



AIRCRAFT
MAINTENANCE MANUAL

VERTICAL-STABILIZER SPHERICAL BEARINGS - REMOVAL/INSTALLATION

EFFECTIVITY: ALL

1. General

- A. This section gives the procedures to remove and install the spherical bearings of the vertical stabilizer.
- B. The spherical bearings are installed in the top rear portion of the vertical stabilizer where the horizontal stabilizer is installed.
- 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
55-37-00-000-801-A	VERTICAL-STABILIZER SPHERICAL BEARING - REMOVAL	ALL
55-37-00-400-801-A	VERTICAL-STABILIZER SPHERICAL BEARING - INSTALLATION	ALL



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TASK 55-37-00-000-801-A

EFFECTIVITY: ALL

2. VERTICAL-STABILIZER SPHERICAL BEARING - REMOVAL

A. General

(1) This task gives the procedures to remove the spherical bearings of the vertical stabilizer.

B. References

REFERENCE	DESIGNATION
AMM TASK 55-10-00-000-801-A/400	HORIZONTAL STABILIZER - REMOVAL
ITEM GSE 057	WRENCH - TORQUE, LOCK NUT
ITEM GSE 079	WRENCH - ADJUSTABLE HOOK SPANNER
ITEM GSE 266	SET- INSTL/RMV, VERTICAL STABILIZER TOP BALL JOINT/BUSHING

C. Zones and Accesses

ZONE	PANEL/DOOR	LOCATION
320		Vertical stabilizer

D. Tools and Equipment

ITEM	DESCRIPTION	PURPOSE	QTY
GSE 266	Vertical Stabilizer Top Ball Joint/Bushing Installation/Removal KIT	To remove and install the spherical bearing	
GSE 057	Torque wrench, lock nut	To remove the external flange	
GSE 079	Adjustable wrench, hook spanner	To remove the external flange	
GSE 058	KIT, rig pins, flight controls	To rig 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
2	Do the task	Vertical stabilizer



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I. Preparation

SUBTASK 841-002-A

- (1) Install the rig pin to the torque tube of the elevator control system to lock it in the neutral position.
- (2) Install the rig pin to the LH and RH elevator surfaces to lock them in the neutral position.
- (3) **NOTE:** It is not necessary to remove the elevator surfaces from the horizontal stabilizer.

Remove the horizontal stabilizer. Refer to [AMM TASK 55-10-00-000-801-A/400](#).

