LANDING GEAR DOOR ACTUATORS — REMOVAL / INSTALLATION

1. Nose Gear Door Actuator Assembly — Removal / Installation

A. Preparation

SPECIAL TOOLS AND TEST EQUIPMENT

Protective caps and plugs ..... Standard
Skydrol resistant container ..... Standard

CONSUMABLES

Backup ring MS28773-04 (2)
Cotter pin MS24665-152 (2)
Lubricant ..... MCS-352B (see Note)
Nut MS17826-5 (2)
O-ring NAS1612-4A (3)

NOTE: When lubricant MCS-352B is not available, Skydrol fluid may be used as an alternate.

(1) Reference(s)

- Nose Gear Door Actuator and Door Rod - Adjustments, 32-03-04, Adjustment / Test

(2) Aircraft Preparation

(a) Prepare aircraft for safe ground maintenance.

WARNING: FAILURE TO INSTALL ALL LANDING GEAR AND LANDING GEAR DOOR SAFETY DEVICES BEFORE WORKING IN ANY WHEEL WELL MAY RESULT IN SERIOUS INJURY OR DEATH.

FAILURE TO DISSIPATE HYDRAULIC PRESSURE BEFORE INSTALLING OR REMOVING ALL LANDING GEAR AND LANDING GEAR DOOR SAFETY DEVICES SHALL CAUSE DAMAGE TO AIRCRAFT OR MAY RESULT IN SERIOUS INJURY OR DEATH.

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

(b) Ensure landing gear doors are open.

(c) Dissipate hydraulic system pressure by cycling flight controls and / or operating brake pedals several times.

(d) Install all landing gear and landing gear door safety devices.

B. Removal

NOTE: The following procedure is performed in conjunction with Figure 401.

(1) Remove hydraulic lines from nose gear door actuator.

NOTE: Use suitable container to catch hydraulic fluid when removing hydraulic lines.

(2) Install protective caps and plugs on all open ports and lines.

(3) Remove cotter pin, nut, washers, bolt and spacer securing fixed end of actuator to aircraft structure. Discard cotter pin.

(4) Remove cotter pin, nut, washers and bolt securing actuator rod end. Discard cotter pin.

(5) Remove actuator.

(6) If actuator is to be replaced, remove and retain hydraulic fittings and restrictor from actuator. Note position of fittings for installation. Discard O-rings.

C. Installation

WARNING: FAILURE TO INSTALL ALL LANDING GEAR AND LANDING GEAR DOOR SAFETY DEVICES BEFORE WORKING IN ANY WHEEL WELL MAY RESULT IN SERIOUS INJURY OR DEATH.

NOTE: The following procedure is performed in conjunction with Figure 401.

(1) If a new actuator is being installed, perform the following:

(a) Apply a thin coat of lubricant to new O-rings.

NOTE: A buildup of lubricant in the O-ring glands may prevent the O-ring from sealing properly.

(b) Install O-rings on hydraulic fittings retained in Step 1.B.(6).

(c) Install hydraulic fittings in actuator.

(2) Position actuator on aircraft.

(3) Secure fixed end of actuator with bolt, washers, spacer and nut removed in Step 1.B.(3).

(4) Tighten nut and secure with cotter pin.

(5) Secure actuator rod end with bushings, bolt, washers and nut removed in Step 1.B.(4). Do not tighten nut or install cotter pin at this time.

D. Follow On

(1) Inspect for presence of foreign objects.

(2) Perform Nose Gear Door Actuator and Door Rod - Adjustments, 32-03-04, Adjustment / Test.

(3) Tighten nut on actuator rod end and install cotter pin.

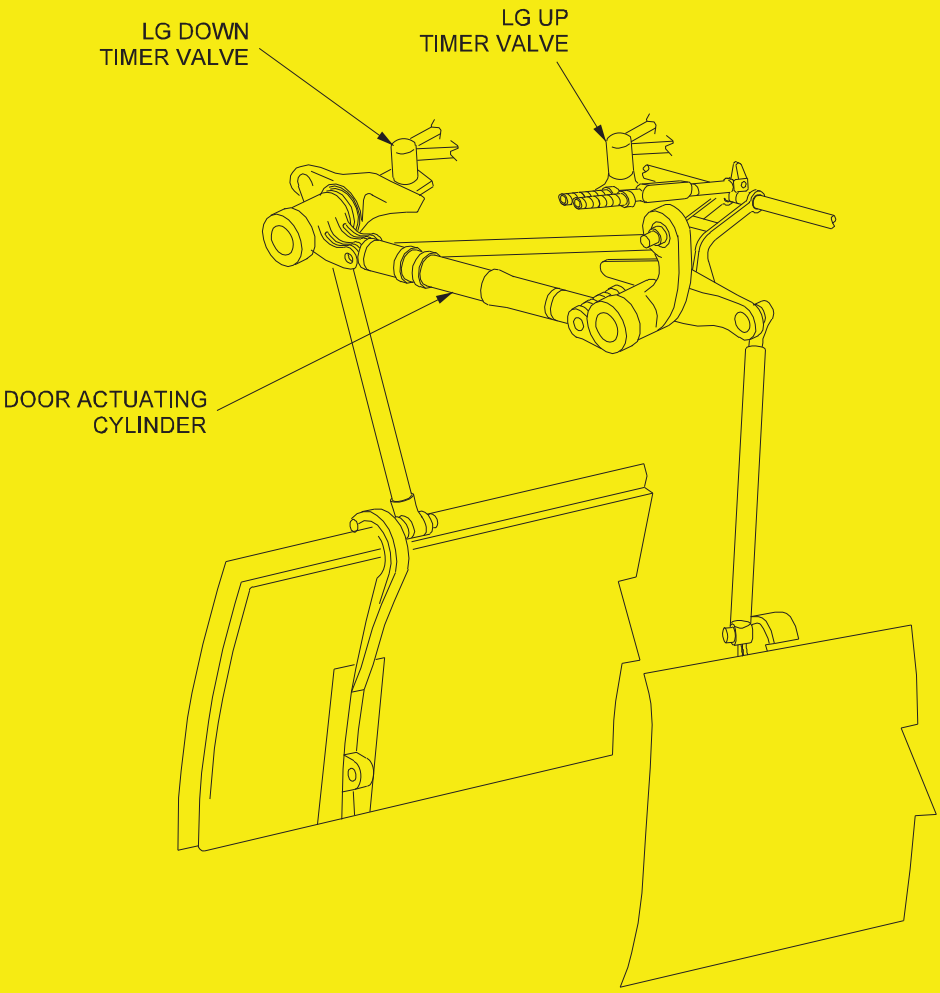
(4) Remove protective caps and plugs from hydraulic lines.

