GUST LOCK - ADJUSTMENT/TEST

EFFECTIVITY: AIRCRAFT WITH MECHANICAL GUST LOCK (PRE-MOD S.B. 145-27-0086)

1. General

A. This section gives the procedures to do the adjustment and the operational checks of the gust lock system.

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*
27-70-00-700-801-A	GUST LOCK SYSTEM - ADJUSTMENT	AIRCRAFT WITH MECHANICAL GUST LOCK (PRE-MOD S.B. 145-27-0086)
27-70-00-700-802-A ♦	GUST LOCK MECHANISM - OPERATIONAL CHECK	AIRCRAFT WITH MECHANICAL GUST LOCK (PRE-MOD S.B. 145-27-0086)
27-70-00-700-803-A ♦	GAP OF THE ELEVATOR SECONDARY STOP - FUNCTIONAL CHECK	POST-MOD S.B. 145-27-0039

TASK 27-70-00-700-801-A
EFFECTIVITY: AIRCRAFT WITH MECHANICAL GUST LOCK (PRE-MOD S.B. 145-27-0086)

2. GUST LOCK SYSTEM - ADJUSTMENT

A. General

(1) This task gives the procedures to do the adjustment of the gust lock system.

B. References

REFERENCE	*DESIGNATION*
AMM MPP 06-41-01/100	-
AMM TASK 27-31-01-700-801-A/500	TENSION OF THE ELEVATOR CONTROL CABLES - FUNCTIONAL CHECK
AMM TASK 27-70-00-700-803-A/500	GAP OF THE ELEVATOR SECONDARY STOP - FUNCTIONAL CHECK
IPC 27-71-00	GUST LOCK ELECTROMECHANICAL
SB145-27-0039	-

C. Zones and Accesses

ZONE	*PANEL/DOOR*	*LOCATION*
123	123BL	Area below the cockpit floor

D. Tools and Equipment

ITEM	*DESCRIPTION*	*PURPOSE*	*QTY*
GSE 058	Kit, rig pins, flight controls	To lock the gust lock tube	
Commercially available	Feeler Gauge	To measure the gap between the adjust bolt and its target	

E. Auxiliary Items

Not Applicable

F. Consumable Materials

SPECIFICATION (BRAND)	*DESCRIPTION*	*QTY*
MS20995C32	Lockwire	As necessary

G. Expendable Parts

ITEM	*IPC REFERENCE (VENDOR REFERENCE)*	*QTY*
Cotter pin	IPC 27-71-00	2
Cotter pin	IPC 27-71-00	2
Cotter pin	IPC 27-71-00	1

H. Persons Recommended

QTY	*FUNCTION*	*PLACE*
1	Does the task	Area below the cockpit floor
1	Helps the other technician	Cockpit

I. Preparation

SUBTASK 841-002-A

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

(2) Make sure that the engine thrust levers are in the IDLE position.

(3) Remove the cockpit underfloor access hatch 123BL (AMM MPP 06-41-01/100).

(4) Make sure that the elevator system is adjusted (AMM TASK 27-31-01-700-801-A/500).

(5) Make sure that the elevator rig pins are removed.

J. Adjustment of the Gust Lock System

SUBTASK 720-002-A

CAUTION: WHEN YOU ADJUST CONNECTING RODS 1/2, MAKE SURE THAT THE ROD ENDS ARE IN THE CORRECT POSITION. USE A WIRE FOR THIS. THE WIRE CANNOT GO THROUGH THE SHAFT.

(1) Do the adjustment of the gust lock system as follows:

(a) Do this step (a) for aircraft PRE-MOD SB145-27-0039 (Figure 502).

1 Move the gust lock lever to the locked position.

NOTE: When you move the gust lock lever, you must feel a force of the spring to keep the lever at the released position.

2 Install the rig pin in the gust lock tube.

3 Adjust connecting rod 1 to the gust lock lever and gust lock tube.

4 Adjust connecting rod 2 to the gust lock and elevator torque tube, with the control column fully forward as far as it gets rigid.

NOTE: The elevators must move to the down position and keep locked.

