



AIRCRAFT MAINTENANCE MANUAL

SOLENOID - ADJUSTMENT/TEST

EFFECTIVITY: AIRCRAFT WITH ELECTROMECHANICAL GUST LOCK

1. General

- A. This section gives the procedures to adjust the electromechanical gust-lock lever locking solenoid.
- B. The electromechanical gust-lock lever locking solenoid is a component of the control stand assembly. It is installed in the control pedestal.
- C. 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
27-71-06-700-801-A	SOLENOID - ADJUSTMENT	AIRCRAFT WITH ELECTROMECHANICAL GUST LOCK
27-71-06-900-801-A	SOLENOID - MANUAL OPERATION	AIRCRAFT WITH ELECTROMECHANICAL GUST LOCK



EMB145 - EMB135

AIRCRAFT
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TASK 27-71-06-700-801-A

EFFECTIVITY: AIRCRAFT WITH ELECTROMECHANICAL GUST LOCK

2. SOLENOID - ADJUSTMENT

A. General

- (1) This task gives the procedure to adjust the electromechanical gust-lock lever locking solenoid.

B. References

REFERENCE	DESIGNATION
AMM TASK 27-71-00-700-801-A/500	ELECTROMECHANICAL GUST LOCK - OPERATIONAL CHECK
AMM TASK 76-11-01-000-801-A/400	CONTROL STAND ASSEMBLY - REMOVAL
AMM TASK 76-11-01-400-801-A/400	CONTROL STAND ASSEMBLY - INSTALLATION
IPL CMM 76-11-00	-
WM 27-70-50	-

C. Zones and Accesses

ZONE	PANEL/DOOR	LOCATION
223	223 SZ	Control pedestal
223	223 RZ	Control pedestal

D. Tools and Equipment

ITEM	DESCRIPTION	PURPOSE	QTY
GSE 183	Control Stand Holder	To hold the control stand	
Commercially available	DC-Power Supply	To check the solenoid actuation	
Commercially available	Torque Wrench	To apply torque	

E. Auxiliary Items

Not Applicable

F. Consumable Materials

SPECIFICATION (BRAND)	DESCRIPTION	QTY
MEP09-005	Anaerobic Adhesive - Type II (Loctite 241)	AR

G. Expendable Parts

ITEM	IPC REFERENCE (VENDOR REFERENCE)	QTY
Screw - MS51963-22	IPL CMM 76-11-00	1

H. Persons Recommended

<i>QTY</i>	<i>FUNCTION</i>	<i>PLACE</i>
1	Does the task	Cockpit

I. Preparation
SUBTASK 841-002-A

- (1) Make sure the gust lock lever is at locked position.
- (2) On the circuit breaker panel, open this circuit breaker and attach DO-NOT-CLOSE tag:
 - GUST LOCK.
- (3) Remove the control stand assembly [AMM TASK 76-11-01-000-801-A/400](#).

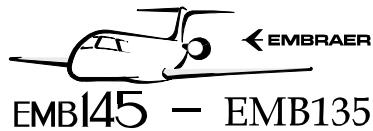
J. Gust-Lock Lever Locking Solenoid - Adjustment ([Figure 501](#))
SUBTASK 020-002-A

- (1) Move the gust lock lever to the intermediate position.
- (2) Make sure that the cam is aligned with the solenoid rod. Refer to [Figure 501](#) - DET. D.
 - (a) If it is not aligned, do the procedure that follows:
 - 1 Remove and discard the screw from the cam.
 - 2 Manually align the cam and the solenoid rod.
 - 3 Apply a thin layer of Loctite 241 adhesive to the thread of the new screw that you will install in the cam.
 - 4 Install the new screw in the cam and tighten it with a torque of 1.7 - 2.3 N.m. (15 - 20 lb.in)
- (3) With a DC-power supply, apply 28 V DC to pin 24 of connector P1270, and ground signal to pin C of connector P1269 to energize the solenoid. Refer to WM 27-70-50.

NOTE: Verify the solenoid actuation by the movement of its rod. When energized, the rod must be retracted.
- (4) Disconnect the DC-power supply of the solenoid pins.
- (5) Remove and install again (one at a time) the bolts that attach the support, to measure the locking torque of each nut.
- (6) Make sure that the locking torque value is 0.23 - 8.2 N.m (2 - 18 lb.in) and take note of the value found. This value will be used in the application of the final torque in step (10).

