TECHNICAL BULLETIN
LM206-001V2
16 FEB 2005

This reissue replaces all previous versions. Please destroy all previous versions. Only refer to the electronic version of this TSB in TOPIx.
This bulletin supersedes TSB LM206-001/2004 dated 08 OCT 2004, which should either be destroyed or clearly marked to show it is no longer valid (e.g. with a line across the page). Only refer to the electronic version of this TSB in TOPIx.

SECTION: 206-07 (Brakes - 70)

Range Rover (LM) - Water Ingress into ABS Modulator Connector

AFFECTED VEHICLE RANGE:

Range Rover (LM) **VIN:** **Up to 4A161678**

MARKETS:

All

CONDITION SUMMARY:

Situation:

The Anti-Lock Braking System/Hill Descent Control (ABS/HDC) warning light is intermittently displayed on the instrument pack.

This bulletin has been re-issued to include instructions for renewing additional connector terminals in the main ABS modulator connector, that may have become corroded due to the water ingress via the ground wire detailed in the original bulletin release. If water ingress has resulted in additional connector terminal corrosion, this can be rectified by renewing the ABS modulator connector and a short section of the vehicle wiring harness which is now available as a repair kit.

Cause: Water enters the ABS modulator connector via the ground wire and causes the warning light to be illuminated. The problem is more prevalent when the engine bay is hot. If not rectified, the water ingress can lead to connector terminal corrosion.

Action: Should a customer express concern regarding the above, refer to the relevant Service Procedure below.

PARTS:

YMQ500291	Ground lead only - repair kit	Quantity: 1
YMQ500292	ABS repair harness kit	Quantity: 1

WARRANTY:

NOTE: Repair procedures are under constant review, and therefore times are subject to change; those quoted here must be taken as guidance only. Always refer to TOPIx to obtain the latest repair time.

NOTE: DDW requires the use of causal part numbers. Labor only claims must show the causal part number with a quantity of zero.

DESCRIPTION	SRO	TIME	CONDITION CODE	CAUSAL PART
Renew the ABS control module ground wire	**70.65.89/40**	0.30 hours	84	YMD000662
Renew ABS modulator electrical connector	**70.65.89/45**	1.60 hours		

NOTE: Normal Warranty policies and procedures apply.

SERVICE PROCEDURE:

ABS Modulator Battery Ground Wire Repair

Follow the procedure below when renewing the ABS modulator ground wires only.

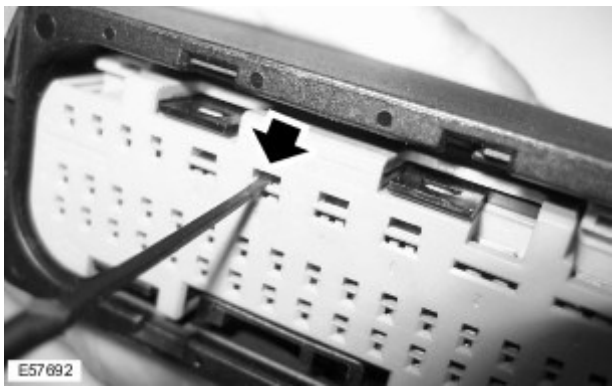
If evidence exists of corrosion on multiple connector terminals, refer to the second procedure below titled, ABS Modulator Connector/Short Harness Repair.

1. Disconnect the battery ground lead.
2. Disconnect the ABS modulator ground eyelet. For additional information, refer to Range Rover (LM) Electrical Library Workshop Manual Section Connector, C0362 (Earth-ABS).
3. Disconnect the ABS modulator connector. For additional information, refer to Range Rover (LM) Workshop Manual Section Brakes, ABS Electronic control unit (ECU) (70.65.01).
4. Release the two clips and remove the top cover of the modulator connector (left-hand clip indicated in illustration).

5. Slide back the two locking tabs, one at each end of the connector (indicated in illustration).

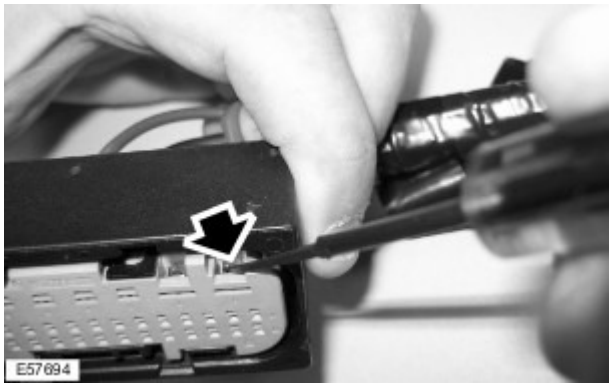
6. Remove the tape covering the ground lead back to the eyelet.