J. Removal ([Figure 402](#))

SUBTASK 020-002-A

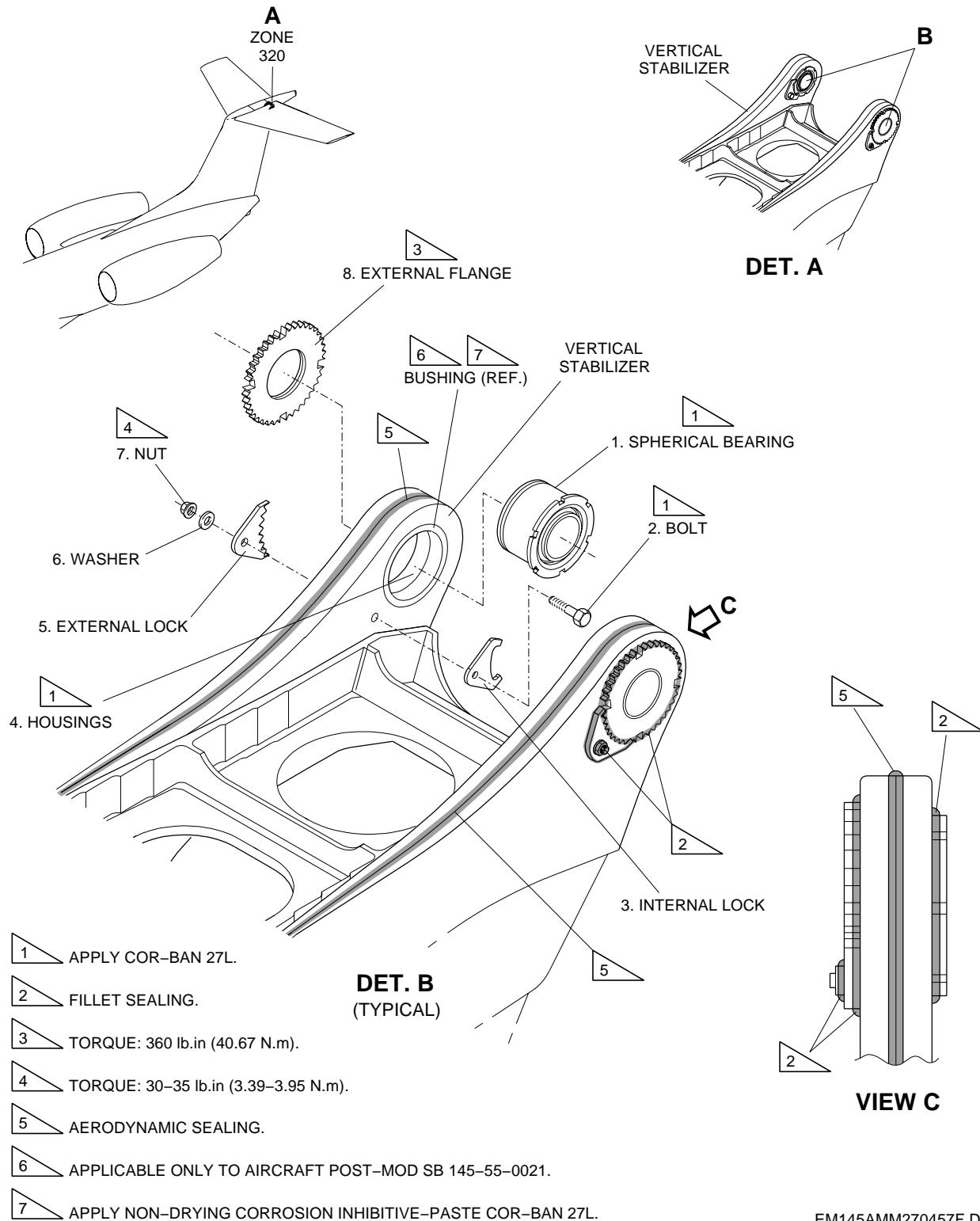
CAUTION: REFER TO FIGURE 402 AND ASSEMBLE THE KIT FOR THE REMOVAL OF THE SPHERICAL BEARING.

- (1) Refer to [Figure 401](#) and remove the bolt (2), washer (6), and nut (7).
- (2) Remove the external (5) and internal (3) locks.
- (3) Remove the spherical bearing (1) as follows:
 - (a) Hold the internal flange of the spherical bearing with the adjustable-hook wrench ([ITEM GSE 079](#)).
 - (b) Turn the external flange (8) counterclockwise with the lock nut torque wrench ([ITEM GSE 057](#)).
 - (c) Remove the external flange (8).
 - (d) Refer to [Figure 402](#) and use KIT [ITEM GSE 266](#) to remove the spherical bearing (1). Go from the external to the internal side.
- (4) Remove the old sealant, if applicable.

