SHROUDLINES

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Inside this issue:

Frank Di Cosimo captures some of the action at The DARS Fall Classic No. 9

Ignition!

By Gary Briggs

Welcome to *Shroudlines*! This is Gary Briggs, your new newsletter editor. I volunteered to take over from Stuart Powley so I have some big shoes to fill following his tenure of almost 5 years, 26 issues, and countless articles (actually I could count them, it would just take too long). Thanks to Stuart for all his contributions to the newsletter and I expect that you will still see his words gracing these pages from time to time. His new writing outlet is *Shroudlines* new sister publication, *Shroudlines...The Blog* at http://shroudlines.blogspot.com/. It will cover shorter topics, more in line with format, while the newsletter will cover more in-depth articles and more pictures. The pair should provide something for everyone to enjoy, regardless of your format preferences.

For those that don't know me, I joined the club somewhere between '98 and '99, when I got back into rocketry after a 20 year vacation. It was the usual BAR story where I was pretty active up to about age 14 or 15 and then girls, cars, and guitars took over, and it didn't seem as important anymore. Having kids is great for reminding you of what was really fun when you were growing up, and I came back to rockets pretty quickly once Josh was old enough to hold a glue bottle. I certified Level 1 in Justin, on a cow-field we flew off of for a couple of years (April of 2000), and Level 2 at LDRS 21 in Amarillo in July of 2002 (see Level 2 for Free). In 2005, Doug Sams and I started up The Fall Classic, and that has continued to this day. Along the way I have flown lots of model, mid, and contest rockets, with a few high power flights sprinkled in. I enjoy supporting the club where I can and this looks like the next adventure in that space.

I do plan a few changes to the newsletter as we go forward in format and approach, but nothing too drastic. Of course, it goes without saying (but I need to say it anyway), that *Shroudlines* lives and dies based on your content. It takes your efforts to produce the content that will grace these pages and it is the variety of the club member's experiences that will keep it interesting for others. Share your experiences, successful or otherwise, as these are great learning tools and interesting reading for everyone. But you say "I can't really write an article for print". I say "balderdash"... or something equally explicative. Everyone can contribute and as the editor I will help to smooth out any rough edges, the best I can, with my own limited skills. Got an idea, a launch report, a new technique, an in-depth study of thermodynamics and its effect on rocket flight...? It's all good! Send it to me and help me keep the newsletter fresh and active. I can't do it without your help...end of story...I will step down from my soap box now.

The final note on contributions will go right to point on encouraging participation, and that is bribes. Suzy and Stuart were cooking this one up before I took over, so I can't take any credit for it, but I hope to reap the benefits of content that it will provide. I am authorized to offer $5-$25 in merchandise from the Bob Wilson stash of goodies, for submitted and published content, and I will publish pretty much everything submitted. So don't miss out on this limited time offer, to be published and cash in on things that you know you need

In this installment we open with the Bill Gee's Something about motor mounts and retention. I pulled out the very 1st newsletter article I ever wrote (2003) that covers range duty for High Power launches. From there we take a tour of The DARS Fall Classic No. 9 to find out who were the winners and learn how making up the rules does not always play to your advantage. We have lots of pictures from The Classic this time, but we need more content. Come on...take the bribes.

Until next time....Yet undetermined tag line...
GB

Photo by Frank Di Cosimo

Bill's Something

By Bill Gee

The instructions for many model rocket kits tell you to apply a ring of glue to the inside of the motor mount tube and use an old motor casing to push an engine block (also known as a thrust ring) into place. Then they say to immediately remove the casing to avoid gluing it into the tube.

If you haven't already noticed, AeroTech has been making a perfect solution to this problem for quite some time. A used 18mm or 24mm single-use composite motor casing can be used in place of the paper black powder motor casing; that plastic tube will not stick to white or yellow wood glue as long as you remove it before it is well on its way to drying. If you do not use AeroTech motors yet, people who do will be glad to give you their used ones, so ask. Or buy a couple packs of the Estes "Mini to Standard" and "Standard to D" engine adapters. They come three to a pack so you can dedicate one of each to your workbench for thrust ring installation duty. A third alternative is to coat the end of your black powder motor casing with some thin CA glue (not white or yellow wood glue!) and let it dry thoroughly to make a goof-resistant tool.

