



NSL 2006—Family, Friends and Rockets

By James Gartrell



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

Special points of interest:

- Shroudlines is online! While some might miss a copy coming in the mail, I think most will prefer a color copy that has more content which they can print or just reference from the website. Let me know what you think, and check out all the back issues on the website.
- As promised, more NSL photos are provided on page 2 and 3.
- Also, check out Gary Brigg's article on his two-stage Gargas conversion. Rocketry at its best. Well, almost. See page 4 to find out what it's all about.
- New to DARS launches. Wonder how all that equipment out on the field works. George Sprague has some help on page 6.
- Doug Sams is always full of surprises. Find out what I'm talking about on page 7.
- Another new rocket vendor! If you think Buck Rogers is cool, check out the article on page 8.

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Stuart and Laurie Powley celebrate their one week anniversary! Congrats!! Photo by Jessica Powley.

NSL 2006 was windy and hot, but it was a whole lot of fun. It will probably be remembered by a lot of folks for a lot of different reasons. Rockets flying almost non-stop and prizes being given out like they were candy makes pretty fantastic memories! For me, it was a weekend reminiscent of the sort of launches Blake and I attended when we first started going to DARS launches. Looking at all of the pictures that were taken and how many included children with family and friends, I'm betting there were a whole bunch of kids who will remember the launch as one of their favorite family events. Now those are all very special reasons to remember a launch, but for a couple of DARS members, there's one reason that might top all of those. What, you say, can top a

kids remembrance of flying rockets with family and friends? Well, that's pretty tough, so I won't say it would top that. No, it was more like icing on the cake. Hmm, more like icing on a wedding cake! One week prior to the launch, two super people came together for their wedding vows to become Stuart and Laurie Powley. Yep, and after only one week of marriage, they both came out with Stuart's daughter, Jessica, to enjoy the weekend with us. Wow! That's a great memory! To memorialize the event, Stuart scratch built a rocket that has a fin decal with their names and wedding date. Unfortunately, the picture of it was omitted from the recent Sport Rocketry issue. Family, friends and rockets, a great combination for some pretty fantastic memories.

NSL 2006—The People By James Gartrell with Photos from the Powley's

This young man came out to fly rockets with his grandpa. I talked with them as we tried to locate the Astra in the high grass. Good kid, super grandpa!

Look dad! Perfect! Let's fly it again!!

What a beautiful smile! She won the rocket in one of the many give-aways, and then had the rocket out flying on Sunday. Fantastic!



A big smile from Don Magness, with his award for directing NSL 2006. Well deserved!

The smiles tell it all! That big smile says Mom is really proud of her "boys." Look real close and you can see Chaz Russell in the top right corner.

Mike, on the left, with his dad, John Dyer, two of rocketry's finest. It can't get much better.



A "couple" more of rocketry's finest, Jack and Suzy Sprague.

Rags Fehrenbach with his son, Shea, both extreme rocketeers.



James Gartrell taking a break with his grandson, champion rocketeer, Blake Gartrell.



Laughing, Bob Wilson and hiding, Dave Schultz.



Tim Sapp, great guy and super rocketeer!



Stuart Powley and daughter, Jessica.



