

CHAP	2	SP 105	SERVICING PROCEDURES										AP. 101B-1000-5A AF Section 2				TIME ACT	EST			
TRADE	AIR COMMS		LIGHTNING																		
SHEET	1	OF 13	SHEET/S					3		5	6	AL NO	13	DATE	F2998B						
TITLE	U/VHF and UHF Homing Installation (PTR177)											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)		
Special Tools and Equipment															MAN HOURS	TRADESMAN INIT	BRIEF DETAILS OF DEFECT OR SUSPECTED DEFECT	F. 720B NO	N.C.O. INITIALS		
TS 15077. Watches Stop, GS 1/5 sec. Test Oscillator Type 9784. Gauge 0-30 lbs 4G/6526. Adaptors. Type N/C 10AD/5193525 10AD/9144299.																					
AIR COMMS																					
1. <u>Preparation</u>																					
1.1 External d.c. supply. Connect to aircraft.																					
1.2 PTR177. )																					
1.3 RF unit Type 11037 ) Pressurize to 51bf/in2.																					
1.4 Comms aerial connector. Disconnect from RF unit Comms Ae socket.																					
1.5 TS15077.																					
(a) Connector Type 5595-99 9434142 Connect between TS Test socket and AF unit Test socket.																					
(b) Connector Type 5995-99- 9434145. Connect between TS Radio socket and RF unit Comms Ae socket using appropriate adapter Type N/C.																					
1.6 Headsets. (2 off). Connect to Pilot's and TS mic/tel sockets.																					
1.7 TS15077.																					
(a) Meter sensitivity switch. Set to 'MAX'.																					
(b) Harrier/Normal switch. Set to 'NORMAL'.																					
1.8 Normal/Standby switch. Set to 'NORMAL'.																					
1.9 D.c. supply. Switch on.																					
SMS/79/ 43															Continued						

ASSOCIATED PROCEDURE CARDS

ASSOCIATED TRADES

SP NO

105

CHAP	2	AIR COMMS	SERVICING PROCEDURES		AP101B-1000-5A3F	
SP NO	105	Contd	LIGHTNING		Section 2	
SHEET	2	Al 13			AC NO..... DATE .....	
Safety and Servicing Notes are to be complied with throughout the work detailed on this card.					SERV RECORD - F. 2983B	
					(1)	(2)
					(3)	(4) (5)
<p style="text-align: center;">AIR COMMS</p> <p>1. <u>Preparation (Contd)</u></p> <p>1.10 CU C1607/4      Set to 'T/R' and allow Function switch.      a 2 minute warm up period.</p> <p>1.11 TS15077. (a) Meter switch.      Set to '1' and check meter indication is in Blue zone. (b) Supply      Set to 'ON' and allow a switch.      30 seconds warm up period.</p> <p>1.12 Cockpit dimmer      Operate and ensure control.      CU C1607/4 panel lights function correctly.</p> <p>1.13 CU C1607/4.      Set to 'M'. (a) Chan switch.      (i) Set to 243.1. (b) Manual      (ii) Set to 243.0 and selector.      simultaneously start stop-watch. Check mechanical drive ceases within 6 seconds.</p> <p>1.14 I/C facility.      Ensure available between Pilot's and TS headsets.</p> <p>1.15 CU C1607/4      Set fully clockwise. Volume control.</p> <p>1.16 Aerial change-      Set to 'LOWER'. over switch.</p> <p>2. <u>UHF Main Receiver, Audio Output Auxiliary Output and Mute Checks</u></p> <p>2.1 TS15077. (a) Co-axial      Connect between TS Rx link.      and Sig Gen sockets. (b) Sig Gen      Set to 'X' and ensure Freq switch.      tone is heard in TS headset.</p>						
SMS/79/ 43A					Continued	

