

**CHAPTER 99 — AUXILIARY EQUIPMENT KIT  
EMERGENCY FLOTATION  
206-706-211-101 (HELICOPTERS S/N 4 THRU 153)  
206-706-211-103 (HELICOPTER S/N 154 AND SUBSEQUENT)  
206-706-211-107 (HELICOPTERS S/N 3042 THRU 4310)  
206-706-211-109 (HELICOPTERS S/N 4311 AND SUBSEQUENT)**

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**EMERGENCY FLOTATION SYSTEM**  
**206-706-211-101 (HELICOPTERS S/N 4 THRU 153)**  
**206-706-211-103 (HELICOPTERS S/N 154 AND SUBSEQUENT)**  
**207-706-211-107 (HELICOPTERS S/N 3042 THRU 4310)**  
**206-706-211-109 (HELICOPTERS S/N 4311 AND SUBSEQUENT)**

**1. DESCRIPTION.**

The emergency flotation landing gear kit is provided to equip helicopters for emergency water landings. The kit consists of a high skid landing gear, emergency floats attached and stowed in the main skid panels, entrance step, ground handling gear, and attaching hardware (figure 1). Inflation cylinder is mounted externally and has an operating pressure of 3000 to 3100 psig. Floats inflation time is approximately five seconds when activated. A plate assembly is attached to the tailskid for controllability purposes, and also partially protects tail rotor in event of a tail low landing in water.

are the same. The primary difference is the reservoir assembly, which is 206-073-848-103 or -105 (for -101 kit), 206-073-848-109A (for -103 kit), or 206-073-848-115 (for -107 kit).

**2. MAINTENANCE PROCEDURES.**

**3. REMOVAL.**



RESERVOIR AND VALVE CONTAIN HIGH PRESSURE GAS. RESERVOIR SHALL BE DISCHARGED BEFORE REMOVING FROM HELICOPTER. ENSURE HANDS AND OTHER OBJECTS ARE NOT IN PATH OF GAS EXHAUSTING FROM CHARGING VALVE WHEN DISCHARGING RESERVOIR.



DO NOT INSTALL OR REMOVE RESERVOIR WHEN PRESSURIZED. SEE DECAL "CYLINDER PRESSURE LIMITS EMERGENCY FLOTATION" LOCATED ON RIGHT SIDE OF NITROGEN CYLINDER. RESERVOIR SHOULD NOT BE PRESSURIZED UNLESS INSTALLED ON HELICOPTER. DO NOT REMOVE WHILE PRESSURIZED.

**NOTE**

Unless otherwise specified, removal and installation instructions for the 206-706-211-101, -103, -107, and -109 kits

a. Discharge emergency float system by opening valve on reservoir assembly (16, figure 2). Allow reservoir to discharge completely before further maintenance.

b. Removal of float assemblies.



ENSURE RESERVOIR IS THOROUGHLY DISCHARGED BEFORE PROCEEDING.

(1) If bags are in stowed condition open bag cover assemblies (7, 8, and 9).

(2) Disconnect float inflation lines at first connections above skid panel and at reducer tee (10) near base of forward and aft crosstubes.

(3) Remove screws (11) securing bag covers (7, 8, and 9) and retainers (1 through 6) to skid tube.

(4) Remove retainers (1 through 6), and cover assemblies (7 through 9) from landing gear assemblies. Retain covers, retainers, and attaching hardware for reuse.

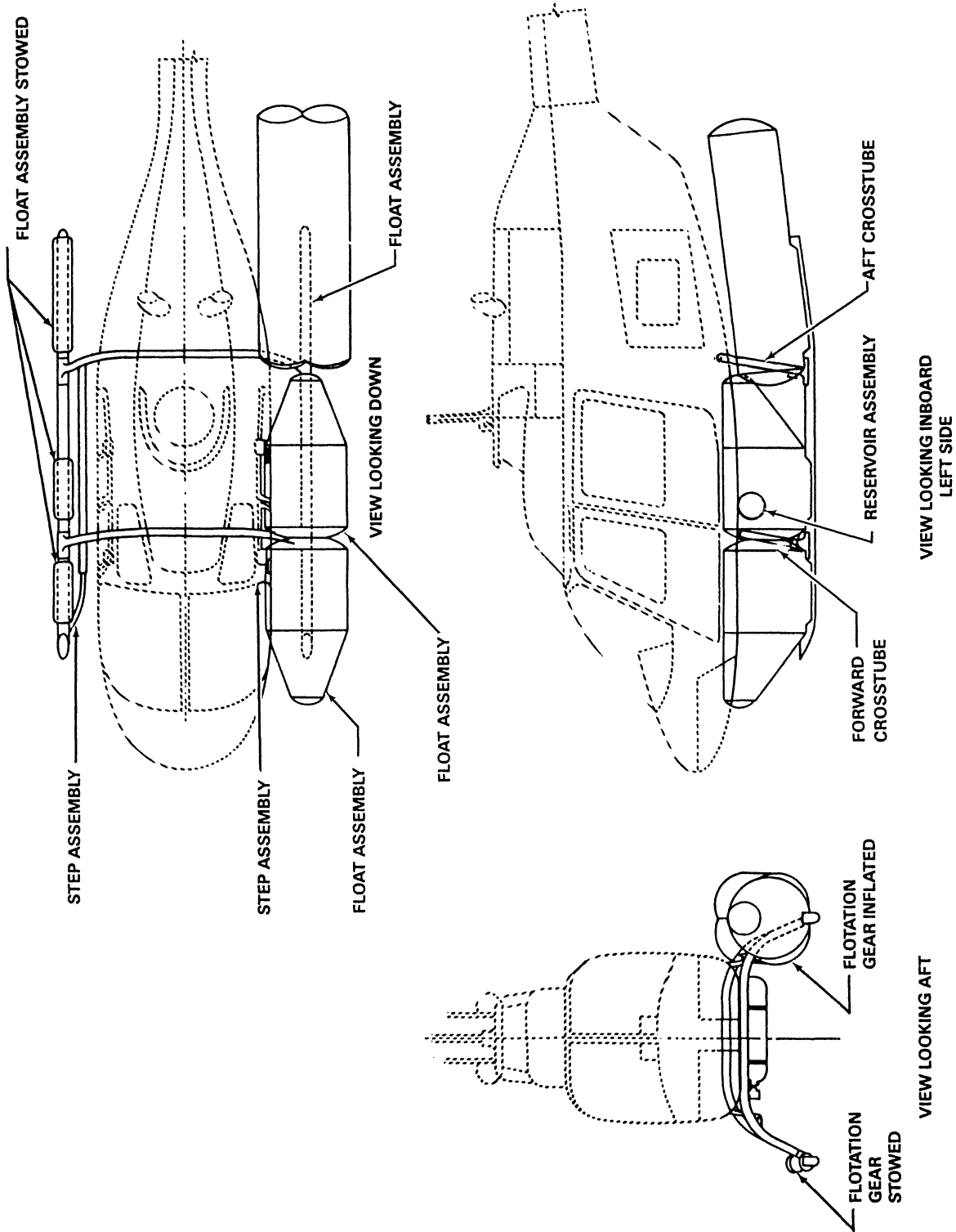
(5) Disconnect tubes or hoses (12) from inlet check valves on bottom of bags. Retain for reuse.

c. Removal of reservoir assembly.



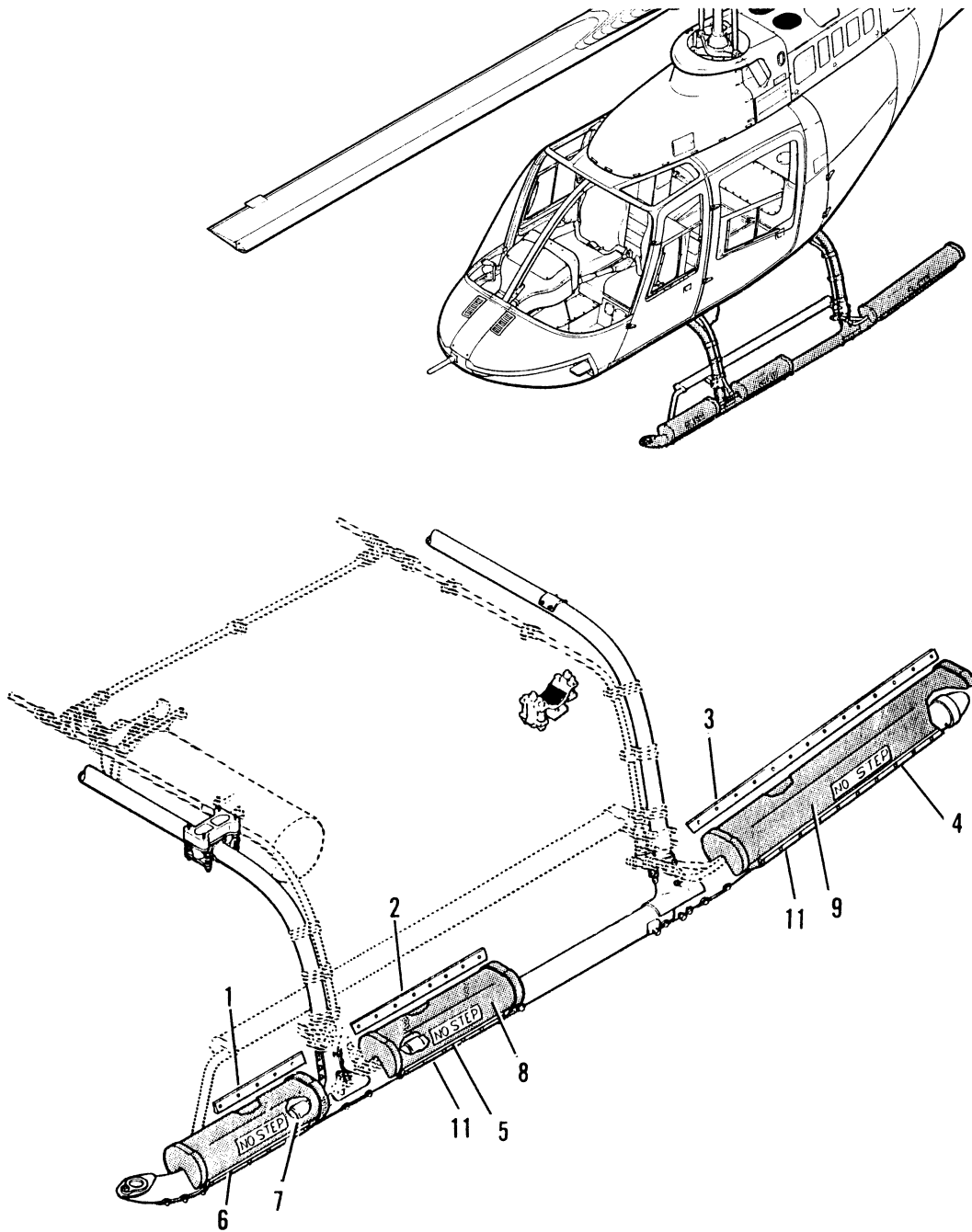
ENSURE RESERVOIR IS THOROUGHLY DISCHARGED BEFORE PROCEEDING.

