

CHAP 2 AIRFRAME SP 136 AL 5 SHEET 1 OF 6	SERVICING PROCEDURE F53 T55	BAC F53 & T55 (SA) 5A3A Section 1 2nd Edition		
Controls System Engine-Driven Hydraulic Pumps - Performance Monitoring	AFSC 42152 43171	TIME EST		
Safety and Servicing Notes are to be complied with throughout the work detailed on this card.	43151 43250			
SPECIAL TOOLS AND EQUIPMENT		ASSOCIATED PROCEDURES		
Gauge 0-40lbf/in ² - quantity 2 (4G/3845). Air connection adapter (Locally manufactured). Hydraulic replenishment connexion adapter (26DK/95035). Turner adapter 0-3500lbf/in ² (4G/1050381). Stop watch (6B/9101002).	SP602 (AF) 603 (AF) 153 (AF) 127 (P)			
<p>NOTE: This servicing procedure is a relatively quick method of functionally testing the performance of the controls system hydraulic pumps and is an aid to defect diagnosis. It should be read in conjunction with SP 153 (AF).</p> <p>The test measures:</p> <ul style="list-style-type: none"> (i) Pump performance and system internal leakage. (ii) System pressure. (iii) Warning light operation. (iv) Auxiliary air pressure. (v) Bypass filter operation. 				
<u>42152 / 43151</u>				
1. PREPARATION				
1.1 Aircraft.	Prepare for ground runs in accordance with local instructions.			
1.2 Ground air charging/ release connexion (Access panel 63P (left)).	(i) Remove blank. (ii) Connect adapter and gauge (4G/3845) (See Fig.1)			
1.3 Controls hydraulic system.	Ensure pressure is released.			
1.4 Hydraulic accumulators.	Check pressure (SP 602 (AF)).			
1.5 Hydraulic reservoirs.	(i) Replenish (SP 603 (AF)). (ii) Record quantity used.			
<div style="border: 1px solid black; padding: 2px; display: inline-block;">Continued Overleaf</div>				

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1. PREPARATION (contd)

1.6 Aileron accumulator charging connexion (Access panel 21P(left) (T55), Access panel 27P (left) (F53)). (i) Remove blank. (ii) Fit turner adapter (4G/1050381), (0-3500 lbf/in²).

1.7 Controls system replenishment connexion (Access panel 63P(left)). (i) Remove blanking cap. (ii) Fit adapter and gauge (0-40 lbf/in²), (4G/3845).

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2. TESTING

2.1 Appropriate engine. Start (SP 127(P)).

2.2 Engine rev/min. Set to 35 per cent.

2.3 Hydraulic warning light. Ensure extinguished.

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3. TESTING

3.1 Aileron accumulator. Check indicating maximum system pressure (See Table 1, Test 1).

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4. TESTING

4.1 Control column. Move in as near a circular motion as possible until a positive resistance to motion is felt in both planes. Avoid hitting control stops.

4.2 Appropriate hydraulic warning light. Ensure illuminated.

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5. TESTING

5.1 Aileron accumulator. Ensure fully discharged to datum pressure on turner adapter gauge.

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TEST	ITEM	LIMITS	REMARKS
1	Maximum system pressure.	3000 plus or minus 100 lbf/in ² .	If outside limits proceed as in this servicing procedure.
2	Pump output accumulator charging times.	16.5 to 20 sec (All times to be within 2 sec.)	If times below 16.5 sec incorrect technique is being applied. Re-check nitrogen pressures and repeat run making sure engine speed is exactly 35 per cent. Obtain advice on the method of stirring controls. If times are above 20 sec aeration or another system defect is likely - proceed as detailed in SP 153 (AF).
3	Ground air charging/ release connexion.	16 to 18 lbf/in ² .	If outside limits rectify.
4	Bypass filter check, subtract auxiliary air pressure reading at Test 2 from gauge reading at hydraulic replenishment point.	0 to 20 lbf/in ² .	If difference (filter pressure drop) is more than 20 lbf/in ² , replace bypass filter and repeat test.

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6. TESTING

6.1 Control column.

Stop movement abruptly.

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7. TESTING

7.1 Aileron accumulator. Check, using stop watch (6B/9101002), time taken for accumulator nitrogen pressure to increase from datum pressure to full system pressure. (See Table 1, Test 2).