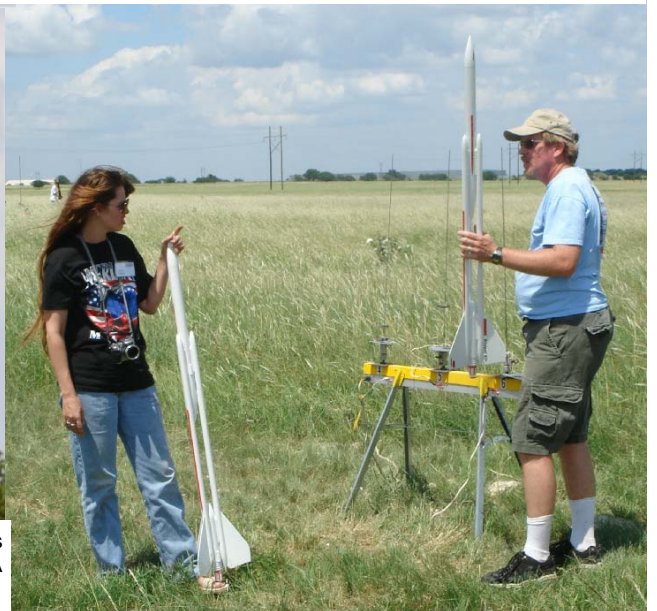
NSL 2006—The Rockets

By James Gartrell with Photos by Len Fehskens

Below, left and right—Ben Jackson strolls out to the pads with a very nice V-2. Launch! Sweet! Right—Joe Peck with the Barbie rocket laughs at some comment by Amanda, as friends and acquaintances look on.



Below, left—Jim Jarvis (on right) gets some help putting his 2-stage, I to I, rocket onto the pad. Below, middle—Jarrod Frankum's Estes Citation Patriot upscale. Nice job! Below, right—Loretta Hawkins and John Dyer get ready to fly a couple of Hawks Hobby Super Tridents. Oh yeah!



Below, from left to right—Doug Sams preps his Uber Tuber; Scott Cook readies his scratch-built Nike Ajax; a Squirrel Works Mega Baron takes off; a DG&A Armageddon gets lots of attention on the pad; and Barbie takes off. Cool!



The Gargas "Double" Paradox #018/100

By Gary Briggs NAR #76909, L2, with Photos by Gary Briggs and Doug Sams

I saw my first Gargas Paradox at the November launch at Windom. Bill Gee was flying the prototype multiple times, trying out various motors and delays. I thought this was going to be another Squirrel Works production model, and didn't realize yet that this rocket would be the DARS commemorative rocket for NSL 2006.

The next time I saw a Gargas was at the February club meeting. James Gartrell had a pre-production prototype which he had been asked to test build. Doug Sams and I examined the rocket and started having some of the same ideas. At first glance the rocket screamed '2 STAGE', but the overall configuration meant that you might need a timer to light the second stage, since there was a good distance between where the motor would be in the first stage and the second stage. In addition there was all that space available for motor's) in the BT60 tube. My original thought was a 24 mm motor somehow staging to an 18 mm in the sustainer. At about the same time, Sport Rocketry had coverage for NARAM 2005. In that issue were a number of 2 stage rockets in the giant scale competition. I picked up the idea of gap staging from reading this issue.

Now came the challenges. Gap staging seemed kind of old school, but also pretty cool since you get a great effect and don't have the expense, weight, and complexity of electronics. I didn't know anything about gap staging from the beginning, but found some information online, including an article from Kevin Wickert. I emailed Kevin and got some additional ideas around what it would take. Venting the staging tube was a critical design item I picked up from the articles. This ensures that enough of the gas filling the space inside that tube is released, so that the hot gases from the motor can actually light the second stage. Otherwise you probably end up just popping the second stage to fall to its

death.

The real challenge wasn't going to be lighting the second stage, but deploying recovery gear from the first stage. All those highly swept fins on the base on this rocket would certainly snap off, if not landed softly. The 24 mm motor approach presented some real challenges here since it would be easy enough to light the second stage, but how to deploy the recovery device? I toyed with some approaches of using a streamer, either wound up in the second stage or somehow pulled out of the first stage by the departing second stage. This would have a couple of problems; 1) reliability was questionable and 2) deployment would be at relatively high speed and may not slow things down enough to avoid snapping the fins.

I was explaining my proposed approach to Doug via email and asked what he was doing with his Gargas. He said he was voting for a cluster. He stated that if you figured out how to do the plumbing, you could use a zero delay to light the sustainer, and a longer delay to deploy the laundry. Sounded perfect, and added to the cool factor. I was also dying for another 3 X 18 cluster since I lost my last one on the field at Windom.

