

CHAPTER 32  
LANDING GEAR

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## CHAPTER 32

### LANDING GEAR

#### 32-00 Description

*A spring and yield skid type landing gear is used. Most hard landings will be absorbed elastically. However, in an extremely hard landing, the struts will hinge up and outward as the center crosstube yields (takes permanent set) to absorb the impact. Slight yielding of the aft crosstube is acceptable. For tail skid height limitation, see § 32-20. For hard landing inspection, see § 5-65.*

*Hardened steel wear shoes are mounted on the bottom of the skids. Inspect skid tubes and skid shoes per § 32-30, particularly if autorotation landings with ground contact have been performed.*

*Pop-out float landing gear is available as optional equipment. See § 32-60 for pop-out float installation description.*

#### 32-10 Landing Gear Assembly

##### **A. Removal**

1. Open cabin aft doors and baggage compartment door. Remove engine cowling per § 53-21.
2. Refer to § 6-70; remove G308-2 and two F475-6 cross tube covers. Remove fairing assemblies per § 32-40.
3. Refer to Figure 32-1. If installed, remove hardware securing A936-3 (ground) wire assembly to aft, right landing gear attachment.
4. Using putty knife or plastic scraper, cut sealant securing four cross tube rain caps to landing gear assembly and remove caps. Remove sealant residue from caps, cross tubes, and strut assemblies. Clean surfaces with solvent.
5. Hoist helicopter per § 7-20. Raise skids above ground approximately one foot.

#### **CAUTION**

Support landing gear assembly as mounting bolts are removed.  
Do not damage forward cross tube hinged inspection cover.

6. Remove hardware securing forward, right strut assembly & forward cross tube to fuselage support. Mounting bolt access hole is located on aft, right seat box forward wall.
7. Remove hardware securing aft, right strut assembly & aft cross tube to fuselage support. Mounting bolt access hole is located on baggage compartment aft wall.
8. Rotate forward, left shackle to align mounting bolt with access hole on aft, left seat box forward wall. Remove hardware securing landing gear to shackle.

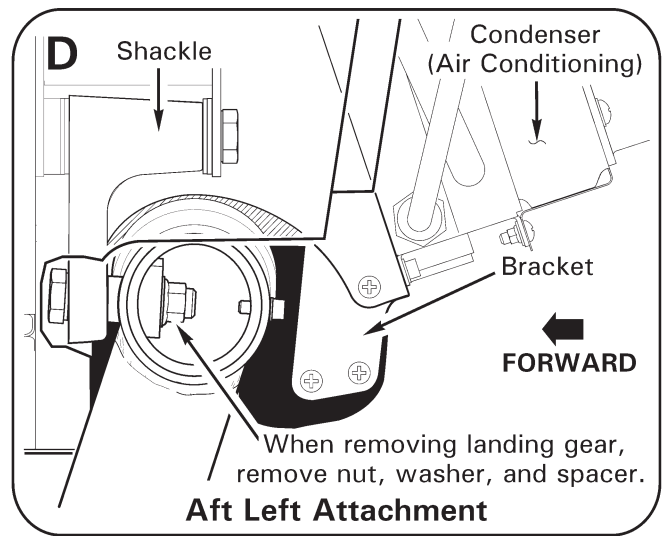
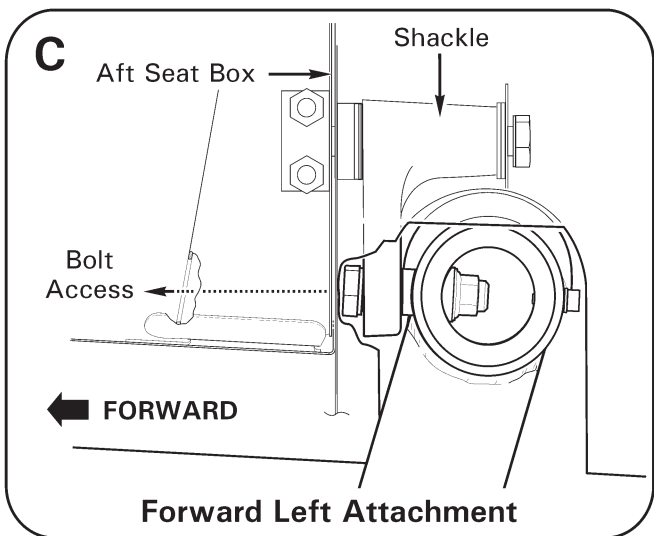
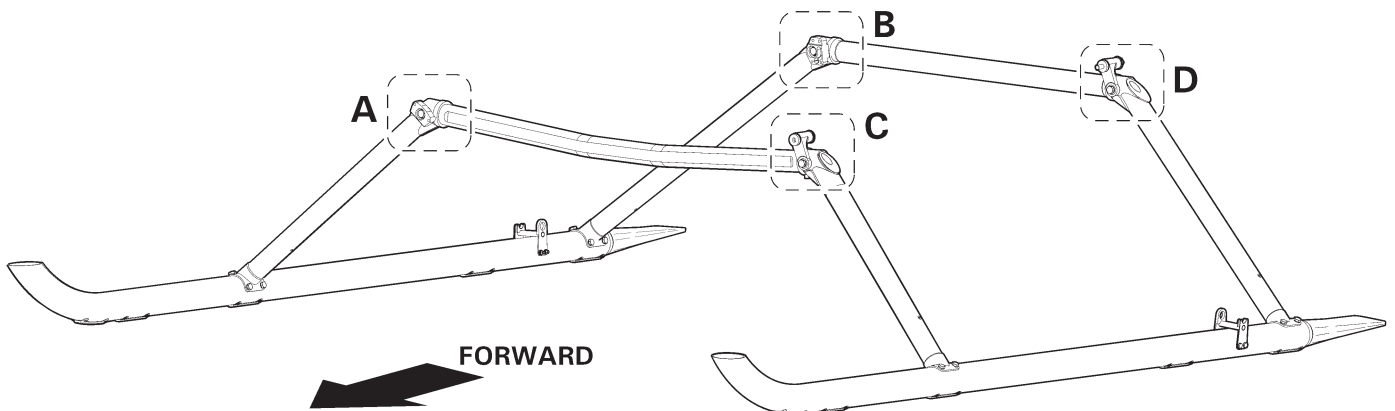
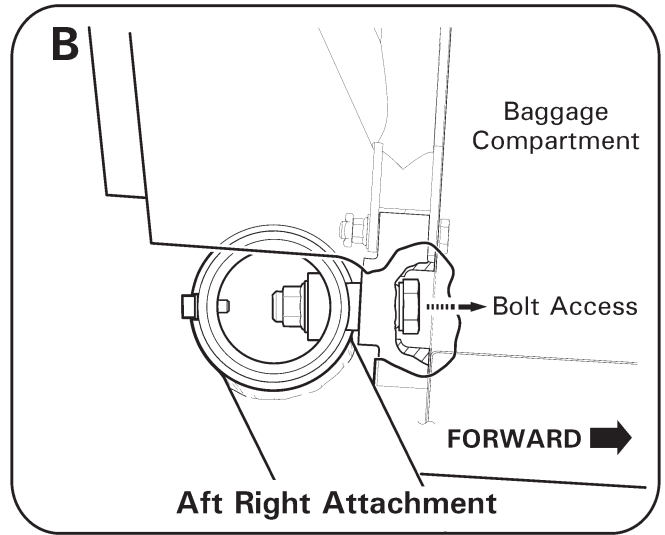
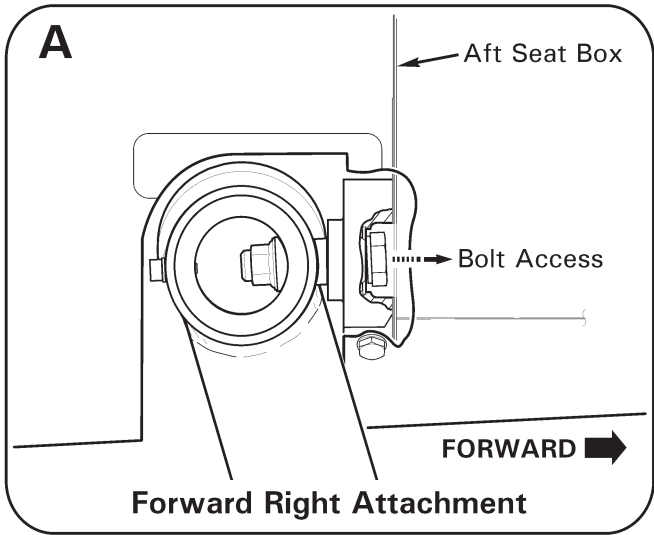


FIGURE 32-1 LANDING GEAR ATTACHMENT

32-10 Landing Gear Assembly (continued)**A. Removal (continued)**

9. If air conditioning is installed, remove hardware securing G787-3 and G787-4 brackets to condenser support and remove brackets.
10. Remove nut, washer, and spacer from aft, left mounting bolt (bolt stays in place). Carefully lower forward cross tube below belly, then move assembly aft, off of aft left bolt.

