ELECTROMECHANICAL GUST LOCK SYSTEM - INSPECTION/CHECK

EFFECTIVITY: AIRCRAFT WITH ELECTROMECHANICAL GUST LOCK

1. General

   A. This section gives the procedures to do a detailed visual inspection of the electromechanical gust lock 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*
27-71-00-200-801-A ♦	ELECTROMECHANICAL GUST LOCK MECHANISM - DETAILED VISUAL INSPECTION	AIRCRAFT WITH ELECTROMECHANICAL GUST LOCK

TASK 27-71-00-200-801-A
EFFECTIVITY: AIRCRAFT WITH ELECTROMECHANICAL GUST LOCK

2. ELECTROMECHANICAL GUST LOCK MECHANISM - DETAILED VISUAL INSPECTION

A. General

(1) This task gives the procedures to do an inspection of the electromechanical gust lock mechanism.

B. References

REFERENCE	*DESIGNATION*
AMM TASK 20-40-01-860-801-A/200	ENERGIZATION OF THE AIRCRAFT WITH AN EXTERNAL POWER SOURCE
AMM TASK 27-71-00-700-801-A/500	ELECTROMECHANICAL GUST LOCK - OPERATIONAL CHECK
AMM TASK 27-71-03-000-801-A/400	SPRING CARTRIDGES - REMOVAL
AMM TASK 27-71-03-400-801-A/400	SPRING CARTRIDGES - INSTALLATION
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	-
SB145-27-0102	-

C. Zones and Accesses

Not Applicable

D. Tools and Equipment

ITEM	*DESCRIPTION*	*PURPOSE*	*QTY*
GSE 044	Head Set	For communications	

E. Auxiliary Items

ITEM	*DESCRIPTION*	*PURPOSE*	*QTY*
Commercially available	Flashlight	To make the lighting condition better in the area where the inspection is to be done	1
Commercially available	Inspection Mirror	To do an inspection of the electromechanical gust-lock mechanism parts	1
Commercially available	Magnifying glass	To improve the accuracy of the inspection of the electromechanical gust-lock spring cartridges	1
Commercially available	Torquemeter	To check the torque of the spring cartridge position mechanism.	1

F. Consumable Materials

Not Applicable

G. Expandable Parts

Not Applicable

H. Persons Recommended

QTY	*FUNCTION*	*PLACE*
1	Does the task	Cockpit
2	Do 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 at the horizontal stabilizer, elevators, and rudder at this time.

(3) Make sure that there are no objects or persons in the elevator travel area.

(4) Remove the front movable fairing on the tail boom AMM TASK 55-36-00-000-801-A/400.

(5) Set the gust lock system to the unlocked position.

(6) Install the rig pins to the rear quadrant. Refer to Figure 601.

(7) On the circuit breaker panel, open the GUST LOCK circuit breaker and attach a DO-NOT-CLOSE tag to it.

J. Inspect (Detailed Inspection) Electromechanical Gust Lock Mechanism (Figure 602)

SUBTASK 220-002-A

WARNING: MAKE SURE THAT THE RUDDER, HORIZONTAL STABILIZER, AND ELEVATOR CANNOT BE OPERATED ACCIDENTALLY. AN ACCIDENTAL OPERATION CAN CAUSE INJURY TO PERSONS.

NOTE: Use a mirror and a flashlight to examine the parts.

(1) Do an inspection of the electromechanical gust lock mechanism for corrosion signs, nicks, dents, structural integrity, and other types of damage. If defects are found, replace the defective parts.

(a) Do an inspection of the electromechanical actuator, support, and connection points.

(b) On the spring-cartridge position mechanism, do an inspection of the switch actuator cam, spring-cartridge position switch, cam torsion spring, support, and connection points.

(c) Make sure that the torque of the bolt of the spring cartridge position mechanism agrees with the value specified in (Figure 602).

(d) On the bellcrank mechanism, do an inspection of the bellcrank, bellcrank arms, support, and connection points.

(e) On the LH and RH sides of the carbon torque box, do an inspection of spring cartridge supports, flanged supports, and connection points.

