

EGR Flow Insufficient Monitor Description

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MONITOR SUMMARY

The ECM senses the opening of the EGR valve using the EGR gas temperature sensor. If there is low variation in the temperature of the EGR gas flow, the ECM will conclude that there is a fault in either the EGR valve or the EGR gas temperature sensor. The ECM will illuminate the MIL and set a DTC.

The EGR system is used to lower combustion temperatures and thus reduce the quantity of NOx generated in the combustion process. Without EGR, under high load conditions, the combustion temperature would be high and large quantities of NOx would be generated. With the EGR system, exhaust gas is “recirculated” by diverting a percentage of the exhaust gas back into the intake manifold. The recirculated exhaust gas lowers the combustion temperature and NOx production is reduced. In some driving conditions, EGR gasses can affect driveability. In these driving conditions, the ECM commands the VSV for EGR cut to block the engine vacuum source to the EGR valve. Blocking the vacuum signal allows the EGR valve to close and stop recirculation of the exhaust gas to the intake manifold.

There are two malfunctions that will set DTC P0401:

- (1) The ECM senses the opening of the EGR valve using the EGR gas temperature sensor. When conditions for EGR flow are met, the ECM monitors the EGR gas for temperature increase. If there is low variation in the temperature of the EGR gas flow, the ECM will conclude that either the EGR valve did not open or the EGR gas temperature sensor is malfunctioning. The ECM will illuminate the MIL and set this DTC.
- (2) The ECM checks the exhaust gas temperature when the engine is not fully warmed-up. The exhaust gas should be relatively cool. If the ECM detects a high exhaust gas temperature at a time when the exhaust gas should still be relatively cool, the ECM will conclude that there is a malfunction of the EGR gas temperature sensor and set this DTC.

RELATED DTC

Related DTCs	P0401	• EGR valve does not open • EGR gas temperature sensor circuit is shorted
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MODEL YEAR CHART

Model Year	See Page
1997 and 1998	Eg-9
1999 to 2003	Eg-10