



AIRCRAFT
MAINTENANCE MANUAL

RUDDER HYDRAULIC ACTUATION - SERVICING

EFFECTIVITY: ALL

1. General

- A. This section gives the procedure to do the Rudder Actuator Bleeding.
- B. The procedures in this section are given in the sequence below. The tasks identified with (♦) are part of the Scheduled Maintenance Requirements Document (SMRD).

<i>TASK NUMBER</i>	<i>DESCRIPTION</i>	<i>EFFECTIVITY</i>
27-22-00-870-801-A	RUDDER ACTUATOR BLEEDING	ALL

TASK 27-22-00-870-801-A
EFFECTIVITY: ALL
2. RUDDER ACTUATOR BLEEDING
A. General

- (1) This task gives the procedure to remove the air from the Rudder System.
- (2) When the actuator line is opened, it is necessary to do a bleed of the Rudder Actuator. If there is air in the Rudder System, there will be a vibration in the rudder surface.

B. References

<i>REFERENCE</i>	<i>DESIGNATION</i>
AMM MPP 06-42-00/100	-
AMM TASK 12-13-01-600-801-A/300	HYDRAULIC SYSTEM RESERVOIR - FLUID LEVEL CHECK
AMM TASK 29-10-00-860-801-A/200	HYDRAULIC SYSTEM - PRESSURIZATION WITH HTS

C. Zones and Accesses

<i>ZONE</i>	<i>PANEL/DOOR</i>	<i>LOCATION</i>
325	325JR	Vertical stabilizer

D. Tools and Equipment

<i>ITEM</i>	<i>DESCRIPTION</i>	<i>PURPOSE</i>	<i>QTY</i>
GSE 036	Platform, hydraulic	To get access to the vertical stabilizer	

E. Auxiliary Items

<i>ITEM</i>	<i>DESCRIPTION</i>	<i>PURPOSE</i>	<i>QTY</i>
Commercially available	Hoses (SKYDROL-resistant)	To collect the hydraulic fluid	AR
Commercially available	Container	To collect the hydraulic fluid	1 UN.
Commercially available	Rubber Gloves, Phosphate Ester-Base, Fluid-Resistant	Protection for the hands	1 pair
Commercially available	Rubber Goggles, Phosphate Ester-Base, Fluid-Resistant	Protection for the eyes	1 pair

F. Consumable Materials

Not Applicable

G. Expandable Parts

Not Applicable

H. Persons Recommended

QTY	FUNCTION	PLACE
2	Do the task	Vertical stabilizer
1	Does the task	Cockpit

I. Preparation
SUBTASK 841-002-A

- (1) Get access to the vertical stabilizer and open access door 325JR (AMM MPP 06-42-00/100).
- (2) Cut the lockwire from the bleed valves of the upper and lower actuators.
- (3) Pressurize the hydraulic system ([AMM TASK 29-10-00-860-801-A/200](#)).
- (4) On the Circuit Breaker Panel, make sure that the ELEC PUMP 1, ELEC PUMP 2, RUDDER 1, and RUDDER 2 circuit breakers are closed.
- (5) On the Flight Controls Panel, make sure that rudder system 1 is on and system 2 is off.

NOTE: The rudder SHUTOFF SYS 1 pushbutton light is off and the SHUTOFF SYS 2 pushbutton light is on.

J. Bleed of Rudder Actuator ([Figure 301](#))
SUBTASK 870-002-A

- WARNING:** • **MAKE SURE THAT THE RUDDER TRAVEL AREA IS FREE OF PERSONS AND EQUIPMENT.**
- **IF A VIBRATION OCCURS ON THE RUDDER SURFACE, TURN OFF RUDDER SYSTEM 1 AND SYSTEM 2 IMMEDIATELY. DO STEPS 2 AND ON.**

- (1) Do ten (10) total rudder command cycles (fully left - neutral - fully right - neutral for each cycle).

WARNING: THE HYDRAULIC SYSTEM CONTAINS PHOSPHATE-ESTER HYDRAULIC FLUID, WHICH CAN CAUSE IRRITATION IN YOUR SKIN OR INJURY TO YOUR EYES. USE THE APPLICABLE RUBBER GOGGLES AND GLOVES . IF THE FLUID TOUCHES YOU, FLUSH YOUR SKIN WITH WATER. IF IT GETS IN YOUR EYES, FLUSH THEM WITH WATER AND GET MEDICAL HELP.

- (2) As a protection, put a dry cloth in the area below the actuator.
- (3) Install the hoses (SKYDROL-resistant) to the bleed valves of the upper rudder actuator. Use a container to collect the hydraulic fluid.
- (4) Slowly open the bleed valves of the upper actuator by $\frac{1}{4}$ of turn and let the fluid bleed until the air is totally removed from the actuator line.
- (5) Tighten the bleed valves. Apply a torque of 3.5 - 4.5 N.m (31 - 40 lbf.in).

