CHAP. 2 AIRFRAME S.P. 154 A.L. SHEET 1 OF 4	SERVICING PROCEDURE F53 T55	BAC F53 & T55 (SA) 5A3A Section 1 2nd Edition

Controls Hydraulics - Accumulator Fault Detection

AFSC 42152

TIME EST

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

ASSOCIATED PROCEDURES

SP 152 (AF)

SPECIAL TOOLS AND EQUIPMENT

Ground test rig (4F/3603).
Hydraulic fluid replenish (4G/205107) (Post STI/GE/107)
or
Hydraulic fluid replenish (26DK/95039 - 95191)
Turner adapter gauges (4G/6246).
Overflow drain extension (26DK/95862)
LSEPT Hydraulic oil de-aerator tank (26DK/NIV).

NOTE 1: In addition to an inspector carrying out any specific inspections detailed in this Servicing Procedure, Quality Control must monitor all operations.

NOTE 2: When using the tank the operator is to try and maintain the fluid level between the markers on the tank sight glass. Do not move the flying controls if the fluid level is below the marker, as there is a risk of damage to the reservoir bladder.

NOTE 3: This Servicing Procedure must be carried out when called up in SP 152 (AF).

NOTE 4: Before commencing this Servicing Procedure a period of 30 minutes must elapse to allow the system to settle, to give the correct test conditions.

NOTE 5: If the ground test rig should accidentally stop during any of the following procedures, the operator is to open the auxiliary air release and the vacuum release valves to prevent fluid draining from the reservoir.

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1. OPERATION

1.1	Ground test rig.	Start.
1.2	Tank auxiliary air pressure inlet valve.	Open.

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1. OPERATION (contd)

NOTE: Sub-items 1.3 to 1.5 must be carried out in rapid succession.

1.3	Tank auxiliary air control valve.	Turn clockwise until fluid in sight glass begins to rise (approximately 10 to 15 lbf/in^2 causes fluid to rise).
1.4	Tank vacuum release.	Close when fluid is just rising to the upper mark.
1.5	Ground test rig.	When the fluid level reaches the upper mark on the sight glass, engage clutch and set to 2500 rev/min.
1.6	Auxiliary air control valve.	Adjust to maintain fluid level Mid-way between upper and lower marks, on sight glass.
1.7	Vacuum On/Off valve.	Turn ON.
1.8	Vacuum pump.	Operate until fluid rises.
1.9	Vacuum On/Off valve.	Turn OFF.
1.10	Auxiliary air pressure control valves.	Turn counter-clockwise until fluid reaches mid-way position.
1.11	Auxiliary air control valve vacuum pump and vacuum On/Off valves.	Decrease auxiliary air pressure, and increase the vacuum to maintain the fluid level between the two marks, until -14 in. Hg. is achieved with no bubbles apparent in the sight glass.

NOTE 1: If excessive frothing occurs auxiliary air pressure should be increased and the vacuum decreased to maintain that fluid level between the two marks. When excessive frothing ceases decrease auxiliary air pressure and increase the vacuum to maintain the fluid level between the two marks until -14 in. Hg. is achieved with no bubbles apparent in the sight glass.

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1. OPERATION (contd)

NOTE 2: Refer to SP 152 (AF) Item 4.10. If aileron circuit was aerated carry out Items 2 and 3 below but if tailplane rudder circuit aerated carry out Items 2 and 3 below in reverse order.

2. AILERON OPERATION

2.1	Auxiliary air control valve.	Operate to achieve 15 lbf/in^2 on gauge.
2.2	Tank.	When fluid level reaches the upper mark, operate the ailerons.
2.3	Aileron controls.	Operate until the accumulator is fully discharged and continue operation for 1 minute. Avoid hitting control stops.
2.4	Auxiliary air control valve, vacuum pump and vacuum On/Off valves.	Decrease auxiliary air pressure, and increase the vacuum to maintain the fluid level between the two marks until -14 in. Hg. is achieved with no bubbles apparent in the sight glass.
2.5	Auxiliary air control valve.	Increase until fluid level reaches the upper mark.
2.6	Aileron controls.	Cease operation.
2.7	Auxiliary air control valve, vacuum pump and vacuum On/Off valves.	Decrease auxiliary air pressure, and increase the vacuum to maintain the fluid level between the two marks until -14 in. Hg. is achieved with no bubbles apparent in the sight glass.

3. TAILPLANE/RUDDER OPERATION

3.1	Auxiliary air control valve.	Operate to achieve 15 lbf/in^2 on gauge.
3.2	Tank	When fluid level reaches the upper mark, operate tailplane and rudder.

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3. TAILPLANE/RUDDER OPERATION

3.3	Tailplane and rudder control.	Operate until the accumulator is fully discharged and continue operation for 1 minute. Avoid hitting control stops.
3.4	Auxiliary air control valve, vacuum pump and vacuum On/Off valves.	Decrease auxiliary air pressure, and increase the vacuum to maintain the fluid level between the two marks until -14 in. Hg. is achieved with no bubbles apparent in the sight glass.

NOTE: The accumulator of the circuit that continues to aerate is to be replaced and SP 152 (AF) to be carried out.

4. COMPLETION

4.1	Tank.	Raise fluid level to upper mark.

NOTE: Sub-items 4.2 to 4.4 must be carried out in rapid succession.

4.2	Auxiliary air inlet valve.	Close.
4.3	Ground test rig.	Disengage clutch.
4.4	Vacuum release valve.	Open.
4.5	Auxiliary air release valve.	Open.
4.6	Inlet hose to tank.	Disconnect from aircraft.