HORIZONTAL-STABILIZER ACTUATOR - INSPECTION/CHECK

EFFECTIVITY: ALL

1. General

   A. This section gives the procedures to do a check of the horizontal-stabilizer actuator for no-back operation and dual load path integrity.

   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*
27-40-02-200-801-A ♦	HORIZONTAL STABILIZER ACTUATOR INTEGRITY AND ATTACHMENTS - DETAILED VISUAL INSPECTION	ALL

TASK 27-40-02-200-801-A
EFFECTIVITY: ALL

2. HORIZONTAL STABILIZER ACTUATOR INTEGRITY AND ATTACHMENTS - DETAILED VISUAL INSPECTION

A. General

(1) This task gives the procedures to do a check of the horizontal-stabilizer actuator for no-back operation and dual load path integrity.

(2) Figure 601 shows the location of the no-back test pinion on the horizontal stabilizer actuator.

B. References

REFERENCE	*DESIGNATION*
AMM MPP 06-42-00/100	-
AMM TASK 20-40-01-860-801-A/200	ENERGIZATION OF THE AIRCRAFT WITH AN EXTERNAL POWER SOURCE
AMM TASK 27-40-02-000-801-A/400	HORIZONTAL STABILIZER ACTUATOR - REMOVAL
AMM TASK 27-40-02-400-801-A/400	HORIZONTAL STABILIZER ACTUATOR - INSTALLATION
AMM TASK 27-40-02-600-801-A/300	HORIZONTAL-STABILIZER ACTUATOR - GEAR OIL FILLING
IPC 27-43-00	HORIZONTAL STABILIZER HARNESS

C. Zones and Accesses

ZONE	*PANEL/DOOR*	*LOCATION*
324	324EL	Vertical stabilizer
324	324FR	Vertical stabilizer

D. Tools and Equipment

ITEM	*DESCRIPTION*	*PURPOSE*	*QTY*
GSE 036	Hydraulic Platform	To get access to the horizontal stabilizer	
GSE 044	Headset ramp	For communications	
Commercially available	Torque wrench	To apply torques	
Commercially available	Stopwatch	To measure the time	

E. Auxiliary Items

Not Applicable

F. Consumable Materials

SPECIFICATION (BRAND)	*DESCRIPTION*	*QTY*
MS20995C20	Lockwire	AR

G. Expendable Parts

ITEM	*IPC REFERENCE (VENDOR REFERENCE)*	*QTY*
Cotter pin	IPC 27-43-00	2

H. Persons Recommended

QTY	*FUNCTION*	*PLACE*
1	Does the task	Cockpit
1	Does the task	Horizontal stabilizer

I. Preparation

SUBTASK 841-002-A

(1) Make sure that the aircraft is safe for maintenance.

(2) Do not do other tasks on the elevator and rudder.

(3) Remove access panels 324EL and 324FR (AMM MPP 06-42-00/100).

(4) Energize the aircraft with the External DC Power Supply (AMM TASK 20-40-01-860-801-A/200).

J. Inspect (Detailed Inspection) Horizontal Stabilizer Actuator Integrity and Attachments (Figure 601)

SUBTASK 220-002-A

(1) Do a visual inspection on the actuator, attachment pins, and brackets for structural integrity. Make sure that there are not cracks in the actuator, gear box housings, and in the main-housing redundant upper and lower brackets. Refer to Figure 601.

(2) Remove the retaining screw and the red lever from the no-back test pinion installed on the actuator left side. Refer to Figure 601.

(3) Remove the right side upper pin that attaches the actuator to the horizontal stabilizer surface upper bracket. Refer to AMM TASK 27-40-02-000-801-A/400.

(4) Do the procedure below to examine the left attachment of the actuator to the horizontal stabilizer.

(a) With your hands, pull down and push up the horizontal-stabilizer leading edge, to apply a load to the actuator. Make sure that the horizontal stabilizer does not move.

(b) On the pilot control yoke, set the trim switch to the UP position, to move the horizontal-stabilizer leading edge down.

- After the horizontal-stabilizer leading edge moves down to the commanded position, apply a load to push it up (opposite load to the actuator movement), with your hands. Make sure that the horizontal stabilizer does not move.

