AIR PUBLICATION
116B-0301-605
(Formerly Part of
A.P. 116B-0301-6)

U.H.F. HOMING INSTALLATIONS

(ARI. 18120 SERIES AND SRI. 18120/7)
CHASSIS ASSEMBLY TYPE 11680

REPAIR AND RECONDITIONING INSTRUCTIONS

BY COMMAND OF THE DEFENCE COUNCIL

(Ministry of Defence)

FOR USE IN THE
ROYAL NAVY
ROYAL AIR FORCE

(Prepared by the Ministry of Technology)

AMENDMENT RECORD SHEET

To record the incorporation of an Amendment List in this publication, sign against the appropriate A.L. No. and insert the date of incorporation.

A.L. No.	AMENDED BY	DATE
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		
32		
33		

A.L. No.	AMENDED BY	DATE
34		
35		
36		
37		
38		
39		
40		
41		
42		
43		
44		
45		
46		
47		
48		
49		
50		
51		
52		
53		
54		
55		
56		
57		
58		
59		
60		
61		
62		
63		
64		
65		
66		

CHASSIS ASSEMBLY TYPE 11680

CONTENTS

	Page
Introduction	4
Function	4
Cleaning and physical examination	4
Repairs	4
Modifications	7
Test equipment and tools	7
Mechanical servicing	
General	8
Relay unit (coaxial)	9
Gear assembly	10
Electrical servicing	
Arrangement of test equipment	13
Relay unit (coaxial)	14
Chassis wiring tests	16
Pressure testing	18

TABLES

No.		Page
1	Wiring	5
2	Test equipment and tools	7
3	Relay unit (coaxial) - contact resistance measurements	15
4	Relay unit (coaxial) - contact insulation	15
5	Chassis wiring tests	17

ILLUSTRATIONS

Fig.		Page
1	Chassis assembly Type 11680 - front panel	21
2	Chassis assembly Type 11680 - rear	23
3	Chassis assembly Type 11680 - underside	25
4	Relay unit (coaxial) Type 11682	27
5	Order of loosening and tightening the cover securing screws	29
6	Chassis assembly Type 11680 and relay unit (coaxial) Type 11682 - circuit	31

INTRODUCTION

1. The chassis assembly Type 11680 (fig. 1, 2 and 3) is the main chassis of the R.F. unit Type 11037 (part of homing installation ARI.18120). The chassis comprises an aluminium alloy base to which are riveted two strengthening side-panels, the whole being bolted to a die-cast front panel. A cableform is fitted into the chassis and interconnects one plug at the front panel with four sockets on the chassis base. A gear train is fitted to the underside of the chassis.

2. A relay unit (coaxial) Type 11682 is secured to the rear of the chassis front panel with five coaxial sockets protruding through the panel (fig. 1). Although the relay unit is an independently referenced module, it is not normally removed from the chassis unless absolutely necessary (para. 13); for this reason the relay unit is regarded in this publication as an integral part of the chassis assembly. Also included in the servicing instructions are the associated cover Type 1288 and gasket Type 637 which, when fitted, enable the equipment to be pressurized.

FUNCTION

3. The chassis forms a mounting and provides electrical interconnections for the other three modules of the R.F. unit Type 113037, namely the amplifying unit (R.F.) Type 11681 (A.P.116B-0301-606), the tuning unit Type 11683 (A.P.116B-0301-607) and the relay unit (coaxial) Type 11682 (para. 2).

4. Mounted on the underside of the chassis is the gear assembly Type 11979; this transmits the mechanical drive from the tuning unit to the amplifying unit and also to a potentiometer (RV1).

5. A circuit diagram of the chassis assembly and the relay unit appears in fig. 6 at the end of this publication; a description of the circuit is given in A.P.116B-0301-1.

CLEANING AND PHYSICAL EXAMINATION

6. The chassis assembly should be cleaned and physically examined in accordance with the instructions given in A.P.116B-0301-601, Chap. 2, para. 7 to 9.

REPAIRS

7. Any damage and/or deficiencies revealed during the physical examination and, where possible, any reported faults should be repaired at this stage. Before

attempting to effect any repairs, reference should be made to the general servicing instructions in A.P.116B-0301-601, Chap. 2.

8. The wiring of the chassis assembly is laced into a single cableform (fig. 3) with branches which terminate in the plug mounted on the front panel and in the four sockets mounted on the chassis base. The cableform may be removed from the chassis complete with its plug and sockets; since the plug may only be removed fromt the front of the front panel, removal of the cableform is effected by feeding the wiring and the four sockets through the plug aperture in the front panel. The complete cableform is identified as a cable assembly Type 16127, Ref. No. 10HB/1838.

9. To facilitate any replacement of wiring that may be necessary, details of the connections, together with the coloured marker sleeves, are listed in Table 1; wires used in the cableform are as follows:

(1) Wire, electrical equipment, 1/0.0148 in. silver-plated copper, p.t.f.e. insulated, pink, Type A to Specification No. EL1930, N.S. No. 6145-99-943-7170.

(2) Wire, electrical equipment, 19/0.006 in. silver-plated copper, p.t.f.e. insulated, pink, Type B to Specification No. EL1930, Ref. No. 5E/4630.

TABLE 1

Wiring

From	Marker sleeves	Length (in.)	To
Wire, electrical equipment, 1/0.0148 in.			
PL15/A	Brown/white	$11\frac{3}{4}$	SKT13/13
PL15/B	Brown/slate	$11\frac{3}{4}$	SKT13/12
PL15/C	Brown/violet	$11\frac{1}{2}$	SKT13/11
PL15/D	Brown/blue	$11\frac{1}{2}$	SKT13/10
PL15/E	Brown/green	$11\frac{1}{4}$	SKT13/9
PL15/F	Brown/yellow	12	SKT13/7
PL15/H	Brown/orange	12	SKT13/6
PL15/J	Brown/red	12	SKT13/5

TABLE 1

Cont'd

From	Marker sleeves	Length (in.)	To
PL15/K	Brown/brown	12	SKT13/4
PL15/L	Brown/black/brown	11¾	SKT13/3
PL15/M	Black/white	11¾	SKT13/2
PL15/N	Black/slate	11½	SKT13/1
PL15/P	Black/violet	12	SKT13/8
PL15/R	Black/blue	11¼	SKT14/15
PL15/S	Black/green	11	SKT14/14
PL15/T	Black/yellow	11	SKT14/13
PL15/U	Black/orange	11	SKT14/12
PL15/V	Red/red	4	SKT8/1
PL15/W	Black/red	9¼	SKT12/6
PL15/Y	Black/brown/black	9¼	SKT12/8
PL15/Z	Black/black	9¼	SKT12/1
PL15/a	Blue	9¼	SKT12/5
PL15/b	Yellow	4	SKT8/4
PL15/c	Orange	4	SKT8/3
PL15/d	Red	4	SKT8/2
PL15/f	Brown	5¾	RV1
SKT8/1	Red/orange	1¼	SKT8/6
SKT8/6	Red/yellow	1¼	SKT8/7
SKT12/4	Violet	1¼	SKT12/5
SKT14/4	Red/brown	1¼	SKT14/5
SKT14/7	White	1¼	SKT14/8
Wire, electrical equipment, 19/0.006 in.			
PL15/a	Green	4¼	ET1
PL15/h	Black	5	FS1
SKT12/4	Slate	7½	SKT14/7
SKT14/5	Red/black	6¾	FS1