Those who do a lot of building may want to consider wrapping some 1/4" wide masking tape, commonly available as quilting tape at some craft stores, around one end of the casing to form a lip so that the thrust ring is automagically in the correct position when the lip contacts the end of the motor tube.

While your attention is on the thrust ring, take a few seconds to coat its inner surface with a little bit of glue. It gets plenty of abuse from ejection charges.

Speaking of those Estes motor adapters, there have been reports that Quest motors, which get hotter in use than those from Estes, have a tendency to melt the plastic. Consider yourself warned.

And while on the subject of AeroTech motors, the forward end of the motor hook in a typical 18mm or 24mm mount is usually a little too long and will interfere with the ejection charge housing of many composite motors. If you think you will ever want to fly the rocket with APCP power, take a little time to shorten the forward end of that hook with a hacksaw or file as you build. While it is possible to file the hook down in a completed rocket, be prepared for a frustrating experience.

With hacksaw already in hand, I also cut off that finger tab from the other end of the hook. It is often big enough to protrude into the exhaust jet of a 13mm motor and cause the rocket to fly crookedly. And I have seen too many instances when that tab hangs up on a clothespin or the clip leads on the launch pad resulting in a "static motor test." Embarrassing for you; amusing for everyone else. Mostly, I just hate the way it looks. Smooth the cut edges with a file, then an emery board.

That said, you may not always want to install that thrust ring. Huh? Why not? After all, it serves a very useful purpose of transferring the power of the motor to the rocket. And if you use a motor hook or clip for retention, the thrust ring provides backup to the hook so that the motor tube is much less prone to tear from the force of the motor or if your rocket has a hard landing right on the hook and the motor.

The reason is that 24mm and 29mm motors come in a variety of lengths and there seems to be new ones every time I look. If you rely on the old-school philosophy of motor mounting, you will have to install the thrust ring deep enough (along with a hook long enough if you use one) to accommodate the longest motor you will ever want to use and remember to insert an appropriate spacer into the tube ahead of the motor almost every time you prepare to fly. This is not really practical as you will quickly realize when you see a foot-long six-grain CTI motor. If you insist, you will not be able to buy such extra long motor hooks; you can make your own out of that metal strip from your used windshield wiper blade refills.

Most composite motors have a molded lip or an aft closure to keep the motor from flying up through the motor mount. For those without, including all black powder motors, you can make one by tightly wrapping 1/4" wide masking tape around the nozzle end of the casing until you have built it up to the outer diameter of the motor tube.

If you do not use a hook to retain the motor in the rocket, you can do the same job with a few wraps of masking tape around that lip and the outside of the motor tube. When I build, I coat the back end

of my motor tubes with a little CA glue to protect them from peeling when the tape is removed; even though I usually use hooks for motor retention, I still wrap some tape around the motor and the hook for added insurance. If you prefer the convenience of the hook, you can make a standard one accommodate any length of motor by bending the forward end of the hook outward instead of inward, then trapping it between two centering rings around the outside of the motor tube so that it cannot move either forward or backward. A nice new solution comes in the form of inexpensive screw-on plastic retainers from Estes.

One final thought about motor mounts. White and especially yellow wood glue has a tendency to suddenly grab when it is spread thinly between two closely fitting surfaces as is the case when you are sliding a motor mount into position within an outer body tube. One way to avoid this problem is to use epoxy glue, but that requires mixing and special safety precautions (nitrile gloves.) I have found that Aleene's Tacky Glue is not so "grabby" despite its name; it is my choice for installing motor mounts as well as tube couplers and nose blocks. Tacky Glue is also very good for working with cardstock parts as does not shrink as much as white and especially yellow glue as it dries and it is less likely to soak into and wrinkle paper.

