



EMB145 - EMB135

AIRCRAFT
MAINTENANCE MANUAL

RUDDER CONTROL ROD - REMOVAL/INSTALLATION

EFFECTIVITY: ALL

1. General

- A. This section gives the procedures to remove and install the rudder-II control rods.
- 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
27-21-08-000-801-A	RUDDER-II CONTROL RODS - REMOVAL	ALL
27-21-08-400-801-A	RUDDER-II CONTROL RODS - INSTALLA- TION	ALL



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TASK 27-21-08-000-801-A

EFFECTIVITY: ALL

2. RUDDER-II CONTROL RODS - REMOVAL

A. General

(1) This procedure gives the instructions to remove the rudder-II control rods.

B. References

REFERENCE	DESIGNATION
AMM MPP 06-42-00/100	-
AMM MPP 52-40-04/400	- REMOVAL/INSTALLATION
AMM TASK 29-10-00-860-801-A/200	HYDRAULIC SYSTEM - PRESSURIZATION WITH HTS

C. Zones and Accesses

ZONE	PANEL/DOOR	LOCATION
325	325JR	Vertical Stabilizer
325	325AL	Vertical Stabilizer
326	326BL	Rudder I
326	326CL	Rudder I
326	326DL	Rudder I
326	326EL	Rudder I
327	327FR	Rudder II
327	327GR	Rudder II

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	Rudder



AIRCRAFT MAINTENANCE MANUAL

I. Preparation

SUBTASK 841-002-A

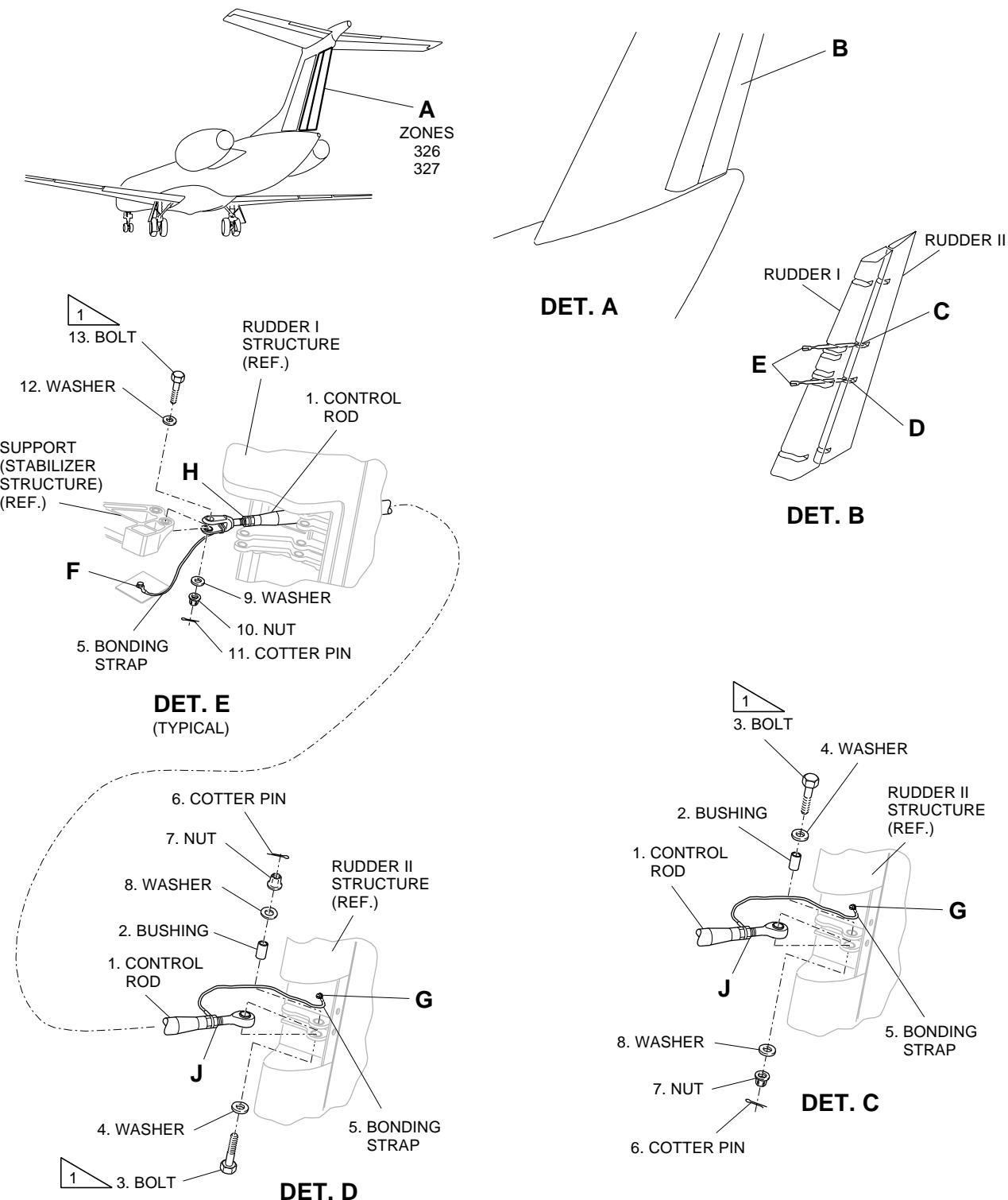
WARNING: MAKE SURE THAT YOU DO NOT OPERATE THE RUDDER ACCIDENTALLY. AN ACCIDENTAL OPERATION OF THE RUDDER CAN CAUSE INJURY TO PERSONS.

- (1) Make sure that the aircraft is safe for maintenance.
- (2) Release the hydraulic pressure from the hydraulic systems 1 and 2 ([AMM TASK 29-10-00-860-801-A/200](#)).
- (3) On the circuit breaker panel, open the RUDDER 1 and RUDDER 2 circuit breakers and attach a DO-NOT-CLOSE tag to them.
- (4) Remove the access panels 325JR, 325AL, 326CL, 327FR, and 327GR (AMM MPP 06-42-00/100, [AMM MPP 52-40-04/400](#)).
- (5) Remove the access panels 326BL, 326DL and 326EL (AMM MPP 06-42-00/100).

J. Removal ([Figure 401](#)) ([Figure 402](#))

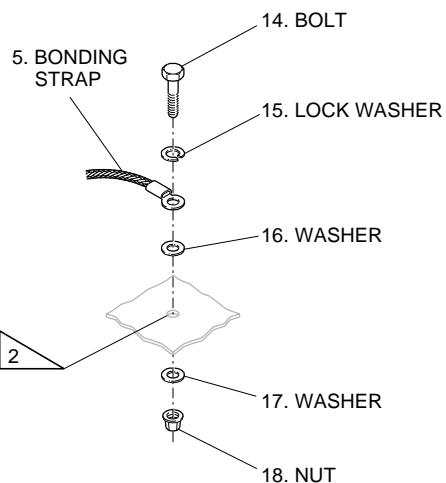
SUBTASK 020-002-A

- (1) **NOTE:** If possible, remove the rudder-II control rods one at a time. This procedure keeps the adjustment of the rudder II during the replacement of the rod.
Remove the cotter pin (6), nut (7), washers (8) and (4), bushing (2), and bolt (3) to disconnect the end of the control rod (1) from the support on the rudder II structure. Refer to [Figure 401, Sheet 1](#) and [Figure 402, Sheet 1](#), DET. C and DET. D.
- (2) Manually deflect rudder II fully to the left.
- (3) Remove the nut (18), washers (16), (17), lock washer (15), and bolt (14), to release the end of the bonding straps (5) from the stabilizer. Refer to [Figure 401, Sheet 2](#) and [Figure 402, Sheet 2](#), DET. F.
- (4) Remove the cotter pin (11), nut (10), washers (9) and (12), and bolt (13), to disconnect the end of the control rod (1) from the support on the stabilizer structure. Refer to [Figure 401, Sheet 1](#) and [Figure 402, Sheet 1](#), DET. E.
- (5) Remove the bolt (19), lock washer (20), and washers (21), (22), (23), and (23), to release the end of the bonding straps (5) from the rudder II structure. Refer to [Figure 401, Sheet 2](#) and [Figure 402, Sheet 2](#), DET. G.
- (6) Carefully remove the control rods (1) through the aircraft rudder I structure.

