

Freedom 21 Winter Cover Framework

Since I store my Freedom 21 in the open, high in the Northern Pennine hills in the UK I needed a simple framework to allow me to protect the boat with a tarpaulin during winter storage. I did not want to strip anything off the boat in order to fit the framework and needed a framework that could be fitted and removed quickly. Also since the boat is stored behind a barn with the stern facing the prevailing North Westerly winds it was necessary for me to devise a system that minimises the risk of gale force winds getting under the cover and tearing it?



The key elements are four frames that locate on the forward & aft stanchions and are lashed to the mast to keep them in place. Two spreader pieces are bolted to the frames to prevent the tarpaulin sagging & filling with water - a real risk when the pitch angle of the framework is so low. Finally two curved transom fairing panels are fitted to the stern to seal-off the back of the tarpaulin cover to prevent strong winds lifting the cover. The construction details of the frames, transom fairing panels and spreader pieces are shown in sketch.

The frames consist of two parts made up from scrap pieces of ply & softwood that you may have around the workshop. The upright ply pieces that form the vertical parts of the frame are lashed to the stanchions with rubber bungee cord. Note that the feet of these pieces are cut away so that they locate firmly on the deck and straddle the stanchion base. These upright pieces are connected to the sloping frames with cheap galvanised hinges. Do not try to get the frames to hinge neatly for summer storage – the geometry of the angles of the parts involved will not allow this.



The hinges are just an easy way of connecting the uprights with the sloping frame members. To sort out this complex angle thing I just set-up the uprights & placed the over-length sloping piece in place, clamped the hinges in place & marked the hinge positions. I then drilled the frame pieces, bolted the hinges in place and trimmed the outboard end of the sloping frames to length.

Yes the “skewed” hinge positions look a bit odd but it does work as long as you face the fact that you cannot fold these hinged frames neatly but have to un-bolt them for summer storage.



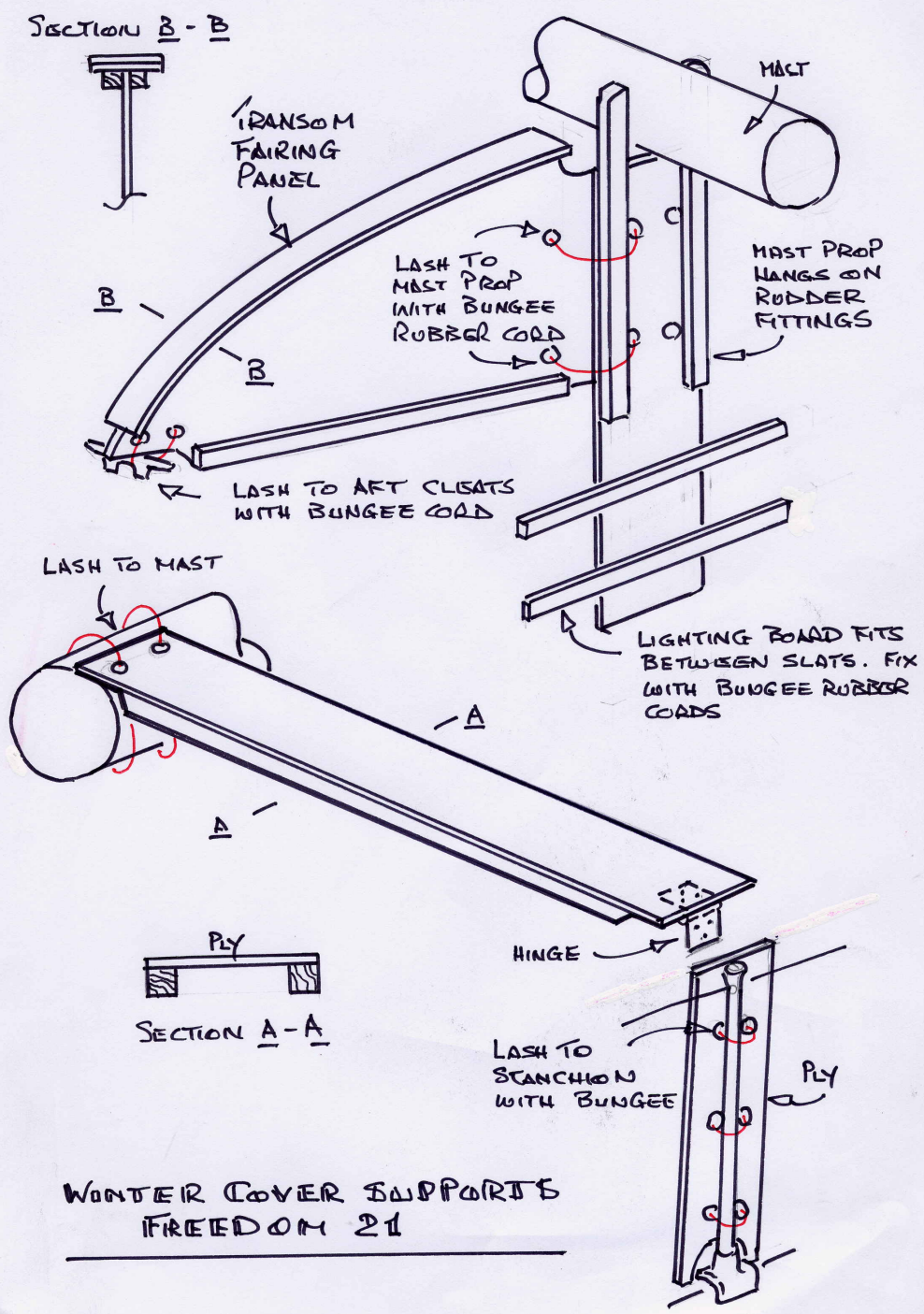
The transom frames are again made-up from scrap ply and are lashed to the mast prop framework with rubber bungee cord. They also lash to the aft cleats on the top of the F21 transom corners. This arrangement is surprisingly rigid and will certainly prevent the wind from lifting the aft end of my tarpaulin during the inevitable winter gales we get here 1250 ft up in the Pennines.

Note that I glued-on some wedge pieces to allow the frames to sit snugly on the upright mast prop framework. Incidentally this mast prop locates on the rudder fittings and also provides a means of lashing the trailer lighting board to the boat for towing.

The final parts of the framework are the two spreader pieces, which are strips of ply off cuts stiffened with a screwed & glued piece of 2” x 2” timber on the underside. The spreader pieces bolt to the frames as seen in the photo below. I painted all of the wooden frames with wood stain to give some durability to the parts.



Wilf Bishop
26th November 2006



WINTER COVER SUPPORTS
FREEDOM 21