If you would like to discuss this further, post your comments to the DARS-General Yahoo group at http://groups.yahoo.com/group/DARS-General or Ye Old Rocket Forum at http://oldrocketforum.com where I like to hang around.

Range Duty for High Power Launches

By Gary Briggs

Range duty at a DARS High Power launch is a critically important volunteer activity. Without volunteer support of these functions launches cannot occur. And without launches rocketry just isn't as much fun, now is it? We also need to keep in mind that with many hands supporting these functions we can make the tasks smaller, shorter, and easier, giving everyone more time to fly.

Here is an overview of the types of roles and support positions that we have used in the past and will use in the future as launches get bigger:

Launch Director – The person responsible for organizing the launch and coordinating things like on-site vendors (food and rockets), making the call on field conditions, getting the gear to the launch and back home again (don't forget the port-a-potties), and the one asking for volunteers to support the launch.

Launch Safety Officer – Per DARS by laws our club VP is the de-facto LSO and the final authority on all safety of flight issues. They are responsible for keeping our hobby's safety record error free and are the person responsible for the flight waiver at high power launches. If the VP is not at the launch or needs to leave for any reason, they are responsible for ensuring a suitable substitute is left in charge. High power certification is required.

Range Safety Officer – This is the person on the microphone checking the skies, counting 'em down, telling you "HEADS UP" when things go ballistic, and letting you know when the range is clear to recover. High power certification is required

Launch Control Officer – This is the RSO's silent partner who does most of the hard work of ensuring the right pads are armed and selected and the buttons are appropriately pushed. Senior NAR or Triploi member, no certification is required.

Safety Check-In Officer – The person blocking your progress to the pads to ensure that your rocket is safe to fly. They check you CG and CP are appropriately arranged, your fins are staying on, your motor is staying in, your nose cone is not too loose, and they are also responsible for asking that all important question: "Did you put BP in the ejection well?" High power certification is required.

Pad Manager – This is the person asking you whether you need a rod or a rail and letting you know which pad to go to. No high power certification is required.

The DARS Fall Classic No 9. – Tales from the Sci-Fi Spectacular

By Gary Briggs
Photos by Gary Briggs, Frank Di Cosimo and Stuart Powley

The 9th edition of The DARS Fall Classic took place on a spectacular fall day, which was fitting since the theme was the Sci-Fi Spectacular. As usual planning for this year's event started in July and the first store flyers and website went up in August, giving competitors plenty of time to plan their strategy. A few years back, we started up the themed events, and I had written down a few that I knew that I wanted to do. They ended up being, the Salute to Centuri (2011), NASA (2012), and the Sci-Fi (2013). Sci-Fi presented some particular challenges as there were only a limited set of kits released in the classic era and there were only a few still available as kits from current producers, especially if you wanted to be able to tie them directly to books, movies, or a television series. I opened the rules up, similar to last year, to allow plastic model conversion (PMC) models, to try and build a bridge to more models in the genre, and also allowed Sci-Fi from any era to participate. As you will see, that produced some interesting results in the category, and of course we had the 2 standard categories of the Classic Classic and Upscale to fill out the events, and ensure there was something there for everyone.

This year again, we had tremendous participation from our sponsors, contributing over $625 worth of prizes to the event and making sure that the top competitors took home something very nice for their efforts.

The previous day had seen the passing of a cold front and some light rain scattered around the area. If the Frisco field saw any rain, it wasn't enough to really impact the conditions. The front did turn the wind around and put us on the north end of the field, which works out really nice for The Classic since we can park by the road and have the vehicles nearby for unloading. It did leave temperatures in the upper 30s for the start, and wind blowing from 5-15 mph, generally staying on the lower end and temperatures warmed to the 60's as the day wore on. After the wind event last year, this was really pretty mild, and it died down to nothing at the end of the day.

A bunch of classics ready for voting.