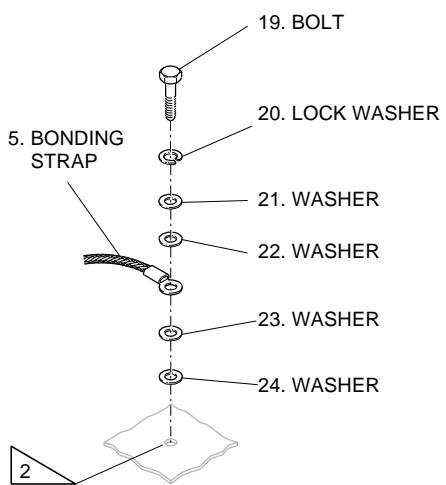
EFFECTIVITY: PRE-MOD. S.B. 145-55-0035
Rudder-II Control Rod - Removal/Installation
Figure 401 - Sheet 1

1 CORROSION-INHIBITING COMPOUND

EM145AMM270681B.DGN

EFFECTIVITY: PRE-MOD. S.B. 145-55-0035
Rudder-II Control Rod - Removal/Installation
Figure 401 - Sheet 2



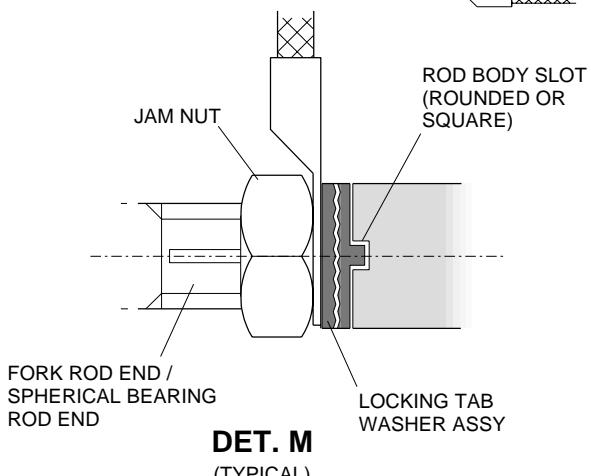
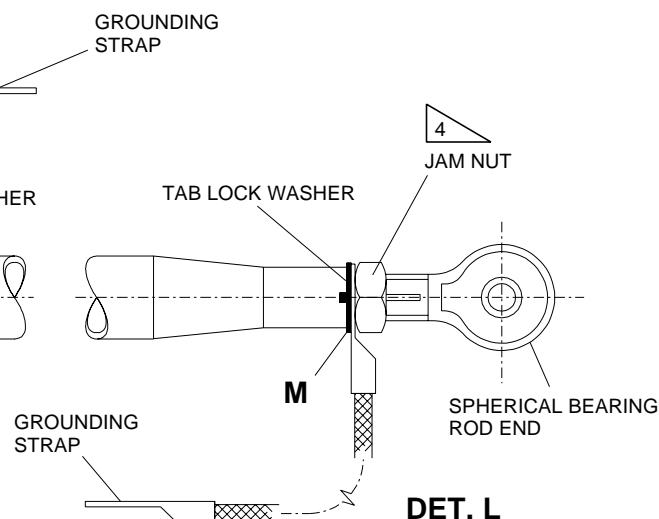
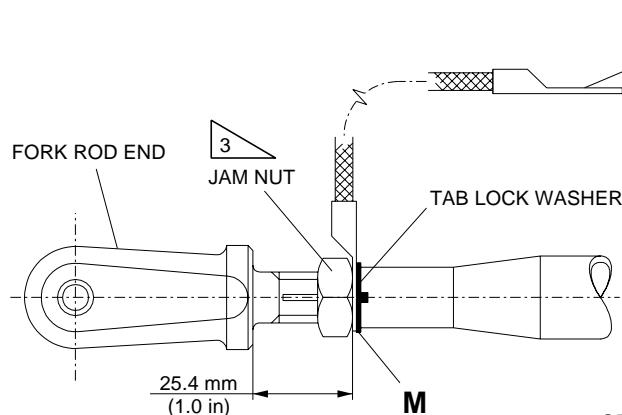
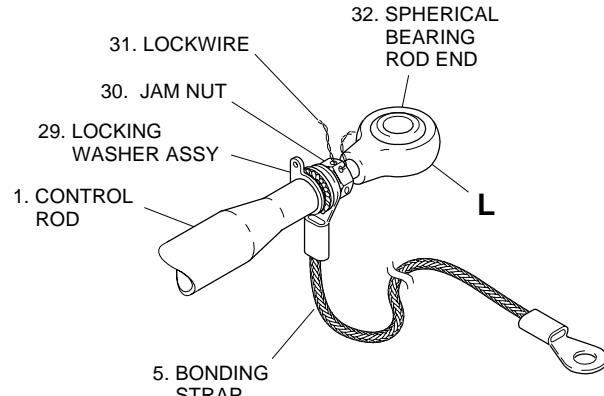
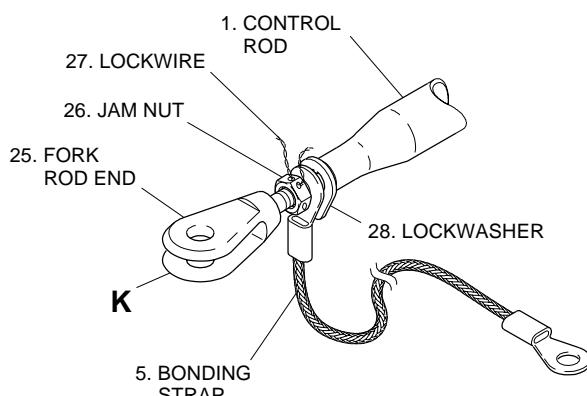
DET. F
(TYPICAL)



DET. G
(TYPICAL)

