

CHAP	2	SP 105	SERVICING PROCEDURES				AP 101B-1000-5A3 F			TIME	EST	ACT	
TRADE	AIR RADAR		LIGHTNING				Section 1 (1st Edition)						
SHEET	1	OF 8	SHEET/S			3	5	6	AL NO	11	DATE		
TITLE	Tacan Installation						SERVICING RECORD						
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>						MAN HOURS	TRADESMAN INIT	BRIEF DETAILS OF DEFECT OR SUSPECTED DEFECT	F. 720B NO	N.C.O. INITIALS	ASSOCIATED PROCEDURE CARDS	ASSOCIATED TRADES	
Test Set Radio (Pt 10166A) 10S/6625-99-115-8611 Test Kit Aerial Type 6996. Test Set Radio 10S/970539 (Air/Air Tacan Test Set).													
AIR RADAR													
1. <u>Preparation</u>													
1.1 TR aerial connector. Disconnect from TR.													
1.2 Test Set Radio attenuator lead. Connect between TS RF socket and TR aerial socket.													
1.3 Test Set (P7)													
(a) Power lead. Connect to 115 V a.c. supply.													
(b) DIR/RAD switch. Ensure switched to 'DIR'													
(c) Attenuator control. Ensure fully clockwise.													
(d) Meter switch Set to 'TX Power'.													
(e) On/Off switch Set to 'ON' and allow a 15 minute warm up period.													
1.4 External power supply.													
(i) Connect													
(ii) Switch 'ON'.													
1.5 Control unit													
(a) On/Off switch Set to 'ON'.													
(b) Function switch. Set to 'AIR GROUND' and allow a 5 minute warm up period.													
(c) Panel lamps Ensure lit.													
(d) Channel Selector Set to '39'.													
1.6 UHF Standby/Normal switch. Set to 'Normal'.													
1.7 UHF Control Unit.													
(i) Set to 'TR'													
(ii) Set volume control to mid position.													
1.8 Audio/Visual warning. Cancel.													
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ASSOCIATED PROCEDURE CARDS

ASSOCIATED TRADES

SP NO

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SP NO	105	CONTINUED		AC NO DATE				
SHEET	2			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								
1. <u>Preparation</u> (Contd)								
1.9	Instrument master switch.	Set to 'ON'.						
1.10	Tacan offset computer	Set both range and Bearing to zero.						
1.11	Nav display unit.							
	(a) Mode selector.	Set to 'TAC'						
	(b) Roller blind	Check Tacan display appears with 10 seconds.						
	(c) Range control	Ensure flap clears.						
	(d) Roller blind	Check range scale alternately increases slowly to 200 NM. Then moves rapidly back to zero						
	(e) Range counter	Ensure indication is approximately that of roller blind.						
	(f) Roller blind carriage.	Ensure Bearing display rotates slowly anticlockwise.						
2. <u>Power Output</u>								
2.1	Test set attenuator	(i) Adjust for meter reading of 30 micro Amps.						
		(ii) Ensure green is indicated under cursor.						
2.2	Control Unit.	(i) Select an upper band channel.						
		(ii) Ensure Green is indicated under cursor when meter indicates 30 micro Amps.						
		(iii) Return channel selector to 3g.						
		(iv) Set to TR.						
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SHEET	3	AL 11		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)	
<u>AIR RADAR</u>								
2.	<u>Power Output</u> (Contd)							
2.3	Coupling unit.	Ensure Distance and Bearing dials are rotating freely.						
3.	<u>Identity Tone</u>							
3.1	Headset.	Connect to Pilot's seat socket.						
NB	During Sub-items 3.2 to 4.9 inclusive a meter indication of 30 microA is to remain constant.							
3.2	Test Set (PT)							
	(a) Attenuator control.	Set to junction of Red/Green.						
	(b) Meter switch.	Set to 'RX SENS'.						
	(c) Set RF level control.	Adjust for a meter indication of 30 microA.						
	(d) Range selector.	Set to '5'.						
	(e) Bearing selector.	Set to '140'.						
3.3	Headset.	Ensure indentity tone is audible.						
3.4	CU volume control.	(i) Operate. (ii) Set to a suitable level.						
3.5	Headset.	Remove from Pilot's seat socket.						
4.	<u>Receiver Sensitivity, Bearing and Distance</u>							
4.1	Coupling unit.	(i) Check bearing dials indicate between 138 and 142 degrees. (ii) Check range dials indicate between 4.75 and 5.25 nm.						
SMS/78/218/8			Continued					

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CHAP	2	AIR RADAR	SERVICING PROCEDURES LIGHTNING	AP101B-1000-5A3F Section 1 (1st Edition)				
SP NO	105	Continued		AC NO..... DATE				
SHEET	4	AL 11		SERV RECORD - F. 2988B				

Safety and Servicing Notes are to be complied with throughout the work detailed on this card.

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AIR RADAR			(1)	(2)	(3)	(4)	(5)
4.	<u>Receiver Sensitivity, Bearing and Distance</u> (Contd)						
4.2	Nav display unit.	(i) Check bearing indicated is between 135 and 145 degrees. Note: The bearing indication is to be taken as that registered nearest to the zero range scale. (ii) Check distance in roller blind and range counter is between 2.5 and 7.5 nm.					
4.3	Test Set (PT)						
	(a) Bearing selector.	Set to '323'.					
	(b) Range selector.	Set to '105'.					
4.4	Coupling unit.	(i) Check bearing dials indicate between 321 and 325 degrees. (ii) Check range dials indicate between 102 and 108 nm.					
4.5	Nav display unit.	(i) Check bearing indicated is between 318 and 328 degrees. Note: The bearing indicated is to be taken as that registered nearest to the zero range scale. (ii) Check distance on roller blind and range counter is between 100 and 110 nm.					
4.6	Control unit.	Select channel 49 or 29.					

