

Hobie Cat

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Dear TriFoiler Customers,

There is a very simple fix that needs to be done to all TriFoiler that can prevent serious problems.

Eight of the aluminum rivets that hold the beam stopper on the beam need to be replaced with stainless rivets. The beam stopper is a small oval piece of stainless or aluminum that is riveted to the front and the back of the outer main and slides into notches of the center main beam. The beam stoppers prevent the outer main beam from sliding into the center main and they also lock in torsion.

Originally we wanted the aluminum rivets to shear if there was a problem, but we have found that these rivets are loosening. On the early boats the beam stoppers have 4 aluminum rivets per beam stopper. On these early models we would like for you to replace the aluminum rivet on each end of each beam stopper with the supplied stainless rivet. This will mean a total of 8 rivets.

On the later boats there is an aluminum rivet on the inboard end of the stopper and a stainless rivet on the out board side of the stopper. Please replace the aluminum rivet with a stainless steel rivet.

To remove the rivet use a 3/16" diameter drill bit and drill through the center of the rivet and it should fall away. Then install the new rivet.

We are always trying to improve the TriFoiler. Recently we started looking at ways to get the boat on the foils in less wind and we made some exciting discoveries. In general what we have discovered is that minor improvements can have dramatic results, because minor improvements, especially drag reductions, tend to snowball. A drag reduction will increase the speed which will increase lift which will reduce drag which will increase speed and increase lift and so on. One way to see the difference very clearly is to look at the sheeting position when you are trying to get onto the foils. With our factory boat we are now able to sheet into center line while trying to get onto the foils. Earlier if we tried to sheet into centerline before we got onto the foils the leeward ama would just sink, but now we are getting enough speed and lift that we can get more power out of the sails and get on the foils in much less wind.

As it turns out the length of the shock absorbers or the spring force that the shock absorbers generates is actually quite critical and the amount of spring force required will depend on a number of factors.

If the shock does not generate enough spring force meaning the shock is too short, then the sensor will come off the water on the leeward side and the foil will lift the boat too high. We call this situation "Sensor Rising". However if the shock is too long, then the shock will press the bow of the ama too low and it will require more wind to get onto the foils.

Anytime the foils is required to lift more weight, then the shock needs to generate more force in order to keep the sensor on the water. Sailing with two people in the boat or pointing close to the wind will require more lift from the foil. Surprisingly the foil will have to lift more weight in light wind than in heavy wind (in heavy wind the drive vector is pointed more forward and there is less heeling force) Even with the boat properly adjusted it maybe possible to cause sensor rising by trying to get onto the foils while pointing too high. There are techniques that can help avoid sensor rising. Once the boat gets up to speed then the sensor will stay on the water. When you see the sensor come off the water, bear away a few degrees and the sensor should come down. When the boat gets up to speed you may head up again. If the sensor does not go down when you bear away, then be patient. Do not let the boat accelerate until the foil comes to the surface, because then it will draw air and fall back down and you will have to start over. Usually as the stern of the boat comes up the boat pitches forward which pitches the masts forward and automatically increases the spring force. So usually a little patience will get you on the foils.

I like to sail with light spring pressure so the boat gets on the foils in as little wind as possible and the sensors are as lightly loaded as possible at high speed. When I sail by myself I will occasionally see sensor rising and when I sail with a passenger I will routinely see sensor rising, but I automatically use the above technique to get the boat on the foils. Only when I am going to let a novice sail the boat will I increase the spring force so they do not need to worry about sensor rising.

If you change the ride hieght of the boat then theoretically it will be necessary to change the spring force.

Mast rake will also affect the force generated by the shock absorbers, because mast rake will affect the position of the top of the shock absorber. If you rake the masts forward that will compress the shock slightly and increase spring force and visa versa.

So we have developed an adjustable shock absorber and we have a kit that will make your shocks adjustable. The kit is available for 27.95 plus shipping.

Another big improvement that we have discovered is fairing the area around the foil and the mast base. We are planning to make a fairing that can be added to your boat and we will let you know when the kit is available.

Other tips;

Oil all the pivots on the mast for better mast rotation.

If the foil locking pin sticks, take off the BFC and drill out bushing with 33/64" drill. Do not oil.

Sincerely;

Greg Ketterman Ext. 203