

HYDROVANE INSTALLATION WARNINGS

NOVEMBER 2023

A. CONSIDERATIONS AND PREPARATIONS

MOUNTING PADS

Warning: Please bear in mind that it is critical the Brackets cannot 'work' – THEY MUST BE ABSOLUTELY RIGID. Therefore, properly shaping the inside of the Mounting Pads, if needed, is an important step. The Hydrovane Bracket Flanges MUST be flush with the contact surface, or the aluminum castings will fracture.

BACKING PLATES

Warning: Washers alone are absolutely not enough support. The use of substantial Backing Plates is applicable to every installation.

FLUSH NUTS

Warning: Bolt nuts or heads must be flush to Backing Plates. If there are substantial gaps between the Backing Plates and the hull, they must be filled. See Installation Guide for techniques.

DUMMY TUBE

Warning, if using Dummy Tube: DO NOT attempt to tighten any casting on a tube smaller than 2" (50.8mm), or a flexible tube. This will crack the casting. 50mm OD plastic tube is not suitable.

BE AWARE OF THREAD GALLING

Warning: Thread galling occurs when pressure and friction cause bolt threads to seize to the threads of a nut or tapped hole. Follow best practices to prevent thread galling as per the Installation Guide.

DO NOT OVER-TORQUE BOLTS

Warning: Please be very careful not to over-torque any of the bolts. The result would be a cracked casting. If you have a torque wrench, please refer to the recommended torque settings in the Guide.

ADDRESS TRANSOM FLEX

Warning: Generally not necessary for offshore capable boats. However, if there is any transom flex or potential for flex under load, the likelihood for failure is high, especially in the worst of conditions. Beef up the section of the transom with more fiberglass or use large, single piece, heavy gauge metal Backing Plate.

INSTALLATION 'IN THE WATER' OR 'ON THE HARD'?

Warning: If done in the water, keep lines on everything – the pieces are slippery, heavy, and valuable. Use strong tape and good knots.

B. RECEIVING YOUR HYDROVANE

CHECK THE COMPONENTS

Warning: Tiller/Fork Arm Assembly and Counterweights are under separate flaps. Be sure not to throw these out with the box! Look for them carefully... they will be there.

Warning: Shaft Bearings can be knocked out of place during shipping. See leaflet included in box to re-set.

DO NOT MIX UP SHAFT SLEEVES

Warning: Tightening Brackets onto the Shaft Assembly with an incorrect Shaft Sleeve will result in cracked castings. Be mindful not to mix them up.

PLAN AROUND AERIAL OBSTRUCTIONS AND MIN/MAX DISTANCES

Warning: In planning the installation, pay attention to nearby aerial obstructions, as well as the recommended maximum and minimum distances for Bracket Clamps on the Shaft Assembly.

C. FITTING THE BRACKETS AND SHAFT

FOR ALL BRACKETS

Warning: The Bracket must be well aligned. Misaligning the castings and strut cannot be solved by cranking into place when bolting together. The Bracket must fit perfectly before bolt tightening. If bolted in place in other than its natural position (ie, forced into place) then there will be constant stress on the casting(s) which inevitably ends in a 'stress fracture' – a broken casting. The aluminum metal used can tolerate considerable flex for short periods and withstand enormous working loads BUT it cannot handle constant stress.

BOLT TIGHTENING

Warning: Tighten bolts to your usual snug tightness with a socket wrench. Please be very conscious not to crank too hard as the result can be a cracked casting.

Warning: Follow the Bolt Tightening Sequence for each bracket. Refer to Installation Guide.

Warning: Be careful with the Opener – excessive force can crack the casting. Open one quarter turn at a time only.

D. ATTACHING THE DRIVE UNIT

BOLT TIGHTENING

Warning: Please be very conscious not to crank too hard on the bolts as the result can be a cracked casting.

E. REMOTE COURSE SETTING

No warnings

F. FITTING THE VANE COVER

Yes, it will fit!

XT VANE COVER

Warning: cinching with zip ties on the round tube may result in breaking the weld. Be sure to attach the ties to the lower black frame tube.

G. FINAL INSPECTION TESTS

ENSURE YOU HAVE PERFORMED THE TESTS:

- Smooth Ratio Rod Movement
- Rotate Drive Sleeve Test
- Rudder parallel to the centerline of the boat?
- Tiller Flipping Test
- Windvane and Balance Weight have free airspace?

H. SAFETY AND MAINTENANCE

Warning: Use a tether. The nylon Rudder does not float! A few are living at the bottom of the ocean...

Warning: Use a tether. The Vane is lightweight and may try to fly away when being taken on or off.

Warning: DO NOT GREASE ANYTHING! Every joint should rattle.

I. GO SAILING!