 SURFACE AREA FOR BONDING PROCEDURES

EM145AMM270687B.DGN

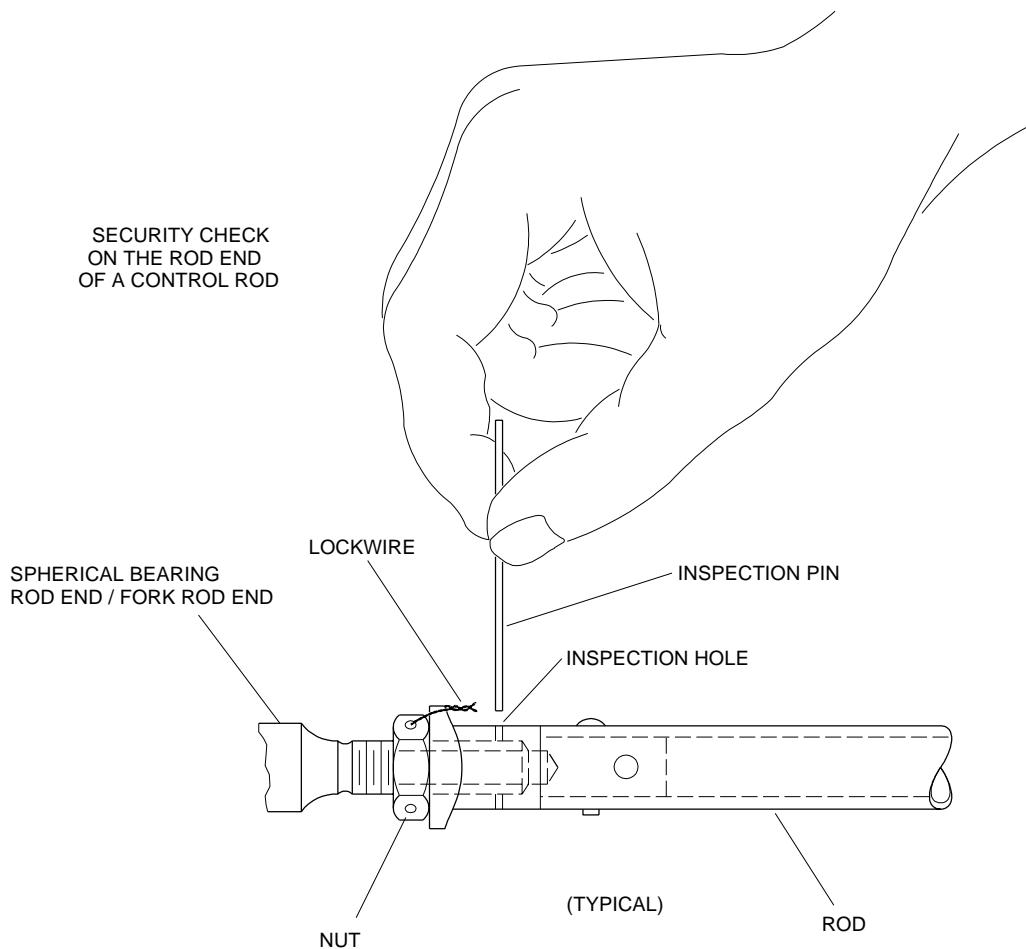
EFFECTIVITY: PRE-MOD. S.B. 145-55-0035
Rudder-II Control Rod - Removal/Installation
Figure 401 - Sheet 3


TORQUE 200 – 240 lbf.in (22.6 – 27.1 N.m)

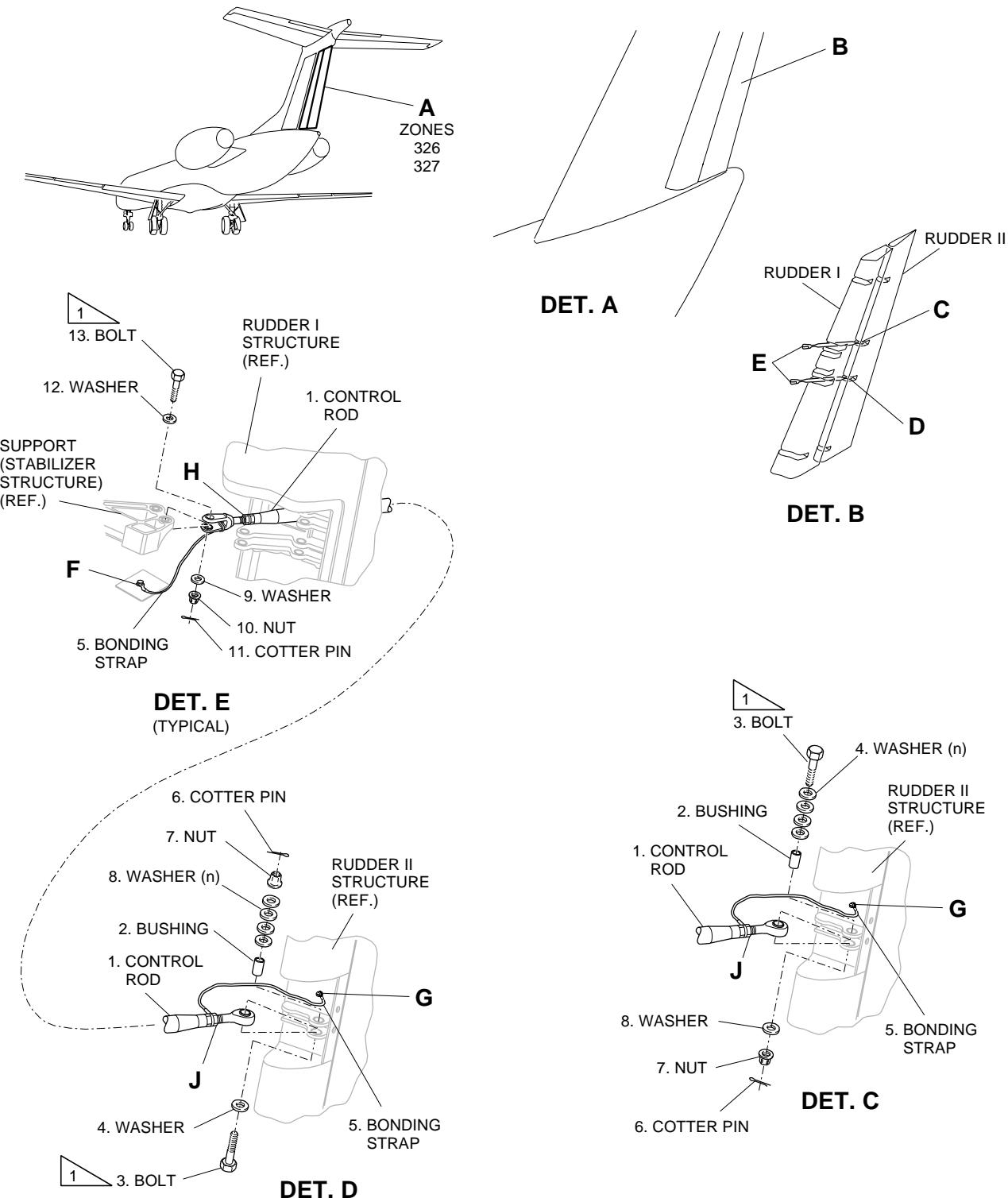
TORQUE 145 – 175 lbf.in (16.4 – 19.8 N.m)

EM145AMM271008B.DGN

EFFECTIVITY: PRE-MOD. S.B. 145-55-0035
Rudder-II Control Rod - Removal/Installation
Figure 401 - Sheet 4

