

R E S T R I C T E D

ELECTRICAL AND MECHANICAL
ENGINEERING REGULATIONS
(By Command of the Defence Council)

TELECOMMUNICATIONS
F 467

STATION, RADIO, A40

TECHNICAL HANDBOOK - INDEX OF MODIFICATIONS

EMER Mod No	No struck off Mod record plate		Title	Embodiment	
	Main eqpt	Sub-unit		Production (P)	Retrospective priority group
1	3	-	Retention device for audio plug	-	B
2	4	-	Replacement of antenna socket	-	B
3	-	-	Modification of webbing harness	-	B
4	-	Coupler antenna - 1	Coupler antenna - prevention of coil connection breakage	-	B
5	5	-	Replacement of certain enamelled leads	P	C
6	6	-	Main chassis - fitting of No 8 BA crinkle washers	-	C
-	1	-	Fitting of Mk 2 a.f.c. drivers (ZA 46817/1)	P	-
-	2	-	Change to new style insulated aerial socket (ZA 55225)	P	-

R E S T R I C T E D

TELECOMMUNICATIONS
F 467

ELECTRICAL AND MECHANICAL
ENGINEERING REGULATIONS

EMER Mod No	No struck off Mod record plate		Title	Embodiment	
	Main eqpt	Sub-unit		Production (P)	Retrospective priority group

T/61119(D&M)(TELS)

R E S T R I C T E D

ELECTRICAL AND MECHANICAL
ENGINEERING REGULATIONS
(By Command of the Army Council)

TELECOMMUNICATIONS
F 467 Mod Instr No 1

TRANSMITTER-RECEIVER, RADIO, A40

TECHNICAL HANDBOOK - MODIFICATION INSTRUCTION

SUB-TITLE: Retention device for audio plug

1. Introduction

The audio plug of the Transmitter-receiver, radio, A40 (TR A40) is very easily removed from its socket, in some instances the fit being so poor that it virtually drops out. This regulation details the fitting of a retention clip for the audio plug and must be carried out before the plugs of Telephone, hand SI, No 4G, and Microphone and receiver headgear assembly, SI, No 1A, which are used with the TR A40, are modified as per Tels C 727 Mod Instr No 2 and 3 respectively.

2. Priority: Group 'B' (ACI 407/58 refers)

3. Estimated time required: 1/3 man-hour

4. Items affected

Transmitter-receiver, radio, A40, A40A and A40B - All serial numbers.

5. Action required by:-

(a) Units and establishments holding equipment

(i) Request REME to modify equipment.

(b) Units authorized to carry out field or base repairs

(i) When requested by units demand stores for, and carry out, this modification.

(ii) Demand stores for and carry out this modification on all equipments received for repair or overhaul.

(iii) Ensure that the figure 3 on the modification record plate is struck through with a diagonal line on completion of this modification.

6. Stores, tools and equipment

(a) Stores to be demanded

Stores to be demanded through the normal Ordnance channels. This EMER is the authority for demand and will be quoted on all indents.

<u>Part No</u>	<u>Designation</u>	<u>Qty</u> <u>per eqpt</u>
ZA 55021	Retainer, electrical plug-socket, ^{STEEL, 3. 3/8 IN.} 3. 1/2 in. long x 2 IN WIDE x 1 1/16 IN. overall x 1.15/16 in. width overall x 1 in. high	1
ZB 11431	Screws, BA, steel, ch.hd., No 4 x 3/8 in., rustproof	2
5310-99-941-9521	Nuts, stiff, clinch	2

