

CHAP	2	SP 103	SERVICING PROCEDURES										AP.101B-1000-5A3 F Section 1 (1st Edition)				TIME	ACT
TRADE	AIR RADAR			LIGHTNING														
SHEET	1	OF	9	SHEET/S	1	1A	2	2A	3	4	5	6	AL NO		DATE		EST	
TITLE	IFF Mk 10 (SIF) Installation												SERVICING RECORD AC NO DATE					
Safety and Servicing Notes are to be complied with throughout the work detailed on this Card.													(1)	(2)	(3)	(4)	(5)	
<u>Special Tools and Equipment</u> Pumps, Pressurizing. Watches, Stop GS 1/5th Second. Trolley (Radio Servicing) Type 12036 Test Kit Aerial Type 6996. Tester, Performance Type 12004.													MAN HOURS	TRADESMAN INIT	BRIEF DETAILS OF DEFECT OR SUSPECTED DEFECT	F. 720B NO	N.C.O. INITIALS	
<p style="text-align: center;">AIR RADAR</p> 1. <u>Preparation</u> 1.1 TR unit. Ensure pressurized to 5 lbf/in ² . 1.2 FR cover Type 4345. Place over lower aerial (Frame 59) and secure with spider, ensuring cover is seated correctly. 1.3 Aircraft aerial test switch. Set to 'LOWER'. 1.4 Co-axial connector. Interconnect PT 12004 Low Level RF In socket and RF cover 4345. 1.5 External a.c. and d.c. supplies. Ensure connected and switched on. 1.6 IFF Master On/Off switch. Set to 'ON'. 1.7 CU6883. (a) Function switch. Set to 'ON' and allow a 2 minute warm up period (b) Mode 2 switch.) (c) Mode 3 switch.) Set to 'OUT'. 1.8 PT 12004 (i) Connect to 28V d.c. supply. (ii) Switch on.																		
													ASSOCIATED PROCEDURE CARDS					
													ASSOCIATED TRADES					
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CHAP	2	AIR RADAR	SERVICING PROCEDURES LIGHTNING		AP101B-1000-5A3 F Section 1 (1st Edition)				
SP NO	103	CONTINUED			AC NO DATE				
SHEET	2								
Safety and Servicing Notes are to be complied with throughout the work detailed on this card.					SERVICING RECORD				
					(1)	(2)	(3)	(4)	(5)
AIR RADAR									
1. <u>Preparation</u> (Contd)									
1.9 PT 12004.									
(a) Meterselector Set to 'TRANSPONDER'.									
(b) Set Sig Gen (i) Adjust for maximum meter indication.									
Frequency Control. (ii) Note Sig Gen Freq control setting.									
(c) Meter selector. Set to 'LEVEL'.									
(d) Set Sig Gen Adjust for meter indication of 'SET LEVEL'									
(e) Power and Sensitivity controls. Set fully anti-clockwise									
(f) Brilliance and Focus controls. Adjust for clearly defined trace.									
(g) 'X' and 'Y' Shift controls. Set to position start of trace at junction of horizontal and first vertical graticule line.									
(h) Timebase Duration switch. Set to '1'.									
(j) Timebase Amplitude control. Adjust until trace just reaches the last graticule line.									
(k) Meter selector Set to 'TRANSPONDER'									
1.10 PT 12004 selftest.									
(a) Mode selector Set to 'TRANSPONDER 1'.									
(b) Self Test switch. (i) Depress and check leading edge of second pulse coincides with Mode 1 marker on lower scale.									
(ii) Release.									
(c) Mode selector. Set to 'TRANSPONDER 2'.									
(d) Self Test switch. (i) Depress and check leading edge of second pulse coincides with Mode 2 marker on lower scale.									
(ii) Release.									
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SHEET	3				(1st Edition)	
Safety and Servicing Notes are to be complied with throughout the work detailed on this card.					AC NO DATE	
					SERVICING RECORD	
					(1)	(2)
					(3)	(4)
					(5)	
AIR RADAR						
1. <u>Preparation</u> (Contd)						
1.10 PT 12004 self test (Contd)						
(e) Mode selector Set to 'TRANSPONDER 3'.						
(f) Self Test (i) Depress and check leading edge of second pulse coincides with with Mode 3 marker on lower scale.						
(ii) Release.						
2. <u>Receiver Sensitivity</u>						
2.1 TP 12004.						
(a) Mode selector Set to 'TRANSPONDER 1'.						
(b) Sensitivity control. (i) Set dial indication to '62'						
(ii) Ensure pulse has no line across base.						
(iii) Set dial indication to '65'						
(iv) Ensure pulse has a line across base or that there is no pulse present.						
(v) Adjust until a faint line just appears across base of pulse.						
(vi) Note dial indication.						
(c) Set Sig Gen Freq control. (i) Vary for maximum response of pulse on display and minimum paint across base line.						
(ii) Note indication on Sig Gen counter						
(d) Sensitivity control. (i) Adjust slowly until a faint line just appears across base of pulse.						
(ii) Note dial indication.						
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SP NO	103	CONTINUED			AC NO DATE				
SHEET	4				SERVICING RECORD				
Safety and Servicing Notes are to be complied with throughout the work detailed on this card.					(1)	(2)	(3)	(4)	(5)
AIR RADAR									
2. <u>Receiver Sensitivity</u> (Contd)									
NB Where difference in sensitivity figures noted in Sub-items 2.1(b) Operation (vi) and 2.1(d) Operation (ii) is greater than 3 dB, or where the difference in frequencies, as calculated from the calibration chart, from settings noted in Sub-items 1.12(b) Operation (ii) and 2.1(c) Operation (ii) is greater than 4 MHz, transponder is to be returned for 2nd Line Bay Servicing.									