SMS 17A

CHAP	2	AIR COMMS	SERVICING PROCEDURES LIGHTNING		AP101B-1000-5A3 F Section 2 (1st Edition)	
SP NO	105	CONTINUED			AC No ..... DATE .....	
SHEET	3					
Safety and Servicing Notes are to be complied with throughout the work detailed on this card.					SERVICING RECORD	
					(1)	(2)
					(3)	(4)
					(5)	
AIR COMMS						
3. <u>Main Receiver Crystal Check</u>						
3.1	TS15077 Meter switch.	Set to '5'.				
3.2	TS Sig Gen Freq switch.	Set to 'Z'.				
3.3	CU C1607/4 main selectors.	Set to 226.0, 31640 and 327.70 in turn and ensure tone is audible.				
3.4	TS Sig Gen Freq switch.	Set to 'Y'.				
3.5	CU C1607/4 manual selectors.	Set to 249.55, 271.25, 282.10, 292.96, 336.35, 347.20, 358.05, 368.90 and 390.60 in turn and ensure tone is audible.				
3.6	TS Sig Gen Freq switch.	Set to 'X'.				
3.7	CU C1607/4 manual selectors.	Set to 230.85, 243.00, 255.15, 267.30, 279.45, 303.75, 364.50, 376.65 and 388.80 in turn and ensure tone is audible.				
4. <u>Main Receiver Sensitivity</u>						
4.1	CU C1607/4 manual selectors.	Set to 225.0				
4.2	TS15077.					
	(a) Co-axial link.	Connect between Rx and Noise Gen sockets.				
	(b) Meter switch.	Set to '4'.				
	(c) Noise Gen switch	Set to 'MOD ON'.				
	(d) DC Cal controls.	Adjust for meter indication of 'C'.				
	(e) Noise Gen switch.	Set to 'MOD OFF' and check meter indication decreases to less than 'A'.				
RM 52011 / 108			Continued			

CHAP	2	AIR COMMS	SERVICING PROCEDURES LIGHTNING		AP101B-1000-5A3 F Section 2 (1st Edition)				
SP NO	105	CONTINUED			AC No..... DATE .....				
SHEET	4								
Safety and Servicing Notes are to be complied with throughout the work detailed on this card.					SERVICING RECORD				
					(1)	(2)	(3)	(4)	(5)
AIR COMMS									
4.	<u>Main Receiver Sensitivity (Contd)</u>								
4.3	CU C1607/4 manual selectors.	Set to 315.5 and 399.9 in turn, repeating Sub-item 4.2 (c) to 4.2(e) inclusive.							
5.	<u>Transmitter Power Output and Tone Checks</u>								
5.1	TS15077. (a) Co-axial link. (b) Meter switch.	Connect between TS Tx and Load sockets. Set to '5'.							
5.2	CU C1607/4 Chan switch.	Set to each pre-set UHF channel in turn.							
5.3	Pilot's Press-to-Transmit switch.	(i) Depress, and check meter indication exceeds 'B' for each pre-set channel. (ii) Release.							
5.4	Tone On/Off switch.	(i) Set to 'ON' and ensure 1 kHz note is heard. (ii) Set to 'OFF'.							
6.	<u>Modulation Depth and Quality</u>								
6.1	Pilot's microphone	Switch off.							
6.2	CU C1607/4 Man selector	Set to 315.5MHz							
6.3	TS15077. (a) Meter switch (b) Talk switch. (c) DC Cal controls (d) Meter switch. (e) Talk switch. (f) Tone Mod switch.  (g) Meter switch. (h) DC Cal controls	Set to '6'. Depress to 'ON'. Adjust for TS meter indication of 'D'. Set to '7' and check meter indication exceeds 'B'. Release. Repeat Sub-items 6.2 (a) to (e) inclusive reading Tone Mod switch for Talk switch throughout. Set to '9'. Set fully clockwise.							
RM 52011 / 108A					Continued				

