

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).

TASK NUMBER	DESCRIPTION	EFFECTIVITY
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

REFERENCE	DESIGNATION
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

ZONE	PANEL/DOOR	LOCATION
325	325JR	Vertical stabilizer

D. Tools and Equipment

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

E. Auxiliary Items

ITEM	DESCRIPTION	PURPOSE	QTY
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 ¼ 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](#)).

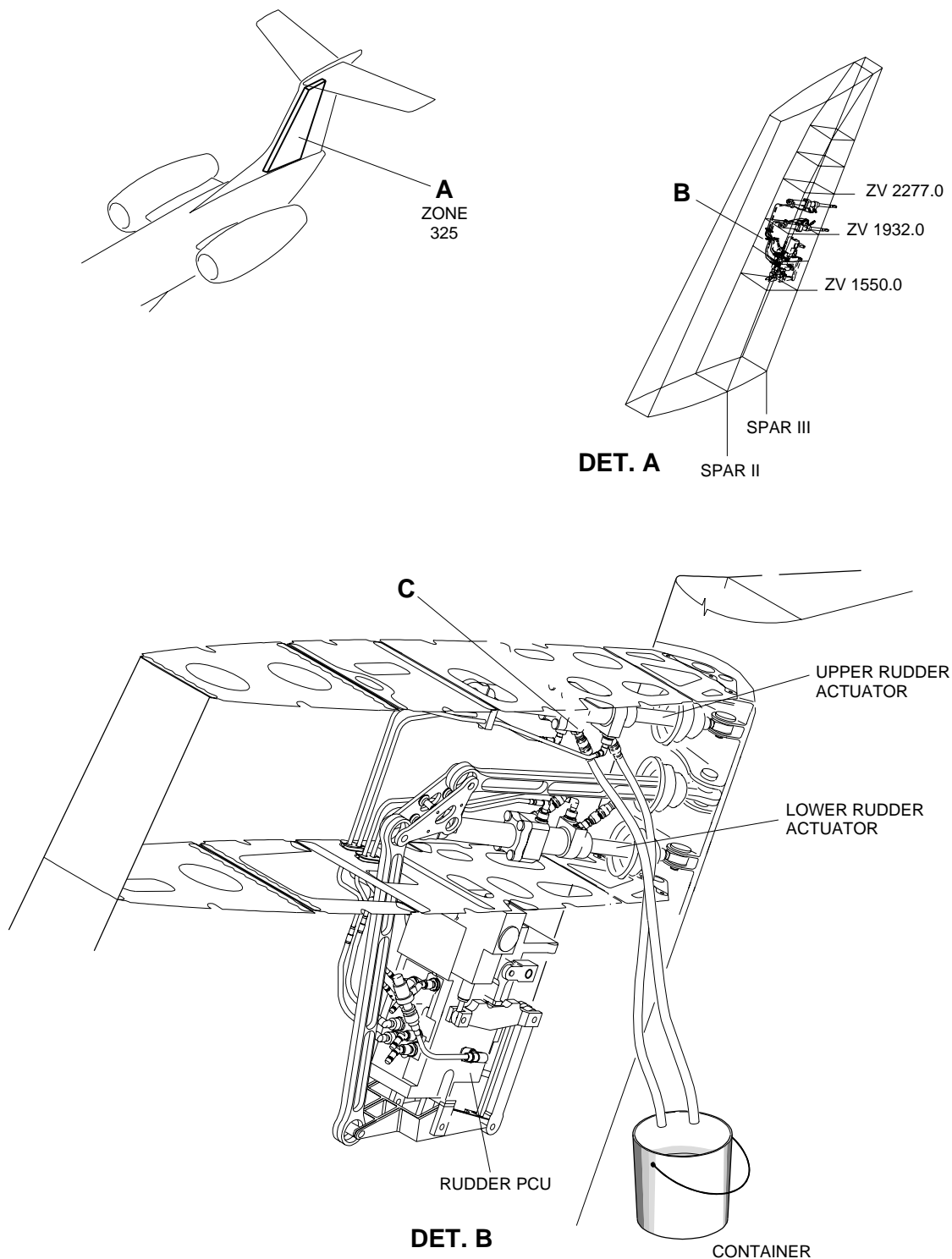
(5) Close access door 325JR (AMM MPP 06-42-00/100).

(6) Remove platform GSE 036.

EFFECTIVITY: ALL

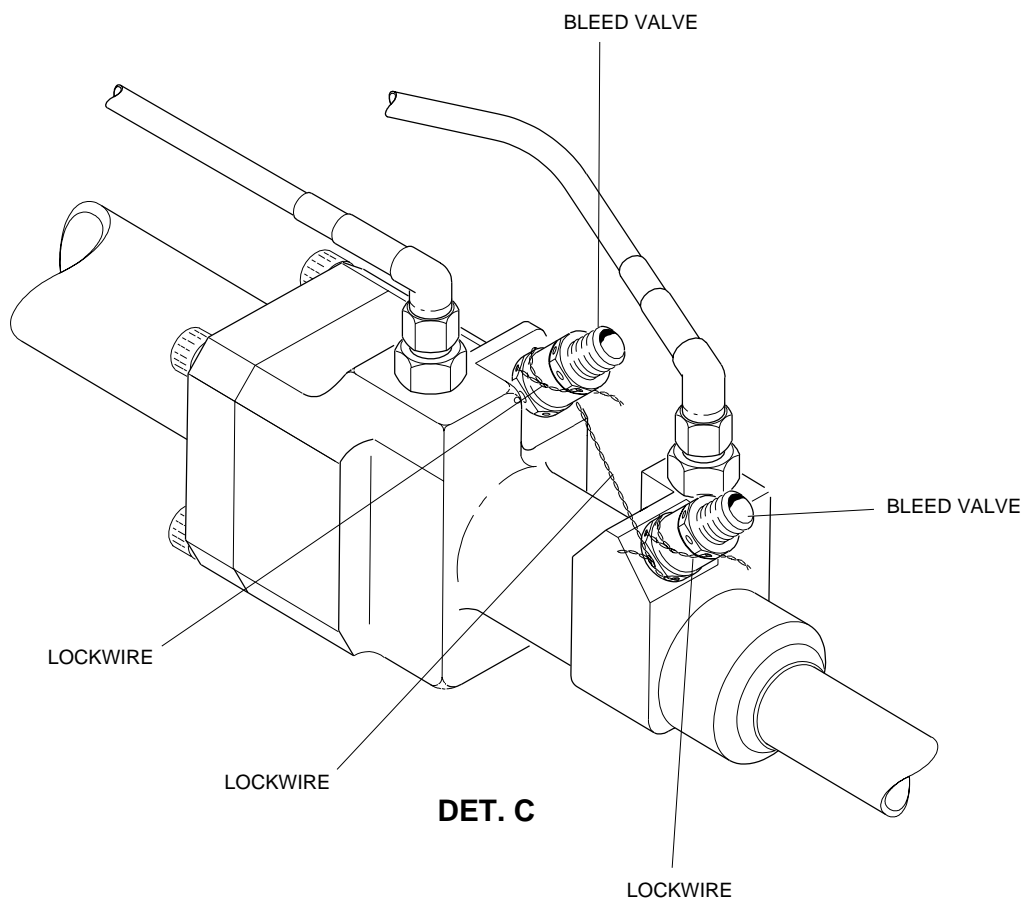
Bleed of the Rudder Actuator

Figure 301 - Sheet 1



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



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