

CHAP	2	SP 107	SERVICING PROCEDURES										AP. 101B-1000-5A3F Section 2				TIME	ACT
TRADE	AIR COMMS		LIGHTNING															
SHEET	1	OF 13	SHEET/S					3		5	6	AL NO	13	DATE				
TITLE	U/VHF and VHF-Homing Installation (PTR175).											SERVICING RECORD AC NO DATE				EST		
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> 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.												MAN HOURS	TRADESMAN INIT	BRIEF DETAILS OF DEFECT OR SUSPECTED DEFECT	F. 720B NO	N.C.O. INITIALS		
AIR COMMS 1. <u>Preparation</u> 1.1 External d.c. Connect to aircraft supply. 1.2 PTR 175.) 1.3 RF unit Type 11037) Pressurize to 5lbs/in2. 1.4 Comms aerial Disconnect from RF unit connector. Comms Ae socket. 1.5 TS 15077. (a) Connector Connect between TS Test Type socket and AF unit Test 5995-99- socket. 9434142. (b) Connector Connect between TS Type Radio socket and RF unit 5995-99- Comms Ae socket using 9434145. appropriate adapter Type N/C. 1.6 Headsets Connect to Pilot's and (2 off). TS mic/tel sockets. 1.7 TS 15077. Set to 'MAX'. (a) Meter sensitivity switch. (b) Harrier/ Set to 'NORMAL'. Normal switch. 1.8 Normal/Standby Set to 'NORMAL'. switch. 1.9 D.C. Supply. Switch on. 1.10 CU C1607/4 Set to 'T/R' and allow a Function switch. 2 minute warm up period. 1.11 TS 15077 (a) Meter switch. Set to '1' and check meter indication is in Blue zone.												ASSOCIATED PROCEDURE CARDS						
SMS/79/ 50					Continued					ASSOCIATED TRADES	SP NO						107	

CHAP	2	AIR COMMS	SERVICING PROCEDURES		AP101B-1000-5A3F	
SP NO	107	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. 2933B	
					(1)	(2)
					(3)	(4) (5)
<p style="text-align: center;">AIR COMMS</p> <p>1. <u>Preparation</u> (Contd)</p> <p>1.11 TS15077 (Contd)</p> <p style="margin-left: 40px;">(b) Supply switch. Set to 'ON' and allow a 30 second warm up period.</p> <p>1.12 Cockpit dimmer control. Operate and ensure CU CU1607/4 panel lights function correctly.</p> <p>1.13 CU C1607/4.</p> <p style="margin-left: 40px;">(a) Chan switch. Set to 'M'.</p> <p style="margin-left: 40px;">(b) Manual selector. (i) Set to 243.1. (ii) Set to 243.0 and 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 Volume control. Set fully clockwise.</p> <p>1.16 Aerial change-over switch. Set to 'LOWER'.</p> <p>2. <u>UHF Main Receiver, Audio Output Auxiliary Output and Mute Checks</u></p> <p>2.1 TS 15077.</p> <p style="margin-left: 40px;">(a) Co-axial link. Connect between TS Rx and Sig Gen sockets.</p> <p style="margin-left: 40px;">(b) Sig Gen Freq switch. Set to 'X' and ensure tone is heard in TS headset.</p> <p style="margin-left: 40px;">(c) Meter switch. Set to '3' and check meter indication exceeds 'B', and ensure tone is heard in Pilot's headset. Note: If meter indication is low, momentarily disconnect Pilot's headset.</p> <p>2.2 TS Meter switch. Set to '10' and check meter indication is between '25' and '55'.</p>						
SMS/79/ 50A					Continued	

