

THIS BOOK IS THE PROPERTY OF H.M. GOVERNMENT

B.R.1565(MODS)
Handbook for
TYPE 618
AND RECEIVER OUTFIT CAS
MODIFICATIONS

BY COMMAND OF THE DEFENCE COUNCIL

MAY 1971

L. T. Dunnett

MINISTRY OF DEFENCE
DIRECTOR GENERAL WEAPONS (NAVAL)
(RE1058/56)

ANY SUGGESTIONS FOR AMENDMENTS OR ADDITIONS TO THIS BOOK
SHOULD BE SUBMITTED TO THE DIRECTOR GENERAL, WEAPONS (NAVAL)
THROUGH THE USUAL CHANNELS FOR ONWARD TRANSMISSION TO DWRDS.

[illegible]

I N T R O D U C T O R Y C H A P T E RC O N T E N T S L I S TP a r a g r a p h s

GENERAL

Introduction

1

DEFINITION OF TERMS

Definition of a Modification

2-3

Categories of Modifications

4

Priorities of Modifications

5

PROMULGATION OF MODIFICATIONS

Modification Book

6-7

Modification Leaflet

8

Sub-Unit Index

9

IMPLEMENTATION OF MODIFICATIONS

Equipment in Ships in the Active and Reserve Fleets

10-13

Equipment in New Construction Ships, etc.

14

Equipment in Store

15

I N T R O D U C T O R Y C H A P T E RGENERALIntroduction

1. This book forms part of the parent handbook for the equipments named on the front cover. It contains full details of all modifications affecting these equipments and has the same security grading as the parent handbook.

DEFINITION OF TERMSDefinition of a Modification

2. A modification is defined as any change to or rectification of the design of an equipment, assembly, sub-assembly, fitting, component, its spare gear or associated tools, which leaves the major ship or weapon characteristics unaltered and which occurs after the first production unit leaves the manufacturer.
3. A modification is undertaken to rectify omissions and shortcomings in design, to improve reliability and/or safety, to facilitate manufacture, or to reduce future expense in maintenance of the equipment concerned. It is distinguished from a Defect, which requires the replacement or repair of an existing item, and from an Alteration and Addition, which makes a significant change or novel improvement in the operational performance, availability or habitability of the ship, or an item of equipment, e.g. a weapon system, or in the ship's "as fitted" drawings.

NOTES 1. The distinction between a modification and an Alteration and Addition does not depend in any way upon the cost or size of the job involved. These factors will however determine the Category of the modification (see Paragraph 4 below).

2. The term "minor modification" should no longer be used.

Categories of Modifications

4. Each modification is placed in one of the following categories depending upon the cost and/or size of the job involved. The category is stated on the modification leaflet.

- (a) Category I

A modification which can be carried out by the Fleet or Shore Station/Establishment Staff.

- (b) Category II

A modification which is beyond the capacity of the Fleet (or Shore Station/Establishment Staff) and for which the estimated Dockyard total factory cost, excluding Admiralty Supply items, does not exceed £250 for each equipment unit and for which the total factory cost over the whole range of equipments affected does not exceed £10 000.

- (c) Category III

A modification for which the estimated Dockyard total factory cost excluding Admiralty Supply items, exceeds the limits imposed for a Category II modification.

Priorities of Modifications

5. Each modification is given one of the following priority classifications depending upon its importance and the urgency with which it must be embodied. The classification is stated on the modification leaflet. Classification A and B modifications are to be embodied at the earliest opportunity, A of course taking priority.

(a) Classification 'A' - Emergency

For modifications to equipments considered to be dangerous or liable to complete breakdown, affecting the ship's fighting or operational efficiency.

(b) Classification 'B' - Urgent

For modifications to equipments which, if not modified, would impose operational limitations on the ship or result in reduced output, reliability or efficiency.

(c) Classification 'C' - Normal

For modifications considered desirable to improve maintenance, ease of operation, etc.

(d) Classification 'D' - Deferred

Low priority modifications.

(e) Classification 'S' - Special

For modifications with limited application, e.g. those required to fit an equipment for special service in the tropics or arctic, or to fit special components for trials purposes.

PROMULGATION OF MODIFICATIONS

Modification Book

6. Modifications to the equipment named on the cover will be promulgated by changes to this modification book, all the required information being given in loose leaf modification leaflets which are inserted in it. In those cases where, consequent upon the embodiment of the modification, some amendment must be made to the technical part of the handbook or to user information/drill book, this amendment and the modification leaflet may be promulgated together under one P number.

7. Where the degree of urgency of a modification is sufficiently great, advance instructions will be given by MOD(N) signal or letter but in every such case this action will be followed up by a change to the appropriate modification book.

Modification Leaflet

8. Modification instructions for Weapon Department equipments are laid out in a standard format regardless of the equipment to which they apply. Most of the information given under the various headings is self explanatory. The exceptions are:-

(a) Associated Mods/As and As

An entry here means that the associated modification or A and A must be embodied either concurrently with or in advance of the modification in question.

INDEX OF MODIFICATIONS TO SUB-UNITS

1. This Index tabulates, in ascending order of pattern or reference number all sub-units forming part of the equipment named on the cover of this modification book for which modifications have been issued.
2. The first and second columns detail the pattern or reference number and description of the sub-unit.
3. The third column is sub-divided into 12 numbered columns. These numbers correspond to those on the sub-unit Modification Record Plate. The figure printed in any given column against a particular sub-unit is the serial number of the equipment modification which affects that particular sub-unit, while the figure standing at the head of the same column is the one which has to be crossed off the sub-unit's Modification Record Plate when the modification has been embodied.
4. An asterisk against a number indicates that the modification changes the pattern number of the sub-unit.

Pattern No.	Description	Sub Unit Modification Record No.											
		1	2	3	4	5	6	7	8	9	10	11	12
A.P. 61164	Junction Box, 32-way	9	10										
A.P. 100334	M.F. Transmitter	1											
A.P. 100336	Power Unit	4	5	6	8								
5980-99-418-1572 (Formerly AP 100333A or AP 399014)	Transmitter HF	2	3	7	11								

(b) Special Tools and Test Equipment Required

Here are listed those special tools and test equipment which, either because of their cost or size, are not being supplied as part of the modification kit but which nevertheless are required to carry out the modification, and which ships and authorities fitted with the equipment to be modified would not already carry as part of their normal outfit. Wherever possible, special tools, gauges, etc., will be provided as part of the modification kit and will not therefore be listed under this heading.

(c) Supplementary Information Required

Under this heading are listed details of any handbooks or other Fleet documentation which may be required for carrying out the modification.

(d) Instructions for Carrying Out the Modification

These include copies of any drawings which may be required. If for any reason it is necessary for the modification to be carried out in conjunction with a routine maintenance item or other inspection, this will be stated as item (1) of the instructions.

(e) Principal Fleet Documentation Changes/Amendments

The Change/Amendment numbers given here are those which incorporate the alteration to the particular document made necessary by the embodiment of the modification.

