

273019 - Elevator Drive Rod - Lubrication

A. Preparation

SPECIAL TOOLS AND TEST EQUIPMENT

Grease gun	GSE1200474 or equivalent
Grease gun adapter	MS24203 or equivalent
Torque wrench, 100 - 600 inch-pounds (11.30 - 68.80 Nm)	GSE5100726 or equivalent
Universal throwboard	GSE2700124 or equivalent

CONSUMABLES

Cotter pin	MS24665304
Cotter pin	MS24665309
Grease	MIL-G-23827
Mastinox 6856K jointing compound	MIL-P-8116C

(1) Reference(s)

- Safe Ground Maintenance Procedure, 20-00-00, Maintenance Practices
- Open / Close - Checks, 20-00-00, Maintenance Practices
- Use of Universal Throwboard, 27-00-00, Servicing
- Elevator Control System - Rigging / Adjustment, 27-30-00, Adjustment / Test or Code 273028
- Elevator Control System - Operational Test, 27-30-00, Adjustment / Test or Code 273005
- Navigation Lights - Operational Check, 33-42-05, Adjustment / Test or Code 334204

(2) Aircraft Preparation

- (a) Prepare aircraft for safe ground maintenance. See Safe Ground Maintenance Procedure, 20-00-00, Maintenance Practices.
- (b) Ensure hydraulic power is not applied to aircraft.
- (c) Ensure flight control surfaces are clear.

WARNING: **FAILURE TO ENSURE ALL PERSONNEL AND EQUIPMENT ARE CLEAR OF FLIGHT CONTROL SURFACES BEFORE OPERATING FLIGHT CONTROLS MAY RESULT IN SERIOUS INJURY OR DEATH.**

- (d) Install universal throwboard on each elevator. See Use of Universal Throwboard, 27-00-00, Servicing.
- (e) With elevator system in the neutral position, set universal throwboard to 0° with elevator trailing edges aligned with outboard fixed trailing edges of horizontal stabilizer.

CAUTION: DO NOT FORCE THE FLIGHT CONTROL SURFACES AGAINST THE MECHANICAL STOPS. AIRCRAFT FLIGHT CONTROLS MAY BE DAMAGED.

- (f) Record the following surface throws:

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- Elevator trailing edge up position

 - Elevator trailing edge down position

- (g) Remove the following access panels and structure as required to allow access to elevator drive rods (see Figure 1):
- Remove access panel 337ET
 - Remove access panel 323TL
 - Remove access panels 337AL and 337BR
 - Remove access panels 322HR and 323HR
 - Remove the vertical stabilizer trailing edge assembly
- (h) Prior to removing access panel 337DB from aircraft, disconnect cannon plug and necessary hardware from tail position navigation light.
- (i) Remove access panel 337DB from aircraft.

B. Procedure

WARNING: MANY OF THE MATERIALS SPECIFIED HAVE SIGNIFICANT OCCUPATIONAL SAFETY, HEALTH OR ENVIRONMENTAL REQUIREMENTS RELATED TO THEIR USE. SAFETY DATA SHEETS SHALL BE CONSULTED FOR ALL MATERIALS TO DETERMINE THE MANUFACTURERS RECOMMENDATIONS CONCERNING OCCUPATIONAL EXPOSURE PRECAUTIONS. IT IS THE SOLE RESPONSIBILITY OF THE USER TO ENSURE PROTECTION FROM INJURY OR EXPOSURE, SAFE APPLICATION OF MATERIALS AND COMPLIANCE WITH ANY FEDERAL, STATE OR LOCAL REGULATIONS REGARDING THE USE OF ANY OF THE MATERIALS SPECIFIED.

CAUTION: DO NOT ADJUST THE ELEVATOR DRIVE ROD LENGTHS AT ANY TIME DURING THIS PROCEDURE. IF THE ROD END LENGTHS CHANGE AND CANNOT BE REINSTALLED WITH RIG PINS INSERTED WITHOUT ADJUSTMENT AND/OR ELEVATOR SURFACE THROWS ARE CHANGED AT THE END OF THE PROCEDURE, ELEVATOR CONTROL SYSTEM RIGGING / ADJUSTMENT MUST BE PERFORMED.

NOTE: The following numbers in parentheses () are used in conjunction with Figure 2.

Removal of elevator drive rods is not required if high pressure lubrication fittings are accessible.

