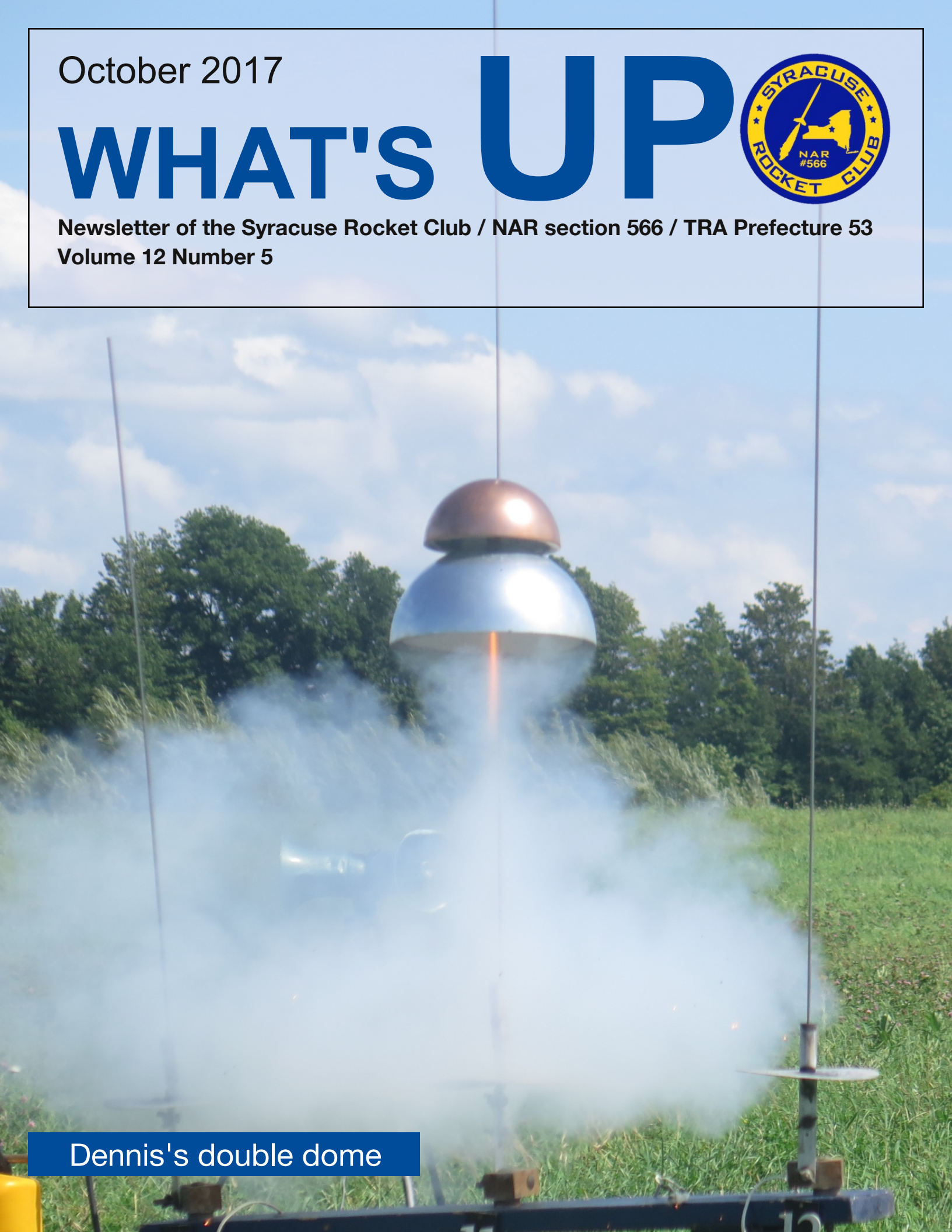
October 2017

WHAT'S UP

Newsletter of the Syracuse Rocket Club / NAR section 566 / TRA Prefecture 53
Volume 12 Number 5



Dennis's double dome

NSL 2018

The Monroe Astronautical Rocket Society (MARS) has announced the National Association of Rocketry's National Sport Launch for 2018 will be right next door in Geneseo! It'll happen Memorial Day Weekend, May 24–26, 2018, instead of NYPower. The NSL hasn't been to the northeastern US since 2012, when it was in... well, Geneseo. There will be fliers from all over the US and beyond with all sorts of rockets, large and small. The Syracuse Rocket Club plans to set up our big tent as a hospitality venue and provide rockets for kids, and we'll fly our upscale Saber. Look for updates at https://marsclub.org/nsl-2018/ .

