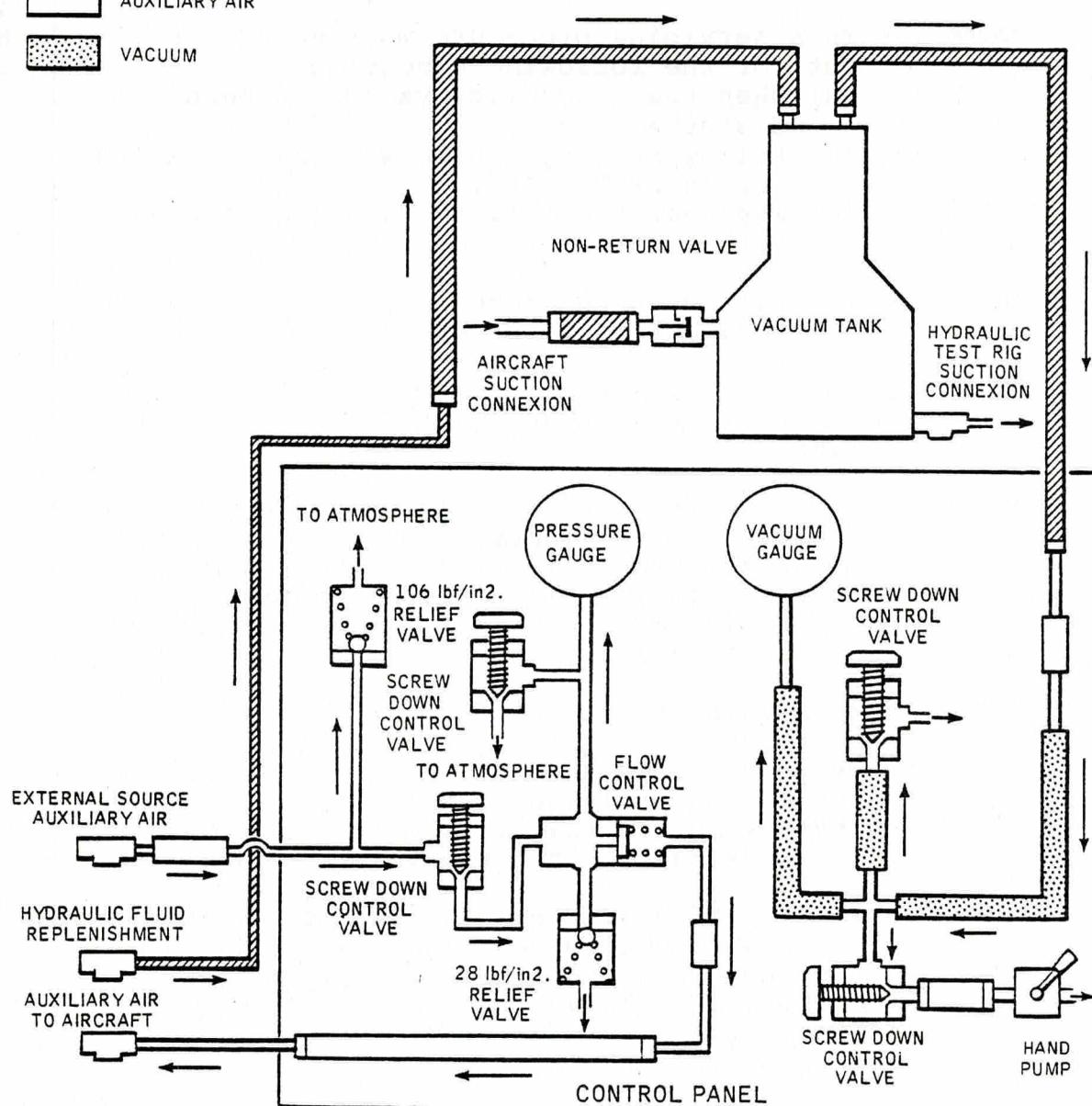


CHAP 2 AIRFRAME SP 152 AL 4 SHEET 1 OF 10	SERVICING PROCEDURE F53 T55	BAC F53 & T55 (SA) 5A3A Section 1 2nd Edition
Controls (HYD) System - Daeaeration Procedure	AFSC 42152 43151	TIME EST
Safety and Servicing Notes are to be complied with throughout the work detailed on this card.		
SPECIAL TOOLS AND EQUIPMENT		ASSOCIATED PROCEDURES
LSEPT deaeration rig (26DK/NIV). Air supply trolley (4G/4272).		SP108 (AF) 151 (AF) 153 (AF) 602 (AF) 603 (AF)
<p>NOTE 1 : This servicing procedure must be carried out for the following conditions:</p> <ul style="list-style-type: none"> (a) When the hydraulic system has been disturbed. (b) Following a hydraulic warning as called for in SP 153 (AF). (c) Whenever there is a hydraulic warning both systems are to be checked. 		
<p>NOTE 2 : Aircraft must be jacked and trestled before commencement of this servicing procedure.</p>		
<p>NOTE 3 : During this servicing procedure No.2 engine hatch or jury strut must be fitted at all times.</p>		
<p>NOTE 4 : For an empty system, fill system reservoir and operate all controls over full range, using the hydraulic test trolley hand pump. While operating controls, replenish reservoir until the system has accepted its complete capacity.</p>		
<p>NOTE 5 : When using the LSEPT deaeration rig, the operator must maintain the fluid level between the markers on the sight glass. Do not move the flying controls if the fluid level is below the lower mark, as this could cause damage to the reservoir bladder.</p>		
<p>NOTE 6 : If the hydraulic test trolley accidentally stops during this servicing procedure, the operator must open the auxiliary air release and the vacuum valves on LSEPT deaeration rig to prevent fluid draining from the reservoir.</p>		
<p><u>4 2 1 5 2 / 4 3 1 5 1</u></p>		
<p>1. NO.1 CONTROLS - PREPARATION</p>		
<p>1.1 LSEPT deaeration rig. (i) Connect inlet hose to outlet connexion. (ii) Fill with OM15 to low level mark.</p>		

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- [Hatched box] HYDRAULIC FLUID
- [White box] AUXILIARY AIR
- [Dotted box] VACUUM



HYDRAULIC SYSTEM DEAERATION RIG - SCHEMATIC
(LIGHTNING)
FIGURE 1

Continued

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1. NO.1 CONTROLS - PREPARATION (Contd)
- 1.2 LSEPT deaeration rig vacuum release valve. Close.
- 1.3 LSEPT deaeration rig vacuum on/off valve. Turn on.
