OWNER'S MANUAL

BRAVO

Part No. P01190-Series

INFLATABLE AVIATION LIFE PRESERVER

Remove this manual from the life preserver before placing in service. Keep this manual in a safe place for future reference.

Crew members are required to read this manual prior to using the life preserver for the first time.

This manual contains important information. READ IT!

Please record your life preserver's information:

Part No. _____

Serial No. _____

Purchase Date _____

Retailer _____

Manual Part No. P01187-1, Rev. B Jul 2006

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1.0 Life Preserver Safety

- This life preserver does not provide any buoyancy unless inflated. You must Inflate life preserver to float.
- Never inflate the life preserver fully by mouth first and then pull the handle. Doing so may cause injury. It may also overinflate and damage the inflatable cell.
- Each carbon dioxide (CO_2) cylinder will only inflate the life preserver once. The life preserver must be rearmed with a new CO_2 cylinder after each inflation.
- Do not dry clean, iron or machine wash your life preserver.
- Inflatable devices filled with carbon dioxide (CO_2) deflate faster than those filled with air. You will have to replenish the cell sooner and more often with oral tube.
- Do not use damaged life preservers. Send them to an approved repair facility for inspection, maintenance and repair.
- Do not use on personal watercraft, or for water skiing, kneeboarding or similar Uses.

2.0 Approval

The EAM Bravo Life Preserver is approved by the Federal Aviation Administration (FAA) of the United States under Technical Standard Order (TSO) C13f.

The conditions and tests required for approval of this article are minimum performance standards. It is the responsibility of those desiring to install the article either on or within a specific type or class of aircraft to determine the aircraft installation conditions are within the TSO standards. The article may be installed only if further evaluation by the applicant documents an acceptable installation and is approved by the Administrator.

3.0 Approval Conditions

The EAM Bravo Life Preserver is different than the typical airline type life preserver. The typical life preserver is packed in a plastic bag and stowed safely and securely under the seat of the aircraft. It is designed to be opened and donned only in an emergency situation by passengers with no training other than a typical preflight briefing.

The Bravo is much different. It is designed to be donned prior to the flight and worn throughout the entire flight. In this way it is already donned and available incase of sudden emergencies that may occur in small aircraft or rotorcraft where there is little time to unpack and don a standard airline type life preserver.

Because the Bravo Life Preserver is unpackaged and in constant use, it is open for damage, abuse, mischievous tampering, etc. Security of the safety device becomes more of an issue. Therefore, the use and inspection requirements are more stringent on the Bravo than on standard airline type life preservers. These stricter requirements include the following:

1. The Bravo life preserver is to be used by crew members or by passengers. However, use by passengers shall be under crew instruction. This instruction shall take place during the preflight donning of the life preserver and include:

    - Assisting the passengers in donning the life preserver.

    - Ensuring that the harness is properly adjusted and secure and tight.

    - Showing the passenger the location of the manual inflation pull handle and oral tubes and reviewing their procedures for use.

    - Cautioning the passenger not to remove the life preserver during flight.

- Warning the passenger not to tamper with the life preserver.

- Informing the passenger that in the event of a ditching, they will need to inflate the life preserver upon leaving the aircraft.

2. Crew members must have read and be familiar with this owner=s manual prior to donning this life preserver on themselves for the first time or instructing a passenger as described above.

3. A pre-donning inspection of the life preserver in accordance with the procedures in this owner=s manual (refer to Section 6.1) shall be performed by the crew member prior to donning his own life preserver. The crew member assigned to instruct any passengers shall perform the pre-donning inspection prior to assisting the passenger in donning the life preserver.

4. The life preserver is to be donned prior to the start of the flight and worn during the entire flight.

5. A Service Inspection of the life preserver in accordance with the procedures in this owner=s manual (Refer to Section 7.1) shall be performed on the life preserver at least every 90 days and each time the life preserver is inflated by its CO_2 mechanism.

