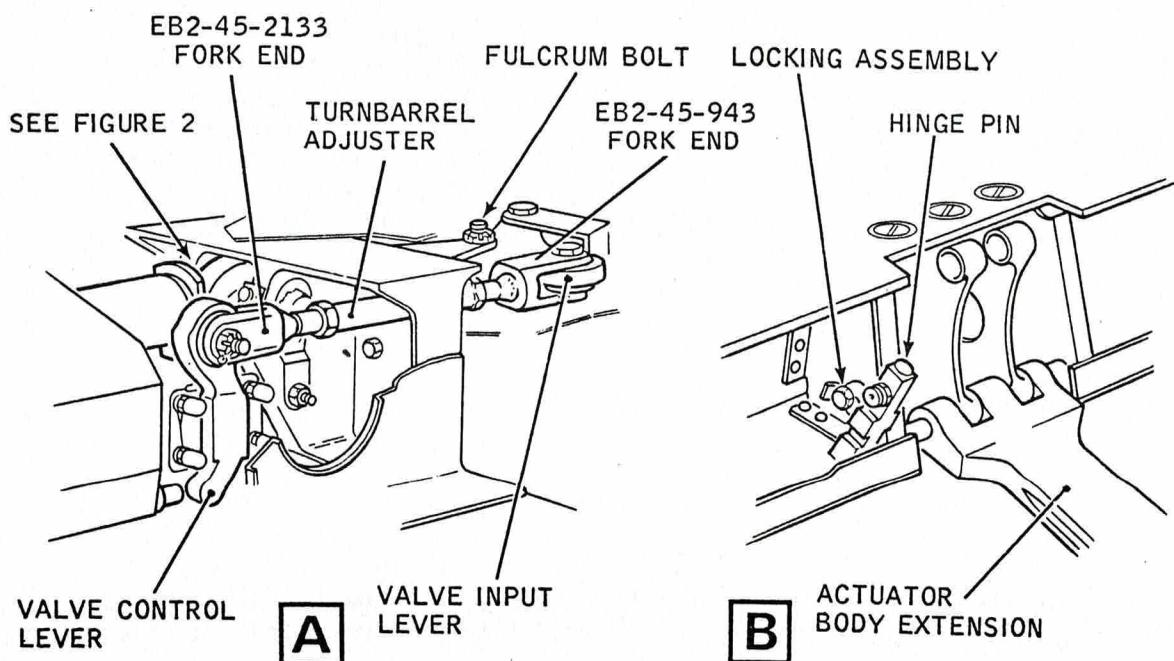
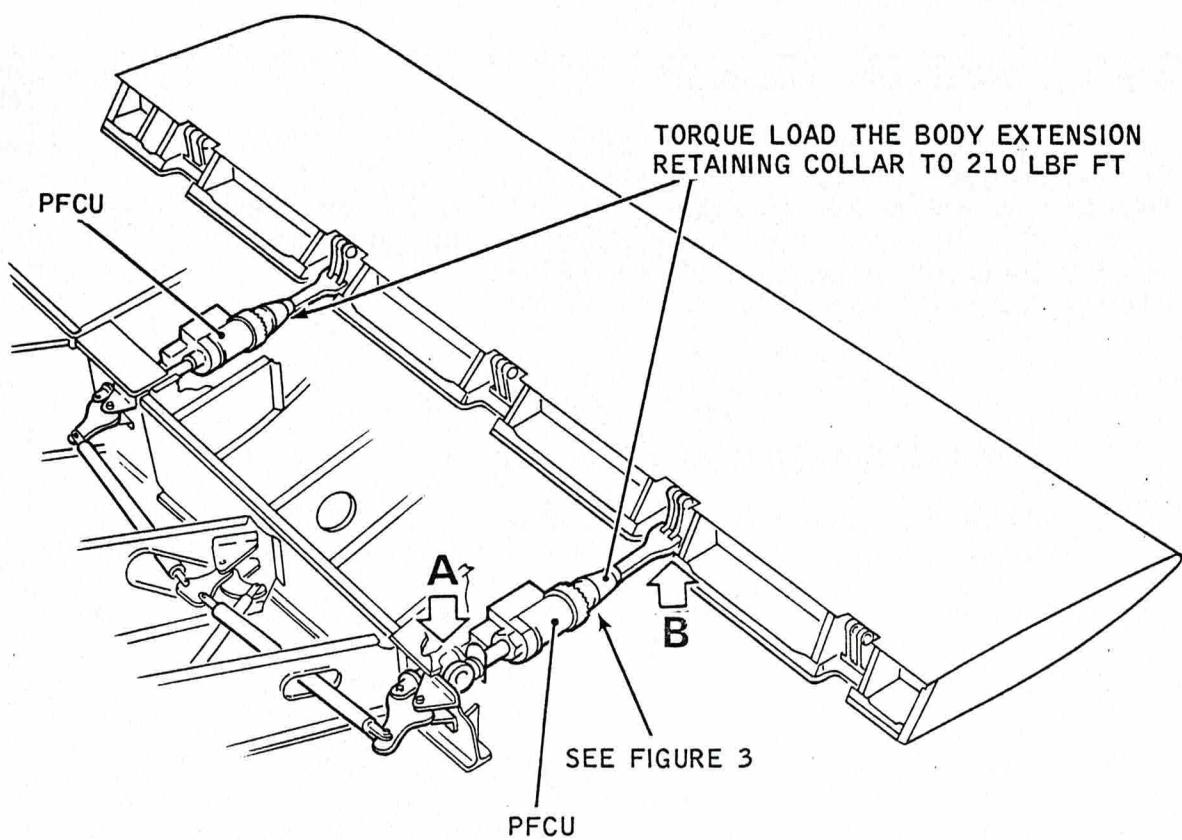