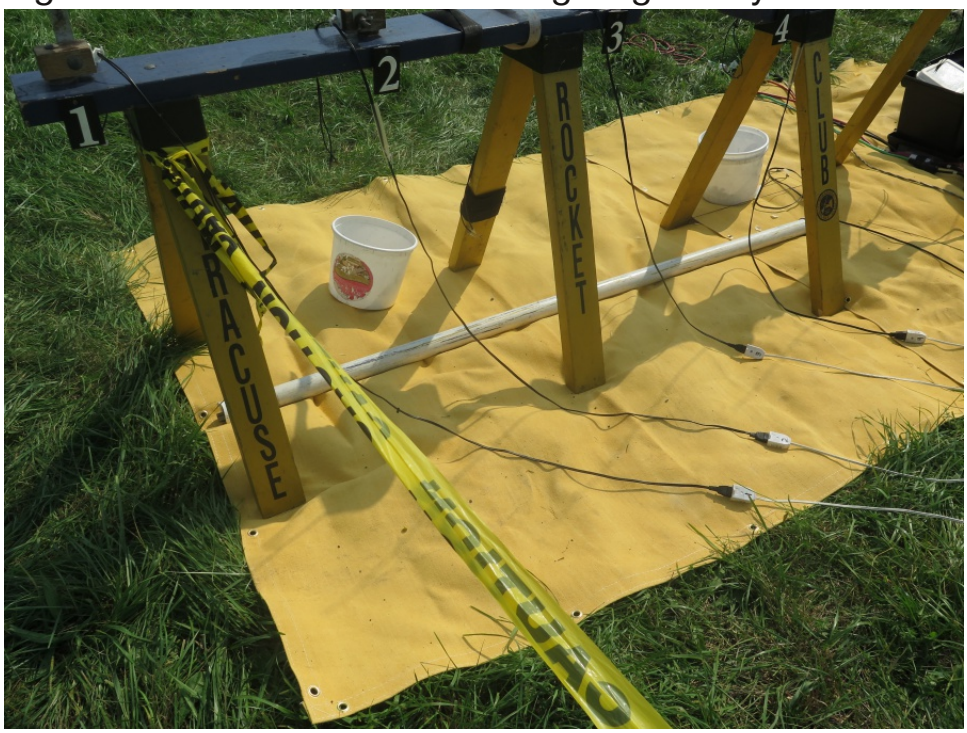
Rich's Lunar Eclipse Jr. at Geneseo, May 2017

MEETINGS

The August meeting focused on preparations for the Family Picnic launch — Friday evening setup, finding someone to cook, possibly organizing builds of Up Aerospace kits for the kids (we didn't end up doing that), the status of the Extremely Fat Boy and the Saber. A bunch of giveaway rockets got SRC stickers applied.

At the September meeting we talked about the high ignition failure rate in August, particularly at the mid/high power pads. Brian had worked on new clip leads. James was looking into battery problems. (By the September launch he'd established the smaller batteries used at the mid/high power pads were bad, and he'd gotten replacements.) The club's Pratt controller needs work, two channels are non functional; James wants to bypass the connectors on the back and hard wire a 12-conductor cable that will reach to the ground, reducing stress on the connections and giving a little more slack for a full 30 feet to the low power pads. We need new signs for pads 13 through 16, possibly making use of political signs for materials after primary day. We talked about repairs to the Saber, and a club role at the 2018 National Sport Launch.

James has gotten three welding blankets, two for the low power pads and one for one of the high power. If we like them we'll get more. The intention was to get light duty for the low power and medium duty for high power but he was able to get all medium duty for the same price.



