

SHROUDLINES

A Dallas Area Rocket Society Production



Member of the
National
Association of
Roketry

Section #308



September/October/November 2014
Volume 23, Issue 5

What's Inside

Ignition!	1
Bills Something	2
The DARS Fall Classic X	3
The DARS Logo Story	6
The Checklist	7
Eggfinder	9
Parting Shots	11

David Smith's Mad Cow Torrent
rips into the September sky at
Gunter. This photo captured by
Nick Viggiano.



Ignition!

By Gary Briggs

I've actually been involved in more rocketry activities in November than any month since July this year. In addition to working on this newsletter, we held the 10th Fall Classic and I actually got to launch rockets on Thanksgiving day at the Sam Barone Mini Turkey Shoot. There is quite a bit more later in the issue about the Fall Classic, so my only comments here are that it is always a fun event regardless of the month or the weather. This year was more of a challenge than years past due to temperature and wind, but we got through and handed out a bunch of prizes to deserving competitors and a contingent of new rocketeers just getting started on their rocket Odyssey. Speaking of Odyssey, see Stuart Powley's recreation of that classic kit from the 70s later in this issue.

indeed. It took me back to a time when all rocket launches were small and just some friends getting together to put some rockets in the air and enjoy each others company. That is still really what this is all about. People sharing a



**Our host, Sam Barone getting his
Interceptor ready for the flight of the day**

Sam Barone had posted an impromptu launch idea on DARS General sometime during Thanksgiving weekend since his daughter was in town and she wanted to see some rockets fly. The final timing for the event ended up being Thanksgiving morning and it arrived cool but clear and windless. It was a pretty stark contrast to the launch earlier in the month and since my son Josh was home from college and I had the time off from work, it looked like a great day to fly rockets. It turned out to be exactly that, and although the contingent of flyers was small the fun was big

and get out of the house during that crazy anticipation time while the meal is created. It was probably more about showing her step sons about some of the fun she used to have with her Dad at rocket launches. Thanks to Sam for brining all the gear and to George Sprague and Josh for coming out and flying. More pictures can be found at the DARS photo [site](#).

For this 3 month issue, we cover The DARS Fall Classic X in words and pictures. Following the DFC article is a piece from club historian John Dyer that reveals the origin of the super cool DARS logo. Talk about history...This one really puts some perspective on the time when the club was created and what people and the country was dealing with. Next up is Chuck Crabb's article on a checklist that he has created for his electronics based high power flights. I know from personal experience that these are critical when the complexity and prep time goes up on a rocket. Following that is another electronics article from a new contributor Kirk Wood, discussing his experience with the new Eggfinder GPS system. We wrap it all up with some pictures from the past 3 months of rocket flying as we transitioned from hot to cold in Texas.

Enjoy!
GB

common interest and history, and getting together to share their experiences and have some fun. If you get all philosophical on it, its probably a modern example of a cave man hunting party or fireside chat. Whatever it is, its good for the soul and the psyche and is what keeps us coming back for more.

In the end Sam's daughter stayed home with Mom and worked on the meal, so they had their own bonding time. Husband Brent and his sons got to enjoy the rockets

and get out of the house during that crazy anticipation time while the meal is created. It was probably more about showing her step sons about some of the fun she used to have with her Dad at rocket launches. Thanks to Sam for brining all the gear and to George Sprague and Josh for coming out and flying. More pictures can be found at the DARS photo [site](#).

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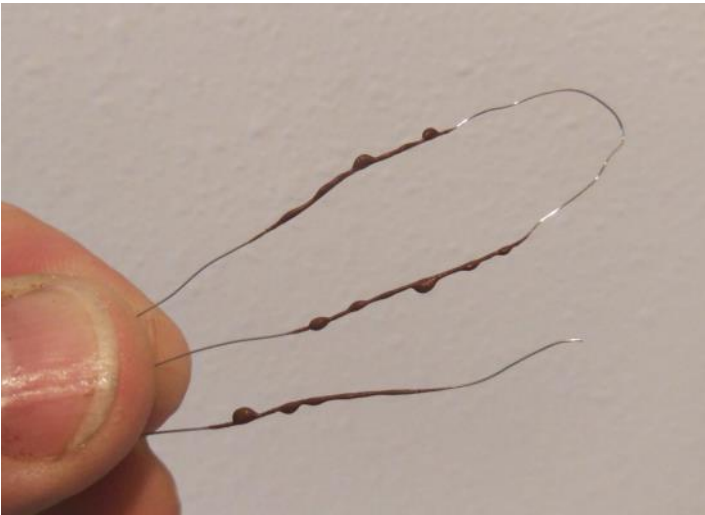
Bill's Something #11

