

ELECTRICAL AND MECHANICAL
ENGINEERING INSTRUCTIONS

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TRUCK, LIGHTWEIGHT, MC2, LAND ROVER 110 4X4 - ALL TYPES NOT FITTED
WITH SNORKEL

TRUCK, LIGHT, MC2, LAND ROVER 110 6X6 - ALL TYPES NOT FITTED WITH
SNORKEL

REPOSITIONING OF THE AIR INLET HOSE AND REAR AXLE BREATHER

MODIFICATION INSTRUCTION

This instruction is authorised for use by command of the Chief of the General Staff. 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. A number of instances of engine failure have occurred to Land Rover 110 4x4 and 6x6 variants, not fitted with a snorkel. The main cause has been water ingress during fording. In addition, the breather on the rear differential is located on the under side of the cargo tray floor and allows water into the differential. This instruction details a number of procedures to reduce the water ingress into the engine and rear differential during fording.

2. The air inlet hose opening is being repositioned, on variants without a snorkel, to point the opening towards the rear of the vehicle, to reduce the possibility of water ingress. Depth indicators are being painted on the fuel tank to remind operators of the unprepared fording height of 500 mm, when a snorkel is not fitted to the vehicle. The rear differential breather is being lengthened, on Land Rover 110 4x4 variants not fitted with a snorkel in production only, to reposition the breather vent opening near the air cleaner to prevent the ingress of water into the differential during fording.

3. The repositioning of the air inlet opening and the rework of the rear differential breather is not applicable to variants fitted with a snorkel in production. Variants with a snorkel fitted have an unprepared fording depth of 1000 mm which is the height of the side indicator on the mudguard. A longer rear differential breather is also fitted as a standard item. Any vehicles with a snorkel applique kit fitted IAW EMEI Vehicle G 185-1, or as an approved local modification IAW WORKSHOP A 850, are to have only the differential breather actioned.

General

4. **Associated Publications.** The latest issue of the following references should be read in conjunction with this instruction:

- a. EMEI Workshop A 850 - Modifications, Trial Modifications and Local Modifications to Equipment;
- b. EMEI Workshop A 851 - Modifications to Equipment - Use of Modification Record Plates and Documentary Requirements;
- c. EMEI Vehicle G 185-1 - Land Rover 110 4x4 and 6x6, Procedure to fit Snorkel Applique Kit; and
- d. EMEI Vehicle G 185-2 - Land Rover 4x4 and 6x6, Application of Rust Preventative Solution.

5. **Authority.** Rover Australia Engineering Change 2267 is the authority to carry out this modification.

6. **Modification Application.** The modification is applicable, as follows:

- a. relocation of air inlet hose - all Land Rover 110 4x4 and 6x6, except those detailed in Para 3;
- b. extension of rear axle breather - all Land Rover 110 4x4, except those detailed in Para 3; and
- c. fording height marker on fuel tank - all Land Rover 110 4x4 and 6x6, except those detailed in Para 3.

7. **Items Affected.** Air inlet hose, rear axle breather, fuel tank and front mudguards are the items affected.

8. **Priority - Group 2.** All applicable equipment should be modified:

- a. when next in workshops for repair,
- b. at the next service, or
- c. prior to issue from depot or pool stock.

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NOTE

Where modification would delay priority issues of depots or pool stock, equipment may be issued unmodified providing the Record Book for Service Equipment (GM 120) is endorsed appropriately.

9. **Action Required.** Actions detailed in this instruction are to be performed by units or sub units authorised to carry out unit, field or base repairs.

10. **Estimated Manhours to Perform.** For initial planning purposes only, it is estimated that this modification will take 1.30 manhours to perform.

11. **Stores Required.** The stores required are listed in Table 1. All stores are to be demanded through normal supply channels. The air inlet hose is to be ordered on an as required basis if the hose is found to be damaged when inspected. The breather hose section has been centrally procured in precut sections for all Land Rover 110 4x4 variants and is not to be procured locally.

MODIFICATION DETAIL

Repositioning of the Air Inlet Hose (Land Rover 110 4x4 and 6x6)

12. Reposition the air inlet hose opening on Land Rover 110 4x4 and 6x6 variants not fitted with snorkel, as follows:

- a. Remove the air inlet hose from the vehicle, check the hose for damage and if necessary order a new hose (Item 1, Table 1).
- b. Refit the hose, as shown in Figure 1, so that the hose opening points to the rear of the vehicle and the hose does not chafe on other pipes, cables, hoses or objects able to damage the inlet hose.

- c. Refit the hose mounting clamp to the mudguard using the original mounting hole and mounting bolt.