So here is how number 18 of 100 got built. The cluster is plumbed in between the bottom 2 centering rings down to a single BT20 going up into the transition. (Figure 1)

The ducting transition was created to direct the energy of the cluster of motors, basically



Figure 1

using 2 motors to light the sustainer motor and the third to deploy the laundry. (Figure 2) The ducting transition was created by first creating a cone based on the transition dimensions in RockSim. I cut this out a bit oversized so that it could also wrap around the 13 mm



Figure 2

tube used to plumb the third motor up to deploy the recovery gear. Once the paper transition was where I wanted it, I cut out similar pieces from Kevlar tissue and 3/4 ounce fiberglass. That was applied to the paper transition, creating a hopefully fireproof energy deflector into the BT20 tube. (Figure 3)

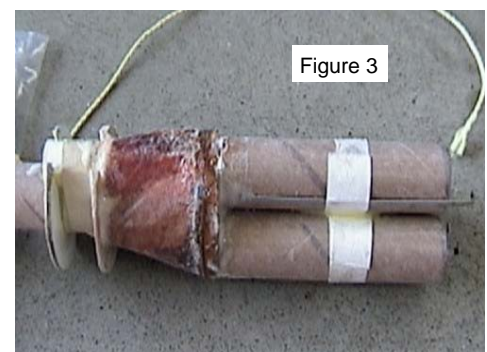
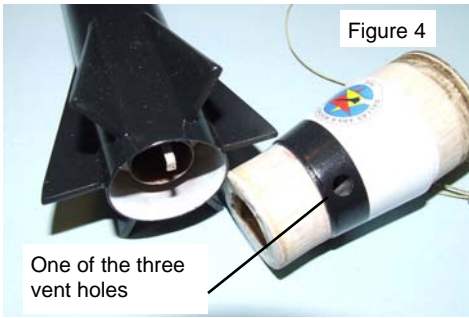


Figure 3

The balsa transition was bored out and Estes centering rings were glued on both ends to provide a tight fit around the staging tube, as well as the 2nd stage motor tube. Three vent holes were added to the transition near where the base of the 2nd stage motor would be. (Figure 4) I packed an 18 inch Estes parachute around the BT20 staging tube to provide a soft landing for the booster.

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(Continued from page 4)



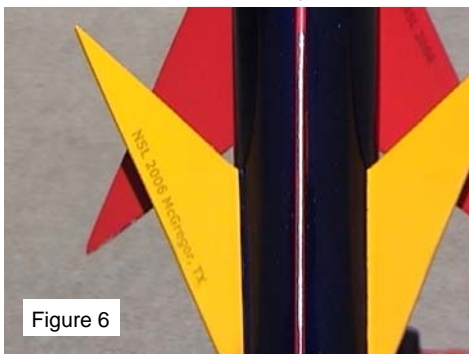
The sustainer was a simple modification since all it required was 2 centering rings, a motor mount, shock cord, and a streamer. I added weight to the nose cone based on what RockSim said I needed, but more on that later.

Painting this model used a variety of paints starting with Krylon gray and white primer. From there, the sustainer and part of the transition (down to the staging vent holes) was painted with Krylon semi gloss black and the rest of the transition with semi gloss white. The fins were painted with Testors Yellow and Model Masters Italian Red. The first stage body was finished



with Tamiya Racing Blue (great looking paint by the way). I created decals with Testors decal paper and my inkjet photo printer. Everything from there was covered with 3 coats of Krylon Crystal Clear. OK, so now it looked good, but would it fly? (Figures 5 & 6)

Sunday at NSL was



less windy than Saturday, but still windier than I really wanted for the maiden flight of this rocket. I felt like it was going to come off the pad with enough authority that this wouldn't be a problem. Jack Sprague gave a great intro to the rocket calling it a very aggressive interpretation of this model. At zero, all the motors appeared to light at once, so the QuickBurst igniters did their usual fine work. It climbed to about 30 feet before things started to go badly. At that point it went unstable, and at about the same time it staged. The second stage was also unstable, probably due to its short length and small fins, but I expected the fins to be working at speed when it staged. Since it staged at speed much closer to zero, this didn't work out as planned. Both pieces fell to the ground after a brief episode of sky writing, and then there was a little fire dance, but no real danger there.

