

18 FLASH CODE 18 – THROTTLE VALVE LOW

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18.1 DESCRIPTION OF FLASH CODE 18

Flash Code 18 is currently used for gas fueled engines only. This code indicates that the Throttle Valve Plate Input Voltage has dropped below the 5% sensor supply voltage (normally < 0.25 volts). Typically, the problem is an open signal or an open sensor supply.

18.2 SAE J1587 EQUIVALENT CODE FOR FLASH CODE 18

The SAE J1587 equivalent code for Flash Code 18 is p 051/4, throttle plate input voltage low.

18.3 TROUBLESHOOTING FLASH CODE 18

The following procedure will troubleshoot Flash Code 18.

18.3.1 Check Actuator

Perform the following steps to check the actuator.

1. Unplug throttle actuator harness connector.
2. Install a jumper wire between cavity F and C.
3. Turn ignition ON.
4. Plug in DDR. Read the codes.
 - [a] If code p 051/3 and any other codes are logged, refer to section 18.3.2.
 - [b] If code p 051/4 is logged, refer to section 18.3.3.

18.3.2 Check Connectors

Perform the following steps to check the connectors.

1. Turn ignition OFF.
2. Remove jumper wire.
3. Check connectors, both ECM and throttle actuator side, for bent, broken, or loose connections.
 - [a] If the connectors are not damaged, replace the actuator and refer to section 18.3.7.
 - [b] If the connectors are damaged, bent or have broken pins, repair or replace them. Refer to section 18.3.7.

18.3.3 Check for Open

Perform the following steps to check for open.

1. Turn ignition OFF.
2. Move jumper wire from cavity F and C to cavity F and D.
3. Remove engine harness connector.
4. Measure resistance between Y2 (#452) and R1 (#907).
See Figure 18-1.
 - [a] If the measured resistance is greater than 1,000 Ω , wire #907 is open. Repair the open or replace the harness and refer to section 18.3.7.
 - [b] If the measured resistance is less than 1,000 Ω , refer to section 18.3.4.