- (1) Disconnect forward end (1) of both forward elevator drive rods (8). Remove and discard cotter pins (2). Remove and retain nuts (3), washers (4), bushings (5) and bolts (6).

NOTE: The elevator left and right systems may need to be disconnected temporarily using the cockpit ELEV DISC handle and moved independently to gain access to drive rod attachment hardware.

- (2) Disconnect aft end (7) of both forward elevator drive rods (8). Remove and discard cotter pins (2). Remove and retain nuts (3), washers (4), bushings (5) and bolts (6).
- (3) Remove both forward elevator drive rods (8) from aircraft.

NOTE: Elevator surfaces will be free to pivot so they may need to be secured.

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- (4) Disconnect aft end (9) of both aft elevator drive rods (10). Remove and discard cotter pins (2). Remove and retain nuts (3), washers (4), bushings (5) and bolts (6).

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- (5) Apply lubricant to rod ends of both forward and both aft elevator drive rods (8 places).

NOTE: The remaining bolts should be installed wet with jointing compound (MIL-P-8116C).

- (6) Connect aft end (9) of both aft elevator drive rods (10). Install bolts (6), bushings (5), washers (4) and nuts (3).
- (7) Torque nuts (3) to 440 - 550 inch-pounds (49.71 - 62.14 Nm). Install cotter pins (2).
- (8) Connect aft end (7) of both forward elevator drive rods (8). Install bolts (6), bushings (5), washers (4) and nuts (3).
- (9) Torque nuts (3) to 440 - 550 inch-pounds (49.71 - 62.14 Nm). Install cotter pins (2).
- (10) Connect forward end (1) of both forward elevator drive rods (8). Install bolts (6), bushings (5), washers (4) and nuts (3).
- (11) Torque nuts (3) to 440 - 550 inch-pounds (49.71 - 62.14 Nm). Install cotter pins (2).

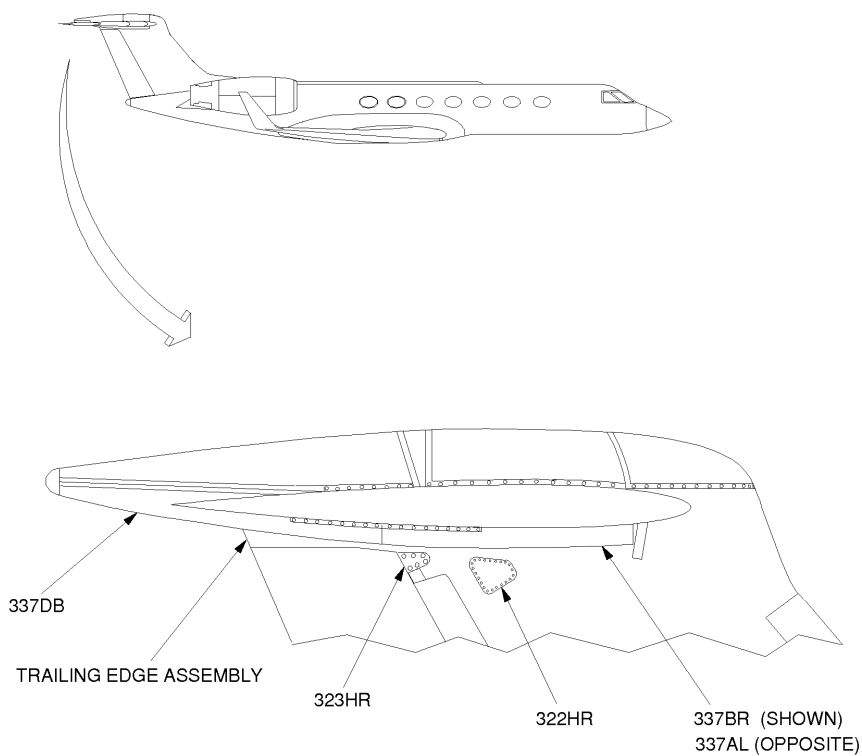
C. Follow On

- (1) Inspect for presence of foreign objects.
- (2) Check elevator surface throws to ensure they match the throws recorded in Step A(2)(f).

NOTE: If surface throws do not match throws recorded in Step A(2)(f), or if rod lengths or rod end adjustment hardware was disturbed at any time during the procedure, perform Elevator Control System - Rigging / Adjustment, 27-30-00, Adjustment / Test or Code 273028.

