

SP 105C		SERVICING PROCEDURES				AP 101B-1000-5A3 D				
PROPULSION		LIGHTNING								
1	22	3000/3				AL	DA	TA		
Engine Starting Testing and Stopping Avon 30201						SERVICING RECORD - NAME AC NO DATE				
Notes are to be complied with throughout as detailed on this Card.						(1)	(2)	(3)	(4)	(5)
Special Tools and Equipment						MAN HOURS	TRADESMAN INITIALS	BRIEF DETAILS OF DEFECT OR SUSPECTED DEFECT	P. NO.	N.O. INITIALS
Strut jury complete with ignition slave platform 26DK/95873. Guard debris 26DK/95012. Guards auxiliary air intake 26DK/95314 (2 off). Set test Mk 2 Speed and Swirl.										
NB 1 To prevent overheating of Airframe structure, ground running time is to be kept to a minimum and running at a maximum speed is to be alternated with running at reduced rev/min.										
NB 2 <u>No 1 Engine</u> a. When No 2 engine is stationary, running No 1 engine may impose severe stresses on its compressor blades, therefore No 2 engine must be run at a minimum of 58 per cent rev/min when starting and ground running No 1 engine. 58 per cent rev/min corresponds with the fast idling stop on the throttle quadrant. b. No 1 engine hatch and jet pipe access panels 74, 76 port, 72, 74, 76, 82 and 86 starboard are to be removed if engine is to be run more than 5 mins at speeds greater than 70 per cent rev/min or 15 minutes at alternating speeds, inclusive, of limitations in paras d and c. c. With No 1 engine hatch and jet pipes access panels removed and No 2 engine running at a minimum of 50 per cent rev/min engine is not to be run for more than 15 minutes. d. Engine is not to be run continuously at maximum rev/min for more than 2 minutes. e. Engine is not to be run continuously in reheat for more than 1 minute. f. A cooling period of 1 hour with engines stopped is to follow a ground run of 15 minutes.										
NB 3 <u>No 2 Engine</u> a. No 2 engine hatch and jet pipe access panels are to be removed if engine is to be run more than 5 minutes at speeds greater than 50 per cent rev/min or 30 minutes at alternating speeds inclusive of paras c and d. b. With No 2 engine hatch and jet pipe access panels removed and No 1 engine stationary, engine is not to be run more than 30 minutes.										
SMS/76/157/18						Continued				

SMS 17

ASSOCIATED PROCEDURE CARDS

SP 600 (AF) and 427(P).

ASSOCIATED TRADES

AF EL

SP NO

105C

1	2	3	SERVICING PROCEDURES	AP101B-1000-5A3 D
4	5	6	LIGHTNING	Section (1st Edition) 1
7	8	9		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)
<p>NB 3 <u>No 2 Engine</u> (Contd)</p> <p>c. Engine is not to be run continuously at maximum rev/min for more than 2 minutes.</p> <p>d. Engine is not to be run continuously in reheat for more than 1 minute.</p> <p>e. A cooling period of 1 hour with engines stopped is to follow a ground run of 30 minutes.</p> <p>NB 4 <u>Nos 1 and 2 Engines</u></p> <p>a. With both engines running and one engine at maximum rev/min the other engine rev/min is to be maintained at a minimum of 60 per cent.</p> <p>b. Rev/min is not to exceed 85 per cent on both engines simultaneously.</p> <p>NB 5 <u>Ventral Pack</u></p> <p>a. Ventral tank is to be fitted and filled whenever possible.</p> <p>b. Ventral transfer is to be selected whenever ventral tank is fitted.</p> <p>NB 6 <u>Refuelling</u></p> <p>Aircraft Pre-<u>ANY</u> of the following Mods; 4553, 4633 and 4554, are to be refuelled within 2 minutes of engine shutdown. This is necessary as the temperature of the FRS type couplings rises significantly after engine shutdown.</p> <p>NB 7 <u>Icing Conditions</u></p> <p>Engines are not to be run if air temperature is below plus 2 degrees C and visibility is less than 500 yards.</p> <p>If the temperature is between plus 2 degrees C and plus 5 degrees C and visibility is between 500 yards and 1000 yards, anti-icing is to be switched on after starting and prolonged running avoided.</p> <p>Acceleration and inlet guide van ram checks must not be made and care must be exercised in the use of the throttle.</p>				
SMS 17A/1657/12A				Continued

