



The **SHOCK** of the **OLD**

Part 17: Room At The Top

Moray MacPhail continues his series on refining traditional rigs by reducing weight and unnecessary complication aloft.

You can see from the picture above that there is a lot of stuff going on at the hounds

But before we get there, a few notes on attachments for peak and throat halyards. It is generally better to use bands for peak halyard attachments rather than a crane. This is partly because peak blocks are pulling at least as much sideways as downwards. Also a band is kinder to the mast, avoiding a through bolt. Plus, if you need to move the position of the peak block, as you very well might, a band will allow

this, even if there isn't a solid section in a hollow spar at that point. As at the masthead, it is a nice touch to arrange the lug or loop sideways to allow the block to swivel more easily. Usually it is a good plan to have the throat halyard well above the hounds fitting to give the gaff saddle enough freedom of movement and prevent the throat blocks jamming 'chock-a-block'. Typically, clearance of at least 6 times the mast diameter is needed for the distance between the saddle in its normal working position and the throat block attachment.

THE CRANE...

... is usually the favourite fitting for throat halyards because it lets the blocks hang clear of the mast. The traditional shape also incorporates an apron to spread the vertical load on the mast. They can also be used as a support for a strop supporting a stay or halyard. To stop them rotating you can use a square section fitted through the mast or a round section fastened to a curved plate. In both cases they are secured by a nut and washer at the end. If it is not practicable or desirable to run a bolt through the mast at the



Above: A simple and stylish mast crane for the throat halyard. Note the squared section of the through-bolt to prevent the crane from twisting under load.

required position, you might use a crane band, but this will need a reinforcing tang down the mast to prevent damage.

The nice thing about any of these arrangements is that you can mount the throat block slightly off the fore and aft centreline, so the halyard is centred on the gaff but the fall is thrown to the starboard side of the mast. Traditionally main halyards are usually arranged on the starboard side so that you can conveniently heave-to on starboard tack while reefing.

THE HOUNDS...

.... fitting is the last resort. With your bowsprit swept away, the upper part of the mast gone by the board, the gaff shattered into splinters, you still have the remains of a mast rigged at stemhead and by lower shrouds to set some sail on. I hope I exaggerate but a well found hounds fitting is vital.

It is also congested. There are likely to be two pairs of shrouds, a staysail stay plus halyard, sometimes a jibstay plus halyard, a couple of runners, and

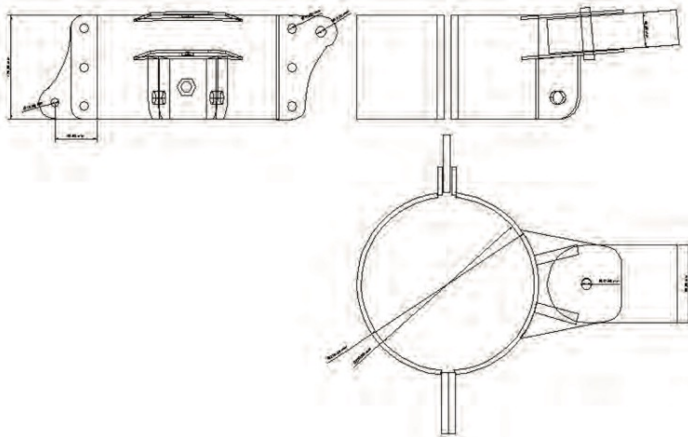
a pair of spreader roots. Where at the masthead the option of looping the stays over the mast is both simple and effective, it is less convenient at the hounds since it takes up a good deal of space. There is also the considerable disadvantage that replacing a stay means you first have to remove every stay above it.

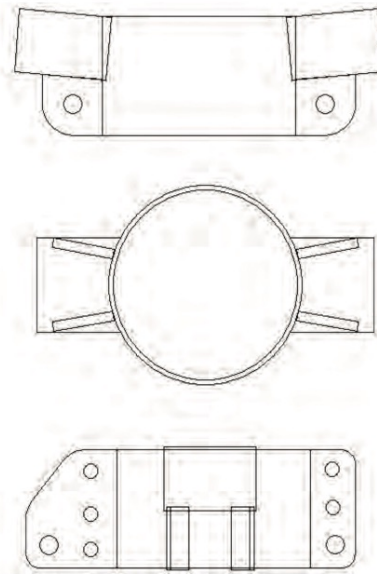
So metal fittings tend to be more popular. The loads are high, something like 1.5 times the whole weight of the boat as we saw in W147 and W148. On wooden spars you will likely need to shoulder the fitting and/or use friction and through bolts as in W154. It is rarely practicable to make the fitting in one piece and though a single bolting flange may work for smaller craft, a two piece fitting is most common.

If spreaders are to be incorporated in the fitting, as they so often are, then the bolt flanges pretty much have to go fore and aft. Be careful to ensure that an after bolted flange doesn't foul the throat halyard, which as already mentioned is likely to be some way above the hounds. The forward bolted flange can incorporate a crane for the headsail stay.

In some cases I have used a hinge on the after face, which is neat but rather fiddly. Fiddly is a euphemism for expensive, by the way.

Below: Here attachments for the spreaders are incorporated into a hounds fitting. Note the fore and aft bolted flanges with the forward flange increased in size to include a crane for the head stay. This one is fixed with through bolts and friction.





Above: Again this hounds fitting is split fore and aft. The spreader boxes are integral with the shroud attachments. Note the drainage holes in the bottom of the boxes. Halyard and backstay lugs still to fit. This example was shouldered on.
Below left: Bermudan rigs can't use bolting flanges, so this fitting is through bolted at the top for diamond stay lugs, below for lower shrouds. **Below right:** A busy time in the workshop, with stainless mast furniture and a bronze gooseneck band.

