



## Minnow Rigging Guide

This guide is intended to assist owners to fit out their boats. Those looking around the rigging area at a Minnow event will notice that most new boats have a very similar setup which is a result of many years of development and the availability of new Minnow specific fittings produced by the Association.

Care has been taken with the suggested fit out to make everything as simple as possible. This has the benefits of ensuring that there are fewer parts to fail and is cheaper for initial setup. Wherever possible shackles have been replaced by beads, the pins cannot be lost and they are easier for small fingers to attach and remove.

When rigging your boat pay close attention to the Minnow Association Rules of Measurement and Construction, a copy can be located on the Minnow Sailing Association website under the *About the Boat* tab. Your boat will require an association Measurer to check that its hull dimensions and fitting placement comply with the rules before racing. Once the boat has been found to comply a Measurement Certificate will be issued to show that the boat is eligible for racing.

### Shroud Attachment

Check with your boat builder to see how they intended to attach the stays to the boat. Most new boats will use saddles to attach the side stays and also the forestay. Others may specify a chainplate to take the load of the stays at reinforced points on the hull. The position of the side stay attachments on many boats is now further towards the bow than original design to allow the boom to go further forward down wind.

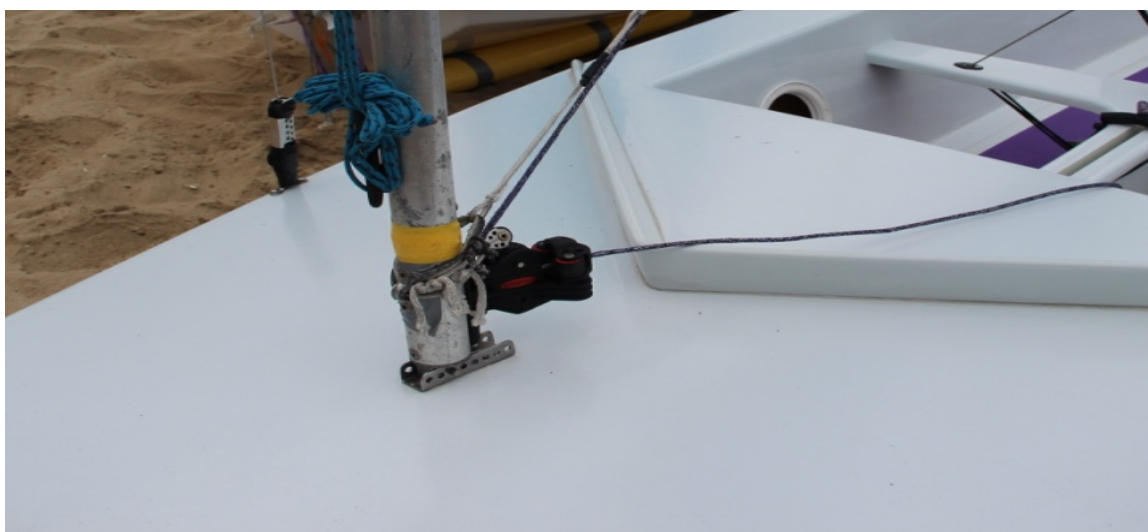
## Bow Ring

Minnow measurement rules specify that a tow ring with a minimum of 38mm internal diameter be provided. If it is attached to the forestay fitting it can be easily accessed to pass the tow rope through and will provide a good lead to the thwart. Most Race Officers will direct the skipper to wrap the tow line around the thwart and hold on to it so that it can be easily released if need be.



## Mast Step

Most boats use a channel type mast step. These allow some adjustment and can accommodate the Moulded Association mast base or the cast alloy versions from Keeley Marine Supplies. Note that the readily available off the shelf fittings may need to be reduced in length to conform to the tolerances for mast position in the Measurement Rules.