My daughter Alyssa joined me again for set up this year, and we were soon joined by one of the Cub Scout flyers, and shortly thereafter, by Jack Sprague driving Bob Wilson's 1970's era yellow Caballero (GMC El Camino) loaded with tables, EZ ups, and extra launch equipment. Now that's a classic, in so many ways. We were soon joined by Steve Taylor, Chuck Crabb and others, and the set up commenced. This year was different than the past several, in that we were not immediately inundated with competitors wanting to sign up while still setting up. Of course it really helped to have all the hands and have everything ready to go before it got too busy.

Stuart Powley was there early and helped me throughout the day to register and place models. This year he brought along a model for each event; an Estes Klingon Battle Cruiser for the Classic Classic and Star War vs. Star Trek, the scratch built Disney TWA Moonliner for Sci-Fi, and a MoreRockets.com Super Viper build of the Estes Battlestar Galactica Colonial Viper in Upscale.

Robert Vanover came out with a great selection of rockets for himself and his nephew William. Unfortunately William's day got scheduled with martial arts belt testing and another sports event, precluding his participation at this year's Classic, but he was still well represented. Since Robert is an avid high power flyer, he always has some great rockets in Upscale and this year it was his 1/3 scale Warehouse Rockets Nike Smoke. He also entered William's Upscale Aerobee Hi as well as his Model Missiles version in Classic Classic. (Robert flew the Upscale Aerobee late in the day, but unfortunately found the rocket eating tree, that claimed about 4 rockets for the day. Luckily Steve Taylor was able to rescue that rocket the next day) Robert also had an Iris in the Classic category as well. Their big joint project for this year was a Pemberton Technologies Space Ark from the Sci-Fi Classic film *When Worlds Collide* (1951). Robert also brought along the classic movie poster and said the he and William had watched the movie several times and hung up the poster in their build area for inspiration. I am sure they are building some great memories along with their rockets.

Other notables in the event included Chuck Crabb's Classic and Upscale Estes Cougars and a nicely finished, largely original, Mars Snooper II that took over 30 years to complete. This one was unique in that it shipped with black decals rather than the white ones we are generally more familiar with. Ted Macklin displayed an original Es-

tes Space Shuttle Columbia from a starter launch kit and had the original box too! Steve Taylor went wild with a set of PNC-50F nose cones and built most every rocket that Estes made with it back in the day; Starship Nova, Scout Ship Nova, and the Nimbus. He also went big with a Starship Nova in Upscale. Sam Barone entered a paper conversion of the Fireball XL5 ship, and Dan Smith represented the Battlestar Galactica franchise in the Classic category with a standard Colonial Viper. Chris Bender entered a nice Semroc derived Estes Trident which had a great flight later in the day. Bob Melton joined the *When Worlds Collide* fun, and brought along a Space Ark of his own. He commented on never wanting to use aluminum paint again after dealing with some the challenges that it presented on this rocket.

Although the range was ready at 10, things got started a little later as we had a large group of Cub Scouts needing assistance in prepping their rockets. Suzy Sprague, Sam Barone, and others worked with them to correct some build mistakes and help them get their very first rockets into the air. Jack took the LCO position and made sure that they all got to "push the button" on that first rocket. Classics were flown throughout the day, as well as the usual mix of model and mid-power rockets.

The competition began in earnest after 1:00 pm with the Star Wars vs. Star Trek event. I wanted to play off the rivalry between the 2

franchises, knowing that everyone has a favorite. I think the event size was challenged by a lack of current models to choose from, so what we got were 2 classics going head to head. Stuart Powley represented the Star Trek franchise with his reissue Estes Klingon Battle Cruiser. Vince Brach brought out an original Star Wars Darth Vader Tie Fighter. Stuart was up first, and after a nice boost, the Klingon bridge separated from the body due to the elastic shock cord burning through. The body spun in and spread itself across the field in a glorious death roll of Klingon carnage. Vince's Star Wars flight was uneventful with Darth Vader completing the mission as planned, but who would come away victorious? This event was voted on by club members and they have been known to sometimes enjoy carnage. In the end, Star Wars reigned supreme at this event and Vince took home the Mad Cow Rocketry Solar Express as well as a Star Wars glass and Star Trek mug from the Bob Wilson estate. Thanks for playing guys...

