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July 2017

THE BUZZ!

Newsletter of the South Western (Ontario) Association of Rocket Modellers

S.W.A.R.M.

2nd June Launch

Chris Halinaty, NAR 85414

This month, we were lucky enough to have good weekend weather, although the rain certainly fell during the week more than in any other June I can remember. This, combined with a late start to planting at our main field meant that not only one June launch was possible, but that we could hold a second as well. Ron, Charlotte, and I made it out this Saturday, and had a successful day of launching several rockets.

First off the pad was a good tester rocket, the Estes Outer Space Orange crayon. With the wind up a little, Charlotte decided to start with a B6-4. These heavy crayons don't fly very high on B engines but the flight was good, with a little weather cocking and a perfect deployment and landing just a little way from the range.

Ron decided to start big and put his vintage Estes Silver Comet up next with an Estes E12-4 engine. Wow! It jumped off the pad and raced into the morning sun. Recovery was a bit of a walk but really not too bad. The range was set up so that the rockets safely boosted into the wind over the creek then drifted back into the main field. Nothing ever went too far astray.

Charlotte after a 792' flight of her LOC Legacy on a CTI F31-5.

Next was my trusty Flying Colors on a C6-5. A shorter delay would have been better, but it flew great and ejection wasn't too far off. I will need to restock some C6-3's for next time.

While Charlotte prepped her LOC Legacy, Ron put up a cool Estes Moon Dog on an A10-3T. This retro-looking rocket leaped off the pad and recovered without any issues. Meanwhile, Charlotte had put a small vent hole in her Legacy's payload section and loaded up a JollyLogic Altimeter1 along with an Estes F15-4 engine. As with most of the day's flights, the Legacy weather-cocked over the creek and drifted back safely just a few metres from the launch area. It wasn't a high flight (altimeter reported 191', although this seems low!) but everything worked fine.

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My NARTREK Journey, Part II

Chris Halinaty, NAR 85414

After two years of working on my Bronze Level, I received confirmation that I had successfully completed all four phases and could move on to Silver! This second level included: flying a payload, launching a 3-engine cluster rocket, recovering a 30 s glider flight, and flying a scale model. It took me a while to get started, but eventually I decided to

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Kit Review: Estes Mammoth

Picture courtesy of Estes Rockets.

Length: 59.5”
Diameter: 2”
Weight: 11.9 oz
Engines: E16-4, E16-6, E16-8, F15-6, F15-8
Altitude: 1600’

The Mammoth is one of Estes Pro Series II E2X kits. It comes with pre-painted body tubes and peel-and-stick decals.

Parts List:

29 mm Engine Mount Tube	Plastic Shock Cord Anchor
Plastic Centering Rings (2)	Shock Cord
Engine Block	Nylon Parachute
Motor Retainer	Plastic Nose Cone
Engine Spacer	Plastic Launch Lugs (2)
Lower Slotted Body Tube	Fins (3)
Upper Body Tube	Tube Coupler

Construction: The Mammoth is considered an easy to build kit and for the most part it was. There was one exception—the plastic slotted centering rings. The idea is to line the slots up along a line at the correct distance apart so that the through-the-wall fins pop in. Unfortunately, I slightly misaligned the slots, though they were spaced the correct distance apart. I was forced to trim some of the plastic off one end of every fin to get them to fit. I also found that the fins didn’t press tight against the body tube. Perhaps I had some extra epoxy in the way, but I tried to use as little as possible. This required more trimming. Everything looks fine but the fins needed some epoxy fillets to make sure they were secure.

Finishing: The Mammoth’s body tube comes pre-coloured so finishing is pretty straight forward. The decals were the peel-and-stick type, though, so positioning the wrap-around stripes was a pain.

Picture courtesy of Estes Rockets.

Flight: Unfortunately, conditions were a little too windy on the planned launch day, so the Mammoth did not have a chance to see the pad. Most rockets were weather cocking, so this one, being so tall, was better left for another day. Check back in a future issue of “The Buzz!” for a full flight report.

Overall: I bought this kit during one of Estes clearance sales, so it only cost me $18.99 US. At that price, I can certainly live with the minor issues described above. I would highly recommend picking up a Mammoth (or two!) while they are still at this great price.

Competition Conversation

M4 is coming!