SMS 17A

CHAP	2	AIR COMMS	SERVICING PROCEDURES		AP101B-1000-5A3F	
SP NO	107	(Contd)	LIGHTNING		Section 2	
SHEET	3	AL13			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						
3. <u>Main Receiver Crystal Check</u>						
3.1 TS 15077 Meter Set to '5'. switch.						
3.2 TS Sig Gen Set to 'Z'. Freq s/w.						
3.3 CU C1607/4 main Set to 226.0 316.40 and selectors. 327.70 in turn and ensure tone is audible.						
3.4 TS Sig Gen Freq. Set to 'Y'.						
3.5 CU C1607/4 Set to 249.55, 271.25, manual 282.10, 292.96, 336.35, selector. 347.20, 358.05, 368.90 and 390.60 in turn and ensure tone is audible.						
3.6 TS Sig Gen Set to 'X'. Freq switch.						
3.7 CU C1607/4 Set to 230.85, 243.00, manual 255.15, 267.30, 279.45, selectors. 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 Set to 225.0. manual selectors.						
4.2 TS 15077.						
(a)Co-axial Connect between Rx and link. Noise Gen sockets.						
(b)Meter Set to '4'. switch.						
(c)Noise Gen Set to 'MOD ON'. switch.						
(d)DC Cal. Adjust for meter controls. indication of 'C'.						
(e)Noise Gen Set to 'MOD OFF' and switch. check meter indication decreases to less than 'A'.						
SMS/79/21/51					Continued	

SMS 17A

CHAP	2	AIR COMMS	SERVICING PROCEDURES		AP101B-1000-5A.F	
SP NO	107	Contd	LIGHTNING		Section 2	
SHEET	4	AL 13			AC NO..... DATE	
Safety and Servicing Notes are to be complied with throughout the work detailed on this card.					SERV RECORD - F. 2988B	
					(1)	(2)
					(3)	(4) (5)
<p style="text-align: center;">AIR COMMS</p> <p>4. <u>Main Receiver Sensitivity (Contd)</u></p> <p>4.3 CU C1607/4 Set to 300.0 repeating manual Sub-item 4.2(c) to selectors. 4.2(e) inclusive.</p> <p>5. <u>Guard Receiver Audio Output and Crystal Checks</u></p> <p>5.1 CU C1607/4 Set to '300'. manual selectors.</p> <p>5.2 CU Function Set to 'TR/G'. switch.</p> <p>5.3 TS 15077.</p> <p> (a) Coax link. Remove.</p> <p> (b) Attenuator link. Connect between TS. Rx and Sig gen sockets.</p> <p> (c) Sig Gen freq switch. Set to 'X' and ensure a tone is present in head set with meter switch to '2'.</p> <p> (d) Meter switch. Set to '3' and check meter indication exceeds 'A' and tone is heard in pilots headset.</p> <p> NOTE: If meter indicates low, momentarily disconnect pilots headset.</p> <p>6. <u>Transmitter Power Output and Tone Checks</u></p> <p>6.1 CU C1607/4 Set to 'TR'. function switch.</p> <p>6.2 TS 15077.</p> <p> (a) Attenuator link. Remove.</p> <p> (b) Coax-link. Connect between TS TX and load sockets.</p> <p> (c) Meter switch. Set to '5'.</p>						
SMS/79/ 51A					Continued	

SMS 17A

CHAP	2	AIR COMMS	SERVICING PROCEDURES		AP101B-1000-5A3F	
SP NO	107	Contd	LIGHTNING		Section 2	
SHEET	5	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>6. <u>Transmitter Power</u> <u>Output and Tone Checks (Contd)</u></p> <p>6.3 CU 1607/4 Set to each pre set UHF channel switch. channel in turn.</p> <p>6.4 Pilots' Press- (i) Depress, and check meter indication exceeds 'B' for each pre-set switch. channel. (ii) Release.</p> <p>6.5 Tone On/Off switch. (i) Set to 'ON' and ensure 1KHz note is heard. (ii) Set to off.</p> <p>7. <u>Modulation and Quality</u></p> <p>7.1 Pilot's microphone. Switch off.</p> <p>7.2 CU C1607/4 Set to 315.5 MHz manual selector.</p> <p>NB. Items 7.3(a) and 7.8 are applicable only if TS 15077 is Pos Mod A3327.</p> <p>7.3 TS 15077. (a) Signal Gen/ Mic Sim output switch. Set to 5mV 300 ohms. (b) Meter switch. 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 '7' and check meter indication exceeds 'B'. (f) Talk switch. Release.</p>						
<p>SMS/79/ 52</p>					Continued	