By Bill Gee

Since the introduction of starters from Estes in place of igniters, there have been many reports of misfires. The Solar igniter has a pyrogen layer which flares somewhat like a match head when the launch button is pushed. The white coating on a starter is more like a glue or cornstarch; it supposedly protects the delicate bridgewire better than pyrogen, but does absolutely nothing to help the ignition process proper. I believe the secret to reliable ignition is to be sure the tip of the starter is in direct contact with the propellant within the motor.

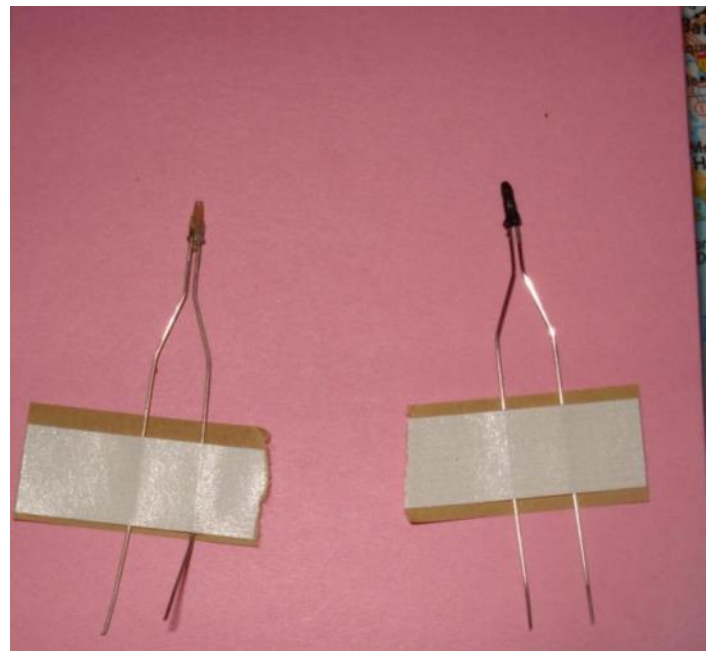
Knock on balsa wood, I am still batting a thousand with the starters so far. Maybe it is luck. Maybe it is technique. Maybe it is both.

In my original life as a rocketeer, an igniter was nothing more than a piece of nichrome wire with a thinner section in the middle covered with a bit of a blue flammable substance. It had to be installed in contact with the propellant grain in order to work; we were repeatedly told to push the igniter all the way into the nozzle.



Editora Note: The original solar igniter "3-pack". These had to be cut apart and were held in the motor with wadding. My favorite tool for this was the key from the launch system. Photo from Internet

hold the motor with the middle, ring and pinky fingers of one hand. Insert the igniter with my other hand and hold it in by continuing to gently push it into the motor with the index finger of my first hand on the ends of the wires. If I tried to push too hard, my finger would hurt from the wires poking into it, so I never pushed hard enough to damage the igniter or short the wires together. Finally, I stuffed a small ball of wadding into the nozzle with a toothpick to keep the igniter in place; the plugs we have today are easier to use.



Editors Note: Comparison of starter vs igniter. I have seen starters that looked much more white than this picture, but they probably vary somewhat. Photo by Sam Barone

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.

The procedure I had settled into back then was to

The DARS Fall Classic X: Classic All Stars

Words and Pictures By Gary Briggs

The 10th edition of the DARS Fall Classic was greeted with some of the coolest weather we have ever had coupled with a stiff breeze out of the southeast which made things that much cooler. Undaunted, 7 hardy souls competed with 25 rockets in this year's event.