MODIFICATIONS

10. There are currently no modifications to either the chassis assembly Type 11680 or the relay unit (coaxial) Type 11682. However, if any modifications are introduced subsequent to the issue of this publication, such modifications must be embodied in accordance with the instruction leaflets which will be published in A.P.116B-0301-2 (formerly A.P.2531L, Vol. 2). Brief details of any modifications will be given in a new Table which will be added to the end of this publications.

TEST EQUIPMENT AND TOOLS

11. The test equipment and tools which will be required for testing and servicing the chassis assembly are listed in Table 2; further details of individual items may be obtained from the associated publications, drawings, etc. quoted in the Table.

TABLE 2

Test equipment and tools

Reference No.	Nomenclature	Associated publications, drawings etc.
5QP/17447	Multimeter CT498	A.P.120M-0106-1
6625-99-943-2442	Bridge, universal, CT375	
5G/152	Tester, insulation resistance, Type C	
6625-99-946-9490	Test set, electronic circuit, plug-in unit	See note
5995-99-945-9896	Cable assembly, power electrical	
-	Interconnecting box	Drawing 30MU/653/1/1
-	Connector block	Drawing 30MU/653/4/2
6625-99-933-4314	Panel, test, amplifier relay	
	includes:	

TABLE 2

Cont'd

Reference No.	Nomenclature	Associated publications, drawings etc.
-	Connector No. 1	
-	Connector No. 6	
5210-99-120-1243	Wrench, torque	
1L/283	Adaptor, crosspoint	
6635-99-943-9196	Tester, torque wrench	
5120-99-943-9324	Screwdriver, torque	
5220-99-948-5186	Adaptor, torque spanner	A.P.116D-0133-6B, Chap. 14
10AD/3565	Adaptor Type 374	
1C/7633	Jig, coupler alignment	
10AG/1856	Alignment tool, rotating members	
10AG/963	Checking fixture	A.P.116B-0301-601, Chap. 3
4320-99-104-7435	Pump, pressurizing	
6625-99-946-8729	Leak detector CT106	A.P.117X-0101-1

Note...

These two items are part of test set, electronic circuit, plug-in unit 6625-99-999-7959 which is described in A.P.116D-0133-6B, Chap. 14.

MECHANICAL SERVICING

GENERAL

12. In order to facilitate servicing of the chassis assembly and the relay unit (coaxial) reference should be made to fig. 1, 2, 3 and 4.

WARNING

When using Inhibisol as a cleaning agent during servicing, the following precautions must be observed:

(1) Ensure maximum ventilation

(2) Do not smoke, eat or drink

(3) Avoid contact with the skin

(4) Do not immerse any components for more than one minute

(5) Dry all components thoroughly before re-assembly

(6) After completing the operation always wash before eating drinking or smoking

RELAY UNIT (COAXIAL)

13. The relay unit is secured to the rear of the chassis front panel by the nuts on the five coaxial sockets which protrude through the panel (fig. 1); each of these sockets is fitted with a gasket to form an air-tight seal with the front panel, and, for this reason, the relay unit should not be removed unless absolutely necessary.

14. Mechanical servicing of the relay unit is restricted to cleaning the relay contacts (para. 15); any fault which cannot be rectified by this means will necessitate changing the relay unit. The procedure for removing and fitting the relay unit is as follows:

(1) Uncouple the plug PL8 from the chassis mounted socket SKT8; the plug is retained by two red-painted captive screws located on the underside of the chassis.

(2) Remove the securing nuts from the five coaxial plugs at the front of the chassis front panel and withdraw the relay unit from the rear of the chassis.

(3) Before fitting the relay unit, examine the gaskets of the five coaxial sockets to establish that they are undamaged.

(4) Fit the relay unit to the rear of the front panel, locating the five coaxial sockets in their respective holes in the front panel; fit the nuts to the coaxial sockets and tighten them evenly to ensure an airtight seal between each socket and the panel.

(5) Connect the plug PL8 to socket SKT8 on the chassis and tighten the two red-painted captive screws on the underside of the chassis.

15. Should high contact resistance be encountered on any of the relays (para. 28), this is probably due to dirty contacts; these should be cleaned in the following manner:

(1) Remove the relay unit from the chassis (para. 14(1) and (2)).

(2) Remove the triangular cover (secured by three screws) from the appropriate relay (fig. 4).

(3) Using a pair of tweezers, remove the circlip, washer and matching disc from the moving contact armature shaft.

(4) Dip the ends of a 3/16 in. wide strip of thin card in Inhibisol, N.S. No. 6810-99-220-1949 and then, holding the card in a pair of tweezers, carefully insert it between the fixed and moving contacts of the relay,; move the card back and forth between the contacts to clean the surfaces.

(5) Polish the contacts by repeating sub-para.(4) using a dry strip of card.

(6) To clean normally open contacts, raise the armature shaft to close these contacts and then proceed as described in sub-para.(4) and (5).

(7) Refit the matching disc, washer and circlip on the moving contact armature shaft and fit the triangular plate, ensuring that the three screws are evenly tightened.

(8) Fit the relay unit into the chassis (para. 14(3) to (5)).

GEAR ASSEMBLY

16. The gear assembly contains three stainless steel driving gears, two brass idler gears and three Oldham couplers; should any of these items become damaged they may be changed, but care must be taken with subsequent alignment of the couplers and elimination of backlash to ensure smooth operation of the geat train. Where gears have become jammed or gear teeth have sheared, it is most probable that other gears or shafts have been overstressed and it is therefore advisable to change the complete gear assembly. The gear assembly Type 11979, Ref. No. 10AR/3559, is available as a spares item which has been fully aligned during manufacture.

Caution...

When using Inhibisol for cleaning the gear assembly, extreme care must be taken not to allow it to come into contact with the Oilite bearings, which carry the coupler shafts, since it will cause irreparable damage.

17. The gear plate, gears and idler shafts may be cleaned with Inhibisol, N.S. No. 6810-99-220-1949; the area in close proximity to the Oilite bearings should be carefully wiped clean with a clean, lint-free cloth (see caution). After cleaning apply fresh lubricant as specified below, taking care to avoid excessive lubrication.

