

CLEANING AND REPAIR OF VALVES

1. IRL A-4 (VOLCANO) VALVE Through the years Avon has used several types of inflation valves. The black rubber IRL A-4 (volcano valves) were used for many years on dinghies and sportboats. Small air leakage from around the rubber diaphragm can sometimes be stopped by spraying with a strong detergent or cleaning with fresh water and using a small "L" shaped tool remove corrosion from the backside of the metal valve seat. The use of 303 Protectant is recommended to prevent the build up of salt on the metal seat and to keep the rubber diaphragm soft and pliable. A cap & prong assembly originally came with this type of valve. It prevents leakage, and has a prong attachment that enables easier deflation of the raft when it is inserted into the valve.

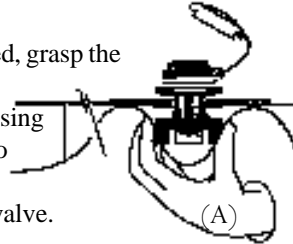
2. ITT RECESSED VALVES "MILITARY VALVES" This valve is used on most Hysides and some older Avon riverboats. The insert of the military valve can be removed, cleaned and replaced if necessary. This insert is held in place by small screws. Use care not to over tighten the screws when reinstalling the insert. Once again use of 303 Protectant helps maintain the rubber seal of the valve.

3. HALKEY ROBERTS VALVES This valve is similar to the A-7, but requires a special tool to remove the outer section from the inner section. The tool is inserted into the slotted edge of the valve and rotated until the outer edge is free. The valve insert can then be cleaned, or if necessary replaced.

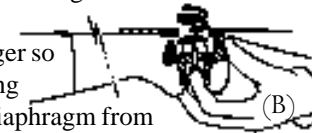
4. C-7 VALVE & A-6 PRESSURE RELIEF VALVE Quickly becoming the standard in the industry these two valves are used in all Avons (2000 & later). They are a surface mounted valve (no boot) and have a very low profile. They operate much like the old A-7 but when the insert needs replacing you simply unscrew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

5. A-7 & B-7 VALVES This valve was introduced by Avon in 1978 on all dinghies, sportboats, and some river boats. 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:**

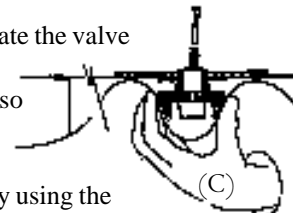
A. With the boat deflated, grasp the inside part of the valve body with your hand. Using channel locks, grab onto the outside part of the valve and unscrew the valve.



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.

6. HALKEY-ROBERTS PRESSURE RELIEF VALVES The Avon and Hyside inflatable floors feature pressure relief valves to prevent over inflation and damage. These valves need to be kept clean in order to function properly. These valves can be repaired by unscrewing the inserts and replacing with a new one. We recommend replacing these valves every two years as a precaution.



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 the proper adhesive 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.

The air holding seams of Avons and Hysides are glued together with a 1" to 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 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.

1. Cut a suitable size patch, overlapping the damaged area by no less than 1" - 1 1/2".

Round the edges of the patch.

2. Place patch over puncture and outline with a ball point pen or grease pencil, making sure all edges of the patch are at least 1" - 1 1/2" 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 one 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 nylon core is exposed. All traces of old glue and dust must be removed with solvent. The surface should have a matte appearance with a fine grain texture, and be clean and dry. Buffing is best done on a flat surface.

4. Clean the area thoroughly with Toluene or other solvent such as acetone. **Do not use an oil based solvent such as paint thinner.**

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 gloves and a chemical respirator.

Prepare adhesive (remember only to prepare what you can use in approximately ninety minutes).

Use approx. 10 drops Bostikure catalyst per ounce of Bostik glue

-1 oz. of glue- mix with 10 drops Bostikure catalyst

-2 oz. of glue- mix with 20 drops.

-For one 1/4 liter can of Bostik use one entire bottle of Bostikure Catalyst.

Mix glue and catalyst well before applying.

Remember that this is a rough measurement.

The catalyst acts as an accelerator- the more you use the faster the glue will set up. Bostik will work without the catalyst but it will take a long time to set up. If you use too much catalyst the glue will become brittle.

CAUTION: Always clean rim of glue can to allow lid to seal tightly. Be sure to keep neck of catalyst bottle wiped clean to avoid cap from gluing 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. You want the adhesive to dry until it is no longer tacky to the touch- about 7-10 min.

3. Apply a second coat to both boat and patch. Wait about five minutes, 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 must meet the a buffed and glued area, otherwise the edge will 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 a toluene rag or use a nylon rotary brush attachment on a drill and let the patch cure at least four hours, but preferably 12-24 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 stick 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 nylon fabric. Heat and careful working with the putty knife will enable you to remove any patch, or open any seam without damaging the material.

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.