(1) Disconnect electrical plug (1, figure 3) from valve assembly (2).



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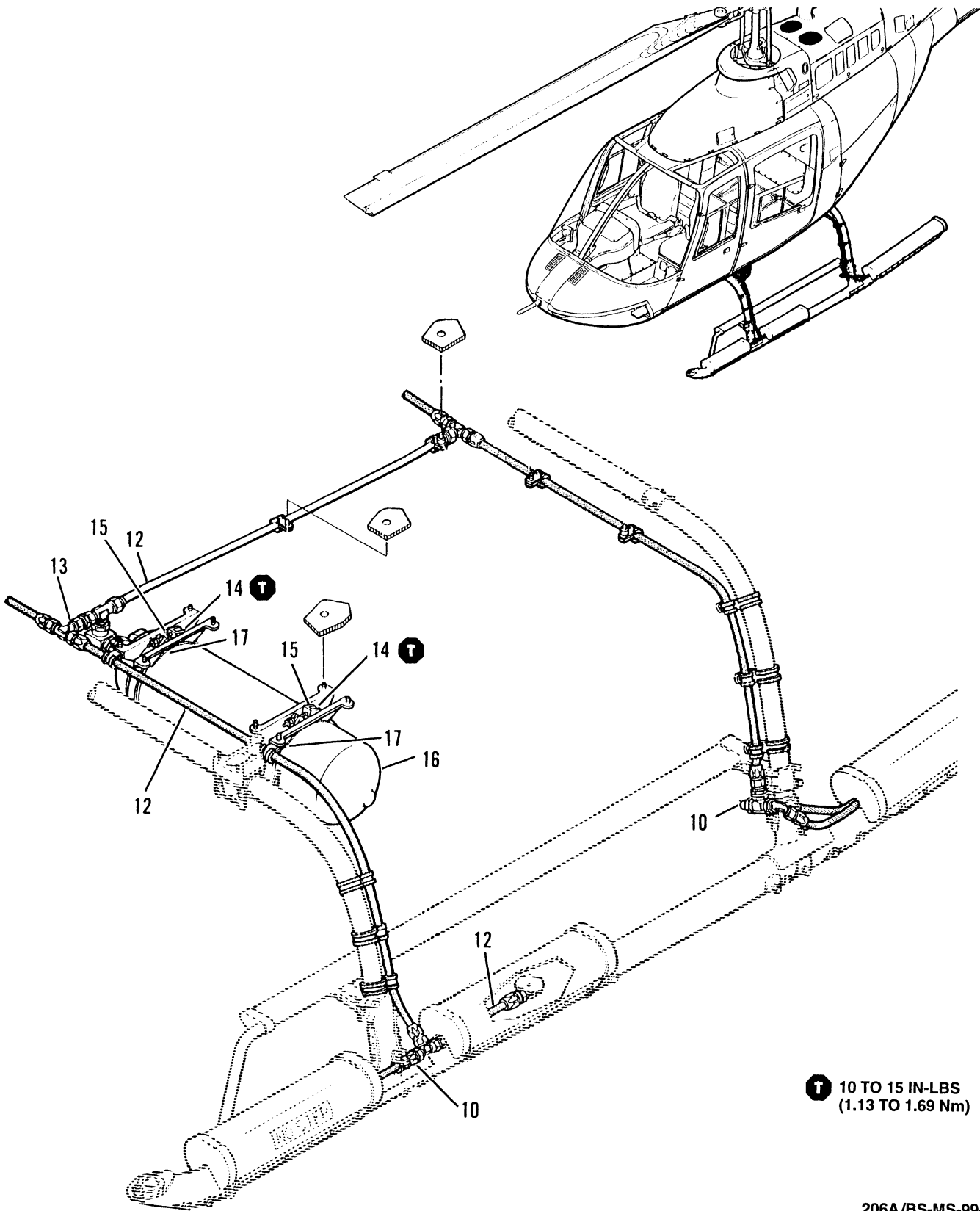
Figure 1. Emergency flotation gear arrangement



- |                   |                      |
|-------------------|----------------------|
| 1. Retainer       | 10. Reducer tee      |
| 2. Retainer       | 11. Screw            |
| 3. Retainer       | 12. Tube             |
| 4. Retainer       | 13. Union            |
| 5. Retainer       | 14. Clamp            |
| 6. Retainer       | 15. Bracket assembly |
| 7. Cover assembly | 16. Reservoir        |
| 8. Cover assembly | 17. Cushion          |
| 9. Cover assembly |                      |

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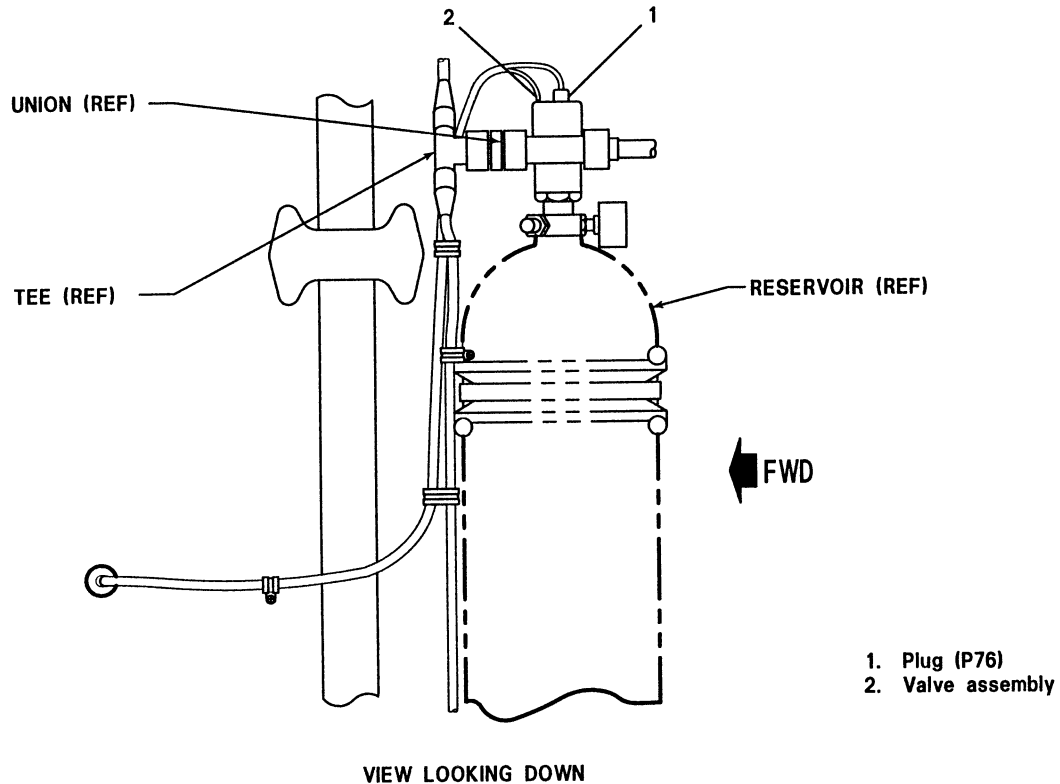
Figure 2. Float bags and reservoir assembly (Sheet 1 of 2)



**T** 10 TO 15 IN-LBS  
(1.13 TO 1.69 Nm)

206A/BS-MS-99-6-2-2

Figure 2. Float bags and reservoir assembly (Sheet 2)



**Figure 3. Inflation valve disconnect assembly**

(2) Disconnect valve assembly from tube (12, figure 2) and union (13) from valve assembly (2, figure 3).

(3) Loosen clamps (14, figure 2) securing reservoir assembly to bracket assemblies (15) and slide reservoir (16) free from brackets (15).

d. For removal of landing gear skids and crosstubes refer to Chapter 32.

**4. DISASSEMBLY.**

a. Disassembly of float assemblies.

- (1) Provide clean, dry area to spread assemblies.
- (2) Unroll float assemblies to full extension.

b. To disassemble reservoir assembly, remove valve assembly (2, figure 3) from reservoir assembly pressure vessel.

c. Disassembly of valve assembly.

