



Spirit and Opportunity

By James Gartrell



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

Special points of interest:

- Check out the new vendor list on the back page. Links are provided for you to jump to your favorite rocketry vendor and discounts available to DARS members are noted. All of the listed vendors have recently contributed to DARS events. Also, a new ad from Art Applewhite Rockets has been added to page 7, with an announcement of a 20% discount to DARS members. Woohoo! Our biggest supporters are DARS members: Hawks Hobby, HobbyTown USA, Red River Rocketry and Squirrel-Works. Our vendors are supporting us, please support them.
- Stuart Powley provides another fantastic build article for one of Estes' newer semi-scale rockets. Page 2.
- DARS' youth are highlighted in the Center of Pressure. Page 4.
- Want to find the latest info coming from the vendors? It's all available for you on Page 6.
- Your vote is needed on an important issue. Also, access a tube transition calculator to build your shrouds. Did You Know, Page 7.

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View from Spirit's Overwintering Position Photo courtesy of NASA/JPL-Caltech

I downloaded the above photo from the Mars Exploration web page on the JPL web site, a photo of the Martian landscape that might be easily mistaken for scenery somewhere here on Earth. I fear this may be the last photo we receive from Spirit. It is to be shut down, hopefully to be brought back up again at a later time. No, the rover didn't finally succumb to the harsh Martian environment. In fact, it still has the capability to continue its exploration activities. The obstacle to its continuance isn't even on Mars; it came from Earth.

Spirit and its twin rover, Opportunity, landed on Mars in January 2004. They were initially expected to explore Mars for about three months. Yet, they have far exceeded those expectations. For over three years we have received amazing photos and geological data sent back to us from Spirit and Opportunity as the twin rovers methodically scoured the Martian landscape for information about the possibility of water on Mars. Numerous problems were encountered over this lengthy time frame: dust that accumulated

on solar panels had to be removed, wheel problems had to be fixed or worked around, and the usual technological hurdles of operating something millions of miles from Earth had to be solved. After all, if one of the rovers has a problem, it isn't like you can just have them stop by the local mechanic's shop for an overhaul. Yet, somehow, scientists and technicians have solved the problems and kept the rovers operating more than three years beyond their life expectancy. The rovers have certainly lived up to their names.

Despite all of their successes and all of the obstacles they've overcome, there was one obstacle the rovers could not go around. The team was out of tricks to pull from their magic hats as NASA needed to trim \$4 million from its budget. Sadly, the Mars Exploration Rover Mission took the hit. So Spirit will be shut down until possible funds come back to the program, and even Opportunity will continue its activities on a limited basis. When something is going so right, it seems so wrong to shut it down. Washington sensibility, aargh!

Building The New Estes D Region Tomahawk

By Stuart Powley

Estes released their original D Region Tomahawk in 1985. It was a 35.5 inch long beauty with balsa fins and a body wrap decal for the forward details. It was 1.637 inches in diameter. I built one for a contest in the late 80's, and although I don't remember what I placed, I do know that it made the cover of "American Spacemodeling," so that was cool. Estes kept the model around until 1987, when it vanished without a trace. It was a surprisingly short run for a nice scale model.

Flash forward to 2007. I was wandering through Hobby Lobby, just kind of looking at what they had and I spotted a fairly large package hanging among the Alphas and Nova Payloaders. It seemed that Estes had re-released the D Region. I looked a bit closer and was taken aback by the price. At 34.99, it seemed that they had finally lost their minds. I mean, this was a nice enough model, but I remembered nothing that would warrant that kind of a price tag. The large words screaming "E-Engine Power!" just made me think, "So what?"

Then I actually picked it up. The first thing I noticed was that this was a hefty package. When I flipped it over, I saw why. There was no balsa in this baby at all. Everything (other than the body tubes) seemed to be heavy plastic. The downside was the weight. The upside was the detail. These plastic fins, nose section and fin can where beautifully molded with all kinds of screws, facets, and seams that were only hinted at on the original release. Now the price seemed a little less outrageous. The 40% off coupon in my pocket made it downright reasonable, however, so after a quick financial consult with the wife, I went for it.