Land Rover 4x4 Rear Axle Breather Rework

13. Rework the Land Rover 4x4 rear axle breather as follows, with reference to Figure 2:

- a. Remove the rear axle breather from the vehicle.
- b. Cut the hook end from the existing breather approximately 100 mm from the hook.
- c. Immerse one end of the breather section (Item 2, Table 1) in hot water to soften the section and force the hook end (previously cut off) approximately 1.5 cm into the breather section.
- d. Immerse the other end of the breather section in hot water and force the remaining breather hose section approximately 1.5 cm into the breather section.
- e. Route the breather along the left arm of the rear upper link, the chassis rail and body toe box. Position the hook end adjacent to the air cleaner and secure in the clamp holding the other breathers.
- f. Secure the breather in three places along the chassis utilising cable ties (Item 3, Table 1).

Table 1 - Stores Required To Complete The Modification

Item	NSN	Mfr Part No	Description	Unit of Issue	Qty per Equip
1	4720-66-128-4498 ✓ DK1566 DK30 4x4	MYH5322	Hose Air Inlet 4x4 and 6x6 variants (order only if damaged)	ea	1 (as required)
2	4720-66-128-6925	85100	Breather, Hose Section Precut, Rear differential	ea	1
3	5975-00-111-3208	SBF21-C	Cable Tie	ea	3
4		-	Paint, Enamel, Semi Gloss, Brown		
a	8010-66-019-8601		1 Litre Can	ea	As required
b	8010-66-019-8602		4 Litre Can	ea	As required

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Depth Markers

14. Figure 3 shows the location of the depth marker. Using the stencil shown in Figure 4, paint the message "WITHOUT SNORKEL UNPREPARED 500 MM FORDING HEIGHT" on the fuel tank in brown paint (Item 4, Table 1).

15. **Recording Action.** On completion of the modification:

- a. deface the number 26 on the modification plate located on the drivers seat base on Land Rover 110 4x4 and 6x6 variants; and
- b. enter the details of the modification in Part Three of the GM 120, Record Book for Service Equipment.

