

TECHNICAL BULLETIN



MODEL/DERIVATIVE:
**Discovery Series II
Defender**

Bulletin No: **0032**
CDS. ref: **L8710BU**
Issue: **1**
Date: **06.02.02**

AFFECTED RANGE:
All Td5 diesel derivatives

PROBLEM:

ENGINE MISFIRE

The engine may misfire and cut out at high revs/min, or misfire, then recover until the throttle pedal is depressed again. This is most likely to occur when the engine is warm or hot. The engine check light may also be illuminated.

CAUSE:

Crankshaft Position (CKP) Sensor is too close to the flywheel or the drive plate.

ACTION:

Where a complaint of the above is confirmed, refer to the diagnostic procedure below to identify the cause of the misfire. Connecting the vehicle to TestBook/T4 will identify any stored fault codes in the Engine Control Module (ECM).

- 1. Connect TestBook/T4 to the vehicle using the latest version of the Discovery Series II / Defender Diagnostic CD.**
- 2. Select Diagnostic System.**
- 3. Select model and 'Td5' (Defender) or 'Diesel Engine' (Discovery II).**
- 4. Check the ECM for misfire faults using 'Fault Code Diagnostics'. The following fault will be recorded when the CKP sensor is too close to the flywheel or the drive plate.**

- High-speed crank sync lost fault.**

The following faults may also be recorded.

- Noisy crank signal has been detected.**
- Injector faults.**
- Any injector faults may occur due to gaining and losing crankshaft synchronization.**

- 5. Note and clear logged fault codes.**
- 6. Disconnect TestBook/T4 from the vehicle.**

If fault 'High-speed crank sync lost fault' has been recorded follow the rectification procedure below.

1. Remove the Crankshaft Position (CKP) Sensor.

NOTE: *If a shim has already been fitted check the electrical connection to the CKP sensor. If problem persists replace the crankshaft sensor (refit the shim).*

Defender

- Refer to Workshop Manual, part number LRL0410 (2nd edition), Engine Management System, Sensor - Crankshaft Speed and Position (CKP), repair number 18.30.12.

Discovery

- Refer to Workshop Manual, part number VDR100090 (5th edition), Engine Management System - Td5, Sensor - Crankshaft (CKP), repair number 18.30.12.

2. Fit a shim, detailed in *PARTS INFORMATION*, between the CKP Sensor and the bell housing / automatic gearbox torque converter housing.

NOTE: *Do not fit more than one CKP Sensor shim.*

3. Refit the CKP Sensor.

CKP Sensor fault check procedure

Due to the nature of this fault it will only occur when the engine is warm and when revved towards the top end of the rev range.

4. Park the vehicle in a well ventilated area.

5. Fully apply the handbrake, select neutral (manual gearbox) or park (automatic gearbox).

6. Run the engine until normal operating temperature is reached then fully depress the throttle pedal and hold for 10 seconds.



WARNING: *Ensure that there is sufficient clearance around the front and rear of the vehicle and that no pedestrians are walking or standing around the vehicle during this operation.*

7. Road test vehicle, where safe to do so utilise the full rev range of the vehicle up to 3rd gear.



CAUTION: During the road test extreme caution must be applied while utilising the full rev range of the vehicle.

Local market road and traffic legislations must be adhered to at all times.

8. Connect TestBook/T4 to the vehicle using the latest version of the Discovery Series II / Defender Diagnostic CD.

9. Select Diagnostic System.

7. Check the ECM for misfire faults using 'Fault Code Diagnostics'.

8. If any injector faults are recorded, then a separate problem still exists. To obtain more information on the injector faults refer to the fault code explorer option in TestBook/T4.

PARTS INFORMATION:

NSJ000010 - Crankshaft Position Sensor shim

WARRANTY CLAIMS:

Use Complaint Code: 7E7A

Use S.R.O.: 18.90.89/30 - CKP Sensor shim- Includes Testbook/T4 diagnosis and road test.

Time allowance: 0.80 Hrs