5 Try to move the control column forward and rearward. The control column must be stiffly held at the full forward position. If any free motion is felt, adjust rod 2 to eliminate the free motion.

6 Remove the rig pin from the gust lock tube.

7 Use force to move the pilot control column forward and rearward four times.

- The gust lock mechanism cannot be released.

8 Release the gust lock lever.

9 Do a check to make sure that the elevator control system moves freely again.

(b) Do this step (b) for aircraft POST-MOD SB145-27-0039 (Figure 503).

1 Move the gust lock lever to the locked position.

NOTE: When you move the gust lock lever, you must feel a force of the spring to keep the lever at the released position.

2 Install the rig pin in the gust lock tube.

3 Adjust connecting rod 1 to the gust lock lever and gust lock tube.

4 Adjust connecting rod 2 to the gust lock and elevator torque tube, with the control column set at the secondary backstop and bellcranks 1 and 2 positioned as shown in Figure 503.

NOTE: You must do a considerable force to move the control column to the secondary backstop.

5 Move the control column forward as far as the secondary backstop. Make sure that there is no gap between bellcranks 1 and 2.

- Increase the length of connecting rod 2 to eliminate the gap. After you adjust connecting rod 2, safety it.

6 Remove the rig pin from the gust lock tube.

7 Do the functional check of the gap of the elevator secondary stop (AMM TASK 27-70-00-700-803-A/500).

8 Use force to move the pilot control column forward and rearward four times.

- The gust lock mechanism cannot be released.

9 If the condition of (AMM TASK 27-70-00-700-803-A/500) does not occur, do again the procedure described on the step J.(1).(b).4.

