

ELEVATOR TRIM - INSPECTION/CHECK**1. General**

- A. This section has the inspections and checks necessary to keep the elevator trim system in a serviceable condition.

TASK 27-30-02-720**2. Elevator Trim Tab (Free Play) Functional Check****A. General**

- (1) This task gives the procedures to do a elevator trim tab (free play) functional check.

B. Special Tools

- (1) None

C. Access

- (1) None

D. Do the Elevator Trim Tab (Free Play) Functional Check (Refer to Figure 601 and Figure 602).

- (1) Use the cable tensiometer to measure the elevator trim cable tension.

- (a) Make sure that the cable tension is 20 pounds, +5 or -5 pounds (89 N, +22 or -22 N) at 70°F (21°C).

- (2) Put the elevator and trim tab in the neutral position and secure from movement.

- (3) Determine the maximum allowable free play, measuring chord length at the extreme inboard end of the trim tab then multiply the chord length by 0.025 to get the maximum allowable free play.

- (4) Use fingertip pressure and move the trim tab trailing edge up and down to examine free play.

NOTE: Measure free play at the same point on the trim tab that the chord length was measured. Total free play must not exceed the maximum allowable.

- (5) If the trim tab free play is less than the maximum allowable, no additional inspection is required.

- (6) If the trim tab free play is more than the maximum allowable, the following items must be examined:

- (a) Look for loose fasteners on the trim tab doubler.

- (b) Examine the hinge, hinge pin, and fasteners on the trim tab doubler.

- (c) Examine both ends of the push-pull rods and fasteners for wear and loose component parts.

- (d) If corrosion, worn parts, or loose fasteners are found, replace the fasteners and install new parts in system.

- (e) Do a second free play inspection.

- 1 If the free play is still excessive, remove the elevator trim tab actuator from the airplane and set it on a bench. Refer to Elevator Trim - Maintenance Practices.

- 2 Disassemble the actuator and examine the detail parts for corrosion and excessive wear. Refer to Elevator Trim - Maintenance Practices.

- 3 If corrosion or worn parts are found, replace the parts and reassemble the actuator.

- (f) Install the actuator in the airplane. Refer to Elevator Trim - Maintenance Practices.

- (g) Do the free play inspection again.

E. Restore Access

- (1) None

END OF TASK**TASK 27-30-02-640****3. Elevator Trim Tab Actuator (2660017-1) Lubrication****A. General**

- (1) This task gives the procedures to do the elevator trim tab actuator (2660017-1) lubrication.

B. Special Tools

- (1) Grease

C. Access

- (1) None

D. Do the Elevator Trim Tab Actuator (2660017-1) Lubrication (Refer to Figure 202 found in Elevator Trim - Maintenance

Practices).

- (1) Remove the elevator trim tab actuator from the airplane and put it on a bench. Refer to Elevator Trim - Maintenance Practices.
- (2) Disassemble the elevator trim tab actuator. Refer to Elevator Trim - Maintenance Practices.
- (3) Do the Elevator Trim Tab Actuator Inspection/Repair. Refer to Elevator Trim - Maintenance Practices.
- (4) Do the lubrication and the assembly steps found in Elevator Trim Tab Actuator Lubrication and Assembly (Airplanes with 2660017- 1 Trim Tab Actuator Installed). Refer to Elevator Trim - Maintenance Practices.
- (5) Install the elevator trim tab actuator in the airplane. Refer to Elevator Trim - Maintenance Practices.

E. Restore Access

- (1) None

END OF TASK

TASK 27-30-02-641

4. Elevator Trim Tab Actuator (2661215-1 and 2661215-9) Lubrication

A. General

- (1) This task gives the procedures to do the elevator trim tab actuator (2661215-1 and 2661215-9) lubrication.

B. Special Tools

- (1) Grease

C. Access

- (1) None

D. Do the Elevator Trim Tab Actuator (2661215-1 and 2661215-9) Lubrication (Refer to Figure 202 found in Elevator Trim - Maintenance Practices).

- (1) Remove the elevator trim tab actuator from the airplane and put it on a bench. Refer to Elevator Trim - Maintenance Practices.
- (2) Disassemble the elevator trim tab actuator. Refer to Elevator Trim - Maintenance Practices.
- (3) Do the Elevator Trim Tab Actuator Inspection/Repair. Refer to Elevator Trim - Maintenance Practices.
- (4) Do the lubrication and the assembly steps found in Elevator Trim Tab Actuator Lubrication and Assembly (Airplanes with 2661215-1 or 2661215-9 Trim Tab Actuator Installed). Refer to Elevator Trim - Maintenance Practices.
- (5) Install the elevator trim tab actuator in the airplane. Refer to Elevator Trim - Maintenance Practices.

E. Restore Access

- (1) None

END OF TASK

5. Elevator Trim System Examine

A. Access

- (1) Remove the applicable floor panels to get access to the elevator control system. Refer to Chapter 6, Access Plates and Panels Identification - Description and Operation.
- (2) Remove vertical stabilizer panel 320A to get access to the elevator control system. Refer to Chapter 6, Access Plates and Panels Identification - Description and Operation.
- (3) If installed, remove the liquid barrier. Refer to Chapter 53, Plates/Skins - Maintenance Practices.

B. Do the Examine of the Elevator Trim System

- (1) Examine the elevator and elevator trim cable runs for correct routing, fraying, and twists.
 - (a) Make sure there is no interference with the adjacent structure, equipment, wiring, plumbing, and other controls.
- (2) Move a cloth along the full length of the elevator trim cables to examine for broken wires.
 - (a) If snags are found or you think that there are broken wires, refer to Chapter 20, Control Cable Wire Breakage and Corrosion Limitations - Maintenance Practices.
- (3) Examine the turnbuckles for correct thread exposure.
 - (a) Make sure that the turnbuckle locking clips are installed correctly. Refer to Chapter 20, Safetying - Maintenance Practices.

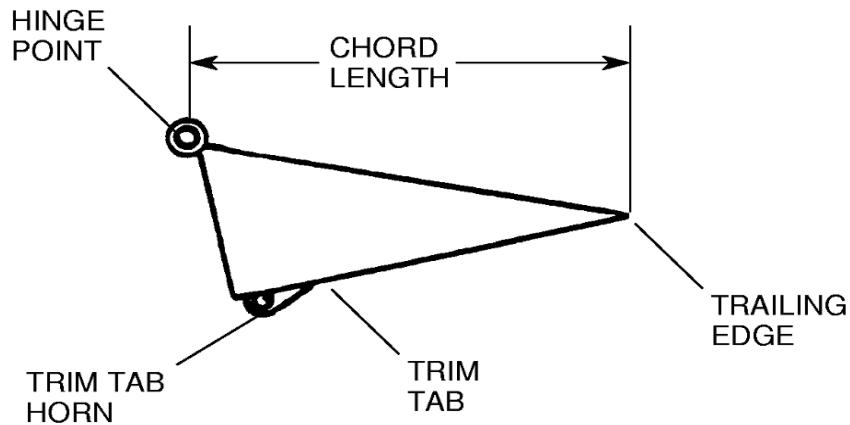
- (4) Examine the cable swage fittings reference marks for an indication of cable slippage inside of the fitting.
 - (a) Examine the fittings for corrosion, distortion, cracks, and broken wires at the fittings.
- (5) Examine the pulleys, attach brackets, and guard pins for condition, wear, corrosion, and security.
 - (a) You must turn the pulleys to make sure there freedom of movement and to make sure there is even wear of the pulleys.
 - (b) If discrepancies are found with the brackets, examine the structure where the brackets are attached for hidden damage.
- (6) Examine the elevator trim tab actuator mounting structure for corrosion, damage, cracks, and security of installation at the horizontal stabilizer rear spar.
- (7) Examine the elevator trim tab actuators for corrosion, damage, and security.
 - (a) Make sure the elevator trim actuator mount is correctly attached to the mounting bracket with four bolts and correct safetying.
- (8) Examine the chain for corrosion, tension, and correct alignment
 - (a) Make sure that the chain is correctly attached to the cable assembly with the chain connecting links.
- (9) Make sure the chain is correctly centered and aligned on the sprocket.
 - (a) The chain guard posts must be correctly installed and attached with safety wire.
- (10) Examine the elevator trim tab actuator pushrods and attaching hardware for corrosion, condition, damage, wear and security of installation.
- (11) Examine the elevator trim actuator motor for corrosion, security of installation, and signs of overheating.

