

# AeroMarine Research

## TBPNews - Performance Report

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**TBPNews #133 - December 15, 2009**  
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>>>> **Tunnel Boat Performance News** >>>>> (over 5000 members!)

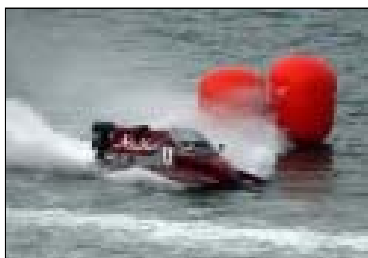
### In this issue:

- 1) **Selio Wins; Cappellini's 3rd Gives Him his 10th UIM F1 Title**
- 2) **Great Powerboat videos**
- 3) **Two drivers killed at Dubai Grand Prix**
- 4) **FEATURE: 'Winterizing Your Performance Outboard Engine' (Part 2)**
- 5) **Formula Two Boats Featured on 2010 PROP Tour**
- 6) **Al Copeland Jr.'s Phenomenon - fastest powerboat**
- 7) **NEW Powerboat Design Software V7.10 Released!**
- 8) **Powerboat Racing on TV**
- 9) **Jimboat's NEW Feature Articles**

\*\*\*\*\* TBPNews \*\*\*\*\*

Check out [review of Jimboat's 13th Ed. "Secrets of Tunnel Boat Design" book in HotBoat magazine!](#)  
 and NEW...[AR apparel](#), [discount books](#) and [discount magazines](#)

### 1) Selio Wins; Cappellini's 3rd Gives Him his 10th UIM F1 Title



SHARJAH, United Arab Emirates – Gudino Cappellini battled his way to a third place finish to finish a four year quest to win his 10th World Championship at the Grand Prix of Sharjah, the 16th and final round of the 2009 UIM F1 H2O World Championship.

Pole sitter Sami Selio of the Mad Croc sponsored boat had a great start and as he tore away from the pontoon the three boat battle for the world championship immediately heated up with unexpected results that saw one-half of the Team Abu Dhabi drivers of Ahmad Al Hameli blow over in a side by side battle with Cappellini for third place heading for the first turn pin. Ahmad blew completely over ending his day in dramatic fashion.

Meanwhile, farther up front defending World Champion Jay Price of the Qatar Team was trying to make up for a slow start when he realized that Al Hameli had crashed and let up on the throttle only to slide sideways not setting as he tried to get around the first turn, barrel rolling and continued to drive away minus his boat and engine cowl in the process. Price's dream for his second consecutive title died quickly when a few laps later his engine minus the cowl ingested salt water causing his power plant to lose power ending his season.



On the restart Selio stormed ahead with ease while behind him Cappellini and Al Qamzi set the start of a momentous struggle that last three laps with both boats touching each other more than one with Thani at one moment climbing alongside Cappellini somehow miraculously saving it and eventually passing the native from Como, Italy for second place all the way to the end of the 38 lap event. Cappellini soon realized all he had to do was to keep in line, finish third, and win his tenth title. For Cappellini it was the first crowning since the 2005 season and 38 races and four years in the process in a historic day for the sport.

It took nine months to complete and the 16th and final race to decide it but the 29th Year since the start of the U.I.M. F1 H2O World Championship has come to a close with the all-time entrant, winner and now 10 time World Champion Guido Cappellini came to finish off one of his major dreams in live, to win ten titles. Now, as the 20 year veteran decides his future he can be looked back at as someone who is very special in the history of the sport and whose records will be goals set by future drivers in the upcoming years.

Check out more at: [f1h2o.com](http://f1h2o.com)

\*\*\*\*\* TBPNews \*\*\*\*\* [\[return to top\]](#)

## 2) Great Powerboat videos



Check out these great videos....