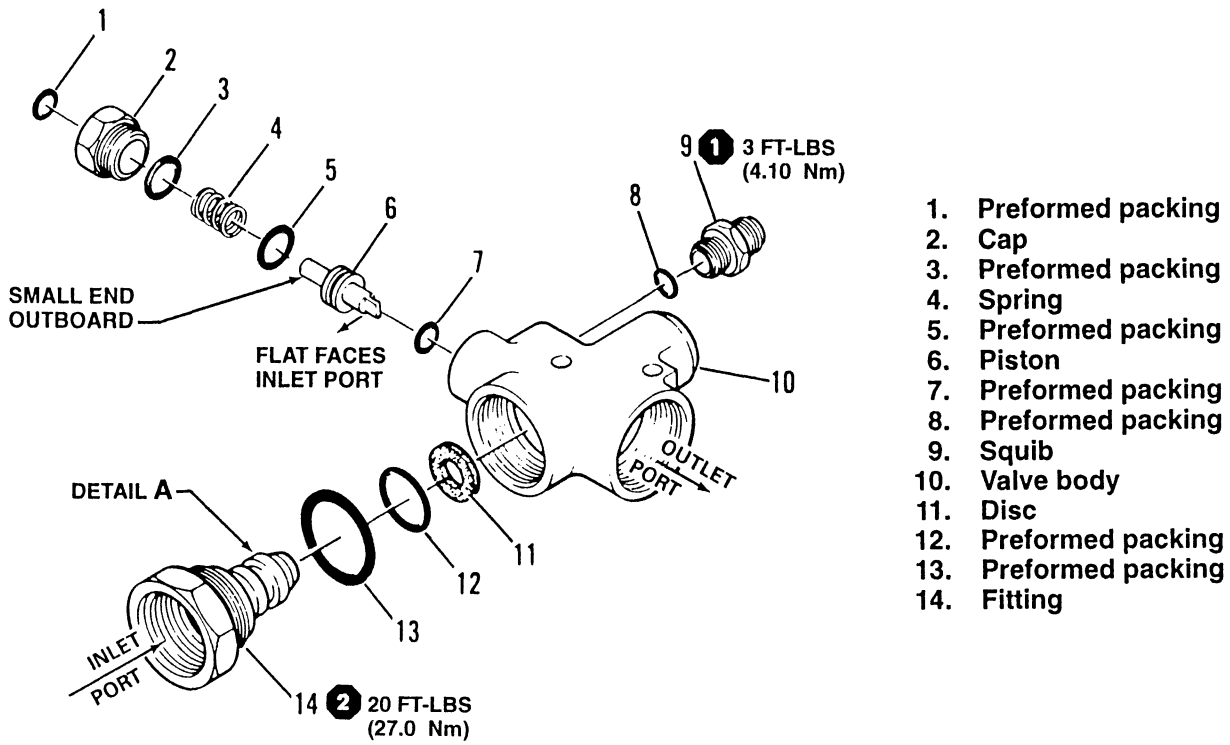
**WARNING**

BEFORE DISASSEMBLING VALVE FOR CLEANING AND REINSTALLATION, RELEASE ANY PRESSURE IN SQUIB CHAMBER BY SLOWLY BACKING OUT SQUIB 1-1/2 TO 2 TURNS. SERVICEABILITY OF SQUIB IS DETERMINED BY TOTAL OF FIVE YEARS FROM DATE OF MANUFACTURE FOR COMBINATION OF SHELF AND INSERVICE LIFE.

**CAUTION**

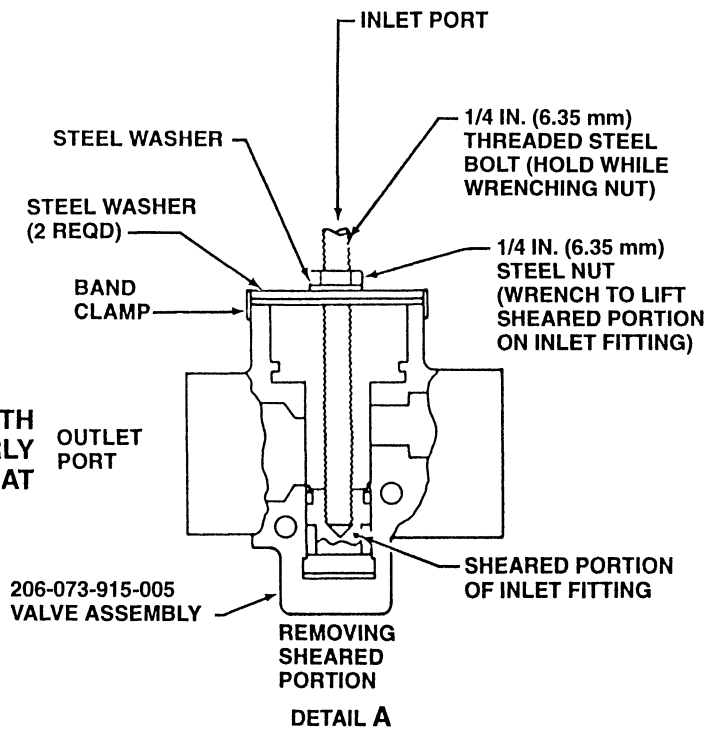
ENSURE RESERVOIR IS THOROUGHLY DISCHARGED BEFORE PROCEEDING.

(1) Remove squib (9, figure 4), cap (2), spring (4), fitting (14), disc (11), and all preformed packings (1, 3, 5, 7, 8, 12, and 13) from valve body (10).



**CAUTION**

TOP OF PISTON (6) WILL BE FLUSH WITH TOP OF CAP (2) WHEN PISTON IS PROPERLY SEATED IN GROOVE OF FITTING (14). FLAT ON PISTON MUST FACE INLET PORT.



206A/BS-MS-99-6-4

Figure 4. Refurbishing squib valve





IF SQUIB HAS BEEN FIRED, SHEARED PORTION OF FITTING MUST BE REMOVED BEFORE ATTEMPTING TO INSTALL NEW FITTING.

(2) To ease removal of sheared portion of inlet fitting (14), use two 1.50 inch-diameter washers, one 1/4 inch-diameter steel washer, one long fully threaded or all-thread bolt and one 1/4-28 thread sized nut. Thread bolt into sheared portion of inlet fitting in bottom of valve body (detail A). Turn nut against washers to lift out sheared portion of inlet fitting.

(3) Discard all preformed packings, disc, squib (if fired), and shear head element (if fired).

## 5. CLEANING AND LUBRICATION.

a. Cleaning of float assemblies.



IF HYDRAULIC FLUID COMES IN CONTACT WITH FLOAT MATERIAL, REMOVE AS QUICKLY AS POSSIBLE.

(1) Dampen a clean, dry rag with ethyl acetate (C-390) and lightly wipe the contaminated area, turning cloth frequently. Continue until all traces of hydraulic fluid have been removed.

(2) Allow float to dry.

(3) Dust lightly with talcum powder (C-408) before repacking.

b. Cleaning of valve assembly. Clean all components and valve housing with gun cleaning solvent (C-036). Give special attention to residue in squib chamber.

### NOTE

By proper cleaning of valve assembly and replacement of preformed packings and components, valve can be reused approximately 100 times.

## 6. INSPECTION.

a. Functional test pneumatic system as follows:

### NOTE

Perform complete functional check of pneumatic pressurization system every three years.

(1) Disconnect existing hose assemblies from elbow (4, figure 5) four places.

(2) Install tee (8), gage (7) and ball valve (6) on end of elbow (4). (Located on outboard forward side of left hand aft crosstube.)

(3) Install cap (5) on elbow (4) three places.

(4) Disconnect existing hose assemblies from existing tee (1) and elbow (3) eight places.

(5) Install cap (2) on tee (1) and elbow (3) eight places.

(6) Using dry filtered compressed air or nitrogen, apply pressure to ball valve (6), stabilize pressure at 85 to 95 psig for 1 minute and close ball valve (6).

(7) Allow pneumatic system to set pressurized for a minimum of 5 minutes. Minimum pressure allowed 75 psig after 5 minutes.

(8) If pressure drops below 75 psig check all tubes and fittings for tightness, security, cut packings or cracked fittings. Repeat steps 6. and 7.

(9) Release pressure at ball valve (6) from pneumatic system.

(10) Remove ball valve (6), gage (7) and tee (8) from elbow (4).

(11) Remove cap (5) from elbow (4) three places.