NOTE 1: Sub-item 6.1 and 7.1 to be carried out simultaneously.

NOTE 2: Repeat sub-items 4.2 to 7.1 inclusive three times and record accumulator pressure as detailed in Table 1, Test 2).

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8. TESTING

8.1 Appropriate hydraulic warning light. Ensure extinguished.

8.2 Engine rev/min. Increase to 65 per cent.

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9. TESTING

9.1 Auxiliary air pressure. Check and record after controls have been stationary for 1 min. (See Table 1, Test 3).

9.2 Gauge at replenishment connexion. Check and record pressure indicated on pressure gauge (See Table 1, Test 4).

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10. COMPLETION

10.1 Appropriate engine. Shut down in accordance with local instructions (SP 127(P)).

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11. COMPLETION

NOTE: Sub-item 11.1 must be carried out if results recorded are not within the limits as defined in Table 1.

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11. COMPLETION (contd)

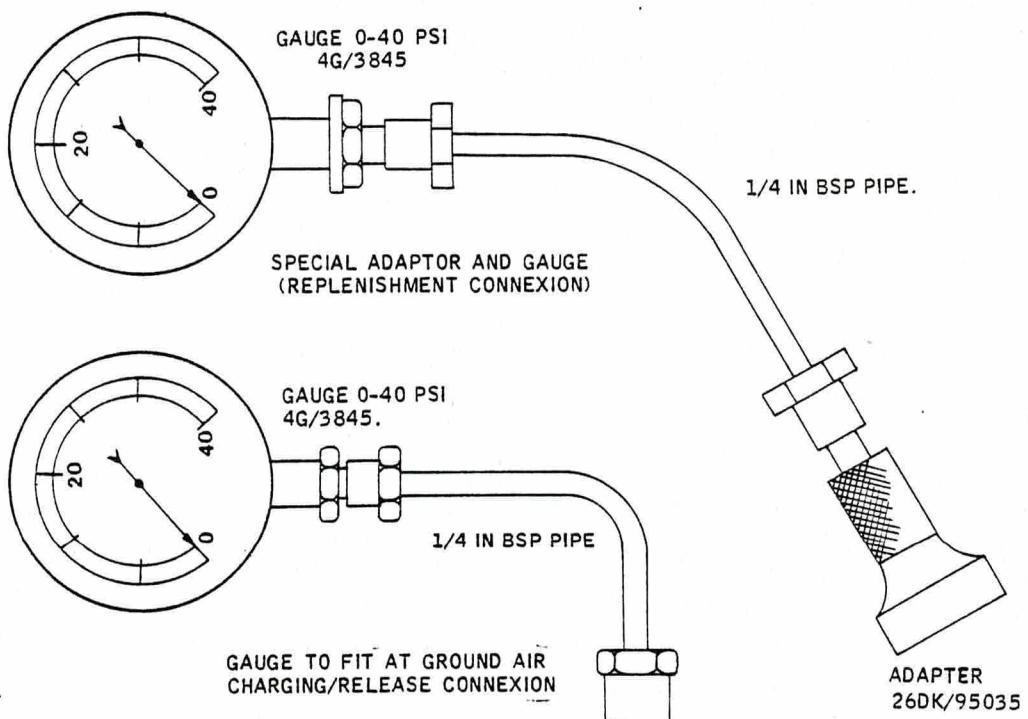
11.1 Aircraft. Carry out investigation as
detailed in SP 153 (AF).

NOTE: Sub-items 11.2 to 11.6 inclusive are to be carried out
only if the results recorded are within the limits
as detailed in Table 1.

11.2 Ground air charging/ release connexion.	(i) Remove adapter and gauge. (ii) Refit blank and wirelock.
11.3 Controls system replenishment connexion.	(i) Remove adapter and gauge. (ii) Refit blanking cap.
11.4 Aileron accumulator charging connexion.	(i) Remove turner adapter. (ii) Refit blank and wirelock.
11.5 Hydraulic reservoirs.	Replenish (SP 603 (AF)).
11.6 Access panels.	Refit.

NOTE:- All wirelocking to be of 22 SWG stainless steel
unless otherwise stated.

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throughout the work detailed on this card.



(NOT TO SCALE)

GAUGES HYDRAULIC SYSTEM - PERFORMANCE MONITORING

FIGURE 1



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