

"Run Over, Then Ran Away"

2011 Season Review

by Brian Anderson

The race for the H1 Hydroplane series championship was really decided early this season. With all the hype surrounding the top two teams, most experts and prognosticators said it would come down to the final heat of the season. As sometimes happens in the world of

motorsports, things can change in an instant. The 2011 championship was for all practical purposes decided in what ultimately was the final lap of the first race of the season in Madison, Ind. As the two favorites, Dave Villwock and Steve David were running away with the final in what looked to be the first of many battles between the two, Villwock's *Spirit of Qatar* boat hooked violently on the backstretch of lap 4 right into the oncoming path of Steve David's *Oh Boy! Oberto*. With no time to react Steve David ran right through *Qatar*, damaging *Oberto* far more than the U-96 and ending the U-1's bid for another title. Even though he was awarded the victory, Steve David would be forced to sit out the Detroit race to heal and a backup hull would have to be rushed in.

Even with one of the top dogs out of the fight the season went on and produced some of the best racing seen in years in another too-short season of only six races. As expected, Dave Villwock and *Spirit of Qatar* did win both the driver and team titles. Villwock also surpassed one of those supposedly untouchable records as he recorded win #62, passing the legendary Bill Muncey for total career wins. When Villwock does decide to retire, someone will probably label his win total untouchable. But records, as they say, are made to be broken; the number as it now stands is incredible and the testament to a great career.

The season of 2011 also held many unexpected surprises when the teams began the season back in July. In addition to *Oh Boy! Ob*erto and *Spirit of Qatar* were the U-5 *Graham Trucking*, Jeff Bernard; U-7 *Valken.com* with rookie Scott Liddycoat; U-11 *Peters & May*, J.W. Meyers; U-17 *Red Dot*, Kip Brown and Nate Brown; U-21 *Lakeridge Paving*, Brian Perkins; U-22 *Matrix Systems*, Mike Webster, U-25 Superior Racing, Dr. Ken Muscatel; U-57 *Formula*, Mark Evans; 88 *Degree for Men*, J Michael Kelly and U-100 Leland Racing, Greg Hopp.

Again Lucas Oil was title sponsor for the annual event in Madison, Ind. The race got the season off to a good start, then things went south in a hurry. After some great racing in most of the prelims a bad incident took place in

3A. Brian Perkins, while giving chase, missed a buoy, then at low speed while circling to go back around the buoy hit a patrol boat, sending a couple of its course workers into the Ohio river. Perkins was not hurt but two of the people on the boat were taken to the hospital with injuries. Following a long delay the final was run after the last round of preliminaries was canceled. Dave Villwock had the lead when his boat hooked and was run over by *Oberto*. The judges ruled Villwock had caused the incident and disqualified him while *Oberto* and David were declared the winners. Second went to the resurgent Red Dot team of Kip



Brown followed by the surprisingly strong rookie Scott Liddycoat, and fourth went to Jeff Bernard.

Other noteworthy happenings were the course being shortened to 1.66 miles due to construction on the bridge and Bianca Bononcini being on hand to attempt to qualify the U-57. She never quite got the chance and would have to wait until Detroit.

As the boats left for Detroit *Oh Boy! Oberto* had the high points lead, but it was nothing to celebrate as the hull needed more work than was possible to compete before the Gold Cup.

The Madison team quickly acquired a substitute hull in the form of Mike and Lori Jones' U-9 and hired Jon Zimmerman to fill in for Steve David for the Gold Cup, which received support from the Detroit Yacht Club. The Ellstrom's Spirit of Qatar was patched up and ready to go as Villwock led the way in qualifying, but right behind him by less than 3 mph was Jeff Bernard. After failing to finish the first heat, Villwock proceeded to reel off three consecutive heat wins and looked unstoppable for the final. Unstoppable he was as Spirit of Qatar took the final heat by a fairly wide margin. The boat that had gotten run over in Madison made it to the top with a heroic effort of the crew. Rising star Scott Liddycoat was second in Valken.com followed by teammate Jeff Bernard in Graham Trucking.



With two fast, consistent races under their belts, the surprising high point leader was the Red Dot team, which finished the Gold Cup in fifth place with Cal Phipps taking over the wheel for the one race. Also showing signs of improvement was the brand new *Degree for Men* which made the final by virtue of one heat win and three second place finishes in the prelims. It was apparent as the fleet moved to Washington State that the field just might be catching up to the powerful U-96 team.