CHAP. 1 AIRFRAME S.P. 22 A.L. 10 SHEET 1 OF 9	SERVICING PROCEDURE F53 T55	BAC F53 & T55 (SA) 5A3A Section 1 2nd Edition		
Aileron Powered Flying Control Unit - Fitting	AFSC 42152 43151 42172 43171	TIME EST		
Safety and Servicing Notes are to be complied with throughout the work detailed on this card.				
SPECIAL TOOLS AND EQUIPMENT				
Travel gauge (26DK/96772) (left). Travel gauge (26DK/96773) (right). Setting gauge (Local manufacture (LM) 0.21 ins gauging face with 0.5 x 2.5 in stock. Split ring and pennant) Torque adapter assembly (27KH/2779). Torque adapter assembly (27KH/2780).	ASSOCIATED PROCEDURES SP21(AF) 113(AF) 303(AF) 603(AF) 45(AF) 46(AF)			
<u>42152 / 43151</u>				
<p>1. PREPARATION (SEE FIGS. 1, 2 AND 3)</p> <p>1.1 Turnbarrel adjuster assembly. Connect to PFCU valve control lever with fork end EB2-45-2133.</p> <p>1.2 PFCU.</p> <ul style="list-style-type: none"> <li>(i) Prime and fully extend ram.</li> <li>(ii) Fit blanks.</li> <li>(iii) Temporarily fit body extension.</li> <li>(iv) Adjust until pin centre length recorded in SP 21(AF) is obtained.</li> <li>(v) Remove body extension.</li> <li>(vi) Torque tighten locknut to 50lbf ft using torque adapter assembly (27KH/2780).</li> <li>(vii) Ensure dimension between locknut outer face and attachment pin centre does not exceed 1.55in (See Fig.2).</li> </ul>				
<p>2. FITTING</p> <p>2.1 PFCU body extension.</p> <ul style="list-style-type: none"> <li>(i) With aileron fully up fit to aileron.</li> <li>(ii) Lock pin by fitting clips and securing with 2BA bolt, distance piece and slotted nut.</li> <li>(iii) Lock nut with split pin.</li> </ul>				

Continued Overleaf

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



(AILERON) PFCU INSTALLATION  
FIGURE 1

Continued

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

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2. FITTING (cont'd)

2.2 PFCU ram end-fitting attachment to diaphragm (See Fig.2)

- (i) Position tube through bushes at eye-end.
- (ii) Locate the two bush retaining plates.
- (iii) Position in mainplane box.
- (iv) Fit, hinge pin, locking tab, bolt, serrated washer and nuts
- (v) Fit, bolt SRO/20/452/A and washer SRO/20/452/B. Torque load to finger tight plus one flat.
- (vi) Lock items (iv) and (v) with wire.
- (vii) Secure bush retaining plates with 4BA special bolts and tab washers.

NOTE: During sub-items 2.3 and 2.5 inclusive, inboard and outboard, PFCU body extensions must be connected simultaneously.

