



Member—National Association of  
Rocketry ("NAR")

### Special points of interest:

- "Ignition!" gets things going once again.
- Gary Briggs shares his adventures in getting his Level 2
- Stuart Powley has a short article on a comic strip based rocket
- We need stuff. Get it?



Sam Barone helps a couple of new rocket enthusiasts at a recent DARS outreach.

### Ignition!

By J. Stuart Powley

### Inside this issue:

Level 2 For Free	2
The "Duck and Cover!"	6
Duck and Cover Pics!	6
How Can I Contribute?	7
DARS Officers	7

Well, here we are in the middle of another scorching Texas summer! The good news is that we were finally able to have a launch, which was, by all accounts, a resounding success. The bad news is that I completely missed it, due to being out of town... Oh well, there's always July!

Speaking of July, we have a contest coming up at the July launch that seems to be shaping up quite nicely. Hopefully the weather will cooperate and we will actually get to fly it this time!

I also would like to mention that there have been several DARS outreaches that have taken place recently. These activities are a great way for us to show the general public what DARS is about; and what sport rocketry is all about, as well. If you have never volunteered to help with one of these events, I would encourage

you to do so. It's really a lot of fun, and everyone involved comes out a little richer for the experience. If you would like to volunteer, please contact George Sprague.

In this issue of Shroudlines we have a very good article by Gary Briggs on getting his level 2 certification. It's a good example of how when a lot of folks pitch in and help, the load gets easier. Gary also goes through his thought processes on various techniques, which should really help anyone who is considering attempting this feat!

Also, there is an article on my LOC Norad "Duck and Cover." In it we learn that making your own decals is fun, and that famous cartoon writers actually can have a sense of humor.

## Level 2 for Free (Well, not really, but it did get your attention!) By Gary Briggs, The Colony, TX, NAR 76909 – Level 2

As I thought about my level 2 experience, I decided that it had been a pretty interesting series of events. It certainly had all the usual aspects of these stories, but I think events that occurred around this journey were at least as interesting as the certification activity itself. As I wrote this, I discovered it was a great snapshot in time of the Texas rocketry community. This is my story.

I had been entering Magnum Rockets monthly contest for a while, hoping to get some free gear. In the September 2000 contest, Ross was giving away a Yank 3" ¼ scale IQSY Tomahawk. I didn't know much about Yank kits at the time but did my monthly routine of putting my name in the hat and hoping for the best.

When the end of September arrived, I discovered my name was on the Magnum site as the September winner. The only problem was that the Gary Briggs that won the contest lived somewhere in California, not Texas! I have known of other people with names identical to my own, but I figured what were the chances of their being 2 Gary Briggs' in high power rocketry? I decided to send the webmaster an email and inquire about the accuracy of their winner. I received no response.

About a week later, I had resolved to myself that I had come incredibly close to winning this rocket, but not close enough. Then I got the call from Ross at Magnum. He described the way



Gary with his bird, Ready to launch!

that they performed the contest to let me know what lengths they go to just to ensure that they don't have duplicate entries, multiples from a single household, etc. I assumed this call was in response to my email, but my initial impression was that there was a Gary Briggs in California in possession of the kit. When he got through his rather lengthy discussion of what had happened, he explained that I had indeed won the kit and apologized for the confusion. I was pretty happy since I could not remember ever winning anything, let alone something worth \$75.

The kit arrived about a week later. I decided immediately that since I hadn't spent anything on it, I could afford to take some chances and customize the whole thing. I also

decided that this would become my level 2 bird. I ordered my Shadow Composites video from Dave Triano and took in the technique and the materials. I later ordered 5.5 oz S-glass, Aeropoxy, and Smooth Prime to finish out the kit. I also cut the main body tube in half so that I could build the rocket for both dual and single deployment. But with the holidays and everything else going on that year, I didn't really get serious on building this rocket until the spring of 2001.

At the August 2001 meeting Tim Sapp mentioned that he had extra level 2 exams, if anyone was interested. I had been looking over the questions for a while and figured I could pass and certainly would be able to get in a flight before the following August 2002! I passed the test with 100%. Now the clock was ticking on the flight.

