

CLEANING AND REPAIR OF VALVES

MILITARY VALVES The insert of the military valve can be removed, cleaned and replaced if necessary. This insert is held in place by small screws. Use care not to over tighten the screws when reinstalling the insert into the valve boot. Should your valve boot need replacing, you can do one of two things: a) Replace the valve boot or b) Use this opportunity to replace your old military valve with a new C-7 valve (*see below). Once again, the use of 303 Protectant helps maintain the rubber seal of the valve.

C-7 VALVE & A-6 PRESSURE RELIEF VALVE

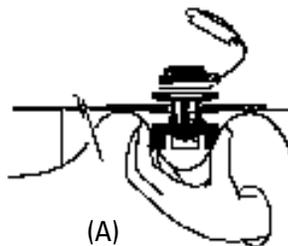
Quickly becoming the standard in the industry, these two valves are used in all Avons (2000 & later). They are a surface mounted valve (no boot) and have a very low profile. They operate much like the old A-7 but when the insert needs replacing you simply unscrew the valve with a C-7 wrench and screw in a new core which has the insert built into it. The same applies to the A-6 PRV valve that is used in floors.

REPLACING A "BOOT VALVE" WITH A C-7

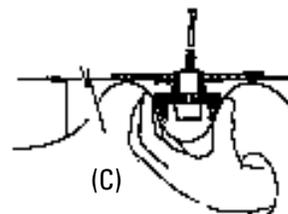
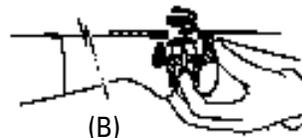
Utilizing the same techniques to remove D-Rings and other accessories, remove the valve boot. Now, cut a circle of Avon material 1 1/2" larger in diameter than the hole in your thwart or tube. In the center of this material cut a hole no smaller than 1 1/8" and no larger than 1 1/4" – this creates a Hypalon "donut". VERY IMPORTANT – Install the C-7 Valve to the donut before gluing the donut to boat. Prep and glue the donut to the boat.

A-7 & B-7 VALVES This is a very dependable valve and almost never needs replacing. Again, the use of 303 Protectant in the valve will prevent build up of salt and sand deposits on the rubber seat. If leakage cannot be stopped, the valve will require a new insert. Inserts may be replaced without the removal of the whole valve. To remove an A-7 or B-7 insert:

A. With the boat deflated, grasp the inside part of the valve body with your hand. Using channel locks, grab onto the outside part of the valve and unscrew the valve.



B. Now you need to manipulate and rotate the part of the valve body that is inside the boat so you can see the black diaphragm through the hole in the boat. Push the insert with your finger so the diaphragm is sticking up. Now unscrew the diaphragm from the white stem while keeping back pressure on the stem. (it may break but you are putting a new one in anyway)



C. Now you need to rotate the valve body one more time while holding the stem so you can remove the stem and spring. Install the new insert by using the above method in reverse. Once the new insert is installed screw the valve back together tightly.



Repairing Hypalon Boats

The first and foremost thing to remember when repairing a boat is that proper preparation is the key to an effective repair. The use of proper adhesives is also a critical element to any repair. Whether done in the field or in your shop, take your time to make sure the job is done right.

Repair material should overlap the repair by no less than 1" and no more than 2". The air holding seams on Avon Riverboats are glued together with a 1 1/2" overlap, so if a repair is made overlapping the damaged area by 1 1/2", the repair will be just as strong as the factory seams that hold the boat together.

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PREPARATION FOR REPAIRS ON SMALL CUTS, PERFORATIONS AND LARGE TEARS

Make sure surfaces to be joined are clean and dry. Repairs should be made in the shade when possible. Hot temperatures and direct sunlight will cause the glue to set faster. Humidity and cold will cause the glue to set more slowly.

1. Cut a suitable size patch, overlapping the damaged area by 1 1/2". Round the edges of the patch.
2. Place patch over the cut or puncture and outline with a ball point pen or grease pencil, making sure all edges of the patch are at least 1" from the hole. Avoid overlapping a seam, as a patch over a seam is more likely to leak.
3. Using coarse sand paper, buff the area including the pen marking and the bottom side of the patch. Be careful not to buff outside the area to be patched. Care must be taken not to remove so much Hypalon that the polyester core is exposed. All traces of old glue and dust must be removed with Toluol. The surfaces should have a matte appearance and be clean and dry. Buffing is best done on a flat surface.
4. With a clean, lint free rag, clean both the patch and the area to be patched thoroughly, two to three times, with Toluol. *Do not use an oil based solvent such as paint thinner.

POLYURETHANE REPAIRS When repairing the polyurethane chafe or bottoms on newer Avons, the same procedure and glue are used as Hypalon with one exception: Prep the polyurethane with MEK instead of Toluol. The Hypalon will still need Toluol.

MIXING INSTRUCTIONS FOR BOSTIK TWO-PART ADHESIVE

First and foremost please remember that Bostik is nasty stuff. Always work in a well ventilated area and protect yourself with nitrile gloves and an organic chemical respirator. *Latex gloves will allow the Toluol to absorb through the glove and into your bloodstream – use nitrile gloves.

Prepare adhesive (remember only to prepare what you can use in approximately ninety minutes). Use approx. 10 drops Bostikure accelerator per ounce of Bostik glue
1 oz. of glue - mix with 10 drops Bostikure accelerator
2 oz. of glue - mix with 20 drops.
For one 1/4 liter can of Bostik use one entire bottle of Bostikure accelerator.
Mix glue and accelerator well before applying. Remember that this is a rough measurement. Bostikure is an accelerator - the more you use the faster the glue will set up. Bostik will work without the accelerator but it will take a long time to set up. If you use too much accelerator the glue will become brittle.
CAUTION: Always clean the rim of the glue can to allow lid to seal tightly and keep the neck of the Bostikure bottle wiped clean to avoid cap from adhering to bottle.

APPLYING ADHESIVE

1. Take a 1" paint brush and cut off the bottom half of the bristles. This works well for spreading glue.
2. Apply a thin coat of adhesive to boat and patch. Let dry until it is no longer tacky to the touch - about 7 to 10 min.

3. Apply a second coat to both boat and patch. Wait about five minutes or until glue is still tacky to the touch. Press the patch onto the boat starting from the center and working towards the edge. The edge of the patch cannot extend beyond the buffed and glued area – This will cause the edge to eventually lift.

4. Press the entire patch very hard (working from the center out) with a blunt round tool or roller. A putty knife with rounded edges works well for this.

5. Clean excess glue from around the patch with Toluol and a rag or a nylon rotary brush attachment on a drill. Let the patch cure at least four hours, but preferably 12 to 24 hours.

REPAIRS OF CUTS THAT ARE CLOSE TO D-RINGS, RUB STRAKE OR ACCESSORIES

1. When at all possible, do not apply a patch that overlaps rub strake, floor seams, D-Rings etc. Air will leak around the overlapped seams.

2. Removing an accessory is required if it is within 1" of the hole. To remove a glued-on item or open a seam, use a non-contact heat source (such as a hair dryer or heat gun). Apply heat and slowly work a corner loose with a spatula or rounded putty knife. Great care must be taken not to tear away the Hypalon coating from the polyester fabric. Heat and careful working with the putty knife will enable you to remove any patch or open any seam without damaging the material. Remember: Take your time.

3. Apply the repair patch over the hole as described previously. Then reapply the rub strake, D-Ring, etc. that was peeled up in a similar fashion.