- 1.4 LSEPT deaeration rig vacuum pump. Operate until - 14in. Hg is indicated on vacuum gauge.
- 1.5 LSEPT deaeration rig. When bubbles cease to appear the fluid is deaerated and ready for use.

NOTE: Because of the deaeration process, the LSEPT deaeration rigs pressure may rise. Repeat sub-items 1.3 and 1.4 to maintain - 14in. Hg. This also serves as a serviceability check for the deaeration rig. If bubbles continue to appear after 15 min. then the deaeration rig hose must be leaking.

- 1.6 Ground air charging/ release connexion. (Access panel 63P (left)). Remove blank.
- 1.7 Services and controls hydraulic systems. Ensure pressure released.
- 1.8 Hydraulic test trolleys. (i) Prime.
(ii) Bleed.
- 1.9 Hydraulic accumulators. Check pressures (SP 602(AF)).
- 1.10 Hydraulic reservoirs. Replenish (SP 603(AF)).
- 1.11 No.1 Controls ground test connexions (Access panel 45P(left)). Disconnect EDP.
- 1.12 Hydraulic test trolley pressure and return hoses. Connect to controls around test connexions.
- 1.13 LSEPT deaeration rig auxiliary air hose. Connect to ground air charging/ release connexion.
- 1.14 LSEPT deaeration rig inlet hose. Disconnect from rig outlet and connect to controls ground test connexion.

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1. PREPARATION (Contd)

1.15 Hydraulic test trolley. Connect suction hose to deaeration rig outlet connexion.

1.16 Air supply trolley. (i) Connect to deaeration rig auxiliary air connexion.
(ii) Set to deliver a pressure of 100 lbf/in².

1.17 LSEPT deaeration rig. Open auxiliary air release inlet valve.

NOTE: Sub-items 1.18 to 1.20 must be carried out in rapid succession.

1.18 LSEPT deaeration rig auxiliary air control valve. Turn clockwise until fluid in the sight glass begins to rise (approximately 10 to 15 lbf/in² will cause the fluid to rise).

1.19 LSEPT deaeration rig vacuum release valve. Close when fluid level is just rising to the upper mark.

1.20 Hydraulic test trolley. Engage clutch and set to run at 2500 rev/min. when fluid level reaches the upper mark.

1.21 LSEPT deaeration auxiliary air control valve. Adjust to maintain fluid level mid-way between the upper and lower marks on the sight glass.

1.22 LSEPT deaeration rig vacuum on/off valve. Turn on.

1.23 LSEPT deaeration rig vacuum pump. Operate until the fluid rises.

1.24 LSEPT deaeration rig auxiliary air control valve. Turn clockwise until the fluid reaches the mid-way position between the markers on the sight glass.

