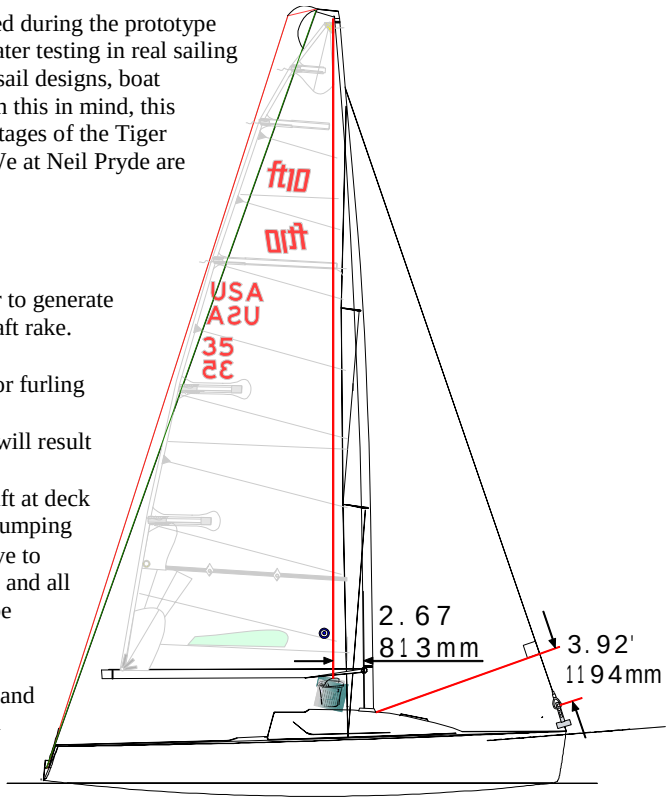
Flying Tiger Tuning Guide

This first edition of our guide comes from information we have complied during the prototype development stage of the Flying Tiger program and now from on the water testing in real sailing conditions. We expect and are excited to see the class grow and with it sail designs, boat handling and equipment will continue to improve and be modified. With this in mind, this guide is a starting point from which to move forward from the earliest stages of the Tiger program and your sailing of the boat. Both of which are sure to grow. We at Neil Pryde are excited to help you on your way.

Rig Tuning

The Tiger has a very neutral helm, as the boat is very balanced. In order to generate some weather helm and feel we set the rig with the maximum fore and aft rake. In order to achieve this, we do the following:

- Set the forestay at the tack at the upper most hole in the Facnor furling plate
- Position the base of the mast as far forward as possible. This will result in the with the mast against the bulkhead
- With the mast in this position, there will be a space fore and aft at deck level. This will need to be blocked to prevent the mast from pumping
- The current stock forestay length 39.69’ /12100mm is from eye to eye. Add the top swivel, the drum and the tang to the top hole and all up it is 41.01’/ 12500mm. If you have an early boat it might be shorter. We recommend adding a toggle to get to this length.
- The diagram at the right shows two additional measurement techniques for checking the rake. Boat should be in the water and neutral trim, backstay off. These two methods are general and can result in different measurements.
  Main halyard weighted and rake measured at boom height.
  Tape from deck/mast collar point to right angle at forestay.



Rig Set Up

1. Note that the standing rigging is ¼” diameter and not metric. We use a Loos PT-2 gauge for our numbers, but you can also use a PT-3. We have provided a calibration chart at the end of the guide for reference. These tensions are your base point of reference and setup for 10 knots of wind.
2. If your rig is tensioned already, soften the rig by letting shrouds off 3 full turns and release the backstay. If this is a first time set up, wind everything up hand tight. Check to see that the mast tip is centered in the boat (mast side to side) by taking a tape measure to the top of the mast with the main halyard. Swing the tape at a point along the gunwale, even with the chain plates. Note the measurement and check the opposite side. Adjust the cap shrouds to get an equal measure.
3. Now take up your caps evenly on each side until you get to 1200 lbs or 37 on the PT2 (13 on PT3).
4. Tighten the lowers to 550 or 27-27.5 on the PT2 (6 on PT3). Sight up the aft face of the mast to be sure the mast is in column side to side. Adjust as necessary to keep the mast inline, side to side.
5. Tighten the intermediates to 1100lbs or 36 on the PT2 (12 on PT3). As a general rule the intermediates should be set so that they keep the mast centered but not so tight as to take up the primary load off of the caps. In above 12 knots we like to see the tip of mast starting to bend off to leeward. You can sight the mast while sailing upwind to make sure the middle is not sagging to leeward when the tip is going off just a bit.