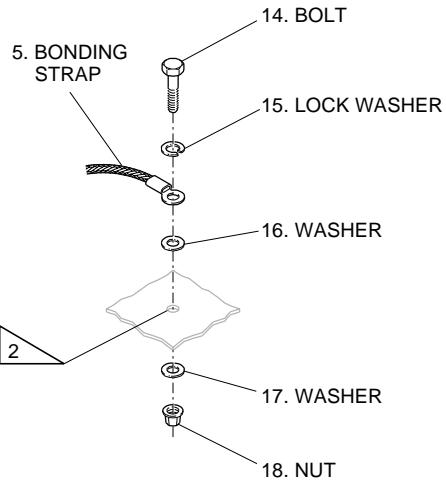


EM145AMM270732A.DGN

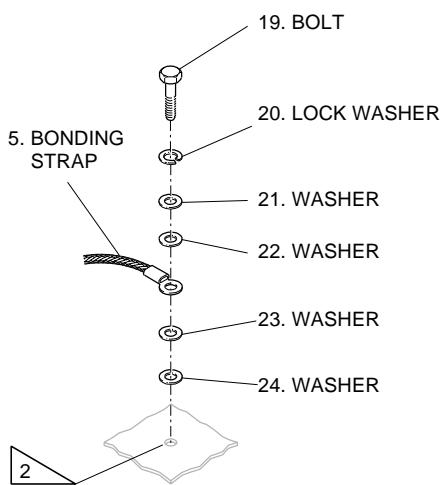
EFFECTIVITY: POST-MOD. S.B. 145-55-0035
Rudder-II Control Rod - Removal/Installation
Figure 402 - Sheet 1

1 CORROSION-INHIBITING COMPOUND

EM145AMM270026H.DGN

EFFECTIVITY: POST-MOD. S.B. 145-55-0035
Rudder-II Control Rod - Removal/Installation
Figure 402 - Sheet 2



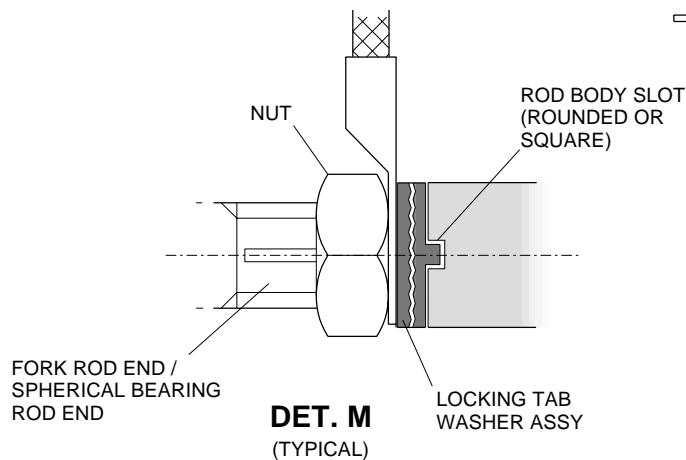
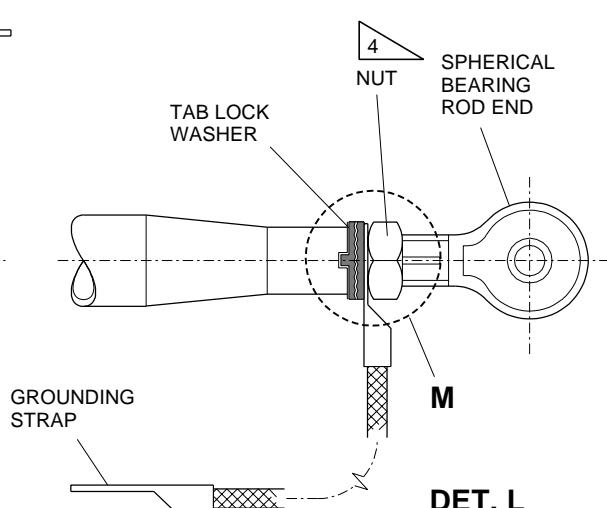
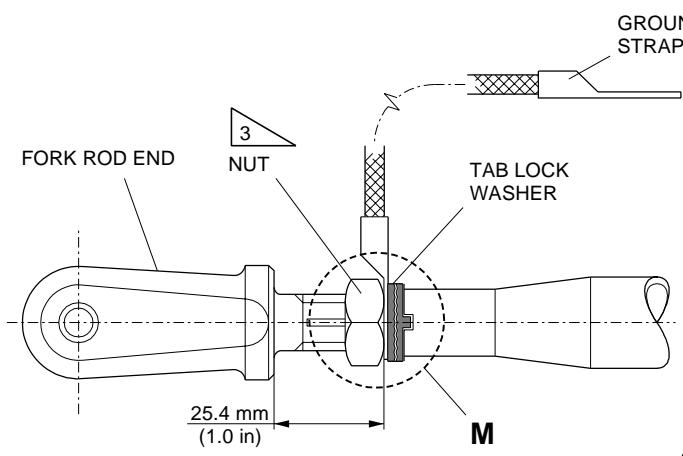
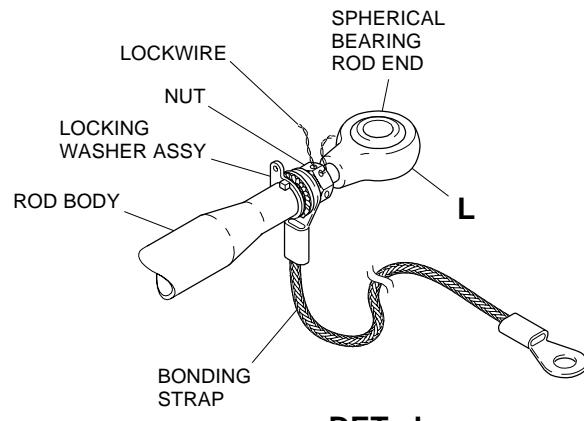
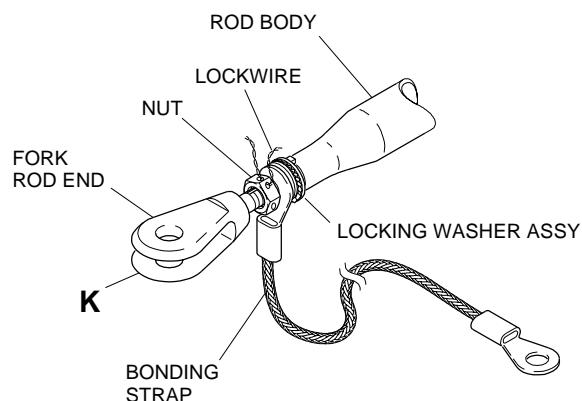
DET. F
(TYPICAL)



DET. G
(TYPICAL)

