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# UNLIMITED NEWSJOURNAL

A Chronicle of Speed

## Tate wins it all in Detroit.

BY MAC CLOUSE

In this season's first four races, there were issues with a low boat count, bad weather, and controversial and delayed officiating. This year's Metro Detroit Chevy Dealer's Gold Cup in Detroit had all of those issues. There were only six boats, 20 mph winds cancelled all of Saturday's schedule, and many penalties were not communicated to the PA announcers, the media, and the fans until much later when they were posted on the H1 website and app.

With the racing all on Sunday, fortunately the boats put on a pretty good show. After losing two head-to-head matches to Jimmy Shane in previous heats, Andrew Tate in the U-9 *Delta Realtrac* beat Shane in the final. Tate's win also clinched the national high-points championship. Tate joined his father, Mark, as the only father-son duo to win the Gold Cup. Mark Tate won in 1991 and 1994.

### Testing and Qualifying

Six boats were there to compete for the sport's most famous trophy.



H1 Unlimited

H1 had promised at least eight boats, and the Detroit race officials were not pleased, nor were the race sponsors. This may have serious repercussions for future Detroit races.

The new U-1 *Miss HomeStreet* was the team's choice to make the trip. It is already driver Jimmy Shane's favorite. "The difference with the new boat is weight and balance," he explained. "It is light on its feet and is never out of control. It is better than the old boat all through the course. It flies over the

rough water better; it's an extra 2 percent better."

When asked about his plans for this race, Shane said, "I just want to make it to the final and then go for it. You don't want to take yourself out in a preliminary heat."

The Jones Racing boat had a name that it used earlier in the season, U-9 *Delta Realtrac* was driven by Andrew Tate. The other usual boats were U-11 *Reliable Diamond Tool presents J&D's* with Tom Thompson driving and U-440 *Bucket List Racing* with Dustin

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Lon Erickson

Echols at the wheel. Dave Bartush's U-7 *Spirit of Detroit*, driven by Bert Henderson, was making its first appearance since its accident in last year's Gold Cup. A last-minute deal with the Roostertail event venue brought the U-3 *Roostertail* to Detroit with Jimmy King in the cockpit. "We found out last week we would be here," said King.

The original schedule for Friday called for testing at 2 p.m. and qualifying at 5 p.m. However, the weather was not cooperating. At 1 p.m. there were strong cross winds blowing from the south. Buoys were coming loose and floating downstream. The Belle Isle end of the course was a mess, very rough. The weather was not expected to improve during the testing period.

[The Detroit River racecourse is shaped somewhat like an egg with one turn being much wider than the other. At the west end of the racecourse is the larger, sweeping turn near the Belle Isle Bridge, which is therefore called the Belle Isle Turn. The tight turn at the narrow end of the course is near The Roostertail event venue, and is therefore known as the Roostertail Turn.]

At 3:15, *Spirit of Detroit* went out and did four slow laps using the GP course, which does not include the Belle Isle Turn. At 3:30, *Miss HomeStreet* went out and did eight laps, also on the GP course. Both Henderson and Shane said the course was not raceable. By 5 p.m., the winds settled enough to have the qualifying session.

Gold Cup qualifying is the average speed of two consecutive laps. The first boat out was *Spirit of Detroit*. Henderson qualified at 138.626 mph. *Roostertail* then did three laps on the GP course. King used the opportunity to test, rather than qualify. *Bucket List* then qualified at 137.300 mph. *J&D's* qualified at 151.626, *HomeStreet* qualified

[Top] The Detroit pits.  
[Middle] Andrew Tate (left) and Jimmy Shane  
[Above] The *Miss HomeStreet* throws flames as it leaves the dock.





Chris Denslow

The U-9 *Delta Realtrac* flies past the Detroit Yacht Club.

at 159.395, and *Delta Realtrac* did 157.115, leaving Shane as the top qualifier after Round 1.

The *Spirit of Detroit* team passed In Round 2. King did two laps on the unlimited course to qualify *Roostertail* at 156.713 mph. Echols increased *Bucket List's* speed to 140.462. Thompson's three laps, including a lap of 154.338, were not recorded due to a flagrant N2 violation. Shane then increased *HomeStreet's* speed to 162.256. Tate tried to take the top speed, but could only increase *Delta Realtrac's* speed to 157.636 mph.

Kelly Stocklin was pleased with *Bucket List's* 140 mph speed. They were not the slowest qualifier. "We did 146 in Tri-Cities last year, and our goal is 150 mph, he said. "Last year, we broke our big engine here. But we are now past last year. We are in the sport for the good times."

## Saturday

Saturday's schedule had testing at 8:30 with Heat 1A at 2:00, 1B at 2:15, 2A at 4:10, and 2B at 4:25. However, at 9 a.m. there were strong winds blowing from the west (the Belle Isle Turn) against the river's current. *HomeStreet*, *Roostertail*, and *Delta Realtrac* tested. *HomeStreet* did the fastest lap at

131.316 mph. The wind was steady and a storm was moving in.

The storm did come in and the 20 mph winds continued to blow against the current causing whitecaps on the river. There was no more activity on the water.

At 3:30 p.m., the race officials opened the cold pits to all the fans to let them see the boats "up close." Finally, at about 4 p.m., H1 officials announced that Saturday's schedule was cancelled and all the heats would be run on Sunday.