(1) Gear teeth: apply a very thin film of grease XG-287

(2) Ilder shafts: apply one drop of oil OX-14 to each shaft

(3) Oilite bearings: these are oil impregnated to provide lubrication throughout their service life; FURTHER LUBRICATION MUST NOT BE APPLIED. Where an Oilite bearing is suspect, the complete gear assembly Type 11979 must be changed.

18. Most servicing of the gear assembly must be performed with the assembly removed from the chassis. In order to gain access to one of the securing screws, it will be necessary to first remove the relay unit (para. 14(1) and (2)); the gear assembly may then be removed after extracting four countersunk screws on top of the chassis base. The gear assembly is fitted by reversing the removal instructions, refitting the relay unit in accordance with para. 14 (3) to (5).

19. Any servicing of the gear train will necessitate adjusting the idler gears to minimize backlash; this must be done with the gear assembly removed from the chassis (para. 18). To adjust backlash, slacken the securing screws of the two idler gear pillars and position the pillars so that backlash throughout the gear train is minimal consistent with smooth operation. Using the wrench, torque, 5210-99-120-1243 (set to 10 lb. in.) and the adaptor, crosspoint, Ref. No. 1L/283, tighten the pillar securing screws and then again verify smooth rotation of the gear train consistent with minimum backlash.

20. Servicing of the gear train will also necessitate accurate re-alignment of the couplers using a pair of alignment tools which form part of the jig, coupler alignment, Ref. No. 1C/7633; before proceeding with alignment, the correct setting of the alignment tools must be verified in accordance with A.P.116D-0133-6B, Chap. 14. With the gear assembly still removed from the chassis, the alignment of the couplers may be performed in the following manner:

(1) Slacken the collar screws of the gears on the coupler shafts for the amplifying unit (R.F.) and the potentiometer (RV1); turn all three

couplers so that they are similarly orientated with their dogs parallel to each other.

(2) Lightly tighten the gear collar screws so that the gears are retained on their shafts but, if necessary, may be rotated about the shafts for adjustment purposes.

(3) Place the gear assembly on the bench with the couplers uppermost.

(4) Fit the spring-loaded alignment tool (G146665) on the coupler for the tuning unit and the fixed alignment tool (G146666) on the coupler for the amplifying unit (R.F.).

(5) Holding the tools by their knurled knobs, apply light pressure to the spring-loaded tool, in the clockwise direction, to take up any backlash, then turn the fixed tool counter-clockwise until the machined faces of the tools just meet.

(6) Ideally the tool faces should meet at both ends but if the couplers are not correctly aligned, the faces will meet at one end only. In such an instance turn both tools clockwise to separate the faces and then, holding the spring-loaded tool firmly to immobilize the gear train, rotate the fixed tool a small amount in the appropriate direction to compensate for the misalignment.

(7) Repeat sub-para.(5) and (6), as necessary, to achieve the required conditions.

(8) Should a minimal gap still remain at one end, this is probably due to a certain amount of play between the tools and the couplers. Where such a gap exists remove the tools, turn the gear train through 180° and refit the tools (sub-para.(4)). Repeat sub-para.(5) and verify that an equal and opposite gap is present, indicating that the coupler alignment is correct.

(9) Fully tighten the collar screw of the gear on the coupler gear for the amplifying unit (R.F.).

(10) Remove the tools from the couplers and rotate the gear train through 180°.

(11) Fit the spring-loaded alignment tool (G146665) on the coupler for the tuning unit and the fixed alignment tool (G146666) on the coupler for the potentiometer (RV1) and align the coupler in the manner described in sub-para.(5) to (8).

(12) When correct alignment has been achieved, fully tighten the collar screw of the gear on the coupler shaft for the potentiometer.

21. Verify that the gears are securely fitted to the coupler shafts for the amplifying unit (R.F.) and the potentiometer (RV1) as follows:

(1) Secure the gear assembly to the checking fixture, Ref. No. 10AG/963.

(2) Set the wrench, torque, 5210-99-120-1243 to 25 lb. in. and then fit the adaptor, torque spanner, 5220-22-948-5186.

(3) Fit the alignment tool, rotating members, Ref. No. 10AG/1856, to the gear on the coupler shaft for the amplifying unit (R.F.) and, holding the gear immobile, fit the wrench, torque to the associated coupler; rotate the wrench and verify that it "breaks" without causing any rotation of the coupler shaft within the gear.

(4) Repeat sub-para.(3) on the gear and coupler shaft for the potentiometer (RV1).

(5) Verify the alignment of the couplers as described in para. 20(3), (4), (5), (8) and (12).

22. When servicing of the gear assembly has been satisfactorily completed, fit the gear assembly to the chassis (para. 18).

23. Verify that the torque required at the tuning unit coupler to rotate the gear train and the potentiometer does not exceed 16 oz. in. First set the screwdriver, torque, 5120-99-943-9324 to 16 oz. in. using the tester, torque wrench, 6635-99-943-9196 and then fit the adaptor Type 374 to the screwdriver, torque. Fit the adaptor to the coupler for the tuning unit, rotate the screwdriver, torque counter-clockwise through one revolution and verify that it does not "break".

ELECTRICAL SERVICING

ARRANGEMENT OF TEST EQUIPMENT

24. Check and set up the bridge, universal, CT375 in accordance with the associated Air Publication (Table 2).

25. On the test set, electronic circuit, plug-in unit, verify that the MAINS switch is OFF, set the METER/LAMPS switch to LAMPS and the HUNDREDS, TENS and UNITS selectors to 0. Connect the six 80-pole plugs of the interconnecting box

to the appropriate sockets of the test set and connect the test set to the a.c. mains supply using the associated cable assembly.

26. Set up the panel, test, amplifier relay as follows:

(1) Set the A.C. IN switch to OFF

(2) Rotate the METER SW to position 6.

(3) Set the relay switches AEA, AEB and AEC to DE-ENERGISED

(4) Turn the SET VOLTS control fully counter-clockwise.

(5) Couple PL1 to the a.c. mains supply using connector No. 1

(6) Set the A.C. IN switch to ON, operate the READ VOLTS switch and adjust the SET VOLTS control to obtain 27.5V indication on the meter.

RELAY UNIT (coaxial)

27. Uncouple plug PL8 from socket SKT8 (para. 14(1)) and couple PL8 to SK6 of the panel, test using connector No. 6. Operate each of the panel, test relay switches AEA, AEB and AEC in turn to ENERGISED and then to DE-ENERGISED and verify that, with each switch at ENERGISED, the panel, test meter indication does not exceed 100mA.

28. Using the bridge, universal, CT375 measure the contact resistance of the coaxial relays in the following manner:

(1) Connect the CT375 and operate the relay switches of the panel, test as specified in Table 3 (at the end of this paragraph); verify that the contact resistance measurements meet the requirements quoted in the Table.