**B. Installation****WARNING**

Landing gear mounting bolts are critical fasteners. See § 20-30 for torque requirements.

**CAUTION**

Support landing gear assembly as mounting bolts are installed. Do not damage forward cross tube hinged inspection cover.

1. Hoist helicopter per § 7-20 to required height.
2. Refer to Figure 32-1. Align mounting bolt (in place) with aft, left landing gear attachment. Install hardware, special torque fastener per § 20-33, & torque stripe per Figure 5-1. If air conditioning is installed, install hardware securing G787-3 and G787-4 brackets to condenser support. Verify security.
3. Insert hardware thru access hole on aft, left seat box forward wall, and thru shackle. Align mounting bolt with forward, left landing gear attachment. Install hardware, special torque bolt per § 20-33, & torque stripe per Figure 5-1.
4. Insert hardware thru right side access hole on baggage compartment aft wall and aft, right landing gear attachment. Install hardware, special torque bolt per § 20-33, & torque stripe per Figure 5-1.
5. Insert hardware thru access hole on aft, right seat box forward wall and forward, right landing gear attachment. Install hardware, special torque bolt per § 20-33, & torque stripe per Figure 5-1.
6. Lower helicopter per § 7-20. Close cabin aft doors and baggage compartment door.
7. If installed, verify surface under terminal is clean and dry and install hardware securing A936-3 (ground) wire assembly to aft, right landing gear attachment. Standard torque screw per § 20-32 and torque stripe per Figure 5-1.
8. Verify rain caps and bonding surfaces are clean and dry. Bond caps to landing gear cross tubes (painted side against cross tube, window up) using B270-1 sealant. Remove excess adhesive and allow to cure.

32-10 Landing Gear Assembly (continued)**B. Installation**

9. Refinish landing gear as required per Chapter 20.
10. When surfaces are dry, install engine cowling per § 53-21. Refer to § 6-70; install G308-2 and two F475-6 cross tube covers. Install fairing assemblies per § 32-40.
11. Perform electrical bond check per the following:
  - a. Remove aux fuel tank per § 28-51, if installed.
  - b. Disconnect battery negative (ground) cable, then positive cable from battery.
  - c. Attach positive (red) and negative (black) leads to digital milliohm meter (Model 310, BK Precision or similar).
  - d. Attach negative (black) leads to battery ground strap; attach positive (red) leads to the following ground locations and check readings:
    - i. Tailcone forward bay (strobe light ground stud)
    - ii. Horizontal stabilizer (tail light ground stud)
    - iii. Main gearbox (chip detector housing or MR temperature switch screw)
    - iv. Left and right skid tube (ground handling support)
    - v. Avionics ground (C448 terminal assembly)
    - vi. Upper console ground (G050/G060)
    - vii. Battery charge negative post
  - e. Verify resistance at each location is maximum 1 ohm; if more than 1 ohm, check installation points and repeat steps as required.

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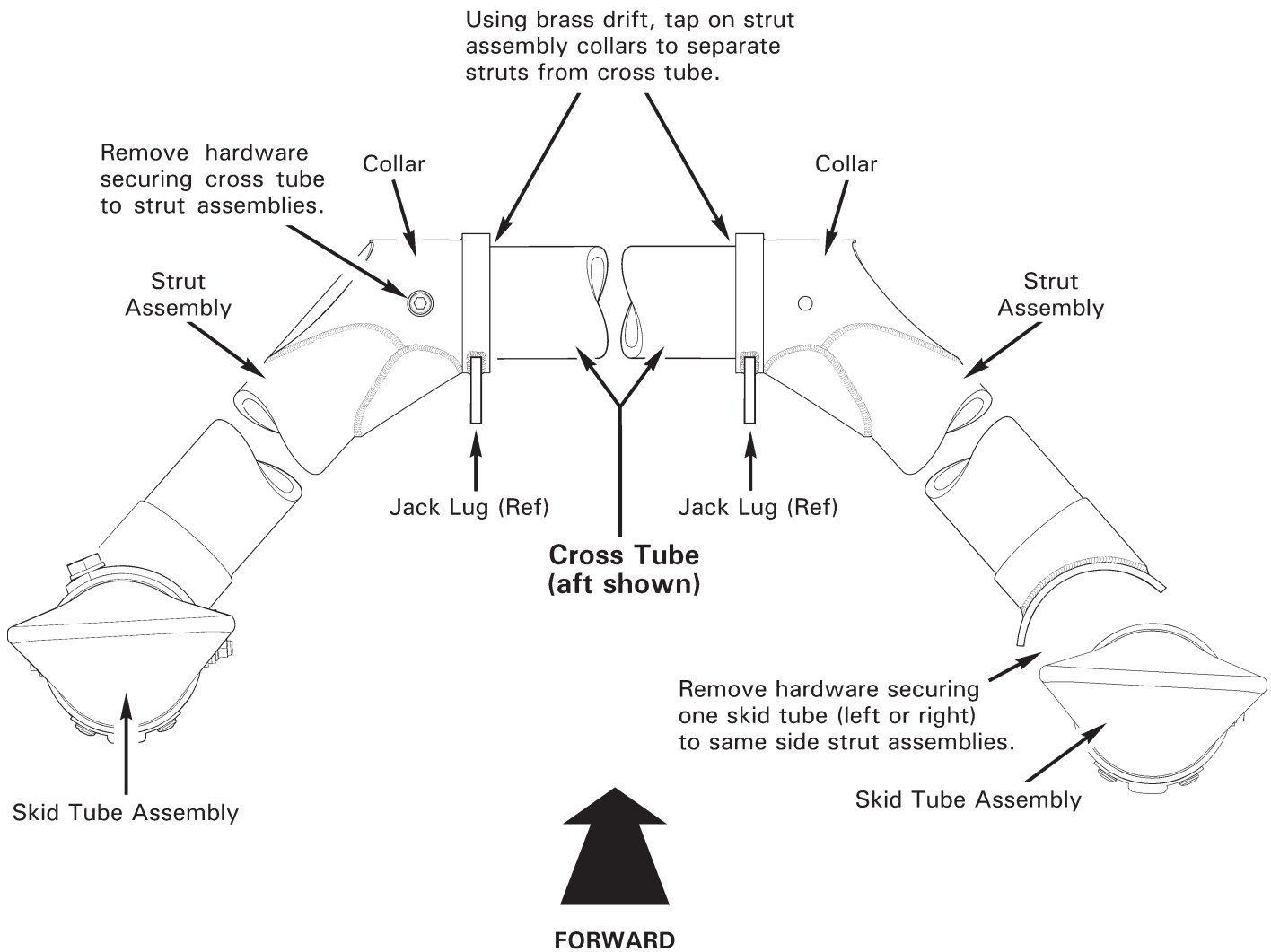


FIGURE 32-2 CROSS TUBE REMOVAL



## 32-20 Cross Tubes

### **A. Inspection**

For helicopters with F014-1 (standard) landing gear or F014-4 (pop-out float) landing gear, replace aft cross tube if tail skid height is less than 38 inches from ground when aircraft is minimally loaded on level pavement.

For helicopters with F014-5 (extended) landing gear, replace aft cross tube if tail skid height is less than 30 inches from ground when aircraft is minimally loaded on level pavement.

For hard landing inspection, see Section 5-65.

### **B. Removal**

1. Remove landing gear per Section 32-10.
2. Refer to Figure 32-2. Remove hardware securing one skid tube (left or right) to same side strut assemblies.
3. Remove hardware securing cross tube (to be replaced) to strut assemblies. Using brass drift, tap on strut assembly collars to separate struts from cross tube. Do not tap on jack tabs.