John Walter of H1 commented, "We thought about moving today's heats to earlier in the day, but the bad weather came in faster than

was expected."

The thought of racing all the heats on one day did not bother the drivers. King said it best. "We all grew up in racing where we did all our racing in one day. We're used to it."

## Sunday

The forecast of better weather for Sunday was correct. The temperature was in the high 70s to low 80s all day with only light winds.

Testing was scheduled from 7:15 a.m. to 8 p.m. Heat 1A was scheduled for 9 a.m., 2A at 11:10, 3A at 1 p.m., and 4A at 2:35 with the B sections 20 minutes after the A sections. The final was scheduled for 4:10 p.m.

Tate was ready for the day. "We'll see if we go out testing. It will be a long day and I need to be smart. We are in good shape for the points championship, but we don't want to count our chickens before they are hatched."

During Friday's qualifying, his boat almost blew over in front of the Detroit Yacht Club. "There are always rollers in front of the DYC. I hit one of them. I was already using the wing before the front end started going up. I was able use



Chris Denslow

Old meets new. A replica of the *Miss Thriftway*, winner of the 1956 Gold Cup in Detroit and the U-11 *Reliable Diamond Tool presents J&D's*.



The Allison-powered U-3 Roostertail with Jimmy King driving

more wing to bring the nose down.”

The first boat to test was the U-7 *Spirit of Detroit*, but Jeff Bernard was driving. To maintain his status as a qualified driver, Bernard needed to compete in at least one heat of racing this year. To accomplish this, he drove *Spirit of Detroit* in Heat 1B.

In perhaps a sign of the future, Bernard was wearing a black and green driver suit with U-2 *Spirit of Detroit* on the front. Bert Henderson and Jamie Auld have been doing major work on the former U-2 *Trendwest* to get it ready to return to racing, perhaps next year.

The only other boats to test were *Roostertail* and *J&D's*. Last year in Detroit, *J&D's* lost its long shaft in its first heat and, because a replacement could not be found, the boat and driver Tom Thompson sat all weekend.

Thompson was eager to get on the course again for racing. “I love this course with all its challenges,” he said. “We have great conditions this morning and I ran a few test laps. We are trying hard to go forward. We’ve had some unfortunate incidents this year, but we feel good now.”

Since this was the Gold Cup, there would be four three-boat heats of four laps each and a five-lap final with five front-line boats

and a trailer. With only six boats, the only unknown was which boat would be the trailer.

In Heat 1A, *HomeStreet* was in lane one, with *Roostertail* in lane two, and *Bucket List* in lane three. Shane was first across the line and to the first turn. At the end of lap one, he led King by half a roostertail, with Echols trailing.

Shane extended his lead with each lap and won by two roostertails over King. However, in lap four, King hit a buoy in the Roostertail Turn. His one-minute penalty dropped him to third and gave second place to Echols. King was also fined \$350.

In Heat 1B, *Delta Realtrac* was in lane one, with *J&D's* in lane two,

and *Spirit of Detroit* in lane three. Thompson was first across the line and to the first turn. He and Tate were side by side down the backstretch, but Tate used the inside lane in the Roostertail Turn to take the lead coming out of the turn.

Tate extended his lead with each lap and won by four roostertail lengths over Thompson. Henderson finished third, three roostertails behind Thompson. When the official results showed up on the H1 website, we learned that *Spirit of Detroit* had been disqualified and given zero points for flagrant fuel violations.

Heat 2A had the first head-to-head matchup of *HomeStreet* and *Delta Realtrac*, with Shane in lane one and Tate in lane two. *Spirit of Detroit*, with Henderson back at the wheel, was in lane three. Shane was first to the Belle Isle Turn and used the day’s fastest lap of 157.119 mph to gain a roostertail lead over Tate at the end of lap one.

Shane extended the lead to one and a half roostertails by the end of lap two. In lap three, Tate backed off and Shane went on to win by three roostertail lengths over Tate. Henderson finished third. All three boats jumped the gun and were given one-minute penalties, but this did not change the results.



The U-1 *Miss HomeStreet* and the bulkhead near the grandstand just past the Roostertail Turn



Heat 2B had a surprise winner. *Roostertail* was in lane one, with *J&D's* in lane two, and *Bucket List* in lane three. Thompson was first across the line and to the first turn, but he jumped the gun and received a one-minute penalty. At the end of lap one, Thompson had a half-roostertail lead over King with Echols trailing.

In lap two, Thompson and King were side by side in the backstretch, but King hit two buoys in the Roostertail Turn, receiving a one-minute penalty, a \$400 fine, and the loss of 200 points. In lap three, King backed off. Thompson crossed the finish line first, with King second, and Echols third, 44 seconds behind Thompson. Adding the one-minute penalty to both Thompson and King moved them down to second and third and gave Echols the win, a first for the *Bucket List* team.

Another *HomeStreet vs. Delta Realtrac* matchup happened in Heat 3A. This time Tate got lane one, with Shane in lane two, and Echols in the *Bucket List* in lane three. Echols nailed the start with Tate and Shane crossing the start together a little bit late. *HomeStreet* and *Delta Realtrac* were side by side in the first turn and down the backstretch.