Jib Lead Position

Measure aft from the forestay pin 14.125' / 4305mm. Mark this location on the track. This is your light air setting for the jib and indicates where the front of the car should be. Your medium setting is one hole aft and your heavy setting two aft. You may want to drill half holes to allow for fine tuning.

Sail Trim

The Tiger sailplan is very powerful and the boat is quick to come to speed and in you will find that in 12 knots you will be starting to de-power the sailplan depending on crew weight. Mainsail trim is key to upwind speed in, with an emphasis on twist. It is important to watch your boat speed, as this will be a quick indicator if you are sailing with the main too free (low) or too tight (high). Use the Rig Tension sheet to setup the rig tension based on wind strength and the Polar Chart for your upwind targets.

Air: Less than 6 knots
Mainsail: Traveller should be 12" / 300mm to weather of centerline and the sheet eased enough to have the boom below centerline 7-9" /176-230mm below centerline. This will keep the leech of the main open and the slow moving air attached. Backstay should be completely off and the outhaul eased 2-3" / 50-76mm.
Jib: Light air lead position, soft halyard and leech open.

Air: 6-8 knots
Mainsail: Mainsail sheet brought in to bring boom to centerline and the top telltale should be just starting to stall.
Jib: Sheet tension increases to bring leech in.

Air: 8-10 knots
Mainsail: Traveller lowered so it is between 6-8" / 150-200mm above centerline. Mainsheet tightened additionally. The boom should be at centerline. It is easy to over trim the leech of the main in this condition, so keep an eye on the top telltale and make sure it is not stalling too much. Backstay should be just brought on to help with forestay tension. Outhaul brought in so it is 1-2"/25-50mm from max.
Jib: Move lead aft to Medium setting, increase halyard tension to remove any luff wrinkles and bring the leech in so that the top leech telltale is streaming.

Air: 10-12 knots
Mainsail: Traveller should be between 6-8" / 150-200mm above centerline. Mainsheet brought to obtain height to windward. The boom should be at centerline. Backstay brought on to increase tension and start to flatten upper third of mainsail. Cunningham tightened to bring draft forward and keep the leech open. Outhaul should be within 1"/25mm of max.
Jib: Lead at Medium setting; increase halyard tension to keep draft forward and round entry.

Air: 12-15 knots
Mainsail: The traveller is set to centerline and backstay on tight to flatten upper sections of mainsail. The backstay should now be played in the puffs to open the leech and increase the rig tension, keeping the jib from becoming to full. Mainsheet played continuously through the puffs making sure not to stall the upper telltale. The main should be flat and open up top with the lower leech firm to help with pointing. Cunningham tightened hard to bring draft forward and keep the leech open. Outhaul should be brought all the way on. Boom vang tightened to remove any slack.
Jib: Lead at Heavy setting; increase halyard tension to keep draft forward and round entry. Leech may need to be opened up in puffs.

Air: Above 15 knots
Mainsail: The traveller below centerline but played in the lulls. Boom vang brought on tight to keep leech tension on the main during strong puffs.
Jib: Switch to your Neil Pryde No.2 jib.

Loos Calibration / Reference			
Shroud	**LBS / KG**	**Scale: PT-2 ¼" Wire**	**Scale: PT-3 ¼" Wire**
Lower	550 / 227 *(Lower Base)*	27	5
	600 / 272	28	6
	700 / 318	29	7
Cap / Intermediate	1000/ 454	35	11
	1100 / 500 *(Int Base)*	36	12
	1200 / 545 *(Cap Base)*	37	13
	1300 /590	38	14

Rig Tension Guide				
0-6 knots	8-10 knots	10 Knot	12-14 knots	Above 14 knots
-2 Turns	-1 Turn	Base	+1 Turn	+2 Turns

Target Upwind Boat Speed*	
True Wind Speed	Boat Speed
6	5.50
8	6.00
10	6.25
12	6.36
14	6.41
16	6.53

**These numbers are from VPP's and being a light sport boat, the numbers/boat are affected more so by waves; both in light air and heavy. In these conditions you will be footing for speed to get the keel and rudder working to add to lift and weather performance. So depending on conditions you may see higher numbers, wider angles but within the right VMG range.*