(5) Install hydraulic lines removed in Step 1.B.(1).

(6) Cycle doors using grounds service valve to verify operation.

(7) Inspect actuator installation for hydraulic leaks.

(8) Record all maintenance actions in accordance with current governing authority.



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Nose Gear Door Actuator Installation
Figure 401

2. Nose Gear Door Flow Regulator — Removal / Installation

A. Preparation

SPECIAL TOOLS AND TEST EQUIPMENT

Protective caps and plugs ..... Standard
Skydrol resistant container ..... Standard

(1) Reference(s)

- Landing Gear - Normal and Emergency - Functional Test, 32-00-00, Adjustment / Test or Code 320310

WARNING: FAILURE TO INSTALL ALL LANDING GEAR AND LANDING GEAR DOOR SAFETY DEVICES BEFORE WORKING IN ANY WHEEL WELL MAY RESULT IN SERIOUS INJURY OR DEATH.

FAILURE TO DISSIPATE HYDRAULIC PRESSURE BEFORE INSTALLING OR REMOVING ALL LANDING GEAR AND LANDING GEAR DOOR SAFETY DEVICES SHALL CAUSE DAMAGE TO AIRCRAFT OR MAY RESULT IN SERIOUS INJURY OR DEATH.

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

(2) Dissipate hydraulic system pressure by cycling flight controls and / or operating brake pedals several times.

(3) Install all landing gear and landing gear door safety devices.

(4) Open radome.

B. Removal

(1) Remove hydraulic lines from flow regulator.

NOTE: Use suitable container to catch hydraulic fluid when removing hydraulic lines.

(2) Install protective caps and plugs on all open lines.

(3) Remove flow regulator.

C. Installation

(1) Remove protective caps and plugs on all open lines.

(2) Position T-fitting in narrow end of flow regulator. Ensure that check valve is installed in T-fitting with flow arrows pointing away from T-fitting.

(3) Install hydraulic lines on flow regulator.

D. Follow On

(1) Inspect for presence of foreign objects.

(2) Perform Landing Gear - Normal and Emergency - Functional Test, 32-00-00, Adjustment / Test or Code 320310.

(3) Inspect flow regulator installation for hydraulic leaks.

(4) Close radome.

(5) Record all maintenance actions in accordance with current governing authority.

3. Nose Gear Actuator Up Port Restrictor — Removal / Installation

A. Preparation

SPECIAL TOOLS AND TEST EQUIPMENT

Skydrol resistant container ..... Standard

CONSUMABLES

Lubricant ..... MCS-352B (see Note)
O-ring NAS1612-6A
O-ring NAS1612-4A

NOTE: When lubricant MCS-352B is not available, Skydrol fluid may be used as an alternate.

(1) Reference(s)

- Landing Gear - Normal and Emergency - Functional Test, 32-00-00, Adjustment / Test or Code 320310

WARNING: FAILURE TO INSTALL ALL LANDING GEAR AND LANDING GEAR DOOR SAFETY DEVICES BEFORE WORKING IN ANY WHEEL WELL MAY RESULT IN SERIOUS INJURY OR DEATH.

FAILURE TO DISSIPATE HYDRAULIC PRESSURE BEFORE INSTALLING OR REMOVING ALL LANDING GEAR AND LANDING GEAR DOOR SAFETY DEVICES SHALL CAUSE DAMAGE TO AIRCRAFT OR MAY RESULT IN SERIOUS INJURY OR DEATH.

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

(2) Ensure landing gear doors are open.

(3) Dissipate hydraulic system pressure by cycling flight controls and / or operating brake pedals several times.

(4) Install all landing gear and landing gear door safety devices.

B. Removal

(1) Remove hydraulic line from nose gear door actuator restrictor.

NOTE: Use suitable container to catch hydraulic fluid when removing hydraulic lines.

(2) Remove restrictor.

(3) If restrictor is to be replaced, remove and retain hydraulic fittings. Discard O-rings.

C. Installation

WARNING: FAILURE TO INSTALL ALL LANDING GEAR AND LANDING GEAR DOOR SAFETY DEVICES BEFORE WORKING IN ANY WHEEL WELL MAY RESULT IN SERIOUS INJURY OR DEATH.

(1) If a new restrictor is being installed, perform the following:

(a) Apply a thin coat of lubricant to new O-rings.

NOTE: A buildup of lubricant in the O-ring glands may prevent the O-ring from sealing properly.

(b) Install O-rings on hydraulic fittings retained in Step 3.B.(3).

(c) Install hydraulic fittings in restrictor.

(2) Install restrictor with free flow arrow pointing towards actuator.

D. Follow On

(1) Perform Landing Gear - Normal and Emergency - Functional Test, 32-00-00, Adjustment / Test or Code 320310.

(2) Perform leak check.

(3) Inspect for presence of foreign objects.