SMS 17A

CHAP	2	PROPULSION	SERVICING PROCEDURES LIGHTNING		AP101B-1000-1-A3 D Section 1 (1st Edition)				
SP NO	105C	CONTINUED			AC No DATE				
SHEET	3				SERVICING RECORD				
Safety and Servicing Notes are to be complied with throughout the work detailed on this card.					(1)	(2)	(3)	(4)	(5)
NB 8 <u>Engine Ground Running Operating Limitations</u>									
Conditions		Rev/Min	Max JPT ^o C	Time Limit					
Slow Idling		31-34%	750	Unrestricted					
Fast Idling		58-60%	750	Unrestricted					
ISA Max Governed Rev/Min		* 102.5%	*795	Two Minutes					
Reheat		102.5%	795	One Minute					
<p>* <u>JPT NOTE:</u></p> <p>The jet pipe top temperature control is set to control at 790 degrees +5 degrees C. but during certain accelerations, temperatures in excess of limiting JPT may be experienced. The time before full control to 790 degrees C is established must not exceed 5 seconds. If for any reason full JPT control is not established within 5 seconds, temperatures up to 850 degrees C may be tolerated for a further period not greater than 10 secs. Under adverse conditions of hot day and/or tail wind running, the Ground Idling and Fast Idling temperature may be allowed to exceed the limit of 750 degrees C but must not exceed 800 degrees C.</p>									
<p>NB 9 * <u>Governed Rev/Min</u></p> <p>This is a standard setting at ISA sea level conditions which can vary. Max governed rev/min should be set up IAW Fig 1.</p>									
<p>NB 10 <u>Starter Operating Limitations</u></p> <p>a. If starter combustion does not occur or is not sustained a maximum of 3 attempts only may be made to start.</p> <p>b. Permissible successive starting cycles from cold, normal starter operation with engine rotation:-</p> <p style="padding-left: 40px;">Two (maximum) at minimum intervals of one minute.</p> <p>c. Cooling period between each subsequent cycle, 60 mins.</p> <p>d. After a 'Wet Start' allow 10 minutes for engine and jet pipes to drain before a second attempt.</p>									
SMS/716/75/15					Continued				

RAF	2	PROPULSION	SERVICING PROCEDURES LIGHTNING		AF101B-1000-5A3D Section 1 (1st Edition)				
SP NO	1050	CONTINUED			AC NO DATE				
SHEET	4	AL 6			SERVICING RECORD - RAF P. 1014B				
Safety and Servicing Notes are to be complied with throughout the work detailed on this card.					(1)	(2)	(3)	(4)	(5)
<p>NB 10 <u>Starter Operating Limitations</u> (Contd)</p> <p>e. Following a normal starter combustion cycle where the main engine has failed to rotate:-</p> <p>WARNING</p> <p>(i) Do not attempt another engine start.</p> <p>(ii) Examination or investigation must not be made in the vicinity of the engine starter until a cooling period of 60 minutes has elapsed when the starter engine group must be removed for investigation.</p> <p>f. Following two normal starter combustion cycles where the main engine has failed to reach self-sustaining speeds:-</p> <p>WARNING</p> <p>(i) Do not attempt another engine start.</p> <p>(ii) Do not commence investigation until a cooling period of 60 minutes has elapsed during which time all personnel must be kept well clear of engine starter.</p>									
AIRFRAME									
<p>1. <u>Preparation</u></p> <p>1.1 Brake parachute. Remove. and container.</p> <p>1.2 Parachute doors. Close.</p>									
PROPULSION NCO									
<p>2. <u>Preparation</u></p> <p>NB Sub-items 2.1, 2.2 and 2.3 may be disregarded if this SP is being carried out at the completion of a CWP Check 3 Servicing and after ensuring that the AID Certificate covering BAC Drawing EF3-00-243 Issue 2 Section 8 (Calendar Check 3) has been completed.</p> <p>2.1 Air intake. Examine SP 427(P).</p> <p>2.2 Debris guard.)</p> <p>2.3 Auxiliary air intake guards.) Fit.</p> <p>2.4 Mainplanes. Ensure clear of loose articles.</p> <p>2.5 Armament safety break operating key. Ensure fitted.</p>									
Continued									

SMS 17A

CHAP	2	PROPULSION	SERVICING PROCEDURES LIGHTNING	AP101B-1000-5A3D Section (1st Edition)				
SP NO	105C	CONTINUED		AC NO DATE				
SHEET	5	AL 5		SERVICING RECORD				
Safety and Servicing Notes are to be complied with throughout the work detailed on this card.			(1)	(2)	(3)	(4)	(5)	
PROPULSION NCO								
2. <u>Preparation</u> (Contd)								
2.6	Mk 2 Avon speed and swirl test set.	Connect.						
2.7	Ambient Air Temperature.	Record.						
PROPULSION								
3. <u>Preparation</u>								
3.1	Ejection seat/canopy safety pin.	Ensure positioned correctly.						
3.2	External power supply.	(i) Connect. (ii) Switch 'ON'.						
3.3	Brakes.	Ensure set to 'ON'.						
3.4	Undercarriage control.	Ensure selected 'DOWN'.						
3.5	Undercarriage indicator lamps.	Ensure three green lights.						
3.6	Throttle/HP cock control lever.	Ensure set to 'OFF'.						
3.7	Battery isolation switch.	Set to 'ON'.						
3.8	Engine starter master switch.							
3.9	JPT Control switches.	Ensure set to 'AUTO'.						
3.10	Instrument Master switch.	Set to 'ON'.						
3.11	Auxiliary and general warning panel test buttons.	Press and ensure lamps lit.						
3.12	Fuel pump switches.	Set to 'ON'.						
3.13	Fuel cock switches.	Set to 'OPEN'.						
SMS/716/75/16			Continued					

