Catalina 350

C350 Association Technical Editor

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Maintenance Procedure - Are You Prepared or a Belt Failure?

Most of us have seen the belt on our Catalina engines. It's right there in front of us when we open the engine cover. The belt goes around the flywheel, the water pump and the alternator. In theory we all inspect the belt regularly and replace it before it gets close to failure. Also, many of us have a spare belt, the right size for our M-35 (Westerbeke 30475). But have you looked closely at what it would take to replace the belt? If the belt failed while out cruising are you ready to replace it?

It seems pretty straight forward. Just wrap the belt around the three pulleys. Shouldn't this be simple? Well let's see. The inlet hose for the fresh water going up to the water pump is in the way. The only way to get the belt on is to remove the hose. So take off the hose clamps, and tug on the hose until you finally pry it off, BUT FIRST CLOSE THE SEACOCK! Removing hoses is one of my favorite things to do. I usually only skin one knuckle, but I often get two. It's an extra bonus when I get to do it on a hot engine. Of course, as soon as hose is off the, all the water in the line will flow out, so have some rags handy.

Now that the hose is out of the way, it's time to put the belt onto the three pulleys. Since the belt has very little stretch, it won't fit around the pulleys. The belt is actually V-belt and must get around the pulleys and seat in their grooves. In order to install it , you have to loosen the bolt on the alternator bracket. With this bolt lose, the alternator will move and allow the belt to go around all the pulleys. Once the belt is on the pulleys, you have to re-tension the belt. You can do a reasonable job of this, but it's kind of a two-person job. One person needs to pull on the alternator, while the other tightens the bolt. There is a tool that does a better job. It's called a "belt tensioner."

With a belt tensioner, putting the belt on is a one-person job. Once the belt is around all the pulleys, the belt tensioner will hold the alternator in place, while you tighten the bolt on the bracket. You want to have 3/8 to 1/2 inch depression on the belt when it is properly tensioned.

Once the belt is replaced, it's time to put the hose back on the pump input and replace the hose clamps. Be sure to open the seacock again before starting the engine.

While this simple procedure is being performed, hopefully, the need for the engine isn't critical. So, at this point you're probably wondering if there is some easier way. Well, I don't have an easier way, but maybe a slightly smarter way. The real problem is having to remove the water hose in order to replace the hose. So what I do is remove the hose at some convenient time and put an extra belt around the hose and leave it in the engine compartment. I stow the belt some ways up the hose, to the side of the engine compartment, making sure it's clear of all moving components. Then if the in-service belt ever breaks, I loosen the alternator bracket, rig the spare belt, use my belt tightener to hold the alternator in place and retighten the bolt on the alternator bracket. In the meantime, I try to check the belt for wear on a regular basis. *–Al Lohman, Rhiannon, Hull #221*

Bladder Tank Installation for Fresh-Water Head Flushing

A 13-gallon flexible water tank was installed under the head sink (tank is a Plastimo brand with 1-1/2 in. inlet and 1/2 in. outlet and can be obtained from West Marine by special order).

Adapters were used from the 3/4 in. sink drain outlet to the 1-1/2 in. bladder tank inlet and from the 1/2 in. bladder tank outlet to a 3/4 in. hose that runs to the head intake inlet.

A simple garden hose Y-adapter is connected to the sink drain with one outlet connected to the sink overboard drain and the other to the hose to the bladder. The valves on the Y-adapter are used to direct water flow from the sink drain to either the overboard or into the bladder.

Next a hose is run from the bladder outlet, under the floorboards, and up to the raw water inlet hose between the strainer and the thruhull. This hose is teed in using an inline check valve to prevent backflow into the bladder (see photo). (The check valve is the black attachment that can be seen behind the holding tank drain hose.)

There are two nice features to this arrangement. One is that either fresh water or raw water can be used at any time to flush the head and the other is that Raritan CP, or a similar product, can be run through the system with each fresh-water flush by simply pouring some down into the drain prior to filling the bladder tank. *–Greg Kyle, Irie Life, Hull #209*



Photo of plumbing under port-side mounted holding tank and red-handled discharge valve

Satellite TV with TIVO

A mount was made for the satellite dish using starboard and attached to the stern rail so it can be easily removed by loosening the wing nuts to lift the entire assembly off the rail.

Dimensions for the dish mount are as follows:

- 5 in. X 7 in. for the piece to which the Sat dish bracket is attached.
- 5 in. X 1 in. for the two middle starboard spacers
- 5 in. X 5 in. for the backing plate

The starboard is glued together using 5200, with the top Sat dish bracket bolted through all 3 sections of the starboard. The wing nuts have 1 in. spacers between them.

