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April 2010 - Newsletter

Hi to all our Sponsors, Supporters, Crew, LSR Enthusiasts and friends, welcome to our April newsletter.

We are getting in early this month with our newsletter as our Technical Manager Mark Read is taking a well earned break with his family to Western Australia's South West Region for a week or two. As well as a thousand other jobs on our project Mark also pieces together my ramblings and turns it all into a pretty good newsletter.

This month has seen some positive progress with our car, but I had a few days off after a big month in February.

My wife Cheryl also needed a break, as her real estate career is very busy and her support of me and the project in our quest to build our land speed record racer means we are ships that pass in the night at times. The good thing is we were invited away for a few days with friends and family to Ayres Rock. This is a wonderful place and highlights the natural beauty of this great country of ours.



Picture taken from our helicopter tour ride

After the relaxing few days away, it was back to the hard grind with the car. This month the "V" underbelly frames have all been welded into position and our 4" HTP feed line fitted with its flanged ends. Our HTP and fuel dump lines have been fitted and design work for the "skinning" of our top-hat section (the raised section behind the drivers head) and the "V" underbelly is progressing well. We are sheeting these sections in 2mm 2024 T3 aluminium and these panels will be glued and flush riveted to the vertical frames via formed angle sections. This will be a huge job and requires some very competent craftsmen to form the angles and precision cut the sheets to fit perfectly. We have tracked down Perth's most competent and respected car





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restorers and asked them to help us with this job. Rowe and Sons in Maddington do some brilliant restoration work and are metal fabrication wizards. Great to have these guys on board!

The Aussie Invader Team would like to welcome our newest team member, Professor Karen Haines, Director of The Western Australian Supercomputer Programme. Karen has joined the team and will work in with our resident CFD man Dan McKeon and the Soto Group, our engineering consultants in Wollongong to complete CFD calculations for this extreme machine. We need all the help we can get to try and reach mach 1.4 or 1000 MPH in a stable and safe manner. We very much look forward to Karen's professional input.



We are now working on our windshield surround mouldings, windshield hinges and canopy, which is starting to come together quite nicely. We have been experimenting with canopy designs to make entry and exit of the driver's area as simple as possible. This is actually very hard as the design of the rollcage does restrict movement, but that is one of the functions it was designed to do. The canopy will hinge at the front and will need to lift through almost a 60 degree arc to give enough clearance for the driver to enter and exit safely.

When the car is running the canopy will come under enormous stress and the last thing I would want is the canopy to pop up at 1000 mph, so hinging at the front is essential, which will mean there will be positive pressure on the canopy at speed, keeping it closed.

Once we are happy with the all aspects of the canopy design and the components are in place, we will look to fire up a robot mill to cut out our canopy plug in readiness for a composite layup of this critical part of the vehicle. We will also manufacture purpose built hinges, locks and hardware to make sure the canopy operates flawlessly. The finished canopy will be lifted by gas struts as it will weigh a considerable amount due to the thickness of the windshield material. It also needs to fit perfectly to the front of the top-hat section to ensure minimal drag.





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A library in one of WA's universities during the storm

Western Australia made worldwide headlines this week when we received our monthly rain quota in about an hour. Not only was the rain awesome but a hail storm followed and these combined to cause WA several hundred million dollars worth of damage to properties and about 30,000 cars have been written off with damage from hailstones the size of golf balls and bigger.

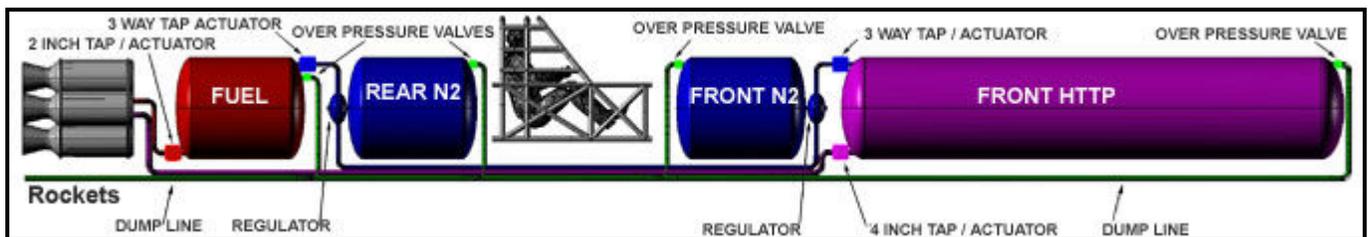
We were not spared either, our workshop got blasted with these hailstones and we copped a lot of water damage in our workshop and home. The car was undamaged and will have a return match with nature's forces when it runs. A big clean up has been happening for the past few days with lots of unwanted work ahead to get things back in shape. The bright side of all this is that no one was killed or injured in the entire metro area, amazing!

The link below is just one of several international news reports on the storm.

http://www.youtube.com/watch?v=OaYeVqFDO_Q

The heart of the car is the propulsion system and we are working very closely with Rocket Lab, KJ Beers and several others to ensure we get this exactly right. The car potentially has more than enough power to do job, but power is only produced by the engines if propellant is supplied in the correct quantities and under the right conditions. These conditions will vary from day to day and even during a run, with many changes in the cars environment.

Below is a very rough schematic to give you an idea of the propulsion system layout and how it will all sit within the car.





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The car is starting to look like the racer she is and after all the work we did for the catalyst program, which involved creating a temporary nose, she measures around 16 metres (52ft). To get pictures that conveys the length of Aussie Invader is almost impossible in the confines of the workshop, but here goes!

We are now pushing to complete all the mouldings that attach to the top and "V" underbelly areas, complete the windshield framework, complete the plumbing that runs through the cars underside and finalize our front suspension and steering set-up.

Can't wait to get the car on wheels, but we are still several months away from achieving this.

Once again money may also dictate the speed of events and sponsorship is always on our minds, but we did have a development on that front...



Add 3.7 metres of nose cone in the picture below and you start to see how long this car is going to be!





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We signed a contract this month with TBK Management Consultancy in Dubai, we are hoping that this first class company will find us a project backer or major sponsor(s) and then we can give our Rocket Lab boys some serious overtime to get their motor development and testing underway. Running our race in the UAE will be quite a challenge, but where in the world isn't it going to be to run a car like this?

A special thanks this month to all the fantastic people who have supported our mission:

- Mike Annear has again been a godsend with all the computer design stuff he has done
- Mark Read for shielding me from all the time consuming jobs that I don't find time to do
- The crew at Powerlift for their help in getting our vehicle turned the right way
- The guys at Fielders for all their great metal pressing work
- Di Candilo's Steel City for the supply and laser cutting of our steel
- Rowe & Sons for the metal work expertise
- Compac Marketing and Prochem for their great products and service
- Topline Welding, Progress Equipment and our great mate Brian Cailes, who carried out some more specialized welding.

We also welcome two new companies to our team, Mark Borrello from Borrello Legal and Andrew Noble from accounting firm Noble and Associates, thank you one and all.

That's it for this month, I'll get back to my mop and bucket and keep cleaning up our storm damage!

Until next month, be your very best!

Rosco McGlashan OAM

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