

# jet stream

Assembly Instructions

airline  
FOLDING SIT-ON-TOP KAYAKS

by Feathercraft



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# Kayaking Safety

PLEASE READ CAREFULLY!

Kayaking can be hazardous and can involve the risk of serious injury or death. Kayakers are responsible for obtaining appropriate instruction in paddling skills, equipment safety, water safety, rescue and first aid. It is strongly recommended that you obtain training in kayaking safety from a qualified and experienced kayaking instructor.

The various components of Feathercraft kayaks are subject to wear, breakage and failure. This type of damage can lead to accidents resulting in serious injury or death. It is your responsibility to maintain your kayak in excellent condition. Disassemble your kayak completely at least every two months. Re-lubricate the framework and inspect for signs of wear or failure. Any worn, damaged or broken parts must be repaired or replaced. If you have any doubts or concerns about the condition of your Feathercraft kayak, contact your dealer or Feathercraft Products Ltd.

Kayak safety training should include the following topics:

1. **Paddling skills.** Paddling techniques need to be practiced in various water conditions. Maneuvering a kayak through rough seas, currents and tidal zones is quite different from paddling on flat water.
2. **Hypothermia.** The greatest danger to a kayaker is hypothermia or cold water immersion. Protection against hypothermia involves more than simply wearing the appropriate protective clothing. It involves all aspects of kayak safety.
3. **Know Your Kayak.** Your safety on the water is dependant on all components of your kayak functioning perfectly. You must inspect your kayak for signs of wear or failure before setting off on every trip, including seams, hatches, spray skirt, rudder and hull.
4. **Spray Skirt and Safety Sock.** All Feathercraft kayaks come equipped with a spray skirt and safety sock (except the Klondike, where the socks are optional, and the Air Line Sit-on-Top models). These are important safety items, but you must be fully familiar with their use before an emergency arises.

5. **Personal Flotation Device and Helmet.** The wearing of an approved PFD is highly recommended for all kayakers, even those who are strong swimmers. A helmet should be worn for whitewater or surf zone paddling.
6. **Safety Equipment.** The safety equipment you will carry in and on your kayak will vary with the nature and length of the trip. Kayak trips of any duration however, require a pump, spare paddle, bouyant heaving line, flares and whistle as essential items. Safety equipment will only be of use to you if you have the knowledge and training to use the equipment in an emergency.
7. **Self-Rescue and Group Rescue.** The nature of kayaking is such that some day you or a member of your group will capsize. This experience can vary from a refreshing dip in the ocean to a life-threatening emergency. How you handle a capsize will depend entirely on your training and experience.

The kayaking community is blessed with a wealth of material, including books, manuals, magazines, articles and videos, and resources including schools, clubs, associations and training centres dedicated to kayaking safety. As with any skill, kayaking safety must first be learned and then practiced. We at Feathercraft strongly recommend that you access resources for kayak safety in your community before venturing out onto the water.

For more information on kayaking safety, please contact your local kayak dealer, or your kayak or canoe association. These websites will get you started.

University of Sea Kayaking  
→ [www.useakayak.org](http://www.useakayak.org)

Trade Association of Paddlesports  
→ [www.gopaddle.org](http://www.gopaddle.org)

Sea Kayaker Magazine  
→ [www.seakayakermag.com](http://www.seakayakermag.com)

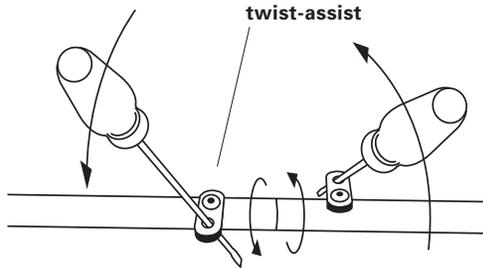
# Care and Maintenance

Avoid mildew damage — do not store the skin wet.

When the kayak is taken apart for storage, thoroughly clean all frame tubes with fresh water. Re-apply Bo-Shield T-9 to all frame parts, making sure to well lubricate the telescoping sections and the spring buttons. This should be done at least once a month, possibly more, depending on the salt concentration in the water you are paddling.

## A Note on Disassembly

*Always lubricate framework.* However, after extended use in surf and sand, the frame parts may be difficult to disengage. As shown in the illustration below, open the “twist-assist” on the aluminum tubing, and insert screw drivers to twist the tubes apart. The keel hinge pin can also be substituted for one of the twisting tools.



