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Colin Hinson

In the village of Blunham, Bedfordshire, UK.

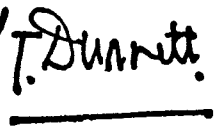
AP 115N-0200-2

(Formerly A.P. 2527R, Vol. 2)

MARKER UNIT (VIDEO MAP) TYPE 30

GENERAL ORDERS AND MODIFICATIONS

BY COMMAND OF THE DEFENCE COUNCIL



Ministry of Defence

FOR USE IN THE

ROYAL AIR FORCE

(AL 19 FEBRUARY 1972)

LIST OF SECTIONS

A GENERAL ORDERS

B MODIFICATIONS

I INFORMATORY

Z MODIFICATION LISTS

RAF FORM 3934.
Printed for H.M. Stationery Office by Richard Bates Ltd., Manchester
(7546) Wt. 149827 3,500 4/66 G496

B

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(RAF Form 3850 B)

Marker Unit Type 30 Ref. No. 10D/18541 to Improve Video Map Definition And provide individual cooling for operation with Cossor CR 787 Radar.

(Mod. 1028)

(CLASS -/3 (RAF))

(AB/F/1028. - 3.5.68.)

Investigation has shown that the Marker Unit, Type 30, Ref. No. 10D/18541, could, with suitable modification, be used to meet an operational requirement to provide Video Mapping facilities for the Cossor CR 787A Surveillance Radar.

This modification results in improved definition of the map trace, two narrow lines occupying the same width as the former single trace.

RSU Henlow have been tasked to carry out this modification.

After modification this unit will be known as :-

Video Mapping Group

Ref. No. 10D/5840-99-194-5027.

Printed for Her Majesty's Stationery Office by
J. Oade & Sons Ltd., Harrogate. 547350 300 5/68 1735/1

Power Unit (EHT) T682 10K/16141 used in CEE Video Map (Ref No 10D/5975-99-946-7736) used on R12 Displays and Bishops Court. Part of Marker Unit T.30 (10D/18541) Part of Marker Unit T.30A (10D/21433) - Resistor R13 increased in rating and Heater Supplies referred to Earth.

(Mod No CA4660/1)

(Class B/2 RAF)

(ADSM 25/K/28556: 19. 1.76)

(ADP No ZCA46600)

1. INTRODUCTION

Reverse grid current in valves CV450 used in position V3 of the power unit, increases in time due to migration of matter from cathode to grid. Towards the end of normal valve life this current may have increased sufficiently to overcome the grid bias control. Thermal runaway results with consequent overheating of screen resistor R13, 4.7K ohm ½W (5905-99-022-2237).

This modification fits a 4.7K ohm 9W resistor (5905-99-014-0356) in place of the existing resistor. Two wire links are added to refer the heater supplies to chassis.

(1) This modification does not supersede, partially supersede or satisfy the work called for by any Modification, STI or SI.

2. EMBODIMENT

This modification is to be embodied by 2nd line personnel.

3. APPROXIMATE TIME REQUIRED FOR EMBODIMENT

The work will take approximately 1 man-hour.

4. DRAWINGS REQUIRED

No drawings are required for the embodiment of this modification.

5. PARTS AND SPECIAL TOOLS REQUIRED

(1) Parts and Materials

(a) A Modification Kit will not be assembled.

(b) The following service supply items are required but not assembled as a kit:

Ref No	Nomenclature	Qty
10W/5905-99-014-0356	Resistor, Fixed DEF5115-2 Style RFH3-9, 4.7K ohm ± 5%, 9W	1
5E/6145-99-111-8761	Wire Electrical Equipment 1/0.9mm, Black	300m

RAF units are to forward their demands for the individual referenced items direct to the appropriate ESD for non-SCC items (quoting the Mod number) and through SCC for SCC-controlled items. Other users are to demand their requirements in accordance with current regulations.

(c) The following materials are to be provided under Unit arrangements:

Ref No	Nomenclature	Qty
10AM/9905-99-942-9496	Label, Mod Record	1

(2) Special Tools and Test Equipment

No special tools or test equipment are required for the embodiment of this modification.

6. MODIFICATION OF SPARES

No spares are affected by this modification.

7. CHANGE OF REFERENCE, PART AND ASSEMBLY NUMBERS

There are no changes of Reference, Part or Assembly Numbers as a result of this modification.

8. SEQUENCE OF OPERATIONS

The following is the sequence of operations:

NOTE: Before any electrical circuit is disturbed or disconnected, all electrical power supplies in, to or from the equipment are to be disconnected. Power supplies are to be reconnected only when the person responsible for embodying or inspecting the modification is satisfied that all action has been taken to make the equipment safe for reconnection.

In the following operations standard printed board repair procedures are to be adhered to.

(1) Locate the Power Unit (EHT) T882 in the Video Map Cabinet.

(2) Disconnect interconnecting cables and sockets. Remove the four fixing bolts and retain. Lift the Power Unit from the rack.

(3) Locate TB1 on Power Unit and identify resistor R13.

(4) Remove resistor R13 (4.7K ohm, ¼W).

(5) Fit resistor R13 (DEF 5112-2, 4.7K ohm ± 5% 9W) provided in place of resistor removed in operation (4).

NOTE: Situate resistor R13 as far away from other components as possible.

(6) Locate plug PLF positioned below RV1 on the Power Unit.

(7) Make the following wire connections using wire provided between pins of PLF and the adjacent earth tag as follows:

From	Wire	To
PLF/pin 4	Black (1/0.9mm)	Earth Tag
PLF/pin 6	Black (1/0.9mm)	Earth Tag

(8) Delete with a diagonal line, but do not obliterate the figure 1 from the Modification Record Label of the Power Unit (EHT) T882 10K/16141.

NOTE: If Power Units are fitted with old type Mod Record Label, replace with Mod Record Label (9905-99-942-9496) and delete figure 1 as in operation (8).

(9) Fit Power Unit into the cabinet rack and secure with four retained bolts. Connect all leads to plugs and sockets removed in operation (2).

9. SPECIAL TESTS AFTER EMBODIMENT

No special tests are required after the embodiment of this modification.

10. RECORDING ACTION

Record action on appropriate servicing documents.

11. DISPOSAL OF REDUNDANT PARTS

The undermentioned parts rendered redundant by the embodiment of this modification are to be disposed of in accordance with current regulations.

Ref No	Nomenclature	Qty
10W/5905-99-022-2237	Resistor Fixed 4.7K ohm $\frac{1}{4}$W, $\pm$ 10%	1

12. EFFECT ON WEIGHT

This modification has no effect on weight.

13. EFFECT ON AIRCRAFT OR EQUIPMENT OPERATION AND HANDLING

This modification does not affect the operation or handling of the equipment.

14. EFFECT ON SERVICING AND SERVICING SCHEDULE

This modification has no effect on servicing or on the servicing schedule.

15. EFFECT ON NUCLEAR SAFETY AND ELECTROMAGNETIC COMPATIBILITY

This modification has no effect on nuclear safety and electromagnetic compatibility.

Printed for Her Majesty's Stationery Office by Swift Printers Ltd., London.

241/869(RO)940006/250/1.7(

Cabinets Electrical Equipment (Ref. No. 5975-99-970-2307) and (Ref. No. 5975-99-946-7736), part of Video Mapping Equipment - Introduction of Lampholder (Ref. No. 6250-99-971-4725) as Replacement for Obsolete Lampholder (Ref. No. 5A/4649.)

(Mod. No. CA2140.)

(Class C/3, W.O.T.S.A.G.)

(AB/K/1213. - 8.5.64.)

1. INTRODUCTION

Quantity two Lampholders (Ref. No. 5A/4649) are used in Cabinets Electrical Equipment (Ref. Nos. 5975-99-970-2307) and 5975-99-946-7736). The makers of Lampholder Ref. No. 5A/4649 have indicated that it will no longer be made. This modification provides for the replacement of these Lampholders by Lampholders (Ref. No. 6250-99-971-4725).

(1) This modification does not cancel or supersede any work called for by approved modifications.

(2) This modification is not essentially connected with any other approved modification.

2. EMBODIMENT

This modification is to be embodied by:-

Second Line Servicing Personnel

3. APPROXIMATE TIME REQUIRED FOR EMBODIMENT

The work will take approximately ½ man-hour per lampholder.

4. DRAWINGS REQUIRED

Drawing No. A.P.2527R/B.15/64 is incorporated in this leaflet.

5. PARTS AND SPECIAL TOOLS REQUIRED

(1) Parts and Materials

The following materials are required and are to be provided under Unit arrangements.

Ref. No.	*Part No.*	*Nomenclature*	*Qty.*
10AE/971-4725	R30-0504-53	Lampholder	2
10AC/941-9435	PF13401/312	Screw, 4BA ch.hd. x 3/8 in. lg. M.S.C.P.	4

(2) Special Tools and Test Equipment

No special tools or test equipment are required for the embodiment of this modification.

6. MODIFICATION OF SPARES

No spares are affected by this modification.

7. CHANGE OF REFERENCE, PART AND ASSEMBLY NUMBERS

There are no changes of Reference, Part or Assembly Numbers as a result of this modification.

8. SEQUENCE OF OPERATIONS

The following is the sequence of operations:-

Note:- Before any electrical circuit is disturbed or disconnected all electrical power supplies in, to or from the equipment are to be disconnected. Power supplies are to be reconnected only when the person responsible for embodying or inspecting the modification is satisfied that all action has been taken to make the equipment safe for reconnection.

(1) Open the doors of the Cabinet Electrical Equipment (Video Map) (Ref. Nos. 5975-99-970-2307 or 5975-99-948-77661 and locate the Lampholders fitted behind the top styling of the Cabinet.

(2) Remove Lamp and disconnect existing wiring to the lampholders. Mark connections to facilitate re-assembly.