The Young Rocketeers Drawing was as popular as ever this year, with donations from Red River Rocketry, R/C Zone, yours truly, and Roy's Hobby Shop. We did 2 traditional drawing for the event but then determined that we were likely going to lose most of the kids to an early departure due to the cold. Seeing that, and realizing we had just enough kits for the kids on the field, we decided to hand them all out at that time. Jack proposed a Rock, Paper, Scissors tournament to determine the order of mod-

el selection and threw in a couple of built models from his own stash. I captured the names of everyone and their kit prizes in the table below.

We held a contestant drawing late in the day which usually ensures that all the competitors go home with something. This year that wasn't a big issue, but it is still a good thank you for the competitors in the event. Below is the list of folks and what they took home in the contestant drawing. It was fitting that Jack Sprague won the 24 pack of C6-5s as he supports so many outreach events, so you can bet that some kids will get to use those motors.

This year's Classic Classic event pitted 6 contestants against each other with 13 rockets. Jack Sprague entered his 166 flight Baby Bertha and a modern classic in his Gargas Paradox from NSL 2006. George Sprague entered a nice Orbital Transport, a Trident, and 1 of 3 of his Astron Starlights, covering some great Estes models. Chris Bender also entered another Trident making the voters choose between the best. I entered a rare Estes classic (a Estes Aerospace Club Firecat) and 3 Centuri models (a Mach 10, X-24 Bug, and Centurion). The voting was close, but in the end the Mach 10 came out on top earning it the Art Applewhite 29mm Delta Saucer. In second place was George Sprague's Trident, followed closely by Stuart Powley's Odyssey. George took home the Sirius Rocketry Decal Pack and Stuart got the Red River Rocketry Aggressor model.

In All Star it all came down to flight points. Stuart and I were tied late in the day on votes between the USS America and last year's Best in Show winning Battlestar Galactica Colonial Viper upscale model. Stuart opted to fly the Viper to settle this and I even traded him the D12-3 he needed to make the flight. The "up" part worked quite well with the model weather cocking into the wind from the south. At ejection, the force pulled the parachute/shock cord attachment completely off the nose cone, letting the model free fall from altitude. It fell pretty flat but still managed to separate one fin and both of the laser cannons from the model. It's all repairable, and for his sacrifice Stuart took home the very cool Sirius



Classic Classic 1st place winning Mach 10 and an EAC Firecat in front of George Sprague's Starlight in All Star.

Rocketry S.S. Cestris model. Late voting put my daughters Dr. Who Call Box ahead of my USS America, winning her the Sirius Rocketry 18mm Interrogator, and a Red River Rocketry Aggressor for me. Interestingly, both Alyssa's and Stuart's models were category winners in last year's Sci-Fi event. The USS America had previously placed 2nd in the 2011 Centuri Starship event and 2nd in 2012's Classic Classic. George Sprague had 2 Starlight's in the All Star event; a standard sized one and a 29mm upscale which had both previously place in 2009 event which happened in December of that year. It was great to have the event timing work out so that George could participate this year.

This was the lightest Upscale event in many years. The contestants were George Sprague with a 24mm Starlight, Stuart Powley with an upscale Scamp, and Chris Bender with his very cool Cherokee-I and a fantastic upscale Satellite Interceptor. This model really looks great in upscale configuration and I really look forward to seeing that one fly in Gunter. Stuart took 3rd with the Scamp and won a Red River Rocketry Slipstream for his entry. Chris took the top 2 places with the Cherokee-I taking the Art Applewhite 18mm X-fire, and the Satellite Interceptor taking home an Art Applewhite 29mm Cinco Saucer. As usual, best in show was once again won by the winner of the Upscale category. For being the best in the event Chris took home an Aerotech Strong Arm from HobbyTown USA Plano.

After 10 years of Classics I can now reveal the secrets that usually result in prize winning models. The first thing that you have to remember is the event is voted on, not judged, and the voters are primarily children with no knowledge of a models provenance. That being said bigger is generally better proven by the fact that Best in Show almost always comes out of the Upscale category. The next tip would be that jet and space ship inspired models will always fair better than most 3FNC models. The one exception to that rule may be the Der Red Max which continues to be a very popular model and can sometimes compete with its more complex competitors probably due to the next tip. Another tip that I would provide is decals; more is better most of the time. Bonus points, when available, can make the difference, so should be taken advantage of. More often than not,

places are settled by a single vote, so bonus points can be just the points you need to separate yourself from the pack.