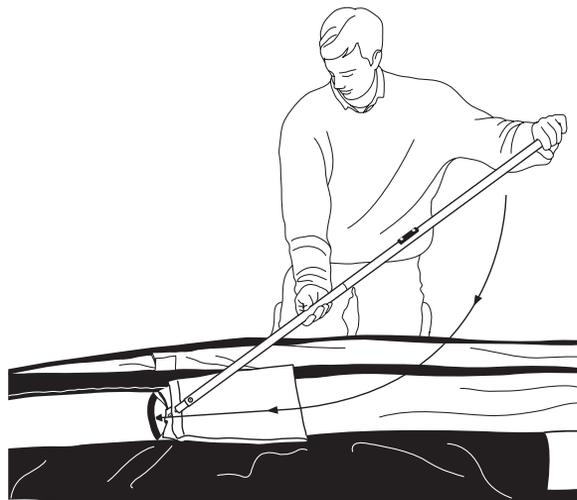
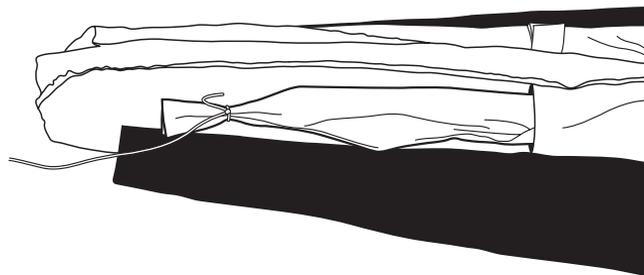
# Repairing or Replacing Air Tubes

Aqua Seal is used to repair holes or punctures of either the air tubes or the hull. Follow the preparation instructions as outlined on the Aqua Seal containers. Use the popsicle stick to mix and apply the Aqua Seal. Secure the patched area with duct tape. Applying weight to a patched area is also helpful (i.e. bag of sand). To make a quick repair with duct tape, first swab the area with rubbing alcohol or Cotel 240 Accelerator.

To replace the chine or gunwale sponson, tie a long string to the stern end of the sponson. Pull the sponson through from the bow end to the velcro opening at the stern. Pull the rest of the sponson out. At the bow end velcro opening reach in and push the inflation hose through the small hole in the deck.

You will need a tool to push the ends of the sponson in: Connect the *vertical* lever bar with the *horizontal* lever bar. Push the SS pin extending from the bar into the hole at the end of the sponson. Feed the sponson into the bow end chamber. Repeat with stern end. (see diagram page 4)

When re-inserting the air tube, check that the air tube does not get twisted in the chamber. If you should need to replace an air tube, be sure to request by the color on the nozzle (Yellow, Red, Green, Blue, or 'no color').



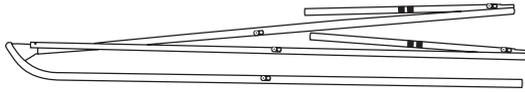
# Jet Stream Assembly Instructions

## 1. Frame parts

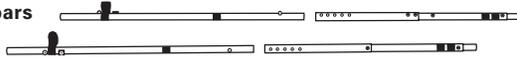
Using rubber gloves, liberally lubricate frame inserts with Bo-Shield T-9.

### Stern Section

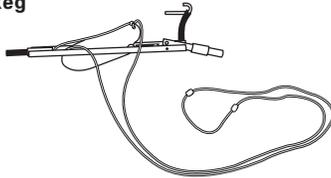
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gunwale  
extension bars



keel hinge  
with drop skeg

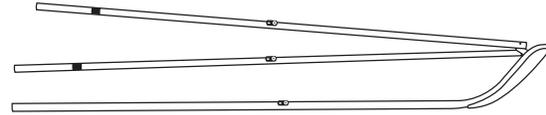


keel hinge  
extension bar



### Bow Section

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horizontal lever  
bar / keel



gunwale bars  
with track



vertical lever  
bar / keel



## 2. Roll out skin and insert frame halves

Insert frame section stamped "B" into the bow of the skin.

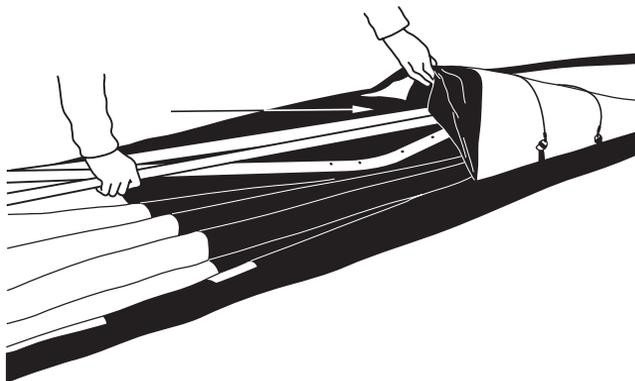
(bow end of skin has logo)

Insert frame section stamped "S" into the stern of the skin.

(stern end of skin has rudder attachment)

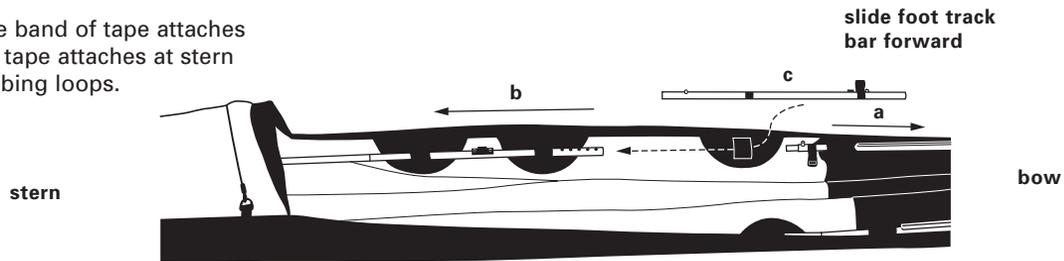
Center the keel end pieces.

*Ensure the deck air bladders do not get trapped in or under the frame work.*



### 3. Install gunwale bars

Follow the color coding – Single band of tape attaches at bow section. Double band of tape attaches at stern section. Bars slide through webbing loops.

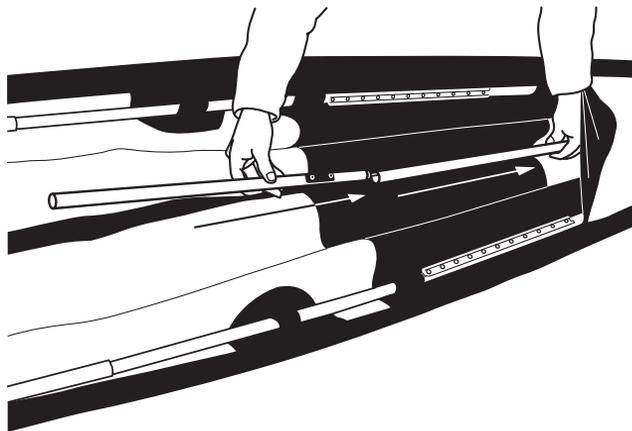


### 4. Extend gunwale bars

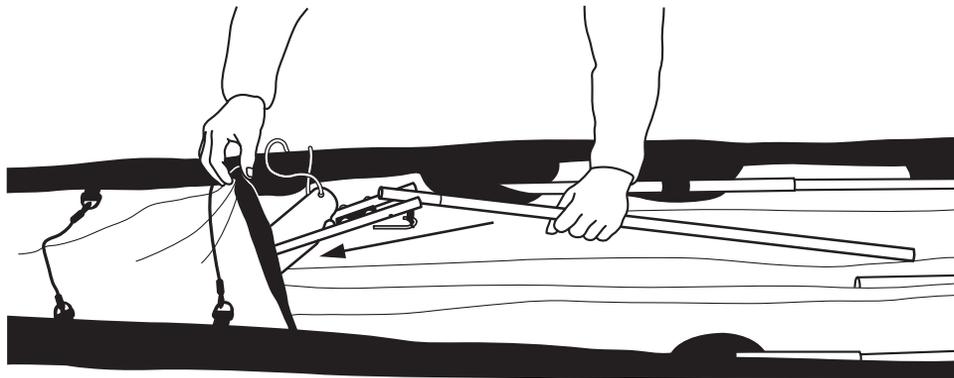
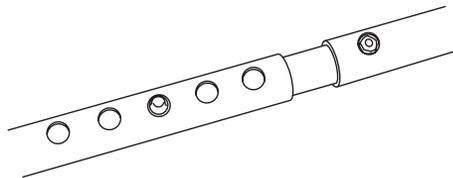
Use the vertical and horizontal lever bars to extend the gunwale bars to the third hole. Ensure the bow and stern frame ends are centered in the hull.



5. Install lever bars to bow keel frame section

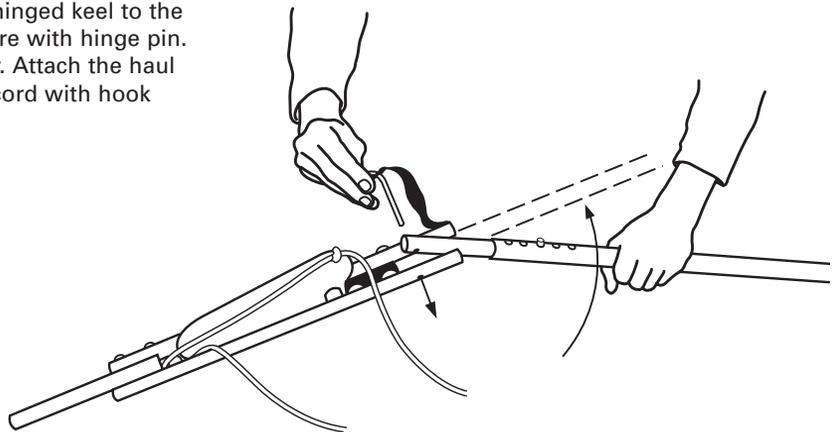


- 6. Install keel extension to hinged drop skeg**  
Set spring button to same hole position  
as the gunwales.



## 7. Complete keel

Lifting the keel section up, attach the hinged keel to the keel/lever bars. Push keel down. Secure with hinge pin. Attach velcro closures around keel bar. Attach the haul cord for the drop skeg to the bungee cord with hook tied to webbing.



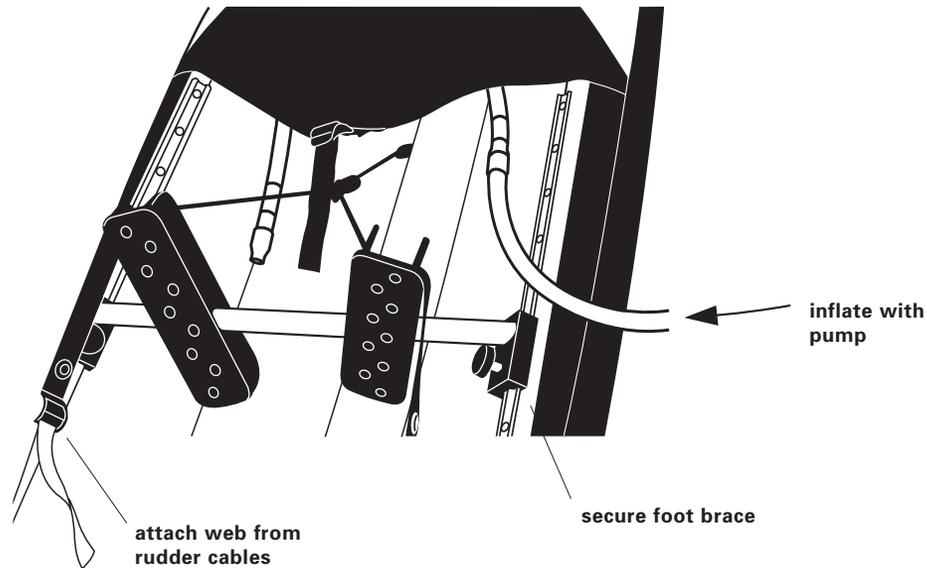
## Rocker

Rocker is the curvature of the keel. For normal paddling some rocker is desired, especially at the stern end. The kayak will tend to rise over the waves better with rocker. On the other hand, speed on flat water may be increased with slightly less rocker. Too little, or negative rocker will cause the bow to plow.

To increase rocker *extend* the *keel* extension bar out another hole (there are 5 possible positions) and/or *decrease* the *gunwale* extension bars by one hole.

### 8a. Install foot brace

Slide onto foot track from bow end.



### 8b. Inflate

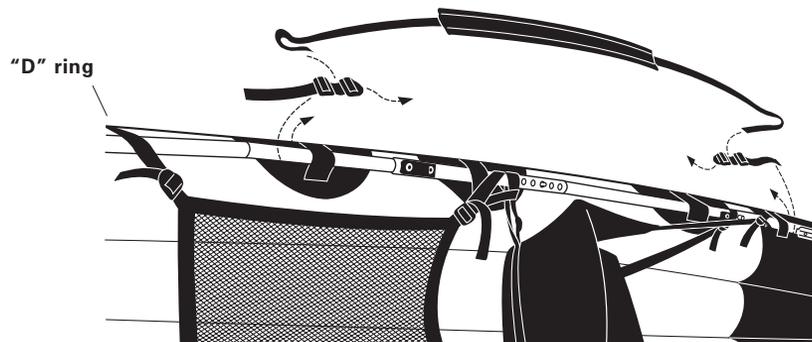
*Before Inflating make sure the small webbing straps for bow and stern cargo compartments are not trapped under frame work. Loosely attach to buckle on cargo compartment.*

Sequence for inflating:

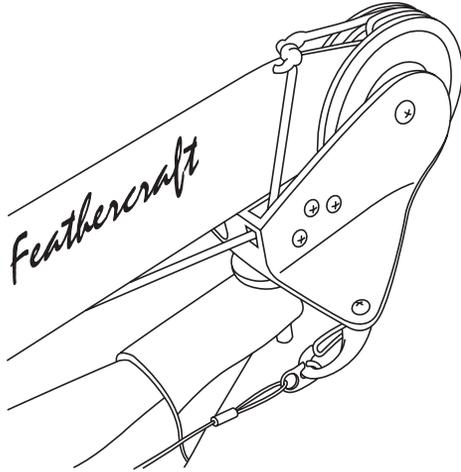
- Partially inflate bow and stern deck bags.
- Inflate chine air tubes (blue and yellow)
- Inflate gunwale air tubes (red and green)
- Complete by inflating deck bags. Ensure bow deck is evenly inflated to create a good curve.

**9. Install seat, deck mesh and thigh straps**

Center seat in "well". Webbing at back of seat wraps under gunwale tube, then attaches to buckles. Cinch tightly. Front seat straps attach to buckles with grey webbing.



**front seat straps connect to grey web**



**10. Install rudder**

Insert the rudder pin through the "key hole".  
Rotate rudder 180°.

Attach rudder cable to clip. White haulcord is  
attached to plastic hook beside seat.

**Use of rudder and skeg**

We recommend the following:

Light to moderate winds  
Heavy following winds or surf  
Turning into heavy winds or surf

*rudder only*  
*rudder and skeg*  
*no rudder*

# Frequently Asked Questions

The following are general “Frequently Asked Questions” about Feathercraft kayaks.

## **What is the Warranty ?**

All Feathercraft Kayaks come with a five year warranty on all parts and workmanship. Our service and support will continue well after that, as your Feathercraft Kayak is expected to last 10 to 15 years.

The best advertising available is a happy kayaker paddling their Feathercraft!

## **Materials and Construction**

### **The Hull**

For years we used hypalon. This was the best product available. Hypalon is a rubber and neoprene laminate that is extremely rugged and durable. To make a hull of hypalon fabric various glues and chemical compounds are required to bond the sections together. It is a toxic, incredibly labour intensive job. Huge developments have been made in the fabric industry in recent years. And now other fabric options have become available.

All fabric hull material begins with a cloth weave of either polyester or nylon. Then the fabric is coated with either polyvinyl chloride (PVC vinyl), urethane or hypalon. The best cloth weave is made of high-tenacity fibers woven in a tight, balanced weave (i.e. a similar number of threads going both lengthwise and across the fabric).

Urethane is harder than hypalon rubber and much harder than PVC, hence having higher abrasion resistance. Urethane coated fabrics have typically been used as heavy duty truck and equipment tarps and on inflatable rafts. We found that these masses produced, single coated fabrics are too stiff to stretch over our sleek frame works. We had to work with our supplier to develop the combination of strength and suppleness that we require. The base fabric is made from high tenacity nylon fibers, an 840 denier balanced weave. The fabric is scorched (heated) and dyed. To ensure high adhesion of the coating to the fabric, a solution coat of thin urethane is impregnated into the fibers. This is followed by successive applications of urethane coats. The outer coats are harder than the inner coats. The fabric is extremely tough, yet supple. The advantages are obvious: high abrasion resistance, high UV resistance, resistant to fading, supple, light weight, weldable. The disadvantage is that this fabric, which is made in small quantities for Feathercraft, is considerably more expensive than hypalon.

### **Different Hull Fabrics are Used by Different Manufacturers.**

**a) PVC** This material may seem quite robust because of its cloth support. However, PVC (vinyl) is soft and abrades relatively easily. It has very poor UV resistance, and after a few years becomes quite brittle. Its main advantage is that it is inexpensive (about one quarter the cost of hypalon and Duratek). PVC can also be welded.