The inside lane in the Roostertail Turn gave Tate the advantage and he had a one-boat-length lead over Shane at the end of lap one. The boats were again side by side in lap two, but *Delta Realtrac* hooked coming out of the tight Roostertail Turn and briefly went into the infield. This gave Shane the opportunity to run away to a lead. In lap three, Tate backed off and Shane won by half a straightaway. Tate was second on the water with Echols third.

After the heat ended, we learned that Tate was given a one-minute penalty and a \$350 fine for veering



Lon Erickson



Lon Erickson



Chris Denslow

[Top] The U-3 *Roostertail* takes out a bouy during Heat 1A. That's the U-11 *Reliable Diamond Tool* presents *J&D's* to its outside  
 [Middle] There were big hugs and wide smiles for Dustin Echols after he returned to the pits as the winner of Heat 2B.  
 [Above] The crew of the U-7 *Spirit of Detroit* prepares their boat for a run on the Detroit River.





Chris Denslow



Chris Denslow



Lon Erickson

[Top] The U-11 Reliable Diamond Tool presents J&D's and the U-7 Spirit of Detroit plow through the rough water at the Roostertail Turn.  
 [Middle] Duston Echols had the U-440 Bucket List Racing flying.  
 [Above] The Gold Cup winner, the U-9 Delta Realtrac

out on Shane in the Roostertail Turn prior to the start of the race. The penalty dropped Tate to third and moved Echols up to second.

In lap four, Shane went way wide in the Roostertail Turn and came close to the white buoy near the seawall and grandstand. The buoy marks the outside of the course. The U-9 team argued that Shane went outside that buoy and should have been penalized. The H1 officials said that did not happen. Some fans in the grandstand did get wet from the roostertail, but if Shane had gone outside the buoy, he likely would have hit the cement seawall.

In Heat 3B, *J&D's* was in lane one, *Roostertail* was in lane two, and *Spirit of Detroit* was in lane three. King was late to the start and *Roostertail's* engine was popping and sputtering. Thompson had an easy win with a four-roostertail margin over Henderson, who finished about four roostertail lengths ahead of King. Unfortunately for Henderson, we later learned that the *Spirit of Detroit* was disqualified again and received zero points for flagrant fuel violations. King moved up to second.

After the heat, the *Roostertail* crew discovered serious damage to the inside of the surface of the left sponson. A whole layer of the surface was gone and they were done for the weekend.

Because of the U-3's withdrawal, Heat 4A was a two-boat race between *Delta Realtrac* and *J&D's*. Tate was in lane one with Thompson in lane two. They crossed the line together, well past the starting time to be safe. *Delta Realtrac* quickly ran away from *J&D's* and Tate won by about a third of a straightaway.

In Heat 4B, *HomeStreet* was in lane one, with *Spirit of Detroit* in lane two, and *Bucket List* in lane three. Shane and Henderson put on

a good show for the fans, staying close for two laps. In lap three, Shane took a roostertail lead over Henderson and that is how the heat ended. Echols was third.

With *Roostertail* out, the remaining five boats would be the front line for the final. With a perfect day so far, Shane was pleased. "The boat is performing very well. It is showing stability in the rough water."

The final happened at 4:40 p.m. There was very little wind. The water was mostly flat with a little chop in the Belle Isle Turn.

Prior to the final, the H1 officials made a decision that may have impacted the final. During the day, there had been problems with the strobe lights on the boats that are supposed to flash when the boat is going less than the required minimum of 80 mph. The lights were flashing at times when it was obvious that the boat was going faster than 80 mph. The officials decided to run the final without using the strobe lights. This meant that it would be possible for boats to be going slower than the required 80 mph without detection.

In the final, *Delta Realtrac* and *J&D's* were early in the front stretch and going slowly down the backstretch to get lanes one and two. *HomeStreet* trailed down the backstretch and had to settle for lane three. The *Spirit of Detroit* was in lane four with *Bucket List* in lane five.

Tate was first out of the Belle Isle Turn, but Shane led down the backstretch. Tate's lane one advantage allowed him to have a narrow lead over Shane at the end of the lap with Thompson in third, then *Spirit of Detroit*, and then *Bucket List*.

In lap two, Tate stretched his lead to half a roostertail length as Shane still stayed wide on the outside. By lap three, Tate's lead was one and a half roostertails. As the leader, he could set the arc in the

# STATBOX

## APBA Gold Cup

Detroit, Michigan, August 26, 2018

2.72-mile course on the Detroit River; 57.12 mile race

**QUALIFYING** (1) *Miss HomeStreet*, Jimmy Shane, 162.256; 100 points; (2) U-9 *Delta Realtrac*, Andrew Tate, 157.611, 80; (3) U-3 *Roostertail*, Jimmy King, 156.707, 70; (4) U-11 *Reliable Diamond Tool presents J&D's*, Tom Thompson, 151.615, 60; (5) *Bucket List Racing*, Dustin Echols, 140.453, 50; (6) U-7 *Spirit of Detroit*, Bert Henderson, 138.624, 40.

**HEAT 1A** (1) *Miss HomeStreet* 152.481, 400 points, 500 cumulative points; (2) *Bucket List Racing* 128.591, 300, 350; (3) *Roostertail* 121.385 (one-minute penalty, \$350 fine for dislodging a buoy), 225, 295. Fast lap (1) *Miss HomeStreet* 154.374.