Sub-Unit Index

9. If the equipment named on the cover consists of a number of individually patternised or stores referenced sub-units, a Sub-Unit Index will be provided in this modification book. Amendments to this Index will be promulgated with those modification leaflets which make amendments necessary.

IMPLEMENTATION OF MODIFICATIONSEquipment in Ships in the Active and Reserve Fleets

10. Category I modifications to equipment fitted in ships of the Active and Reserve Fleets are intended to be carried out by the Fleet to the priorities listed in Paragraph 5.
11. Category II and III modifications will normally be embodied during a refit. Exceptionally, Dockyards may be authorised to embody those classified A or B while carrying out essential repairs, if Dockyard capacity is available for the task and it can be undertaken without delaying the ship's operational availability or interfering with other programmed work.
12. Ship's Officers are to submit with the Main Pink Defect List, a separate list of outstanding modifications of all categories. This list is to be in order of priority of desired execution and is to contain the serial number, category and classification of each modification. The ship will normally be responsible for demanding the modification parts required for category I modifications, and the Dockyards for category II/III modifications.

13. Modifications will be considered by the Dockyards along with Defects and As and As, those classified A or B being ranked with mandatory As and As. Other classifications will be given due weight according to their priority after Pink List Defects, Planned Maintenance Items, Mandatory As and As and Classification A and B Modifications.

Equipment in New Construction Ships etc.

14. Modifications to equipment in new construction ships or in ships being modernised or converted will be embodied in accordance with special instructions.

Equipment in Store

15. A statement will be made on the Modification Leaflet based on one of the following:-
- (a) The modification must be embodied before issue.
 - (b) The modification must not be embodied before issue.
 - (c) The modification should normally be embodied before issue.

TRANSMITTER TYPE 618 AND RECEIVER OUTFIT CAS - MODIFICATION NO. 1/1956
(R.E.968/56)1. Identity of equipment affected

Transmitter Type 618.

2. Identity of part affected

A.P.100334 MF Transmitter.

3. Applicability

All equipments bearing serial numbers 259 onwards and No. 34.

4. Object

To prevent slipping of the collars and the resulting damage caused by movement of the variometer assembly during transit or ship's vibration.

5. Brief Statement of Work

Provision of positive securing of the retaining collars on the variometer shaft.

6. Classification

-

7. Category

-

8. Man-hours required

(a) Skilled -

(b) Semi-skilled -

9. Associated Mods/As and As

None.

10. Stores/Part RequiredClass GroupReference No.DescriptionQuantity

Nil.

11. Supply of Stores/Parts

N.A.

12. Special Tools and Test Equipment Required

None.

13. Supplementary Information Required

None.

14. Instructions for Carrying out Modification

- (1) Withdraw the MF Transmitter from its case and remove the screen cover from the variometer compartment by releasing the 36 in No. securing screws.
- (2) Examine the retaining collars on the variometer shaft at either side of the coil former and check that end play of the variometer assembly between these is a minimum consistent with easy rotation, i.e. not more than 0.003 inch total.
- (3) If the end play is greater than this figure adjust the rear collar and screw the grub screws through to the shaft so as to mark the shaft. Use a correct size screwdriver for the 4 B.A. grub screw and do not use excessive pressure to tighten.
- (4) Slacken the grub screws of one of the collars and slide the collar back along the shaft. On the indent marks on shaft made by the grub screws drill dimples using a 0.1440 inch diameter, No. 27 Morse drill gauge to a depth not exceeding 1/16 inch.
- (5) Slide the collar back along the shaft and tighten the grub screws into the drilled holes, again exercising care not to overtighten the screws.
- (6) Varnish over the grub screws.
- (7) Repeat the procedure with the remaining collar.
- (8) There are three grub screws securing the rear collar but only the two diametrically opposite ones are to be recessed into the shaft.
- (9) Secure the screen cover in position and replace and secure the transmitter in its case.

15. Tests after Embodiment

None.

16. Marking of Equipment after Embodiment

N.A.

17. Recording and Reporting

Record the embodiment of this modification in the Ship's Master Record.

18. Disposal of Redundant Parts

N.A.

19. Modification of Parts in Store

The modification must be embodied before issue.

20. Principal Fleet Documentation Changes/Amendments

- | | |
|-----------------------------------|----------------|
| (a) Handbook | - |
| (b) Maintenance Schedule | - |
| (c) E List | - |
| (d) BR 226/227 | Not applicable |
| (e) WESPILS | Not applicable |
| (f) Test Specification/Supplement | - |
| (g) Installation Specification | - |

TRANSMITTER TYPE 618 AND RECEIVER OUTFIT CAS - MODIFICATION NO. 2/1957
(R.E.640/57)

1. Identity of equipment affected
Transmitter Type 618.
2. Identity of part affected
A.P.100333 H.F. Transmitter.
3. Applicability
All equipments.
4. Object
 - (a) To prevent heat radiation from resistors R67, R70 and R71 damaging the Driver Transformer TR2 and capacitor C60.
 - (b) To increase the rating of resistor R67.
5. Brief Statement of Work
Resiting of resistors R67, R70 and R71.
6. Classification
-
7. Category
-
8. Man-hours required
 - (a) Skilled -
 - (b) Semi-skilled -
9. Associated Mods/As and As
None.
10. Stores/Part Required

<u>Class Group</u>	<u>Reference No.</u>	<u>Description</u>	<u>Quantity</u>
F4d	Z113418/Z244086	Resistor 7.5 k 6 watt	2
11. Supply of Stores/Parts
On demand from (S)NSOs.
12. Special Tools and Test Equipment Required
None.

13. Supplementary Information Required

None.

14. Instructions for Carrying out Modification

- (1) Locate the sub-assembly of three resistors (R67, R70 and R71) and one capacitor (C60) which are situated on the right hand underside of the chassis adjacent to the terminals of the driver transformer (TR2).
- (2) Disconnect the two red leads going to the right hand side of resistor R67 (15 k), solder the leads together and tape up.
- (3) Remove the blue lead between the tag strip holding resistors R67, R70, R71 and capacitor C60 and the adjacent insulating pillar.
- (4) Remove the black lead between the above tag strip and the adjacent earth tag.
- (5) Remove the entire tag strip assembly and components, retaining the four screws and associated items.
- (6) Remove the capacitor C60 from the assembly and connect it between the insulated pillar and the earth tag mentioned in 3 and 4 above.
- (7) Remove resistor R67 (15 k) and replace it by two pattern Z113418 or Z244086 resistors wired as shown on Fig. 1.
- (8) Locate the tag strip holding two carbon resistors R85, R86 which is in line with the top of the driver transformer (TR2) on the deck above.
- (9) Using the inner securing bolt of this tag strip for location drill three 4 B.A. clear holes as shown in Fig. 1 and fit the resistor assembly using the screws and spacers removed in (5) above.
- (10) Connect a lead of suitable p.v.c. wire between the common point of resistors R67A, R70 and R71 and the insulated pillar mentioned in (3).
- (11) Connect a lead from the common point of resistors R70 and R71 only to the terminal of the modulation transformer (TR3) which is common to capacitor C61.
- (12) Solder the free end of resistor R67B to the adjacent earth terminal.
- (13) Ensure the four resistors are widely spaced from each other and from transformer TR2 and return the transmitter to its case.