Over the course of the day, we kept the kids interested in the event with the Young Rocketeers Drawings. We gave away 13 items including rocket kits, gift certificates, and decals from Red River Rocketry, Sirius Rocketry, R/C Zone, and HobbyTown USA Dallas. The last item of the day was an Estes Executioner kit donated by R/C Zone. As the day goes on and the Cub Scouts clear out, it gets a bit more challenging to draw a name out of the box of someone who is still at the field. After several attempts, Jack suggested

we take the 4 remaining contestants and settle this school-yard fashion; with a game of Rock, Paper, Scissors. In the end, Phillip Souter took home the Executioner which is only a little shorter than he was. Be sure to come back and fly it with us Phillip. You can see all the results for the Young Rocketeers Drawings at the end of the article.

The Classic Classic led off the competition with a very interesting result; a 3 way tie for first place! The combatants were my Estes Alien Invader, Steve Taylor's Estes Starship Nova, and Dan Smith's Estes Battlestar Galactic Colonial Viper. Steve and Dan had both flown their models for points during the day, with Dan's Viper taking a thrilling turn to the north, and a near horizontal flight at about 100 feet. We decided to sort out the prizes amongst ourselves and luckily everyone had a favorite. I took home the ArtRocs X-Fire, Dan grabbed the Satellite Interceptor from R/C Zone, and Steve took home the Cosmic Interceptor from HobbyTown USA Plano.

Sci-Fi was the category I was most interested in this year. I liked the challenge of trying to make a good Sci-Fi model and for me that was going to mean PMC. Being a bit more of a Trekkie than a Star Wars person, I really wanted to do an Enterprise D or E PMC with a conversion similar to the original Estes one. My issue was that doing a large one would involve a $60 model and cutting some pretty offensive holes in it. They were also exceedingly heavy. I started looking around for other options and moved to the Star Wars Star Destroyers starting with the Imperial variety and the settling in on the relatively new Revell model of the Republic version from the

last round of movies. The conversion seemed pretty straight forward as it was roughly rocket shaped and I was able to simulate a version of it with a few tricks in RockSim. I did a spin test the weight in the nose and the motor installed and thought that I had it set.

Meanwhile my daughter was all about building a T.A.R.D.I.S (Dr. Who's flying call box for the uninitiated). Last fall our family started watching the new Dr. Who series and by now have seen everything made since the Dr. made his return in 2005. Since Squirrel works makes a

darn fine version of this, the selection of a model was quite easy. Anyone who has built one of these knows that they are an exercise in monotony. You do everything 4 times for the sides and decals. Alyssa powered through all of this and also learned how to use my air brush on the paint job.

On the day of the event, Alyssa went first in the flying category, although you could already see there were quite a few Dr. Who fans voting in the crowd. We got the model set with the long 3/16ths rod loaded up with a D12-3 and looked for a bit of lull in the wind. It took off quite well and didn't appear to be that affected by the wind, but then it rolled over and started heading back down, face first, and right at Chuck Crabb's pick up! Fortunately it ejected about 20 feet up and the 32" Dynastar parachute deployed enough to save it from major damage and missed Chuck's truck as well. We were all pretty shocked, as it looked pretty dire coming in. In the end it had a few character scrapes but still looked good enough to put back on display.

My flight was a slightly different story. In the conversion I made it so all the back end details could be easily removed to lessen the weight. It looked great on the pad and the wind was reasonable late in the day. I ended up using a dipped Copper Head in the E30 due to the small nozzle size. It came off the mid power pad nicely, but about 20 feet off the top of the rod it did a couple of summersaults before landing in the field, and then ejecting the chute. The only part that came off was the bridge section of one of the towers and other than a few grass stains, it was really undamaged. It will still make a great display model with an interesting history.