There was some discussion of a building project for the winter. Scott proposed choosing a rocket for individual club members to build as they choose: kit or clone, upscale, downscale. He specifically suggested the Estes Trident but we'll consider other suggestions as well before deciding.

PICNIC FLYING

Some flights go better than others.

For the most part, What's Up prefers to emphasize the good flights in our launch reports. But two flights at the August Family Picnic launch were notable enough to justify a writeup, even though neither ended well.

One was the long awaited first flight of the club's Upscale Saber. This was a rocket we've had under construction for quite a long time now. It's an approximately 5.5x upscale of the Saber

Clockwise from top: Saber lower section after hard landing; broken Kevlar; Extremely Fat Boy after cato.

from Starlight Rocketry, a distinctive tube fin design. The original had a 24 mm diameter body tube. Our upscale was based on LOC 5.38" tubing. James Shattell, Mark Riffle, Rich Holmes, Paul Gagnon, and Scott Sellers assembled the parts, completing the job last year, and this year Brian Morse took over finishing. Paul put together the electronics and produced a research J motor.

The boost went fine — good, stable flight. But at ejection, for unknown reasons, the Kevlar harness between the body sections broke. It might have had some damage and it might have needed to be longer. The upper section came in under chute for a good recovery, but the lower section hit the ground hard and was seriously damaged. But the Saber will fly again. New tubing has been bought already. Look for it at the National Sport Launch next Memorial Day weekend [see p. 2].

The other major event at the August launch was James's Level 3 certification attempt with his Extremely Fat Boy, a 10x upscale of the Estes Fat Boy. This is a flight he'd been working toward for over a year and a half. James's followers on Facebook were treated to video after video of his ejection tests as he chased down and solved various potential problems, and to the cliffhanger saga of the motor — an Aerotech M6000 that finally arrived two days before the launch. A big motor, but it's a big rocket, about 235 pounds on the pad. On the M6000 it should have gone only about 1000' up — a textbook "low and slow" flight.

The EFB got off the pad nicely, a rock stable flight. But midway through its burn, the motor failed catastrophically. Both closures blew off and the liner with the burning fuel grains shot forward. The ejection charges went off. The nose cone came out, as did the two parachutes for the nose and body. The liner impacted one chute and damaged it, but in spite of that and the rocket's low altitude, both chutes deployed in time to bring the EFB down gently. James writes:

I finished with the forensics from cato that occured during the EFB flight on August 19, 2017. Specifically, the cato occurred within the motor well after it had cleared the launch pad. What appears to have happened is that at the moment of the highest amount of pressure the motor created, the forward closure on the motor broke loose causing a pressurized explosion. The forward closure was propelled forward and slammed into the bottom of the nose cone pushing it off along with all the recovery apparatus. The AFT reaction of the explosion caused the motor casing to be propelled back breaking through the retainer ring that was holding the motor up in the rocket. The inner liner of the motor which held the fuel grains appear to have gone forward, continuing to burn from both ends what remained of the fuel. Unfortunately the spinning two ended candle of rocket fuel ran into the main parachute causing damage and delaying its opening. Nevertheless the rocket did land safely with only minor damage which can be repaired.

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Clockwise from top left: Mark's LOC 429SS; Kevin Gonci's Magician; Abby's My Pink Rocket; Patrick and Cameron's Black Knight

In fact, from the good initial boost to the successful chute deployment, it appears James did everything right only to have the flight fail due to circumstances beyond his control. He says he aims to try again — maybe with a different choice of motor — in July 2018.

There were many other, smaller flights that day, and most of them went better. Scott Sellers served as launch director. First off the pad, in honor of James's attempt, was Rich Holmes's Micro Fat Boy. If the EFB was the largest rocket ever flown at our field, the μFB may have been the smallest (barring possible match rockets), an MMX powered BT-5 downscale of the Fat Boy, slightly smaller than a Mosquito — but with streamer recovery, so it could be found. Rich later flew his Flat Boy (a modified spool design) on a B6-0, a Fat Boy clone on an E9-6, a LOC NORAD on a G80-7, and a Scion on a CTI G68 among other rockets.