10 Release the gust lock lever.

11 Do a check to make sure that the elevator control system moves freely again.

K. Follow-on

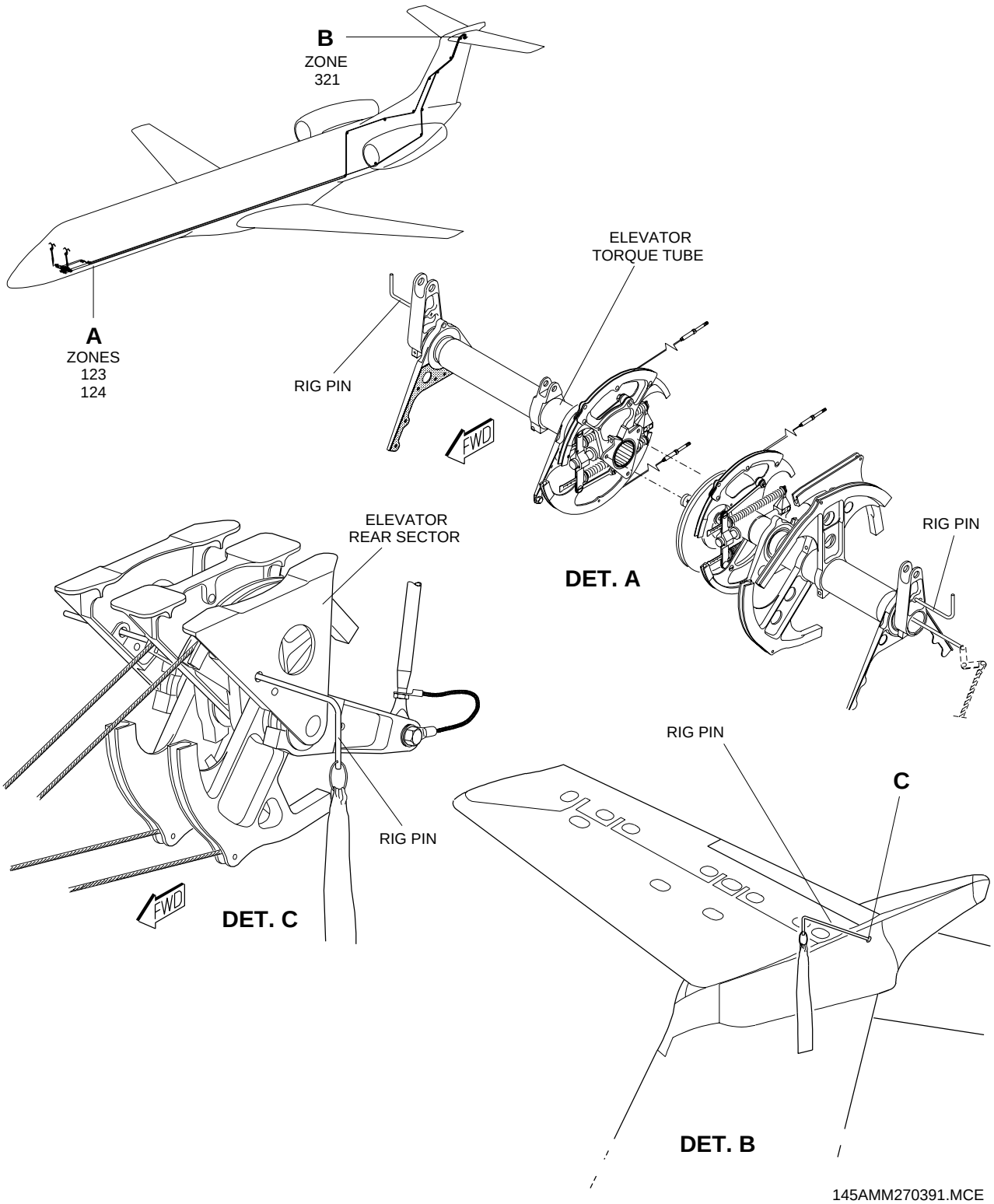
SUBTASK 842-002-A

(1) Install cockpit underfloor access hatch 123BL (AMM MPP 06-41-01/100).

EFFECTIVITY: AIRCRAFT WITH MECHANICAL GUST LOCK (PRE-MOD S.B. 145-27-0086)