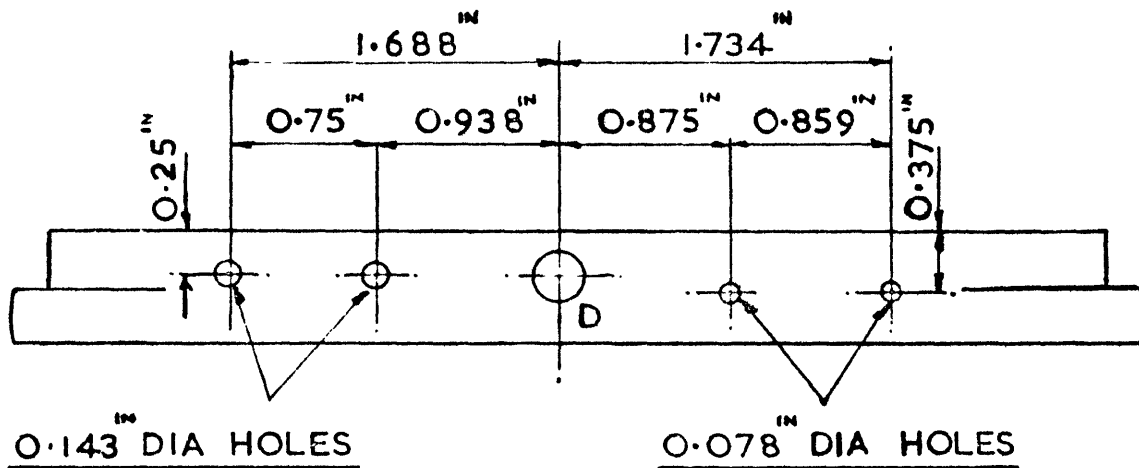
Issue 1, 14 May 62

Page 1

Distribution - Class 1185. Code No 3

7. Sequence of operations
(Refer to Fig 1)

- (a) Remove the two self-tapping screws which secure the modification record plate and remove the plate.
- (b) Drill two holes 0.078 in. diameter (No 47 drill) on the opposite side of the flange so positioned that their centres are 0.375 in. from the top of the flange and 0.875 in. and 1.734 in. respectively from the centre of the 0.188 in. hole in the middle of the flange.
- (c) Place the modification record plate (removed at (a)) in this new position and secure it with the original two self-tapping screws.
- (d) Drill two 0.143 in. diameter holes (No 27 drill) on the l.h. side of the flange so that their centres are 0.25 in. from the top of the flange and 0.938 in. and 1.688 in. respectively from the centre of the 0.188 in. hole in the middle of the flange.
- (e) Fit the retainer (ZA 55021), provided, over the two holes drilled at (d) and secure it with the No 4 BA screws and nuts provided.
- (f) Strike through the figure 3 on the TR A40 modification record plate with a diagonal line.



T F.467 MI
1 - 1

Fig 1 - Front panel flange - drilling detail

T/61119/4

END

TRANSMITTER-RECEIVER, RADIO, A40

TECHNICAL HANDBOOK - MODIFICATION INSTRUCTION

SUB-TITLE: Replacement of antenna socket

Note: This Issue 2, Pages 1 to 3, supersedes Issue 1, Pages 1 to 3, dated 9 Aug 60. The instruction has been completely re-written, and will be carried out on all the equipments whose serial numbers are given at para 4, irrespective of whether or not these have previously been modified as detailed in Issue 1.

1. Introduction

Numerous reports have been received that the antenna socket on the front panel of Transmitter-receiver, radio, A40, becomes loose and rotates when subjected to twisting forces such as occur during normal use in the field. When such movement occurs, the antenna coil connection might become wrenched off and the coil itself damaged. This regulation details the fitting of an improved socket assembly to overcome these defects.

2. Priority: Group 'B' (Gen H 097 refers).

3. Estimated time required: 1.1/2 man-hours exclusive of drying and sealing.

4. Items affected

Transmitter-receiver, radio, A40 - all serial numbers prior to 6734 and serial numbers 7121 to 7421 inclusive.

5. Action required by:-

(a) Units and establishments holding the equipment

(i) Request the unit responsible for field repair of the equipment to carry out this modification.

(b) Units authorized to carry out field or base repairs

- (i) When requested by units demand stores and carry out this modification.
- (ii) Demand stores and carry out this modification on all equipments received for repair or overhaul.
- (iii) Ensure that the figure 4 on the equipment modification record plate is struck through with a diagonal line on completion of this modification.