(2) After completing the operations in sub-para.(1), on the test panel operate the READ VOLTS switch and adjust the SET VOLTS control to obtain 22V indication on the meter.

(3) Repeat sub-para.(1) but omit the final test of Table 3.

(4) Re-adjust the SET VOLTS control of the panel, test to give 27.5V meter indication.

(5) Where the contact resistance is high, clean the contacts as described in para. 15.

TABLE 3

Relay unit (coaxial) - contact resistance measurements

CT375 connected between	Relay switches to ENERGISED	Max. contact resistance (milliohms)
SKT2 (PORT AE.) and PL11 (PHASING UNIT PORT)	None	55
SKT3 (EL.AE) and PL11 (PHASING UNIT PORT)	AEA	55
SKT3 (EL.AE.) and SKT4 (T/R IN)	AEC	40
SKT5 (COMMS. AE.) and SKT4 (T/R IN)	None	20
PL10 (R.F. AMP'R OUT) and SKT4 (T/R IN)	AEB, AEC	75
SKT1 (STBD. AE.) and PL9 (PHASING UNIT STB'D)	None	40

Note...

For connection to PL9, PL10 and PL11 use connector block 30MU/653/4/2

29. Measure the contact insulation of the coaxial relays as follows:

(1) Connect the tester, insulation, Type C and operate the relay switches of the panel, test as specified in Table 4 and, in each case, verify that the insulation resistance is not less than 40 megohms.

TABLE 4

Relay unit (coaxial) - contact insulation

Tester, insulation connected between	Relay switches to ENERGISED
PL11 (PHASING UNIT PORT) and SKT2 (PORT AE.)	AEA, AEB, AEC
PL11 (PHASING UNIT PORT) and SKT3 (EL.AE.)	None
PL10 (R.F. AMP'R OUT) and SKT3 (EL.AE)	None
PL10 (R.F. AMP'R OUT) and SKT3 (EL.AE.)	AEA, AEB, AEC

(2) Apply the tester, insulation between each of the following plugs and chassis and verify that the insulation resistance is not less than 40 megohms.

(a) PL9 (PHASING UNIT STB'D)

(b) PL10 (R.F. AMP'R OUT)

(c) PL11 (PHASING UNIT PORT)

(3) Operate the A.C. IN switch of the test panel to OFF and disconnect PL8 of the relay unit from the test panel.

CHASSIS WIRING TESTS

30. Check the continuity and insulation of the chassis wiring in the following manner:

(1) Connect the multimeter CT498 (set to its Ω ÷ 100 range) across the test set METER terminals.

(2) Couple the appropriate plugs and sockets of the interconnecting box to the chassis.

(3) Connect a link between the METER - and E terminals of the test set and connect a wire from the E terminal to the chassis under test.

(4) Operate the test set MAINS switch to ON.

(5) Set the HUNDREDS, TENS and UNITS selectors of the test set to each of the combinations listed in Table 5 and verify that the corresponding lamp display is obtained

(6) With the test set selectors at the combination 020 perform the following test:

(a) Using the torque screwdriver set to the correct torque (para. 23), rotate the gear train so that the dogs on the couplers are parallel with the side chassis and the cut away portions towards the centre line of the chassis. Note the CT498 indication which shall be within the limits 240 ohms and 460 ohms.

(b) Slowly rotate the gear train counter-clockwise through one revolution and observe the CT498 indication; this should rise sharply to infinity, drop sharply to 10 kilohms and then fall smoothly to the reading noted in (a).

(7) Operate the test set MAINS switch to OFF and disconnect the chassis from the test set. Reconnect PL8 of the relay unit to SKT8 of the chassis and tighten the two red-painted captive screws on the underside of the chassis.

TABLE 5

Chassis wiring tests

Switch positions	LAMPS/METER switch	Lamps		Circuit tested	
		INSULATION	CONTINUITY	From	To
001	LAMPS	Off	On	PL15/A	SKT13/13
002	LAMPS	Off	On	PL15/B	SKT13/12
003	LAMPS	Off	On	PL15/C	SKT13/11
004	LAMPS	Off	On	PL15/D	SKT13/10
005	LAMPS	Off	On	PL15/E	SKT13/9
006	LAMPS	Off	On	PL15/F	SKT13/7
007	LAMPS	Off	On	PL15/H	SKT13/6
008	LAMPS	Off	On	PL15/J	SKT13/5
009	LAMPS	Off	On	PL15/K	SKT13/4
010	LAMPS	Off	On	PL15/L	SKT13/3
011	LAMPS	Off	On	PL15/M	SKT13/2
012	LAMPS	Off	On	PL15/N	SKT13/1
013	LAMPS	Off	On	PL15/W	SKT12/6
014	LAMPS	Off	On	PL15/Y	SKT12/5
015	LAMPS	Off	On	PL15/Z	SKT12/1
016	LAMPS	Off	On	PL15/R	SKT14/15
017	LAMPS	Off	On	PL15/S	SKT14/14
018	LAMPS	Off	On	PL15/T	SKT14/13
019	LAMPS	Off	On	PL15/U	SKT14/12
020	METER	Off	On	PL15/f	RV1 (see para. 30 (e))
021	Not used				
022	LAMPS	Off	On	PL15/d	SKT8/2
023	LAMPS	Off	On	PL15/b	SKT8/4
024	LAMPS	Off	On	PL15/c	SKT8/3
025	LAMPS	Off	On	PL15/p	SKT13/8
026 to 106	Not used				
107	LAMPS	Off	On	PL15/h	SKT14/4 (via FS1)

TABLE 5

Cont'd

Switch positions	LAMPS/METER switch	Lamps		Circuit tested	
		INSULATION	CONTINUITY	From	To
108	LAMPS	Off	On	PL15/h	SKT14/5 (via FS1)
109 to 111 Not used					
112	LAMPS	Off	On	PL15/v	SKT8/1
113	LAMPS	On	On	PL15/V	SKT8/6
114	LAMPS	On	On	PL15/V	SKT8/7
115 to 229 Not used					
230	LAMPS	On	On	Earth	PL15/a
231	LAMPS	On	On	Earth	SKT12/4
232	LAMPS	On	On	Earth	SKT12/5
233	LAMPS	On	On	Earth	SKT14/7
234	LAMPS	On	On	Earth	SKT14/8

PRESSURE TESTING

31. A test must be made to ensure that when the equipment cover is fitted and pressurized, there is no excessive leakage of air. The procedure is as follows:

(1) Verify that the desiccator is serviceable and correctly fitted to the front panel. The crystals, visible via the front window of the desiccator, should be light blue in colour; if these crystals become pink the desiccator must be changed.

