



# SEEARCH MARINE SAFETY DEVICE



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## **1. GENERAL INFORMATION**

Read all instructions carefully before use. This manual illustrates certain ways of using the SeeArch. Many types of misuse exist which are not realistic to fully list. Water sports can be dangerous activities which may lead to severe injuries or even death. Adequate training in appropriate safety techniques and methods is essential and acquiring this training is your own responsibility.

This device will not inflate automatically upon immersion. To inflate your SeeArch bladder, jerk the inflation pull tab to the right

## **2. WHERE AND WHEN TO USE THE SEEARCH**

We recommend that you wear your SeeArch whenever you are engaged in waterborne activities other than white-water activities. The SeeArch should be used in conjunction with an approved Personal Floatation Device (PFD).

The SeeArch should not be used by persons under 16 years of age. Check that the SeeArch is compatible with other components of your equipment. To prolong the life of the SeeArch, care in use is necessary. Avoid rubbing the SeeArch against abrasive surfaces or sharp edges. CO2 cylinders are dangerous goods and should be kept away from children and not misused. Train yourself in the proper storage and use of CO2 cylinders.

The SeeArch is recommended for, but not limited to, the following uses:

- Sailing, motorboating, or other open-water recreational activities such as stand-up paddle boarding, canoeing, kayaking, windsurfing, snorkeling or waterskiing.
- Offshore Marine operations
- Harbour Marine operations

Use of the SeeArch is strongly recommended when conditions of heavy weather, strong winds and/or high waves arise.

The SeeArch is not approved for “hot work” (welding or burning operations) on commercial vessels.

Do not use the SeeArch in situations where snagging is a potential hazard, such as white-water kayaking or other activities.

## **3. RESPONSIBILITY**

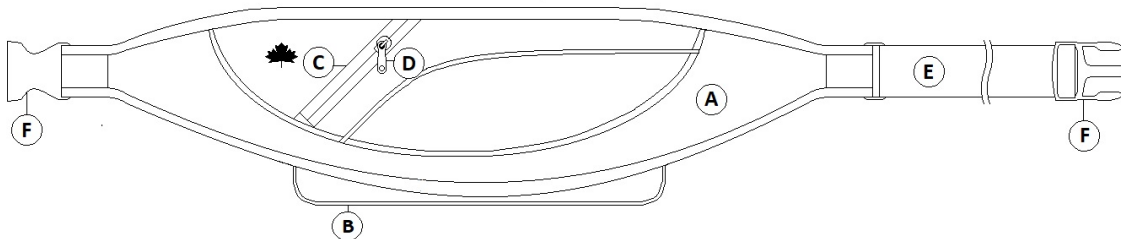
SeeArch Inc is not responsible for the consequences, direct, indirect or accidental, or any type of damage befalling or resulting from the use of its products. You personally assume all risks and responsibilities for all damage, injury or death which may occur during or following incorrect use of the SeeArch in any manner whatsoever. If you are not able, or are not in a position to assume this responsibility or to take such risks, do not use the SeeArch.

## Figure 1a

SeeArch Front

- |   |                                 |   |                                     |
|---|---------------------------------|---|-------------------------------------|
| A | Front Pocket Flap               | F | Belt Buckle                         |
| B | Bladder Storage Pouch           | J | Bladder Storage Pouch Zipper        |
| C | Front Pocket Flap Zipper        | K | Bladder Storage Pouch Zipper Slider |
| D | Front Pocket Flap Zipper Slider | L | Tether Loop (Mariner only)          |
| E | Belt                            |   |                                     |