 **SURFACE AREA FOR BONDING PROCEDURES**

EM145AMM270687B.DGN

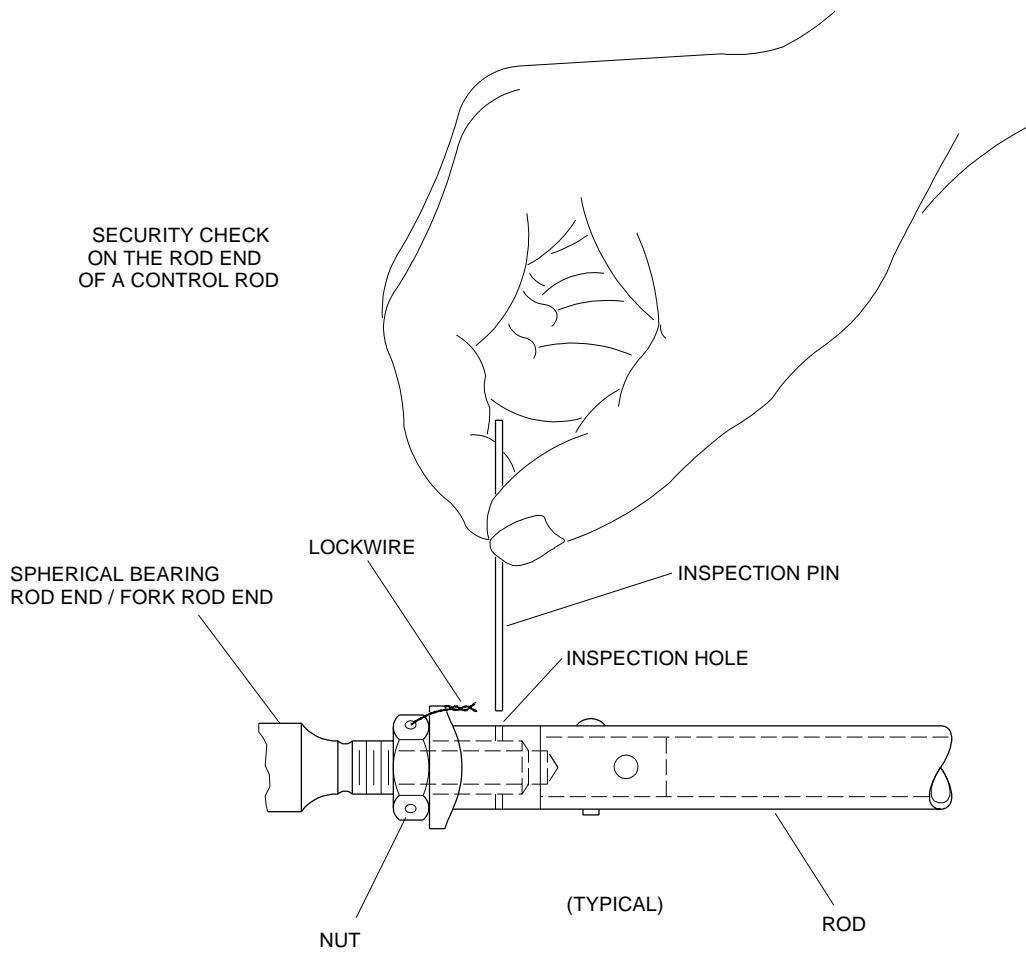
EFFECTIVITY: POST-MOD. S.B. 145-55-0035
Rudder-II Control Rod - Removal/Installation
Figure 402 - Sheet 3


APPLY TORQUE 200 – 240 lbf.in (22.6 – 27.1 N.m)

APPLY TORQUE 145 – 175 lbf.in (16.4 – 19.8 N.m)

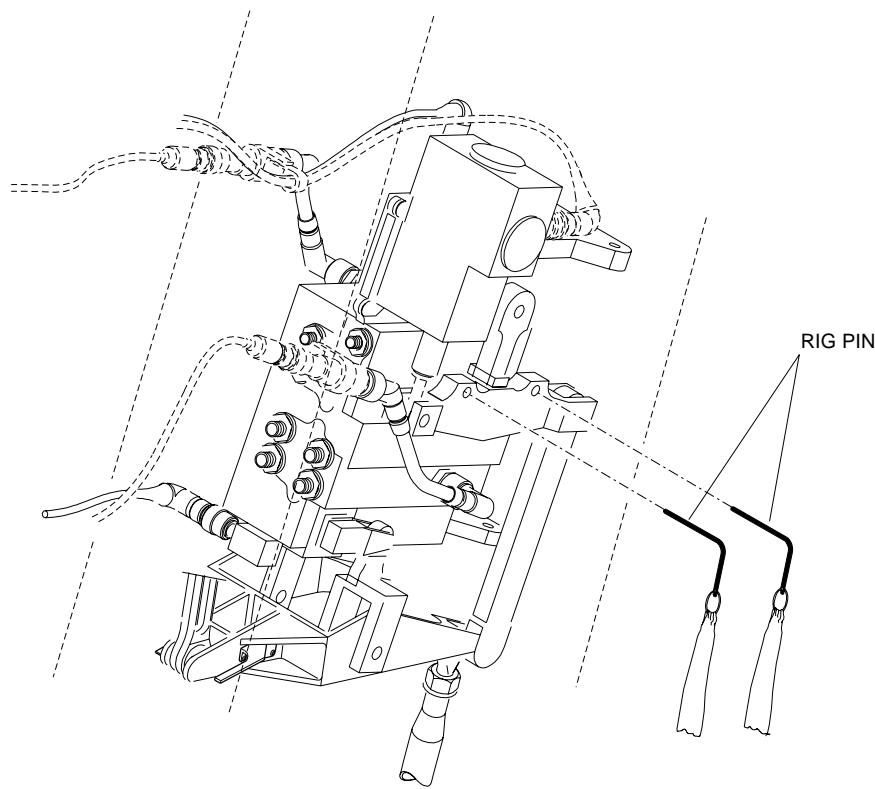
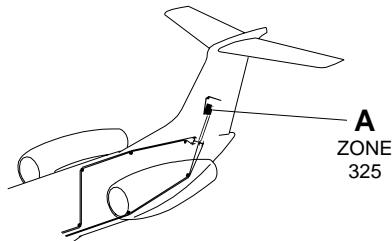
EM145AMM271009B.DGN

EFFECTIVITY: POST-MOD. S.B. 145-55-0035
Rudder-II Control Rod - Removal/Installation
Figure 402 - Sheet 4



EM145AMM270732A.DGN

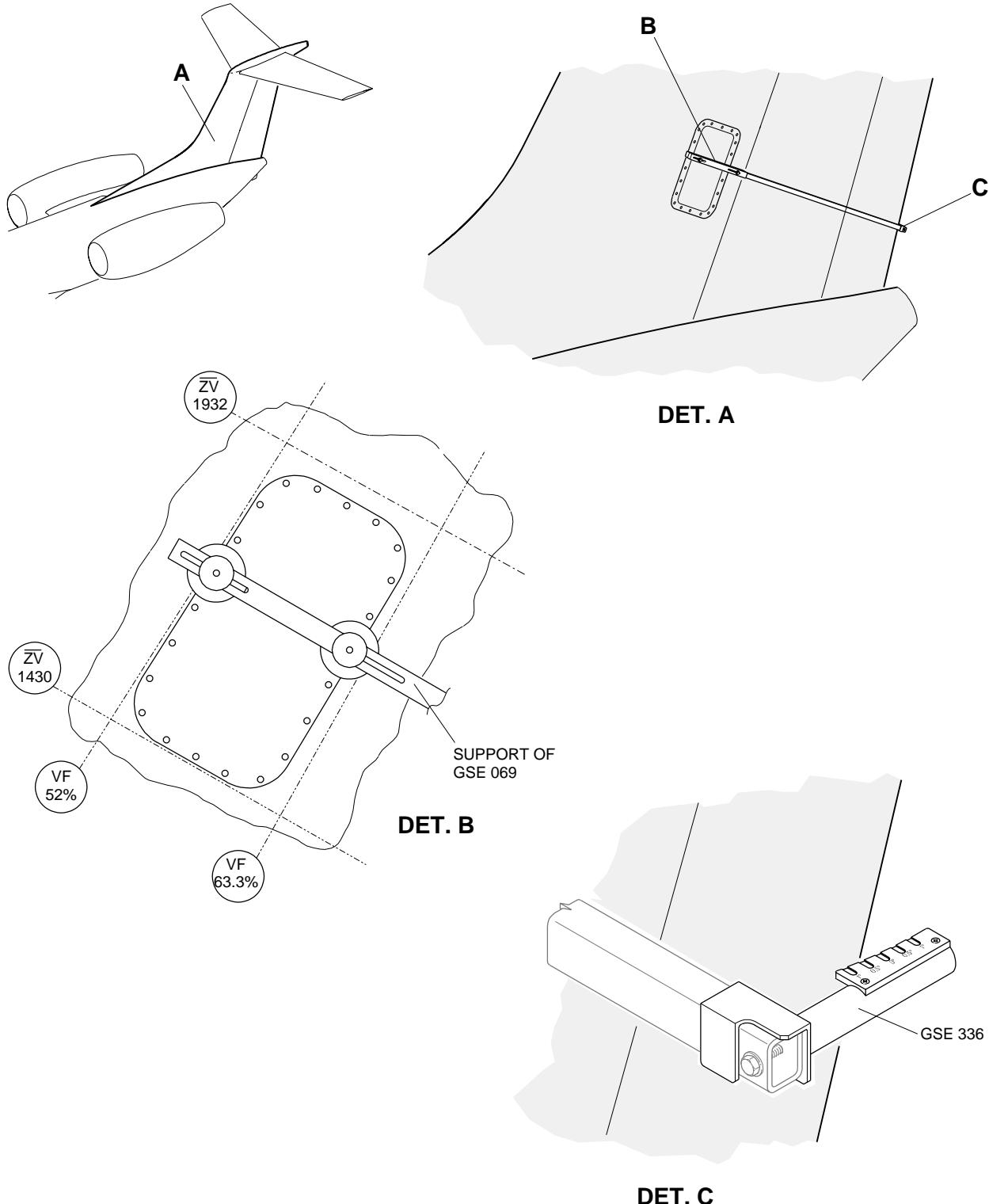
EFFECTIVITY: ALL
Rig Pin - Installation
Figure 403



