

## HOW TO ...

### Replace an inflatable boat valve

If you are unable to fit a like-for-like replacement inflation valve e.g. because your valve is no longer available, then the next most cost-effective approach is to replace your valve (most makes of valves can be replaced using this approach) with a modern Leaffield C7 or D7 inflation valve combined with a fabric valve aperture reinforcing patch (a 'valve doubler') that is the same colour as your tube fabric.

Before you start the job, you will need to establish the inflatable tube fabric that your boat is made from. The type of tube fabric determines the type of adhesive, solvent and the valve doubler patch that is required to undertake the job. If you are unsure as to which fabric your tubes are made from, then visit <https://www.ribstore.co.uk/advice/advice-and-information> to help identify the fabric and to obtain the correct materials for the job. A low-cost complete valve replacement kit can be obtained from the RIBstore shop. The kit includes everything you need to replace your valve, i.e. 2-part adhesive, solvent primer/cleaner, latex gloves, sandpaper, application brush and comprehensive instructions.

Next, you will need to ensure that the environment in which you undertake the work is suitable; successful repairs of inflatable boat tubes, using contact adhesives, are dependent upon the environment in which the repair is carried out. Ideal conditions are: relative humidity less than 60% (low cost humidity meters can be obtained from most good DIY stores), temperature between 18°C and 25°C, a dry and shaded work area with good ventilation and no naked flames or other heat sources (the solvents/adhesive vapours are highly flammable). Once this is achieved, you can get to work on replacing the valve:

Additional tools required for the job:

- Good quality/robust craft knife
  - Smooth rounded object e.g. a plastic handled screwdriver or seam roller (available from RIBstore)
1. Deflate the tube.
  2. Remove the existing valve; in most cases you will need to carefully cut the fabric around the outer edge of the existing valve body using a sharp craft knife and remove the complete valve assembly from the tube. If a valve doubler has previously been used then you may be able to gently heat the valve doubler patch with a hot air gun in order to soften the adhesive and peel away the patch to remove the valve from the tube.
  3. Fit the new valve to the new valve doubler by unscrewing the valve body assembly and re-assembling with the valve doubler sandwiching the valve doubler.
  4. Lay the assembled valve and valve doubler over the newly created cut-out of the tube, ensuring the doubler is centred over the cut-out. Mark with a pencil/removable marker around the valve doubler, allowing an additional 5mm overlap around the cut-out.
  5. Mask the outside of the marked area around the cut-out with removable masking tape to prevent unsightly adhesive 'overspill' when applying adhesive.
  6. For Hypalon and PU abrade the back of the doubler and the marked area around the cut-out with abrasive paper to achieve a 'key' for the adhesive. Do not over-abrade as this could damage the fabric. PVC fabric does not need to be abraded.
  7. Clean/prime the back of the patch and the marked area using a clean dry cloth. Wipe with the correct solvent for the fabric of your tube i.e. Hypalon solvent (for Hypalon) or MEK solvent or acetone (for PVC/PU fabrics). Wait until the solvent has evaporated. (N.B. with PVC fabrics, it is normal for the area to become 'tacky' when MEK/acetone solvent is applied).
  8. Using an appropriate 2-part adhesive for the fabric, mix the adhesive as per the instructions supplied with the adhesive (read the following steps before mixing the 2-part adhesive as 2-part adhesives generally have short curing times).

9. Using a brush applicator, apply an even, thin coat of adhesive to both the back of the patch and the masked area, leave to dry for at least 20 minutes. Apply a second coat leaving each coat to dry for 2 minutes or until tacky. Apply the assembled doubler and valve patch carefully to cut-out (N.B. as adhesives are 'contact' adhesives then it is important to position the doubler patch correctly as it will not be possible to re-position once in place). Smooth down the doubler fabric area around the valve using a seam roller or rounded object (e.g. wallpaper seam roller or screwdriver handle), working from the valve outwards to the edge of the doubler in order to remove any air bubbles.
10. Remove the masking tape and clean-off any excess adhesive with Hypalon Solvent Cleaner (for Hypalon) or MEK/acetone solvent (for PVC/PU fabrics).
11. Place some heavy weight on the fabric surrounding the valve and allow to 'cure' for 24 hours before re-inflating the tubes and/or re-launching the boat.