(3) Remove Lampholder. Discard countersunk screws, but retain other fixings.

(4) Drill new 5/32M dia. fixing hole in Lampholder bracket as shown on the drawing. Remove swarf and treat raw edges with Varnish, Electrical Insulating Air Drying.

(5) Fit new Lampholder (Ref. No. 6250-99-971-4725) and secure with new screw and original washer and stiffnuts. Re-connect wiring and re-fit lamp.

(6) No modification record label marking is required.

9. SPECIAL TESTS AFTER EMBODIMENT

No special tests are required after the embodiment of this modification.

10. RECORDING ACTION

Record in the appropriate servicing documents.

11. DISPOSAL OF REDUNDANT PARTS

The undermentioned parts rendered redundant by the embodiment of this modification are to be disposed of in accordance with

current regulations:-

Ref. No.	*Nomenclature*	*Qty.*
5A/4649	Lampholder	2

12. EFFECT ON WEIGHT

This modification has no effect on weight.

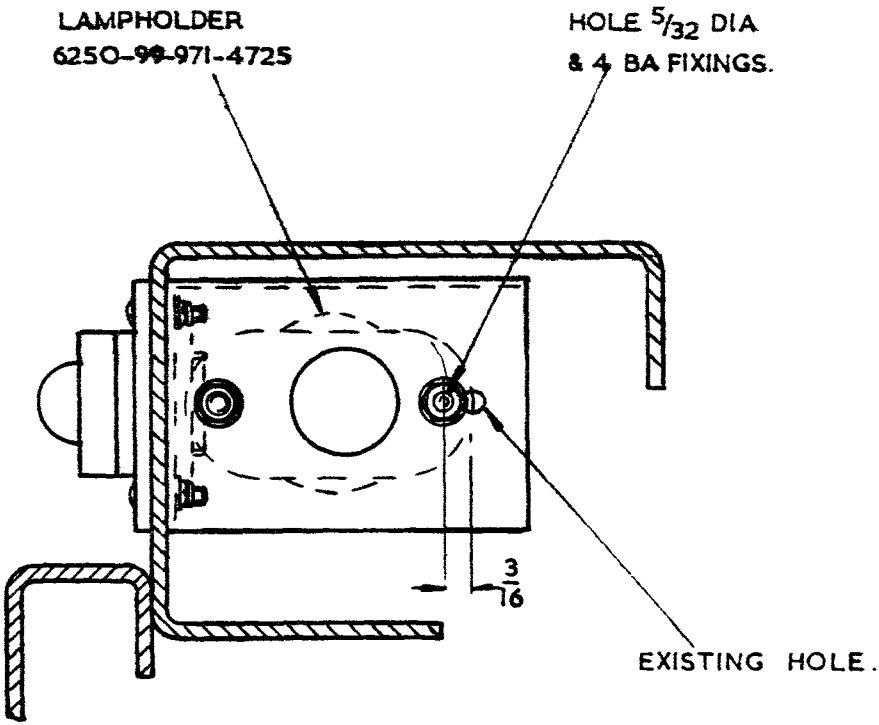
13. EFFECT ON EQUIPMENT OPERATION AND HANDLING

This modification does not affect the operation or handling of the equipment.

14. EFFECT ON SERVICING AND SERVICING SCHEDULE

(1) This modification has no effect on servicing.

(2) This modification does not affect the servicing schedule.



DRG. NO. AP2527R/B15/64.

Marker Unit (Video Map), 30, (Ref. No. 10D/18541) and Marker Unit (Video Map) 30A, (Ref. No. 10D/21433)- Introduction of Lampholders (Ref No. 10AE/9714725) as replacement for obsolete Lampholder (Ref. No. 5A/4649).

(Mod. No. CA2132/NA)

(Class C/3, WOTSAC.)

(AB/K/1194 17.4.64.)

1. INTRODUCTION

Quantity two Lampholders (Ref. No. 5A/4649) are used in Marker Units (Video Map) 30 and 30A. These Lampholders are obsolete and when stocks are exhausted they are to be replaced by Lampholder (Ref. No. 10AE/971-4725).

(1) This modification does not cancel or supersede any work called for by approved modifications.

(2) This modification is not essentially connected with any other approved modification.

2. EMBODIMENT

This modification is to be embodied by:-

Second Line Servicing Personnel

3. APPROXIMATE TIME REQUIRED FOR EMBODIMENT

The work will take approximately ½ man hour per lampholder.

4. DRAWINGS REQUIRED

Drawing No. A.P.2527R/B.14/64 is incorporated in this leaflet.

5. PARTS AND SPECIAL TOOLS REQUIRED

(1) Parts and Materials

The following materials are required and are to be provided under Unit arrangements.

Ref. No.	*Part No.*	*Nomenclature*	*Qty.*
10AE/971-4725	R30-0504-53	Lampholder	2
5E /941-9435	PF13401/312	Screw, 4BA ch.hd. x 3/8 lg. MSCP	4
33B/9433454		Varnish Elect. Ins. Air drying	As required

LA

(2) Special Tools and Test Equipment

No special tools or test equipment are required for the embodiment of this modification.

6. MODIFICATION OF SPARES

No spares are affected by this modification.

7. CHANGE OF REFERENCE, PART AND ASSEMBLY NUMBERS

There are no changes of Reference, Part or Assembly Numbers as a result of this modification.

8. SEQUENCE OF OPERATIONS

The following is the sequence of operations:-

Note:- Before any electrical circuit is disturbed or disconnected, all electrical power supplies in, to or from the equipment are to be disconnected. Power supplies are to be reconnected only when the person responsible for embodying or inspecting the modification is satisfied that all action has been taken to make the equipment safe for reconnection.

(1) Open the doors of the Cabinet for Market Unit (Video Map) 30 or 30A and locate the Lampholders fitted behind the top styling of the cabinet.

(2) Remove Lamps and disconnect existing wiring to the lampholders. Mark connections to facilitate re-assembly.

(3) Remove Lampholders Discard countersunk screws but retain other fixings.

(4) Drill a new 5/32 in dia fixing hole in each lampholder bracket as shown on the drawing. Remove swarf and treat raw edges with Varnish Electrical Insulating Air Drying.

(5) Fit new Lampholders (Ref. No. 10AE/971-4725) and secure with new screws 4BA ch hd. x 3/8 in. lg. and original washer and stiffnuts. Re-connect wiring and re-fit lamps.

(6) No modification record label marking is required.

9. SPECIAL TESTS AFTER EMBODIMENT

No special tests are required after the embodiment of this modification.

10. RECORDING ACTION

Record in the appropriate servicing documents.

11. DISPOSAL OF REDUNDANT PARTS

The undermentioned part rendered redundant by the embodiment of this modification to be disposed of in accordance with current regulations:-

Ref. No.	*Nomenclature*	*Qty.*
5A/4649	Lampholder	2

12. EFFECT ON WEIGHT

This modification has no effect on weight

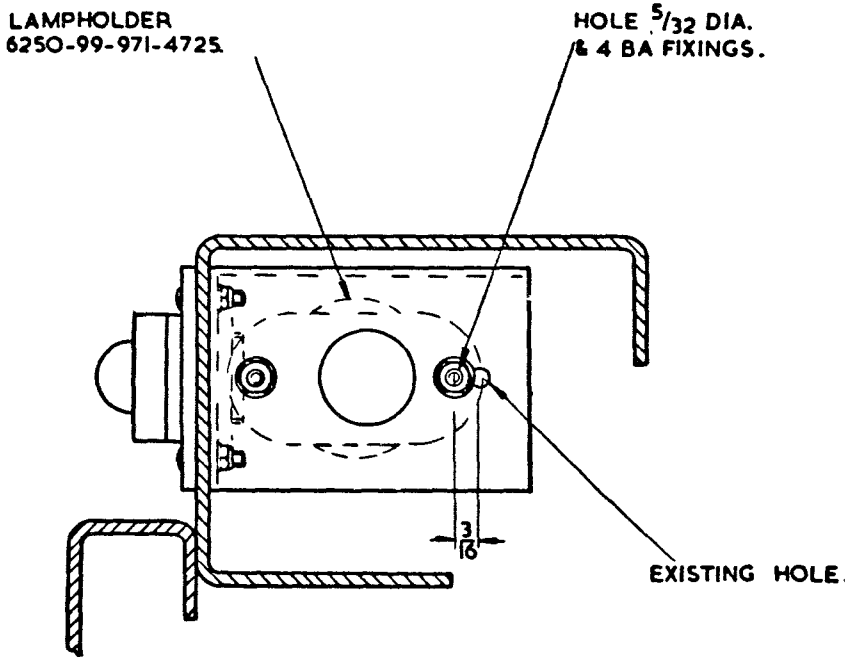
13. EFFECT ON AIRCRAFT OR EQUIPMENT OPERATION AND HANDLING

This modification does not affect the operation or handling of the aircraft or equipment.

14. EFFECT ON SERVICING AND SERVICING SCHEDULE

(1) This modification has no effect on servicing.

(2) This modification does not affect the servicing schedule.



DRG. NO. AP2527R/B14/64

Amplifying Unit (video) 298 (Ref. No. 10U/16055) part of Marker Unit (Video Map) 30 (Ref. No. 10D/18541) Conversion to amplifier, video map (Ref. No. 5840-99-946-7733)

(Mod. No. CA.2055/2.)

(Class S.O.O.)

(AB/K/1085.-17.9.63.)

1. Amplifying Unit 298 (Ref. No. 10U/16055) was designed to feed five outputs derived from each of the two Video Maps ("Fine" and "Coarse") to a repeater amplifier, part of Selector Unit (Head) 35 and variants. The input impedance of the Amplifier in the Selector Unit (Head) 35, is high and the output stage of the Amplfying Unit 298 was designed accordingly.