2.3 PFCU body extension  
Pre Mod.A.295 only.

- (i) Fit locating key.
- (ii) Connect to control unit.
- (iii) Ensure key is engaged in both keyways.

2.4 PFCU body extension  
Post Mod.A295 only.

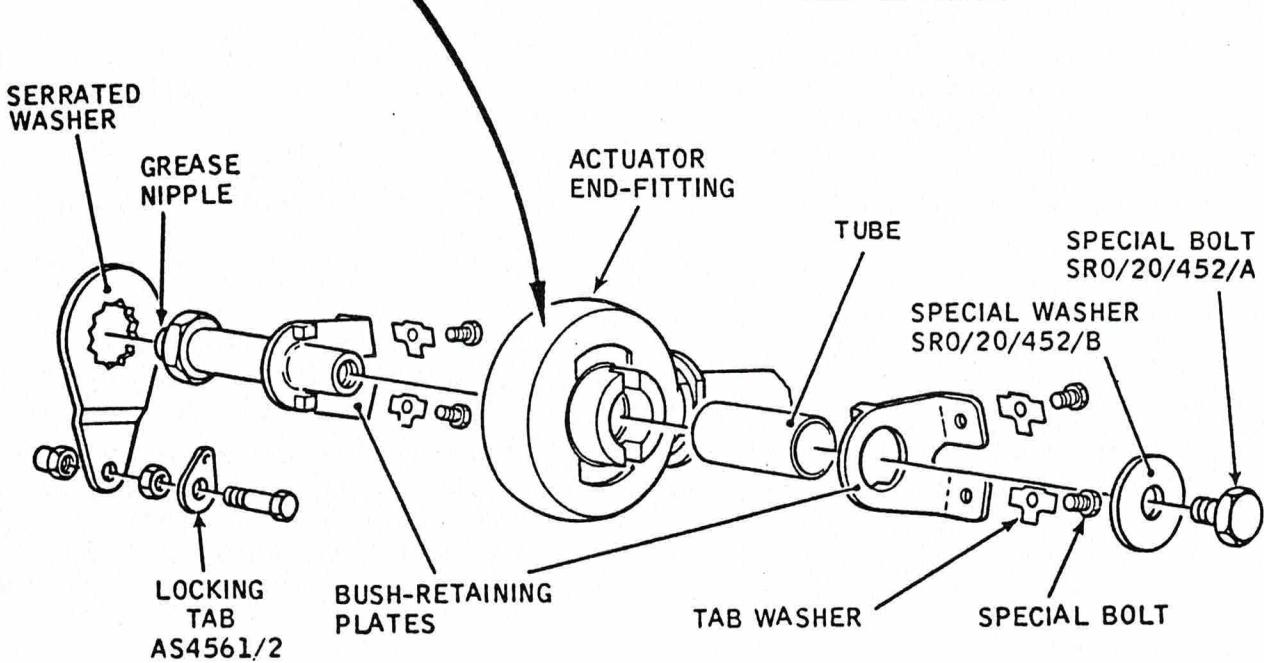
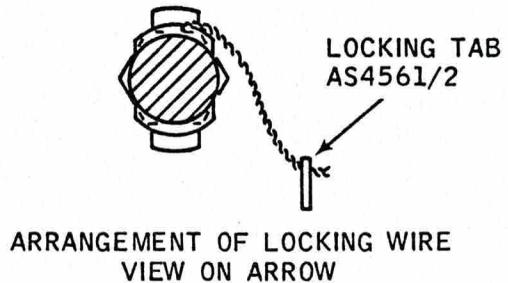
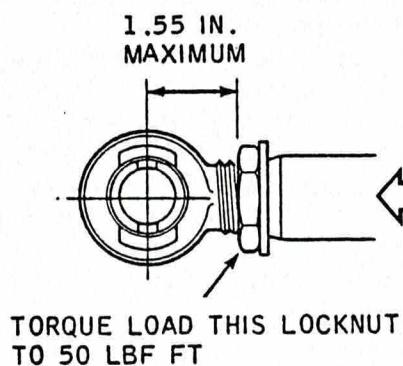
- (i) Fit locking rods.
- (ii) Connect to control unit.
- (iii) Ensure locking rods engaged in both keyways.