(c) On the pilot control yoke, set the trim switch to the DOWN position, to move the horizontal-stabilizer leading edge up.

- After the horizontal-stabilizer leading edge moves up to the commanded position, apply a load to pull it down (opposite load to the actuator movement), with your hands. Make sure that the horizontal stabilizer does not move.

(d) On the control pedestal, set the BACKUP trim switch to the UP position, to move the horizontal-stabilizer leading edge down.

- After the horizontal-stabilizer leading edge moves down to the commanded position, apply a load to push it up (opposite load to the actuator movement), with your hands. Make sure that the horizontal stabilizer does not move.

(e) On the control pedestal, set the BACKUP trim switch to the DOWN position, to move the horizontal-stabilizer leading edge up.

- After the horizontal-stabilizer leading edge moves up to the commanded position, apply a load to pull it down (opposite load to the actuator movement), with your hands. Make sure that the horizontal stabilizer does not move.

(5) Do step 4 again, and then go to step 6.

(6) Install the right side upper pin that attaches the actuator to the horizontal stabilizer surface upper bracket. Refer to AMM TASK 27-40-02-400-801-A/400.

(7) Remove the left side upper pin which attaches the actuator to the horizontal stabilizer surface upper bracket. Refer to AMM TASK 27-40-02-000-801-A/400.

(8) Do the procedure below to examine the right attachment of the actuator to the horizontal stabilizer.

(a) With your hands, pull down and push up the horizontal-stabilizer leading edge to apply a load to the actuator. Make sure that the horizontal stabilizer does not move.

(b) On the pilot control yoke, set the trim switch to the UP position, to move the horizontal-stabilizer leading edge down.

- After the horizontal-stabilizer leading edge moves down to the commanded position, apply a load to push it up (opposite load to the actuator movement), with your hands. Make sure that the horizontal stabilizer does not move.

(c) On the pilot control yoke, set the trim switch to the DOWN position, to move the horizontal-stabilizer leading edge up.

- After the horizontal-stabilizer leading edge moves up to the commanded position, apply a load to pull it down (opposite load to the actuator movement), with your hands. Make sure that the horizontal stabilizer does not move.

(d) On the control pedestal, set the BACKUP trim switch to the UP position, to move the horizontal-stabilizer leading edge down.

- After the horizontal-stabilizer leading edge moves down to the commanded position, apply a load to push it up (opposite load to the actuator movement), with your hands. Make sure that the horizontal stabilizer does not move.

(e) On the control pedestal, set the BACKUP trim switch to the DOWN position, to move the horizontal-stabilizer leading edge up.

- After the horizontal-stabilizer leading edge moves up to the commanded position, apply a load to pull it down (opposite load to the actuator movement), with your hands. Make sure that the horizontal stabilizer does not move.

(9) Do step 8 again, and then go to step 10.

(10) Install the left side upper pin that attaches the actuator to the horizontal stabilizer surface upper bracket. Refer to AMM TASK 27-40-02-400-801-A/400.

(11) On the pilot control yoke, set the trim switch to the DOWN position for 2 to 3 seconds. This is to move the horizontal-stabilizer leading edge up and extend the horizontal stabilizer actuator.

- After you extend the horizontal stabilizer actuator, apply clockwise and counterclockwise torques of 4 lb.in to the no-back pinion.
- The no-back pinion can possibly turn counterclockwise, but it must always lock in the clockwise direction.

(12) Do step 11 five times.

(13) On the pilot control yoke, set the trim switch to the UP position for 2 to 3 seconds. This is to move the horizontal-stabilizer leading edge down and retract the horizontal stabilizer actuator.

- After you retract the horizontal stabilizer actuator, apply clockwise and counterclockwise torques of 4 lb.in to the no-back pinion.
- The no-back pinion can possibly turn clockwise, but it must always lock in the counterclockwise direction.

(14) Do step 13 five times.

(15) Install the retaining screw and red lever to the no-back test pinion. Apply a torque of 0.79 to 1.02 N.m (7 to 9 lb.in) to the retaining screw and safety it. Refer to Figure 601.

(16) Refill the Horizontal Stabilizer Actuator and do a check for external leakage. Refer to AMM TASK 27-40-02-600-801-A/300.