**b) Urethane:** This is a very hard and abrasion-resistant material. It is also considerably lighter than hypalon, and is more resistant to many toxic chemicals. Previously, we could not use urethane as a hull fabric because it was incredibly difficult to bond using traditional glueing methods. But we knew it could be welded, and that this was the direction we wanted to go. A special fabric was developed for us to use as a hull fabric. New equipment has also become available allowing us to create the complicated shapes and curves of our hulls.

**c) Hypalon:** This has traditionally been the standard for expedition-style skin kayaks. Hypalon is basically neoprene (a synthetic rubber) with additives patented and supplied by DuPont. These increase UV resistance and allow the material to be dyed. The best hypalon is still made in Europe. The type we used for years, came from France. We changed our hull fabric for two reasons: one, to get away from the toxic chemicals required to fabricate the hulls; and two, for our sit-in models, we wanted to weld a skin that would be completely sealed, water-tight and dry. Hypalon can not be welded.

### **How tough is the hull?**

The hull is extremely durable. With some care, you should get 10 to 15 years of use. You should treat the craft with the same respect and care that you would a fiberglass hull. Try to avoid dragging it over rocks, or crashing it onto coral or barnacles. But don't worry, if it is unavoidable, it can take the abuse. (We just don't recommend it all the time.) The interesting thing with a skin hull, if you meet up with a solid object like a rock or chunk of coral, the fabric "gives", so the impact is not as intense. A fibreglass hull would just "crunch".

### **Can I repair the hull?**

Patching the hull is similar to patching a bicycle tire. Aqua Seal can be used to fill small cosmetic nicks. To make a quick fix with duct tape, or one of the "Quick Patches", first clean the area with rubbing alcohol or Cotel. Patching instructions are detailed on the adhesive in the repair kit.

### **The Deck**

The deck fabric is polyester with a light coating of urethane on the underside. Allow the skin to dry completely before rolling up for storage.

### **The Frame**

The frame is made from 6061-T6, and 6063-T832 anodized magnesium/aluminum alloy, and is the strongest, yet lightest in weight. This same alloy is used extensively in the aircraft industry. We have had surprisingly few repairs, considering

the number of boats that we have sold. Tour operators tell us that they have far fewer repairs than with wood-frame kayaks. One of the many beauties of a folding kayak is that should a piece break or get lost, that single piece can be repaired or replaced.

The alloys that we use are very corrosion-resistant, and are used extensively in the marine industry. The clear anodized coating protects the aluminum from pitting. However, regular maintenance and lubrication are required to ensure that the sliding frame members do not seize together.

#### **Framework Care & Maintenance:**

1. Disassemble your kayak every two months.
2. Rinse the frame thoroughly with fresh water to wash off the sea salt and make assembling the frame much easier.
3. Lubricate joints, tubes, extension bars, and spring buttons with Bo-Shield T-9.
4. Let the skin dry completely on the frame before storing the kayak in its pack.

#### **Repairs**

A Standard Repair Kit is included with each kayak and contains:

1. written assembly instructions
2. Aqua Seal repair adhesive and Cotal accelerator
3. 1 oz dropper bottle of Bo-Shield T-9
4. sandpaper
5. 2 Quick Patches
6. patch fabric for deck, hull, sponsons, pack-bag

#### **Preparation for glueing a patch to the Urethane hull :**

1. Round the corners of your patch.
2. Ensure area is clean and dry.
3. Roughen smooth surfaces. Swab the area with Cotal.
4. For a two hour cure time, combine one part Cotal to three parts Aqua Seal.

5. As the adhesive itself is slippery, secure patched area with duct tape, and/or apply weight to the patch (ie, bag of sand). To apply a patch to the deck, ensure the fabric is clean and dry.

### **Sponsons**

Sponsons are the air tubes that create your kayak. They are made from urethane and the seams are welded. Urethane is an extremely tough, yet light material. Each air tube is in a separate chamber.

#### **Pre-caution:**

If the kayak is not being paddled, but is in the sun during the heat of the day, release the air from the sponsons. Air in the sponsons will expand, and could potentially rupture the sponson.

The sponson can be repaired using the same technique and repair adhesive as the hull. To remove the sponson, turn the ends of the kayak skin inside out. The sponson chamber is accessible at either end. At the bow end of the sponson, there is a tab with a hole punched. Attach a long piece of string or rope to the end of the sponson. Disengage the air hose from the opposite end, and pull the sponson through the chamber. Once the repair has been made, pull the sponson back through the chamber with your rope. Be sure the sponson lies flat and does not get twisted.

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