NOTE: If you find a nut that is not in the correct range, you must replace it.
- (7) With a light movement, put the gust lock lever forward and hold it until you adjust the solenoid.

NOTE: Do this procedure without lifting the gust lock trigger.



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- (8) Position the solenoid as near as possible to the cam, but do not let to touch it.

NOTE: If the solenoid rod touches the cam it can prevent the solenoid rod actuation.

- (9) Tighten the bolts that attach the support.

NOTE: Make sure that the support is correctly attached to prevent the solenoid movement.

- (10) Lift the trigger and try to move the gust lock lever to the unlocked position.

NOTE: The solenoid rod must prevent the forward movement of the gust lock lever.

- (11) Release the trigger of the gust lock lever.

(a) Immediately, the gust lock lever pin must fall into the intermediate detent. Refer to [Figure 501 - DET. E](#).

(b) If it occurs, do the procedure below:

1 Add the locking torque measured in step (6) to the torque of 5.1 - 5.65 N.m (45 - 50 lb.in.) to determine the final torque.

2 Apply the final torque to the bolts that attach the support. Refer to [Figure 501 - DET. C](#).

(c) If it does not occur, adjust the solenoid again.

NOTE: In this case, consider the same value of locking torque measured in step (6).

- (12) With a DC-power supply, apply 28 V DC to pin 24 of connector P1270, and ground signal to pin C of connector P1269 to energize the solenoid. Refer to WM 27-70-50.

- (13) Lift and handle the gust lock lever to the unlocked position and back to the locked position.

NOTE: Make sure that the solenoid rod does not touch the cam in the locked and unlocked positions.

- (14) Disconnect the DC-power supply from the solenoid pins.

K. Follow-on

SUBTASK 842-002-A

- (1) Install the control stand assembly [AMM TASK 76-11-01-400-801-A/400](#).

- (2) On the circuit breaker panel, remove the DO-NOT-CLOSE tag and close this circuit breaker:

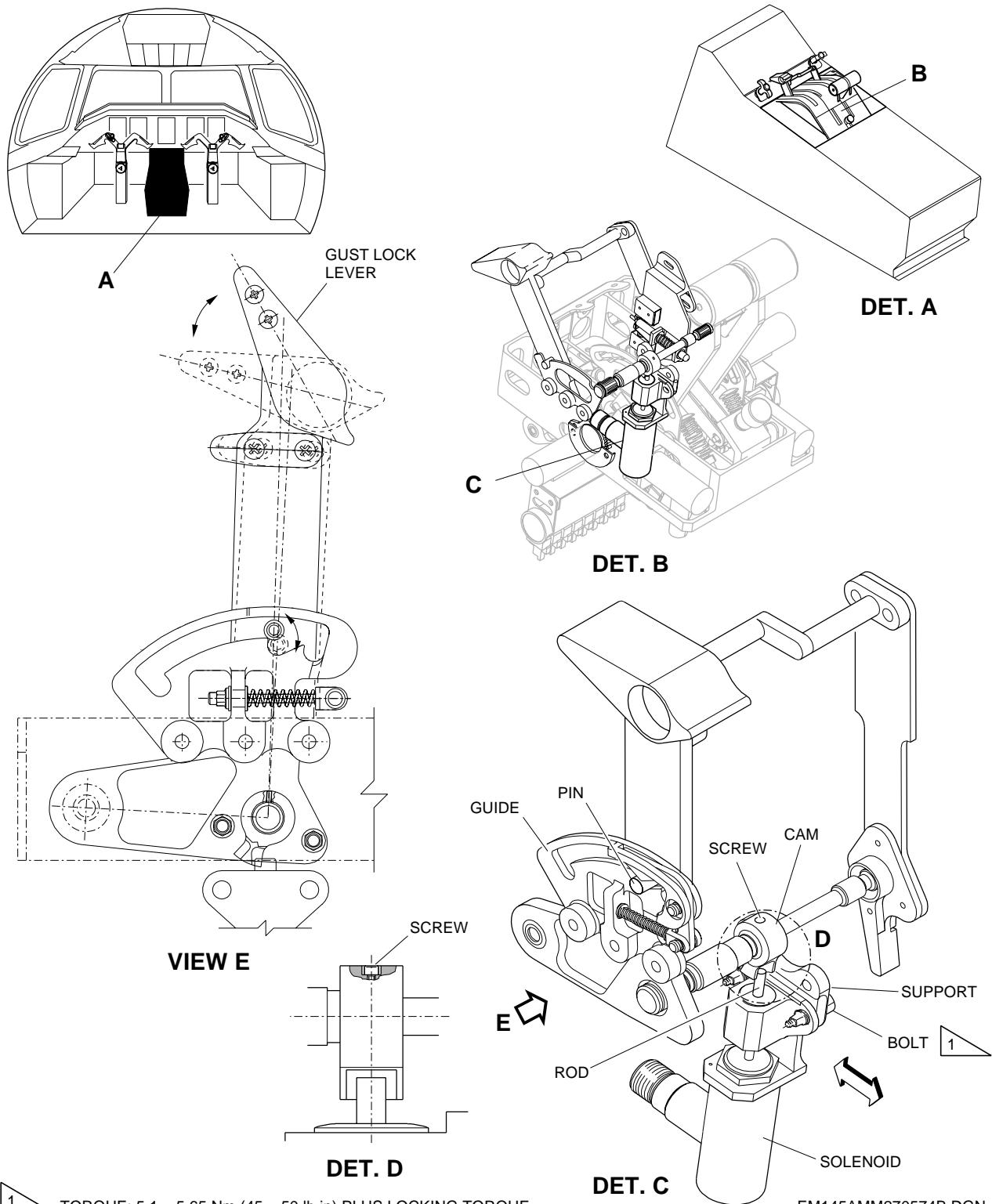
- GUST LOCK.