DET. A

EM145AMM271010A.DGN

EFFECTIVITY: ALL
Gauge-Setting - Installation
Figure 404



DET. C

145AMM270569.MCE



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TASK 27-21-08-400-801-A

EFFECTIVITY: ALL

3. RUDDER-II CONTROL RODS - INSTALLATION

A. General

- (1) This procedure gives the instructions to install the rudder-II control rods.

B. References

REFERENCE	DESIGNATION
AMM MPP 06-42-00/100	-
AMM MPP 20-10-01/200	- MAINTENANCE PRACTICES
AMM MPP 20-10-02/200	- MAINTENANCE PRACTICES
AMM MPP 52-40-04/400	- REMOVAL/INSTALLATION
AMM TASK 20-13-21-910-801-A/200	TYPES OF ELECTRICAL BONDING AND SURFACE PREPARATION - STANDARD PROCEDURES
AMM TASK 27-20-00-700-801-A/500	ADJUSTMENT OF THE RUDDER NEUTRAL POSITION AND DEFLECTIONS OF RUDDER I AND RUDDER II
AMM TASK 29-10-00-860-801-A/200	HYDRAULIC SYSTEM - PRESSURIZATION WITH HTS
IPC 27-21-03	RUDDER I
IPC 27-24-00	YAW TRIM ACTUATOR

C. Zones and Accesses

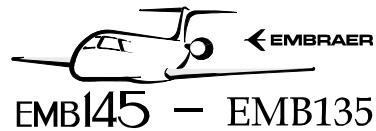
ZONE	PANEL/DOOR	LOCATION
325	325JR	Vertical Stabilizer
325	325AL	Vertical Stabilizer
326	326BL	Rudder I
326	326CL	Rudder I
326	326DL	Rudder I
326	326EL	Rudder I
327	327FR	Rudder II
327	327GR	Rudder II

D. Tools and Equipment

Not Applicable

E. Auxiliary Items

ITEM	DESCRIPTION	PURPOSE	QTY
Commercially available	Rubber Gloves	Protection for the hands	1 pair
Commercially available	Goggles	Protection for the eyes	1 pair



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F. Consumable Materials

SPECIFICATION (BRAND)	DESCRIPTION	QTY
MEP 09-060/MEP 09-075	Corrosion-Inhibiting Compound	As nec- essary

G. Expendable Parts

ITEM	IPC REFERENCE (VENDOR REFERENCE)	QTY
Cotter pin	IPC 27-21-03	4
Cotter pin	IPC 27-24-00	1

H. Persons Recommended

QTY	FUNCTION	PLACE
1	Does the task	Rudder

I. Installation ([Figure 401](#)) ([Figure 402](#)) ([Figure 403](#)) ([Figure 404](#))

SUBTASK 420-007-A

- (1) If you replaced only one control rod, go to [SUBTASK 420-005-A](#).
- (2) If you replaced both rods, go to [SUBTASK 420-006-A](#).

SUBTASK 420-005-A

WARNING: MAKE SURE THAT YOU DO NOT OPERATE THE RUDDER ACCIDENTALLY. AN ACCIDENTAL OPERATION OF THE RUDDER CAN CAUSE INJURY TO PERSONS.

- (3) If you replaced only one control rod, install the applicable control rod as follows:
 - (a) On the bench, adjust the fork rod end (25) as follows ([Figure 401, Sheet 3](#) and [Figure 402, Sheet 3](#), DET. H):
 - 1 Loosen the jam nut (26) and lock washer (28). Refer to [Figure 401, Sheet 3](#) and [Figure 402, Sheet 3](#), DET. H.
 - 2 Adjust the fork rod end (25) to get the length of 25.4 mm (1.0 in). Refer to [Figure 401, Sheet 3](#) and [Figure 402, Sheet 3](#), DET. K.
 - 3 Put a pin with a diameter of 1.27 mm (0.05 in) into rod inspection hole. The pin must touch the rod end and not go through it. Refer to Figure 401, sheet 4 and Figure 402, sheet 4.
 - 4 If the pin goes through the rod end, adjust the rod and do the security check again.

- 5 Apply a torque of 22.6 - 27.1 N.m (200 - 240 lbf.in) to the fork end jam nut (26). Make sure that the locking tab washer (28) is correctly aligned with the rod body slot, the locking tab is not damaged, and the bonding strap (5) is correctly installed. Refer to [Figure 401, Sheet 3](#) and [Figure 402, Sheet 3](#), DET. H and DET. K.

WARNING: USE EYE PROTECTION WHEN YOU REMOVE OR INSTALL LOCKWIRE OR SAFETY CABLE. IF YOU DO NOT USE EYE PROTECTION, CUT PIECES OF WIRE CAN HIT YOUR EYES AND CAUSE INJURY.

- 6 Put a lock wire on the jam nut (26). Refer to [Figure 401, Sheet 3](#) and [Figure 402, Sheet 3](#), DET. H.

- (b) On the bench, adjust the spherical bearing rod end (32) as follows ([Figure 401, Sheet 3](#) and [Figure 402, Sheet 3](#), DET. J):

- 1 Loosen the jam nut (30) and the lock washer (29). Refer to [Figure 401, Sheet 3](#) and [Figure 402, Sheet 3](#), DET. J.
- 2 Adjust the spherical bearing rod end (32) to get the length of ([Figure 401, Sheet 3](#) and [Figure 402, Sheet 3](#), DET. J):
 - 393,7 mm (15.5 in) for the lower rod
 - 368,3 mm (14.5 in) for the upper rod

NOTE: • The length must be measured from the fork rod end center to the spherical bearing rod end center;
• The final adjustment of the control rod is done on the aircraft.

