperial, is that the Drive Linkage from the motor to the left wiper, had fallen off of the motor linkage, due to wear of the plastic assembly that holds it on. I also needed to replace the motor, as it was intermittently failing to reverse and park the wipers; this too happened on my other cars, so I did not even bother to check the wiper switch, as I was sure it was the same failure again internally in the motor.

So I got all the genuine MOPAR parts I needed, including a new MOPAR wiper motor and put them in today! Boy, I really skinned some knuckles with this task (as I had on the previous two Chryslers!) Anyways, the wiper arms are attached to the pivots with this clever little locking device. To unlock it, you must lift the arm up off of the glass and then slide the locking tab up--- This all came back to me VERY SLOWLY, and only after a string of profanities that drove my dog Buddy to seek solace inside under a bed!!!

Well, I found that the left (driver's) side arm did not have this locking device on the arm. You could see that it was once there, but must have been broken off under previous maintenance. Nonetheless, it was a real PAIN to get that one off. It was really on there tight.

Well, I got everything all back together, but now I am worried that that left arm may come loose at an "inopportune" time, as happened on my 81 once in the midst of a monsoon. I'm afraid that by removing and replacing it a few times as I got the arm placement adjusted that it will not be as securely attached as it was before. Does anyone know if there is a repair kit or something for that locking device; perhaps I could drill out the rivets and screw in a new one. The arm is in very good shape, and I hate to go to my friendly MOPAR shop only to have them tell me that I must buy a new arm (if it is even still available.)

Any ideas?

Ed Ferrara

Subject: IML: '82 EFI car - Hell's 'at poppin?

From: "Dick Benjamin" <bondotmec@ez2.net>
Date: Fri, 10 Sep 1999 09:19:17 -0700

----- Original Message -----
From: <MStout8228@aol.com>
Subject: Re: IML: got my number? '66

> bob, I was told you might be able to help me out with the fuel injection info
> i am looking for, 82 imp. low power, pops through throttle body, any ideas.
> please help!

Not sure which "Bob" you are asking, (probably Harris or Baker, both of whom are very knowledgeable about these cars), but I've played with a few of them also. Your symptoms sound like a really lean mixture; there are only 613 things that can cause this, so let's get started.

1. Check all the gaskets and fasteners associated with the "air cleaner" assembly and its covers. Any way that air can enter this enclosure that does not pass through the air flow sensor on the "snorkel" will make the car run too lean, especially when it is cold and the O2 sensor has not taken over the fuel/air ratio management. Often with anything more than a tiny leak here, the car won't idle at all.

2. Check all the vacuum hoses on the system. There are a jillion of them, and they are color coded, with the legend on the left fender near the hinge. Pay special attention to the ones that come directly from the intake manifold - like the PCV, Power brake, and canister hoses.

3. If you don't find anything loose or any missing gaskets, verify that all your electrical connector contacts are clean and gripping their mates firmly. You can get an excellent contact cleaner from Radio Shack. Take each connector apart (study it to see how it releases FIRST) and then clean both halves, making sure the metal parts are clean and bright, and that the spring tension is good in each contact. Look inside the air cleaner and verify that the ground wire under the mounting screw is clean and tight.

4. Check your PCV and EGR valves for proper operation, and good sealing to their hoses and mounting points. The PCV valve should rattle when you shake it, and it's hose to the base of the throttle body must be in good condition and securely fastened. To check the EGR valve, put an extra piece of 1/8 tubing on its little dingus and suck on it while the car is idling – it should stall immediately - if it doesn't you are going to fail smog the next time, and it may (or may not) be related to your current problem.

5. Your O2 sensor may have failed. These only last about 75,000 MI, so you might just take a chance and replace it. They're cheap and easy to change, and available from NAPA. Be very sure they look up the right car - this is called the 5.2L EFI or EFM engine, also coded E43. They should give you an OS101. A useful diagnostic trick is to take the lead from the CCC to the O2

sensor loose from the sensor and hold the end in your right hand with the engine idling, thoroughly warmed up. If you touch the battery positive post with your left hand (you won't get a shock, this is only 12 volts, trust me), you should notice a distinct change in the idle. Then touch the negative battery post and there should be another change in the idle. If there is, you've proven that your computer is awake and paying attention. Further on the O2 sensor, it is often worth while to drive the car with it disconnected. This should richen up the mixture, and you might find your problem completely disappears. Either way, we'll learn something.

Now we're down to only 608 things left to check, but we are getting to where you're going to need some tools to proceed.

6. A bad TPS (Throttle Position Sensor) can cause this. If you have a manual on the car, we can lead you through a process to check this with a VOM. If you have neither, I recommend you get both, if you are going to continue to maintain the EFI system yourself.

7. A bad fuel flow sensor or air flow sensor could also cause this; unfortunately the easy way to eliminate these is to exchange them for known good units.

8. A non-stock exhaust system has been reported to cause driveabilty problems on these cars - is your car still running the factory exhaust?

I'll quit here and wait for others to chime in. Where are you located? Perhaps one of our gurus is close enough to look in on you and give you a hand.

Let us hear what you learn by doing the above, we'll take it to the next step.

By the way, when you post to the group, be sure to make your subject line reflect accurately the purpose of your posting - you left some old one on your heading, most of the EFI people probably never even looked at your message.

Dick Benjamin
bondotmec@ez2.net

Subject: IML: '83 buzzing in dash

From: "Leo L Heligas" <LLHELIG@prodigy.net>
Date: Tue, 22 Jun 1999 12:42:02 -0500

I finaly found out what the buzzing noise emminating from behind my dash was. The illuminated entry relay is the culprit. I found that out one evening when I stopped the car with the engine running and turned off the lights before turing off the switch. I noticed all the interior lights were flikkering and then was able to reach under the dash and touch the culprit to feel the vibration. It is located on the lower part of the dash & to the right of the steering column. My local Chrysler dealer does not list a relay with this exact name, only an "illumnated door lock relay PN #4186-387". Could this be it? Does anyone have a used one in working order? If so, please E-mail me at LLHELIG@PRODIGY.NET with a cost.
Thanks to all who responded to my earlier plea for help in locating this.
Leo, '83 EFI

Subject: IML: '83 ground straps

From: "Leo L Heligas" <LLHELIG@prodigy.net>
Date: Fri, 9 Jul 1999 20:20:25 -0500

The other day, when I was changinf oig & filter on my '83, I noticed a
ground strap only attached to the frame right under the filter area. Can
anyone tell me where the other end is supposed to attach and how?
Leo H. '83 EFI

Subject: Re: IML: '83 ground straps

Date: Fri, 09 Jul 1999 19:25:22 -0700
From: kne <kne303b@thefuture.net>
In-Reply-To: <006601beca72$640cde40$02b748a6@default>

At 08:20 PM 7/9/99 -0500, you wrote:
>The other day, when I was changinf oig & filter on my '83, I noticed a
>ground strap only attached to the frame right under the filter area. Can
>anyone tell me where the other end is supposed to attach and how?
>Leo H. '83 EFI

Usually a ground strap goes from the engine to frame, but I don't know much about a 1983. I usually ground-strap the heck out of my cars, from batt to body, from engine to frame and body, etc.

kne

Subject: Re: IML: '83 ground straps

From: kne <kne303b@thefuture.net>
Date: Friday, July 09, 1999 9:25 PM

>At 08:20 PM 7/9/99 -0500, you wrote:
>>The other day, when I was changinf oig & filter on my '83, I noticed a
>>ground strap only attached to the frame right under the filter area. Can
>>anyone tell me where the other end is supposed to attach and how?
>>Leo H. '83 EFI
>Usually a ground strap goes from the engine to frame, but I don't
>know much about a 1983. I usually ground-strap the heck out of
>my cars, from batt to body, from engine to frame and body, etc.
>kne
>This strap attaches to a bolt nearby on the Bellhouse of the transmission,
it is In-The-Way when you're changing the filter.
Bob Harris

Subject: IML: '83 Opera Light Crystals

From: "Leo L Heligas" <LLHELIG@prodigy.net>
Date: Thu, 27 May 1999 16:42:52 -0500

Hi List,
Does anyone know if the Penta Shaped Crystals in the 90 NY Landau Front Door Panels will fit in the void left when both crystals fell out in my "83-
Great Glue!!
Leo
'83 Marc Cross EFI

Subject: IML: Carb's for 81-83's

From: "Sir Buddy Enterprises" <eddenbud@magicnet.net>
Date: Wed, 8 Sep 1999 00:04:20 -0400

I called about that 81 in PA. and it apparently is not running well at all. The guy was very honest, and it seems that I would not expect to hop in and drive it to Florida! It has been backyard-converted, and God only knows what has been done to it.

