



The World's Fastest Electric Car - The Buckeye Bullet!

It's official! The Buckeye Bullet now holds the National Land Speed Record for an electric vehicle with a speed of 256.894 miles per hour! The Buckeye Bullet traveled to the World Finals at the Bonneville Salt Flats in Utah, October 15th through the 18th, where it made several attempts to qualify for a chance at the National Record. The previous National Record was 251.2 mph. Some more exciting news is that the Bullet also has the unofficial World Record!

Unfortunately, the organization that sanctions World Records, the FIA, was not at this event. The current World Record is 245 mph. Unofficially, the Buckeye Bullet is the fastest electric car in the world!



Welcome to the Salt Flats!

The week of the World Finals ended well, but not without a fight! The Buckeye Bullet had its moments of greatness and challenges alike. Tuesday, October 14th, the Bullet passed the technical inspection with flying colors. Things were off to a very good start!

Wednesday, October 15th, was the first day the vehicles could take to the course. The Bullet took its first run but ended up off course at mile two of the seven mile course. The controller was cutting out and the clutch was broken. A new clutch was ordered from our driver's business, Taylor Race



The Buckeye Bullet at the starting line

Engineering, in Plano, Texas. The clutch arrived that night at the Salt Lake City Airport and the team put the new clutch in the car on Thursday morning around 6:45 am and finished about 11:00 am. The controller settings had been "turned up" in order to provide more power to the motor, but it started cutting out during the first run. The team then decided to put the controller settings back to about 50% power. This is how

the controller was set up for last October and it seemed to work well. The Bullet was lined up again to make a second run and things had changed for the better! After waiting about two hours to make a second run, here's how the Bullet did:

2-1/4 Mile	215.247 mph
Mile 3	225.201 mph
Mile 4	249.515 mph
Mile 5	262.986 mph
Exit Speed	266.963 mph

This run qualified the Bullet for an attempt at the National Record! The car had to go directly to the impound lot where the team had about four hours to make needed repairs to the car. Some of the tasks that need to be performed after a run are:

- Check and repack the parachutes
- Nut/bolt check
- Suspension check
- Charge batteries
- Download data from the controller to get pertinent information such as wheel speed, motor temperature, battery voltage and current.

When a vehicle is making an attempt at a new record, it has to stay in the impound lot until it backs up the record run. The return runs were made the following morning at 8:00 am, which gave the team about another hour to make adjustments and to top off the batteries. Friday, October 17th, the team returned to the Salt Flats eager to set a new National Record. Unfortunately, things did not start out very well. The right rear tire was found flat due to a leaky valve stem. Five strings of the battery packs

(approximately 400 pounds of batteries) were also ruined. Keep in mind, the car could not leave the impound area, only to get in line to make the backup run. The team was able to fix the tire the old fashioned way, with a little advice from an "old timer" at Bonneville. They jacked up the tow vehicle, a Ford F-550 truck (Great



Great White towing the Bullet to the impound lot

White), and slid the rubber part of the wheel under the left front tire of the tow vehicle and lowered the jack. The weight of the truck tire was used to break the Bullet's tire away from the rim. When it was all said and done, the tire finally broke away from the rim when one of the team members was jumping up and down on it! The problem with the batteries occurred because nickel metal hydride batteries generate heat when they're being charged. The team had to leave the car in impound overnight so they needed to cover up the Bullet after charging the batteries the night before. This resulted in some of the batteries overheating due to lack of ventilation. The team never had to deal with this before and they were under time constraints and had to leave the salt. They didn't want to leave the car completely exposed to the elements of the Salt Flats overnight. They were able to get the Bullet back in running condition, less the five strings of batteries. This was quite an accomplishment considering the time restraints that are put on the backup record runs. Here are the results:



The team working on the Bullet in impound

2-1/4 Mile	220.619 mph
Mile 3	229.619 mph
Mile 4	241.217 mph
Mile 5	237.988 mph
Exit Speed	234.746 mph

In order to obtain a record, the vehicle has to use the speed readings from the same mile in both runs. For instance, for the first run that qualified the Bullet to make an attempt at the National Record, the officials would use mile five at 262.986 mph. Mile five of the backup run was 237.988 mph. This averages 250.487, just shy of the 251.2 National Record. The Bullet was still faster than the current World Record, but it was disappointing that the National Record was so close but still not a reality for the Buckeye Bullet. Everyone knew the car was capable of going much faster, the problem was that it just ran out of energy due to the shortage of battery power. Back to the pits everyone went! The team was going to try to salvage as much material from the five ruined battery strings as possible in order to make new packs.





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They were able to make two battery strings for another run that would be made later that afternoon. The batteries received a good, long charge and they tweaked the controller so the motor would have about 5% more power. The results from the afternoon run were much more promising than the last.

2-1/4 Mile	226.894 mph
Mile 3	239.328 mph
Mile 4	265.238 mph
Mile 5	271.459 mph
Exit Speed	272.139 mph

The Bullet was back in the game! This was the fastest the car had ever gone—off to the impound lot!

As the team inspected the car after the run, they discovered that the left rear tire was leaking. Our driver, Craig Taylor, said that the car got a little squirrely when he pulled the parachutes. Several of the team members took the tire to a local gas station where they were able to have it fixed that evening. They returned to the Salt Flats with the tire, in time, but not without a “penalty”—they got a speeding ticket on their way back to the Salt Flats! Rumor has it, Keith was going 51 mph in a 35 mph zone! I guess that’s the price you pay for racing!



Official timing slip from the fastest run yet!

Saturday morning, October 18th, the Buckeye Bullet made its final run and set the National Land Speed Record for an electric vehicle! The new official National Record is 256.894, this is also the unofficial World Record.

2-1/4 Mile	225.661 mph
Mile 3	232.734 mph
Mile 4	238.301 mph
Mile 5	242.329 mph
Exit Speed	243.267 mph

The champagne came out and the celebrating began! All the efforts of the Buckeye Bullet team members, sponsors, family and friends had finally paid off!



The celebrating begins!

Craig Taylor, was awarded the official 200 mph club t-shirt and hat for being the new National Record holder. We’re hoping for the 300 mph award next year!



Craig is welcomed into the 200 mph club

The team has plans to return to Bonneville in August 2004 where they will attempt to raise the bar by beating their own National Record with 300 mph. The Buckeye Bullet will also return in October 2004 to get the official World Record title.



Craig showing off his new duds!



The National Record Holding Buckeye Bullet Team

For more information on the World Finals and the Buckeye Bullet, visit <http://www.scta-bni.org> or <http://www.buckeyebullet.com>.

