



Strokes Go Up, Weigh Goes Up, Pollution Goes Down

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So, I go out to buy a new engine for my dinghy. The old 2-stroke 5hp engine had finally, after nearly 10 faithful years, become too aged for further service. As I look at the options - all 4-stroke engines - I realize that I have to drop down to 3.5hp or face putting 80 pounds on the transom where formerly 40 pounds had ridden. This column is about that.

The Old 2-Stroke engine - What is a "stroke"?

The basics of a 2-stroke engine versus 4-stroke engine has to do with what is known as "Thermodynamic" cycle. Basically in a 2-stroke engine, the beginning of a compression stroke and the end of the combustion stroke also occurs at the same time as the intake and exhaust functions. In a 4-stroke each of these functions takes place within its own stroke. The return of the engine to its original position after going through these strokes is the "Thermodynamic" cycle - 2 strokes for the old model and 4 strokes for the newly legislated, current state of the art.

So, What's the Problem?

A decade ago, the two-stroke motor, found on 75 percent of all boats and personal watercraft (jet skis), generated 1.1 billion pounds of hydrocarbon emissions each year. This was the annual equivalent of spilling as much oil and fuel into US waterways as the Exxon Valdez - 15 times over. These high emissions were attributed to the design inefficiency of the two-stroke motor, which had remained essentially unchanged since World War II. What made it so inefficient?

Largely, it was this - about a quarter of the fuel and oil, mixed directly into the furl, went unburned and thus was emitted directly into the water and air. Imagine having the gas dock operator selling you 3 gallons of gasoline and charging for 4 gallons, putting



the pollution aside... The EPA estimated that one hour of operation by a 70-horsepower two-stroke motor emitted the same amount of hydrocarbon pollution as driving from New York to Los Angeles in a modern automobile - and back.

4-stroke engines emit 97% less pollution than conventional two-strokes. Why? Simple - 4-stroke outboards use the same combustion process used in automotive engines. This means that, unlike the 2-stroke engine, 4-stroke engines never have an exhaust and intake valve open at the same time. This keeps any unburned fuel from being ejected from the engine. Also, 4-stroke engines don't require additional lubricating oil to be blended in with the gasoline to operate and aren't part of the exhaust, unburned or otherwise. Like your car engine, the lubricating oil is a separate

system within the engine complex, stored in the crankcase, unmixed with the gasoline. Also, they burn hotter, [read: more efficiently] and thus are more efficient at gas consumption. Manufacturers quote as much a 25% better fuel mileage. (Of course, slowing down would help even more - tests show that you burn over 50% more fuel at WOT than at mid-ranges. See what the effect on your speed over the water is if you just throttle back. See SSP, "Fuel Efficiency on the Water", 7/23/08.)

OK, So What's the Problem Now?

Well, they are heavy. When I went to replace my 5hp engine, I found that the 4-stroke replacement weighed 80 pounds - 2x's what the 2-stroke engine that it was to replace. When I contemplated trying to get that engine in and out of an 8-ft dinghy, floating dock-side, I said, "Ah, that's not going to happen without me and/or the engine ending up in the drink - what's the next size down?" 3.5hps in a 4-stroke weigh about what 5hps do in a 2-stroke. A car engine, not a weed wacker...

But the 2-stroke guys haven't missed some this dialogue. The latest technology response is DFI - direct fuel injection (DFI). The required fuel mixture is injected directly into the cylinder after the piston passes the exhaust port. This prevents any unburned fuel from being prematurely forced out of the engine. DFI retains the advantages of a two-stroke engine's efficient power cycle and lighter weight and greatly lowers pollution levels normally generated by 2-strokes. In short, they're not your father's 2-strokes any more.

All this can't be bad for boaters...

BTW, if you are interested in being part of USCG Forces, email me at JoinUSCGAux2010@aol.com or go direct to John Blevins, who is in charge of new members matters, at FSO-PS@emcg.us and we will help you "get in this thing..."