Sunny weather greeted the fleet as they pulled into the Tri-Cities, Wash. area for the annual Columbia Cup. This year's race would again be sponsored by Lamb Weston. Dave Villwock again led the way with a blistering 160.89

qualifying run but was given a good run for the money by the return of Steve David and the number one *Oberto* hull, who posted a 159.2 lap. The traditionally fast course had five teams over 150 mph on the Columbia River.

In the end it was Dave Villwock again having a perfect weekend. After being top qualifier he scored three prelim heat wins but then had to work to take the final over Steve David. Kip Brown in the impressive *Red Dot* was third and Jeff Bernard was fourth.

The fleet moved to Seattle for the Seafair extravaganza which always features the unlimiteds as its grand finale and on live television no less. Albert Lee Appliance again was the title sponsor for the race as well as for Brian Perkins' U-21 ride.



Dave Villwock was the favorite going in but Steve David and Scott Liddycoat were at the top of their games and looking for the upset. All three of these drivers qualified within 2 mph of each other. As was the norm for 2011 the preliminary heats saw plenty of action. One of the surprises was the "host" boat Albert Lee winning heat 3A by the narrowest of margins.

In the final the war between the two top dogs didn't materialize as the U-7 Valken played spoiler and grabbed second place away from Spirit of Qatar. However neither of these two could catch the Oh Boy! Oberto as Steve

David won the race. After a busy four races in five weeks the series took a little down time to catch its breath. The on-again off-again race in Houston was now definitely off so the teams traveled next to San Diego and the fast waters of Mission Bay, now with a revised race format.

The first four races had been run under a new starting procedure that was a modified fight-for-lanes wherein no one could pass the exit buoy of the first turn before the one minute gun. This produced the expected low-speed "trolling" for lane position, but not when the boats came down for the flying start. For the last two saltwater races, the "powers that be" decided the format would be changed to a random draw for lanes. The reason given was that the slow speeds the old system produced might allow salt spray to ruin scarce turbine parts.



As usual the Mission Bay course produced the fastest qualifying times of the season with both the U-1 and U-96 over 163 mph. These two boats also dominated the preliminary action as only they won heats. The outcome of the final would largely be determined by the random lane draw. When the draw came out it was the U-96 in lane 2 and the U-1 in lane 5. Nobody could stop Dave Villwock who won the final, but Kip Brown managed to

Chris

hold off Steve David and take second. It was another victory for Spirit of Qatar team and the sport would now leave American soil and head for Doha, Qatar for its final outing, the Oryx Cup.

The race in Doha produced some great racing, a first-time winner but ultimately was one of those races that confuses, confounds, and puzzles fans, be they super fanatics or casual observers. When the checkered flag dropped it was clear to the fans on the beach *Oh Boy! Oberto* had won the race. But after questions were raised



about the start, and the *proper* video reviewed, a new winner was declared an hour later. This time Scott Liddycoat was the champion after it had been determined that *Oh Boy! Oberto*, *Spirit of Qatar*, and *Degree Men* had jumped the gun and were penalized a lap. It was the first win for both Liddycoat and sponsor Valken who looked to have a bright future together. In the end the U-96 *Spirit of Qatar* won the team championship and driver Dave Villwock claimed the drivers title, passing the legendary Bill Muncey in total career wins with his total now at 65. The season itself was short, fairly memorable, and produced some true surprises. The biggest surprise was breakout star Scott Liddycoat who was pretty much unheard of when the year started. Scott was always in it and capped his rookie season with a win in Doha, Qatar. The surprise team of the year would have to be the U-17 *Red Dot*, lead by owner and backup driver Nate Brown, who would be quick to credit the crew for his team's success as they led the chase for the point title most of the way only to be run down by the U-96. We welcomed back the U-9 team first as a standin for *Oberto* then picking up sponsorship along the way mostly from the Tri-Cities visitor's bureau.

The heat racing was the best its been in a few years, but the sport needs a few more top dogs to challenge the big two in order to become even more interesting. And of course races; these six-race seasons are way too short.

Is This How We Start? "more great commentary"

So we started with these new rules to eliminate the fans' worst nightmare, which is the troll—to-the-start of the race by pushing an imaginary line back to force the boats to be at full speed when they come down to start the race. After all, this sport made its mark with the flying start, not the go-slow-and-accelerate start. For the most part this worked just as advertised, but for some reason all the pre-race jockeying and crashing didn't happen . . . much. I hope the leaders keep this format for 2012.

But what has to change is the long drawn out determination of winner. This has happened a couple of times now and makes the sport look like amateur hour. When the checkered flag falls the tape should have already been reviewed and a ruling made. If that is not humanly possible in the time it takes to run a heat then two flags should be displayed (the checkered and some sort of flag denoting an inquiry), letting the drivers know to run an extra lap and the fans to know the results are not official. The fans must know what is going on or they're going to be confused and you are going to lose them.