Post flight analysis showed that the internal deflector cone largely did its job, but the dual ejection proved too powerful, obliterating the BT20 tube that was supposed to direct the gasses



to the second stage. The other thing that was very obvious was that the body tube had gotten quite hot since the inside of it was very charred and the Tamiya paint bubbled significantly from the heat. Other damage was minor, since the first stage had deployment of its recovery gear, and managed not to snap any of the fins. The second stage wasn't as lucky, but only flexed a fin,



breaking the paint, but easily repaired.

It wasn't the flight that I was hoping for, but I learned several things along the way and I will rebuild it and try again. On the positive side, the gap staging worked, so I will use the same ducting transition on the rebuild, but when I fly it, I will use 2 different delays to stagger the pressure going through the staging tube. I also didn't break any fins on the booster, but I will attribute that a bit more to luck than skill. Obviously more nose weight is in order to keep things going straight for longer. I have also vowed not to fly new cluster rockets on windy days.

I will quote Doug Sams in stating that "if there wasn't any risk in this hobby it wouldn't be any fun". I totally agree with that, and this model provided a good distraction from the craziness at work for several weeks.

I think there might be some fun here with club builds based on the same rocket and everyone building to their own interpretation. Based on the diversity that we have in the club we would certainly get some interesting differences. I have also heard some rumblings about a black powder cluster event in the near future. Stay tuned, and look for the rebuilt Double Paradox in the fall. It needs to fit somewhere in there with the rest of the rocket build backlog.

Equipment How-To

By George "The Other" Sprague

What a wonderful sight! All those launch pads, controllers and gizmos! Model rocket pads, mid and high power. Here you are launching with DARS for the first time, possibly your first flight ever. You've got a rocket with a G40 motor, ready to take out to the launch pad. The safety check is a go, the pad manager has assigned your pad and off you go. Arriving at the pad you suddenly realize the rod is way longer than it looks. How do you get the rocket on there? Do you bend the thing and hope it doesn't break? Go find the tallest person on site? What about that relay looking thing?

Well folks, even old timers who haven't flown in a while sometimes forget how to properly use the launch equipment. Let's take a look at what is available at a DARS launch site. To begin with, the model rocket pads are straightforward. You slide the rocket on the rod, connect the clips to the igniter and that's it, right? Well, there's something else you need to do. And that is check for continuity. See that little button on the wood support just below the rod? Press it, and if you have continuity (meaning your clips are properly connected & juice will flow when the GO! button is pressed) you'll see the red light come on.

The mid and high power pads are a bit different. First thing you'll notice at the pad is the relay box. There is a switch with two positions: Arm & Safety. Make sure you place the switch on Safety, otherwise you just might have a surprise when you connect the igniter and check for continuity! Scrape the alligator clips against each other just to make sure you are on Safe. No sparks means good to go. Now would be a good time to clean those clips with steel wool. Get rid of accumulated crud for better electrical contact.

Take a close look at the launch rod. About halfway up you'll see a break point. Unscrew the top part of the rod. Again, the steel wool would be in good use to clean off the rod. Slide the rocket down, then screw on the top part of the rod. Some pads have stand-offs to bring your rocket a few inches off the pad to prevent the rear (of the rocket) from getting scorched.

I'm certain you slid the igniter in the motor before you placed it on the pad, so now you can connect the clips. Wrap the wires around the clips for better contact. And on the subject of

igniters, carry one or two spares with you. That way, if you have igniter failure, you don't have to walk all the way back to your car for a new one. You'll have them right there with you. Ok, the clips are on now it's time to check continuity. Double check the switch to make sure it's on the Safe mode. Press the button and you should hear a sustained beep, telling you that all is connected well. Let go of the button, and place the switch in the Arm position. You are now ready to see your bird conquer the skies!