[GP "Oberto" blows over](#)

[GTPro Power Boat Racing Little Falls, MN \(APBA 2008\)](#)

[2 Tunnels Blow Over](#)

\*\*\*\*\* TBPNews \*\*\*\*\* [\[return to top\]](#)

## 3) Two drivers killed at Dubai Grand Prix



Two members of a successful Dubai powerboat racing team were killed in the Dubai Grand Prix, after their speeding vessel crashed violently halfway through the race.

Dubai Victory Team's Mohammed al Mehairi, 34, an Emirati, and his co-pilot, the Frenchman Jean-Marc Sanchez, 48, a former world champion in the sport, were pronounced dead Dec 12 2009 according to Dubai International Marine Club, said in a statement. The race was the final round of the Class 1 World Powerboat Championship. The two pilots were, as of yesterday, the reigning European champions and ranked second in world standings.

Participants said the accident occurred about 3.45pm, minutes after the race's start off Jumeirah Beach Residence's shorefront residential complex. Their speeding, 12.67 metre powerboat, Victory 1, was observed losing control and flying into the air during their sixth lap. It then flipped over, crashing down on its back side.

After some delay, rescue boats, scuba divers and helicopters came to their assistance. "They hit the wave, and the front of the boat went front-up into the air," said Torgeir Jakobsen, from Norway, a mechanic for team Maritimo. "They went up and up, and then flipped backwards." He said the weather conditions, wind and big swells, were "normal" in offshore racing. "I think they just had really bad luck." On its website, Victory Team said that as "a mark of respect, event organisers have cancelled all remaining activities for [today]".

In 1995 another driver for the Victory team, Hamed Buhaleeba, died when his catamaran somersaulted and landed upside down during the World Championships at Cowes, in England. Mr Buhaleeba, who had won 25 powerboating titles in five years, was one of the UAE's most successful sportsmen. Formula One powerboats can travel at speeds up to 240 km per hour.

Read more at: [thenational.ae](http://thenational.ae) and [victoryteam.ae](http://victoryteam.ae)

\*\*\*\*\* TBPNews \*\*\*\*\* [\[return to top\]](#)

## 4) FEATURE: 'Winterizing Your Performance Outboard Engine' (Part 2)

Getting your performance powerboat ready for winter storage is more than just pulling it out of the water. Proper winterization of your boat and motor can be the most important maintenance a boat owner can perform to help ensure it weathers the winter without damage, and to ensure safe boating next spring. In the last issue of TBPNews, Part 1 discussed Tools required, Preparing the Fuel System, and Inspect & Change Gearcase (Lower Unit) Oil. Now, in Part 2, we will cover Preventing Rust & Corrosion, Engine Inspection & Preparation, and Freezing prevention.

### Prevent Rust & Corrosion

Lubricate linkages - Clean all pivots and visible gears and protect them for the winter with oil or grease, as specified in your owner's manual. Grease all of the pivot points in the steering and trim/tilt mechanisms. Pumping some grease into these areas will displace any water that might be there.



Allowing corrosion to flourish during the off-season is less dramatic but equally

destructive. Corrosion can establish a foothold on idle components, so liberal use of corrosion inhibitors--both internal and external--is a second guiding principle for winterizing.

**Drain cooling passages** - Use a flushing attachment (Flushing kits are available from boat dealers.), or run the outboard in a tank filled with clean fresh water. Disconnect the flush attachment or remove the motor from the flush tank. With the motor upright, let all water drain out of the pick-up. Open drain plugs (if any--see your owner's manual) to empty the powerhead and intermediate housing. Crank the motor a couple of times by hand or "bump" it with the starter to empty the water pump. If the motor will be exposed to freezing conditions, it is essential that no water remain inside.

**Fog the cylinders** - Remove each spark plug and spray fogging oil into the holes to coat the interior surfaces of the cylinders. Rotate the flywheel (do this by hand, not by turning the starter motor with the ignition key) a few turns to spread the oil on the cylinder walls. While the plugs are out is the time to check them and re-gap or replace as required. Reinstall the spark plugs.