C. Restore Access

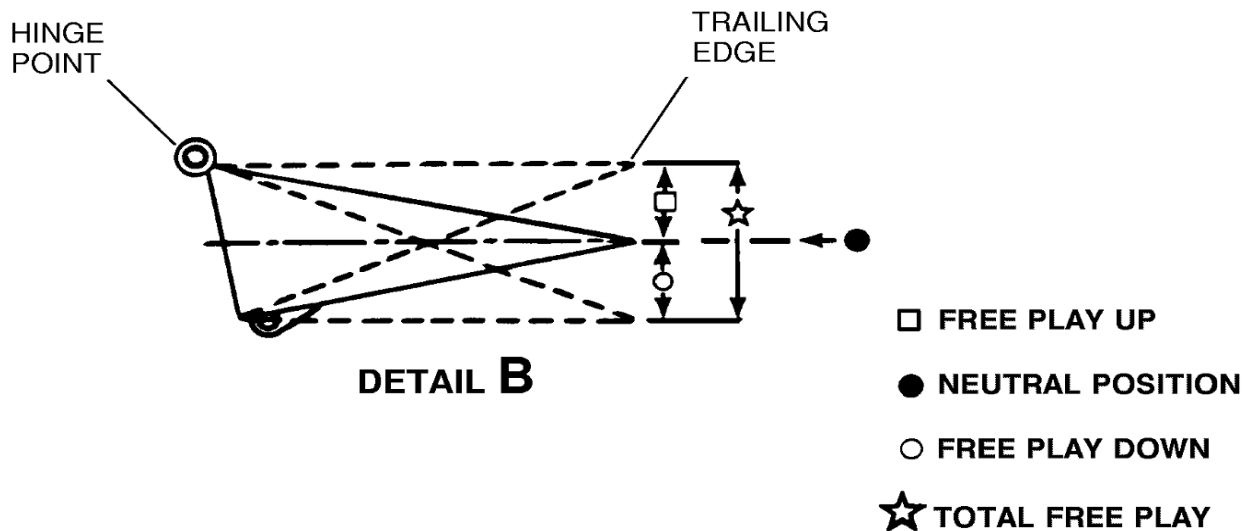
- (1) If installed, install the liquid barrier. Refer to Chapter 53, Plates/Skins - Maintenance Practices.
- (2) Install vertical stabilizer panel 320A. Refer to Chapter 6, Access Plates and Panels Identification - Description and Operation.
- (3) Install the applicable floor panels that were removed to get access to the elevator control system. Refer to Chapter 6, Access Plates and Panels Identification - Description and Operation.

Figure 601 : Sheet 1 : Elevator Trim Tab (Free Play) Functional Check

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DETAIL A



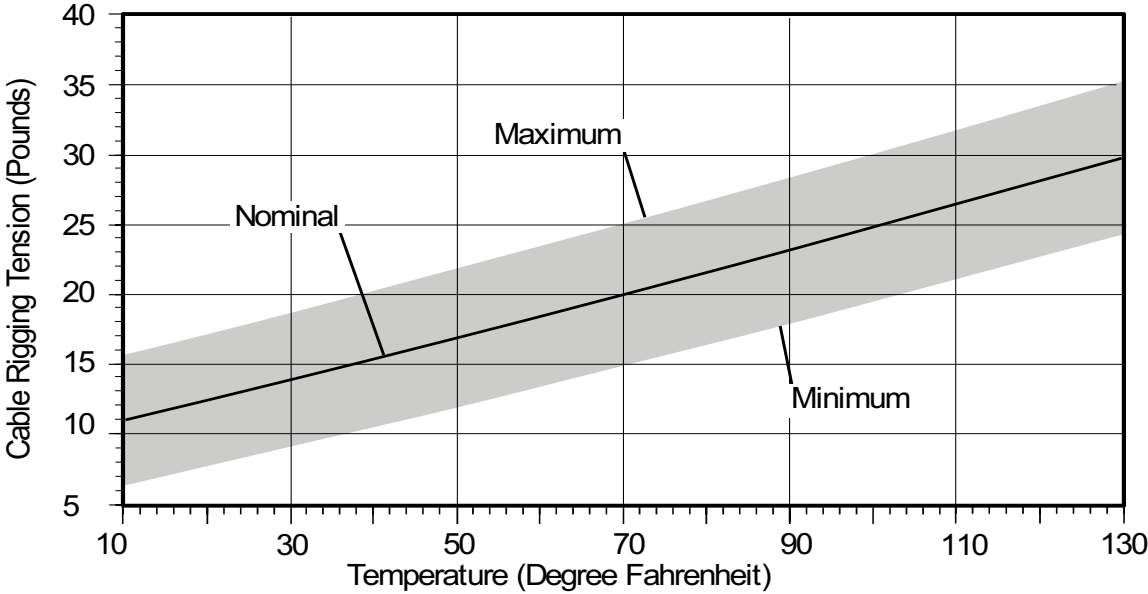
1. MEASURE CHORD LENGTH AT EXTREME INBOARD END OF TRIM TAB AS SHOWN IN DETAIL A.
2. MULTIPLY CHORD LENGTH BY 0.025 TO OBTAIN MAXIMUM ALLOWABLE FREE PLAY.
3. MEASURE FREE PLAY AT SAME POINT ON TRIM TAB THAT CHORD LENGTH WAS MEASURED.
4. TOTAL FREE PLAY MUST NOT EXCEED MAXIMUM ALLOWABLE. REFER TO DETAIL B.