K. Follow-on

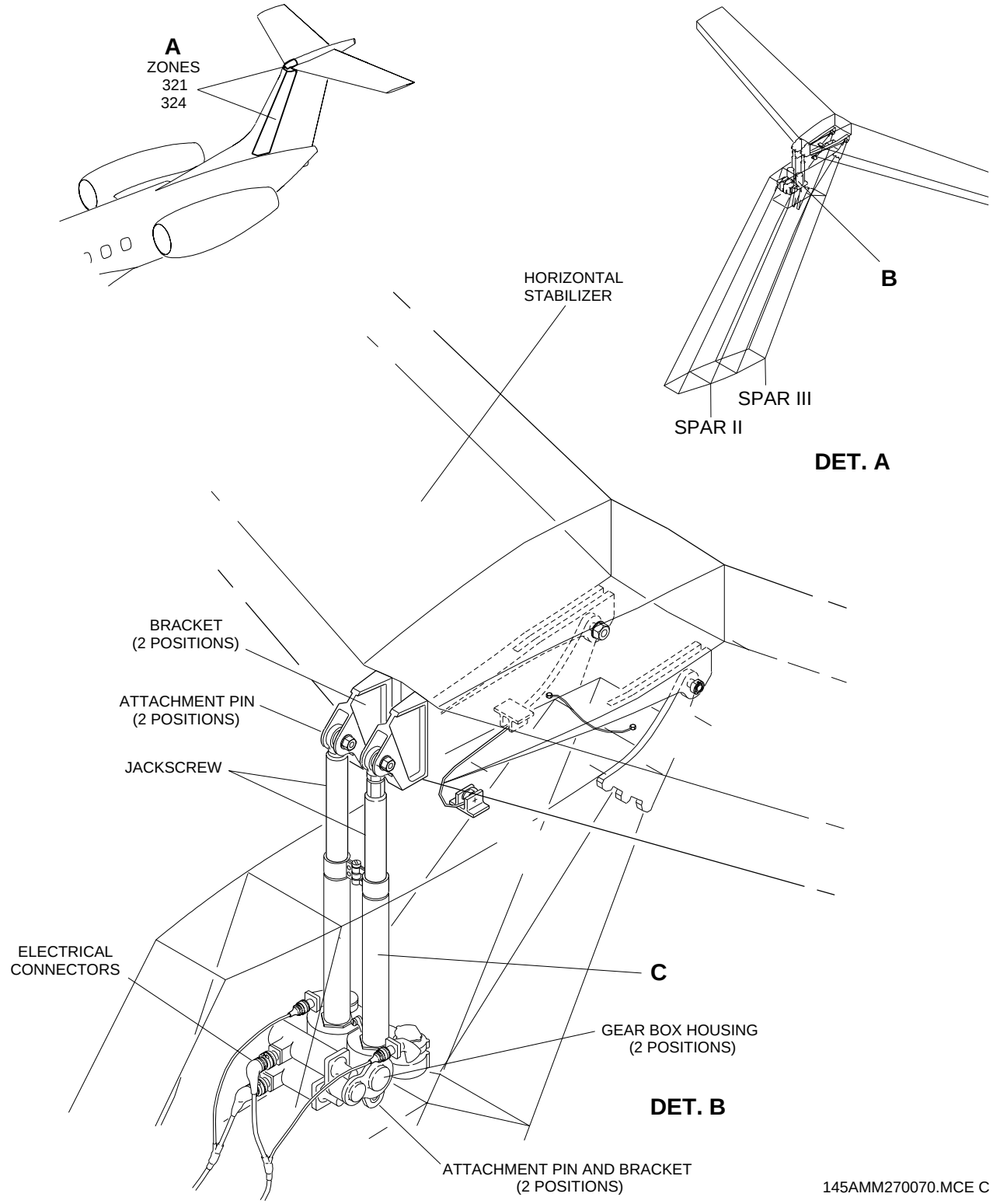
SUBTASK 842-002-A

(1) Install access panels 324EL and 324FR (AMM MPP 06-42-00/100).

(2) De-energize the aircraft (AMM TASK 20-40-01-860-801-A/200).

