AeroMarine Research
TBPNews - Performance Report

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TBPNews #102 – June 30, 2006

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>>>> **Tunnel Boat Performance News** >>>>>> (over 7000 members!)

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******************** TBPNews ******************

1) 2006 ODBA Schedule

Come out for all the excitement of ODBA World Championship Outboard Drag Racing!

2006 ODBA Schedule
April 22-23--Chattahoochee, FL
May 20-21--Wetumpka, AL
June 10-11--Demopolis,AL
July 3-4--Kingston,TN
Aug.5-6 - Plymouth, NC
Oct. 13-14-15 - Jasper, TN

More info at: http://odbaonline.com/

******************** TBPNews ******************

2) Feature Article - "*10 Safety Mod's and Tips for High Performance Go-Fast Boats*"

In order to drive fast, and do it more than once, you need to also drive safely. Installation of these safety features will provide reliability, and stability to your hull setup - which will allow you to drive faster, and do it with safety. There is an old saying..."if you can't drive it fast, you can't win". Using the right performance safety mod's will help

you achieve that optimum speed in your boat. Here are some features that can be considered the 10 basics of performance accessories.

1. *Dual Cable/hydraulic Steering* - This is a must to provide good control and reduce boat wobble - especially on vee-bottom hulls. Hydraulic control also has better driving comfort especially at low speed.

2. *Wheel Trim Switches (3)* - You will need to keep hands on wheel to go fast. Trim switches on the dashboard is just not good place for it because requires hands off the wheel. One rocker switch on wheel is good solution. But as the steering wheel turns, you will want to have switch near your hand at all times. So three (3) switches on wheel is even better. An alternative is switches on a floor-mounted footplate - one up and one down.

3. *Solid Mounts* - OEM motor mounts reduce vibration, but they can reduce control at high speed. Replacing these with solid motor mounts adds boat control and driving ease, especially with jacked up engines in rough water. Cost is usually minimal at approximately $100. The lower set of mounts is relatively easy to change, while the upper set requires powerhead removal - but it's really worth it.

4. *Foot Throttle* - Below 50mph standard hand throttle not too hard to control (although I still feel it's not as safe as two hands on the wheel). Faster boats definitely need more concentration and control. Attention to trim, balancing the hull with steering, etc. will need both your hands on the wheel. A foot throttle allows hands on the wheel where they belong.

5. *Balanced Weight* - At high speed, balancing a vee-bottom on the pad can be tricky and takes experience. This is much easier to accomplish when your boat is balanced. When most of the dynamic lift and support of your boat is on the rear pad, any imbalance on one side or the other will tilt the boat to that side. Your battery, fuel, trim pumps, oil reservoir, etc. should be moved to the position that will help balance your normally set up rig. You can also move your seat and steering to the center of the boat if really needed.

6. *Kill Switch* - This isn't really an option, and should be standard equipment on all boats especially high performance boats. The kill switch should be mounted near driver with strong lanyard that clips to the driver's life jacket or belt so that if he is thrown from the rig, the engine will stop running immediately. Many motors come with them now. If you don't have one, you should...this is a 'must have'. An even more important...you must use it!

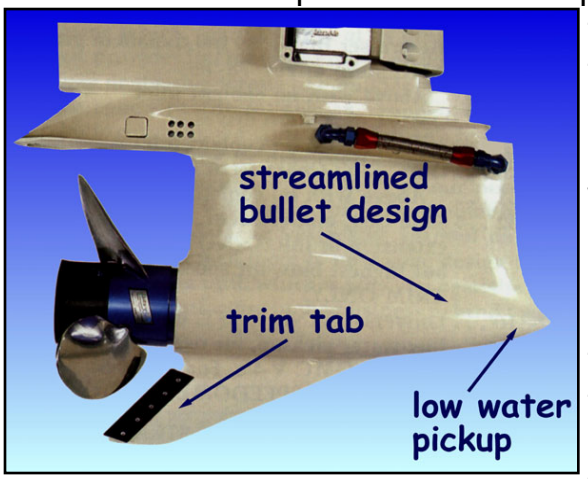
7. *Life Jacket/PFD w/collar* - You would be crazy to drive fast without a good life jacket (Gentex, Lifeline). If you've ever come out of your high performance boat, you know how important this is. Even

the best swimmers will need some help in such a situation.