**HEAT 1B** (1) *Delta Realtrac* 146.203, 400, 480; (2) *Reliable Diamond Tool presents J&D's* 140.525, 300, 360; *Spirit of Detroit*, Jeff Bernard, DSQ – flagrant fuel violation, 0, 40. Fast lap (1) *Delta Realtrac* 151.799.

**HEAT 2A** (1) *Miss HomeStreet* 124.158 (one-minute penalty for jumping the gun), 400, 900; (2) *Delta Realtrac* 119.541 (one-minute penalty for jumping the gun), 300, 780; (3) *Spirit of Detroit*, Bert Henderson, 112.011 (one-minute penalty for jumping the gun), 225, 265. Fast lap (1) *Miss HomeStreet* 157.119.

**HEAT 2B** (1) *Bucket List Racing* 127.767, 400, 750; (2) *Reliable Diamond Tool presents J&D's* 119.638 (one-minute penalty for jumping the gun), 300, 660; (3) *Roostertail* 111.400 (one-minute penalty, 200-point deduction, \$400 fine for encroachment), 25, 320. Fast lap (2) *Reliable Diamond Tool presents J&D's* 150.741.

**HEAT 3A** (1) *Miss HomeStreet* 149.244, 400, 1300; (2) *Bucket List Racing* 116.740, 300, 1050; (3) *Delta Realtrac* 115.271 (one-minute penalty, \$350 fine for encroachment), 225, 1005. Fast lap (2) *Miss HomeStreet* 155.752.

**HEAT 3B** (1) *Reliable Diamond Tool presents J&D's* 141.706, 400, 1060; (2) *Roostertail* 134.661, 300, 620; *Spirit of Detroit* DSQ – flagrant fuel violation, 0, 265. Fast lap (1) *Reliable Diamond Tool presents J&D's* 146.110

**HEAT 4A** (1) *Delta Realtrac* 136.572, 400, 1405; (2) *Reliable Diamond Tool presents J&D's* 130.144, 300, 1360; *Roostertail* W/D – hull damage, 0, 620. Fast lap (1) *Delta Realtrac* 148.424.

**HEAT 4B** (1) *Miss HomeStreet* 140.776, 400, 1700; (2) *Spirit of Detroit* 139.944, 300, 565; (3) *Bucket List Racing* 118.113, 225, 1275. Fast lap (4) *Miss HomeStreet* 143.111.

**FINAL** (1) *Delta Realtrac* 150.460, 400, 1805; (2) *Miss HomeStreet* 148.864, 300, 2000; (3) *Reliable Diamond Tool presents J&D's* 113.325 (one-minute penalty and \$350 fine for not maintaining lane at the start), 225, 1585; (4) *Bucket List Racing* 84.710, 169, 1444; *Spirit of Detroit* DSQ – DMZ violation, 0, 565. Fast lap (2) *Delta Realtrac* 154.601.

COMPILED BY ALLEN STILES



Roostertail Turn and he was forcing Shane to go way wide.

Tate won by two roostertails over Shane. Thompson was third. Henderson challenged Thompson in lap five, but he missed a buoy in the last turn and went into the DMZ, resulting in a disqualification. That moved Echols to fourth.

Thompson added two more incidents to his season. As the boats came through the Roostertail Turn prior to the start, he slid out from his lane two into lane three and was given a one-minute penalty and a \$350 fine for encroaching on Shane. After the start, in the first turn, he slid out into *HomeStreet's* roostertail and lost the front canard, all of its hardware, and suffered damage to the front of the left sponson. In spite of the damage, *J&D's* finished the heat and, even with the one-minute penalty, finished ahead of *Bucket List* to get third.

Echols also had an eventful first turn. After *J&D's* went through *HomeStreet's* roostertail, it was veering to the right. Echols thought it was going off the course and chose to turn left across *J&D's* wake. That caused his boat to spinout. He restarted and joined the heat, but he was way behind.

With the win in the final, Tate not only won the Gold Cup, but also clinched the national high-points championship. "We changed one thing for the final and it seemed to work," Tate said. "Kudos to the crew. They gave me a rocket ship." Whatever they changed worked, as Tate appeared to have more speed in the final than he did in the earlier heats.

Tate said another key to his win was getting lane one and having Thompson in lane two. "The inside lane is always an advantage, and I had a good start. The buffer (Thompson) between me and Jimmy helped."

Tate's lane-one advantage lasted

all five laps. The biggest benefit of the "Thompson buffer" was that it kept Shane out of both lane one and lane two into the first turn. Tate and Shane exited the turn together and Shane had a narrow lead going into the Roostertail Turn. Tate stayed close to the buoys, Shane slid way wide, and Tate took the lead coming out of the turn.

Shane was upset with the decision not to use the strobe lights. "Exactly what happened on the race course is exactly what I predicted," he said. "We were the only ones honest on our timing marks going around the course during the warmup period. We should have come away with the Gold Cup win."

Shane was referring to the fact that Tate and Thompson were able to go slow side by side to get lanes one and two. Strobes may have shown them to be going less than the required 80 mph. He was behind them where he needed to be, according to his timing marks, to maintain the 80 mph. The implication was that any boats ahead of him could only avoid jumping the gun by going less than 80 mph. Without the strobe lights, we'll never know.