Speaking of losing fans, I know a few who were incensed with the lane draw procedure and the reason it was imposed. A random draw? Are you kidding me? In this day and age that's the best you can come up with? What happened to last year's format of using qualifying speeds then inverting for the second round of heats? This produced

great racing and didn't put too big of a penalty on top qualifiers. And finally, the reason for all this is to preserve parts? Don't you think the teams know that and can be better a judge of what speed their boat can and can't operate? If I were a driver I'd be outraged that somebody else would assume I didn't know what speed my boat might stall at and ruin the scarce parts in my motor and my owner's wallet. If we're going to really be serious about conserving parts, may be turn the fuel restrictors down even more or choke the N2 or just avoid saltwater altogether!

C'mon, the final should never be determined by a random draw.

(Continued from page 14)

A unique boat appeared at the 1957 Gold Cup. *Miss U*, with Del Fanning in the cockpit, failed to qualify. It was the boat's only attempt to race, but Fanning had another opportunity. In 1960 he was tabbed to drive *Miss Tool Crib*. The former *Miss U.S. II* was unable to qualify at Chelan and Coeur d'Alene, but Fanning made the field at Seattle and finished ninth. As an interesting aside, Fanning is a distant relative of current unlimited driver J. Michael Kelly. Fanning's son Tommy took up outboard racing and encouraged his uncle-Kelly's paternal grandfather-to start racing. The rest, as they say, is history.

The 1950s produced one more one race wonder. At St. Clair in 1959, Bill Matthews drove *Miss Ricochet*.

A famous racing name became a one race wonder in 1963. Eddie Sachs, a veteran of the Indy 500 auto race, drove *Such Crust IV* at Madison. Sachs was in line to continue driving unlimiteds, but his life was cut short when he was killed the following year at Indianapolis. In 1969, Ed Morgan drove *Miss Owensboro* at Owensboro.

Australian drivers are in the one race wonders category. They were veterans of Australian racing, but circumstances there are slightly different than they are in the U.S. Australian courses are usually smaller and races include a variety of smaller boats. *Solo* came to Tri-Cities and Seattle in 1974. Bob Saniga started one heat of the Gold Cup at Sand Point, but was unable to finish.

Veteran Tom Sheehy, driver of *Sunny Jim*, was injured in the final heat at Tri-Cities in 1976. Tunnel outboard veteran Johnnie Sanders, a friend of Billy Schumacher, took over the cockpit duties at Seattle.

Rod Zapf made a few laps in Brian Keogh's U-70 at Dayton in 1977. Zapf tried several times to qualify and race in the unlimited class, that was the only time he made a legal start.

Australian Bill Baberton had better luck than Saniga when *Miss Bayswater Bulk* raced in the 1983 World Championship in Houston. He finished his heats, although he was far off the pace of the top U.S. boats. Tunnel outboard drivers Jimbo McConnell and Renato Molinari both drove tunnel boats at Houston that year. McConnell was in the cockpit of *USA Racing Team* (the former *Aronow Unlimited*) and Molinari sat behind

the wheel of *Louie's on the Lake*.

Pierre La Vigne, a veteran of smaller classes, made his only competitive start in an unlimited race aboard *Miss Detroit* in 1989 at Detroit.

Only one driver joined the one race wonders club during the 1990s. Lindsey Emmons drove *Miss Bayfair* in the consolation heat at San Diego in 1995.

Since 1950, a surprising number of drivers have had only one shot at racing in the unlimited class. For a myriad of reasons, their opportunities came and went quickly. Will Ryan Mallow remain in the one race wonders club, or will he have additional offers to drive the world's fastest boats? He has one thing still in his favor that other members of the one race wonders club no longer have: Time. Even if he has to wait a year or two, he eventually may have the chance to become a regular driver in the unlimited category. In the mean time, someone else may become the newest one race wonder.



Ryan Mallow-H1 media

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UNLIMITED NewsJournal 2011 Season Summary Table	Driver	Dave Villwock	Steve David	Jon Zimmerman	Jeff Bernard	Scott Liddycoat	Kip Brown Cal Phipps	J. Michael Kelly	Brian Perkins	Greg Hopp	Mark Evans Jimmy Shane	J. W. Myers	Mike Webster	Jon Zimmerman	Ken Muscatel Ryan Mallow	Ryan Mallow
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The Story of *Miss Exide* and "Ha-Ha" Gas

by David Neil

This is the story of the three men primarily responsible for the idea, development, installation, testing, and successful racing with the use of "ha-ha gas" (Nitrous Oxide) as an engine power booster for the unlimited *Miss Exide*'s Rolls-Royce Merlin engines in USA. Those men were: Bernie Van Cleave, Bill Brow, and Mira

Slovak.