The cabling (two cables because of the dual-receiver TIVO unit), was run to an old 15-amp receptacle that was converted to take two cable inlets. As a note here, some boats came equipped with RG-59 cabling running to the stern. This was replaced with new RG-6 cables for this purpose).

For the Receiver /TVIO unit, a shelf was installed in the aft locker using standard wire closet shelving and



Dish antenna mounted on stern rail



Close-up, of 3 stern electrical outlets



Nav station showing bulkhead-mounted TV

plastic end brackets that can be found at Home Depot. The sides are mounted using the plastic brackets and the back is held in place by two metal strips mounted on the wooden support brace at the back of the locker. Additional shelf support is provided by the standard equipment wooden clothes rod that runs along the top of the locker. A hole is then drilled in the top aft side of the locker, behind the molding, to run a power strip from the receptacle in the aft cabin.

In order to use the remote control in the main cabin, an IR extender was used, with the sensor cable being run so that it pokes out just behind the TV in the corner where the aft bulkhead meets the electrical panel. This is also where the cabling back to the receiver unit, the power chord for the TV and the antenna cable for Satellite radio is run. (The IR extender can be found at http://www.smarthome.com/8225p.html).

A marine stereo with DVD was also installed as an alternative to a separate DVD player attached to the TV. *–Greg Kyle, Irie Life, Hull # 209*

Riding Sail Installation

1.Obtain 2 pieces of scrap wood, each about 3 feet long

2.Drill a hole, approximately in the center, for a 3/8 in. screw with a butterfly nut to act as a template hinge

3.Drill four more holes on this strip, 2 on each end of the "hoist" strip, about 1 in. inch from the end and the others a couple of inches toward the center. Two of these, those closest to the center of the strip, are to be used for securing the hoist strip to the backstay, the top one will be used as a halyard attachment point for the hoist strip, and the bottom one will be used as an attachment point for the foot.

4.On the other strip, drill two holes each about 1 in. from each end.

5.Attach one end to the center hole of the hoist strip using the screw and butterfly nut.

6.Attach a line to the flag end of the perpendicular strip that will reach the midship mooring cleat that is on the same side as the split backstay that was used, with some to spare. (It doesn't matter which side of the split backstay you use).

7.Make sure the hinge screw is tight enough to hold the position of the two strips to each other, but not so tight that it cannot be moved slightly. Then using the halyard, hoist the template to a position about midway between the top of the bimini and the top of the backstay split.

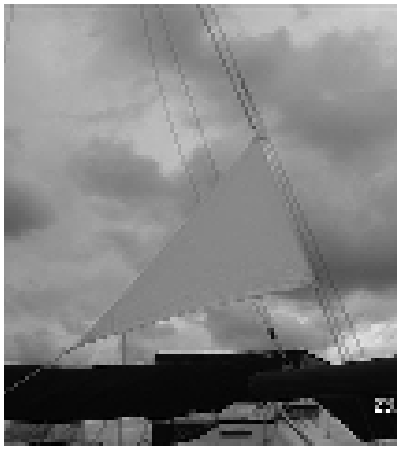
8.When positioned to your liking, haul on the line at the mooring cleat so as to establish its angle position relative to the hoist strip.

9.While in this position, tighten the butterfly nut so that the two strips are locked into position relative to each other. VERY CAREFULLY untie the line from the flag end and remove the template, maintaining the angle. (The addition of a small wood screw and/or marking the edges of the "flag" strip on the "hoist" strip may help).

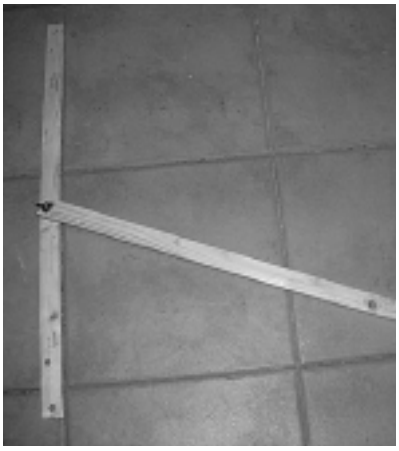
10.Take the template to your sail maker and have him make a sail of 9 oz cloth off cut, approximately 5 ft on the hoist side by 6 ft in length. The sail should be flat cut and slightly scalloped so it doesn't flap in the wind. It may also be additionally stiffened by taping all around the edges with 5/8 in. tape (your sail maker will know what to use) leaving a loop at each corner, which will serve as attachment points for the lines. (Alternatively, grommets may be installed at all three corners of the flag).

11.For ease of installation and removal, use piston hanks at the top and bottom of the hoist side. Also, use a carabineer clip for attachment to the backstay screw at the base of the hoist side.

12.The sail can be attached to either backstay and total cost should be about $150. *–Hugh Knox, Equinox, Hull #315*



Green riding sail



T-shaped riding sail template