Anyway, it sounds like it may need a new carburetor. I put that Carter 9636 4-barrel on my 81 last year, and I am very hapy with it, except that the car really does not idle very smoothly. This is a carb. that Carter said was a good choice for a 318, though my mechanic said the rough idle was because the 9636 had a bit too much flow at idle. In all other driving conditions, it is very good. However, I know that Chrysler used a 2-barrel carb. in their conversion. What other carb's might be better suited to this application, if I should decide to drag that PA Imperial to my brother's house in PA and try to get it running?

Ed Ferrara

Subject: Re: IML: Carb's for 81-83's

From: JRHEYER@aol.com
Date: Wed, 8 Sep 1999 09:01:15 EDT

The spot where they all go wrong with carbs is the vac line from the canister. This is a fairly large hose and you MUST install a petcock inline. When adjusting idle etc. you can open or close petcock so that it draws when airpump switchover occurs and not have a big increase in idle speed. email me if you want more info. It seems complicated but it's not if you've done it. Many of the IML people are armchair mechanics as you can see. John Heyer

Subject: Re: IML: Carb's for 81-83's

From: Menace505@aol.com
Date: Wed, 8 Sep 1999 21:40:10 EDT

Ed,

I have a Holley 600 vacuum secondary four barrel on my 82 with an edelbrock performer manifold on it. generally speaking it is very rare for something to idle rough from a carb having too much flow at idle. That is what idle mixture screws do you are probably having trouble with a vacuum leak or a flooding carb. My car had a two barrel when I purchased it and while I will admit the 600 is too much with the 2.45 gears at the moment it works very well. I had seen an

article on a similar swap in chrysler power magazine but they used a 390 holley four barrell. after I do a gear swap I will let you know what it runs like.

Dennis 82 imp.

Subject: Re: IML: Carb's for 81-83's

From: "Sir Buddy Enterprises" <eddenbud@magicnet.net>
Date: Wed, 8 Sep 1999 23:23:36 -0400

I had seen an article on a similar swap in chrysler power magazine but
> they used a 390 holley four barrell. after I do a gear swap I will letyou
> know what it runs like.
> Dennis 82 imp.

Dennis,

Thanks for that, but I have had more than my fill of troubles with Holley carburetors, so I will not be purchasing anohter one of those!

Thanks anyway,
Ed Ferrara

Subject: IML: EFI Car Conversion Info

From: "Harris" <HarrisWerks@worldnet.att.net>
Date: Wed, 1 Sep 1999 12:04:32 -0500

Dick -
Re your latest on the EFI conversions. I'd already posted a note rescinding the 1/2 watt, 10k ohm resistor as being intact in the wiring harness on the completed conversion. For schematic info, I'd suggest looking at the Canadian 4 barrel carb standard, factory build, diagrams in the Service Manual. They're there, but of course, you cannot see the innards of the two devices, which is what you want.

There were 3 CCC devices early on. One foe EFI, one for Canadian carbs, and the one that came with the conversion kits in '83.

I did send you a note last week and wonder if you received it. Bob Harris

Subject: IML: EFI carb conversion

From: "timothy and susan porter" <porter@net-port.com>
Date: Wed, 1 Sep 1999 17:18:43 -0400

Dick, you alluded to the fact that Chrysler must have spent a bundle on the conversions. That's a fact. I converted about 10 of these in the dealership myself. Chrysler set the flat rate pay to do this at 24 hours. Of course later they tried to cut the rate. Chrysler paid different amounts on the conversions depending on circumstances. Normally a one owner car was paid 100%. A second owner low mileage (under warranty) paid 100%. A second owner higher mileage they usually bought the parts and the customer bought the labor. For what it's worth.

Tim Porter
porter@net-port.com

From: "Harris" <HarrisWerks@worldnet.att.net>
Subject: IML: EFI Carb Conversion
Date: Fri, 23 Jul 1999 10:23:36 -0500

Ed -

The conversion kit included a 2 barrel Carter design, along with a new Intake Manifold, and you can access the Idle Mix screws by removing the carb, separate the throttle plate from the rest of it, and carefully remove that part of the casting indicated by the dots on the underside; then, using a cold chisel, chip away the metal surrounding the screws. Numerous Service Bulletins and carb repair literature show this operation. If you need more detailed help, let me know.

The EFI cars always got superior gas mileage - similar to yours - as compared to the carbs. Some CA EFI cars may have been equipped with 4 barrel carbs, originally, but also required the mating Manifold. This 4 barrel card was originally a standard item on the Canadian cars that did not have EFI.

The fuel tank pressure release may be a problem with the vapor canister since it is usually in a "purge" mode after warm-up. However, even with everything okay, you may still get the release. This was a serious condition on many Ford cars, try testing the vacuum lines to the canister to see if they are really opening the valve to allow the vapors to pass on to the induction system....Bob Harris

Subject: IML: EFI carb conversion Manual

From: "Dick Benjamin" <bondotmec@ez2.net>
Date: Wed, 1 Sep 1999 09:44:30 -0700

IML member Dan Wing has kindly sent me a Xerox copy of the manual issued with the retrofit kits for the '81-'83 Imperial . This is the official factory info as to what is replaced, and clears up some misconceptions that I had. Some of these items are not replaced with the backyard conversions, and such cars might be a good source for parts for an EFI car if they show up in a junk yard.

The list is very long, but to mention some about which there has been some discussion, the following parts are removed and discarded:

Dash Cluster (later revision requests that the old units be returned for rehab) Fuel tank including pump and sender Exhaust system from the front "Y" pipe back (by the way, the replacement system does not include the resonator, so the converted cars are definitely going to sound louder and rougher). Fuel lines and filters from tank to engine compartment Intake manifold (later revision requests that the old unit be kept for spares) Most engine harnesses, relays, sensors

It appears that the new MPG display system does not require a dropping resistor between the "stabilizer" and the dash cluster (it is probably incorporated in the stabilizer) so all my talk about the 10K resistor was nonsense - if it was left on my converted car (now sold, so I cannot check), that was a mistake by the dealer, and it most likely goes nowhere.

Since most of the converted car MPG readouts do not work (I understand a few of them did work), I'll put out a plea for anyone who can come up with a schematic for the fuel flow sensor

and stabilizer (called level shifter in some documents) on a converted car. If I can find a schematic, I can fix it, very likely.

Alternatively, if someone in the IML would like to take a chance on me, you could send me your fuel flow sensor and stabilizer, I'll make a best efforts try at scoping out the design and perhaps be able to fix it for you and report on how to fix them. E-mail me privately if you'd like to do this.

The balance of the EFI system was to be returned to Chrysler for rehab and spares stock. I know that late in the program they had run out of Dash clusters, and began using the old rehab units, with non-zero odometer readings.

This conversion must have cost Chrysler a pile! Especially since many of them were done gratis. The local dealer here in Temecula estimated the cost to a customer in 1987 of $4600 installed - now I believe it!

The whole manual is probably to much to post on the IML web site (it's about 50 pages), but if someone wants to tackle the effort, contact me and we'll work out something.

So, once again, the IML comes through with some very scarce and valuable information, due to the thoughtfulness and effort of member Dan Wing - we add another notch in our belt!

Dick Benjamin
bondotmec@dte.net (for text only)
bondotmec@ez2.net (for all messages)

Subject: IML: EFI Coolant Temp Sensor Function

From: "Sir Buddy Enterprises" <eddenbud@magicnet.net>
Date: Fri, 3 Sep 1999 23:08:31 -0400

Dick B. Replied:

> This cannot be a on/off
> type of decision, because, especially in severe climates, the F/A ratio
has
> to be adjusted almost continuously to make the car run right all the way
> through the warm-up process.

