

Ignition!

By J. Stuart Powley



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

Special points of interest:

- "Ignition!" More ramblings from an addled editor.
- Tom Kelly has a great article on building a rack to keep your models from cracking up.
- Laurie Powley has more pics; this time from a meeting.
- Stuart Powley has the second and final part of his Maxi-Pegasus adventure.
- Don't throw that model out! Patch it up! A few hints are inside.
- Wind speeds from around the country....Now you'll know.

Inside this issue:

- Quick and Easy Rocket Rack 2
- Meeting Pics! 3
- The Maxi-Pegasus: Part Two 4
- After the Prang 6
- Blowin' in the Wind 7



A candid shot of various weighty discussions at a recent typical DARS meeting.
Photo by Laurie Powley

Well here we are again with another issue of Shroudlines! Things have been a bit restive on the launch front due to burn bans and floods, therefore, meetings have become all the more important. If you don't regularly attend the DARS meetings, you should. There's nothing quite like getting a bunch of hard-nose rocket geeks together to shoot the breeze about their favorite obsession. You are likely to see a few projects that folks are working on up close and personal, and hear all kinds of exciting plans for that wondrous day when we can actually fly again! Royce does a great job at keeping everything focused and on track, which is harder than one might think.

Speaking of burn bans, etc, our regional competition, DARSTAR Episode 2.0 has once again been pushed back. It's now scheduled for July 18th and 19th. That means there is plenty of time to get ready

so everyone REALLY has no excuse for not flying! If you've never flown a contest before, you should try it. It's fun and you just might get something to hang on your wall for your efforts.

In this issue we have a how-to article from Tom Kelly on building a really cool rocket display rack (it sure beats having them all lined up on shelves so they can domino over as soon as one gets bumped), some pictures from a recent meeting (taken by my wife), the conclusion of my Maxi-Pegasus article (did it fly???), a few hints on patching up rockets (if you've flown for any amount of time this should be of interest to you), and the low down on wind speeds (just how do we stack up against the rest of the country when it comes to one of a rocket's worst enemies?). Therefore, enjoy, and hopefully we'll be flying soon!

Quick and Easy Rocket Rack

Tom Kelly NAR #88924

I started building model rockets about 18 years ago. I stopped building them as the kids grew older and lost interest a few years later. Now I have re-kindled the hobby and am back to building and flying rockets with my grandkids. Just at the end of last year I stumbled across DARS on the internet and enjoyed launching at the Frisco Launch.

I used to store my rockets nose down in a large paper sack so as not to damage the fins. I decided that was no way to keep them so I came up with a very easy and inexpensive (less than \$10) display rack.

This is what you need:

1 each 24" section of 4" schedule 40 PVC



1 each 5' length of 1/2" PVC
(Both of these were on the same aisle at Home Depot.)



1 each 5/8" paddle bit.

Construction:

The hardest part of the fabrication is ripping the 4" PVC lengthwise to form the 2 bases. I found that the easiest is a band saw, but a table saw will work too if you are careful.



Then determine how close you want to store your rockets and drill 5/8" holes evenly spaced down the center of the base. Don't bother cleaning the hole as this creates a better fit. Now cut the 5' 1/2" PVC into alternate lengths. I chose 3" and 6" lengths.

Now place the 1/2" PVC into the 5/8" holes you drilled in the 4" PVC base. The pegs should fit snugly.



You now have a vertical storage rack for your rockets. The 5/8" (15.875mm) PVC fits just inside the 18mm engine mount and supports your rocket by the engine mount.

You can paint the rack any colors you want.



This rack can also be built for the 24mm rockets as well (shown above) because the 3/4" PVC fits snugly in a 7/8" (22.225mm) hole and will hold the "D" models in the same manner. This concept could probably be adapted to larger engine sizes as well.

All Photos by Tom Kelly

Meeting Pictures!!!
Photos by Laurie Powley



Suzie Sprague explains the TARC challenge to some new faces.