2661X1033

Figure 602 : Sheet 1 : Temperature Effect on Cable Tension - 208/208B Elevator Trim Cables (1/8" 7*19 CRES)

A104791

Temperature Effect on Cable Tension - 208/208B Elevator Trim Cables (1/8" 7x19 CRES)



Temperature Effect on Cable Tension - 208/208B Elevator Trim Cables (1/16" 7x7 CRES)

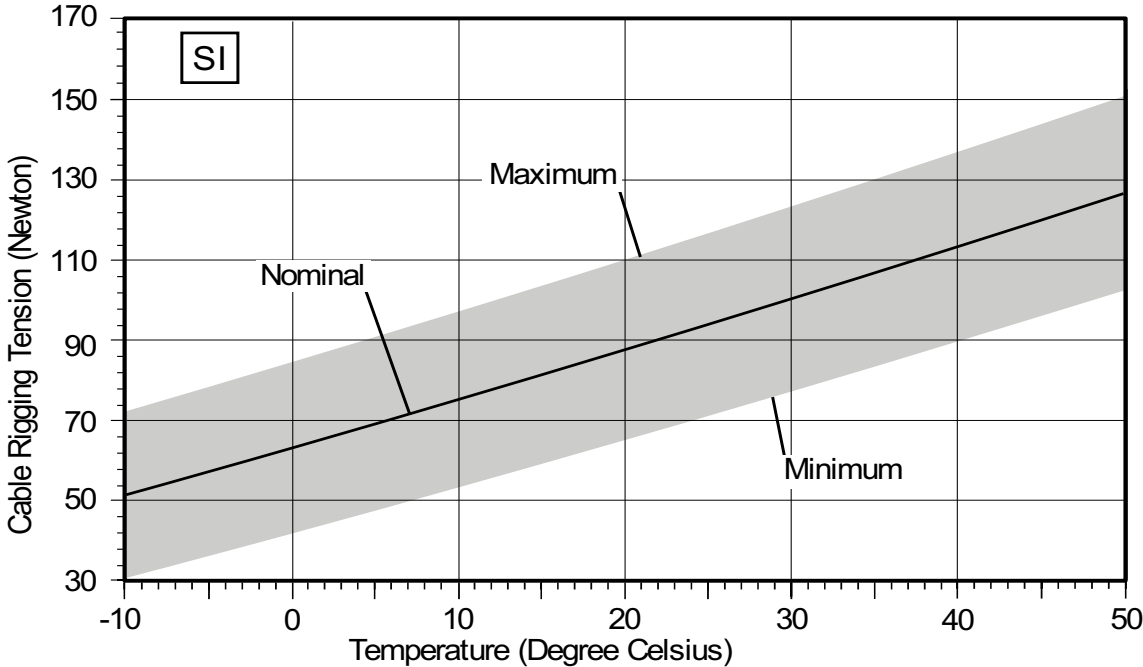


Figure 202 : Sheet 1 : Elevator Trim Tab Actuator

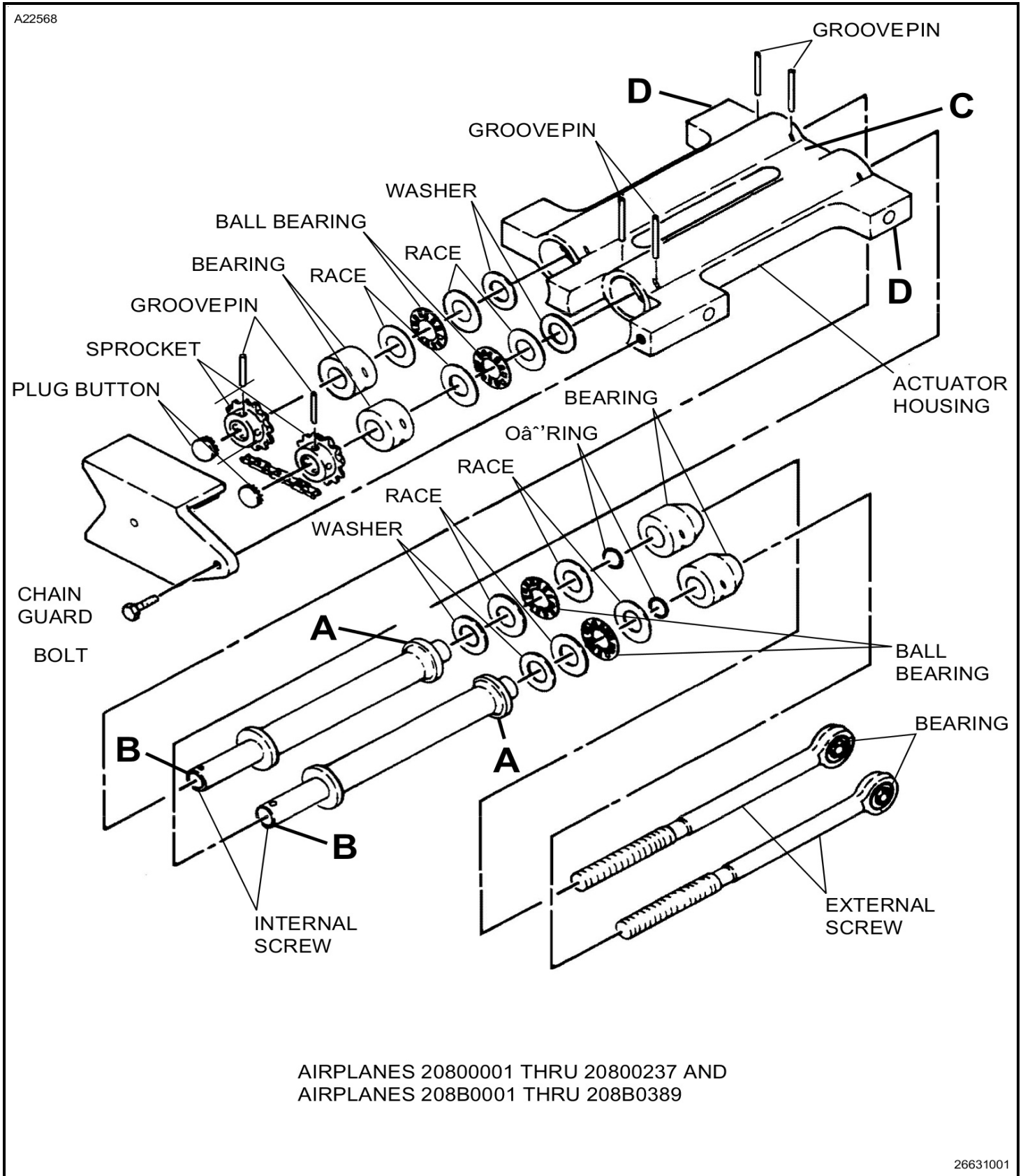
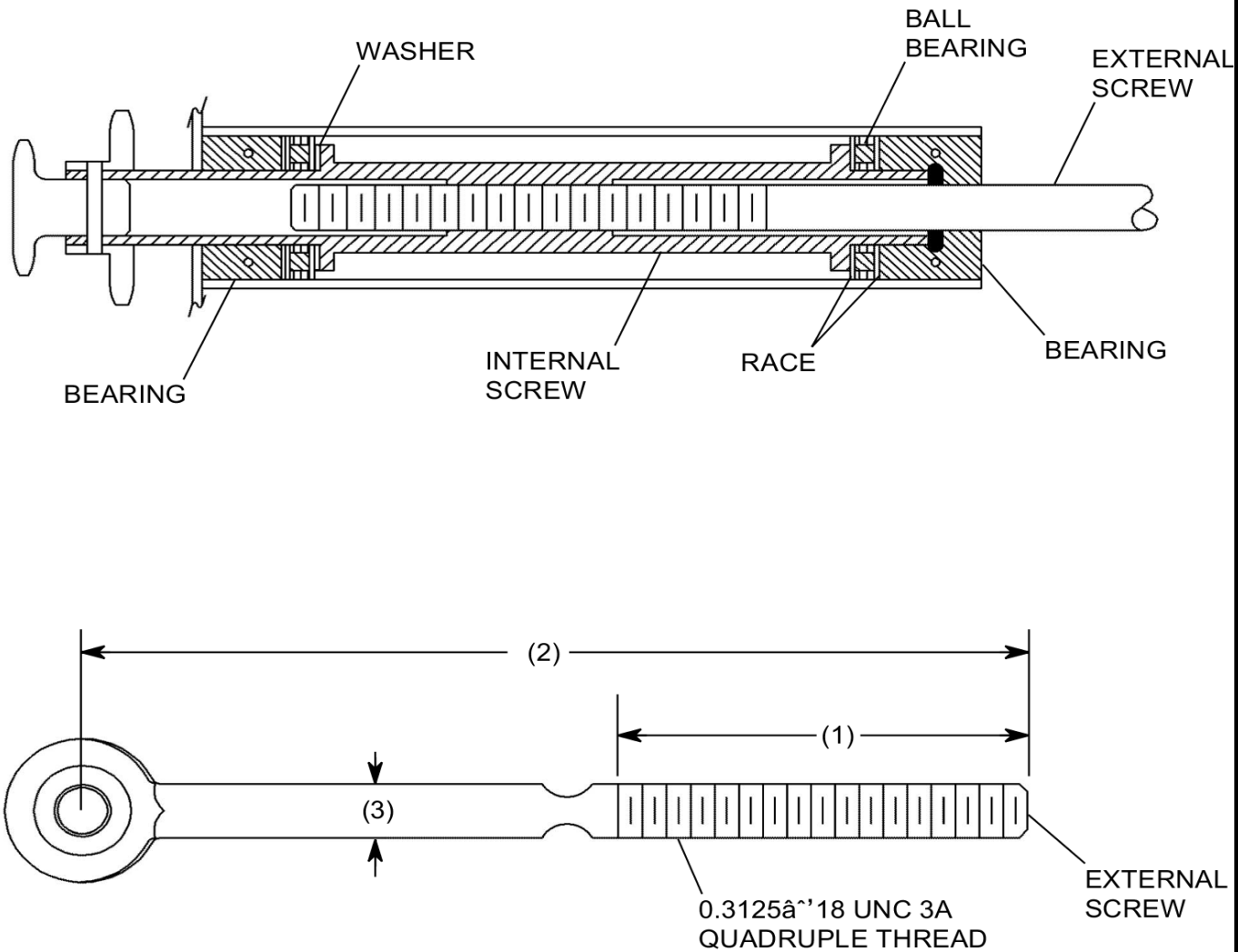