6. A Periodic Maintenance Inspection of the life preserver in accordance with Component Maintenance Manual (CMM) 25-60-34 shall be performed every 24 months by an FAA approved repair facility in the USA or a repair facility approved by a corresponding aviation regulatory agency in other countries. Refer to Section 7.2.

7. Repairs beyond the scope of those covered by this Owner=s Manual shall only be performed in accordance with CMM 25-60-34 by a repair facility approved to perform such work by the FAA in the USA or by a corresponding aviation regulatory agency in other countries.

4.0 About Your Life Preserver

Your EAM Bravo Life Preserver consists of one inflatable cell and its inflation system. The fabric covering the cell has Velcro strips which maintain the life preserver neatly folded. The life preserver is worn about your neck and fastened about you with a belt strap. The life preserver is designed to be lightweight and comfortable so it can be worn deflated while in flight onboard the aircraft. The life preserver provides no buoyancy unless it is inflated.

This manually activated life preserver has a carbon dioxide (CO_2) cylinder and its activating (inflator) mechanism, as well as an oral tube to blow air into the cell in the event of failure of the inflator mechanism. The primary method of inflating this model life preserver is by pulling down hard on the handle (red and white) marked "JERK TO INFLATE".

Should the need arise, activation of the life preserver's CO_2 inflation mechanism punctures the self-contained carbon dioxide cylinder and discharges this harmless gas into the inflatable cell. The cell then inflates, breaking open the Velcro closure strips of the folded life preserver to provide buoyancy. The oral inflation tube provided can be used for topping the life preserver off by mouth. The life preserver can then be deflated, rearmed, and folded to be used again and again.

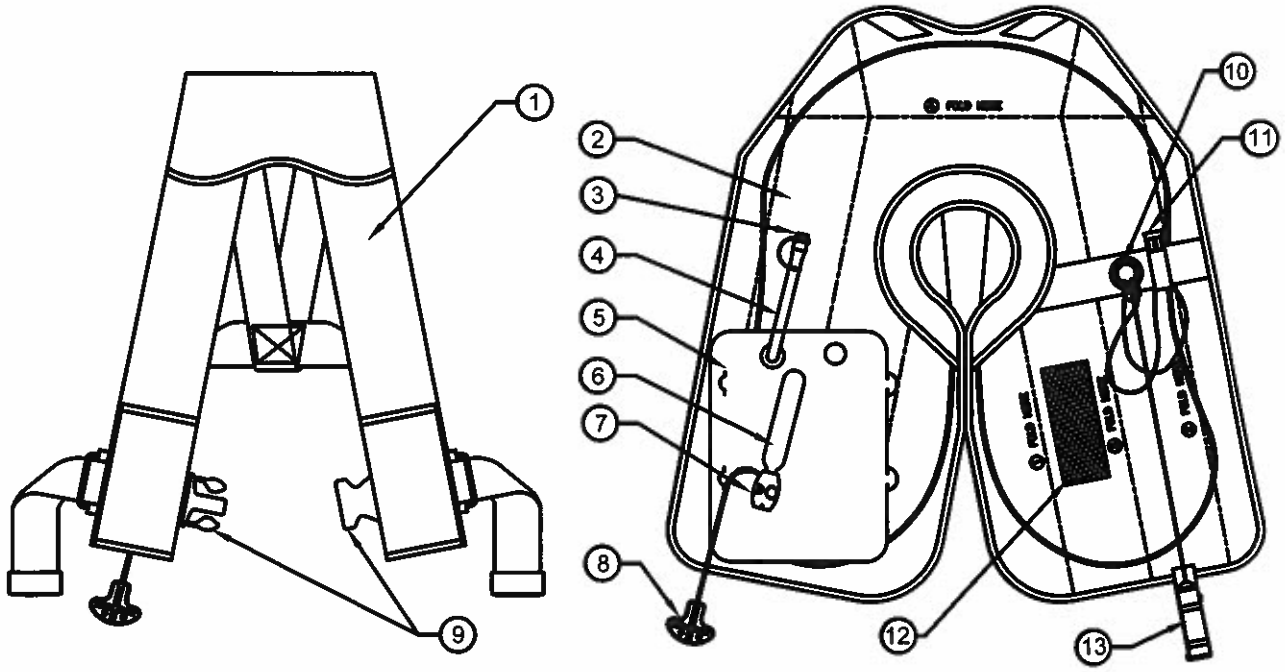
The life preserver is equipped with an FAA TSO-C85 survivor locator light/battery assembly. The light is activated when the battery is immersed in water. Normal battery life in the water is eight hours.