(2) Fit a serviceable gasket Type 637, Ref. No. 10AL/408 to the rear of the chassis front panel, ensuring that the locating dowels engage correctly.

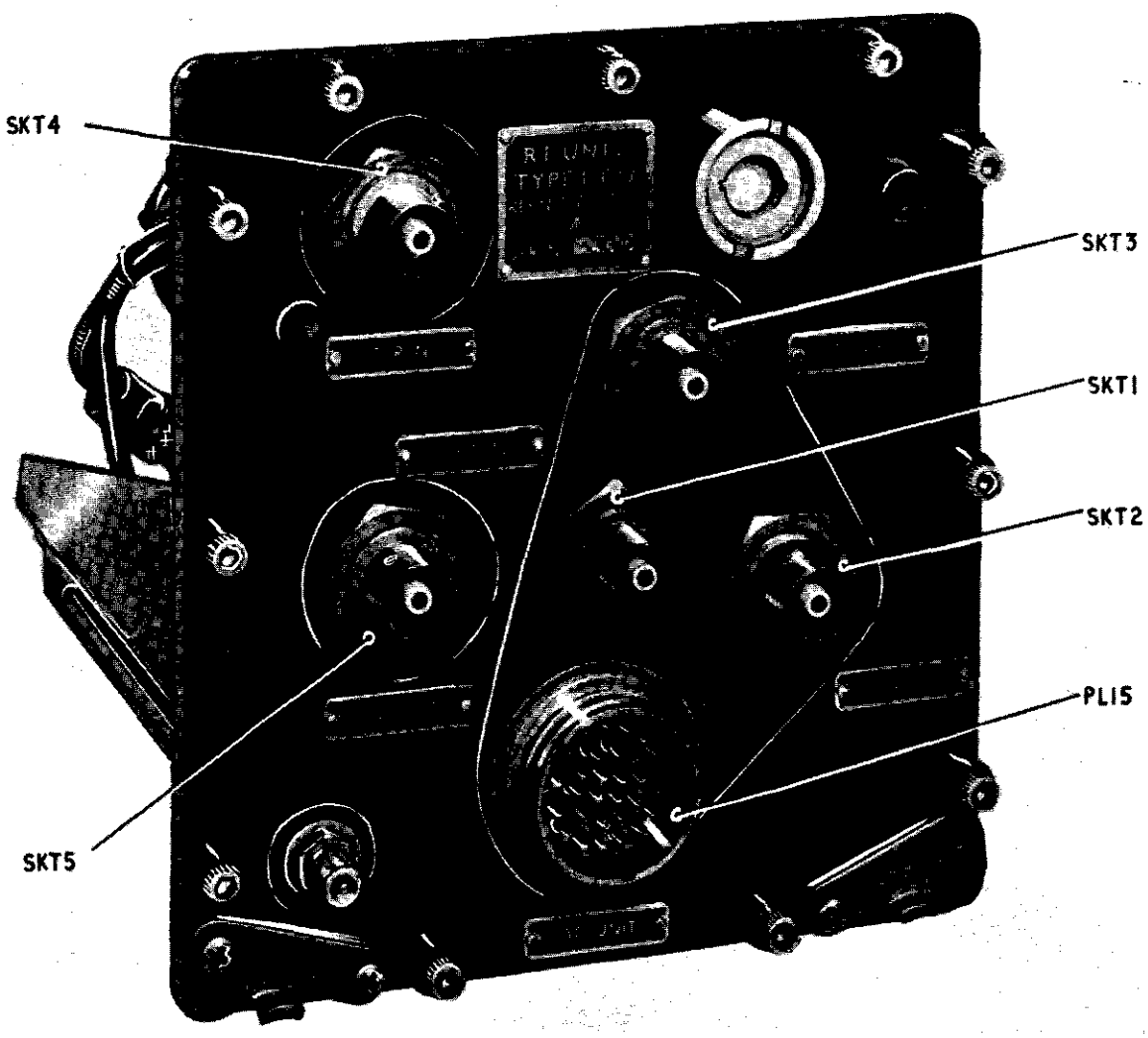
(3) Fit the cover to the chassis and tighten the eleven securing screws finger tight, then using a hexagon wrench tighten each screw a half-turn at a time, in the order shown in fig. 5, until all the screws are fully tightened.

(4) Using the pump, pressurizing, raise the internal pressure to 15 p.s.i.

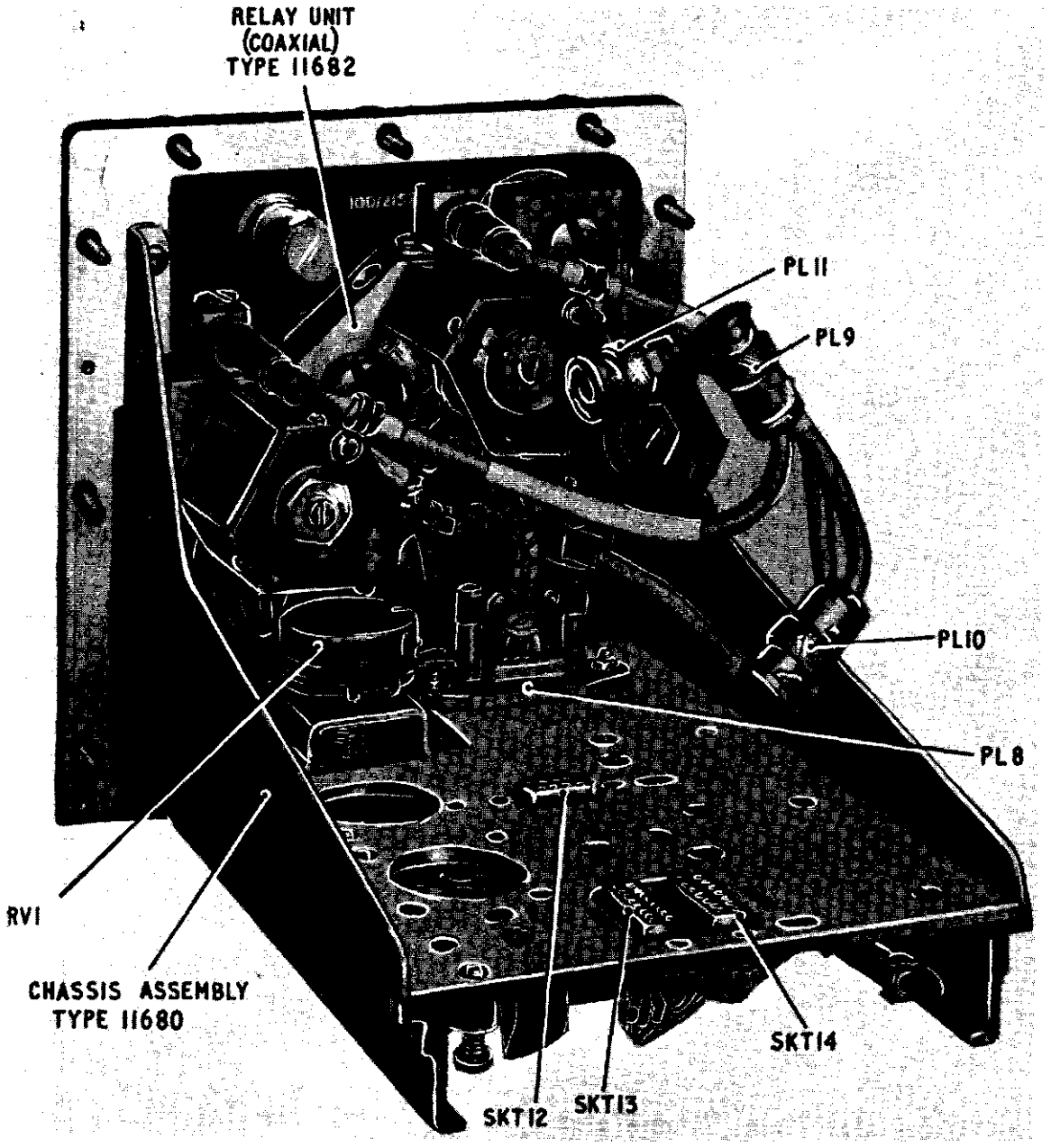
(5) Connect the leak detector CT106 to the Schrader valve and note the detector meter indication; allow a period of 30 minutes to elapse and again note the CT106 meter indication. The leakage shall not exceed 0.5 p.s.i.