(4) Record all maintenance actions in accordance with current governing authority.

4. Main Gear Door Actuator Assembly — Removal / Installation

A. Preparation

SPECIAL TOOLS AND TEST EQUIPMENT

Protective caps and plugs	Standard
Skydrol resistant container	Standard

CONSUMABLES

Lubricant	MCS-352B (see Note)
Cotter pin	MS24665-285 (2)
O-ring	NAS1612-6A (2)
O-ring	NAS1612-4A
Nut	MS17826-9 (2)

NOTE: When lubricant MCS-352B is not available, Skydrol fluid may be used as an alternate.

(1) Reference(s)

- Landing Gear Cycling - Operational Test, 32-00-00, Adjustment / Test or Code 320306
- Main Gear Door Actuating Cylinder - Adjustment, 32-03-04, Adjustment / Test
- Aircraft Illustrated Parts Catalog, 32-30-00, Fig. 13, Door Actuator Instl, Main Landing Gear

(2) Aircraft Preparation

(a) Prepare aircraft for safe ground maintenance.

WARNING: FAILURE TO INSTALL ALL LANDING GEAR AND LANDING GEAR DOOR SAFETY DEVICES BEFORE WORKING IN ANY WHEEL WELL MAY RESULT IN SERIOUS INJURY OR DEATH.

FAILURE TO DISSIPATE HYDRAULIC PRESSURE BEFORE INSTALLING OR REMOVING ALL LANDING GEAR AND LANDING GEAR DOOR SAFETY DEVICES SHALL CAUSE DAMAGE TO AIRCRAFT OR MAY RESULT IN SERIOUS INJURY OR DEATH.

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

(b) Ensure landing gear doors are open.

(c) Dissipate hydraulic system pressure by cycling flight controls and / or operating brake pedals several times.

(d) Install all landing gear and landing gear door safety devices.

B. Removal

(1) Remove hydraulic lines from main landing gear door actuator.

NOTE: Use suitable container to catch hydraulic fluid when removing hydraulic lines.

(2) Install protective caps and plugs on all open ports and lines.

(3) Remove cotter pin, nut, washers, bolt and bushings securing actuator lower mount to aircraft structure. Discard cotter pin.

(4) Remove cotter pin, nut, washers, bolt and bushings securing actuator arm to door control linkage. Discard cotter pin.

(5) Remove actuator from aircraft.

(6) If actuator is to be replaced, perform the following:

(a) Remove unions from actuator.

(b) If installed, remove elbow from left actuator retract inlet on end cap.

NOTE: The earlier dash number left door actuators may have an elbow installed on the end cap, refer to Aircraft Illustrated Parts Catalog, 32-30-00, Fig. 13, Door Actuator Instl, Main Landing Gear for correct installation.

(c) Remove O-rings and discard.

C. Installation

WARNING: FAILURE TO INSTALL ALL LANDING GEAR AND LANDING GEAR DOOR SAFETY DEVICES BEFORE WORKING IN ANY WHEEL WELL MAY RESULT IN SERIOUS INJURY OR DEATH.

(1) Remove protective caps and plugs from ports and lines.

(2) If a new actuator is being installed, perform the following:

(a) Apply a thin coat of lubricant to new O-rings.

NOTE: A buildup of lubricant in the O-ring glands may prevent the O-ring from sealing properly.

(b) Install O-ring NAS1612-4A on No. 4 union.

(c) Install No. 4 union in emergency inlet on end cap gland.

(d) Install O-rings NAS1612-6A on unions and / or elbow (left actuator).

NOTE: The earlier dash number left door actuators may have an elbow installed on the end cap, refer to Aircraft Illustrated Parts Catalog, 32-30-00, Fig. 13, Door Actuator Instl, Main Landing Gear for correct installation.

(e) Install No. 6 elbow in retract inlet on end cap (left actuator as required).

(f) Install No. 6 union in retract inlet on end cap, as required.

(g) Install No. 6 union in extend inlet on fixed end of actuator.

(3) Position actuator on aircraft.

(4) Secure actuator lower mount to aircraft structure with bushings, bolt, washers and nut removed in Step 4.B.(3).

(5) Tighten nut and secure with cotter pin.

(6) Secure actuator arm to door control linkage with bushings, bolt, washers and nut removed in Step 4.B.(4). Do not tighten nut or install cotter pin at this time.

(7) If auxiliary hydraulic pump will be used to perform Main Gear Door Actuating Cylinder - Adjustment, 32-03-04, Adjustment / Test, install hydraulic lines on actuator.

D. Follow On

(1) Inspect for presence of foreign objects.

(2) Perform Main Gear Door Actuating Cylinder - Adjustment, 32-03-04, Adjustment / Test.

(3) Tighten nut on actuator arm to door control linkage and install cotter pin.

(4) Perform Landing Gear Cycling - Operational Test, 32-00-00, Adjustment / Test or Code 320306.

(5) Inspect actuator installation for hydraulic leaks.

(6) Clean any spilled hydraulic fluid from landing gear.

(7) Close main landing gear doors, as required.

(8) Record all maintenance actions in accordance with current governing authority.

5. Main Gear Door Actuator End Cap Fitting — Removal / Installation

A. General

The end cap fitting is installed on the main gear door actuator which is located in the left and right main wheel well.