1.25 LSEPT deaeration rig air control valve and vacuum pump. Decrease auxiliary air pressure and increase vacuum to maintain the fluid level between the two marks until -14in. Hg is achieved and no bubbles are apparent in the sight glass.

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1. PREPARATION (Contd)

NOTE: If excessive frothing occurs auxiliary air pressure must be increased and the vacuum decreased to maintain the 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 - 14in.Hg. is achieved with no bubbles apparent in the sight glass.

2. NO.1 AILERON CONTROLS - DEAERATION

NOTE: Aileron flying controls must not be functioned at a higher rate than 2 strokes per sec for 6 sec.

2.1 LSEPT deaeration rig.	Raise fluid level to upper mark on sight glass.
2.2 Ailerons.	(i) Operate (See NOTE). (ii) Avoid hitting control stops.
2.3 Ailerons.	Cease operating.
2.4 LSEPT deaeration rig.	Allow fluid to stabilize.

NOTE: Sub-items 2.5 and 2.6 must be done simultaneously.

2.5 LSEPT deaeration rig auxiliary air control valve.	Operate to decrease auxiliary air pressure.
2.6 LSEPT deaeration rig vacuum pump.	(i) Operate to increase vacuum. (ii) Maintain fluid level between upper and lower marks on sight glass.

NOTE: Repeat sub-items 2.1 to 2.6 until fluid in sight glass remains clear of bubbles at -14in.Hg.

3. NO.1 TAILPLANE CONTROLS - DEAERATION

NOTE: Tailplane flying controls must not be functioned at a higher rate than 1½ strokes per sec. for 3 sec.

3.1 LSEPT deaeration rig.	Raise fluid level to upper mark on sight glass.
3.2 Tailplane.	(i) Operate (See NOTE). (ii) Avoid hitting control stops.

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3. NO.1 TAILPLANE CONTROLS - DEAERATION (Contd)

3.3 Tailplane. Cease operating.

3.4 LSEPT deaeration rig. Allow fluid to stabilize.

NOTE: Sub-items 3.5 and 3.6 must be done simultaneously.

3.5 LSEPT deaeration rig auxiliary air control valve. Operate to decrease auxiliary air pressure.

3.6 LSEPT deaeration rig vacuum pump. (i) Operate to increase vacuum. (ii) Maintain fluid level between upper and lower marks on sight glass.

NOTE: Repeat sub-items 3.1 to 3.6 until fluid in sight glass remains clear of bubbles at -14in.Hg.

4. NO.1 RUDDER CONTROLS - DEAERATION

NOTE: Rudder flying controls must not be functioned at a higher rate than 2 strokes per sec. for 6 sec.

4.1 LSEPT deaeration rig. Raise fluid level to upper mark on sight glass.

4.2 Rudder. (i) Operate (See NOTE) (ii) Avoid hitting control stops.

4.3 Rudder. Cease operating.

4.4 LSEPT deaeration rig. Allow fluid to stabilize.

NOTE: Sub-items 4.5 and 4.6 must be done simultaneously

4.5 LSEPT deaeration rig auxiliary air control valve. Operate to decrease auxiliary air pressure.

4.6 LSEPT deaeration rig vacuum pump. (i) Operate to increase vacuum. (ii) Maintain fluid level between upper and lower marks on sight glass.

NOTE: Repeat sub-items 4.1 to 4.6 until fluid in sight glass remains clear of bubbles at -14in.Hg.

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5. BRAKE PARACHUTE CONTROL - DEAERATION (NO.1 CONTROLS ONLY)

5.1 LSEPT deaeration rig. Raise fluid level to upper mark on sight glass.

5.2 Brake parachute control. Operate.

5.3 Brake parachute. Cease operating.

5.4 LSEPT deaeration rig. Allow fluid to stabilize.

NOTE: Sub-items 5.5 and 5.6 must be done simultaneously.

5.5 LSEPT deaeration rig. auxiliary air control valve. Operate to decrease auxiliary air pressure.

5.6 LSEPT deaeration rig vacuum pump. (i) Operate to increase vacuum. (ii) Maintain fluid level between upper and lower marks on sight glass.

NOTE: Repeat sub-items 5.1 to 5.6 until fluid in sight glass remains cleat at -14in.Hg.

6. NO.1 CONTROLS ONLY

NOTE: In the event of a system disturbance involving the emergency undercarriage lowering system carry out sub-items 6.1 to 6.3.