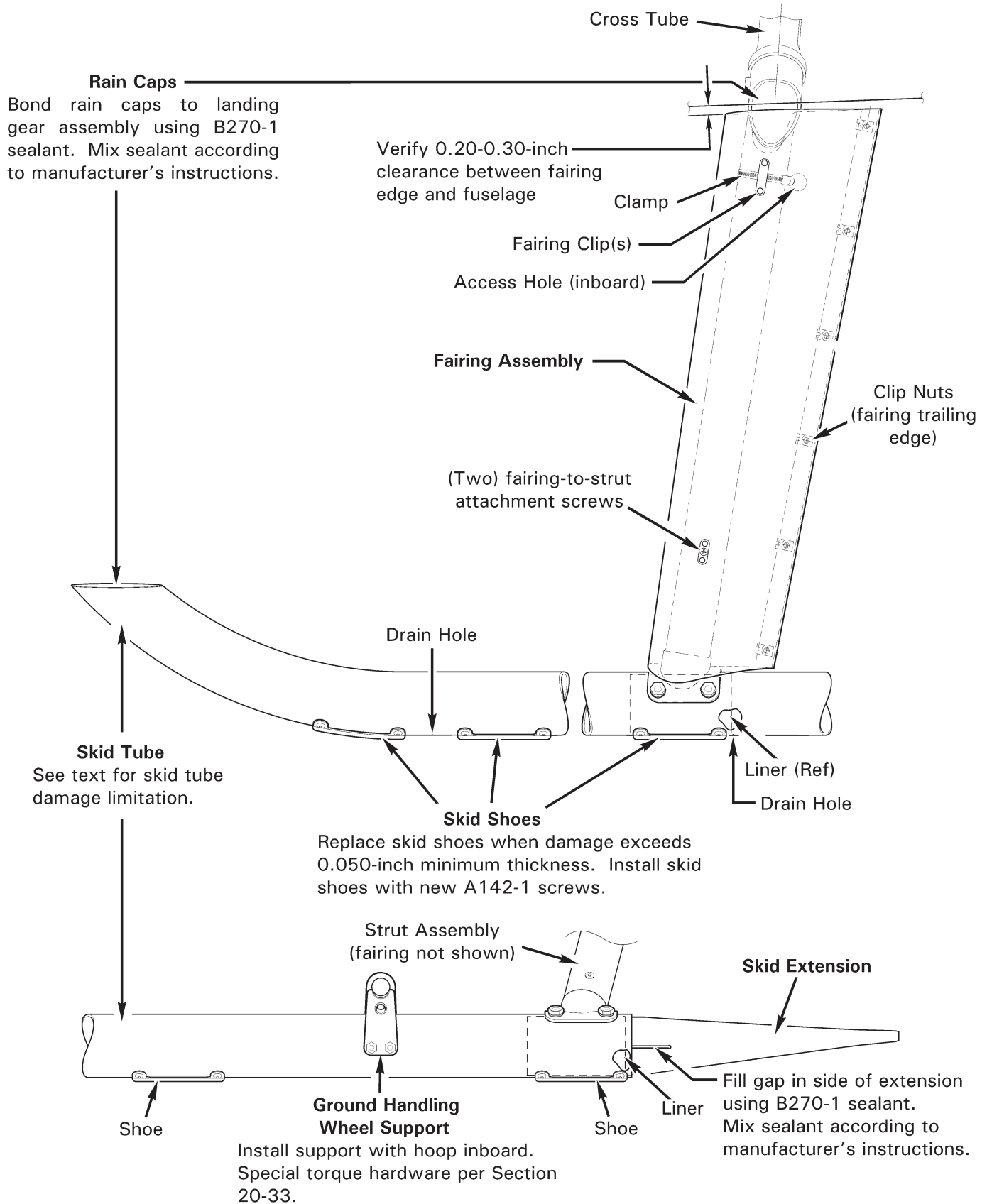
### **C. Installation**

Refer to R66 Illustrated Parts Catalog (IPC) Figure 32-1.

#### **NOTE**

When installing A936-3 (ground) wire assembly, verify finish is removed from surface under wire terminal.

1. Refer to Figure 32-2. Lightly coat mating surfaces of cross tube with zinc-chromate or epoxy primer using approved materials per Section 20-70. While primer is wet, install cross tube into strut assemblies and align fastener holes.
2. Install hardware securing cross tube to strut assemblies, standard torque screws per Section 20-32, and torque stripe per Figure 5-1.
3. Install hardware securing left or right skid tube to strut assemblies, standard torque bolts per Section 20-32, and torque stripe per Figure 5-1.
4. Install landing gear per Section 32-10.



**FIGURE 32-3 SKID TUBES AND FAIRINGS**  
(Strut and skid tube angles exaggerated for clarity)

### 32-30 Skid Tubes

Refer to R66 Illustrated Parts Catalog (IPC) Figure 32-1.

**CAUTION**

Minimize personnel movement around raised helicopter. Use caution when working under raised skid tubes.

#### **A. Inspection**

1. Install ground handling wheels per Section 9-11.
2. Pull down on tail rotor gearbox and place blocks under skid tubes, forward of forward strut assemblies. Skids should be approximately parallel with the ground.
3. Measure damage on left or right skid tube. Replace skid tube if damage exceeds the following limits:
  - a. 0.030 inch maximum depth longitudinal scratch (no length limit).
  - b. 0.030 inch maximum depth and 0.50 inch maximum length circumference scratch.
  - c. 0.500 inch maximum width flat spot.
4. Measure the thickness of skid tube's skid shoes (five per skid). Replace a skid shoe per Section 32-31 if damage exceeds 0.050 inch minimum thickness. Repeat steps on opposite skid tube.

#### **B. Removal**

1. Jack or hoist helicopter per Sections 7-10 or 7-20. Raise skids above ground approximately 4 inches.
2. Refer to Figure 32-3. Remove hardware securing left or right skid tube to same side strut assemblies.

#### **C. Installation**

1. Jack or hoist helicopter per Sections 7-10 or 7-20 to required height.
2. Refer to Figure 32-3. Install hardware securing skid tube to strut assemblies. Standard torque bolts per Section 20-32 and torque stripe per Figure 5-1.
3. Lower helicopter per Sections 7-10 or 7-20.

### 32-31 Skid Shoes

Refer to R66 Illustrated Parts Catalog (IPC) Figure 32-1.

#### **A. Inspection**

Inspect skid tubes and skid shoes per Section 32-30.

#### **B. Replacement**

1. Refer to Figure 32-3. Remove and discard hardware securing skid shoe to skid tube. Discard a shoe damaged beyond limits in Section 32-30.
2. Install new A142-1 screws to secure skid shoe to skid tube. Standard torque screws per Section 20-32.

### 32-32 Skid Extension Replacement

Refer to R66 Illustrated Parts Catalog (IPC) Figure 32-1.

1. Remove skid tube per Section 32-30.
2. Refer to Figure 32-3. Remove and discard hardware securing aft skid shoe to skid tube. Remove skid extension.
3. Clean interior of skid tube as practical. Install new skid extension and align fastener holes.
4. Install new A142-1 screws to secure aft skid shoe to skid tube. Standard torque screws per Section 20-32.
5. Install skid tube per Section 32-30.
6. Fill gap in side of skid extension using B270-1 sealant. Mix sealant according to manufacturer's instructions.

### 32-33 Ground Handling Wheel Support Replacement

Refer to R66 Illustrated Parts Catalog (IPC) 32-1.

1. Refer to Figure 32-3. Remove hardware securing support weldment to skid tube and remove support.
2. Install hardware securing new support weldment to skid tube. Verify correct support orientation. Special torque hardware per Section 20-33 and torque stripe per Figure 5-1.

### 32-40 Fairing Assemblies

#### **A. Removal**

1. Refer to Figure 32-3. Remove screws securing fairing assembly together at trailing edge.
2. Remove screws securing fairing assembly to strut assembly. Unscrew clamp through fairing inboard access hole and remove fairing.

#### **B. Installation**

1. Refer to Figure 32-3. Verify fairing assembly clip nuts are installed. Verify clamp threads through fairing clips, with hex facing inboard access hole.
2. Position fairing assembly on strut assembly and install screws securing fairing to strut.
3. Tighten clamp, and special torque hex through fairing assembly inboard access hole per § 20-33.
4. Install screws securing fairing assembly together at trailing edge.
5. Verify 0.20–0.30 inch clearance between fairing assembly edge and fuselage. Remove and trim fairing as required; reinstall per preceding steps.

### 32-50 Maintenance

1. Refer to Figure 32-3. Verify drain holes in bottom of skid tubes are free of obstructions (two per skid, between two forward skid shoes and aft of skid shoe at forward strut assembly).
2. Refinish landing gear to prevent corrosion per Chapter 20.
3. Inspect skid tubes and skid shoes per § 32-30, especially following touch-down autorotations or running take-offs or landings.
4. Verify skid tube and strut assembly rain caps are properly sealed. Replace or re-seal rain caps per the following:
  - a. Using putty knife or plastic scraper, cut sealant securing rain cap to landing gear assembly and remove cap. Remove sealant residue from caps, cross tubes, and/or strut assemblies. Clean surfaces with solvent.
  - b. Verify rain caps and bonding surfaces are clean and dry. Bond caps to landing gear assembly using B270-1 sealant. Mix sealant according to manufacturer's instructions.