I redoubled my efforts to complete the Tomahawk. I had added a 14" motor mount to the rocket and beefed it up with ½ inch centering rings fore and aft of the fins with 2 additional centering rings holding the top of the mount. I did internal fillets on the fins and contemplated foam encapsulation, but decided to skip the added weight. I capped off the motor mount with an Aeropack motor retainer. The flexible phenolic tube was covered in 2 wraps of 5.5 S-glass and the fins were secured with the same tip to tip method used on my Cirrus Dart. I finished the fiberglass out with Smooth Prime to fill in the weave

*(Continued on page 3)*

and keep the weight down. I also rigged all the shock cords with ¼ inch tubular Kevlar. The completed rocket was 3" in diameter, 66 inches tall, and weighed in at 70 ounces. I couldn't bring myself to give the rocket a scale paint job, finding it far too pedestrian. I inverted the black and white in the paint scheme and stretched the red out just a bit to my liking. I named the rocket *Nothin' Quiet About It* as a joke on the IQSY (International Quiet Sun Year) part of the original's name.

In the aftermath of September 11<sup>th</sup>, the FAA struggled through the heightened security issues, canceling our September launch, but managed to get waivers up and running by the October launch. Additionally, the hobby was reeling from the Aerotech fire, which made motor availability questionable. Jim Turner and I had emailed on the availability of an I161 for this launch. When I arrived, Jim said he was down to some I195's, which I didn't have cases for, so the first launch of the Tomahawk didn't happen there. That was probably a good thing since I hadn't completely figured out how to get my very stout Rocketman 7C XP stuffed into a 3-inch tube. Jack Sprague helped me out with that at the next meeting, and Jim also discovered that he had a box with my name on it left over from the October launch with an I161 in it! I was ready to launch at the Turkey Shoot in November. The first flight had a slightly early ejection, but held together with no damage. I was on my way.

The next opportunity to launch

came at a rare one-day sport launch in January. I made the drive to Windom (TX) for the first time without my son Josh, since he was nursing a cold and the weather was looking less than optimal. The morning was cold and windy so I waited till about 11:00 to make the 1-hour drive. By the time I arrived there the wind was starting to dissipate and the temperatures were warming up. I launched the Tomahawk that



Waiting for the button-push

day on an I211. It was great flight, and I felt like I was ready to move on to the altimeter.

For the February North Texas High Power launch I would be using a Cesaroni I285 due to the scarcity of Aerotech engines. I asked Dave Shultz for help with my altimeter since this was my

first attempt using it. After doing range duty as pad manager, I returned to my van to begin the assembly of the rocket and altimeter bay. As it turned out, my altimeter bay was just too complicated to assemble in a reliable and timely way. I was not comfortable with the connections from the altimeter to the ejection charges and ended up bagging the altimeter and going for the standard configuration to get a flight in before the range shut down. Dave let me borrow his standard 7C. This was a real eye opening experience! I now went from a parachute weighing 16 ounces down to one weighing 6, and from using every spare centimeter of the tube for parachute to having extra room and no fear that the chute would hang up in the tube. At that point I determined that I would need to pick one of these up at my earliest convenience. The Tomahawk appreciated the diet, and turned in a great flight to around 3,000 feet. George Sprague provided a classic introduction, drawing on the similarities between Cesaroni and pepperoni. He followed that with the classic count down of "5, 4, 3, 2, 1, Pizza!"

I hadn't planned on attending the McGregor launch in May, but having seen posts on the newsgroups saying that it was likely to be Jim Turner's last, I made plans to be there on Saturday. It was April when I found out about Jim Turner's condition. I had gone over to his house to pick up some motors for the April Madness LMR launch and he told me that he had liver cancer. It was quite a shock although I knew something was

different when I talked to him on the phone. He was very optimistic and was planning to see a specialist that Monday. Unfortunately the cancer had advanced too far for anyone to do more than try to keep him comfortable.

The turn out at the McGregor Memorial Day launch was incredible. I believe it was the most people I had ever seen on that field. There were people there from all over Texas, and I believe that most of them were there to see Jim. The line in front of the Trailing Edge Technologies stand was longer than usual, but no one was complaining. Jim was doing what he enjoyed, be it a bit slower than in the past. Jim was doing his best to make sure everyone was taken care of, and his family was providing great support for him in what must have been a very trying time for them. I picked up another Cesaroni I285 for my first altimeter-based flight and purchased a Dr. Rocket 38/720 case for my certification attempt. I was planning that flight for LDRS in July, but I wanted to be sure that I got the case from Jim.

