



Ministry
of Defence

Defence Equipment and Support
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Our Reference:
FOI2022/09424
Date:
20 September 2022

I refer to your emails of 7 August and 29 July 2022 that requested the following information:

'I'm wondering if you have copies of :

Army Code No. 12798 Part 6 Supplement 5 - User Handbook for Radio Installation in FFR B Vehicles - Truck Cargo H.M.L.C. Alvis Stalwart.
Army Code No. 70912 (238) Vehs & Wpns Br ALM 04/62000

EMER Communications Installations P 400 – 409 Clansman, net radio installation, HMLC, Stalwart Mk 2

C 010 EMER Workshop Introduction to A, B and C Vehicle hydraulic systems
C 240 EMER Workshop Clayton Dewandre Hyd powered steering units
C 260 EMER Workshop Pump and motor fitted to Stalwart
C 261 EMER Workshop Pump and motor fitted to Stalwart
J 318 EMER Power Care, and maintenance of Secondary lead acid batteries
N 025 EMER Power Testing of anti-freeze mixtures

I also understand that workshop manuals, servicing, Complete Equipment Schedules and other publications relating to the Bedford MK and MJ have already been released through FOI. I've had a search and cannot find them. Please provide a link to any publications released so far.

Please add this request to my FOI request of 29th July 2022:

**AC No.44800 INSTALLATION KIT, Electronic equipment, radio station, UK/VRC 353 in Truck, Cargo, HMLC, Mk 2 (FFR)
Z1/5820-99-965-5670 this is the NSN of the kit not the UK/VRC 353'**

A search for the information has now been completed within the Ministry of Defence, and I can confirm that some information in relation to communications installations is held. This is enclosed, as follows:

Annex A – EMER Communications Installations P 400 Clansman Radio Installations in HMLC (Stalwart) MK 2

Annex B - EMER Communications Installations P 407 Clansman Radio Installations in HMLC (Stalwart) MK 2 Technical Handbook – Modification Instruction

If you have any queries regarding the content of this letter, please contact this office in the first instance. If you wish to complain about the handling of your request, or the content of this response, you can request an independent internal review by contacting the Information Rights Compliance team, Ground Floor, MOD Main Building, Whitehall, SW1A 2HB (e-mail CIO-FOI-IR@mod.gov.uk). Please note that any request for an internal review should be made within 40 working days of the date of this response.

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Yours sincerely,

DE&S Secretariat

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CLANSMAN NET RADIO INSTALLATIONS IN
HMLC (STALWART) MK 2

Comms Inst P 402 and 405 will not be published. Sufficient information is available in User Handbook No 61674

INSTALLATION IDENTITY

<i>Ref No</i>	<i>Radio</i>	<i>Installation User Handbook</i>	
1	UK/PRC 351	61674	Part 1
2	UK/PRC 352	61674	Part 1
3	UK/VRC 353	61674	Part 2
4	UK/VRC 321	61674	Part 3

EQUIPMENT IDENTITY

<i>NATO Stock No</i>	<i>Title</i>	<i>CES</i>
Z1/5820-99-965-5061	Installation kit, electronic equipment radio station UK/PRC 351 or 352 in truck cargo, HMLC, MK 2.	44798
Z1/5820-99-965-5670	Installation kit, electronic equipment radio station UK/VRC 353 in truck cargo, HMLC Mk 2.	44800
Z1/5820-99-965-5923	Installation kit, electronic equipment radio station UK/VRC 321 in truck cargo, HMLC, MK 2.	44832
Z1/5820-99-965-4490	Installation kit, electronic equipment selector unit r.f. 25W for B vehicles.	44760

ROLE

The installation of any one of the four Clansman net radios listed above allows the crew to maintain communications, either stationary or on the move, on the net frequency ordered.