THE SPREADERS

In the kind of rigs we are addressing here, it is unusual to allow spreaders to articulate in a horizontal plane. That is the sort of thing you do if you are interested in controlling mast bend which is all a bit racy. Quite often they don't articulate in a vertical plane either, which is fine

as long as whoever built the sockets knew to bisect the shroud angle. As we noted in W142, it is vital to keep things like spreaders in compression and restrict the bending. If the spreader roots are included with the hounds, it is often possible to extend the sides of the box downwards to form lugs for the lower shrouds.

THE RUNNERS

Finally, let's deal with the rigging aspects of running backstays. These are fitted to increase the support aft to the mast and so to increase forestay tensions. Reduced foresail sag will in turn improve performance to windward. Thus to jack up your rig's windward performance add runners.



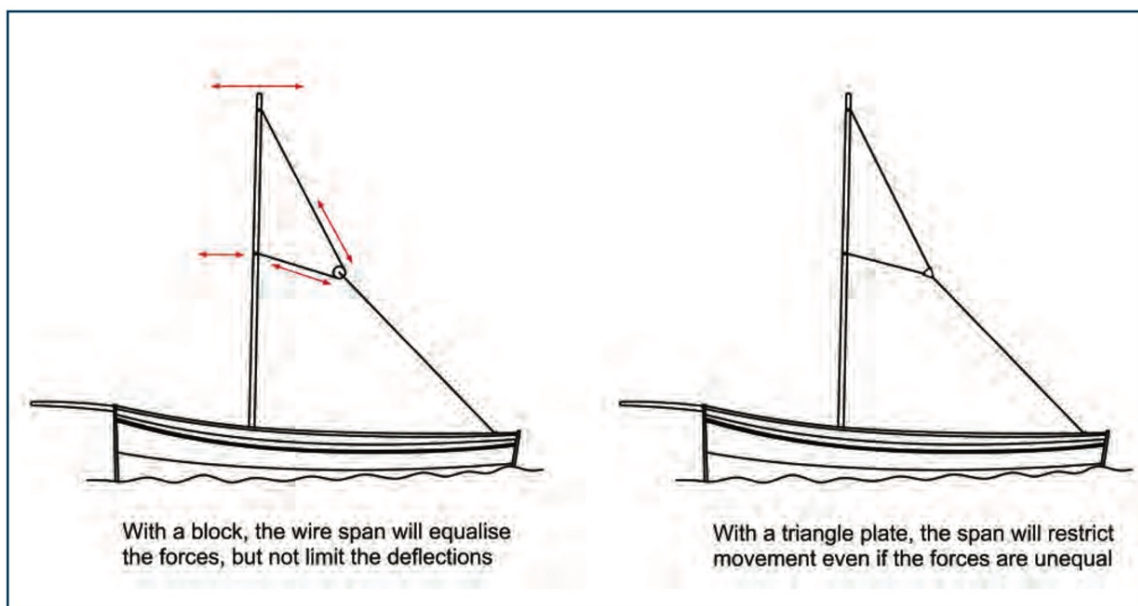
Or maybe not. Runners are not bolt-on goodies. Adding them will increase the rigging loads on the chainplates, forestays and mast – will it still be strong enough? – not to mention the hull itself in way of the mast step. It may be that adding runners will cause at least as many problems as they solve, perhaps first evidenced by leaks at the garboard seams. Also remember that many working boats did not fit them, compensating instead with heavily raked masts like the wonderfully named skipjacks, bugeyes and pungy schooners of Chesapeake Bay in the

can be squared off. This is usually achieved by either detaching the runners, or incorporating a big loop to generate enough slack. Finally it is possible to trip the levers when they are under tension, maybe when a sheet snags or a crew member's boot goes under the lever. In which case they will fly over with some force and instantly leave the mast unsupported.

Instead of levers, you could use tackles. If these are tensioned on a winch then you need a cunning arrangement of cleats or stoppers. On smaller craft the blocks can

them. Sometimes you will see this arrangement is achieved by means of a stop which goes from masthead to hounds via a block mounted on the end of the runner – which is not a good idea.

Why not? Because the upper span slides around the sheave of the block until forces are equalised. This does not control the amount of movement of the various points of the mast which is the main point of standing rigging. The movement at the masthead means either that your headsail reefing or furling gear won't work properly or that your windward



USA, the 'swifter' shrouds swept aft on Bristol Channel pilot cutters or Essex fishing smacks as mentioned in W146 and featured on page 30.

However, let us assume that you have runners fitted and that they are meant to be there. What is the best way to tension them?

Runner levers are very effective. Their major drawbacks are first they occupy deck space, usually beside the cockpit. Second because of the short travel of the levers themselves, you need a system to create enough slack in the runner so that the boom

incorporate cam cleats or similar. A neat system, though I've only seen it on craft up to around 30' (10m), is to have the runner made up to a fixed length, ending in a slide. This slide engages in a track running fore and aft. To tension the runner, you pull the slide aft, where because of the geometry of the thing you get plenty of mechanical advantage. To release the runner, you slack off the tension line and the slide runs forward.

If there are two sets of runners, then it can make sense to combine

performance is reduced. Which is a shame because that was why runners were fitted in the first place.

Better to fit a rigid link of some sort – often a triangular plate or shackle. I know this is fiddly to set up to the right length but such a scheme means that the masthead and hounds are restrained in approximately the right position, irrespective of the loads acting at either point at any particular time.

Next time: mast tabernacles and bowsprit fittings.

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