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SP NO	105	CONTINUED			AC No ..... DATE.....				
SHEET	5								
Safety and Servicing Notes are to be complied with throughout the work detailed on this card.					SERVICING RECORD				
					(1)	(2)	(3)	(4)	(5)
AIR COMMS									
6.	<u>Modulation Depth and Quality</u>								
6.4	Pilot's microphone	Switch on.							
6.5	Pilot's Press-to-Transmit switch.	(i)	Depress, speak into microphone and ensure sidetone in headset is clear.						
		(ii)	Release.						
6.6	Pilot's microphone.	Switch off.							
6.7	CU C1607/4.								
	(a) Chan switch.	Set to 'M'.							
	(b) Manual selectors	Set to 235.0 and 395.0 in turn and repeat Sub-items 6.3 (a) to (e) inclusive.							
7.	<u>Transmit Override Facility</u>								
7.1	CU C1607/4 Function switch.	Set to 'ADF'.							
7.2	TS Meter switch.	Set to '5'.							
7.3	Pilot's Press-to-Transmit switch.	(i)	Depress and check TS meter indication exceeds 'B'.						
		(ii)	Release.						
8.	<u>UHF Aerial Reflection Coefficient</u>								
8.1	Connector Type 5995-99-9434145.	Disconnect from TS Radio and RF unit Comms Ae socket.							
8.2	Comms aerial connector.	Connect to RF unit Comms Ae socket.							
8.3	T/R In connector.	Disconnect from RF unit T/R In socket.							
8.4	Connector Type 5995-99-943-4145.	Connect between TS Aerial and RF unit T/R In sockets using appropriate adapter Type N/C.							
RM 52011 / 109					Continued				

CHAP	2	AIR COMMS	SERVICING PROCEDURES LIGHTNING		AP101B-1000-5A3 F Section 2 (1st Edition)				
SP NO	105	CONTINUED			AC No ..... DATE .....				
SHEET	6								
Safety and Servicing Notes are to be complied with throughout the work detailed on this card.					SERVICING RECORD				
					(1)	(2)	(3)	(4)	(5)
AIR COMMS									
8.5	Connector Type 5995-99- 9434144.	Using appropriate adapter Type N/C, connect between TS Radio socket and TR In connector.							
8.6	CU C1607/4. (a) Function switch. (b) Chan switch.	Set to 'T/R'. Set to any little used channel.							
8.7	TS15077. (a) Co-axial link. (b) Meter switch.  (c) Talk switch. (d) DC Cal controls (e) Meter switch.	Connect between TS Tx socket and Aerial socket (small) (i) Set to '2' and ensure channel is not in use. (ii) Set to '6'. Depress to 'ON'. Adjust for TS meter indication of 'D'. Set to '8' and check meter indication is less than 'B'.							
8.8	Lower aerial.	Screen momentarily and ensure TS meter idication fluctuates.							
8.9	TS Talk switch.	Release.							
8.10	Aerial change- over switch.	Set to 'UPPER' and repeat Sub-items 8.7 (b) to (e) inclusive and Sub-item 8.9.							
8.11	Comms aerial connector.	Disconnect from RF unit Comms Ae socket.							
8.12	Port aerial connector.	(i) Disconnect from RF unit Port Ae socket. (ii) Connect to RF unit Comms Ae socket and repeat Sub-items 8.7 (b) to (e) inclusive and Sub-item 8.9. (iii) Disconnect from Comms Ae socket and reconnect to Port Ae socket.							
RM 52011/109A					Continued				

