



Volume 20, Issue 2

Dallas Area Rocket Society ("DARS")



Member - National Association
of Rocketry ("NAR").

Special points of interest:

- "Ignition!"
- George Sprague gives us some insights on igniters.
- Jason Brown shares the experiences of the UTA Rocket Mavericks.
- "Pearls Before Swine" comes to DFW for a Guard Duck close encounter.
- Pictures of stuff. Really.

Ignition! By J. Stuart Powley



A modified vintage Estes Maxi-Icarus takes flight on three C's at a recent launch.

Inside this issue:

3-2-1-Ignition!	2
Battle of the Rockets 2011	4
Tribute to a Homicidal Waterfowl	7
Miscellaneous Musings of a Pictorial Variety	10
Contributing Info	11

Putting a newsletter together is funny. Well, not actually funny in the "Ha Ha, that's a great joke" way, but more in the "What the heck happened here?" way. Sometimes things flow together so well that you just know it was all planned (it usually wasn't). Other times...well, you get the sampler chocolate box that you aren't really sure goes together, but the parts are really good. I think I like the latter better.

This month is a sampler, and I can assure you that it all tastes great

together! First, George Sprague gives us another of his helpful tips articles, that tackles getting the bird into the air in the first place. Next, Jason Brown sent me some really cool stuff on the UTA Rocket Mavericks victory! Then we have a random bit about comic strips and model rockets. Finally we have a few pictures to round things out.

All in all, a tasty treat! So, dig in and have a good time. I think I'm going to go make a sandwich....

3-2-1- Ignite!

By George (The Other) Sprague

Igniters! Without them, our rocket motors would not, ah, ignite! Let's take a look at some ideas regarding these important devices. While this is aimed more for the new rocketeer, veterans of the rocket range should find a few good reminders here.

How about we start by looking at model rocket motor igniters. The ones that are usually included with the rocket motor packs. A package of model rocket motors has a bubble with the igniters; once I open that I like to store them where they won't get lost or bent. It's a good idea to have some small box or container to store the igniters. I also like to carry this container with me when taking a rocket out to the pads. If there is an igniter malfunction, I have replacements right there with me and don't have to walk all the way back to the car to get one.

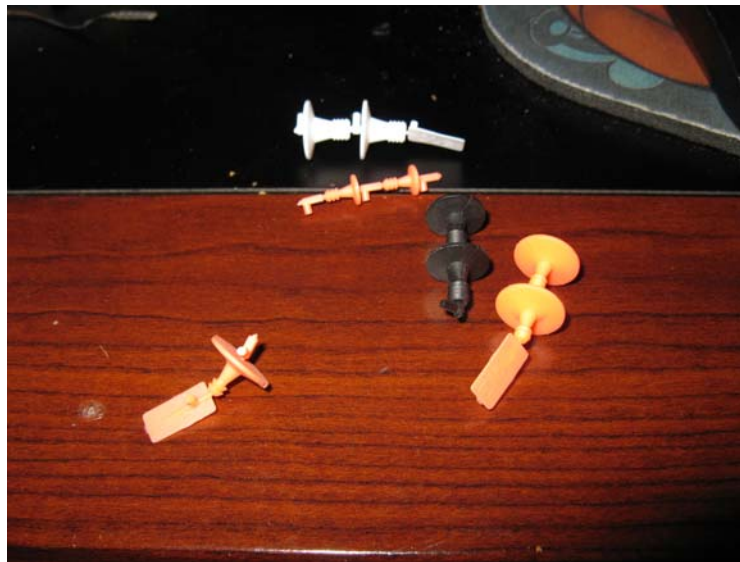
Another container should have the colored plugs used to hold the igniters in place. Back in the early days, when John Dyer started DARS and had all his teeth, Estes instructions would tell us to secure the igniter with a little wad of tissue paper. As you may imagine, that wasn't the best method. Sometimes all you had to do was start the count-down and the thing would pop out right when you reached 1! Now we have those little colored plastic plugs. Each motor has a particular size plug. I also include a list of color codes to

tell me which plug goes with what motor.

Always make sure the igniter looks good, that the pyrogen tip isn't cracked. When using the plug, avoid inserting between the wires, rather, make sure the igniter is to one side of the opening, not centered, then place the plug in the opening. Also, make sure the wires do not touch the motor hook, if used, and that they are spread out sufficiently to avoid the launch pad clips from short circuiting them.