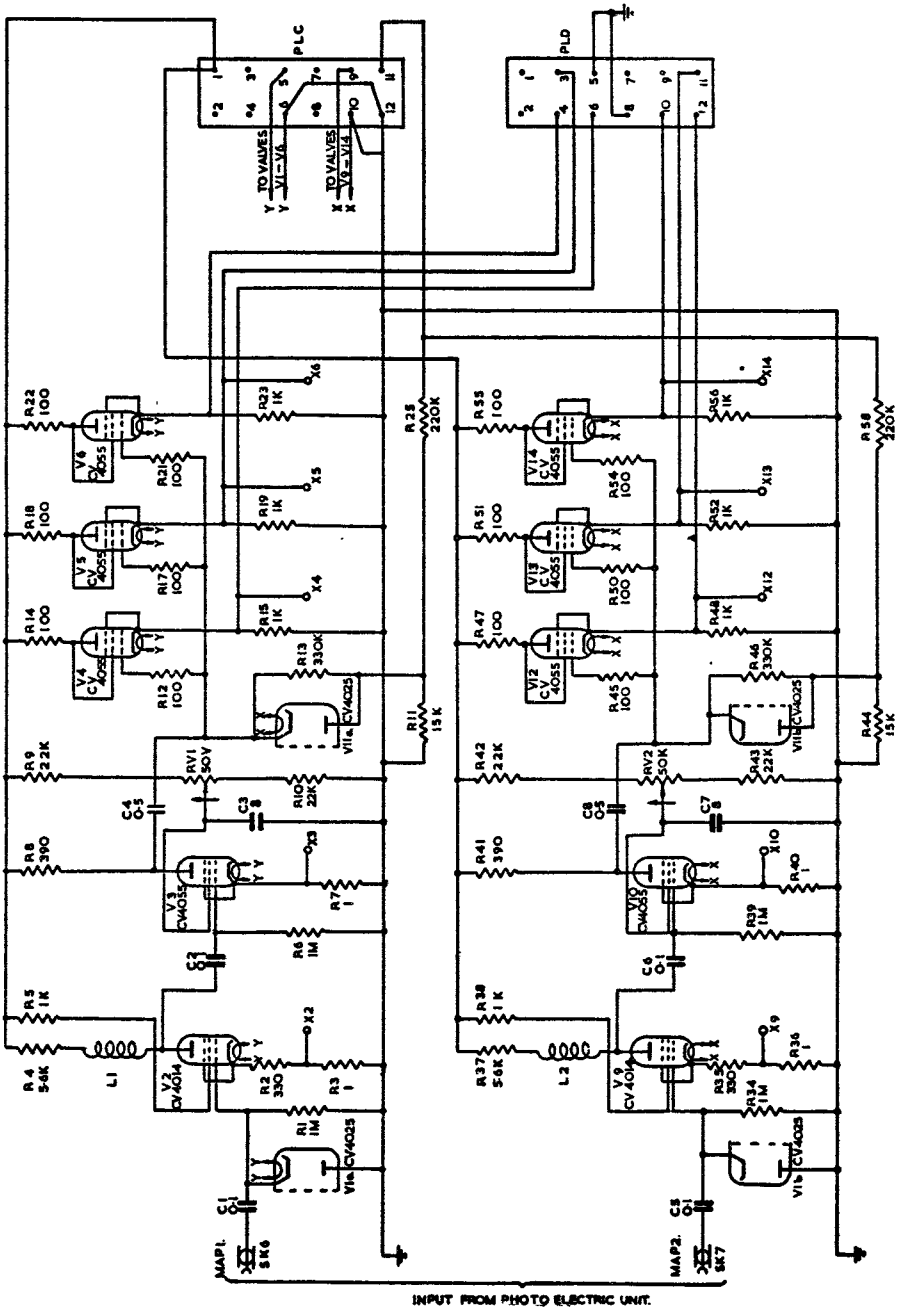
2. In certain applications where Radar Type 84 is being integrated in a temporary manner, it is necessary to feed the output of the Video Map direct to the low impedance input circuit of a Display Unit and to enable this to be done, the output stages of the Amplifying Unit have been completely re-designed.

3. The conversion is carried out in accordance with M.W.T. Co., Ltd., drawing E/RAD/C52231 and a circuit diagram of the modified unit is given in the drawing incorporated in this leaflet.

4. The effect of this modification is to convert Amplifying Unit 298 (Ref. No. 10U/16055) into Amplifier Video (Ref. No. 5840-99-946-7733).

5. Drawing No. A.P.2527R/B.13/63 is incorporated in this leaflet.

6. The work will be carried out by Contractors Working Party.



DRG. NO. AP2527R/B13/63

Marker Unit (Video Map) 30 (Ref. No. 10D/18541) - Deletion of Overall reference number and introduction of Cabinet Electrical Equipment (Ref. No. 5975-99-970-2307)

(Mod. No. CA.2054/2.)

(Class S.O.O.)

(AB/K/1084. - 16.5.63.)

1. To permit the temporary integration of Radar Type 84 signal processing equipment, a specially engineered repeater amplifier is required in the Marker Unit (Video Map) 30.

2. To allow greater flexibility in the make-up of units which form the Video Map, the nomenclature Cabinet Electrical Equipment (Ref. No. 5975-99-970-2307) is introduced. The units housed in the cabinet thus cease to be part of the assembly and any combination of units required may be assembled in the cabinet without further modification, providing the cabinet wiring is unchanged.

3. The modification consists of the following work which is to be carried out in accordance with M.W.T. Co., Ltd., Drawing E/RAD/A.52298 at EZS and WSD:-

(a) Removal of all units from the cabinet. Note that these are eventually replaced in accordance with the requirements of a particular Station.

(b) Replacement of the identity label on the cabinet.

(c) Replacement of the existing modification label by Label (Ref. No. 9905-99-942-9496).

4. The effect of this modification is to delete Marker Unit (Video Map) 30, (Ref. No. 10D/18541) and introduce Cabinet Electrical Equipment (Ref. No. 5975-99-970-2307). When this modification is embodied, the figure '4' is deleted from the unit modification record label. The following individual Units must be taken on charge separately:-

Ref. No.	*Nomenclature*	*Qty.*
10AE/615	Photo - Electric Unit 100	1
10AT/529	Lens Unit 26	1
10D/18589	Timebase Unit 137	1
10F/18218	Switch Unit 504	1
10K/18141	Power Unit (EHT) 882	1
10K/18142	Power Unit (MHT) 883	1
10K/18143	Power Unit (-300V) 884	1
10K/18144	Power Unit (+300V) 885	3
10U/18055	Amplifying Unit (Video) 298	1
10Q/18080	Indicator Unit (CRT) 33	1

5. The work will be carried out by Contractors Working Party.

A.L. No. 13
(Cabinet E.E.)

A.P.2527R, Vol. 2
Leaflet No. B.11

Rack Assembly 305 (Ref. No. 10D/18671)—Deletion of Overall Reference Number and Introduction of Cabinet Electrical Equipment (Ref. No. 5975-99-944-8356)

(MOD. No. CA.2058/1.)

(Class S.O.O.)

(AB/K/1088.—14.5.63.)

1. To permit the temporary integration of Radar, Type 84 signal processing equipment, additional heavy current circuits are required in Relay Unit 184, part of Rack Assembly 305.

2. To permit greater flexibility in the make-up of units which form the Rack Assembly 305, the nomenclature Cabinet Electrical Equipment (Ref. No. 5975-99-844-8356) is introduced. The units housed in the cabinet thus cease to be part of the assembly, and any combination of units required may be assembled in the cabinet without further modification, providing the cabinet wiring is unchanged.

3. The modification consists of the following work, which is to be carried out in accordance with M.W.T. Drawing E/RAD/A.52286:—

(*a*) Removal of all units from the cabinet. Note that these are eventually replaced in accordance with the requirements of a particular Station.

(*b*) Replacement of the identity label to the cabinet.

(*c*) Replacement of the existing modification Label by Label (Ref. No. 9905-99-942-9496).

4. The effect of this modification is to delete Rack Assembly 305 (Ref. No. 10D/18671) and introduce Cabinet Electrical Equipment (Ref. No. 5975-99-944-8356). When this modification is embodied, the figure '1' will be deleted from the Cabinet modification record label.

The following individual units must be taken on charge separately:–

10D/18697	Stabiliser, Voltage 100
10D/18698	Rectifier Unit 100
10D/18699	Rectifier Unit 101
10D/18700	Rectifier Unit 102
10F/16208	Relay Unit 184
10K/17957	Transformer Unit 185.

5. The work will be carried out by Contractor's Working Party at B.W.P., E.Z.S. and W.S.D.

(C5623) Wt. 8212. 500 5/63 J.L. Ltd. 1351/1

Timebase Unit 137, (Ref. No. 10D/18569) and Timebase Unit 137A, (Ref. No. 10D/21456), Part of Marker Unit (V.M.) 30, (Ref. No. 10D/18541) and Marker Unit (V.M.) 30A, (Ref. No. 10D/21433) respectively - Removal of Earth Connection

(Mod. No. CA2050/1 - Timebase Unit 137)

(Mod. No. CA2050/2 - Timebase Unit 137A.)

(AB/K/1037. - 25.2.63.)

1. INTRODUCTION

If valve CV4055 is used as the ruggedised replacement for valve CV2127 in Timebase Unit 137, (Ref. No. 10D/18569) or Timebase Unit 137A, (Ref. No. 10D/18569) or Timebase Unit 137A, (Ref. No. 10D/21456) damage to the unit can occur. In the CV2127, pin 1 is not connected, but in the CV4055 this pin is connected internally to the suppression grid. The wiring of Timebase Units 137 and 137A is such that pin 1 is connected to earth, thus if CV4055 is used, suppressor grid and cathode are earthed and operation of the unit is affected. This modification removes the earth and the modified circuit is suitable for use with either valve.