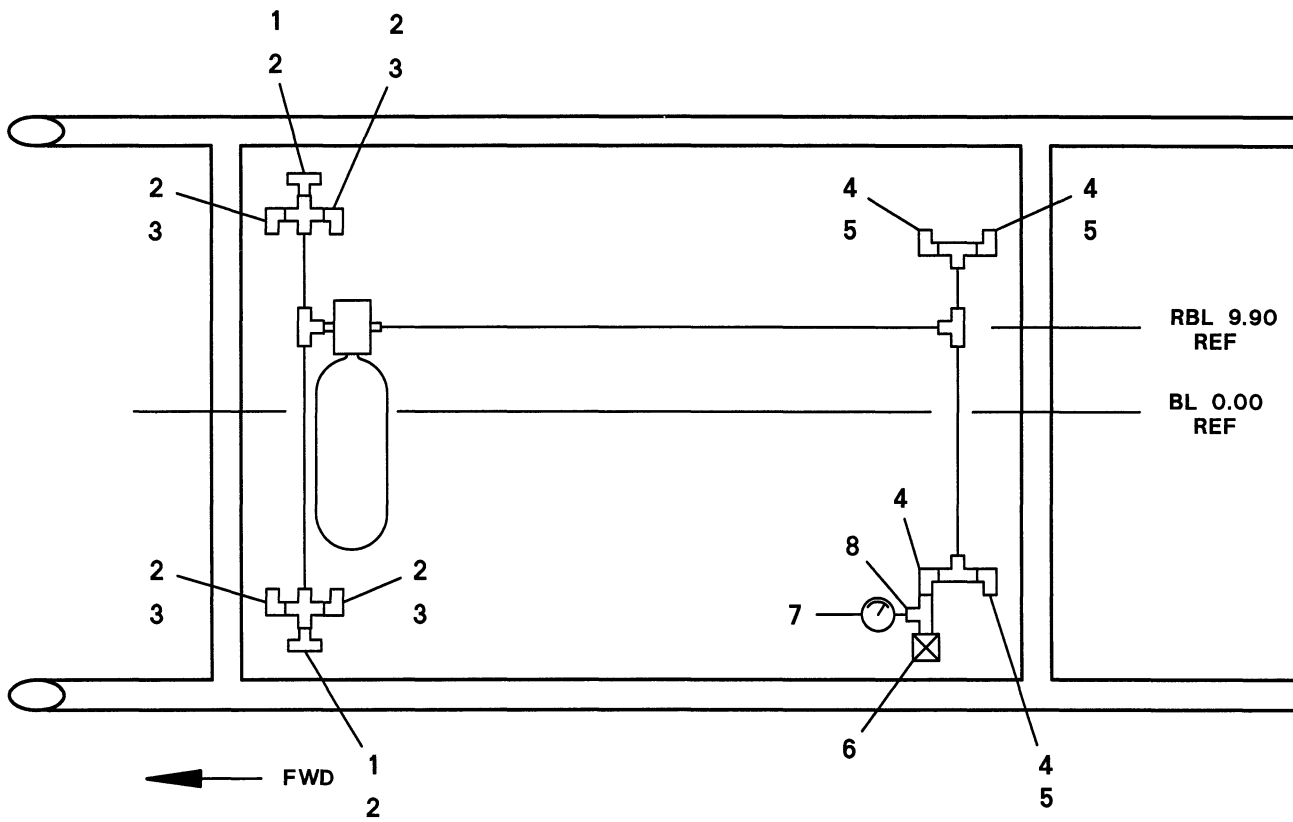
(12) Connect existing hose assemblies to elbow (4) four places.

(13) Remove cap (2) from tee (1) and elbow (3) eight places.

(14) Connect existing hose assemblies to existing tee (1) and elbow (3) eight places.

### NOTE

Refer to Chapter 5 of this manual for scheduled inspections.



VIEW LOOKING DOWN

1. Existing tee (ref)
2. Cap (AN929-6J) (ref)
3. Existing elbow (ref)
4. Existing elbow (ref)
5. Cap (AN929-8J) (ref)
6. Ball valve (ref)
7. Gauge 0-150 PSIG (ref)
8. Tee (AN938-J10) (ref)

206A/BS-MS-99-6-5

Figure 5. Pneumatic system pressure test schematic

**b.** Inspect float assemblies as follows:

(1) Check visually for abrasion, chafing, and/or worn spots on float bags and covers.

(2) Ensure bags and covers are clean and dry.

(3) Check hoses, clamps, and fittings for abrasion, corrosion, and security.

**c.** Inspect valve assemblies as follows:

(1) Check visually for worn or corroded areas on inside and outside surfaces.

(2) Check for firing residue inside body of valve.

(3) Check squib electrical connector for damage or out-of-round condition.

**d.** Inspect reservoir assembly pressure vessel as follows:

(1) Check visually for obvious defects.

(2) Check for latest hydrostatic inspection.

(3) At three year intervals remove and test reservoir assembly in accordance with DOT-E-7218. Service life shall not exceed 15 years.

**e.** For crosstube inspection refer to BHT-206A/B-SERIES-CR&O and A.S.B. 206-94-83.

## **7. REPAIR.**

**a.** Repair 206-050-248-107, -107, -109, -113, and -115 nylon float assemblies as follows:

(1) Nonreparable floats. It is not considered advisable or economical to perform major repairs to floats with any of the following conditions:

(a) Floats over seven years of age requiring major repairs.

(b) Floats on which oil, grease or any other foreign substance has caused a deterioration of rubberized surfaces.

(c) Floats on which a heavy mildew condition has deteriorated rubberized fabric.

(d) Floats on which sections of porous fabric allow diffusion of air.

(e) Floats with excessive damage that would not, in judgement of competent inspectors, justify repair.

(2) Repairable floats.

(a) Repair of floats is limited to minor repairs and replacement of unserviceable parts. Minor repairs are defined as patching of rips, tears and abrasions which do not exceed six inches (152.00 mm) in length or cross seam laps of two adjacent compartments, and cementing of partially loosened patches and tapes. If necessary repairs are outside of these limits, float must be returned to manufacturer for repair.

(b) If trained, experienced personnel are not available to perform the repair procedures, floats should be returned to Air Cruisers Company, P.O. Box 180, Belmar, NJ, 07719.

(c) Restrictions.

1) No repair of punctures or tears located less than one inch from bulkhead installation, girt attachment, seam, valve installation reinforcement, strut tunnel, or other structural attachment.

2) No replacement of cemented valve installations.

3) No repair or replacement of girts or other float to helicopter structural attachments.

4) Patches must not overlap.

(d) Repair materials are available from Air Cruisers Company, P.O. Box 180, Belmar, NJ, 07719. When ordering repair kits, float bag part numbers should be provided.

(3) Patching float punctures. Repair float punctures as follows:

(a) Apply two coats of M-11619 cement (supplied in repair kit) around puncture, covering an area slightly larger than size of patch. Apply M-11619 cement in medium, even coats, allowing each coat to dry thoroughly before applying next coat.

(b) Prepare one side of patch by washing with aliphatic naphtha (C-305) and applying two coats of M-11619 cement in accordance with step 4. Clean area to be patched thoroughly with aliphatic naphtha (C-305).

## BHT-206A/B-SERIES-MMS-6

(c) Use round patch or rectangular patch with rounded edges.

(d) Cut patch to allow a 2-inch (50.80 mm) overlap beyond puncture edges.

(e) Both patch and area on float should be slightly tacky to touch. If surfaces become too dry, wipe lightly with aliphatic naphtha (C-305) to bring up tack.

(f) Press patch on smoothly. Patch should be laid on gradually, one side to other, or from the center edges. To minimize possibility of air bubbles, apply pressure evenly using a smooth spatula or burnishing tool.

(g) Dust lightly with talcum powder and allow M-11619 cement to cure overnight, then cure for 40 minutes at 240°F (116°C) or at room temperature 75°F (24°C) for three days.

### (4) Patching float tears.

#### NOTE

Repair float tears by patching both inside and outside of float wall.

(a) Trim loose threads with scissors.



DO NOT ALLOW EXCESS SOLVENT TO COLLECT AT EDGES OF PATCHES OR SEAMS WHEN WASHING FLOAT FABRIC. AVOID WASHING OVER STENCILING WHEN POSSIBLE; STENCILING CAN BE REMOVED BY ETHYL ACETATE (C-390).

(b) Thoroughly wash both sides of fabric around tear with clean cloth dampened with ethyl acetate (C-390).

(c) Cut patch large enough to allow 3-inch (76.20 mm) overlap beyond tear edges.

#### NOTE

Cement has pot life of four hours.

(d) Apply three coats of M-11619 cement to inside of float wall covering area slightly larger than size of patch. Apply M-11619 cement in medium, even coats, allowing each coat to dry until little or no tackiness remains before applying next coat. When blooming or

condensation occurs, remove with separate cloth dampened in methyl-ethyl-ketone (MEK) (C-309).

(e) Within two hours after application, or within one hour if temperature-humidity index (THI) exceeds 130°F (54.4°C) (THI=temperature°F plus relative humidity %), dampen clean cloth in MEK (C-309) and wipe cemented surfaces to reactivate. This action brings up tackiness and makes surfaces ready for joining. If specified times are exceeded, apply fourth coat of M-11619 cement and allow to dry before proceeding.



SURFACES MUST BE JOINED IMMEDIATELY AFTER REACTIVATION TO AVOID DRY SEAMS. DO NOT REACTIVATE MORE THAN 12 INCHES (305 MM) OF SEAM AT A TIME.

(f) Immediately pass patch through tear and lay it, M-11619 cement side up, on float wall directly under tear.

(g) Press torn wall section down on patch and immediately join cemented surface of patch to cemented surface of float. Patch must be laid on progressively, one side to other. To minimize possibility of air bubbles, apply pressure evenly using a spatula.

(h) Immediately apply firm pressure with hand roller to bond patch to inside of float wall. Apply firm pressure to obtain a good bond.

(i) Dust lightly with talcum powder (C-408) and allow M-11619 cement to cure undisturbed for a minimum of 24 hours at 70 to 95°F (21 to 32°C).

### (5) Repairing seams.

(a) Roll back loosened seams so they may be cemented properly.



DO NOT ALLOW EXCESS SOLVENT TO COLLECT AT EDGES OF PATCHES OR SEAMS WHEN WASHING FLOAT FABRIC. AVOID WASHING OVER STENCILING WHEN POSSIBLE; STENCILING CAN BE REMOVED BY ETHYL ACETATE (C-390).

(b) Thoroughly wash both float fabric and seam tape with clean cloth dampened with ethyl acetate (C-390).

(c) Apply three coats of M-11619 cement to surfaces to be joined. Apply cement in medium, even coats, allowing each coat to dry until little or no tackiness remains before applying next coat. When blooming or condensation occurs, remove with separate cloth dampened in MEK (C-309).



SURFACES MUST BE JOINED IMMEDIATELY AFTER REACTIVATING TO AVOID DRY SEAMS. DO NOT REACTIVATE MORE THAN 12 INCHES (305 MM) OF SEAM AT A TIME.

(d) Within two hours after application, or within one hour if THI exceeds 130°F (54.4°C), dampen clean cloth in MEK (C-309) and wipe cemented surfaces to reactivate. This action brings up tack and makes surface ready for joining. If specified times are exceeded, apply fourth coat of M-11619 cement, allow to dry before proceeding.

(e) Join seam and tape in correct relative position.

(f) Immediately apply firm pressure with hand roller to bond seam and tape. Apply firm pressure to obtain a good bond.