(f) (For aircraft PRE-MOD SB145-27-0102) Do these procedures:

1 Close the Gust Lock circuit breaker.

2 Remove the bolts that connect the spring cartridge to the bellcrank assembly.

NOTE: After the removal of the bolts that connect the spring cartridge to the bellcrank arm, the gust lock indication light comes on and stays. If the indication light does not come on do the troubleshooting FIM TASK 27-70-00-810-805-A.

3 Remove the spring cartridge for inspection. Refer to AMM TASK 27-71-03-000-801-A/400.

4 On the spring cartridges, do an inspection of the lockwashers to make sure that the lockwasher projection towards the clevis and that the lockwasher projection towards the piston fit in the respective slot of the cartridge flange. Refer to Figure 603.

NOTE: Although there are two slots in the clevis and two slots in the piston, there is only one lockwasher projection towards the clevis and only one projection towards the piston.

5 Manually push in the LH and RH locking pins to make sure that they are in good condition.

6 If you find a problem on the tests, the spring cartridge is not serviceable. Immediately replace the related spring cartridge assembly (spring cartridge, retaining ring and sleeve). If the spring cartridge is serviceable, install the same spring cartridge assembly. Refer to AMM TASK 27-71-03-400-801-A/400.

7 Open the Gust Lock circuit breaker.

(g) (For aircraft POST-MOD SB145-27-0102) Do these procedures:

1 Close the Gust Lock circuit breaker.

2 Remove the bolts that connect the spring cartridge to the bellcrank assembly.

NOTE: After the removal of the bolts that connect the spring cartridge to the bellcrank arm the gust lock indication light comes on and stays. If the indication light does not come on do the troubleshooting FIM TASK 27-70-00-810-805-A.

3 Manually push in the LH and RH locking pins to make sure that they are in good condition.

4 Use a magnifying glass to do an inspection of the the welded slots of the spring cartridges to make sure that there are no cracks.

5 If you find scores on the slots, do as follows:

1. Remove the spring cartridge, refer to AMM TASK 27-71-03-000-801-A/400.

2. Do an inspection by the dye-penetrant method (MIL-STD6866).

3. If the inspection shows that there are cracks, immediately replace the spring cartridge assembly (spring cartridge, retaining ring and sleeve) that is not serviceable. Refer to AMM TASK 27-71-03-400-801-A/400.

6 Reinstall the bolts that connect the spring cartridge to the bellcrank assembly. Refer to AMM TASK 27-71-03-400-801-A/400.

7 Open the Gust Lock circuit breaker.

(h) Remove the rig pin from the rear quadrant. Refer to Figure 601.

(i) Manually push up and hold the elevator surface to do an inspection of the LH and RH locking pin holes. Release the elevator surface after the inspection.

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

(k) On the circuit breaker panel, close the GUST LOCK circuit breaker and remove the DO-NOT-CLOSE tag from it.

(l) Do the operational test of the system. Refer to AMM TASK 27-71-00-700-801-A/500.