The life preserver is also equipped with a whistle. The whistle is secured to the life preserver by a lanyard cord and clipped in place near the light at the neck of the life preserver for easy access.

The front of the inflatable cell is covered with two large areas of retroreflective tape. This tape provides high retroreflectivity over a wide range of extreme angles and greatly improves the night time visibility of the inflated life preserver.

5.0 Parts and Features

EAM's Bravo Life Preserver is designed for adults weighing more than 90 lbs (41 kg). It is designed for persons with chest sizes between 30 inches (76 cm) and 52 inches (132 cm) in circumference.



1. Life Preserver Cover
2. Inflatable Cell
3. Oral Tube Dust Cover
4. Oral Tube (Valve in tip)
5. Inflator Cover
6. CO2 Cylinder (33 g filled, 1/2" thread)
7. Inflator Mechanism
8. Manual Inflation Pull Handle
9. Buckle
10. Light Lamp
11. Whistle
12. Retroreflective Tape
13. Light Battery

6.0 Instructions for Use

6.1 Pre-Donning Inspection

Each time before you put on or don your life preserver, follow the simple checklist below to check the condition of your life preserver.

PRE-DONNING CHECKLIST

- ☐ Inspect the life preserver for damage.
- ☐ Check the condition of the CO_2 cylinder.
- ☐ Examine the inflator mechanism for AOK® status indicators.

6.1.1 *Inspecting the Life Preserver for Damage*

Check that the life preserver=s inflatable cell, cover, and belt straps are free of rips, tears or holes; that all seams are securely sewn; and that the fabric, straps and hardware are still strong.

6.1.2 *Checking the Condition of the CO_2 Cylinder*

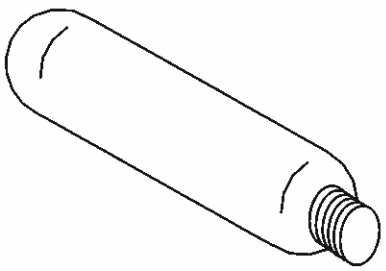
In order to inspect the condition of the cylinder, the cylinder must be unscrewed from the inflator mechanism. Once removed, look at the flat face of the cylinder just above the threads. A used or empty cylinder will have a puncture hole visible on this face and cannot be reused. Refer to the illustration below. The cylinder should also be discarded and replaced if it shows signs of serious rust or corrosion.

This is also a good time to make sure that the cylinder has the correct ½ inch thread size and that the ACO_2 Filled® weight marked on the cylinder reads A33 GRAMS®. For easy reference, the thread size and gram weight required for the cylinder are marked on the inflator cover. To further ensure the correct cylinder is used, the size and shape of the cylinder when installed in the inflator mechanism will approximately match up with the silhouette outline drawing of a cylinder printed on the inflator cover of the life preserver.

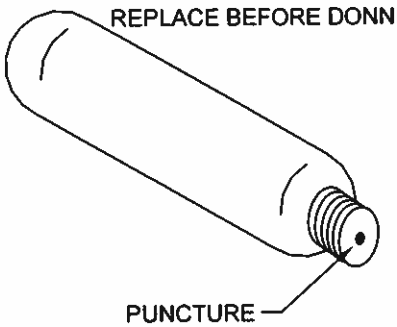
If the cylinder checks out as AOK®, it can then be reinstalled by screwing back into the inflator mechanism. Hand tighten only. If the cylinder is used, damaged, or of the incorrect type, discard the cylinder and rearm the mechanism per the instructions in Section 7.4, *Rearming the CO_2 Inflation Mechanism*.

Also check the Service Inspection Record on the inflator cover. Ensure that service Inspection has been performed within the last 90 days. Refer to Section 7.1.