Figure 202 : Sheet 2 : Elevator Trim Tab Actuator

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ROD MUST BE STRAIGHT WITHIN
0.0003 INCH (0.0076 mm) AND CONCENTRIC
WITHIN 0.002 INCH (0.051 mm) TRUE
INDICATOR READING.

(1) 2.00 INCHES (50.8 mm)

(2) 5.60 INCHES (142.24 mm)

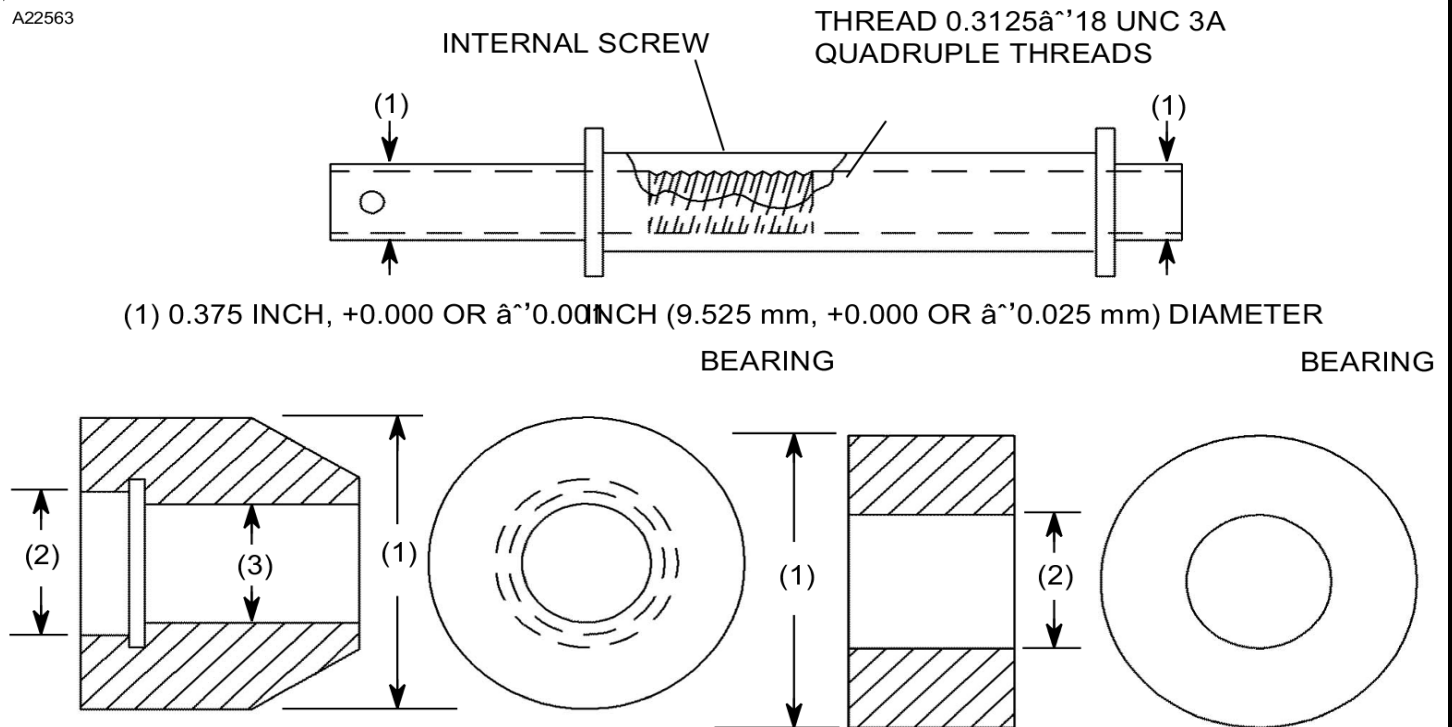
(3) 0.3075 INCH, +0.0010 OR $\hat{\sim}$ 0.0000 INCH (7.810 mm, +0.025 OR $\hat{\sim}$ 0.000 mm) DIAMETER

