

Installing a Shaft Brake

INSTALLATION OF SHAFTLOK SHAFT BRAKE (PEARSON 365/367)

Sea Dragon came equipped with a Westerbeke 4-108 and Borg Wagner Velvet Drive transmission. The Velvet Drive Hydraulic Transmission is a nice transmission, smooth and quite. However, it has clutch that is controlled by oil pressure maintained by the engine. Once the engine is shut down the clutch will not engage allowing the prop to freewheel regardless of what gear transmission is left. For *Sea Dragon* the propeller begins to freewheel at speed of about 2 knots.

We purchased *Sea Dragon* in the winter of 2002 and did not sail the boat until the spring of 2003. On our first trip we learned the nasty secret of the Hydraulic Transmission. After listening to the sound of the V-drive spinning for 4 hours, I began to wonder if there was a better way to sail. Upon returning to the dock, I took a closer look around the engine/transmission. I found what appeared to be a disc and a bracket for a brake. However the pads and control mechanism were missing. With a little help from fellow Pearson owners (www.pearson365.com), I learned of a product by the name of [Shaftlok](#).



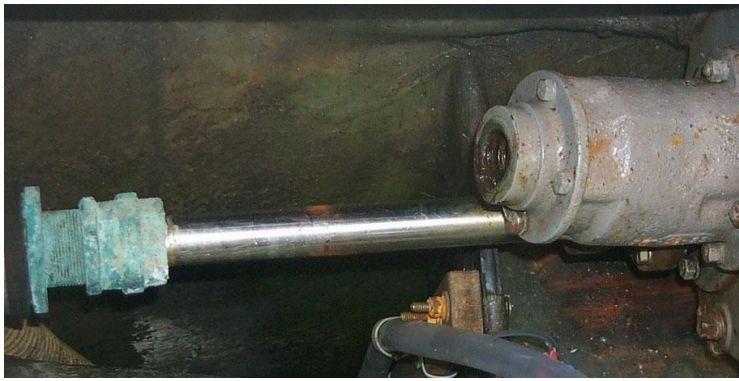
What appears to be the original shaft brake... Or what is left of it.

I contacted the Ken Nigels at Shaftlok who was very helpful as I selected the correct configuration. The key information needed was the size of the propeller, shaft size, and the length of the control cable.



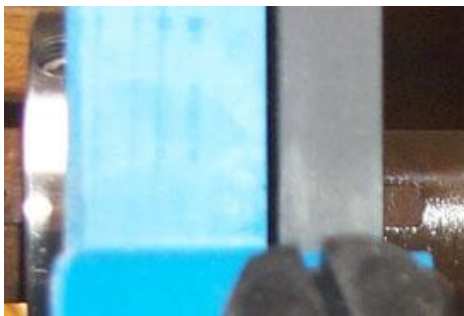
The first step was to decide where to mount the unit. Based on recommendations from other Pearson owners, I decided to mount it near the V-drive on the input shaft.

Next, the input shaft was removed by removing the four bolts at the engine coupling



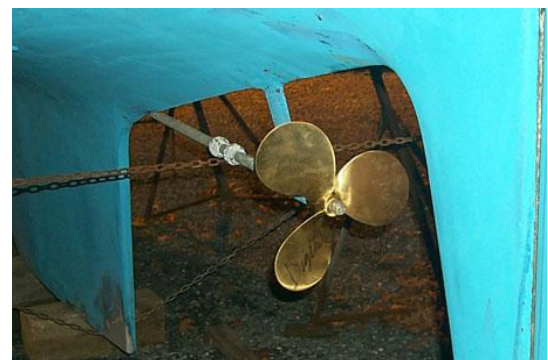
The shaft then pulled out of the V-Drive.

With the shaft out, the Shaftlok was easily slipped on to the shaft.