The story begins in 1947 as a very young Mira Slovak joined the Czechoslovakian Air Force Cadet School at the age of 18. The equipment he trained on was former World War II German Luftwaffe airplanes. Mira studied and flew planes such as the Bucker C-104's and 106's, the two seat CS-199, the Heinkel 111, the Fi-156, Focke-Wulf-44, Siebel C-2, and the Junkers-Ju 52's. Post-WWII Czechoslovakia was geared to produce some of the German warplanes. After Mira finished his basic and





elementary training he began studying and training to fly fighters and bombers, which included the Arado 96 and the famed Messerschmitt 109's with their famed Daimler Benz 605 engine. The sophisticated engine was an inverted Vee with a displacement of 2179 cubic inches and rated stock at 1475 horsepower.

While in twin-engine flight training at Prostejov Stichovice Airport in Czechoslovakia, Miralearned about the German nitrous oxide boost systems. The GM-1 (Goring Mischung-1 was also referred to by the Germans by the code name "ha-ha gas") was their nitrous injection system on DB 605 engines. [In 1947 a Czechoslovakia factory running out of DB engines have modified airframe from Me-109 G/12 to Jumo 211 engines referred by pilots as a Mezek "jumping mule".] While he was sitting in the small 109 pilot seat he noticed on the left side of the cockpit near the throttle a "special lever." The lever was wired up, with an "INOPERATIVE" sticker on it. According to the old German manual, the lever was to activate the GM-1 Nitrous Boost System. The manual further stated, "To be used in combat under an emergency situation only. The time limit for use of the nitrous boost system under that situation was minutes at lower altitudes. It is noted in history literature that the boost system gave the planes as much as a 100mph advantage during dog-fighting with the Allied Forces' fighters. If a German pilot in a 109G thought the enemy was gaining on him he could use the GM-1 system and leave his opponent "standing." The boost system was also used to accomplish high altitude flying over enemy territory for reconnaissance and as high altitude interceptors. Literature states the German nitrous boost system injected 12 pounds per minute of nitrous from a 22 gallon tank directly into the eye of the special gear driven supercharger which resulted in an up to 350 horsepower increase. Nitrous is an engine coolant and power booster and when used in conjunction with more fuel, more horsepower would be achieved. The time limit for its use varied on its use (speed or height): five minutes or 30 minutes for extremely

high altitude flying. The increased height obtained could be as high as 46,885 feet with pressurized cockpits of the various models of aircraft it was installed in. There were two different nitrous boost systems installed in the different models of German aircraft. The first system was a single injector nozzle single rate. The second system had a second larger nozzle along with the smaller nozzle and both nozzles could be activated at once if called upon.

That allowed the planes to achieve the increase in height. During battle against Allied Forces, increased aviation fuel was needed proportionally with the nitrous to achieve the horsepower needed at varied heights. For high altitude flying, no additional fuel was needed because the Nitrous was merely replacing the oxygen lost at the high altitudes. The author of this article was fortunate to locate a copy of an operations manual for the German pilots and ground personnel for the GM-1 system on the BF 109G. The manual located was in German and had to be first translated. The manual refers to the nitrous and fuel being injected separately into the loading shaft of the motor into the suction stream, where it is pulverized and vaporizes as it is fed into the loading air to the motor. "GM-1 is added in general only in case of battle performance. The throttle-valve can be easily be engaged during a flight with GM-1 in case of approaching enemy aircraft!"

This is how Mira learned about "Ha-Ha Gas," the German's code name for nitrous oxide injection and its use during World War II. Mira went on to become a pilot for Czechoslovakian Airlines. To learn how Mira made his way to the United States, read 1959 Official Gold Cup Regatta Magazine, pages #29 and #33, "Slovak's Greatest Race," Mira went on to become the personal pilot for William Boeing Jr. and was asked by him if he was "interested in driving a race boat". He accepted the offer and drove the unlimited *Miss Wahoo* during the late 50's to a few victories.



When Mira was interviewed for this article by the author he was asked many questions about his unlimited boat racing career. The following are a few of his specific answers. Did you tell the crew members of the *Wahoo* your knowledge of nitrous oxide boost injection for German World War II Airplane engines? "No because Wahoo was fast enough the way it was."