FISHING WITH TONY

ITS PORGY AND SEA BASS TIME

by TONY SALERNO

Just because summer has officially ended, it certainly doesn't mean it's time to store the tackle until next season. Indeed the weather has been a bit brisk this past weekend, but the fall fishing is just starting. In the weeks ahead, anglers will be putting the focus on stripers, bluefish and blackfish, but for now, there are plenty of sea bass and porgies for the taking and I mean plenty.

Along the waters of the north shore, Candy Carafitis of Carafitis Fishing Station on Main Street in Port Jeff reports super porgy fishing at Cranes Neck and Old Field Point on clams and worms. If you employ clam chum, you'll really be bailing them. There are some quality sea bass mixing in with the scup as well. During the week, Vinny and Pete Cardi fished Old Field Point for a limit scup in no time at all. Bigger porgies are taking up residence at the Middle Grounds, where both open boats the Celtic Quest and the Osprey are putting a hurting on the feisty critters. In addition, there are plenty of bluefish for anyone looking to beef up their battles as the choppers are ranging up to 15-pounds.

Along the south shore, sea bass outnumber porgies for the time being, however that should change in the weeks ahead as the scup begin their fall migration to the Continental Shelf. In the meantime, along the waters of Shinnecock, both open boats the Shinnecock Star and the Hampton Lady are enjoying typical autumn action with plenty of quality sea bass and porgies filling out coolers for patrons of their boats. In addition, the Shinnecock Star is enjoying great action with RSA fluke where everyone is having a blast icing down plenty of fluke in the 17 to 20-inch range.

Further to the west, the Center Moriches based open boat Rosie and Captain James Russo are having no problem putting fares over plenty of quality sea bass and porgies with a scattering of triggerfish. While some anglers fill their coolers with a limit of tasty biscuits to 5-pounds, most fares put between 10 and 20 apiece in the box along with the scup and triggers. Plenty of shorts keep rods bending all day as well. As the weather continues to cool, the fishing will only get hotter. Now is the time to hit the water.



Camp Pa-Qua-Tuck's Autumn Respite Schedule Announced

Camp Pa-Qua-Tuck announced that it is opening its doors again for the autumn weekend respite program, transforming the 60-plus-year-old camp into a year-round destination for children with disabilities.

Children up to the age of 21 arrive on Friday evening and leave on Sunday afternoon. There is a new theme each weekend. Children can participate in various activities, including baking, arts and crafts, games, and watching movies.

The weekends available are as follows: September 17-19, 2010; October 8-10, 2010, November 19-21, 2010 and December 17-19, 2010. The cost of each weekend (Friday to Sunday) is \$350. The camp requires a \$50 deposit per session which is non-refundable unless registration is cancelled 30 days prior to the session.

"We are excited to bring back this wonderful program," said Bridget Costello, Director, Camp Pa-Qua-Tuck. "This gives children the opportunity to be themselves, and the parents a chance to relax while their children are being taken care of."

Check-in for campers are by 8 p.m. on Friday and check-out is by 3 p.m. on Sunday. Up to 14 campers will be admitted for each weekend. During those weekends, the camp will be staffed by five counselors and the camp nurse.

For more information and to register your child, call (631) 878-1070 or visit www.camppaquatuck.com.

Camp Pa-Qua-Tuck was created by members of the Moriches Rotary Club in 1946. Located on the shores of Kaler's Pond on eastern Long Island, Camp Pa-Qua-Tuck is funded entirely by donations and is a special place where children with physical and developmental disabilities can experience firsthand the pleasures that an active life has to offer. Children participate in a wide range of activities especially designed for youngsters who are in wheelchairs as well as those who are ambulatory. These activities include swimming, boating, arts and crafts, petting zoo, talent shows, cook-outs, games and a Carnival Day. The program also provides educational activities in areas such as nature, arts, fire safety and communication skills.