15. Tests after Embodiment

None.

16. Marking of Equipment after Embodiment

N.A.

17. Recording and Reporting

Record the embodiment of this modification in the Ship's Master Record.

18. Disposal of Redundant Parts

Scrap.

19. Modification of Parts in Store

The modification must be embodied before issue.

20. Principal Fleet Documentation Changes/Amendments

- | | |
|-----------------------------------|----------------|
| (a) Handbook | - |
| (b) Maintenance Schedule | - |
| (c) E List | - |
| (d) BR 226/227 | Not applicable |
| (e) WESPILS | Not applicable |
| (f) Test Specification/Supplement | - |
| (g) Installation Specification | - |

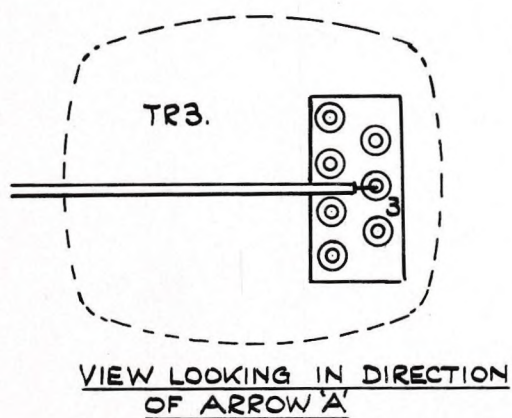
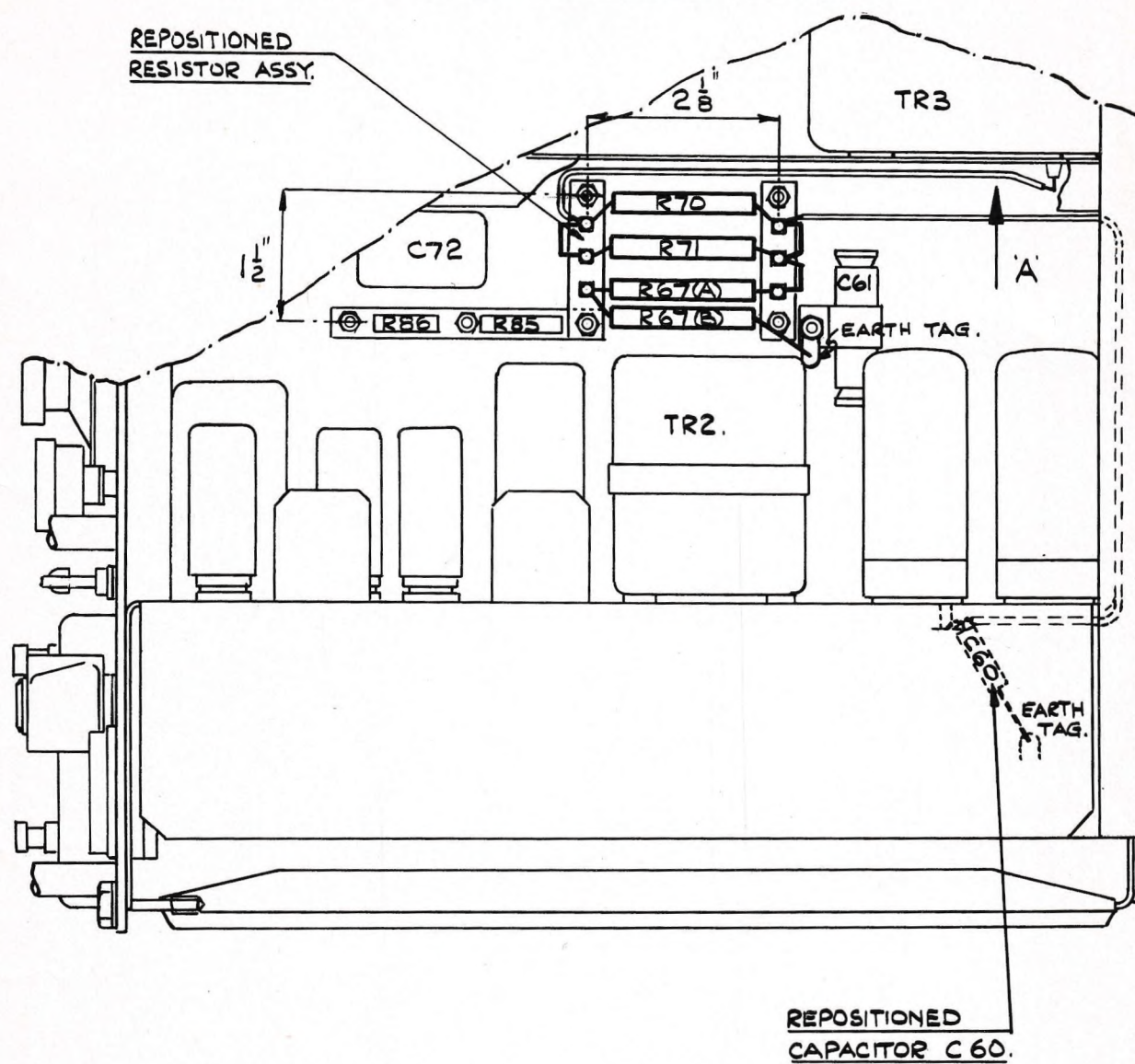
TYPE G18 - TRANSMITTER H.F. AP.100333RE-SITING OF RESISTORS R67, R70 & R71

FIG.1.

TRANSMITTER TYPE 618 AND RECEIVER OUTFIT CAS - MODIFICATION NO. 3/1957
(R.E.640/57)

1. Identity of equipment affected

Transmitter Type 618.

2. Identity of part affected

A.P.100333 H.F. Transmitter.

3. Applicability

All equipments.

4. Object

To replace underrated component.

5. Brief Statement of Work

Replacement of capacitor C71.

6. Classification

-

7. Category

-

8. Man-hours required

(a) Skilled -

(b) Semi-skilled -

9. Associated Mods/As and As

None.

10. Stores/Part Required

<u>Class Group</u>	<u>Reference No.</u>	<u>Description</u>	<u>Quantity</u>
F15	911-5660	Capacitor, 1000 pF $\pm$ 10%, 750 V wkg	2

11. Supply of Stores/Parts

On demand from (S)NSOs.

12. Special Tools and Test Equipment Required

None.

13. Supplementary Information Required

BR 1565.

14. Instructions for Carrying out Modification

- (1) Refer to BR 1565 Fig. 8 and locate capacitor C71 fitted adjacent to valve socket V5 at top centre of figure.
- (2) Remove existing capacitor and replace with Pattern 911-5660 Capacitor.

15. Tests after Embodiment

None.