When did Milo and Glenn Stoen contact you about driving their newboat, the Miss Exide? "The fall of 1962. The Stoen Brothers (heavy construction contractors from Seattle), were having a brand new Ted Jones-designed unlimited hydroplane built for them. It was a replacement for their Miss Seattle Too boat that was destroyed during the 1962 Seattle race". Did you discuss with the Exide owners and crewmembers Bernie Van Cleave and George McKiernan about your experience and knowledge of nitrous oxide as a power booster in WWII German airplane engines? "Yes, I told them about the nitrous boost systems in the German war planes that I had learned about because they were interested in increasing the power of the engines for Miss Exide."

Former Exide/Seattle Too crewmember Bob Woolms was interviewed for this article and was also asked many questions about his unlimited experiences. Bob clearly remembers Mira sitting on a stool next to his work bench at the Exide shop where all his tools were (Bob was the heads, rocker arms and camshaft, etc. specialist), chatting with him and another Exide crewmember about his information about the use of nitrous oxide in aircraft. It was after visits like this with Mira during the winter/spring of 1963 that crewmember Van Cleave began to research, investigate, design, and develop a nitrous boost system for the *Exide*'s engines. Bob also recalled Bernie doing all the work on the nitrous system and little if any was discussed with the other crewmembers. (Mr. Van Cleaves's boat racing experience came from being a crewmember on *Shanty*, *Maverick*, *Bardahl*, and the Stoen's *Miss Seattle Too*; he just plain enjoyed the boats.) As a coincidence that became particularly

significant, Bernie worked for an air supply company in Seattle just south of the Spokane Street Bridge called Airco Air Products that at the same time that sold medical grade nitrous oxide. His education came from Ohio State University where he earned a welding sciences degree. He became the technical support specialist for Airco, where he developed, taught, and consulted about specialized welding techniques for the aviation, nuclear, and space industry. Prior to that, he worked on the Manhattan Project, welding in the nuclear industry. During that winter he spent many evenings after dinner at the family kitchen table, drafting ideas and working air, fuel, and nitrous calculations for use in the boat with his son watching. The author of this article ponders the thought that Bernie was probably able to locate specific data, technical information etc. about nitrous oxide properties through his job industry contacts from the East Coast which became invaluable to in developing the boost system.

In the spring, he spent many Sundays at the Exide shop building and testing his ideas with his young sonathis side, watching and helping. Sundays were a perfect time not to be disturbed. Mr. Van Cleave made many different orifice sizes to experiment with for the nozzle and then ran nitrous through them, calculating flow rates. He repeated the procedure for calculating the added fuel needed to make the system work. He also researched and tested the type of electric valves that would be needed to immediately turn on and off the nitrous and fuel.

The new *Miss Exide* was christened in the late spring of 1963 at Stan Sayres Park by Milo's wife Ginny, and Mira took it for a spin before their proud owners, friends and fans.

The crew had their hands full working out the bugs in the new boat. It did not handle well and placed only 5th at the Gold Cup in Detroit. Crewman Woolms remembers the balance just not being right, and the boat did not handle well in competition water. The next race was Idaho's Diamond Cup, where the boat again handled poorly and came apart at high speed



The Stoen brothers new U-75 *Miss Exide* is christened at Stan Sayres Park before taking her first plunge. Sadly, this boat would end up like last year's *Miss Seattle Too*.



The crew launches Miss Exide on Lake Washington for her first run.



On display at Seattle, *Miss Exide* was destroyed in the final Sunday at Idaho . Mira Slovak was rescued by *Notre Dame* pilot Warner Gardner. *Miss Exide* sank to the bottom of Lake Coeur D'Alene.

H&RMCollection

and was destroyed. Mira sustained serious injuries and was in the hospital for several weeks, including having to have plastic surgery done on his chin with 166 stitches and a cast placed on his ankle.

During the two week break between the Diamond Cup and the Seattle Race on August 11th, Milo and Glenn purchased the mothballed U-101.5 *Wahoo* from William Boeing and renamed it *Miss Exide*. Bob remembers many long nights working on the replacement boat to get it ready: plumbing, wiring, engine mounts,



Bill Brow driving the H-10 Miss Vitamilk II at Green Lake in north Seattle.

speedometer, and engine work, etc. The replacement *Miss Exide* ran great and placed 3rd at Seattle with Russ Schleeh at the wheel as single-race replacement driver. Following the Seattle race, Milo and Glenn still needed a replacement driver until Mira could return to duty. They contacted Bill Brow, who had previously driven their *Miss Seattle* and *Miss Seattle Too* to replace Mira until he was healthy again. Mr. Brow was already driving his 7-litre limited hydroplane *Miss Vitamilk II* which he had just driven at Seafair in the King Neptune Regatta. Mr. Brow's

Vitamilk II was sponsored by the Vitamilk Dairy of Seattle, of which he himself was a distributor.