(1) This modification does not cancel or supersede work called for by approved modifications.

(2) This modification is not essentially connected with any other approved modification.

2. EMBODIMENT

This modification is to be embodied by:-

Second Line Servicing Personnel.

3. APPROXIMATE TIME REQUIRED FOR EMBODIMENT

The work will take approximately ½ man-hour.

4. DRAWINGS REQUIRED

No drawings are required for the embodiment of this modification.

5. PARTS AND SPECIAL TOOLS REQUIRED

(1) Parts and Materials

The following material is required and is to be provided under Unit arrangements.

Ref. No.	*Nomenclature*	*Qty.*
10AM/9429496	Label Mod. Record	1

(2) Special Tools and Test Equipment

No special tools or test equipment are required for the embodiment of this modification.

6. MODIFICATION OF SPARES

No spares are affected by this modification.

7. CHANGE OF REFERENCE, PART AND ASSEMBLY NUMBERS

There are no changes of Reference, Part or Assembly Numbers as a result of this modification.

8. SEQUENCE OF OPERATIONS

The following is the sequence of operations:-

Note:- Before any electrical circuit is disturbed or disconnected, all electrical power supplies in, to or from the equipment are to be disconnected. Power supplies are to be reconnected only when the person responsible for embodying or inspecting the modification is satisfied that all action has been taken to make the equipment safe for reconnection.

(1) The following sequence of operations assumes that the Timebase Unit 137 or 137A (Ref. Nos. 10D/18569 and 10D/21456 respectively) has been removed from the Marker Unit (Video Map) 30 or 30A (Ref. Nos. 10D/18541 and 10D/21433 respectively), and placed on the bench.

(2) With the unit inverted locate the valve holders for Valves V8 and V9, both CV2127. Amend the wiring on both these valves holders by removing the wire connecting pin 1 to the chassis earth tag.

(3) In the case of Time Base Unit 137:- Remove the existing Mod. Record Label, and replace with the Label Modification Record, (Ref. No. 10AM/9429496) (adhesive type) observing the following

instructions. Clean the surface with carbon-tetra-chloride, immerse label in lukewarm water for at least 40 seconds. Remove all traces of surplus water by blotting. Peel off cellophane backing, taking care not to touch the adhesive. Apply label to surface which has been cleaned, and press firmly with fingers. The new modification label is to be fitted on the front panel in the top right hand corner.

(4) On completion of the modification, delete from the unit modification record label the figure "1" in the case of Timebase Unit 137, and the figure "2" in the case of Timebase Unit 137A.

9. SPECIAL TESTS AFTER EMBODIMENT

No special tests are required after the embodiment of this modification.

10. RECORDING ACTION

Record in the appropriate servicing document.

11. DISPOSAL OF REDUNDANT PARTS

No parts are rendered redundant by the embodiment of this modification.

12. EFFECT ON WEIGHT

This modification has no effect on weight.

13. EFFECT ON AIRCRAFT OR EQUIPMENT OPERATION AND HANDLING

This modification does not affect the operation or handling of the aircraft or equipment.

14. EFFECT ON SERVICING AND SERVICING SCHEDULE

This modification does not affect the servicing schedule.

Marker Unit (Video Map) 30A (Ref. No. 10D/21433) - Replacement of Window, Test (Ref. No. 10AT/559) to introduce Data Mile Calibration

(Mod. No. CA2010/2.)

(Class B/2.)

(AB/K/909.-29.11.62)

1. INTRODUCTION

As a result of the introduction of data miles (2,000 yd.) in place of nautical miles (2,027 yd.) for radar range measurement it is necessary to introduce a new test slide suitably calibrated. A new test slide with sight rings for 320 data mile working is also introduced, together with a holder for stowage of slides when not in use.

(1) This modification does not cancel or supersede any work called for by approved modifications.

(2) This modification is essentially connected with Mod. Nos. listed below; if that work is not already embodied it must be effected concurrently.

CA.2009/2 - Test Set 402 (Ref.No.10S/16157) - Replacement of Crystal for "Data Mile" calibration.

CA.2031/1 - Marker Unit (Video) Map 30 (Ref.No.10D/18541) - Replacement of Window, Test, for "Data Mile" calibration.

CA.2011/2 - Amplifying Unit (Computer) 16144 (Ref. No. 10U/17455) - Replacement of switches and re-wiring for "Data Mile" calibration.

CA.2012/2 - Amplifying Unit (Intergrator) 12680 (Ref.No. 10U/17432) - Re-wiring of switches for "Data Mile" calibration.

CA.2015/2 - Marker Unit (Range) 27 (Ref.No. 10D/18308) - Component changes for "Data Mile" calibration.

CA.2015/3 - Marker Unit (Range) 27A (Ref.No.10D/21435 - Component changes for "Data Mile" calibration.

CA.2040/5 - Timebase Unit (Range) 136 (Ref.No. 10D/19537) - Component changes for "Data Mile" calibration.

CA.2041/2 - Timebase Unit 139 (Ref. No. 10D/18678) - Component changes for "Data Mile" calibration.

CA.1444/5 - Calibrator, Range TS735/FPS - 6 - Replacement of crystal and component changes for "Data Mile" calibration.

The two modifications listed below should also be embodied concurrently if materials are available, but this is not mandatory.

CA.2042/2 - Indicating Unit (CRT) 26. (Ref. No. 10Q/16061) - Component changes for "Data Mile" calibration.

CA.2043/2 - Monitoring Unit 82 (Ref.No.10T/6144) - Component changes for "Data Mile" calibration.

2. EMBODIMENT

This modification is to be embodied by:-

C.W.P. at P.K.D. and V.Q.J.

Second Line Servicing Personnel at all other sites.

3. APPROXIMATE TIME REQUIRED FOR EMBODIMENT

The work will take approximately 1 man-hour.

4. DRAWINGS REQUIRED

Drawing No. A.P.2527R/B.9/62 is incorporated in this leaflet.

5. PARTS AND SPECIAL TOOLS REQUIRED

(1) Parts and Materials

(a) The Modification Kit which consists of the following items supplied by the Contractor will be assembled by No. 14 Maintenance Unit under Ref. No. 10M/CA2010:-

Ref.No.	*Part No.*	*Nomenclature*	*Qty.*
	E/RAD/B87959-A	Holder Assy.	1
8305-99-942-2039		Felt, wool, 2½ x 1½ x ⅛ in.	2
10AT/805	E/RAD 5147-2	Window, Test	2
10AT/810	E/RAD/5147-3	Window, Test	2
	E/RAD/A60923-8	Spacer	1
	PF 13401/328	Screw, 4 BA Chd.Hd. x ⅞ in. MSCP	1
	PF 13401/314	Screw, 4 BA Ch.Hd. x 7/16 in. MSCP	7
	PF 12402/3	Stiff Nut, 4 BA. Hex. thin, MSCP	8
	PF 74011/304	Washer, 4 BA plain small	16

All the above items will be issued to R.A.F. Units on issue order - no demands are to be submitted. R.A.F. Units abroad, and all other users, are to demand separately their requirements of kits as listed above, in accordance with current regulations.

Note:- Kits for use by the Contractors Working Party will be retained by the Contractor.

(b) The following materials are also required and are to be provided under Unit arrangements:-

Ref.No.	*Nomenclature*	*Qty.*
33C/9436957	Adhesive, Synthetic Resin Neoprene (Evostick 528)	As reqd.
33B/9433454	Varnish Elect. Ins. Air Drying, DEF 32-A	As reqd.

(2) Special Tools and Test Equipment

No special tools or test equipment are required for the embodiment of this modification.

6. MODIFICATION OF SPARES

No spares are affected by this modification.

7. CHANGE OF REFERENCE, PART AND ASSEMBLY NUMBERS

There are no changes of Reference, Part or Assembly Numbers as a result of this modification.

8. SEQUENCE OF OPERATIONS

The following is the sequence of operations:-

(1) Open front door of Marker Unit (Video Map) 30A, (*i.e.* door which gives access to Indicating Unit 33) and lift door off hinges taking care not to loose spacing washers from hinge pins.

(2) At dimensions shown on the drawing drill 1 hole $\frac{5}{32}$ in.dia.

(3) Fit Holder Assembly, Part No. E/RAD/87959-A and Spacer, Part No. E/RAD/60923-8 and secure temporarily. Ensure that top of holder is horizontal. Using holder assembly as jig, drill seven holes through door using $\frac{5}{32}$ in. drill. Remove holder, de-burr holes and varnish raw edges.

(4) Using Adhesive (Ref. No. 33C/9436957) secure the two felt pads in position as shown on the drawing.

(5) Fit Holder Assembly, Part No. E/RAD/B.87959-A and Spacer Part No. E/RAD/60923-8 and secure with 4 B.A. fixing material supplied.

(6) Stow in holder assembly, quantity two Window Test (Ref.No. 10AT/805) and quantity two Window Test (Ref.No.10AT/810) until required for use.

(7) On completion of this modification delete the figure "2" from the unit modification record label.

9. SPECIAL TESTS AFTER EMBODIMENT

No special tests are required after the embodiment of this modification.

10. RECORDING ACTION

Record on the appropriate servicing documents.

11. DISPOSAL OF REDUNDANT PARTS

The undermentioned part rendered redundant by the embodiment of this modification is to be returned to No. 14 Maintenance Unit:-

Ref.No.	*Part No.*	*Nomenclature*	*Qty.*
10AT/559	E/RAD/5147-1	Window Test 305	2

12. EFFECT ON WEIGHT

This modification causes a weight change of plus ½ lb.

