

## *Ask the PROP GUY....*

Energy costs have increased significantly since the last summer season and is prompting boat enthusiasts to re-evaluate their plans. Should I plan just one vacation closer to homeport and stay longer or take a series of short jaunts and long weekends? How do I know what will fit into the budget without breaking the bank? Will fuel costs prohibit the use of my vessel?

Serious questions that have to be addressed in planning to enjoy your pride and joy, but is the situation THAT more different from last year? If fuel is up 1.50 cents a gallon and your vessel burns 25 – 40 gallons an hour (small block twins – big block twins), your hourly fuel expenditures increase \$37.50 - \$60 an hour. A four-hour trip will cost an extra \$150 - \$240 in fuels each way. That is on top of what was paid at last year's prices.

It makes sense to evaluate if more efficiency can be gained from the drive train. One of the easiest increases would be to replace the small restrictive flame arrestor with a new Coast Guard approved larger air filter. These come with elements that can be removed and cleaned as needed and increase the amount of air available to the motor(s). Tune-ups and transmission to shaft alignment are all easy fixes and inexpensive. What about that thing on the end of the shaft called a propeller?

The propellers are your final element in this equation. They also are your “tires” and rear axle ratio all in one that affects your drive train efficiency. This is where the tuning of your propeller(s) can save the most money. Boats are propped from the manufacturer to address the worst case (heavy) to best case (light) scenario. The OEMs don't know if the vessel is going to be used by a family of six or a couple. Loading the vessel with all the extras we want to keep at arms length plus fuel significantly changes the demands on the drive train. The motors and transmission are the constant so wouldn't adjusting the propellers (tires) to fit the load make sense?

An example of this is a customer who owns a 390 SeaRay and wanted to know if there was a way to increase efficiency. After surveying his situation, a family of 5, liked to travel, run with full tanks to about 3/4 empty, then refuel. Looking at the physical attributes, motor rating, prop clearance and stock propellers, a change in propellers netted 3.5 knots increase at 100 RPM less and the fuel burn rate went from 40 gallons/hour to

32gallons/hour! This frees up significant dollars! To put this in prospective, a 34-mile trip to the islands that took 2.5 hours now takes 1.75 hours. Do the math:

2.50 hrs x 40 gallons/hr = 100 gallons

1.75 hrs x 32 gallons/hr = 56 gallons

**44 gallons at \$4.75/gallon saved \$209 each way!!!!**

Not only did the amount of fuel decrease but also the time running. Getting there sooner, burning less fuel equals better efficiency and many more smiles this season. Have your boat efficiency evaluated at a propeller shop with the technology to determine if there is room for improvement for you this season.

Please feel free to email me with your questions at [propguy@firststep.net](mailto:propguy@firststep.net) or fax to 313-383-0542.

**Here's hoping you have smooth water and clear skies...PG**