By the way, DARS may have a rail for you if you need it. At the base you'll see the mechanism that releases the rail so you can tilt it to load your rocket. Make sure it's locked in place when you bring the rocket to a vertical position.



When in doubt, ASK! If you're not sure about the equipment, ask someone on site. Better to ask than trying to second guess the equipment, and possibly break something. See ya at the launch site!

Coloring Rocket Gliders—Adding Color Without Adding Weight

By Doug Sams

If you've ever had an Edmonds rocket glider, you know the brilliance and genius that is Rob Edmonds and Bill Saindon (BMS). Rob's designs are incredibly simple yet high performance. Bill's precision laser cut parts with interlocking tabs are easy to assemble and always the highest quality.

But once you've got your glider built, you need to add color to it for ease of tracking and recovery as well as providing some protection for the raw balsa wood.

Typical rocket paint jobs, with multiple fill and primer coats topped with thick finish coats, will add lots of undesired weight. Dope finishes are an alternative. Like lacquer, dope is sanded between coats, so a pretty finish can be achieved without excess build up of paint, but it's a lot of work, and left for another article.

Two simple finish techniques are magic markers and fabric dye. Both were learned by reading tips on the web. I can't recall where; the rnr faqs perhaps.

The magic markers work OK, but tend to be expensive; a couple coats from a black marker onto balsa will use up most of the marker. The finish tends to be uneven, and applying it is a tedious chore for the modeler. However, it will add color which aids tracking and recovery, and does so with no noticeable added weight.

I had never tried fabric dye, but with my new Edmonds Twinsee and CiCi Stage 2, I wanted to go a different route than magic markers, but keep it easy. I picked up some RIT dye at WalMart. In powdered form, it's about \$1.50 a pack, one of which should be good for several rockets.

I had hoped to get purple and gold, but the purple was sold out, so I selected northwestern blue instead.

After lightly sanding the gliders, about a teaspoon of the powdered dye was put in a cup, then mixed with a couple ounces of ethanol. Water would work, but the alcohol dries faster thus leaving less chance of warping.

At right is the CiCi Stage 2. (Figure 1) It's based on the earlier CiCi, but stretches that a couple inches and adds a booster which gap stages to the sustainer.

Once the dye and alcohol was mixed, I used a foam brush to apply it to the bird, then hung it on the line to dry a few minutes before applying a second coat.

As you can see, the finish isn't perfect; it's a far cry from my typical paint job, but it was easy to apply, and the colors are quite bright.

The nosecone and pod were finished with a black marker. The nose tip had been soaked in CA to make it more rugged, and wouldn't soak up the dye, but the black Marks-A-Lot brand marker covered it well.

Here's the Twinsee. (Figure 2) It too turned out nice. In both cases I was afraid the yellow might appear washed out and weak, but it came out quite bright. Again, the black marker was used on the nosecone. Now, if it ever stops burning or raining, maybe I'll get to fly these birds :)

My next glider project should be the Ecee Thunder with radio control. That will have a dope finish. It will be interesting to see how it turns out.

Doug



Figure 1



Figure 2

Bucky Jones—Space Cadet

By James Gartrell

Don Magness sent me an email not long ago to let me know that Layne Pemberton was looking for beta testers to test his rockets. Layne is the owner of Pemberton Technologies (www.pembertontechnologies.com), a relatively new rocket company dedicated to bringing the classic Sci-Fi rockets into production so we can fly them. You may have seen one of Layne's creations, the Space Ark, at NSL 2006. Whoever won that prize got a very nice prize. Anyway, Layne's kits are a great complement to your fleet of Squirrel Works Sci-Fi rockets. Don's rockets fly on 18-24mm motors, but Layne's pick up at 29mm. Woohoo! Well, I couldn't get an email out fast enough to Layne to let him know I would love to beta test his rockets. I got my first one about a month ago when Bucky Jones—Space Cadet arrived in the mail. My adventures with Bucky follows.