CHAP	2	AIR COMMS	SERVICING PROCEDURES	AP101B-1000-5A3F				
SP NO	105	Contd	LIGHTNING	Section 2				
SHEET	7	AL 13		AC NO..... DATE .....				
Safety and Servicing Notes are to be complied with throughout the work detailed on this card.				SERV RECORD - F. 2983B				
				(1)	(2)	(3)	(4)	(5)
AIR COMMS								
8. <u>UHF Aerial Reflection Coefficient</u> (Contd)								
8.6 CU C1607/4.								
(a)Function switch. Set to 'T/R'.								
(b)Chan switch. Set to any little used channel.								
8.7 TS15077.								
(a)Co-axial link. Connect between TS Tx socket and Aerial socket (small).								
(b)Meter switch. (i) Set to '2' and ensure channel is not in use.								
(ii) Set to '6'.								
(c)Talk switch. Depress to 'ON'.								
(d)DC Cal controls. Adjust for TS meter indication of 'D'.								
(e)Meter switch. Set to '8' and check meter indication is less than 'B'.								
8.8 Lower aerial. Screen momentarily and ensure TS meter indication fluctuates.								
8.9 TS Talk switch. Release.								
8.10 Aerial change-over switch. Set to 'UPPER' and repeat Sub-items 8.7(b) to (e) inclusive and Sub-item 8.9.								
8.11 Comms aerial connector. Disconnect from RF unit Comms Ae socket.								
8.12 Port aerial connector. (i) Disconnect from RF unit Port Ae socket.								
(ii) Connect to RF unit Comms Ae socket and repeat Sub-items 8.7(b) to (e) inclusive and Sub-item 8.9								
(iii) Disconnect from Comms AE socket and reconnect to Port Ae socket.								
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CHAP	2	AIR COMMS	SERVICING PROCEDURES LIGHTNING		AP101B-1000-5A3 F Section 2 (1st Edition)				
SP NO	105	CONTINUED							
SHEET	8	AL 13			AC No ..... DATE .....				
Safety and Servicing Notes are to be complied with throughout the work detailed on this card.					SERVICING RECORD				
					(1)	(2)	(3)	(4)	(5)
AIR COMMS									
8. <u>UHF Aerial Reflection Coefficient</u> (Contd)									
8.13 Starboard aerial connector.					(i)	Disconnect from RF unit Starboard Ae socket and connect to Comms Ae socket.			
					(ii)	Repeat Sub-items 8.7 (b) to (e) inclusive and Sub-item 8.9.			
					(iii)	Disconnect from Comms Ae socket and reconnect to Starboard Ae socket.			
8.14 Comms aerial connector.					Reconnect to Comms Ae socket.				
9. <u>General</u>									
9.1 CU C1607/4 Function switch.					Set to 'OFF'.				
9.2 TS15077									
(a) Supply switch.					Set to 'OFF'.				
(b) Headset.					Disconnect.				
(c) TS.					Disconnect from installation.				
9.3 T/R In connector.					Reconnect to T/R In socket.				
10. <u>Azimuth Checks</u>									
10.1 CU1607/4.									
(a) Function switch.					Set to 'ADF'.				
(b) Channel switch.					Set to 'M'.				
(c) Manual selector.					Set to '344.0'				
10.2 Inst master switch					Set to 'ON'.				
SMS/79/212/46A					Continued				

CHAP	2	AIR COMMS	SERVICING PROCEDURES LIGHTNING		AP101B-1000-5A3 F Section 2 (1st Edition)	
SP NO	105	CONTINUED			AC No ..... DATE .....	
SHEET	9	AL 13			SERVICING RECORD	
Safety and Servicing Notes are to be complied with throughout the work detailed on this card.			(1)	(2)	(3)	(4) (5)
AIR COMMS						
10. <u>Azimuth Checks</u>						
10.4 Test oscillator. Type 9784.						
(a) Selector switch.			Set to 344 MHz			
(b) Test oscillator			Position approx 10 yards to port bow of aircraft.			
(c) Aerial			Extend.			
(d) Button.			Depress.			
10.5 Nav display unit.			Ensure azimuth lines are deflected to port and note is heard in headset.			
10.6 Test oscillator.			(i) Release button.			
			(ii) Position oscillator approx 10 yards to starboard of aircraft bow.			
			(iii) Depress button.			
10.7 Nav display unit.			Ensure azimuth lines are deflected to starboard and note is heard in headset.			
10.8 Pilot's Press-to-Talk switch.			(i) Depress and check azimuth needle zero's and flag re-appears.			
			(ii) Release switch.			
10.9 Pilot's Press-to-Mute switch.			Depress and check azimuth lines zero.			
10.10 Meter sensitivity switch.			(i) Set to 'MIN'			
			(ii) Ensure angle of indicator azimuth line deflection decrease.			
			(iii) Set to 'MAX'.			
10.11 Nav display indicator.			Set to 'COMP'			
10.12 Inst master switch.			Set to 'OFF'.			
SMS/79/212/47			Continued			