In the spirit of "go big or go home," S.W.A.R.M. is pleased to announce another fun contest—the Mammoth Model Missile Mash-up!
Sometimes, S.W.A.R.M. launches are plagued by tall corn plants—especially in August. Thus, rockets for M4 must be at least 4' tall (that's the "mammoth" part). This *might* help us find them.
The "mash-up" part means that each rocket will be required to do several different things to earn points. This isn't just a simple, single event competition. The launches will be held drag race style, with 2 (or 3, depending on the number of entrants) mammoth missiles being launch simultaneously. The points break down is as follows:

- Rocket length +10 point/inch
- First off the pad +250 points
- Lowest altitude +100 points
- Longest duration +250 points
- Spot landing -1 point/metre (max -100)

The spot landing is where the "missile" part comes in. Each rocket must be loaded with a practice golf ball sporting a large streamer. The closer to the target the ball lands, the fewer points you lose.
Each rocket only needs to fly once and the member with the highest score after all the heats will be declared the overall winner. There may also be prizes for longest rocket, lowest altitude, longest duration, and closest spot landing.
Start building those big (ahem, mammoth) rockets now. Our launch day of Saturday, August 12 is fast approaching!

Each target ball is approximately 1.68" in diameter with a mass of about 4 grams.

Upcoming S.W.A.R.M. Events

July 23: Club Launch

August 5: Regular Meeting

August 12: Mammoth Model Missile Mash-up

September 9: Regular Meeting

September 16: Saucer S.W.A.R.M.: Sputniks

September 23-30: Cross Canada Competition

…2nd June Launch

Ron then flew an Estes ReadiRoc Raider; a foam-body rocket that has given him trouble in the past. This time, he added a bit more nose weight but was disappointed to find that it didn't eject until after hitting the ground. His plan is to drill out the motor mount for a larger engine instead of the A10-3T he has been using.
Charlotte decided to fly her Legacy again, this time on a CTI F31-5 reload. I helped her drill the delay and load the engine and add 3 more vent holes, then nervously waited while the countdown started. 3…2…1…perfect liftoff! The Legacy jumped off the pad and performed flawlessly. The delay was a little past apogee but a three second delay would have been a little shy of apogee. This time the altimeter reported a believable 792'—a new S.W.A.R.M. junior record!
The last flights of the day were Ron's newly-painted (in fluorescent orange and chrome!) Mosquito. He was attempting his 13mm S.T.A.G.E.R. challenge by flying the Mosquito on a ½ A, ¼ A, then A engine all in the same day. All flights were successful except that we could not find the rocket after the A10-3T flight!
All in all, though, Saturday was a great launch day and everyone is looking forward to another launch in July before the corn gets too tall.

June Launch Photos

June Launch Photos

S.W.A.R.M.
Custom Garage
Est. 2017 Chatham, ON

Lego Lofter

Charlotte Halinaty, NAR 94519

I decided to build my Lego Lofter rocket because I wanted something cool to bring to NARAM-57 in Tucson, AZ and my dad had a lot of extra rocket parts. I was very excited to build it from scratch because I had never done that before, and the idea of me building my own rocket was awesome.

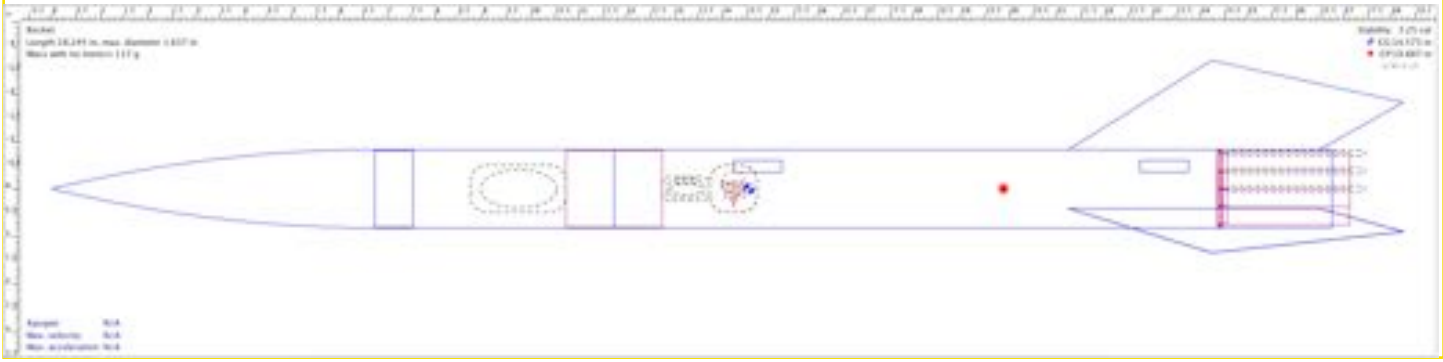
I started by getting all the parts together like the body tube, fins, nose cone, and engine mount. Once I had all the parts gathered up, I assembled the engine mount. Next I attached the payload section to the body tube. After that I glued the fins on my rocket. I used the Estes fin guide to help make sure that all the fins were straight. Once the fins were dry I put the launch lugs on the body tube and made sure they were aligned with each other. Then I put the shock cord in and tied it to the nose cone. I decided to put Monokote self-adhesive decals on the fins to make it look a little nicer since I wasn't painting it. All I had to do was prep my rocket and it would be ready to fly.