2.2 CU6883 Function switch. Set to 'LOW SENS'.									
2.3 PT 12004 Sensitivity control.					(i)	Turn fully anti-clockwise until a faint line just appears across base of pulses.			
					(ii)	Check dial indication exceeds 40.			
2.4 CU 6883 Function switch. Set to 'NORMAL SENS'.									
2.5 PT 12004 Sensitivity control. Set fully anti-clockwise									
3. <u>Power Output</u>									
3.1 PT 12004									
(a) Meter						Set to 'POWER'.			
(b) Power control.					(i)	Adjust for meter indication of 'SET LEVEL'.			
					(ii)	Check dial indication exceeds 6.			
					(iii)	Set fully anti-clockwise.			
(c) Meter selector.						Set to 'LEVEL'.			
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SP NO	103	CONTINUED			AC NO DATE				
SHEET	5								
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					(1)	(2)	(3)	(4)	(5)
AIR RADAR									
4.	<u>Coding</u>								
NB	If the coder used is American (KY95A) operation of I/P and Emergency facilities should present the required number of bracket pulses plus at least the first bracket pulse of an additional train.								
4.1	PT 12004								
	(a) Timebase switch. Set to '2'.								
	(b) Timebase Amplitude. control. Adjust to position end of trace on last vertical graticule line.								
4.2	SIF control unit Mode 1 switches. Set as in column 1 in the following table and check the pulses listed in column 2 are present on PT 12004 with no spurious pulses.								
COLUMN 1					COLUMN 2				
Outer (A) 1 A1									
2 A2									
3 A1, A2									
4 A4									
5 A1, A4									
6 A2, A4									
7 A1, A2, A4									
0 Bracket pulses only.									
Inner (B) 1 B1									
2 B2									
3 B1, B2									
0 Bracket pulses only.									
4.3	PT 12004 Mode selector Set to 'TRANSPONDER 2' and 'TRANSPONDER 3' in turn and check reply pulses are not present.								
4.4	CU 6883 switch. Set to 'MODE 2'.								
4.5	PT 12004 Mode selector. Set to 'TRANSPONDER 2'.								
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4. <u>Coding</u> (Contd)																																																																											
4.6 Coding unit Set as in column 1 in the Mode 2 following table and code switches. check the pulses listed in column 2 are present on PT 12004 with no spurious pulses.																																																																											
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4.10 CU 6883. Set to 'EMERGENCY'.																																											
4.11 PT 12004 Timebase switch. Set to '4'.																																											
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SP NO	103	CONTINUED			AC NO DATE				
SHEET	8				SERVICING RECORD				
Safety and Servicing Notes are to be complied with throughout the work detailed on this card.					(1)	(2)	(3)	(4)	(5)
AIR RADAR									
4. <u>Coding</u> (Contd)									
4.12 PT 12004 Mode selector.					(i)	Set to 'TRANSPONDER 1' and check four complete Mode 1 pulse trains are present.			
					(ii)	Set to 'TRANSPONDER 3' and check four complete Mode 3 pulse trains are present.			
					(iii)	Set to 'TRANSPONDER 2' and check Mode 2 pulse train is unaffected.			
4.13 CU6883. Switch off emergency.									
NB Item 5 is applicable only if aircraft is wired for I/P.									
5. <u>I/P Function</u>									
5.1 CU6883 I/P switch or separately mounted I/P switch (As fitted).					(i)	Depress.			
					(ii)	Release and simultaneously start stop watch.			
					(iii)	Check two complete pulse trains are present on Modes 1 and 3. The second pulse train is to remain on the trace of approx 22.5 seconds after I/P switch is released.			
					Note: Mode 2 is not affected by I/P				
5.2 PT 12004 Timebase switch.					Set to 1.				
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SP NO	103	CONTINUED			AC NO DATE				
SHEET	9				SERVICING RECORD				
Safety and Servicing Notes are to be complied with throughout the work detailed on this card.					(1)	(2)	(3)	(4)	(5)
AIR RADAR									
6. <u>Aerial Switching</u>									
6.1 Aircraft aerial test switch. Set to 'FLIGHT' and check pulses displayed on PT 120004 flicker.									
6.2 RF cover Type 4345. (i) Remove from Lower aerial. (ii) Fit to upper aerial. (On canopy).									
6.3 Aircraft aerial test switch. Set to 'UPPER'									
6.4 PT 12044 Repeat Item 3.									
6.5 Aircraft aerial test switch. Set to 'FLIGHT' and check pulses displayed on PT 12004 flicker.									
7. <u>General</u>									
7.1 CU6883. (a) Function switch. Set to 'OFF'.									
(b) Mode 2 switch.) Set to 'OUT'.									
(c) Mode 3 switch.)									
7.2 IFF Master switch. Set to 'OFF'.									
7.3 CU 6465. (a) Mode 1 switch.) Set to '00'.									
(b) Mode 3 switch.)									
7.4 PT 12004. Switch off and disconnect									
7.5 RF cover Type 4345. Remove from aerial and stow.									
7.6 Test connectors. Stow.									
7.7 External supplies. Ensure switched off and disconnected.									
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