

**TRUCK, AMBULANCE, LIGHT, 4 LITTER, FFR, WINCH, MC2 - LAND ROVER 110 6X6
INSTALLATION AND REMOVAL OF THE VHF RADIO COMMUNICATION EQUIPMENT INSTALLATION
KIT**

MISCELLANEOUS 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.

GENERAL

Introduction

1. This instruction details the installation of VHF radio communication equipment installation kit to be fitted to the Land Rover ambulance vehicle.

Associated Publications

2. Reference may be necessary to the latest issue of the following documents:
- a. Defence Supply chain Manual (DSCM);
 - b. Technical Regulation of Army Materiel Management (TRAMM) Vol 3, Sect 2, Chap 2; and
 - c. Raven B Vehicle User Handbook.

Installation Application

3. The installation instruction is to be applied to selected Land Rover ambulance variants, as nominated by AHQ.

Actions Required

4. Actions detailed in this instruction are to be performed by RAEME workshops (or unit tradespersons) authorised to carry out Light, Medium or Heavy Grade Repairs (ECN 421).

Estimated Manhours

5. It is estimated that this installation will take four manhours to complete.

Stores Required

6. Table 1 lists the stores required to complete the installation. All stores are to be demanded through the normal supply channels.

Table 1 Stores Required

Serial	NSN	Mfr Part No	Description	Qty Per Kit	Qty Per Equip
1	5985-66-126-7492	686/1/04415	Antenna, VHF, Vehicle, AS-F202	1	1
2	5820-66-126-6615	418/5/52560	Installation Kit, Elec Equip, B Veh, VHF Low Power Station	1	1
3	5963-66-126-7533	605/1/12830	Regulator Voltage Power Supply, CN-F300	1	1
4	7610-66-133-5220	640/HB/27026	Tech Manual B Veh Installation, User Handbook	1	1
5	7610-66-130-4109	640/HB/28188	Tech Manual VHF Veh and Ground Stations, User Handbook	1	1
6	5340-66-139-0187	MX-F232	Hardware Kit, Electrical Equipment		1
7	5340-66-134-8047	MX-F306	Hardware Kit, Electrical Equipment		1

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- 7. The following additional items are required to make the vehicle installation operational:
 - a. NSN 5820-66-126-7541, Receiver – Transmitter Radio, VHF RT-F200 or ASKY/RT-F500; and
 - b. NSN 5965-01-520-4944, Handset, General Purpose, H-F500.

Items to be Removed

- 8. Table 2 lists the items to be removed.

NOTE

Item 1 in Table 2 is to be discarded. Item 2 in Table 2 is to be returned via normal supply channels.

Table 2 Items To Be Removed

Serial	NSN	Mfr Part No	Description	Qty Per Equip
1	NIC	HYG4157	Mounting Brackets for AN/VRC 46–AN/VRC 160	1
2	5985-00-985-9024	SM-D-542001	Antenna AS-1729	1

Standard Job

- 9. Standard job 007209 has been raised in MMM and is to be used.

DETAIL

Installation

- 10. The installation procedure for the radio equipment is as follows:
 - a. Ensure the vehicle power distribution panel (PDP) circuit breaker, behind the passenger side seat, is in the OFF position (Figure 1).



Figure 1 Power Distribution Panel Circuit Breaker

- b. If fitted, remove the centre seat from the cabin by removing the four bolts holding the seat rails to the cabin floor. Withdraw the seat from the cabin, taking care not to damage the upholstery on the remaining seats.

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- c.** If fitted, remove the existing mounting tray for the AN/VRC-46 by removing the remaining two mounting bolts.
- d.** If installing the mounting base, remove the two M4.5 x 40 bolts from the rear cabin wall.
- e.** Use the four M4.5 x 40 bolts from the Hardware Kit, MX-F232 (Table 1, Item 6), to secure the Mounting Base, Electrical Equipment, MT-F201 to the rear cabin wall in place of the AN/VRC-46 mounting tray.

NOTE

The two bottom bolts may require nuts, and may have to be shortened by 6mm, depending on the position of the floor bracket and whether rivnuts are fitted or not.