6.1 Emergency undercarriage lowering. Carry out SP 108(AF).

6.2 LSEPT deaeration rig air control valve and vacuum pump. Decrease auxiliary air pressure and increase vacuum to maintain the fluid level between the two marks until -14in.Hg is achieved and no bubbles are apparent in the sight glass.

6.3 Services hydraulic system. Daeaerate (SP 151(AF)).

7. COMPLETION - NO.1 CONTROLS DEAERATION

7.1 LSEPT deaeration rig auxiliary air inlet valve. Close.

7.2 LSEPT deaeration rig auxiliary air release and vacuum release valve. Open.

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7. COMPLETION - NO.1 CONTROLS DEAERATION (Contd)

7.3 Hydraulic test trolley. (i) Disengage clutch.
(ii) Stop.

7.4 Air supply trolley. Turn off.

7.5 No.1 Controls hydraulic system. Release pressure.

7.6 LSEPT deaeration rig inlet hose. Disconnect from ground test connexion (Access panel 45P (left)).

7.7 Hydraulic test trolley pressure and return hoses. Disconnect.

7.8 Hydraulic pump quick release connexions. (i) Reconnect to aircraft.
(ii) Wirelock.
(No.1 Controls)
(Access panel 45P (left)).

8. NO.2 CONTROLS - PREPARATION

8.1 No.2 Controls ground test connexions. (Access panel 67P (left)). Disconnect.

8.2 Hydraulic test trolley pressure and return hoses. Connect to controls ground test connexions.

8.3 LSEPT deaeration rig inlet hose. Connect to controls ground test connections.

8.4 Air supply trolley. Set to deliver a pressure of 100 lbf/in².

8.5 LSEPT deaeration rig. Open auxiliary air release inlet valve.

NOTE: Sub-items 8.6 to 8.8 must be carried out in rapid succession.

8.6 LSEPT deaeration rig auxiliary air control valve. Turn clockwise until fluid in the sight glass begins to rise (approx 10 to 15 lbf/in² will cause the fluid to rise).

8.7 LSEPT deaeration rig vacuum release valve. Close when fluid level is just rising to the upper mark.

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8. NO.2 CONTROLS - PREPARATION (Contd)

8.8 Hydraulic test trolley.

Engage clutch and set to run at 2,500 rev/min when fluid level reaches upper mark.

8.9 LSEPT deaeration rig auxiliary air control valve.

Adjust to maintain fluid level mid-way between upper and lower marks on the sight glass.

8.10 LSEPT deaeration rig vacuum on/off valve.

Turn on.

8.11 LSEPT deaeration rig vacuum pump.

Operate until the fluid rises.

8.12 LSEPT deaeration rig auxiliary air control valve.

Turn clockwise until the fluid reaches the mid-way position between the markers on the sight glass.

8.13 LSEPT deaeration rig air control valve and vacuum pump.

Decrease auxiliary air pressure and increase vacuum to maintain the fluid level between the two marks until -14in.Hg is achieved and no bubbles are apparent in the sight glass.

NOTE: If excessive frothing occurs auxiliary air pressure must be increased and the vacuum decreased to maintain the 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 -14in.Hg is achieved with no bubbles apparent in the sight glass.

9. NO.2 CONTROLS - DEAERATION

9.1 Repeat items 2,3 and 4

10. COMPLETION

10.1 LSEPT deaeration rig auxiliary air inlet valve.

close.

10.2 LSEPT deaeration rig auxiliary air release and vacuum release valves.

Open.

10.3 Hydraulic test trolley.

(i) Disengage clutch
(ii) Stop.

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10. COMPLETION (Contd)

10.4 Air supply trolley. Turn off and disconnect from deaeration rig.

10.5 Controls hydraulic system. Release pressure.

10.6 Hydraulic test trolley suction hose. Disconnect from deaeration rig.

10.7 LSEPT deaeration rig inlet hose. Disconnect from No.2 controls ground test connexion.

10.8 Hydraulic test trolley pressure and return hoses. Disconnect from No.2 controls ground test connexion.

10.9 LSEPT deaeration rig auxiliary air hose.

- (i) Disconnect from ground air charging/release connexion.
- (ii) Fit blank and wirelock.

10.10 Hydraulic pump quick release connexions (No.2 controls) (Access panel 67P (left)).

- (i) Reconnect to aircraft.
- (ii) Wirelock.

10.11 Ground equipment.

- (i) Operate to lower aircraft to ground.
- (ii) Remove from vicinity of aircraft.

10.12 Hydraulic reservoirs. Replenish (SP 603 (AF)).

10.13 Access panels. Refit.

NOTE: All wirelocking must be of 22 SWG stainless steel locking wire unless otherwise stated.

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