16. Marking of Equipment after Embodiment

N.A.

17. Recording and Reporting

Record the embodiment of this modification in the Ship's Master Record.

18. Disposal of Redundant Parts

Scrap.

19. Modification of Parts in Store

The modification must be embodied before issue.

20. Principal Fleet Documentation Changes/Amendments

- | | |
|-----------------------------------|----------------|
| (a) Handbook | - |
| (b) Maintenance Schedule | - |
| (c) E List | - |
| (d) BR 226/227 | Not applicable |
| (e) WESPILS | Not applicable |
| (f) Test Specification/Supplement | - |
| (g) Installation Specification | - |

TRANSMITTER TYPE 618 AND RECEIVER OUTFIT CAS - MODIFICATION NO. 4/1960
(W.50182/60)1. Identity of equipment affected

Transmitter Type 618.

2. Identity of part affected

A.P.100336 Power Unit.

3. Applicability

All equipments manufactured prior to 1959.

4. Object

To remedy defects in H.T. fusing arrangements.

5. Brief Statement of Work

Rewiring of H.T. fuses.

6. Classification

-

7. Category

-

8. Man-hours required

(a) Skilled -

(b) Semi-skilled -

9. Associated Mods/As and As

None.

10. Stores/Part Required

<u>Class Group</u>	<u>Reference No.</u>	<u>Description</u>	<u>Quantity</u>
F23	6145-910-0164	Equipment Wire, Red	6 ft
F21	059-0108	Fuse-link H.R.C. 500 mA	1 + 2 spare
F21	059-0109	Fuse-link H.R.C. 1 amp	1 + 2 spare

11. Supply of Stores/Parts

On demand from (S)NSOs.

12. Special Tools and Test Equipment Required

None.

13. Supplementary Information Required

BR 1565.

14. Instructions for Carrying out Modification

Refer to BR 1565 Figs. 20, 22, 23 and Fig. 1 attached.

(1) Power Unit

- (a) Disconnect all connectors, undo the two knurled retaining nuts and withdraw the unit from the tray.
- (b) Remove all securing screws from the cover and the front and rear handles.
- (c) Remove the front panel knobs from the h.t. supply Switch and the Local-Remote Switch.

Remove the four screws securing the two lugs on the front panel to which the knurled retaining nuts were secured.

- (d) Remove the front panel and the cover.
- (e) Remove the nuts at each corner of the unit, disconnect the two plugs and sockets and lift the upper chassis clear of the lower chassis.

(2) Upper Chassis (Fig. 22)

- (a) Locate fuseholder FS5, disconnect the earth connection at both ends and discard.
- (b) Locate the connection running between socket SK8 pin R and V2 valve-base pin 8 (hk). Disconnect this lead at the valve-base, extend the lead by about one foot and sleeve or tape the joint. Run the lead through the adjacent grommet and connect it to the tag of FS5 from which the earth lead was removed in (1).
- (c) Run a new connection from V1 valve-base pin 8 (hk) through the grommet to the other tag of fuseholder FS5 (pins 8 of V1 and V2 are common). This point on the fuseholder is also connected to plug PL7 pin 0.
- (d) Remove the connection from socket SK8 pin J (connected to earth) and tape the end.
- (e) Run a new connection from socket SK8 pin J to the inner terminal of choke L3. Remove and discard the lead at present fitted between the inner terminal of choke L3 and V3 valve-base pin 8 (hk).
- (f) Run a new connection from the inner tag of choke L3 through the grommet and connect to the end connection of fuseholder FS6 (Spare).
- (g) Run a new connection from the side tag of FS6 through the grommet to V3 valve-base pin 8 (hk).

(3) Lower Chassis (Fig. 23)

- (a) From the centre secondary tag of transformer TR1 disconnect the lead going to socket SK7 pin 0. Connect the centre tag of transformer TR1 to the earth tag adjacent to transformer TR2.
- (b) Refer to Fig. 23 and locate the TR2 secondary tag connected to L1. Remove the two leads from this tag, solder together and tape or sleeve the joint.

- (c) Shorten the SK7 pin 0 lead disconnected in (1) and connect it to the secondary tag from which the leads were removed in (2).
- (d) Locate the connection between plug PL8 pin J and the earth tag adjacent to the rubber grommet at the rear of the unit. Disconnect the lead at the earth tag.
- (e) Remove entirely the short connection between plug PL8 pin J and the braid of the twin microphone lead. Do not disturb the other connection on pin J. To carry out this operation it will be necessary to free the cable sleeve and outlet of the plug.
- (f) From the TR2 secondary tag marked SK7/R in Fig. 23 disconnect the lead which is connected to capacitor C4. Pull the lead out of the cable-form back to the capacitor.
- (g) Join together and sleeve the two leads left free by operations (4) and (5) i.e. Connect C4 to PL8 pin J.
- (h) The modified circuit should now be as shown in Fig. 2 attached.

NOTE: Rearranged wiring should be run alongside existing cable-forms and tied.

(4) Power Unit

- (a) Reassemble the complete unit but do not yet fit into the tray.
- (b) By the best means available change the fuse labels as follows:-
 - (i) Fuse F5. Amend the "5" Amp rating to read "1" Amp.
 - (ii) Spare fuse. Amend "Spare" to read "F6" and amend the "5" Amp rating to read "500 mA".
- (c) Replace the 5 amp fuse in F5 by a Z590109 1 amp fuse and replace the spare fuse by a Z590108 500 mA fuse.
- (d) Replace the power unit in the tray and secure. Replace all connectors and test the unit.

15. Tests after Embodiment

Test for normal operation.

16. Marking of Equipment after Embodiment

N.A.

17. Recording and Reporting

Record the embodiment of this modification in the Ship's Master Record.

18. Disposal of Redundant Parts

Scrap.