(g) Dust lightly with talcum powder (C-408) and allow to cure undisturbed for minimum of 24 hours at 70 to 95°F (21 to 32°C).

#### NOTE

A different repair kit is required for nylon float bags, containing float material, specification M-11624 (1 ply), Air Cruisers Company.

b. Repair (restoration) of valve assembly.

#### VALVE P/N

206-073-915-005

206-073-915-101

#### REFURBISH KIT

Use 206-073-914-003

Use 206-073-914-101

(1) Place disc (11, figure 4) into inlet port of valve body (10). Push disc to end of port and into groove in body.

(2) Insert preformed packing (12) in groove of valve body (10) inlet port.

(3) Place preformed packing (13) behind hex on fitting (14) and install in valve body.


(4) Tighten fitting (14) .

(5) Insert preformed packing (7) in groove of valve body (10) at port for release of piston (6).

(6) Place preformed packing (5) in groove in piston (6) and install piston part way into body with flat on end of piston facing inlet port. Rotate piston 90 degrees while lightly pushing piston down into valve body until it bottoms out.

(7) While pushing on piston (6), rotate piston 90 degrees in opposite direction. Piston should drop deeper into body. Flat of piston must engage groove in shear head, with flat facing inlet port.

(8) Place preformed packing (1) in groove inside cap (2) and preformed packing (3) outside of cap in groove next to shoulder. Place spring (4) and cap over piston (6) into valve body (10). Depress spring (4) to engage threads and install cap (12).

(9) Install preformed packing (8) on squib (9) and install into valve body (10). Tighten squib (9) .

(10) Secure fitting (14), squib (9), and retainer of piston to valve body (10) with lockwire.

c. Reservoir assembly repair:

(1) Install valve assembly on reservoir adapter using MS28778-12 packing (not furnished in kit).



NO OTHER REPAIRS ARE AUTHORIZED FOR THE RESERVOIR ASSEMBLY.

- (2) Perform leak test if required (step d.).



IT IS RECOMMENDED THAT LEAK TEST BE PERFORMED WITH RESERVOIR ASSEMBLY MOUNTED ON HELICOPTER. HOWEVER, IF TESTED OFF HELICOPTER, SECURE RESERVOIR IN SIMILAR MANNER WITH EXPENDABLE MATERIAL (RUBBER OR EQUIVALENT) UNDER CLAMPS TO ALLOW FOR RESERVOIR ASSEMBLY PRESSURE VESSEL EXPANSION UNDER PRESSURE.

#### NOTE

Leak test procedure need only be accomplished following squib valve repair or replacement.

- d. Reservoir assembly leak test. Leak test reservoir assembly as follows:

- (1) Charge reservoir assembly to 3100 psig (maximum) to 3000 psig (minimum) using dry nitrogen.

- (2) Apply a Castile soap solution to all connections to check for leaks. No leaks permitted.

- (3) Discharge reservoir assembly and return to service.

- e. For repair of minor crosstube damage refer to BHT-206A/B-SERIES-CR&O.

#### 8. ASSEMBLY.

- a. Installation of float bags on helicopter.

- (1) Prior to installation of float bags, carefully inspect skid tubes and panels for damage and corrosion. For repair or treatment procedures for standard skid tubes refer to Chapter 32.

- (2) Connect tube to inlet check valve on bottom of float bag. Ensure that bag is properly oriented to skid tube, and that swivels for tubes for aft bag are positioned toward tee fitting on landing gear.

- (3) Align forward hole in inboard retainer, cover, and girt of float bag, with threaded hole in skid tube, and install screw. Do not tighten screw at this time.

- (4) Align parts, and install remaining screws inboard side of skid tube.

- (5) Align retainer, cover, and girt of float bag, and install screws in outboard side of skid tube.

- (6) Ensure all screws are installed and tightened.

- (7) Connect hoses to tee fittings at base of crosstubes.

#### 9. INSTALLATION.



INFLATION RESERVOIR DOES NOT CONTAIN NITROGEN WHEN RECEIVED. DO NOT INSTALL OR REMOVE RESERVOIR WHEN PRESSURIZED. SEE DECALS "CYLINDER PRESSURE LIMITS EMERGENCY FLOTATION" LOCATED ON RIGHT SIDE OF NITROGEN RESERVOIR. RESERVOIR SHOULD NOT BE PRESSURIZED UNLESS INSTALLED ON HELICOPTER. DO NOT REMOVE WHILE PRESSURIZED.

#### NOTE

For easy removal of tubes and hoses in future maintenance procedures, grease (Ease-Off 990, or equivalent) should be applied to all threaded connections on installation.

- a. Reservoir assembly installation. Install reservoir assembly (16, figure 2) on underside of helicopter as follows:

- (1) Install one cushion (17) on each clamp (14).

- (2) Place threaded shank of clamps (14) through bracket assembly (15).

- (3) Position reservoir assembly (16) against brackets (15) and secure with clamps (14). Tighten nuts on clamps **T**.

(4) Apply sealant (C-308) all around edges of bracket feet (15) and over attaching screw heads.

(5) Connect tube assembly (12) to tee, and union (figure 3) of valve (1).

(6) Coat valve assembly with generous coating of corrosion preventive compound (C-101). Do not coat gage, squib or filler valve.

(7) Connect plug P76 (2) on valve (1).

**b. Pressurization procedure.**



RESERVOIRS SHALL NOT BE PRESSURIZED UNLESS INSTALLED ON HELICOPTER. DO NOT REMOVE RESERVOIR WHILE PRESSURIZED.

(1) Connect external source of nitrogen supply to filler valve on reservoir neck.



FOR OPERATION IN LOCATIONS WHERE ANTICIPATED EMERGENCY LANDINGS WOULD BE AT ELEVATIONS ABOVE SEA LEVEL, FILL PRESSURE OF CYLINDER SHOULD BE REDUCED FROM THE PRESSURE INDICATED ON THE CYLINDER PLACARD BY 100 PSIG (689 kPa) FOR EACH 1000 FEET (305 m) ABOVE SEA LEVEL TO PREVENT EXCESSIVE FLOTATION PRESSURES DURING INFLATION CYCLE.

(2) Fill reservoir to pressure required by pressure limits decal located on reservoir assembly using dry nitrogen only. Optimum fill pressure will be found on left border of decal opposite intersection of a vertical line through ambient air temperature on lower border with black diagonal line in green area.

**NOTE**

During pressurization, temperature of system reservoir increases. Thus, during subsequent cool down, pressure in reservoir will drop. Increase initial pressure

approximately 50 psig (344.5 kPa) to produce desired stabilized pressure, after reservoir cools to ambient temperature.

**c. Float bag leak test.** Acceptable leak test for float bags is as follows:

**NOTE**

This test should be performed in hangar or in an area shaded from sun. Do not perform this test when OAT exceeds 100 °F (38 °C). Use method explained as follows:

(1) Inflate float compartments to 2.25 psig (15.5 kPa). Allow floats to set for two hours for elongation of float material. Readjust pressure to 2.25 psig (15.5 kPa) if required.

(2) Record temperature (°F) and barometric pressure (inches of mercury) in test area and the float bag pressure.

(3) Allow float bags to set for one hour period.

(4) Check and record temperature, barometric pressure, and float bag pressure at the end of the time period.

(5) Determine the final corrected float bag pressure as follows:

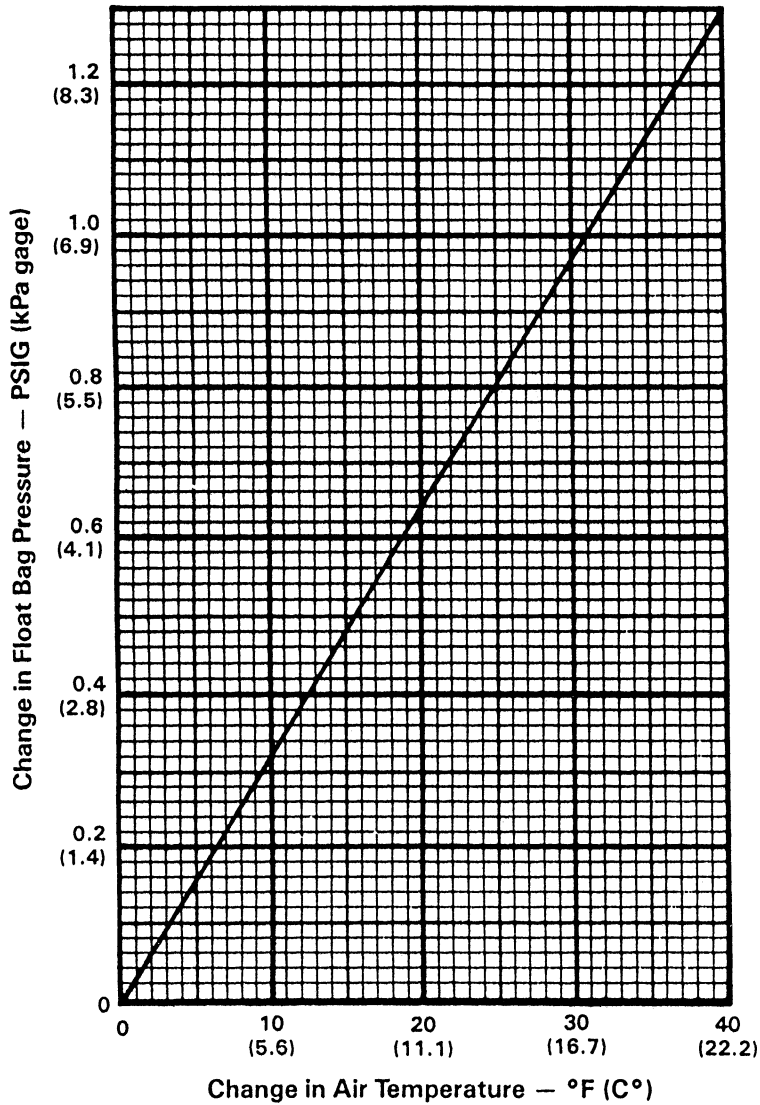
(a) If temperature increased during test period, subtract the value obtained for pressure change due to temperature change (figure 6) from final float bag pressure.