CYLINDER "OK".
NO PUNCTURE HOLE.



EMPTY CYLINDER.
PUNCTURE HOLE VISIBLE ON FACE.
REPLACE BEFORE DONNING PRESERVER.



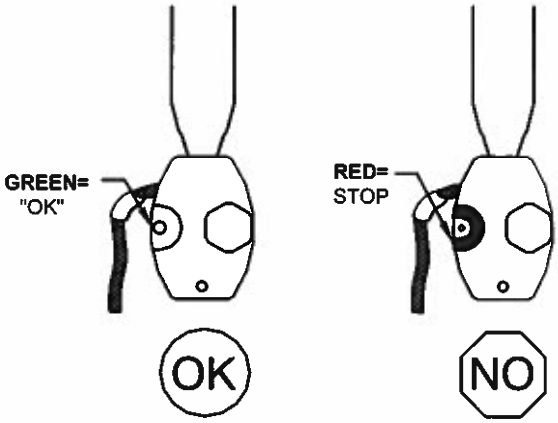
6.1.3 *Examining the Inflator Mechanism for AOK@ Status Indicators.*

HELPFUL HINT

Remember to follow this simple rule when checking the status of the inflator mechanism:

GREEN = OK --- Ready to use.
RED = STOP! = DO NOT USE --- Rearm before using.

Check that the **green** status indicator tab is in place on the mechanism=s face. The green tab must be in place for the mechanism to be properly armed. If the green tab is broken or missing and the **red** semi-circle printed on the inflator mechanisms face is visible, rearm the mechanism per the instructions in Section 7.4, *Rearming the CO_2 Inflation Mechanism.*



6.2 Putting on Your Life Preserver Donning)

Put the life preserver on as if it were a vest. Refer to the illustration below. Buckle it at the front and tighten the waist strap on both sides. The red AJERK TO INFLATE@ handle for the inflation mechanism should protrude from the bottom edge of the wearer=s right side of the folded life preserver when worn. Check its location by hand and know where it is.

Step 1 – Put on life preserver as if it were a ves By inserting one arm then...

Step 2 - ..inserting the other arm.

Step 3 – Buckle it in front until you hear a click.

Step 4 – Pull free ends of waist strap until snug.

Step 5 – Tuck in excess ends of waist strap so that they do not hang down.

6.3 Inflating by Using the CO2 Mechanism

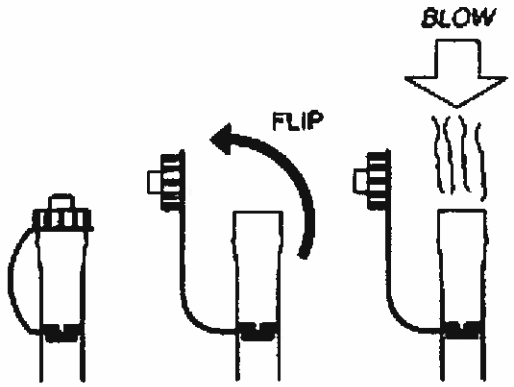
Pull hard in a downward direction on the red handle marked AJERK TO INFLATE@ to discharge the CO_2 cylinder and inflate the life preserver instantly.

WARNING: INFLATABLE DEVICES DEFLATE GRADUALLY DUE TO PERMEATION LOSSES THROUGH THE MATERIAL OF THE CELL. THESE LOSSES ARE GREATER WHEN THE DEVICE IS INFLATED WITH CARBON DIOXIDE (CO_2) THAN WITH AIR. THEREFORE, EARLIER REPLENISHMENT BY MEANS OF THE ORAL INFLATION SYSTEM WILL BE NECESSARY.

6.4 Inflating by Mouth (Oral Inflation)

To inflate the life preserver orally, open the cover on the wearer=s right side, flip the replaceable black dust cap off from the top of the red oral

T tube and blow air into the oral tube (See Illustration at right) until the life preserver is firm. To make oral inflation easier, open the other Velcro closures of the life preserver and unfold. Practice this procedure a few times until you are confident how to orally inflate your life preserver. Replace the dust cap on top of the oral tube when you are done.

