

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

PROCEDURE TO FIT SNORKEL APPLIQUE KIT

PREPARATION FOR SPECIAL PURPOSE

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 to fit a snorkel applique kit to Land Rover 4X4 and 6X6 variants. This is not a modification and fleet retrofit action is not required. The purpose of the kits is to increase the vehicle's capability for unprepared fording in excess of 500 mm water depth during normal and repeated operations.

NOTE

The kits are only to be fitted after approval is granted in writing by the National Fleet Manager (NFM), LV SPO Light B Vehicles.

Associated Publications

2. The latest issue of the following documents should be read in conjunction with this instruction:
- a. [EMEI Vehicle G 185-2](#), Land Rover 4X4 and 6X6, Application of Rust Preventive Solution;
 - b. [EMEI Vehicle G 187-9](#), Land Rover 4X4 and 6X6, Repositioning of Air Inlet Hose and Rear Axle Breather; and
 - c. [EMEI Vehicle 187-7](#), Land Rover 4X4 and 6X6, Air Cleaner Bracket Mounting.

DETAIL

3. **Authority.** The fitting of snorkels to variants other than those fitted in production is not to be actioned without the written approval of the NFM.
4. **Application.** The applique kit is to be used on all approved Land Rover 110 4X4 and 6X6 variants not fitted in production with a standard snorkel.
5. **Items Affected.** Items affected are the air inlet system and mudguards.
6. **Action Required.** The kit is only to be fitted by units authorised to carry out Light, Medium or Heavy Grade Repairs after written approval is granted by the NFM to the owner unit.
7. **Authorised Personnel.** ECN 226 or civilian equivalents are authorised to fit the applique kit.
8. **Estimated Manhours to Perform.** For initial planning purposes only, it is estimated that the fitting of the applique kit will take 2.0 manhours to complete.
9. **Stores Required.** The stores required are listed in Table 1 for all variants. The end cap and air filter elements (Items 2, 3 and 4) are only required if the ones currently fitted to the vehicle are classified **Do Not Use - XX**. The items shown in Table 2 are contained in the snorkel kit and are not to be ordered separately.
10. **Special Tools.** The Riveter, Bind, Rivnut, NSN 5120-00-224-9296, may be required.
11. **Items to be Removed.** Items to be removed are detailed in Table 3. **Fully Functional** items removed from the air inlet system are to be tagged with the vehicle's ARN, quoting this instruction as reference. Items are to be retained by the owner unit, in the event the applique kit is required to be removed and returned on direction from the NFM.

Table 1 Stores Required

Item	NSN	Mfr Part No	Description	Qty per Equip
1	2590-66-139-0075	HYM592	Snorkel Kit, Land Rover 110 4X4 and 6X6	1
2	-	HYL8815	Cover and Nut Assembly (Air Cleaner End Cap) ¹	1
3	2940-66-128-4284	AYG2623	Filter Element, Air Cleaner, Inner ¹	1
4	2940-66-128-5576	AYG2825	Filter Element, Air Cleaner ¹	1

¹ Order only if unserviceable

Table 2 Stores Contained in Snorkel Kit

Item	NSN	Mfr Part No	Description	Qty per Equip
1	-	MYH3684	O ring, Air Cleaner	1
2	-	MYH3514	Drain Plug Assembly, Vacuator	1
3	-	BYG2039	Vacuator	1
4	-	RJ612313	Rivet	2
5	4730-99-533-2970	CJ600564	Clamp Hose	4
6	4720-66-128-6131	BYG2060	Hose, Vacuator	1
7	2590-66-128-6275	BYG2029	Snorkel, Air Inlet	1
8	5330-66-128-6278	BYG2036	Gasket, Snorkel Air Inlet	1
9	2590-66-128-6276	BYG2030	Screen, Snorkel Air Inlet	1
10	5310-66-128-6277	MM105301	Rivnut, 5 mm	4
11	-	BYG2110	Tube, Air Inlet	1
12	5330-66-128-6130	BYG2043	Gasket, Air Inlet Tube	2
13	4720-66-128-6129	MYH3551	Hose Air Inlet	1
14	-	BYG2125	Strap Air Inlet Hose	1
15	5340-99-618-3776	MYH1940	Strap, Line Supporting	1
16	5305-99-135-0429	SE105121L	Screw, 5 mm diameter, 12 mm long	7
17	5305-99-135-0430	SE105161L	Screw, 5 mm diameter, 16 mm long	6
18	5305-66-128-4766	SE105201L	Screw, 5 mm diameter, 20 mm long	4
19	5310-99-122-5294	NH105041L	Nut, 5 mm diameter	13
20	5310-99-122-3032	WA105001L	Washer Flat, 5 mm diameter	4
21	5310-99-977-1102	WL105001L	Washer Lock, 5 mm diameter	17
22	5310-99-122-3032	WC105001L	Washer, Flat, 5 mm diameter	13