(6) Should the leakage exceed the specified limit, verify that the gasket Type 637 is correctly seated and that the cover is firmly secured. Also verify that the seals between the coaxial sockets and the front panel and between the desiccator and the front panel are airtight.

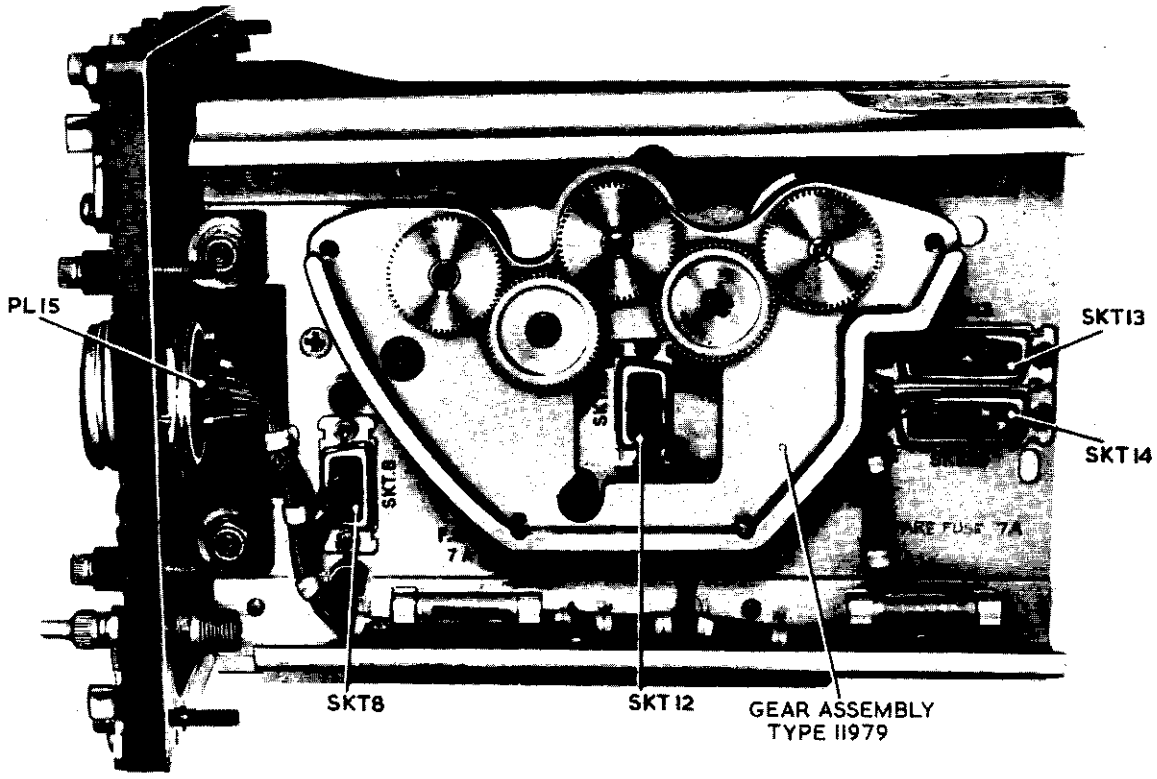
(7) Remove the CT106, release the air pressure and fit the Schrader valve cap.



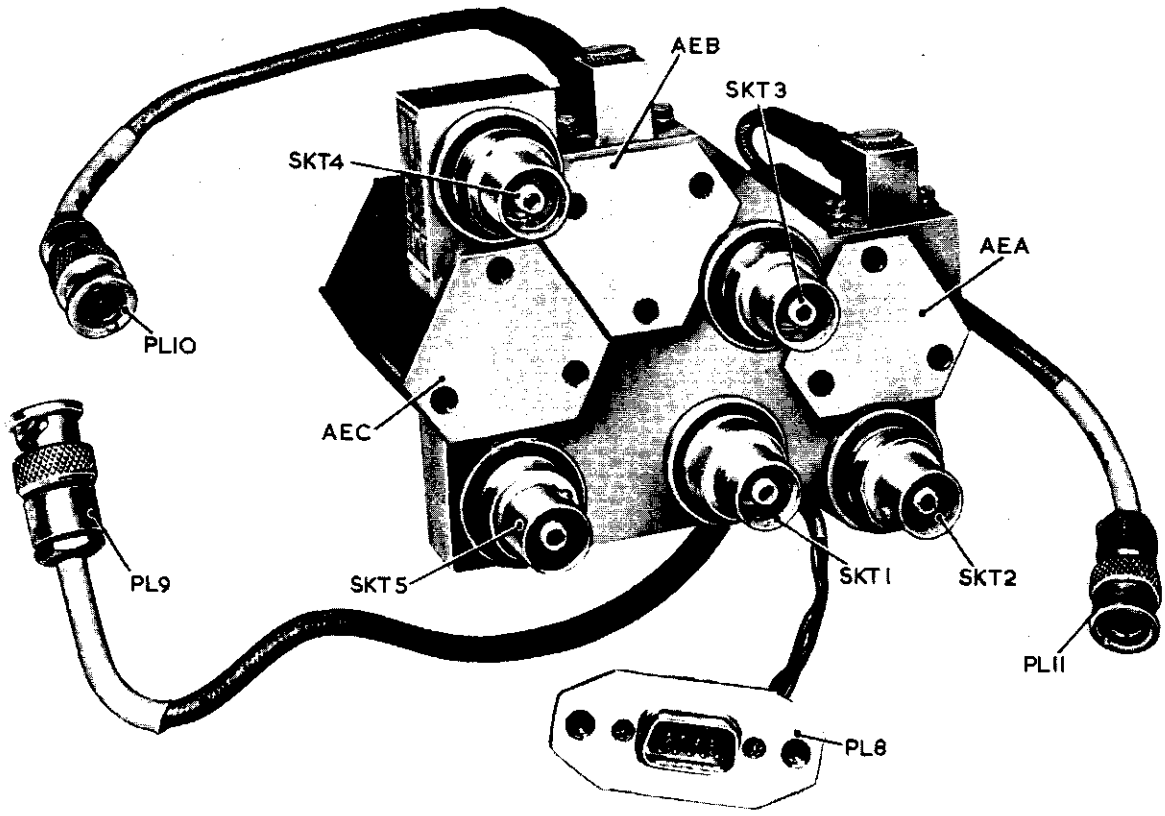
Chassis assembly Type 11680 - front panel Fig. 1