8. *Helmet* - Similar to driving fast without a life jacket, a certified helmet is the other half of the story. It is very easy to hit your head when hooking in a corner, or during a propeller blowout. As a driver, you are not usually "locked" in to seat, so it is easy to get banged...and if you fall out? Yes, you need protection.

9. *Water Pressure and/or Engine Temp Gage* - These gages can save your engine from disaster, but that's not what this is about. If your engine does lock up from overheating, it can be extremely dangerous. And it's easy to do when trying to get the most out of your rig. When it happens, it can happen in a big hurry. Your boat can hook and spill you out easily. Either water pressure or engine temperature indicators or both are the best warnings. Both are easy to install. The WP gage installs in the cooling loop to the powerhead, and then to the gage. The engine temperature gage installs easily with a small thermocouple mounted to one of the bolts on the engine block. These can save your engine, and your life.

10. *Nosecone & Torque-Tabs* - The low water pickup should be used when water pressure is insufficient. The nosecone can help with lower hydrodynamic drag but more importantly the prevention of "blowout" when speeds above 70 mph are required. These devices are usually epoxied or welded to the front of the lower unit bullet. Prevention of blowout can be a tremendous safety enhancement, and one that you should consider strongly if you intend to drive your boat at speeds approaching blowout velocity. A nosecone can also allow a low water pickup to extend the intake of water-cooling flow inlet to lower on the gearcase. This ensures enough water flow to keep engine cool also. If your rig needs excessive trim to achieve top speed or it is currently suffering from premature prop ventilation, then a nosecone would help. Along with nosecones go torque tabs, those little add-on skeg wedges that not only help our gearcase track straighter, but also keep you from big-time arm therapy after a day on the water. Torque tabs simply rivet onto the starboard, rear of the skeg.



See more Performance Articles at: http://www.aeromarineresearch.com/articles.html
********** TBPNews **********

3) Volvo Penta IPS In First Multi-hull Boat

The Australian boat builder *Noosa Cat* is the first builder to install Volvo Penta IPS in a catamaran. The 12-meter boat was recently named "Australian Boat of the Year 2006" awarded by the Australian Marine Industry Federation.

With forward-facing propellers and steerable drive units, Volvo Penta IPS is new in the boating world. Introduced in 2005 (*see TBPNews #75 - February 21, 2005, "Volvo Penta IPS revealed"*), the drive system has received awards and recognition worldwide and is being installed in increasingly more

boats. Compared with conventional shaft installations, boats equipped with Volvo Penta IPS become better in all respects: performance, comfort, environmental impact and driving properties.

The installation was the result of a customer who first ordered a Noose Cat 4100 with conventional shaft, but sought higher performance in the boat. The shipyard proposed Volvo Penta IPS500. A Volvo Penta IPS500 with 370 hp is said to match a conventional shaft installation of about 500 hp. The drive unit also acts as an exhaust pipe, muffler and cooling water intake, which means that the boat builder Noosa Cat does not need to cut any additional holes in the hull.

More information about the boat: http://www.noosacat.com.au/4100.html
********** TBPNews **********

4) Mercury Racing launches "Factory Fresh" service for 850 SCi & 1075 SCi Stern drives

Mercury Racing announced the launch of "Factory Fresh", an all-new engine refresh service for the popular 850 SCi and 1075 SCi consumer performance sterndrive engines. The factory-direct service, based at Mercury Racing's headquarters in Fond du Lac, Wis., features complete inspection and refresh of the engine – from the bare cylinder block through a final power run on a dynamometer.

The refresh service center is located in Mercury Racing's 4-Cycle Race Shop and staffed by the same technicians who built the engine originally. Mercury Racing technicians work their magic, taking the engine down to the bare cylinder block. In addition to the block, the crankshaft and all other rotating components are washed and magnafluxed to ensure metallurgy integrity. After the long-block assembly has been refreshed, it goes through Mercury Racing's electrostatic, high-solid, polyurethane paint process to bring it back to like-new condition.

Replaced rotating components include the camshaft, pistons, rings and connecting rod bolts. Cylinder head re-work includes replacement of intake and exhaust valves, valve springs, retainers, valve seals, valve locks, rocker arms and lifters. Superchargers are inspected and updated with new snout bearings and seals. The refresh process includes the replacement of high-tension leads, spark plugs, oil and fuel filters, all belts, special head gaskets, seals, hoses, impeller, and other miscellaneous hardware. All replacement parts carry the same warranty the engines are sold with – 180 days for the 850 SCi and 90-days for the 1075 SCi and a 30-day labor warranty. There is also a Mercury Racing dry-sump Six-drive refresh service at the X-Site test facility in Panama City, Fla.