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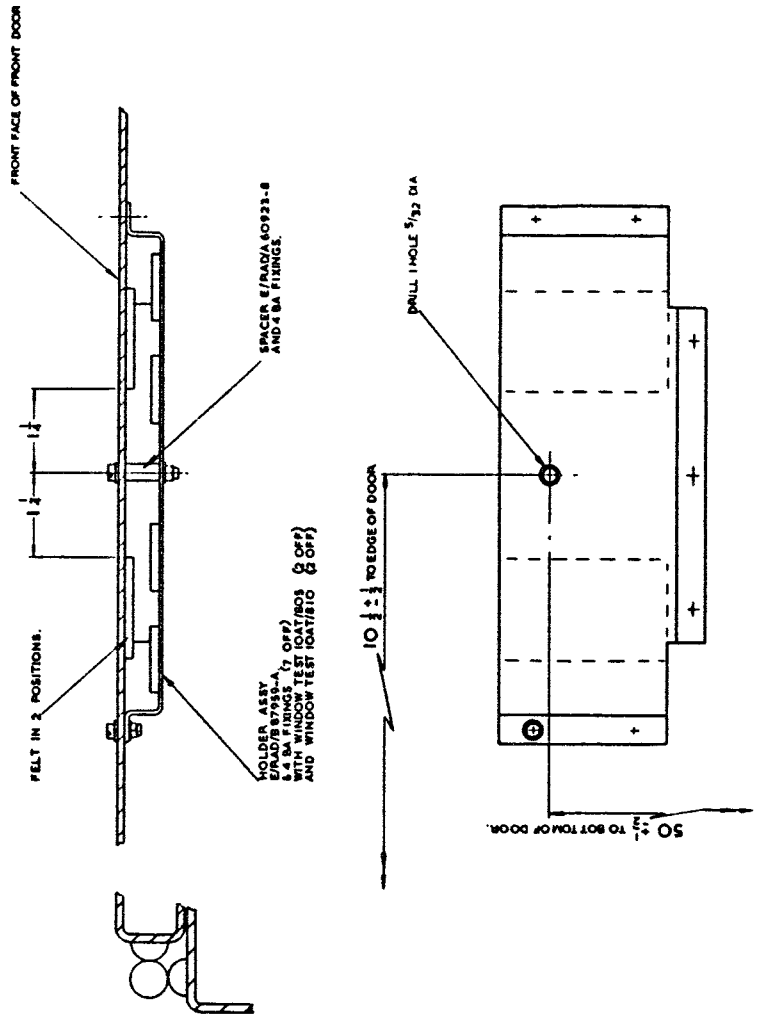
(12/62) (S.O.9702) 500 1438



Drawing No. A.P.2527R/B.9/62

Printed for H.M. Stationery Office by Office Services (Luton) Ltd.
(12/62) (S.O.9702) 500 1438

Marker Unit (Video Map) 30 (Ref. No. 10D/18541) - Replacement of Window Test (Ref. No. 10AT/559) - To introduce "Data Mile" calibration

(Mod. No. CA.2031/1.)

(Class B/2.)

(AB/K/967.- 30.10.62.)

1. INTRODUCTION

As a result of the introduction of data miles (2,000 yds.) in place of nautical miles (2,027 yds.) for radar range measurement it is necessary to introduce a new test slide suitably calibrated. A holder is also to be fitted for stowage of the slide when not in use.

(1) This modification does not cancel or supersede any work called for by approved modifications.

(2) This modification is essentially connected with Mod. Nos. listed below; if that work is not already embodied it must be effected concurrently:-

Mod. No	*Title*
CA. 2009/2	Test Set 402 (Ref. No. 10S/16157) - Replacement of Crystal for "Data Mile" calibration.
CA. 2010/2	Marker Unit (Video Map) 30A (Ref. No. 10D/21433) - Replacement of Window, Test, for "Data Mile" calibration.
CA. 2011/2	Amplifying Unit (Computer) 16144 (Ref. No. 10U/17455) - Replacement of switches and rewiring for "Data Mile" calibration.
CA. 2012/2	Amplifying Unit (Integrater) 12680 (Ref.No. 10U/17432) - Rewiring of switches for "Data Mile" calibration.
CA. 2015/2	Marker Unit (Range) 27 (Ref. No. 10D/18308) - Component changes for "Data Mile calibration.
CA. 2015/3	Marker Unit (Range) 27A (Ref. No.10D/21435) - Component changes for "Data Mile" calibration.

CA. 2040/5 - Timebase Unit (Range) 136 (Ref. No. 10D/18537) - Component changes for "Data Mile" calibration.

CA. 2041/2 - Timebase Unit 139 (Ref. No. 10D/18678) - Component changes for "Data Mile" calibration.

CA. 1444/5 - Calibrator, Range TS735/FPS-6 - Replacement of crystal and component changes for "Data Mile" calibration.

The two modifications listed below should also be embodied concurrently if materials are available, but this is not mandatory.

CA. 2042/2 - Indicating Unit (CRT) 26 (Ref.No.10Q/16061) - Component changes for "Data Mile" calibration.

CA. 2043/2 - Monitoring Unit 82 (Ref. No.10T/6144) - Component changes for "Data Mile" calibration.

2. EMBODIMENT

This modification is to be embodied by:-

Second Line Servicing Personnel.

3. APPROXIMATE TIME REQUIRED FOR EMBODIMENT

The work will take approximately 1 man-hours.

4. DRAWINGS REQUIRED

Drawing No. A.P. 2527R/B.8/62 is incorporated in this leaflet.

5. PARTS AND SPECIAL TOOLS REQUIRED

(1) Parts and Materials

(a) The Modification Kit, which consists of the following items supplied by the Contractor, will be assembled by No. 14 Maintenance Unit under Ref. No. 10M/CA2031:-

Ref. No.	*Part No.*	*Nomenclature*	*Qty.*
	E/RAD/B 97959-A	Holder Assy.	1
8305-99-942-2039		Felt, wool, 2½ x 1½ x 1/8in.	2
10AT/805	E/RAD/5147-2	Window, Test	2
	E/RAD/A60923-8	Spacer	1
	PF13401/328	Screw, 4 BA ch.hd x 7/8,MSCP	1

PF13401/314	Screw, 4BA ch.hd. x 7/16 in. MSCP	7
PF12402/3	Stiff Nut, 4BA, hex thin, MSCP	8
PF74011/304	Washer, plain, small	16

The above items will be issued to R.A.F. Units at home on issue order - no demands are to be submitted. R.A.F. Units abroad, and all other users, are to demand separately their requirements of kits as listed above in accordance with current regulations.

(b) The following materials are also required and are to be provided under Unit arrangements:-

Ref. No.	*Nomenclature*	*Qty.*
33C/9436957	Adhesive, Synthetic Resin Neoprene, (Evostick 528)	As reqd.
33B/9433454	Varnish, Elect. Ins. Air Drying DEF32-A.	As reqd.

(2) Special Tools and Test Equipment

No special tools or test equipment are required for the embodiment of this modification.

6. MODIFICATION OF SPARES

No spares are affected by this modification.

7. CHANGE OF REFERENCE, PART AND ASSEMBLY NUMBERS

There are no changes of Reference, Part or Assembly Numbers as a result of this modification.

8. SEQUENCE OF OPERATIONS

The following is the sequence of operations:-

(1) Open front door of Marker Unit (Video Map) 30 (Ref. No. 10D/18541), *i.e.*, door which gives access to Indicating Unit 33, and lift door off hinges taking care not to loose spacing washers from hinge pins.

(2) At dimensions shown on the drawing drill one hole 5/32 in. diameter.

(3) Fit Holder Assembly E/RAD/87959-A and Spacer E/RAD/60963-8 and secure temporarily. Ensure that top of holder is horizontal. Using holder assembly as jig, drill seven holes through door using 5/32 in. drill. Remove holder, de-burr holes and varnish raw edges.

(4) Using Adhesive (Ref. No.33C/9436957) secure in position as shown on the drawing the two felt pads.

(5) Fit Holder Assembly E/RAD/B.87959-A and Spacer E/RAD/60923-8 and secure with 4 B.A. fixing material supplied.

(6) Stow in holder assembly, two Window Test (Ref. No. 10AT/805) until required for use.

(7) On completion of this modification delete the figure '1' from the unit modification record label.

9. SPECIAL TESTS AFTER EMBODIMENT

No special tests are required after the embodiment of this modification.

10. RECORDING ACTION

Record on the appropriate servicing document.

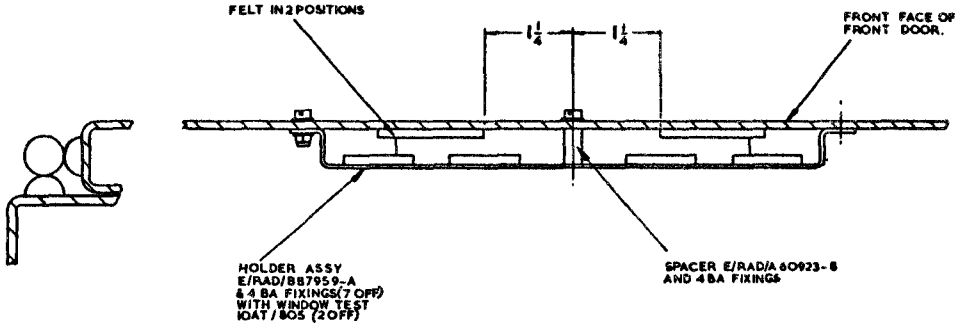
11. DISPOSAL OF REDUNDANT PARTS

The undermentioned part rendered redundant by the embodiment of this modification is to be disposed of in accordance with current regulations:-

Ref. No.	*Part No.*	*Nomenclature*	*Qty.*
10AT/559	E/RAD/5147-1	Window Test 305	2

12. EFFECT ON WEIGHT

This modification causes a weight change of plus $\frac{1}{2}$ lb.