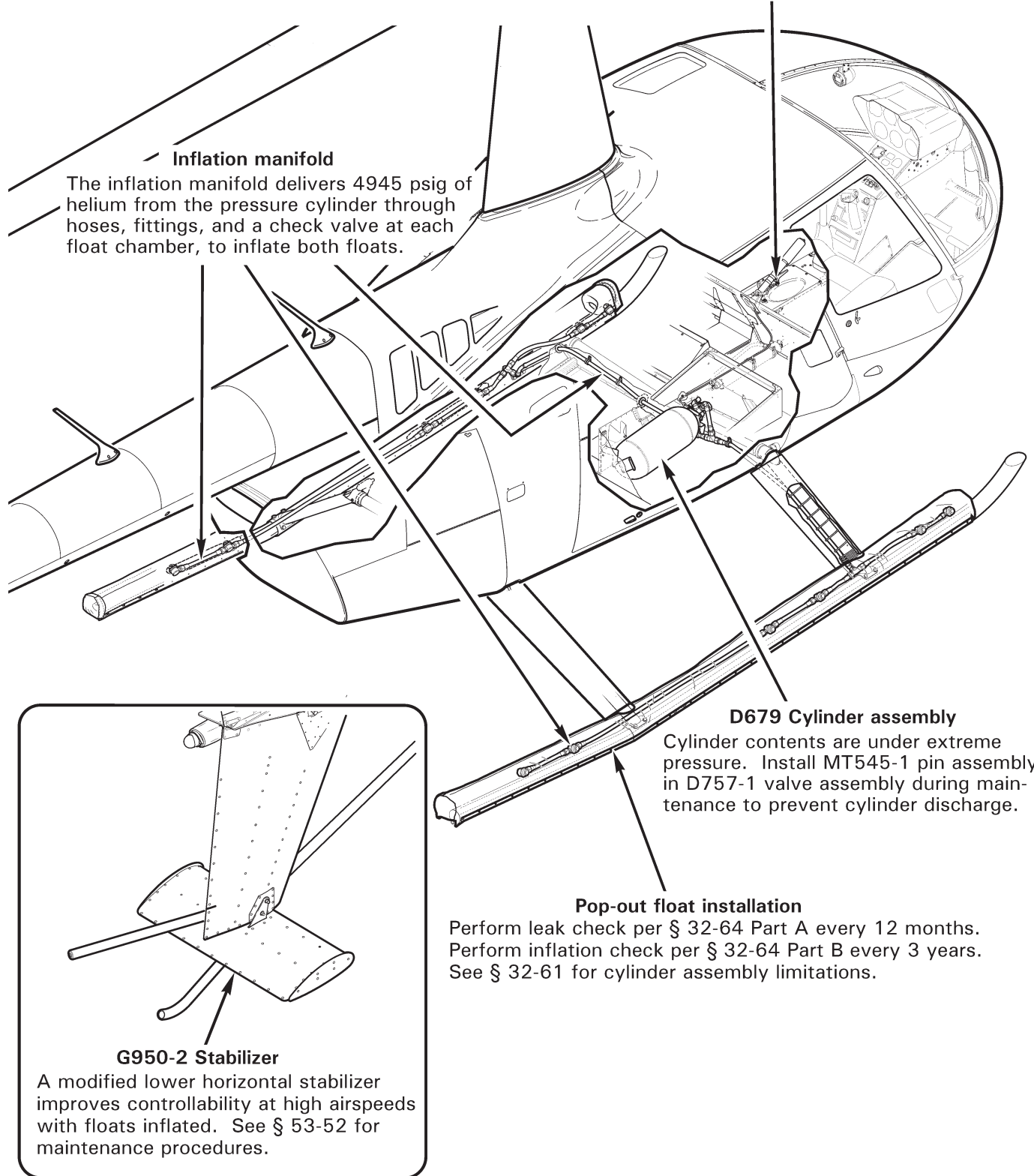
**Inflation lever and shear-rivet**  
 See § 32-62 for (collective-mounted) inflation lever rigging and shear-rivet replacement.

**Inflation manifold**  
 The inflation manifold delivers 4945 psig of helium from the pressure cylinder through hoses, fittings, and a check valve at each float chamber, to inflate both floats.

**D679 Cylinder assembly**  
 Cylinder contents are under extreme pressure. Install MT545-1 pin assembly in D757-1 valve assembly during maintenance to prevent cylinder discharge.

**Pop-out float installation**  
 Perform leak check per § 32-64 Part A every 12 months. Perform inflation check per § 32-64 Part B every 3 years. See § 32-61 for cylinder assembly limitations.

**G950-2 Stabilizer**  
 A modified lower horizontal stabilizer improves controllability at high airspeeds with floats inflated. See § 53-52 for maintenance procedures.



**FIGURE 32-4 POP-OUT FLOATS INSTALLATION**

### 32-60 Pop-Out Floats Installation

Pop-out floats are optional equipment for R66 helicopters. The pop-out float installation includes inflatable floats stowed in protective covers secured to the skid tubes, a pressure cylinder located in the compartment beneath the right aft seat, an inflation manifold, an inflation lever located on the pilot's collective stick, and a modified aux stabilizer.

The valve located on top of the pressure cylinder has a pressure gage, a thermal relief valve which releases pressure if exposed to excessive heat (281° F), a metal sealing disk, and a spring-loaded pin.

The red inflation lever on the pilot's collective stick is equipped with a spring-loaded safety to prevent inadvertent float inflation. To inflate the floats, the safety is pushed in and rotated from LOCKED to READY position, then the inflation lever is squeezed with enough force to shear the aluminum rivet. The spring-loaded pin in the pressure cylinder valve punctures the metal sealing disk, and 4945 psig (nominal, at 20° C) of helium is released into the inflation manifold to inflate both floats.

The manifold consists of hoses, fittings, and a check valve at each of the six float chambers (per float). Each float chamber has a topping valve for manual inflation, and a pressure relief valve to vent excess internal pressure.

A modified aux stabilizer improves controllability at high airspeeds with floats inflated.

### 32-61 Cylinder Assembly

Refer to R66 Illustrated Parts Catalog (IPC) Figure 32-7.

#### NOTE

Cylinders are discharged during float inflation check every 3 years. Cylinder hydrostatic test is required every 5 years. Cylinder life-limit is 15 years from date of manufacture. To ensure cylinder limitations are not overflowed, returning to service cylinders with more than 2 years since hydrostatic test or 12 years since date of manufacture is not recommended.

#### WARNING

**D679 Cylinder contents are under extreme pressure. Install MT545-1 pin assembly in D757-1 valve assembly during maintenance to prevent cylinder discharge.**