6. Stores, tools and equipment

(a) Stores to be demanded

Items 1 to 4 to be demanded through the normal Ordnance channels quoting this

EMER and Donnington earmark No F14788 as authority. Items 5 and 6 are used on the existing assembly, but should they require replacement, they should be demanded as normal maintenance items.

<u>Item No</u>	<u>VAOS Section</u>	<u>Part No</u>	<u>Designation</u>	<u>Qty per eqpt</u>
1	Z1	5935-99-949-8567	Socket, antenna	1
2	Z1	5330-99-949-8692	Washer, non-metallic	1
3	Z1	5310-99-949-8691	Washer, flat	1
4	Z1	5310-99-949-8738	Washer, key	1
5	Z1	ZA 46650	Ring, rubber	1
6	Z1	5310-99-941-7143	Nut, plain, hexagon	1

(b) Stores to be discarded

<u>Part No</u>	<u>Designation</u>	<u>Qty per eqpt</u>
ZA 46646	Socket, antenna base	1
ZA 46651	Ring, rubber	1
ZA 55224	Washers, special, plastic	1
ZA 55225	Insulator, antenna socket	1

These items to be disposed of locally

7. Sequence of operations

- (a) Release the battery box retaining straps.
- (b) Unscrew the front panel retaining screws and remove the set from its case. Note that as this is a sealed equipment, Ovens, drying, telecommunications, 240V a.c. (see Tels M 600-609) and Apparatus, seal testing (see Tels M 630-639) must be available for subsequent drying and resealing respectively.
- (c) Remove the front panel assembly from the set as detailed in Tels F 464, para 5.
- (d) Remove the antenna inductor L3 and the antenna socket assembly SKTW from the front panel.
- (e) Assemble the new antenna socket assembly on to the panel as shown at Fig 1. Apply a light coat of Grease, silicone, MS4 (XG-250) to the sealing ring ZA 46650 before fitting.
- (f) Refit and connect the antenna inductor L3 to the new socket assembly in the same manner as it was originally fitted and connected.
- (g) Refit the front panel assembly to the set by reversing the sequence of operations carried out at (c).
- (h) Carry out a complete functional check of the equipment.

- (j) If the functional check is satisfactory, dry out the set and reseal it into its case.
- (k) Strike through the figure 4 on the equipment modification record plate using a diagonal line.
- (l) Finally, repeat the functional check.