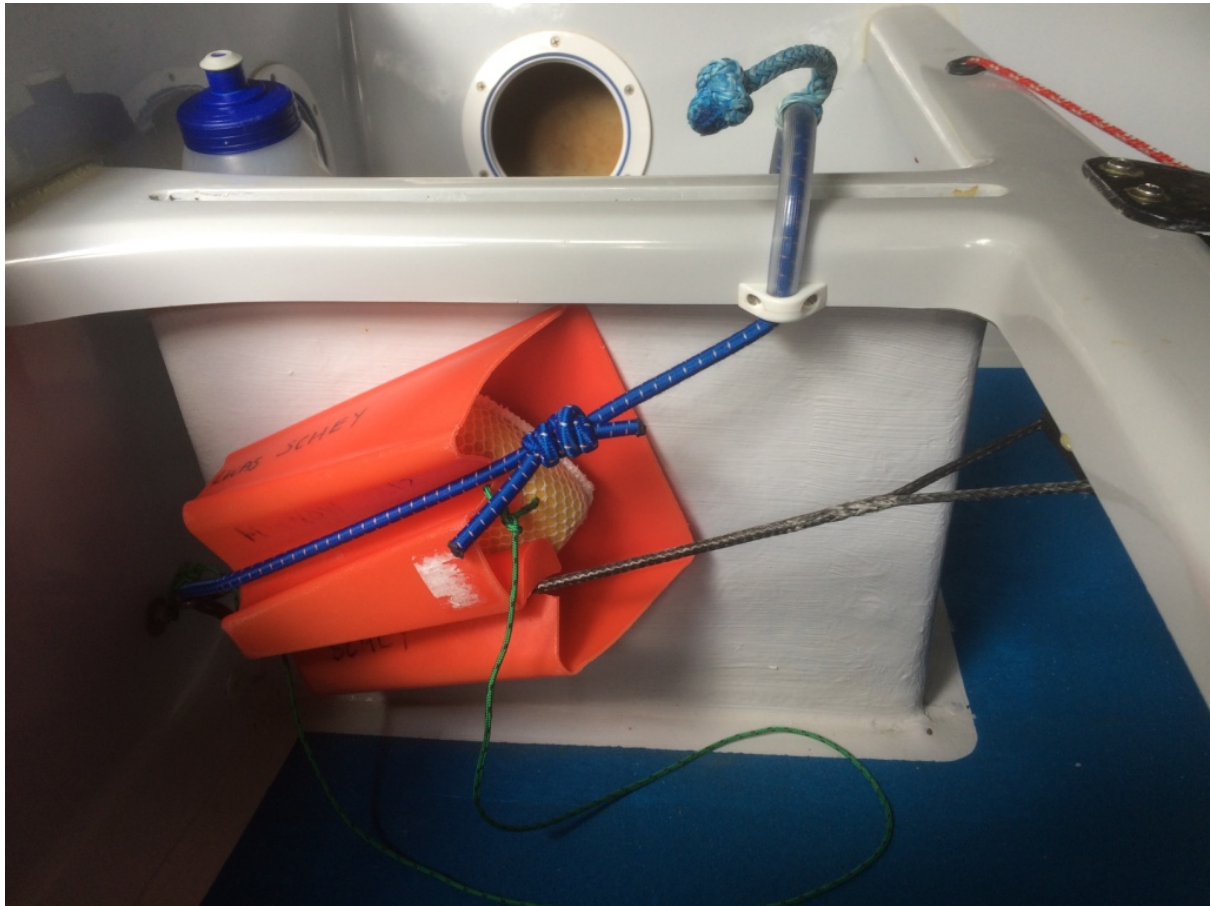


## Centreboard Retainer

A length of shockcord is used to hold the centreboard down. As you can see in the photo it is passed through a short length of hose and has a small handle to lift the retainer over the top of the board to hold it down. It is situated toward the rear end of the centreboard case so that it can be pulled around the trailing edge of the centreboard to hold it in a raised position off the wind. The shockcord passes around the front of the centreboard case or down to the hiking strap connection point so that there is a reasonable length of shock cord in the system to allow plenty of stretch so that young sailors can move it easily. If you pass the shockcord through the saddle for mounting the hiking straps it forms a convenient method of storing your hand bailer (see following photo)

The centreboard must also have a length of line with a hook on it to ensure that the centreboard remains in the slot if the boat is inverted. Adjust the length so that some of the centreboard is still poking through the hull when the line is tight. This will ensure that you can pull the centreboard through the hull to give some leverage when righting the boat in the event of a capsize.





## Mainsheet

The mainsheet is a 4:1 system set up on a fixed length hawse on the thwart. The sheet is attached utilising the through-sheave becket on the blocks suggested. This hawse is not to be adjustable. Most boats will have beads on the hawse to limit the movement of the mainsheet block, they are placed so that the mainsheet blocks will naturally slide to a position where the boom is over the corner of the boat when sailing upwind. The line for the hawse is passed through bushes and can be connected together at the mainsheet ratchet block under the thwart to share the dynamic loads on the thwart during gybes.

Many people use a shackle or block to slide on the hawse. Ronstan Shocks provide a lightweight alternative that run well on the rope as seen in the photo.

Attachment of the blocks to the boom can be made with light spectra line to reduce the amount of mainsheet required.





## Boom Vang

The most common approach for boom vang set up is to use a saddle on the front of the mast for locating the lines and a swivelling cam cleat for control. Make sure the cleat is high enough to enable re-cleating over the splash rail.