Stuart's Colonial Viper takes off and wins the All Star competition but the landing was a little rough.

So there you have it. The Thank You's here are always very important as it takes a lot to put this event on. It starts with the sponsors who provided us with over \$550 worth of prizes this year. They were Red River Rocketry (John has participated all 10 years), R/C Zone (Al has been with us 5 years), HobbyTown USA (Pete has supported us for 4 years), Sirius Rocketry (David has been supporting us for 3 years), Art Applewhite Rocketry (Art has participated the last 2 years), and Roy's Hobby Shop (new this year, now under the new ownership of Al Cannon, owner of R/C Zone). They continually amaze me with their generosity. Thank them with your patronage.

Thanks also to Jack and Suzy Sprague for bringing out the tables and EZ Ups and for putting names on

this year's certificates. Stuart Powley has been the go to guy for the past several years on the field, helping to register rockets, taking pictures, delivering t-shirts, supervising the stand and many other things. Sam Barone is always helps out in some way and provided an extra table for this year's event as well as running the launch most of the day. My daughter Alyssa helped out again this year with the graphics on the t-shirts and helped set up and organize in the morning. I will also put a plug in for our t-shirt supplier for the past 5 years, Jeffware. They have been easy to work with, provide a high quality product at a reasonable price, and have delivered on time as promised every year.

So there you have it. 10 years of Classics completed. Thanks to all who have participated and have made this a fun event for all.

Editors Note: More pictures in the Parting Shots section of the newsletter. Even more pictures can be seen at thedarsfallclassic.shutterfly.com.



Chris Bender's awesome upscale Satellite Interceptor, Best in Show

Young Rocketeers drawing prize winners

Prize	Vendor	Winner
Estes Hornet	Gary Briggs	Cole Anderson
Estes C6-5 Bulk Pack	RC Zone	Cub Scout Pack 1290
Estes Nova Payloader	RC Zone	Audry Gillespie
Estes Chrome Domes	RC Zone	Chace Williams
Estes Quark	RC Zone	Tristen Simmons
Lil Scout	Red River Rocketry	Michael Miller
Lil Scout	Red River Rocketry	Wesly Bender
Lil Scout	Red River Rocketry	Brecker Soran
Lil Scout	Red River Rocketry	Chace Williams
Lil Scout	Red River Rocketry	Casey Bender
Estes Patriot	Roy's Hobby Shop	Cooper Dillingham
Quest Astra	Roy's Hobby Shop	Mason Baxter
Estes Swift	Roy's Hobby Shop	Danny Francis

Competitors drawing prize winners

Prize	Vendor	Winner
Dragonfly Monocopter	ArtRoc	George Sprague
18 mm Helix	ArtRoc	Chris Bender
18 mm Bi-Oc	ArtRoc	Sam Barone
Estes C6-5 Bulk Pack	RC Zone	Jack Sprague
Delta Syx	Red River Rocketry	Alyssa Briggs

The DARS Logo Story

By Club Historian John Dyer

In July I was able to talk to our newest "Old" member Richard Gargus about the DARS Logo. Many years ago Allen Wilcox told us that Rick designed the logo and then was killed in the Viet Nam war. The actual story is a bit different and more interesting than Allen's version.

Rick's brother Roy Phillip Gargus (went by Phillip) liked to doodle and came up with the transverse cross delta design. When Rick saw the design he liked it so much that he decided to work it into a logo for the club they had just formed. He decided to add a rocket to the middle of the logo, symbolizing force versus drag. He then (with input from others in the club including Allen Wilcox) added the circle, lettering, and blue background.

The DARS Logo was born.