B. Preparation

SPECIAL TOOLS AND TEST EQUIPMENT

Aluminum calibration standard	0.008”, 0.020” and 0.040” EDM notches or equivalent
Eddy current unit	Hocking Phasec 2200 or equivalent
Eddy current probe, straight, 2 mm	614-034-001, 200 kHz or equivalent
Eddy current probe, 90°, 2 mm	614-074-007, 200 kHz or equivalent
Thread file	-16UN or equivalent
Torque wrench, 10 - 50 inch-pounds (1.13 - 5.65 Nm)	GSE5100720 or equivalent
Vibro-etching tool / metal impression stamp tool	Standard

CONSUMABLES

Data plate	1159F30042-13
Drive screw	MS21318-1 (4)
Epoxy primer	3012 or equivalent
Epoxy topcoat (clear)	3020 or equivalent
Epoxy topcoat (white)	3013 or equivalent
Felt wiper	MS28932-1
Gland	1159HM20140-3 (as required)
Hydraulic fluid	Skydrol LD-4 or equivalent
Hydraulic data plate	1159H20240-3
Isopropyl alcohol	TT-1-735
Lint free cloth	Standard

Lubricant ..... MCS-352B (see Note)
Masking tape ..... Standard
O-ring NAS1611-145A
O-ring NAS1611-115A (3)
O-ring NAS1612-4A
O-ring NAS1612-6A
Retainer MS27595-145 (2)
Retainer 1159HM20183-3
Safety wire MS20995NC32
Shuttle valve ..... See Note
Scraper MS28776-12
Screw NAS1101E3H12 (4)
Seal 7217FT-952-T
Snap ring NAS669-168
Washer NAS1149D0316H (4)

NOTE: When lubricant MCS-352B is not available, Skydrol fluid may be used as an alternate.

Door actuators originally equipped with 1159SCH238-5, -7, -9 or -11 shuttle valves may reuse shuttle valve. Refer to Aircraft Illustrated Parts Catalog, 32-30-00, Fig. 14, Door Actuator Assy, Main Landing Gear (1159H20264-7, -8, -9, -10, -11 and -12) for correct shuttle valve configurations.

(1) Reference(s)

- Safety Wire - Standard Practices, 20-70-41, Maintenance Practices
- Main Gear Door Actuator Assembly - Removal / Installation, 32-03-04, Removal / Installation or Code 323520
- Main Gear Door Actuator - Bench Check, 32-03-04, Adjustment / Test or Code 323525
- Aircraft Illustrated Parts Catalog, 32-30-00, Fig. 13, Door Actuator Instl, Main Landing Gear
- Aircraft Illustrated Parts Catalog, 32-30-00, Fig. 14, Door Actuator Assy, Main Landing Gear (1159H20264-7, -8, -9, -10, -11 and -12)

(2) Aircraft Preparation

(a) Prepare aircraft for safe ground maintenance.

(b) Remove main landing gear door actuator from aircraft, if not previously removed. See Main Gear Door Actuator Assembly - Removal / Installation, 32-03-04, Removal / Installation or Code 323520.

C. Removal

NOTE: The following numbers in parenthesis ( ) are used in conjunction with Figure 402.

(1) If removing serialized end cap, perform the following:

NOTE: A serialized end cap will be identified by part number or serial number of the door actuator by one of the following methods:

- Door actuator part number will be 1159H20264-25 for left or 1159H20264-26 for right
- Door actuator part number will be 1159H20264-7 - 1159H20264-24 and door actuator serial number will end with a C
- Door actuator part number will be 1159H20264-701 - 1159H20264-2101 and door actuator serial number will end with a C, 1159SB50074 added an 01 to part numbers 1159H20264-7 - 1159H20264-21

Serialized end cap should have a part number (1159HM20178-15 for left or -16 for right) and a serial number stamped or etched on end cap. See Figure 403.

(a) Remove drive screws (2) securing door actuator data plate (1) to door actuator end cap (10). Discard drive screws.

NOTE: Door actuator data plate could be attached to either side of the end cap. Data plate will have the part number (1159H20264-xx) and serial number of the door actuator.

(b) Retain door actuator data plate (1) for installation on new end cap.

(2) If removing nonserialized end cap, perform the following:

(a) Locate existing door actuator data plate (1) attached to door actuator end cap (10).

NOTE: Door actuator data plate could be attached to either side of the end cap. Data plate will have the part number (1159H20264-xx) and serial number of the door actuator.

(b) Using a vibro-etching or metal impression tool transfer information (MFG BY, PART NO., SER NO.) from existing door actuator data plate (1) to a new door actuator data plate.

NOTE: Data plate markings should be vibro-etched or metal impression stamped per SAE AS478 / MIL-STD-130.

(c) Add a C to end of door actuator serial number on new data plate.

(d) Retain new door actuator data plate (1) for installation on new end cap.

(3) Remove safety wire from collar (4).

(4) Loosen collar (4) and remove locking key (5) securing rod end (6).

(5) Remove rod end (6) and collar (4).

NOTE: Retain rod end, collar and locking key.

(6) Loosen setscrew (7).

(7) Remove safety wire from cylinder nut (8).

(8) Loosen cylinder nut (8) until it turns freely.

(9) Remove safety wire from locking screw (9).

(10) Remove locking screw (9).

(11) Remove end cap (10) from door actuator cylinder body (11).

(12) Inspect threads of door actuator cylinder body (11) where end cap (10) was removed.

(13) If required, clean up threads around index hole for locking screw (9) using thread file.

(14) Remove filings and debris from threads, piston and door actuator cylinder body interior.

(15) Clean threads with lint free cloth and isopropyl alcohol.

(16) Remove shuttle valve (12) from end cap (10) as follows:

(a) Remove safety wire from screws (13), as required.

(b) Remove screws (13) and washers (14) attaching gland (15) to end cap (10). Discard hardware.

(c) Remove gland (15) from end cap.

(d) If gland is part number 1159HM20140-1, remove hydraulic union (16) and discard gland (15).

NOTE: The 1159HM20140-1 gland has a thin (0.125 inch) flange, where the 1159HM20140-3 has a thicker (0.375 inch) flange. See Figure 404.

(e) If gland is 1159HM20140-3, perform eddy current inspection as follows:

NOTE: This procedure is intended to provide trained and experienced NDT inspectors with the necessary information to perform NDT inspection.