2.5 Inboard and Outboard PFCU retaining nuts.

- (i) Ensure correct engagement of split rings and retaining nuts (See Fig.3) Hand tighten retaining nut and note that only 3 to 4 threads are visible on PFCU body extension.
- (ii) Whilst pulling down on aileron trailing edge tighten.
- (iii) Torque tighten to 210 lbf ft using torque spanner (27KH/2779).
- (iv) Lock with wire.

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NOTE 1 : Ensure that the wirelocking is positioned, in a clockwise direction, around the ram, view on arrow. Also check that, on completion, the ram eye end is perpendicular and not displaced about the bearing by possible tightening of the locking wire.



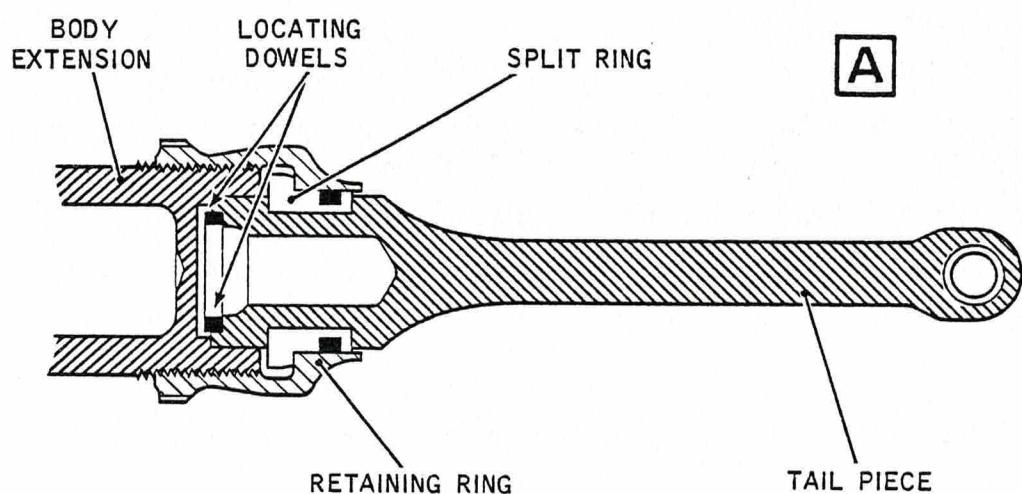
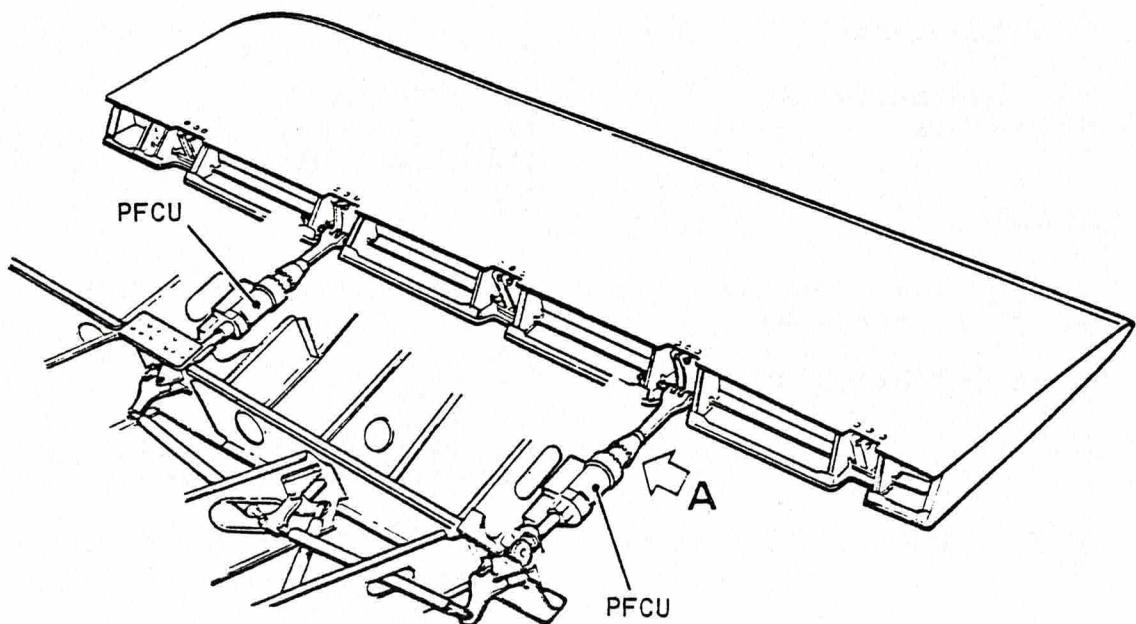
NOTE 2 : On assembly, for correct engagement of the serrated washer with the PFCU eye end attachment bolt head, ensure that the 2BA stiffnut is within safety and that the wirelocking hole in the locking tab is correctly orientated to the pull of the locking wire as indicated in NOTE 1.