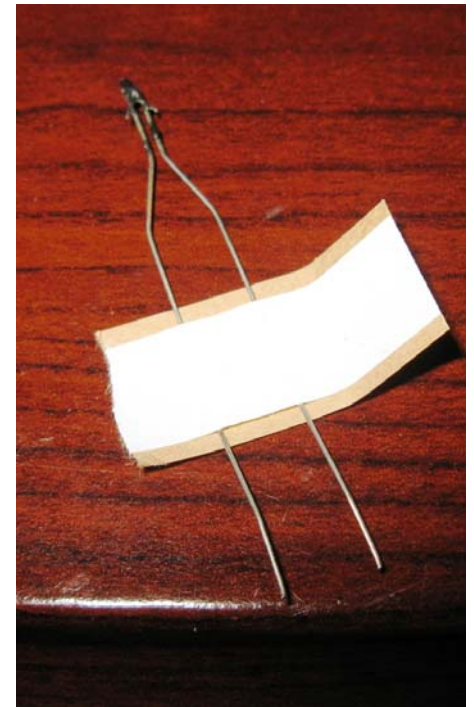
I like to bend the end of the wires into a "u", this provides more surface for the clips at the launch pad to hold on to.

The igniters used in mid power and high power rockets are differ-



Those little colored plastic plugs that have made life easier!

ent. Some are included with the motors – Aerotech includes their Copperhead igniters with some of its motors – called Copperdead by



An igniter with a good tip is key!

some. This is a one strand of metal igniter. You have to insulate portions of both sides of the metal strip with tape so when you attach the alligator clips from the launch pad, one jaw of the clip makes contact with the metal, and tape on the other side of it. You can obtain a special clip that will properly direct the current to the igniter and you don't need to tape anything up; the launch pad clips attach to this device.

Two wire igniters are available commercially or you can make your own. Some

include a covering on the pyrogen, which has to be removed before use. It's a good idea to also test fit the igniter.

Here is a tip to make sure you have inserted the igniter all the way to the top of the motor and it is making contact with the propellant or delay element: use a wood dowel or better yet, a plastic rod and insert that into the motor as far as it will go. Mark the dowel or rod at the spot where it just exits



The dreaded Copperhead.

the nozzle. Remove the dowel or rod, and use this to measure the igniter from the end of the pyrogen. Now you have an idea of how far in the igniter should go for proper seating.

Most of these igniters require removal of insulation from the wires to connect to the clips at the launch pad. I suggest removing enough material so you may wrap the wire around the clip for better contact. And

of course it's a good idea to carry some sand paper or steel wool to clean of the clips at the launch pad, especially towards the end of the day.

There you have it! A few simple suggestions that should increase

the chances of that motor igniting the very first time, and should make your day at the launch field more enjoyable.



A typical E-Match

Right: Unrelated, but still cool, Estes Mercury Redstone picture

Coming Soon! DARSTAR 7.1!!!

Events:

C Rocket Glide

1/2 A Helicopter Duration

1/2 A Super Roc Duration

Plastic Model Conversion

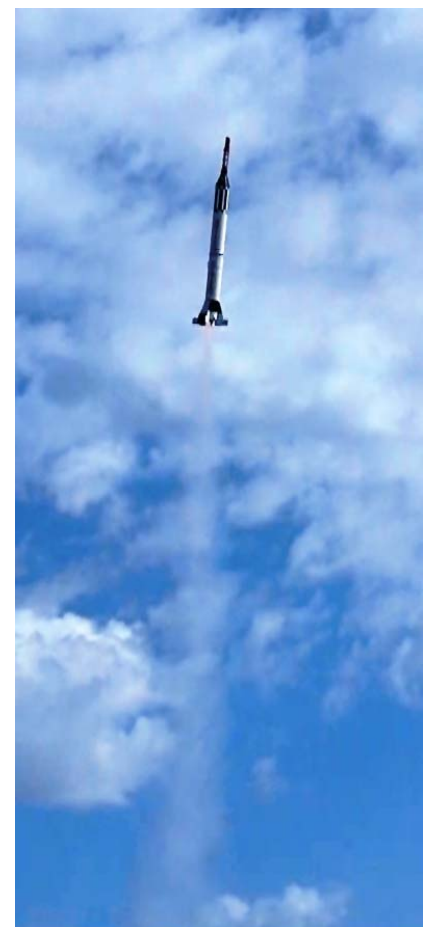
Date:

May 14, 2011

Rain Date:

May 21, 2011

Come on out and show off your rocketry skills!!!