EFFECTIVITY: ALL

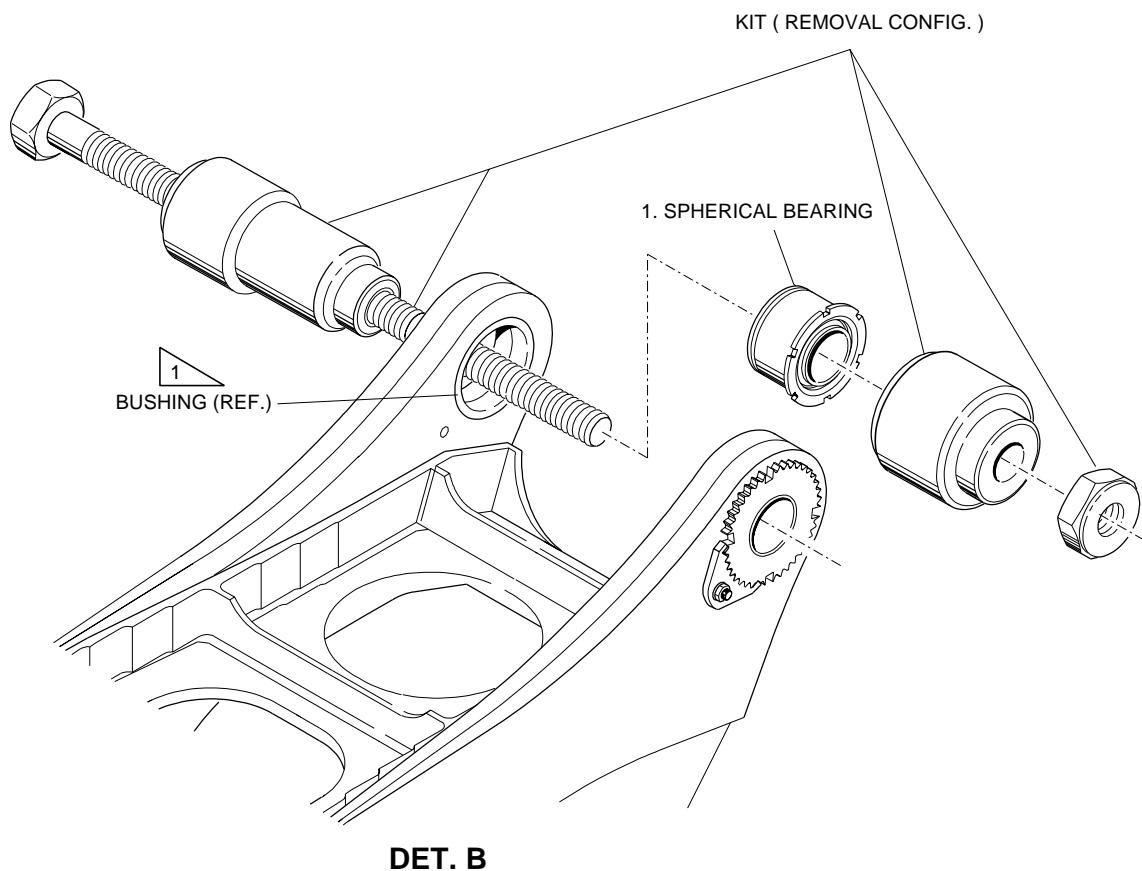
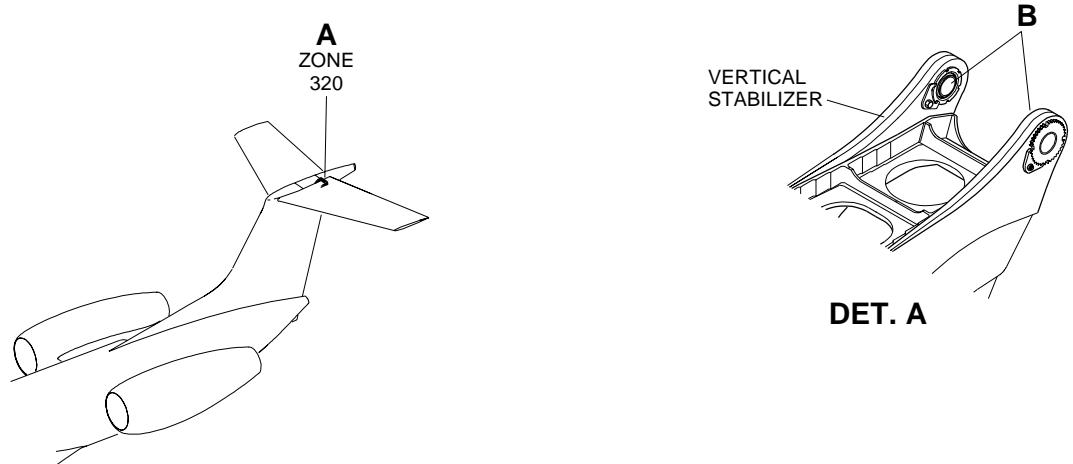
Spherical Bearing - Removal/Installation