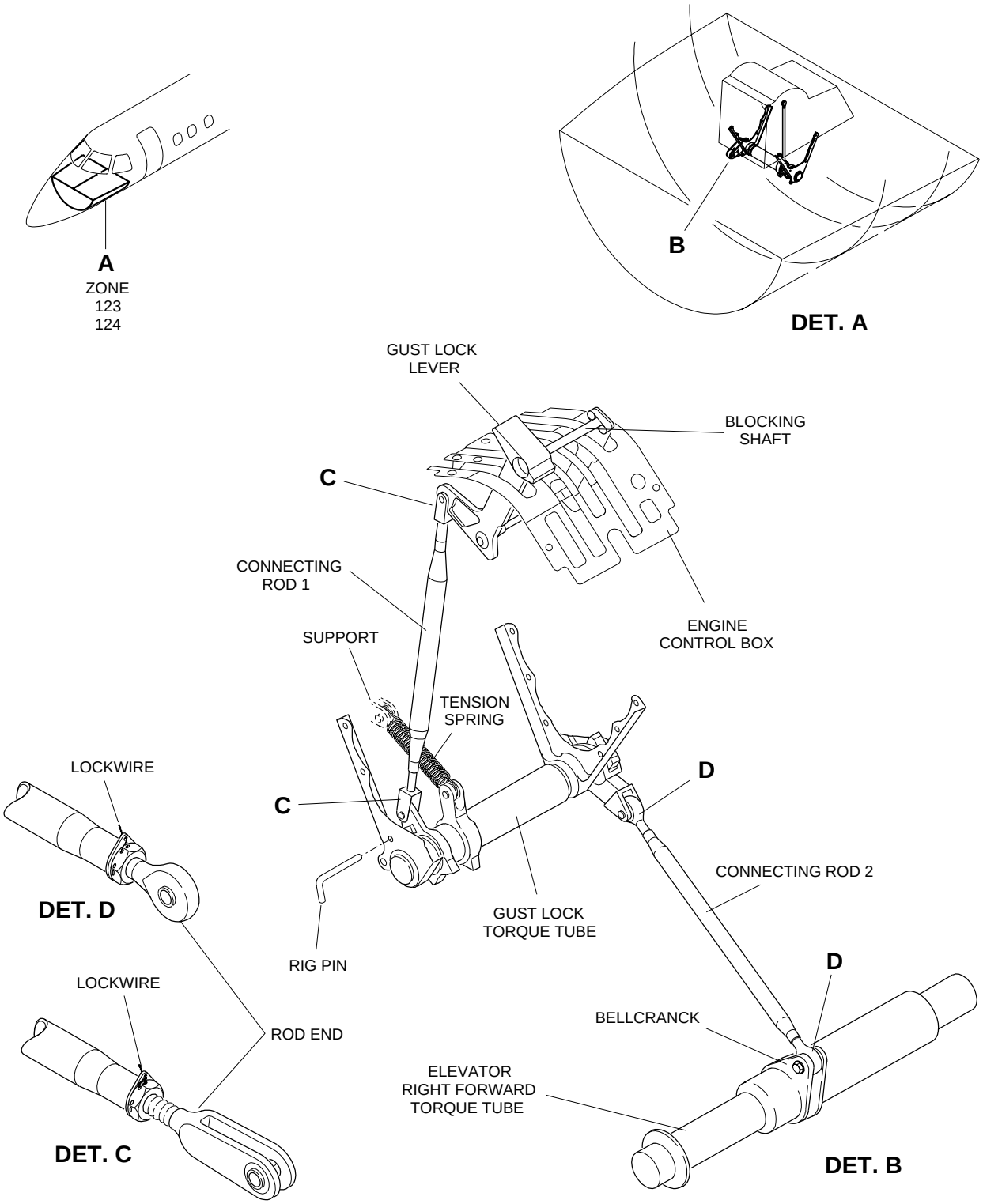
Rig Pin Locations

Figure 501



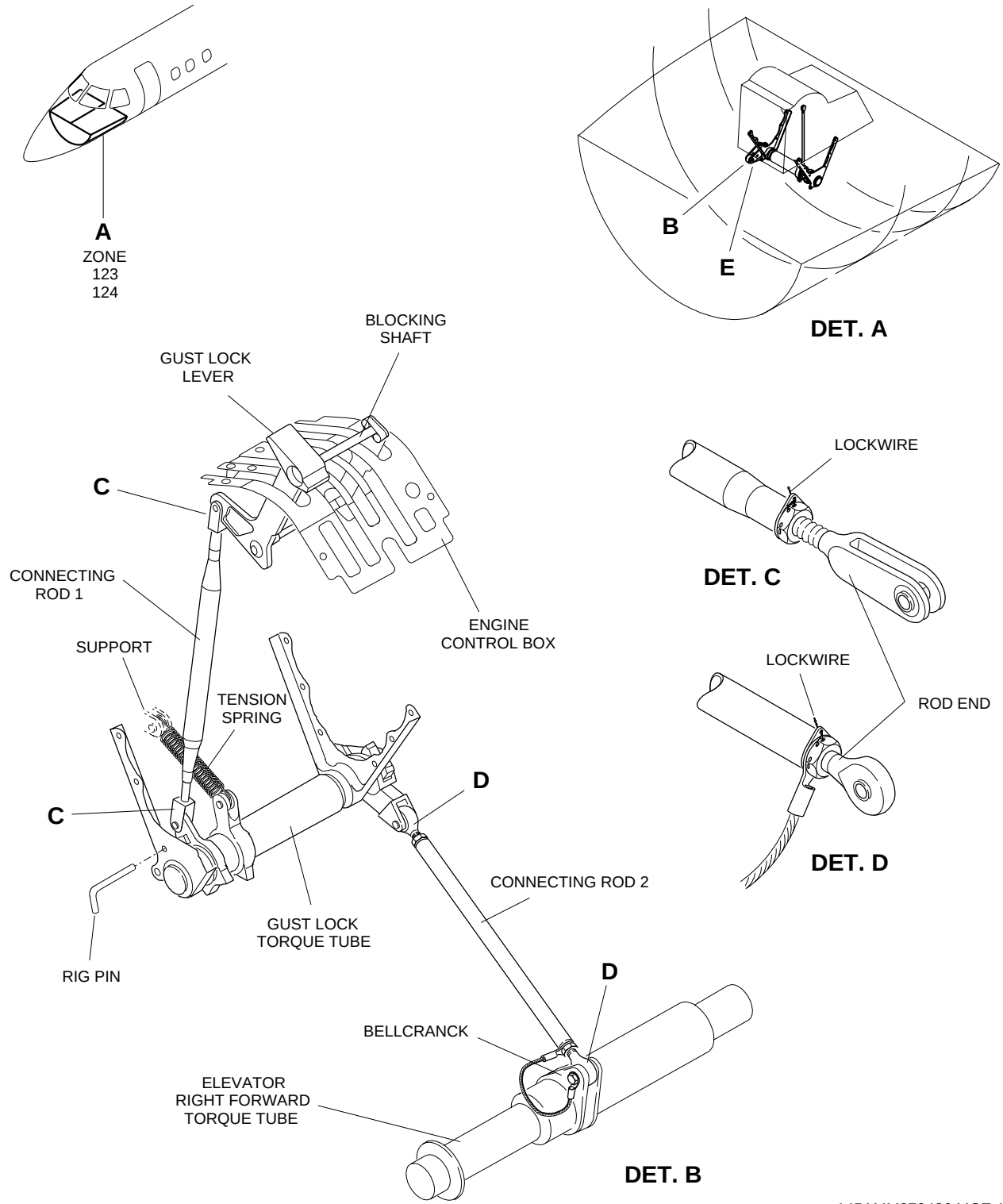
145AMM270391.MCE

EFFECTIVITY: PRE-MOD S.B. 145-27-0039 AND PRE-MOD S.B. 145-27-0086
Gust Lock Mechanism - Rigging and Location
Figure 502



