AILERON TRIM SYSTEM - INSPECTION/CHECK

1. General

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

TASK 27-10-02-720

2. Aileron Trim Tab (Free Play) Functional Check

- A. General
 - (1) This task gives the procedures to do an aileron trim tab (free play) functional check.
- B. Special Tools
 - (1) None
- C. Access
 - (1) None
- D. Do the Aileron Trim Tab (Free Play) Functional Check (Refer to Figure 601).
 - (1) Put the ailerons and the trim tab in the neutral position and secure them from movement.
 - (2) Determine maximum allowable free play, measuring chord length at the extreme inboard end of the trim tab then multiply chord length by 0.025 to get the maximum allowable free play.
 - (3) 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.

- (4) If the trim tab free play is less than the maximum allowable, no additional inspection is required.
- (5) 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 aileron trim tab actuator from the airplane and set it on a bench. Refer to Aileron Trim System - Maintenance Practices.
 - <u>2</u> Disassemble the actuator and examine the detail parts for corrosion and excessive wear. Refer to Aileron Trim System 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 Aileron Trim System Maintenance Practices.
 - (g) Do the free play inspection again.
- E. Restore Access
 - (1) None

END OF TASK

TASK 27-10-02-640

3. Aileron Trim System Lubrication

- A. General
 - (1) This task gives the procedures to do the aileron trim system lubrication.
- B. Special Tools
 - (1) Dow Corning Molykote DC 321R Bonded Lubrication Spray
- C. Access
 - (1) Remove the applicable wing panels to get to the aileron trim control cables. Refer to Chapter 6, Access Plates and Panels Identification Description and Operation.
- D. Do the Aileron Trim System Lubrication (Refer to Figure 201 found in Aileron Trim System Maintenance Practices).
 - (1) Move the aileron trim cables to the right until they stop.

(2) Apply Dow Corning Molykote DC 321R lubrication spray on a clean dry cloth until it is damp.

NOTE: This cloth is used to lubricate the aileron trim cables and to help keep the lubrication mist from a spray bottle off of the wing.

- (a) Rub the cloth with the lubrication along the exposed aileron trim cables between the cable ends and the cable housing.
 - 1 Make sure that all exposed sides of the cables are coated with the lubrication.
- (b) Make sure that you apply the Dow Corning Molykote DC 321R lubrication where the cable enters the cable housing opening.
- (3) Move the aileron trim cables to the left until they stop and rub the cloth with the lubrication along the areas that were not initially lubricated.
- E. Restore Access
 - (1) Install the wing access panels. Refer to Chapter 6, Access Plates and Panels Identification Description and Operation.

END OF TASK

TASK 27-10-02-641

4. Aileron Trim Tab Actuator (2660044-1) Lubrication

- A. General
 - (1) This task gives the procedures to do the aileron trim tab actuator (2660044-1) lubrication.
- B. Special Tools
 - (1) Grease
- C. Access
 - (1) None
- D. Do the Aileron Trim Tab Actuator (2660044-1) Lubrication (Refer to Figure 202 found in Aileron Trim System Maintenance Practices).
 - (1) Remove the aileron trim tab actuator from the airplane and put it on a bench. Refer to Aileron Trim System Maintenance Practices.
 - (2) Disassemble the aileron trim tab actuator. Refer to Aileron Trim System Maintenance Practices.
 - (3) Do the Inspection and Repair of Aileron Trim Tab Actuator. Refer to Aileron Trim System Maintenance Practices.
 - (4) Do the lubrication and the assembly steps found in Lubrication and Assembly of Aileron Trim Tab Actuator (Airplanes with 2660044-1 Trim Tab Actuator Installed). Refer to Aileron Trim System Maintenance Practices.
 - (5) Install the aileron trim tab actuator in the airplane. Refer to Aileron Trim System Maintenance Practices.
- E. Restore Access
 - (1) None

END OF TASK

TASK 27-10-02-642

5. Aileron Trim Tab Actuator (2661615-1, 2661615-9, or 2661615-10) Lubrication

- A. General
 - (1) This task gives the procedures to do the aileron trim tab actuator (2661615-1, 2661615-9, or 2661615-10) lubrication.
- B. Special Tools
 - (1) Grease
- C. Access
 - (1) None
- D. Do the Aileron Trim Tab Actuator (2661615-1, 2661615-9, or 2661615-10) Lubrication (Refer to Figure 202 found in Aileron Trim System Maintenance Practices).
 - (1) Remove the aileron trim tab actuator from the airplane and put it on a bench. Refer to Aileron Trim System Maintenance Practices.

- (2) Disassemble the aileron trim tab actuator. Refer to Aileron Trim System Maintenance Practices.
- (3) Do the Inspection and Repair of Aileron Trim Tab Actuator. Refer to Aileron Trim System Maintenance Practices.
- (4) For aileron trim tab actuator (2661615-1), do the lubrication and the assembly steps found in Lubrication and Assembly of Aileron Trim Tab Actuator (Airplanes with 2661615-1 Trim Tab Actuator Installed). Refer to Aileron Trim System Maintenance Practices.
- (5) For aileron trim tab actuators (2661615- 9 or 2661615-10), do the lubrication and the assembly steps found in Lubrication and Assembly of Aileron Trim Tab Actuator (Airplanes with 2661615- 9 or 2661615-10 Trim Tab Actuator Installed). Refer to Aileron Trim System Maintenance Practices.
- (6) Install the aileron trim tab actuator in the airplane. Refer to Aileron Trim System Maintenance Practices.
- E. Restore Access
 - (1) None

END OF TASK

A22531 **CHORD HINGE LENGTH POINT** TRAILING **EDGE TRIM TAB** TRIM **HORN** TAB DETAILA HINGE **TRAILING POINT EDGE** ☐ FREE PLAY UP DETAILB **NEUTRAL POSITION** 1. MEASURE CHORD LENGTH AT EXTREME INBOARD END OF FREE PLAY DOWN TRIM TAB AS SHOWN IN DETAIL A. * TOTAL FREE PLAY 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. 2610T7002 A2661T1033 4. TOTAL FREE-PLAY MUST NOT EXCEED MAXIMUM ALLOWABLE. REFER TO DETAIL B. B2661T1033

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

A22521 26611007

Figure 201 : Sheet 1 : Aileron Trim Installation

Figure 201: Sheet 2: Aileron Trim Installation

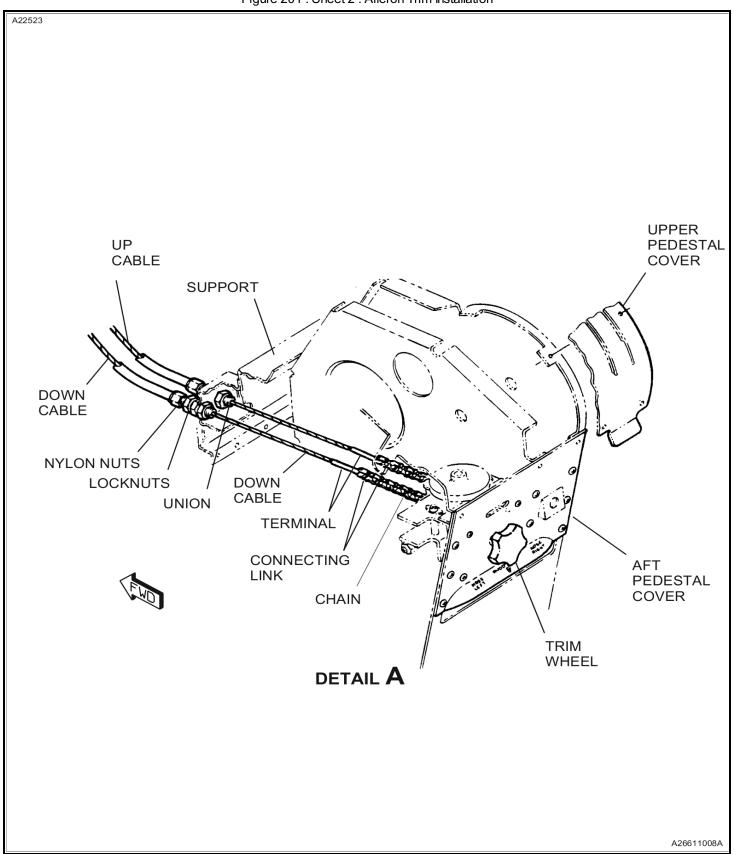


Figure 201 : Sheet 3 : Aileron Trim Installation

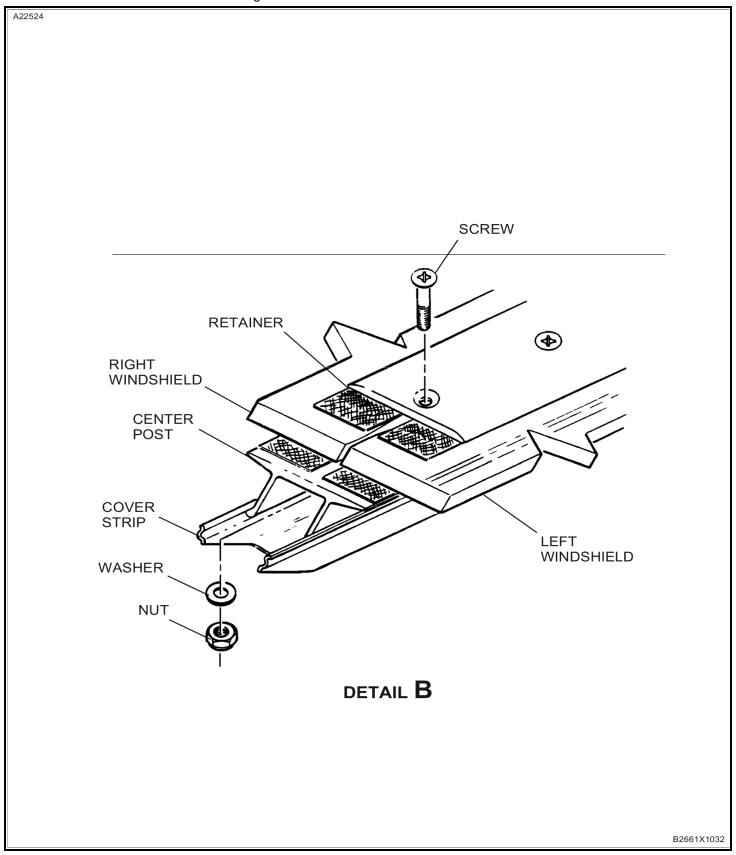
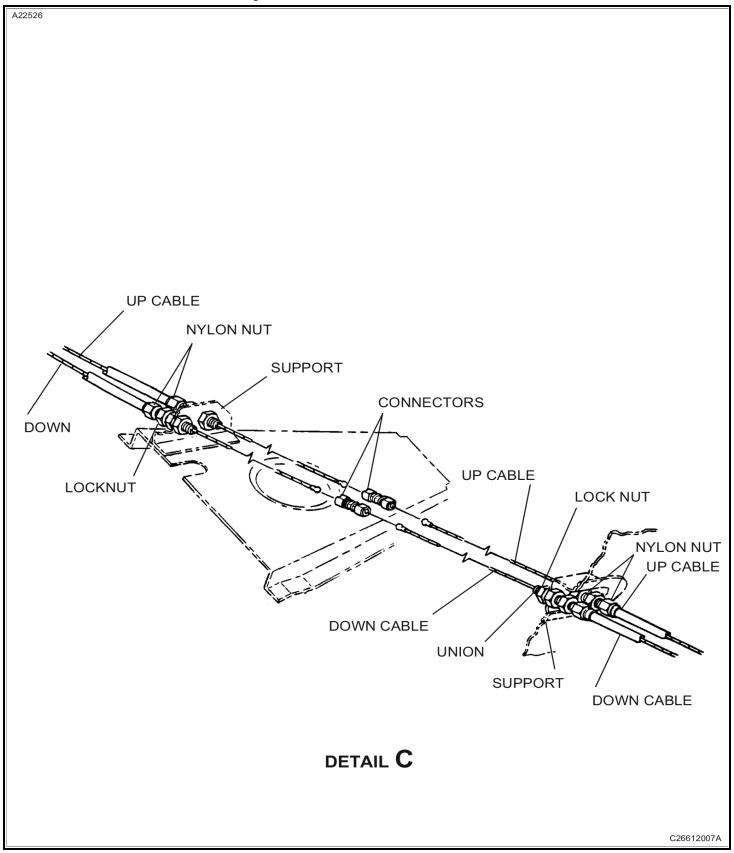


Figure 201 : Sheet 4 : Aileron Trim Installation



A22527 **WASHER** NUT **COTTER PIN** NUT **WASHER BUSHING** BOLT LEFT AILERON **SERVO TAB BOLT PUSHROD** BUSHING **BRACKET** SUPPORT DETAIL D **PUSHROD** DETAIL H AIRPLANES 20800001 THRU 20800129 AND 208B0001 THRU 208B0039 C26612007A

Figure 201 : Sheet 5 : Aileron Trim Installation

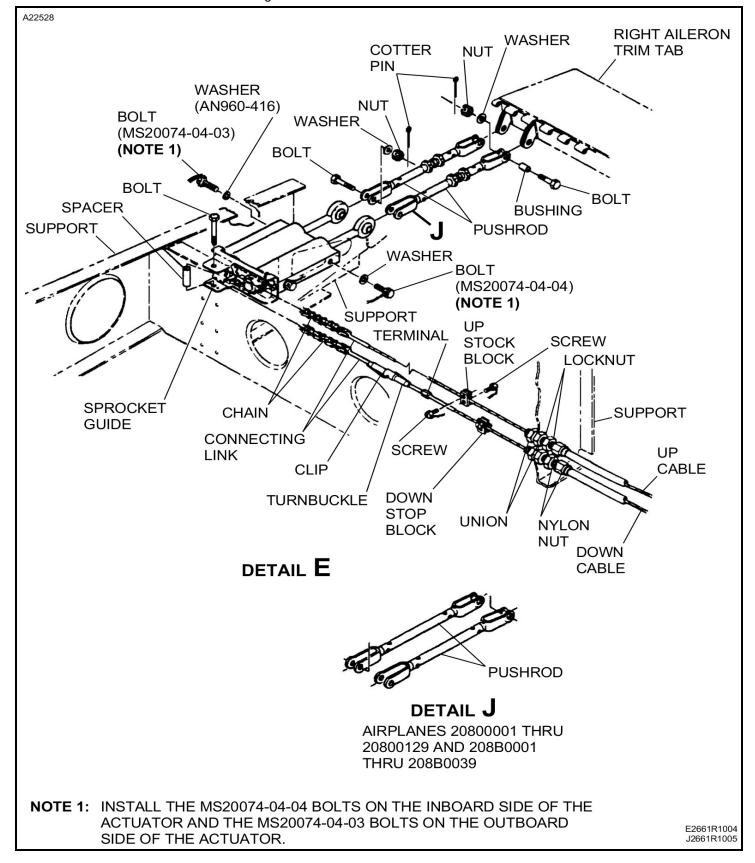
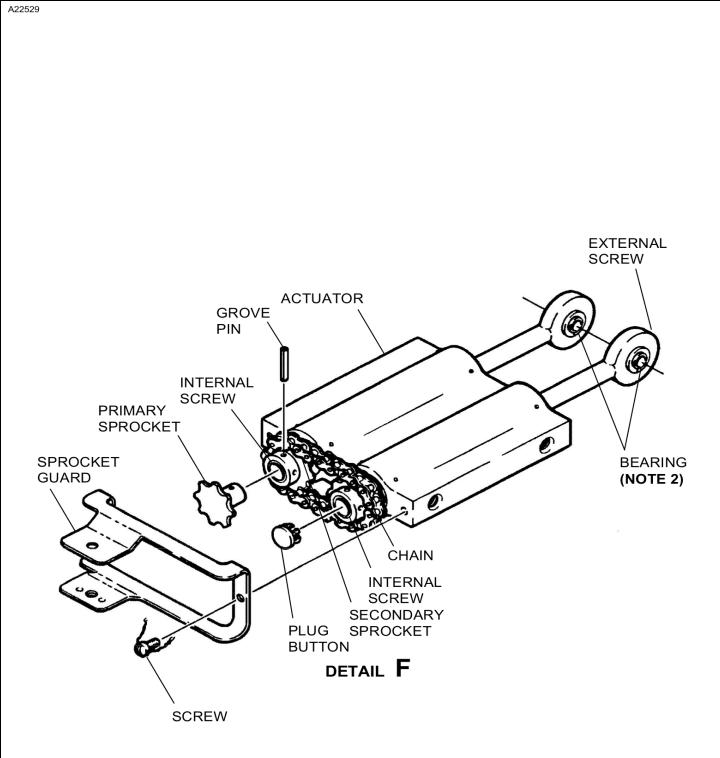


Figure 201 : Sheet 6 : Aileron Trim Installation

Figure 201 : Sheet 7 : Aileron Trim Installation



NOTE 2: THE BEARINGS IN THE EXTERNAL SCREWS MUST BE ALIGNED WITHIN 0.010 INCH TOTAL INDICATOR READING BEFORE INSTALLING THE ACTUATOR IN THE SYSTEM. INSTALL THE NUMBER 11 PIN THROUGH THE BEARINGS AND TAKE THE INDICATOR READINGS OVER THE TOP OF THE PIN.

F26612017

A22530 UP **CABLE** CONNECTING LINK **BEARING ROLL WASHER** PIN (NOTE 3) **UPPER** CHAIN DRIVE **PEDESTAL COVER DOWN** SPROCKET **AILERON TRIM CABLE** INDICATOR WHEEL **ROLL CHAIN** ROLL PIN CHAIN-PIN WASHER **GUARD** (NOTE 3) DRIVE -**BEARING** SPACER. **WASHER** BUSHING NUT **BRACKET** AFT TRIM **PEDESTAL** SPACER **SHAFT BEARING SCREW INDICATOR** ROLL PIN **WASHER DRIVE SCREW SPROCKET BEARING SUPPORT** ROLL PIN **SCREW** DRIVE SHAFT ROLL TRIM PIN DETAIL G WHEEL **SCREW**

Figure 201 : Sheet 8 : Aileron Trim Installation

NOTE 3: SHIM THE TOP AND BOTTOM USING AN960â^'416 AND AN960â^'416L WASHERS AS REQUIRED TO PROVIDE

PROPER ENGAGEMENT OF THE SPROCKET.

A22532 **GROOVE PIN** SECONDARY SPROCKET PRIMARY SPROCKET **GROOVE PIN CHAIN GUARD SCREW SECONDARY PLUG BUTTON** CHAIN **SPROCKET ACTUATOR HOUSING** BEARING **RACE** BEARING **GROOVE PIN INTERNAL SCREW RACE RACE** BEARING **BEARING RACE EXTERNAL SCREW BEARING** O-RING AIRPLANES 20800001 THRU 20800237 AND 208B0001 THRU 208B0389 2660044-1 TRIM TAB ACTUATOR 265612002

Figure 202: Sheet 1: Aileron Trim Tab Actuator Disassembly/Assembly

A22533 **BEARING GROOVE PIN O-RING EXTERNAL SCREW BEARING GROVE PIN** INTERNAL **RACE SCREW BEARING** (2) -(3)**EXTERNAL SCREW** 0.3125-18 UNC 3B QUADRUPLE THREAD **ROD SHALL BE STRAIGHT WITHIN** 0.0003 INCH AND CONCENTRIC WITHIN 0.002 INCH TRUE INDICATOR READING. AIRPLANES 20800001 THRU 20800237 (1) 2.100 INCHES AND 208B0001 THRU 208B0389 (2) 4.85 INCHES (3) 0.3075 INCH, +0.0010 OR -0.0000 INCH DIAMETER 5596T1007 5596T1022 2660044-1 TRIM TAB ACTUATOR

