



The ECM performs the following diagnostic checks to confirm correct knock sensor operation:

- KS signal level is less than the minimum threshold (dependent on engine speed) – the engine must be running, coolant temperature above 60°C (140°F), number of camshaft revolutions since start greater than 50 and the KS signal profile must be less than the threshold value at a given engine speed for a fault condition to be flagged
- KS signal is greater than the maximum threshold (dependent on engine speed) – the engine must be running, coolant temperature above 60°C (140°F), number of camshaft revolutions since start greater than 50 and the KS signal profile must be greater than the threshold value at a given engine speed for a fault condition to be flagged
- Error counter for verification of knock internal circuitry exceeded – the engine must be running, coolant temperature above 60°C (140°F), number of camshaft revolutions since start greater than 50 and the error counter greater than the threshold value at a given engine speed for a fault condition to be flagged

Should a malfunction of the component occur the following fault codes may be evident and can be retrieved by TestBook:

P Code	J2012 Description	Land Rover Description
P0327	Knock sensor 1 circuit low input (bank 1 or single sensor)	LH bank signal less than threshold determined from ECM model above 2200 rev/min
P0328	Knock sensor 1 circuit high input (bank 1 or single sensor)	LH bank signal greater than threshold determined from ECM model above 2200 rev/min
P0332	Knock sensor 2 circuit low input (bank 2)	RH bank signal less than threshold determined from ECM model above 2200 rev/min
P0333	Knock sensor 2 circuit high input (bank 2)	RH bank signal greater than threshold determined from ECM model above 2200 rev/min

### Spark plugs

The spark plugs are platinum tipped on both centre and earth electrodes. The platinum tips give a long maintenance free life.

Cleaning or resetting the spark plug gap is not recommended as this could result in damaging the platinum tips and thereby reducing reliability.

The misfire detection system will malfunction and store erroneous codes if the incorrect spark plugs are used.

### Input/Output

The ignition coils provide a voltage to the spark plugs via the ht leads. The cylinder head via the individual thread of each spark plug provides the earth path.

The spark plugs can fail in the following ways:

- Faulty component.
- Connector or wiring fault.
- Breakdown of high tension lead causing tracking to chassis earth.
- Incorrect spark plugs fitted.

In the event of a spark plug failure, misfire on specific cylinder may be observed: