

Chapter 12 Bow Thruster

The Sidepower thruster is made in Norway, but is fully supported by the importer, Imtra.

Telephone: 508-995-7000 (in MA)

Website: www.imtra.com



The bow thruster is a Sidepower model SP75T (SP80T on later boats), mounted upright under the forward berth. To get to it, lift up the mattress, and remove the 2 rectangular interlocking access covers. The bow thruster is under yet another cover, in that big soundproofed box in the middle of that area.

Around 2005 there was a minor change to this thruster to add 'IPC (Intelligent Power Control) circuitry. This circuitry compares the low-power joystick signal with the high-power motor draw, to prevent running of the thruster if the solenoid contacts stick 'on'. (Underneath the black solenoid cover, the IPC thruster has 3 wires on the starboard side, and the pre-IPC one has only 2). It's hard to see, but the thruster in the photo is a pre-IPC model.

In 2008 the thruster propellers were changed to 5-bladed, and the model rebranded as an SP80T (for 80kg thrust).

I believe the (optional) stern thruster is a similar motor, but mated to a different gear case, and mounted on its side in the stern lazarette. The early ones had water leakage problems, but later ones use a sealed 'fuel vapor safe' model, and seem to last longer.



In the picture above, a black plastic cover over the solenoid pack has been removed prior to troubleshooting.

There are 2 little metal pins on the outside of this cover. They are spare shear pins for the thruster propellers.

In-water maintenance

Check the oil level in the reservoir next to the thruster motor once or twice a year. It should not vary at all.

Also inspect the clear oil supply tube. If this is milky, water is getting into the mechanism and you need to schedule a pro to inspect the bow thruster during the next haulout. And bring money.....

Top-up the reservoir, if necessary, with EP90 oil (probably the same grade you use in the dinghy outboard gearbox).



Note that newer boats (after 2008) with the SP80 thruster have a *sealed gearleg* and no external oil tank. One less thing to maintain...

Out-of-water Maintenance

During the haul-out, the thruster zincs and propellers should be removed and inspected. Change the drive leg oil by removing the drain bolt (accessible once the propellers have been removed and all of the barnacles have been scraped off). Use a 19mm socket to remove the bolts on the props and a 5mm hex wrench to remove the drain bolt. Drain about 3-4 tablespoons of oil. Inspect the washer and clean or replace as needed. Then top-up the reservoir with EP90 oil.

Bottom Paint everything (including the prop blades, but not the zincs), check the shear pins, grease the shaft and reassemble with new zincs. The bolt holding the zincs is also a 5mm hex-head, and needs Loctite Blue to prevent loosening

More information on annual maintenance for the thruster can be found at the following Imtra website:

http://www.imtra.com/downloadTypes/SP_Annual_Maintenance.pdf#search=%22imtra%20thruster%20maintenance%22

Upgrading to the new Q-Prop

Starting in 2008, Sidepower made a change to the propellers on their thrusters, changing from a 4-bladed prop to a new 5-bladed “Q-prop”. The claim is that they provide about 7 percent more thrust and are 20 to 40 percent quieter than the old 4-bladed prop in a typical installation.

The picture below shows the new prop (to the left of the box) and the old prop (to the right of the box).



Since we were heading for a haul-out in the near future and are always happy to have more power when maneuvering in close quarters, we decided to give the new props a try.

As promised, they were easily installed with the supplied adaptor boss. The kit includes the two props, adaptors, 2 new zincs, prop nuts and shear pins. The picture below shows the new props installed.

We had the yard 'bead-blast' the props before applying a couple of coats of bottom paint. The bead-blasting prepares the surface so that the bottom paint would adhere better.



After we dropped the boat back in the water, we gave the thruster a try, figuring that we would now be able to use our new 'stealth' thruster and appear REALLY impressive maneuvering around the dock. Bow thruster??? What bow thruster...

We have to report that we honestly did not notice any marked reduction in the sound. It may be a little quieter, but we did not see the 20-40 percent reduction in noise as promised in a 'typical' installation.

We did, however, notice a marked improvement in the amount of power. I guess one out of two ain't bad – and to be honest, I'll take the increase in power over the reduction in noise any day...

Problems

After about 3 and a half years, 1400 engine hours, and approximately 200 locks, my bow thruster began to malfunction. It would occasionally (maybe 10% of the time) fail to operate. That added a little excitement to the docking or locking experience... The control panel turned on, but the motor would not run. This gradually got worse, until it was pretty unreliable – failing to run close to 50% of the time. Of course this happened right in the middle of the Rideau canal in Canada.

I called the nice people at IMTRA (the Importers) in MA (508-995-7000 sidepower@imtra.com) and talked to Phil Whittaker, who does tech support for Sidepower. They're ready to help, and emailed me a troubleshooting guide, which I followed. That guide, and the owners manual (if you don't have a hardcopy) are available on their website www.imtra.com. Look for the 'Support' area and select 'downloads'. Then select the Category 'Thrusters' then 'Sidepower thrusters' and a long list of documents appears. You can also email or call them and they'll send or fax you copies.



Don't mess with this expensive device without talking to them and having all the information you need.....



Measure the voltage between the Red and Yellow wires at the thruster, or closely observe the voltmeter on the dash. It should be at least 12V at rest. Then measure it when the thruster is run (if it runs). If it drops below 10.5V the thruster is not designed to operate, and it indicates that the engine start battery is probably failing.

The problem in my case turned-out to be bad brushes. Richard Gray (AT34 #087 "Gray Dawn") had similar symptoms, which turned-out to be the solenoids.

Eventually, I had to send my thruster back to Imtra in MA and have it rebuilt. There were 'high spots' on the commutator that were chipping and wearing the brushes prematurely.

You can remove the motor while the boat is in the water. This can be done quite safely, without leaving a big hole in the bottom of the boat - which is never a good idea...

1. You'll need an 8mm hex wrench for this. Invest in one from Sears that attaches to a socket drive to make it easiest. A torque wrench is handy, too.
2. Turn the Engine Start Battery switch (under the helm seat) OFF.

3. Check that the thick red and yellow wires are no longer 'live' with a voltmeter. Remove them (there are 2 thick wires on each post, and insulate the red ones, just to be sure...
4. Pull the white plastic 'low-current' connector apart.
5. Remove the four 8mm hex-head screws that hold the motor in place. Do this like a cylinder head – loosen gradually them in sequence.
6. Pull the motor straight upwards. It weighs 25-30 lbs, so have your wife do that – no sense in throwing your own back out. There is a rubber 'Lovejoy' coupling underneath – don't lose it. That's a black rubber donut-shaped thing that absorbs any shocks between the thruster motor and the propellers.
7. Reassembly (as they say) is the reverse of disassembly.