I had redesigned the altimeter bay for the Tomahawk, and it worked much better although still not exactly where I wanted it. I managed to get the rocket assembled and the AltAcc installed with minimal effort. I had also acquired a Rocketman standard 7C and 3C during their April sale so I had eliminated the concerns of the heavier

parachute.

I got into some trouble at the pad since I could not get the screwdriver to the arming screw on the AltAcc. I had rehearsed this before and thought I had it down, but with the pressure on, I could not arm the electronics. I took the rocket off the rail and returned to my van. I installed a new battery and grabbed a smaller screwdriver. The next



On the firing line

time around things worked perfectly. The rocket made its usual great flight to 2,806 feet ejecting the drogue right at the top, and the main ejected perfectly at 500 feet. Before I left the field, I returned to the Trailing Edge tent to say goodbye to Jim and thank him for another great motor and flight.

There were several tributes to Jim that day. I flew the Tomahawk with Jim's initials on the fin. Bobbie Norbert flew her beautifully finished PML Amraam 4 for her level 2 certification. It was named *Turner's Challenge* since Jim had challenged her to get her level 2 at the next launch. The next time that I saw that rocket was at Jim's funeral the following Thursday. It was evident that Jim had touched a lot of people throughout his life and that he will be deeply missed by his family, as well as the rocketry and fireworks extended families that he had been part of. To the end, Jim did what he enjoyed and was never heard to complain or feel sorry for himself. All that knew him carry a stronger resolve for knowing him.

In June I tried to keep an eye on ROL looking for Aerotech announcements on certification motors for LDRS. I knew that they offered motors free of charge for a certain number of certification flights at LDRS. Motors were supposed to be widely available for LDRS, but I wanted to be certain that I had the motor I wanted lined up for the flight. Just before we departed on a family vacation, the announcement showed up on ROL. I fired off an email requesting the motor and had a reply within a day stating that I had a J350 secured for my certification attempt at LDRS.

This was my first LDRS, and I found it to be an incredible event. It was like multiple great launches and a rocketry trade show all rolled into 1. We arrived in Amarillo on Friday night and headed out to the range Saturday morning. My son and I

immediately went to the range head after setting up our base and looked around for the registration table and the Aerotech stand. We found both after awhile and lingered with Aerotech for some extra attention. Two days prior to our departure, Aerotech had put out a statement on CATO issues with post fire J350 motors. There were several people there picking up J350's, and the Aerotech folks were helping with assembly on some of them. In the end I got all new grains that were supposed to be harder than the previous version, and the bottom grain was drilled out to 1/2 inch. For the rest of Saturday we took in the sights, smells, tastes, and sounds, and put in one flight of my son's Mean Machine. My wife's parents joined us in Amarillo on Saturday night. They had driven down from Indiana to visit us and decided to see what all this high power stuff, that I seemed to be obsessed with, was all about.

On Sunday I wanted to have everything ready to go as early as possible. We got to the site, established base, and I began putting everything together. The DARS president, Rags Fehrenbach, offered to support my certification effort. At the safety check in Stu Barret looked over the rocket and passed me on to the pad lines. Several pads were already loaded, so we were in line for awhile before walking out to cell number 3 to load up all 8 pads. At the pad we quickly got the rocket loaded on the rail, and I had no difficulty getting the electronics armed.



Success! A beautiful flight of a beautiful bird!

After installing the igniter, and a few pictures, we walked back to the range head and waited. After clearing another couple of cells, the LCO started working through cell number 3 and I was on the 4th pad. Once again I had Jim Turner's initials on one of the fins and asked the LCO to dedicate the flight to his memory.

After a 5 count I held my breath as the motor came up to pressure. It did so very rapidly, and was off the rail for a quick start to its 14-second climb to 4,119 feet. The drogue popped out on top, and now all we had to wait for was the main. At 500 feet, right on queue, the main deployed for a soft landing about 150 yards from the pad. My father-in-law and I recovered the Tomahawk and took it back to the range head for signatures. I had Rocket Boy Quentin Wilson sign my form for good measure even though he wasn't part of the certification team. I was now a level 2 flyer.