I took the model home and opened the

This is a scan of the package art from my D-Region Tomahawk, Kit #2037, the new release. Stuart reproduced this model nicely. Editor.



package. The parts were all first rate, and the instructions were logical and well illustrated. I took them out to study them better, and then promptly forgot about the whole project. I had a few of other projects (my upscale Vector V, and my LOC NORAD "Guard Duck" to name two) that totally distracted me. It wasn't until March of this year, when I was having heavy withdrawals from lack of flying that I took the package out and began sticking the parts together again.

The first thing I noticed after almost a year was that those logical, well illustrated instructions were now history. I have absolutely no idea what I did with them and even after looking around the house for several hours, they steadfastly refused to show up. Still, the package said that this was a skill level one bird, so I trudged ahead. Actually, the loss of the instructions made me realize a fairly significant scale error, but more on that later.

Since most of this model is plastic, step one involved buying a tube of Testors cement. I've used both the tube and the thin brush on stuff, and despite other people loving the brush, I tend to stay with the tube. I guess I like the way it stays right where you put it, and the fact that I've been working with it for about forty years now. As long as you stay away from the low fume stuff, you can't go wrong (if you follow the directions).

Without instructions, I had to figure out exact how this bird went together by myself. Although the kit is, quite correctly, identified as "skill level one," it uses a locking system for the engine that is a little different than on other models. Because of the plastic fin can, the D Region has an integral twist ring instead of an engine hook. I

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wanted to be sure that I didn't glue something to something that was wrong, so I went to Essence Reviews and looked at a write up on the model. Although it didn't explain everything step by step, it did let me know that the top centering ring went on the very top of the snuffer tube and how the bottom ring worked with the twist ring. I stuck everything together before gluing to check the fit and then started building.

I noticed that all of the parts were really well made and fit together quite well. I disassembled my unglued bird, applied glue and before I knew it I had a completed model. This thing goes together FAST. I was actually looking for something that I forgot to finish because it just seemed too easy. The only modification I made was that I drilled a small hole in the top centering ring and attached sewing elastic (NOT the "Estes rubber band") for the shock cord. I have never really had an Estes style mount fail (just the cord break) but attaching the cord to the centering ring gives the parachute more room, and makes the model easier to prep.

Speaking of prepping, this model is a breeze to get on the pad. The twist ring engine retainer means that you just pop in the motor, twist on the ring, insert wadding and the chute and you're ready to go. On the other hand, I'm not real thrilled about the appearance of the twist ring. It's curious to have something so obviously "not scale" on a scale bird. In addition, it kind of looks like it came from another model, and was recycled for this bird. The model displays well without it, though, and I guess in flight it really won't detract much. Still, I was tempted to substitute a regular, less obvious, engine hook.

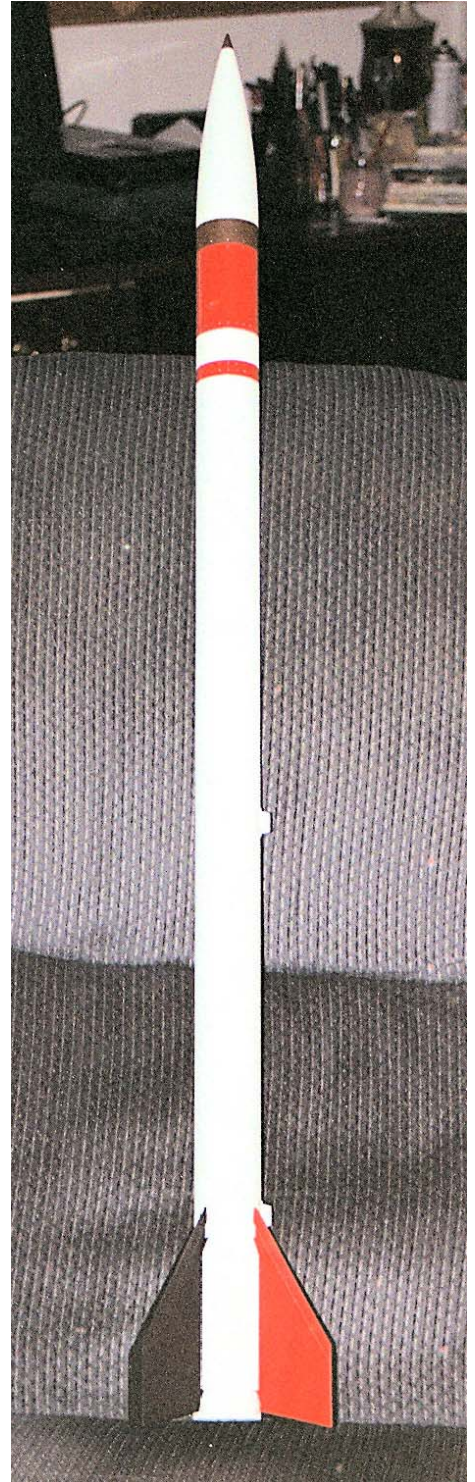
This brings me to finishing the D Region Tomahawk. Since I didn't

