Component Procedures: Fuel Pump

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Component Procedures: Fuel Pump

Parts and Labor (itype_189)

Parts

Qualifier	Part #	Name	Price	Note
Fuel Pump > 15 Gallon Tank	4897754AB	Fuel Pump	384.00	
Fuel Pump > 19 Gallon Tank	5012952AD	Fuel Pump	467.00	

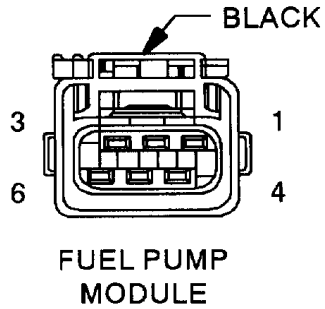
Labor

Operation	Qualifier Path	Skill	Std Hrs	Wty Hrs
Replace	Fuel Pump, R&R	B	1.8	1.1

Components (itype_392)

SYSTEM OPERATION
The
fuel pump
used in this system has a permanent magnet electric motor. The pump is part of the
fuel pump module
. Fuel is drawn in through a filter at the bottom of the module and pushed through the electric motor gearset to the pump outlet.
Check Valve Operation: The pump outlet contains a one-way check valve to prevent fuel flow back into the tank and to maintain fuel supply line pressure (engine warm) when pump is not operational. It is also used to keep the fuel supply line full of gasoline when pump is not operational. After the vehicle has cooled down,
fuel pressure
may drop to
0 psi
(cold fluid contracts), but liquid gasoline will remain in fuel supply line between the check valve and
fuel injectors
. Fuel pressure that has dropped to
on a cooled down vehicle (engine off) is a normal condition. Refer to the Fuel Pressure Leak Down Test for more information.
Voltage to operate the electric pump is supplied through the
fuel pump relay
.

Connector Views (itype_47)



FUEL PUMP MODULE - BLACK 6 WAY

CAV	CIRCUIT	FUNCTION
1	A141 18DG/WT	FUEL PUMP RELAY OUTPUT
2	-	-
3	K226 20DB/LG	FUEL LEVEL SENSOR SIGNAL
4	K167 20BR/YL	SENSOR GROUND
5	-	-
6	Z1 18BK	GROUND

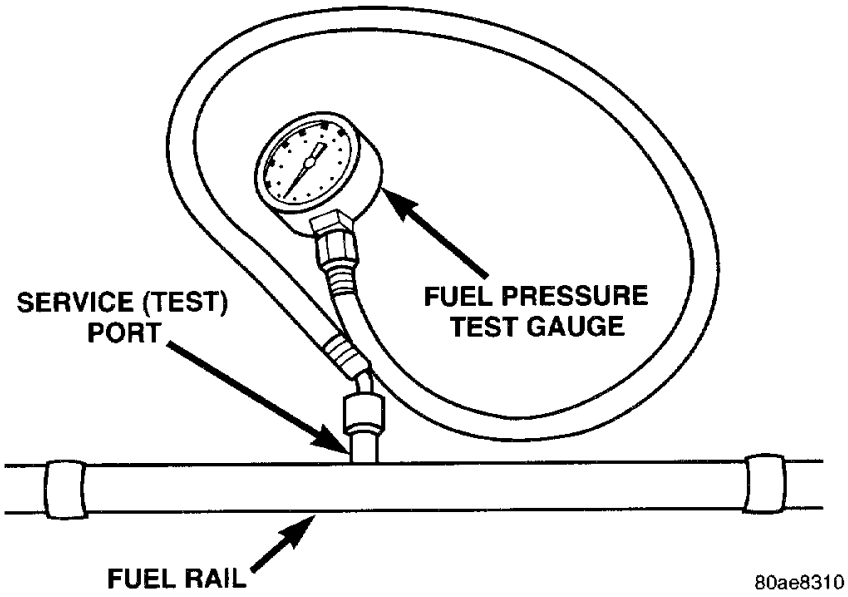
Complete System Diagram (Article 2047643)