In spite of the controversy, Tate won his first Gold Cup. "I've watched guys lift this trophy year after year and I've seen how much it

meant to them. I can't describe the feeling. I'm a little kid living out his dreams."

The next opportunity for Tate is the season's last race in San Diego. With the national championship settled, the drivers will only be racing for the Bill Muncey Cup, just trying to win a boat race.

Will Tate's sweet dreams continue, or will someone else get to live the dream? ❖

## Miss Rock owner is killed in accident.

Stacy Briseno, the owner of the Leland Racing Team, which campaigned the U-99.9 *CARSTAR powers Miss Rock* this season, was killed on the Thursday night before the San Diego race in a pedestrian/vehicle accident in Southern California. No other details of the accident were provided.

Briseno took ownership of the unlimited race team after the death of Fred Leland in 2012. In seven years of competing in the H1 Unlimited Racing Series, her boat's best performance resulted in a fourth-place finish at the 2013 Oryx Cup World Championship in Doha, Qatar. ❖

## LATE-BREAKING NEWS: Tate wins in San Diego.

Andrew Tate drove the U-9 *Delta Realtrac* to an easy victory in the final heat of the HomeStreet Bank Bayfair race to finish the 2018 H1 Unlimited Racing Series with victories in five of the six events. His San Diego win was made easier when the defending national champion *Miss HomeStreet* was unable to get started for the final. The U-440 *Bucket List Racing* finished second and the U-21 *Miss PayneWest Insurance* was third. Tate finished the season with 10,170 points and the national title. We'll have more details in next month's *Unlimited NewsJournal*.



# Extreme speed on the water.

*On Sunday, July 9, 1989, Craig Arfons was killed during an attempt to set the world straightaway speed record on Lake Jackson in Sebring, Florida. His surprisingly small boat, only 19-feet long and weighing only 2,600 pounds, was powered by a jet engine used in a T-38 Talon fighter jet that was capable of producing 5,000 pounds of thrust. Named the Rain X Challenger, the boat was speeding across Lake Jackson at over 350 mph, well above the record of 317.596 mph (a mark set in 1978 by Australian Ken Warby that still holds), when it suddenly veered to the right, bounced on its left sponson, went airborne, rolled and bounced on its right sponson, did a pinwheel spin in the air, and crashed in a huge explosion of spray. In the following article, Franklin Ratliff examines the ill-fated attempt by Craig Arfons, tries to find out why the effort failed, and introduces us to some of the technical challenges of traveling at extreme speeds on the water.*

BY FRANKLIN RATLIFF

Although not all of them were record setters, since 1946 a total of fifteen jet boats and one rocket boat have been built for attempts on the world water speed record. These are:

- ◆ Sir Malcolm Campbell's *Bluebird K4* (1947, a conversion of his prewar piston-engine boat).
- ◆ The Hanning-Lee *White Hawk* jet hydrofoil (1952).
- ◆ John Cobb's *Crusader* jet reverse three-pointer (1952).
- ◆ Donald Campbell's *Bluebird K7* jet (1955).
- ◆ The two jet hydroplanes built by Les Staudacher (*Tempo Alcoa* and *Miss Stars & Stripes II*).
- ◆ Lee Taylor's *Hustler* jet (1965).
- ◆ Art Arfons' *Green Monster* (1967, a converted jet car).
- ◆ The three Warby jet hydroplanes (*Spirit of Australia*, *Australian Spirit*, and *Spirit of Australia II*).

◆ "Captain Nemo's" *Nautilus* jet hydroplane (1979).

◆ Lee Taylor's *Discovery II* rocket reverse three-pointer (1980).

◆ Tony Fahey's *British Pursuit* jet reverse three-pointer.

◆ The *Southern Cross Water Shuttle* jet hydroplane.

◆ Craig Arfons' *Rain-X Challenger* jet hydroplane (1989).

◆ Jeffrey Dehaemers' *Dartagnan*.

Out of these sixteen boats, *Bluebird K7*, *Hustler*, and *Spirit of Australia* were successful (a piston-engine version of *K7* had once been considered for the Harmsworth Trophy). *Spirit of Australia II* is now in trial runs for a future record attempt. *Spirit of Australia II* uses the same model jet engine as Campbell's 1966-67 *Bluebird K7*.

Jeffrey Dehaemers is currently suffering from liver cancer, so it is questionable when or if *Dartagnan* will run. *Crusader* crashed during

a record attempt on Loch Ness after clocking 206 mph through the kilo. *Discovery II* crashed during a record attempt on Lake Tahoe after clocking 269 mph through the kilo. Staudacher's *Tempo Alcoa* and *Miss Stars & Stripes II* crashed during trial runs. *Tempo Alcoa* ran over rocks on Pyramid Lake, while *Miss Stars & Stripes* ran into the woods along Saginaw Bay when the rudder broke off.

*Bluebird K4*, *White Hawk*, *Australian Spirit*, *Nautilus*, and *British Pursuit* never got out of trial runs. In fact, *Nautilus* and *British Pursuit* never got on plane. *Green Monster* never got into trial runs.