have the instructions, I went to my bookcase to see what colors to use, etc. I found an old *American Spacemodeling* article by Bob Biedron, and a reference in my *Rockets of the World* book by Peter Alway. The thing that struck me was that, to quote from the magazine, "The paint pattern used for flight 12.08GT was straightforward and the vehicle bore no visible markings." Huh? What about those really cool waterslide decals that Estes had included? I then looked at the Alway book, and sure enough, the illustration showed no markings at all. I was therefore forced to surmise that although the enclosed "Thiokol" and vehicle specs decals are really well done and nice looking, they are fiction. Unless, of course, Estes has additional documentation that I don't know about, they just dressed up the model on their own. I decided to go with my sources, and leave the decals off. I also learned that the trailing edges of all the fins were painted red and that although the screws on the nose are silver, the ones on the fin can are painted white. All colors are flat, by the way.

I used regular spray paint for all of the paint. I looked at five different stores for flat red paint, but it doesn't seem to exist. Therefore, I went with gloss, hit with a coat of dull clear. I used a toothpick to apply the silver for the screw heads and ring on the nose, and those red trailing edges on the fins. The results were, if I do say so myself, rather striking. By the way, I noticed one more small problem. The rocket on the face card of the packet has the nose cone painted red all the way to the shoulder. In actuality, there is a small white band before the shoulder. Those articles really paid off!

All in all, I think that Estes has a winner with the new D Region Tomahawk. The picky points of the non-scale engine ring and included

decals don't detract from a solid effort, and all of the really cool molded scale details more than make up for them. I haven't flown it yet, but I'm sure that on the relatively slow burning E9, this heavy bird will be impressive.



The finished model. Photo by Stuart Powley.

The Center of Pressure

By James Gartrell

DARS' youth are in the Center of Pressure this issue. We have some really great young modelers in our organization, at least in my opinion, so I thought it was past time to really celebrate them. Hopefully, these young rocketeers will be the future of DARS. I expect that they will most likely go through the whole phase of distractions most all of us did during our late teen years and in subsequent years, but if they stray away I sincerely hope they make their way back to the fold and lead DARS to an even brighter future. Some names may be more recognizable to you than others, but they are all first rate.