Dick,

I agree entirely. It would seem that if a mere on-off type switch was needed to tell the CCC when to use the O2 sensor inputs, then the Coolant Temp. SWITCH (the one that turns on the TEMP idiot light) would do without needing an additional sensor that measures actual changes in temperature and provides variable resistance output data.

> I still suspect a problem related to temperature, but at the moment I am
out
> of ideas. I'd tell you to move to Florida, but you've already done that.
> Do you like Ecuador?
> Dick Benjamin

I have a goal in my life to always live south of Interstate-10, but not

THAT far south!

Ed Ferrara

Subject: IML: EFI hesitation when cold

From: "Dick Benjamin" <bondotmec@ez2.net>
Date: Fri, 3 Sep 1999 08:16:49 -0700

----- Original Message -----
From: Sir Buddy Enterprises <eddenbud@magicnet.net>
> The hesitation is usually from idle, and usually when the engine is COLD.

> > any path by which air can enter the engine without going past the air
> > flow sensor will make the car run badly. If the car has many miles on
> it,
> > this could even be caused by a worn throttle shaft, just like the olden
> days
> > with carburetors.
> My 82 has 119,785 miles on it. Dick, what do you mean by worn "throttle
> shaft?" I'm not familiar with that term, though I could probably guess
> that is means the shaft where the throttle linkage attaches to the
> throttle body unit.

Well, at 120,000 Miles, that shaft has turned in it's bore many many times, there is very likely some leakage there, but if your problem is worse when the car is cold, pull the 2 prong connector off the EFI Coolant Temp Sensor (right next to the upper radiator hose connection to the intake manifold) and measure the resistance between the prongs, and also double check that there is infinite resistance to ground.

At the moment I forget the correct readings, I think they are around 900 Ohms cold, and 1500 Ohms hot, but double check the archives in case I've misremembered. These are available from NAPA - if you think you need one e-mail me, somewhere I have a record of the part number and the correct readings. DON'T try to remove the old one unless you are certain it is bad, these often come apart in the hole, and you can have a devil of a time getting the remains out. Also, you have to drain the coolant first.

Another cute trick which I never got around to trying is to connect a 2500 Ohm Potentiometer across the end of the connector plug and remote it into the cab, to see if you can adjust it to a resistance that makes the car run right - you'd have to fiddle with it as the car warms up, of course, but it would help to diagnose the problem.

The shaft that wears such as to allow air to enter is the one on which the throttle butterfly valves are mounted - the shaft penetrates the throttle body casting from the outside world to the intake manifold vacuum, so even a very small worn spot can leak a significant amount of air. Within reason, the O2 sensor will compensate, but there are limits, of course.

Dick Benjamin
bondotmec@dte.net (for text only)
bondotmec@ez2.net (for all messages)

Subject: IML: EFI hesitation when cold

From: "Dick Benjamin" <bondotmec@ez2.net>
Date: Fri, 3 Sep 1999 18:27:57 -0700

> >pull the 2 prong connector off the EFI Coolant Temp Sensor

> Dick, I checked this all out this past spring

OK, I thought this discussion had a familiar ring. (You've already checked your EFI coolant sensor>)

> I thought that the CTS's only purpose was to tell the CCC when to begin
> using the O2 sensor inputs. Is it actually used by the CCC to make further
> adjustments with regards to coolant temp.?

Bob Harris, who certainly knows more about these beasts than I, says that (turns on the O2 sensor control function) about the function of the coolant temp sensor. I am a little confused, if that is the case, what tells the CCC to adjust it's fuel/air mixture during warm-up. This cannot be a on/off type of decision, because, especially in severe climates, the F/A ratio has to be adjusted almost continuously to make the car run right all the way through the warm-up process. (If anyone doubts this, I challenge you to drive my ex-Army 4X4 Ford PU from a cold start without continuously adjusting the choke, until it finally runs right with the choke all the way in, about 10 minutes on a cold day.)

For that reason, I have always assumed that the CTS input was used to adjust the F/A mixture. If it isn't the source of warm-up status, then something else has to be, in my opinion. There are certainly other possibilities, we also have a fuel temp sensor associated with the fuel flow sensor, and an air temp sensor, mounted on the CCC in such a way that it is continuously advised of the temp of the ambient air, but since neither of these parameters are well geared to the engine combustion chamber temp, I have always assumed that the CTS does this for the system. Certainly something does, because a healthy EFI car will run perfectly from the very first instant, in any weather, with no perceptible warm up required (proven to me when I spent 3 weeks in Lake Tahoe last winter at my daughter's, when I had to start and go at temps around 10 degrees or even colder, after an all night soak in the snow and ice.)
> > The shaft that wears such as to allow air to enter is the one on which
> the
> > throttle butterfly valves are mounted

> I don't suppose there is any way to correct this simply, is there?

It would require re-machining the involved parts. Not difficult for a machine shop, but I think you would probably be wasting your money here. If this was your main problem, you'd have troubles when the car was warmed up also.

I still suspect a problem related to temperature, but at the moment I am out of ideas. I'd tell you to move to Florida, but you've already done that.

Do you like Ecuador?

Dick Benjamin
bondotmec@ez2.net

Subject: IML: EFI Imps

From: "timothy and susan porter" <porter@net-port.com>
Date: Mon, 19 Jul 1999 08:40:33 -0400

Roland, when I retrofitted my 82, I didn't do it all at once, only the necessary stuff to get it reliable. I don't think you can pull fuel through the in-tank pump. What I did is find the in-tank pump power supply wire(in the left kick panel I believe) and run it to the hot (+) when running side of the oil pressure sending unit at the rear of the block. This way the mechanical pump you must install is pressure fed. This has a plus side, it helps with hot soak, hard start conditions, the fuel doesn't percolate as quickly. As for intake and carb, the kits made the car the same(emissions wise) as a 83 Cordoba 318. I would find a wrecked 83 Cordoba in a yard and rob the necessary parts from it. The only problem I can foresee is finding the dedicated carb fuel flow sensor. Without it a lot of the functions of the fuel readout (avg. mileage, mileage, miles to empty, etc.) won't work. I have converted approx 8 Imps over with the kits, so I can relate. Good luck.
Tim Porter
porter@net-port.com

From: Imp1983@aol.com
Date: Fri, 6 Aug 1999 23:06:05 EDT
Subject: IML: EFI on 83 Imp and dreaded ASTERISK***

Hi all,

I posted a question about the MPG readout and received good answers from two members, but I still have a question. I was told to replace the fuel flow resistor to correct the readout of 99.99 MPG. Well, I have tried in vain (once again) to locate this resistor, and in combining the 1983 Service manual, and the Carb Retrofit manual I FINALLY realized that the part of the engine wiring harness that has(d) the resistor in it gets REMOVED during the retrofit process (DUH). It gets replaced with the new spark control computer wiring harness.

My question. The retrofit kit contains a harness overlay that connects between the computer and the Fuel Flow Stabilizer (which I have already replaced) which comes with the kit. The wire that connects the computer to the stabilizer is a short piece of red fusible link that has the number 20 on it. Is this supposed to be the resistor replacement? If not, can't I just add the 10K resistor in series with it? Or, should I replace the fusible link with the resistor?

Oh, and I DO have an asterisk on my readout. Since it has always been there (acquired car in 1990) I never noticed it. It's right between the ODO * MI indicators. (DUH again.)(I've only driven one EFI Imp about 9 years ago and sat in one in the showroom 17 or 18 years ago drooling . . .)