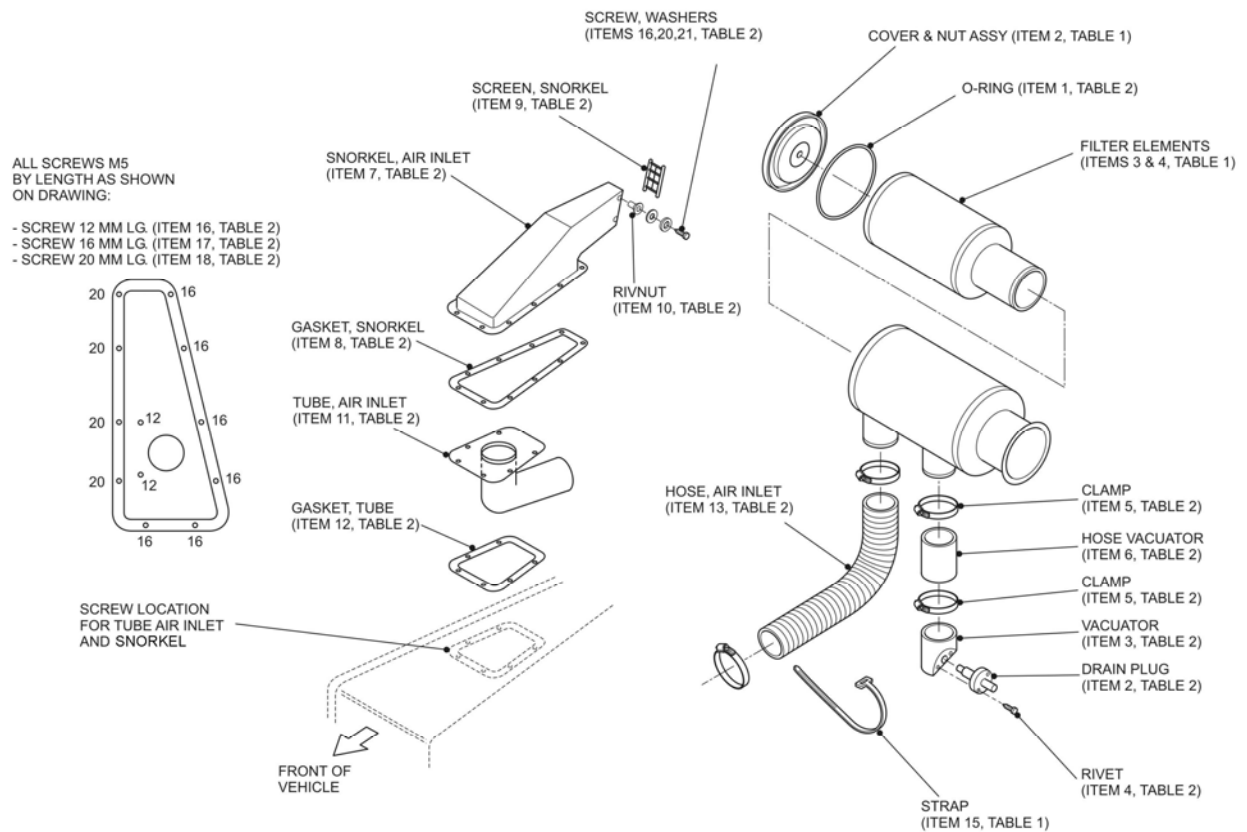
Table 3 Items to be Removed

Item	NSN	Mfr Part No	Description	Qty per Equip
1	2540-99-771-6981	AWR2214	Finisher, Grille, Plastic	1
2	2940-66-139-1990	AYG2767	Mounting Assembly, Air Cleaner Inlet	1

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Procedure to Fit the Snorkel

12. Fit the snorkel kit as follows (Figure 1 details component location and Table 2 provides item description):
 - a. Remove the bonnet.
 - b. Remove the radiator expansion tank and support.
 - c. Remove the plastic grate fitted over the air inlet, on the driver's side mudguard.
 - d. Remove the air cleaner and inlet hose assembly from the vehicle.
 - e. Remove the air cleaner end cap and rubber dust evacuator from the air cleaner.
 - f. Inspect the end cap and air cleaner. Order new items (Table 1, Items 2, 3 and 4) if required.
 - g. Fit the filter elements; wide section o-ring (Item 1) and a **Fully Functional** end cap to the air cleaner.
 - h. Fit the vacuator drain plug (Item 2) to the vacuator (Item 3), using two rivets (Item 4).
 - i. Fit the hose clamps (Item 5) and vacuator hose (Item 6) to the vacuator and air cleaner then tighten the hose clamps.