Battle of the Rockets 2011

By Jason Brown

At 2:30 p.m. April 3, 2011, the UTA Rocket Mavericks ended a twenty-one hour drive from Culpeper, Virginia to Woolf Hall. The team was exhausted from this second drive but happy with the new first place trophy to be placed in the trophy case, which would be visible to all passing by. For team members and co-founders Jason Brown and Josh McGuire, it was the last year they would compete as students. The other team members who made the journey, two freshmen and one sophomore, will carry on the excellence now expected of the team in the future.

On the afternoon of Thursday, March 31, the Rocket Mavericks left for Virginia. A day and a few sore legs later, the team set about preparing for the competition. The first order of business was to immediately carry out a test launch of the high altitude rocket, as it had never flown before. Unfortunately, the rocket was not able to be launched after arrival due to the electronics not being prepared to fly.

Following rest, the day of competition was at hand. The test flight of the high altitude rocket went off not as well as was hoped. The launch seemed to go well. However, the rocket did not stick the landing. It landed in a woodpile, causing one of the carbon fiber fins to break off. The breaking of a fin was no setback. It was quickly tacked on with super glue and ready again for flight. A review of the launch pad camera video showed that the sabot, a device used to sta-

bilize the rocket during launch, had hit one of the fins, causing the rocket to make a sharp, midair turn and fly somewhat diagonally for nearly half a mile.

Having proved the high altitude rocket was safe to fly, the team refocused on the final preparations of a flight two years in the making, the flight of the planetary rover rocket. The goal of this competition was to launch an autonomous rover above 1,000 feet, have the rocket and rover land under their own parachutes, have the rover disconnect the parachute and a marker upon landing, and the rover drives as far as it can in five minutes. This as an event two years in the making since no one completed the entire challenge. The eight foot tall rocket took off with a thunderous roar. As it came down, the entire team chased it for a view of the rover landing. It landed downwind in a grassy area, rolled over a mud pit, crossed a small stream, and got stopped by nine-foot tall brush. The total distance covered in one minute by the rover was 75 feet, a distance other competitors were doubtful they could attain in five minutes.

The second launch of the H-class rocket was a competition flight attempting to break the previous year's 9,000-foot record and went off with several malfunctions. The decision was made to not launch using the sabot. This resulted in the rocket slamming into the launch tower, breaking off the re-attached fin. This caused the rocket to make several corkscrews in the air before straightening out and flying skywards. It landed sev-

eral hundred feet away without the parachute deploying. Without any worries the team spent a frantic hour repairing the damage and preparing the rocket for a final flight.

The old proverb that "third time is the charm" was proven. For the final launch of the high altitude rocket the rocket was set in the launcher with the sabot and wired for ignition. After the push of a button, the rocket sailed skyward in a seemingly straight line. It landed over almost two miles away but was recovered in about 40 minutes thanks to the onboard GPS unit from Tragic Little Aerospace. The rocket was unable to beat the previous 9,000-foot record, traveling 7,374 feet; however, it did beat all other H-class rockets for this year's competition.

In the end, the Rocket Mavericks prevailed. They will all take the lessons learned this year, including the ones regarding weather, and build upon this knowledge to tackle the new challenge next year and break both the G-class and H-class rocket altitude records. The newest team members will be shown the ropes on designing and building rockets. The future holds a number of opportunities including participation in the NASA-sponsored University Student Launch Initiative. This competition would provide an opportunity for more experienced team members to develop engineering skills further and face a more difficult challenge.

Many thanks are due to the Mechanical and Aerospace Engineering Department, Engineering

Student Council, Student Congress, K and S Rockets, Martin Sprockets and Gears, Soller Composites, the UTA chapter of the American Society of Mechanical Engineers, and Tragic Little Aerospace who all generously sponsored the team this year. Special consideration is given to Tragic Little Aerospace for the GPS unit, which made locating the high altitude rocket a breeze. Without GPS, recovering the high altitude rocket before the competition ended would have been impossible.



The UTA Rocket Mavericks with their bird.