For Information regarding diagrams for this system, please refer to
Powertrain Management
diagrams.
See: Powertrain Management > Diagrams

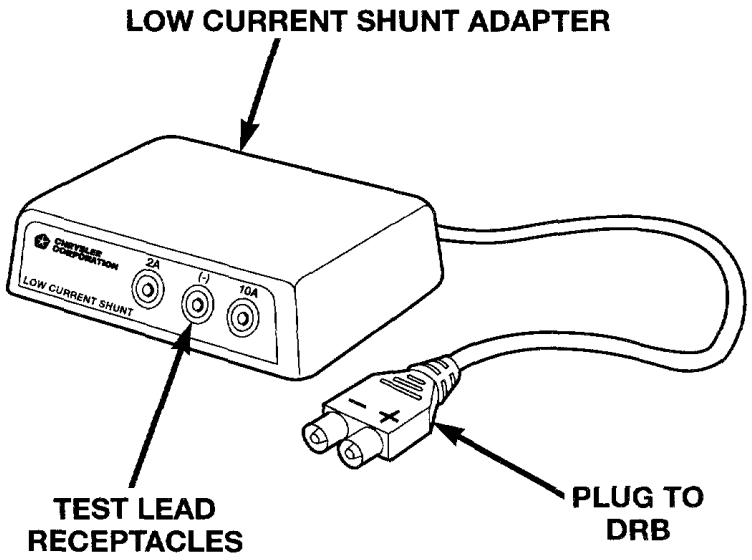
Technician Safety Information (itype_15)

WARNING:
BEFORE PROCEEDING TO NEXT STEP, NOTE THE
FUEL PUMP
WILL BE ACTIVATED AND SYSTEM PRESSURE WILL BE PRESENT. THIS WILL OCCUR AFTER CONNECTING TEST LEADS FROM LCS ADAPTER INTO
FUEL PUMP RELAY
CAVITIES. THE FUEL PUMP WILL OPERATE EVEN WITH IGNITION KEY IN OFF POSITION. BEFORE ATTACHING TEST LEADS, BE SURE ALL FUEL LINES AND
FUEL SYSTEM
COMPONENTS ARE CONNECTED
.
CAUTION:
TO PREVENT POSSIBLE DAMAGE TO THE VEHICLE ELECTRICAL SYSTEM AND LCS ADAPTER, THE TEST LEADS MUST BE CONNEC INTO RELAY CAVITIES EXACTLY.

Fuel Pressure Test - With Test Port (Article 2044442)



Fuel Pump Amperage Test (Article 2044433)



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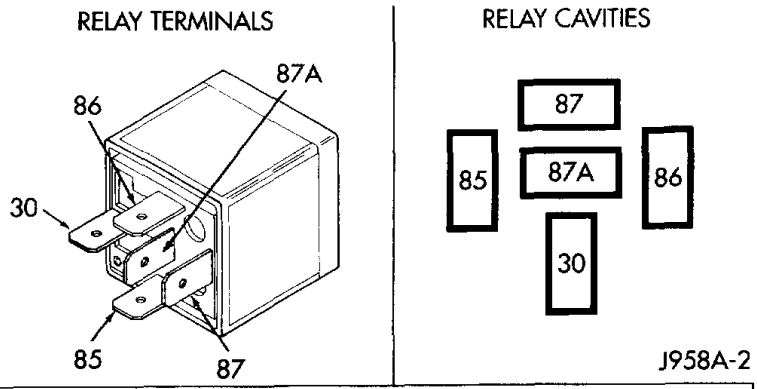
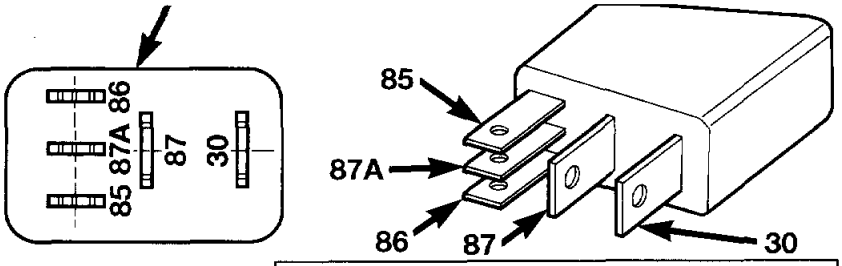
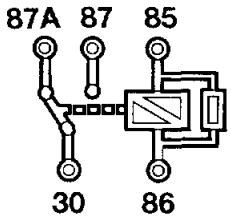