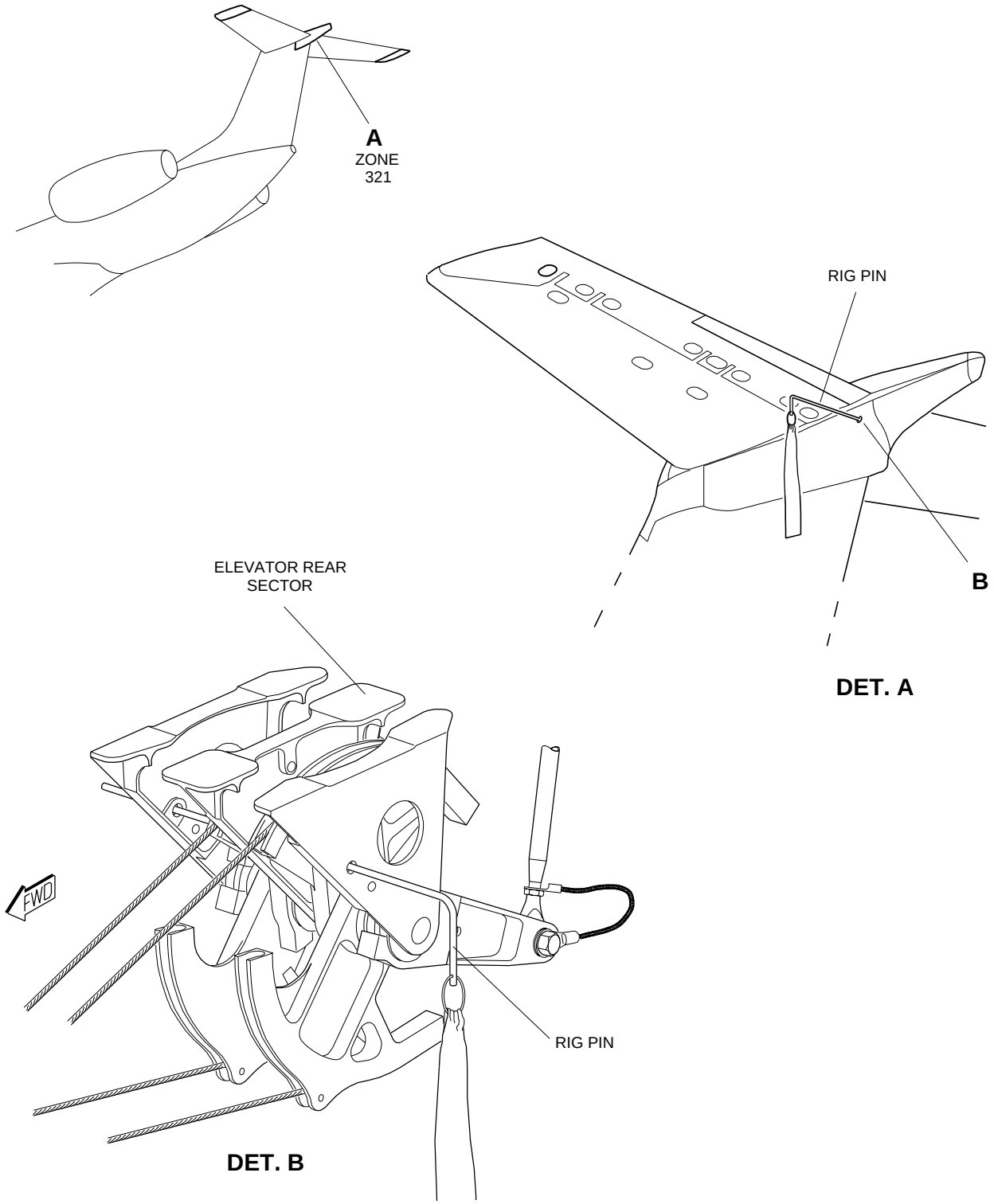
K. Follow-on

SUBTASK 842-002-A

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

(2) Install front movable fairing on the tail boom AMM TASK 55-36-00-400-801-A/400.

EFFECTIVITY: AIRCRAFT WITH ELECTROMECHANICAL GUST LOCK
Rig Pin - Location
Figure 601



