

DTNA Solutions > Discussions and Feedback > Tech Talk
> HP FUEL PUMP FAILURE AFTER UNRELATED ENGINE WORK ...



Grant_Overton
Wrench Turner

03-30-2017 10:35 AM

HP FUEL PUMP FAILURE AFTER UNRELATED ENGINE WORK FINISHED,

WE have seen this several times, now once a cyl head is removed for internal engine work or cam frame reseals, you go to start the truck and hp pump will not build pressure, fc 157/16 for low rail pressure all of a sudden comes active, the only thing done to the fuel system was re+re fuel rail .and hp lines, and now the customer needs a new pump , t/shoot tree has you replace plv , metering units and rail pressure sensors, about 1500.00 worth of parts and then data log and ddec reports are up loaded to csc, where csc instructs you to "try" a new hp pump, this fixes the issue, but it doesn't explain why the truck all of a sudden needed a pump it drove in fine, had no issue before we separated the hp fuel lines, and now it needs a pump. why,

my tech asked me "is there a way to cap off each hi pressure fuel line to the pump and test each side of the pump during a ten second crank test to see if one side of pump is failed before you replace all the plv and sensors and metering units, and not incurring additional 1500 dollars of un-needed parts in the repair,{ parts not returnable once installed. } Will capping off the lines on the pump individually hurt or damage the pump . will it show a plunger failure separately in the pump .

let me know and maybe add this to t/shoot tree if it works , we had over 10 hrs of diagnostic time with all the data logs and road tests , in last 157/16 t/shoot then replaced the pump, for 6.0 hrs, total of 17 hrs,

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Reply



Robert_Cadell_J
MacGyver

03-30-2017 04:00 PM

Piece of advise if you have metal in the fuel or your sure it's a HP pump failure find the old recall bulliten for checking the plungers disassemble the pump, if you see the damage take pictures of it, email them to your warranty administration and attach them to the claim, since we started doing that and marking our pumps, not one claim has been denied also don't forget if it's a metal issue to pull and clean the tanks, and yes Steve we've had that problem during can housing reseals too

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Reply



Robert_Cadell_J

MacGyver

03-30-2017 04:05 PM

Grant to answer your question we have seen that too I think the injectors are air lockingg somehow as far as the pump, not sure to Scott tripell's point he's right they are trucks stop worrying some questions we just won't have answers to unfortunately

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Grant_Overton

Wrench Turner

03-30-2017 04:58 PM

you missed what I was after , if you have low rail pressure fault code, if the plv has only a few blow offs,(15) it most likely isn't the cause of low rail pressure reading, the engine runs smooth at idle, so metering unit is out, so fsic, test ,

so t/shoot starts with plv , fsic, then air in fuel , and test mcm , and then rail test and injector leak down test, then pump bar test ,

so if bar is 400 psi and holds , it would indicate pump is good , but you can get 400 bar off one pump element, the other may be failed , now you bypass the pump as the cause and waist more time going elsewhere , running data logs and sending reports to csc , so why cant you cap off each hp line and check pump elements that way to see if both side of the pump are to spec , individually , you have the rail capped off to do the pump bar test , why not test each pump element by capping each line off and see if pump is good, . you can't pull pump elements in chassis, ref campaign 10c4

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Robert_Cadell_J

MacGyver

03-30-2017 05:22 PM

I seen your point I agree with you, we can't cap off either side of the pump to check the elements and here's one, loss of prime get to the point of a possible seal with in the pump, the low side test passes, I've asked the question why can't we vacuum the system ?

We haven't had good luck with the low side tests

Rob "Doc" Cadell
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803 917 5397 cell
Keep digging you'll find the answer
[View solution in original post](#)

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Grant_Overton

Wrench Turner

03-30-2017 06:12 PM

(all this is based on no metal contamination in filters or rail.)

t/shoot tree has you dead head the pump doing the 10sec crank rail bar test , as all inj lines are capped on the rail , so capping the 2 hi pressure lines at the rail connection , one at a time should give us a bar reading for each element , this should tell us if one or both elements are making pressure, wouldn't it?

As in campaign 10c4 the push rod in an element may be broken but still functioning, but not to spec, but since you cant pull the elements in chassis , would this cap test check the pump with a quick cap off test on the two hp lines and confirm pump is failed before pulling it.

since CSC advises once you have exhausted and replaced the all the fuel components, under current tree to replaced , to "try a hp pump" the quick crank test with each hp line capped off at hp lines should be a better test than throwing a new pump at it. if it comes up low on one side or the other , or below 400 on individual , we would have a better idea If pump is actually failed, than throwing 2300 .00 more at the issue,

with current tree we are at about 14-15 hrs, customer is stuck with a 1500 .00 un needed parts on top of the 8 hrs of t/shooting and then the cost of a pump if needed, + 6 hrs to r+r pump .

Where he could have been billed for the 6 hrs to replace the pump and most likely about 2-3 hrs t/shooting, for fc 157/16 low rail psi, with a low plv count , to cap off inj lines and test hp line separately on pump to confirm both elements are pumping would take 1, hr approx. after the first few steps of low rail psi t/shooting,

What if putting a pump on didn't fix it, there is no way to test the pump pressure per element off the truck, now customer is stuck with a new \$ 2300.00 pump on top of the other \$ 1500.00 un needed parts, .

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Robert_Cadell_J

MacGyver

03-30-2017 06:23 PM

True, one other thing if I'm not mistaken t/s shooting never asks is the condition of the fuel example water, fuel is a yellow color, excessive additives which will cause injector damage and misfueling and my personal favorite biodiesel blend. I think detroit5 recommends no more than a 10 percent blend but NO station is regulated. Look at the stickers may contain 5 to 20 percent blend.

With this being said are our parts failing or is it time and mixed along with poor fuel.

Just something to think about.

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803 917 5397 cell
Keep digging you'll find the answer

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Shadowlawn_Pens

Apprentice

03-25-2021 07:05 PM

I like this post right now,

I have a p3 in the shop right with a bad cam housing gasket, we replace the gasket (per customer also all 6 injector) put the unit back together, start the unit , engine fire on the second start ,but only ran for 1 min , we went back basic check for fuel leaks, ect ect , connect the computer and notices no pressure on the fuel rail, but no code , after troubleshooting the fuel rail pressure , we replaces the PLV , that fix the pressure issue at the rail , try again and the truck sound like it want to start but it doesn't, continue the troubleshooting end up replacing the pressure relief valve , two step valve and the fuel pressure sensor in the rail, but still no start , I have 0 pressure on the low pressure fuel pump , but my high pressure pump since to be working fine , what can I do next ?

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 Daniel_Collins1

Lube Tech

04-05-2021 10:15 AM

just curious how yall are priming the fuel system after all major work is done

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