Unfortunately I had done myself in when I wrote the PMC rule last year and stated that PMC's had to fly and be stable to compete with the rockets. My reasoning was that a static plastic model on a table is likely to always have more detail than most rockets and will garner a lot of votes. This was the case with this model as it took the most votes, but was disqualified due to its poor flight characteristics. That left the door wide open for Alyssa and Dr. Who to win the Sci-Fi category and she took home the Mad Cow Solar Express model. Next up was Adam Amick with the Centuri Buck Rogers Draconian Marauder winning a 29mm Delta Saucer from ArtRocs, and third went to Stuart Powley with his TWA Moonliner winning a $20 Sirius Rocketry gift certificate . Upon further re-

view I discovered that I erred in giving Adam too many points for documentation on his model. Since it was in the Sci-Fi category the documentation needed was from the movie not the catalog. That would have tied him with Stuart and they can fight over the bragging rights. Also guys, I think rockets that have won prizes 3 times or more, need to be retired from competi-

tion. Let's keep it fresh, and don't make me write a rule...

Upscale is generally a battle royal and often generates the Best in Show model. We continued the participant tie theme this year with Steve Taylor's Starship Nova and Chuck Crabb's Cougar in a points dead heat. The tie breaker was bonus points, and since Steve flew the Nova he took second which got him a $25 gift certificate from HobbyTown USA Dallas. For 3rd place Chuck got a Red River Rocketry Blue Shift, which he said was the prize he was looking for anyway. First place went to Stuart Powley and his Battlestar Galactica Colonial Viper. Flight points were the difference here, putting him ahead even though it took 6 tries and motor change before he got it to go. Persistence pays off and gained him 1st place points in the Upscale category. The votes also gained him Best in Show for the event. He took home an ArtRocs Gold Cluster Saucer for the Upscale win and the Sirius Rocketry Eradicator for the Best in Show. I think the Eradicator is proving to be a popular kit as I saw 2 flying on the field that day.

There is always a big line of Thank Yous that go out at the end of this event. It starts with the sponsors that provide the prizes and keep the competition interesting. Keep them in mind next time you are looking for something. Once again they are Red River Rocketry, Sirius Rocketry, ArtRocs, R/C Zone, HobbyTown USA Plano, Mad Cow Rocketry, and HobbyTown USA Dallas. I would like to thank my daughter Alyssa for helping with the t-shirt graphics this year. She's really good with Photo Shop and is my go to resource when I can't figure something out. On the field thanks goes out to Alyssa, Stuart Powley, Jack and Suzy Sprague, Steve Taylor, Dan Smith, Chuck Crabb, and Sam Barone. Set up, tear down, and activities throughout the day would have been impossible without your help.

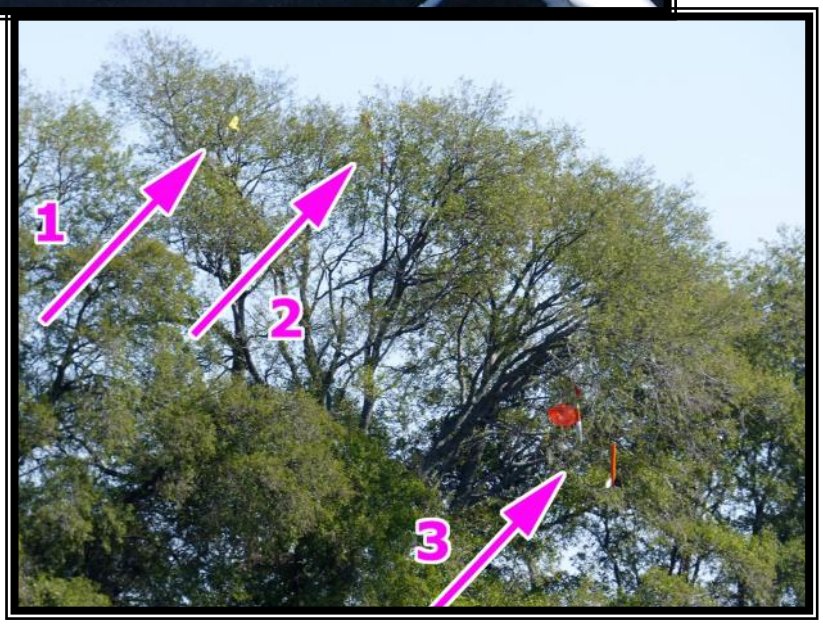
All in all, it was a good event. Numbers were down a bit with only 35 rockets (17 Classic Classic, 10 Sci-Fi, 8 Upscale) in the contest, but we had 17 competitors so everyone may have been a bit more focused on key models than previous years. Fifty five votes were cast throughout the day. I ask every year for your input to make the event better. Next year I really need some help since I am running out of ideas. Let's figure out something good for number 10.