From the beginning, I was never in a big hurry to get to level 2, although I knew that I wanted to do it as soon as I certified level 1. I have read stories of people going from level 1 through 2 or even 3 at a single launch or over a weekend. I was a bit more methodical in my approach, always trying to be sure that there would be no surprises at any given launch as I stepped up the power ladder. I learned tons of things, and along the way I made some great friends and gained a better understanding of this hobby. Even though I had obtained the rocket and certification motor for free, I certainly spent my fair share on materials and motors along the way (don't we all). I additionally grew in ways I hadn't expected due to my interactions with the great people involved with rocketry in Texas. Thanks to everyone who was involved, with a very special thanks to the folks of DARS who helped along the way.

### The "Duck and Cover" By J. Stuart Powley NAR 29573

I sometimes like to blend my rocketry and non-rocketry interests. As an avid comics reader (I know, that explains a lot) I have based a couple of rockets on my favorite strips.

My latest creation is the "Duck and Cover" based on Stephan Pastis' strip "Pearls Before Swine." There is a character in the strip named

"Guard Duck" that is a bit of a homicidal maniac, who loves to blast things with an RPG. Obviously, I thought, this character would be a natural subject for my LOC "Norad" project!

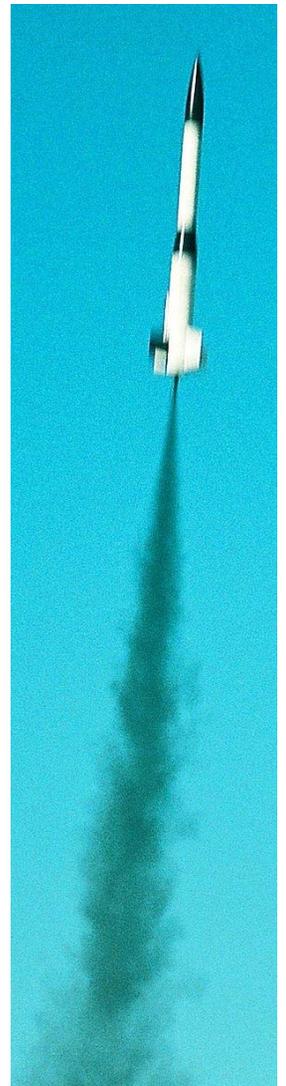
I created all of the decals using Testors decal paper and a color inkjet printer. I was so pleased with the results that I e-mailed

pictures to Stephan Pastis. I was a little worried since he is a former lawyer. After all I'd hate to get sued for all my work!

As it turns out, he was great about it. He just said, "hahahahaha.... that's great!...I love it!...." Of course this response only encouraged me; which probably isn't the best idea....



Ex-Soviet markings allude to the strip



D&C Flying on a Roadrunner G80!



Fin Detail

Little Guard Duck with his trusty RPG

### How Can I Contribute?

Ok, it has finally happened. We are completely out of back articles. Although I really appreciate the guys that have contributed so far, we're like the government here...we always want more and more!

Therefore here is a gentle reminder that articles can be e-mailed to me at [stu29573@yahoo.com](mailto:stu29573@yahoo.com), or handed to me at the meetings. They can be typed, handwritten, scrawled in crayon, or whatever, but I kind of prefer them as Word documents with JPEG pics....but, seriously, I can work with just about anything.

So get those fingers a-typing and those cameras a-snapping! Remember, we publish all the news that fits...and right now it ALL fits!!!



Here is a parting shot of Gary's level 2 rocket. It's a great pic that wouldn't fit in the article. Great job Gary!

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# DARS

The Dallas Area Rocket Society is a non-profit chartered section of the National Association of Rocketry ("NAR"). Its purpose is to promote the hobby of consumer rocketry in the Dallas/Ft. Worth metropolitan area.

Membership in DARS is open to all interested persons. Membership in NAR is encouraged, but not required. Annual dues are \$10.00 for individuals and \$15.00 for families. The entire family, including children, are welcomed to the meetings. Go to the website and fill out and send an application to join or renew your membership.

The club normally meets on the first Saturday of each month at 1:00 p.m.

Visit the DARS website for the meeting location: [www.dars.org](http://www.dars.org)



Stay connected! All of us will reach greater heights with your attendance at the club meetings.

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