Bucky arrived packed in a plain shipping box with a color picture of the finished kit on the shipping label. Hmm. No frills here, I thought. Upon closer inspection of the included parts the first thing noticed is the body tube and nose cone. The included body tube wasn't the one normally provided in the kit, but one was sent later. I was glad to get the one provided in the kit. When it arrived, running my palm across the white 3" ID LOC white kraft tube I could hardly feel the spirals. Nice! The tube is a little shy of 17" long with about a 30 degree cut across the back end. The LOC nose cone is huge at 15" long. OK, I'm thinking, tube/NC's where the money went. Digging into the box a little further I find a large 8-1/2" x 11" printed set of illustrated instructions and a CD. Since my computer was up, I decided to see what was on the CD. Wow! Not only are the instructions included in doc and pdf formats, there is also a Rock-

Sim file of Bucky plus all the other Pem-Tech kits and a whole lot more. Double Wow!! Alright, I'm very excited now. I pull out the pre-cut 1/8" ply through-the-wall fins and empty out the remaining contents of the box, a nylon 30" parachute, the 29mm motor mount, a very nice 9/16" x 8' Merlin Missiles tubular nylon/Kevlar shock cord, and the rest of the parts. Not having built a rocket that flew on anything bigger than an Aerotech E-motor, I wasn't sure what to expect. Looked like all the necessary parts to me, though. OK, time to get started building and do my beta-test duties.

I checked off all the parts, read through the instructions a few times (Step 1) and marked them up as part of my beta-test responsibilities, and emailed the suggested changes back to Layne. Alright, now it's time to actually start building the rocket. Doing beta tests for Squirrel Works, Red River Rocketry and now Pemberton Technologies, I've learned it's a really good idea to read through the instructions several times to get a mental picture of building the rocket. That's good for them, as I find a lot of things folks might not normally notice; it's good for me when building, since as I'm completing one step I'm aware of what the next step will be.

The next few steps are all about prepping the tube and marking the positions for the fins/launch lugs, followed by cutting out the two tiny "probe" fins that are positioned near the front of the rocket, prepping the fins, and cutting out the slots for the fins. I was waiting on the new tube at this time, so I jumped ahead on the instructions to do some of the other prep work. The eight "exhaust tubes" had to be cut from a couple of lengths of 18mm tubing. Good thing I measured first, as there was just

enough for the required tubes. (Figure 1) If you don't get the right ones cut



from the two available tubes, you would be scrounging for another piece of 18mm tube. I also cut the launch lug tubing in half to make the required two launch lugs and made the cockpit from the chunk of balsa that was provided. The steps to fashion the cockpit were well illustrated, thank goodness. It has been a long time since I created a cockpit out of balsa. The result was very satisfying, though. It came out pretty close to the pictured design but included my own unique touches. One thing is for sure, it made me appreciate those paper cockpits! ;-)

With the small parts prepped (Figure 2) I went on to install the provided



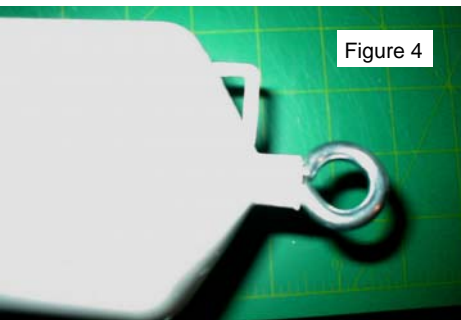
weights into the nose cone and installed an eyebolt into the nose cone. The kit didn't include the eyebolt, but I decided that would be stronger than tying the shock cord onto the loop on the nose cone. I used J-B Weld to attach the washer to the nut, then drilled a hole in the side of the nose cone and a slit large enough to slide in the washer. (Figure 3) Next, I inserted the weights in and epoxied them into the nose. After that

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dried, I slipped the washer/nut into the nose cone and guided in the eyebolt. Once it was screwed in tightly, I poured in epoxy to secure everything. (Figure 4) With that all