CHAP	2	AIR COMMS	SERVICING PROCEDURES		AP101B-1000-5A3F	
SP NO	105	Contd	LIGHTNING		Section 2	
SHEET	10	AL 13			AC NO..... DATE .....	
Safety and Servicing Notes are to be complied with throughout the work detailed on this card.					SERV RECORD - F. 2983B	
					(1)	(2)
					(3)	(4) (5)
AIR COMMS						
11. <u>VHF Facility</u>						
11.1 TR VHF aerial connector. Disconnect from TR VHF aerial socket P1403.						
11.2 Connector Type 5995-99-9434142. Connect between TR Test socket and Test socket on AF unit.						
11.3 Connector Type 5995-99-9434144. Connect between TS aerial socket and TR VHF aerial connector using adapter.						
11.4 Connector Type 5995-99-9434145. Connect between TS Radio socket and TR VHF socket using adapter.						
11.5 TR aerial connector. Refit to TR UHF aerial socket.						
11.6 TS15077.						
(a) Supply switch. Set to 'ON'.						
(b) Co-axial link. Connect between TS Rx and Sig Gen sockets.						
(c) Sig Gen Freq switch. Set to 'Y'.						
11.7 CU Manual selectors. Set to 119.35 and ensure tone is heard in headset						
11.8 TS Sig Gen Freq switch. Set to 'Z'.						
11.9 CU C16077/4 Manual selectors. Set to 124.3 and ensure tone is heard in headset						
12. <u>VHF Receiver Sensitivity and Squelch</u>						
12.1 TS15077						
(a) Co-axial link. Connect between TS Rx and Noise Gen sockets						
(b) Meter switch. Set to '4'.						
12.2 CU Chan switch. Set to each VHF pre-set channel in turn.						
SMS/79/ 47A					Continued	