**C**raig Arfons was the son of Walt Arfons and the nephew of three-time land speed record holder Art Arfons. It was Walt who in 1960 created the first jet dragster. He used a Westinghouse J-46 turbojet, the same model



[Top] Craig Arfons and his jet-powered "sidesaddle" dragster was the first to record 300 mph in the quarter mile.  
 [Above] The ill-fated *Rain-X Challenger* jet hydroplane.

that later served as the powerplant for Lee Taylor's *Hustler* hydroplane. In 1967, Art Arfons converted his J-47 *Cyclops* jet dragster into an innovative tunnel hull water speed record boat, but never got the sponsorship for an attempt.

In 1979, Craig was part of a small group of jet racers who introduced the General Electric J-85 turbojet and created the lightweight cars that revolutionized jet drag racing. The J-85 weighed only 500 pounds with afterburner and generated 5,000 pounds of thrust. Craig's "sidesaddle" J-85 dragster was the first jet to clock 300 mph in

the quarter mile.

In 1982, Craig became acquainted with water speed record holder Ken Warby when he built a pair of J-85 jet Funny Cars for Warby that were used in a United States tour. Craig's ultimate goal was a supersonic land speed record using a composite twin-engine J-85 car, but the water speed record was pursued first as it was less expensive to build and run than a land speed attempt. Including liability insurance premiums, the water speed record project cost a total of about \$300,000.

Completed in 1988, Craig's J-85

Kevlar and fiberglass jet hydroplane was the first all-composite hull built for the water speed record. With an empty weight of only 2,500 pounds, it was the lightest jet hydroplane ever built for the record. Thrust and empty weight were about the same as Lee Taylor's *Discovery II* rocket boat.

The cockpit included an integral structural canopy, at the time a revolutionary concept in hydroplane safety, although standard equipment today. To minimize instrumentation inside the cockpit, the instruments for starting the engine and running it at idle were located in a panel on the side of the boat and were monitored by Craig's crew chief Freddy Sibley, himself a second-generation jet racer.

The boat hit 200 mph during initial trial runs on Lake Jackson near Sebring in 1988 while using only dry thrust, but the tests also showed that the boat had insufficient power to break the record on dry thrust alone. That meant an afterburner system had to be installed. In afterburner, the engine gave Craig's boat the same thrust as Donald Campell's 1967 *Bluebird K7*, but in a hull that weighed only half as much.

The next round of trial runs on Lake Jackson came in April 1989, followed on July 8 and 9 by the attempt on the record. Lake Jackson was a little over three miles long, including a small cove at the north end. Water conditions on July 8 proved too rough, so the attempt was postponed until the next day. The crash occurred at an estimated 350 mph to 375 mph during the first run of the day.

Over a period of many years, I pieced together what I believe is the most plausible explanation of what happened. For reasons that no one ever figured out, the boat always wanted to pull to the driver's right (starboard). The team was appar-



ently severely underfunded with no money for wind tunnel testing and limited money for test runs. The morning of the crash was the first time the boat ever ran on calm water. It was as smooth as glass.

They started the boat all the way to the left side of the course with the hope that by the time it got through the kilo it would still be inside the marker buoys.

What I think happened is Craig got half way through the kilo and had veered so far to the right he thought he might be about to run out of lake, so he chopped the throttle. That, in turn, unloaded the sponsons and set off the sponson walking that lead to the blow-over. During the sponson walking, Craig released a drag chute, but did not get good inflation.

A restraint harness anchor failed, which lead to Craig being thrown around inside the cockpit and sustaining fatal blunt-trauma injuries. Craig was recovered from the intact front half of the boat and died at the hospital.

I believe the solutions to setting the water speed record at much less risk, short of going to a ramwing or ekranoplane concept, are hydrodynamic rather than aerodynamic. I have a 1970 edition of *Principles of Naval Engineering* that describes how propellers had been a



Donald Campbell's *Bluebird K4* after being converted to jet power in 1947.

continuing problem with hydrofoil ships and that airscrews, airjets, or waterjets had remained under consideration as alternative propulsion systems.

Something that's really fascinating, in terms of a speed record project turning out to really having had the larger real-world implications the builders said it did, is how a few years after the Hanning-Lee *White Hawk* turbojet hydrofoil boat ran in 1952 (the same year as John Cobb), Boeing built a huge turbojet hydroplane to serve as a test bed for hydrofoil development.

The fundamental difference between the two boats was that the

former was built on a shoestring budget by the husband and wife team of Frank and Stella Hanning-Lee, who were working with very limited money, while the latter had the resources of a giant aerospace corporation behind it. Nevertheless, the Hanning-Lees were ahead of Boeing with their little boat in appreciating a turbojet boat as a potential platform for hydrofoil development.

The *White Hawk* exhibited the typical hydrofoil behavior of getting up to about 75 mph then suddenly losing lift when the foils cavitated. Structural engineering of the *White Hawk* was by Ken Norris, later a co-designer of Donald Campbell's *Bluebird K7*.

Two features from the Boeing Aqua-Jet that might've helped the Craig Arfons boat are a planing wedge at each corner of the stern and twin rudders. These may have eliminated the boat's tendency to pull to the right and helped reduce the sponson-walking tendencies the hull demonstrated when power was abruptly chopped.

