FatSparrowRacing

Making the Hull Watertight

The instruction manual describes the DF65 as a 'dry' boat, but this has not always been my experience. If your boat takes on water, there are only a few of places to look for leaks and the fix is usually simple.

The DF95 hull seems to be tighter, but a number of people have noted water entering the keel trunk.

Finding leaks in deck-eyes

If your boat leaks, the deck-eyes are likely culprits. The most reliable way to determine if deck-eyes leak is to step through the following procedure:

1. Remove the servo tray and electronics.
2. Place a patch over the small hatch next to the mast.
3. Stand the boat on it's nose in the bath and fill the hull with water up to the front edge of the main hatch.

You will quickly see if any of the deck-eyes are leaking. Empty the boat of water and wipe down the inside with a paper towel. Replace the servo tray, but leave the deck patches off until the inside of the boat has had a chance to completely dry.

Repairing deck-eye leaks

Unscrew the deck-eyes and clean out the dimple to remove any salt or dirt deposits.

Bridle deck-eyes (9 and 10) are screwed into a plastic insert and water can leak through the joint between the insert and the hull. It's difficult to make a tidy job of filling this joint with epoxy or CA glue. My solution has been to carefully excavate the top of the insert with a 6mm drill bit to form a small recess.

To save dribbling epoxy onto the boat, you may want to mask off the foredeck around each dimple before proceeding.

Mix up a small batch of standard epoxy (not fast-cure). Remove each deck-eye and place a drop of epoxy into the dimple covering the hole. Screw the deck-eye back in place ensuring the correct orientation and leave the boat sitting in the stand while the epoxy cures.

Don't tip the boat on its side, because the epoxy will dribble over the deck.

A quick fix is to apply a drop or two of thin CA glue into dimple around the base of the deck-eye. However the CA will crystallise over time and does not seem as resilient as expoxy.

Waterproofing a leaky keel trunk

There are a couple of good YouTube videos from Chuck LeMahieu of Dragon Sailing North America, showing how to seal the keel trunk in each hull.

DF65 keel trunk video

DF95 keel trunk video

Cracks in the hull

It has not been uncommon for both DF65 and DF95 hulls to develop cracks in the hull around the keel box – the first indication often being to find water getting into a previously dry boat. The percentage of boats that develop cracks is getting smaller as manufacturing processes mature. The best current advice seems to be that if this happens on a new hull, contact the supplier.

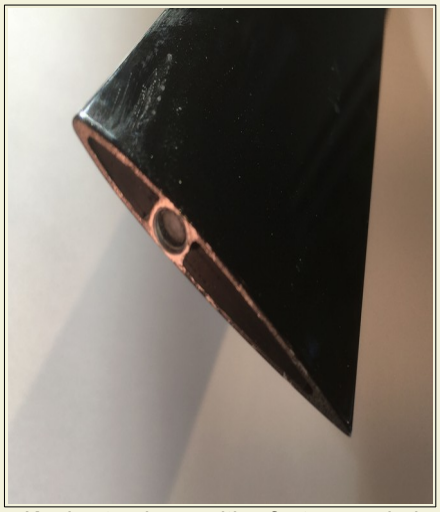
There are YouTube videos showing methods for strengthening the interior of hulls in the area of the keel box. For some owners, these are helpful solutions and class-legal, but inevitably add weight.

A short term non-class-legal solution while waiting for a replacement hull to arrive is to apply an adhesive vinyl patch to the hull. Shape the patch so that it overlaps the base of the keel box by 12-15mm – semicircular at each end and parallel along the sides. A simple solution that will keep you racing for a few weeks.

DF65 keel and bulb assembly

You need to avoid water getting into the hollow sections of the keel. This is particularly important if you sail the boat in salt, or brackish water as any salt content will accelerate corrosion of the metal, particularly at the join between the keel and the bulb. Water in the keel will drip out over time leaving a puddle on the dining table and straining domestic relationships. To avoid water finding its way into these cavities, they should to be sealed off before assembly.

Check the two keel extrusion cavities have been sealed at both ends. This will have been done at the factory on later version hulls.



Keel extrusion cavities factory sealed

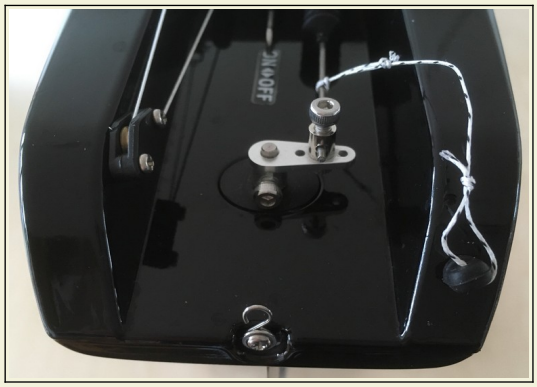
Before sliding the keel into the bulb, apply a generous bead of sealant to the base of the recess and a thin bead to the area under the head of the keel bolt. Use the longer of the two supplied bolts to tighten the keel down onto the sealant. Don't over-tighten or you run the risk of stripping the thread in the aluminum keel. Wipe away any excess sealant with a cloth and the recommended thinner (methylated spirits works for silicone).

You can place a patch over the bolt hole in the bottom of the bulb to reduce drag. Cut a circular patch about 20mm diameter from a piece of adhesive tape or deck patch material and place it over the hole. Find a coin about the right diameter and use it as a stencil to cut around it with a sharp blade.

Adhesive vinyl patch over the bolt hole

The Bung

The rubber bung is a pesky little thing that constantly goes walk-about. The solution is to tie it on. Use a needle to thread some dyneema through the bung and permanently attach it to the steering push-rod. Having the bung waving about in an obvious sort of way as you take the boat to the water is a great reminder to put it in the hole.



Tie on the bung

Do not tie the bung to the end of the power switch push-rod. If boats collide (it does happen) and the other boat gets entangled in your bung tether, you may find your boat gets powered down far from the shore.

Deck Patches

A common source of leaks are poorly applied deck patches (or forgetting to put one on before you launch).

Both boats come with a clear plastic hatch cover. This is optional on DF65s, but DF95 class rules require the clear plastic hatch cover to be used when racing. The main benefit of the cover is to support the centre of the patch and stop it flexing, which in turn makes the seam around the edge of the patch more secure.

My preference is a single piece patch similar to the ones delivered with a new boat. This eliminates the multiple edges associated with tape where leaks can occur.

The deck patches that come with the boat are great, but wont last forever. Find a good supply of adhesive vinyl rolls and cut some of your own. Make a template you can cut around with a sharp blade so that a supply of patches can be replenished in minutes. The same template can be used to make patches for both hulls.

Whatever you use for patches will eventually leave a gum residue on the deck reducing the water-tightness of the edge seal and making the boat look uncared for. Remove the residue using turps, but clean off any turps residue or the patch may not stay down.

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