- (3) Inspect for presence of foreign objects.
- (4) Connect cannon plug and install hardware removed from tail navigation light in Step A(2)(h).
- (5) Perform Open / Close - Checks, 20-00-00, Maintenance Practices.
- (6) Install access panel 337DB removed in Step A(2)(i).
- (7) Install structure and access panels removed in Step A(2)(g).
- (8) Perform Navigation Lights - Operational Check, 33-42-05, Adjustment / Test or Code 334204.
- (9) Perform Elevator Control System - Operational Test, 27-30-00, Adjustment / Test or Code 273005.
- (10) Record all maintenance actions in accordance with current governing authority.

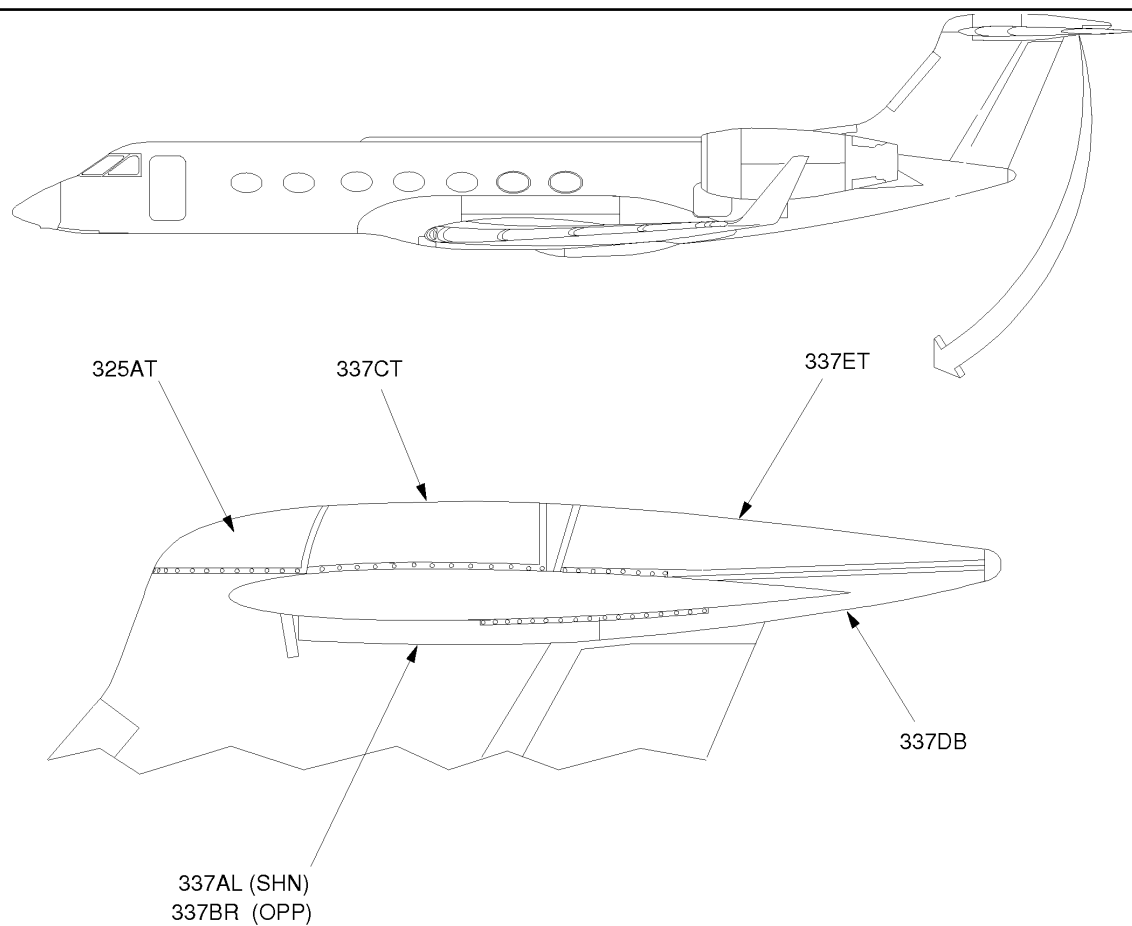
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Empennage Panels
Figure 1 (Sheet 1 of 3)