- 3 Put a pin with a diameter of 1.27 mm (0.05 in) into rod inspection hole. The pin must touch the rod end and not go through it. Refer to Figure 401, sheet 4 and Figure 402, sheet 4.

NOTE: Do not apply the final torque to the jam nut at this moment.

- 4 If the pin goes through the rod end, adjust the rod and do the security check again.

- (c) Put the control rods (1) into position, through the rudder I structure, on the support on the stabilizer structure. Refer to [Figure 401, Sheet 1](#) and [Figure 402, Sheet 1](#), DET. E.

NOTE: Make sure that the rudder II is fully deflected to the left

WARNING: CORROSION-INHIBITING COMPOUND IS TOXIC TO SKIN, EYES, AND RESPIRATORY TRACT. USE PVC GLOVES AND EYE PROTECTION. USE ONLY IN WELL VENTILATED AREAS. OBEY THE MANUFACTURERS' HEALTH AND SAFETY INSTRUCTIONS.

- (d) Apply corrosion-inhibiting compound to the bolt (13). Use gloves, goggles, and a brush to do this operation. Refer to [Figure 401, Sheet 1](#) and [Figure 402, Sheet 1](#), DET. E.

- (e) Install the bolt (13), washers (12) and (9) and nut (10) to connect the fork rod end of the control rod (1) to the support on the stabilizer structure. Refer to [Figure 401, Sheet 1](#) and [Figure 402, Sheet 1](#), DET. E.
- (f) Torque the nut (10) (AMM MPP 20-10-01/200). Refer to [Figure 401, Sheet 1](#) and [Figure 402, Sheet 1](#), DET. E.
- (g) Safety the nut (10) with a new cotter pin (11) (AMM MPP 20-10-02/200). Refer to [Figure 401, Sheet 1](#) and [Figure 402, Sheet 1](#), DET. E.
- (h) Adjust the length of the upper or lower control spherical bearing rod end as necessary to install it. Do as follows:
 - 1 Loosen the jam nut (30) and lock washer (29). Refer to [Figure 401, Sheet 3](#) and [Figure 402, Sheet 3](#), DET. J.
 - 2 Adjust the spherical bearing rod end (32) as necessary to install it. Refer to [Figure 401, Sheet 3](#) and [Figure 402, Sheet 3](#), DET. H.
 - 3 Put a pin with a diameter of 1.27 mm (0.05 in) into rod inspection hole. The pin must touch the rod end and not go through it. Refer to Figure 401, sheet 4 and Figure 402, sheet 4.
 - 4 If the pin goes through the rod end, adjust the rod and do the security check again.
 - 5 Apply a torque of 16.4 - 19.8 N.m (145 - 175 lbf.in) to the spherical bearing rod end jam nut (30). Make sure that the locking tab washer (29) is correctly aligned with the rod body slot, the locking tab is not damaged, and the bonding strap (5) is correctly installed. Refer to [Figure 401, Sheet 3](#) and [Figure 402, Sheet 3](#), DET. J and DET. L.

WARNING: USE EYE PROTECTION WHEN YOU REMOVE OR INSTALL LOCKWIRE OR SAFETY CABLE. IF YOU DO NOT USE EYE PROTECTION, CUT PIECES OF WIRE CAN HIT YOUR EYES AND CAUSE INJURY.

- 6 Put a lock wire on the jam nut (30). Refer to [Figure 401, Sheet 3](#) and [Figure 402, Sheet 3](#), DET. J.

WARNING: CORROSION-INHIBITING COMPOUND IS TOXIC TO SKIN, EYES, AND RESPIRATORY TRACT. USE PVC GLOVES AND EYE PROTECTION. USE ONLY IN WELL VENTILATED AREAS. OBEY THE MANUFACTURERS' HEALTH AND SAFETY INSTRUCTIONS.

- (i) Apply corrosion-inhibiting compound to the bolts (3). Use gloves, goggles, and a brush to do this operation. Refer to [Figure 401, Sheet 1](#) and [Figure 402, Sheet 1](#), DET. C and DET. D.
- (j) Install the bolt (3), washers (4) and (8), bushing (2), nut (7), and cotter pin (6) to connect the end of the control rod (1) to the support on the rudder II structure. Refer to [Figure 401, Sheet 1](#) and [Figure 402, Sheet 1](#), DET. C and DET. D.

NOTE: Make sure that the bolts are installed with the minimum interference as possible.

- (k) Torque the nut (7) ([AMM MPP 20-10-01/200](#)). Refer to [Figure 401, Sheet 1](#) and [Figure 402, Sheet 1](#), DET. C and DET. D.
- (l) Safety the nut (7) with a new cotter pin (6) ([AMM MPP 20-10-02/200](#)). Refer to [Figure 401, Sheet 1](#) and [Figure 402, Sheet 1](#), DET. C and DET. D.
- (m) Prepare the surface for the bonding procedures ([AMM TASK 20-13-21-910-801-A/200](#)). Refer to Figure 401, sheet 2 and Figure 402, sheet 2, DET. F and DET. G.
- (n) Connect the end of the bonding strap (5) to the stabilizer with the bolt (14), lock washer (15), washers (16) and (17), and nut (18). Refer to Figure 401, sheet 2 and Figure 402, sheet 2, DET. F.
- (o) Connect the end of the bonding strap (5) to the rudder II structure with the washers (21), (22), (23), and (24), lock washer (20), and bolt (19). Refer to Figure 401, sheet 2 and Figure 402, sheet 2, DET. G.

SUBTASK 420-006-A

- (4) If you replaced both rods, do the procedures that follow:
 - (a) On the bench, adjust the fork rod end (25) as follows ([Figure 401, Sheet 3](#) and [Figure 402, Sheet 3](#), DET. H):
 - 1 Loosen the jam nut (26) and lock washer (28). Refer to [Figure 401, Sheet 3](#) and [Figure 402, Sheet 3](#), DET. H.
 - 2 Adjust the fork rod end (25) to get the length of 25.4 mm (1.0 in). Refer to [Figure 401, Sheet 3](#) and [Figure 402, Sheet 3](#), DET. K.
 - 3 Put a pin with a diameter of 1.27 mm (0.05 in) into rod inspection hole. The pin must touch the rod end and not go through it. Refer to Figure 401, sheet 4 and Figure 402, sheet 4.
 - 4 If the pin goes through the rod end, adjust the rod and do the security check again.
 - 5 Apply a torque of 22.6 - 27.1 N.m (200 - 240 lbf.in) to the fork end jam nut (26). Make sure that the locking tab washer (28) is correctly aligned with rod body slot, the locking tab is not damaged, and the bonding strap (5) is correctly installed. Refer to [Figure 401, Sheet 3](#) and [Figure 402, Sheet 3](#), DET. H and DET. K.

WARNING: USE EYE PROTECTION WHEN YOU REMOVE OR INSTALL LOCKWIRE OR SAFETY CABLE. IF YOU DO NOT USE EYE PROTECTION, CUT PIECES OF WIRE CAN HIT YOUR EYES AND CAUSE INJURY.

