



EMB145 – EMB135

AIRCRAFT
MAINTENANCE MANUAL

ELEVATOR SERVO AND SPRING-TAB SUPPORTS - REMOVAL/INSTALLATION

EFFECTIVITY: ALL

1. General

- A. This section gives the procedures to remove and install the elevator servo and spring-tab supports.
- 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
55-22-01-000-801-A	SERVO AND SPRING-TAB SUPPORTS - REMOVAL	ALL
55-22-01-400-801-A	SERVO AND SPRING-TAB SUPPORTS - INSTALLATION	ALL



EMB145 – EMB135

AIRCRAFT
MAINTENANCE MANUAL

TASK 55-22-01-000-801-A

EFFECTIVITY: ALL

2. SERVO AND SPRING-TAB SUPPORTS - REMOVAL

A. General

- (1) This task gives the procedures to remove the elevator servo and spring-tab supports.

B. References

REFERENCE	DESIGNATION
AMM TASK 27-31-04-000-801-A/400	SERVO TAB - REMOVAL
AMM TASK 27-31-08-000-801-A/400	SPRING TAB - REMOVAL
AMM TASK 29-10-00-860-802-A/200	HYDRAULIC SYSTEM - PRESSURIZATION WITH EMDP

C. Zones and Accesses

ZONE	PANEL/DOOR	LOCATION
335		LH Elevator
336		RH Elevator

D. Tools and Equipment

Not Applicable

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	Elevators

I. Preparation

SUBTASK 841-002-A

WARNING: MAKE SURE THAT THE AIRCRAFT IS IN A SAFE CONDITION BEFORE YOU DO THE MAINTENANCE PROCEDURES. THIS IS TO PREVENT INJURY TO PERSONS AND/OR DAMAGE TO THE EQUIPMENT.

- (1) Do the procedure to make the aircraft safe for maintenance.
- (2) On the circuit breaker panel, open the PITCH TRIM 1 circuit breaker and attach a DO-NOT-CLOSE tag to it.

- (3) On the left electrical power control/distribution box, open the PITCH TRIM 1 circuit breaker and attach a DO-NOT-CLOSE tag to it.
- (4) On the right electrical power control/distribution box, open the PITCH TRIM 2 circuit breaker and attach a DO-NOT-CLOSE tag to it.
- (5) Put a DO-NOT-OPERATE-THE-HORIZONTAL-STABILIZER sign on the pitch trim panel, in the cockpit.

**WARNING: MAKE SURE THAT RUDDER CANNOT BE OPERATED ACCIDENTALLY.
AN ACCIDENTAL OPERATION OF THE RUDDER CAN CAUSE INJURY TO PERSONS.**

- (6) Make sure that the pressure in hydraulic systems 1 and 2 is fully released ([AMM TASK 29-10-00-860-802-A/200](#)).
- (7) On the circuit breaker panel, open the RUDDER 1 and RUDDER 2 circuit breakers and attach a DO-NOT-CLOSE tag to them.
- (8) Put a workstand (rear fuselage) close to the horizontal stabilizer to get access to the elevator servo and spring-tab supports.