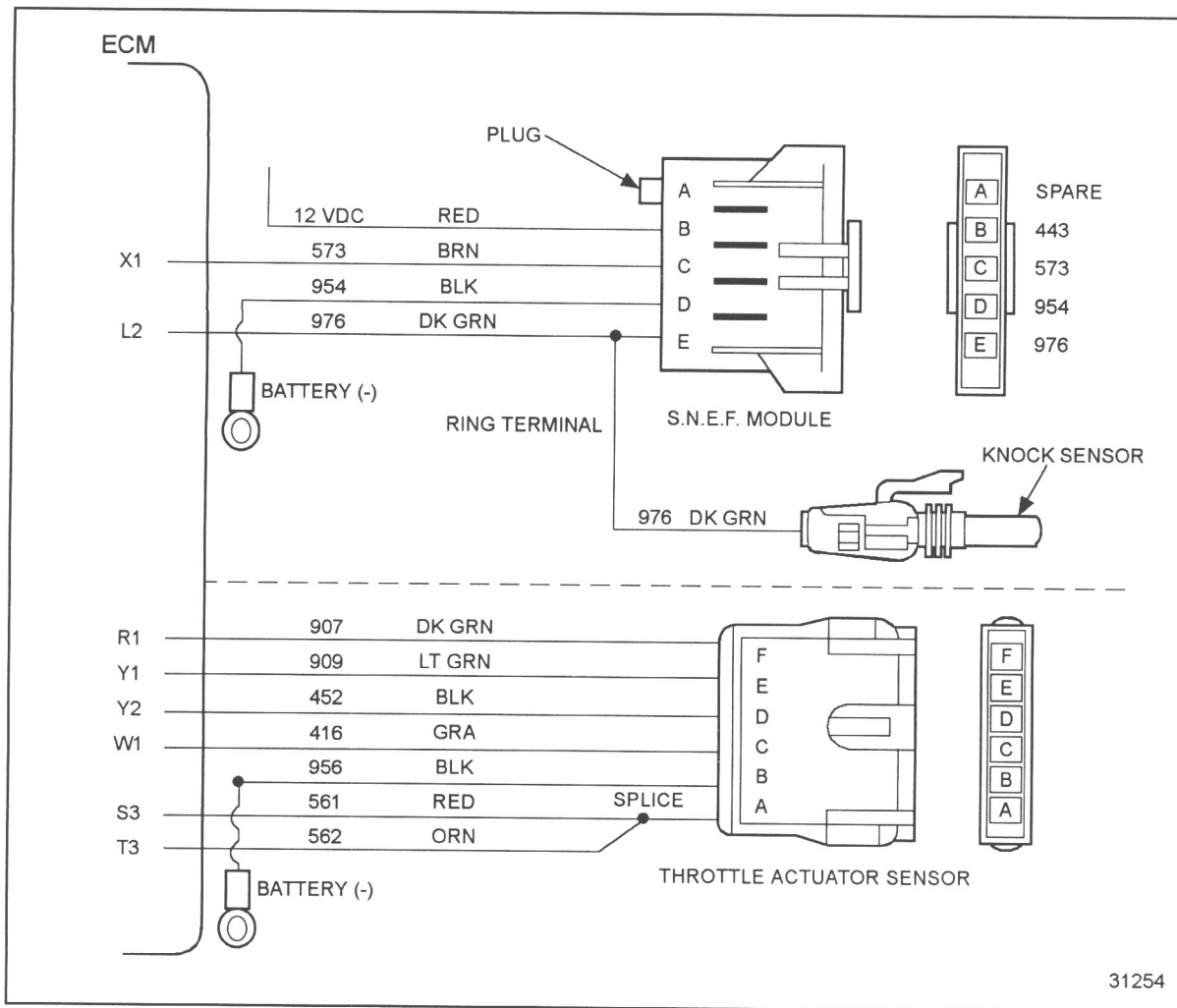


Figure 18-1 Gas Engine Sensor Harness

18.3.4 Check for Short to Return

Perform the following steps to check for a short to the return line.

1. Remove jumper.
2. Measure resistance between Y2 (#452) and R1 (#907), and Y2 (#452) and W1 (#416).
 - [a] If either measured resistance is less than 1,000 Ω , those wires are shorted to each other. Replace the harness and refer to section 18.3.7.
 - [b] If both measured resistance are greater than 1,000 Ω , refer to section 18.3.5.

18.3.5 Check for Short to Battery (-)

Perform the following steps to check for a short to the battery (-).

1. Measure resistance between R1 (#907) and battery ground, and W1 (#416) and battery ground.
 - [a] If either measured resistance is less than 1,000 Ω , then that wire is shorted to the battery (-). Replace the harness and refer to section 18.3.7.
 - [b] If the measured resistance is greater than 1,000 Ω , refer to section 18.3.6.

18.3.6 Check for 5 Volt Open

Perform the following steps to check for a 5 volt open.

1. Plug in the 30-pin connector for the engine sensor harness.
2. Turn ignition ON.
3. Measure voltage between cavity D (#452) and C (#416) of the actuator connector.
 - [a] If the measurement is less than 4.5 volts, wire #416 is open. Repair the open or replace the harness. Refer to section 18.3.7.
 - [b] If the measurement is between 4.5 and 5.5 volts, refer to section 18.3.2.

18.3.7 Verify Repairs

Perform the following steps to verify repairs.

1. Plug all connectors in.
2. Start and run the engine.
3. Plug in the DDR and read the codes.
 - [a] If no codes are logged, troubleshooting is complete.
 - [b] If code p 051/4 is logged, please review this section from the first step to find the error. Refer to section 18.3.1. Then, contact Detroit Diesel Technical Services.