BRIEF DESCRIPTION

All the items associated with any one of the four Clansman radio installations are fitted in the driving cab of the vehicle, with the h.f. or v.h.f. antenna located on the roof. The transceivers are mounted in the left hand front corner, ancillary items on the left hand wall and antenna tuning and matching units inside the roof of the cab adjacent to the respective antenna base. Vehicle sets

are powered by the vehicle FFR battery. Pack-sets, which have their own integral re-chargeable battery, can be float charged from the same source. The selector unit r.f. is required to be fitted when two or more h.f. fitted vehicles are operating in close company and on different frequencies.

MANPOWER REQUIREMENTS

Normal vehicle crew.

PERFORMANCE

Ranges that can be expected over average Northern Europe terrain are as follows:

- a. PRC 351 installation 20 km (13 miles approx).
- b. PRC 352 installation 25 km (15 miles approx)
- c. VRC 353 installation 32 km (20 miles approx)
- d. VRC 321 installation 50 km (31 miles approx), ground wave range.

ELECTRICAL DATA

- PRC 351: Frequency range: 30 to 75.975MHz in 25kHz steps
 Mode: F3 (f.m. with \pm 5kHz deviation)
 Power output: 4W.
- PRC 352: As for PRC 351 with power output of 20W.
- VRC 353: As for PRC 351 with power output of 50W. Output powers of 15, 1 or 0.1W can be switch selected.
- VRC 321: Frequency range: 1.5 to 30MHz in 100Hz steps
 Mode: A1, A3 or A3j (c.w., a.m. or u.s.b.)
 Power output: 40W p.e.p., 5W output can be switch selected.

POWER REQUIREMENTS

- PRC 351: Typically 0.85A at 24V transmit, 0.105A receive.
- PRC 352: Typically 2.85A at 24V transmit, 0.105A receive.
- VRC 353: Typically 10A at 24V transmit, 3A receive.
- VRC 321: Typically 3.5A at 24V transmit, 1A receive.

ASSOCIATED PUBLICATIONS

<i>Equipment</i>	<i>EMER</i>	<i>User Handbook</i>	<i>CES</i>
PRC 351	Tels F 580	61128	43753
PRC 352	Tels F 580	61128	43756
VRC 353	Tels H 610	61393	43754
VRC 321	Tels H 590	61253	43744
Selector unit r.f. 25W (s.u.r.f.)	Tels H 590	61253	44760

<i>Equipment</i>	<i>EMER</i>	<i>User Handbook</i>	<i>CES</i>
Clansman v.h.f. antenna systems:	Tels L210	61388	—
Clansman audio accessories:	Tels C 740	—	43746
Cable assemblies	Comms Inst Z 203	—	—
Mountings for radio Insts:	Comms Inst Z 054	—	—

EME 8/A, 4250c/Tels

END



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CLANSMAN NET RADIO INSTALLATIONS IN HMCL (STALWART) Mk 2

TECHNICAL HANDBOOK - MODIFICATION INSTRUCTION

SUBJECT: D.C.C.U. - earthing of casing to vehicle earth point

INTRODUCTION

1. The D.C.C.U. is mounted on rubber bushings. This electrically isolates it from the vehicle earth creating a safety hazard. This regulation details the fitting of an earth lead between the D.C.C.U. casing and a vehicle earth point. No mod strike off is required.

APPLICABILITY

2. UK/PRC 351 or UK/PRC 352 installation in HMLC Mk 2 (GS & FFR).

REASON FOR MODIFICATION

3. Code 1 - to improve safety.

PRIORITY

4. Routine (Mgmt N 097 refers).

ESTIMATED TIME REQUIRED

5. Embodiment - $\frac{1}{2}$ man-hour.

MODIFICATION IMPLEMENTATION PLAN

6. a. This modification may be embodied by Units authorised to carry out unit, field or base repairs.
b. There are no associated modifications.

Action required

7. a. Units and establishments holding the equipment
 - (1) Demand stores as detailed in para 8.a.
 - (2) On receipt of stores, request the unit responsible for unit repairs to carry out this modification.

b. Units authorised to carry out unit, field or base repairs

- (1) When requested by units, carry out this modification.
- (2) On repair or overhaul, if necessary, demand stores and carry out this modification.
- (3) Complete AF G 1084A when reporting completion of this modification to REME Data Centre. For equipment code refer to to Mgmt J 022.