J. Removal ([Figure 401](#))

SUBTASK 020-002-A

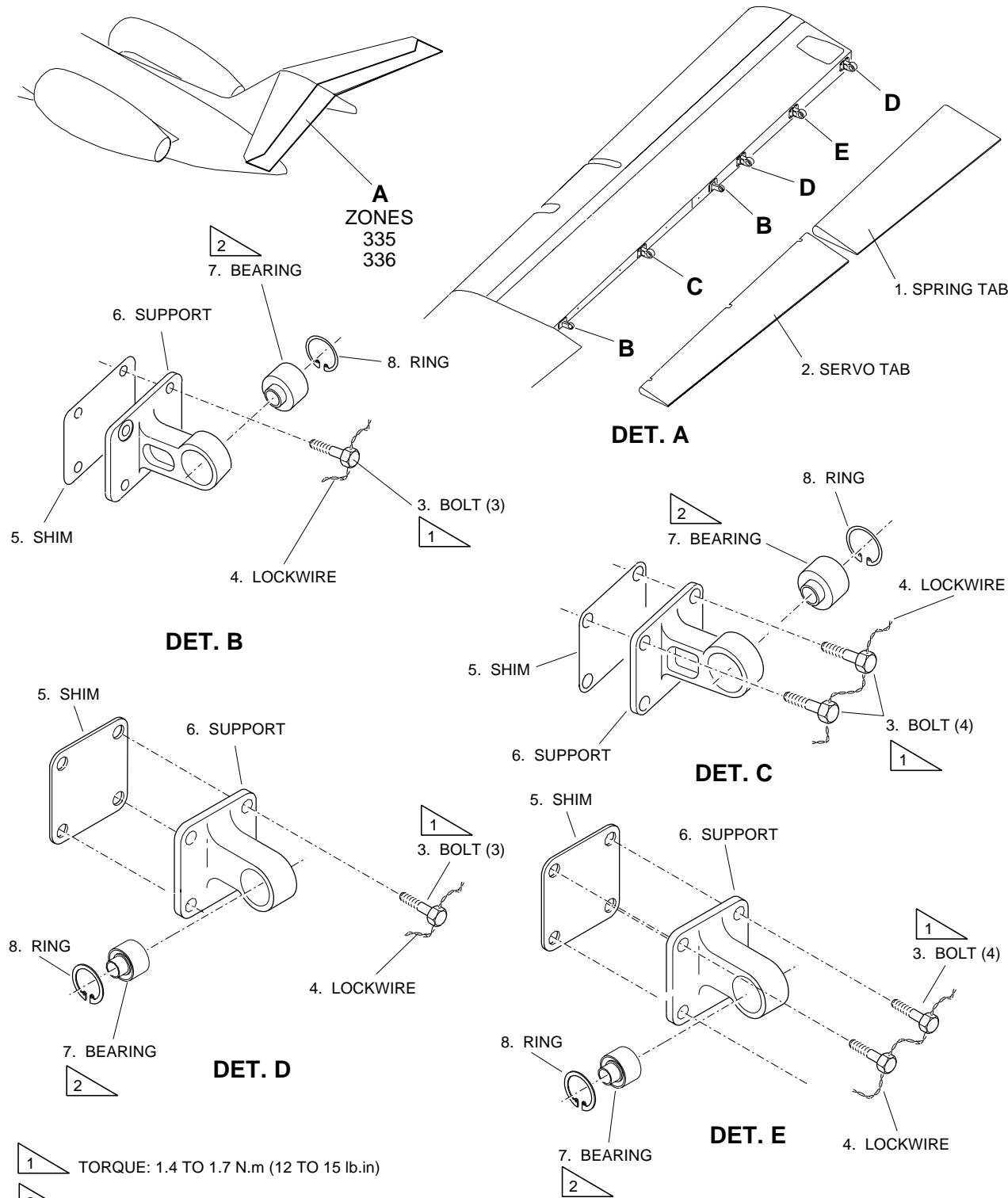
- (1) Remove the spring-tab (1) ([AMM TASK 27-31-08-000-801-A/400](#)). Refer to [Figure 401](#), DET. A.

NOTE: The bolt with bonding jumper was already removed with spring-tab (1).
- (2) Remove the lockwires (4). Refer to [Figure 401](#), DET. D and DET. E.
- (3) Remove the bolts (3) that attach the supports (6) to the elevator structure.

NOTE: The bolt with bonding jumper was already removed with spring-tab (1).
- (4) Remove the spring-tab supports (6) and shims (5), if necessary.
- (5) Remove the servo-tab (2) ([AMM TASK 27-31-04-000-801-A/400](#)). Refer to [Figure 401](#), DET. A.

NOTE: The bolt with bonding jumper was already removed with servo-tab (2).
- (6) Remove the lockwires (4). Refer to [Figure 401](#), DET. B and DET. C.
- (7) Remove the bolts (3) that attach the supports (6) to the elevator structure.

NOTE: The bolt with bonding jumper was already removed with servo-tab (2).
- (8) Remove the servo-tab supports (6) and shims (5), if necessary.
- (9) Remove the rings (8), if necessary. Refer to [Figure 401](#), DET. B and DET. C.
- (10) Remove the bearings (7), if necessary.

EFFECTIVITY: ALL
Servo and Spring-Tab Supports - Removal/Installation
Figure 401


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EMB145 - EMB135

AIRCRAFT
MAINTENANCE MANUAL

TASK 55-22-01-400-801-A

EFFECTIVITY: ALL

3. SERVO AND SPRING-TAB SUPPORTS - INSTALLATION

A. General

(1) This task gives the procedures to install the elevator servo and spring-tab supports.