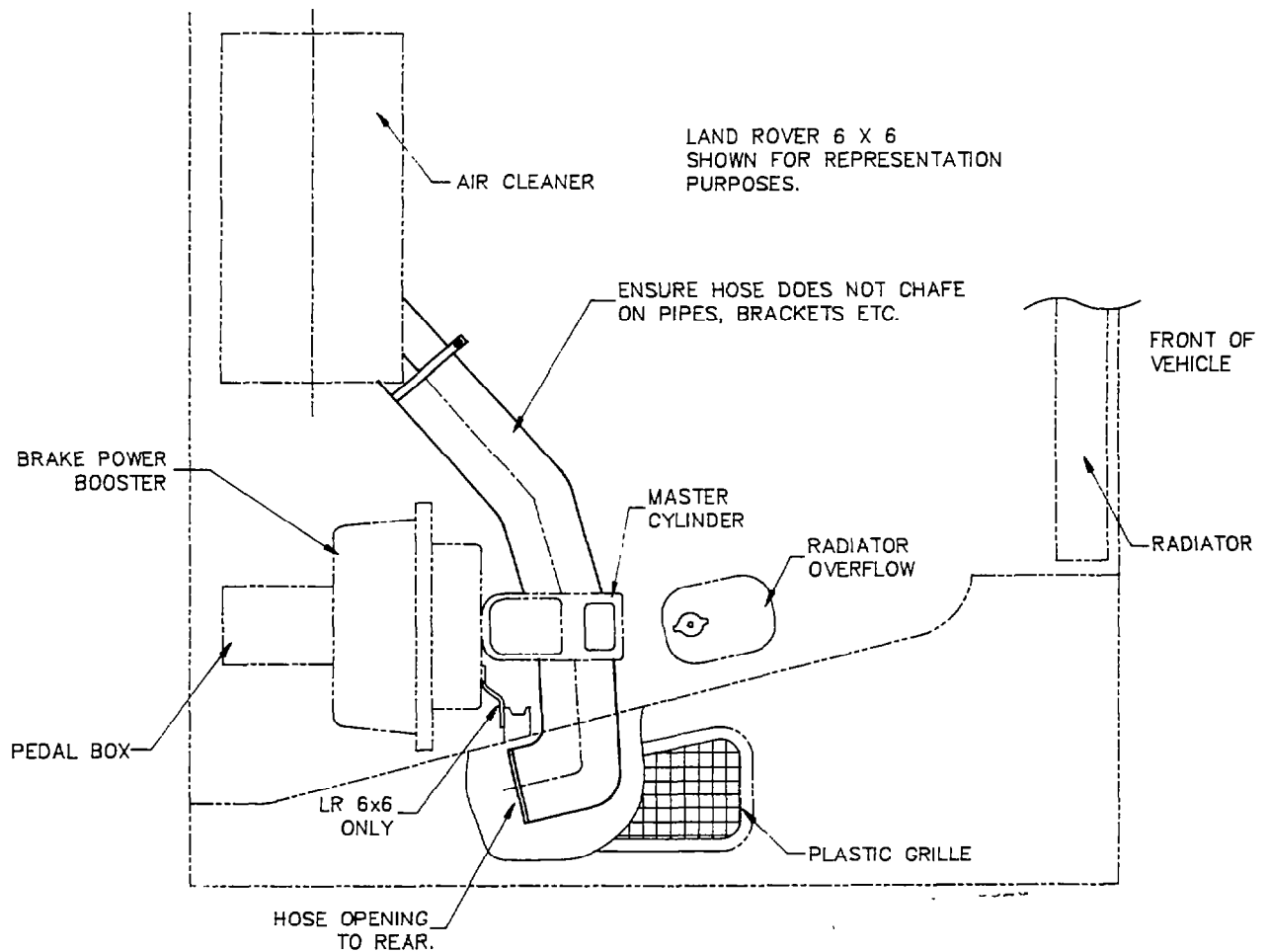


Figure 1 - Relocation of Air Inlet Hose

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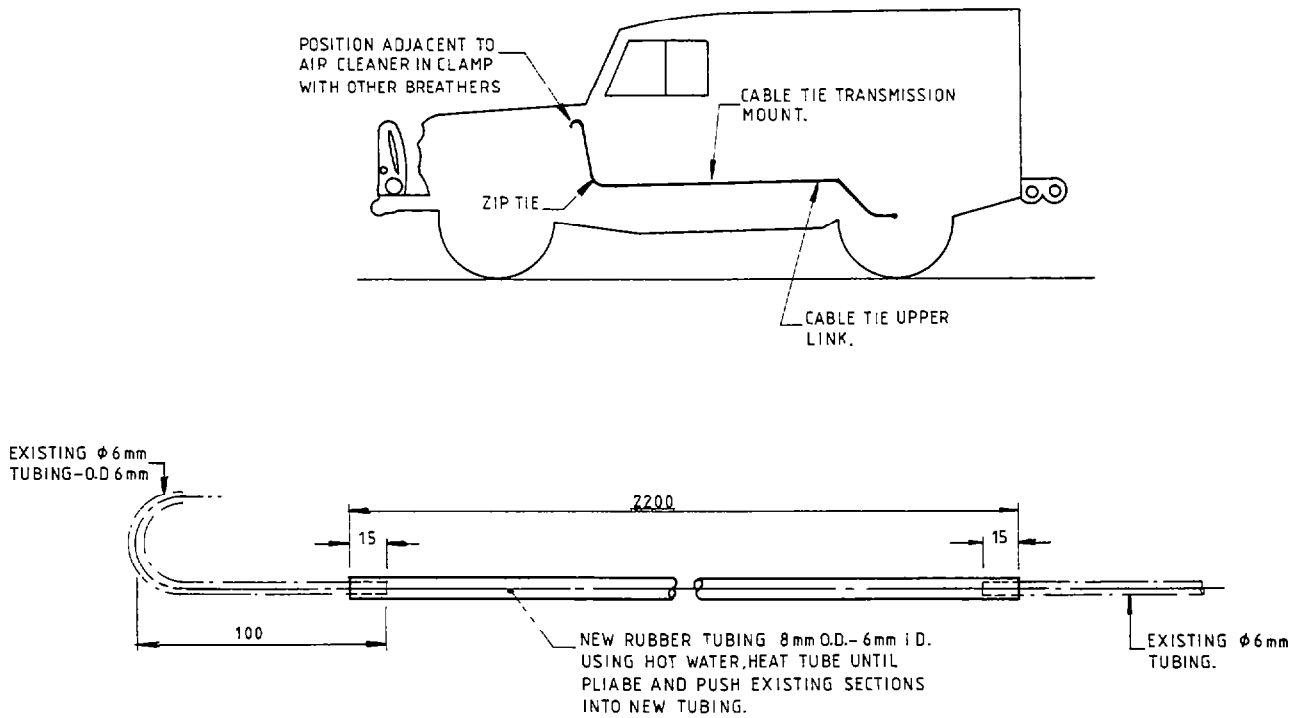