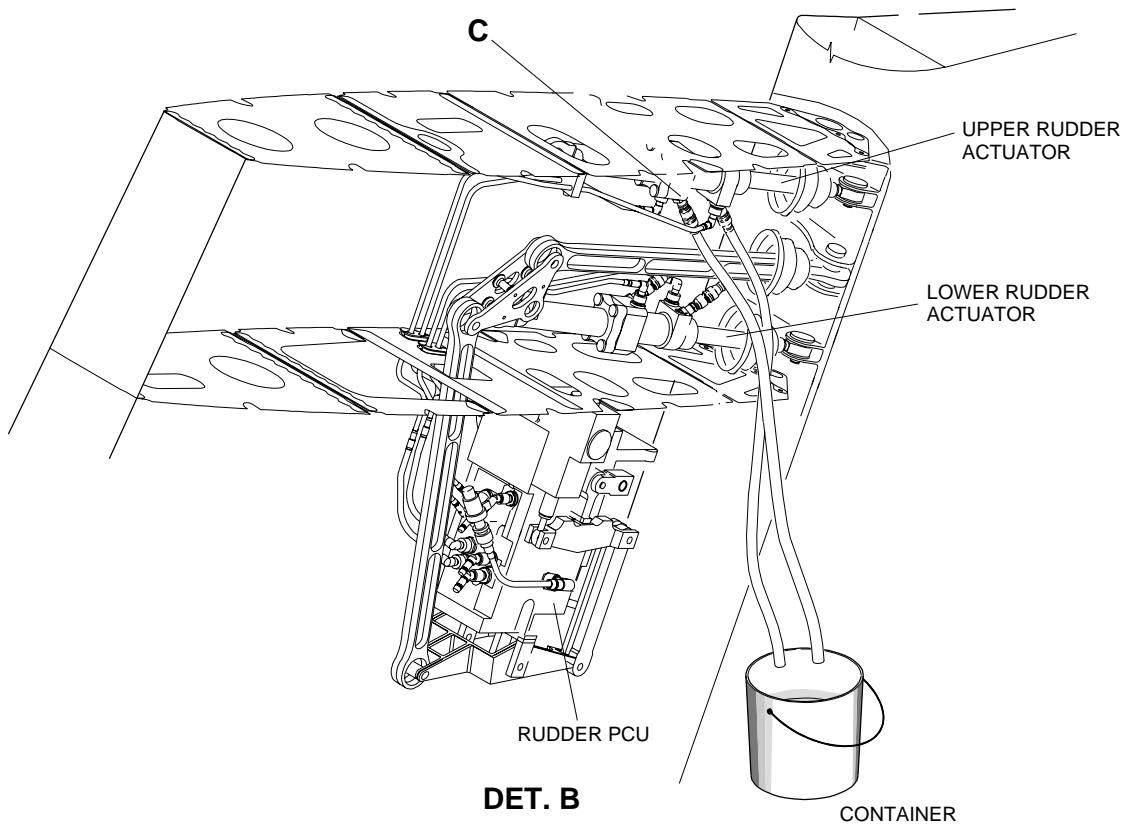
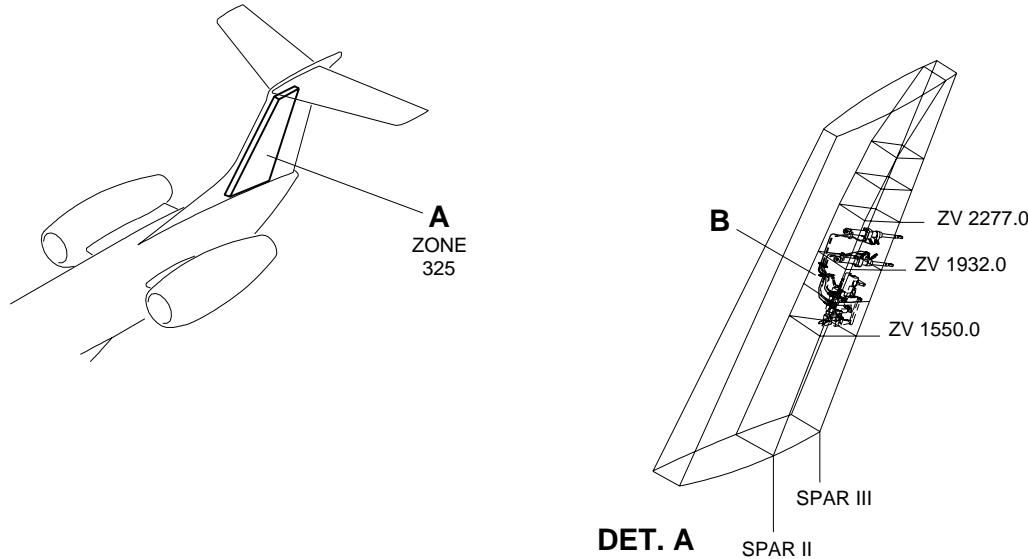
- (6) Again do ten (10) total rudder command cycles (fully left - neutral - fully right - neutral for each cycle).
- (7) Do steps 4 thru 6 again until the air is totally removed from the actuator line.
- (8) On the Flight Controls Panel, turn off rudder system 1 and turn on system 2.
NOTE: The rudder SHUTOFF SYS 2 pushbutton light is off and the SHUTOFF SYS 1 pushbutton light is on.
- (9) Do steps 1 thru 7 for the lower actuator.