Two weeks after the Seattle race, in Madison, Indiana at the Governor's Cup, Bill piloted the *Exide* to a 1st place win and then two weeks later he repeated with a win at the President's Cup in Washington D.C. This was quite an accomplishment, stepping in as a replacement driver in a replacement hull and winning the next two races in a boat that he had never driven before. Well, Mira was so impressed with Mr. Brow's driving *Exide* he said to Bill, "The boat is yours." It was sometime during this time period that Bernie then shared the nitrous information he had been working on behind the scenes with Bill. It was also during this time period Bill and Bernie decided



The Stoen brother's newdriver Bill Brow and their new 101.5 *Miss Exide* head out on Lake Washington for a run. The former *Wahoo* hasn't raced since 1960.

to experiment and test the use of nitrous oxide in Brow's 7-litre hydro. *Miss Vitamilk II*, with its 427 Chevy engine, became a perfect test boat for Bernie to test his nitrous system that he had been developing. He experimented with his calculations and flow rates of the nitrous, fuel, and air needed to give the boat more acceleration.

Brow experimented and raced with the system during the remaining of the limited hydroplane racing season with great success. The nitrous boost system in Brow's boat was a single, blue 22-lb. nitrous bottle, mounted with two brackets to the boats' stringers directly underneath the driver's seat with the valve end of the tank downward and facing forward. A hose was routed from the nitrous bottle to a two-way, 24-volt Skinner solenoid valve that was connected to a single orifice nozzle. Another hose and valve to another single orifice nozzle was connected to the electric fuel pump which ran to the center of the intake manifold of the 427 Chevy engine. The fuel the boat ran on was alcohol.

The two valves remained closed by spring until the solenoids were energized which was wired to a button on the steering wheel at the 5 O'clock position. The tank valve was controlled by Brow by turning it on before each heat by reaching under the driver's seat.

The boat was taken down to the Stan Sayers pits on several occasions to do testing of the nitrous set up prior to any racing. Former Vitamilk crewmember, also interviewed for this article, Jack Quealey remembers, "The boost system definitely improved the performance of the engine coming out of the corners. Bill would give it a little shot coming out of the corners and away she would go. One bottle would last us all day." *Miss Vitamilk II* finished 2nd in National High Point standings for 7-litre hydroplanes in 1963 even though they blew the deck off at the San Diego race that fall. From the positive results with the *Vitamilk* the Stoen Brothers decided to give the go-ahead and have Bernie install such a system in the *Exide* for the upcoming 1964 season. During the winter, the crew was busy with the boat making modifications to the sponsons and re-building the Merlin engines while Bernie worked on installing the nitrous system. The use of nitrous in the engine, cooling the air fuel mixture, would in effect become a thermodynamic supercharger.

For the Merlin engines he decided to drill two holes into the side of the first stage of the blower cases and weld boss flanges to them. That allowed for the two orifices, one for the nitrous and one for the extra fuel to enter the blower just prior to the compressor wheel. The nitrous system was not ready to test or be used at the Dakota Cup in Minot, but was for the Diamond Cup in Coeur d'Alene, where they picked up a victory with just one engine. Milo Stoen was quoted by two local Seattle newspaper reporters acknowledging the Exide team used nitrous oxide in Idaho. Bill Brow was interviewed afterwards and was asked if he'd used "laughing gas." Brow just laughed and said he didn't need to use it. It was reported that "spurts of nitrous oxide" were used to win the race.



The crew launching the year old U-75 *Miss Exide* at Seattle in 1964, now powered with nitrous oxide.

All the work done on boost system, such as installing the stainless steel plumbing, wiring for the solenoids and button, orifices and brackets for the bottle was done by Bernie.

It was now time to test the nitrous in the boat. Mira believed they wished to keep the use of nitrous oxide under their hat for as long as possible because other teams would eventually copy its use. (Two years earlier, the crew of the *Miss Seattle Too* (particularly crewmember Mr. Scotty Freeman), developed a much-improved quill shaft system. By the following year other race teams had also copied them.

On Wednesday July 29th, 1964, the week before the Seattle Seafair race, the team tested

the nitrous system in the boat. The crew decided to test it then because if the test failed or damaged the boat or engines, there would be enough time for the team to make the repairs in time for the August 9th race. The Lake Washington racecourse was already laid out, but the Official Barge was not yet in place. The following are excerpts from the interviews the author had with crewmember Woolms. "We lowered the boat from the tilt it was in, the engine was installed back at the shop. The driver's seat was slid forward and we lifted the two nitrous bottles to Bernie one at a time in a Navy canvas bag who securely mounted them in their brackets with the valve downward. The bottle was mounted behind the driver's seat under the tail cowling for the checkered tail. He then connected the stainless lines to the bottles. We slid the driver's seat back in place. Bill told George, the second time around I'm going to hit the juice. On the second time around as the boat came out of the corner, the roostertail climbed suddenly fifty feet higher and the boat took off." Bill brought the boat back after the test lap and the crewmembers knew the nitrous was a success. They returned the boat to the shop and prepared engines for the Seattle race the following week.