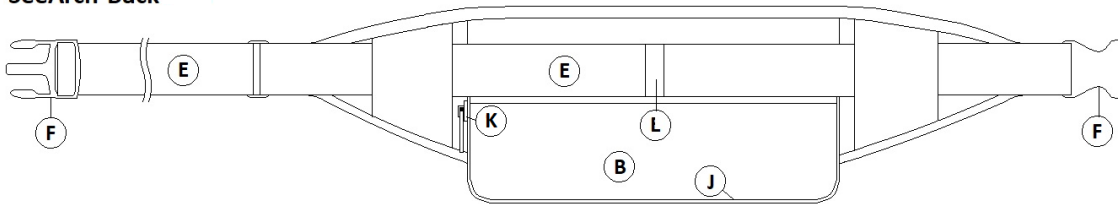
FRONT VIEW



## Figure 1b

SeeArch Back

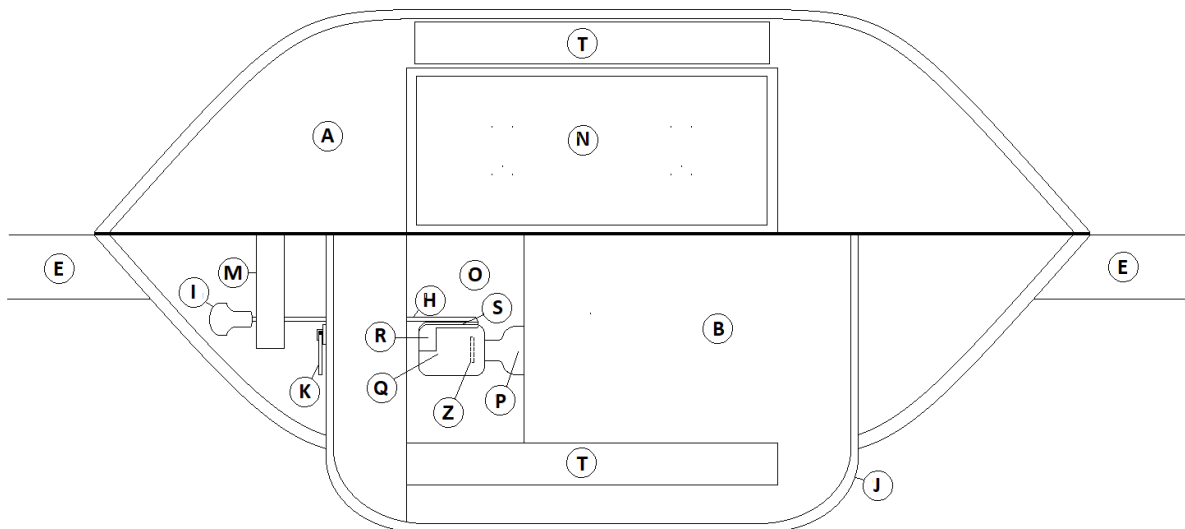
REAR VIEW



## Figure 2

SeeArch Front  
Pocket Flap lifted

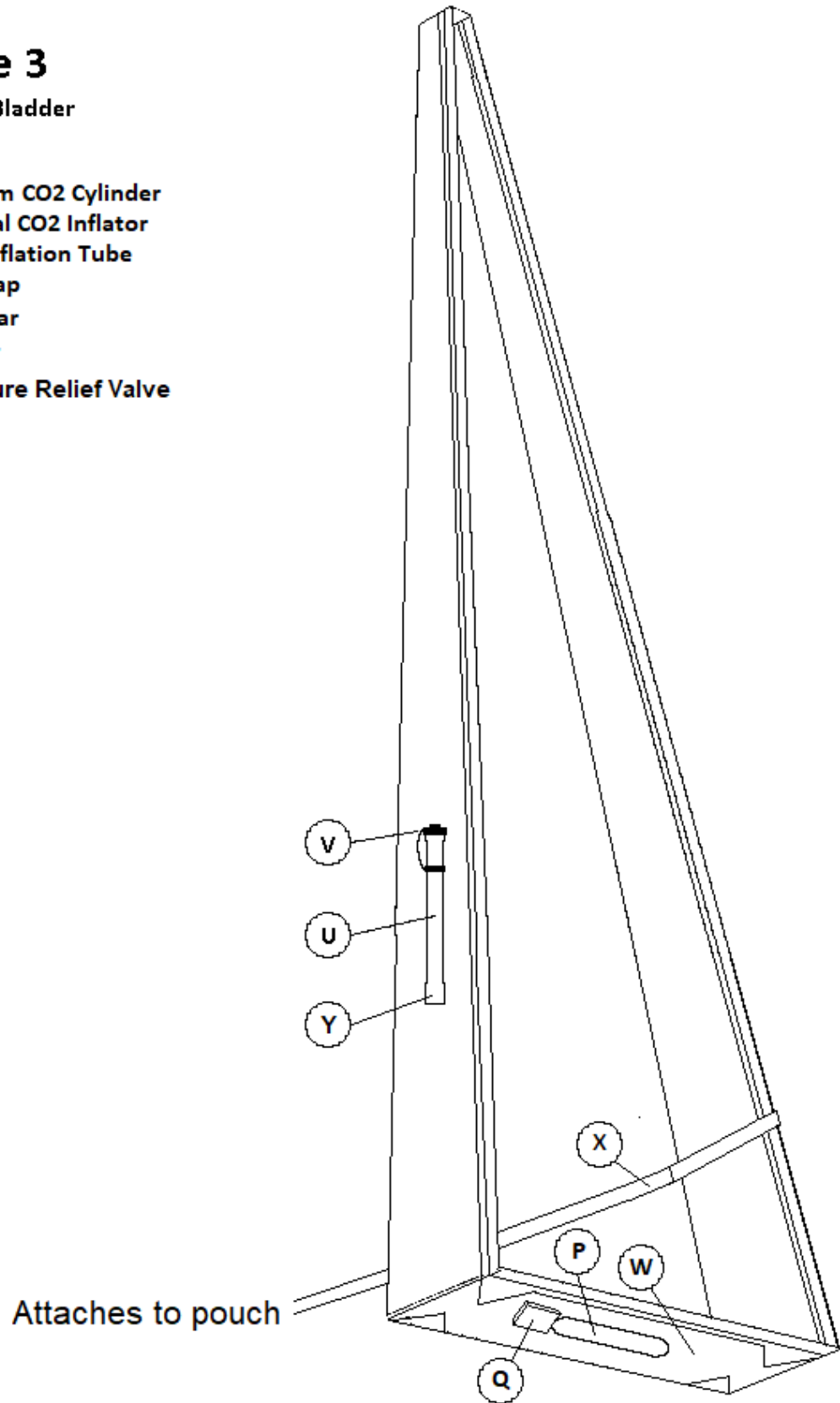
- |   |                       |   |                                     |   |                           |
|---|-----------------------|---|-------------------------------------|---|---------------------------|
| A | Front Pocket Flap     | J | Bladder Storage Pouch Zipper        | P | 33g CO2 Cylinder          |
| B | Bladder Storage Pouch | K | Bladder Storage Pouch Zipper Slider | Q | Manual CO2 Inflator       |
| E | Belt                  | M | Inflation Pull Cord Retaining Flap  | R | Green Readiness Indicator |
| H | Inflation Lanyard     | N | Instruction Panel                   | S | Manifold Lever            |
| I | Inflation Lanyard Tab | O | Inspection Window                   | T | Velcro™ Fastener          |
|   |                       |   |                                     | Z | O-ring for CO2 Inflator   |



## Figure 3

SeeArch Bladder

- P 33 gram CO2 Cylinder
- Q Manual CO2 Inflator
- U Oral Inflation Tube
- V Dust Cap
- W Crossbar
- X Tether
- Y Pressure Relief Valve





#### **4. PRINCIPLES OF OPERATION**

The SeeArch is composed of an inflatable bladder which is enclosed in a compact, comfortable pouch that is designed to be worn at the waist. When needed, the bladder is inflated using a manual CO2 inflator, resulting in a five foot arch which provides visibility, buoyancy and recoverability. The bladder may also be inflated using the oral inflator located on the bladder. After use, the bladder may be re-used provided that it has not been used for lifting, in which case the SeeArch product should be replaced. If re-used, the bladder must be deflated, folded, re-stored and re-armed in the pouch, see Section 14.

The bladder is made of a sturdy nylon fabric for high strength and abrasion resistance, coated on the inside with thermoplastic polyurethane which serves as an impermeable gas barrier. It is inflated using one of two methods: a CO2 cylinder (P) containing 33 grams of CO2 can be discharged using a manual inflator (Q) on the bladder's crossbar (W) into the bladder. This quantity of gas inflates an empty bladder to its full operating pressure under typical ambient temperatures. In cold conditions, if the bladder fails to fully inflate, the bladder can be topped up using the oral inflation tube (U) located on one of the bladder's uprights (the long sides of the bladder triangle). A pressure relief valve (Y) on the oral inflation tube keeps the internal pressure from exceeding 2.5 PSI.

Once the bladder has been inflated, it will assume a vertical position in the water when the crossbar is below water level.

The bladder is connected to the SeeArch pouch by means of a tether (X). In the Mariner version, the tether is attached to the belt (E) with a tether loop (L). In the Sport version, it is attached to the bladder storage pouch (B). To detach the SeeArch bladder from the user, release the belt buckle (F).

#### **5. TRANSPORTING THE SEEARCH**

To prevent accidental inflation during transportation, we recommend that you remove the CO2 cylinder (P) by unscrewing it from the manual CO2 inflator (Q) when storing or transporting the SeeArch. We suggest storing the CO2 cylinder inside the SeeArch pouch front pocket until you are preparing to wear the SeeArch. When ready to use, hand tighten the CO2 cylinder (P) back onto the manual CO2 inflator (Q).

If transporting the SeeArch by air, follow that airline's policies regarding transportation and storage of CO2 cylinders.

#### **6. BEFORE YOU WEAR YOUR SEEARCH**

To be considered functional, this SeeArch should not show signs of deterioration that could diminish its performance, and should be properly armed with a 33 g CO2 cylinder (P) installed in the manual CO2 inflator (Q) and with green readiness indicator (R) in place. Failure to rigorously follow these instructions could result in a non-functional bladder.



**Before each use:**

- a. Visually examine the green readiness indicator (R) on the CO2 trigger mechanism, through the inspection window (O), to confirm that it is in place.
- b. Confirm that the inflation lanyard tab (I) is accessible.
- c. Visually examine the SeeArch for damage or abrasion, wear, tear or contamination. Particular attention must be paid to the stitching, belt and hardware.

**7. WEARING YOUR SEEARCH**

It is important that the SeeArch is adjusted for proper fit prior to use. Incorrect fit could reduce the effectiveness of the SeeArch.

- a. In order to avoid injury or restricted inflation, the SeeArch must not be worn under clothing, or anything which can impede the inflation of the SeeArch.
- b. To enable proper use when deploying the bladder, the SeeArch pouch must be located on your waist at the front of your body. The inflation lanyard tab (I) must be located on your right front side to enable proper use when deploying the bladder.
- c. The belt should fit below your rib cage, adjusted to a snug personal fit around your waist using the adjustable waist belt (E).

**8. INFLATING YOUR SEEARCH**

It is recommended that the following procedures be followed to inflate your SeeArch:

- a. **Manual Inflation:** Activate the manual CO2 inflator (Q) by jerking the inflation lanyard (I) horizontally to the right. The SeeArch bladder should fully inflate within five seconds. If the bladder does not inflate, repeat the jerking motion. If the bladder still fails to inflate, the bladder storage pouch zipper (J) can be manually opened by pulling the inflation pull tab (I) towards your knee. This will open the bladder storage pouch zipper (J) and release the uninflated bladder. Then inflate orally as described in section 8.2.
- b. **Oral Inflation:** To orally inflate the bladder, locate the red oral inflation tube (U). Remove the dust cap (V) from the end of the oral inflation tube (U) and blow into the long end of the oral inflation tube (U) until the bladder is fully inflated.

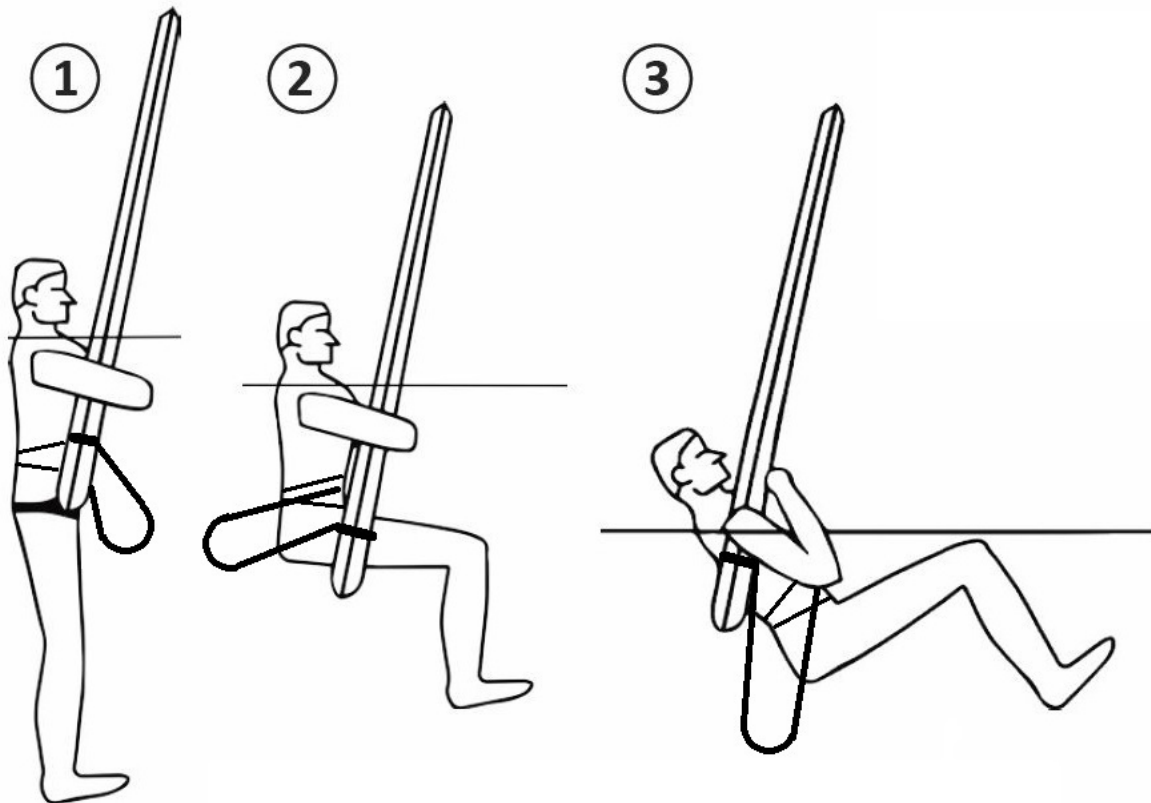
**WARNING:** Do not trigger the manual CO2 inflator (Q) after the bladder has already been orally inflated, as this could damage the bladder.

## 9. DETACHING THE BLADDER FROM THE POUCH

To detach the bladder from the pouch, grasp both uprights of the inflated bladder and thrust the bladder forward, away from your body. The Velcro fastener (T) on the bladder holding flap will open and release the bladder from the pouch. The tether (X) will connect the pouch and the bladder.

**Figure 4**

Using the SeeArch bladder



## 10. MAKING USE OF THE TETHERED BLADDER

The SeeArch bladder initially deploys while attached to its pouch, as shown in **Figure 4 Position 1**. After detaching the bladder from the hold-down flap, according to Section 9, the bladder is still connected to its pouch by the tether. The bladder can be utilized in several ways, some of which are illustrated in Figure 4.

**Figure 4 Position 2** shows the bladder being used as a seat. This raises the user's head several inches higher above the water. To use the bladder, sit on the crossbar with the top of the SeeArch pointing upward and your arms around the uprights.





**Figure 4 Position 3** shows the bladder being used as the SeeArch sling. This provides maximum height of the bladder apex above the water for increased visibility to others, and aids in recovery out of the water. To use the bladder as a sling, hold it behind you and pull the uprights over your head and under your arms, so that the crossbar lies across your back and the uprights are under your arms.

## **11. RECOVERY**

The SeeArch bladder can lift 550 pounds (250 kg). There are several methods to recover a person using a SeeArch bladder as a sling.

The user of the bladder sits on the bladder's crossbar (W) as in Figure 4 Position 2. The bladder's apex can be grasped and attached to a lifting device such as a halyard, and lifted out of the water.

Have the bladder's crossbar run behind the user's back, as in Figure 4 Position 3. The recovery procedure is similar to that described above, but the user must position their arms in a manner to prevent the body from slipping out from the bladder.

A third method is to use the bladder for self-rescue by placing the apex of the SeeArch bladder over a winch, cleat, or other projection above the deck and using the bladder as a stirrup.

## **12. DEFLATING THE SEEARCH BLADDER**

To deflate the SeeArch bladder, reverse the oral inflation tube dust cap (V) and insert it into the oral inflation tube valve. The dust cap (V) must be held in place to allow gas to escape. See Figure 3.

Gently squeeze and roll the bladder until all gas has been expelled. To avoid damage, do not wring or twist the bladder. Put the oral inflation tube dust cap (V) back in its stowed position on the oral inflation tube (U).

## **13. REARMING THE SEEARCH**

The 33g manual rearm kit includes one 33g CO2 Cylinder (1/2 inch threaded) and one green readiness indicator. See Figure 3.

- a. Remove the used CO2 cylinder (P) from the manual CO2 inflator (Q) by unscrewing. Discard the used CO2 cylinder (P) following local disposal requirements.
- b. Confirm that the manifold lever (S) for the manual CO2 inflator (Q), attached to the inflation pull cord (H), moves freely.
- c. Confirm that the O-ring for the manual CO2 inflator (Q) is intact and in place. Ensure that the new CO2 cylinder (P) has not been pierced and is the correct size.
- d. Replace the CO2 cylinder (P) by screwing it clockwise into the manual CO2 inflator (Q) until it is hand-tight.
- e. Replace green readiness indicator (R) on the manual CO2 inflator(Q).



- f. Repack the SeeArch in accordance with section 14.

#### **14. REPACKING THE SEEARCH**

Please also visit [www.seeArch.ca](http://www.seeArch.ca) for a re-packing video.

- a. Fully open the bladder storage pouch (B) by pulling up the front pocket flap (A) of the SeeArch, exposing the bladder storage pouch (B), and pulling the bladder storage pouch zipper (J) to the right until it reaches the slider stop.
- b. Insert the bladder into the bladder storage pouch (B) with the manual CO2 inflator (Q) under the inspection window (O) as seen in Figure 2, so the inflation pull-tab (I) will point toward the right of the wearer when the belt (E) is on. Fold the bladder flap found inside the bladder storage pouch (B) over the crossbar section (W) of the bladder and align the Velcro strips on the bladder flap and on the inside of the bladder storage pouch (B). Press the two Velcro strips together.
- c. Starting with the crossbar section (W), fold the bladder into lengths that will fit inside pouch, starting closest to the crossbar section (W) and working up using the previous folds as guidance. Be sure to have the manual CO2 inflator (Q) be on the outside of the folded bladder and visible under the inspection window (O). Ensure the bladder is not twisted or wrapped around itself as that will affect the inflation. Ensure that the tether is folded and placed in the pouch.
- d. Push the inflation pull-tab (I) through the opening under the bladder storage pouch zipper slider stop, and secure by folding the inflation pull cord retaining tab (M) over the inflation pull cord (H).
- e. Ensure that the bladder tether is fully inside the bladder pouch, and is folded such that it does not obstruct the inflation of the bladder.
- f. Carefully pull the bladder storage pouch zipper slider (K) fully to the left to reset the bladder storage pouch zipper (J). Be certain not to allow any parts of the bladder to be caught in the bladder storage pouch zipper (J). When properly repacked none of the bladder should be exposed except visually through the inspection window (O).

#### **15. CARE AND MAINTENANCE INSTRUCTIONS**

To be considered serviceable, the SeeArch should not show signs of deterioration that could diminish its performance, such as broken or deformed hardware, weakened structural components, air leaks or non-functional inflators. The SeeArch should also be properly armed with a CO2 cylinder (P) installed in the manual CO2 inflator (Q) and green readiness indicator (R) in place. Failure to rigorously follow these instructions could result in a non-functional bladder. Check the following at the intervals listed below.

**Before each use:**



Visually examine the green readiness indicator (R) on the CO2 trigger mechanism, through the inspection window (O), to confirm that it is in place.

- a. Confirm that the inflation pull-tab (I) is accessible.
- b. Visually examine the SeeArch for damage or excessive abrasion, wear, tear or contamination. Particular attention must be paid to the stitching, belt and hardware. Contact SeeArch Inc for replacement if damage is found.

#### **Annually or after inflation:**

Perform the following actions at the start of each boating season, after inflation, or whenever the integrity of the SeeArch is in doubt:

- a. Check all components for dirt or corrosion. Clean or replace, as necessary.
- b. Visually examine the outside and inside of the SeeArch for damage or abrasion, wear, tear or contamination. Particular attention must be paid to the stitching, belt and hardware. Contact SeeArch Inc for replacement if damage is found.
- c. Perform the Leak Test. The bladder should be tested for leakage by orally inflating the bladder until firm and letting it stand for 4 hours. A leaking bladder will not hold its firmness and should be replaced.
- d. Orally inflate your SeeArch and try it out in the water to confirm that the SeeArch works. A flow of bubbles should not appear. The bladder should inflate quickly and easily.
- e. Ensure the green readiness indicator (R) is in place.
- f. Repack the SeeArch as outlined in section 14.

#### **Cleaning and Storing your SeeArch Bladder**

To clean your SeeArch bladder, remove the CO2 cylinder (P) if it has not been already removed. Hand wash the bladder, including manual CO2 inflator (Q), in warm, soapy water and rinse with clean water. Dry slowly, away from direct heat. Grease spots may be removed with trichlorethylene. This product is best stored away from direct light, in a well-ventilated place away from extreme temperatures.