*Subject: Re: IML: EFI on 83 Imp and dreaded ASTERISK****

Date: Fri, 06 Aug 1999 21:28:28 -0700
From: "Dick Benjamin" <bondotmec@dte.net>

Imp1983@aol.com wrote:
> Hi all,
> I posted a question about the MPG readout and received good answers from two
> members, but I still have a question. I was told to replace the fuel flow
> resistor to correct the readout of 99.99 MPG. Well, I have tried in vain
> (once again) to locate this resistor, and in combining the 1983 Service
> manual, and the Carb Retrofit manual I FINALLY realized that the part of the
> engine wiring harness that has(d) the resistor in it gets REMOVED during the
> retrofit process (DUH). It gets replaced with the new spark control computer
> wiring harness.
> My question. The retrofit kit contains a harness overlay that connects
> between the computer and the Fuel Flow Stabilizer (which I have already
> replaced) which comes with the kit. The wire that connects the computer to
> the stabilizer is a short piece of red fusible link that has the number 20
> on it. Is this supposed to be the resistor replacement? If not, can't I
> just add the 10K resistor in series with it? Or, should I replace the
> fusible link with the resistor?
> Oh, and I DO have an asterisk on my readout. Since it has always been there
> (acquired car in 1990) I never noticed it. It's right between the ODO * MI
> indicators. (DUH again.)
> (I've only driven one EFI Imp about 9 years ago and sat in one in the
> showroom 17 or 18 years ago drooling . . .)

try, but these are usually very reliable components, and I think your problem may lie elsewhere. The resistor is in a special container in the harness, laying on the passenger side valve cover, it is not contained in the ESA or the fuel flow sensor. Bob Harris described it quite well, look and I think you will find it.

Another approach is to find the wire as it enters the dash assembly and the other end as it leaves the level shifter, then measure the resistance between the two points, if the resistance is within 20 % of the nominal value (Bob says it's 10K ohms, I don't know but it should be in your retrofit manual), the resistor is OK.

I had a feeling you would find the asterisk, if you took another look.

Dick Benjamin.

Subject: Re: IML: EFI on 83 Imp and Fuel Flow resistor

From: Imp1983@aol.com
Date: Sat, 7 Aug 1999 21:55:22 EDT

Hi all,

I know I keep bringing this subject up, but I have searched and searched for that darn resistor and I just cannot find it. The only thing I have not done is to unwrap all of the black tape windings around the wires on the computer harness(I don't really want to). The 1983 Service Manual shows the resistor right where you guys say it's supposed to be (pages 8-249 and wiring diagram page 9), but . . . it ain't there.

When you say to check the wire's resistance from the dash to the "level shifter" do you mean from where it comes from the 30 way connector on the cluster to the Fuel Flow Stabilizer?

Now, according to what I have, there is the Fuel Flow Stabilizer (p/n 4222 101) mounted to the right front inner fender, the Fuel Flow Sensor (p/n 4222 798)mounted right behind the A/C compressor, and the Fuel Flow Resistor that I cannot find, and looks to me as if it was part of the original EFI engine wiring harness that gets removed during the conversion to carb.

Please correct me if I'm wrong. I just would like to be reading something other than 99.99 MPG, (sorry to bother you guys again, but this has bugged me for years).

Dan Wing
Imp1983@aol.com
mrmopar1983@juno.com

Subject: Re: IML: EFI on 83 Imp and Fuel Flow resistor

Date: Sat, 07 Aug 1999 20:57:32 -0700
From: "Dick Benjamin" <bondotmec@dte.net>

Imp1983@aol.com wrote:
> Hi all,
> I know I keep bringing this subject up, but I have searched and searched for
> that darn resistor and I just cannot find it.
> When you say to check the wire's resistance from the dash to the "level
> shifter" do you mean from where it comes from the 30 way connector on the
> cluster to the Fuel Flow Stabilizer?

Yes, this is what I meant.
> Dan Wing

The "stabilizer" that is mounted on the right front inner fender is what I was calling the "level shifter". The wire with the resistor in it goes from that device to the dash cluster. If the harness is the factory harness, it should be where Bob described it. If yours looks different, then you have more information than I do, and you are going to have to look at your diagram to get the correct color and pin connection for the wire and just follow it. Since I don't have a car to look at that I know is correct, I am not able to help you find it. The one I used to own had this resistor exactly where Bob described it, I haven't a clue why yours would be different.

Let us know what you find, please.

Dick Benjamin

Subject: Re: IML: EFI on 83 Imp and Fuel Flow resistor

From: Menace505@aol.com
Date: Mon, 9 Aug 1999 22:10:12 EDT

I have an 82 imperial that was hacked from EFI to carb and I would also like to fix my 99.9 mpg. If one of you guys has a schematic or a description of how the system calculates this any kind words would be appreciated

Subject: IML: EFI Vs CARB

From: scott pianowski <sp-racer@juno.com>
Date: Mon, 19 Jul 1999 14:52:21 -0400

Hi all,
I'm sorry to hear your switch over to carb Rolland, the EFI is or can be very challenging. I have found out that it can be very "service friendly" with all right info and a guiding hand to step by step diagnose the problems. I can say this as mine has had some very "moody," problems which aren't there when it comes time to test. Through the wealth of information and care for these systems from Bob Harris and Dick Benjamin my problem list is growing shorter and shorter. I have many years under my belt as an A.S.E.certified master technician yet knew absolutely zero about how this system works! I don't even have a service manual yet to boot! Consider your options carefully as the time you spend retrofitting could very well be used to solve your EFI woes. As for your confidence, I was always told that if you need to accomplish something and know not how, you can overcome by surrounding yourself with those who can and are willing to help. Well IML sure can give you that! There are so many people here that there is an answer for every question and the right way to go about getting something done. If you are dead set on converting please let me know of the EFI parts you going to sell as I plan on keeping mine injected and will be owning more of these cars in the future. You can -e - me personally with a parts list at sp51@enter.net
Good Luck Scott Pianowski 81 Imp.

Subject: IML: Re: 81,82,83 EFI Imperials

Date: Mon, 19 Jul 1999 19:43:16 -0400
From: h8clntn <h8clntn@cwix.com>

.
> A question: Can gasoline be pulled thru the EFI equipped electric in
>tank fuel pump. I didn't try this, and the last change over I made I
>drilled thru the electric fuel pump, which is a shame, as I have observed;
>some people need them

please don't destroy more parts!!!! I did this mod to one of the 81's....all I did was disconnect the rubber hose from the pump and route it to the pickup.....no need to do majors mods....also, you could probably still use the electric pump if you wired it to work through the resistor (don't need all that gas that hi speed delivers I'd think).

jim k

Subject: IML: Re: 81,82,83 EFI Imperials

From: "Sir Buddy Enterprises" <eddenbud@magicnet.net>
Date: Wed, 21 Jul 1999 00:03:00 -0400

Rolland Ellsworth wrote:

> A question: Can gasoline be pulled thru the EFI equipped electric

in
> tank fuel pump. I didn't try this, and the last change over I made I
> drilled thru the electric fuel pump, which is a shame, as I have
observed;
> some people need them
> Also, does any one know where a carburetor, manifold, etc. to
convert
> this EFI system to Carburation can be found? Also will have EFI parts,
> (some new) if any one need them.

Rolland,

I am sure that you will be overwhelmed with responses to your letter and your decision to convert to carb., but here is my info.:

My 81 was converted to carb before I bought it six years ago. It was a real backyard job, but I have seen the Chrysler conversion, and it is no engineering marvel either, believe me! In regards to the fuel pump, the mechanic who converted mine simply added a dash-mounted switch to the in-tank pump. You can turn the pump on or off as desired only when the ignition switch is on. An inline fuel regulator is mounted in the line to the carb to maintain the proper pressure for the carb, returning excess fuel to the tank through the OEM return line. This is very functional and has not caused me any problems.

Of course there is the slight risk that in a crash, if the driver were knocked unconscious, thus leaving the key on, that fuel could continue to be pumped to a broken line, creating a fire hazard. If this concerns you, you can purchase an oil pressure-activated switch (Holley makes them, perhaps others do as well) that will turn the pump off if the oil pressure drops off, as in a crash or just a stall-out.

In regards to the manifold, I think that you can pretty much use any intake manifold from a carbureted 318 that you can get from a salvage yard.

Ed Ferrara

Subject: IML: Re: 81-83 EFI 0-2 Sensor

From: "Dick Benjamin" <bondotmec@ez2.net>
Date: Thu, 2 Sep 1999 20:20:33 -0700

As to how the computer processes the information from the O2 sensor, I cannot help you - as yet no one has come up with even a block diagram of the computer, but considering the era, it is most likely primarily an analog computer.

The signal from the O2 sensor is basically a square wave, and I assume the CCC averages this and makes a decision as to which way to adjust the fuel/air mixture to keep it as close to the stochiometric optimum as practical.