B. References

REFERENCE	DESIGNATION
AMM TASK 27-31-04-400-801-A/400	SERVO TAB - INSTALLATION
AMM TASK 27-31-08-400-801-A/400	SPRING TAB - INSTALLATION
AMM TASK 55-22-01-000-801-A/400	SERVO AND SPRING-TAB SUPPORTS - REMOVAL
IPC 55-20-00	ELEVATORS

C. Zones and Accesses

ZONE	PANEL/DOOR	LOCATION
335		LH Elevator
336		RH Elevator

D. Tools and Equipment

ITEM	DESCRIPTION	PURPOSE	QTY
Commercially available	Torque wrench (0 - 50 lb.in)	To tighten the bolts to the correct torque	

E. Auxiliary Items

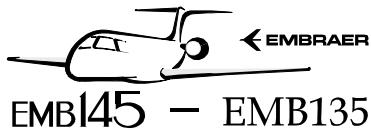
Not Applicable

F. Consumable Materials

SPECIFICATION (BRAND)	DESCRIPTION	QTY
MIL-S-81733 type IV	Sealant P/S870C-12 or -24	AR
MS20995C20	Lockwire	AR
MEP 09-075	Corrosion-Inhibiting Compound (COR-BAN 27L)	AR

G. Expendable Parts

ITEM	IPC REFERENCE (VENDOR REFERENCE)	QTY
Shim	IPC 55-20-00	AR



EMB145 – EMB135

AIRCRAFT
MAINTENANCE MANUAL

H. Persons Recommended

QTY	FUNCTION	PLACE
1	Does the task	Elevators

I. Installation

SUBTASK 420-002-A

WARNING: YOU MUST PREVENT ALL POSSIBLE OPERATION OF THE HORIZONTAL STABILIZER WHEN YOU WORK ON OR NEAR IT. THE HORIZONTAL STABILIZER MOVES QUICKLY AND WITH FORCE. IF THE STABILIZER MOVES WHEN PERSONS ARE IN THE TORSION BOX COMPARTMENT OR NEAR THE STABILIZER, IT CAN CAUSE INJURY TO THEM.

WARNING: MAKE SURE THAT THERE WILL BE NO ACCIDENTAL OPERATION OF THE ELEVATOR. AN ACCIDENTAL OPERATION OF THE ELEVATOR CAN CAUSE INJURY TO PERSONS.

WARNING: DO NOT GET COR-BAN IN YOUR MOUTH OR EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM COR-BAN. PUT ON A PROTECTIVE SPLASH GOGGLES AND GLOVES WHEN YOU USE COR-BAN. COR-BAN IS A TOXIC MATERIAL. IF YOU DO NOT OBEY THESE PRECAUTIONS, INJURY CAN OCCUR.

- (1) Make sure that the aircraft is in the same configuration as it was at the end of the removal task ([AMM TASK 55-22-01-000-801-A/400](#)).
- (2) Remove the old compound CA-1000-NC from the bearings (8), if applicable.
- (3) Apply compound COR-BAN 27L to the bearings (8).
- (4) Install the bearings (7), if necessary. Refer to Figure 401, DET. B, DET. C, DET. D, and DET. E.
- (5) Install the rings (8), if necessary.
- (6) Install the shims (5).
- (7) Install the supports (6).

CAUTION: OBEY THE CORRECT SUPPORT ORIENTATION:

- THE SPRING-TAB SUPPORTS MUST BE ASSEMBLED WITH THE RECESS TURNED DOWN. REFER TO FIGURE 401, DET. D AND DET. E.
- THE SERVO-TAB SUPPORTS MUST BE ASSEMBLED WITH THE RECESS TURNED UP. REFER TO FIGURE 401, DET. B AND DET. C.

- (8) Install the supports (6) with the shims (5).
- (9) Install the bolts (3).

NOTE: The bolt with bonding jumper is installed with spring-tab (1) and servo-tab (2).

- (10) Install the lockwires (4) to safety the bolts (3).



AIRCRAFT MAINTENANCE MANUAL

- (11) Install the spring-tab (1) ([AMM TASK 27-31-08-400-801-A/400](#)).
- (12) Install the servo tab (2) ([AMM TASK 27-31-04-400-801-A/400](#)).

J. Follow-on

SUBTASK 842-002-A

- (1) Remove all tools, equipment and unwanted materials from the work area.
- (2) Remove the workstand (rear fuselage) from the aircraft proximity.
- (3) On the circuit breaker panel, close the PITCH TRIM 1 circuit breaker and remove the DO-NOT-CLOSE tag from it.
- (4) On the left power control/distribution box, close the PITCH TRIM 1 circuit breaker and remove the DO-NOT-CLOSE tag from it.
- (5) On the right power control/distribution box, close the PITCH TRIM 2 circuit breaker and remove the DO-NOT-CLOSE tag from it.
- (6) Remove the DO-NOT-OPERATE-THE-HORIZONTAL-STABILIZER sign from the pitch trim panel, in the cockpit.
- (7) On the circuit breaker panel, remove the DO-NOT-CLOSE tag and close the RUDDER 1 and RUDDER 2 circuit breakers.
- (8) Do the procedure to put the aircraft back to the original condition.