Four crewmembers from another boat team were there and observed the sudden acceleration of the boat.

At Seafair the boat qualified at over 117mph. A controversy developed with *Miss Exide* after the qualification run. A protest was filed by another race team that involved the bottles they observed being installed into the boat;

specifically, the use of nitrous. The protest requested *Miss Exide* be disqualified. The protest failed, the class of boat racing was "Unlimited" and that meant "Unlimited." The 1964 *Miss Exide* (2) became the first unlimited hydroplane in the World to successfully use nitrous oxide in competition at Seattle's Seafair. The boat finished the race a heartbreaking second place by two-tenths of a second.

During the season modifications were made to the nitrous system. A third bottle was added to provide additional gas and the two orifices were enlarged. The blue nitrous bottles were approximately 22" tall and 4-5" in diameter, and fairly heavy. Bernie would order them from Airco and they would arrive by train from back East because the gas was not available on the West Coast.

In 1965, Miss Exide (2) again won the Diamond Cup. In preparation for the Seattle Gold Cup the team meticulously built a special engine for a qualification run. Crewman Woolms specifically remembers saying to Bill Browatthe shop the evening before the attempt, "Go out and break that record tomorrow."

The author of this article was fortunate to be invited to attend and watch the record qualification run of 120.356 mph on Lake Washington at the Seattle race in 1965. The boat arrived the first day of qualification about 9:30 am from their shop in Ballard. The crew launchedher with the special qualification engine they had built for the run and with larger sized orifices for both the nitrous and the fuel nozzles that Mr. Van Cleave installed. The water was calm with a slight chop, near perfect conditions. *Exide* flew around the course lightning fast, close to the buoys. We were astonished at how smooth and fast she ran. When they announced the record breaking run everyone around us was so pleased. We had just witnessed the fasted three-mile qualification run ever. That record qualification run stood for over half a decade. During the race that Sunday, Exide went out and set a new Gold Cup heat record of 112.172 mph on a threemile racecourse. It was not until six years later



and fairly heavy. Bernie would order them from Airco and they would arrive by train from Bottom row; Bernie Van Cleave, George McKernan, Gus Gustafson, and Tommy Frankhauser with U-75 *Miss Exide* (2) at Seattle.



Far left; Bernie Van Cleave, Tommy Frankhauser, and Bob Woolms. Bending over engine, Scotty Freeman; in cockpit Nelson Kenny, in front, Bill Casey.



The roasted *Miss Exide* on tilt and ready to be hauled to the shop, suprisingly, to be repaired. It was ready a little over a month for the UIM World Championship at Stateline, Lake Tahoe.

in 1971 that *Pay 'NPak* broke the three-mile qualification record with a run of 121.076 mph. In an earlier heat that Sunday, *Exide* was out in front when she slowed because of an engine problem. After the crew put the boat on the trailer it was determined two spark plugs had blown out their center Bakelite sections. Crewman Woolms was directed to remove the threaded portions that remained and replace them with fresh plugs. The author ponders the question, could the nitrous and extra fuel in the cylinders given so much an increased pressure that the spark plugs' Bakelite center sections failed?



In the final heat *Exide* was leading the race do battle at Lake Tahoe in the UIM World Championship.

again out of the south turn when the front portion of the engine blew and a fire broke out. The onboard extinguisher failed to put out the fire because a fuel line had broken and the fuel pumps continued to pump fuel. The fire finally did get put out, but the boat nearly sank. The burnt boat was towed to the finger pier nearly submerged and the crew was able to attach the sling to her and slowly lift her out and onto the trailer. The following Tuesday evening at the boat shop, the crew discussed if the boat was beyond repair. The decision was made to pull the deck and replace the damaged parts. Woolms remembers the crew, and particularly Scotty Freeman, working long hours on the boat. The crew managed to get the repairs done in time for both the Tahoe and San Diego races where the boat ran great and they placed 3rd at each. It was over breakfast the Monday morning after the San Diego race that Milo agreed to sell their boat to Bernie Little and retire from boat racing.