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Figure 1 Fitting of the Snorkel

- j. Modify the air cleaner mounting brackets, as detailed in EMEI Vehicle G 187-7.
- k. Fit the snorkel air inlet (Item 7) to the driver's side mudguard and loosely secure it using two 16 mm long screws and nuts (Items 17 and 19) in two of the inboard mounting holes for the original plastic grill.
- l. Using the air inlet as a template, mark the position of the remaining snorkel mounting holes on the driver's side mudguard.

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Ensure that damage is not caused to any items under the guard.

- m. Remove the air inlet and drill 10 mm holes in the positions marked on the mudguard.
- n. Fit the rivnuts (Item 10) to the snorkel.
- o. Fit the screen (Item 9) to the snorkel using 12 mm long screws, flat and lock washers (Items 16, 20 and 21).
- p. Clean the surface of the mudguard.
- q. Remove the backing from the air inlet tube gasket (Item 12) and attach it to the underside of the air inlet tube (Item 11).
- r. Apply a bead of sealant and fit the air inlet tube and gasket to the topside of the driver's mudguard using two 12 mm long screws, nuts, flat and lock washers (Items 16, 19, 21 and 22) in the outboard mounting holes.
- s. Tighten the mounting screws.
- t. Remove the backing from the snorkel air inlet gasket (Item 8) and attach the gasket to the underside of the air inlet.
- u. Apply a bead of sealant and fit the snorkel and gasket to the top of the mudguard using screws, flat and lock washers and nuts (Items 17, 18, 19, 21 and 22).
- v. Progressively tighten the mounting screws.



Ensure the air inlet hose is routed to clear pipes and fixtures likely to chafe and damage the inlet tube.

- w. Fit two clamps (Item 5) over the air inlet hose (Item 13).
- x. Fit the air inlet hose (Item 13) to the air cleaner.
- y. Refit the air cleaner assembly to the vehicle.
- z. **4X4 Variant.** Fit the securing strap (Item 14) to the air inlet hose and attach it to the inlet manifold (Figure 2).
- aa. **6X6 Variant.** Fit the securing strap (Item 14) to the inlet hose and secure it to the battery hold-down clamp screws (Figure 3).
- bb. Fit the air cleaner hose and hose strap (Item 15) to the snorkel inlet tube and tighten the clamps.
- cc. Clean off excess sealant and check all clamps and the mounting on the air inlet system for security.
- dd. Refit the radiator expansion tank and support.
- ee. Remove the headlights, seal them as shown in Figure 4, then refit the headlights to the vehicle.