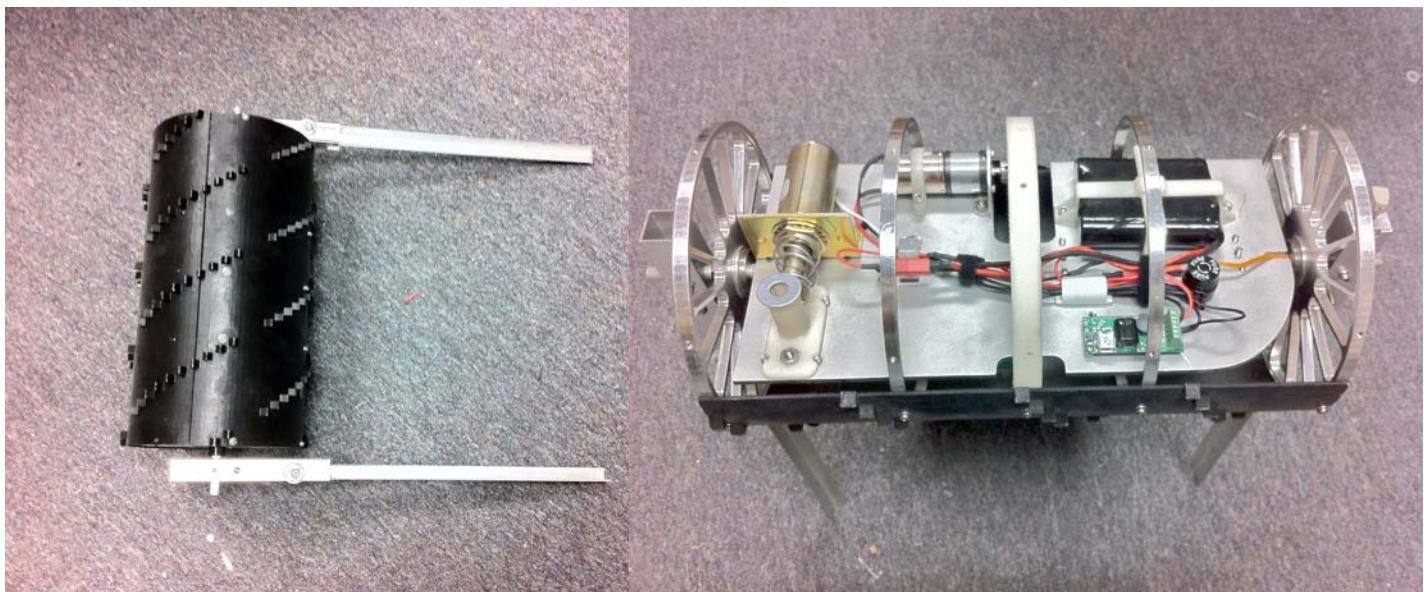
The following pictures were provided by Jason. In addition, you can go to <http://rocketmav.uta.edu> for their website and <http://www.youtube.com/User/UTARocketMavericks> for the You Tube Video!



Jason loads up the rocket.



The bird on display,



The Rover and the electronics involved.

Tribute to a Homicidal Waterfowl

By J. Stuart Powley NAR 29573

As some of you may know, I enjoy combining my various non-related hobbies and interests. A while back I gave a nod to Stephan Pastis' very funny comic strip "Pearls Before Swine" by building "Duck and Cover," an LOC NORAD rocket themed to honor the character Guard Duck. I wrote about it in Volume 18, Issue 3.

Flash forward about two years. I was reading Pearls online when I discovered that Pastis was coming to DWF for a book signing! Now I saw that I had a rare opportunity to have an SIGNED silly tribute rocket. How cool is that???

My wife, Laurie and I got to the event at A Real Bookstore in Fairview at a time that we thought was early. we were wrong. Apparently a ba-zillion other people beat us to the punch. (not that there was punch...not even water, really..no refreshments at all, but I digress) We ended up about halfway back in a throng of fans, that apparently surprised even the store.

Stephan gave a very entertaining talk at the beginning where he pointed out how Pearls has changed over the years. He also read several strips (kind of like that guy that used to read the Sunday funnies on TV on early Sunday mornings, right before Jot and Davie and Goliath came on, but I digress yet again). Then he pointed out some of the strips that caused

controversy (I'm not kidding. Apparently some people take things VERY seriously... there was even one international incident. Again...not kidding.)

Once the talk was over we all lined up to get whatever we had on hand signed. Laurie bought his new book "Pearls Blows Up" but due to the store underestimating the fan base the books ran out. We got a receipt and a promise that it would be in, signed, soon. Fortunately, I still had "Duck and Cover" with me, which was my main mission anyway.

One gets to know people when they are waiting in line with them for a long time. In front of us was "Pig" (not to be confused with the "Pearls Before Swine" character) who knew about everything there was to know about 60's pop culture, and behind us was a nice couple who apparently had waited in such lines before at various comics conventions and sci-fi gatherings. It was good to be waiting with cool people because the line was LONG.

"Duck and Cover" got quite a bit of attention in line as well (which is probably not surprising since not everyone had a three foot long missile that looked slightly sinister and was festooned with comic strip characters). The character of Guard Duck is slightly...well...unbalanced and has a tendency to violence, so the sinister look of the rocket was well understood in the ranks

of fans. Still, he has a good heart and is a loyal friend, so no one was too unnerved.