Jack Sprague checks out Mike McFadden's tribute model.



Scott Cook explains modular high power to Stuart Powley



Don Magness, Tony Huett and Royce Frankum discuss the future of DARS...or something...

The Maxi-Pegasus: Part Two

J. Stuart Powley

Welcome to the second part of the two part Maxi-Pegasus article. In the last issue I covered the building and attaching of the wings and conduit, and the building and installation of the motor mount. In this installment I go over the last construction details, as well as, painting woes and why it is a really good idea to take the weight of a model into consideration when choosing a motor. That being said, let's jump right in!

After applying the wings and conduit, I attached the launch lug. I ordered a set of 3/16-inch lugs from Semroc and glued one in the appropriate place on the belly of the model between the wings. Once again, I used epoxy because I had visions of a stiff wind ripping it right off the launch rod due to those huge wings.

I then installed the shock cord and parachute. I used a beefed-up Estes trifold mount design to install the cord. The mount was made of an index card, and the whole assembly was coated in five-minute epoxy. I used 1/8-inch sewing elastic for the cord. The parachute is an 18 inch bright orange, nylon chute that I got somewhere that I can't remember. Now I was ready to paint.

I had already sealed everything before I assembled it, so now I simply had to put on the actual paint. I started with a couple of coats of sandable primer to point out the imperfections. After I dealt with these (at least fairly well), I reached for the white.

Actually, the instructions say to paint it light gray with a dark-gray nose, wingtips, and block on the belly. Then you are supposed to add a black box along the rest of the belly. All the colors are supposed to be flat; I guess to give it a scale-like, "stealth" appearance. I had problems with the suggested colors, however. I was afraid that even light gray would mask the markings too much, and the dark gray would certainly hide lettering. In addition, I wasn't sure that I could find both light and dark gray in rattle cans (I probably could, but I was already concerned about the markings). Also, due to the many large decals, I wanted a smoother finish to stick them to. I looked at the illustration in the catalog, and it seemed that the prototype was painted gloss white and light gray, so that settled it. I did make a slight concession and went with semi-gloss white, however.

Anyway, after applying a couple of coats of Rustoleum white, I masked it off using Frog Tape (the green stuff) and shot on the gray. The light gray I used was Krylon, and I was not particularly pleased with it. It seemed to be very "rubbery" around the masked areas, and when I peeled the tape off, some of the gray came with it, making for ragged lines. I therefore went back and masked off the gray and redid the lines with white, which worked much better. Then I masked off the block on the belly for the black paint. I went ahead and used Krylon flat here because it was what I had on hand, and I thought it would look cool. Unfortunately the gray block on the belly that I masked over peeled a

bit when I removed the tape (stupid gray paint!!!) so I had to re-mask it and paint it yet again. Then, when I pulled the Frog Tape off of the black stripe THAT peeled. What a pain! I finally ended up taking a brush and touching up areas. It's certainly not what I would have liked to have done, but enough was enough! I've decided to stick with Rustoleum from here on out.

Then it came time to apply the decals. I had not really looked at them closely up to this point, other than to note that Tom did his usual great job on the drawing and printing. However, when I held them up against the model, I knew I had a problem. They were too small. My mind raced. I was hoping to enter this model in the DARS Fall Classic, and it was exactly one week away. What had happened, and what was I going to do?!! I ran the numbers again on the model, and it was a true 222% upscale. I then did some measurements on the decals and ran those numbers and came up with...195%. Crud..... I emailed Tom who promptly e-mailed me back and apologized for the mistake. He said if I could wait until Friday to put on the decals, he thought he could get them to me. I said a heart-felt "THANK YOU!" and waited. One thing that was going to make the situation tricky was that I was one of the few very lucky guys who got invited to go to the luncheon for Walt Cunningham at the Frontiers of Flight Museum on that Friday, and I knew that would be a huge distraction. Who could think about putting on decals after an event like that? I really wanted to have

the model finished before then, but it seemed like it was not meant to be.