**CAUTION:** do not over tighten. Over tightening is the #1 mistake made when tuning up your outboard engine. Just turn the plugs until finger tight, and then use your socket wrench to tighten only 1/8th turn more. (Over tightening can strip the threads in the head, and really ruin your day!).

**Fill oil tank** - For (2-stroke) engines with automatic oil injection, fill the reservoir to the top fill line. This will prevent condensation from forming inside the tank. For 4-stroke engines drain the oil in the sump. When you're done filling the sump again with fresh oil, check the level using the dipstick (just like you would in your car!).



Touch up damaged paint (you can usually get a perfect color match paint from your dealer or from an automotive paint store. Mist-coat powerhead and any unpainted parts with an anticorrosion spray.

Spray a moisture displacing lubricant such as a silicone product onto electrical terminals and the fuse panel. Read the label to make sure the spray is safe for use on electrical components.

**Clean and liberally lubricate propeller shaft** - The off-season is the perfect time to have your prop(s) serviced. If the engine will be stored on the boat, take the prop(s) home to discourage theft.

**Clean starter motor shaft and pinion gear** - now is a good time to clean any buildup of grease and dirt from the starter. If there is too much buildup on the pinion gear, or the shaft or the return spring, then the starter may not function properly. Clean it all well, then put some white grease on the shaft and the pinion gear.

### Inspect

Check the props for nicks or dings. Even very slight damage will hinder performance. Worse yet, blade damage can cause vibration, damaging other engine parts and the drive system. Get any damage repaired - some damaged props can be repaired by marine dealers for a fraction of the cost of a new one.



Inspect steering systems, including tiller steering friction fittings on outboards. Tighten them if they're loose. Grease the cylinders on mechanical steering connections to the motor.

**Battery Prep** - Remove the battery and store it inside. Do not store your battery directly on a concrete floor or on the bare ground as this can discharge your battery. Use an automatic shut-down (current limiting) battery charger to keep your battery charged up over the winter. If your battery has water fill caps, make sure they are filled to the "fill-line" with distilled water.

**Mouse-proof your engine** - This might sound crazy, but if you've ever had a bad marine experience with a rodent, you'll know what we mean! They can do allot of damage mice to an outboard over the course of a long winter - and seem to really enjoy doing it in the most hard to reach corner of your engine. In addition to chewing up your wires and hoses, they really love that foam or plastic soundproofing material on the inside of the cowling. Use a fitted canvas engine cover, or something smelly that will discourage the mice from living inside your

engine during the winter.

**Watch out for freezing** - It is sometimes a good idea to disconnect gages that use water pressure to operate - such as speedometer and water pressure gage. Trapped water in the line can make its way to the gage. The freezing process

causes thermal expansion in the lines and inside the gage, ultimately damaging the gage if the water freezes.

None of these operations are very difficult, and can be done by the average handy boat owner. The 'checklist' makes it easy to go through the full process without missing any steps. For boaters who aren't comfortable doing their own maintenance, a qualified marine technician at your local boat dealer may perform the procedures. Taking a little time in the fall to get your boat and motor ready for winter means that you can be one of the first boaters out on the water next spring.

See Jimboat's full colour article published in Family & Performance magazine at: [aeromarineresearch.com](http://aeromarineresearch.com)

\*\*\*\*\* TBPNews \*\*\*\*\* [\[return to top\]](#)

### **5) Formula Two Boats Featured on 2010 PROP Tour**



The Formula Two class of outboard powerboats will be featured at all Formula One PROP Tour events in 2010, PROP Executive Director Wayne Worthy has announced.

"We look forward to seeing our friends in the Formula Two class come and be a part of our new venture," Worthy said. "We are excited to have them racing with us and they are excited to be rejoining their friends in Formula One."