1 Calibrate probe on a 0.020 inch notch to achieve a minimum of a four grid deflection:

- Mode: Absolute Display: X:Y Gain: 44.0 dB
- Frequency: 150 kHz Phase: 14.0 degrees X: -13.0 dB
- Lo-Pass: DC Hi-Pass: DC

NOTE: These are sample settings. Settings may be changed due to equipment or operator preferences.

2 Eddy current gland flange, radius and inner diameter of fastener hole for defects.

3 Inspect flange around screw hole and radius of gland, paying particular attention to areas immediately around fastener hole.

4 Any indication not attributed to edge effect or geometry shall be cause for replacement of gland.

(f) If gland (15) is retained, remove and discard O-ring (17).

(g) Remove shuttle valve (12).

(h) If shuttle valve is a 1159SCH238-1 or -3, discard shuttle valve (12).

NOTE: Part number is engraved on shuttle valve. Shuttle valve part numbers 1159SCH238-5, -7, -9, and -11 can be reused if no wear or damage is visible. Refer to Aircraft Illustrated Parts Catalog, 32-30-00, Fig. 14, Door Actuator Assy, Main Landing Gear (1159H20264-7, -8, -9, -10, -11 and -12) for correct installation.

(i) If shuttle valve (12) is retained, remove and discard O-rings (18).

(17) Remove union (19) or elbow from end cap (10). Remove O-ring and discard.

NOTE: The earlier dash number left door actuators may have an elbow installed on the end cap, refer to Aircraft Illustrated Parts Catalog, 32-30-00, Fig. 13, Door Actuator Instl, Main Landing Gear for correct installation.

(18) Discard end cap (10).

NOTE: Existing O-ring retainers, O-ring, wiper ring, scraper, scraper retainer and retaining clip / snap ring can be discard with end cap.

D. Installation

NOTE: The following numbers in parenthesis ( ) are used in conjunction with Figure 402.

Installation of a serialized end cap part number 1159HM20178-15 (left) and -16 (right) is required for tracking the Chapter 5 discard requirement.

(1) Install new O-rings, retainers, seal, felt wiper, scraper and snap ring in new serialized end cap (10) as follows:

(a) Apply a thin coat of lubricant to new NAS1611-145A O-ring (20).

NOTE: A buildup of lubricant in the O-ring glands may prevent the O-ring from sealing properly.

(b) Install MS27595-145 retainer (21), NAS1611-145A O-ring (20) and MS27595-145 retainer (22) in end cap (10).

(c) Soak felt wiper (24) in hydraulic fluid.

(d) Install seal (23), felt wiper (24), scraper (25), 1159HM20183-3 retainer (26) and snap ring (27) in end cap (10).

(2) Lubricate actuator piston with hydraulic fluid.

(3) Slide end cap (10) over actuator piston.

(4) Thread end cap (10) onto door actuator cylinder body (11) until it bottoms out.

(5) Align end cap (10) with extend inlet (28) on fixed actuator end by backing end cap (10) off up to one full turn.

(6) Verify that locking screw (9) hole in end cap (10) is aligned with hole in door actuator cylinder body (11).

NOTE: If locking screw hole is not aligned when end cap is aligned with hydraulic port on fixed actuator, contact Gulfstream Customer Support for assistance.

(7) Tighten cylinder nut (8) against end cap (10).

(8) Tighten setscrew (7) in locking cylinder nut (8).

(9) Safety wire cylinder nut (8) to end cap (10).

NOTE: See Safety Wire - Standard Practices, 20-70-41, Maintenance Practices.

(10) Install locking screw (9). Torque to 12 - 15 inch-pounds (1.36 - 1.69 Nm).

(11) Safety wire locking screw (9) to end cap (10).

NOTE: See Safety Wire - Standard Practices, 20-70-41, Maintenance Practices.

(12) Install shuttle valve (12) as follows:

NOTE: Only shuttle valve part numbers 1159SCH238-5, -7, -9, or -11 can be used. Only gland part number 1159HM20140-3 can be used. Refer to Aircraft Illustrated Parts Catalog, 32-30-00, Fig. 14, Door Actuator Assy, Main Landing Gear (1159H20264-7, -8, -9, -10, -11 and -12) for correct installation.

(a) Apply a thin coat of lubricant to new O-rings (17, 18).

NOTE: A buildup of lubricant in the O-ring glands may prevent the O-ring from sealing properly.

(b) Install new NAS1611-115A O-ring (17) on gland (15).

(c) Install new NAS1611-115A O-rings (18) on shuttle valve (12).

(d) Install shuttle valve (12) with threaded center hole facing outward towards gland.

(e) Install gland (15) on end cap (10).

(f) Install screws (13) and washers (14) on gland (15).

(g) Torque screws (13) to 20 - 25 inch-pounds (2.26 - 2.82 Nm).

(h) Safety wire screws (13) to each other.

NOTE: See Safety Wire - Standard Practices, 20-70-41, Maintenance Practices.

(13) Install union (16) removed in Step 5.C.(16)(d) as follows:

(a) Apply a thin coat of lubricant to new NAS1612-4A O-ring.

NOTE: A buildup of lubricant in the O-ring glands may prevent the O-ring from sealing properly.

(b) Install NAS1612-4A O-ring on union (16).

(c) Install union (16) in gland (15).

(14) Install union or elbow (19) removed in Step 5.C.(17) as follows:

NOTE: The earlier dash number left door actuators may have an elbow installed on the end cap, refer to Aircraft Illustrated Parts Catalog, 32-30-00, Fig. 13, Door Actuator Instl, Main Landing Gear for correct installation.

(a) Apply a thin coat of lubricant to new O-ring NAS1612-6A.