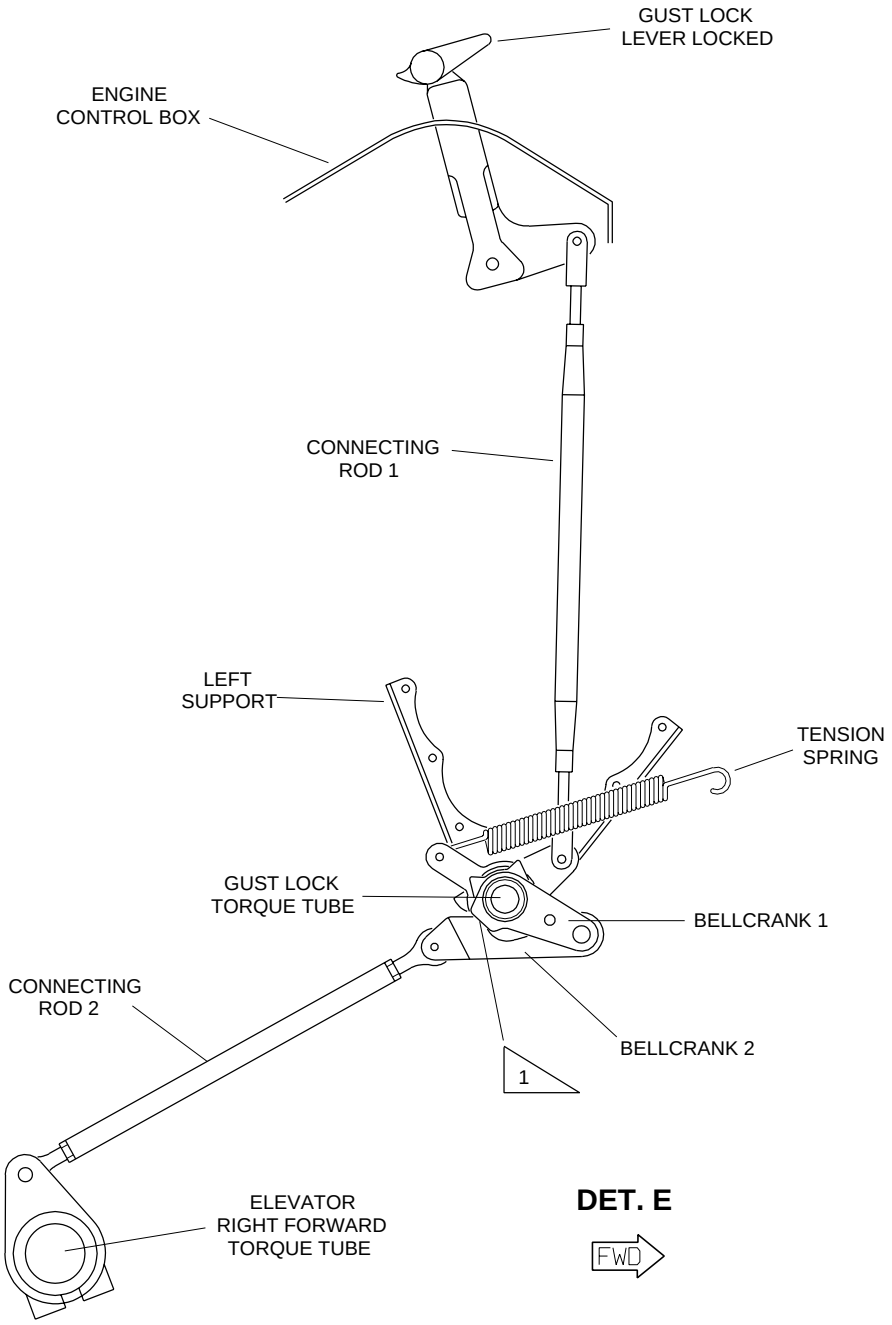
145AMM270179.MCE B

EFFECTIVITY: POST-MOD S.B. 145-27-0039 AND PRE-MOD S.B. 145-27-0086
Gust Lock Mechanism - Rigging and Location
Figure 503 - Sheet 1



145AMM270426.MCE A

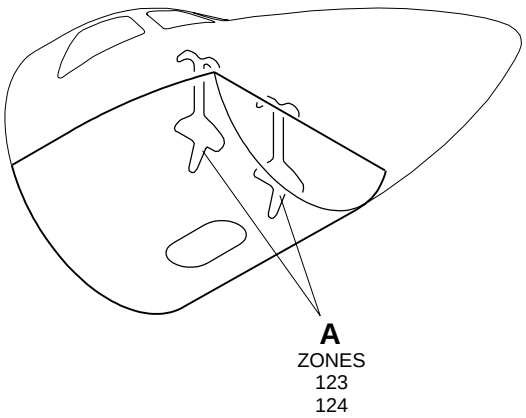
EFFECTIVITY: POST-MOD S.B. 145-27-0039 AND PRE-MOD S.B. 145-27-0086
Gust Lock Mechanism - Rigging and Location
Figure 503 - Sheet 2