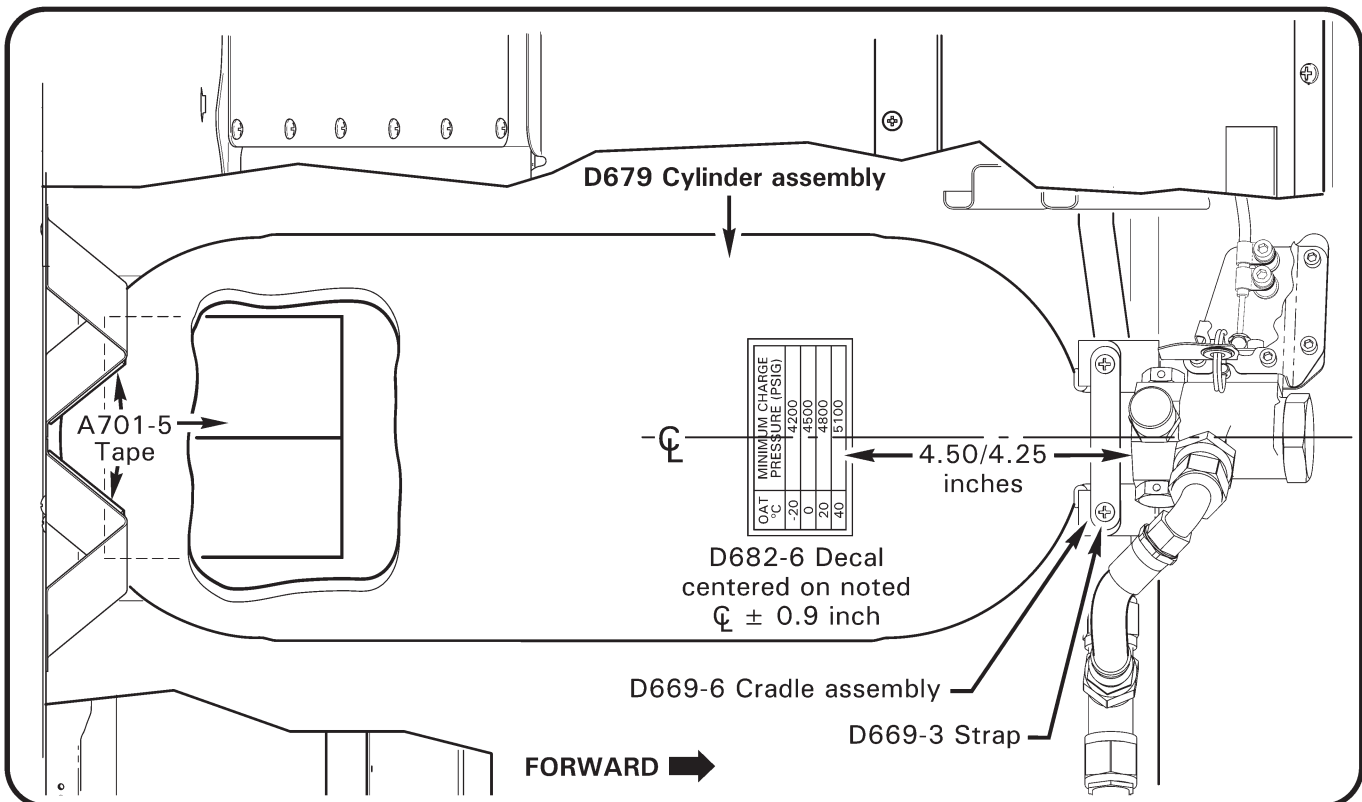
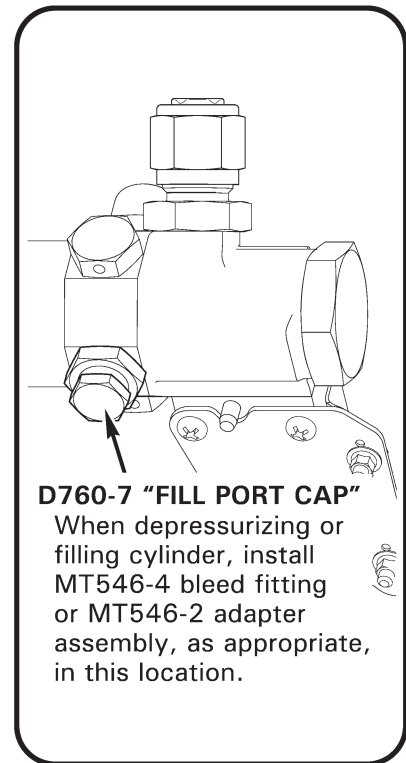
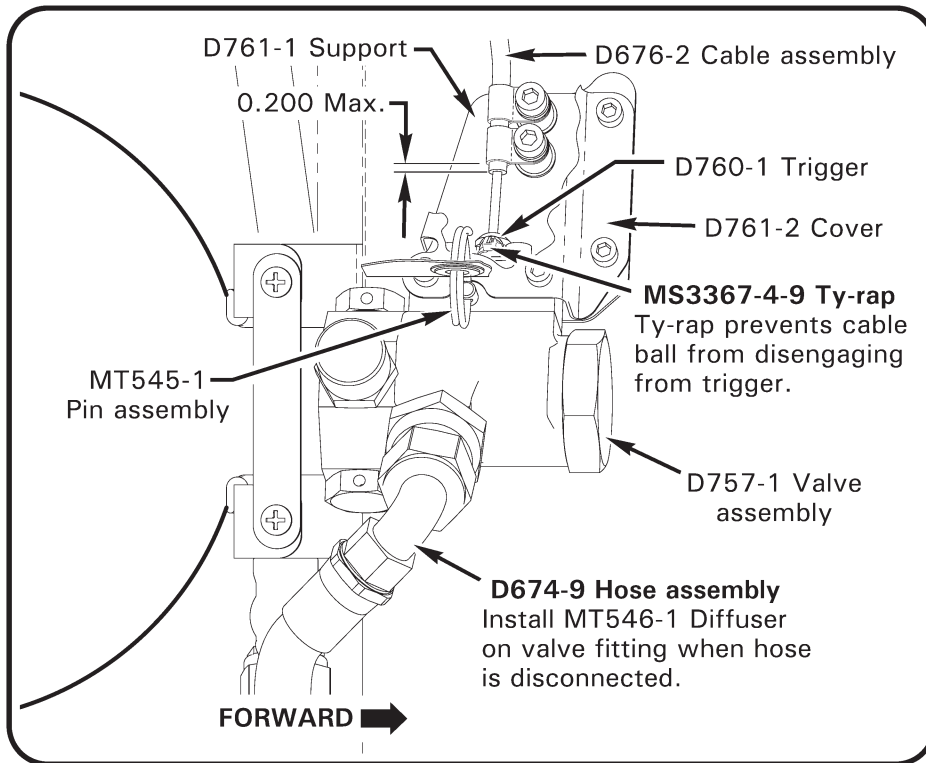


FIGURE 32-5 POP-OUT FLOATS CYLINDER ASSEMBLY



32-61 Cylinder Assembly (continued)**A. Removal**

1. Refer to Figure 32-5. Hinge right aft seat assembly forward. Install MT545-1 pin assembly in D757-1 valve assembly.
2. Disconnect D674-9 hose assembly from valve fitting. Install MT546-1 diffuser on valve fitting and special torque diffuser to 120 in.-lb. Cap hose to prevent foreign object contamination.
3. Remove hardware securing D761-2 cover to valve and D761-1 support. Remove cover.
4. Remove hardware securing D761-1 support to valve. Do not kink cable.
5. Cut and discard MS3367-4-9 ty-rap secured to D760-1 trigger. Disengage D676-2 cable assembly ball from trigger, but do not kink cable.
6. Remove screws securing D669-3 strap to D669-6 cradle assembly and remove strap. Carefully remove cylinder.

**B. Depressurization****CAUTION**

Use appropriate eye and hearing protection. Do not service cylinder assembly while cylinder is installed in helicopter.

1. Remove cylinder per § 32-61 Part A. Verify MT545-1 pin assembly and MT546-1 diffuser are properly installed.
2. Refer to Figure 32-5. Remove D760-7 cap (etched with "FILL PORT") from valve assembly. A loud pop may be heard when cap's seal is broken.
3. In a well-ventilated area, slowly screw MT546-4 bleed fitting assembly into fill-port until the noise of escaping gas is heard. Screw fitting in or out to adjust flow rate. Finish bleeding cylinder with bleed fitting fully in. When noise ceases, verify cylinder pressure gage indicates zero. Remove bleed fitting.
4. Install cap in valve assembly and special torque cap to 40 in.-lb.
5. Evaluate cylinder life and hydrostatic test status.

32-61 Cylinder Assembly (continued)

**C. Filling**

**CAUTION**

Use appropriate eye and hearing protection. Do not service cylinder assembly while cylinder is installed in helicopter.

**WARNING**

**ONLY** cylinders labeled “DOT-E 10915-4945” or “DOT-SP 10915-4945” may be refilled. Cylinders labeled “DOT-E 10915-4500” must be returned to RHC for exchange/upgrade.

**WARNING**

**Verify D757-1 (gray) valve assembly is engraved with “D758-4” or has a data plate indicating B900-8 modification.**

Filling equipment (pumps, hoses, fittings, etc.) must be rated for 6000 psi minimum working pressure and be in good condition.

Cylinder temperature and pressure must be kept within safe limits. Monitor pressure gage and use thermocouple or other appropriate temperature probe to monitor temperature on face of thermal relief fitting during fill. Do not allow temperature to exceed 50°C (122°F) or pressure to exceed 5500 psig. If limits are approached, stop fill and allow cylinder to cool and pressure to drop before continuing. Placing cylinder in a water bath and using slow to moderate fill rates is recommended. If using water bath, keep water level below valve assembly to avoid water contamination of valve.