19. Modification of Parts in Store

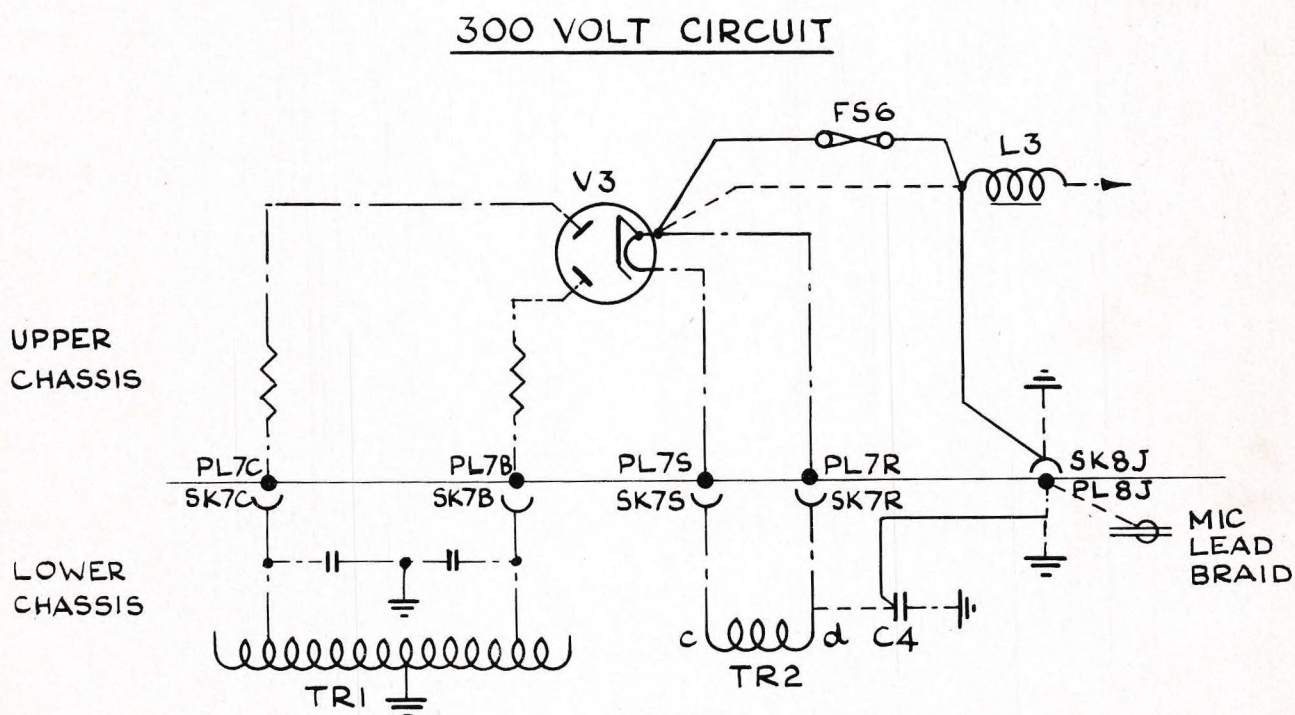
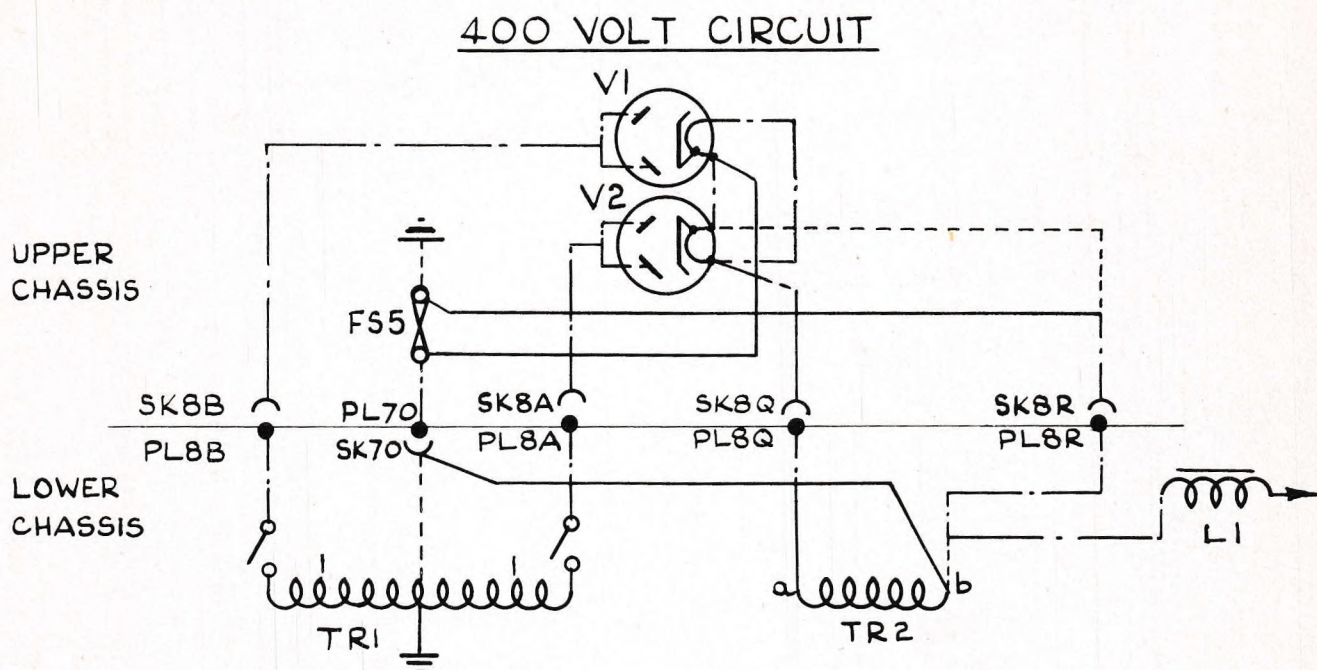
The modification must be embodied before issue.

20. Principal Fleet Documentation Changes/Amendments

- | | |
|-----------------------------------|----------------|
| (a) Handbook | - |
| (b) Maintenance Schedule | - |
| (c) E List | - |
| (d) BR 226/227 | Not applicable |
| (e) WESPILS | Not applicable |
| (f) Test Specification/Supplement | - |
| (g) Installation Specification | - |

TYPE 618 POWER UNIT

WIRING CHANGES

BR 1565(MODS) Mod 4
ORIGINAL

--- EXISTING WIRING
 ---- DELETED WIRING
 ——— NEW WIRING

FIG.1.

