

2005 Dodge RAM 3500 PICKUP

Submodel: | Engine Type: L6 | Liters: 5.9

Fuel Delivery: FI | Fuel: DIESEL

DESCRIPTION

The fuel gauge sending unit (fuel level sensor) is attached to the side of the fuel pump module. The sending unit consists of a float, an arm, and a variable resistor track (card).

OPERATION

The fuel pump module has 4 different circuits (wires). Two of these circuits are used for the fuel gauge sending unit for fuel gauge operation, and for certain OBD II emission requirements. The other 2 wires are used for electric fuel pump operation.

For Fuel Gauge Operation:A constant current source is supplied to the resistor track on the fuel gauge sending unit. This is fed directly from the Powertrain Control Module (PCM). **NOTE: For diagnostic purposes, this 12V power source can only be verified with the circuit opened (fuel pump module electrical connector unplugged). With the connectors plugged, output voltages will vary from about 0.6 volts at FULL, to about 8.6 volts at EMPTY (about 8.6 volts at EMPTY for Jeep models, and about 7.0 volts at EMPTY for Dodge Truck models).**The resistor track is used to vary the voltage (resistance) depending on fuel tank float level. As fuel level increases, the float and arm move up, which decreases voltage. As fuel level decreases, the float and arm move down, which increases voltage. The varied voltage signal is returned back to the PCM through the sensor return circuit.

Both of the electrical circuits between the fuel gauge sending unit and the PCM are hard-wired (not multi-plexed). After the voltage signal is sent from the resistor track, and back to the PCM, the PCM will interpret the resistance (voltage) data and send a message across the multi-plex bus circuits to the instrument panel cluster. Here it is translated into the appropriate fuel gauge level reading. Refer to Instrument Panel for additional information.

For OBD II Emission Monitor Requirements:The PCM will monitor the voltage output sent from the resistor track on the sending unit to indicate fuel level. The purpose of this feature is to prevent the OBD II system from recording/setting false misfire and fuel system monitor diagnostic trouble codes. The feature is activated if the fuel level in the tank is less than approximately 15 percent of its rated capacity. If equipped with a Leak Detection Pump (EVAP system monitor), this feature will also be activated if the fuel level in the tank is more than approximately 85 percent of its rated capacity.