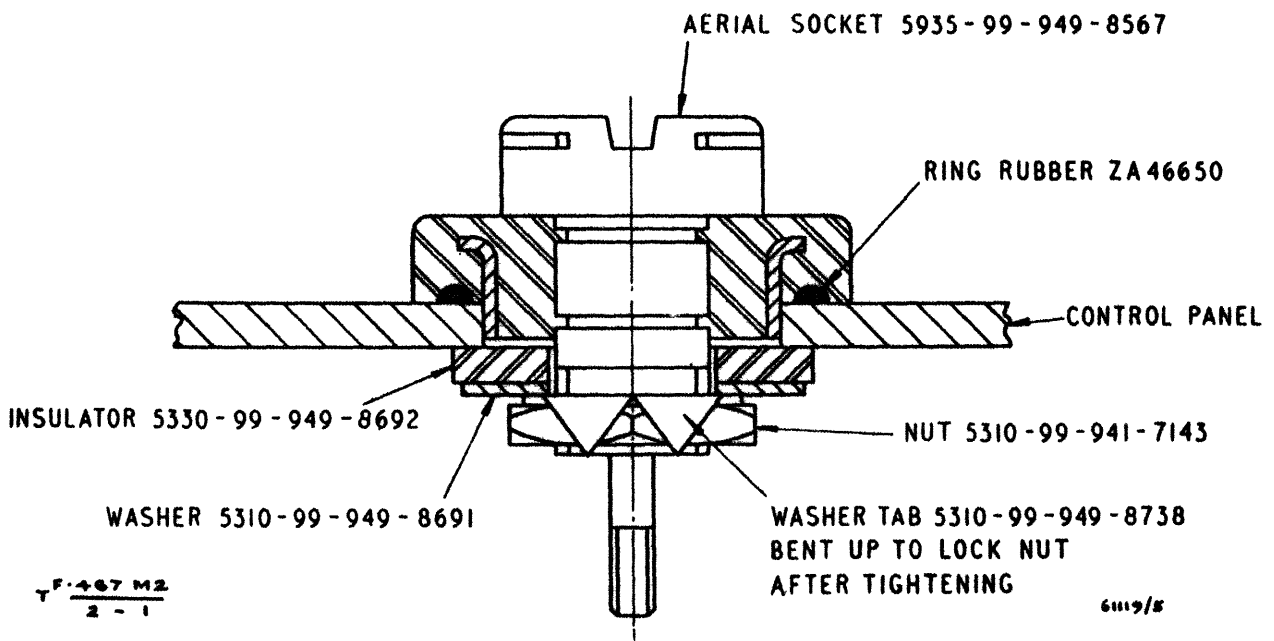


Fig 1 - New antenna socket -
assembly detail

T/61119/1

END

R E S T R I C T E D

ELECTRICAL AND MECHANICAL
ENGINEERING REGULATIONS
(By Command of the Defence Council)

TELECOMMUNICATIONS
F 467 Mod Instr No 4
Army Modification Code M 0001C

STATION, RADIO, A40

TECHNICAL HANDBOOK - MODIFICATION INSTRUCTION

SUB-TITLE: Coupler, antenna - prevention of coil connection breakage

1. Introduction

If the insulators of Coupler, antenna (Z1/ZA53400) which is used with Transmitter-receiver, radio, A40, compact to the extent that the antenna socket securing nuts become loose, the antenna coil connectors are liable to be wrenched off when the antenna is being fitted due to movement of the socket. This regulation details the action required to give greater mechanical security to the assembly, and also the fitting of a modification record label to the case.

2. Priority: Group 'B' (Gen H 097 refers).

3. Estimated time required: 1 man-hour (excluding testing)

4. Items affected

Station, radio, A40
Coupler, antenna - Z1/ZA53400.

5. Action required by:-

a. Units and establishments holding the equipment

(1) Request the unit responsible for field repair of the equipment to carry out this modification.

b. Units authorized to carry out field or base repairs

(1) When requested by units, carry out this modification.

(2) Carry out this modification on all equipments received for repair or overhaul.

(3) Ensure that the figure 1 on the modification record label, is struck through with a diagonal line on completion of the modification.

6. Stores, tools and equipment

a. Stores to be demanded

Stores are to be demanded through normal Ordnance channels quoting this EMER as the authority. The stores are to be demanded as a complete kit, and NOT as individual items.

g. Using as replacements the new items listed at para 6.a., reassemble the coupler as follows:-

- (1) Pass the antenna socket through the insulating washer (item 6), then through the aperture in the top of the case.
- (2) Reverse the case and fit the insulating bush (item 5) over the antenna socket so that the end of the bush passes through the case aperture.
- (3) Fit the special nut (item 1) on to the antenna socket and, when tightening, ensure that the bush remains located in the case.
- (4) Fit the tag (item 4) so that the tail is positioned opposite the mark made at b.(1), and the tab is engaged in the hole provided for it in the nut.
- (5) Refit the crinkle washer from the original assembly.
- (6) Fit the special nut (item 2).
- (7) Refit the coil so that the tapped end is furthest from the antenna socket, the tap is opposite the mark on the case made at b.(2) and the spigot on the end of the former is in the indentation at the end of the antenna socket.
- (8) Solder the antenna socket end of the coil and the appropriate end of the 15pF capacitor to the earth tag on the inside of the case. Solder the far end of the coil and the other capacitor lead to the tail of the tag (item 4).

Note: The capacitor should be fitted in its approximate previous position and the lead to the tail should be as long as its length permits, ie it must not be wrapped or cut.