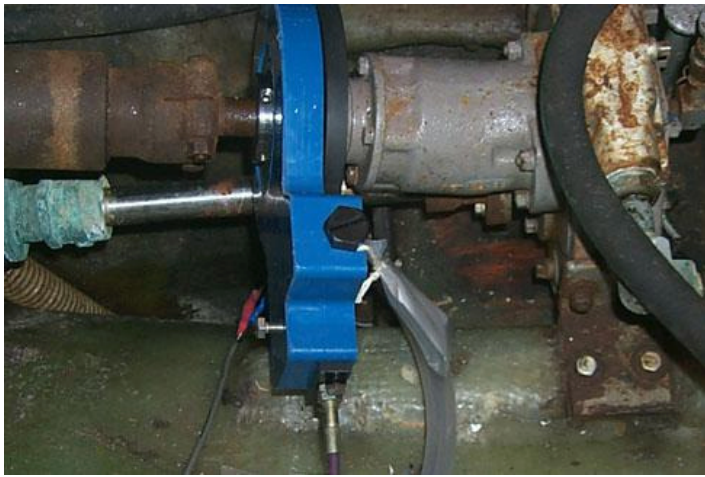


What to do about the set screw? The instructions call for the shaft to be dimpled for the set screw. After looking at the shaft, I noticed the keyway passed under the ShaftLok. So I lined up the set screw with the keyway and tightened it down with a little Loctite on the set screw.

Using the splines on shaft, I aligned the propeller in the locked position... Since Sea Dragon has 17x11 three bladed prop there was no go position. Should I put the 2 bladed prop back on the boat, I would align it so that it is parallel with keel and rudder.

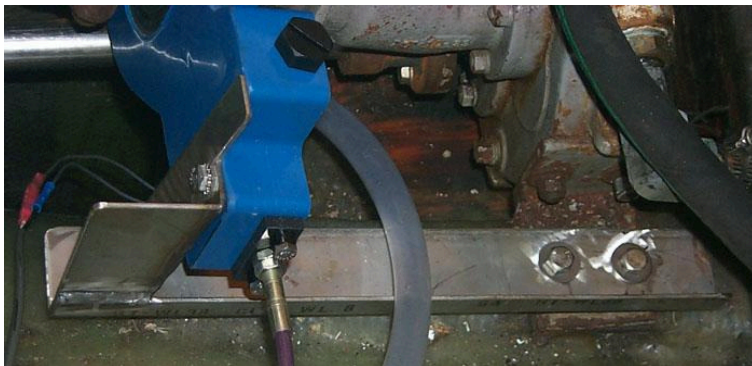
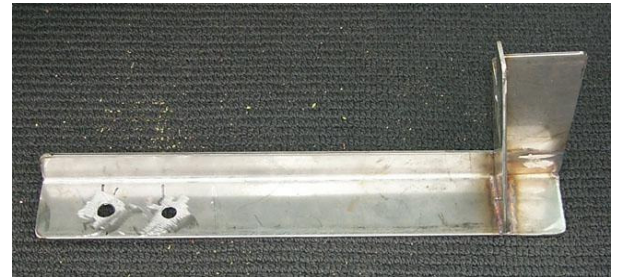


Now with everything back together, I had figure out how to prevent the unit from rotating. Shaftlok provides a piece of 1" x 1" 90 degree angled stainless steel that can be attached to



the unit and bolted to the sole. I did not like this idea.

I drew up a simple bracket for the brake that used the V-Drive mounting bolts and had a local machine shop fabricate it from stainless steel. Cost: just under \$100.00



Installed



The Shaftlok Mod II installed on Sea Dragon. It works well once engaged. However it will not lock if the shaft is turning too slow or too fast. On Sea Dragon the shaft begins to freewheel at approximately 2 knots. Once we reach 4 knots it is not possible to engage the Shaftlok. The best speed for engaging the shaftlok is between 2-3 knots.

The nice thing about the location of the big knob that you press in to engage the Shaftlok is that the toes of my right foot can be placed on the knob while at the helm. Once I set the sails and kill the engine, I manage the boat's speed by steering into or off the wind. Watching the knot meter, I wait until the boat speed is between 2-3 knot and apply pressure to the big knob with my foot..... It locks into place and we silence and great sailing.

The last step is to find location for control knob. In my case, I

moved the fuel stop control over sealed the hole it passed through and added the control knob. My next task is to find a way to improve the appearance.