SMS 17A

CHAP	2	PROPULSION	SERVICING PROCEDURES LIGHTNING		AP101B-1000-5A3 D Section 1 (1st Edition)				
SP NO	105C	CONTINUED			AC NO DATE				
SHEET	6	AL 2			SERVICING RECORD				
Safety and Servicing Notes are to be complied with throughout the work detailed on this card.			(1)	(2)	(3)	(4)	(5)		
<p style="text-align: center;">PROPULSION (Contd)</p> <p>3. <u>Preparation</u> (Contd)</p> <p>3.14 Wing to wing transfer switch.)</p> <p>3.15 Anti-icing switch.) Ensure set to 'OFF'.</p> <p>3.16 MRG switch.)</p> <p>3.17 Throttle servo clutch. Ensure disengaged.</p>									
<p style="text-align: center;">PROPULSION NCO</p> <p>4. <u>No 2 Engine Starting</u></p> <p>4.1 Throttle HP cock control lever. Set to 'IDLING'.</p> <p>4.2 Starter Isolate switch. Set to 'START'.</p> <p>4.3 In this Sub-item, between releasing starter button and engine 'LIGHT UP' is to be between 4 and 8 seconds. If engine fails to start or JPT exceeds 800 degrees C during start, close HP cock immediately and set starter isolate switch to 'ISOLATE'.</p> <p>Start Button. Press for 2 seconds.</p> <p>4.4 Ground Idling rev/min. Ensure stabilizes at 31 per cent plus 3 minus 0 per cent.</p> <p>4.5 JPT. Check (750 degrees C max).</p> <p>4.6 Fuel pressure warning lamp. Ensure extinguished before 38 per cent rev/min.</p> <p>4.7 Fire Warning lamp. Ensure extinguished.</p> <p>4.8 Engine oil pressure warning light. Ensure extinguished between 31 to 45 per cent rev/min.</p> <p>4.9 Services hydraulic pressure. Ensure indicates 3000 plus or minus 250 lbf/in2 when a.c. power comes on line.</p> <p>4.10 Brake Pressure gauge. Ensure indicates 3000 plus or minus 100 lbf/in2.</p> <p>4.11 Starter isolate switch. Set to 'ISOLATE'.</p>									
SMS/716/75/16A			Continued						

SMS 17A

MAP	2	PROPULSION	SERVICING PROCEDURES LIGHTNING	AP101B-1000-5A3 D Section 1 (1st Edition)	
BP NO	1050	CONTINUED		AC NO DATE	
SHEET	7	AL 2		SERVICING RECORD	

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

(1)	(2)	(3)	(4)	(5)
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PROPULSION

- 5. General
- 5.1 Engine. Look for oil, air, fuel and hydraulic leaks.
- 5.2 Exhaust unit joint shroud overboard vents, Look for gas leakage.

PROPULSION NCO

- 6. Flying Controls Check (No 2 Engine)
- 6.1 Aileron and tailplane control.
 - (i) Operate 5 times between stops.
 - (ii) Ensure movement is smooth and control column centres correctly.
- 6.2 Flying control trimming. Ensure full trim is shown on all indicators.
- 6.3 Flaps.)
- 6.4 Airbrakes.)
 - (i) Operate.
 - (ii) Ensure positions indicate correctly.
- 7. Ground Running
- 7.1 Ground Idling rev/min. Ensure 31-34 per cent.
- 7.2 JPT. Check (750 degrees C maximum).
- 7.3 No 2 Engine. Set to obtain 'FAST IDLING' 58 per cent rev/min plus 2 minus 0 per cent.
- 7.4 External power supply.
 - (i) Set to 'OFF'.
 - (ii) Disconnect.
- 7.5 Generator warning lamp.)
- 7.6 Alternator warning lamp.)
- 7.7 Turbine stall warning lamp.)
- 7.8 JPT control switches. Set to 'MANUAL'.
- 7.9 Throttle. Open slowly to maximum non-reheat.