ACTUATOR END-FITTING  
FIGURE 2

Continued

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2. FITTING (contd)		
2.6 PFCU hydraulic pipe connexions.	(i) Connect. (ii) Tighten. (iii) Lock with wire.	
3. GENERAL		
3.1 No.1 & No.2 controls hydraulic systems.	Replenish. (SP 603 (AF)).	
4. SYNCHRONIZATION CHECK		
4.1 Aileron.	Set to neutral manually by operating valve control lever.	
4.2 PFCU valve control levers.	Ensure centred, using gauge (LM) between lower part of valve control lever and body stop.	
5. FITTING		
5.1 Turnbarrel adjuster assembly	(i) Connect to input lever. (ii) Split pin.	
6. SYNCHRONIZATION CHECK		
6.1 Inboard PFCU valve control lever.	Check neutral position using gauge (LM).	
6.2 Outboard PFCU valve control lever.	Check neutral position using gauge (LM).	
6.3 Last control rod on SPAR 1 (Cradle lever).	Temporarily reconnect.	
6.4 Locating pins (26DK/95127). Fit.		
NOTE: During Sub-items 6.5 to 6.7 inclusive, where distortion or movement occurs, correction can be made by adjusting turnbarrel assembly on PFCU that gives deflection from neutral and repeating Sub-items 6.1 and 6.2.		
6.5 Aileron.	Using hydraulic test trolley hand pump ensure does not move when No.2 control system is pressurized.	
6.6 No.2 control system.	Release hydraulic pressure.	
Continued Overleaf		
SERVICING PROCEDURE INSPECTION STAGES DO NOT EXCLUDE ADDITIONAL INSPECTION STAGES INCORPORATED AS NECESSARY IN MAINTENANCE CERTIFICATION DOCUMENTS		

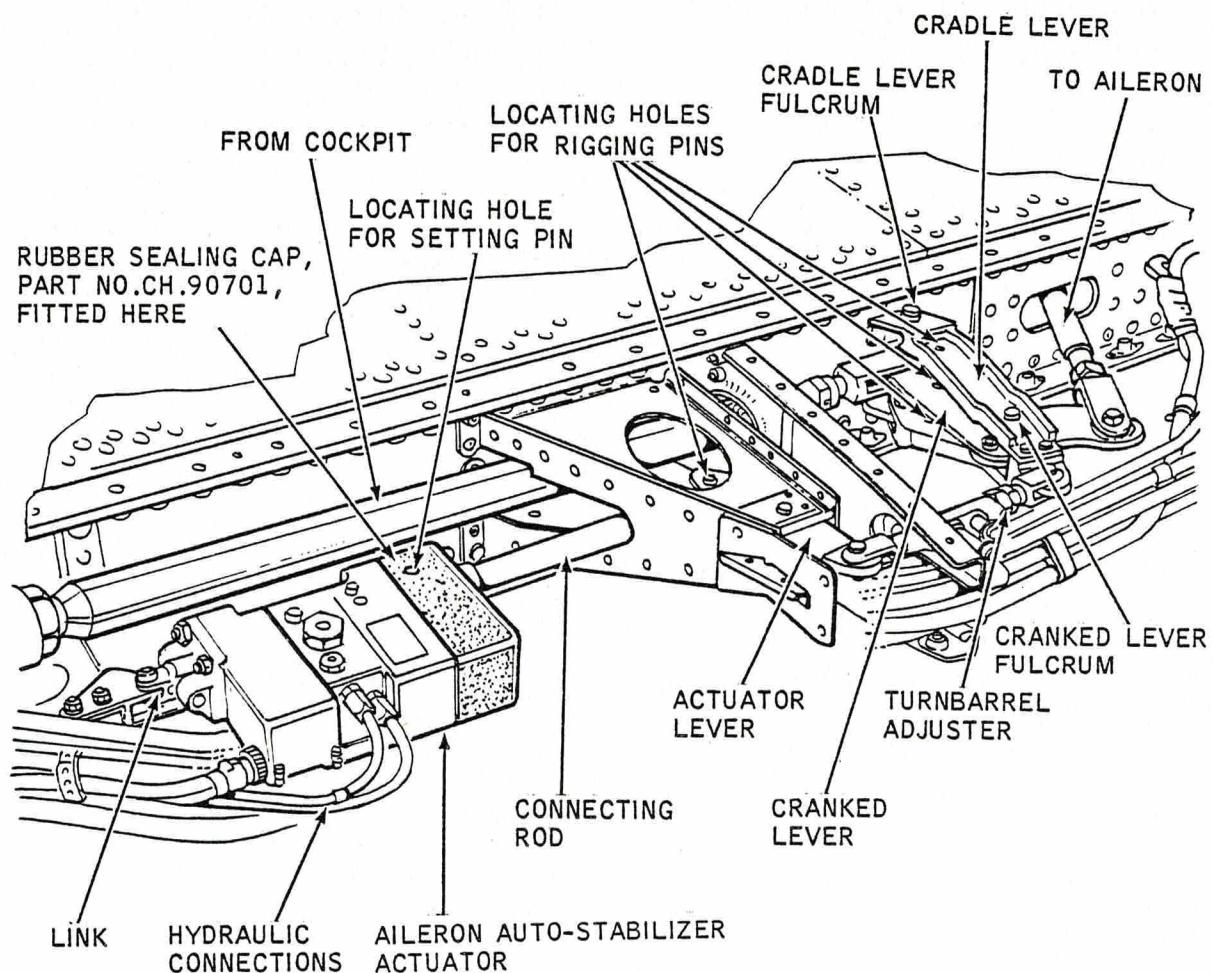
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throughout the work detailed on this card.