(b) If temperature decreased during test period, add the value obtained for pressure change due to temperature change (figure 6) to final float bag pressure.

(c) If barometric pressure increased during test period, add the value obtained for pressure change due to barometric pressure change (figure 7) to final float bag pressure.

(d) If barometric pressure decreased during test period, subtract the value obtained for pressure change due to barometric pressure change (figure 7) from final float bag pressure.

(6) Calculate pressure drop over the test period by subtracting final corrected float bag pressure from initial float bag pressure. Pressure drop shall not exceed 0.25 psig (1.7 kPa).

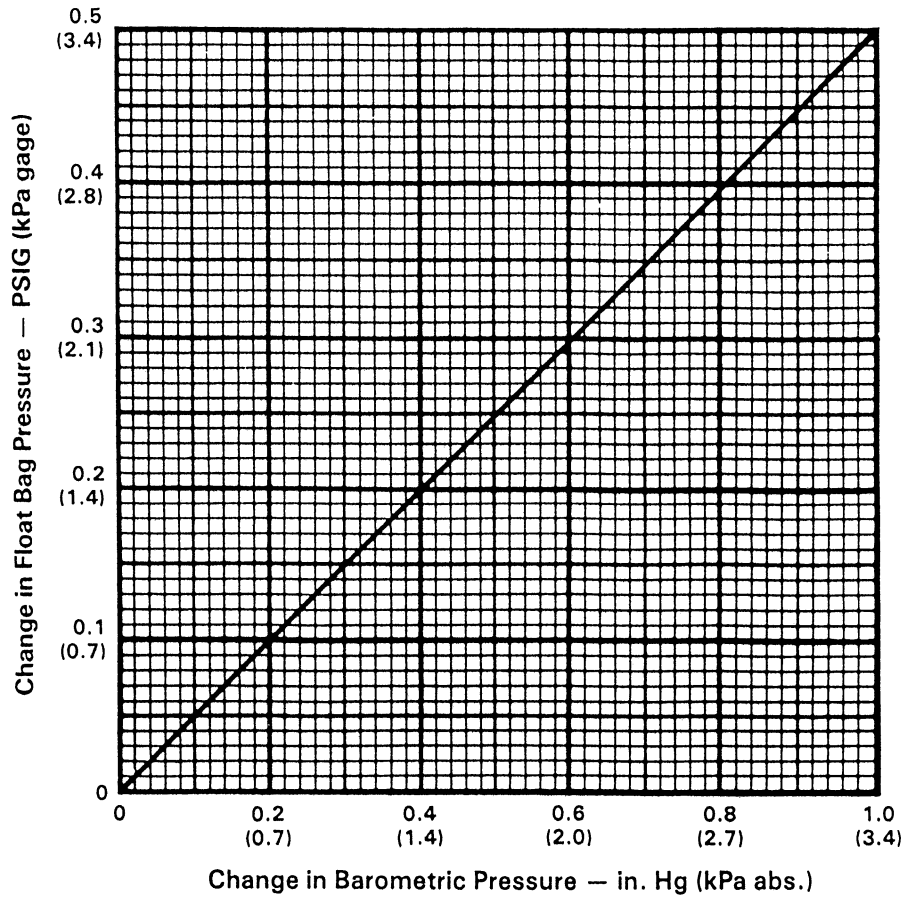


NOTE: Units in ( ) are metric.

206A/BS-MS-99-6-6

Figure 6. Air temperature vs float pressure





NOTE: Units in ( ) are metric.

206A/BS-MS-99-6-7

Figure 7. Barometric pressure vs float pressure

## BHT-206A/B-SERIES-MMS-6

### EXAMPLE:

Initial Temperature 70°F (21°C)  
Initial Barometric Pressure 29.6 in. Hg (100.0 kPa abs.)  
Initial Float Bag Pressure 3.0 psig (20.7 kPa gage)

Final Temperature 80°F (27°C)  
Final Barometric Pressure 29.5 in. Hg (99.6 kPa abs.)  
Final Float Bag Pressure 3.25 psig (22.4 kPa gage)

Temperature change =  $80 - 70 = +10^\circ\text{F}$  ( $27^\circ - 21^\circ = +6^\circ\text{C}$ ) Temperature increased, therefore subtract 0.32 psig (figure 1) from final float bag pressure (2.2 kPa).

Barometric pressure change =  $29.5 - 29.6 = -0.1$  in. ( $99.6 - 100.0 = -0.4$  kPa) Hg – Barometric pressure decreased, therefore subtract 0.05 psig (0.4 kPa) (figure 2) from final float bag pressure.

Corrected final float pressure =  $3.25 - 0.32 - 0.05 = 2.88$  psig ( $22.4 - 2.2 - 0.4 = 19.8$  kPa gage).

Pressure drop =  $3.0 - 2.88 = 0.12$  psig ( $20.7 - 19.8 = 0.9$  kPa) acceptable.

### NOTE

This flotation system is designed for ditching and provides adequate time for personnel evacuation. For ship salvage, sufficient pressurization equipment should be provided to maintain bag pressure between 1.5 and 2.25 psig (10.3 and 15.5 kPa).



RESERVOIR SHOULD NOT BE PRESSURIZED UNLESS INSTALLED ON HELICOPTER. DO NOT REMOVE WHILE PRESSURIZED.

(7) Repack bags and service system.

d. Repacking floats

### NOTE

Repacking procedures are identical for left side float bags and right side float bags.

(1) Repacking forward float bag. Repack forward float bag as follows (figure 8):

(a) Spread collapsed float bag flat on outside of skid tube.

(b) Fold rounded aft bulkhead of bag forward and flat on top of bag. Check that folded rear edge of bag is inside dimensions of cover underneath bag.

(c) Fold cone shaped part of bag aft and flat on top of bag. Check that folded forward edge of bag is inside dimensions of cover underneath bag.

(d) Roll float bag tightly toward skid tube. Hold bag on top of skid tube, and install cover around bag.

(e) Secure inside hook fasteners and snap fasteners on cover to corresponding pile and snap fasteners on girt. Hose must extend out rear of bag toward tee at crosstube.

(f) Install lacing cord in cover, using crossover method, and pull taut and tie to close gap in cover.

(g) Tuck in loose ends of lacing cord, close outside hook and pile fasteners along length of cover, and close end flaps with hook and pile fasteners.

(2) Repack mid float bag in similar manner to forward bag.

(3) Repacking aft float bags. Repack aft float bag (figure 9) as follows:

(a) Spread collapsed float bag on outside of skid tube.

(b) Fold rounded forward bulkhead of bag aft, with half of fold flat against top of bag and half of fold flat against bottom of bag.

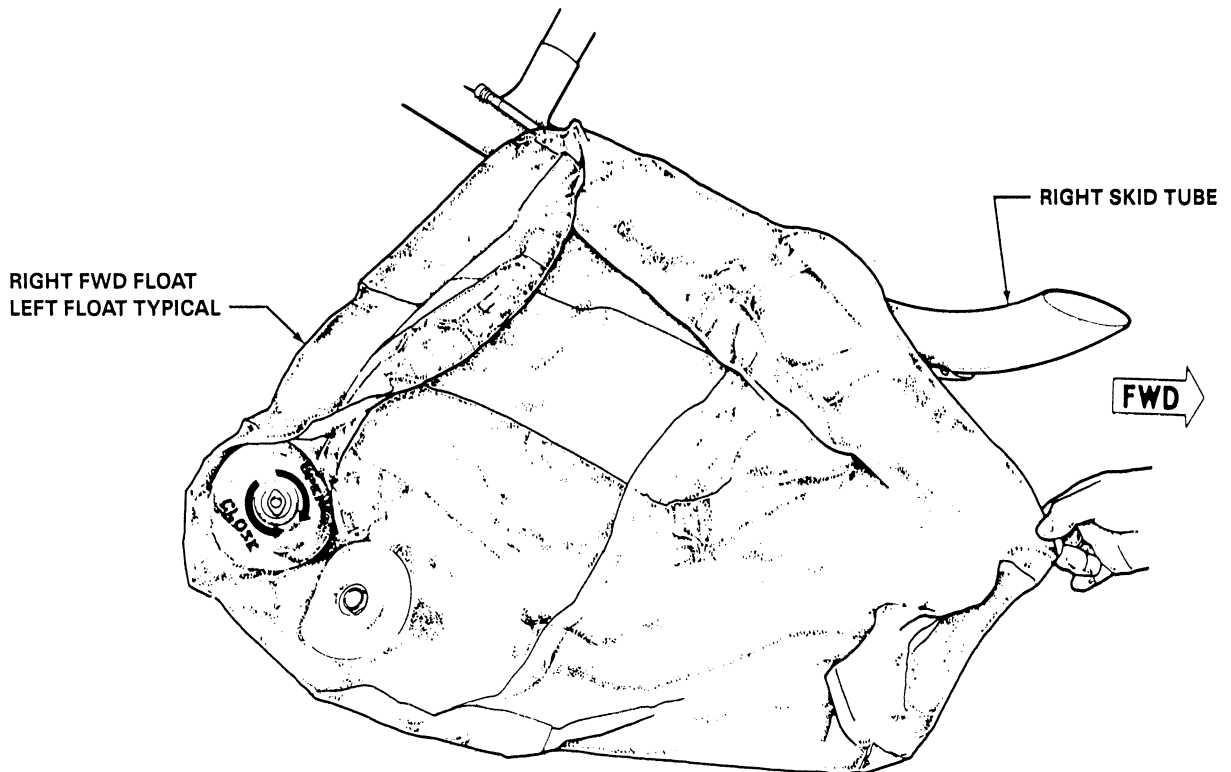
(c) Fold aft end of bag forward so that folded edge is inside dimensions of cover underneath.