Figure 202: Sheet 2: Aileron Trim Tab Actuator Disassembly/Assembly

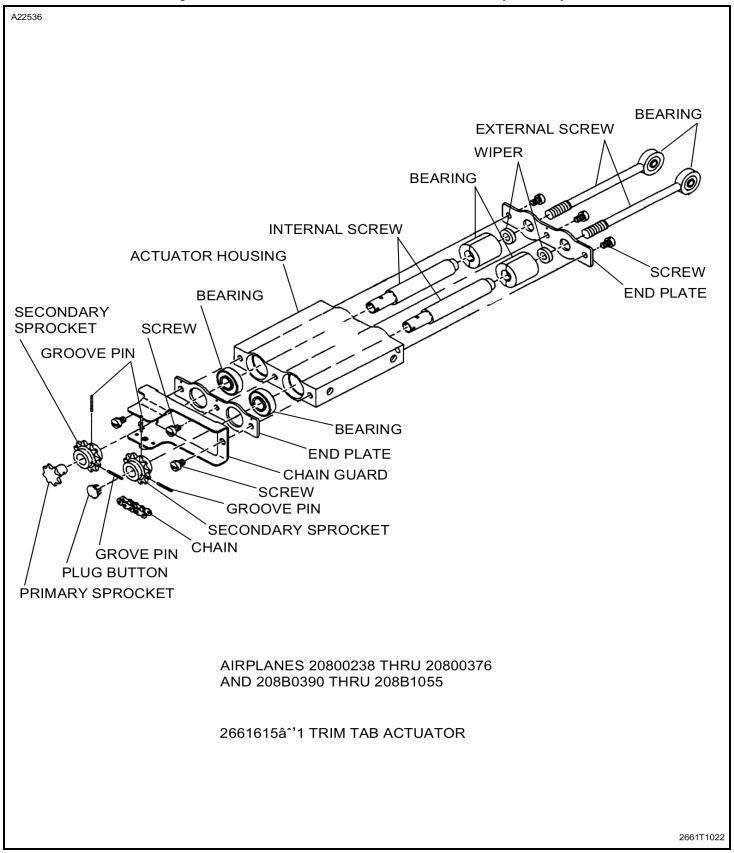
Figure 202: Sheet 3: Aileron Trim Tab Actuator Disassembly/Assembly A22535 THREAD 0.3125-18 UNC 3A (1)QUADRUPLE THREADS البليارا بليل البليارات (1) 0.375 INCH, +0.000 OR -0.001 **INCH DIAMETER** 16 10 (1 (2) (3)(1)(2)(1) 0.828 INCH, +0.000 OR -0.001 (1) 0.828 INCH, +0.000 OR -0.001 INCH DIAMETER (NOTE) **INCH DIAMETER** (2) 0.383 INCH, +0.001 OR -0.001 (2) 0.383 INCH, +0.001 OR -0.001 INCH DIAMETER (NOTE) **INCH DIAMETER** (3) 0.311 INCH, +0.001 OR -0.000 INCH DIAMETER (NOTE) (1) SHALL BE CONCENTRIC TO (2) AND (3) WITHIN NOTE: 0.002 INCH TOTAL INDICATOR READING. 3 (1)(2)(1) 0.327 INCH, +0.000 OR -0.002 (2) 0.3775 INCH, +0.000 OR -0.000 **INCH DIAMETER INCH DIAMETER**

AIRPLANES 20800001 THRU 20800237

AND 208B0001 THRU 208B0389 2660044-1 TRIM TAB ACTUATOR 5596C1009 5596C1006 5596C1006

5596C1021

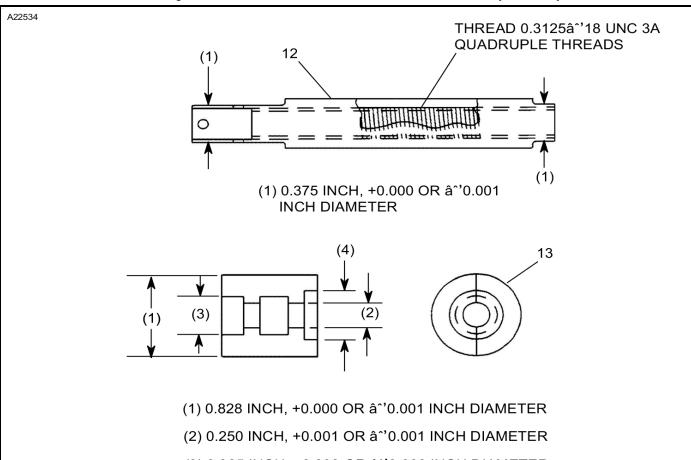
Figure 202: Sheet 4: Aileron Trim Tab Actuator Disassembly/Assembly