TYPE 618 POWER UNIT MODIFIED FUSE WIRING

BR 1565(MODS) Mod 4
ORIGINAL

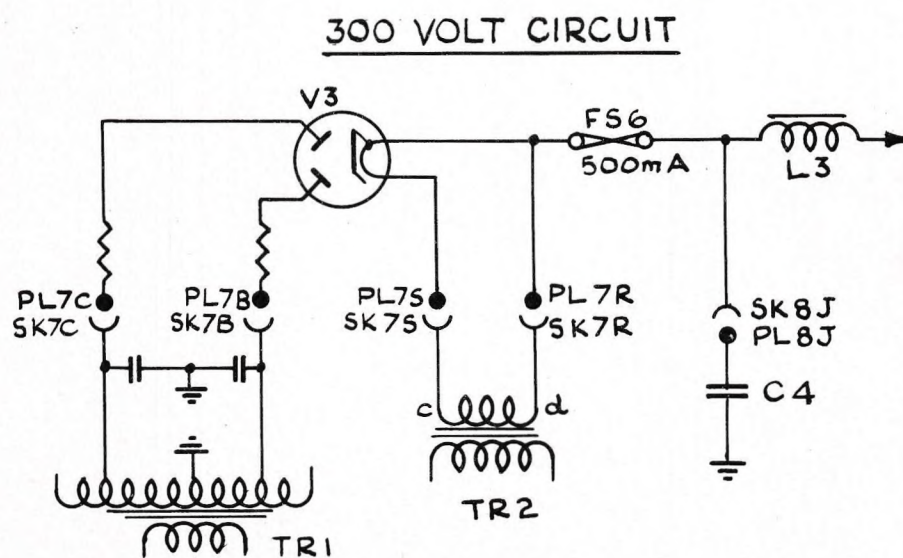
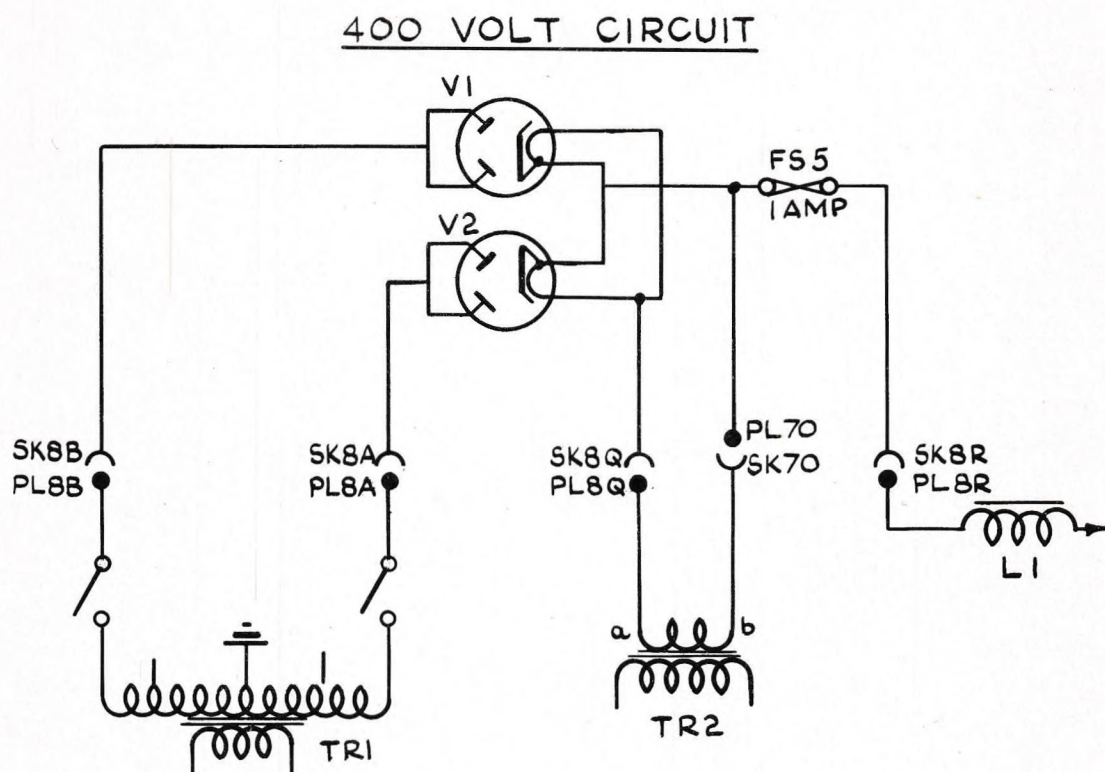


FIG.2.

TRANSMITTER TYPE 618 AND RECEIVER OUTFIT CAS - MODIFICATION NO. 5/1960
(W.50844/60)1. Identity of equipment affected

Transmitter Type 618.

2. Identity of part affected

A.P.100336 Power Unit.

3. Applicability

All equipments.

4. Object

To improve A.C. fusing.

5. Brief Statement of Work

A change of fuses.

6. Classification

-

7. Category

-

8. Man-hours required

(a) Skilled -

(b) Semi-skilled -

9. Associated Mods/As and As

None.

10. Stores/Part Required

<u>Class Group</u>	<u>Reference No.</u>	<u>Description</u>	<u>Quantity</u>
F21	5920-99-972-6912	Fuse Cartridge 1.5 A	4 + 8 spare

11. Supply of Stores/Parts

On demand from (S)NSOs.

12. Special Tools and Test Equipment Required

None.

13. Supplementary Information Required

None.

14. Instructions for Carrying out Modification

- (1) With the main switch on the Power Unit in the OFF position remove the 5 amp fuses fitted in the F1 to F4 fuseholders and replace with pattern 5920-99-972-6912 fuses 1.5 amp.
- (2) Alter the 5 amp marking above the fuseholders to read 1.5 amp.

15. Tests after Embodiment

None.

16. Marking of Equipment after Embodiment

N.A.

17. Recording and Reporting

Record the embodiment of this modification in the Ship's Master Record.

18. Disposal of Redundant Parts

Scrap.

19. Modification of Parts in Store

The modification must be embodied before issue.

20. Principal Fleet Documentation Changes/Amendments

- | | |
|-----------------------------------|----------------|
| (a) Handbook | - |
| (b) Maintenance Schedule | - |
| (c) E List | - |
| (d) BR 226/227 | Not applicable |
| (e) WESPILS | Not applicable |
| (f) Test Specification/Supplement | - |
| (g) Installation Specification | - |

TRANSMITTER TYPE 618 AND RECEIVER OUTFIT CAS - MODIFICATION NO. 6/1962
(W.50183/62)1. Identity of equipment affected

Type 618.

2. Identity of part affected

A.P.100336 Power Unit.

3. Applicability

All equipments.

4. Object

To improve A.C. fusing.

5. Brief Statement of Work

A change of fuses.

6. Classification

-

7. Category

-

8. Man-hours required

(a) Skilled -

(b) Semi-skilled -

9. Associated Mods/As and As

This modification supersedes Modification No. 5.

10. Stores/Part Required

<u>Class Group</u>	<u>Reference No.</u>	<u>Description</u>	<u>Quantity</u>
	5920-99-972-6912	Fuse, Cartridge 1.5 A	2 + 4 spare
	5920-99-972-6150	Fuse, Cartridge 3 A	2 + 4 spare

11. Supply of Stores/Parts

On demand from (S)NSOs.

12. Special Tools and Test Equipment Required

None.

13. Supplementary Information Required

None.

14. Instructions for Carrying out Modification

- (1) With the main switch on the Power Unit in the OFF position remove the existing fuses fitted in the F1 to F4 fuseholders and replace as follows:-

F1 and F2 3 A fuses 5920-99-972-6150

F3 and F4 1.5 A fuses 5920-99-972-6912

(For 110/120 V supply use 5 A 5920-99-972-7865
and 3 A 5920-99-972-6150 respectively)

- (2) Alter the fuse markings above the fuseholders to the new ratings.

15. Tests after Embodiment

None.

16. Marking of Equipment after Embodiment

N.A.

17. Recording and Reporting

Record the embodiment of this modification in the Ship's Master Record.

18. Disposal of Redundant Parts

Scrap.

19. Modification of Parts in Store

The modification must be embodied before issue.

20. Principal Fleet Documentation Changes/Amendments

- | | |
|-----------------------------------|----------------|
| (a) Handbook | - |
| (b) Maintenance Schedule | - |
| (c) E List | - |
| (d) BR 226/227 | Not applicable |
| (e) WESPILS | Not applicable |
| (f) Test Specification/Supplement | - |
| (g) Installation Specification | - |

TRANSMITTER TYPE 618 AND RECEIVER OUTFIT CAS - MODIFICATION NO. 7/1962
(W.50532/62)1. Identity of equipment affected

Transmitter Type 618.

