

ERROR CODES for Land Rovers with two-digit OBD display

To reset the display after a repair or to see if the error is persistent, do the following:

1. Switch ignition on.
2. Disconnect serial link mating plug, wait five seconds, then reconnect.
3. Switch ignition off and wait for main relay to drop out.
4. Switch ignition on. The display should now be reset. If there is more than one fault repeat these steps to clear each fault until the display is blank. When there are no more codes stored, the display will be black.

ERROR CODES for Land Rovers with two-digit OBD display:

Nothing shown on display

Either nothing is wrong or the display is broken. I've seen broken displays many times.

Code 02 - Power interruption

Power to the ECU has been disconnected and the truck has not yet been started. This code should go away as soon as the vehicle is started for the first time. Appearance of this code while driving may signal a problem within the ECU.

Code 12 - Airflow meter

Usually signals a problem with the airflow meter or the connector which can fall apart or become damaged. Refer to test 19, continuity test procedure.

Code 14 - Coolant sensor

Usually indicates a bad fuel injection coolant sensor. May also indicate a bad engine thermostat or a stuck viscous fan clutch. Refer to test 14, continuity test procedure.

Code 17 - Throttle potentiometer

Usually indicates a bad throttle position sensor. Refer to test 17, continuity test procedure.

Code 18 - Throttle potentiometer input high/airflow meter low

Usually indicates a problem with one of the two mentioned parts. Refer to tests 17, 18, and 19 of the continuity test procedure.

Code 19 - Throttle potentiometer input low/airflow meter high

Usually indicates a problem with one of the two mentioned parts. Refer to tests 17, 18, and 19 of the continuity test procedure.

Code 21 - Fuel tune select

Identifies that the tune select resistor is open circuit- refer to tune select resistor test. The tune resistor is embedded in the wire harness. This code may indicate damage to the wire harness.

Code 23 - Fuel supply

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Check fuel system pressure, test 20 of continuity test procedure.

Code 25 - Ignition misfire

This code indicates that an ignition system misfire has been detected.

Codes 40 or 50 indicate on which bank the misfire has occurred.

Code 28 - Air leak

One way to check for small leaks is by spraying choke cleaner at the joint you want to check while the motor is idling. A change in tone indicates the choke cleaner is being sucked into the engine. Check for air leaks in the following areas:

- Hose, air flow meter to plenum
- Breather system hoses to plenum
- Brake servo hose
- Vacuum reservoir hose (fresh air solenoid)
- Distributor vacuum advance
- Hose, purge valve to plenum
- Injector seals
- Joint - bypass air valve to plenum plenum chamber to ram housing ram housing to inlet manifold inlet manifold to cylinder head bypass air valve hose

Code 29 - ECU memory check

If this code appears all other faults are unreliable and must be ignored. Use the procedure below to clear the code and see if it reappears. If it does, your ECU is almost certainly bad.

Procedure:

1. leave battery connected
2. switch ignition off
3. wait for approximately 5 seconds
4. disconnect ECU plug.
5. reconnect ECU plug
6. switch ignition on and check display unit.

If fault code 29 is detected again, swap out the ECU for another one and retest.

Code 34 - Injector bank A

The display will indicate if the injector(s) are causing the engine to run rich or lean.

If the bank is running rich, check for - faulty injector wiring and connectors, stuck open injectors.

If the bank is running lean, check for - faulty injector wiring and connectors, blocked injectors.

Code 36 - Injector bank B

As code 34, except relevant to bank A injectors.

Code 44 - Lambda sensor A - left bank

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Code 45 - Lambda sensor B - right bank

If one of these fault codes (#44 or #45) is displayed check the wiring to that particular lambda sensor. In addition this fault will be displayed if the vehicle has a condition which causes it to run very lean or very rich on one side (example - a vacuum leak or a bad injector). This code often appears in conjunction with the misfire codes in cases of bad ignition misfire (cross-firing plug wires)

If both codes are displayed, the voltage supply to the heater coils of the sensors must be checked. Check for 12V appearing on the O2 signal lead, and check the heater circuit for shorts.

Code 48 - Stepper motor

Check base idle speed as follows:

1. First remove and clean the idle motor and the port it screws into. Clean the throttle body as well.
2. On the top of the throttle body you will see a hole (possibly covered by an anti tamper plug) for the base idle adjuster.
3. Remove the air bypass hose from the throttle body, which will cause the engine to speed up to 2500rpm or so. Unplug the connector to the idle motor after 5 seconds then reconnect the hose.
4. Squeeze the hose shut with needle nose vise grips and adjust the base idle using an allen wrench to give an idle speed of 6-700rpm. Get the lowest speed you can that gives smooth running and does not stall when blipping the throttle. Screw in for slower idle, out for faster idle.
5. Reconnect the idle stepper and remove the vise grip and you should be done.
6. In addition, refer to tests 15 and 16 of continuity test procedure. Check road speed sensor- refer to test 25 of continuity test procedure.

Code 40 - Misfire bank A - left bank

Code 50 - Misfire bank B - right bank

If one fault code 40 or 50 is displayed check components applicable to the particular bank that the misfire has occurred on:

- Spark plugs
- Ignition leads
- Distributor cap
- Injectors - if code 34 bank A or 36 bank B displayed

If both codes are displayed, check the following components common to both banks:

- Distributor cap
- Distributor rotor

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- Coil and its associated connections
- Distributor pick-up (air gap)
- Amplifier
- Injectors (if code 34 or 36 is displayed)

Code 58 - Group faults 23/28

This indicates that a fault has been registered that is caused by the fuel supply or an air leak but the exact fault cannot be identified.

Check all items outlined under codes 23 and 28.

Code 59 - Fuel thermistor

Refer to test 13 of the continuity test procedure.

Code 68 - Road speed sensor

refer to test 25 of continuity test procedure.

Code 69 Gearswitch

Refer to test 24 of continuity test procedure.

Code 88 - Purge valve leak

Refer to test 9 and 10 of the continuity test procedure.