1. Evaluate cylinder life and hydrostatic test status.
2. Refer to Figure 32-5. Install MT545-1 pin assembly in D757-1 valve assembly. Install MT546-1 diffuser on valve fitting and special torque diffuser to 120 in.-lb.
3. Remove D760-7 cap (etched with “FILL PORT”) from valve assembly. A loud pop may be heard when cap’s seal is broken.
4. Install MT546-2 adapter assembly into fill port and special torque adapter to 40 in.-lb. Attach fill hose to adapter.
5. Fill with 99.98% minimum purity (industrial grade) helium per chart below:

Ambient Temperature (°C)	Pressure (psig)
-20	4268
-10	4437
0	4606
10	4776
20	4945
30	5114
40	5283

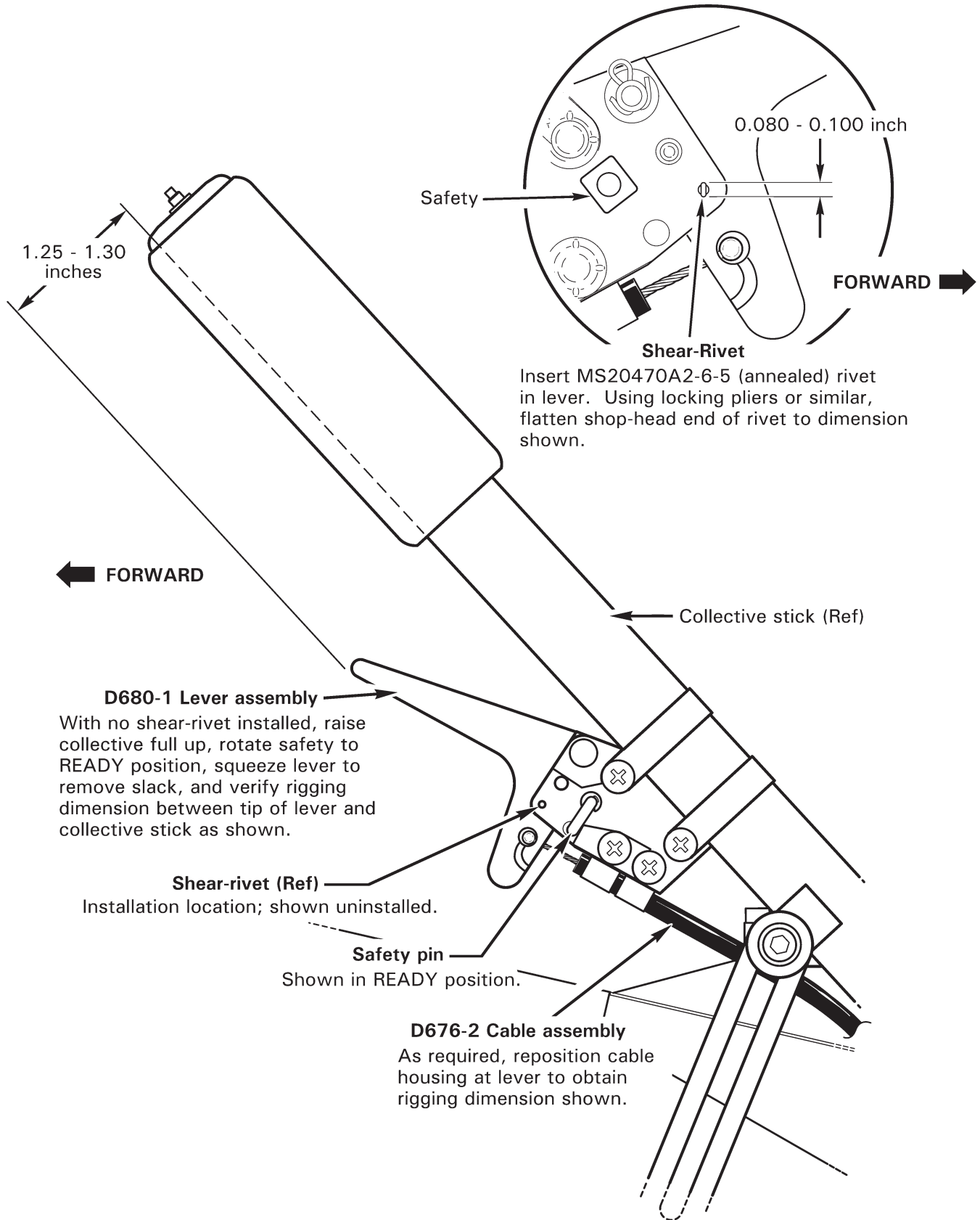
32-61 Cylinder Assembly (continued)**C. Filling (continued)**

6. Allow cylinder and valve to cool to ambient temperature. Top off with helium to compensate for any pressure loss due to cooling.
7. Remove fill hose and MT546-2 adapter assembly.
8. Remove & discard old o-ring from cap. Lightly coat new MS28778-2 o-ring with A257-19 lubricant and install o-ring on fill-port cap at base of threads. Install cap in valve assembly and special torque cap to 40 in.-lb.

**D. Installation****WARNING**

**Verify D757-1 (gray) valve assembly is engraved with "D758-4" or has a data plate indicating B900-8 modification.**

1. Fill cylinder per Section 32-61 Part C, if not previously accomplished.
2. Refer to Figure 32-5. Install MT545-1 pin assembly in D757-1 valve assembly.
3. Hinge right aft seat assembly forward. Verify A701-5 (anti-chafe) tape protects cylinder where cylinder base contacts cabin structure in three locations. Carefully position cylinder in D669-6 cradle assembly.
4. Engage D676-2 cable assembly ball in D760-1 trigger; do not kink cable. Install MS3367-4-9 ty-rap as shown. Cinch ty-rap until snug without over-tightening, and trim tip flush with head. Install hardware securing D761-1 support to valve.
5. Verify cable housing protrudes through clamps on support flush-to-0.200 inch maximum. Adjust as necessary.
6. Rotate cylinder as required to minimize cable bending and to ensure clearance with cabin structure.
7. Verify D682-6 decal is in specified location. If decal location is incorrect, remove old decal and install new decal on cylinder. Install screws securing D669-3 strap to cradle assembly.
8. Install hardware securing D761-2 cover to valve and D761-1 support.
9. Remove MT546-1 diffuser, if installed. Connect D674-9 hose assembly to valve fitting. Orient hose as required to maintain minimum 0.25 inch clearance to cylinder and adjacent vertical panel. Special torque B-nut per Section 20-33 and torque stripe per Figure 5-1.
10. Rig inflation lever and replace shear-rivet per Section 32-62.



**FIGURE 32-6 POP-OUT FLOATS LEVER RIGGING AND SHEAR-RIVET REPLACEMENT**

### 32-62 Lever Rigging and Shear-Rivet Replacement

Refer to R66 Illustrated Parts Catalog (IPC) Figure 32-9.