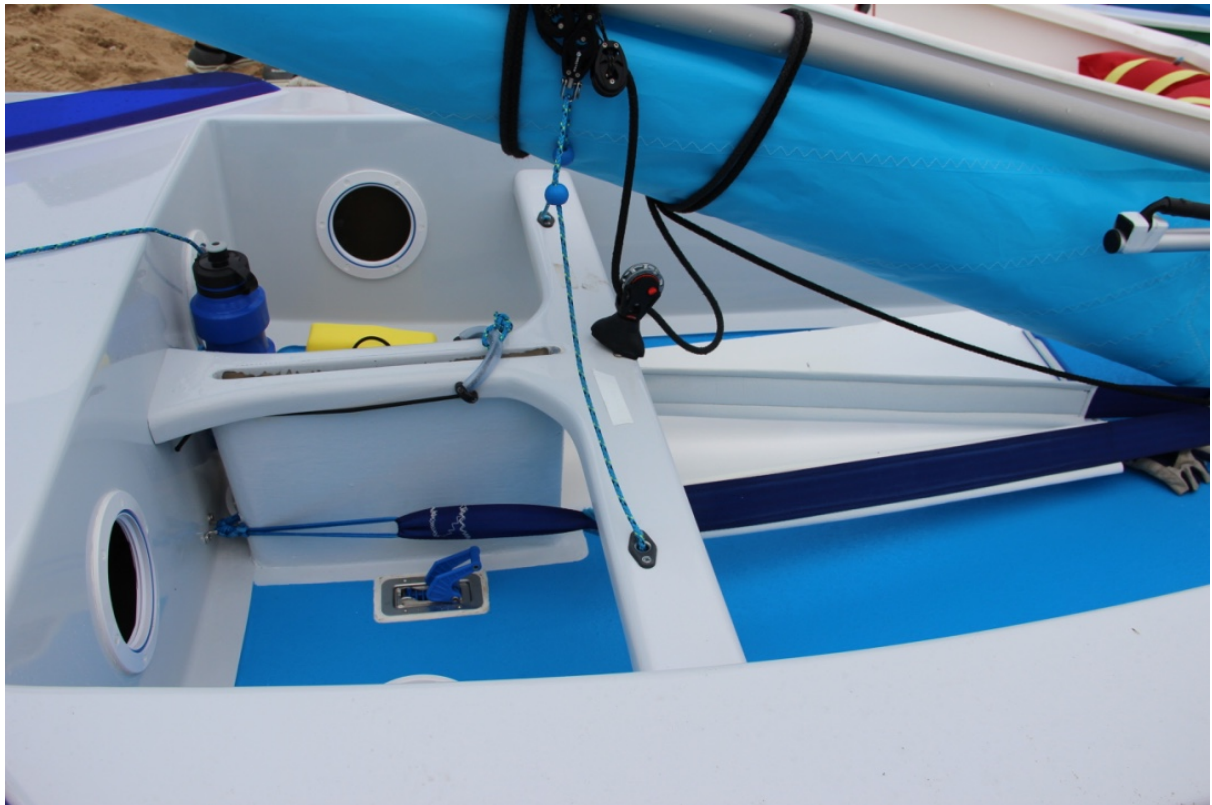
In the photos below you can see that the new 6:1 vang can be made up with the same line for the upper and lower blocks wrapped around the mast. A bead can be used for attaching the vang system to the strop on the boom.





## Hiking Straps

The hiking straps are usually connected to a saddle to the bottom of the main bulkhead on the centreline and at any available attachment point near the transom. Be sure to use large washers inside the bulkhead to spread the load. The hiking straps are supported under the thwart using shock cord making it easy to slide your feet under them after a tack. Padded hiking straps tend to hold their shape better and can be sourced from the Minnow Association or your sailmaker. Some similar sized boats will also have off the shelf hiking straps that will fit a minnow.



## **Inspection Hatches**

The rules allow up to four inspection hatches of up to 150mm diameter. Some owners have elected to glue these in with Sikaflex or similar products to save using screws or bolts. This can prevent scratching of wrists when sponging out the buoyancy tanks after sailing.

## **Mast and Boom**

The mast set up is straight forward. Head, Base and Boom plugs are available from the Minnow Association.

Shrouds are attached via tangs bolted through the mast.

Strops for the mainsheet blocks can be used on the boom making block hangers unnecessary. Note the use of plastic bushes to protect the rope.

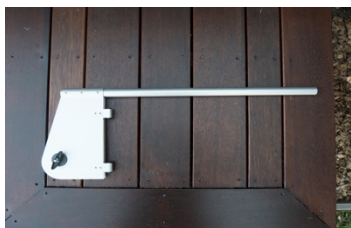
The outhaul is a simple system, usually 2:1 running from a saddle, through the sail and back to a V cleat. The outhaul is not to be adjusted whilst racing, many boats use a V cleat as they lock positively.