Dennis Friend started with his Gold Dome on an F15-0, followed by his Blue Dome and the two stage Chrome Dome and Coppertop [see cover]; more conventional designs from Dennis included his Dragon Missile on a D12-5 and Luxury Liner USS Bright Star on a cluster of three A3-4Ts.

Mark Riffle's LOC 429SS had a better flight this month: after taking off on two H135 Whites, two G106 Skidmarks airstarted after 2.5 seconds for one of the day's most spectacular flights. Unfortunately it may have been the rocket's swan song; Mark says it's getting too beat up to keep flying. He also flew his Buzz A Bee on a K454 Skid and the Cancer Crusher on a G80 Skid. The latter was in honor of three cancer survivors: Alex Lopez, Susan Riffle, and Janus Albino. Daughter Abby flew My Pink Rocket and a Big Daddy.

Joshua Middleton's Graduator had a good boost on an H180 for a Level 1 certification attempt. Unfortunately the chute got caught on the shock cord mount and failed to deploy after nose cone ejection, but the rocket survived landing without much damage.

A few of the many other flights: Patrick and Cameron Dehm got a venerable Ellis Mountain G35-10 to ignite for the flight of their Black Knight. Rick flew his Mercury Redstone, Starship Vega, and Strike Fighter. Frank Roka flew his FIPS-24, FIPS-25, and a Quest Astra that was built in 1992. Jack Devinney's Fire Ball fortunately did not live up to its name. Tim Catterson's Mark's Discovery had another nice flight on a G80 and his Honey Badger went up on a G106 Skid. Craig Lazzar's Yellow Bird flew on a G80-10.

Between flights there were the usual features of the August launch: free lunch in the form of hot dogs and hamburgers, and raffle prizes. At dusk there was a night launch with rockets by Rich, Scott Watson, and Dennis to wrap up a long but mostly good day.

Clockwise from top left: Rich's Flat Boy; Scott launches Rick's Mercury Redstone; James's Extremely Fat Boy prep; raffle drawing; Mark's Buzz A Bee; a Dennis rocket