If the author of this article may quote Mira Slovak, "Credit for the success of using nitrous oxide first in unlimited hydroplane boat racing should go to Bill Brow and Bernie Van Cleave. Brow was the originator who had the wisdom to give it a try in his boat, *Miss Vitamilk II*, and it was Van Cleave that developed and installed the now famous nitrous injection system in the limited class *Miss Vitamilk II* and the unlimited class *Miss Exide* (2)."

The Author wishes to sincerely thank the following people that were interviewed *many* times for their knowledge to this story: Mr. Ray Van Cleave, son of Bernie Van Cleave former *Miss Exide* crewmember Mr. Jack Quealey, former of *Miss Vitamilk II* crewmember Mr. Doug Brow, son of Bill Brow, driver of the second *Miss Exide*, Mr. Mira Slovak, driver of the first *Miss Exide* (the one which caught fire in '63), Mr. Bob Woolms, former *Miss Exide* crewmember

U-12 Miss Budweiser (3)

In 1966, Bernie Little didn't have much better luck with the former *Miss Exide* than the Milo and Glen Stoen did. At right, *Miss Budweiser* sits at dock on the Potomac in Washington D.C. waiting for driver





Don Wilson to arrive. At left, the wreckage of the third *Miss Budweiser*. Don Wilson and Rex Manchester both perished when *Notre Dame* collided with *Miss Budweiser*. Sadly, on Black Sunday another died. Earlier, Ron Musson was killed when *Miss Bardahl* hit a roller nosed in then disintegrated. ~ H&RM photos

Craig Fjarlie HCRITAGC

One Race Wonders

When Ryan Mallow started a heat at Qatar, he joined the category of drivers who have competed in an unlimited hydroplane race. Most drivers go on to compete in many races, some continue on for 20 years or more. A few, however, race in only one event and for a variety of reasons never do so again. Rightnow, Mallow is in that

category.

The popular music business is replete with artists who have one hit and fail to crack the charts a second time. They are called "one hit wonders." To borrow a term from the music industry, there are a few boat racers who are "one race wonders."

The most celebrated one race wonder is Gene Whipp. In 1973 he drove Bob Fendler's *Lincoln Thrift 7-1/4% Special* to first place in the President's Cup. Following the race, Whipp evaluated the situation. He concluded he would be urged to push the boat beyond its limits and eventually would have an accident. He turned in his resignation and never participated in another unlimited race. He did help the team with testing, and later worked with Jim McCormick's Red Man team. Whipp raced offshore boats into the late 1980s, and briefly served as an unlimited referee, but declined numerous offers to race in the unlimited class.

One of the earliest and most tragic one race wonders was Orth Mathiot. The 1951 Gold Cupon Lake Washington was his first unlimited race. In the final heat, *Quicksilver* crashed. Mathiot and riding mechanic Thompson Whitaker were killed.

On more than one occasion, in the years following World War II, limited inboard class boats participated in unlimited races, in order to fill the field. Most of the limited boats were scored in their regular class, but a few stepped up and took unlimited numbers. At the 1951 President's Cup, the 7-litre boat *Chesapeake Cat* took the number G-32 and driver Bob Dawson raced in the unlimited class.

There were a number of other one race wonders in the 1950s. George Zigas drove High Trophy race in 1953.

Thunderbolt in the 1952 Silver Cup. Lake Tahoe became an inadvertent hot bed of one race wonders. Richard Davis drove Honeymoon at the 1953 Sky High Trophy race. Fred Schmidt drove Breathless in the '55 Lake Tahoe Yacht Club race, and Floyd Ciochon drove it at the Mapes Trophy race. At the same event, Kenny St. Oegger drove the U-9 Hawaii Kai. In early 1956, St. Oegger was attempting to set a mile straightaway record in Hawaii. At high speed (some reports say 195 mph) the boat suddenly turned sideways, rolled, and crashed. St. Oegger was badly injured but survived, although he never raced in the unlimited class again.

Lin Ivey, a veteran of outboard racing, was tabbed to drive *Miss Seattle* in the 1956 Seafair race. It was the first race for the boat after flipping the year before. Ivey did a credible job, but it was his only appearance in an unlimited race. In the same event, Bill Tonkin drove the brand new *Tempest*. That was the only appearance of the boat in 1956, and Tonkin's only race in the unlimited class. Boat racing runs deep in the Tonkin family; his nephew, Mark, raced outboards in the 1990s.

At Buffalo in 1956, a 7-litre hydroplane was invited to fill the field so the race would count for points. *Let's Face It!* took the number U-72. Drivers John Bridges and Ron Webber took turns in the cockpit.



Dick Davis behind the wheel of his U-9 *Honeymoon* at Lake Tahoe's Sky High Trophy race in 1953.

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