K. Follow-on

SUBTASK 842-002-A

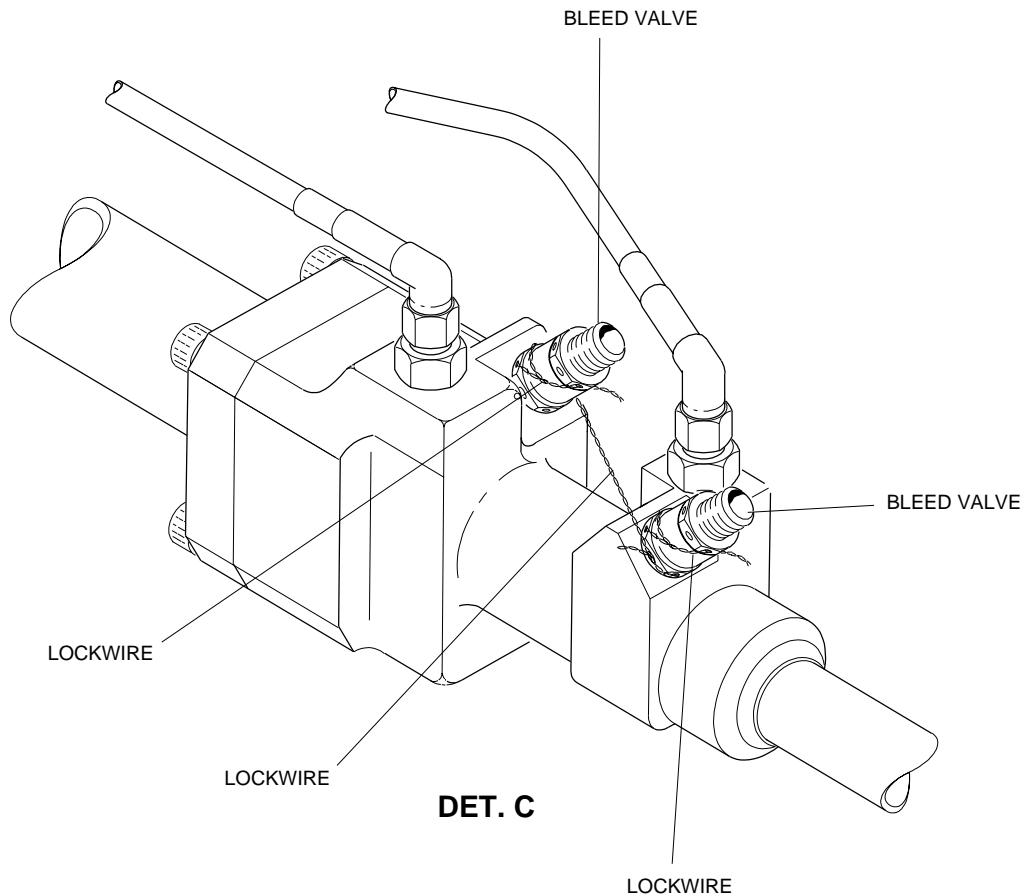
- (1) On the Flight Controls Panel, turn off rudder system 2.
- (2) Totally release the pressure from the hydraulic system ([AMM TASK 29-10-00-860-801-A/200](#)).
- (3) Safety the bleed valves of the two rudder actuators.
- (4) See the fluid level of the Hydraulic System Reservoir ([AMM TASK 12-13-01-600-801-A/300](#)).
- (5) Close access door 325JR (AMM MPP 06-42-00/100).
- (6) Remove platform GSE 036.

EFFECTIVITY: ALL
 Bleed of the Rudder Actuator
 Figure 301 - Sheet 1



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EFFECTIVITY: ALL
Bleed of the Rudder Actuator
Figure 301 - Sheet 2



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