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Continued

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SHEET	5	AL 11		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 RADAR								
4.	<u>Receiver Sensitivity, Bearing and Distance</u> (Contd)							
4.7	Nav display unit.	(i)	Check bearing indication unlocks after memory time. (Approx 2 seconds).					
		(ii)	Check range indication unlocks after memory time. (Approx 5 seconds).					
4.8	Control Unit.		Reselect channel '39'.					
4.9	Test Set (PT) attenuator control.		Set to 'GREEN 4'.					
4.10	Repeat Sub-items 4.1 to 4.8.							
5.	<u>Aerial</u>							
5.1	Test Set (PT) attenuator control		Disconnect from TS RF socket and TR aerial socket.					
5.2	TR aerial connector.		Reconnect to aerial socket.					
5.3	Test Set (PT)	(i)	Assembly aerial clamp to handle.					
	(a) Antenna 10B/20580.	(ii)	Connect to RF socket.					
	(b) TS.		Position TS at least 10 feet from aerial.					
	(c) DIR/RAD switch.		Set to 'RAD' and ensure meter indication is 30 micro Amps.					
5.4	Coupling unit.	(i)	Check bearing needles locked at between 321 and 325 degrees.					
		(ii)	Check range dials indicate between 102 and 108 nm.					
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SP NO	105	Continued	LIGHTNING	Section 1 (1st Edition)				
SHEET	6	AL 11		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 RADAR								
5. <u>Aerial</u> (Contd)								
5.5 Nav display unit.								
(i) Check bearing indicated is between 318 and 328 degrees.								
(ii) Check distance on roller blind and range counter is between 100 and 110 nm.								
6. <u>Air-to-Air Facility</u>								
6.1 TS radio.								
(a) TS.								
(i) Connect to power supply.								
(ii) Place approx 30 ft from aerial.								
(iii) Assemble aerial to handle.								
(iv) Connect aerial connector to TS socket.								
(v) Switch on and allow a 5 minute warm up period.								
(b) Function switch.								
(i) Set to 'SET ZERO' and adjust set zero control for zero meter indication.								
(ii) Set to 'SYSTEMS TEST' and check Red reject lamp lights.								
(c) Set RF level control. Adjust until meter indication is 30 microA								
NB Meter indication of 30 microA is to be maintained throughout the remainder of this Item.								
6.2 Control unit.								
(i) Select A-A function.								
(ii) Check reject lamp extinguished and Green accept lamp lit.								
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SP NO	105	Continued	LIGHTNING	Section 1 (1st Edition)				
SHEET	7	AL 11		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 RADAR								
6. <u>Air-to-Air Facility</u> (Contd)								
6.3	TS radio range switch.	Set to zero miles.						
6.4	Nav display unit.	Check indication on roller blind and range counters is within 2.5 nm of zero.						
6.5	TS radio range switch.	Set to 100 miles.						
6.6	Nav display unit.	Check indication on roller blind and range counters is 100 PLUS OR MINUS 5 nm.						
6.7	TS radio.							
	(a) Normal Decode Test Switch.	Press to 'DECODE' and check after a few seconds the accept lamp extinguishes and reject lamp lights.						
	(b) Function switch.	Set to 'TRANSPOND' and check accept and reject lamps extinguish.						
6.8	Nav display unit.	Check range indicated is 100 PLUS OR MINUS 5 nm.						
7. <u>Interrogation Function Test</u>								
7.1	TS Radio.							
	(a) Function switch.	Set to 'TRANSPOND'.						
	(b) Range switch.	Set to '100'.						
7.2	Nav display unit.	Check after a delay of 8 to 10 seconds, lock is just lost then recovered when range scale and counters indicate 100 PLUS OR MINUS 5 nm.						
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SHEET	8	AL 11		SERV RECORD - F. 2983B				

Safety and Servicing Notes are to be complied with throughout the work detailed on this card.

			(1)	(2)	(3)	(4)	(5)
<u>AIR RADAR</u>							
8.	<u>Transponder Function Test</u>						
8.1	TS Radio.						
	(a)	Function.	Set to 'INTERROGATE'.				
	(b)	Indicator lights.	Check green accept lamp lights.				
9.	<u>Combined Interrogator and Transponder Test</u>						
9.1	TS Radio.						
	(a)	Function switch.	Set to 'SYSTEMS TEST'.				
	(b)	Indicator lights.	Check green accept lamp lights.				
9.2	Nav display unit.		Check roller blind and range counters indicated selected range.				
10.	<u>General</u>						
10.1	Tacan CU.		Switch off.				
10.2	Nav display unit.		Switch to 'COMP'.				
10.3	Instrument master switch.		Set to 'OFF'.				
10.4	UHF control unit.						
10.5	Test set radio.		Switch off.				
10.6	Test Set (PT).						
10.7	External power supplies.		(i) Switch off. (ii) Disconnect.				
10.8	Test sets.		Disconnect from power supplies.				

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