SMS 174-1657-118

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SMS 17A

MAP	2	PROPULSION	SERVICING PROCEDURES LIGHTNING	AP101B-1000-5A3 D Section 1 (1st Edition)				
IP NO	1050	CONTINUED		AC NO DATE				
SHEET	3	AL 2	SERVICING RECORD					
Safety and Servicing Notes are to be complied with throughout the work detailed on this card.			(1)	(2)	(3)	(4)	(5)	
PROPULSION NCO								
7.	<u>Ground Running</u> (Contd)							
7.10	Governed Rev/min.	Using Mk 2 Avon speed and swirl test set, ensure set iaw Fig 1. (Maximum governed rev/min setting curve).						
7.11	Throttle.	Set to 'Fast Idling'.						
7.12	JPT Control switches.	Set to 'AUTO'.						
8.	No 1 Engine Starting.	Carry out operation as detailed in Items 4 and 5.						
9.	<u>No 2 Engine Fast Idling Check</u>							
9.1	No 1 Engine throttle.	Set to obtain 60 per cent rev/min.						
9.2	No 2 Engine throttle.	(i) Set to maximum non-reheat. (ii) Close rapidly to 'fast idling' position.						
9.3	A.C. power.	Ensure does not come 'off line'.						
9.4	No 2 Engine throttle.	(i) Set to maximum non-reheat. (ii) Close slowly to 'fast idling' position						
9.5	No 2 Engine.	Ensure rev/min maintained at 58 plus 2 minus 0 per cent.						
9.6	No 1 Engine throttle.	Set to 'slow idling'.						
9.7	A.C. power.	Ensure does not come 'off line'.						
NB	Item 10 is applicable only if No 2 engine Fast Idling is incorrect.							
10.	<u>Stop Setting</u>							
10.1	No 1 engine throttle.	Set to obtain 40 per cent rev/min.						
10.2	No 2 engine throttle.	Set to obtain 80 per cent rev/min.						
SMS/74/659/15H			Continued					

SMS 17A

REF	2	PROPULSION	SERVICING PROCEDURES LIGHTNING	AP101B-1000-5A3 D Section 1 (1st Edition)				
FIG NO	1050	CONTINUED		AC NO DATE				
SHEET	0	AL 2		SERVICING RECORD				
Safety and Servicing Notes are to be complied with throughout the work detailed on this card.				(1)	(2)	(3)	(4)	(5)
PROPULSION NCO								
10.	<u>Stop Setting (Contd)</u>							
10.3	A.C. power.	Ensure comes 'On line' before 63 per cent rev/min						
10.4	No 1 Engine throttle.	Set to obtain 60 per cent rev/min.						
10.5	No 2 Engine throttle 'fast idling' stop.	Adjust to obtain 58 per cent plus 2 minus 0 per cent rev/min when throttle moved slowly back from 80 per cent.						
11.	<u>Intake Guide Vane Ram Check</u>							
11.1	Engine.	(i) Operate the Avon speed and swirl test set.						
		(ii) Accelerate slowly from idling rev/min ensuring ram operates within safe limits (Fig 2) and bleed valve functions.						
		Note: It is not necessary to check the rev/min at which the bleed valve operates.						
		(iii) Exercise through IGV range several times.						
Continued								

SMS 17A

SMS/74/659/19

MAP	2	PROPULSION	SERVICING PROCEDURES		AP101B-1000-5A3 D				
JP NO	1050	CONTINUED	LIGHTNING		Section 1 (1st Edition)				
SHEET	10	AL 2			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)
PROPULSION NCO									
11. <u>Intake Guide Vane Ram Check (Contd)</u>									
11.2 Avon Speed and Swirl test set (OPEN POSITION minus 10 degrees.									
(i) Depress and Check IGV position switch.									
(ii) Open throttle slowly while observing the right hand meter, note the maximum deflection towards the OPEN position before the needle begins to return to zero.									
(iii) Close throttle slowly until the maximum position is regained, hold this maximum deflection by manipulating the throttle as required.									
(iv) Depress the CHECK SPEED and adjust the SET SPEED knob until the needle of the left hand meter is at the centre of the scale.									
(v) Read and record the percentage speed from the dial on the SET SPEED knob and check that the reading is within the limits given in Fig 2 (OPEN POSITION).									
SMS/70/259/12A					Continued				

SMS 17A

MAP	2	PROULSION	SERVICING PROCEDURES		AP101B-1000-5A3D	
SP NO	1050	CONTINUED	LIGHTNING		Section 1 (1st Edition)	
SHEET	11	AL 2			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)	
PROULSION NCO						
1. <u>Intake Guide Vanè Ram Check</u> (Contd)						
11.3	Avon Speed and Swirl Test set. (CLOSED POSITION plus 31 degrees.	(i)	Depress the check IGV POSITION switch.			
		(ii)	Close the throttle slowly while observing the right hand meter, note the maximum deflection towards the 'SHUT' position before the needle begins to return to zero.			
		(iii)	Open the throttle slowly until this maximum position is regained, hold this maximum deflection by manipulating the throttle as required			
		(iv)	Depress the CHECK SPEED and adjust SET SPEED knob until the needle of the left hand meter is at the centre of the scale.			
		(v)	Read and record the percentage speed from the dial on the SET SPEED knob and check that the reading is within the limits given in Fig 2 (CLOSED POSITION).			
11.4	This sub-item is only applicable if the ram is operating outside the limits in Fig 2.					
	Single handed adjuster.	Reset as necessary.				
NB	To avoid compressor deceleration surge when checking ram characteristics, set ram to operate as near upper rev/min limit as possible.					
SMS/74/659/20					Continued	

