NSWRA Newsletter



New South Wales Rocketry Association Inc.

As was advised in the last newsletter, the committee is meeting each month to review the status of COVID-19 and it effect on our launch activities.

April 2020

Rest assured that we will resume launching as soon as government health restrictions are sufficiently eased and it is deemed to be safe to do so. At this stage we are still waiting.

The last committee meeting was very fruitful, providing some interesting information about memberships, future launches and pyrotechnician's licences – the main aspects are covered in the following articles.

Pyrotechnician Licences

This information has just come to light, and will be of particular interest to those members intending to launch HPR, apply for a licence or are due to renew their licence.

SafeWork NSW has advised that any member using high power motors (ie those with propellant weight greater than 62.5g) must have a licence, or be under the direct supervision of a licenced pyrotechnician. This essentially means one-on-one supervision. When the club only had a handful of HPR fliers, we were able to cope with having 2 or 3 licensed pyros. Now, however, we would like to see most, preferably all, HPR fliers become licensed. In fact, for most other clubs this is essential.

Now for some encouragement: As a consequence of COVID-19, SafeWork NSW has waived the licensing fee for renewals and new applications! You should take advantage of this offer and submit your application ASAP. You still need to pay for the security clearance first, which is \$171.50.

For most of you, you should include that you wish to store motors when you fill in your application, even if you're unsure that you meet all the requirements. SafeWork will ideally be looking for a storage location separated from places of residence and also separated from other dangerous items e.g. gas bottles, petrol, etc. However, SafeWork will look at individual cases and will factor in quantities, separation distances and other things before granting a licence to store. For those considering the storage of black powder, a storage location away from places of residence is essential - this includes your neighbours. A discussion with SafeWork's licensing department is highly recommended, if not essential.

Storage magazines should comply with Australian Standard AS2187.1. The club will be purchasing this Standard so members can review this.

Membership fees reduced

All memberships are due to expire on 30^{th} June. Since we are in a brief hiatus until COVID-19 restrictions have eased, we would not expect members to renew until we re-start launching – although you are welcome to renew now if you wish.

As a consequence of the inability to launch, the committee has decided to reduce the membership fee for next year for renewing members to 50% - so the fee to renew for 2020-21 is just \$75.

More competitions!

Once we are able to start launching again, we will be holding more competitions with appropriate prizes. Details will be announced in due time

Upcoming Events

Currently all launches are suspended until further notice

What are your current projects?

With members potentially having more time to devote to rocketry, we expect to see some new and interesting models on the pads. Why not share your projects with your other club members? Please send me any descriptions, details, photos and stories and I'll include these in the next newsletters. To whet your appetite, here is a sample of Scott Arnell's impressive work



Scratch-built 1/17.5 scale Mercury Redstone but I did cheat a little and used a 3D printed Mercury Capsule from Boyce Aerospace Hobbies, an American online producer and retailer https://boyceaerospa cehobbies.com/



1/72 scale Delta II 7925. This kit was by Real Space Rockets (now out of production)

> 1/48 scale Chinese KZ-1 (KZ = Kuaizhou, which means "Speedy Vessel"). 18mm motor. Kit by Aggressor Aerospace. Note the grid fins (or lattice fins)



The height is just over 1.5m with the LES tower attached. The tower is removable for flight. The airframe is 4 inch diameter PML phenolic body tube and there's 4 pieces to each fin made up of a mixture of Birch ply, Balsa and Bass wood.

The capsule decals are of the waterslide type and were custom made by Tango Papa decals. Booster decals are vinyl and were also custom made by Tango Papa decals. It has a 38mm motor mount.

The plan is to use an I175 for its first flight.



This is how my through-the-wall mounted Redstone fins are built up - a mix of 1/4" Birch ply, balsa and bass wood. The 1/4" birch main bodies were custom laser cut by Laser Wizard at St. Marys and the leading edges are hand cut from balsa aeroplane trailing edge moulding stock, taking note of the grain direction. The balsa edge stock used was 1.25"x 5/16"x 1/8".

The balsa thick edge is glued to the leading edge of the main fin body with Selleys wood glue. The small difference in thickness is just sanded off once the glue dries to leave a flush seamless joint. It's a very easy way to get a perfect bevelled leading edge. This construction is more than adequate for anything this rocket is planned to fly on. I've flight-proven this design on my Jupiter C and Sparta/WREsat L1 rocket on an 1175 which is about the most that I intend to subject this model to as well. CA is wicked into the balsa bits to strengthen and harden them and this is then sanded smooth before applications of Feast Watson Sanding sealer.

The slot in the fin tab/lower root edge allows it to interlock with the aft centering ring which is mounted flush in the aft end of the airframe. There is also a mid centering ring which will sit against the top edge of the fin tab internally. There are 3 1/4" birch ply centering rings in total. The fins are initially attached with Selleys Aquadhere (PVA adhesive) and then reinforced with 5/16" internal and external epoxy fillets. I used Rocketpoxy for all the fillets except for where the motor tube meets the fin tabs and where the motor tube meets the centering rings internally, where I used JB Weld.