NOTE: A buildup of lubricant in the O-ring glands may prevent the O-ring from sealing properly.

(b) Install NAS1612-6A O-ring on union or elbow (19).

(c) Install elbow in end cap (10) on left actuator, as required.

(d) Install union (19) in end cap (10), as required.

(15) Ensure actuator piston is fully retracted (bottomed out) in door actuator cylinder body (11).

(16) Install locking key (5) and collar (4) onto rod end (6).

(17) Thread rod end (6) into actuator piston.

(18) With piston bottomed out in actuator adjust rod end (6) to achieve dimension shown in Figure 405.

(19) Tighten collar (4) against piston.

(20) Safety wire collar (4) to locking key (5).

NOTE: See Safety Wire - Standard Practices, 20-70-41, Maintenance Practices.

(21) Apply epoxy primer and topcoat to all bare areas as follows:

NOTE: Avoid applying primer or topcoat to ports, rod end bearing, part number stamp or exposed piston surfaces.

(a) Tape off around bare areas.

(b) Apply one coat of epoxy primer to all bare areas.

NOTE: Allow sufficient time for epoxy primer to cure.

(c) Apply one coat of white epoxy topcoat to all areas epoxy primer was applied.

NOTE: Allow sufficient time for white epoxy topcoat to cure.

(d) Remove all masking tape.

(22) Install door actuator data plates as follows:

(a) Install door actuator data plate (1) retained from Step 5.C.(1)(b) or Step 5.C.(2)(d) with screws (2).

(b) Install new hydraulic warning data plate (3) with screws (2).

(c) Overcoat data plate (1) and hydraulic warning data plate (3) with clear epoxy topcoat.

NOTE: Allow sufficient time for epoxy to cure.

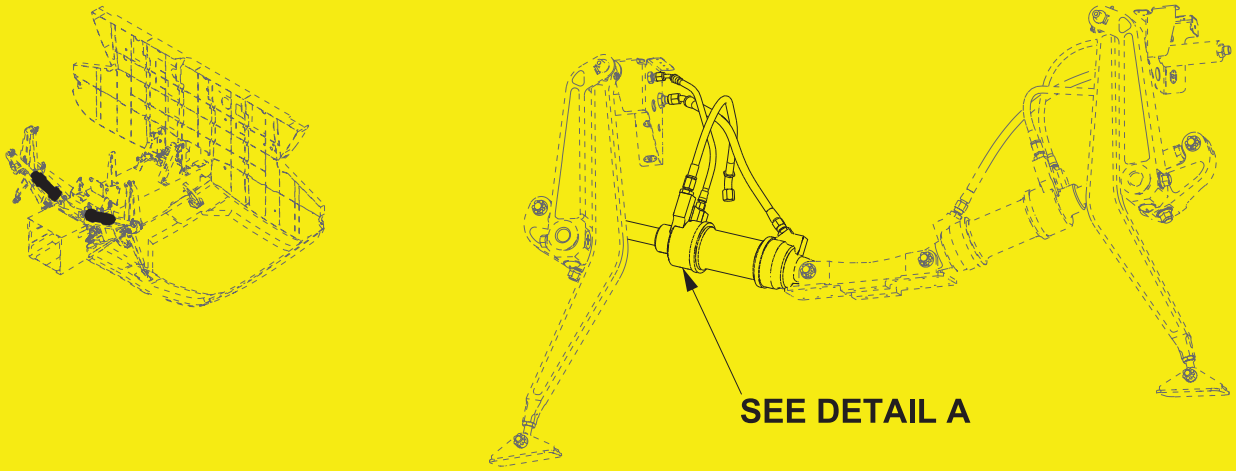
E. Follow On

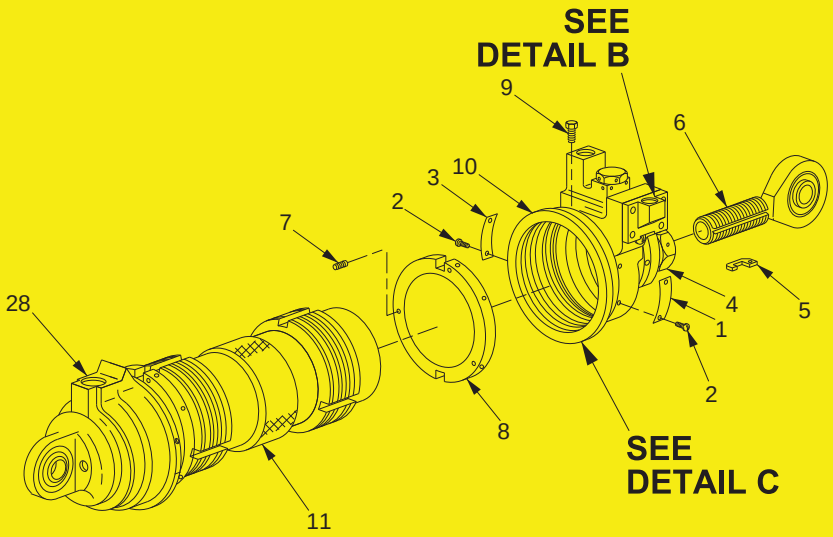
(1) Inspect for presence of foreign objects.

(2) Perform Main Gear Door Actuator - Bench Check, 32-03-04, Adjustment / Test or Code 323525.

(3) Install main landing gear door actuator. See Main Gear Door Actuator Assembly - Removal / Installation, 32-03-04, Removal / Installation or Code 323520.

(4) Record all maintenance actions in accordance with current governing authority.