2. Identity of part affected

A.P.100333 HF Transmitter, A.P.100333A HF Transmitter.

3. Applicability

All equipments.

4. Object

To prevent failure due to underrated components.

5. Brief Statement of Work

Replacement of capacitors C19 and C60.

6. Classification

-

7. Category

-

8. Man-hours required

(a) Skilled -

(b) Semi-skilled -

9. Associated Mods/As and As

None.

10. Stores/Part Required

<u>Class Group</u>	<u>Reference No.</u>	<u>Description</u>	<u>Quantity</u>
0631	5910-99-011-5525	Capacitor .01/uF $\pm$ 20%, 500 V.	2

11. Supply of Stores/Parts

On demand from (S)NSOs.

12. Special Tools and Test Equipment Required

None.

13. Supplementary Information Required

BR 1565.

14. Instructions for Carrying out Modification

- (1) Remove transmitter from case and invert.
- (2) Refer to BR 1565 Figure 8.
- (3) Replace the existing .01 μ F 350 V capacitor C19 and C60 with the new .01 μ F 500 V capacitors 5910-99-011-5525.
- (4) Replace transmitter in case and check operation.

15. Tests after Embodiment

Test for normal operation.

16. Marking of Equipment after Embodiment

N.A.

17. Recording and Reporting

Record the embodiment of this modification in the Ship's Master Record.

18. Disposal of Redundant Parts

Scrap.

19. Modification of Parts in Store

The modification must be embodied before issue.

20. Principal Fleet Documentation Changes/Amendments

- | | |
|-----------------------------------|----------------|
| (a) Handbook | - |
| (b) Maintenance Schedule | - |
| (c) E List | - |
| (d) BR 226/227 | Not applicable |
| (e) WESPILS | Not applicable |
| (f) Test Specification/Supplement | - |
| (g) Installation Specification | - |

TRANSMITTER TYPE 618 AND RECEIVER OUTFIT CAS - MODIFICATION NO. 8/1964
(W.213/64)

1. Identity of equipment affected
Transmitter Type 618.
2. Identity of part affected
A.P.100336 Power Unit.
3. Applicability
All equipments.
4. Object
To prevent power unit jumping forward from tray under shock conditions.
5. Brief Statement of Work
Fitting of retaining washers on mounting tray.
6. Classification
-
7. Category
-
8. Man-hours required
 - (a) Skilled $\frac{1}{2}$
 - (b) Semi-skilled -
9. Associated Mods/As and As
None.
10. Stores/Part Required

<u>Class Group</u>	<u>Reference No.</u>	<u>Description</u>	<u>Quantity</u>
0266	5310-A.P.218484	Washer, Flat	2 per Tray
11. Supply of Stores/Parts
On demand from (S)NSOs.
12. Special Tools and Test Equipment Required
None.
13. Supplementary Information Required
None.

14. Instructions for Carrying out Modification

- (1) Remove split springs from outer ends of the two retaining bolts at front of tray.
- (2) Remove circular knurled nuts from retaining bolts.
- (3) Thread a washer, flat, 5310-A.P.218484 on to each bolt and push back to cover the lugs on the front of the Power Unit.
- (4) Refit knurled nuts and tighten hard.
- (5) Refit split springs on ends of retaining bolts.

15. Tests after Embodiment

None.

16. Marking of Equipment after Embodiment

Cross off Figure 8 on the Plate Modification Record of A.P.100336 Power Unit.

17. Recording and Reporting

Record the embodiment of this modification in the Ship's Master Record.

18. Disposal of Redundant Parts

N.A.

19. Modification of Parts in Store

The modification must be embodied before issue.

20. Principal Fleet Documentation Changes/Amendments

- | | |
|-----------------------------------|----------------|
| (a) Handbook | - |
| (b) Maintenance Schedule | - |
| (c) E List | - |
| (d) BR 226/227 | Not applicable |
| (e) WESPILS | Not applicable |
| (f) Test Specification/Supplement | - |
| (g) Installation Specification | - |

TRANSMITTER TYPE 618 AND RECEIVER OUTFIT CAS - MODIFICATION NO. 9/1964
(W.7797/64)

1. Identity of equipment affected
Receiver Outfit CAS.
2. Identity of part affected
A.P.61164 Junction Box, 32-way.
3. Applicability
When Type 618 and Receiver Outfit CAS are wired into the Ship's Remote Control System.
4. Object
To isolate Outfit CAS audio output circuit from the ship's control system when a remote receiver is in use.
5. Brief Statement of Work
The fitting of an audio isolating switch at the operating position.
6. Classification
-
7. Category
-
8. Man-hours required
 - (a) Skilled 1
 - (b) Semi-skilled -
9. Associated Mods/As and As
None.
10. Stores/Parts Required

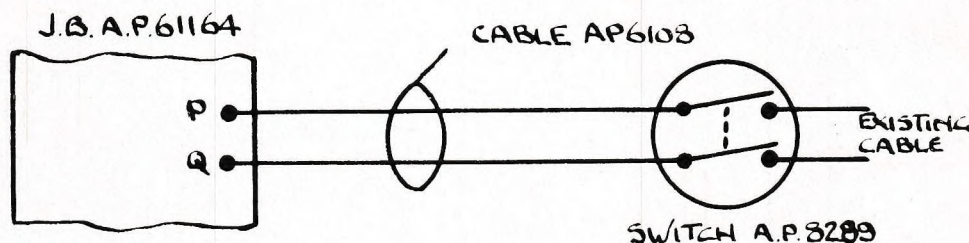
<u>Class Group</u>	<u>Reference No.</u>	<u>Description</u>	<u>Quantity</u>
0611	A.P.8289	Switch, Double Pole	1
0561	A.P.180620	Cable, 2-core	As required
11. Supply of Stores/Parts
On demand from (S)NSOs.
12. Special Tools and Test Equipment Required
None.

13. Supplementary Information Required

None.

14. Instructions for Carrying out Modification

- (1) Open up the 32-way junction box A.P.61164 (normally fitted under the Operator's bench).
- (2) Remove the existing twin cable from terminals P and Q in the J.B. and re-wire to the new switch A.P.8289 as shown, the switch being fitted at a convenient position on the operating bench.



- (3) Refit cover to junction box.
- (4) Mark switch positions "RX OUTPUT NORMAL"
and "RX OUTPUT ISOLATED".

15. Tests after Embodiment

None.

16. Marking of Equipment after Embodiment

N.A.

17. Recording and Reporting

Record the embodiment of this modification in the Ship's Master Record.

18. Disposal of Redundant Parts

N.A.

19. Modification of Parts in Store

The modification must not be embodied before issue.