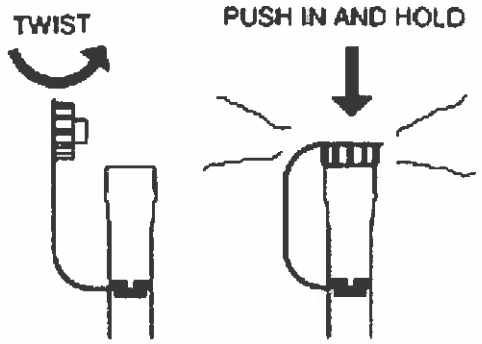


Occasionally, dust particles get trapped in the oral valve, causing it to leak slightly. Blowing into the valve and/or tapping on the valve with a finger will usually clear the dust and stop the leak. Keep the dust cap in place when not blowing into the oral tube.

WARNING: NEVER INFLATE THE LIFE PRESERVER BY MOUTH FIRST AND THEN PULL THE CO_2 MECHANISM=S HANDLE. DOING SO MAY CAUSE INJURY. IT MAY ALSO OVERINFLATE AND DAMAGE THE INFLATABLE CELL.

6.5 Deflating Your Life Preserver

Remove the black dust cap from the top of the red oral tube. Twist the dust cap around and insert the small top side of the dust cap into the oral tube. Hold in place to keep the valve open (See illustration at right). At the same time, squeeze the life preserver to force all the gas out through the oral valve until the life preserver is fully evacuated and flat.



7.0 Care and Maintenance Instructions

7.1 Service Inspection Procedures

Service Inspection includes temporarily removing the life preserver from service and performing visual inspection, battery inspection, and leakage test **(perform leakage test only if visual inspection shows damage to the life preserver as described in section 7.1.1)** on it per the instructions below. **Service Inspection is performed at least every 90 days between scheduled Periodic Maintenance Inspections** (See Section 7.2). Service Inspection shall also be performed each time the CO2 mechanism is rearmed after being used to inflate the life preserver. Service Inspections can be performed by the licensed owner/operator of the aircraft, a licensed crew member, or a licensed repairman familiar with the procedures in this owner=s manual. Alternately, the life preserver may be sent to an approved repair facility for full periodic inspection, maintenance and repair. Units that pass service inspection can be returned to service. Record the date Service Inspection was performed and by whom in the Service Inspection Record on the inflator cover.

7.1.1 *Visual Inspection*

Open the Velcro closures and unfold the life preserver. Check the unit's cover and inflatable cell looking for rips, tears, holes or punctures that might indicate damage. If any of these are present, forward the life preserver to an approved repair facility for inspection, maintenance, and repair before returning the life preserver to service.

7.1.2 *Battery Inspection*

Visually inspect the battery for swelling, cracked case, and incrustation in the water entry holes. If any of these are present, replace light/battery assembly per Section 7.3 of this manual before returning life preserver to service.

7.1.3 *Leakage Test*

Test the life preserver=s inflatable cell for leaks by inflating the life preserver orally (by mouth) until the cell becomes hard. Refer to Section 6.4, *Inflating by Mouth (Oral Inflation)* . Reinstall the dust cap on top of the oral tube when you are done. Allow the life preserver to sit overnight for 11 to 12 hours and then check to see if the inflatable cell is still firm. A leaking life preserver will have become soft and should not be used. Send leaking life preservers to an approved repair facility for inspection, maintenance, and repair before returning the life preservers to service.

WARNING: DO NOT USE DAMAGED LIFE PRESERVERS. FORWARD THEM TO AN APPROVED REPAIR FACILITY FOR INSPECTION, MAINTENANCE, AND REPAIR.