If everything is right with your car, disconnecting it should make the car run richer (it is opening a feedback loop around the combustion process, making the system go back to a preprogrammed setting for fuel/air at each condition sensed by the other sensors in the system). In order that the car be driveable in case it has to limp in with a failed sensor, they set the default mixture to the rich side.

You will certainly be adding to air pollution - how much I don't know, but in CA, if the sensor has failed, you get an immediate rejection by the smog police. More serious, I'd say, in your case, is that you run a real risk of overheating your catalytic converters (you car has 3, count them, 3) of these. Besides the possible fire danger, and the odor of H2S (rotten eggs to you), the replacement cost for these things is frightening - of the order of $250 each, if you get caught with a bad one (but maybe they don't check those in Florida?)

Certainly, as a test, see if your hesitation waltz ends with the O2 sensor disconnected, and use that information to troubleshoot the system, but I don't think I would drive it that way for long.

I have been told, but I have never checked it out, that the hesitation can be caused by a build up of crud and corruption inside the control fuel pump. Next time I come across a bad case of it, I plan to see if this is so. Certainly even a tiny air leak around the lid to the air cleaner or through any other path by which air can enter the engine without going past the air flow sensor will make the car run badly. If the car has many miles on it, this could even be caused by a worn throttle shaft, just like the olden days with carburetors.

Dick Benjamin
bondotmec@dte.net (for text only)
bondotmec@ez2.net (for all messages)
----- Original Message -----
From: Sir Buddy Enterprises <eddenbud@magicnet.net>

left the Oxygen Sensor disconnected to keep
> the engine in closed (or is it open-?) loop mode

> I am curious what exactly the oxygen sensor is doing

> What impact will leaving the Oxygen Sensor Disconnected have on the engine?

WOuld leaving the O2 Sensor disconnected cause such a rich
> mixture, though, that I might risk damage to the catalysts?

Subject: IML: Re: 81-83 EFI 0-2 Sensor

From: "Robert Harris" <HarrisWerks@worldnet.att.net>
Date: Fri, 3 Sep 1999 21:40:25 -0500

----- Original Message -----
From: Sir Buddy Enterprises <eddenbud@magicnet.net>
Sent: Thursday, September 02, 1999 9:23 PM
Subject: IML: 81-83 EFI 0-2 Sensor

> I was driving my 82 today, and I notice that the hesitation that I thought
> I had corrected has intermittently returned. I believe it may just be an
> intermittent air leak somewhere. Anyway, I remember that Carmine
> mentioned that he always just left the Oxygen Sensor disconnected to keep
> the engine in closed (or is it open-?) loop mode. So after driving about
> ten miles to pick our dog up from the groomer's today, I disconnected the
> Oxygen Sensor to compare the performance.
> I understand that this should make the fuel mixture a bit richer than the

> engineers had planned. To be honest, I don't think that running this
engine
> a bit richer could be too bad, since I'm sure that in attempts to gain the
Hello Ed -

The output of the Oxygen Sensor is from 0.1 to 1.0 volts; most cars, even today, are operating this way. On these Imperials, this signal varies and it prompts the CCC to either increase speed, (enrich the mix), or reduce the speed, (lean it out), of the Control Pump. This is a constantly changing operation and it shows up as "Bracketing" (most notable at idle), Most other cars vary the opening of an Air Valve, (throttle), this car varies the speed of the pump, hence the bracketing is more noticeable. I have driven many months with this Oxygen Sensor disconnected. When this is done, the CCC defaults to the 1.0 volt output and there is an enrichment of the mix. This will tend to increase the idle speed, but it will be constant and seem normal, but the emissions will show the rich condition, more Carbon Monoxide, less control of the oxides of nitrogen and a general fouling of the engine and exhaust system if there is prolonged idling - city driving. I never noticed any difference in gas mileage, the plugs remained clean burning and my Cat Converters were as clean as new when I removed them. I expected much worse. Because of the bracketing, the idle speed is most important: 580 to 650 rpm in DRIVE, no AC. If too low, it'll stall; maybe even Start, then stall. If too fast, the Transmission Reverse Servo will Bang that band into operation; it's bad enough when normal. The Sensor is intended to reach a balance of the oxides of nitrogen and those of carbon and they call this the stochiometric effect which all the state emission folk have bought into. The truth is, there really is no better system in mass production at this time; this is far from idea, but it's the legal system. Hope this helps.....Bob Harris

Subject: IML: Re: 81-83 Horn Switch

From: "Leo L Heligas" <LLHELIG@prodigy.net>
Date: Fri, 9 Jul 1999 20:14:23 -0500

I'm having the same problem with intermittent horn use. I'll be interested
in the same information.
Leo '83 EFI

Subject: IML: 81-83 Horn Switch

From: Sir Buddy Enterprises <eddenbud@magicnet.net>
Date: Friday, July 09, 1999 7:34 PM

Hey Gang,

The horn on my 82 is very intermittent, and I recall that Dick B. gave some brief advice on repairing the contacts in the steering wheel hub previously. I have replaced all three horns, which were faulty, and I have also replaced the horn relay (which was not faulty, it turns out.) I'm sure the trouble is in the hub of the steering wheel.

Can someone provide the correct, detailed procedure for repairing this? How do you get the vinyl center pad, with the Cartier crystal, off. Does it just pry out? I'm reluctant to just "go at it" with a screwdriver for fear of damaging this pristine piece.

Please advise.
Thanks,

Ed Ferrara

Subject: IML: Re: '83 buzzing in dash, part #4186-387

From: "Dick Benjamin" <bondotmec@ez2.net>
Date: Wed, 23 Jun 1999 15:27:52 -0700

Yes, this is almost certainly the right relay. It is shown in the parts book for the '81 as the controlling relay for the illuminated entry system.

Dick Benjamin
bondotmec@dte.net
bondotmec@ez2.net (for graphics and file transfers)

Subject: IML: '83 buzzing in dash

From: Leo L Heligas <LLHELIG@prodigy.net>
Date: Tuesday, June 22, 1999 10:44 AM

I finally found out what the buzzing noise emanating from behind my dash was. The illuminated entry relay is the culprit. I found that out one evening when I stopped the car with the engine running and turned off the lights before turning off the switch. I noticed all the interior lights were flickering and then was able to reach under the dash and touch the culprit to feel the vibration. It is located on the lower part of the dash & to the right of the steering column. My local Chrysler dealer does not list a relay with this exact name, only an "illuminated door lock relay PN #4186-387". Could this be it? Does anyone have a used one in working order? If so, please E-mail me at LLHELIG@PRODIGY.NET with a cost. Thanks to all who responded to my earlier plea for help in locating this.
Leo, '83 EFI

Subject: IML: Re: 83 Imperial - No Start

From: "Dick Benjamin" <bondotmec@ez2.net>
Date: Tue, 25 May 1999 09:05:41 -0700

OK, understand. Next thing is to determine if the failed pump is the in-tank pump or the control fuel pump. Very likely the former, and your son not hearing it run could be a further indication (but not necessarily, don't jump to conclusions just yet!)

Locate the in-tank pump dropping resistor on the passenger side of the firewall, it is the rectangular ceramic device about 1/2" in cross section, about 2 1/2" long, with two terminals on it, usually mounted so that the long dimension is vertical. Take a test light and connect it from either terminal to ground, and verify that the light comes on all the time you are cranking the engine, and that it stays on after the engine starts (use your gas in the air cleaner trick to start it). It may dim somewhat after you stop cranking, but it should stay lit.

If you "see the light", but still don't hear the pump motor running inside the tank, we're getting to the bottom of the story here. If you don't see the light, or if it does not stay lit after you stop cranking, we've got some more diagnosis to do.

Rather than try to follow all the decision branches from this point, lets stop here and wait for results from this test.