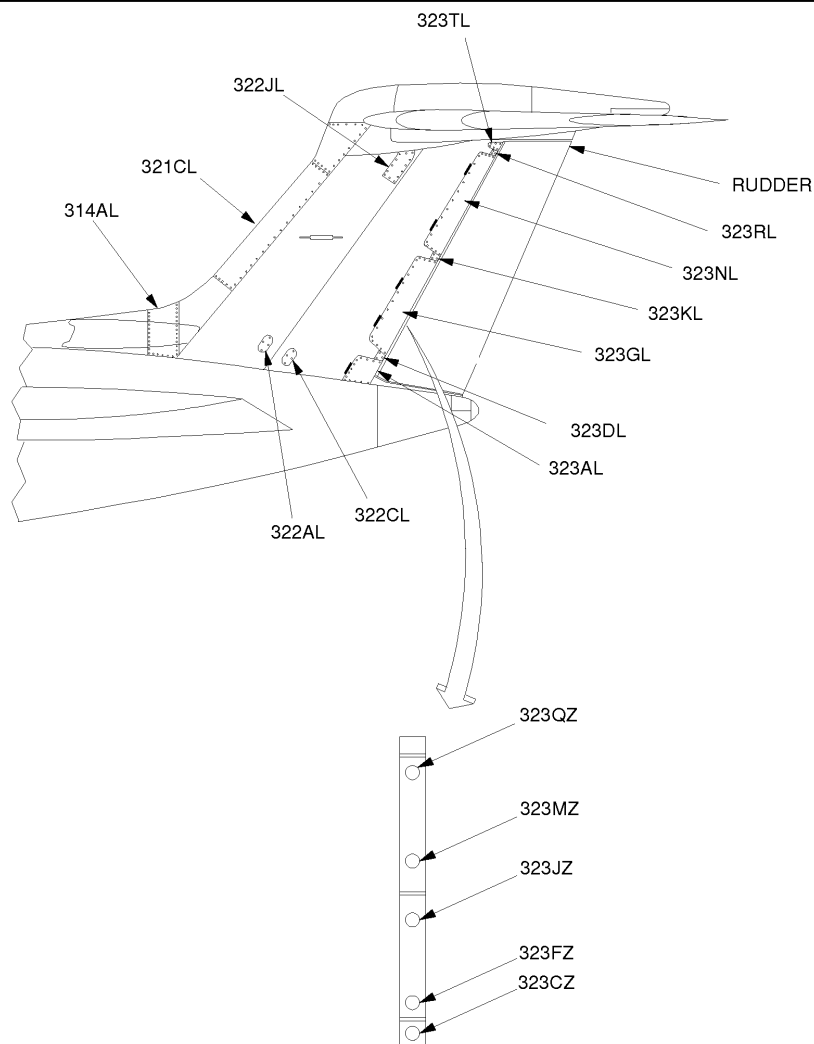
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Empennage Panels
Figure 1 (Sheet 2 of 3)