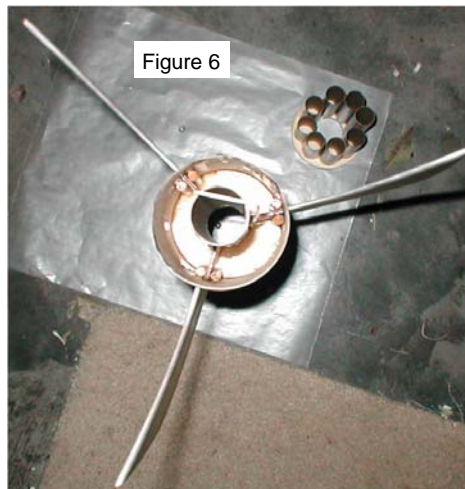
done, the tube had arrived and I was back to following the numbered instructions.

The engine retainer is installed onto the motor mount, next. The engine retainer looks like a piece of clothes-hanger wire that has been fashioned into a rectangle that is open at one end. It looked pretty cheesy at first, but when I saw how it all fit together, it's a pretty unique solution for positive motor retention with all of the exhaust tubes around the motor mount. Slots are cut into the rear centering ring to slot the wire into and then the wire ends are epoxied to the side of the motor mount, after aligning to allow room at the closed end for a 29mm motor casing. The exhaust tubes are then glued to the rear centering ring. (Figure 5 shows a test fit of the motor mount/exhaust tube structure)

While the exhaust tubes are drying, the forward centering ring is glued in next and then the motor mount and



fins are glued in with epoxy. (Figure 6). The instructions suggest filling the



cavity with expanding foam, but I used an idea from Don Magness placing dowels alongside each fin. The dowels were tacked in with CA before dowsing everything with epoxy. The instructions also suggest painting the exhaust tube/centering ring structure before installing onto the motor mount, but I painted everything after construction was completed. So, I epoxied that in, filleted the fins, and installed the cockpit, probes and launch lugs while the fillets finished drying. (Figure 7)



Finishing the rocket was a lot easier

considering the quality of the main tube. It is really nice. So nice, I didn't even attempt to fill the lines. You have to get really close to see them. After filleting the fins with epoxy and sanding everything with 220-grit, I completed final sanding with 400-grit. Then sprayed on an undercoat of Kilz to seal off the epoxy and sanded with 320-grit. Sprayed on a coat of Krylon primer and then spot sanded, sprayed another coat of Krylon primer and then sanded with 400-grit. Masked off the fins and body and painted the exhaust tubes and motor tube with DupliColor millenium silver. After the back end dried, I covered it with tin foil and applied the first coat of Rustoleum gold to the rest of the rocket. After that dried, I sanded with 600-grit and then applied the final coat of gold. I applied a couple of coats of Future floor wax to protect the finish and improve the shine. (Figure 8)



Oh yeah! Thanks, Layne!! It's a beauty! I'm really excited to fly this baby. Suggested motors are Aerotech's F-40, F-52 and G-64. Oh, man! It will be my first time to fly anything bigger than an Aerotech E-motor. I plan to fly Bucky at the upcoming September launch at Windom. Plenty of recovery room there, so I plan to see what that G-motor will do. Wish me luck!!

Oh yeah, don't forget to check out the rockets at Pem-Tech!



DARS Events

By James Gartrell

There are some great events planned for the upcoming launches. NTHP will include a hybrids contest, plus the annual DARS Classic contest sponsored by Hawks Hobby, and lots more. If you're not familiar with Hawks Hobby, there's an ad on page 11 for them with their website address. Go check them out. They are donating four of their kits as prizes in the Classic contest. That's awesome! You'd better dust off those old classic rockets and give them a chance to bring home one of Hawks Super Classic Rockets, like the Super Trident or Super Mars Snooper. Wow! A barbeque is also planned for Shoot for the Stars, plus an extreme black powder cluster/staging contest either for that event or the Turkey Shoot. Check the website for the latest.