Dick Benjamin

Subject: 83 Imperial - No Start

From: Mary Bartemeyer <mmmotors@yahoo.com>
To: bondotmec@ez2.net <bondotmec@ez2.net>
Date: Tuesday, May 25, 1999 6:26 AM

>Dick:
>Thanks for your reply. I have already done the fuel test and it will
>run until it's used up the fuel. I also had my son go with and listen
>for fuel pump action in the tank when I turned the key and there is no
>fuel pump noise.
>I read the web pages Bob sent and I'm thinking it's the ASD or a
>clogged tank. Guess I won't let it set that long again.
>Fred

Subject: IML: Re: EFI hesitation when cold

From: "Sir Buddy Enterprises" <eddenbud@magicnet.net>
Date: Fri, 3 Sep 1999 18:30:56 -0400

Dick B replied:

>pull the 2 prong connector off the EFI Coolant Temp Sensor
> (right next to the upper radiator hose connection to the intake manifold)
> and measure the resistance between the prongs, and also double check that
> there is infinite resistance to ground.

Dick, I checked this all out this past spring when the car was doing this, and the CTS checked out perfectly with reference to the resistance readings you and others provided.

> Another cute trick which I never got around to trying is to connect a 2500
> Ohm Potentiometer across the end of the connector plug and remote it into
> the cab, to see if you can adjust it to a resistance that makes the car run
> right - you'd have to fiddle with it as the car warms up, of course, but it
> would help to diagnose the problem.

I thought that the CTS's only purpose was to tell the CCC when to begin using the O2 sensor inputs. Is it actually used by the CCC to make further adjustments with regards to coolant temp.?

> The shaft that wears such as to allow air to enter is the one on which the
> throttle butterfly valves are mounted - the shaft penetrates the throttle
> body casting from the outside world to the intake manifold vacuum, so even a
> very small worn spot can leak a significant amount of air. Within reason,
> the O2 sensor will compensate, but there are limits, of course. I don't suppose there is any way to correct this simply, is there?

Ed Ferrara

Subject: IML: Re: EFI hesitation when cold

From: Robert Harris <HarrisWerks@worldnet.att.net>
Date: Fri, 03 Sep 1999 21:09:42 -0500

----- Original Message -----
From: Dick Benjamin <bondotmec@ez2.net>
Sent: Friday, September 03, 1999 8:27 PM
Subject: IML: EFI hesitation when cold

> > >pull the 2 prong connector off the EFI Coolant Temp Sensor
> > Dick, I checked this all out this past spring
> Bob Harris, who certainly knows more about these beasts than I, says that
> (turns on the O2 sensor control function) about the function of the coolant
> temp sensor. I am a little confused, if that is the case, what tells the
> CCC to adjust it's fuel/air mixture during warm-up. This cannot be a on/off
> type of decision, because, especially in severe climates, the F/A >
> For that reason, I have always assumed that the CTS input was used to adjust
> the F/A mixture. If it isn't the source of warm-up status, then something
> else has to be, in my opinion. There are certainly other possibilities, to start and go at temps around 10 degrees or even colder, after an all > night soak in the snow and ice.)
with everyone
.....

For a cold EFI car, provision has been made for the "warm-up" transition phase - it is the CCC Memory Module. Therein lies a fixed program that provides Idle Speed and Fuel/Air Mix Ratio and Ignition Timing to maintain the engine until it can be more efficiently controlled by the output of the Oxygen Sensor. Also, during this time, no vacuum is allowed to either purge the Vapor Canister nor have fresh air blown into the rear-most Cat Converter; the EGR valve, also with a temp sensor, will not operate. You will notice a beautifully smooth drop in "Fast Idle Speed" as the engine warms. The Coolant Temp Sensor will warm-up and send a signal to the computer which will send a signal to the 70 second Timer which will proceed to "Time Out." After that time, the Air/Fuel control, via the CCC, is handed over to the Oxygen Sensor and we have Closed Loop Operation. Then the Bracketing may begin, the Vapor Canister purging begins, the Diverter Valve now sends air to the rear Cat Converter instead of the back of the engine heads, and the EGR Valve begins to operate, the Air Flow Sensor comes to life and contributes to the plan and ignition timing becomes a function of what is necessary for optimum operation. We now have ideal conditions of Fuel Management and emission requirements.

I am sorry that I did not explain this earlier and make it clear. The new cars are much more complex in this subject. The importance of knowing all this is that many things must function properly or the whole scheme fails. There are many interrelated items that must work right. As these cars age, things like hard and cracked , or soft and leaky vacuum hoses become VERY important. I have talked before about removing the Air Cleaner and moving it over to the side above the Brake Master Cylinder - invariably, this might damage the three wires on the bottom entering the Memory Module, also, we tend to not service the PCV Valve which has much to do with Fuel/Air mix.

I hope some of this helps.....Bob Harris

Subject: IML: Re: Imperial Carb Conversion

From: "Dick Benjamin" <bondotmec@ez2.net>
Date: Fri, 18 Jun 1999 21:54:46 -0700

The factory authorized conversion is the 2 bbl ESA controlled carburetor and ignition system which was apparently taken right out of the parts bin for the 83 5th Avenue, or I suppose any 318 of the period with carburetor (except for the special Dash , fuel flow meter and fuel tank). While these conversions are unquestionably the way to go if you demand reliability and reparability in any garage, there are other considerations that may be important to you.

These conversions are recognized by the CA Smog stations as legit, and there is no hassle about getting those cars smogged. (I just went through this with one of mine, including the treadmill type test required now in some areas, it passed with flying colors.) Other conversions abound, but I do not have any experience with trying to get them through smog. Before making such a conversion, you should verify that it will be possible to register the car in that condition.

All who have compared the EFI cars with the converted cars agree that the EFI cars are much more pleasant to drive, with better throttle response, better performance, and MUCH better economy. Also, they start immediately, pull strongly from the first instant they are running, and drive very much like a 1999 automobile in all driveability respects. I can speak from experience, I have examples of all three types.

If you are willing to work with the EFI system, you might be very pleased with the results of fixing what's wrong with it, rather than going to the very considerable expense and trouble of a conversion.

If you join the IML, you will find there are a bunch of us who will be very willing to help you get your EFI car working right again. DON'T start spending money on it with anyone who is not an expert on these systems. You will have a frustrating experience, and probably wind up giving up, when, very likely, your problem is cheap and easy to fix.

My advice is join the IML, post a message describing in great detail what you symptoms are, and let us help you fix it.

Dick Benjamin.
Dick Benjamin
bondotmec@dte.net
bondotmec@ez2.net (for graphics and file transfers)

Subject: Re: Imperial Carb Conversion

From: Mike Sealey <mopar2ya@angelfire.com>
To: Jeff Chong <bc157@lafn.org>
Cc: Bondotmec <bondotmec@dte.net>
Date: Friday, June 18, 1999 7:58 PM

>On Mon, 14 Jun 1999 00:46:56 Jeff Chong wrote:
>>About a year ago, my friend's dad bought an '82 Imperial, in beautiful
>>condition with 70,000 miles, and it still had the EFI. I knew that the EFI
>>could be a potential problem area, and I told him that. Well, a few

>>months ago, the expected happened and it totally quit, so he's taken it to
>>a number of shops and dealers, but no one will touch it, or do the carb
>>conversion...
>(snip)
> Also, we're in
>>Southern California, which means being smog legal is a very big concern,
so
>>I hope I can get this done and still have it pass smog.
>Jeff, you might want to contact Dick Benjamin, who
>probably knows more about '81-'83 Imperials than anyone else in California
(I think he's based in
>Temecula but could be mistaken). His email is
>bondotmec@dte.net and he's very generous with his
>time and expertise.
>I seem to recall that the 2-bbl conversion is the only
>one recognized by CARB as smog-legal. Dick would know
>this for sure. He is also a strong believer in EFI
>preservation on these cars, but knows them well from
>both sides.
>Also, check out www.imperialclub.com for more info. on
>Imperials than you thought possible.
>Mike Sealey
>Angelfire for your free web-based e-mail. http://www.angelfire.com

Subject: IML: Re: Losing the battle with my '83 EFI

From: "Jeff Guarino" <jguarino@pangea.ca>
Date: Mon, 21 Jul 1998 21:10:53 -0500

Hi Kevin. I don't understand it either. The cause of a high drain or short on your battery is usually your starter motor gone bad. A direct short could cause it to explode but shouldn't damage any other systems. I believe the fusible links don't blow that fast. A high voltage for a short time could blow everything and leave the fusible links intact. If I understand you correctly, when you installed a new battery everything was dead?