7.2 Periodic Maintenance Inspection

The life preserver shall undergo Periodic Maintenance Inspection in accordance with EAM Component Maintenance Manual (CMM) 25-60-34 by an FAA approved repair station, an FAA approved operator=s repair facility, or a repair facility approved by the aircraft operator's corresponding governmental aviation regulatory agency in other countries. The repair facility must be trained and experienced in working on inflatable life saving appliances and approved by the FAA or foreign regulatory agency to work on such products. If an approved facility is not available in your area, return the unit to Eastern Aero Marine for Periodic Maintenance Inspection.

Periodic Maintenance Inspection is much more extensive than the 90-day Service Inspection (See Section 7.1) and includes 2 psig leakage test, battery swelling measurement, light wire continuity check, and CO_2 cylinder weight check. Special tooling and equipment such as calibrated pressure gauges, manometers, and light testers are required as detailed in CMM 25-60-34.

7.2.1 *Frequency of Periodic Maintenance Inspection*

A. ***First Periodic Maintenance Inspection***

Perform first periodic maintenance inspection within **24 months** from the date a new life preserver has been entered in service. However, first maintenance inspection must be performed no later than 36 months from the life preserver's date of manufacture marked on unit.

Record the date the unit entered service and the date the first maintenance inspection was performed and by whom in the Periodic Maintenance Inspection Record on the label on the outside back of the life preserver.

NOTE: A life preserver is considered entered "in service" the first time it is donned and worn during flight on board an aircraft. "In service" status shall remain in effect even if the life preserver is later removed from the aircraft. Therefore, time toward the next scheduled maintenance inspection shall continue to accrue from the first "in service" date regardless of whether or not the life preserver is physically on board the aircraft.

NOTE: Scheduling of first maintenance inspection with respect to life preserver's date of placement in service is intended to account for time elapsed during transportation, distributor warehousing, etc.

B. ***Subsequent Periodic Maintenance Inspections***

Perform all subsequent periodic maintenance inspections within **24 months** of the date of last maintenance inspection regardless of whether a life preserver has been returned to service or removed from service and placed in storage.

Record the date subsequent maintenance inspections are performed and by whom in the Periodic Maintenance Inspection Record on the label on the outside back of the life preserver.

7.3 Replacing Light/Battery Assembly

Each time the life preserver is immersed in water or the battery fails inspection (See Section 7.1.2), the entire light/battery assembly must be replace. The light/battery assembly can be replaced by the licensed owner/operator of aircraft, a licensed crew member, or a licensed repairman familiar with the procedures in this owner=s manual. Alternately, the life preserver may be sent to an approved repair facility for periodic inspection, maintenance and repair.

New light assemblies are from your local supplier or EAM distributor.
Only use a new EAM Part No. 517-01 light/battery assembly to replace the existing assembly.

1. Remove the filament tape holding the battery to the short webbing strap at the bottom edge of the life preserver.

2. Remove the old battery.

3. Push the old lamp housing out of the hole in the fabric near the neck of the life preserver.

4. Secure the battery end of the new assembly to the webbing strap with two new pieces of filament tape (EAM Part No. 511-03 filament tape available in rolls). Each piece of tape should measure approximately 5 inches (12.7 cm) long. Ensure that the tape does not cover either of the two water entry holes on the side of the battery.

5. Push the lamp housing of the new assembly through the hole in the fabric piece near the neck of the life preserver.

7.4 Rearming the CO2 Inflator Mechanism

Each time the CO_2 inflation mechanism on your life preserver is actuated, the inflator must be rearmed (reset) and the empty CO_2 cylinder replaced. The CO2 inflator mechanism can be rearmed by the licensed owner/operator of aircraft, a licensed crew member, or a licensed repairman familiar with the procedures in this owner-s manual. Alternately, the life preserver may be sent to an approved repair facility for periodic inspection, maintenance and repair.

All the necessary parts are included in the rearming kits available from your local supplier or EAM distributor.

Follow the procedures in the illustration below.
Only use EAM Rearming Kit Part No. P01095-101.

Step 1

Unscrew the used CO_2 **cylinder** in a **counter-clockwise** direction and immediately **discard. Do not insert** new **cylinder** at this time. To avoid confusion later in the rearming process, we suggest you throw away the old CO_2 cylinder now.