When we finally got to Stephan he was very gracious. He really seemed to enjoy the model, even though he said drawing on a curved surface between fins was not easy! He quickly went to work and soon "Duck and Cover" had an actual, original Stephan Pastis Guard Duck drawing on it (along with "To Stu, Best Wishes)! Laurie frantically snapped pictures of the whole event.

There you have it. Now "Duck and Cover" sits proudly on my bookcase. I probably won't fly it any more, but it has had a couple of good flights already, so that's no tragedy. I would like to thank Stephan Pastis for being so cool about everything. By the way, you can check out "Pearls Before Swine" at http://comics.com/pearls_before_swine/, or in your local paper.

On the following pages we feature pictures of the event. I would have put them on this page, but I got a bit long winded. Actually, you could have probably skipped all this and just gone straight to the pictures. You may be wishing now that you did, but it's too late. Oh well.....on to the pics!



Various items were brought for Stephan to sign. Here he signs a softball glove.

Stephan Pastis talks about his strip, "Pearls Before Swine."



He seemed really enthused about the rocket. Here he threatens unruly fans. Not really about the threat thing....



Admiring the rocket...I think....



Curved surface? Between fins? No problem!



The final product and my beautiful assistant!

Miscellaneous Musings of a Pictorial Variety

Or, Stuff We Had Left Over



Jack Sprague gave a really good presentation on Plastic Model Conversion at the last meeting!



Some models that either have been converted, or soon will be!



The Moonliner lifts off from Disneyland in 1957. Sorry, I really can't help myself. This great shot was run in the blog "Gorillas Don't Blog" a while back for an April Fools joke. You gotta admit, it's some great photo shopping!

How to Contribute to Shroudlines

And now for the “last page begging part” of our publication. As I have made clear in the past, without you, we have no newsletter. We all have differing interests and areas of expertise, and that is exactly what this newsletter needs!

Once again, I'd like to thank all of those who have contributed material so far. You are very much appreciated! Still, we need more! Therefore, if you have any kind of article, picture, cartoon, rambling, etc., just send it to stu29573@yahoo.com. I usually work best with Word documents, and JPEG files, but I can make just about anything work if I have to. I can also handle stuff that is written down, but that means I have to type and that can be a bit touch and go... But I'll take it anyway!

You can also give me things at the meetings (which I almost never miss...almost), and I promise to try my best not to lose them. I can return stuff at the next meeting if need be.

As I have said many times in the past, I really want this newsletter to be by the club and for the club. You guys can think up much better stuff than I can (as is evidenced by the articles we've been getting lately). So, stop just thinking about maybe writing something and actually do it! You'll be glad you did! (as will everyone who reads it!)



DARS Officers

President	Jack Sprague
Vice President	Dave Schultz
Treasurer	Suzie Sprague
Secretary	Bill Gee
NAR Senior Advisor	Sam Barone

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



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

Vendor Links (* DARS member discount—confirm before ordering)

[Aerospace Specialty Products](#)

[Apogee Components](#)

[BMI Hobbies \(* 10%\)](#)

[CLE Enterprises](#)

[Excelsior Rocketry](#)

[Hawks Hobby](#)

[JonRocket](#)

[Mercury Engineering Co.](#)

[Public Missiles Ltd](#)

[Quest Aerospace, Inc.](#)

[Red Arrow Hobbies](#)

[Roadrunner Rocketry](#)

[Semroc Astronautics Corporation](#)

[Sunward Aerospace Group Limited](#)

[RC Zone \(*10%\)](#)

[Aerotech Consumer Aerospace](#)

[Art Applewhite Rockets \(* 20%\)](#)

[BRS Hobbies](#)

[Dr. Zooch Rockets](#)

[FlisKits, Inc.](#)

[HobbyTown USA— Dallas, Walnut Store \(* 10%\)](#)

[MadCow Rocketry](#)

[Pemberton Technologies](#)

[Qmodeling](#)

[QuickBurst](#)

[Red River Rocketry \(* 8.25% on field\)](#)

[Rocket.Aero](#)

[Sirius Rocketry](#)

[The Squirrel Works Model Rocketry](#)

Dallas Area Rocket Society
(“DARS”)

J. Stuart Powley
3501 Christopher Dr.
Rowlett, TX 75088



Permission to reprint articles is given as long as proper credit is given to author and DARS.

WWW.DARS.ORG

SHROUDLINES

A Dallas Area Rocket Society Production