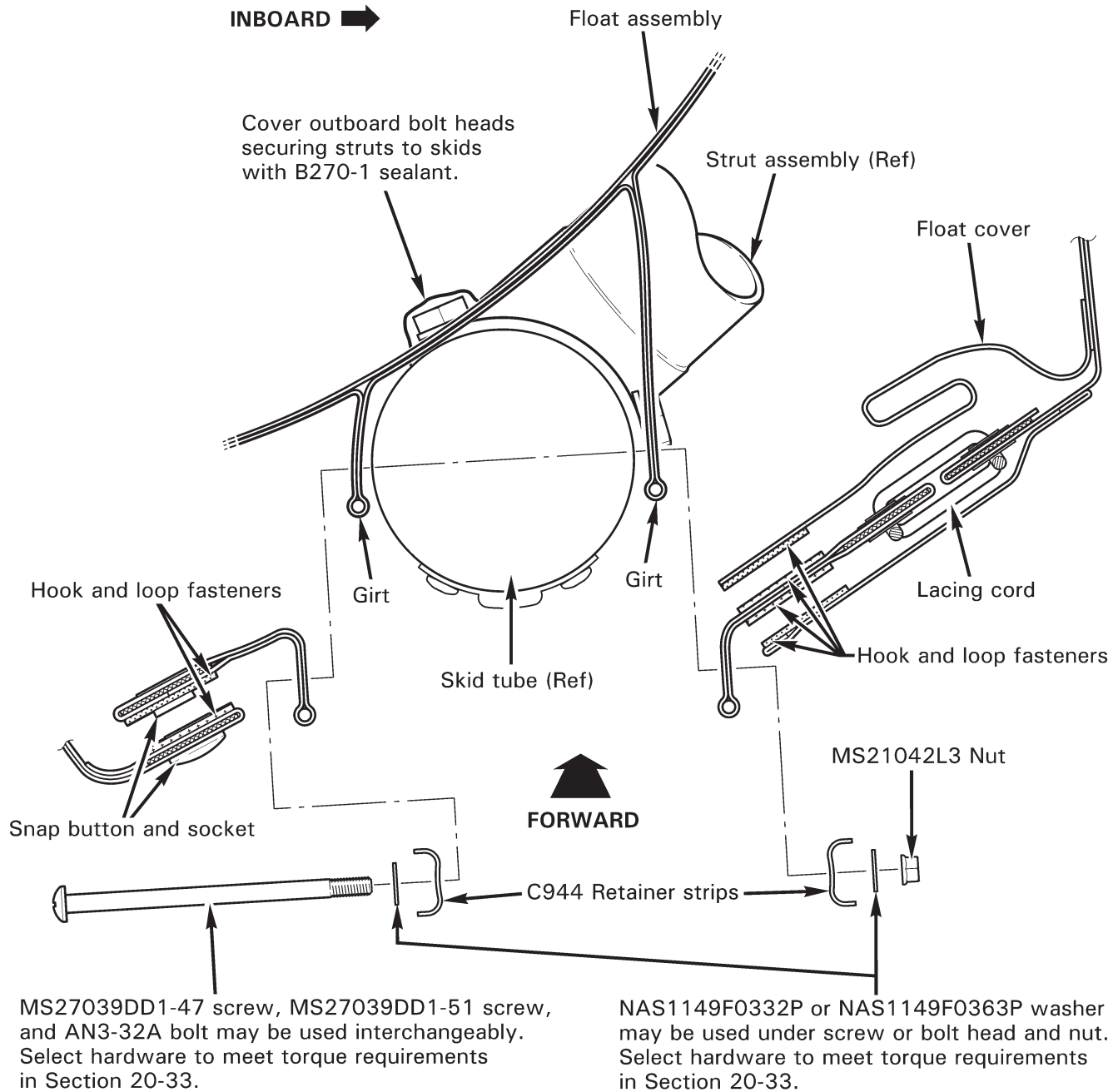
**WARNING**

**D679 Cylinder contents are under extreme pressure. Install MT545-1 pin assembly in D757-1 valve assembly during maintenance to prevent cylinder discharge.**

**WARNING**

**Install MS20470A2-6-5 (or MS20470A2-6.5) annealed rivet in lever assembly or rivet may be too hard to shear.**

1. Install cylinder per Section 32-61 Part D, if not previously accomplished. Install MT545-1 pin assembly in D757-1 valve assembly.
2. Refer to Figure 32-6. With no shear-rivet installed, raise collective full up, push in and rotate D680-1 lever assembly safety to READY position, squeeze lever to remove cable slack, and verify 1.25 - 1.30 in. between tip of lever and collective stick as shown. As required, reposition D676-2 cable assembly housing at lever to obtain dimension.
3. Push in and rotate lever safety to LOCKED position. Simultaneously squeeze lever and verify no preload in cable thru full collective travel.
4. Refer to Figure 32-6. Insert MS20470A2-6-5 (or MS20470A2-6.5) rivet in lever as shown. Using locking pliers or similar, flatten shop-head end of rivet to 0.080-0.100 in.
5. Verify lever safety is in LOCKED position. Remove MT545-1 pin assembly from D757-1 valve assembly.



**FIGURE 32-7 POP-OUT FLOATS FLOAT INSTALLATION**

32-63 Float Installation**WARNING**

**D679 Cylinder contents are under extreme pressure. Install MT545-1 pin assembly in D757-1 valve assembly during maintenance to prevent cylinder discharge.**

**A. Removal****NOTE**

Floats are subject to damage during removal. Remove floats if necessary for repairs.

1. Refer to Figure 32-5. Hinge right aft seat assembly forward. Install MT545-1 pin assembly in D757-1 valve assembly.
2. Disconnect D674-12 hose assembly from T-fitting near float. Cap fittings to prevent foreign object contamination.
3. Refer to Figure 32-7. Detach float cover hook and loop tape inboard of skid and loosen lacing.
4. Remove hardware securing float to skid tube, and skid extension.
5. Use care when removing C944 retainer strips from girts, and when separating girts from skid tube and skid extension. Repeat steps for opposite float.

**B. Installation**

1. Refer to Figure 32-7. Verify (outboard) bolt heads securing struts to skids are covered with B270-1 sealant. Apply additional sealant as required.
2. Position deflated float over skid tube and skid extension. Align holes in C944 retainer strips, float covers, float girts, and skid and install hardware. Special torque nuts per § 20-33.
3. Inflate float with filtered, oil-free, dry air to 3.0 psig via topping valves.
4. Remove protective caps and connect D674-12 hose assembly to T-fitting near float. Orient connection as required to minimize preload. Special torque hose B-nut per § 20-33, apply B270-22 protectant to exposed aluminum surfaces on hose B-nut and T-fitting, and torque stripe per Figure 5-1. Repeat steps for opposite float.
5. Pack floats per § 32-63 Part C.

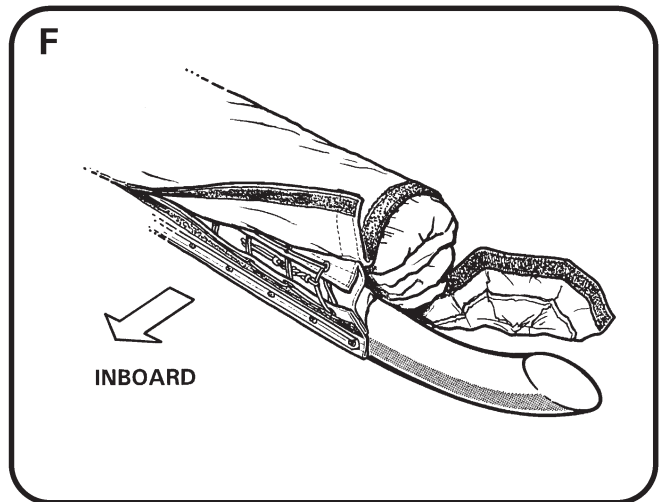
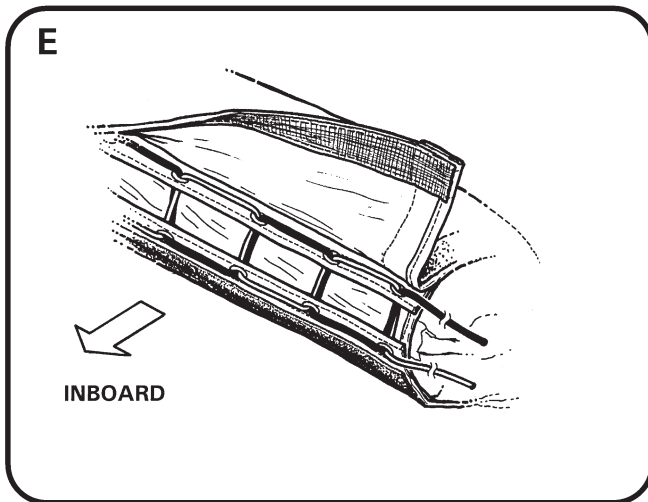
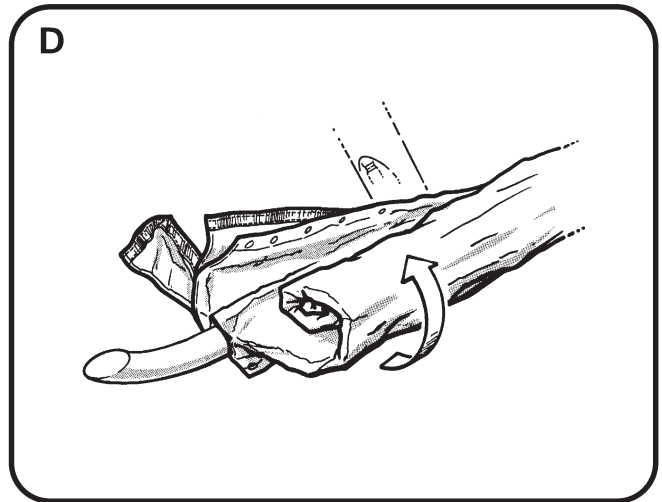
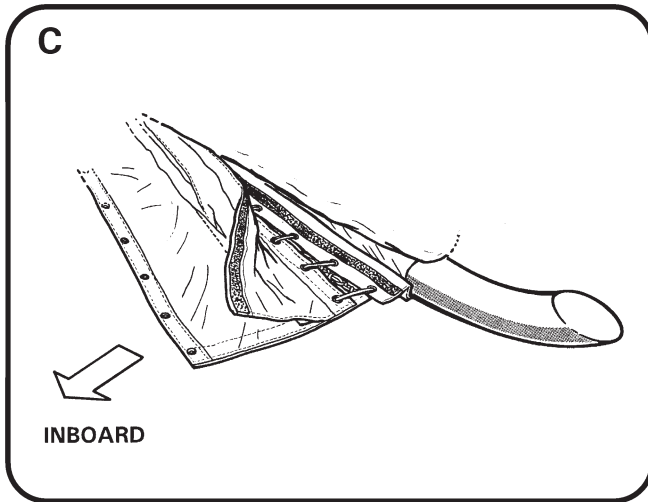
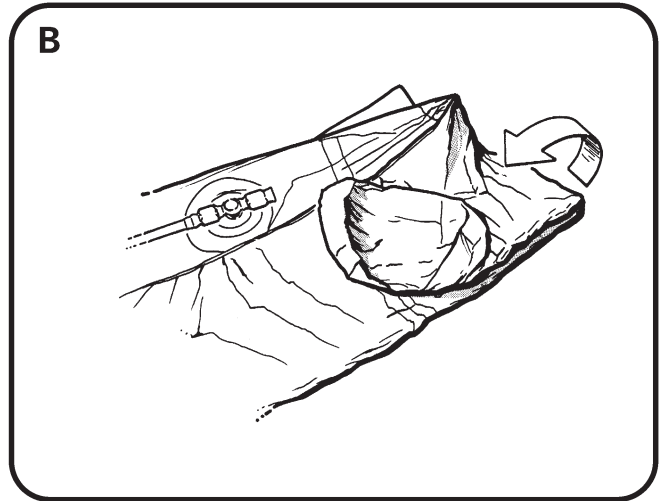
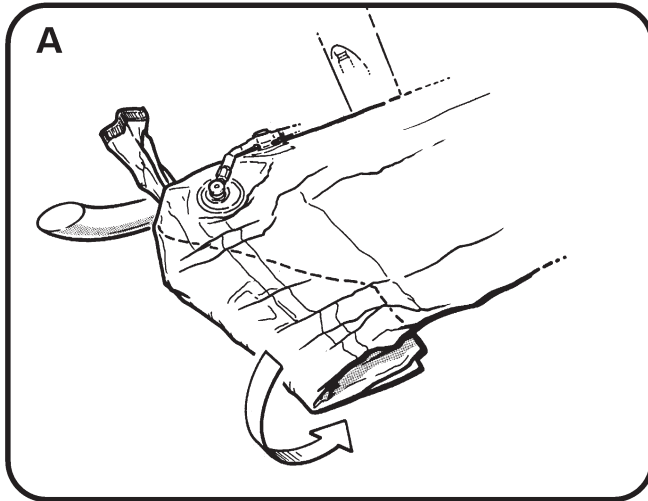