SMS 17A

CHAP	2	AIR COMMS	SERVICING PROCEDURES		AP101B-1000-5A3F				
SP NO	107	Contd	LIGHTNING		Section 2				
SHEET	6	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									
7. <u>Modulation and Quality</u> (Contd)									
7.3 TS 15077 (Contd)									
(g) Tone Mod switch.			Repeat Sub-items 7.3(a) to (e) inclusive reading Tone Mod switch for Talk switch throughout.						
(h) Meter switch.			Set to '9'.						
(l) DC Cal controls.			Set fully clockwise.						
7.4 Pilot's microphone. Switch on.									
7.5 Pilot's Press-to- Transmit switch.									
			(i) Depress, speak into microphone and ensure sidetone in headset is clear.						
			(ii) Release.						
7.6 Pilot's microphone. Switch off.									
7.7 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 7.3(a) to (e) inclusive.						
7.8 TS 15077 Mic GEN/MIC SIM output switch. Set to 'X'.									
8. <u>Transmit Override Facility</u>									
8.1 CU C1607/4 Function switch. Set to 'ADF'.									
8.2 TS Meter switch. Set to '5'.									
8.3 Pilot's Press-to- Transmit switch.									
			(i) Depress and check TS meter indication exceeds 'B'.						
			(ii) Release.						
SMS/79/ 52A					Continued				

SMS 17A

CHAP	2	AIR COMMS	SERVICING PROCEDURES		AP101B-1000-5A3F	
CP NO	107	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. 2933B	
					(1)	(2)
					(3)	(4) (5)
<p style="text-align: center;">AIR COMMS</p> <p>9. <u>UHF Aerial Reflection Coefficient</u></p> <p>9.1 Connector Type 5995-99-9434145. Disconnect from TS Radio and RF unit Comms socket.</p> <p>9.2 Comms aerial connector. Connect to RF unit Comms Ae socket.</p> <p>9.3 T/R In connector. Disconnect from RF unit T/R In socket.</p> <p>9.4 Connector Type 5995-99-943-4145. Connect between TS Aerial and RF unit T/R In sockets using appropriate adaptor Type N/C.</p> <p>9.5 Connector Type 5995-99-0434144. Using appropriate adaptor Type N/C, connect between TS Radio socket and TR In connector.</p> <p>9.6 CU C1607/4 (a)Function switch. Set to 'T/R'. (b)Chan switch. Set to any little used channel.</p> <p>9.7 TS 15077. (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'.</p>						
SMS/79/212/53					Continued	

SMS 17A

CHAP	2	AIR COMMS	SERVICING PROCEDURES LIGHTNING		AP101B-1000-5A3F Section 2 (1st Edition)				
CP NO	107	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 - RAF F. 2988B				
					(1)	(2)	(3)	(4)	(5)
AIR COMMS									
9. <u>UHF Aerial Reflection Coefficient</u> (Contd)									
9.8 Lower aerial. Screen momentarily and ensure TS meter indication fluctuates.									
9.9 TS Talk switch. Release.									
9.10 Aerial change-over switch. Set to 'UPPER' and repeat Sub-items 9.7 (b) to (e) inclusive and Sub-item 9.9.									
9.11 Comms aerial connector. Disconnect from RF unit Comms Ae socket.									
9.12 Port aerial connector. (i) Disconnect from RF unit Port Ae socket.									
(ii) Connect to RF unit Comms Ae socket and repeat Sub-items 9.7 (b) to (e) inclusive and Sub-item 9.9.									
(iii) Disconnect from Comms Ae socket and reconnect to Port Ae socket.									
9.13 Starboard aerial connector. (i) Disconnect from RF unit Starboard Ae socket and connect to Comms Ae socket.									
(ii) Repeat Sub-items 9.7 (b) to (e) inclusive and Sub-item 9.9.									
(iii) Disconnect from Comms Ae socket and reconnect to Starboard Ae socket.									
9.14 Comms aerial connector. Reconnect to Comms Ae socket.									
10. <u>General</u>									
10.1 CU C1607/4 Function switch. Set to 'OFF'.									
10.2 TS 15077.									
(a) Supply switch. Set to 'OFF'.									
(b) Headset. Disconnect.									
(c) TS. Disconnect from installation.									
10.3 T/R In connector. Reconnect to T/R In socket.									
SMS/79/ 53A					Continued				