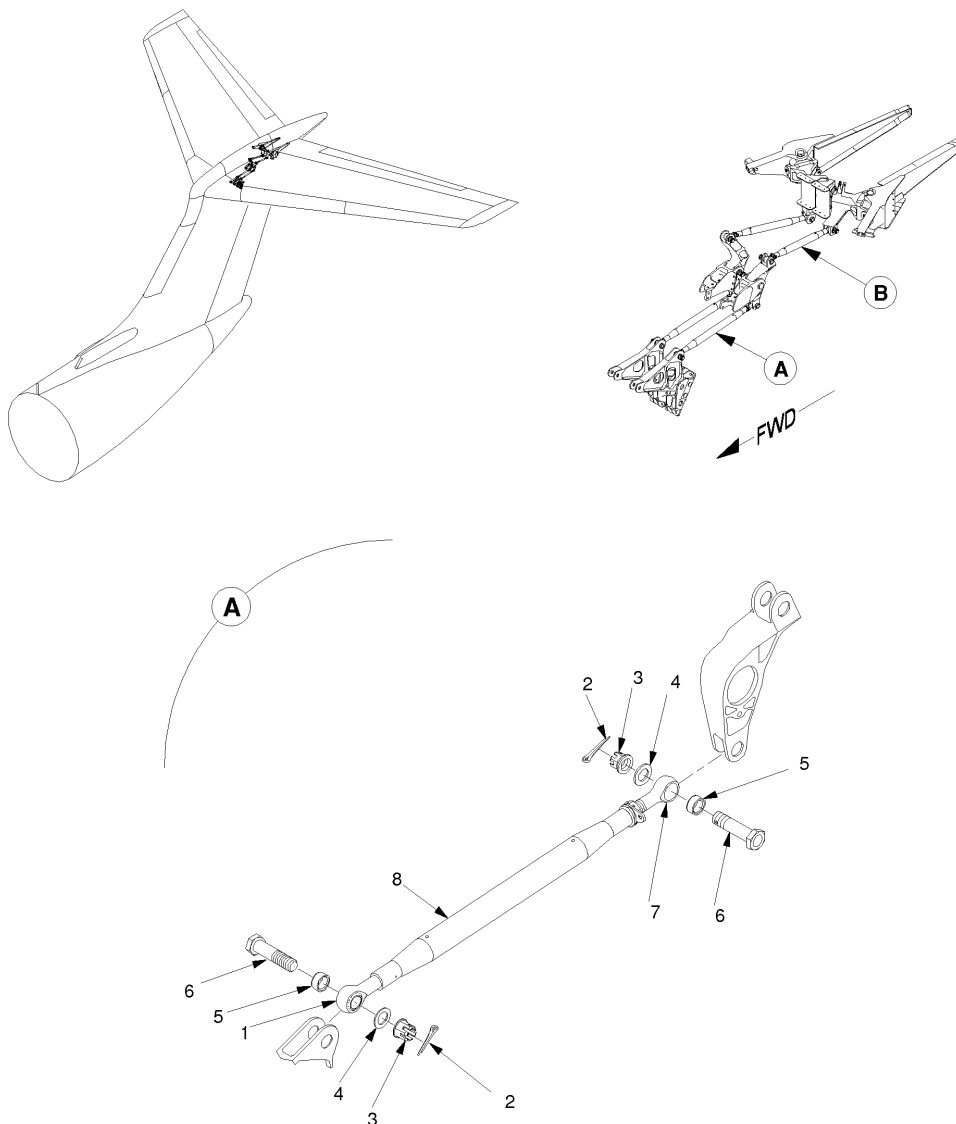
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**REAR VIEW**

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**Empennage Panels
Figure 1 (Sheet 3 of 3)**

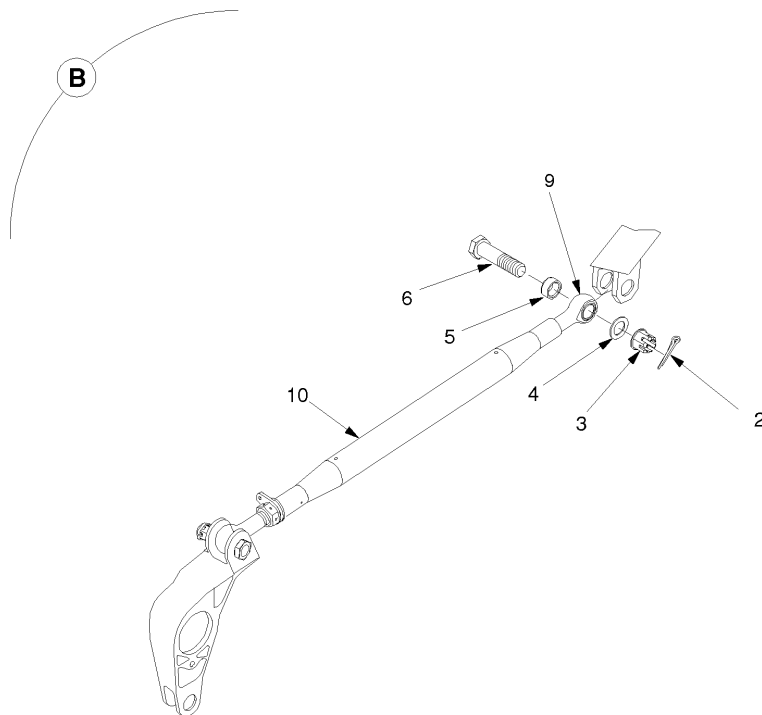
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Elevator / Horizontal Control Rods
Figure 2 (Sheet 1 of 2)

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Elevator / Horizontal Control Rods
Figure 2 (Sheet 2 of 2)