I launched it in Tucson, AZ at NARAM-57 in 2015. I didn't compete with it, but I'd prefer to sport launch. The launch was very successful. The first time it went off it flew perfectly, the parachute came out wonderfully and the delay was great. The second time I launched it, the parachute got tangled and one of the fins popped off when it landed.

Overall I would say that the building and launching of my rocket was extremely successful. Since then I've built quite a few rockets, including the LOC Legacy and I will definitely scratch build my own rocket again with all kinds of different designs.

Parts List
Estes PNC
Clear Payload Tube
Balsa Bulkhead
15" BT-60
Balsa Fin Stock
Launch Lugs
BT-20 Engine Tubes
Engine Hooks
Shock Cord
Screw Eye
18" Parachute
3 Engine Cluster Bulkhead

The Lego Lofter on the pad at NARAM-57 in Tucson.



The Big Ones: Class of 2017

NASA's 2017 Astronaut Candidate Class on June 17, 2017. (NASA/Robert Markowitz)

Recently, NASA announced its 2017 Astronaut Candidate Class. Twelve people made the cut from 18,000 applicants. This year's class is the largest since the year 2000. From left to right in the photo are: Zena Cardman, Jasmin Moghbeli, Jonny Kim, Francisco Rubio, Matthew Dominick, Warren Hoburg, Robb Kulin, Kayla Baron, Bob Hines, Raja Chari, Loral O'Hara, and Jessica Watkins.

Two Canadians were selected by the Canadian Space Agency to train with NASA. Jennifer Sidey, 28, of Calgary, is a lecturer at the University of Cambridge. She was inspired by Roberta Bondar's space shuttle flight to study science and engineering. Joshua Kutryk, 35, is a lieutenant-colonel in the RCAF.

After two years of training, these candidates might be stationed on the ISS, launch in a commercial spacecraft, or fly on the Orion or SLS rockets.

My NARTREK Journey, Part II

build a cluster model and chose the ARG Trident 117-13 that I bought from my friend Taras Tataryn. This model featured three 13 mm engines, which I thought would be a good way to start clustering. The build was straight forward and the rocket successfully flew in July of 2012.

Next up: payload. I, of course, decided to build and fly my Custom Elite Egglofter. In fact, it flew several times, none of which resulted in a safe return of the egg (yuck!). The next summer, I changed course and made a standard NAR payload to fly aboard my Trident. One try is all it took.

The third component of NARTREK Silver is a 30 s glider flight. I built an Edmonds Tinee, figuring it would be the simplest way to complete this requirement. The build was super easy and trimming only took a couple of tries. That, however, is where things got complicated. The first attempt at flying the Tinee in the summer of 2013 resulted in an arcing boost and a glide that only started at about 20' off the ground. A second attempt was much better but after making two large loops, the glider landed on the barn behind our launch range for a 15 s flight. The glider eventually blew down from the roof but was chewed beyond repair by the farm dog! On to scale. Glider would have to wait.

After an extensive search for free scale plans, I decided my first build would be a Patriot missile. I scaled down the dimensions and ordered the correct parts, deciding to make the tail cone myself. The build took a while but went according to plan. I painted the yellow and red sections but printed the black detail and lettering on my inkjet printer. In August of 2014, the Patriot made its maiden voyage and I had my brother "judge" my build.

Back to a 30 s glider flight. At NARAM-56 (Colorado, 2014), I flew a Sky Condor glider using a C engine and achieved a 95 s flight time. Unfortunately, B-engines are the largest allowed for this NARTREK requirement the Condor went out of sight and was not recovered.

After a couple of years focusing on S.W.A.R.M., I decided to build an Estes Tercel glider. It made three flights, the best of which produced a time of 27 s. It was limited to 13 mm engines, so I decided to try another tactic and put together a Semroc Hawk for PSC's Carl McLawhorn Memorial Fly-off the next month. It made two great flights—29.9 s and 38 s! After extensive searching through the corn, however, the Hawk could not be found, so I could not use the 38 s flight!