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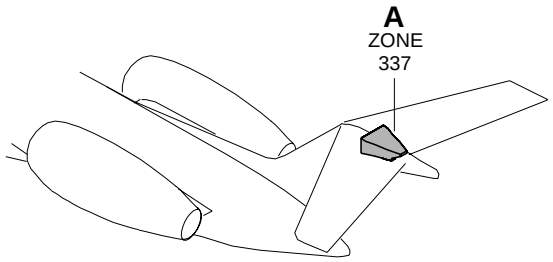
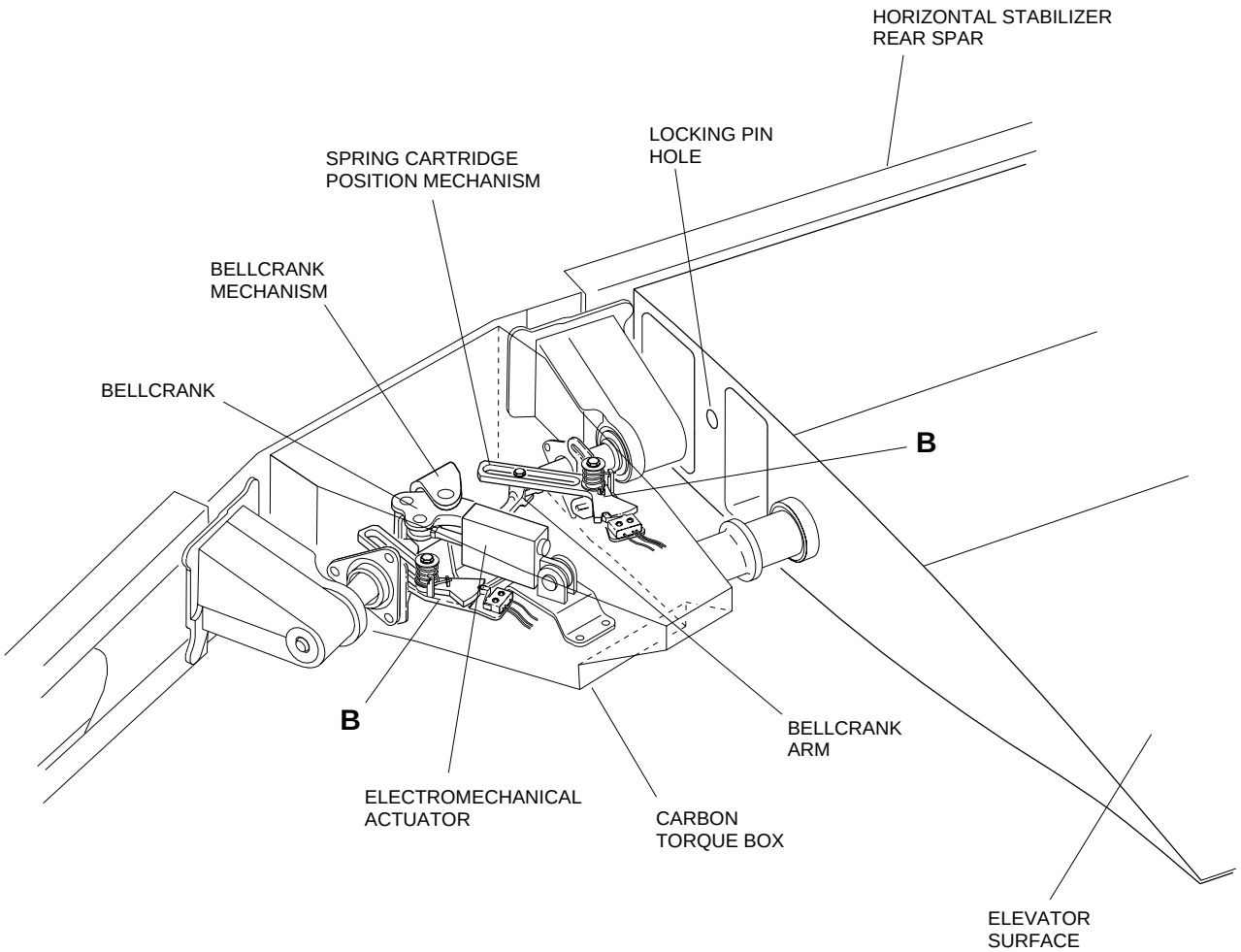
EFFECTIVITY: AIRCRAFT WITH ELECTROMECHANICAL GUST LOCK