DRG. NO. AP2527R/B8/62

Amplifying Unit (Video) 298 (Ref. No. 10U/16055) Part of Marker Unit (Video Map) 30 (Ref. No. 10D/18541) and Marker Unit (Video Map) 30A (Ref. No. 10D/21433) - Removal of Earth Connection from Valve Holders Wired for CV.2127 Valves

(Mod. No. CA. 805/1.)

(Class C/3, W.O.T.S.A.C.)

(AB/K/437. - 23.2.60.)

1. INTRODUCTION

If valve CV.4055 is used as the ruggedised replacement for valve CV.2127 in Amplifying Unit (Video) 298 (Ref. No. 10U/6055), damage to the Unit can occur. In the CV.2127, pin 1 is not connected, but in the CV.4055, pin 1 is connected internally to the suppressor grid. The wiring of the Amplifying Unit (Video) 298 is such that pin 1 is connected to earth, thus if a CV.4055 is used the suppressor grid and cathode are connected to earth, with the result that operation of the Unit is affected. The modification overcomes this difficulty and when modified the circuit is suitable for use with either valve.

(1) This modification does not cancel or supersede any work called for by approved modifications.

(2) This modification is not essentially connected with any other approved modification.

2. EMBODIMENT

This modification is to be embodied by:-

Second line personnel when old type spares are consumed.

3. APPROXIMATE TIME REQUIRED FOR EMBODIMENT

The work will take approximately ½ man-hour.

4. DRAWINGS REQUIRED

No drawings are required for the embodiment of this modification.

5. PARTS AND SPECIAL TOOLS REQUIRED.

(1) Parts and/or Materials

The following item is required and is to be provided under Unit arrangements:-

Ref. No.	*Part No.*	*Nomenclature*	*Qty.*
10AM/9429496	-	Plate Mod. Record	1

(2) Special Tools and/or Test Equipment

No special tools or test equipment are required for the embodiment of this modification.

LA

6. SPARES AFFECTED

No spares are affected by this modification.

7. CHANGES OF REFERENCE, PART AND ASSEMBLY NUMBERS

There are no changes of Reference, Part or Assembly Numbers as a result of this modification.

8. SEQUENCE OF OPERATIONS

The following is the sequence of operations:-

Note:- The following sequences of operations assumes that the Amplifying Unit (Video) 298 (Ref. No. 10U/16055) has been removed from the Marker Unit (Video Map) 30 (Ref. No. 10D/18541) *or* 30A (Ref. No. 10D/21433) and placed on the bench.

(1) With the unit inverted locate the valveholders for valves V3 and V10 (both CV.2127). Amend the wiring of both these valveholders by removing the wire connecting pin 1 to the chassis earth tag.

(2) Remove the existing Mod. Record Label, and fit the Plate Mod. Record (Ref. No. 10AM/9429496) (adhesive type) adjacent to the existing unit label, observing the following instructions.

Clean the surface with carbon-tetra-chloride, immerse label in lukewarm water for at least 40 seconds. Remove all traces of surplus water by blotting. Peel off cellophane backing, taking care not to touch the adhesive. Apply label to surface which has been cleaned, and press firmly with fingers.

(3) Delete the figure '1' from the unit modification record label.

9. TESTING AFTER EMBODIMENT

No special tests are required after the embodiment of this modification.

10. RECORDING ACTION

Record on appropriate Servicing Document.

11. DISPOSAL OF REDUNDANT PARTS

No parts are rendered redundant by the embodiment of this modification.

12. EFFECT ON WEIGHT

This modification has no effect on weight.

Marker Unit (Video Map) Type 30 (Ref. No. 10D/18541), Conversion to Video Map Type 30A and Re-Referencing

(Mod. No. CA.754/1.)

(Class S.O.O.)

(AB/K/338.—29.1.59.)

1. INTRODUCTION

A Time Base Unit 137 has been modified for Extended Long Range Working and has been re-referenced 137A. This necessitates a Video Map with a New Type and Reference No.

(1) This modification does not cancel or supersede any work called for by approved modifications.

(2) This modification is essentially connected with Mod. No. CA.741 (Time Base Unit 137A); if that work is not already embodied it must be effected concurrently.

2. EMBODIMENT

This modification is to be embodied by:—

Contractors Working Party at selected Stations

3. APPROXIMATE TIME REQUIRED FOR EMBODIMENT

The work will take approximately ½ man-hour.

4. DRAWINGS REQUIRED

No drawings are required for the embodiment of this modification.

5. PARTS AND SPECIAL TOOLS REQUIRED

(1) Parts and/or Materials

The Modification Kit which consists of the following items will be assembled and retained by the Contractor:—

Ref. No.	*Part No.*	*Nomenclature*	*Qty.*
		Unit label (Type 30A)	1
10AM/97	TR/A610332/2A	Label 436	1

(2) Special Tools and/or Test Equipment

No special tools or test equipment are required for the embodiment of this modification.

6. SPARES AFFECTED

No spares are affected by this modification.

7. CHANGE OF REFERENCE, PART AND ASSEMBLY NUMBERS

The embodiment of this modification changes Reference, Part and Assembly Numbers as follows:—

Old		*New*		
Ref. No.	*Nomenclature*	*Ref. No.*	*Part/Assy. No.*	*Nomenclature*
10D/18941	Marker Unit (Video Map) 30	10D/21433	E/RAD 2325 Assy. B.	Marker Unit (Video Map) 30A

L.A.

8. SEQUENCE OF OPERATIONS

The following is the sequence of operations:—

(1) Remove the old type Modification Record Label and fit the new adhesive one in its place following these instructions:—

(a) Clean the surface of the rack with carbon-tetra-chloride or trichloroethylene. Immerse the adhesive label in lukewarm water for at least 40 seconds. Remove all traces of surface water by blotting.

(b) Peel off the surface backing taking care not to touch the adhesive.

(c) Apply the label to the surface which has been previously cleaned.

(d) Press firmly with the fingers ensuring that all the air bubbles are excluded.

(2) Endorse the Mod. label by carefully obscuring figure 1 with paint.

9. TESTING AFTER EMBODIMENT

No special tests are required after the embodiment of this modification.

10. RECORDING ACTION

Record in appropriate Servicing Document.

11. DISPOSAL OF REDUNDANT PARTS

No parts are rendered redundant by the embodiment of this modification.

12. EFFECT ON WEIGHT

This modification has no effect on weight.

5614 2/59 500 S.J.M. G.P.1351

Timebase Unit 137 (Ref. No. 10D/18569) - Conversion to Timebase Unit 137A (Ref. No. 10D/21456)

(MOD. NO. CA.741/1.)

(Class S.O.O.)

(AB/K/324. - 10.2.60.)

Note:- This leaflet supersedes A.P. 2527R, Vol. 2, leaflet No. B.5, dated 22.1.59 and is the authority for cancelling A.L. No. 6.

1. INTRODUCTION

With the introduction of extra long range working, this unit is required to produce a sawtooth output corresponding to the extended range. This is achieved by circuit changes introduced by this modification.

(1) This modification does not cancel or supersede any work called for by approved modifications.

(2) This modification is essentially connected with Mod. No. CA.754/1 (Marker Unit (Video Map) Type 30); if that work is not already embodied it must be effected concurrently.

2. EMBODIMENT

This modification is to be embodied as follows:-

(1) By C.W.P. at selected sites

(2) Under Headquarters Signals Command arrangements - quantity thirteen - G.R.S.S. stocks

(3) Depot stocks - quantity five.

3. APPROXIMATE TIME REQUIRED FOR EMBODIMENT

The work will take approximately 1 man-hour.

4. DRAWINGS REQUIRED

No drawings are required for the embodiment of this modification.

5. PARTS AND SPECIAL TOOLS REQUIRED

(1) Parts and Materials

(a) The Modification Kit, which consists of the following items supplied by the Contractor will be assembled by No. 14 Maintenance Unit under Ref. No. 10M/CA.741/1:-

Ref. No.	*Part No.*	*Nomenclature*	*Qty.*
10W/5905-99-011-1493		Resistor, fixed, Grade 1, non-ins., 68 k-ohm ± 10%, 1 W	1
10W/5905-99-021-6168		Resistor, fixed, Grade 1, non-ins., 560 k-ohm ± 5%, 1 W	1
10C/5910-99-011-9831		Capacitor, fixed, paper de-electric, metallised, tubular, insulated, 0.25 mfd ± 25%, 250V D.C.wkg.	1
	E/RAD/25278 Sht. 24	Label, unit	1
	E/RAD/3695 Ref. 2	Label, special	1
10AM/97		Label 436	1

R.A.F. Units are to demand their requirements in accordance with current regulations. Kits for use by the C.W.P. will be retained by the Contractor.

(b) The following materials are also required and are to be provided under Unit arrangements:-

Ref. No.	*Nomenclature*	*Qty.*
33C/9436957	Adhesive (synthetic resin neoprene), Evostick 528	1 tube

(2) Special Tools and Test Equipment

No special tools or test equipment are required for the embodiment of the modification

6. SPARES AFFECTED

No spares are affected by this modification

7. CHANGE OF REFERENCE, PART AND ASSEMBLY NUMBERS

The embodiment of the modification changes Reference, Part and Assembly Numbers as follows:-

Old		*New*	
Ref. No.	*Nomenclature*	*Ref. No.*	*Nomenclature*
10D/18569	Timebase Unit 137	10D/21456	Timebase Unit 137A

8. SEQUENCE OF OPERATIONS

The following is the sequence of operations:-

(1) Invert the Timebase Unit 137 (Ref. No. 10D/18569) on the bench. *Refer* to A.P. 2527R, Vol. 1, Part 2, Chap. 5, Fig. 5, and identify resistors R30 and R31.