That Friday, after I got back from the 40th anniversary of Apollo 7 celebration, I found a package on my front doorstep. Sure enough, Tom had come through, and the new decals were there. I was exhausted, but I had work to do, so I busied myself with applying decals. The original kit has the dubious distinction of being one of those models where the enclosed decals don't exactly match the catalog illustration, but they are close. The main modification I made was adding a bit of extra red stripe on the engine pods so they would look like the catalog. Also, I found that I could actually use the 195% "U.S. Air Force" logos. Because I had cut my body tube short, they actually fit better than the full-sized ones. The decals went on like a dream, which made things all the easier. However, I got to the point where it became clear that I was in no shape to finish so I went to bed and put the last couple of markings on Saturday morning. A quick hit with clear coat and I was done!



On the ride to the range...

Now it was off to the launch! Once I got there, a few things



Laurie Powley with the finished bird!

became obvious. First, Scott Cook was going to blow me away in the competition with his (very deserving) HUGE Red Max. At least that took some pressure off. I didn't have to fly it for those extra flight points. Second, I was in such a rush that I never actually did any math to see if my pride and joy was stable. Third, the Pegasus had turned out much heavier than I had anticipated, so an E9 probably wasn't going to have enough thrust to kick it off the rod with sufficient speed for a good flight. I struggled with whether to fly her or not. My wife Laurie kept reminding me that I didn't really have to. Other friends were pretty sure that a D12-3 would kick it up high enough so that disaster would be averted. I finally decided that I had built this thing to fly, and fly it would. I put in an adapter and a D12-3 and went to the rod.

She looked pretty sitting there. She looked pretty when the motor

lit, and she lumbered into the sky, trailing thick black smoke. She looked pretty when a gust of wind caught her oversized wings and turned her completely horizontal. What didn't look pretty was the fact that she was about 50 feet off the ground at the time, and it was fairly obvious that three seconds was going to come a bit after a landing in the plowed field. I lost sight of her behind some hay bales, and I knew the worst had happened.

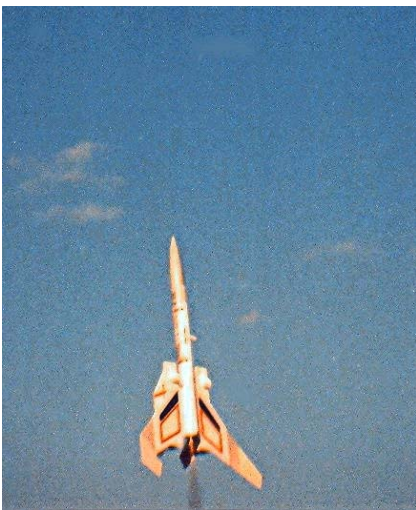
However, sometimes things just go right. You can mess things up all sorts of ways and still come out of it smelling like roses (or black powder). This was such a time. When Doug Sams, Laurie, and myself got to the "landing site," we found that the nose was completely buried in the soft dirt. The ejection charge had gone off and blown the model off the back of the nose. When I picked it up and looked for damage, there was absolutely none. The nose cone had some tiny pits, but it wasn't even scratched. A quick trip to the car for a wipe down with a damp napkin and she looked just like she did before she flew. Epoxy joints and soft dirt saved her. I vowed that she would never again fly with anything weaker than an E30!

The next week I went to Hobby Town and purchased an Aerotech E30-4. I was anxious to try it out as soon as possible, but very pressing other issues conspired against me getting to fly at the next launch. It looked like January was going to be my best bet.

On January 17, 2009 I rushed out

to the Frisco field late in the day. I had only about an hour of launch window left by the time I got there, but I was determined to see how the new motor performed in my pride and joy. After flying a couple of other birds to “test the air,” I prepped the Maxi-Pegasus and put her on the pad. Jack Sprague loaned me a four-foot launch rod due to the combination of slightly gusting wind and big honkin’ wings.