Electromechanical Gust Lock Mechanism - Location

Figure 602 - Sheet 1





DET. A

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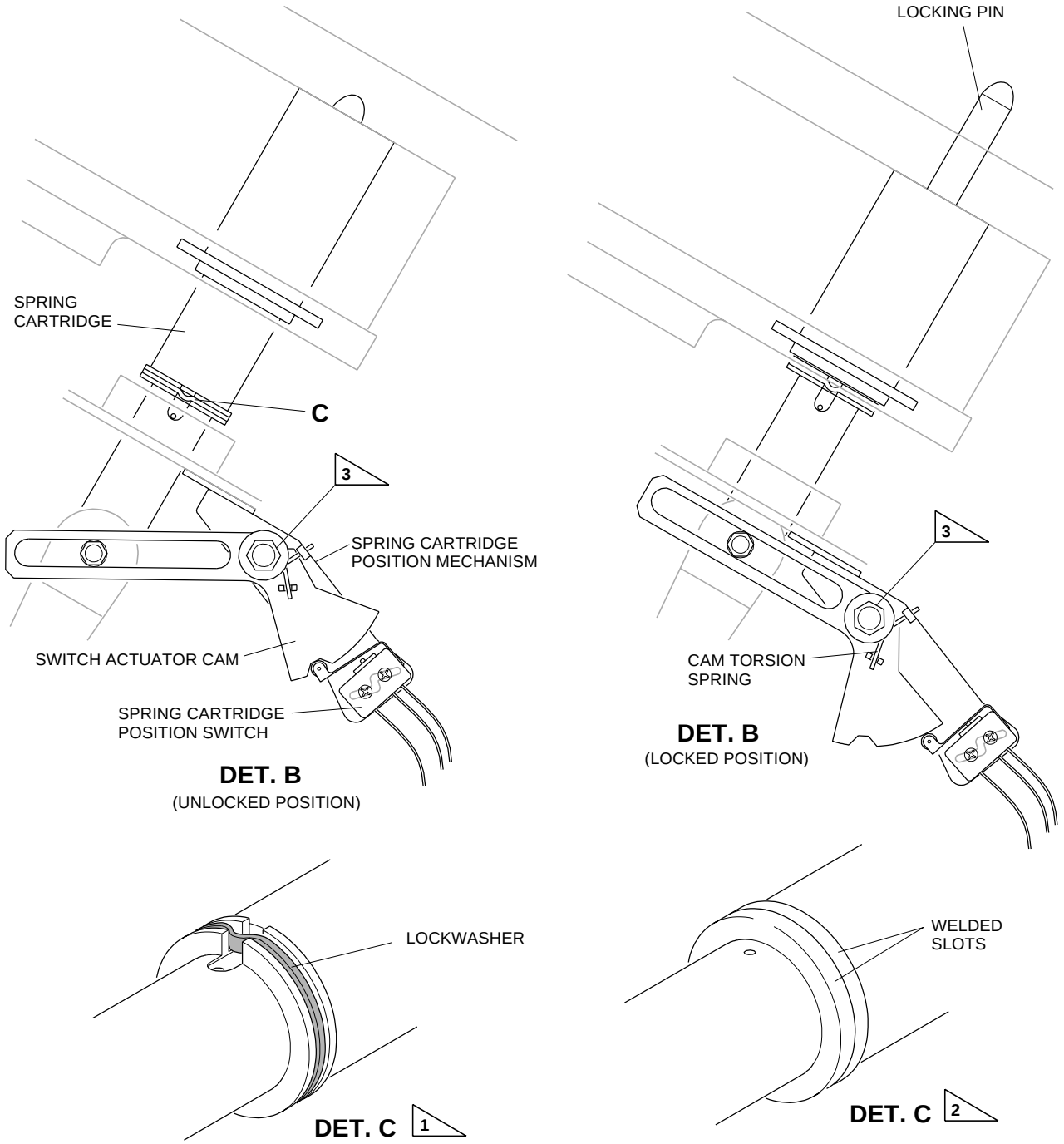
EFFECTIVITY: AIRCRAFT WITH ELECTROMECHANICAL GUST LOCK
Electromechanical Gust Lock Mechanism - Location
Figure 602 - Sheet 2