In addition to joining the Formula One class on its 2010 tour, the Formula Two teams will race as the headline class at Orange, TX and Trenton, MI. "We are bringing the Formula Two guys under the banner with us so they will have the benefits of being part of the Formula One tour – the media exposure, the prize

money and points fund and a first-class organization," Worthy said. "If we arrange the five or six Formula One races we hope to have next season, the Formula Two class could have six or seven races on its schedule. We are expecting so many good things with that schedule and the addition of many new teams! The last time we had a Formula Two Champion was in 2001 and we look forward to crowning a new one in 2010!"

The PROP Tour voting membership, consisting of representatives of Formula One teams, will be expanded to include members from the Formula Two group. "They will have a voice and a vote in the organization," Worthy said. Mercury Racing, the official engine supplier to the Formula One PROP Tour, builds the SST-120 and 200 XS Optimax engines used in the Formula Two class. All Formula One and Formula Two races will compete under the American Power Boat Association Outboard Performance Craft guidelines. PROP will apply to the OPC commission to request "Major Series Status" for its Formula Two class PROP also hopes to schedule the Formula Lights/Pro Tunnel Tour boats at its Formula One events in 2010, Worthy said. "The Formula One, Two and Lights boats run together put on a great show and keep non-stop action on the water all weekend."

#### **2010 Formula One PROP Tour Schedule**

March 27-28 Naples, Florida Formula 1 & 2 Tentative

May 1-2 Port Neches, Texas Formula 1 & 2

June 25-27 Bay City, Michigan Formula 1 & 2

July 24 – 26 Trenton, Michigan Formula 2

September 4-6 Kankakee, Illinois Formula 1 & 2

Late September Orange, Texas Formula 2

Check out more at: [f1prop.com](http://f1prop.com)

\*\*\*\*\* TBPNews \*\*\*\*\* [\[return to top\]](#)

### **6) Al Copeland Jr.'s Phenomenon - fastest powerboat**



A four-turbine, 56-foot catamaran built in an attempt to break the propeller-driven water-speed record was revealed for the first time at the Super Boat International World Championships in Key West, Fla.

The record attempt by Al Copeland Jr., could come as early as next month in Sarasota, Fla. Copeland took over the project for his father,

who passed away last year from a rare cancer. Al Copeland Sr. was the founder of the Popeyes chicken chain and a noted offshore racer.

Miss Budweiser currently holds the prop-driven speed record of 227 mph. Although the new boat had yet to be run on the

water, engineers say it is designed to run well past the current speed record.

The catamaran dubbed Phenomenon was built without a large section of the deck between the sponsons and a canard can be used to adjust the boat's running attitude. Power from the four turbine engines capable of making as much as 12,000 horsepower will be channeled through Arneson drives. Latham Marine designed the rudder and steering system for the boat.

To stabilize this 56' cat with a 13' 6" beam, four T55 turbine engines, and four Arneson drives, a canard wing was built into the deck that will re-direct air when the boat reaches 180-190, on the way to its 200+ mph anticipated speed. But that was only part of the challenge in constructing the boat. Harnessing all that weight and 12,000 horsepower, required marine equipment that could stand up to the torque and thrust. Copeland Racing's Scott Barnhart knew who to call--Bob Latham. Latham Marine has long been a part of the marine equipment engineering force for Al Copeland, the legendary and flamboyant Popeye's Famous Fried Chicken founder and 6-time National Champion, Popeye's Racing. Latham created the marine equipment for Copeland's first four engine powerboat in 1984, so it was only natural that he would be on call 25 years later to undertake a bigger and stronger project.

The one-of-a-kind boat was a several-year project design project by Copeland Race Team's own firm, Phenomena Ultra Speedcraft Company with a vibrant, exotic paint design created by Mark Morris of Visual Imagination; it is still weeks away from testing. "Everyone associated with this boat is the best in the industry," said rigger, project manager throttleman, Scott Barnhart, "I've been in this business for 23 years and know that if you want the best in marine hardware, you go to Bob Latham--we've worked together on many boats."