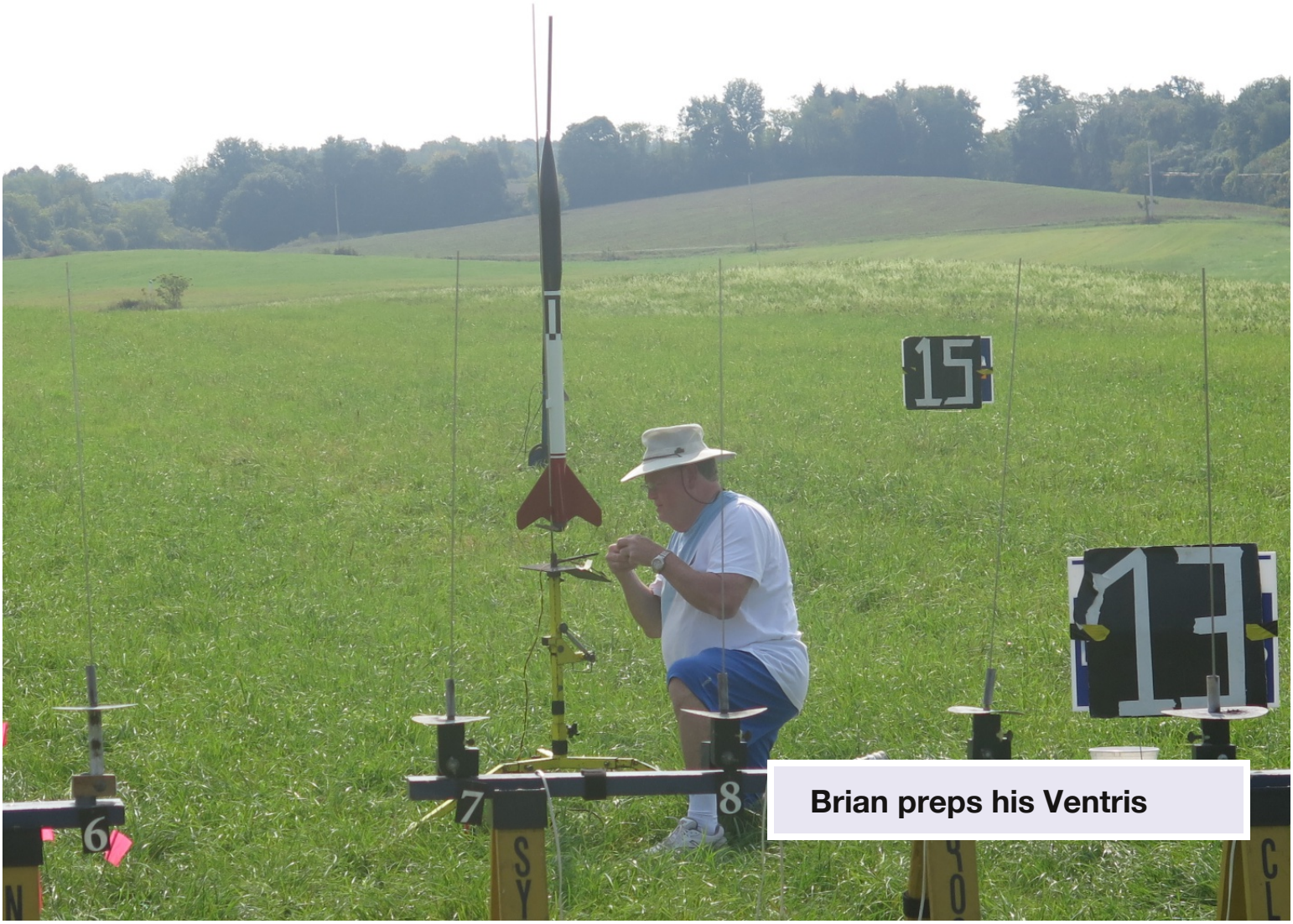
IN THE MILD SEPTEMBER

You don't dare ask for better rocketry weather than what we got for the September launch. If anything it was too warm. Sunny skies, very light breezes.

Rich Holmes was launch director, and the first flier with his goony Nike-G on a B6-4.

Dennis Friend started off with his Spectrum Sounding Rockets RED, followed by his Spectrum Sounding Rockets ORANGE, Spectrum Sounding Rockets YELLOW, … I see a pattern here… Spectrum Sounding Rockets GREEN, Spectrum Sounding Rockets LIGHT BLUE (gotcha!), Spectrum Sounding Rockets DARK BLUE, Spectrum Sounding Rockets PURPLE… and then some other things.

Dave Grimes's Star Orbiter on a G74 appeared for a while to have lived up to its name



Brian preps his Ventris

until finally someone spotted it shortly before touchdown in the ditch along Canton Street Road. Dave also flew his Stretch on an H180. Scott Renshaw flew a Star Orbiter too, but on an F15, and it stayed within sight. Scott's Tubular suffered a very strange D21 motor cato, spitting out its propellant grain almost entirely intact and unburned. His Formula 38 on an F27 and Scotch Built 2.0 on an E9 motor did better, but his Haulin' Oats core sampled. Sue Renshaw flew her Quinstar (C6), Red Max (C6), Astron Sprint (D12), Mega Mosquito (D12), Big Bertha (C6), and Bull Pup (C6).

Andy Jordan and Scott Sellers made several flights of a LOC IV loaded up with altimeters — several commercial ones to compare with some Andy had built and programmed from Arduino boards and pressure sensors. Most of the flights were on G80s but one on a G64 gave them a different apogee. He got some good results and some things to think about. The hope is to be able to build low cost altimeters to use in the MOST Rocket Team Challenge.

Colin Demarest's Dazzler went up a couple times on A8-3s, and his Star Trooper on a 1/2A3-4T.