Figure 401



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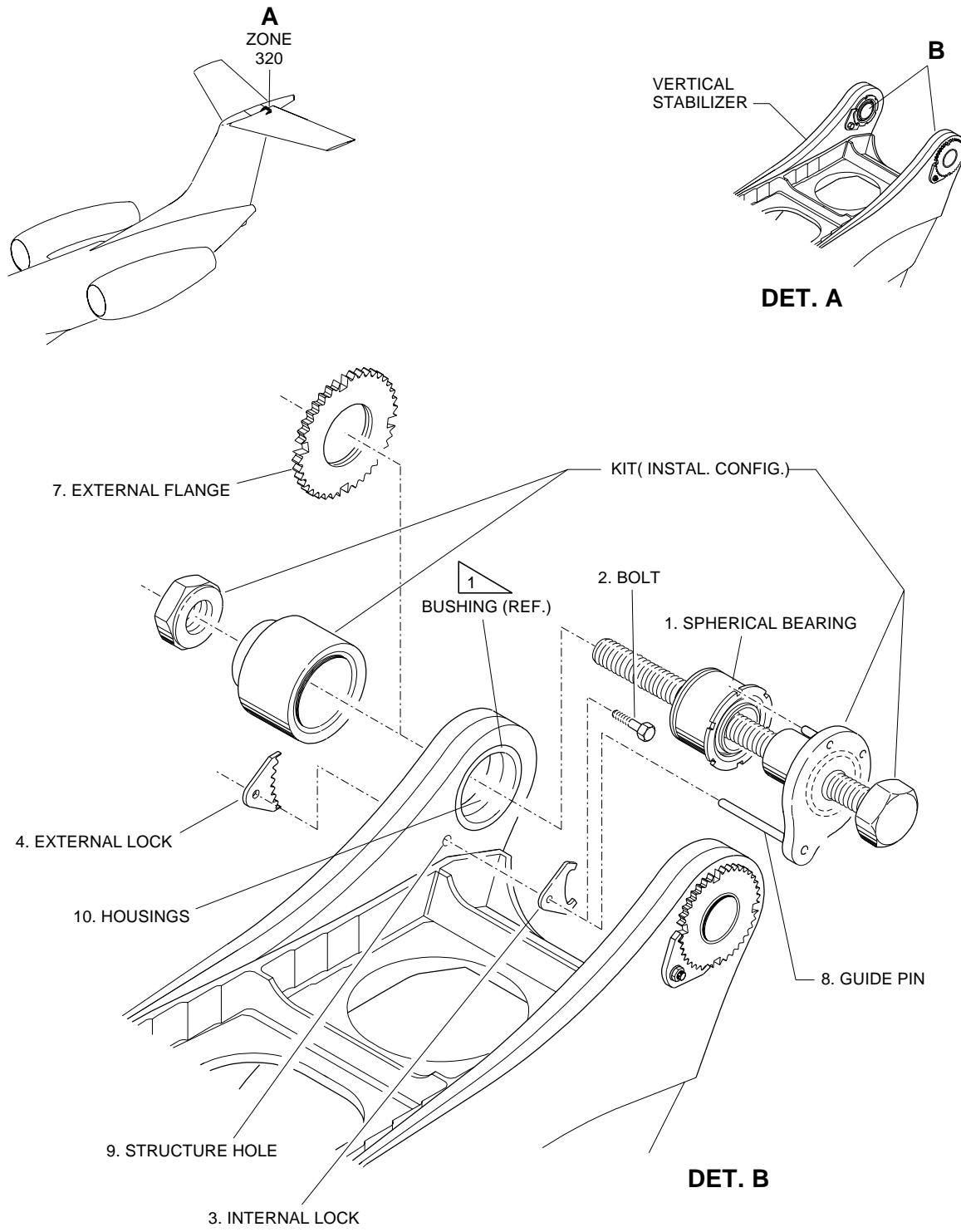
EFFECTIVITY: ALL
 Spherical Bearing - Removal
 Figure 402



APPLICABLE ONLY TO AIRCRAFT POST-MOD SB 145-55-0021.

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EFFECTIVITY: ALL
 Spherical Bearing - Installation
 Figure 403



 1 APPLY NON-DRYING CORROSION INHIBITIVE-PASTE COR-BAN 27L.

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TASK 55-37-00-400-801-A

EFFECTIVITY: ALL

3. VERTICAL-STABILIZER SPHERICAL BEARING - INSTALLATION

A. General

- (1) This task gives the procedures to install the spherical bearing in the housings of the vertical stabilizer.

B. References

REFERENCE	DESIGNATION
AMM TASK 27-31-01-700-801-A/500	TENSION OF THE ELEVATOR CONTROL CABLES - FUNCTIONAL CHECK
AMM TASK 55-10-00-400-801-A/400	HORIZONTAL STABILIZER - INSTALLATION
ITEM GSE 057	WRENCH - TORQUE, LOCK NUT
ITEM GSE 079	WRENCH - ADJUSTABLE HOOK SPANNER
ITEM GSE 266	SET- INSTL/RMV, VERTICAL STABILIZER TOP BALL JOINT/BUSHING
S.B.145-55-0021	-