(d) Roll bag toward skid tube as compactly as possible, keeping two hoses toward center of roll.

(e) Hold bag on top of skid tube, and install cover around bag.

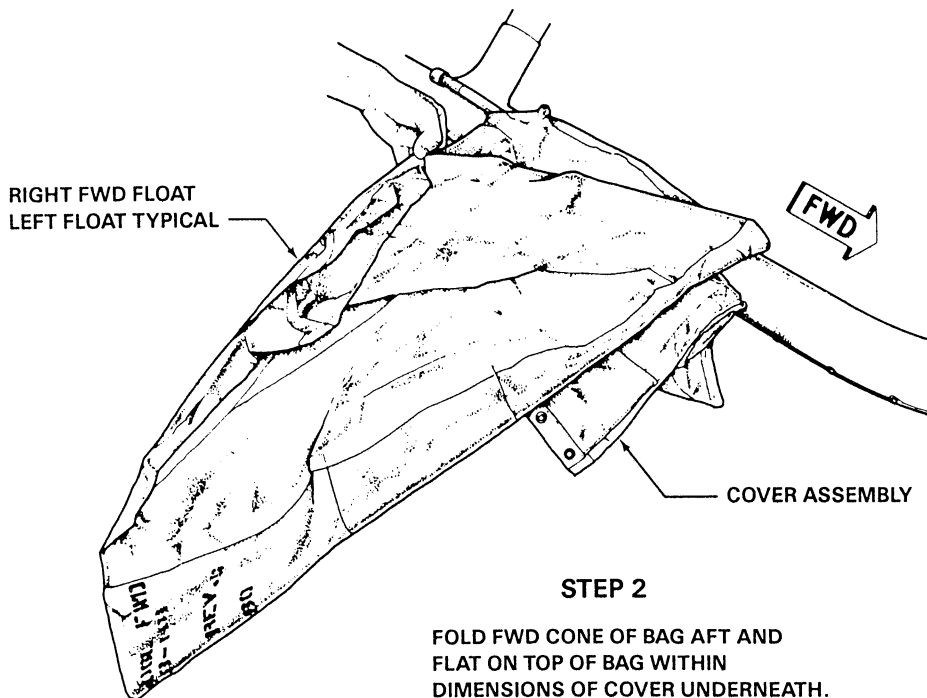
(f) Secure inside hook fasteners and snap fasteners on cover to corresponding pile and snap fasteners on girt.

(g) Install lacing cord in cover, using crossover method, and pull taut and tie to close gap in cover.



**STEP 1**

FOLD ROUNDED AFT BULKHEAD OF BAG FORWARD AND FLAT ON TOP OF BAG.

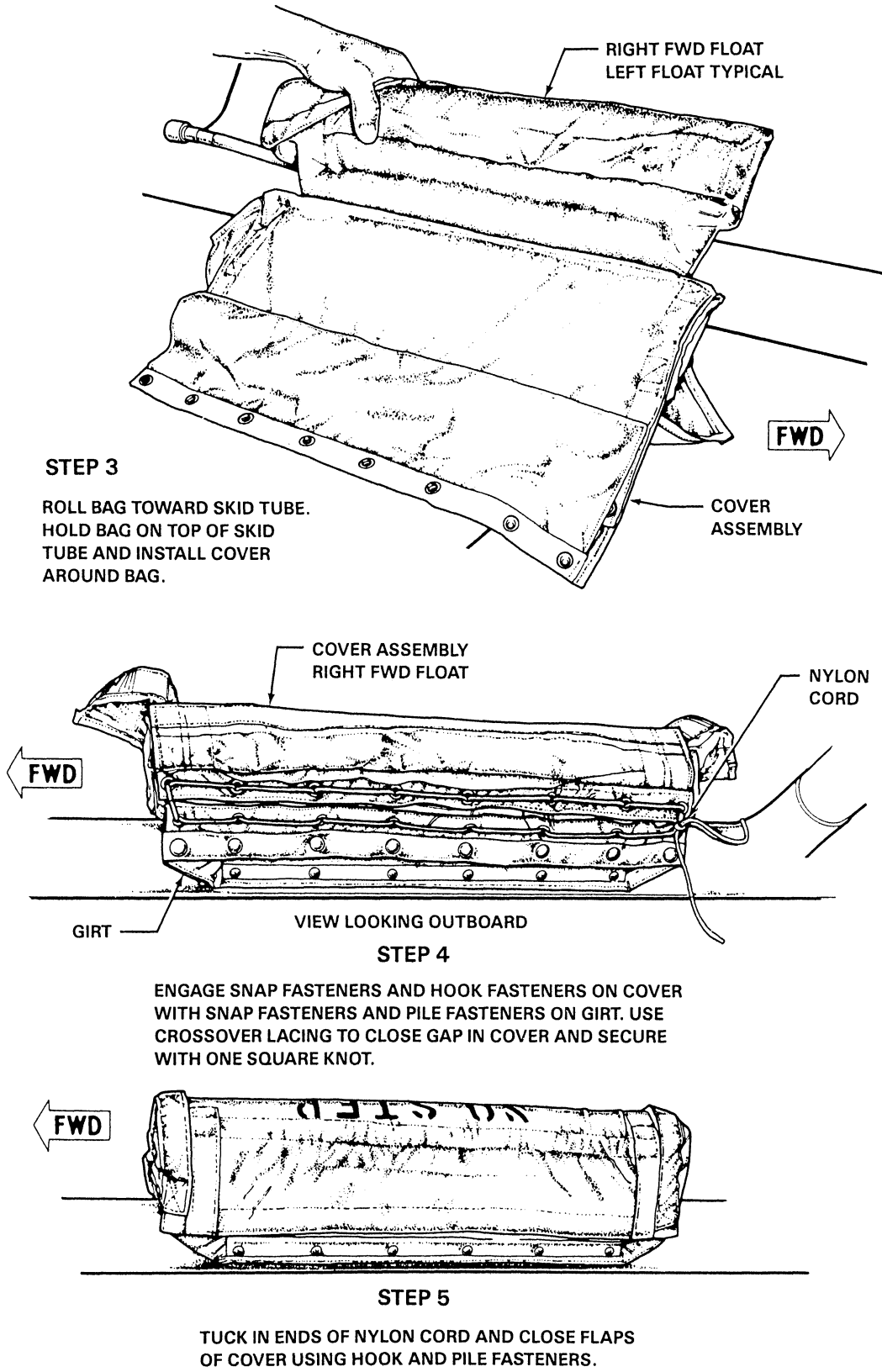


**STEP 2**

FOLD FWD CONE OF BAG AFT AND FLAT ON TOP OF BAG WITHIN DIMENSIONS OF COVER UNDERNEATH.

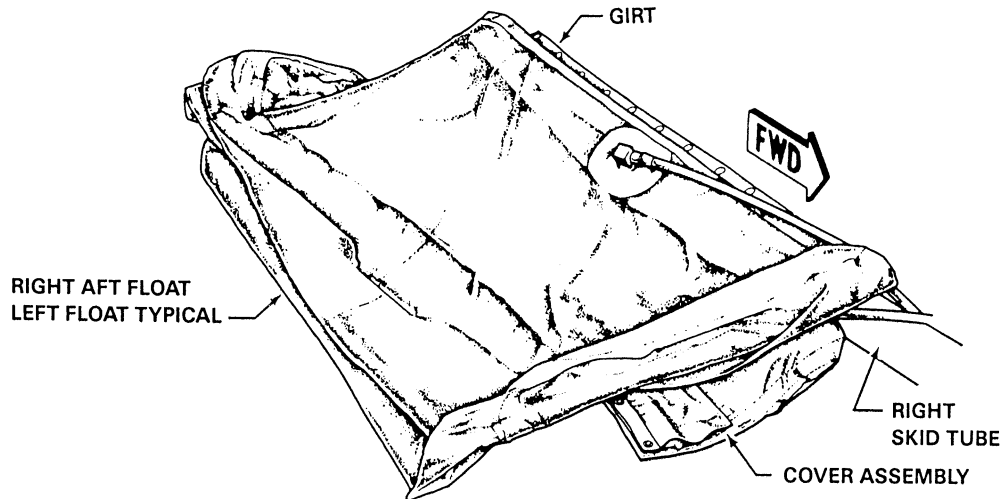
206A/BS-MS-99-6-8-1

**Figure 8. Repacking forward floats (Sheet 1 of 2)**



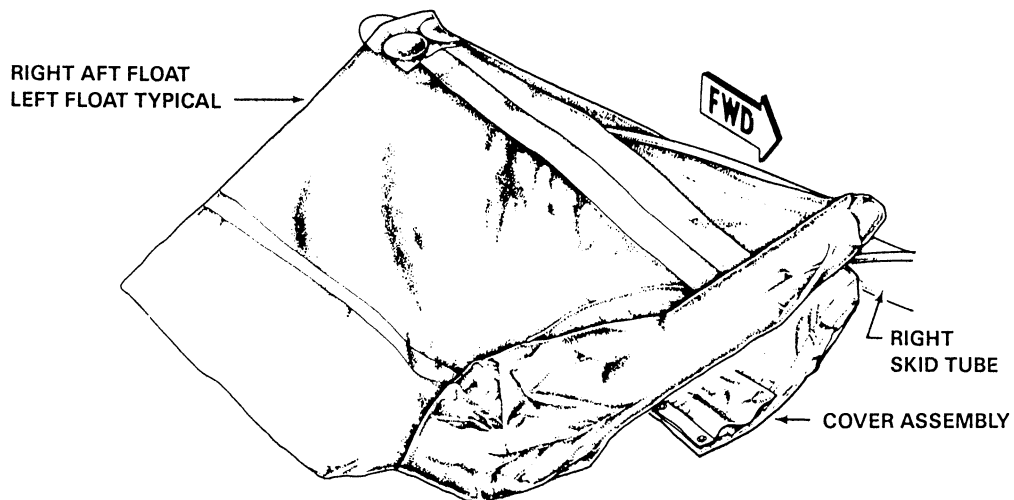
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Figure 8. Repacking forward floats (Sheet 2)



**STEP 1**

FOLD ROUNDED FORWARD BULKHEAD AFT WITH HALF OF FOLD FLAT AGAINST TOP OF BAG AND HALF OF FOLD FLAT AGAINST BOTTOM OF BAG. FOLD MUST BE WITHIN DIMENSIONS OF COVER UNDERNEATH.

