

Gentlemen,

UNDERWAY on diesel power! Thanks to a spectacular job done by Ken Navis and our good fortune to have been introduced to STEYR Motors as an alternative to conventional diesel engines, TOMCAT returned to the water yesterday for sea trials with the Steyr Tech Rep, John Scott, onboard. John brought his laptop with the diagnostic programs to let us see what was going on inside the engines during a 90-minute check run on the Severn River.

From the initial light-off, things just felt right once the factory preservatives burned off and the smoke cleared up. It only took a few minutes and when we closed the hatch, it was noticeably quieter at idle than the Crusaders. At idle, the engine rpm is 630. That converted to a speed of 4.1 knots. We will troll for rockfish on one engine in calm weather conditions to get our speed down a little, but we are use to that.

These engines have considerably more torque than the Crusaders albeit less horsepower. With the 4 blade props, we worked up to full power on the throttles and reached 3850 rpm, with speed at 28 knots. The full power range for the motors is 4200-4500 rpm, so we confirmed the props need to be down pitched to let the motors run up to the full power zone. I took the set of 3 blades to Black Dog on Kent Island and they will adjust the pitch so we can put these props on next week and rerun the trials. Our target is 4400 rpm and taking 2 inches of pitch out of the blades should get us to that level.

All the internals were on spec for temps, fluid flow rates, pressures and the like. It is really helpful to have a data port on each engine that lets you conduct a full range of diagnostics in real time and make a permanent record from day one. We did encounter one reading that had John, Ken and the tech center experts puzzled. The diagnostic program measures fuel flow by counting the injector pulses. The amount of fuel per pulse is converted to a liter per hour flow rate and then to a gallon per hour figure. This is really the "bottom line" we were interested in as fuel consumption was the driving concern that led to the decision to repower.

The calculations led to a fuel consumption figure at 3400 rpm of 4.92 gph for both engines....TOTAL! We had done all our calculations on a projection of 15 gph total burn rate at cruising speed (3700 rpm). The Crusaders burned 30 gph at 21 knots. We were running 24.7 knots at 3400 rpm and burning less than 5 gph doing it. Mind you, we will have different props and will run at a higher rpm than the trial yesterday, but the net change should be a boat that cruises at 25 knots at 3700 rpm.... and a burn rate below 10 gph at that speed.

You can do the math and pick your price of gasoline, but a savings of 20 gallons per hour and an increase of speed by 4 knots are compelling arguments for conversion. We are very excited to get the adjusted props on the boat and rerun the trials next week. If we achieve a burn rate of 10 gph, the full to dry range of the boat at 25 knots will be 600 nm. With the Crusaders, it was 168 nm.

Now it is up to Rick Maio at Technical Electronics to complete the installation of the new Furuno equipment and the autopilot. We hope to shake down on a trip to Mobjack Bay on April 13 to find some big flounder with Captain Bob Reed but if the boat isn't ready to go, we will drive down and fish anyway:)

Thanks to all of you who have encouraged and supported us in this journey to revitalize a boat we love and did not want to sell. Looks like she is on her way to being all that she can be and that means years of reliable service at considerably less cost to operate and maintain. You are all welcome to join us for a cruise or fishing run as soon as you can get here.

Pete