SMS 17A

MAP	2	PROPULSION	SERVICING PROCEDURES	AP101B-1000-5A3 D				
FIG NO	1050	CONTINUED	LIGHTNING	Section 1 (1st Edition)				
SHEET	12	AL 2		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)
PROPULSION NCO								
11. <u>Intake Guide Vane Ram Check</u> (Contd)								
11.5 Throttle. (i) Set to obtain approximately 0.5 per cent rev/min. above that at which ram reaches the 'OPEN' position.								
(ii) Close rapidly to Ground Idling position.								
11.6 Engine. Ensure does not surge.								
11.7 Recording. Record Outside Air Temperature and percentage speed noted in Sub-items 11.2(v) and 11.3 (v) on F720B.								
12. <u>Engine Anti-Icing Check</u>								
12.1 Throttle. Set to obtain 75 per cent rev/min.								
12.2 Anti-ice/Rain dispersal switch Set to 'DE-ICING ON'.								
12.3 De-icing/Rain dispersal indicator port console. Ensure indicates 'I'.								
12.4 Rev/min. Note a change.								
12.5 JPT. Note rise of approximately 20 degrees C.								
12.6 Anti-ice/Rain dispersal switch. (i) Set to 'OFF'. (ii) Ensure rev/min and JPT return to original reading.								
12.7 De-icing/Rain dispersal indicator, port console. Ensure indicates 'BLACK'.								
CMS/7H/659/204				Continued				

SMS 17A

CHAP	2	PROPULSION	SERVICING PROCEDURES LIGHTNING	AP101B-1000-5A3 D Section 1 (1st Edition)				
SP NO	105C	CONTINUED		AC NO DATE				
SHEET	13	AL 2		SERVICING RECORD				

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

(1)	(2)	(3)	(4)	(5)
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PROPULSION NCO

NB In item 13 if cycling is experienced i.e. the decrease and increase in engine rev/min is sufficient with throttle held stationary to keep nozzle opening and closing, the two position nozzle switch is to be changed.

13. Nozzle Position Switch Check
- 13.1 Throttle control. Open slowly from 'slow idling' rev/min.
 - 13.2 Propelling nozzle. Ensure closes at 97 plus zero minus 2 per cent rev/min.
 - 13.3 Rev/Min. Note slight decrease, (2 to 4 per cent approx).
 - 13.4 Throttle control Close slowly to 'slow idling' rev/min.
 - 13.5 Propelling nozzle. Ensure opens at 89 per cent plus zero minus 2 per cent rev/min.
 - 13.6 Rev/Min. Note slight increase.

NB In item 14 acceleration times will be reduced by 0.5 seconds for every 10 degrees C change of air intake temperature below 15 degrees C and increase by 0.5 seconds for every 10 degrees C change above 15 degrees C.

14. Acceleration Check
- 14.1 Anti-icing switch. Ensure set to 'OFF'.
 - 14.2 Throttle control. (i) Set to obtain 34 per cent rev/min.
(ii) Move rapidly to governed rev/min.
 - 14.3 Engine. Check time to accelerate to 99 per cent rev/min, (7-9 seconds with intake debris guard fitted, 8-10 without debris guard fitted).

SMS/74/659/21

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SMS 17A

SEAP	7	PROPULSION	SERVICING PROCEDURES	AP101B-1000-5A3D				
SP NO	1050	CONTINUED	LIGHTNING	Section 1 (1st Edition)				
SHEET	14	AL 2		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)
PROPULSION NCO								
14.	<u>Acceleration Check</u> (Contd)							
14.4	Throttle.	(i) Close to obtain 60 per cent rev/min. (ii) Open rapidly to governed rev/min.						
14.5	Engine.	Check time taken to accelerate to 99 per cent rev/min. (5 seconds maximum).						
15.	<u>Reheat Check</u>							
NB	In this Item Reheat JPT is to be set 33 degrees C over maximum non-reheat JPT.							
15.1	TTC.	Ensure set to 'AUTO'.						
15.2	Engine.	Run to max non-reheat and allow rev/min to stabilize.						
15.3	Throttle.	Move to max reheat.						
15.4	TTC lamp.	(i) Ensure lights. (ii) Ensure extinguishes when reheat lights up.						
15.5	Nozzle position indicator.	Ensure nozzle positions indicated correctly. (ie on selection goes to the 'PRE-OPEN' position and on 'LIGHT UP' to maximum reheat position).						
15.6	JPT/Rev/Min.	Check (795 degrees C max) noting engine speed.						
15.7	Throttle control.	Move into non-reheat range, set to engine speed as in reheat.						
15.8	JPT.	Check. (33 degrees C less than at maximum reheat).						
15.9	RFCU.	Adjust if necessary.						
15.10	Throttle.	Move to max.						
15.11	Throttle.	Close slowly.						
15.12	Reheat hold in.	Ensure reheat operates down to 96 per cent rev/min.						
SAS/74/659/21A				Continued				