Jeff Guarino

Subject: IML: Losing the battle with my '83 EFI

From: Kev . <Anthurium@webtv.net>
Date: Tuesday, July 21, 1998 5:32 AM

Well I took my '83 out for a Sunday drive in the country, and of course in the middle of no-where had problems with it...an electrical short & small fire under the dash. So far a power surge from somewhere blew up the battery, digital display, original working cassette stereo, all the interior lights, and the intank fuel pump. I wont know if the EFI is damaged until the mechanic gets an externally mounted fuel pump working. The way things are going though its probably toast too, and not enough money to keep playing with the car. Why didn't the fusible links work? None of them were blown. I feel sick.
Kevin, SLC Utah.

Subject: IML: Re: MPG readout on converted EFI cars

From: "Harris" <HarrisWerks@worldnet.att.net>
Date: Fri, 6 Aug 1999 09:53:32 -0500

From: Dick Benjamin <bondotmec@dte.net>
Date: Friday, August 06, 1999 12:18 AM
Subject: IML: MPG readout on converted EFI cars

Imp1983@aol.com wrote:
> Does anyone know if the MPG readout is supposed to work
> on a factory converted 1981-1983 Imp? Mine reads 99.99MPG after a few
> seconds, and I even replaced the fuel flow sensor with a brand new one.
> Imp1983@aol.com
> mrmopar1983@juno.com

Yes, they are supposed to work, and some do (although I have yet to have the pleasure).

There is a small resistor in the wiring harness running along the inside of the rocker cover, about mid-way and just ahead of the Carb. It is encapsulated in a flexible, rubber case about 2" long - dark blue in color. This resistor is a 1/2 watt, 10k ohms and a replacement can be easily and inexpensively obtained at Radio Shack or equivalent. Remove the one that is there, replace with the new one, solder the end conns and wrap the joints with heat shrink tubing - this should give you correct mpg readouts.....Bob Harris

Subject: IML: Re: Randy's 1981

Date: 12 Jul 99 07:52:52 PDT
From: Carl Baty <Carlbaty@netscape.net>

Hi Friends
I wanted to let everyone who had helped, or followed the discussions in t he past, that Randy Weir's black 1981 is up and running with an unlimited future as a magnificent fully fuel injected vehicle. Bob Baker and I teamed up so Bob could buy this car. Bob did the basic mechanical work (such as a new starter and radiator last week). We met at Randy's house at 11:00 AM with Bob leaning over one front fender and me on the opposite one. At 2:30 and we drove the car 10 miles. Bob and I both agreed that it would be very difficult t o explain what happened between 11:00 and 2:30. There were times we abandoned a rational approach and went with intuition. I want to thank everyone who provide advice in the past.

Carl Baty, San Diego

Subject: IML: Re: Re: 81 Electronic Voltage Regulator

From: "Sir Buddy Enterprises" <eddenbud@magicnet.net>
Date: Sun, 27 Jun 1999 01:06:29 -0400

Dick B wrote;

> I think you have analyzed the situation correctly, your regulator seems to > be working just fine, and it is probably set near the top of the optimum > range, but I doubt this is going to hurt anything. Enjoy the bright lights! > Especially if you have the original Halogens, you'll be right up there with
> modern cars, or better, in seeing where you're going.

Dick,

I knew I could count on you to analyze this for me! I actually have gone one-better on the headlights by installing GE high-output halogens, supposedly producing 80% more light on low-beam; they really are brighter than standard halogens.

> You have probably already checked this, but if not, make sure the
regulator
> mounting tabs are clean and making good contact to the body
I securely attached the new voltage regulator, and all of the mounting surfaces appeared to be clean.
>... and that the
> large wire from the alternator to the battery is in very good condition and
> making good contact. Resistance in this wire will make the alternator run
> toward the high side as to voltage.

I have not checked this, but I will.

> Are you measuring the 15.2 volts at the battery or at the alternator?

I measured the voltage directly at the battery, with the voltmeter attached to the positive battery terminal and to the back of the air pump support bracket for ground.

>If
> the former, your battery has somewhat high internal resistance, which means
> it may not be in the best of conditions. Does the starter crank with great
> alacrity, or is it a little sluggish?

The starter cranks very strong and fast.
> If you are measuring this voltage at the alternator directly, drop in the
> wiring accounts for some of the higher voltage (due to the resistance).

Thanks for the speedy reply,
ED

Subject: IML: Re: 81,82,83 EFI Imperials

From: Sir Buddy Enterprises <eddenbud@magicnet.net>
Date: Tuesday, July 20, 1999 11:13 PM

Rolland Ellsworth wrote:

> A question: Can gasoline be pulled thru the EFI equipped electric in

Rolland -
The In-Tank electric pump has a small motor at it's output end, drawing fuel thru three stages of impellers fed by small holes in the separators and finally the filter at the inlet end. Also, this is a two speed pump in that its voltage is reduced after start-up to produce a minimum output and thence to prolong its life. I doubt very much if a conventional pump will draw fuel thru all this with that kind of pressure drop.

There must be tons of intake manifolds from 318's all over the place - try to find a mid 80's to '89 and the two barrel Holley to go with it. Better yet, get the EFI running, get better gas mileage, protect the original collector car innards and feel like a hero.....Bob Harris

Subject: IML: Re: Re: 81-83 Information Summary

From: "Sir Buddy Enterprises" <eddenbud@magicnet.net>
Date: Mon, 23 Aug 1999 23:44:21 -0400

> Ed,
> I also would like to get a set of this information as my '83 is my
everyday
> driver. I also would be glad to pay you whatever expenses you would incur
> sending my a copy of this invaluable information.
> Leo Heligas

Leo,

I sent Rolland all of this data in a private e-mail. The info. I have is all of the pertinent e-mails on the IML that I have saved and then organized into Word documents by category. I will send these to you privately so as not to clog up the list. For others on the list, I believe Leslie may incorporate this info. into the list somewhere.

Again this is info. that is already archived on the IML, but organized into what I find is a much more usable and easily-accessed format.

Ed Ferrara

Subject: IML: Re: Re: 81-83 Wiper Arms

From: Sir Buddy Enterprises <eddenbud@magicnet.net>
Date: Saturday, July 10, 1999 11:33 PM

> Ed - The left side, (driver's), is PN 3799698, right side is PN 3799545,
The
> really important one is the master driver link, PN 3799537, the little,
> nylon bushings are PN 3799089, but are available in most parts
stores....Bob
> Harris

Bob,

Thanks very much for that. Sure enough I had the part numbers reversed when I placed that order! Is the "master link" the part of the driver's side wiper arm that causes it to articulate

outwards when the wipers are operating? I thought it would all come as one assembly/part number.

Ed Ferrara
Ed -

The master link is attached to the motor shaft on one end, the other end to an intermediate link that causes the eccentric motion, the right side is then driven also from this link. The master link is a non-repairable part, subject to failure in that the parking mechanism is a mess of fabricated nylon and does not wear well. Keep one in stock. This master link was used on the Cordoba and Mirada cars - '79 thru '83; but wrecking yard parts are probably useless. Is still available from MoPar. Bob Harris

Subject: Re: IML: To Magnum or not to Magnum /340

From: Waginator@aol.com
Date: Wed, 11 Aug 1999 09:42:41 EDT

In a message dated 8/8/99, 8:51:05 PM, mailing-list@imperialclub.com writes:
<<Why not the 360 crate engine with the Holley fuel injection. It would be
much
simplier to work on and it will RUN.....personally I am going with the
E58 360 and thermoquad in one of my 81 Imperials.....backed with the
worked 727 tranny it should make an Imperial with some guts.....

I LOVE the idea of the 360 crate motor in the 81-83 Imperial. I went to a wedding once with a female friend and was afraid my 78 Blunderchicken would be the only non- government plasticar there....until I met a kid who had a Mirada or Cordoba with a 340. I thought that was pretty cool.

I'm pretty sure he still had a 904 trans. can one shove a 340 or 360 crate and a 727 into the 81-83?

Also has anyone ever seen the 81-83 (Black)? Imperial at C@Carlisle with the 440 shoved in there? I think he even squeezed in the A/C. I think I mentioned this before.