ARMY MODIFICATION CODE C 00294

Stores, tools and equipment

Note: Refer to Army General and Administrative Instructions (AGAI)
Chapter 90 Section 2.

8. a. Stores to be demanded

Stores are to be demanded through normal ordnance channels quoting this EMER as authority. Stores are to be demanded as a complete kit NOT as individual items.

<u>COSA</u> <u>Section</u>	<u>Part No</u>	<u>Designation</u>	<u>Qty per</u> <u>installation</u>
Z1	5820-99-637-9406	Kit Modification comprising:	1
	5995-99-645-0422	Lead electrical braided	(1)
G1	5305-99-135-0511	Screw, csk. hd. M6 x 25 Cad. plated	(1)
G1	5310-99-135-0787	Nut, M6, Cad. plated	(2)
G1	5310-99-122-8065	Washer, M6, plain, Cad. plated	(1)
G1	5310-99-941-6644	Washer, M6, single coil, Cad plated	(1)

WARNING: BEFORE WORK IS COMMENCED SWITCH OFF AND DISCONNECT ALL POWER SUPPLIES TO THE INSTALLATION.

Sequence of operations

9. a. Secure bored end of earth lead to D.C.C.U. mounting flange, at the 6.5 mm hole provided, with mod kit fixings.
- b. Secure slotted end of earth lead to the nearest available vehicle earth point.

Testing after embodiment

10. Test continuity between earth lead securing points.

EMER AMENDMENTS

11. Nil.

T/93456/D&M
ATMC No 01645

END



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CLANSMAN NET RADIO INSTALLATIONS IN HMLC (STALWART) Mk 2

TECHNICAL HANDBOOK - MODIFICATION INSTRUCTION
(Army Modification Code No CO0295)

SUBJECT: TUAAM earth lead - replacement

INTRODUCTION

1. The existing TUAAM earth lead (Lead electrical braided 5995-99-627-9928) becomes frayed and causes intermittent radio interference. It is to be replaced by a new earth lead with brass end tags and insulated covering.

APPLICABILITY

2. UK/PRC 352 installations fitted in this vehicle.

REASON FOR MODIFICATION

3. Code 2 - to improve operational performance.

ACTION

4. Units holding the equipment are to demand new earth lead (Lead electrical braided 5995-99-647-9549) through normal Ordnance channels quoting this EMER as the authority and fit to equipment. Retrospective action is to be taken for all installations. No mod strike off is required.

EMER AMENDMENTS

5. Nil.

T/93456/D & M

ATMC No 01647

END



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CLANSMAN NET RADIO INSTALLATIONS IN HMLC

(STALWART Mk 2)

TECHNICAL HANDBOOK - MODIFICATION INSTRUCTION

SUBJECT: Supersession of antenna bases No 28, No 31 and No 31 Mk 2 by No 31 Mk 3

INTRODUCTION

1. When stocks of antenna base No 28 (5820-99-949-0981), No 31 (ZA 49827) and No 31 Mk 2 (5985-99-633-6118) are exhausted they will be replaced with Base, Antenna Support No 31 Mk 3 (5985-99-652-2708).
2. The No 31 Mk 3 has a lower capacitance than the No 31 and No 31 Mk 2 making it suitable for use with both h.f. radios and v.h.f. radios.
3. Before the No 31 Mk 3 can replace the No 28 base, extra stores items are required and a minor modification carried out.

APPLICABILITY

4. All vehicle antenna bases.

REASON FOR SUPERSESSION/MODIFICATION

5. Code 2 - to improve operational performance.

PRIORITY

6. Normal (Management N 097 refers).

ESTIMATED TIME REQUIRED

- | | |
|------------------------|----------------|
| 7. No 28 to No 31 Mk 3 | 1.75 man-hours |
| No 31 to No 31 Mk 3 | 1.0 man-hours. |

MODIFICATION IMPLEMENTATION PLAN

8. a. This modification/supersession is to be carried out by Units authorised to carry out unit, field or base repairs.
b. There are no associated modifications.
c. There is no modification record strike-off action.