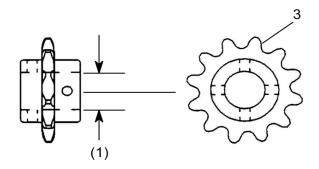
A22537 PRIMARY SPROCKET SECONDARY SPROCKET **EXTERNAL SCREW END PLATE END PLATE BEARING BEARING GROOVE PIN** INTERNAL SCREW **CHAIN GUARD** (2) **EXTERNAL SCREW** (3)0.3125-18 UNC 3A QUADRUPLE THREAD ROD SHALL BE STRAIGHT WITHIN 0.003 INCH AND CONCENTRIC WITHIN 0.002 INCH TRUE INDICATOR READING. AIRPLANES 20800238 AND ON AND 208B0390 AND ON (1) 0.75 INCH AND ALL SPARES (2) 4.14 INCHES (3) 0.244 INCH, +0.001 OR -0.001 INCH DIAMETER **2661615-1 TRIM TAB ACTUATOR** 2661T1024

Figure 202 : Sheet 5 : Aileron Trim Tab Actuator Disassembly/Assembly

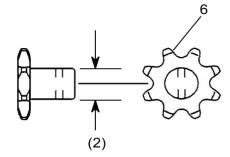
Figure 202: Sheet 6: Aileron Trim Tab Actuator Disassembly/Assembly