AIRPLANES 20800001 THRU 20800237 AND
AIRPLANES 208B0001 THRU 208B0389

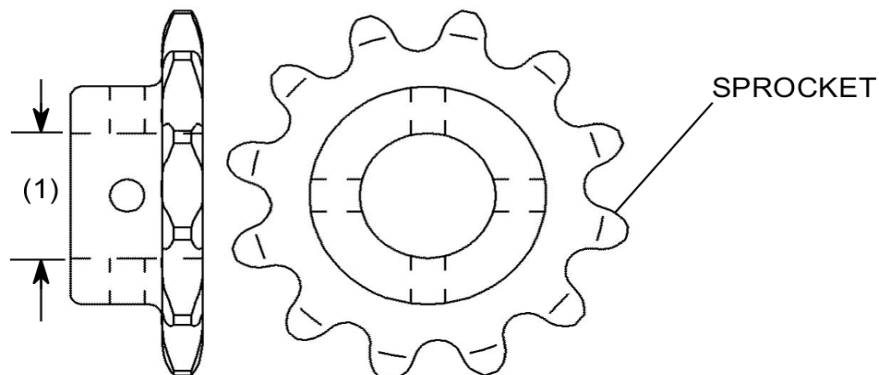
5596C1007
5596C1022

Figure 202 : Sheet 3 : Elevator Trim Tab Actuator

A22563

(1) 0.828 INCH, +0.000 OR ± 0.001 INCH(21.03 mm, +0.000 OR ± 0.025 mm) DIAMETER (NOTE)(1) 0.828 INCH, +0.000 OR ± 0.001 INCH(21.03 mm, +0.000 OR ± 0.025 mm) DIAMETER(2) 0.383 INCH, +0.001 OR ± 0.001 INCH(9.728 mm, +0.025 OR ± 0.025 mm) DIAMETER (NOTE)(2) 0.383 INCH, +0.001 OR ± 0.001 INCH(9.728 mm, +0.025 OR ± 0.025 mm) DIAMETER(3) 0.311 INCH, +0.001 OR ± 0.000 INCH(7.900 mm, +0.025 OR ± 0.000 mm) DIAMETER (NOTE)

NOTE: (1) MUST BE CONCENTRIC TO (2) AND (3) WITHIN 0.002 INCH (0.051 mm) TOTAL INDICATOR READING.

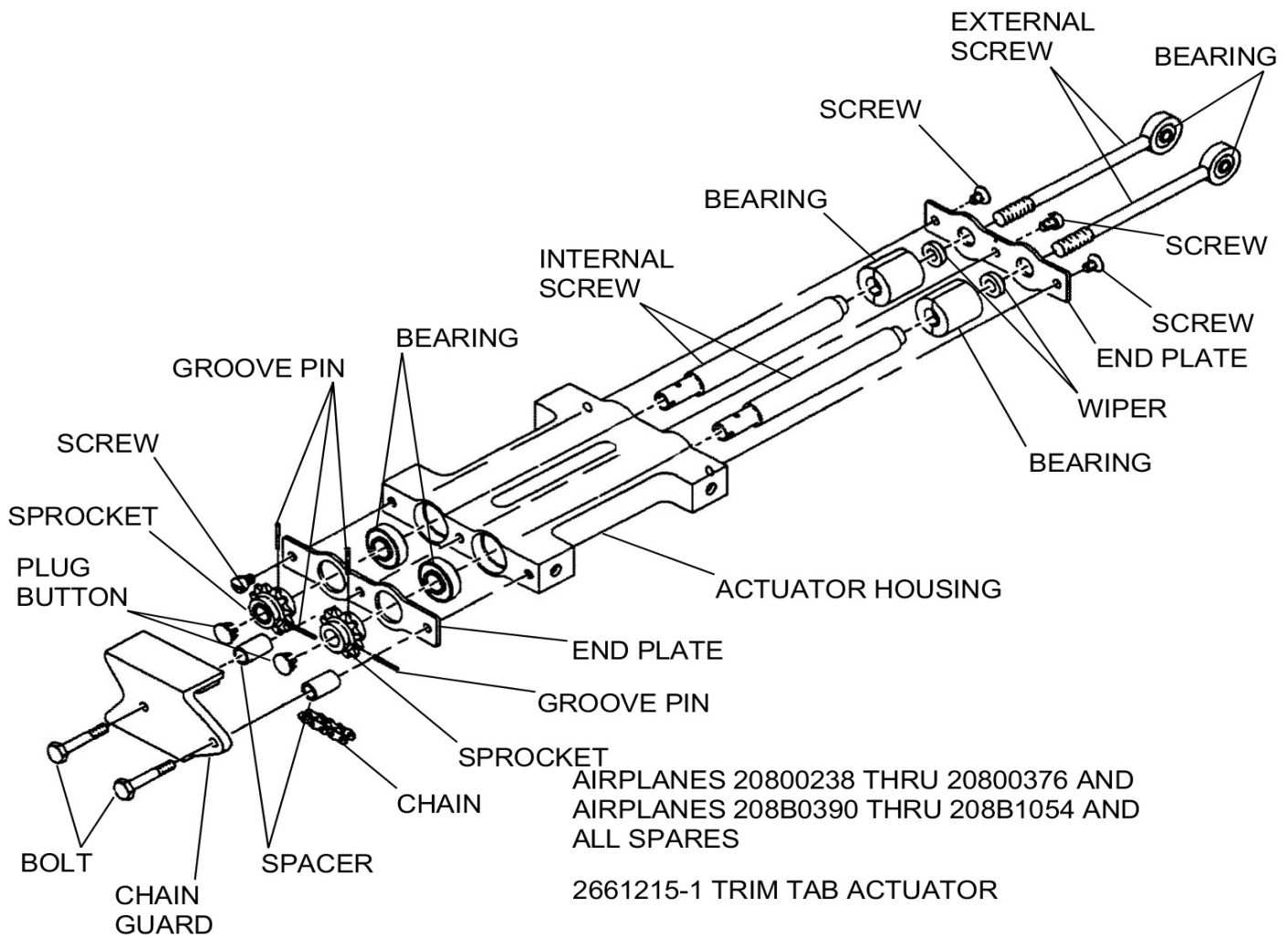
(1) 0.3775 INCH, +0.000 OR ± 0.000 INCH (9.588 mm, +0.000 OR ± 0.000 mm) DIAMETER