The pontoons on Art Arfons' boat conversion of the *Cyclops* jet dragster always seemed kind of big and blunt to me, until I compared them to the enormous sponsons



The *White Hawk* jet hydrofoil built by Frank and Stella Hanning-Lee



The current record holder, Ken Warby in the *Spirit of Australia*, setting a mark of over 317 mph

on the Boeing Aqua-Jet. Art also planned to use an overhead wing like the one he'd installed on *Cyclops* when he ran at Bonneville in 1962.

Like Craig Arfons, my late friend Arvil Porter was a self-taught designer who had never built a boat. Arvil was an expert in designing and building hydrogen peroxide rocket systems, and had invented hydrogen peroxide rocket drag bikes. In contrast to Craig's boat, Arvil's 1987 concept for an ultralight 20-foot long rocket water speed boat shows more attention to both aerodynamics and hydrodynamics, including fixed and moving stabilizing and control surfaces consisting of elevons, stern trim tab, and canard wings.

A boat built to Arvil's concept probably would've weighed about

1,000 pounds empty and had sufficient volume of hydrogen peroxide to support 10,000 pounds thrust for nine seconds.

Lee Taylor's *Discovery II* rocket boat was designed by Art Williams, who previously had never designed a boat. Williams adopted a reverse three-point configuration and selected a seven-degree angle for the sponsons that generated the least hydrodynamic drag, but also the most violent response to waves.

The patent drawings for Lee Taylor's *Discovery II* show a radical shift in thinking from what was originally conceived to what was finally built.

In the original concept, the water rudder was located under the bow and would only have been used until the boat went on plane, after

which control of the boat would've been accomplished entirely through moving aerodynamic surfaces.

*Discovery II* might've been successful if it had only been run on glass-smooth water, such as was available at Walker Lake in Nevada where the test runs with the boat had been conducted.

The hydrogen peroxide rocket propulsion system in *Discovery II* was the same technology that had previously been used in rocket land speed cars and dragsters, such as *The Blue Flame*, *The SMI Motivator*, and the *Courage of Australia*. A hand throttle in *Discovery II* allowed Taylor to come on plane smoothly without porpoising or submarining. *Discovery II* crashed after exiting the kilo and clocking 269 mph.

A previous water speed record boat that used the reverse three-point configuration was John Cobb's *Crusader* jet boat. *Crusader* used a front-mounted rudder at the base of the front planing shoe, the same feature that had been designed into *Discovery II*, but discarded when the boat was built.

Prior to the crash where *Crusader* submarined after clocking 204 mph through the kilo, Cobb had run a two-way average of 175 mph that narrowly missed breaking the 178 mph record set by Stanley Sayres in *Slo-mo-shun IV*. ❖



