



MISFIRE

Group 10

- P 0300
- P 0301
- P 0302
- P 1313 / P 0303
- P 1314 / P 0304
- P 1315 / P 0305
- P 1316 / P 0306

Monitoring Procedure

Two algorithms running in parallel are used to detect misfire, by monitoring variation in crankshaft period measurements. One algorithm detects rates less than one in five and the other, rates greater than one in five, of misfires per number of engine cycles. Variations in crankshaft period are compared to their respective speed and load limits and if the changes exceed the limit then a misfire has occurred. Faults are detected if the number of misfires in 200 or 1000 revolutions of the crankshaft exceed the limits.

The system is disabled during transient conditions, which could give false indications of a misfire.

The strategy will report to the Diagnostic Status Manager (DSM) when a misfire fault is present and the DSM will then decide whether to store a fault code and illuminate the MIL Lamp.

5.1

Random Misfire Detected

P 0300

Possible causes:

- Low fuel pressure
- EGR valve stuck part open
- Fuel contaminated

Misfire Detected;

Cylinder 1

P 0301

Cylinder 2

P 0302

Cylinder 3

P 0303

Cylinder 4

P 0304

Cylinder 5

P 0305

Cylinder 6

P 0306

Possible causes:

- Harness fault – injector or coil – partial open circuit or short circuit
- Spark plug problems
- Injector fault
- Ignition coil fault
- ECM fault – ignition coil drive or injector drives

Misfire Rate, Catalyst Damage – Bank 1

P 1313

Misfire Rate, Catalyst Damage – Bank 2

P 1314

Possible causes:

- Harness fault – more than one cylinder or coil open circuit or short circuit
- Very low fuel pressure
- Crank sensor / harness problem
- ECM fault – ignition coil drive or injector drives



Persistent Misfire

P 1315

Possible cause:

- One cylinder identified and injector turned off

Misfire Rate Above Limit

P 1316

Possible causes:

- Harness faults – injectors or coils – partial open circuit or short circuit
- Spark plug problems
- Low fuel pressure
- Fuel contaminated
- ECM fault – ignition coil drive or injector drives

5.1



TRANSMISSION

Group 23

P 1775
P 1776
P 1777
P 1794

5.1

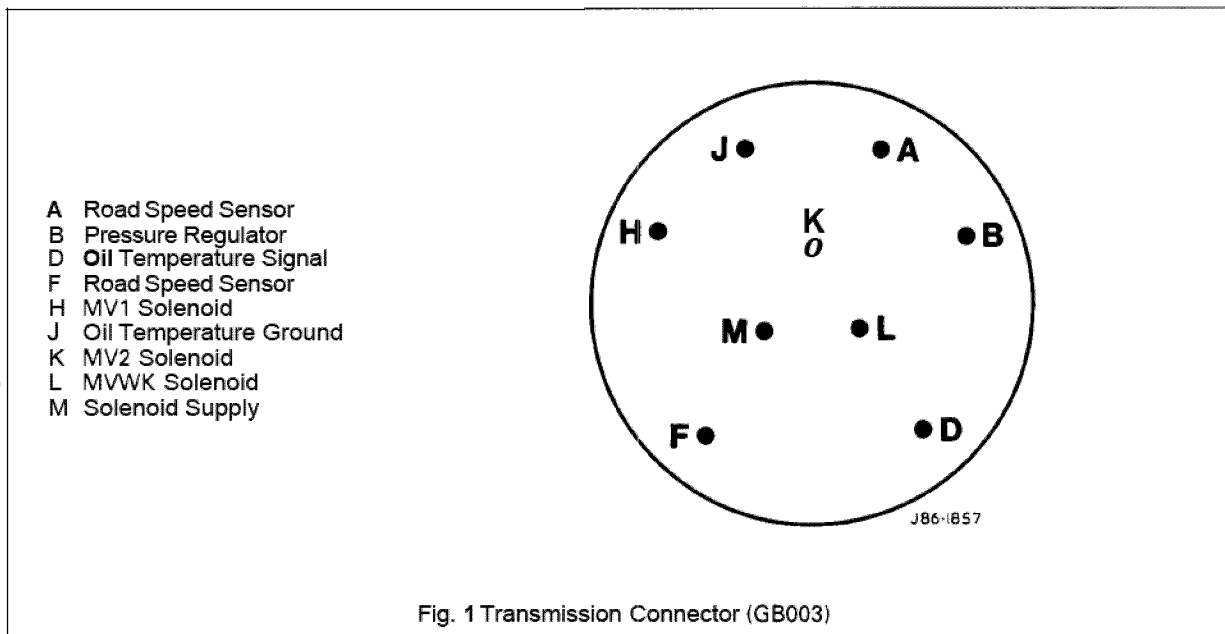


Fig. 1 Transmission Connector (GB003)

The solenoid valves are located on the valve block in the transmission assembly and can be identified by their position. Connection is made via a connector located on the LHS of the transmission assembly.

Resistance Checks Between Connector Contacts

28 to 60 ohm: M to L, M to K, **M** to H

33 to 67 ohm: L to B, K to B, H to B

56 to 120 ohm: L to K, L to H, K to H

5 to 7 ohm M to B

Open circuit: the combination of any one contact from each row **M K L H B A D F J**



Transmission MIL

P 1775

Monitoring Procedure

The ignition retard request line, from the TCM to the ECM, indicates when an emission-related fault is present in the automatic transmission.

The strategy will report to the Diagnostic Status Manager (DSM) when a MIL Lamp monitoring fault is present and the DSM will then decide whether to store a fault code and illuminate the MIL Lamp.

Possible causes:

- Transmission ECM sent MIL Lamp request
- Possible wrong Pulse Width Modulation (PWM) message received

Ignition Retard Request Duration

P 1776

Monitoring Procedure

If the ignition retard request line indicates a request for longer than the time limit, then there is a fault. The strategy will report to the Diagnostic Status Manager (DSM) when a MIL Lamp monitoring fault is present and the DSM will then decide whether to store a fault code and illuminate the MIL Lamp.

Possible causes:

- Transmission ECM fault – retard request for too long
- Driver repeatedly requests shifts which require repeated ignition retard requests may not be possible

5.1

Ignition Retard Request Circuit

P 1777

Monitoring Procedure

The status of the TCM ignition retard request line is tested for hardware fault events. There is no automatic transmission default strategy so all faults that require such a strategy will be administered by the TCM.

The strategy will report to the Diagnostic Status Manager (DSM) when a MIL Lamp monitoring fault is present and the DSM will then decide whether to store a fault code and illuminate the MIL Lamp.

Possible causes:

- Transmission ECM error – sends invalid Pulse Width Modulation (PWM)
- Transmission ECM to GEMS harness connector open circuit
- Transmission ECM to GEMS harness connector short circuit to ground
- Transmission ECM to GEMS harness connector short circuit to battery voltage

System Voltage

P 1794

The TCM monitors the supply voltage and will log this fault if the voltage is less than 10.5V when the engine speed is greater than 1600rpm. This fault code is unlikely to be caused by a fault within the TCM and as such the vehicle harness and fuses etc. should be completely tested before the TCM is condemned.

Possible causes:

- Battery capacity low.
- Faulty fuse.
- Fault in harness.