AIRPLANES 20800001 THRU 20800237 AND
AIRPLANES 208B0001 THRU 208B0389

5596C1009
5596C1006
5596C1006
5596C1021

Figure 202 : Sheet 4 : Elevator Trim Tab Actuator

A22565



2661R1023

Figure 202 : Sheet 5 : Elevator Trim Tab Actuator

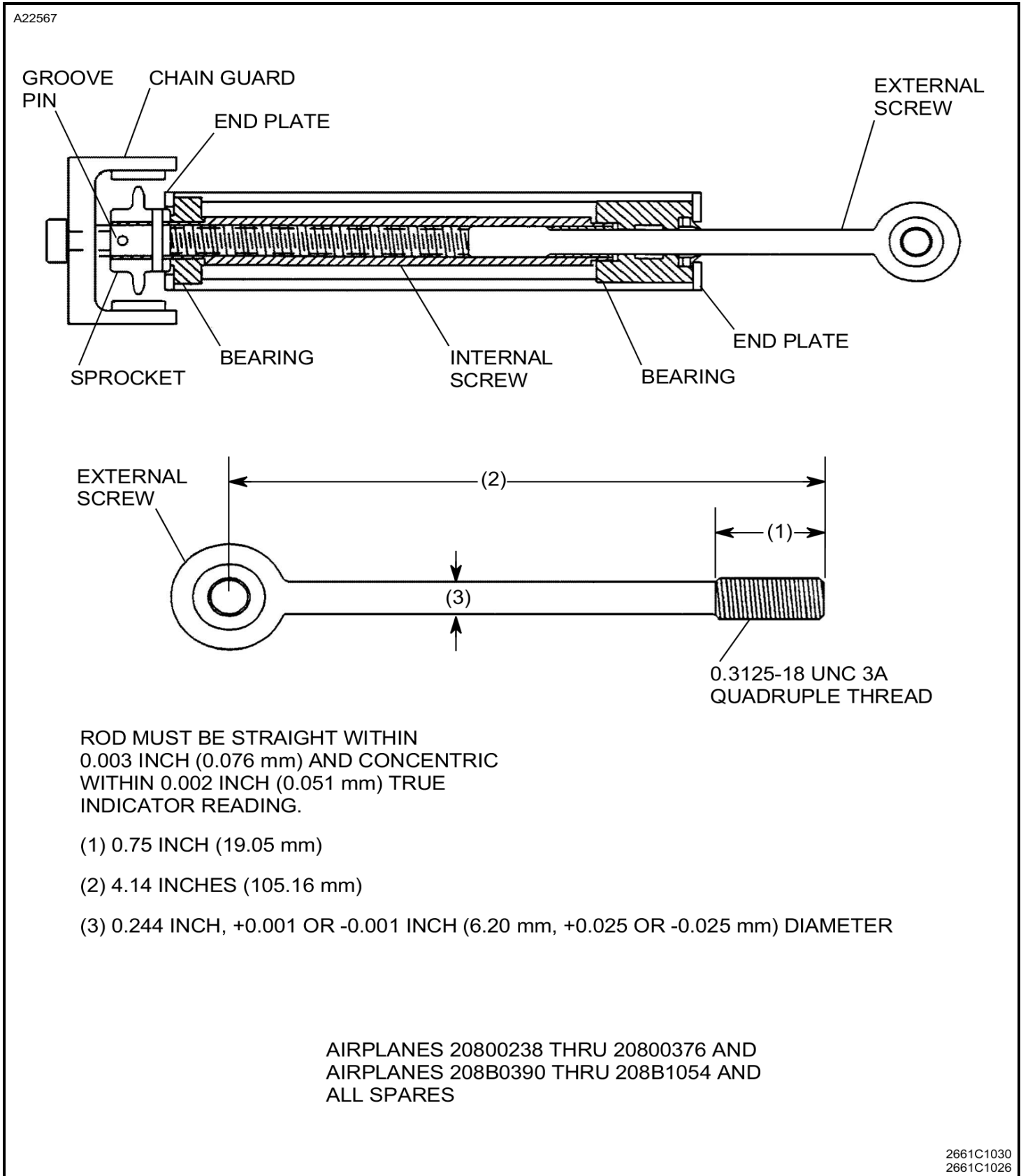
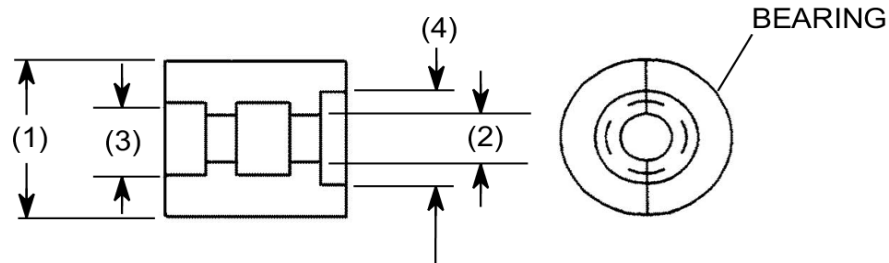
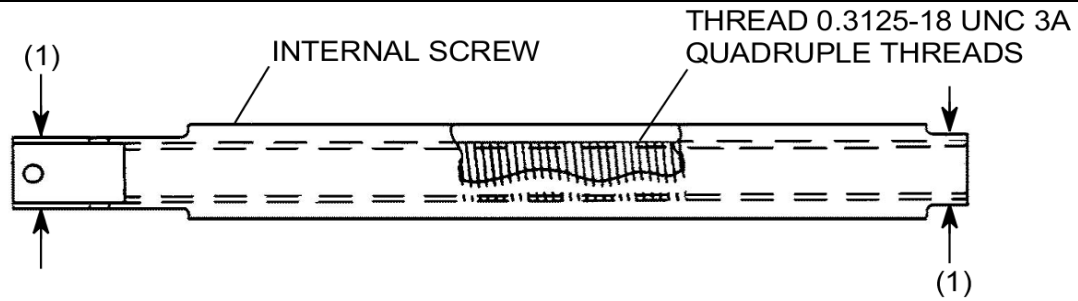