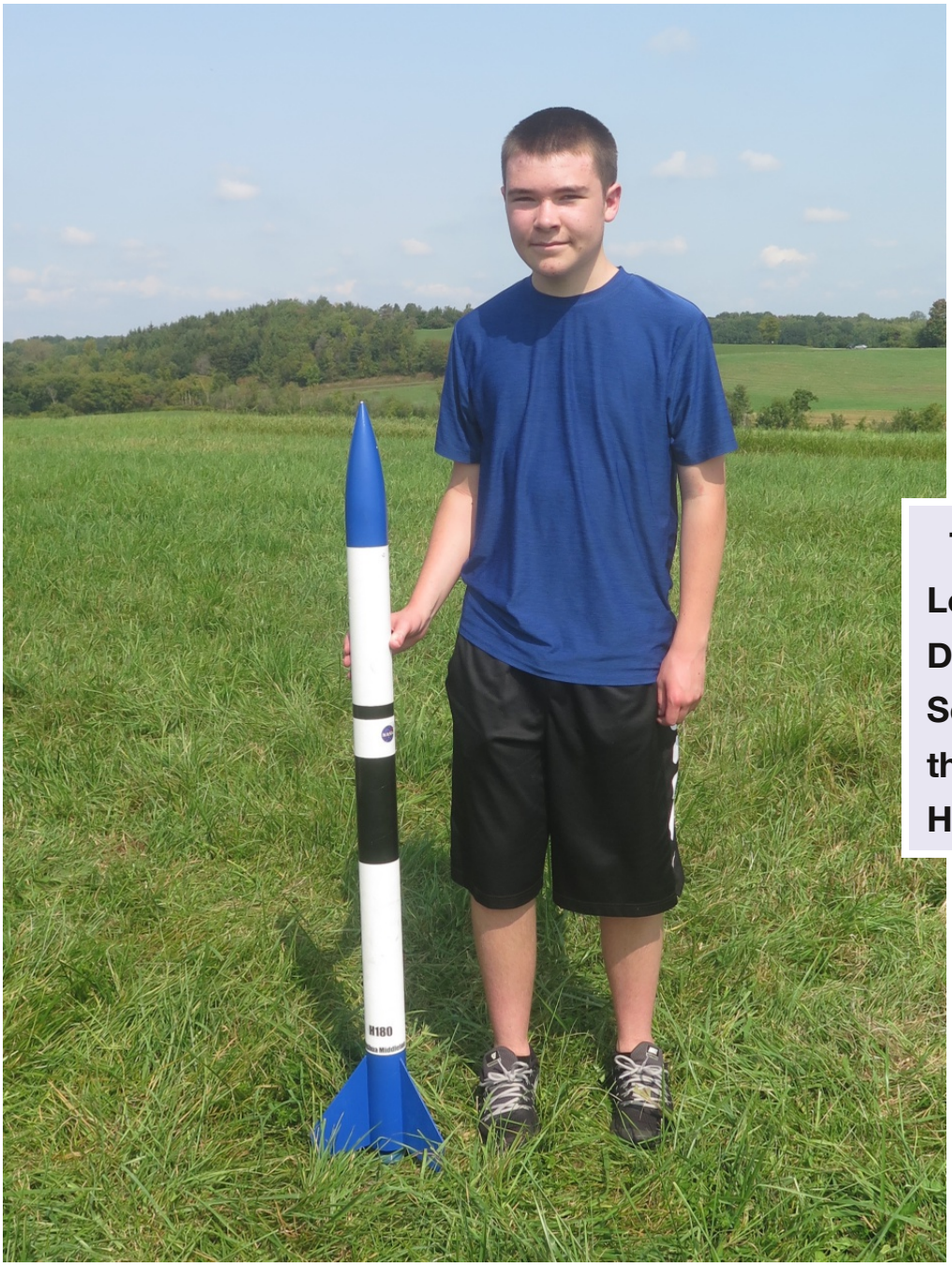
Joshua Middleton and his Graduator were back. This time the motor was an H97 and the shock cord mount had been smoothed over. All went well and Joshua earned his Level 1 certification. Congratulations!

After flying his Galaxy Rescue on a C6, Kevin Gonci tempted fate with a Long Tom on a C6-0/C6-5 combo. With the clear skies and low winds it stayed in sight and both booster and sustainer were recovered. Kevin also flew his Vagabond (D12), Hellcat (C6), and Magician (D12).

Roger Forell's No Name flew on what he thought was an F40. Apparently he'd prepped it long enough ago that he wasn't quite sure what the motor was. Whatever it was it worked. His G Force definitely went up on an H210 Red.