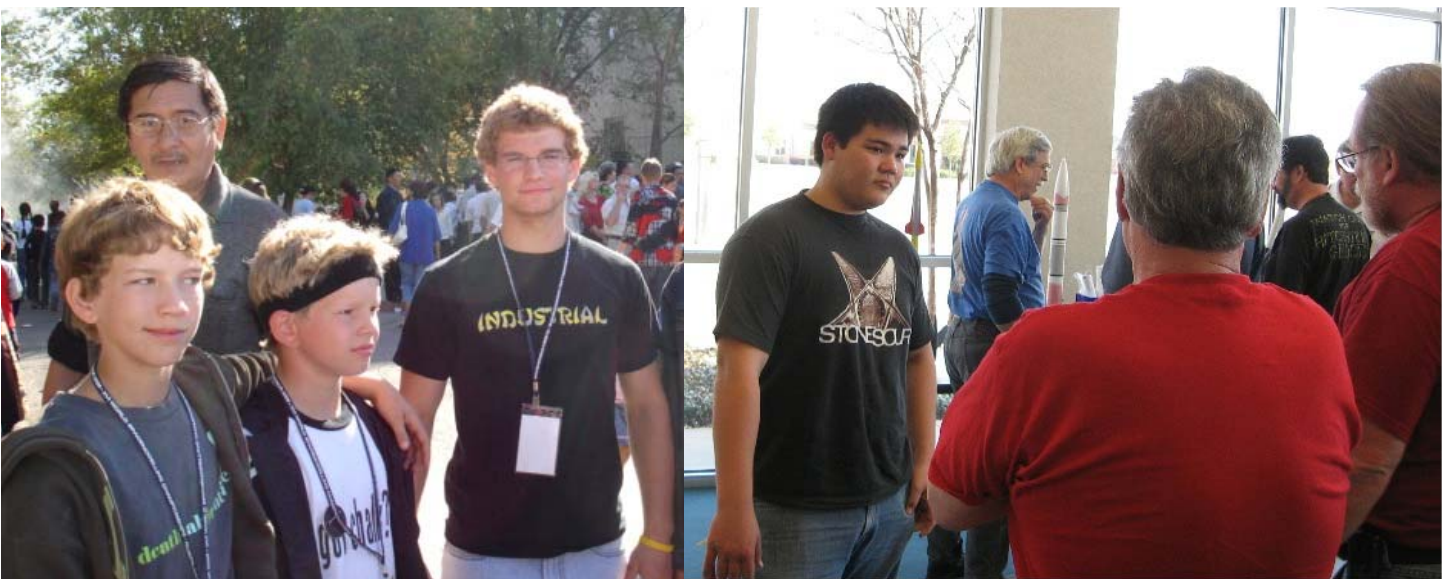
The Reynolds clan isn't seen at our launches as frequently as some of the other youth, but that's probably because they are getting ready for the next World Spacemodeling championship or catching up on homework because of their last event. Those of us who know them are very proud of Gib, Ben and George, but no prouder than their Dad, Tony. I wish I

knew them better. They are all first rate. As modelers, they can compete with the best of them and often do.

Most everyone has at one time or another met or seen our "extreme" rocketry expert, Shea Fehrenbach. He's been building and flying rockets for at least as long as I've been a DARS member. I've only seen his older brother, , a few times. He was off into other "teen" ventures by the time I joined the club. Shea has really hung in there, though. Watching him grow over the years has been fun. I always look forward to seeing what project result Shea might bring to the next launch. His H-powered Estes Patriot was probably the most extreme I can remember, taking an 18mm rocket to its limit. I know Rags is proud of both of his boys, but he's really been enjoying the time with Shea. All of us have. He has more sense and character than many adults I've known, and I count him as one of the finest high-power modelers I know.

Jarrod Frankum is a "chip off the old block." Royce must have passed along the rocketry gene because building and flying rockets comes naturally with Jarrod. He exhibited that with his Iron Rocketeer entry at NSL 2006, the High Five. On the field with a bag of parts sponsored by Squirrel-Works he built one of the most fantastic rockets you could imagine. Don and Terri were so impressed, they kitted it as one of their "Signature Series" rockets, only just released. It's awesome! You get a sense of Jarrod's humor, too, with all of the sayings that he put on the flight cards. The only thing more awesome than the High Five is Jarrod himself. He is a fine young man. Quiet, gentle, helpful, funny, and one excellent rocketeer, I always enjoy it when Jarrod comes to one of our launches. He is a first rate person. If you want to get him talking, just mention the Estes Patriot. He loves that rocket!

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Left—Ben, George and Gib (from left to right) taking in some sites at one of their competitions; I don't know the local behind them. If they decide not to be future DARS leaders, they might make great ambassadors! Being an ambassador for our hobby and our country is certainly something they know a lot about. Thanks, guys! Photo provided by one proud Dad!

