

74 FLASH CODE 74 – OI SAFETY LOOP

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74.1 DESCRIPTION OF FLASH CODE 74

Flash Code 74 indicates that the park brake digital input is shorted to ground between the vehicle interface harness connector and one of the switches (park brake switch, neutral switch, hood switch or optional OEM interlock).

- If this code is inactive, it may indicate that the vehicle moved during optimized idle operation or that two consecutive engine start attempts were not successful.
- Flash Code 74 may also indicate that the relay coil is open or is shorted (causing the unsuccessful engine start).

74.2 SAE J1587 EQUIVALENT CODE FOR FLASH CODE 74

The SAE J1587 equivalent code for Flash Code 74 is p 070 4.

74.3.1 Check Diagnostic Data Reader for Codes

Perform the following steps to check the DDR for codes:

1. Turn the vehicle ignition switch ON.
2. Plug the DDR into the diagnostic data link (DDL).
3. Check the DDR for active and inactive optimized idle codes.

NOTE:

Service any other logged codes first.

4. Visually examine the DDR for code 74.
 - [a] If code 74 was logged, check for short to ground. Refer to section 74.3.2.
 - [b] If code 74 was not logged, verify fault has been resolved. Refer to section 74.3.6.

74.3.2 Check for Short to Ground

Perform the following steps to check for short to ground:

1. Open the vehicle hood. Refer to OEM guidelines.
2. Turn the vehicle ignition switch to the ON position.
3. Plug the DDR into the DDL.

NOTE:

The DDR may already be installed.

4. Select the switch/light status (park brake/ISD).
5. Verify the switch/light status (park brake/ISD).
 - [a] If the park brake status is not ON, refer to section 74.3.3.
 - [b] If the park brake status is ON, the input wire is shorted to ground between the hood switch and the ECM. Repair or replace the wire. Verify fault has been resolved. Refer to section 74.3.6.

74.3.3 Check for Short to Ground (Continued)

Perform the following steps to continue checking for a short to ground:

1. Close the vehicle hood. Refer to OEM guidelines.
2. Put transmission in gear. Refer to OEM guidelines.
3. Verify the switch/light status (park brake).
 - [a] If the park brake status is not ON, continue checking for a short to ground. Refer to section 74.3.4.
 - [b] If the park brake status is ON, the input wire is shorted to ground between the hood switch and the neutral switch. Repair or replace the wire. Verify fault has been resolved. Refer to section 74.3.6.

74.3.4 Check for Short to Ground (Continued)

Perform the following steps to continue checking for a short to ground:

1. Put the transmission in neutral. Refer to OEM guidelines.
2. Ensure that the parking brake is not set. Refer to OEM guidelines.
3. Verify the switch light status (park brake/ISD).
 - [a] If the park brake/ISD status is not ON, check for vehicle speed. Refer to section 74.3.5.
 - [b] If the park brake/ISD status is ON, the input wire is shorted to ground between the park brake switch and the neutral switch. Repair or replace the wire. Refer to section 54.3.1. Verify fault has been resolved. Refer to section 74.3.6.

74.3.5 Check Vehicle Speed

Perform the following steps to check vehicle speed:



CAUTION:

To avoid personal injury, before starting and running the engine, be sure that the vehicle is parked on a level surface and that the wheels are properly blocked.

1. Start engine with vehicle in park. Refer to OEM guidelines.
2. Plug the DDR into the DDL.
3. View ECM data list (vehicle speed in mile/h or km/h).
4. Increase engine r/min.
5. Verify vehicle speed.
 - [a] If vehicle speed did not vary, verify fault has been resolved. Refer to section 74.3.6.
 - [b] If vehicle speed did vary or was ever greater than 0 r/min, perform flash code 54 troubleshooting. Refer to section 54.3. Upon completion of repair, verify fault has been resolved. Refer to section 74.3.6.

74.3.6 Verify Repairs

Perform the following steps to verify repairs for flash code 74:

1. Turn vehicle ignition to the OFF position.
2. Reconnect all connectors.
3. Close vehicle hood. Refer to OEM guidelines.
4. Set the park brake. Refer to OEM guidelines.
5. Put the transmission in neutral position. Refer to OEM guidelines.

**CAUTION:**

To avoid personal injury, before starting and running the engine, be sure that the vehicle is parked on a level surface and that the wheels are properly blocked.

6. Start the engine.
7. Turn the cruise master switch to the ON position.

NOTE:

If the switch was set to the ON position before the vehicle was started. Turn the switch to the OFF position and then to the ON position.

8. Wait for the engine to shut down.

NOTE:

After the idle timer expires, the engine will either shut down or continue to run to charge the battery or keep the oil temperature between 16°C (60°F) and 40°C (104°F).

9. Turn the thermostat on (if installed).
10. Adjust the set point and heating and cooling mode until the thermostat requires the engine to start.

NOTE:

If the thermostat is not installed. Wait for the lube oil temperature to fall below 16 °C (60 °F).

NOTE:

The alarm will sound and the engine will start. Vehicle power (blower fans) will turn on approximately 30 seconds after the engine starts due to the thermostat.

11. Verify that the optimized idle operates properly.
 - [a] If optimized idle is not operating properly, refer to section 74.3.1 to troubleshoot code 74.
 - [b] If optimized idle is operating correctly, troubleshooting is complete.