I was more than a bit nervous as Terri Magness went through the countdown. Was it just my imagination or had the winds picked up a bit? No matter, it was too late to go back now! As the count got to zero, the E30 lit and the Pegasus literally roared into the sky. She flew with a curious arching boost (probably due to the engine pods on the wings) that looked really cool. The model coasted past apogee, rolled over and popped its bright orange chute. A picture perfect flight! When I picked her up in the field, there wasn’t a scratch on her. At last, complete success!



The Pegasus in flight!



Me on the range with the Pegasus. Note the Third Place Ribbon in my pocket!

So there you have the trials and tribulations in the quest to build my favorite upscale (so far). It was a huge amount of work and, as it turns out, more than a little bit of stress, but it was well worth it. Even flying it with the D worked out well in the end. I know that no matter what happens on future flights, she’ll always have a special place in my heart. You know, the Aerotech F39-6 looks interesting....

Contributions Welcome!!!

Once again we are putting out the red carpet for any and all contributions for your illustrious newsletter! If you have any articles, pictures, musings, cartoons, puzzles, etc., please send them to: stu29573@yahoo.com or give them to Stuart at the next meeting. Thank you for your continued support!

After the Prang

This is an article for those of us who live up to the motto of “I buy, I fly, I crash.” After 35 plus years of flying model rockets, I have found that certain models are doomed to crash the day you buy them. They just seem to give off “vibes” that attract all manner of calamity and catastrophe. These models can be quite creative in how they destroy themselves, while making you, the perfectly competent flyer, look like an idiot.

There is hope, however. I have found that a good way to break the curse is to fix and re-fly as many times as possible. It seems that the more the “new is busted off” a model, the better it flies. It’s kind of like the gremlins get bored. Therefore, here are a few quick fixes to keep that model flying.

1. Crimped tube? You can simply make it shorter. Of course this can make for a pretty stubby (and unstable) rocket so, better yet, cut out the crimp and replace it. The coupler will make it stronger,
2. Broken fins? CA or epoxy, of course. You may need to use F&F to hide the fix, but it can be easily done.
3. Dented or shattered nose cone? A wooden cone can be fixed with filler putty and patience. A plastic cone can be pieced back together... sometimes.
4. Loose engine mounts or shock cords? It’s best to remove and reinstall these items instead of trying to patch them.

So, next time you crash it – don’t trash it! Fix it!

Blowin' In the Wind

As we all know, wind can be a model rocket fanatic's worst enemy. It can make a perfectly good model impossible to find (or at least impossible to retrieve), and it can make marginally stable models go bonkers. In the worst case it can make flying completely impossible, since it is against the safety code to fly in winds over 20 mph. Therefore, with this fact in mind, we present the 10 windiest cities in the United States.

1. Great Falls, Montana – Average Wind Speed – 13.1 mph
2. Oklahoma City, Oklahoma – Average Wind Speed – 13.0 mph
3. Boston, Massachusetts – Average Wind Speed – 12.9 mph
4. Cheyenne, Wyoming – Average Wind Speed – 12.8 mph
5. Wichita, Kansas – Average Wind Speed – 12.7 mph
6. Buffalo, New York – Average Wind Speed – 12.4 mph
7. Milwaukee, Wisconsin – Average Wind Speed – 11.8 mph
8. Des Moines, Iowa – Average Wind Speed – 11.2 mph
9. Providence, Rhode Island – Average Wind Speed – 10.9 mph
10. Dallas, Texas – Average Wind Speed – 10.8 mph

By the way, the "Windy City," Chicago, ranked 16th.

So the next time you are cursing the wind gods for cancelling a launch, remember, you could live in Montana!



DARS Officers

President	Royce Frankum
Vice President	Don Magness
Treasurer	Tony Huet
Secretary	Terri Magness
NAR Senior Advisor	Sam Barone

DARS

The Dallas Area Rocket Society is a non-profit, chartered section of the National Association of Rocketry. 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. Dues are \$10.00 for individuals and \$15.00 for families. The entire family, including children, are invited to all 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](#)

[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