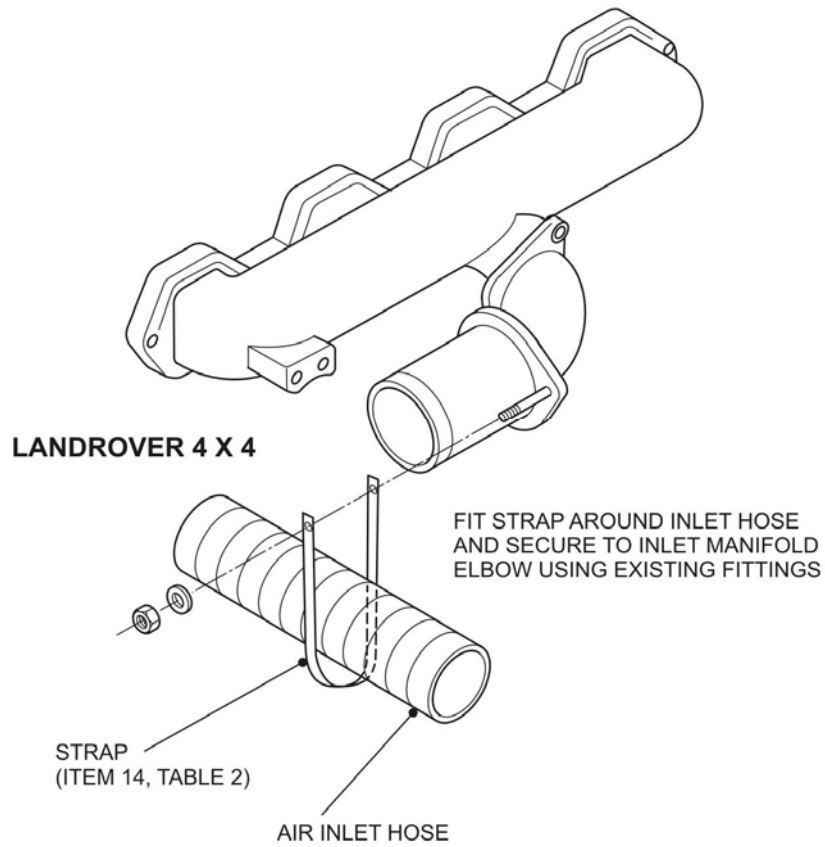


Figure 2 Air Inlet Hose Clamp (4X4)

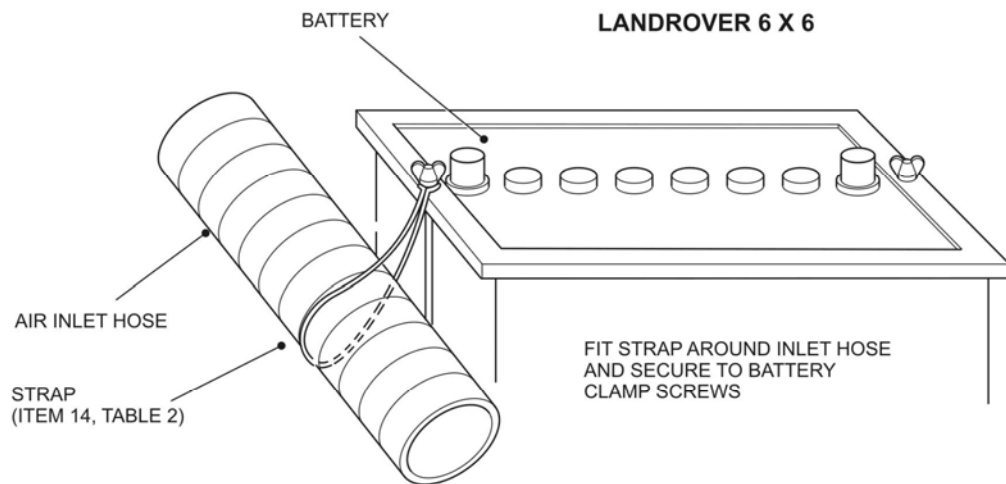


Figure 3 Air Inlet Hose Clamp (6X6)

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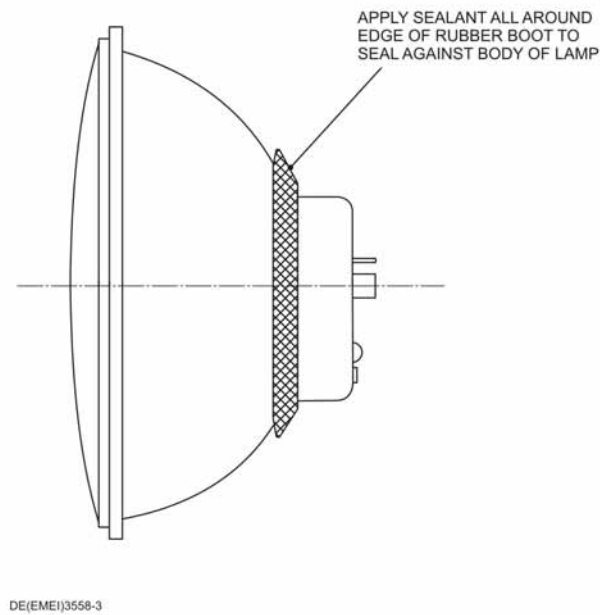


Figure 4 Headlight Fitting

Associated Tasks

13. Treat the vehicle's underbody and electrical components, in accordance with EMEI Vehicle G 185-2.
14. Ensure that the differential breather has been extended and depth indicators painted on the fuel tank, in accordance with EMEI Vehicle G 187-9.
15. **Recording Actions.** On completion of this instruction, enter all details in part three of the GM 120 (Record Book for Service Equipment).

END

Distribution List: **VEH G 16.0 – Code 2** (Maint Level)
(Sponsor: LV SPO Light B Vehicles)
(Authority: TRAMM)