1 ON AIRCRAFT PRE−MOD SB 145−27−0102

2 ON AIRCRAFT POST−MOD SB 145−27−0102

3 TORQUE: 2,25−2,82 N.m (20−25 lbf.in)

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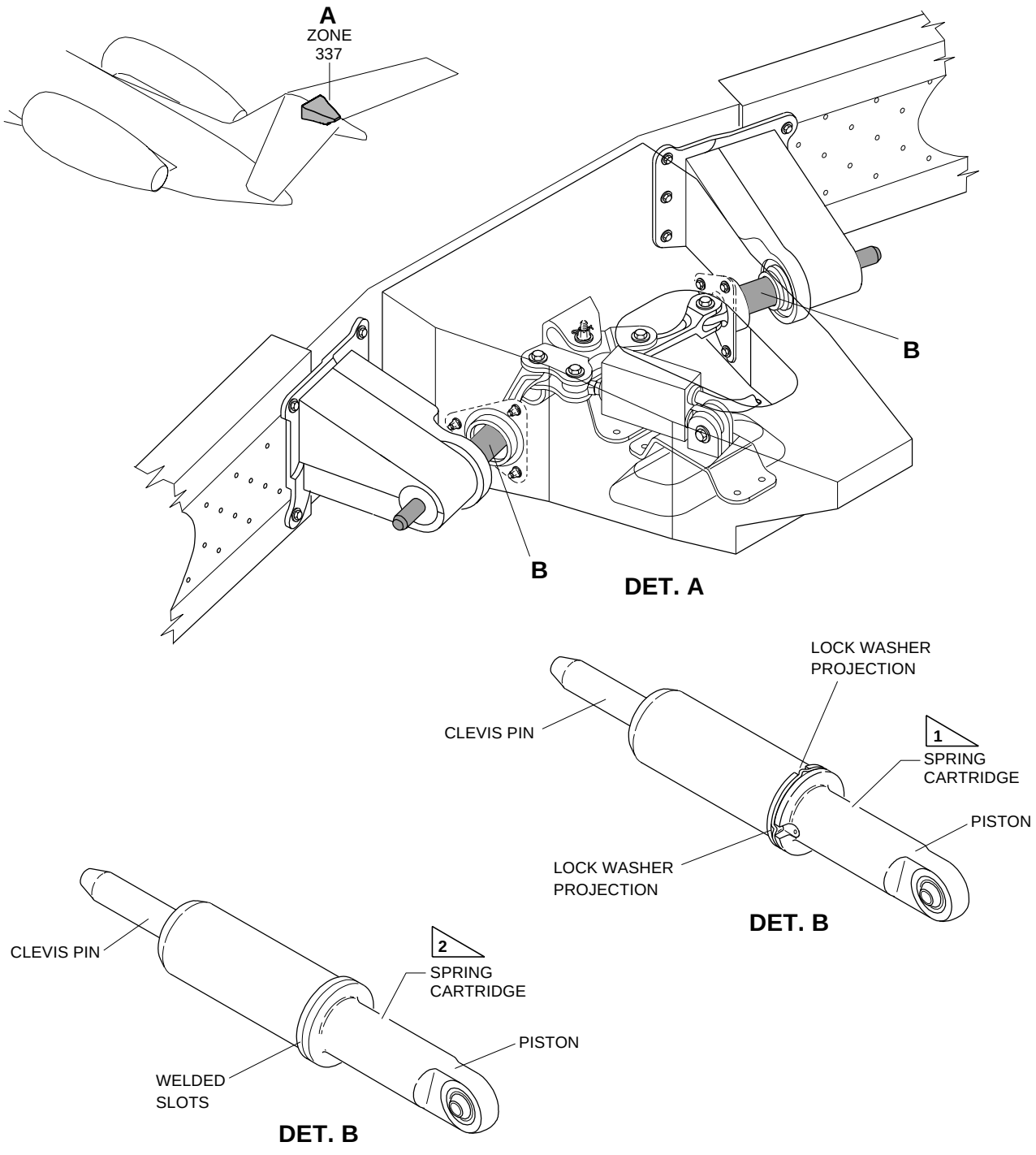
EFFECTIVITY: AIRCRAFT WITH ELECTROMECHANICAL GUST LOCK
Electromechanical Gust Lock Mechanism - Inspection of Spring Cartridges
Figure 603



1 ON AIRCRAFT PRE−MOD SB 145−27−0102

2 ON AIRCRAFT POST−MOD SB 145−27−0102

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