Step 2

Close manual inflator **lever** within inflator body and carefully **insert** a new **green** indicator **tab** (EAM Part No. 511-83) so that it fully **covers** the **red semi-circle** on the body.

Step 3

Look into the threaded cylinder receiver and view gasket. If the gasket is missing or torn, or if the edges are frayed, **replace** with EAM Part No. 514-24 gasket.

Step 4

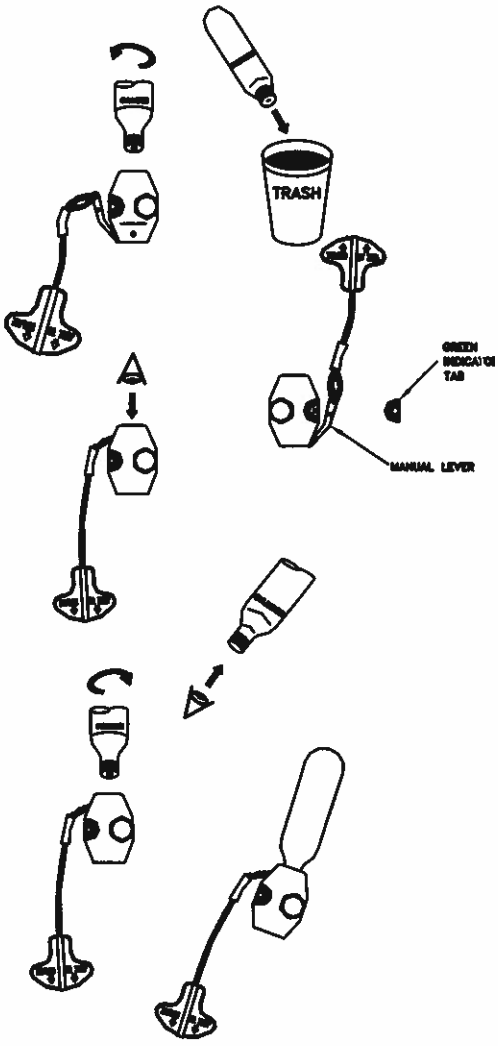
Inspect the face of the new **cylinder (EAM Part No. 509-06)**. Be sure it is **smooth** and has **no holes** or **scratches**. There is a minimum gross weight marked on the cylinder. If you have any question about the cylinder integrity, weigh the cylinder on a small scale, such as a postage scale. **Compare minimum gross weight** printed on the **cylinder** to the **actual weight**. If actual weight is **less than** minimum gross weight, get **another** cylinder.

Step 5

Screw new **cylinder** in a **clockwise** direction into the inflator. Hand tighten only. Ensure fit is snug, but **do not over-tighten**.

Step 6

Record the performance of this procedure in the **Service Record** on the inflator cover. **Close** the **inflator cover. Check** the inflator **arming** indicator before each donning. It will tell you if there is a need for rearming. **Check** the **cylinder face regularly** before each donning to ensure it is not punctured (See Section 6.1 *Pre-Donning Inspection* for instructions).

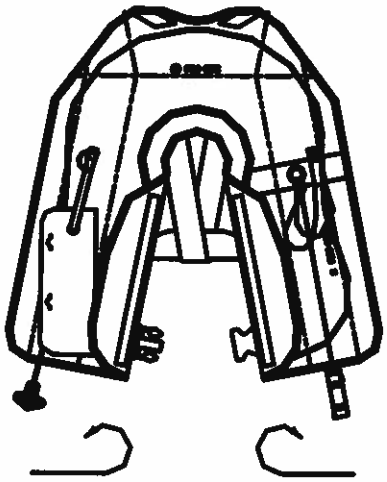


7.5 Refolding Your Life Preserver

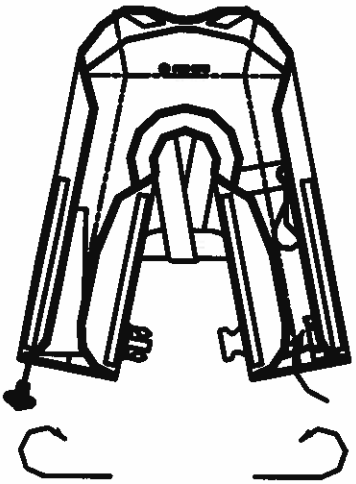
Deflate your life preserver fully before refolding. Refer to Section 6.5 for instructions on deflating your life preserver. Follow the steps in the illustration below. Use the fold lines marked on the inflatable cell as a guide. The lines are numbered in the order of the folds.