More info at: http://www.mercuryracing.com/news/pressreleases/
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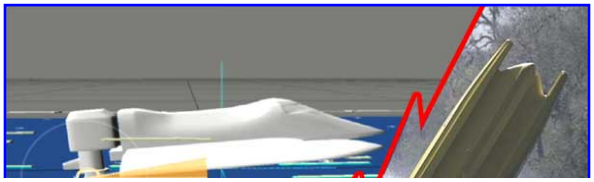
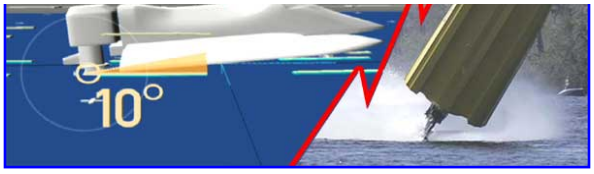
5) Powerboat Racing on TV

*** "*Thrill Zone: Extreme Powerboats*" - National Geographic powerboat show.



Author Jim Russell (Jimboat) is powerboat design technical consultant on a new National Geographic special for "Thrill Zone" series...Wednesday, July 19, 8:00PM; Thursday, July



20, 3:00AM; and Saturday, July 22, 4:00P

Details at: (http://channel.nationalgeographic.com/channel/ET/daily/20060719.html)

Watch for other show dates on AR's website! http://www.aeromarineresearch.com/NatGeo_thrill-zone.html
********** TBPNews **********

6) Champ Boat Racing: Rinker Wins Labadie Bay City River Roar

Defending series champion Terry Rinker of Riverview, Fla., driving a Mercury Champ EFI race outboard-powered Leecraft tunnel boat, won the 19th annual Labadie Bay City River Roar on Sunday, June 25, on the Saginaw river in Bay City, Mich. The race was the first round of the 2006 ChampBoat Racing Series. The win marks Rinker's ninth career victory in the competitive Champ class.

Wind-swept course conditions challenged the skills and conditioning of competitors as they pushed their equipment to the limit for 50-laps around a four-pin, 1.25 mile course sandwiched between two sea walls. Rinker, who earned the pole position, captured the lead off the dock at the start of the 50-lap final. Tim Seebold of Osage Beach, Mo., driving a new, Bud Light-sponsored hull of his own design, passed Rinker on lap 12 to take the lead. Seebold maintained a healthy lead until the race was stopped on lap 16, after Shaun Torrente of Miami, Fla., blew over his Bowden Development-sponsored hull as he was entering turn one. Thankfully, Torrente was not injured. Rinker recaptured the lead on the restart. Seebold chased the three-time Bay City winner all the way to the checkered flag – finished two boat lengths behind. Wyatt Nelson, Brian Normand and Lynn Simberger rounded out 3-5. The boats were all powered by Mercury Champ EFI race outboards.

Champ II/SST 120 - Scott Landgraft of Maple Plain, Minn., won the 30-lap Champ II/SST 120 contest. John Broge of Wyandotte, Mich., and Kris Shepard of Antioch, Ill., rounded out 2-3. Their boats were all powered by Mercury SST 120 race outboards.

Round two of the 2006 ChampBoat Racing Series is the Greater Cincinnati Grand Prix, in Cincinnati, Ohio, July 15-16.

Additional information can be found at: http://www.champboatracing.com.
********** TBPNews **********

7) Jimboat's Feature articles

Jimboat writes Feature articles in HotBoat, Family&Performance Boating, World of Powerboats, Extreme Boats magazines.

- 'The Bottom Line'-"Why does a Pad make a vee Hull faster?" - F&PB-Sept 2005
- "10 Smokin' Speed Secrets Revealed..." - HB-Feb2005
- "Winterizing your Performance Outboard" - F&PB-Jan2005
- "What a Drag" - 'Trim Angle & Engine Height Can Reduce Drag and Increase Speed' - HB-Sept2004
- "10 Safety Tips" - 'Ten Safety Ideas for High Performance Go-Fast Boats' - HB-Aug2004
- "Flight Path" - 'Where does Lift Come From?' - HB-April2004
- "Rocket Science" - 'How To Increase Your Hull's Design Speed With Aerodynamics' - World of Powerboats-Winter2004
- "Tunnel Vision" - 'What Factors Influence Tunnel Hull Performance' - Extreme Boats-April2003

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See you next time!
/Jimboat
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