- 6 Put a lock wire on the jam nut (26). Refer to [Figure 401, Sheet 3](#) and [Figure 402, Sheet 3](#), DET. H.
- (b) On the bench, adjust the spherical bearing rod end (32) as follows ([Figure 401, Sheet 3](#) and [Figure 402, Sheet 3](#), DET. J):

- 1 Loosen the jam nut (30) and lock washer (29). Refer to [Figure 401, Sheet 3](#) and [Figure 402, Sheet 3](#), DET. J.
 - 2 Adjust the spherical bearing rod end (32) to get the length of ([Figure 401, Sheet 3](#) and [Figure 402, Sheet 3](#), DET. J):
 - 393,7 mm (15.5 in) for the lower rod
 - 368,3 mm (14.5 in) for the upper rod

NOTE: • The length must be measured from the fork rod end center to the spherical bearing rod end center;

 - The final adjustment of the control rod is done on the aircraft.
 - 3 Put a pin with a diameter of 1.27 mm (0.05 in) into rod inspection hole. The pin must touch the rod end and not go through it. Refer to Figure 401, sheet 4 and Figure 402, sheet 4.
- NOTE: Do not apply the final torque to the jam nut at this moment.
- 4 If the pin goes through the rod end, adjust the rod and do the security check again.
 - (c) Put the control rods (1) into position, through the rudder I structure, on the support on the stabilizer structure. Refer to [Figure 401, Sheet 1](#) and [Figure 402, Sheet 1](#), DET. E.
- NOTE: Make sure that rudder II is fully deflected to the left
- WARNING: CORROSION-INHIBITING COMPOUND IS TOXIC TO SKIN, EYES, AND RESPIRATORY TRACT. USE PVC GLOVES AND EYE PROTECTION. USE ONLY IN WELL VENTILATED AREAS. OBEY THE MANUFACTURERS' HEALTH AND SAFETY INSTRUCTIONS.**
- (d) Apply corrosion-inhibiting compound to the bolt (13). Use gloves, goggles, and a brush to do this operation. Refer to [Figure 401, Sheet 1](#) and [Figure 402, Sheet 1](#), DET. E.
 - (e) Install the bolt (13), washers (12) and (9) and nut (10) to connect the fork rod end of the control rod (1) to the support on the stabilizer structure. Refer to [Figure 401, Sheet 1](#) and [Figure 402, Sheet 1](#), DET. E.
 - (f) Torque the nut (10) ([AMM MPP 20-10-01/200](#)). Refer to [Figure 401, Sheet 1](#) and [Figure 402, Sheet 1](#), DET. E.
 - (g) Safety the nut (10) with a new cotter pin (11) ([AMM MPP 20-10-02/200](#)). Refer to [Figure 401, Sheet 1](#) and [Figure 402, Sheet 1](#), DET. E.
 - (h) Install the rig pins to the PCU. Refer to [Figure 403](#).
 - (i) Pressurize the hydraulic system 2 ([AMM TASK 29-10-00-860-801-A/200](#)).
 - (j) Install the gauge setting (GSE 336) as shown in [Figure 404](#).

- (k) Adjust the length of the lower control rod to let the rudder II trailing edge between the zero degree limit mark of the gauge setting with a tolerance of ± 1 degree. Do as follows:
- 1 Loosen the jam nut (30) and lock washer (29). Refer to [Figure 401, Sheet 3](#) and [Figure 402, Sheet 3](#), DET. J.
 - 2 Adjust the spherical bearing rod end (32) as necessary to install it. Refer to [Figure 401, Sheet 3](#) and [Figure 402, Sheet 3](#), DET. H.
 - 3 Put a pin with a diameter of 1.27 mm (0.05 in) into rod inspection hole. The pin must touch the rod end and not go through it. Refer to Figure 401, sheet 4 and Figure 402, sheet 4.
 - 4 If the pin goes through the rod end, adjust the rod and do the security check again.
 - 5 Apply a torque of 16.4 - 19.8 N.m (145 - 175 lbf.in) to the spherical bearing rod end jam nut (30). Make sure that the locking tab washer (29) is correctly aligned with the rod body slot, the locking tab is not damaged, and the bonding strap (5) is correctly installed. Refer to [Figure 401, Sheet 3](#) and [Figure 402, Sheet 3](#), DET. J and DET. L.

WARNING: USE EYE PROTECTION WHEN YOU REMOVE OR INSTALL LOCKWIRE OR SAFETY CABLE. IF YOU DO NOT USE EYE PROTECTION, CUT PIECES OF WIRE CAN HIT YOUR EYES AND CAUSE INJURY.

- 6 Put a lock wire on the jam nut (30). Refer to [Figure 401, Sheet 3](#) and [Figure 402, Sheet 3](#), DET. J.
- (l) Release the pressure from the hydraulic system 2 ([AMM TASK 29-10-00-860-801-A/200](#)).
- (m) Remove the gauge setting (GSE 336) [Figure 404](#).
- (n) Remove the rig pins from the PCU. Refer to [Figure 403](#).

WARNING: CORROSION-INHIBITING COMPOUND IS TOXIC TO SKIN, EYES, AND RESPIRATORY TRACT. USE PVC GLOVES AND EYE PROTECTION. USE ONLY IN WELL VENTILATED AREAS. OBEY THE MANUFACTURERS' HEALTH AND SAFETY INSTRUCTIONS.

- (o) Apply corrosion-inhibiting compound to the bolts (3). Use gloves, goggles, and a brush to do this operation. Refer to [Figure 401, Sheet 1](#) and [Figure 402, Sheet 1](#), DET. C and DET. D.
- (p) Install the bolt (3), washers (4) and (8), bushing (2), nut (7), and cotter pin (6) to connect the end of the control rod (1) to the support on the rudder II structure. Refer to [Figure 401, Sheet 1](#) and [Figure 402, Sheet 1](#), DET. C and DET. D.

NOTE: Make sure that the bolts are installed with the minimum interference as possible.

- (q) Torque the nut (7) ([AMM MPP 20-10-01/200](#)). Refer to [Figure 401, Sheet 1](#) and [Figure 402, Sheet 1](#), DET. C and DET. D.
- (r) Safety the nut (7) with a new cotter pin (6) ([AMM MPP 20-10-02/200](#)). Refer to [Figure 401, Sheet 1](#) and [Figure 402, Sheet 1](#), DET. C and DET. D.
- (s) Prepare the surface for the bonding procedures ([AMM TASK 20-13-21-910-801-A/200](#)). Refer to Figure 401, sheet 2 and Figure 402, sheet 2, DET. F and DET. G.
- (t) Connect the end of the bonding strap (5) to the stabilizer with the bolt (14), lock washer (15), washers (16) and (17), and nut (18). Refer to Figure 401, sheet 2 and Figure 402, sheet 2, DET. F.
- (u) Connect the end of the bonding strap (5) to the rudder II structure with the washers (21), (22), (23), and (24), lock washer (20), and bolt (19). Refer to Figure 401, sheet 2 and Figure 402, sheet 2, DET. G.
- (v) To install the other control rod, go to [SUBTASK 420-006-A](#).

J. Follow-on

SUBTASK 842-002-A

- (1) On the circuit breaker panel, close the RUDDER 1 and RUDDER 2 circuit breakers and remove the DO-NOT-CLOSE tag from them.
- (2) Pressurize the hydraulic systems 1 and 2 ([AMM TASK 29-10-00-860-801-A/200](#)).
- (3) Do a check of the rudder neutral position and deflections ([AMM TASK 27-20-00-700-801-A/500](#)).
- (4) Install the access panels 326BL, 326DL and 326EL (AMM MPP 06-42-00/100).
- (5) Install the access panels 325JR, 325AL, 326BL, 326CL, 326DL, 326EL, 327FR, and 327GR (AMM MPP 06-42-00/100, [AMM MPP 52-40-04/400](#)).