(2) A number of units were incorrectly wired in manufacture therefore check that the unit is correct, *i.e.*, resistor R30 is connected between RV2 and earth, and resistor R31 is connected between RV3 and earth. Amend the circuit identities adjacent to these resistors if necessary. The following paragraphs assume that these are correct.

(3) Remove 100 k-ohm resistor R30, and replace it by the 68 k-ohm resistor (Ref. No. 5905-99-011-1493) supplied.

(4) Identify capacitors C9A and C9B (0.001 and 0.002 mfd.). Remove both these capacitors and replace them by the 0.25 mfd. capacitor, (Ref. No. 5910-99-011-9831) supplied. Mark the circuit identity 'C9' adjacent to this component.

(5) Locate the wire connection between the slider of resistor RV2 and switch SW1. Remove this wire and connect between these points the 560 k-ohm resistor (Ref. No. 5905-99-021-6168) supplied. Mark the circuit identity 'R49' adjacent to this component.

(6) From the front of the Timebase Unit remove the strip label which identifies the preset controls, and replace by the new label supplied; use existing fixing material.

(7) Fit the new unit identity label over the existing label and transfer the unit serial number to the new label.

(8) Remove the existing modification record label and replace it by Label 436 (Ref. No. 10AM/97) (adhesive type), observing the following instructions:-

(a) Clean the surface with carbon-tetra-chloride.

(b) Immerse label in lukewarm water for at least 40 seconds. Remove all traces of surplus water by blotting. Peel off cellophane backing, taking care not to touch the adhesive.

(c) Apply the label to the cleaned surface and press firmly with fingers.

Note:- In case of rough surfaces, *e.g.*, metal spray, it is advisable to coat the rough surface with 'Evostick' adhesive, allow it to dry and then apply the label as above.

(9) Obscure the figure '1' on the unit modification record label.

9. TESTING AFTER EMBODIMENT

No special tests are required after the embodiment of this modification.

10. RECORDING ACTION

Record in appropriate servicing document.

11. DISPOSAL OF REDUNDANT PARTS

The undermentioned parts, rendered redundant by the embodiment of this modification, are to be disposed of in accordance with current regulations:-

Ref. No.	*Part No.*	*Nomenclature*	*Qty.*
Z213038		Resistor, 1W, 100 k-ohms ± 10	1
Z115623		Capacitor, 0.001 mfd ± 20%, 350V D.C.	1
Z115624		Capacitor, 0.002 mfd ± 20%, 350V D.C.	1
	E/RAD3695 Ref. 1	Label, special	1

12. EFFECT ON WEIGHT

This modification has no effect on weight.

Power Unit (+ 300) Type 885 (Ref. No. 10K/16144)—Re-routing of Existing Wiring

(MOD. No. CA./611.)

(Class C/3.)

(AB/K/146. —10.4.57.)

1. INTRODUCTION

At present the connection running from the end of capacitor C3 remote from the valve base V3 is tied in a cableform in which heater leads also run causing a certain amount of "hum" being fed to V3 grid, this connection is to be re-routed.

(1) This modification does not cancel, supersede, or render unnecessary any work called for by approved modifications, Command or Naval Service modifications, S.T.I.s, S.I.s or S.R.I.M.s.

(2) This modification is not essentially connected with any other approved modification, but it should be noted that when modification CA.513 is incorporated in production this modification is not necessary owing to different layout of components.

2. EMBODIMENT

This modification is to be embodied by:

2nd Line Servicing Units: At the first opportunity (not later than 3 months after receipt of leaflet.)

3rd Line Servicing Units: At the first opportunity (not later than 6 months after receipt of leaflet.)

Maintenance Unit: Before issue of Power Unit, type 885.

3. APPROXIMATE TIME REQUIRED FOR EMBODIMENT

The work will take approximately 2 man-hours.

4. DRAWINGS REQUIRED

There are no drawings required for the embodiment of this modification.

5. PARTS AND SPECIAL TOOLS REQUIRED

(1) Parts and/or Materials

There are no parts or material required for the embodiment of this modification.

(2) Special Tools and Test Equipment

There are no special tools or test equipment required for the embodiment of this modification.

6. SPARES AFFECTED

There are no spares affected by this modification.

R

7. CHANGE OF REFERENCE, PART AND ASSEMBLY NUMBERS

There are no changes of Reference, Part or Assembly Numbers, as a result of this modification.

8. SEQUENCE OF OPERATIONS

The following is the sequence of operations:—

(1) Identify the cableform in which the wire running from capacitor C3 to pin 1 of Valve V3 is lashed.

(2) Unsolder the above mentioned wire at the end connected to capacitor C3.

(3) Untie the lashing round the cableform and extract the wire unsoldered in operation (2) (relash the cableform) re-route this wire to run direct between capacitor C3 and pin 1 of Valve V3 ensuring it does not run too close to any other wiring.

(4) Inscribe the modification label CA.611 and date same. If this is the first modification recorded, the type number and reference number should also be inserted in the appropriate columns.

9. TESTING AFTER EMBODIMENT

There are no special tests required after the embodiment of this modification.

10. RECORDING ACTION

Record details on appropriate Servicing Record Cards.

11. DISPOSAL OF REDUNDANT PARTS

There are no parts rendered redundant by the embodiment of this modification.

12. EFFECT ON WEIGHT

This modification has no effect on weight.

(6447) Wt.8205/9208 500 5/57 W.B.&H.Ltd. Gp. 1267/2.

A.L.N: 2

(Addition of filter circuit)

Power Unit (+300), Type 885 (Stores Ref. 10K/16144)
Part of Marker Unit (Video Map), Type 30 (Stores Ref. 10D/18541)
The addition of a Filter Circuit to Stabiliser Control Amplifier V3.

(MOD. No. CA.513.)

(Class C/3.)

(AB/K/60.—10.6.55.)

1. INTRODUCTION

At present a high percentage of the hum shown on the picture is due to voltages induced in the long leads connected to the grid of valve V3. In order to reduce this a filter circuit consisting of a 0·1uF condenser and a 220K ohm resistor is to be included in the circuit.

(1) This modification does not cancel any work called for by approved modifications, or Command or Naval Service modifications, or S.T.I.s, S.I.s or S.R.I.M.s.

(2) This modification is not essentially connected with any other approved modification.

2. EMBODIMENT

This modification is to be embodied by:—

R.A.F. Services

2nd Line Servicing Units: At the first opportunity and not later than three months after receipt of leaflet.

3rd Line Servicing Units: At the first opportunity and not later than six months after receipt of leaflet.

3. APPROXIMATE TIME REQUIRED FOR EMBODIMENT

The work will take approximately 1½ man-hours.

4. DRAWINGS REQUIRED

Drawing No. A.P.2527R/B.3/55 is incorporated in this leaflet.

5. PARTS AND SPECIAL TOOLS REQUIRED

(1) Parts and Materials

The following materials are required and are to be provided or demanded under Unit arrangements:—

Stores Ref.	*Part No.*	*Nomenclature*	*Qty.*	*Class of Store*
10C/Z.115506	—	Condenser, 0·1 uF	1	C
10W/Z.223080	—	Resistor, 220K ohm	1	C
10A/15001	—	Stand-off tag	2	C

(2) Special Tools and Test Equipment

There are no special tools and test equipment required for the embodiment of this modification.

6. SPARES AFFECTED

There are no spares affected by the embodiment of this modification.

R

7. CHANGE OF STORES REFERENCE, PART AND ASSEMBLY NUMBERS

There are no change of Stores Ref., Part, or Assembly Nos. on main units as a result of this modification.

8. SEQUENCE OF OPERATIONS

The following is the sequence of operations:—

(1) Mount the two stand-off tags provided, one using the fixings of valve base V2 and the other using the fixings of valve base V3 as shown in the drawing.

(2) Disconnect resistor R5 from pin 1 of valve V3 and connect to tag as shown in the drawing.

(3) Connect the resistor R8, between pin 1 of valve V3 and tag, and the condenser C5 between the two tags as shown in the drawing.

(4) Earth the end of C5 terminated on the tag mounted adjacent to V2.

(5) Sign-write "R8" on the new resistor and "C5" on the new condenser added.

(6) Inscribe the Modification Label with the Type No., Ref. No. and Serial No. of unit, the Modification No. (CA.513) and date.

9. TESTING AFTER EMBODIMENT

There are no special tests required after the embodiment of this modification.

10. RECORDING ACTION

Record details of modification on Form 4070 for the main assembly.

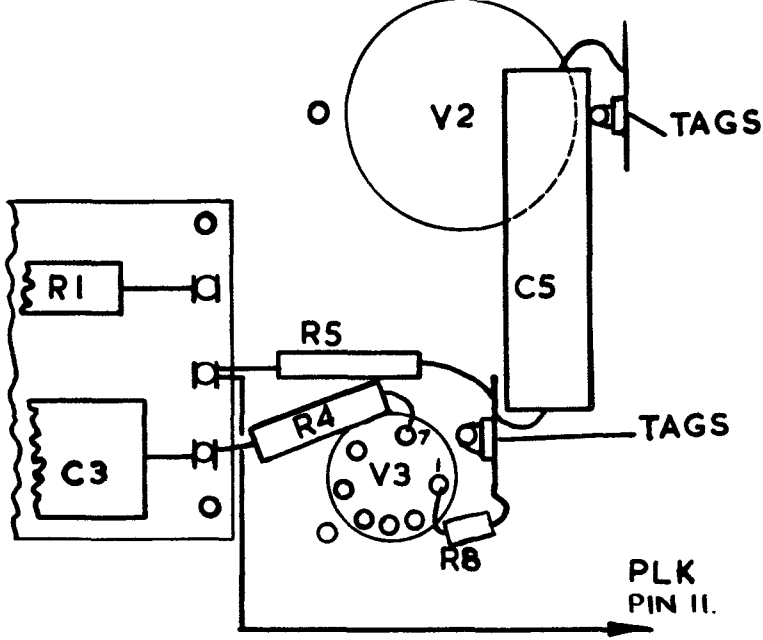
11. DISPOSAL OF REDUNDANT PARTS

There are no parts rendered redundant by the embodiment of this modification.