- (9) Solder the wire braid on the coil tap to the tag on the coaxial socket centre terminal.
- (10) Fit the end cap on to the case, ensuring that the spigot on the coil former engages in the indentation in the centre of the cap.

h. Attach the modification record label, provided in the kit, to the case as follows:-

- (1) Clean off an area, the size of the label, on the case.
- (2) Soak the label for one minute in water at 75°F.
- (3) Peel away the backing of the label and press it firmly on to the case, working out any air bubbles from the centre outward.

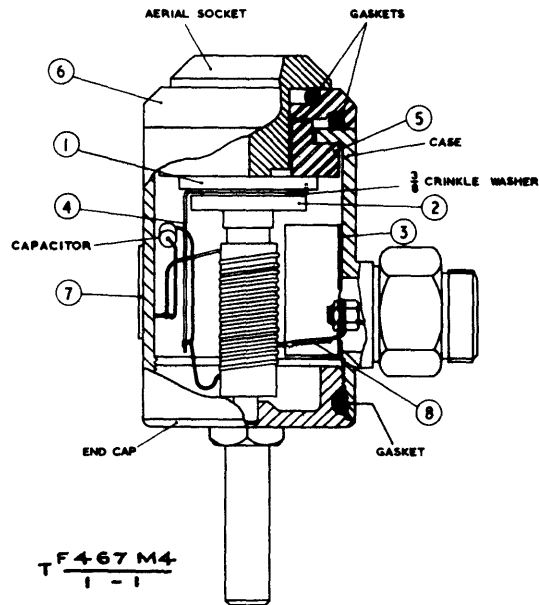
R E S T R I C T E D

TELECOMMUNICATIONS
F 467 Mod Instr No 4

ELECTRICAL AND MECHANICAL
ENGINEERING REGULATIONS

j. Strike through the figure 1 on the label affixed at h., using a diagonal line.

k. Test the coupler as detailed in EMER Tels F 484, para 69.



(Figures indicate modified items)

Fig 1 - Coupler antenna - assembly detail

T/61119/9(TELS)

END

R E S T R I C T E D

ELECTRICAL AND MECHANICAL
ENGINEERING REGULATIONS
(By Command of the Defence Council)

TELECOMMUNICATIONS
F 467 Mod Instr No 5
Army Modification Code M 00020

STATION, RADIO, A40

TECHNICAL HANDBOOK - MODIFICATION INSTRUCTION

SUB-TITLE: Replacement of certain enamelled leads

1. Introduction

Damage to the enamelling of various leads in the Transmitter-receiver, radio, A40 is responsible for short circuit faults. The damage may be caused by displacement or vibration of the leads. This regulation details the action required to replace certain enamelled leads by P.V.C. covered wire. This modification must be carried out together with Tels F 467, Mod Instr No 6.

2. Priority: Group 'C' (Gen H 097 refers).

3. Estimated time required: 1 man-hour (excluding testing)

4. Items affected

Transmitter-receiver, radio, A40	ZA 46276
Transmitter-receiver, radio, A40A	ZA 53443
Transmitter-receiver, radio, A40B	ZA 53445

5. Action required by:-

a. Units authorized to carry out base repairs

(1) Carry out this modification on all equipments received for overhaul.

(2) On completion of the modification, ensure that the figure 5 is struck through with a diagonal line on the modification record plate of the Transmitter-receiver, radio, A40, A40A or A40B.

6. Stores, tools and equipment

a. Stores to be obtained locally

<u>VAOS, Section</u>	<u>Part No</u>	<u>Designation</u>	<u>Qty per eqpt</u>
Y3	6145-99-910-0147	Wire, electrical, equipment, type 2 1/.036 in. P.V.C. medium wall, red	24 in.

7. Sequence of operations

Preliminary: Reference should be made to Tels F 462 Part 2, Fig 2006, hereafter called the EMER.