Lay Life Preserver Flat

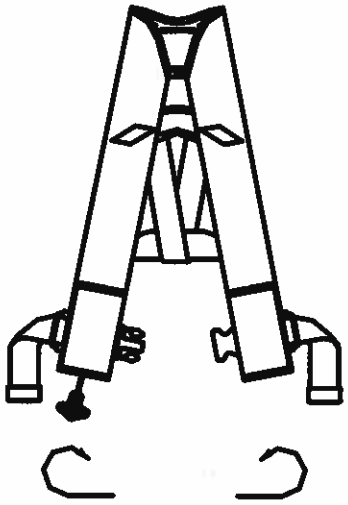
Fold 1



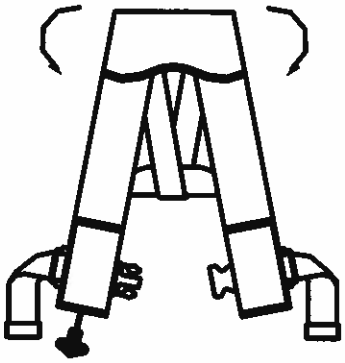
Fold 2



Fold 3



Fold 4



7.6 Cleaning

Your life preserver is made of materials designed to resist soiling and mildew. If cleaning is required, use mild hand soap and cool water. Rub gently. Do not scrub or use abrasive cleaners.

CAUTION: DO NOT DRY CLEAN, IRON OR MACHINE WASH YOUR LIFE PRESERVER. DO NOT USE BLEACH.

7.7 Storage

When the EAM Bravo Life Preserver is not in use aboard the aircraft, store it in a cool, dry, well-ventilated place. Recommended storage temperature is between 0 to 120 °F (-18 to 49 °C). A damp or wet life preserver should be hung by its collar on a clothes line and dried before storage. Do not store life preservers where it can be exposed to chemicals. Do not leave your life preserver in direct sunlight or in hot areas for long periods. Avoid storing the life preserver inflated.

CAUTION: NEVER DRY YOUR LIFE PRESERVER ON A HEATER, RADIATOR, OR WITH A DIRECT HEAT SOURCE.

7.8 Stowage

When not in use aboard the aircraft, it is recommended that the EAM Bravo Life Preserver be removed from the aircraft and stored elsewhere. If stowage aboard the aircraft is necessary, stow the packed and folded life preserver in a clean dry, contaminant free area away from any heat source. Stow it in an area at least equal to the packed dimensions of the life preserver. Do not cram it into tight spaces. Do not place items on top of it while stowed. Recommended stowage temperature is between 0 to 120 °F (-18 to 49 °C).

CAUTION: CONTAMINANTS SUCH AS PETROLEUM SOLVENTS, FUEL, GREASE, OIL AND HYDRAULIC FLUIDS MAY HAVE A DETRIMENTAL EFFECT ON LIFE PRESERVER FABRIC AND CONSEQUENTLY THE SERVICE LIFE AND PERFORMANCE OF THE LIFE PRESERVER.

7.9 Service Life Limits

The EAM Bravo Life Preserver has no prescribed ultimate life, specified service life or life limit. The life preserver may remain in service indefinitely as long as it continues to pass periodic maintenance inspection. Likewise, the service life limit on any component of the life preserver including the water activated light/battery or CO_2 cylinders is indefinite as long as these components continue to pass inspection.

EASTERN AERO MARINE
5502 NW 37 Avenue Miami, FL 33142, USA
Telephone: 305-871-4050 Fax: 305-871-7873
Visit our Website at http://www.theraft.com