TERMINAL LEGEND	
NUMBER	IDENTIFICATION
30	COMMON FEED
85	COIL GROUND
86	COIL BATTERY
87	NORMALLY OPEN
87A	NORMALLY CLOSED





TERMINAL LEGEND	
NUMBER	IDENTIFICATION
30	COMMON FEED
85	COIL GROUND
86	COIL BATTERY
87	NORMALLY OPEN
87A	NORMALLY CLOSED

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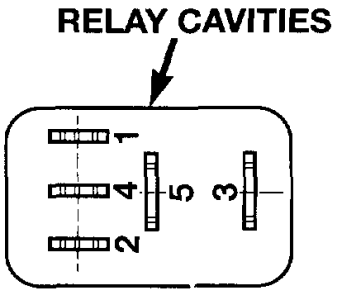

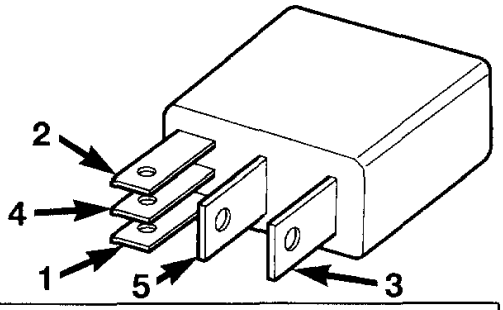

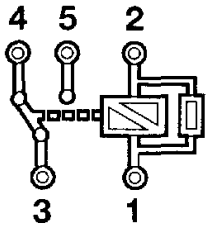

TERMINAL LEGEND	
NUMBER	IDENTIFICATION
1	COIL BATTERY
2	COIL GROUND
3	COMMON FEED
4	NORMALLY CLOSED
5	NORMALLY OPEN

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Fuel Pump Capacity Test (Article 2044434)

Before performing this test, verify
fuel pump
pressure by performing the Fuel Pump Pressure Test. Use this test in conjunction with the
Fuel Pressure
Leak Down Test.

1. Release
fuel system
pressure. Refer to the
Fuel Pressure Release
Procedure.
2. Disconnect fuel supply line at
fuel rail
. Refer to Quick-Connect Fittings in the Service Procedures for procedures. Some engines may require
air cleaner housing
removal before line disconnection.
3. Obtain correct Fuel Line Pressure Test Adapter Tool Hose. Tool number 6539 is used for

5/16"
fuel lines and tool number 6631 is used for
3/8"
fuel lines.
4. Connect correct Fuel Line Pressure Test Adapter Tool Hose into disconnected fuel supply line. Insert other end of Adaptor Tool Hose into a graduated container.
5. Remove fuel fill cap.
6. To activate fuel pump and pressurize system, obtain DRB scan tool and actuate ASD Fuel System Test.
7. A good fuel pump will deliver at least
1/4 liter
of fuel in
7 seconds
. Do not operate fuel pump for longer than
with fuel line disconnected as
fuel pump module
reservoir may run empty.
a. If capacity is lower than specification, but fuel pump
can
be heard operating through fuel fill cap opening, check for a kinked/damaged fuel supply line somewhere between fuel rail and fuel pump module.
b. If line is not kinked/damaged, and fuel pressure is OK, but capacity is low, replace
fuel filter
/
fuel pressure regulator
. The filter/regulator may be serviced separately on certain applications. Refer to Fuel Filter/Fuel Pressure Regulator
Removal/installation for additional information.
c. If both fuel pressure and capacity are low, replace fuel pump module assembly. Refer to Fuel Pump Module Removal/installation.