Figure 202 : Sheet 6 : Elevator Trim Tab Actuator

A22569

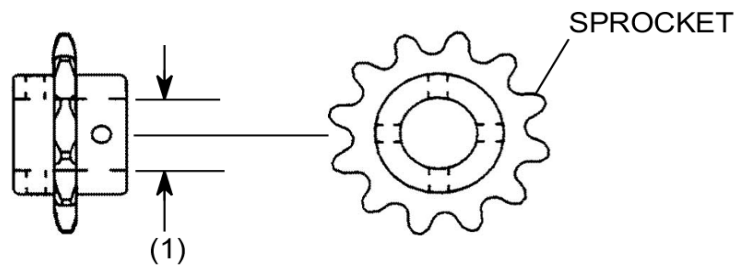


(1) 0.828 INCH, +0.000 OR -0.001 INCH (21.03 mm, +0.000 OR -0.025 mm) DIAMETER

(2) 0.250 INCH, +0.001 OR -0.001 INCH (6.35 mm, +0.025 OR -0.025 mm) DIAMETER

(3) 0.385 INCH, +0.000 OR -0.000 INCH (9.78 mm, +0.000 OR -0.000 mm) DIAMETER

(4) 0.497 INCH, +0.000 OR -0.000 INCH (12.62 mm, +0.000 OR -0.000 mm) DIAMETER



(1) 0.376 INCH, +0.001 OR -0.001 INCH (9.550 mm, +0.025 OR -0.025 mm) DIAMETER

AIRPLANES 20800238 THRU 20800376 AND
AIRPLANES 208B0390 THRU 208B1054 AND
ALL SPARES

2661C1031
2661C1027
2661C1028

Figure 202 : Sheet 7 : Elevator Trim Tab Actuator

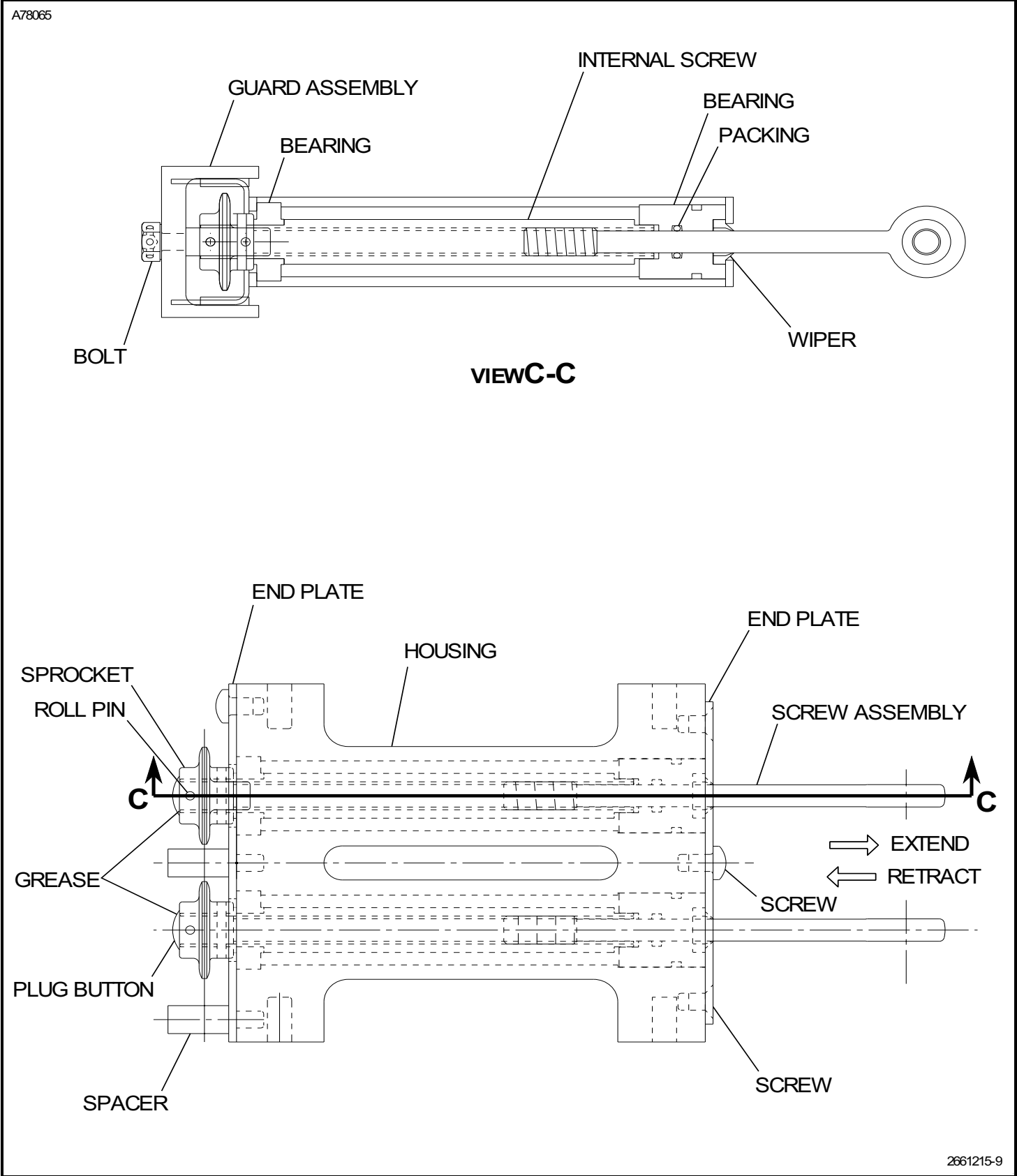
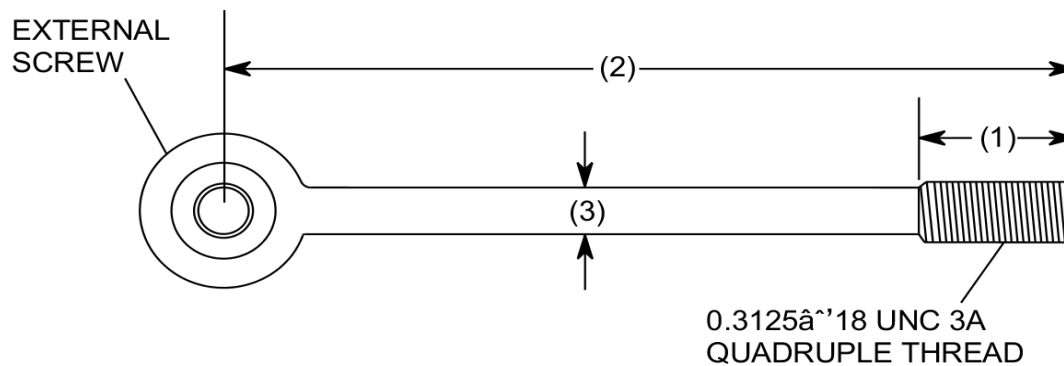
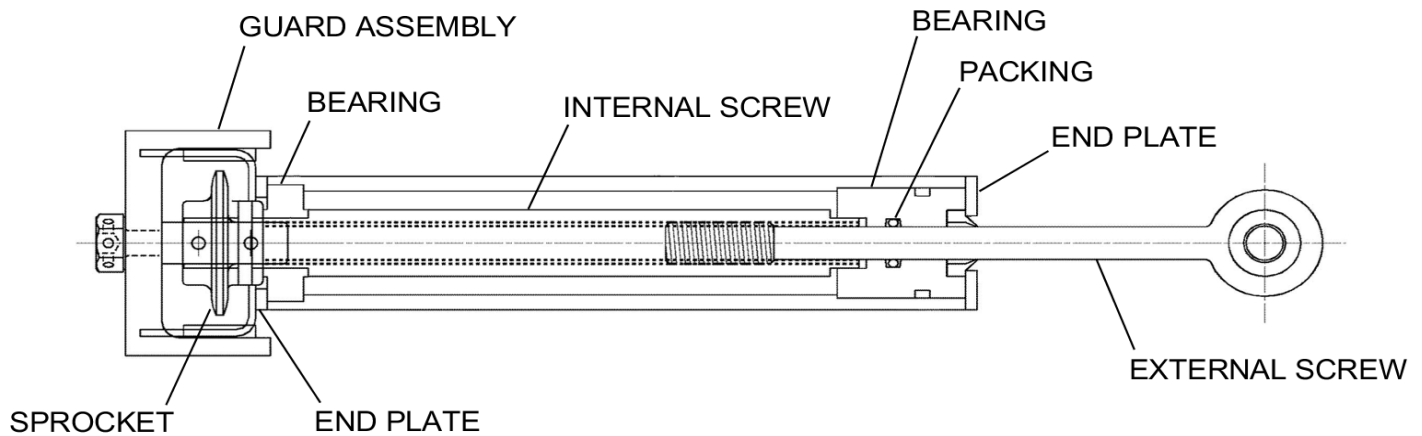


Figure 202 : Sheet 8 : Elevator Trim Tab Actuator

A88209



ROD MUST BE STRAIGHT WITHIN
0.003 INCH (0.076 mm) AND CONCENTRIC
WITHIN 0.002 INCH (0.051 mm) TRUE
INDICATOR READING.

(1) 0.75 INCH (19.05 mm)

(2) 4.14 INCHES (105.16 mm)

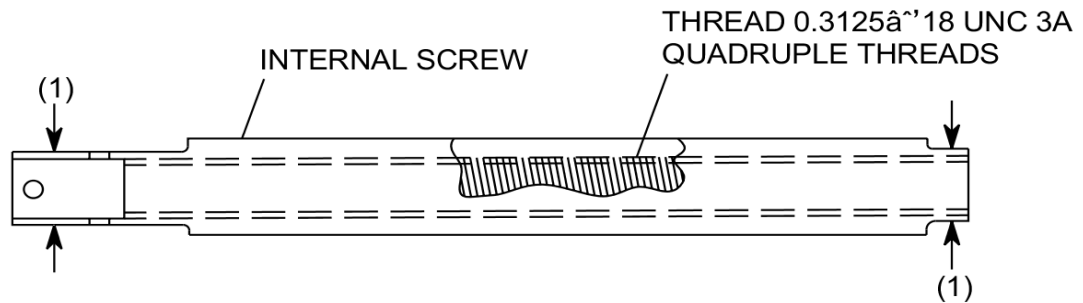
(3) 0.244 INCH, +0.001 OR ± 0.001 INCH (6.20 mm, +0.025 OR ± 0.025 mm) DIAMETER