Right—Shea, at left, at the 3/08 DARS meeting listening to Dad, far right, and Randy McDonald with his back to us. You can see some additional photos with Rags and Shea at: <http://www.ragsrocket.net/> Photo by James Gartrell.

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Dinner after the 4/07 McGregor launch with Jarrod, center, and Step-Mom Marissa barely in the picture at left. Notice the two thumbs way up from Jarrod. Ha! Photo by

Josh Briggs is another one of DARS youth I've watched grow up over the years. We are so fortunate to have such a wonderful group of young rocketeers in our midst. Josh is



Josh at the 10/07 Windom launch with a recently constructed rocket. Photo by James Gartrell.

certainly one of those. Quiet is the first thing that comes to mind when I think of Josh. On occasion he lets loose and you really get to enjoy the more boisterous side of Josh, but usually he is pretty quiet. Quietly placing in a rocketry beauty contest, quietly launching some awesome rocket he's just built, he will quietly outdo more than half the rocketeers on the field!

Our next young DARS rocketeer is Blake Gartrell. Despite the fact that he is my grandson, he is the finest young man I know and an excellent rocketeer. I truly admire and respect him. Blake built his first rocket at 9 years old, the Estes Super Shot from the starter set given to him by a friend of ours for Christmas, and then immediately began designing his own rockets. My favorite is the DSAM-D, an awesome BT-55 based rocket that is reminiscent of the Sunward "plane style" in some ways. The rocket is silhouetted on the front page of our website. Unfortunately, the rocket was lost before I got a good camera, so there are no really good pictures of it. Blake is another quiet one but, like Josh, can break out every once in a while with the outgoing personality we see more often at home. Always creative, Blake also designed several tools I use in the construction and prepping of my rockets. In many ways he is a much better rocketeer than I could ever hope to be. He won 3rd place in a NARAM event without really even trying, and it was the only event he entered. The Rubicon pictured in the photo landed on a rock on recovery and the fins just "exploded" from the rocket. He took some CA and put the thing back together on the field and had it flying again in ten minutes, and it flew perfectly! His modeling skills are further evidenced by placing a couple of rockets in the DARS Classic contest. I think it's fantastic that he's won events with rockets that are older

than he is! Unfortunately, other activities have taken him away from rocketry, lately. I hope to see him back again at some DARS launches. It isn't something he has totally given up on, so look for him at the next launch. He may be there!



Blake at the 3/06 McGregor launch with a beautifully built Estes Rubicon. Photo by James Gartrell.

As a matter of fact, look for any of the DARS youth at the next launch and stop by and give them a pat on the back. Stop and talk with them a few minutes and you might learn something, too!

Breaking Vendor News!

By James Gartrell

Squirrel-Works has released their newest kit in their Signature Series, the High Five, a BT-55 based rocket designed by DARS member Jarrod Frankum and featured in Sport Rocketry in the NSL 2006 coverage.

Red River Rocketry has released two new kits, the Payload-R and Slip-Stream, both very nice looking BT-55 based rockets.

Balsa Machining Service has released their newest Clone Kit of the Month, a reproduction of the old Estes Astron Invader. Wow! Imagine showing up at a launch with one of these!!! The parts are all laser cut and it is offered now at a price of only \$14. Don't pass up a deal. Order now!

A new rocketry father-son vendor, K and S Rockets, has joined the ever-growing ranks of model rocket companies. They have lots of new rockets you'll need to check out, and especially their newest release, Triple Insanity, a 3-stage BT-60 based rocket that looks awesome! Another of my favorites is the Wrath of Fire, a BT-60 based three-motor 18mm cluster rocket. It is currently listed as one of the prizes on the EMRR Odd-Roc photo contest. Enter the contest and you might win this fantastic rocket!

Also, Qmodeling has provided their new ISO kit, their first Qmodeling-designed rocket and soon to be released, as a prize in the EMRR Odd-

Roc photo contest. Get those pictures entered!!

If you haven't gotten your order in for your Semroc Golden Scout, you'd better get one in quickly. Semroc released the Golden Scout for the Sky of Gold celebration in honor of Vern and Gleda Estes' 50 years in model rocketry. Order your rocket, build it, fly it in July, and register your flight to receive a certificate signed by Vern and Gleda Estes commemorating your participation in the event. Fantastic!!