CHAP	2	AIR COMMS	SERVICING PROCEDURES LIGHTNING		AP101B-1000-5A3 F Section 2 (1st Edition)				
SP NO	107	CONTINUED							
SHEET	9	AL 13			AC NO DATE				
Safety and Servicing Notes are to be complied with throughout the work detailed on this card.					SERVICING RECORD - RAF F. 2988B				
					(1)	(2)	(3)	(4)	(5)
AIR COMMS									
11. <u>Azimuth Checks</u>									
11.1 CU 1607/4.									
(a) Function switch. Set to 'ADF'.									
(b) Channel switch. Set to 'M'.									
(c) Manual selector. Set to '344.0'.									
11.2 Inst master switch. Set to 'ON'.									
11.3 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.									
11.4 Nav display unit. Ensure azimuth lines are deflected to port and note is heard in headset.									
11.5 Test oscillator.									
(i) Release button.									
(ii) Position oscillator approx 10 yards to Starboard of aircraft bow.									
(iii) Depress button.									
11.6 Nav display unit. Ensure azimuth lines are deflected to starboard and note is heard in headset.									
11.7 Pilot's Press-to-Talk switch.									
(i) Depress and check azimuth needle zero's and flag re-appears.									
(ii) Release switch.									
11.8 Pilot's Press-to-Mute switch. Depress and check azimuth lines zero.									
11.9 Meter sensitivity switch.									
(i) Set to 'MIN'.									
(ii) Ensure angle of indicator azimuth line deflection decrease.									
(iii) Set to 'MAX'									
11.10 Nav display indicator. Set to 'COMP'.									
11.11 Inst master switch. Set to 'OFF'.									
12. <u>VHF Facility</u>									
12.1 TR VHF aerial connector. Disconnect from TR VHF aerial socket P1403.									
12.2 Connector Type 5995-99-9434142. Connect between TR Test socket and Test socket on AF unit.									
SMS/79/212/54					Continued				

CHAP	2	AIR COMMS	SERVICING PROCEDURES LIGHTNING		AP101B-1000-5A3F Section 2 (1st Edition)				
SP NO	107	CONTINUED			AC NO DATE				
SHEET	10	AL 13							
Safety and Servicing Notes are to be complied with throughout the work detailed on this card.				SERVICING RECORD - RAF F. 2988B					
				(1)	(2)	(3)	(4)	(5)	
AIR COMMS									
12. <u>VHF Facility (Contd)</u>									
12.3 Connector Type 5995-99-9434144. Connect between TS aerial socket and TR VHF aerial connector using adapter.									
12.4 Connector Type 5995-99-9434145 Connect between TS Radio socket and TR VHF socket using adapter.									
12.5 TR aerial connector. Refit to TR UHF aerial socket.									
12.6 TS 15077.									
(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'.									
12.7 CU Manual selectors. Set to 119.35 and ensure tone is heard in headset.									
12.8 TS Sig Gen Freq switch. Set to 'Z'.									
12.9 CU C1607/4 Manual selectors. Set to 124.3 and ensure tone is heard in headset.									
13. <u>VHF Receiver Sensitivity and Squelch</u>									
13.1 TS 15077.									
(a) Co-axial link. Connect between TS Rx and Noise Gen sockets.									
(b) Meter switch. Set to '4'.									
13.2 CU Chan switch. Set to each VHF pre-set channel in turn.									
13.3 TS 15077.									
(a) Noise Gen switch Hold to 'MOD ON' for each pre-set channel.									
(b) DC Cal controls. Adjust for meter indication of 'C'.									
(c) Noise Gen switch. Release and check meter indication is less than 'A'									
14. <u>VHF Transmitter Power Output</u>									
14.1 TS15077.									
(a) Co-axial link. Connect between TS Tx and Load sockets.									
(b) Meter switch. Set to '5'.									
14.2 CU Chan switch. Set to each VHF pre-set channel in turn.									
14.3 TS High/Low switch. Depress to 'LOW'.									
SMS/19/212/54-A				Continued					