C. Zones and Accesses

ZONE	PANEL/DOOR	LOCATION
320		Vertical stabilizer

D. Tools and Equipment

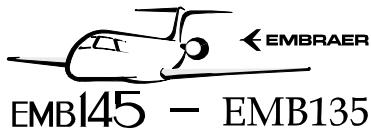
ITEM	DESCRIPTION	PURPOSE	QTY
GSE 266	Vertical Stabilizer Top Ball Joint/Bushing Installation/Removal KIT	To remove and install the spherical bearing	
GSE 057	Wrench - torque, lock nut	To install the external flange	
GSE 079	Wrench-adjustable, hook spanner	To install the external flange	
Commercially available	Torque wrench (0-70 lb.in range)	To torque the nut	
Commercially available	Torque wrench (0-700 lb.in range)	To torque the external flange	

E. Auxiliary Items

Not Applicable

F. Consumable Materials

SPECIFICATION (BRAND)	DESCRIPTION	QTY
MEP 09-075	Corrosion-Inhibiting Compound (COR-BAN 27L)	AR
FED. SPEC. TT-M-261	Methyl-ethyl-ketone	AR
MIL-S-8802, Type II, Class B2	Sealant PR1440-B2	AR



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G. Expandable Parts

Not Applicable

H. Persons Recommended

QTY	FUNCTION	PLACE
2	Do the task	Vertical stabilizer

I. Installation (Figure 403)

SUBTASK 420-002-A

WARNING: BE CAREFUL WHEN YOU USE COR-BAN 27L BECAUSE IT IS TOXIC. USE SAFETY GOGGLES AND PROTECTIVE CLOTHING WHEN YOU HANDLE IT. DO NOT BREATHE ITS GASES AND WORK IN A WELL VENTILATED AREA.

CAUTION: REFER TO FIGURE 403 AND ASSEMBLE THE KIT FOR THE INSTALLATION OF THE SPHERICAL BEARING.

- (1) Refer to (Figure 403) and use methyl-ethyl-ketone to clean these components:
 - Housing (10) of the vertical stabilizer.
 - External flange (7).
 - Internal lock (3).
 - External lock (4).
- (2) For aircraft PRE-MOD. [S.B.145-55-0021](#) apply COR-BAN 27L in the housings (10) and on the spherical bearing surface.
- (3) For aircraft POST-MOD. [S.B.145-55-0021](#) apply COR-BAN 27L to the surface of the internal and external bushings.

CAUTION: • REFER TO FIGURE 403 AND MAKE SURE THAT THE SPHERICAL BEARING (1) IS CORRECTLY ALIGNED WITH THE HOUSING (10).
• MAKE SURE THAT THE FINGERS OF THE INTERNAL LOCK (3) ARE ALIGNED WITH THE GROOVES OF THE SPHERICAL BEARING (1).

- (4) Install the spherical bearing (1) in the housing.

NOTE: Use the KIT guide pin (8) to assure the alignment of the internal lock (3) with the structure hole (9).

- (5) With KIT [ITEM GSE 266](#), install the spherical bearing (1) in the housing. Go from the internal to the external side.
- (6) With the adjustable-hook wrench ([ITEM GSE 079](#)), hold the internal flange of the spherical bearing (1).
- (7) Turn the external flange (8) clockwise with the lock nut torque wrench ([ITEM GSE 057](#)).
- (8) Torque the external flange (8).



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- (9) Put the external lock (4) with its grooves aligned with the grooves of the spherical bearing (1).
- (10) If necessary, increase the torque by 10% to permit the alignment of the grooves. Do this operation as many times as necessary to get the alignment.
- (11) Refer to (Figure 403) and install the external (4) and internal (3) locks.
- (12) Apply COR-BAN 27L on the bolt (2).
- (13) Install the bolt (2), washer (6), and nut (7).
- (14) Torque the nut (7).
- (15) Apply a thick coat of sealant PR1440-B2 to the interface of the fin assembly and to the contour of the spherical bearing flange (1), bolt (2), external flange (8), internal lock (3), external lock (5), washer (6), and the nut (7). Refer to Figure 401.

J. Follow-on

SUBTASK 842-002-A

- (1) Install the horizontal stabilizer. Refer to [AMM TASK 55-10-00-400-801-A/400](#).
- (2) Remove the rig pin from the LH and RH elevator surfaces.
- (3) Remove the rig pin from the elevator control system.
- (4) Adjust the elevator control cables. Refer to [AMM TASK 27-31-01-700-801-A/500](#).