Figure 2 - Fitting of Rear Axle Breather Section

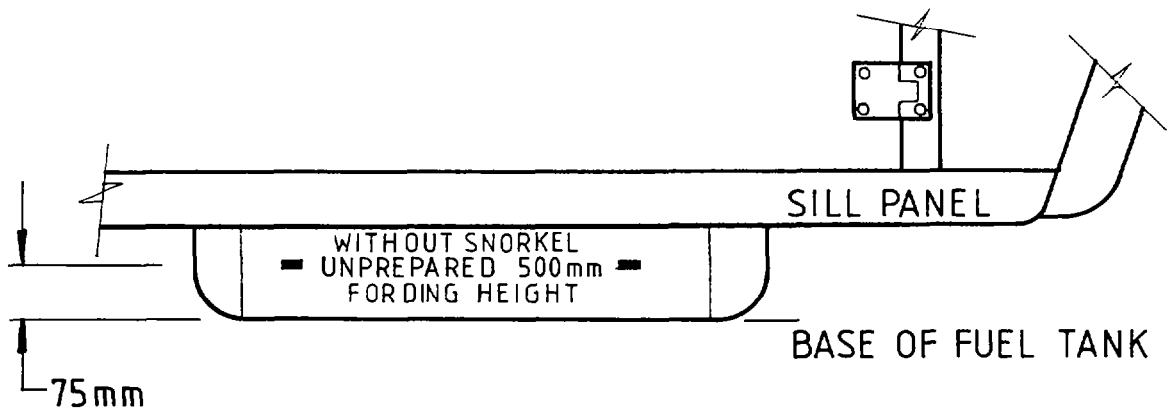
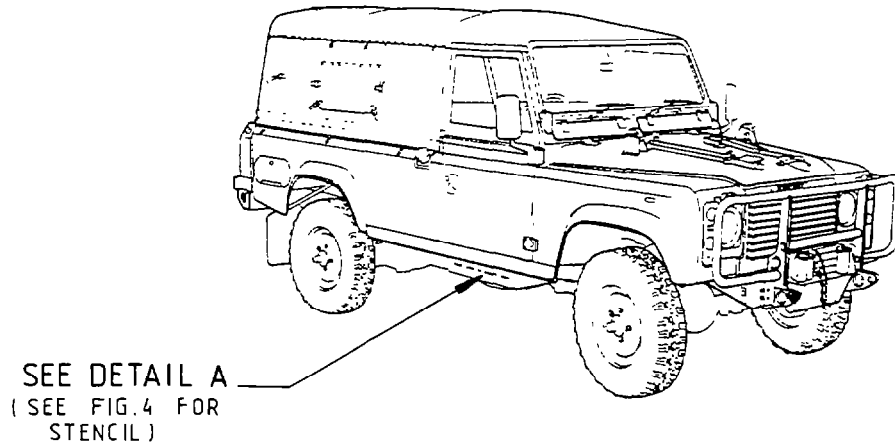
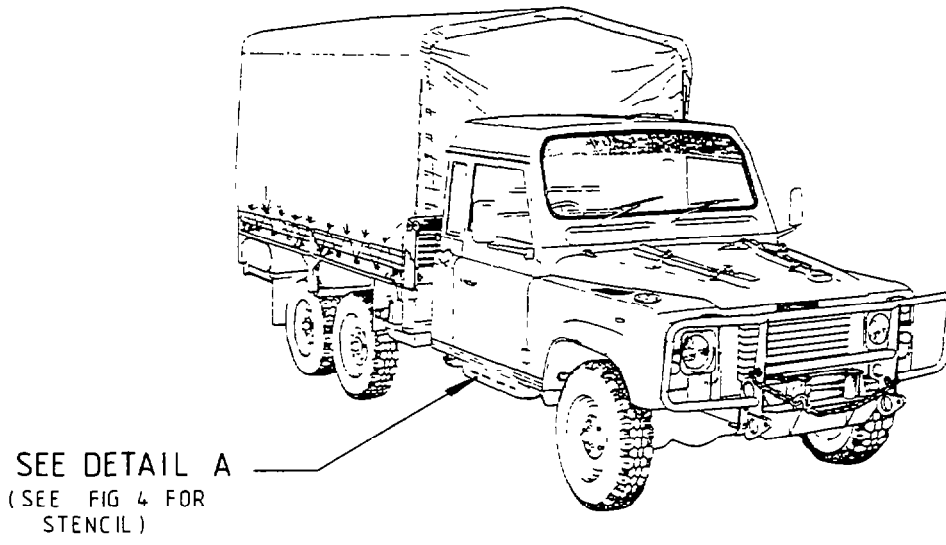


Figure 3 - Unprepared Fording Height and Depth Indicator Stencil Location

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Figure 4 - Unprepared Fording Depth Stencil