7. Remove the brown wire (2.5mm) from cavity 5 by releasing the securing tab using the tool from the harness repair kit.

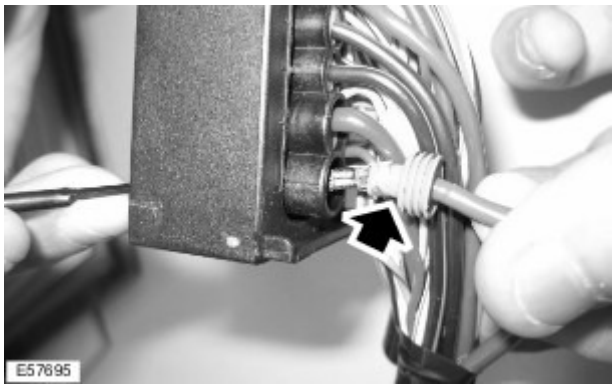


8. Release wire from connector.

9. Remove the 4mm brown wire from cavity 1, again releasing the securing tab.



10. Release wire from connector.



11. Remove the two ground wires from the harness.

12. Position the new ground wires to the harness.

13. Install the 4mm wire into cavity 1 and the 2.5mm wire into cavity 5.

14. Slide back the two end locking tabs.

15. Re-tape the harness.

16. Install the top cover.

17. Connect the ground eyelet and tighten to 7-9Nm (5-7lbf.ft).

18. Secure the connector to the ABS modulator.

19. Connect the battery ground lead.

20. Using T4, clear any stored fault codes.

21. Ensure that the ABS/HDC warning light is no longer illuminated.

SERVICE PROCEDURE:

ABS Modulator Connector/Short Harness Repair

Follow this procedure if evidence exists of corrosion on multiple connector terminals. A repair kit is available which includes a replacement ABS modulator connector with a short wiring harness section. In cases where multiple terminal corrosion is evident, also check for corrosion of the modulator terminals and clean or renew if necessary.

1. Disconnect the battery ground lead.

2. Disconnect the ABS modulator ground eyelet. For additional information, refer to Range Rover (LM) Electrical Library Workshop Manual Section Connector, C0362 (Earth-ABS).

3. Disconnect the ABS modulator connector. For additional information, refer to Range Rover (LM) Workshop Manual Section Brakes, ABS Electronic control unit (ECU) (70.65.01).

4. Release the two clips and remove the top cover of the modulator connector (left-hand clip indicated in illustration).

5. Slide back the two locking tabs, one at each end of the connector (indicated in illustration).

6. Expose the wires of the main ABS connector harness by carefully removing the harness tape from the ABS branch, to 100mm past the ground wire breakout point.

7. Expose the wires of the new short harness section by carefully removing the harness tape 100mm past the ground wire breakout point.

8. Overlay the new harness section on to the vehicle ABS harness to gauge the overall installation length.

9. Cut one of the affected wires (not the ground wires renewed above) of the vehicle harness, at the point determined in step 8.

10. Remove the wire insulation on both the vehicle harness and the new harness section to expose the wire conductor.

11. **CAUTION: Ensure the wire color on new harness section and vehicle harness is the same.**

Join the harness section wire to the vehicle harness wire, using the crimp joints and crimping tool from the harness repair kit.

12. **CAUTION: Care must be taken to stagger the wire joints over 200mm (100mm before the ground wire breakout ground point, and 100mm past the ground wire breakout point). The wires to be crimped together from the new harness section to the vehicle harness, must match color to color**

Repeat steps 8 to 11 for all of the wires, and discard the connector removed from the vehicle harness.

13. Fully insulate the vehicle wiring harness using suitable wiring repair tape, covering the new crimped joints.

14. Connect the ground eyelet and tighten to 7-9Nm (5-7lbf.ft).

15. Secure the connector to the ABS modulator.

16. Connect the battery ground lead.

17. Using T4, clear any stored fault codes.

18. Ensure that the ABS/HDC warning light is no longer illuminated.