20. Principal Fleet Documentation Changes/Amendments

- | | |
|-----------------------------------|----------------|
| (a) Handbook | - |
| (b) Maintenance Schedule | - |
| (c) E List | - |
| (d) BR 226/227 | Not applicable |
| (e) WESPILS | Not applicable |
| (f) Test Specification/Supplement | - |
| (g) Installation Specification | - |

TRANSMITTER TYPE 618 AND RECEIVER OUTFIT CAS - MODIFICATION NO. 10/1964
(W.7799/64)1. Identity of equipment affected

Type 618 H/L ('A' pattern transmitters only) and Receiver Outfit CAS.

2. Identity of part affected

A.P.61164 Junction Box, 32-way.

3. Applicability

When Types 618 H/L and Receiver Outfits CAS are fitted together.

4. Object

To prevent key click interference from the transmitter aerial changeover relay.

5. Brief Statement of Work

Fitting of switch at operating position to control transmitter aerial changeover relay.

6. Classification

-

7. Category

-

8. Man-hours required

(a) Skilled 1

(b) Semi-skilled -

9. Associated Mods/As and As

None.

10. Stores/Parts Required

<u>Class Group</u>	<u>Reference No.</u>	<u>Description</u>	<u>Quantity</u>
0567	5930-99-580-2157	Switch, Changeover, S.P.	1
0561	6145-99-910-0009	Miniature Cable, 3A	As required

11. Supply of Stores/Parts

On demand from (S)NSOs.

12. Special Tools and Test Equipment Required

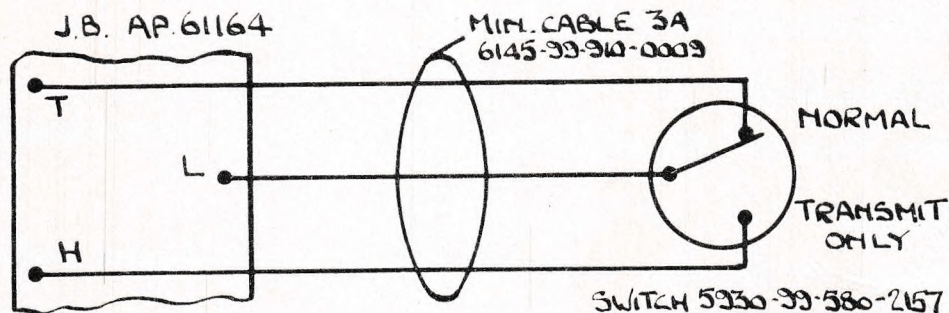
None.

13. Supplementary Information Required

None.

14. Instructions for Carrying out Modification

- (1) Open up the 32-way junction box A.P.61164 (normally fitted under the operator's bench).
- (2) Remove the wire linking terminals L and T.
- (3) Fit the new change-over switch 5930-99-580-2157 adjacent to the morse key on the bench and wire it to the J.B. A.P.61164 as follows:-



- (4) Refit cover to Junction Box.
- (5) Mark switch positions 'NORMAL' and 'TRANSMIT ONLY'.

15. Tests after Embodiment

None.

16. Marking of Equipment after Embodiment

N.A.

17. Recording and Reporting

Record the embodiment of this modification in the Ship's Master Record.

18. Disposal of Redundant Parts

N.A.

19. Modification of Parts in Store

The modification must not be embodied before issue.

20. Principal Fleet Documentation Changes/Amendments

- | | |
|-----------------------------------|----------------|
| (a) Handbook | - |
| (b) Maintenance Schedule | - |
| (c) E List | - |
| (d) BR 226/227 | Not applicable |
| (e) WESPILS | Not applicable |
| (f) Test Specification/Supplement | - |
| (g) Installation Specification | - |

TRANSMITTER TYPE 618 AND RECEIVER OUTFIT CAS - MODIFICATION 11/1971
(W.64039/71)1. Identity of Equipment Affected

Transmitter Type 618.

2. Identity of Part Affected

Transmitter HF 5980-99-418-1572. (Formerly AP 100333A or AP 399014.)

3. Applicability

All equipments.

4. Object

To facilitate connection of Transmitter HF to Aerial Tuning Outfit ETD installation.

5. Brief Statement of Work

Replacement of Aerial Connector.

6. Classification

C

7. Category

I

8. Man-hours required

(a) Skilled -

(b) Semi-skilled $1\frac{1}{4}$ 9. Associated Mods/As and As

Nil

10. Stores/Part Required

<u>Class Group</u>	<u>Reference No.</u>	<u>Description</u>	<u>Quantity</u>
0568	5935-99-913-8550	Connector, Coaxial	1
0266	5305-99-941-9197	Bolt, Cheese Head 6 BA x $\frac{3}{8}$ ins	4
0266	5310-99-941-6888	Nut, Nyloc 6 BA	4

11. Supply of Stores/Parts

5935-99-913-8550 On demand from Superintendent, RNSD, Copenacre.
 5305-99-941-9197 On demand from local SNSO/PSTO(N).
 5310-99-941-6888 On demand from SNSO/PSTO(N) at Portsmouth.

12 Special Tools and Test Equipment Required

Nil

13. Supplementary Information Required

Nil

14. Instructions for Carrying out Modification

- (1) Switch off all power supplies to the equipment.
- (2) Loosen the screws holding the panel of the HF Transmitter Unit and withdraw the chassis to expose the internal wiring.
- (3) Unsolder the lead from the rear of the aerial connector (SK11) AP 66092 which is then to be removed from the panel.
- (4) Offer up the new socket to the panel in such a way as to use the large hole vacated by the old socket to provide necessary clearance for rear projection and mark off the 4 screw positions on the flange upon the panel.
- (5) Drill 6 BA clearance holes in these positions and fit the new socket using four 6 BA cheese head bolts making sure that good electrical contact is achieved.
- (6) Resolder the internal aerial lead to inner connector of the new coaxial socket and replace chassis in the main frame.
- (7) If the modification is implemented before the fitting of ETD installation, connection is to be made to the existing aerial cable termination by making up plug 5935-99-920-9015, connecting a suitable length of cable 6145-99-521-8254 to the inner of the plug.

15. Tests after Embodiment

Nil

16. Marking of Equipment after Embodiment

Cross off Figure 4 on the Plate Modification Record of Transmitter HF 5980-99-418-1572 (Formerly AP 100333A or AP 399014).

17. Recording and Reporting

Record the embodiment of this modification in the Ships Master Record.

18. Disposal of Redundant Parts

Scrap

19. Modification of Parts in Stores

The modification must not be embodied before issue.

20. Principal Fleet Documentation Changes/Amendments

- | | |
|-----------------------------------|------------------------------|
| (a) Handbook | BR 1565 Amendment No. 12 |
| (b) Maintenance Schedule | Not affected |
| (c) 'E' List | Included in revised 'E' List |
| (d) BR 226/227 | Not applicable |
| (e) WESPILS | Not applicable |
| (f) Test Specification/Supplement | Not affected |
| (g) Installation Specification | Not affected |

21. Additional On-Board Spares - Advance Information

Nil