



EMB145 - EMB135

AIRCRAFT  
MAINTENANCE MANUAL

**SPRING-CARTRIDGE POSITION MECHANISM - ADJUSTMENT/TEST**

*EFFECTIVITY: AIRCRAFT WITH ELECTROMECHANICAL GUST LOCK*

1. General

- A. This section gives the procedures to adjust the spring-cartridge position mechanism.
- 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
27-71-14-700-801-A	SPRING-CARTRIDGE POSITION MECHANISM - ADJUSTMENT	AIRCRAFT WITH ELECTROMECHANICAL GUST LOCK



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TASK 27-71-14-700-801-A

EFFECTIVITY: AIRCRAFT WITH ELECTROMECHANICAL GUST LOCK

2. SPRING-CARTRIDGE POSITION MECHANISM - ADJUSTMENT

A. General

(1) This task gives the procedures to adjust the Spring-Cartridge Position Mechanism.

B. References

REFERENCE	DESIGNATION
AMM TASK 27-71-00-700-801-A/500	ELECTROMECHANICAL GUST LOCK - OPERATIONAL CHECK
AMM TASK 55-36-00-000-801-A/400	TAIL BOOM - REMOVAL
AMM TASK 55-36-00-400-801-A/400	TAIL BOOM - INSTALLATION
FIM TASK 27-70-00-810-805-A	-
FIM TASK 27-70-00-810-806-A	-
S.B.145-27-0103	-
S.B.145-27-0125	-

C. Zones and Accesses

ZONE	PANEL/DOOR	LOCATION
321	321	Tail boom

D. Tools and Equipment

ITEM	DESCRIPTION	PURPOSE	QTY
GSE 058	Kit, rig pins, flight controls	To lock the elevator control system in the neutral position	

E. Auxiliary Items

Not Applicable

F. Consumable Materials

Not Applicable

G. Expandable Parts

Not Applicable

H. Persons Recommended

QTY	FUNCTION	PLACE
1	Does the task	Elevator
1	Helps the other technician	Cockpit

I. Preparation

**SUBTASK 841-005-A**

- (1) Make sure that the aircraft is safe for maintenance.
- (2) Do not do other tasks on the elevator and horizontal stabilizer area.
- (3) Set the gust lock system to the unlocked position.
- (4) Remove rear fairings 321 of the horizontal stabilizer. Refer to [AMM TASK 55-36-00-000-801-A/400](#).

J. Spring-Cartridge Position Mechanism - Adjustment ([Figure 501](#))

**SUBTASK 720-005-A**

**WARNING: MAKE SURE THAT THERE ARE NO PERSONS OR EQUIPMENT IN THE ELEVATOR TRAVEL AREA.**

- (1) For aircraft with spring-cartridge position mechanism without arrow or PRE-MOD [S.B. 145-27-0103](#), do this procedure to adjust the Spring-Cartridge Position Mechanism.
  - (a) Install rig pins to the elevator control system to lock it in the neutral position.
  - (b) Make sure that the roller switch (4) is in the center of the groove and that the roller touches the groove end with no gap. Refer to [Figure 501](#).  
If the roller is not in the center of the groove and/or the roller does not touch the groove end with no gap, adjust the roller as follows:
    - 1 Release the bolts (3). Refer to [Figure 501](#).
    - 2 Move the switch (2) to put the roller (4) in the center of the groove. The roller must touch the end of the groove with no gap.
    - 3 Make sure that the switches are not operated.
    - 4 Tighten the bolts (3).
  - (c) Remove the rig pins from the elevator control system.
  - (d) Do an operational check of the gust lock system ([AMM TASK 27-71-00-700-801-A/500](#)).
  - (e) Do a visual inspection to make sure that the adjustment done at the start of this procedure is correct and that the roller is in the center of the groove.
  - (f) If the roller (4) of the switches (2) is not in the center of the groove, as adjusted at the start of this procedure, and/or the roller does not touch the groove end with no gap, do this procedure again from the start.
- (2) For aircraft with spring-cartridge position mechanism with arrow or POST-MOD [S.B. 145-27-0103](#), do this procedure to adjust the Spring-Cartridge Position Mechanism.
  - (a) Install rig pins to the elevator control system to lock it in the neutral position.
  - (b) Make sure that the roller switch (4) is aligned with the arrow mark in the groove and that the roller touches the groove end with no gap. Refer to [Figure 501](#).