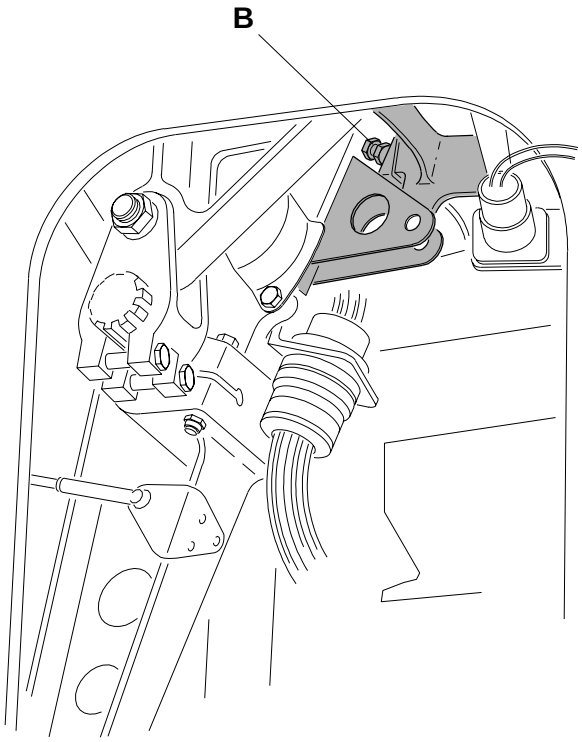


1 MAKE SURE THAT THERE IS NO GAP BETWEEM BELLCRANKS 1 AND 2.

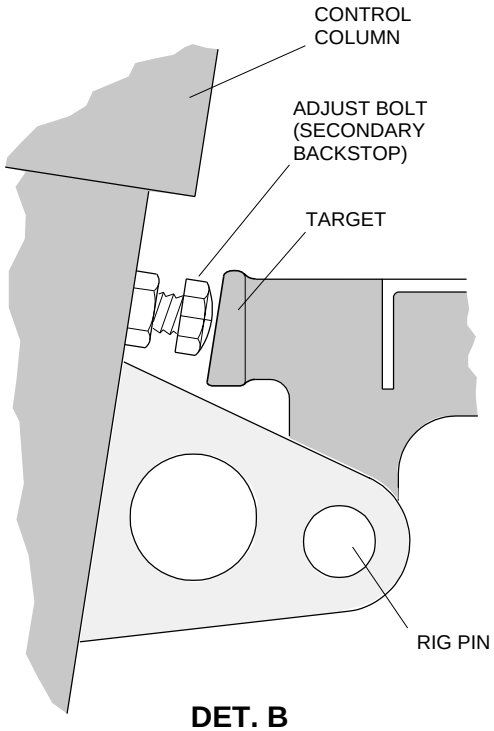
145AMM270425.MCE

EFFECTIVITY: POST-MOD S.B. 145-27-0039 AND PRE-MOD S.B. 145-27-0086
Secondary Backstop - Location
Figure 504





DET. A



DET. B

145AMM270566.MCE

TASK 27-70-00-700-802-A
EFFECTIVITY: AIRCRAFT WITH MECHANICAL GUST LOCK (PRE-MOD S.B. 145-27-0086)

3. GUST LOCK MECHANISM - OPERATIONAL CHECK

A. General

(1) This task gives the procedures to do the operational check of the gust lock mechanism.

(2) Figure 505 shows the location of the Gust Lock lever.

B. Zones and Accesses

Not Applicable

C. Tools and Equipment

Not Applicable

D. Auxiliary Items

Not Applicable

E. Consumable Materials

Not Applicable

F. Expandable Parts

Not Applicable

G. Persons Recommended

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

H. Preparation

SUBTASK 841-003-A

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

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

I. Operationally Check Gust Lock Mechanism (Figure 505)

SUBTASK 710-002-A

(1) Do a check of the gust lock mechanism.

(a) Move the pilot control column fully forward as far as the elevator system nose-down stop.

(b) Move the engine thrust levers to the IDLE position.

(c) Move the gust lock lever to the locked position.

(d) Move the pilot control column to the nose up position.

Result:

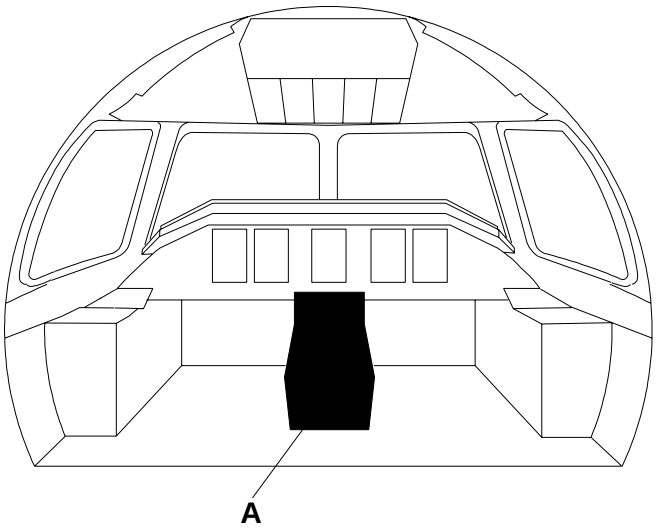
1 The elevator system cannot operate.