- (3) 0.385 INCH, +0.000 OR â^'0.000 INCH DIAMETER
- (4) 0.497 INCH, +0.000 OR â^'0.000 INCH DIAMETER



(1) 0.376 INCH, +0.001 OR â^'0.001 INCH DIAMETER

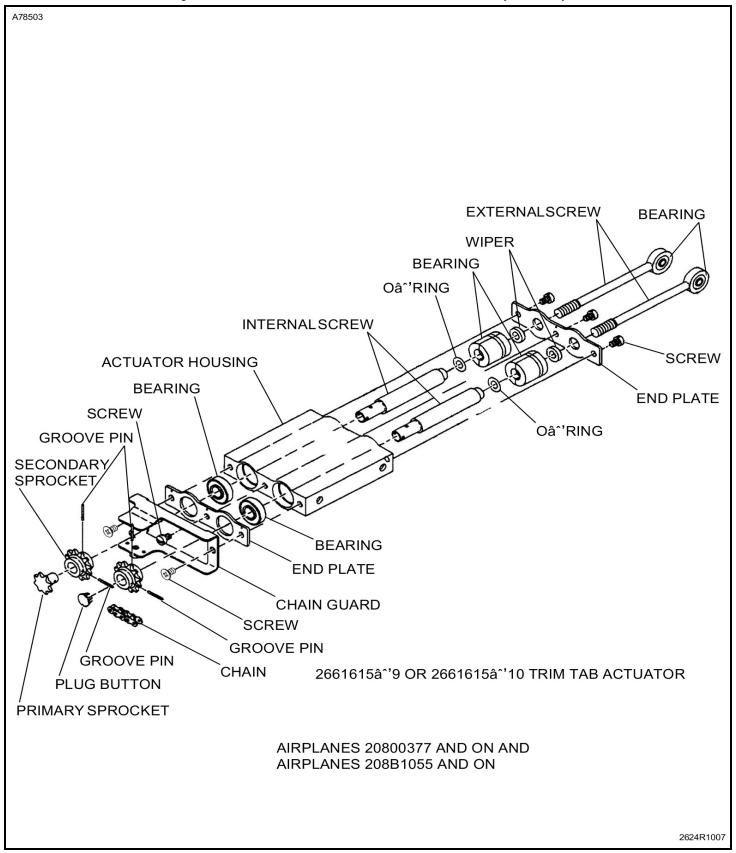


(2) 0.3115 INCH, +0.001 OR â^'0.001 INCH DIAMETER

AIRPLANES 20800238 THRU 20800376 AND AIRPLANES 208B0390 THRU 208B1054 2661615â^'1 TRIM TAB ACTUATOR

2661R1025 2661R1027 2661R1028 2661R1029

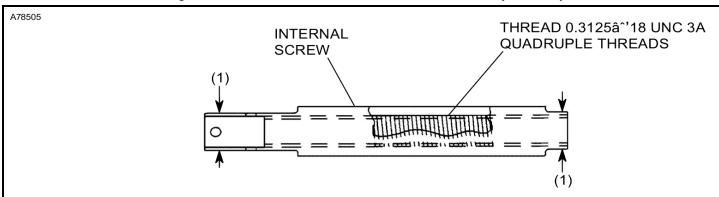
Figure 202: Sheet 7: Aileron Trim Tab Actuator Disassembly/Assembly



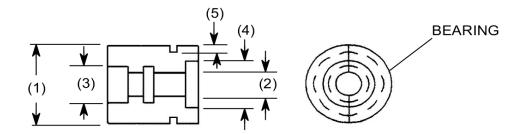
A78504 **PRIMARY SPROCKET SECONDARY SPROCKET EXTERNALSCREW END PLATE** Oâ^'RING **END PLATE BEARING INTERNAL SCREW BEARING GROOVE PIN CHAIN GUARD EXTERNAL SCREW** (NOTE) (3)0.3125â^'18 UNC 3A QUADRUPLE THREAD **NOTE: ROD MUST BE STRAIGHT WITHIN** 0.003 INCH (0.076 mm) AND CONCENTRIC WITHIN 0.002 INCH (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 â^'0.001 INCH (6.20 mm, +0.025 OR â^'0.025 mm) DIAMETER AIRPLANES 20800377 AND ON AND AIRPLANES 208B1055 AND ON 2661615â^'9 OR 2661615â^'10 TRIMB ACTUATOR 2624R1008 2661R1026

Figure 202: Sheet 8: Aileron Trim Tab Actuator Disassembly/Assembly

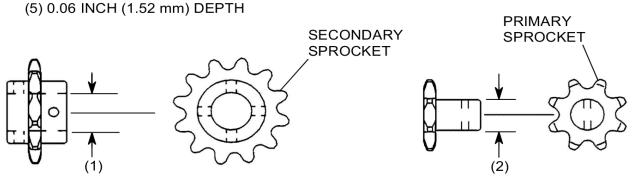
Figure 202: Sheet 9: Aileron Trim Tab Actuator Disassembly/Assembly



(1) 0.375 INCH, +0.000 OR â^'0.001 INCH (9.525 mm, +0.000 OR â^'0.025 mm) DIAMETER



- (1) 0.828 INCH, +0.000 OR â^'0.001 INCH (21.03 mm, +0.000 OR â^'0.025 mm) DIAMETER
- (2) 0.250 INCH, +0.001 OR â~'0.001 INCH (6.35 mm, +0.025 OR â~'0.025 mm) DIAMETER
- (3) 0.380 INCH, +0.001 OR â^'0.000 INCH (9.65 mm, +0.025 OR â^'0.000 mm) DIAMETER
- (4) 0.497 INCH, +0.000 OR â^'0.000 INCH (12.62 mm, +0.000 OR â^'0.000 mm) DIAMETER



(1) 0.376 INCH, +0.001 OR â^'0.00INCH (9.550 mm, +0.025 OR â^'0.025 mm) DIAMETER

(2) 0.3115 INCH, +0.001 OR â^'0.001 INCH (7.912 mm, +0.025 OR â^'0.025 mm) DIAMETE

AIRPLANES 20800377 AND ON AND AIRPLANES 208B1055 AND ON 2661615â^'9 OR 2661615â^'10 TRIM TAB ACTUATOR

2661R1025 2624R1009 2661R1028 2661R1029