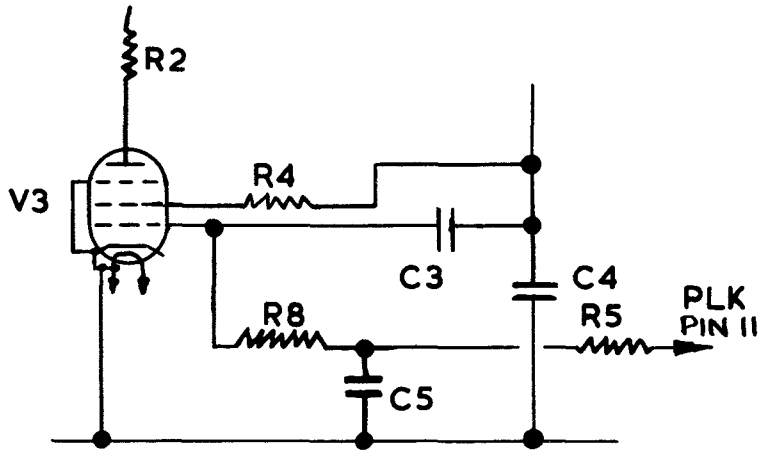
12. EFFECT ON WEIGHT

This modification causes no change in weight.

L34695 8/55 500 C & P Gp. 1



WIRING CHANGES



CIRCUIT CHANGES

DRG. Nº A.P. 2527 R / B. 3 / 55

SHEET

LP30230 6/55 500 C & P Gp. 959 (4)

Marker Unit (Video Map), Type 30 (Stores Ref. 10D/18541)—Photo-Electric Unit Type 100 (Stores Ref. 10AE/615)—The Change of Resistor Value

(Mod. No. CA.395.)

(Class C/3.)

(AB/K/47.—10.6.55.)

1. INTRODUCTION

This modification is incorporated in order to apply equal potentials to the dynodes of the two electron multipliers.

(1) This modification does not cancel any work called for by approved modifications or command or Naval Service modifications, or S.T.I.s, S.I.s or S.R.I.M.s.

(2) This modification is essentially connected with Mod. No. CA.396 (Power Unit (300V-ve) Type 884), which must be effected concurrently.

2. EMBODIMENT

This modification is to be embodied by:—

2nd Line Servicing Units: At the first opportunity (not later than three months after receipt of parts)

3rd Line Servicing Units: At the first opportunity (not later than six months after receipt of parts)

3. APPROXIMATE TIME REQUIRED FOR EMBODIMENT

The work will take approximately 1 man-hour.

4. DRAWINGS REQUIRED

There are no drawings required for the embodiment of this modification.

5. PARTS AND SPECIAL TOOLS REQUIRED

(1) Part and Materials

(a) The following materials are required and are to be provided under unit arrangements:—

Stores Ref.	*Part No.*	*Nomenclature*	*Qty.*	*Class of Store*
Z212240	R29	33K ohm Resistor	1	C

Solder Resin Cored to B.S.441. Core to D.T.D.599
Stores Ref. 30B/1601
Stores Ref. 30B/1606
Stores Ref. 30B/1607

(2) Special Tools and Test Equipment

There are no special tools and test equipment required for the embodiment of the modification.

6. SPARES AFFECTED

There are no spares affected by this modification.

7. CHANGE OF STORES REFERENCE, PART AND ASSEMBLY NUMBERS

There are no changes of Stores Ref., Part, or Assembly Nos. as a result of this modification.

8. SEQUENCE OF OPERATIONS

The following is the sequence of operations:—

(1) Remove the Photo-Electric Unit from the Marker Unit Assembly.

(2) Remove the Unit cover plate.

(3) Unsolder the resistor R.29 value 100k. ohms associated with V.5.

(4) Solder into the R29 position the 33k. ohm resistor provided.

(5) Inscribe the Modification Label with the Type No., Ref. No., and Serial No. of unit, the Mod. No. (CA.395) and date.

(6) Replace cover plate and re-mount unit on the Marker Unit Assembly.

9. TESTING AFTER EMBODIMENT

When this modification has been embodied and inspected in accordance with current procedure the following tests are to be carried out:—

(1) Mechanically check soldered joints.

(2) Make a continuity check.

(3) Set up the Marker Unit as with the Normal Setting-up Procedure.

10. RECORDING ACTION

Record details of modification on F.4070 for main assembly.

11. DISPOSAL OF REDUNDANT PARTS

The undermentioned part rendered redundant by the embodiment of this modification is to be returned to No. 14 Maintenance Unit:—

Stores Ref.	*Part No.*	*Nomenclature*	*Qty.*
Z213305	R29	100k. ohm Resistor	1

12. EFFECT ON WEIGHT

This modification has no effect on weight.

(43368/426) 529722 8245 500 8/55 (H P W.) (Gp. 19/1)

A.P.2527R, Vol. 2
Leaflet No. B.1

(Change of resistor)

Marker Unit (Video Map), Type 30 (Stores Ref. 10D/18541)—Power Unit (300v-ve), Type 884 (Stores Ref. 10K/16143)—The Change of Resistor Value

(Mod. No. CA.396.)

(Class C/3.)

(AB/K/48.—10.6.55.)

1. INTRODUCTION

This modification is incorporated in order to apply equal potentials to the dynodes of the two photo electron multipliers.

(1) This modification does not cancel any work called for by approved modifications or Command or Naval Service moodifications, or S.T.I.s, S.I.s or S.R.I.M.s.

(2) This modification is essentially connected with Mod. No. CA.395 (Photo-Electric Unit, type 100), which must be effected concurrently.

2. EMBODIMENT

This modification is to be embodied by :—

2nd Line Servicing Units: At the first opportunity (not later than three months after receipt of parts)

3rd Line Servicing Units: At the first opportunity (not later than six months after receipt of parts)

3. APPROXIMATE TIME REQUIRED FOR EMBODIMENT

The work will take approximately 1 man-hour.

4. DRAWINGS REQUIRED

There are no drawings required for the embodiment of this modification.

5. PARTS AND SPECIAL TOOLS REQUIRED

(1) Parts and Materials

(a) The following materials are required and are to be provided under unit arrangements :—

Stores Ref.	*Part No.*	*Nomenclature*	*Qty.*	*Class of Store*
Z223018	R27	68K ohm Resistor	1	C.

Solder Resin Cored to B.S.441 Core to D.T.D.599.

Stores Ref. 30B/1601
Stores Ref. 30B/1606
Stores Ref. 30B/1607

(2) Special Tools and Test Equipment

There are no special tools and test equipment required for the embodiment of this modification.

6. SPARES AFFECTED

There are no spares affected by this modification.

7. CHANGE OF STORES REFERENCE, PART AND ASSEMBLY NUMBERS

There are no changes of Stores Ref., Part, or Assembly Nos. as a result of this modification.

R

8. SEQUENCE OF OPERATIONS

The following is the sequence of operations:—

(1) Remove the Power Unit, type 884 from the Marker Unit Assembly

(2) Unsolder the resistor R27 value 100 K. ohms.

(3) Solder into the R27 position the 68K. ohms resistor provided.

(4) Inscribe the Modification Label with the Type No., Ref. No. and Serial No. of unit, the Mod. No. (CA.396) and date.

(5) Re-mount unit on the Marker Unit Assembly.

9. TESTING AFTER EMBODIMENT

When this modification has been embodied and inspected in accordance with current procedure the following tests are to be carried out:—

(1) Mechanically check soldered joints.

(2) Make a continuity check.

(3) Set up the Marker Unit as with the Normal Setting up Procedure.

10. RECORDING ACTION

Record details of modification on Γ.4070 for main assembly.

11. DISPOSAL OF REDUNDANT PARTS

The undermentioned part rendered redundant by the embodiment of this modification is to be returned to No. 14 Maintenance Unit:—

Stores Ref.	*Part No.*	*Nomenclature*	*Qty.*
Z223139	R27	100K. ohm Resistor	1

12. EFFECT ON WEIGHT

This modification has no effect on weight.

(43365/427) 529722 8245 500 8/55 (H.P.W.) (Gp. 19/1)

Introduction and make-up of A.P.2527R, Vol. 2

(7/Prtg./26580.—23.2.55.)

GENERAL INTRODUCTION

1. Air Publication No. 2527R has been allotted to the Marker Unit (Video Map), Type 30 equipment. The Vol. 2 of the A.P. will contain General Orders and Modification leaflets, and will conform to the "Revised (1948) System for Recording Leaflets".

2. To assemble the Vol. 2:—

(1) Comply with any "Note to Users" on the attached "Preliminaries":—

(*a*) Binder (cover label affixed)

(*b*) Amendment Record Sheet (R.A.F. Form 2096E)

Note:—Delete "Part 1" in top R.H. corner.

(*c*) List of Sections (R.A.F. Form 3934)

(*d*) Section Contents Lists (R.A.F. Form 3850A, B, I, and Z)

(2) Insert in the binder the Amendment Record Sheet, List of Sections and Section Contents Lists in that order.

LEAFLET RECORDING AND INCORPORATION

3. This leaflet and all further leaflets issued in this Vol. 2 are to be dealt with in accordance with the Revised (1948) System. The system, together with examples of the method of the recording and incorporation of leaflets, is detailed in Air Publication 113A, Appendix "D".

R

L33708 6/55 500 C & P Gp. 1