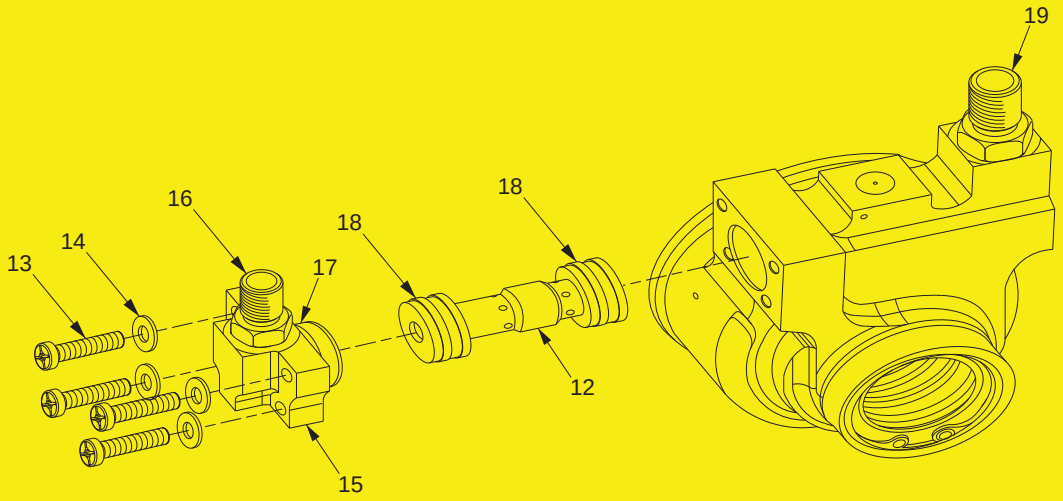




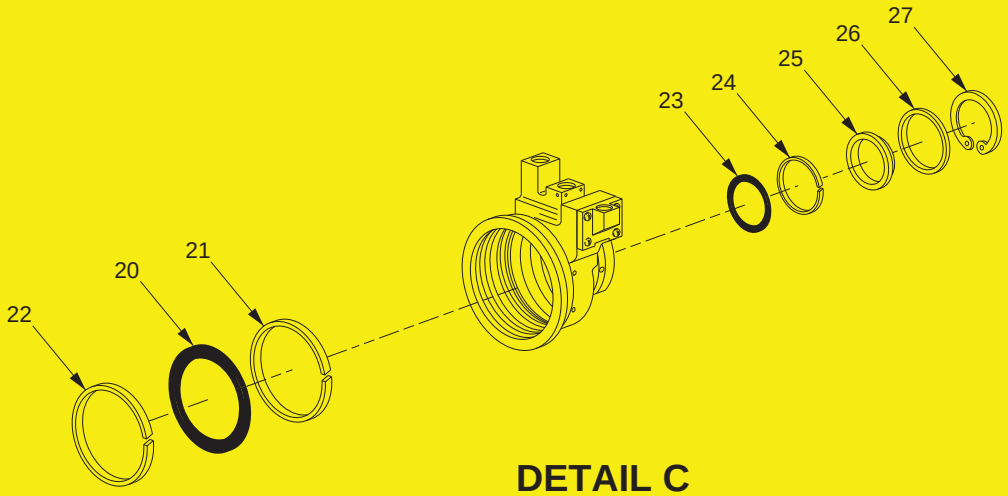
DETAIL A

TIL-027719G

Main Landing Gear Door Actuator End Cap
Figure 402 (Sheet 1 of 2)



DETAIL B

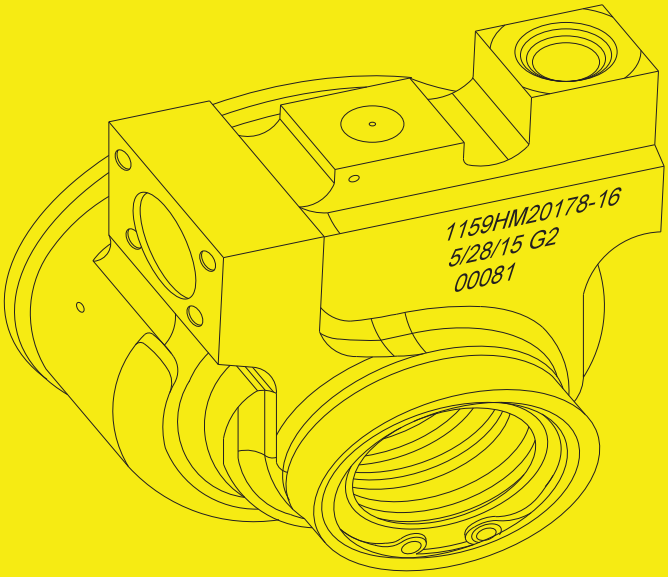


DETAIL C

TIL-027720G

I

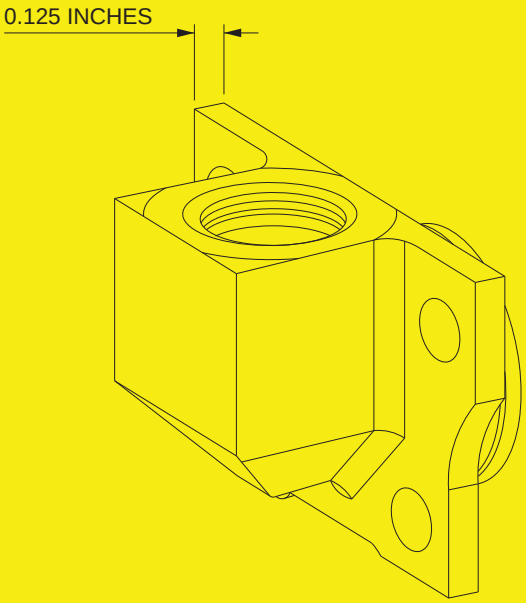
Main Landing Gear Door Actuator End Cap
Figure 402 (Sheet 2 of 2)