If the roller is not aligned with the arrow mark in the groove and/or the roller does not touch the groove end with no gap, adjust the roller as follows:

- 1** Release the bolts (3). Refer to [Figure 501](#).
  - 2** Move the switch (2) to align the roller (4) with the arrow mark in the groove. The roller must touch the end of the groove with no gap.
  - 3** Make sure that the switches are not operated.
  - 4** Tighten the bolts (3).
- (c) Remove the rig pins from the elevator control system.
  - (d) Do an operational check of the gust lock system ([AMM TASK 27-71-00-700-801-A/500](#)).
  - (e) Do a visual inspection to make sure that the adjustment done at the start of this procedure is correct and that the roller is aligned with the arrow mark in the groove.
  - (f) If the roller (4) of the switches (2) is not aligned with the arrow mark in the groove, as adjusted at the start of this procedure, and/or the roller does not touch the groove end with no gap, do this procedure again from the start.
- (3) Do this check five times to make sure that the gust lock light operation is correct.
    - (a) Set the gust-lock lever to the locked position.
    - (b) Move the control column fully forward and make sure that it is locked.
    - (c) Set the gust lock lever to the intermediate position.
    - (d) (FOR AIRCRAFT PRE-MOD. [S.B.145-27-0125](#)) Make sure that the gust lock light comes on for approximately 8 seconds after the gust lock lever is at the intermediate position. After this time, the gust lock light goes off.
    - (e) (FOR AIRCRAFT POST-MOD. [S.B.145-27-0125](#)) The gust lock light comes on for approximately 8 seconds after the gust lock lever is at the intermediate position. After this time, the gust lock light starts to blink.
    - (f) Pull the control column fully rearward to make sure that it moves freely.
    - (g) (FOR AIRCRAFT POST-MOD. [S.B.145-27-0125](#)) Lift the handle and command the gust lock lever to the unlocked position.

NOTE: After the gust lock lever get to the unlocked position, the gust lock light stops to blink and the light goes off.
  - (4) If, during one of the repetitions of the check of the gust lock light operation, the gust lock light does not come on during the unlocking travel refer to FIM TASK 27-70-00-810-805-A.
  - (5) (FOR AIRCRAFT PRE-MOD. [S.B.145-27-0125](#)) If, during all the repetitions of the check of the gust lock light operation, the gust lock light stays on during the unlocking travel and then goes off, the check is OK.



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- (6) (FOR AIRCRAFT POST-MOD. [S.B.145-27-0125](#)) If, during all the repetitions of the check of the gust lock light operation, the gust lock light stays on during the unlocking travel, then starts to blink on the intermediate position and goes off on the unlocked position, the check is OK.
- (7) If, during one of the repetitions of the check of the gust lock light operation, the gust lock light stays on after the end of the unlocking travel, do the procedure to adjust the spring-cartridge position mechanism again. If after the new adjustment this condition occurs again refer to FIM TASK 27-70-00-810-806-A.