R E S T R I C T E D

TELECOMMUNICATIONS
F 467 Mod Instr No 5

ELECTRICAL AND MECHANICAL
ENGINEERING REGULATIONS

- a. Remove the Transmitter-receiver, radio, A40, A40A or A40B from its case, withdraw all plug-in units, and switch to channel 4.
- b. Remove the four 6 BA screws which secure the trimmer shield to the front panel, and slide the front panel across the main chassis to disconnect the 10-pin connector, then disconnect the antenna feeder.
- c. Remove the four 6 BA screws securing the trimmer shield to the valve deck and separate the trimmer unit and valve deck.
- d. Remove the twelve 8 BA screws and washers which secure the chassis to the polystyrene moulding of the valve deck. The screws which are visible through holes in the chassis must not be disturbed.
- e. Remove two 10 BA nuts and bolts at the corners of the chassis at the front panel end, and separate the moulding from the chassis. The leads connected to the battery plug (PLV) will have to be bent.
- f. The three enamelled leads to be changed by this modification are described as follows:-

(Note that pin 1 of the 10-pin socket (SKTT (1)) is identified by its connection YP1).
 - (1) A lead from SKTT(9) to PLV(3) identified by letter C in the EMER.
 - (2) A lead from SKTT(10) to PLV(5) identified by letter A in the EMER.
 - (3) A lead from SKTT(2) to chassis identified by letter B in the EMER. Leads A and B are laced together.
- g. Remove lead C, by cutting at SKTT(9), and unsoldering at PLV(3). Replace with a length of the new P.V.C. covered wire laid on the same route.
- h. Disconnect lead A by cutting at SKTT(10), and unsoldering at PLV(5). Disconnect lead B by cutting at SKTT(2), and cutting approx 1/8 in. from the pop rivet to which it connects. Prepare the 1/8 in. length by removing the enamel, and tinning the wire. Remove the laced pair A and B.
- j. Replace leads A and B by the new P.V.C. covered wire laid on the same route. Lead B should have a small loop at one end to receive the 1/8 in. length prepared at h.
- k. Carry out re-assembly of parts removed at b, c, d, and e, in the correct order, ensuring that all screw heads and their seatings are free of paint as good contact is essential.
- l. Replace the equipment in its case, and carry out a functional check.
- m. Record the modification by striking through with a diagonal line the figure 5 on the modification record plate of the Transmitter-receiver, radio, A40, A40A or A40B.

R E S T R I C T E D

ELECTRICAL AND MECHANICAL
ENGINEERING REGULATIONS
(By Command of the Defence Council)

TELECOMMUNICATIONS
F 467 Mod Instr No 6
Army Modification Code M 00065

STATION, RADIO, A40

TECHNICAL HANDBOOK - MODIFICATION INSTRUCTION

SUB-TITLE: Main chassis - fitting of No 8 BA crinkle washers

1. Introduction

A number of No 8 BA screws used on the Transmitter-receiver, radio, A40, A40A or A40B valve decks and trimmer covers, tend to become loose in service. The remedy is to fit crinkle washers under the heads of the screws concerned. This regulation details the action required to fit the washers. This modification must be carried out together with Tels F 467 Mod Instr No 5.

2. Priority: Group C (Gen H 097 refers)

3. Estimated time required: 1/2 man-hour

4. Items affected

Transmitter-receiver, radio, A40	ZA 46276
Transmitter-receiver, radio, A40A	ZA 53443
Transmitter-receiver, radio, A40B	ZA 53445

5. Action required by:-

a. Units authorized to carry out base repairs

(1) Carry out this modification on all equipments received for overhaul.

(2) On completion of the modification, ensure that the figure 6 is struck through with a diagonal line on the modification record plate of the Transmitter-receiver, radio, A40, A40A or A40B.