- (3) Do the operational check of the electromechanical gust lock system. Refer to [AMM TASK 27-71-00-700-801-A/500](#).

EFFECTIVITY: AIRCRAFT WITH ELECTROMECHANICAL GUST LOCK

Electromechanical Gust-lock Lever Locking Solenoid - Adjustment

Figure 501



1 TORQUE: 5.1 – 5.65 Nm (45 – 50 lb.in) PLUS LOCKING TORQUE

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TASK 27-71-06-900-801-A

EFFECTIVITY: AIRCRAFT WITH ELECTROMECHANICAL GUST LOCK

3. SOLENOID - MANUAL OPERATION

A. General

- (1) This task gives the procedure to manually deactivates the gust lock solenoid. This permits the gust lock lever to be moved from the intermediate position to the unlocked position.

B. References

REFERENCE	DESIGNATION
AMM MPP 06-41-03/100	- COMPONENT LOCATION
AMM TASK 76-11-01-000-801-A/400	CONTROL STAND ASSEMBLY - REMOVAL
AMM TASK 76-11-01-400-801-A/400	CONTROL STAND ASSEMBLY - INSTALLATION
DDPM 27-70-00	-

C. Zones and Accesses

ZONE	PANEL/DOOR	LOCATION
223	223SZ	Control pedestal
223	223RZ	Control pedestal

D. Tools and Equipment

ITEM	DESCRIPTION	PURPOSE	QTY
GSE 183	Control Stand Holder	To hold the control stand	

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	Cockpit

I. Preparation

SUBTASK 841-003-A

- (1) Remove access panels 223SZ and 223RZ [AMM MPP 06-41-03/100](#).
- (2) Remove the control stand assembly. Refer to [AMM TASK 76-11-01-000-801-A/400](#).



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J. Manual Operation of the Solenoid ([Figure 502](#))

SUBTASK 020-003-A

WARNING: • BE CAREFUL, THE SOLENOID CAN BE HEATED.

- MAKE SURE YOU DO NOT TOUCH THE THRUST LEVER RESOLVER CONNECTOR AND ANY OTHER CONNECTOR FROM THE CONTROL STAND ASSEMBLY.

- (1) Manually, press and hold the solenoid rod, lift the gust lock lever trigger and put the gust lock lever to unlocked position.
- (2) Release the solenoid rod.
- (3) Make sure that the gust lock is safely positioned at the unlocked position.

NOTE: The flight is permitted with the electromechanical gust lock system inoperative.
Refer to dispatch deviations procedures manual (DDPM 27-70-00).