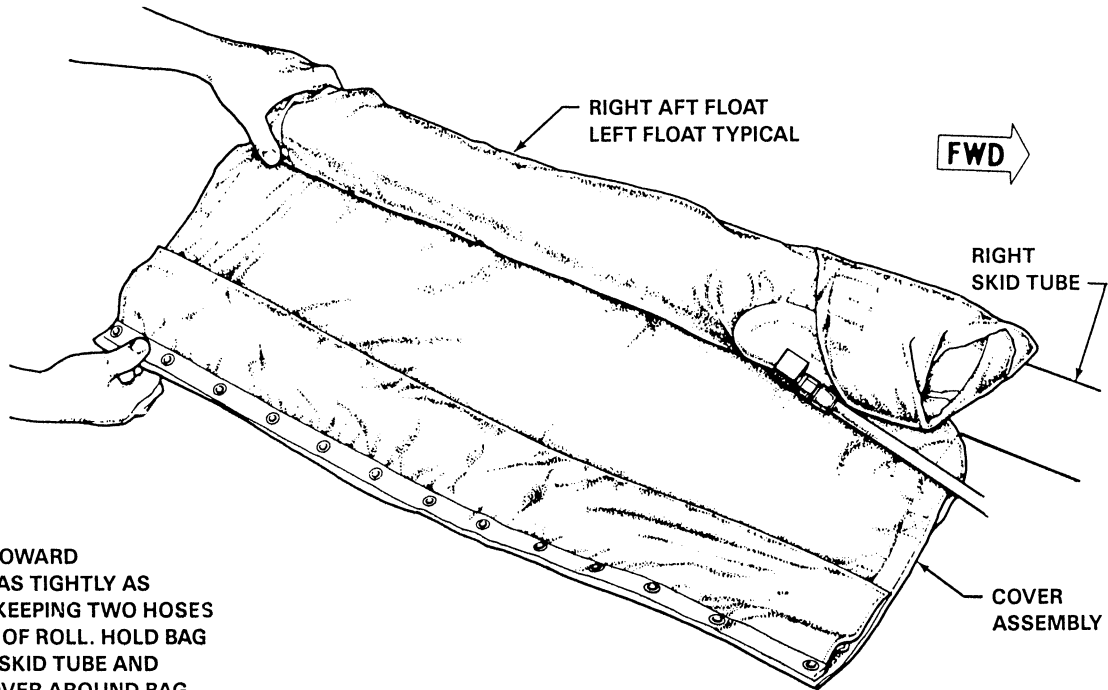


**STEP 2**

FOLD AFT END OF BAG FORWARD SO THAT FOLDED EDGE IS INSIDE DIMENSIONS OF COVER UNDERNEATH. FORWARD END OF FOLD MAY HAVE TO BE FOLDED BACK ON ITSELF TO STAY WITHIN DIMENSIONS OF COVER ON FRONT EDGE.

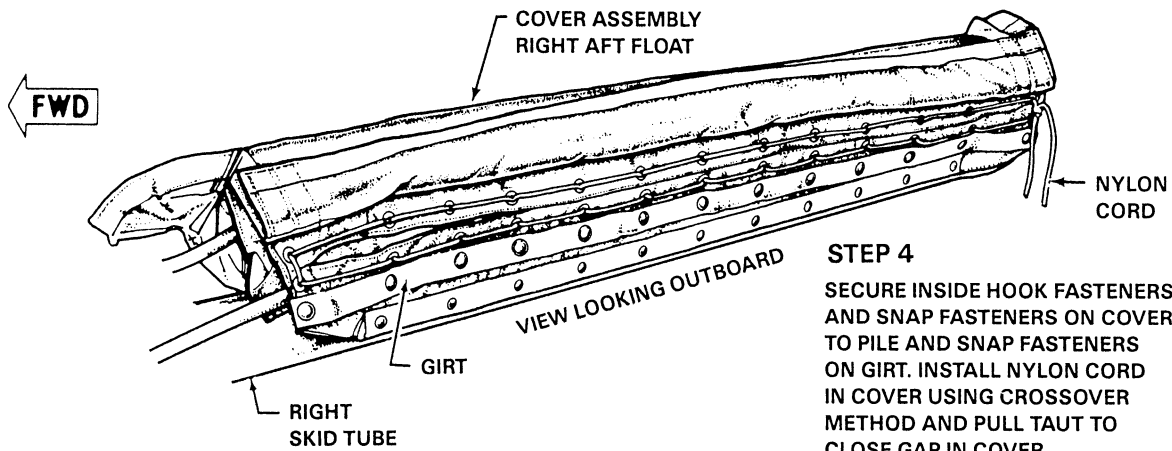
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**Figure 9. Repacking aft floats (Sheet 1 of 2)**



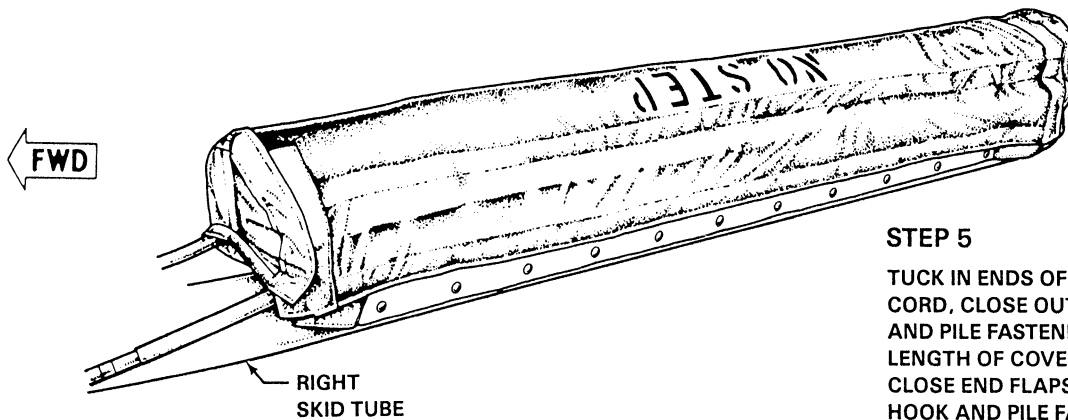
**STEP 3**

ROLL BAG TOWARD SKID TUBE AS TIGHTLY AS POSSIBLE, KEEPING TWO HOSES TO CENTER OF ROLL. HOLD BAG ON TOP OF SKID TUBE AND INSTALL COVER AROUND BAG.



**STEP 4**

SECURE INSIDE HOOK FASTENERS AND SNAP FASTENERS ON COVER TO PILE AND SNAP FASTENERS ON GIRT. INSTALL NYLON CORD IN COVER USING CROSSOVER METHOD AND PULL TAUT TO CLOSE GAP IN COVER.



**STEP 5**

TUCK IN ENDS OF NYLON CORD, CLOSE OUTSIDE HOOK AND PILE FASTENERS ALONG LENGTH OF COVER, AND CLOSE END FLAPS WITH HOOK AND PILE FASTENERS.

206A/BS-MS-99-6-9-2

Figure 9. Repacking aft floats (Sheet 2)

(h) Tuck in loose ends of lacing cord, close outside hook and pile fasteners along length of cover, and close end flaps with hook and pile fasteners.

## 10. FUNCTIONAL CHECK..

### NOTE

Perform complete functional check of electrical system every 180 days.

#### a. Electrical test procedures: (Each 180 days).

(1) Ensure FLOAT ARM switch is in OFF position (with guard closed). Engage FLOAT POWER circuit breaker.

(2) Move instrument panel switch to FLOAT TEST position.

(3) Momentarily depress FLOAT inflation switch on pilot collective stick. FLOAT TEST segment shall illuminate, which indicates circuit is functioning.

(4) Move instrument panel switch to NORMAL position. FLOAT TEST segment shall extinguish.

(5) Lift guard on FLOAT ARM switch. Move switch to ARM position. FLOAT ARM segment shall illuminate, which indicates circuit is functioning.

(6) Disconnect 24L1P1 connector at solenoid valve.

(7) Verify continuity between helicopter ground and connector 24L1P1 pins A and B.

(8) Depress FLOAT inflation switch on pilots collective stick. Verify 28 VDC is present between pins A and B of connector 24L1P1.

(9) Close FLOAT ARM switch guard to disarm system. FLOAT ARM segment shall extinguish.

(10) Connect connector 24L1P1 to solenoid valve.

#### b. Float inflation procedure: (Every time reservoir is removed for testing) or at regular 3 year intervals.

(1) Lift guard on MANUAL ARM switch. Move switch to ARM position. FLOAT ARM segment shall illuminate.

(2) Depress float inflation switch on pilot collective stick. Floats shall inflate.

(3) Release switch. Close MANUAL ARM switch guard.

#### c. Remove and test reservoir every 3 years after original testing date per DOT-E-7218. See manufacturer label on reservoir. Service life shall not exceed 15 years.