FIGURE 32-8 POP-OUT FLOATS FLOAT PACKING



32-63 Float Installation (continued)**C. Packing**

1. Install floats per § 32-63 Part B.
2. With float inflated, verify tees are oriented to minimize preload on hoses. Deflate float. Verify float is properly secured to skid and all hoses are properly connected and covered with heat shrink.
3. Spread deflated float outboard of skid tube. Vacuum as much air as possible from each float chamber through topping valves. Smooth out wrinkles.
4. Lightly dust float and inside float cover with talcum powder.
5. Refer to Figure 32-7 and Figure 32-8 Detail A. At girt forward edges, fold float perpendicular to skid tube; tuck material under and aft of float as shown.
6. Refer to Figure 32-8 Detail B. At girt aft edges, fold float perpendicular to skid tube; lay material over and forward of float as shown.
7. Refer to Figure 32-8 Detail C. Loosen lacing cords securing float cover to inboard girt. Detach, align, and secure inboard hook and loop fasteners.

**NOTE**

If possible, roll float into cover with the assistance of six or seven people.

8. Refer to Figure 32-8 Detail D. Align hoses and valve cover flaps. Roll float from outboard edge toward skid tube, as tightly as possible. Hold float on top of skid.
9. Apply A257-7 lubricant to mating surfaces of float cover and (outboard) girt snaps. Button snaps, and secure hook and loop fasteners.
10. Refer to Figure 32-8 Detail E. Verify lacing cords are installed in cover grommets in crossover ("ladder" lacing) method shown. Tighten cords starting at the aft skid extension working forward: at each segment, pull cords tight or until material edges join, but do not overtighten near valves. Tie cord ends in double square knots (4 alternating overhand knots).
11. Refer to Figure 32-8 Detail F. Tuck-in cord ends and secure hook and loop fasteners. Secure hook and loop fasteners at end caps.
12. Verify all fasteners are properly secured. Verify floats are rolled tight, with no lumps or loose areas.

32-64 System Maintenance**A. Leak Check****WARNING**

**D679 Cylinder contents are under extreme pressure. Install MT545-1 pin assembly in D757-1 valve assembly during maintenance to prevent cylinder discharge.**

1. Disconnect D674-9 hose assembly from pressure cylinder valve. Install protective cap on cylinder valve fitting. Cover D674-9 hose fitting to prevent contamination, but do not install an air-tight seal (D674-9 hose fitting must be allowed to leak to verify check valve function at each float chamber).
2. Unfasten hook-and-loop fasteners along inboard sections of float cover to expose lacing. Loosen, but do not remove, lacing.
3. Unfasten outboard sections of float cover and unroll float to expose valves.
4. Inflate floats with filtered, oil-free, dry air to 2.0 psig via topping valves.
5. Allow float air temperature to stabilize for 5 minutes minimum then record OAT and pressure in each float chamber.
6. One to two hours after initial pressure check, again record OAT and pressure in each float chamber. Allowable chamber pressure drop from initial measurement is 0.2 psig adjusted for any temperature change. Pressure will change by 0.06 psig per degree C temperature change. For example, float chamber pressure will decrease 0.6 psig if temperature drops 10 degrees C.
7. If leaks are detected, repair float with supplied repair kit and repeat steps 4, 5, & 6.
8. Connect D674-9 hose assembly to cylinder valve and torque per § 20-33.
9. Pack float per § 32-63 Part C.

**NOTE**

Annually apply A257-7 dry-film lubricant (see § 20-78) to float cover snap mating surfaces.

32-64 System Maintenance (continued)

**B. Inflation Check**

**WARNING**

**D679 Cylinder contents are under extreme pressure. Install MT545-1 pin assembly in D757-1 valve assembly during maintenance to prevent cylinder discharge.**

1. Unsnap outboard edge of both float covers.
2. Remove locking pin from valve, move inflation lever safety to READY position, and verify area around floats is clear.
3. Squeeze inflation lever to inflate floats. Approximately 20 pounds force will be required due to the shear-riquet. Time for floats to attain full shape without wrinkles should be three seconds or less.

**CAUTION**

Floats inflate rapidly and with a loud noise. Keep area clear during inflation and inform all nearby personnel. Remove or close all doors prior to inflation. Open doors interfere with float inflation and may be damaged.

4. Allow float temperatures to stabilize for at least five minutes then record OAT and pressure in each float chamber. Minimum allowable pressures are:

OAT (degrees C)	Minimum Pressure (psig) in Forward Two Chambers	Minimum Pressure (psig) in Middle Chamber	Minimum Pressure (psig) in Aft Two Chambers
5-9	1.30	1.00	0.60
10-14	1.60	1.30	0.90
15-19	1.90	1.60	1.20
20-24	2.20	1.90	1.50
25-29	2.50	2.20	1.80
30-34	2.80	2.50	2.10
35-39	3.10	2.80	2.40

32-64 System Maintenance (continued)**B. Inflation Check (continued)**

5. Disconnect D674-1 hose assembly from pressure cylinder valve immediately after initial pressure check. Install protective cap on cylinder valve fitting. Cover D674-1 hose fitting to prevent contamination, but do not install an air tight seal (D674-1 hose must be allowed to leak to verify check valve function at each float chamber).
6. Verify no rips or chafing on floats or covers.
7. One to two hours after initial pressure check, again record OAT and pressure in each float chamber. Allowable chamber pressure drop from initial measurement is 0.20 psi adjusted for any temperature change. For example, float chamber pressure will decrease 0.6 psig if temperature drops 10 degrees C.
8. If leaks are detected, repair float with supplied repair kit then perform leak check per Section 32-64 Part A on repaired float chamber.
9. Connect D674-1 hose assembly to valve fitting. Orient line as required to maintain minimum 0.25 inch clearance to cylinder and C390-5 panel. Torque B-nut per Section 20-33 and torque stripe.
10. Pack floats per Section 32-63 Part C.

**NOTE**

Annually apply A257-7 dry-film lubricant (see Section 20-78) to float cover snap mating surfaces.

11. Remove cylinder assembly and depressurize cylinder per Section 32-61 Parts A & B. Return cylinder to RHC for overhaul-exchange.
12. Install serviceable cylinder assembly per Section 32-61 Part D.