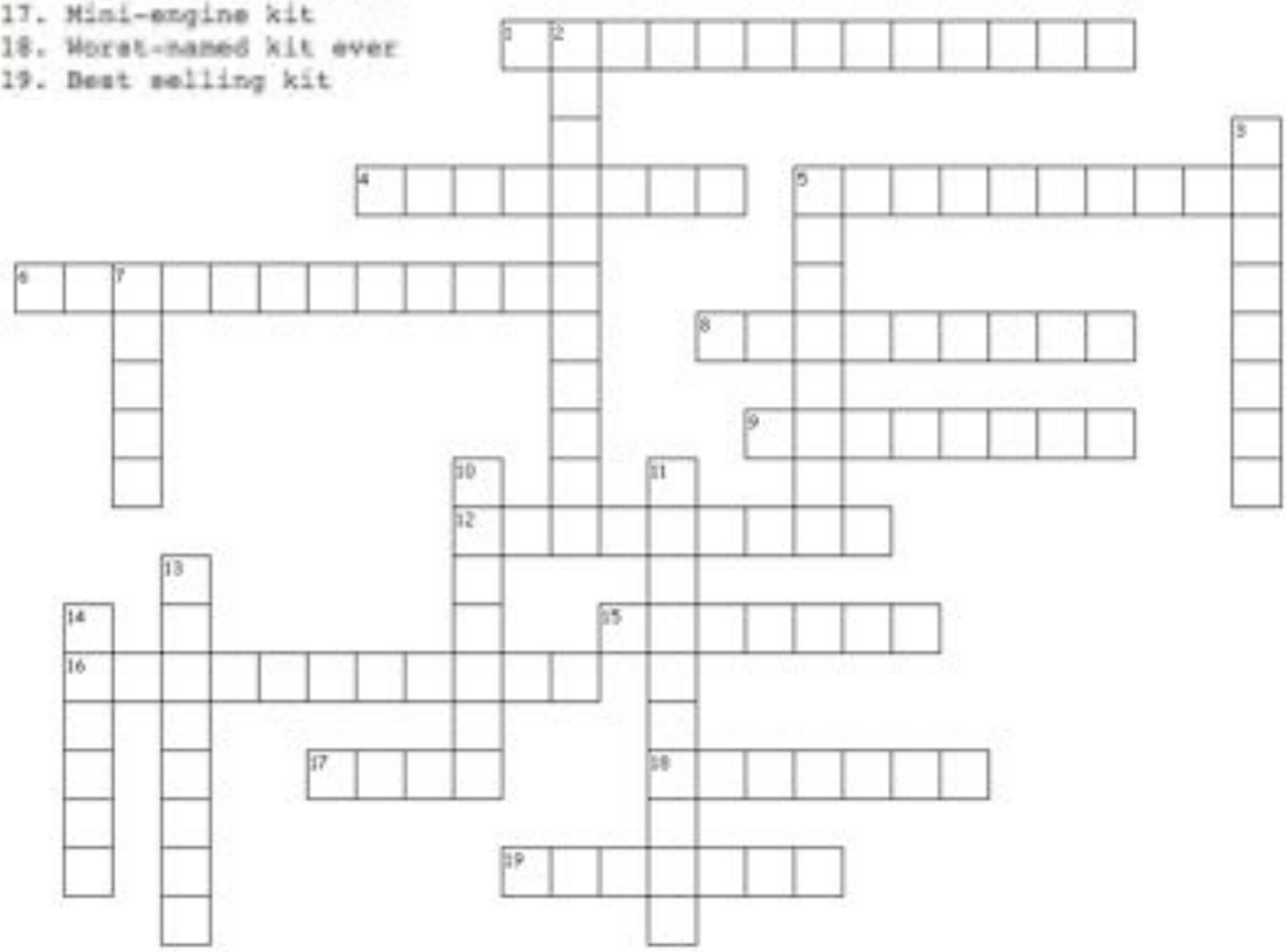
This June, I went back to the Tercel to try one more time. The first flight was only 24 s and the booster had been split open by the powerful ejection charge. Determined to finish my Silver Level, I removed the glider hook from the body of the Tercel and attached it to an Alpha. This combination then flew for 40 s on a B4-4 engine! Success at last!

Now I'm just waiting for Ron to come to another launch so I can get him to sign the paper work saying he witnessed the flight. Oh well!

Estes Rockets Crossword

Across
1. Upscale PSII kit
4. Spinning rocket
5. Contradictory name?
6. Recent bring-back
8. Long running kit
9. No-see-um rocket
12. Recent re-release
15. Big PSII E3X kit
16. Often requested bring back
17. Mini-engine kit
18. Worst-named kit ever
19. Best selling kit

Down
2. Current egg lofter
3. Popular Halloween kit
5. Two-stager
7. Everyone's first kit?
10. Two rocket launch set
11. Crayon kit
13. Modern goony-styled bird
14. Rocket powered racer



S.W.A.R.M. was formed in 2014 and became the first National Association of Rocketry section to be chartered in Canada.

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Check out the S.W.A.R.M. website for more details.

www.swarmnar.weebly.com