

2004
SAILSETC
PRODUCT INFORMATION
370a, 370c, 370lx

Fin - 370a suitable for Marblehead & Ten Rater
Fin - 370c suitable for One Metre
370lx leading edge fillet
also useful for other classes

GENERAL

- Fins can be supplied in two formats – ready to rub down (370a,370c) – edges fully finished (370b,370d).
- These notes tell you how to progress from 'ready to rub down' stage to the 'edges fully finished stage'.
- Make the job substantially easier by fixing abrasive paper to blocks of plastic or timber with flat surfaces. This prevents distortion of the abrading surface and improves accuracy. Use double sided tape or contact adhesive to fix the paper to the blocks.

CUTTING CARBON

- Always wear a mask when cutting and abrading carbon fibres.
- Working with abrasive paper wetted with water will speed the process but will make it harder to see what is happening.
- Clear up the work area carefully afterwards. It is often better to use a wet rag to mop up carbon dust than to use a vacuum cleaner or brush.

INSTRUCTIONS

- 1 Shape the leading edge as shown. Do this by first reducing the amount of flange width along the leading edge to around 0.5 - 1 mm. Then use 240 grade abrasive paper wrapped onto a block to finish shaping to profile. Note that the section shape is neither semi circular nor sharp. It is between the two extremes.
- 2 The thickness of the flange at the trailing edge of the fin is approximately 1 mm. The trailing edge should be 0.5 mm thick when finished. The slope of the trailing edge is approximately 1 in 11.
- 3 This means that the width of flange required is 11 times the difference = $11 \times (1.0 - 0.5) = 5.5 \text{ mm}$.
- 4 Reduce the width of flange to 6 mm along the trailing edge.
- 5 Apply 30 mm wide tape to the fin about 10 mm forward of the start of the flange and the trailing edge on both sides. This serves to protect the surface of the fin while the flange is being shaped.
- 6 Use 100 grade abrasive paper to abrade away the waste material. Replace any damaged protective tape. When you are approaching the final shape, remove the protective tape, and change to 240 grade paper. Carry out the final fairing.
- 7 Use the abrasive paper to achieve a sharp, square, trailing edge.

- 8 Make a mock up fin using thick card or 3 mm plywood. Carefully shape the top of the mock up so that it fits the fin box in your boat properly and achieves the correct fore and aft position and rake. Use this mock up to mark out the required shape onto your fin.
- 9 The fin has a complex shaped corrugated core. This keeps the shape of the fin and gives it its stiffness. It is placed each side of the fin's maximum thickness point. Try to keep intact as much of the core as possible to retain the stiffness and strength.
- 10 Pens do not mark the surface of the carbon well. Place self adhesive tape onto the fin where you will be cutting. The tape will take, and show, the marks left by the pen.
- 11 Cut the fin to profile using a sharp junior hacksaw blade. Abrade the cut surfaces and check that the fin fits the fin box as you require.
- 12 Abrade the internal surfaces of the exposed cavities of the fin and fill the edges with epoxy resin thickened with microballoons and silica. Apply enough filler to the edges to ensure it is 5-10 mm thick. Leave to cure.
- 13 Abrade the cut surfaces and make a final check that the fin fits the fin box as you require.
- 14 The fillet moulding can be added to the leading edge of the fin once the fin has been fitted to the hull.
- 15 Shape the top of the fillet so that it fits correctly against the hull surface.
- 16 Abrade the inside of the fillet where it will be bonded to the fin. Abrade also the part of the fin that the fillet will bond onto.
- 17 Wax (Simoniz is excellent, furniture waxes are OK) the inside of the fin box, the fin above the line where it penetrates the hull and the surface of the hull around the leading edge of the fin box. Fit the fin to the hull. Take care not to get wax on the area of the fin where the fillet will be bonded.
- 18 Mix a small amount of epoxy resin and thicken it with microballons and silica. Bond the fillet to the fin taking care to align the fillet with the fin/hull correctly. Do not rely on the moulded in shape of the fillet being perfectly aligned. The core part may have wandered off centre.