AIRPLANES 20800377 AND ON AND
AIRPLANES 208B1055 AND ON

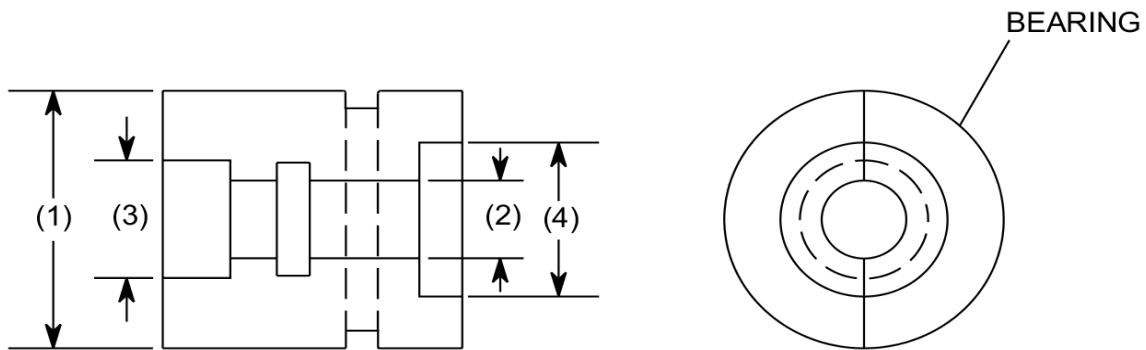
2661R1030
2661R1026

Figure 202 : Sheet 9 : Elevator Trim Tab Actuator

A88210



(1) 0.375 INCH, +0.000 OR \pm 0.001 INCH (9.525 mm, +0.000 OR \pm 0.025 mm) DIAMETER

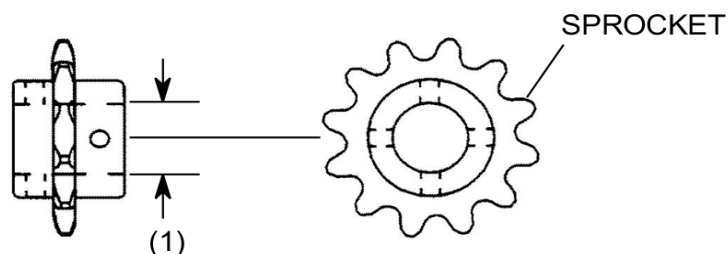


(1) 0.828 INCH, +0.000 OR \pm 0.001 INCH (21.03 mm, +0.000 OR \pm 0.025 mm) DIAMETER

(2) 0.250 INCH, +0.001 OR \pm 0.001 INCH (6.35 mm, +0.025 OR \pm 0.025 mm) DIAMETER

(3) 0.380 INCH, +0.001 OR \pm 0.000 INCH (9.652 mm, +0.025 OR \pm 0.000 mm) DIAMETER

(4) 0.497 INCH, +0.000 OR \pm 0.000 INCH (12.62 mm, +0.000 OR \pm 0.000 mm) DIAMETER



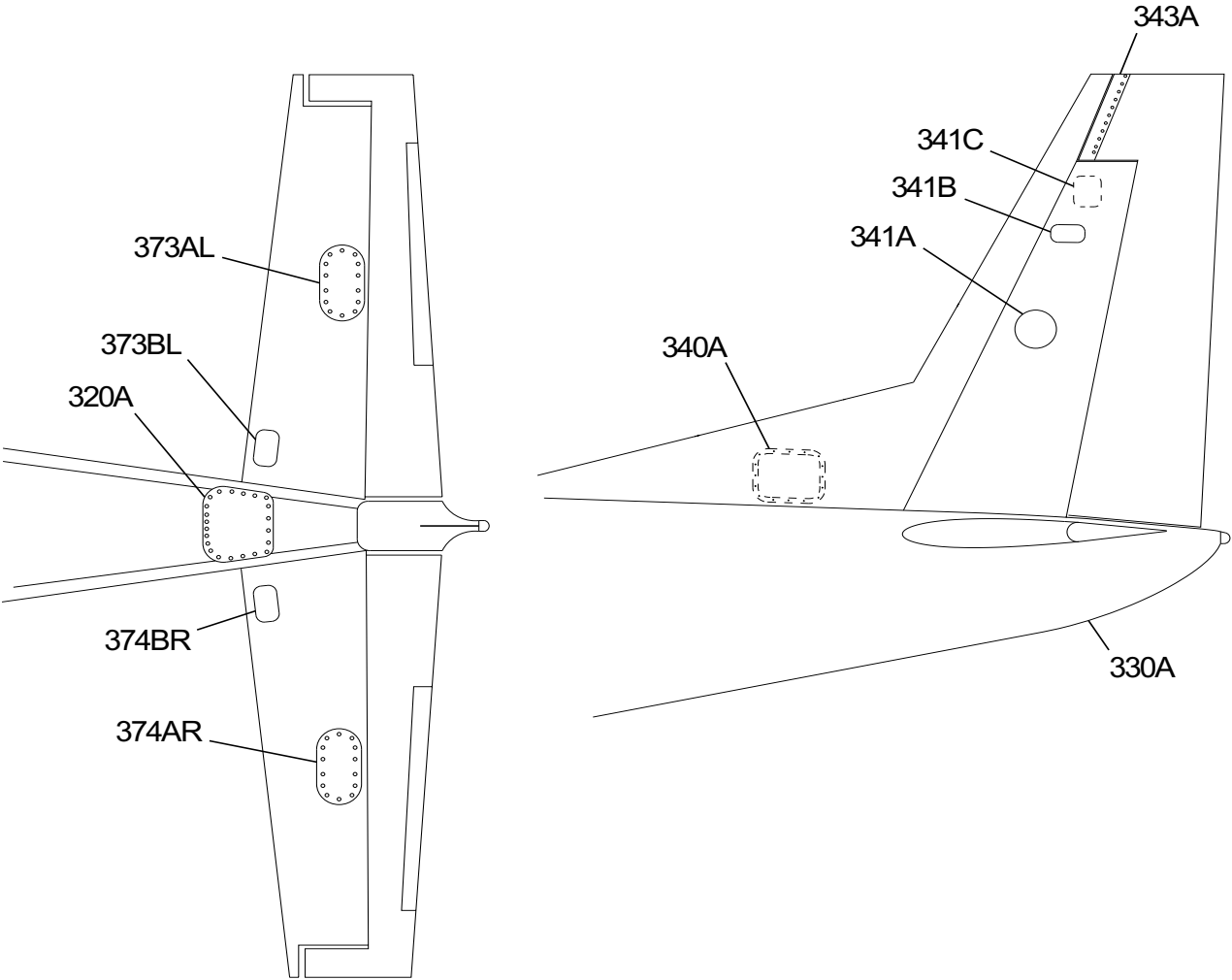
(1) 0.376 INCH, +0.001 OR \pm 0.001 INCH (9.550 mm, +0.025 OR \pm 0.025 mm) DIAMETER

AIRPLANES 20800377 AND ON AND
AIRPLANES 208B1055 AND ON

2661R1031
2661R1027
2661R1028

Figure 9 : Sheet 1 : Aft Fuselage, Horizontal and Vertical Stabilizer Panels

A22967



VIEW LOOKING UP AT TAILCONE

2610T1009