- f.** Move the driver's seat fully forward and tilt the seat-back forward.
- g.** Remove the two M8 x 20 bolts and if fitted, the two M4.5 x 20 bolts from the rear cabin wall behind the driver's seat.
- h.** Using the two M4.5 x 20 bolts removed in Para 9.g., secure the mounting plate of the Cable Assembly, Special Purpose, CX-F332 (NSN 5995-66-132-7602), to the lower position on the rear cabin wall behind the driver's seat, ensuring the closed end of the Lead, Electrical, Earth (NSN 5995-66-133-5216) is secured by the bolt closest to the seat belt retractor reel.
- i.** Using the two M6 x 40 bolts from the Hardware Kit, MX-F306 (Table 1, Item 7), secure the Regulator Voltage Power Supply, CN-F300, above the bracket installed in Para 9.h. with the output socket uppermost.
- j.** Connect the Cable Assembly, Special Purpose – CX-F332, to the output connector of the Regulator Voltage Power Supply, CN-F300.
- k.** Connect the Lead, Electrical, Earth, to the earth stud on the Regulator Voltage Power Supply – CN-F300.
- l.** Connect the Cable Assembly, Special Purpose, CX-F331 (NSN 5995-66-132-7601) to the input of the Regulator Voltage Power Supply, CN-F300, and the upper socket (Outlet 1) of the PDP.
- m.** Fit the Receiver/Transmitter RT-F200 into the mounting tray.
- n.** Connect the remaining connector of the Cable Assembly, Special Purpose, CX-F332 to the harness connector on the back of the RT-F200 as it is lowered into the mounting tray.
- o.** Secure the RT-F200 into the mounting tray, using the securing lugs at the top of the tray.
- p.** Cut the floor covering from the hole in the cabin floor below the fire extinguisher bracket (the exact position of the hole can be identified from underneath the vehicle).

NOTE

If there is no hole in the floor, drill a 13mm hole adjacent to the base of the fire extinguisher bracket.

- q.** Install a grommet in the hole.
- r.** Feed the RF cable (CG-F201) through the grommet ensuring enough cable remains in the cabin to connect the cable to the RT-F200.
- s.** Remove the antenna mount blanking plate or AS-1729 (if fitted) and the air intake grill from the top of the driver's side quarter panel.
- t.** Feed the RF cable (CG-F201) along the top of the chassis rail and secure it to the existing loom and piping with cable ties.
- u.** Feed the RF cable between the inner and outer skins of the driver's side quarter panel.
- v.** Secure the cable to the support bracket between the air intake grill and the antenna mounting hole with a cable tie.
- w.** Remove the bottom bolt of the supporting bracket (Para 9.v.) and fit the closed end of the Lead, Electrical, Earth (NSN 5995-66-128-6614), to the bolt.

- x. Replace the bolt with the earth lead attached.
- y. Connect the RF cable (CG-F201) and the earth lead cable to the antenna base.
- z. Fit the antenna base to the vehicle, ensuring the antenna base spacer block is replaced (Figure 2).



Figure 2 Antenna Installed

- aa. Tighten the mounting bolts to 20 N.m.
- bb. Replace the air intake grill.
- cc. Store the antenna mount blanking plate for use if the antenna base is removed.



Comply with the directions on the epoxy cable tie mount kit.

- dd. Using the epoxy cable tie mount kit, secure the three cable tie mounts on the rear cabin wall located so as to secure the cable runs.
- ee. Wait the required curing time, and then secure the cables to the mounts, using cable ties as required.
- ff. If required, replace the centre seat in the cabin.

Post Installation Testing

- 11. Complete the post installation test as follows:
 - a. Switch the PDP Circuit Breaker to the ON position.
 - b. Turn on the RT-F200, as described in the Operator's Handbook, and carry out a radio check.
 - c. Switch all the equipment off.

Recording Action

- 12. On completion of the installation and post installation testing, record the installation details in Part 4 of the vehicle's Record Book of Service Equipment (GM 120).

Removal

13.



Do not attempt to remove the cable tie securing brackets from the rear cabin wall, as damage to the wall panel will result.

The removal is the reverse of the installation with the exception that the cable tie securing brackets are to be left in the vehicle.

Recording Action

14. On completion of the kit's removal, record the kit's removal in Part 4 of the vehicle's GM 120, noting that the cable tie securing brackets were left in the vehicle.

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END

Distribution List: **VEH G 20.2 – Code 2** (Maint Level)
(Sponsor: LV SPO, Lt B Vehicles Section)