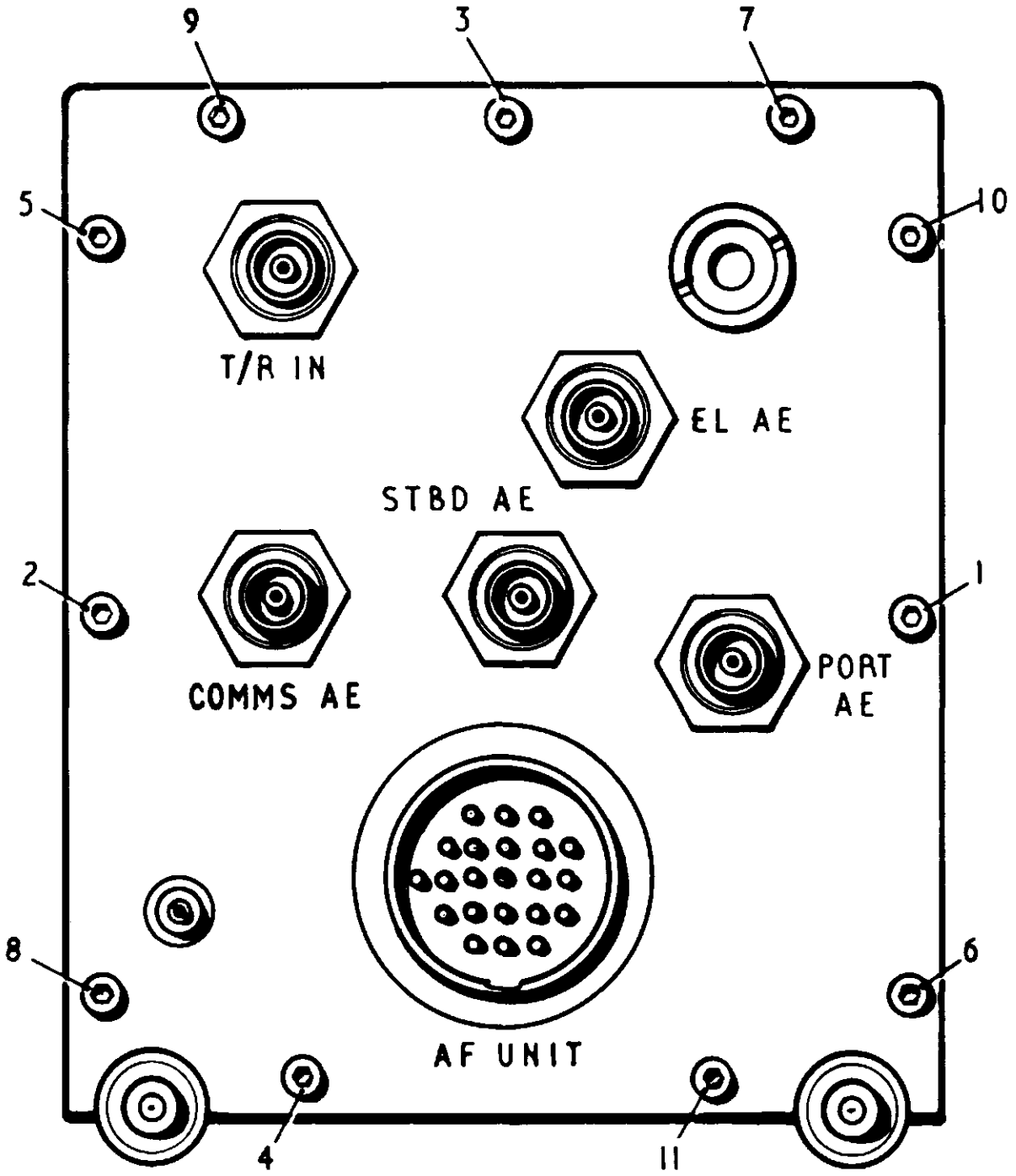
Chassis assembly Type 11680 - rear Fig. 2