The prize table loaded with goodies from our sponsors

Now on to the picture Spectacular>>>>>>>

Young Rocketeers and Contestant Drawing Winners

Sponsor	Prize	Winner
R/C Zone	Estes Executioner	Phillip Soutor
Gary Briggs	Quest Flics + Sirius Decal Sampler	James Burcham
RC Zone	Estes Magician	Avery MacIntyre
RC Zone	Estes Chrome Domes	Danny Francis
HobbyTown USA Dallas	$15 Gift Cert	Tred Sjavik
HobbyTown USA Dallas	$10 Gift Cert	Brinley Perkins
Sirius Rocketry	Decal Sheet 4 pack	Yuval Marom
Sirius Rocketry	Decal Sheet 4 pack	David Burcham
Sirius Rocketry	$20 Gift Cert	Caden Perkins
Red River Rocketry	Red Bolt	Maggie Hattan
Red River Rocketry	Red Bolt	Wesley Bender
Red River Rocketry	Little Scout	Roy Marom
Red River Rocketry	Red racer	Ayrton Smoak
ArtRocs	29 mm Original Saucer	August McBride



Clockwise from the top left: Dan Smith's Colonial Viper, Unidentified mid power rocket, the Sci-Fi and Upscale end of the table, the rocket eating tree, and the summersaulting Star Destroyer

Clockwise from the top left: Sam Barone's 3 motor SR-71, Alyssa Briggs' T.A.R.D.I.S takes off, Stuart Powley and his Best in Show Colonial Viper post flight, Steve Taylor's Upscale Starship Nova, Center: Viper before flight

Sci-Fi and Upscale models including the TWA Moonliner, 2 Space Arks, Upscale Starship Nova, Colonial Viper, and Cougar. Note the When Worlds Collide poster.

Lots of first time flyers and their parents launching rockets

The landing spot for the Republic Star Destroyer

How to Contribute to Shroudlines

We all share a love for the rocketry hobby and all have different experiences and expertise to share. You don't have to be a Pulitzer Prize winner to write for this publication. Anyone can do it!

Submissions can be in the form of plain text files, emails, or MS Word documents. Pictures can be of most any format, but .jpg files are generally the norm. Keep the content family friendly and free of political discussion; just rocketry.

We publish every 2 months so we need your content submitted by the 15th of an even numbered month (.i.e February 15, April 15, June 15, etc). You can submit via the contacts page on dars.org or direct to the editor at garyb2643@att.net.

Upcoming Events

11/16	**Monthly Model/Mid Power Frisco Launch**
11/17	**High Power Launch at Gunter**
12/7	**DARS Business Meeting—Coppell**
12/14	**High Power Launch at Gunter**
12/21	**Monthly Model/Mid Power Frisco Launch**

DARS Officers

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

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. and the current meeting location is in Coppell, just of the Sam Rayburn tollway and Denton Tap Road.

Visit the DARS website for the meeting location: www.dars.org

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Dallas Area Rocket Society ("DARS"

DALLAS AREA ROCKET SOCIETY 1972