Action required

9. a. Units and establishments holding the equipment.
- (1) Examine the vehicle antenna bases for damage.
 - (2) If antenna bases are unserviceable, order stores items and request the Unit responsible to carry out the modification/supersession.
- b. Units authorised to carry out unit, field and base repairs
- (1) When requested by holding units, carry out this modification/supersession.
 - (2) On kit installations or overhauls, examine antenna bases and replace as required.
 - (3) ARMY MODIFICATION No Y 00208.

Stores, tools and test equipment

10. a. Stores to be demanded for replacement of No 28 base only

<u>Item</u>	<u>Section</u>	<u>Part No</u>	<u>Designation</u>	<u>Qty</u>
1		5985-99-652-2708	Base, Antenna Support No 31 Mk 3	1
2	Z1	5330-99-419-0476	Nut, gland and washer set	1

Demand one of the following cable assemblies according to length required.

3a		5995-99-103-9657	Lead elect 762 mm long	1
3b		5995-99-419-3155	Lead elect 696 mm long	1
3c		5995-99-419-3245	Lead elect 610 mm long	1
3d		5995-99-103-9658	Lead elect 457 mm long	1

- b. Special tools

None required.

- c. Test equipment

None required.

Sequence of operations

11. No 28 to No 31 Mk 3

a. Remove unserviceable No 28 base. The No 31 Mk 3 has an integral gasket and does not require the existing roof to antenna base gasket. Discard existing gasket (5330-99-949-1082). Retain all fixing screws and washers.

- b. Cut off the loop of wire at one end of lead (para 10.a. Item 3).
- c. Fit lead to nut, gland and washer assembly as detailed in Fig 1.
- d. Screw the nut, gland and washer assembly inside the No 31 Mk 3 and secure using spanner wrench (5120-99-103-5591). Feed looped end of lead down through antenna outlet hole and secure to aerial tuning unit.
- e. To prevent sticking, dust bottom of the No 31 Mk 3 with french chalk and secure to vehicle roof with fixings removed at para 11.a.

12. No 31 to No 31 Mk 3

- a. Disconnect output lead from aerial tuning unit.
- b. Remove No 31 base. Discard existing gasket. Retain all fixing screws and washers.
- c. Unscrew the nut, gland and washer set from inside the No 31 base and secure to the No 31 Mk 3 as detailed in para 11.d. and 11.e.

DISPOSAL

13. All unserviceable bases may be retained for use as dummy aerials if required otherwise they should be discarded.

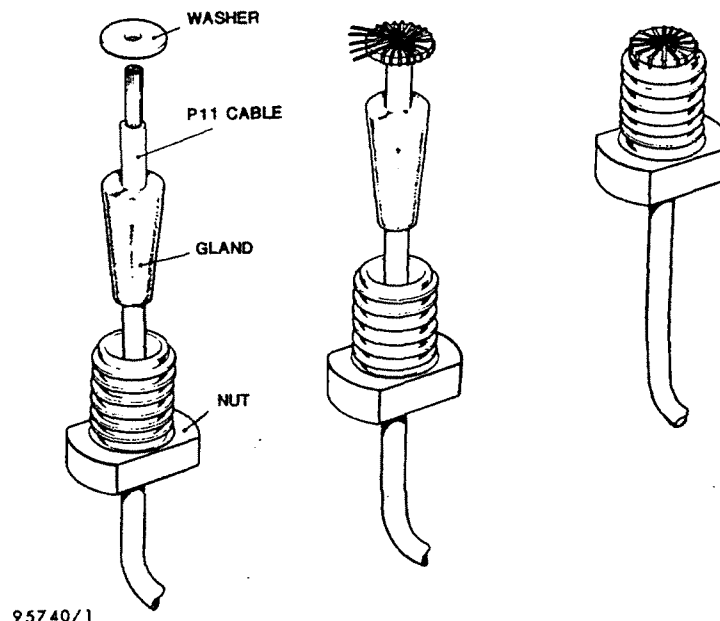


Fig 1 - Gland and washer assembly

WA/41197

END



V