MERCURY MARINER

Service Bulletin

☐ Warranty Information ☑ Service Information Bulletin No. 2003-11
☐ Parts Information

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Electric Fuel Pump Troubleshooting

Models Affected

MERCURY/MARINER
Four Stroke, Two Stroke, OptiMax, and Jet Drives with Electric Fuel Pumps

Situation

Mercury receives electric fuel pumps under warranty that when tested, have been found to function properly **(No Problem Found)**. If the electric fuel pump pressure reading is incorrect, there are a number of items (listed below) to consider prior to replacing the pump.

Items to consider:

- Is there a good fuel supply to the electric pump?
- Is the pump receiving the correct battery voltage?
  NOTE: Battery voltage too high may cause ECM to turn pump circuit off.
- Is the fuel pressure regulator operating correctly?
- Is the air pressure regulator operating correctly (OptiMax Product)?
- Is the pressure gauge that is being used to test accurate?
- Are you using the correct specifications for the engine?
- Do you have the pressure gauge connected correctly?
- Is the fuel filter restricting fuel flow to the pump?

Fuel Pressure Test

The location of fuel pumps, regulator, and hose connections will vary between models, but the general process for checking fuel pressure remains the same. A test gauge is connected on the output side of the pump and the pump is momentarily run to build pressure. In some cases there will be a pressure test port available to connect the gauge to. In other cases you may need to temporarily install a TEE fitting to connect the pressure gauge.

Once the gauge connection is made, electrically operate the pump and observe the pressure reading. Refer to the correct Service Manual for specifications.

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Fuel Supply to Pump

A lack of fuel going to the pump will cause a low/no pressure reading. Most electric fuel pumps on EFI or OptiMax engines draw their fuel from the Vapor Separating Tank (VST). Make sure there is a good supply of fuel reaching the VST and pump. Refer to the correct Service Manual for test procedure.

Checking Battery Voltage to Pump

If the pump does not run when the ignition key is turned to the ON position or when the engine is cranked over with the starter, battery voltage to the pump should be checked.

Amperage Draw Test

An amperage draw test of the electric fuel pump can also be very useful when diagnosing fuel system problems.

NOTE: *A properly charged battery is critical to an accurate amp reading. Make sure to use a fully charged battery when making this test. Amperage reading higher then normal indicates mechanical or electrical problems with the pump. Amperage reading lower then normal is an indication that the pump is not under load or pumping fuel. There may be no fuel in the VST or there is a blockage preventing the fuel from reaching the pump.*

NOTE: *An electric pump that has formed fuel gum may have high amperage draw, or not operate at all. See Outboard Service Bulletin 2002-20 or Jet Drive Bulletin 2002-07 for more information on seized pumps.*

The fuel pump specification chart below is **current at the time of the issuance of this bulletin. Refer to the proper Service Manual for the latest specifications.**

Model	Serial Range	High Pressure Electric Pump	Low Pressure Electric Pump	AMP Draw High / Low	Boost Pump Jet Drive
Four Stroke					
30,40,50,60	0T409000 and up	289 - 303.4 kPa (42 - 44 psi)			
115	0T178500 and up	283 - 303.4 kPa (41 - 44 psi)			
225	0T653945 and up	261 303.4 kPa (38 - 44 psi)	75.8-103.4 kPa (11 - 15 psi)		
Two Stroke					
150 XRI/MAG	All	248 - 269 kPa (36 - 39) psi			
175/200	0G303045 and down	248 - 269 kPa (36 - 39 psi)			
175/200/225/250	0G303046 - 0T408999	234 - 248 kPa (34 - 36 psi)			
175/200	0T409000 and up	283 - 310 kPa (41 - 45 psi)		3.5 - 4.5	

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Model	Serial Range	High Pressure Electric Pump	Low Pressure Electric Pump	AMP Draw High / Low	Boost Pump Jet Drive
225/250	0T409000 and up	283 - 310 kPa (41 - 45 psi)		3.5 - 4.5	
250 XB	All	234 - 248 kPa (34 - 36 psi)			
OptiMax					
75/90/115 3 Cyl.	All	744.6 ± 13.8 kPa (108 ± 2 psi)	165.5 - 179.3 kPa (24 - 26 psi)	10 - 14 H 1 - 2 L	
115 - 175	All	620.5 ± 13.8 kPa (90 ± 2 psi)	41.4 - 62.1 kPa (6 - 9 psi)	5 - 9 H 1 - 2 L	
200/225	2002 and prior	620.5 ± 13.8 kPa (90 ± 2 psi)	41.4 - 62.1 kPa (6 - 9 psi)	6 9 H 1 - 2 L	
200/225	2003 and later	620.5 ± 13.8 kPa (90 ± 2 psi)	165.5 - 179.3 kPa (24 - 26 psi)	10 - 14 H 1 - 2 L	
Sport Jet					
240	0E384500 - 0E406399	234 - 248 kPa (34 - 36 psi)			
240	0E406400 and up	283 - 310 kPa (41 - 45 psi)			27.5 ± 3.4 kPa (4 ± 0.5 psi)
240 M^2	0E373933 - 0E406399	234 - 248 kPa (34 - 36 psi)			
240 M^2	0E406400 and up	283 - 310 kPa (41 - 45 psi)			34.5 - 62.1 kPa (5 - 9 psi)
200 DFI /M^2	0E384500 and up	613.6 ± 13.8 kPa (89 ± 2 psi)	41.4 - 62.1 kPa (6 - 9 psi)	1 - 10	34.5 - 62.1 kPa (5 - 9 psi)
250 DFI /M^2	0E407100 and up	620.5 ± 13.8 kPa (90 ± 2 psi)	41.4 - 62.1 kPa (6 - 9 psi)	1 - 10	41.4 - 62.1 kPa (6 - 9 psi)

H - High pressure electric fuel pump

L - Low pressure electric fuel pump

Warranty

Any electric fuel pumps that are returned for warranty and found to function properly **(No Problem Found)** may be subject to claim denial and parts returned to dealer.

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