Tim Catterson started with his Rock-It (D12), then flew his EXP Cody One (D12), Bateman Silver Streak (G78 Mohave Green), and the Starship Vega (E22).

Two rockets built by veteran SRC member Martin Joyce were there without Martin; a Nike Smoke, flying on a C6-5, and a D Region Tomahawk on an E9-4. Finally, Scott Sellers wrapped up the altimeter work in time to fly his Mars Lander and his 1969 vintage Orbital Transport, both on C6-3 motors. The Orbital Transport glider soared perfectly. Scott says in the almost 50 years since he built it he's never gotten another glider to fly as well as this one does.



Top: Joshua Middleton, Level 1. Bottom left: Dennis with the Spectrum Sounding Rockets RED; the Renshaws with the Haulin' Oats

About the Syracuse Rocket Club

The Syracuse Rocket Club (SRC), serving hobby rocketry in central New York, is section 566 of the National Association of Rocketry (NAR) and Prefecture 53 of the Tripoli Rocketry Association (TRA) and was founded in 1997.

SRC holds a monthly sport launch in Van Buren once a month, May through October, typically on the third Saturday (weather permitting); see our calendar elsewhere in this newsletter for specifics. Launches are open to the public, with a $5 launch fee for non SRC members who wish to fly rockets.

SRC welcomes all prospective new members to our monthly meetings. They are held on the first Monday of the month (second Monday if the first is a holiday) from 7:00 to 8:30 PM at Walt's Hobby Town on Dwight Park Drive, near the State Fair Boulevard exit of I-690.

For more information see our website: http://syracuserocketclub.org. We also are on Facebook at https://www.facebook.com/SyracuseRocketClub.

SRC officers are:

President:	Scott Sellers
Vice President/Treasurer:	James Shattell
Secretary/Editor:	Rich Holmes
Web Master:	Scott Sellers
Prefect:	Roger Forell

About *What's Up*

What's Up is the official newsletter of the Syracuse Rocket Club.

What's Up is published five times a year and is distributed electronically on the SRC website; latest and back issues may be downloaded at http://syracuserocketclub.org/newsletters.html.

Comments, correspondence, and articles or proposals for articles may be addressed to:

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Syracuse, NY 13219

or e-mail rs.holmes@gmail.com.

Next issue target publication date is January 2018.

UPCOMING SRC EVENTS

(Abbreviated; for details and full year see http://syracuserocketclub.org/calendar.html)

Date	Time	Location	Event
Oct. Mon. 2nd	7:00 PM	Walt's Hobby	Club Meeting, Discussion Topic: Planning for Winter Club Projects
Oct. Sat. 21st	10 AM-3 PM	Weigand's Field	SRC Sport Launch, Theme: Scale Models, Contests: Sport Scale and 30-sec Target Duration
Nov. Mon. 6th	7:00 PM	Walt's Hobby	Discussion Topic: Planning for SRC Displays at Walt's Secret Santa Sale. Nominations for 2017 Club Officers
Nov. Sat. 18th	8 AM-5 PM	Walt's Hobby	Walt's Annual Secret Santa Sale
Dec. Mon. 4th	7:00 PM	Walt's Hobby	Club Meeting, Topic: Holiday Celebration - Annual Club Awards; Election of 2017 Club Officers
2018:			
Jan. Mon. 8th	7:00 PM	Walt's Hobby	Club Meeting, Topic: TBA

Please check web site (http://syracuserocketclub.org) for changes, cancellations, and last minute events! Go/no go status of each launch will be posted on the web the evening before.

Directions to Walt's HobbyTown: From I-690, take Exit 5 (State Fair Blvd./Lakeland). Turn right onto Van Vleck Rd. Take the first right onto Dwight Park Dr. Walt's is immediately on your right.

Directions to Weigand's Field: From I-690, take Exit 2 (Jones Rd.). Turn left onto Jones Rd. Take the first right onto Van Buren Rd. After 1.6 miles turn left onto Connors Rd. After 1.0 miles turn left onto Canton Street Rd. Launch site is about 0.4 miles on your left; look for sign. Park in designated area. Please do not drive onto field without launch director's permission.