

TRUCK, LIGHTWEIGHT AND TRUCK, LIGHT – ALL TYPES LAND ROVER 110 4X4 AND 6X6

REPLACEMENT OF 24 V POWER DISTRIBUTION BOX CABLES BETWEEN GENERATOR INPUT PLUG AND BATTERY CONNECTIONS

MODIFICATION INSTRUCTION

This instruction is authorised for use by command of the Chief of Army. It provides direction, mandatory controls and procedures for the operation, maintenance and support of equipment. Personnel are to carry out any action required by this instruction in accordance with EMEI General A 001.

Introduction

1. This instruction details the procedure for the replacement of conductors between the generator-input connector and the battery connections inside the Power Distribution Box, which is fitted to all Land Rover 110 4x4 and 6x6 FFR variants.
2. The procedure is required to prevent an overload and burning out of conductors when connected to a 1.3 kW generator set and fully loaded.
3. Issue 2 has been published to correct the manufacturer's part number of the solderless lug (Table 1, Item 3) and to include its NSN. All other aspects remain unchanged.
4. **Associated Publications.** Reference may be necessary to the latest issue of the following documents:
 - a. Technical Regulation of Army Materiel Manual (TRAMM) (available from DTR-A website <http://intranet.defence.gov.au/armyweb/Sites/DTRA>);
 - b. TRAMM, Volume 3, Section 2, Chapter 2, Fleet Engineering Change Management Process;
 - c. Defence Supply Chain Manual (DSCM), Volume 4, Section 3 – Supply Management Processes, Stores Accounting General (DSCM website <http://dknln009.car.defence.gov.au/dscm/index.htm>); and
 - d. DSCM, Volume 6 – Manage Repairable Items.
5. **Authority.** Engineering Change Order (ECO) LR110:0008 – Rewiring of Power Distribution Box is the authority to carry out this modification.

General

6. **Modification Application.** This modification is to be applied to the Power Distribution Box (NSN 6110-66-099-7245). This modification replaces the existing generator input conductors with heavier ones.
7. **Priority – Group 1.** All applicable equipment is to be modified prior to further use.

WARNING

The distribution box presents a fire hazard if used with the 1.3 kW generator. Operation of the power distribution box prior to modification may result in injury.

NOTE

Where modification would delay priority issues of depot or pool stock, equipment may be issued unmodified providing the equipment record book is endorsed appropriately.

8. Action Required. Actions detailed in this instruction are to be performed by RAEME workshops authorised to carry out Light, Medium or Heavy Grade repairs.

NOTE

On receipt of this instruction, enter all relevant information other than date completed in Part 3 (Record of Modifications) of the vehicle Record Book for Service Equipment (GM 120).

9. Estimated Workhours. For initial planning purposes only, it is estimated that this modification will take 1.0 workhour to perform.

10. Stores Required. The stores required are listed in Table 1. All stores required are to be purchased using DUF or demanded through normal supply channels.

Detail

11. Modification of Power Distribution Box. The procedure is as follows:

- a. Switch off the master switch on the power distribution box and disconnect all electrical outlet plugs (not applicable for stock/spare holdings).
- b. Disconnect all batteries attached to the power distribution box in accordance with appropriate EMEI for the type of equipment (not applicable for stock/spare holdings).
- c. Remove the six screws securing the front and hinged top section from the power distribution box, then withdraw the front panel from the box to allow terminals to be exposed.
- d. Disconnect two conductors leading to the 'Ext. Gen. In connector': a black wire – from the negative terminal strip and a red wire – from the Fuse F1 by unscrewing appropriate nuts. Remove the cable tie.
- e. Remove the four screws holding the 'Ext. Gen. In connector' to the front panel and remove the connector with associated conductors from the panel.
- f. Unsolder the conductors from the connector.
- g. Using the existing conductors as a guide, cut the appropriate lengths of the new wires (Table 1, Items 1 and 2).
- h. Prepare one end of each conductor for termination with lug (Table 1, Item 3). Crimp the lugs with appropriate tool and apply heat shrink (Table 1, Item 4).
- i. Prepare the other end of each conductor for soldering. Solder conductors to 'Ext. Gen. In connector', as follows: a red wire to terminal A and a black wire to terminal B. Apply heat shrink (Table 1, Item 4).
- j. Refit the 'Ext. Gen. In connector' into the front panel.
- k. Reconnect cables to the appropriate terminals. The red wire from terminal A of the 'Ext. Gen. In connector' is terminated to Fuse 1 and the black wire from terminal B of the 'Ext Gen In connector' is terminated to the negative terminal strip. Install a cable tie (Table 1, Item 5).
- l. Reinstall the front panel to the power distribution box.
- m. Reconnect all batteries in accordance with appropriate EMEI (not applicable for stock/spare holdings).
- n. Reconnect all electrical outlet plugs and switch on the master switch (not applicable for stock/spare holdings).
- o. Using a multimeter, confirm correct polarity at the 'Ext. Gen. In connector', positive at Pin A and negative at Pin B.

12. Recording Action. On completion of the modification, the following action is to be taken:

- a. Deface number 1 on the power distribution box modification record plate, which is located under the lid of the power distribution box.
- b. Complete the modification details in Part 3 of the GM 120, Record Book for Service Equipment, for the subject vehicles.

- c. If modification plate is not fitted, fit a new plate NSN 9905-66-016-3534 - Plate, Modification Record, Aluminium, to the underside of the power distribution box lid.

13. Reporting Action. On completion of the modification, the following action is to be taken in accordance with TRAMM, Volume 3, Section 2, Chapter 2, Annex D. A list of the vehicles modified by ARN can be attached to a single GM 119.

14. The GM 119 is to be forwarded to:

Land Vehicles SPO
Attn: National Fleet Manager
Light B Vehicles
Victoria Barracks, St Kilda Road
SOUTHBANK VIC 3006

Table 1 Stores Required

Item	NSN	Manufacturer	Mfr Part No	Designation or Description	Unit of Issue	Qty per Equip
1	NIC	Bambach AF (Tel: 1800 060 476)	29810RD	10 mm ² (77/0.4 or 140/0.3) Flexible Conductor, Tinned Copper, V90HT PVC, Red	m	0.25
2	NIC	Bambach AF (Tel: 1800 060 476)	29810BK	10 mm ² (77/0.4 or 140/0.3) Flexible Conductor, Tinned Copper, V90HT PVC, Black	m	0.25
3	66-112-0018	Utilux (Tel: 02 9554 2666)	H1406L	10 mm ² Solderless Lug for M6 Stud	ea	2
4	NIC	Raychem (Tel: 02 9840 8242)	RNF-100	12 mm Heat Shrink, White	m	as required
5	NIC			Cable tie	ea	1
Note: Items 1 to 5 or their equivalents are available from local suppliers.						

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END

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