By the way, you really should make the meetings. We weren't able to have our after-meeting launch at the nearby park due to the burn ban, but Jack Sprague taught us all how to make those PMC conversions last month. Thanks Jack!

Pray for rain the week before each launch, blue skies/no rain the week of the launch, and an end to the burn bans. Hey, prayer is powerful!

Stay in touch!

DARS LAUNCH SCHEDULE

DATE	EVENT	CONTACT
9/16-17	NTHP Sport Launch— Windom	Tim Dixon
9/30	Model Rocket Launch— TBD	TBD, Contact Don
10/28-29	Shoot for the Stars Sport Launch—Windom	Royce Frankum
11/18-19	Turkey Shoot Sport Launch—Windom	Annie Scheidemantle
12/16	Model Rocket Launch— Mountain View	TBD, Contact Don

OUTREACH SCHEDULE

DATE	EVENT	CONTACT
9/23, 10 am-?	Cub Scouts Pack 367— Little Elm	George Sprague
9/24, ?	YMCA Rocket Launch— McKinney	George Sprague

OTHER DARS EVENTS SCHEDULE

DATE	EVENT	CONTACT
1st Sat. of each month, 1pm-?	DARS Club Meetings	Don Magness
12/9, ?	DARS Potluck Lunch	Don Magness

Below—Two ads from premier model rocket companies, both members of DARS. I haven't been to a club meeting where they didn't have some of their kits available. Plus they usually bring in finished models of their latest issues. No company supports DARS activities like they do. Want that support to keep coming, buy some of their kits! You'll be glad you did. They both have some fantastic rockets!

Tired of flying the same old rockets?
Ready to try a kit that doesn't just fly great, but looks cool too?
Then check out the selection at
www.squirrel-works.com

THE SQUIRREL WORKS
MODEL ROCKETRY

Below—Sadly, the photo of Squirrel Works mascot, Shelby, didn't make it into Sport Rocketry, along with a number of other photos, so here she is! Photo by James Gartrell.



Red River Rocketry™
FLYING MODEL ROCKETS
Rocketry Is Our Passion!
• Original Designs
• Laser Cut Fins
• Water-Slide Decals
Order Your Rocket Kits Online Today!
www.redriverrocketry.com



UPSCALE CLASSICES
www.hawkshobby.com

"Just Lookin' To Have Some Fun!!!"

DID YOU KNOW?

DARS website has been going through some major upgrades. If you haven't visited the site recently, you really need to check it out. The new calendar is my favorite. It lists everything that's happening at DARS, from outreach events to upcoming launches, and is easily navigated to see what's happening on a daily basis during each month. That's a big help planning activities around DARS events. Find out when the next outreach event is scheduled and go lend a hand. You'll be glad you did. I guarantee! Lots of new photos of recent events are included on the site, and links have been updated, including links to vendor sites who have recently contributed to DARS events. There's lots more, too.

This newsletter is also going through some changes, now that it's online. I will be learning to imbed links in the articles and vendor ads, allowing readers to "jump" to other websites with info related to the article or to check out vendor products. I'm sure you'll notice other changes, too, as I become more adapted to the online environment. Stay tuned!

HobbyTownUSA
Dallas, TX
Best Rocket Selection
In The Metroplex
10% OFF FOR DARS!



214-987-4744
8041 Walnut Hill Ln #870
Dallas TX 75231
Next to Dave & Busters

DARS Officers

President	Don Magness
Vice President	Royce Frankum
Treasurer	Suzy Sprague
Secretary	Terri Magness
NAR Senior Advisor	Annie Scheidemantle

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.

Meetings are held in Plano, TX at:

Plano Late Night Bingo
 1805 Ave K (18th and K St.)
 Plano, TX 75074

Exit off Hwy 75 to East Plano Parkway (just north of George Bush Turnpike—Hwy 190) and go east, turn left on K St., and turn right into the shopping center just north of 18th St.



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

Dallas Area Rocket Society
(“DARS”)

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