EFFECTIVITY: ALL

Horizontal Stabilizer Actuator - Inspection
Figure 601 - Sheet 1



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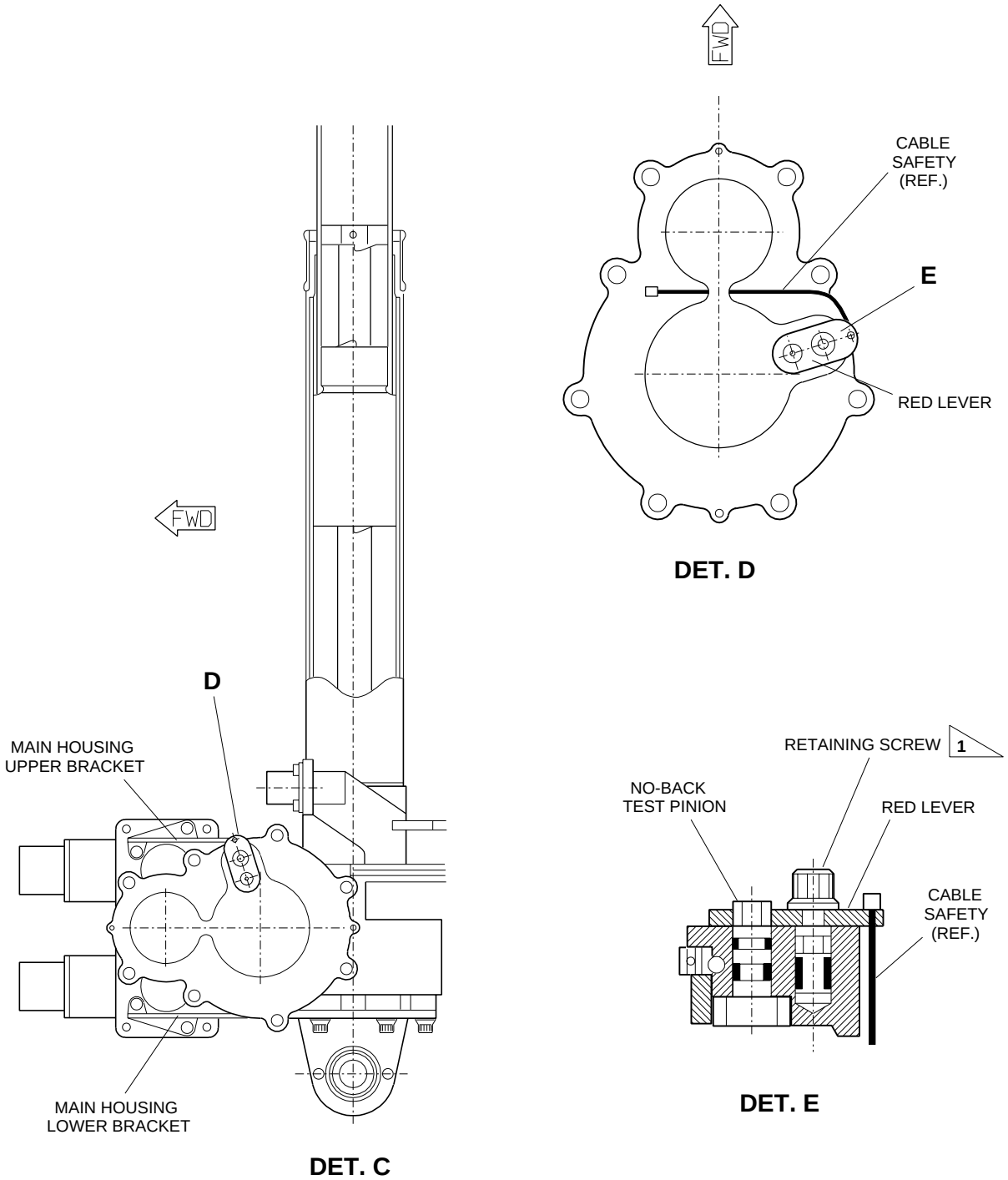
EFFECTIVITY: ALL

Horizontal Stabilizer Actuator - Inspection
Figure 601 - Sheet 2



1 TORQUE: 0.72-1.02 N.m (7-9 lb.in)

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