Lee Taylor's *Discovery II*, a reverse three-pointer



# World Water Speed Record Holders

| SPEED       | DRIVER             | BOAT                      | LOCATION                   | YEAR |
|-------------|--------------------|---------------------------|----------------------------|------|
| 317.596 mph | Ken Warby          | Spirit of Australia (jet) | Blowering Dam, Australia   | 1978 |
| 288.600 mph | Ken Warby          | Spirit of Australia (jet) | Blowering Dam, Australia   | 1977 |
| 285.220 mph | Lee Taylor, Jr.    | Hustler (jet)             | Lake Guntersville, Alabama | 1967 |
| 276.330 mph | Donald Campbell    | Bluebird K7 (jet)         | Lake Dumbleyung, Australia | 1964 |
| 260.350 mph | Donald Campbell    | Bluebird K7 (jet)         | Lake Coniston, England     | 1959 |
| 248.620 mph | Donald Campbell    | Bluebird K7 (jet)         | Lake Coniston, England     | 1958 |
| 239.070 mph | Donald Campbell    | Bluebird K7 (jet)         | Lake Coniston, England     | 1957 |
| 225.630 mph | Donald Campbell    | Bluebird K7 (jet)         | Lake Coniston, England     | 1956 |
| 216.200 mph | Donald Campbell    | Bluebird K7 (jet)         | Lake Mead, Nevada          | 1955 |
| 202.320 mph | Donald Campbell    | Bluebird K7 (jet)         | Ullswater, England         | 1955 |
| 178.497 mph | Stanley Sayres     | Slo-mo-shun IV            | Seattle, Washington        | 1952 |
| 160.320 mph | Stanley Sayres     | Slo-mo-shun IV            | Seattle, Washington        | 1950 |
| 141.740 mph | Malcom Campbell    | Bluebird K4               | Lake Coniston, England     | 1939 |
| 130.910 mph | Malcom Campbell    | Bluebird K3               | Lake Hallwyt, Switzerland  | 1938 |
| 129.500 mph | Malcom Campbell    | Bluebird K3               | Lake Maggiore, Switzerland | 1937 |
| 126.320 mph | Malcom Campbell    | Bluebird K3               | Lake Maggiore, Switzerland | 1937 |
| 124.860 mph | Gar Wood           | Miss America X            | Algonac, Michigan          | 1932 |
| 119.810 mph | Kaye Don           | Miss England III          | Loch Lomand, Scotland      | 1932 |
| 117.430 mph | Kaye Don           | Miss England III          | Loch Lomand, Scotland      | 1932 |
| 111.712 mph | Gar Wood           | Miss America IX           | Miami Beach, Florida       | 1932 |
| 110.223 mph | Kaye Don           | Miss England II           | Lake Garda, Italy          | 1931 |
| 103.490 mph | Kaye Don           | Miss England II           | Parana River, Argentina    | 1931 |
| 103.069 mph | Gar Wood           | Miss America IX           | Miami Beach, Florida       | 1931 |
| 102.256 mph | Gar Wood           | Miss America IX           | Miami Beach, Florida       | 1931 |
| 98.760 mph  | Henry Segrave      | Miss England II           | Lake Windermere, England   | 1930 |
| 93.123 mph  | Gar Wood           | Miss America VII          | Miami Beach, Florida       | 1929 |
| 92.838 mph  | George Wood        | Miss America VII          | Detroit, Michigan          | 1928 |
| 87.392 mph  | Jules Fischer      | Farman Hydroglider        | Paris, France              | 1924 |
| 80.570 mph  | George Wood        | Miss America II           | Detroit, Michigan          | 1921 |
| 74.970 mph  | Gar Wood           | Miss America              | Detroit, Michigan          | 1920 |
| 70.860 mph  | Casey Baldwin      | Hydrodome IV              | Nova Scotia, Canada        | 1919 |
| 66.660 mph  | Chris Smith        | Miss Minneapolis          | Put-in-Bay, Ohio           | 1915 |
| 59.964 mph  | Victor Despujois   | Santos-Despujois          | Monte Carlo, Monaco        | 1914 |
| 58.260 mph  | Coleman DuPont     | Tech Jr.                  | Huntington Bay, New York   | 1912 |
| 46.510 mph  | Tommy Sopwith      | Maple Leaf IV             | England                    | 1912 |
| 45.210 mph  | Fred Burnham       | Dixie IV                  | Huntington Bay, New York   | 1911 |
| 43.600 mph  | Noel Robbins       | Ursula                    | Monte Carlo, Monaco        | 1910 |
| 36.600 mph  | Clinton Crane      | Dixie II                  | Hempstead Harbor, New York | 1908 |
| 33.800 mph  | Emile Dubonnet     | Debonnet                  | Juvisy, France             | 1905 |
| 32.450 mph  | Emile Dubonnet     | Dubonnet                  | Monte Carlo, Monaco        | 1905 |
| 29.930 mph  | Tucker             | Napier II                 | Long Reach, England        | 1905 |
| 29.300 mph  | A.D. Proctor Smith | Challenger                | Palm Beach, Florida        | 1905 |
| 28.360 mph  | Harrison Moore     | Onontio                   | Hudson River, New York     | 1904 |
| 26.650 mph  | M. Thery           | Trefle-a-Quatre-Feuilles  | Paris, France              | 1904 |
| 25.100 mph  | M. Thery           | Trefle-a-Quatre-Feuilles  | Monte Carlo, Monaco        | 1904 |
| 24.900 mph  | Campbell Muir      | Napier                    | Queenstown                 | 1903 |

# My \$0.02 Worth

## Editorial Comment



Andy Muntz

In the last two issues of the *NewsJournal*, I've discussed two areas of concern. I wondered why some boat owners didn't make a greater effort to appear at races, especially at a time when a lack of participants has become one of the biggest issues the sport faces. I also asked if race organizers could see themselves as teammates with H1 Unlimited and the boat owners and work with them, not against them.

I received a letter from one reader who agreed with my comments and assumed that my next target would be H1 officials. Sorry if I disappoint you, dear reader, but that's not what this will be about. In fact, quite the opposite.

As I read about this sport on Facebook, I see very frequent posts by a group of people who seem to enjoy blaming H1 Unlimited for everything that is wrong. In the world of social media, they are called trolls, a term that brings to mind the image of a grown man

who is sitting alone at his computer in the basement of his mother's home.

Trolls try to pass themselves off as experts on all topics, and they try to demonstrate their expertise by finding fault with everything they see. It makes them feel superior, perhaps. But, what it really does is tear apart.

Now, don't get me wrong. There are a great many things wrong with this sport right now. There's not enough prize money, not enough boats, not enough sponsors, and not enough fans. Penalties are sometimes called too late or too often, and are sometime controversial. But, simply blaming H1 for everything doesn't solve anything.

Please understand that H1 Unlimited is an organization that consists of a very small number of volunteers who operate with a budget of almost nothing. They are donating their precious time, their

expertise, and money from their own pockets so that this sport can stay afloat.

But, their love for unlimited hydroplane racing only goes so far. After spending many hundreds of hours trying to hold this sport together, and then getting criticized at every turn by people who couldn't run a boat race even if their life depended on it, the effort grows very old. I can tell you that some of these fine people have already had enough, and the sport is already suffering as a result.

So, if you have a beef about something or have an idea for doing something better, that's great! Get involved; make a thoughtful proposal. But, sitting in your basement lobbing hand grenades doesn't solve anything. It only destroys the very thing you claim to be passionate about. ❖

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Letters may be edited for clarity and space.

**PLEASE JOIN US AT THE NEXT MEETING OF UNLIMITEDS UNANIMOUS.**

2 p.m. on Sunday, October 14, 2018

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