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CHAP	2	AIR COMMS	SERVICING PROCEDURES		AP101B-1000-5A3F	
SP NO	105	Contd	LIGHTNING		Section 2	
SHEET	11	AL 13			AC NO..... DATE .....	
Safety and Servicing Notes are to be complied with throughout the work detailed on this card.					SERV RECORD - F. 2983B	
					(1)	(2)
					(3)	(4) (5)
<p style="text-align: center;">AIR COMMS</p> <p>12. <u>VHF Receiver Sensitivity and Squelch (Contd)</u></p> <p>12.3 TS15077.</p> <p>(a) Noise Gen      Hold to 'MOD ON' for each pre-set channel.</p> <p>(b) DC Cal          Adjust for meter indication of 'C'.</p> <p>(c) Noise Gen      Release and check meter indication is less than 'A'.</p> <p>13. <u>VHF Transmitter Power Output</u></p> <p>13.1 TS15077.</p> <p>(a) Co-axial        Connect between TS Tx and Load sockets.</p> <p>(b) Meter            Set to '5'.</p> <p>13.2 CU Chan switch. Set to each VHF pre-set channel in turn.</p> <p>13.3 TS High/Low switch.      Depress to 'LOW'.</p> <p>13.4 Pilot's Press-to-Transmit switch.</p> <p>(i)      Depress and check meter indication exceeds '40' for each pre-set channel.</p> <p>(ii)     Release.</p> <p>13.5 TS High/Low switch.      Release.</p> <p>14. <u>VHF Modulation Depth and Quality</u></p> <p>14.1 Pilot's microphone.      Switch off.</p> <p>NB      Items 14.2(a) and 14.7 are applicable only if TS15077 is Post Mod A3327.</p> <p>14.2 TS15077.</p> <p>(a) Signal Gen/      Set to 5mV 300 ohms.</p> <p>     MIC SIM</p> <p>     output</p> <p>     switch.</p>						
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CHAP	2	AIR COMMS	SERVICING PROCEDURES		AP101B-1000-5A3F	
SP NO	105	Contd	LIGHTNING		Section 2	
SHEET	12	AL 13			AC NO..... DATE .....	
Safety and Servicing Notes are to be complied with throughout the work detailed on this card.					SERV RECORD - F. 2983B	
					(1)	(2)
					(3)	(4)
					(5)	
AIR COMMS						
14. <u>VHF Modulation Depth and Quality (Contd)</u>						
14.2 TS15077.(Contd)						
(b)Meter switch. Set to '6'.						
(c)Talk switch. Depress to 'ON' and adjust DC Cal controls for meter indication 'B'						
(d)Meter switch. Set to '7' and check meter indication exceeds '25'.						
(e)Tone Mod. Repeat Sub-item 14.2 (a) to (c) inclusive using tone Mod switch instead of Talk switch.						
(f)Meter switch. Set to '9'.						
(g)DC Cal controls. Set fully clockwise.						
14.3 Pilot's microphone. Switch on.						
14.4 Pilot's Press-to-Transmit switch. Depress, speak into microphone and ensure sidetone in TS headset is clear.						
14.5 Pilot's microphone. Switch off.						
14.6 CU C1607/4..						
(a)Can switch. Set to 'M'.						
(b)Manual selectors. Set to 118.95 and 135.95 in turn and repeat Sub-items 1.2 (a) to (c) inclusive.						
14.7 TS15077 signal Gen/Mic Sim output switch. Set to 'Z'.						
15. <u>U/VHF Aerial Reflection Coefficient</u>						
15.1 CU Chan switch. Set to any little used channel.						
15.2 Aerial change-over switch. Set to 'UPPER'.						
SMS/79/12/48A					Continued	

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CHAP	2	AIR COMMS	SERVICING PROCEDURES		AP101B-1000-5A3F	
SP NO	105	Contd	LIGHTNING		Section 2	
SHEET	13	AL 13			AC NO..... DATE .....	
Safety and Servicing Notes are to be complied with throughout the work detailed on this card.					SERV RECORD - F. 2983B	
					(1)	(2)
					(3)	(4) (5)
<p style="text-align: center;">AIR COMMS</p> <p>15. <u>U/VHF Aerial Reflection Coefficient</u> (Contd)</p> <p>15.3 TS15077.</p> <p>(a) Co-axial link. Connect between TS Tx socket and Aerial socket (small).</p> <p>(b) Meter switch. (i) Set to '2' and ensure channel is not in use.</p> <p>(ii) Set to '6'.</p> <p>(c) Talk switch. Depress to 'ON' and adjust DC Cal controls for meter indication of 'B'.</p> <p>(d) Meter switch. Set to '8' and check meter indication is less than '12'.</p> <p>16. <u>General</u></p> <p>16.1 TS Supply switch. )</p> <p>16.2 CU Function switch. ) Set to 'OFF'.</p> <p>16.3 TS15077. Disconnect from installation.</p> <p>16.4 TS Aerial connector. Reconnect to TR VHF Aerial socket.</p> <p>16.5 Headsets. Disconnect.</p> <p>16.6 Aerial Change-over switch. Set to 'LOWER'.</p> <p>16.7 External d.c. supply. Switch off and disconnect.</p>						
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