SMS 17A

CHAP	7	PROPULSION	SERVICING PROCEDURES LIGHTNING	AP101B-1000-5A3D Section 1 (1st Edition)				
SP NO	105C	CONTINUED		AC NO DATE				
SHEET	15	AL		SERVICING RECORD				
Safety and Servicing Notes are to be complied with throughout the work detailed on this card.			(1)	(2)	(3)	(4)	(5)	
PROPULSION								
15. <u>Reheat Check</u> (Contd)								
15.13 Throttle. Move rapidly to max reheat, ensuring TTC warning light does not light as reheat passes through change over point.								
15.14 Throttle. Close.								
PROPULSION NCO								
NB Item 16 is applicable only if an Engine or Jet Pipe has been replaced or if the TTC light sequence is incorrect.								
16. <u>Micro-Jet Setting</u>								
16.1 Lamp and battery Connect to test socket. set.								
16.2 Engine. Run at governed rev/min.								
16.3 Micro jet adjuster. (i) Screw out until lamp lights.								
(ii) Screw in until the lamp goes out.								
(iii) Screw out until the lamp begins to flicker.								
16.4 Lamp and Battery. Disconnect.								
16.5 Engine. (i) Select reheat and check fast acceleration to maximum conditions, and if necessary adjust the micro-jet (turn the adjuster clockwise) and ensure the TTC light does not light as reheat passes through the change over point.								
(ii) Cancel reheat and select governed rev/min (non-reheat) conditions.								
(iii) Select minimum reheat and check that the TTC lights on selection and goes out when reheat light-up is obtained.								
(iv) Cancel reheat.								
NOTE: Selection of reheat in the minimum condition is permissible for this check otherwise to be selected in the maximum condition.								
SMS/77/63/32			Continued					

SMS 17A

CHAP	2	PROP	SERVICING PROCEDURES		AP101B-1000-5A3 D				
SP NO	105C	CONTINUED	LIGHTNING		Section (1st Edition)				
SHEET	16	AL 9			AC NO DATE				
Safety and Servicing Notes are to be complied with throughout the work detailed on this card.					SERVICING RECORD - RAF F. 988B				
					(1)	(2)	(3)	(4)	(5)
PROPULSION NCO									
16.	<u>Micro-Jet Setting</u> (Contd)								
16.6	Lamp and battery.		Connect to test socket.						
16.7	Engine.		(i) Select. (ii) Check reheat auto cancels after 2 seconds. (iii) Check nozzles return to closed position with TTC light on.						
16.8	Lamp and battery.		Disconnect.						
ELECTRICAL									
17.	This Item is applicable only to Mk 3 and 6 aircraft Post Mod 4060 and Mk 5 aircraft Post Mod 4216, and is to be carried out with engines running at a progressively advanced rev/min sufficient to ensure adequate supply of hot air to equipment cooling system.								
	<u>Digital Counter Check</u>								
17.1	Digital (Equipment cooling).		(i) Ensure does not register counts. (ii) Operate push button and ensure that counter registers.						
PROPULSION NCO									
18.	<u>Hot Air System</u>								
NB:	During Sub-item 18.1 windscreen is <u>NOT</u> to be allowed to become hot.								
18.1	Demisting lever.		(i) Set to 'ALL ON'. (ii) Ensure hot air flows at Port and Starboard windscreens and canopy clear vision panels. (iii) Set to 'OFF'.						
SMS/77/68/32A					Continued				

SMS 17A

CHAP	2	PROP	SERVICING PROCEDURES LIGHTNING	API 01 B-1000-5A3 D				
SP NO	105C	CONTINUED		Section (1st Edition)				
SHEET	17	AL 9		AC NO DATE				

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

SERVICING RECORD - RAF F. 988B
(1) (2) (3) (4) (5)

PROPULSION NCO

18. Hot Air System (Contd).
- 18.2 Cabin air temperature control. (i) Set to 'MANUAL'. (ii) Operate throughout temperature range, ensuring air enters cockpit through diffusers in rear pressure bulkhead and centre pedestal.
- During Sub-item 18.3 operation of rain dispersal systems is to be kept to a minimum.
- 18.3 Anti-icing/Rain dispersal switch. (i) Set to 'RAIN DISPERSAL'. (ii) Ensure by feel hot air comes on and indicator shows 'R'. (iii) Set to 'OFF'. (iv) Ensure by feel hot air blast ceases and indicator changes to 'BLACK'.