Chassis assembly Type 11680 - underside Fig. 3

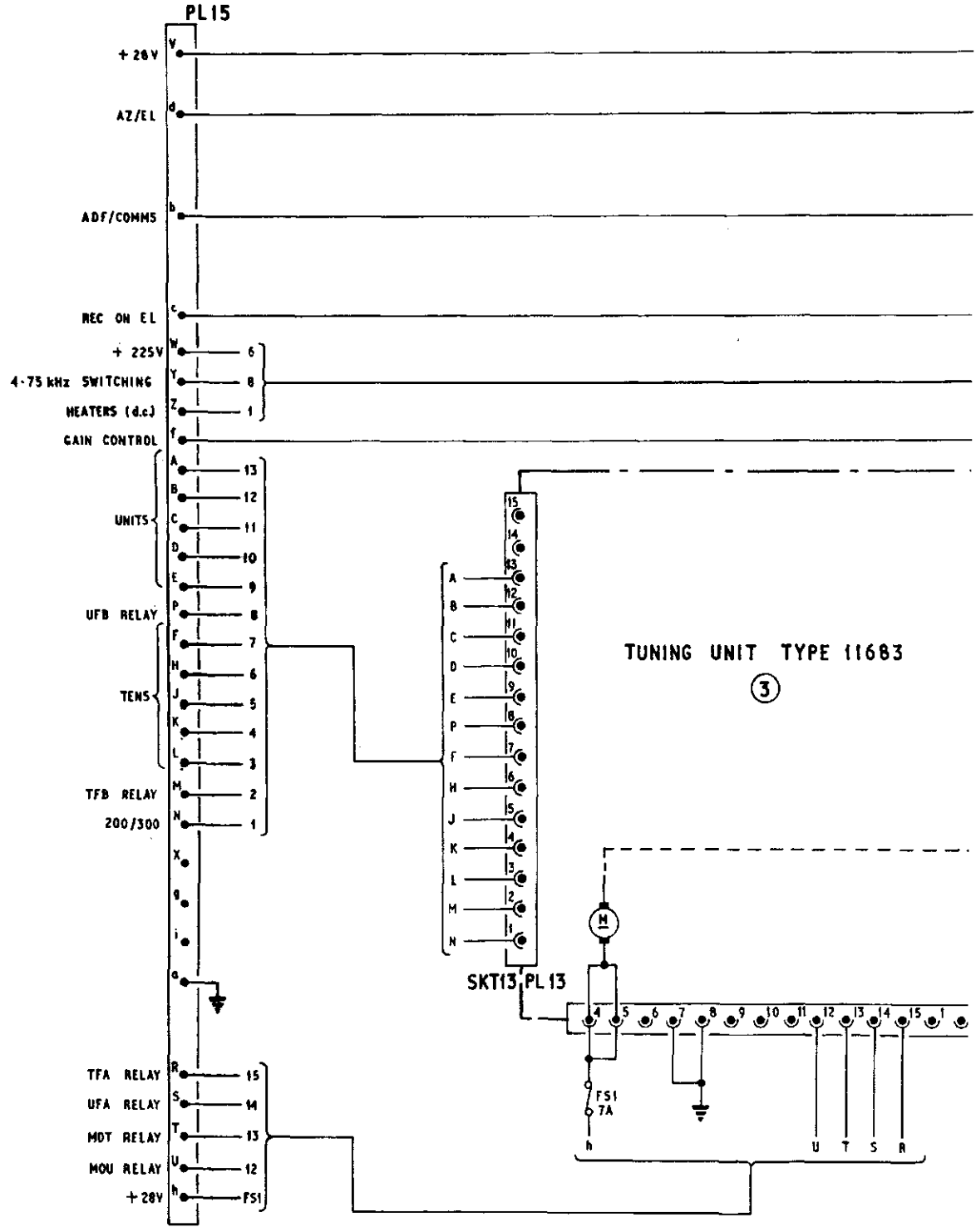


Relay unit (coaxial) Type 11682 Fig. 4



Order of loosening and tightening the cover securing screws Fig. 5

RM 37936/1/162 260 1/71 L&GL&CL&CLB



AIR DIAGRAM - MIN

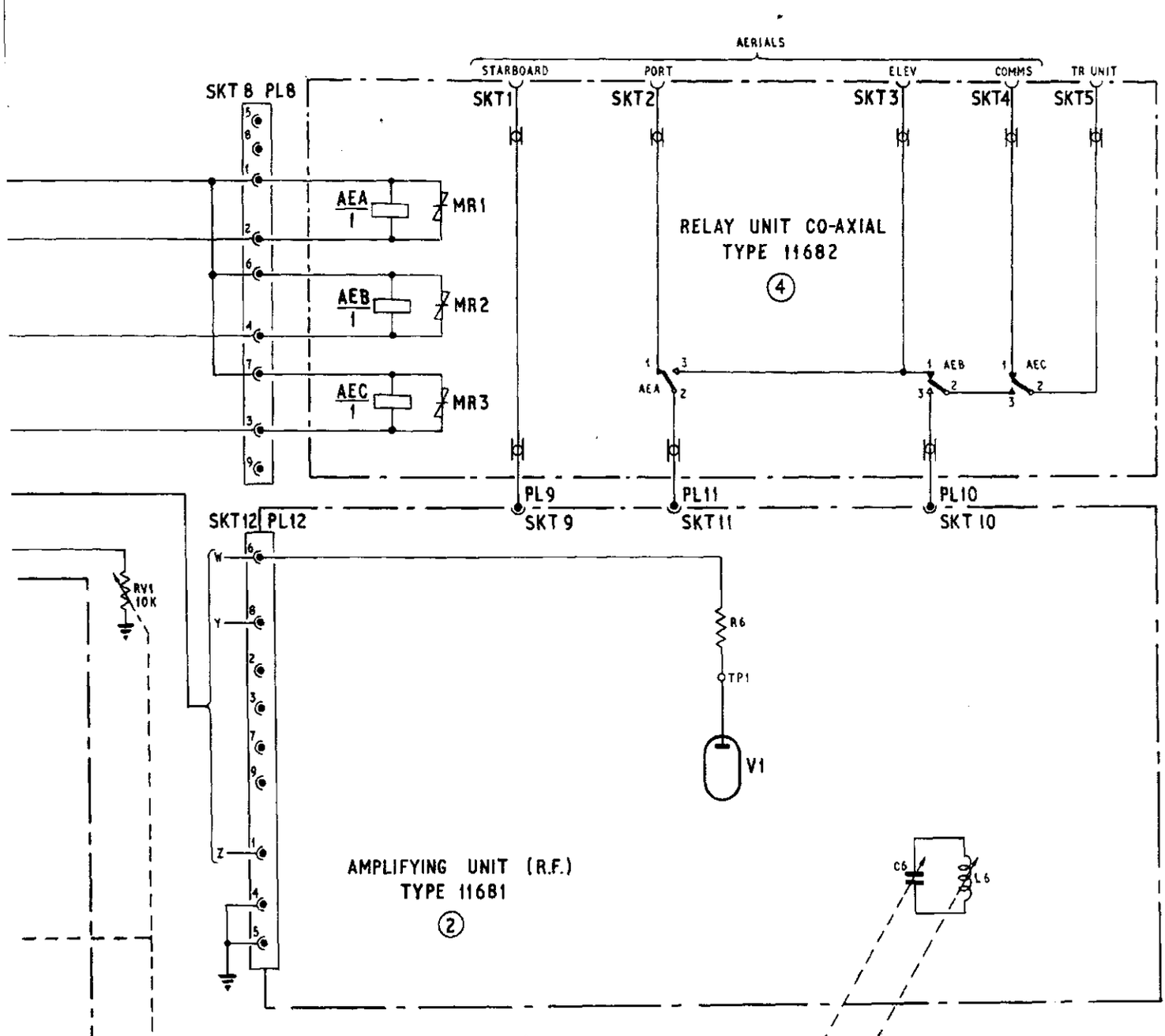
1168-0301-MD 54

BY COMMAND OF THE DEFENCE COUNCIL FOR USE IN THE NAVAL SERVICE/ROYAL AIR FORCE

ISSUE 1 Prepared by the Ministry of Technology

ISSUED DEC. 70

Chassis assembly Type 116



O and relay unit (coaxial) Type 11682-circuit

Fig. 6