Al Copeland, Jr. was clearly enthused about the project and its ramifications. "It is sleek, it's sexy, and hopefully, it's fast!" he exclaimed, attributing the work to "adrenaline junkies" and his father's last two wishes--to beat the world propeller speed boat record (currently 205.494 mph, set in 2000 by Russ Wicks in an unlimited hydroplane), and to find a cure for cancer.

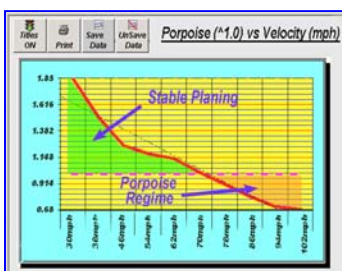
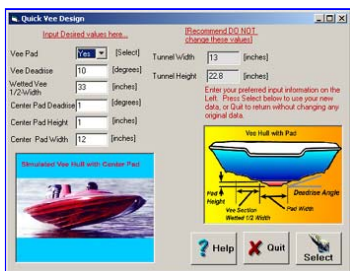
While Al Copeland bravely battled the cancer that took his life last year, his family will try to make his other wish come true. Behind the scenes, Bob Latham was part of that wish.

For a complete look at the full canop boat, check out the February issue of Powerboat.

see more at: [speedonthewater.com](http://speedonthewater.com) and [copelandsphenomenon.com](http://copelandsphenomenon.com) and [video here](#)

\*\*\*\*\* TBPNews \*\*\*\*\* [\[return to top\]](#)

## 7) NEW Powerboat Design Software V7.10 Released!



**BIG NEW FEATURES...YOU ASKED FOR IT...NOW TBDP HAS IT!....**

\*\*\* full Vee Hull and Vee-Pad hull performance analysis - one-button click that changes inputs to simulate a vee bottom hull.

\*\*\* Porpoise Analysis - We have developed a new analysis tool! XPorpoise is an engineering tool developed by AR that predicts your hull's inherent susceptibility to porpoising...and shows how to fix it!

\* New 2009 Motor database, with over 750 OEM engine specs!

\* Centerpod Wangle input - now you have the ability to represent a special angle of attack (trim angle) of the hull CenterPod that is different than the angle of the Sponsons.

\*\*\* Free Expert Analysis Reports (4) included shows how you can apply expertise to your design/setup.

\* Cuddy Cabin Cockpit option added to design considerations.

\* TBDP now calculates hydrodynamic drag of ANY lower unit design; includes standard design specs for 20+ OEM drives.


\* NEW enhanced HELP Manual with over 50 pages, over 17,000 words of tutorials, over 70 pictures & HELP illustrations.

...AND Lots more new great Features in V7.10 TBDP software!

...check out the new TBDP software V7.10 at: [aeromarineresearch.com](http://aeromarineresearch.com)

\*\*\*\*\* TBPNews \*\*\*\*\* [\[return to top\]](#)

## 8) Powerboat Racing on TV



The image shows two boats on water. On the left, a white hydrofoil boat is shown in a plan view, with a yellow highlight on its hull and a blue circle around the text '10°'. On the right, a brown conventional boat is shown in a side view, tilted upwards, with a red lightning bolt symbol next to it, indicating a comparison or contrast.

check out next show date at AR's website! [aeromarineresearch.com/NatGeo\\_thrill-zone.html](http://aeromarineresearch.com/NatGeo_thrill-zone.html)

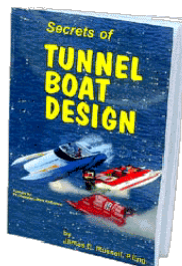


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**VIDEOS** - Love boat racing? Check out [Me Time Productions](#) High Quality, [RC Boat Racing Events](#) on DVD! Watch a preview of our newest release the "2008 World Tunnel Championships"! The perfect gift for any boat enthusiast! Log on to [www.metimeproductions.com](http://www.metimeproductions.com) to see our entire line of awesome DVD's.

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<http://www.aeromarineresearch.com>