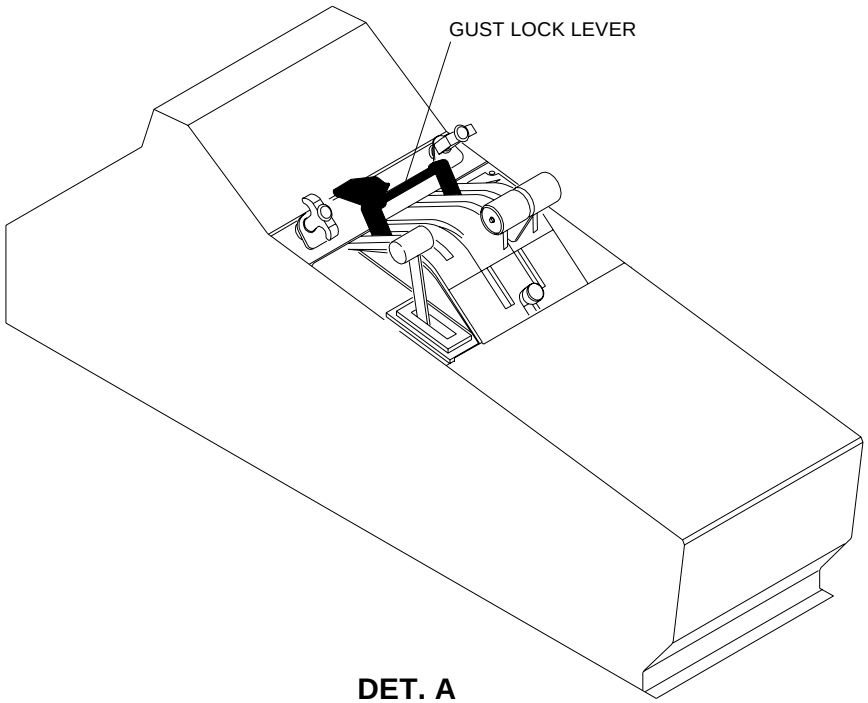
J. Follow-on

SUBTASK 842-003-A

(1) Move the Gust Lock lever to the released position.

EFFECTIVITY: AIRCRAFT WITH MECHANICAL GUST LOCK (PRE-MOD S.B. 145-27-0086)
Gust Lock Mechanism - Location
Figure 505





DET. A

EM145AMM270936A.DGN

TASK 27-70-00-700-803-A
EFFECTIVITY: POST-MOD S.B.145-27-0039

4. GAP OF THE ELEVATOR SECONDARY STOP - FUNCTIONAL CHECK

A. General

(1) This task gives the procedures to do the functional check of the gap of the elevator secondary stop.

B. References

REFERENCE	*DESIGNATION*
AMM MPP 06-41-01/100	-
AMM TASK 27-31-01-700-801-A/500	TENSION OF THE ELEVATOR CONTROL CABLES - FUNCTIONAL CHECK
AMM TASK 27-70-00-700-801-A/500	GUST LOCK SYSTEM - ADJUSTMENT

C. Zones and Accesses

ZONE	*PANEL/DOOR*	*LOCATION*
123	123BL	Area below the cockpit floor

D. Tools and Equipment

ITEM	*DESCRIPTION*	*PURPOSE*	*QTY*
Commercially available	Feeler Gauge	To measure the gap between the adjust bolt and its target	

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	Area below the cockpit floor
1	Helps the other technician	Cockpit

I. Preparation

SUBTASK 841-004-A

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

(2) Make sure that the engine thrust levers are in the IDLE position.

(3) Remove the cockpit underfloor access hatch 123BL (AMM MPP 06-41-01/100).

(4) Make sure that the elevator system is adjusted (AMM TASK 27-31-01-700-801-A/500).

(5) Make sure that the elevator rig pins are removed.

J. Functional Check of the Gap of the Elevator Secondary Stop

SUBTASK 720-003-A

(1) Move the control column fully forward until it reaches the secondary backstop, but do not force it and move the gust lock lever to the locked position.

(2) Check the gap between the adjuster bolt and its target with a 0.4 mm feeler gauge. If the gap exceeds the 0.4 mm, do AMM TASK 27-70-00-700-801-A/500.

NOTE: You must do this step on the pilot side first and repeat it on the copilot side only if you found a gap greater than 0.4 mm on the pilot side.

K. Follow-on

SUBTASK 842-004-A

(1) Install cockpit underfloor access hatch 123BL (AMM MPP 06-41-01/100).