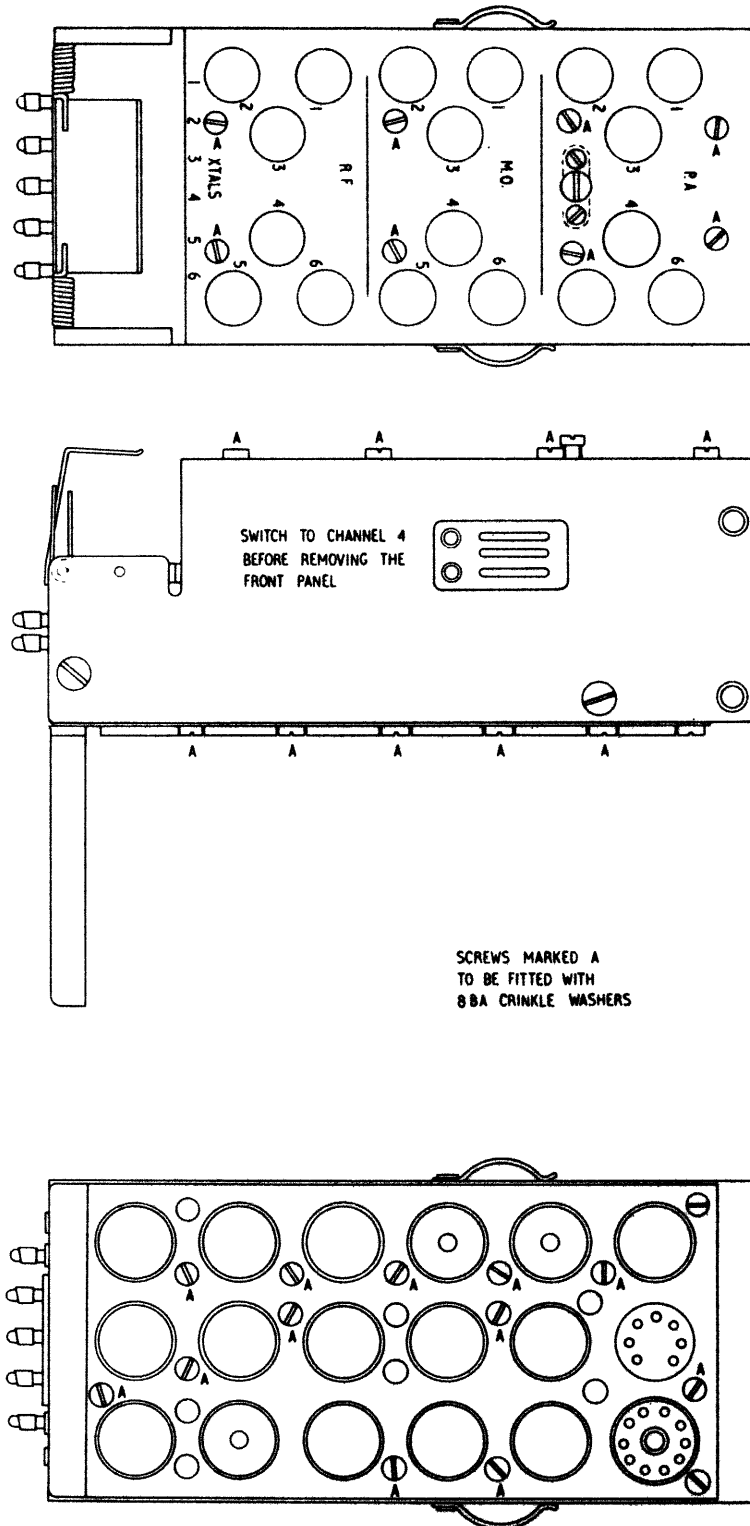
6. Stores, tools and equipment

a. Stores to be obtained locally

<u>VAOS</u> <u>Section</u>	<u>Part No</u>	<u>Designation</u>	<u>Qty</u> <u>per eqpt</u>
Z2	5310-99-943-6075	Washer, crinkle, No 8 BA	20

7. Sequence of operations

- a. Remove the Transmitter-receiver, radio, A4O, A4OA or A4OB from its case.
- b. Refer to Fig 1 and identify the twenty screws on the valve deck and trimmer cover. The screws are marked with the letter A on the diagram.
- c. Remove plug-in units as necessary to allow the No 8 BA screws to be removed.
- d. Remove each screw in turn, fit a crinkle washer under the head and replace the screw.
- e. Replace the plug-in units, then replace the equipment in its case.
- f. Record the modification by striking through with a diagonal line the figure 6 on the modification record plate of the Transmitter-receiver, radio, A4O, A4OA or A4OB.



T F 467
1-1 6119/9

Fig 1 - Location of screws requiring washers