PROPULSION

- Item 19 is applicable only to Aircraft Pre Mod 4590.
19. Fueldraulic Pipe 26DK/1439529
- 19.1 Panel 60S. Remove.
- 19.2 No 2 engine flexible pipe from connexion at Frame 47 to fuel booster pump connexion aft of Frame 47. (i) Wearing overalls buttoned at wrist and a left hand glove, stand on raised platform facing nose of aircraft. (ii) Pass left arm upwards and forward between Frame 43 and the engine until the flange connexion fueldraulic pipe 26DK/1439529) to engine driven pump can be felt.

SMS 17A

SMS/77/68/33

Continued

CHAP	2	PROP	SERVICING PROCEDURES LIGHTNING	API 01 B-1000-5A3 D				
SP NO	105C	CONTINUED		Section (1st Edition)				
SHEET	13	AL 9		AC NO DATE				
Safety and Servicing Notes are to be complied with throughout the work detailed on this card.				SERVICING RECORD - RAF F. '982B				
				(1)	(2)	(3)	(4)	(5)
PROPULSION								
19.	<u>Fueldraulic Pipe 26DK/1439529</u> (Contd)							
19.2	(iii) Feel around flange connexion and length of flexible pipe as far as can be reached paying particular attention to underside of pipe. (iv) Withdraw hand and examine glove for evidence of fuel leak.							
PROPULSION NCO								
20.	<u>Stopping (No 2 Engine)</u>							
20.1	Throttle/HP	Set to 'HP COCK						
	cock control.	CLOSED'.						
20.2	Engine.	(i) Ensure fuel is ejected from manifold drain. (ii) Check runs down freely. (65 seconds minimum).						
20.3	Fuel pump switch.	Set to 'OFF'.						
20.4	Fuel cock switch.	Set to 'CLOSED'.						
20.5	Engine master start switch.	Set to 'OFF'.						
NB	Sub-items 20.6 and 20.7 are applicable only if No 1 engine is not running.							
20.6	Instrument master switch.	} Set to 'OFF'.						
20.7	Battery isolation switch.							
21.	<u>Flying Control Check No 1 Engine</u>							
21.1	Aileron and tailplane control.	(i) Operate 5 times between stops. (ii) Ensure positions indicate correctly.						
21.2	Flying control trimming.	Ensure full trim movement shown on indicator.						
SMS/77/68/33A				Continued				

SMS 17A

CHAP	2	PROP	SERVICING PROCEDURES LIGHTNING	API 01 B-1 000-5A3D				
SP NO	1050	CONTINUED		Section (1st Edition)				
SHEET	19	AL 9		AC NO DATE				

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

SERVICING RECORD - RAF F. 19823

(1)	(2)	(3)	(4)	(5)
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PROPULSION NCO

21.	<u>Flying Control Check No 1 Engine</u> (Contd)						
21.3	Flaps.	} (i) Operate. (ii) Ensure positions indicate correctly.					
21.4	Airbrakes.						
21.5	Hydraulic pressure gauges.	Ensure indicates 3000 lbf/in2.					
22.	<u>Stopping (No 1 Engine)</u>						
22.1	Throttle/HP cock control.	Set to 'HP COCK CLOSED'.					
22.2	Engine.	(i) Ensure fuel is ejected from manifold drains. (ii) Check runs down freely (65 seconds minimum).					
22.3	Fuel pump switch.	Set to 'OFF'.					
22.4	Fuel cock switch.	Set to 'CLOSED'.					
22.5	Engine master start switch.	Set to 'OFF'.					
NB	Sub-items 22.6 and 22.7 are applicable only if No 2 Engine is not running.						
22.6	Instrument master switch	} Set to 'OFF'.					
22.7	Battery isolation switch.						

PROPULSION NCO

23.	<u>Flying Controls</u>						
	Sub-item 23.1 the rate of control operation is not to exceed 1 stroke between stops in 5 seconds.						
23.1	Controls.	Ensure ailerons can be moved between stops 5 times and tailplane 3 1/2 times to exhaust hydraulic accumulator pressure.					

SMS/77/63/34

Continued

SMS 17A

CHAP	2	PROP	SERVICING PROCEDURES		AP101B-1000-5A3 D				
SP NO	105C	CONTINUED	LIGHTNING		Section (1st Edition)				
SHEET	20	AL 9			AC NO DATE				
Safety and Servicing Notes are to be complied with throughout the work detailed on this card.					SERVICING RECORD - RAF F. 922B				
					(1)	(2)	(3)	(4)	(5)
PROPULSION NCO									
24.	<u>Completion</u>								
24.1	Top temperature control switches.	(i) Set to 'AUTO'. (ii) Fit tell-tale wire. (5A2).							
PROPULSION									
NB	Item 25 is applicable only when No 1 and 2 Engines are stopped.								
25.	<u>No 2 Engine Compartment</u>								
25.1	Panel 58S	Remove.							
	In Sub-item 25.2 if any evidence of leaks or accumulation of fluids is found, a complete investigation is to be carried out and rectification action taken.								
25.2	No 2 engine compartment.	Using flameproof torch examine for signs of accumulation of fluids.							
25.3	Panels 58S and 60S.	Refit.							
26.	<u>Completion</u>								
26.1	No 1 jet pipe reheat burners.	Look for signs of 'Flaming'.							
26.2	No 2 jet pipe reheat burners.								
26.3	Debris guard Auxiliary air intake guards.	Remove.							
26.4	Speed and swirl test set.	Disconnect.							
26.5	Air intake blank.	Fit.							
AIRFRAME									
27.	<u>Completion</u>								
27.1	Brake parachute and container.	Refit. SP 600 (AF).							
SMS/77/63/34A					Continued				