PFCU BODY EXTENSION TAIL PIECE  
FIGURE 3

Continued

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



AUTO-STABILIZER - ACTUATOR INSTALLATION  
FIGURE 4

Continued Overleaf

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6. SYNCHRONIZATION CHECK (contd)

6.6 No.2 control system. Release hydraulic pressure.

6.7 Aileron. Using hydraulic test trolley hand pump ensure does not move when No.1 control system is pressurised.

6.8 Locating pins. Remove.

7. GENERAL

7.1 No.1 & No.2 control system accumulators. Ensure hydraulic pressure released.

7.2 Gauge (LM). Remove.

7.3 Last control rod on SPAR 1 (Cradle lever). Disconnect.

8. RANGE OF MOVEMENT CHECK

8.1 No.1 control system. Pressurize to 3000 psi using hydraulic servicing trolley.

8.2 Last control rod on SPAR 1 (Cradle lever). (i) Operate slowly.  
(ii) Ensure aileron moves fully up and down.  
(iii) Ensure no straining or fouling.

8.3 Aileron. Set to neutral.

8.4 No.2 control system. Pressurize to 3000 psi using hydraulic servicing trolley.

8.5 Last control rod on SPAR 1 (Cradle lever). (i) Operate slowly.  
(ii) Ensure aileron moves fully up and down.  
(iii) Ensure no straining or fouling.

8.6 Aileron. Set to neutral.

9. GENERAL

9.1 Last control rod on SPAR 1 (Cradle lever). (i) Reconnect.  
(ii) Lock nut with split pin.

9.2 Aileron attachments. Lubricate. (SP 303(AF)).

9.3 Eye-ends. Lubricate. (SP 303(AF)).

Continued

CHAP 1 AIRFRAME	SERVICING PROCEDURE	BAC F53 & T55 (SA)
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10. SMOOTHNESS AND CORRECTNESS - SENSE CHECK

10.1 Control column. Operate through full range.

10.2 Ailerons. (i) Ensure consistent smooth movement.  
(ii) Ensure correct sense of movement.

11. TESTING

11.1 Ailerons. Test (SP 113(AF)), (See Fig.4).

42172/43171 (INSPECTOR)

12. INSPECTION STAGE

12.1 Inspect installation. Independent check of:  
(i) Assembly and locking.  
(ii) Function.

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13. COMPLETION

13.1 Access panels 101A and C, Refit.  
102A and B, 132A and B.

13.2 Outboard leading edges. Refit (SP 45 and 46 (AF)).

13.3 Travel gauges. Remove.

13.4 Hydraulic test trolleys. Remove.



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