When installing the gooseneck on the mast be very careful with your measurements as the pin does not go into the centreline of the boom on a Minnow extrusion (due to the bolt rope groove). Make allowances for the actual boom position when measuring.

## **Rudder Fittings**

The rudder fittings you select will depend on your rudder setup. You can now purchase complete rudder setups from the association which makes the process very simple. For those building their own rudder cheeks it will be important to plan ahead so the thickness of the cheeks matches the internal dimensions of the fittings available.

Note that when your rudder is mounted, the leading edge must be less than 85mm from the transom.





## Safety Equipment/Compliance

When setting up your boat be sure that you can comply with the Safety Gear Checklist used at major Minnow events. This list is based upon the Yachting Australia Special Regulations Part 2 for off the beach boats and the Minnow Association Rules of Measurement.

### Safety Compliance

Boat name, sail number, club name on stern

Towing ring on bow – minimum 38 mm internal diameter

Hand bailer on lanyard

PFD – suitable flotation for the sailor

Mast sealed

Adequate hull buoyancy (seals correctly)

Centreboard secured with lanyard

Rudder pintles secured with pin/ring

### Fittings list

Here is a list of fittings that maybe helpful when building a new boat. This list is not exhaustive but will get most of the items required.

Fitting	Ronstan Part Nos.	Alternative Part Nos.	Allen Part Nos.
Mast head, base and boom plugs		Minnow Assoc. Or Keeley Marine	
Bow Ring Min 38mm id.	RF124	RM251	40x5mm Ring
Saddles (3) <u>or</u> Chainplates	RF498 RF488	RM572	RM572
Stay adjusters (fine tune) (captive pin)	RF2331 RF2330		
Mast Step			A4124
Inspection hatches	RF530 (white) PNP96	RM190WH	Nairn sml. or A337WR
Hiking strap connection saddle	RF498		A99
Centreboard shockcord eyes (2)	RF9	RM168	A153
Centreboard retainer hook	PNP22	PNP56	
Eyes for thwart/Bush	PNP186		A4039
Mainsheet ratchet block -Stand up base -30mm blocks w. lashing head and becket -30mm fixed head	RF46102 RF2455 RF35101		A2140 A4222/A1034 A2030TI  A2030
Beads (tie balls)-4	RF1318R (red)		

-mainsheet hawse (2) -halyard -vang attachment	RF1318 GRN RF1318BLU RF1318BLK		13mm A22 19mm A222
Vang Swivel Cleats -low profile stainless -black nylon	RF20175 RF5	PYF104	A4988
Vang blocks -20mm blocks with integral lashing head and becket (3) -turning block on mast	RF25109  RF20101		A2026M  A2020
Boom bush (6)			
Outhaul saddle <u>or</u> -single bolt eye becket	RF498 RF1050		A4035
Outhaul cleat Nylon S/steel	RF494		A146 A4226
Gooseneck			
Self bailer	RF250	RM179	
Tiller extension 820mm  760mm	RF3129C (carbon) RF3129 (alloy)	  PYF210B	
Rudder pintles (non assoc. stainless type)	RF255		
Rudder gudgeons (stainless)	RF239		
Rudder winged Pivot 58mm	RF693		
Halyard cleat	RF520		A130
Wind indicator -clip on -mast head		W200	A71 A4066
<b>Rigging</b>			
3x 2500mm 2.5mm Grade 316 s/s 1x19 Wire, (6) thimbles and (6) swages			
D shackle for forestay	RF616		
Stay tangs (2)	RF1189		
<b>Rope</b>			
Mainsheet	6m of 7 or 8mm braid line (5m with strops for blocks)		
Halyard	7.5 m of 3mm spectra/dyneema		
Vang	2m of 3mm spectra/dyneema and 2m low stretch braid		
Outhaul + Forestay	1m of 3mm dyneema		
Centreboard retainer	1m 2mm cord		
Centreboard shockcord	1mm of 4mm shockcord		
Mainsheet hawse	2m of 3mm dyneema/spectra		

## **Suppliers**

Here is a list of Boat Supply businesses that will be able to look after you with an order for dinghy fittings.

**Discount Seamart** 678 Elizabeth St. Melbourne 9347-4744

Call John or Jason who can arrange the required fittings and send them to you.

## **Dinghy Shop**

Dinghy Shop has an excellent online shop and can supply Allen, Ronstan and Riley fittings. Order online or talk to Jim Scott about your requirements.

## **Sport Phillip Marine**

Located at 129 Mornington-Tyabb Rd. Mornington and have an extensive range of fittings.

## **Splicing**

Splicing of naked spectra and dyneema ropes is quite straight forward. It can be done with makeshift tools for those that are only doing a couple as the tools are quite expensive. Here is a link to a video demonstrating how it is done.

<https://www.youtube.com/watch?v=d0B6tYTVHVM>