EMRR has a new Who's Who in Model Rocketry web page where you can enter a brief bio. It's a good way to find out a little more about some of the folks in rocketry you may have met online.

PRESS RELEASE

Madcow Rocketry: New product announcement February 13, 2008

Laguna Woods, California, USA – Madcow Rocketry is proud to announce the addition of 2 new scale kits to our 4.0" line. Both of these kits would make a fine addition to any arsenal that you can be proud of.

The Sea Wolf Missile System was developed for the Royal Navy to give small warships protection against anti-ship missiles and aircraft. The kit is 45.5" long, 4" in diameter and weighs in at 84oz. Kit features include; 38mm motor mount, durable black plastic nose cone, 12"x12" flameproof chute protector so no need for wadding, 48" rip-stop nylon parachute, 1/4" laser cut plywood fins and centering rings, 1/8" laser cut fin control cover facades, pre-slotted body tubes, 9/16" tubular nylon shock cord and Delrin rail buttons. Suggested retail price is \$119.95.

The Patriot Missile is the U.S. Army's most advanced air defense system. The 1:4 scale kit is 52.5" long, 4" in diameter and weighs in at 54oz. Kit features include; 38mm motor mount, durable white plastic nose cone, 12"x12" flameproof chute protector, 36" rip-stop nylon parachute, 1/4" laser cut plywood fins and centering rings, pre-slotted body tubes, 9/16" tubular nylon shock cord, Delrin rail buttons and a beautiful cut vinyl decal so you can dress your Patriot up just like the real one. Suggested retail price is \$94.95.

Madcow Rocketry offers a line of quality kits that are easy to build and fun to fly. Their kits are a great choice when you're ready to make that transition up to high power or if you want to build a rocket that's just plain old fun to fly.

Contact Info:

Madcow Rocketry

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Laguna Woods, California 92637

Phone: (949) 547-8847

Email: support@madcowrocketry.com

Website: <http://www.madcowrocketry.com>



DID YOU KNOW?

By James Gartrell

The latest "Model Rocketeer" included some info regarding FAI events. The newsletter contains this year's US Model Rocket Sporting Code (Pink Book) rules change proposals. The FAI group as a whole has submitted a rule change to incorporate S1A (A Altitude), S3A (A Parachute), S4A (A Boost Glider), S6A (A Streamer), and S9A (A Helicopter) as NAR events with appropriate provisions from the FAI Code so that you can fly normal FAI models for these events (with US contest-approved motors) in specific new NAR competition categories where all entries must comply with these rules. The FAI competitors see this as a start to bring FAI, the NAR and the rest of the World to competing with one set of rules. The US is the only country to have its own set of rules. The rule change is not an attempt to replace the current set of events but designed to allow those with an interest in FAI style competition to get a taste in their regular rocketry activities. It will also allow FAI competitors to fly FAI World Cup competitions with a complimentary NAR Regional certification. **All DARS members are encouraged to participate in this year's rules change cycle, and vote yes at least on this one proposal.**

This isn't new, but Doug Sams sent me a pdf that contained the formula for making paper shrouds for tube transitions. I took the pdf and put the illustration and formula into an Excel spreadsheet. The spreadsheet allows you to input the three specifications necessary for computing the dimensions required for plotting out the shroud onto a piece of paper. You can access the calculator on the DARS website, here: http://www.dars.org/Shroud_Calculator.xls

When you're needing to build a paper tube transition, it's a big time saver!

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is processed.

DARS Officers

President	Don Magness
Vice President	Royce Frankum
Treasurer	Cheri Sapp
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 ("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](#)

[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)

[Semroc Astronautics Corporation](#)

[Sunward Aerospace Group Limited](#)

[Aerotech Consumer Aerospace](#)

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

[CLE Enterprises](#)

[Excelsior Rocketry](#)

[Hawks Hobby](#)

[JonRocket](#)

[Mercury Engineering Co.](#)

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Dallas Area Rocket Society
(“DARS”)

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