CHAP	2	AIR COMMS	SERVICING PROCEDURES		AP101B-1000-5A3F	
SP NO	107	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. 2935B	
					(1)	(2)
					(3)	(4) (5)
AIR COMMS						
14. <u>VHF Transmitter Power Output (Contd)</u>						
14.4 Pilot's press- (i) Depress and check						
to-Transmit meter indication						
switch. exceeds '40' for						
each pre-set						
channel.						
(ii) Release.						
14.5 TS High/Low Release.						
switch.						
15. <u>VHF Modulation Depth and Quality</u>						
15.1 Pilot's Switch off.						
microphone.						
NB: Item 15.2a and 15.7 are applicable only						
if TS 15077 is Post Mod A3327.						
15.2 TS 15077.						
(a) Sig Gen/ Set to 5mV 300 ohms						
Mic Sim						
output						
switch.						
(b) Meter Set to '6'.						
switch.						
(c) Talk switch. Depress to 'ON' and						
adjust DC Cal controls						
for meter indication						
'B'.						
(d) Meter Set to '7' and check						
switch. meter indication exceeds						
'25'.						
(e) Tone Mod. Repeat Sub-item 15.2(a)						
to (c) inclusive using						
tone mod switch instead						
of Talk switch.						
(f) Meter Set to '9'.						
switch.						
(g) DC Cal Set fully clockwise.						
controls.						
15.3 Pilot's Switch on.						
microphone.						
15.4 Pilot's Press- Depress, speak into						
to-Transmit microphone and ensure						
switch. sidetone in TS headset						
is clear.						
SMS/79/010/55					Continued	

SMS 17A

CHAP	2	AIR COMMS	SERVICING PROCEDURES	AP101B-1000-5A3F				
CP NO	107	Contd	LIGHTNING	Section 2 (1st Edition)				
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. 2933B				
				(1)	(2)	(3)	(4)	(5)
AIR COMMS								
15. <u>VHF Modulation Depth and Quality</u> (Contd)								
15.5 Pilot's Switch off. microphone.								
15.6 CU C1607/4 (a) Chan switch. Set to 'M'. (b) Manual Set to 118.95 and selectors. 135.95 in turn and repeat Sub-items 15.2(a) to (c) inclusive.								
15.7 TS 15077. Set to 'Z'. Sig Gen/Mic output switch.								
16. <u>U/VHF Aerial Reflection Coefficient</u>								
16.1 CU Chan Set to any little used switch. channel.								
16.2 Aerial Change- Set to 'UPPER'. over switch.								
16.3 TS 15077. (a) Co-axial Connect between TS Tx link. socket and Aerial socket (small). (b) Meter (i) Set to '2' and switch. ensure channel is not in use. (ii) Set to '6'. (c) Talk Depress to 'ON' and switch. adjust DC Cal controls for meter indication of 'B'. (d) Meter Set to '8' and check switch. meter indication is less than '12'.								
17. <u>General</u>								
17.1 TS Supply switch.) 17.2 CU Function switch.) Set to 'OFF'.								
17.3 TS 15077. Disconnect from installation.								
17.4 TR Aerial Reconnect to TR VHF connector. Aerial socket.								
SMS/79 <i>SSA</i>				Continued				

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