K. Follow-on

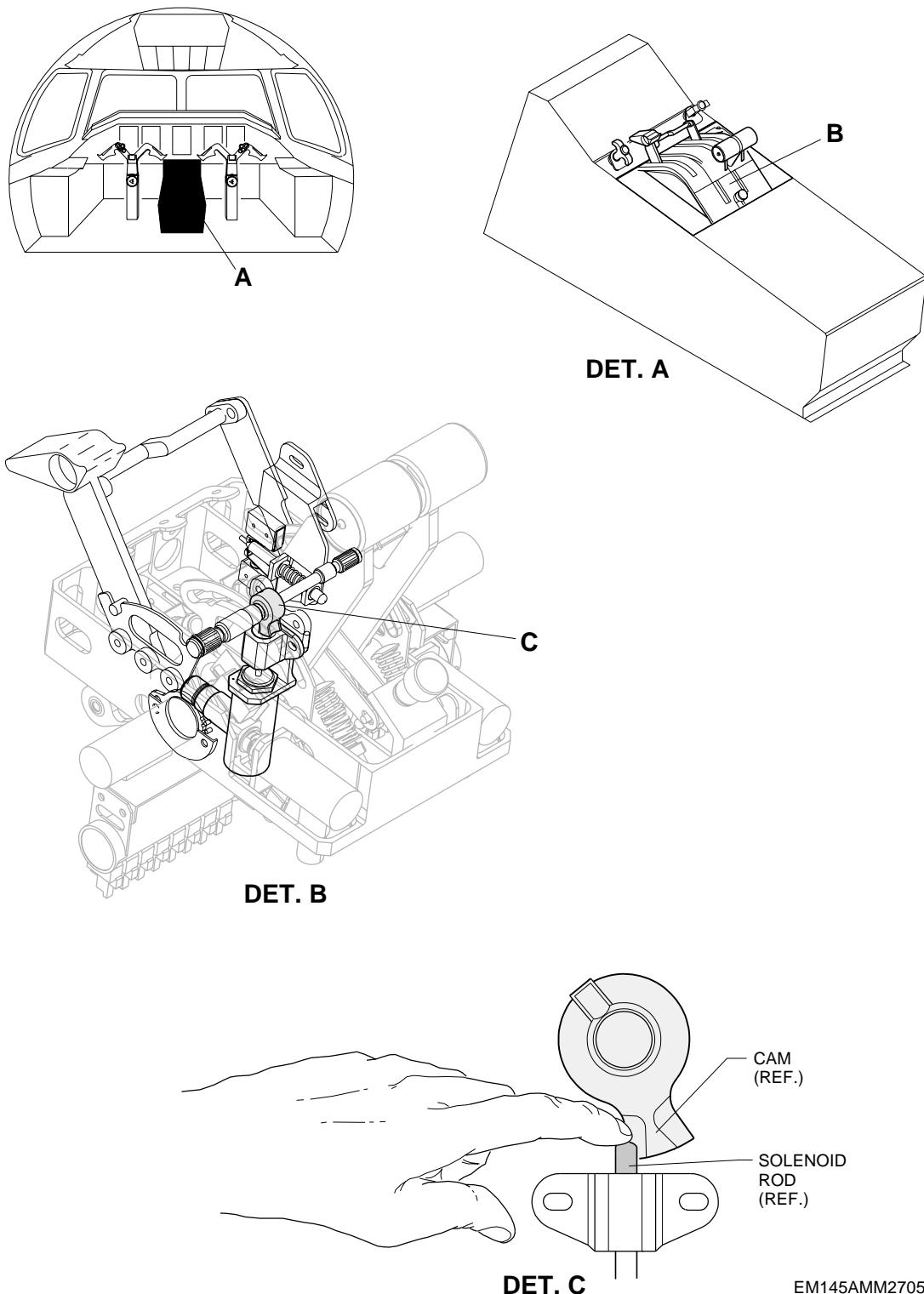
SUBTASK 842-003-A

- (1) Install access panels 223SZ and 223RZ [AMM MPP 06-41-03/100](#).
- (2) Install the control stand assembly [AMM TASK 76-11-01-400-801-A/400](#).

EFFECTIVITY: AIRCRAFT WITH ELECTROMECHANICAL GUST LOCK

Solenoid Rod - Location

Figure 502



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