K. Follow-on

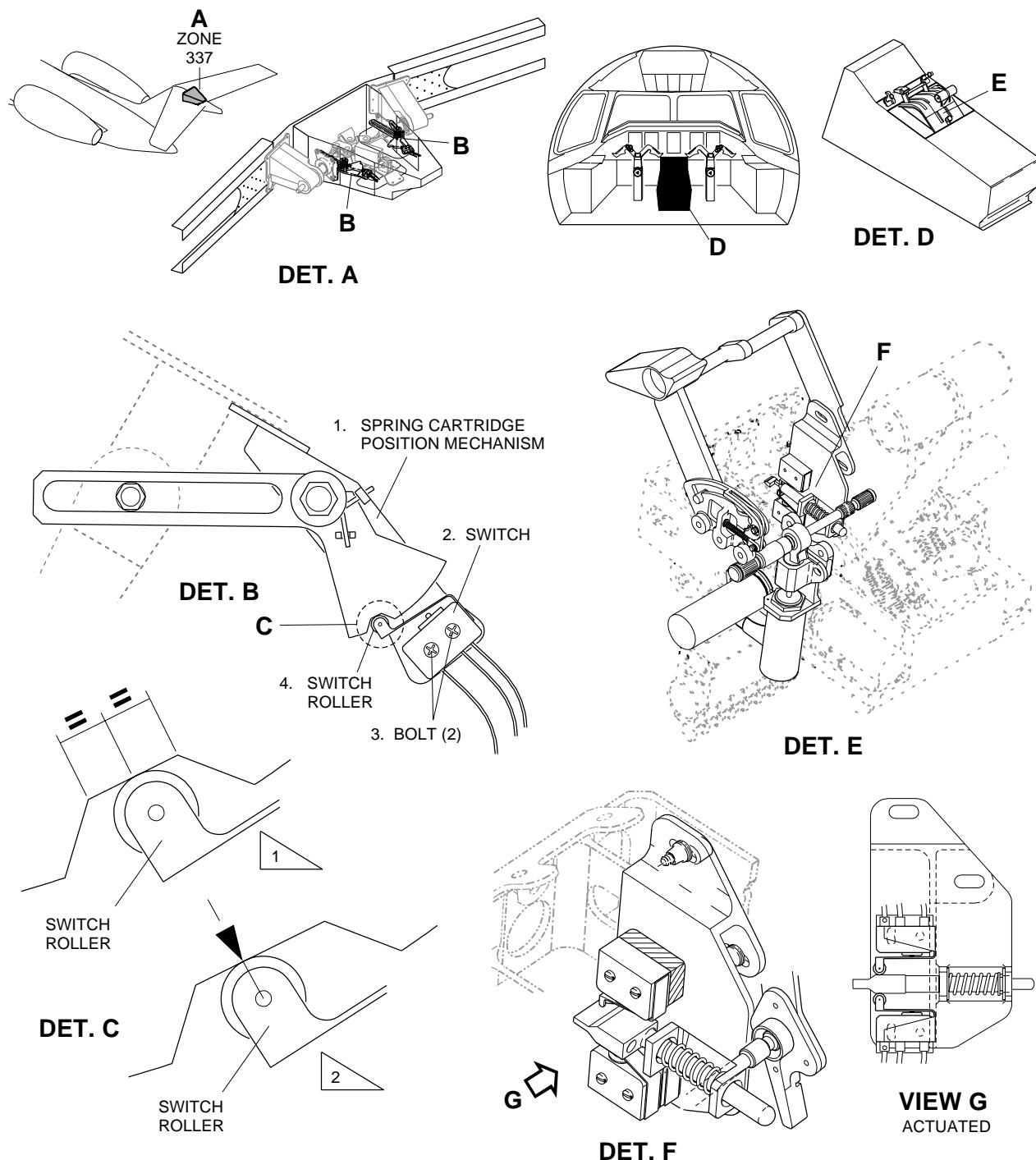
SUBTASK 842-005-A

- (1) Install rear fairings 321 of the horizontal stabilizer ([AMM TASK 55-36-00-400-801-A/400](#)).
- (2) Do the operational check of the electromechanical gust lock system. Refer to [AMM TASK 27-71-00-700-801-A/500](#).
- (3) Set the gust lock system to the locked position.

**EFFECTIVITY: AIRCRAFT WITH ELECTROMECHANICAL GUST LOCK**

Spring-Cartridge Position Mechanism - Adjustment

Figure 501



- 1 ON AIRCRAFT WITH SPRING-CARTRIDGE POSITION MECHANISM WITHOUT ARROW OR PRE-MOD SB 145-27-0103
- 2 ON AIRCRAFT WITH SPRING-CARTRIDGE POSITION MECHANISM WITH ARROW OR POST-MOD SB 145-27-0103

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