My ideal 81-83 would be have analog dash, if there was one, no pollution controls or computers, and a 340-4bbl, and a 727 with 3.23 sure grip. Can you imagine a FS version like that? I would definitely feel like one of the rat pack! Maybe we could call it the Dean Martin version or the Sammy Davis Junior Version.

------Gregg '70

Subject: Re: IML: To Magnum or not to Magnum /340

Date: Fri, 13 Aug 1999 21:12:07 -0700
From: "Mike Sealey" <imperialist@angelfire.com>

On Wed, 11 Aug 1999 09:42:41 Waginator wrote:

(snip)

>My ideal 81-83 would be have an analog dash, if there was one...

(snip)

Never seen an '81 -'83 Imp with an analog dash and am quite sure it was not available, but I believe the Cordoba/Mirada dash from the same years would fit.

It's even possible that the analog instrument cluster might physically fit the Imp. dash, tho I could be mistaken about that.

One potential major nightmare would be wiring harnesses.

Does anyone remember if the '81 - '83 Cordoba/Mirada
was offered with an optional tach like its immediate
ancestors (B-body) were?

Subject: IML: To Magnum or not to Magnum.....

From: DBKEMPER@aol.com
Date: Sun, 8 Aug 1999 20:47:12 EDT

Why not the 360 crate engine with the Holley fuel injection. It would be much simplier to work on and it will RUN.....personally I am going with the E58 360 and thermoquad in one of my 81 Imperials.....backed with the worked 727 tranny it should make an Imperial with some guts.....

Subject: Re: IML: To Magnum or not to Magnum.....

Date: Tue, 10 Aug 1999 11:13:58 -0700
From: Ken Yorke <kne303b@thefuture.net>

At 08:47 PM 8/8/99 EDT, you wrote:
>Why not the 360 crate engine with the Holley fuel injection. It would be
much
>simplier to work on and it will RUN.....personally I am going with the
>E58 360 and thermoquad in one of my 81 Imperials.....backed with the
>worked 727 tranny it should make an Imperial with some guts.....

Perfect, but again, use a pre-"magnum" engine so you don't have the sleeze-ball style ball-stud rocker arms. The crate engines are the magnums with sleeze ball rocker arms.

kne.

Subject: Re: IML: To Magnum or not to Magnum.....

In-Reply-To: <005d01bee392$ad458f60$1542fcd1@mikewest>
Date: Wed, 11 Aug 1999 17:33:59 -0700
From: Ken Yorke <kne303b@thefuture.net>

At 08:44 PM 8/10/99 -0400, you wrote:
>> Perfect, but again, use a pre-"magnum" engine so you don't have the
>> sleeze-ball stye ball-stud rocker arms. The crate engines are the magnums
>> with sleeze ball rocker arms.
>> kne.
>issue one: I detect some ambivalence toward this rocker arm setup.
>issue two: how do the two differ? I'm not familiar with the sleeze ball
>stud rocker arm...?

Issue one: yes. In any kind of a performance engine, ball-stud rockers are a BIG TIME draw back. Where as you can race a Chrysler engine with the shaft mounted rockers just the way they are, on brand-X you'll see a large market for better ball stud rockers, push rod guide plate kits, etc. I don't know how the studs are attached in the magnum engine to the head. On brand X they are PRESSED in, and again, for any kind of endurence or performance use they have to thread the head so they can install studs that screw in. Then they have to run "guide plates" to keep the rockers and pushrods flopping around sideways, which the pushrods rub against. The whole system is designed solely to save time and money for the factory. I would HOPE that Mopar uses a threaded stud at least. But I don't know.

Issue two: With shaft mounted rockers, the shaft goes through the rocker arm, and is BOLTED down to the head. It's very bullet proof and RIGID. You don't lose lift and duration as RPM goes up. The rocker arm is very limited as to how much it can move around sideways, if at all.

On sleeze mounted rockers, there is a stud that is PRESSED sleeeeeeeeze) into the head, then the rocker arm has a slot in it, it goes over the stud, then a half round wedge goes over that, then a nut to hold it down. The whole deal just kind of sleezes and flops around in every direction. As soon as you start using heavier than stock valve springs, or cam with more lift, the studs will start pulling out of the head, leaving pushrods and rocker arms to go airborne!!!!!!!!!!!!

Last and least, the ball-stud-sleeze system oils this way: The oil has to go up through the lifter, through the push rod, and then to the rocker. On the Chrysler shaft system, oil from the main oil gallery goes directly to the shaft and rockers. Lots of oil, pressure, and oil right at start up.

As someone else mentioned, you can build a nice 360 for less than the Magnum engine, and do some head work and get a nice cam with the money saved.

kne.

Subject: Re: IML: top speed on 83

Date: Wed, 5 May 1999 09:13:24 -0700 (PDT)
From: Dave <icewolf65@yahoo.com>

Tim, About that switch on the cluster, is that a momentary switch with a short piece of hose attached that sticks out the bottom? It would be really cool if it were that easy. Thanks Dave

Subject: Re: IML: top speed on 83

Date: Wed, 05 May 1999 17:49:35 -0700
From: baker-michaels@home.com

I'm not Tim, but I understand that is for running a check on the
instrument cluster only. Bob

Dave wrote:
> Tim, About that switch on the cluster, is that a momentary switch
> with a short piece of hose attached that sticks out the bottom? It
> would be really cool if it were that easy. Thanks Dave

Subject: IML: top speed on 83

From: "timothy and susan porter" <porter@net-port.com>
Date: Thu, 6 May 1999 08:32:07 -0400

Dave, that switch with the hose is for self checking the clusters. I may be confusing the Imp cluster with the front wheel drive electronic clusters.
Sorry:(. Tim Porter

Subject: IML: top sreed on 83

From: "timothy and susan porter" <porter@net-port.com>
Date: Wed, 5 May 1999 09:21:48 -0400

Bob, seeing as you have spare clusters, do all of us a favor. If I remember correctly there is a micro switch on the back of the clusters. If memory serves me correctly (questionable) I think it was to switch between the limited speed and no limit. Whenever I replaced a cluster I set them at unlimited. I do know I've had my 82 up to 105 as indicated on the speedo.
Tim Porter

Subject: IML: Why a 318 in Imperials???

Date: Thu, 12 Aug 1999 01:08:33 -0700
From: mopowerd@flash.net

> The 318 is not a bad engine, and performance is not "bad", especially
> compared to the other offerings of the early eighties with their four
> bangers and V-6's, but neither is it Imperialistic, which could have
> been achieved with a healthy 360 as the standard engine. The 360 is not
> just "bigger", but is bigger by a longer stroke, which produces more
> torque, more than you would get by just boring the engine. But it also
> has a bigger bore, which allows bigger valves, which makes more HP also.

The EFI Imperial engine was supposed to be a 360. In fact, except for the induction system, it would have been an E-58 360. In some of the early service manuals and parts catalogs, you'll even find reference to a 360. Sort of like the phantom '72 440 6BBLs (Yes, I know they made a few).

If you've been around EFI Imperials, you'll notice that sometimes they'll just start running bad for no apparent reason. But the fix is just as simple, remove the battery cable and "re-set" the combustion computer's memory. When this happens, usually because of a minor/transient

vacuum leak, the computer goes into what EFI techs call "lean-lock". Erasing the bad memory is the only way to get the system working correctly again.

The lean-lock is a sort of default mode that became a requirement after the initial EPA certification. The cars tendency to go into this mode at the drop of a hat was the biggest reason for the factory conversions. It was a problem that couldn't be solved (legally) while retaining the EFI. That's why I always ran my '83 with the O2 sensor unplugged. (Without the O2 sensor data, the computer stays in "open-loop" mode. That means it runs slightly richer, as if during a cold start).

The way this relates to the use of a 318 vs. 360 is simple. The emissions were easier to control on a 318 because of it's smaller bore. (Smaller bore means a smaller surface area between the top ring of the piston and the cylinder wall. This area runs cooler, and traps unburnt hydrocarbons which end up in the exhaust). That's why today's trend in new engines is towards smaller bores, longer strokes. This is the main reason for the death of the LA series engines by the mid-00s.

And that's why the hard-to-stay-within-emission-parameters EFI engine package was a 318, and not a 360.

Carmine F.