SMS 17A

PROPULSION		SERVICING PROCEDURES		APPROX-1000-AD	
1050		LIGHTNING		Section 1	
AL 2				(1st Edition)	
Safety and Servicing Notes are to be complied with throughout the work detailed in this card.				AC No DATE	
				SERVICING RECORD	
(1)		(2)		(3)	
				(4)	
				(5)	

PROPULSION

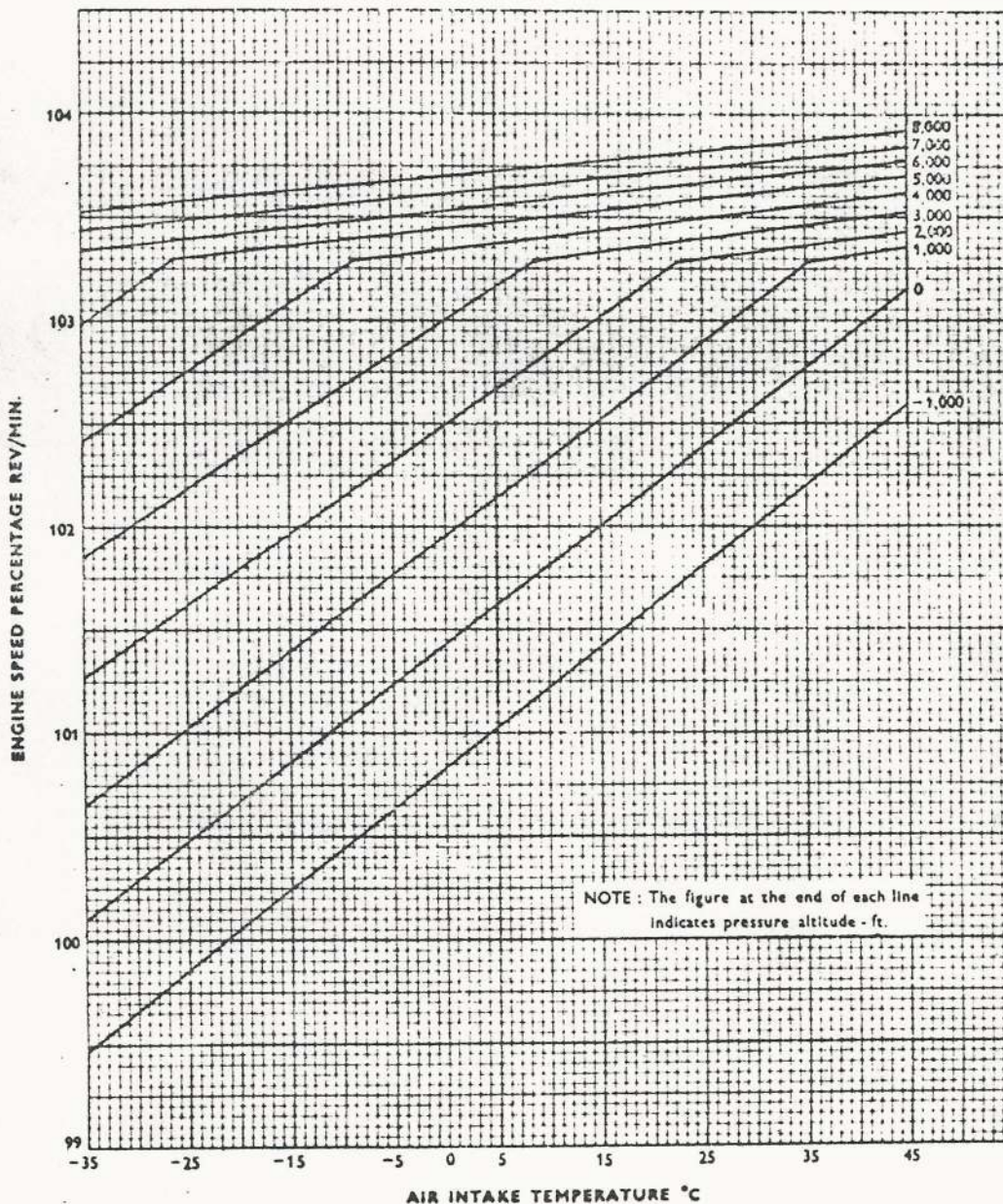


Fig. 1 Maximum governed rev/min setting curve

SMS/74/650/25

Continued

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