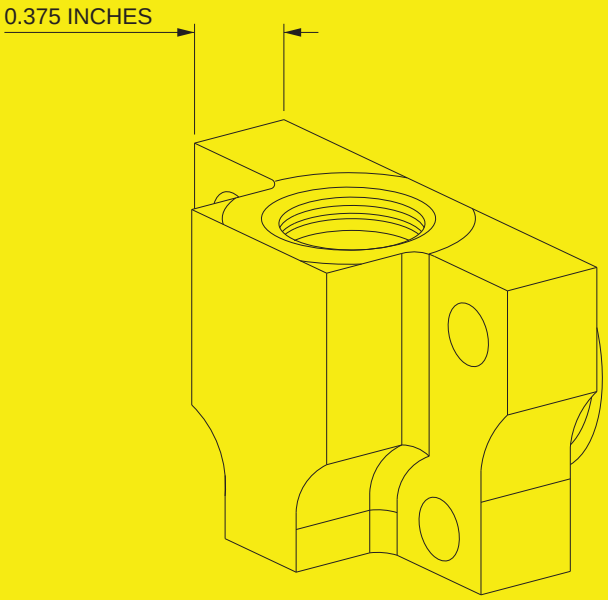
TIL-027721G

I

Serialized Door Actuator End Cap
Figure 403



1159HM20140-1

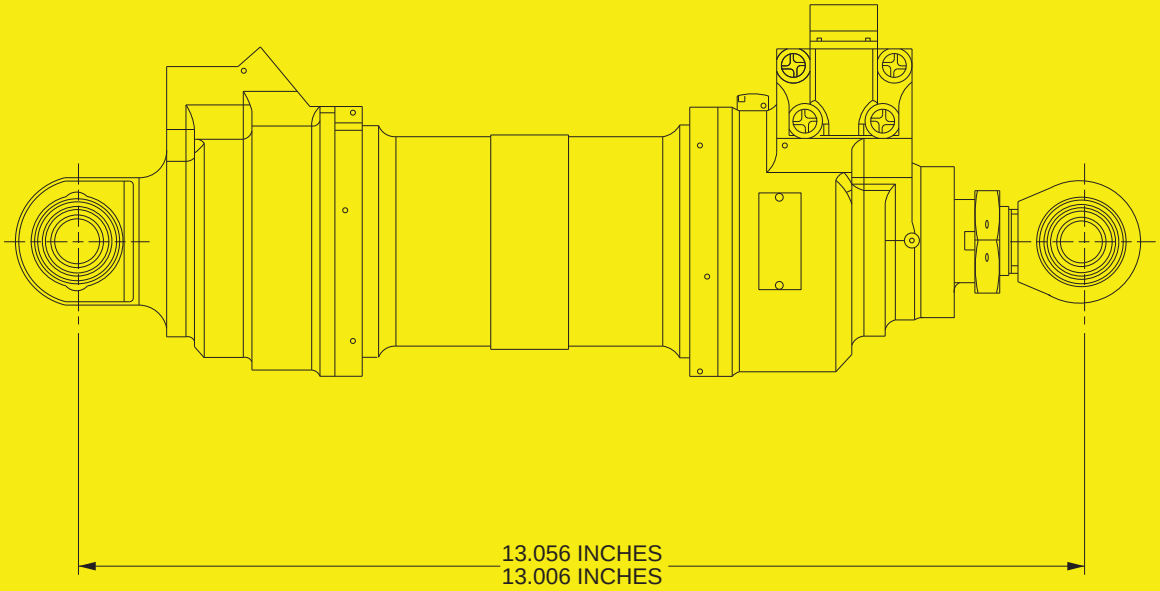


1159HM20140-3

TIL-027722G

I

Main Landing Gear Door Actuator End Cap Gland
Figure 404



TIL-027723G

I

Door Actuator Rod End Adjustment
Figure 405

6. Main Gear Door Actuator End Cap Fitting — Scrap

A. General

The end cap fitting is installed on the main gear door actuator which is located in the left and right main wheel well.

Gulfstream recommends a review of the Main Gear Door Actuator - Bench Check, 32-03-04, Adjustment / Test or Code 323525 procedure, which is a required follow on procedure to the Main Gear Door Actuator End Cap Fitting - Removal / Installation, 32-03-04, Removal / Installation or Code 323523, to ensure proper test equipment is available before proceeding.

For main gear door actuator end cap fittings that are not serialized, the end cap fitting must be tracked by the main gear door actuator part number and serial number until end cap is replaced with a serialized end cap.

B. Preparation

(1) Reference(s)

- Main Gear Door Actuator Assembly - Removal / Installation, 32-03-04, Removal / Installation or Code 323520
- Main Gear Door Actuator End Cap Fitting - Removal / Installation, 32-03-04, Removal / Installation or Code 323523
- Main Gear Door Actuator - Bench Check, 32-03-04, Adjustment / Test or Code 323525

(2) Aircraft Preparation

(a) Prepare aircraft for safe ground maintenance.

(b) Remove main gear door actuator. See Main Gear Door Actuator Assembly - Removal / Installation, 32-03-04, Removal / Installation or Code 323520.

C. Procedure

(1) Remove end cap from main gear door actuator. See Main Gear Door Actuator End Cap Fitting - Removal / Installation, 32-03-04, Removal / Installation or Code 323523.

(2) Discard main gear door actuator end cap.

(3) Install a serialized end cap part number 1159HM20178-15 (left) or -16 (right) on main gear door actuator. See Main Gear Door Actuator End Cap Fitting - Removal / Installation, 32-03-04, Removal / Installation or Code 323523.

D. Follow On

(1) Inspect for presence of foreign objects.

(2) Install main gear door actuator. See Main Gear Door Actuator Assembly - Removal / Installation, 32-03-04, Removal / Installation or Code 323520.

(3) Record all maintenance actions in accordance with current governing authority.