Phillip went on to be a medic in the Viet Nam War. He was killed trying to save another US soldier from his platoon who had been wounded by gunfire from a Viet Cong machine gun nest. The soldier he was trying to save had a grenade launcher – Phillip tried to use the grenade launcher – firing it at the machine gun nest, but he may have missed. The nest turned their machine gun on him, fired, and he was killed. His bravery earned him the Silver Star (posthumously awarded).

So the next time you look at our logo, think about its history and how it was created. Hopefully the logo will instill a little more pride and appreciation in one of the oldest rocket clubs in Texas.



The Checklist (or How to Have a Ballistic Recovery)

Words and Pictures by Chuck Crabb

After have a less than nominal flight at the September HP launch due to operator error, I realized my checklist was woefully inadequate. To correct this, I did a dry run of prepping a rocket for launch, and created a new, more thorough checklist to help reduce to possibility of having another occurrence of turning this



Into this.....



Also, I don't want to have to replace electronics again.



The particular error on this flight was a failure to arm the altimeters. A suggestion from Chris Bender was to tape the igniter to the altimeter bay on dual deploy rockets, which I have included in this checklist. I have also added a "Remove Before Flight" tag step to the rocket prep as a reminder to arm the altimeter. This can be a pull-pin type flag or something as simple as a streamer of bright material taped to the side of the rocket.

Also included in the new checklist are steps that I already did, but didn't actually document, like: check igniter continuity, check battery voltage for altimeters, motor and delay information, and ejection charge size (both motor fired and altimeter fired). While this checklist is geared towards a High Power dual deploy flight, it can easily be used for a model rocket by crossing out the sections that do not apply.

For my use, I have several copies printed out that I

keep in plastic sleeves that I can use a dry erase marker to write everything down. Alternatively, a copy could be made for each flight to use as a flight log, and to record any notes about the flight. For instance, whether deployment happened pre- or post-apogee would be useful for adjusting delays, or altimeter data could be used to refine simula-

tions.

While this checklist is subject to continuing modifications and improvements, it is presented here as a starting point if you don't have a checklist of your own.

FLIGHT CHECKLIST

Rocket Prep

Chute(s)/Streamer

- Present? Drogue Main
- In good shape (holes, tears, burns, etc.)? Drogue Main
- Are quick links connected? Drogue Main
- Packed correctly? Drogue Main

Wadding

- Present? Drogue Main
- In good shape (holes, tears, burns, etc.)? Drogue Main

Shock Cord

- Present? Drogue Main
- In good shape (holes, tears, burns, etc.)? Drogue Main
- Are quick links connected? Drogue Main
- Folded & taped?

Siren

- Installed?

Motor Prep

Motor _____ Motor retainer – Installed

- Delay - _____s
- Ejection Charge - _____g
- Cap/Tape

Igniter Resistance - _____Ω For HP flights – tape igniter to fincan
 For DD flights – tape igniter to altimeter bay

DD Flights

Altimeter(s)

- Primary _____
- Installed
- Connected - Drogue Main
- Battery - _____V
- Switch
- Remove Before Flight tag – Installed

Back-up

- Installed
- Connected - Drogue Main
- Battery - _____V
- Switch
- Remove Before Flight tag – Installed

Ejection Charges

- Drogue – Primary _____g Backup _____g
- Main – Primary _____g Backup _____g

Shear Pins - Installed

Flight Notes

Eggfinder GPS Tracking System

By Captain Kirk Wood

Having had a rocket teleport out of sight and spending two fruitless hours looking for the thing, I knew I didn't want to repeat the experience. Since my birthday was coming up, I asked my wife for an Eggfinder for my birthday. This is a small GPS unit that transmits its location every second. There is an option to use a receiver that plugs into a USB port, though I chose the option for a stand alone receiver with an LCD readout.

This doesn't require a HAM radio license, but is only available as a kit. It uses 900 MHz band for communication. Because I didn't have a small soldering iron, I bought a small 15-watt iron from Radio Shack. It took about 2.5 hours to construct working intermittently. Mostly of the parts are surface mount, but if you have soldering experience it isn't too bad. I found it did help to use a magnifying glass over my work.

After assembly I experimented seeing how far the signal would be received. I found I could get about half a mile in the open. If you do lose signal, it will pick up when you come back into range. When the rocket launches the GPS will lose its lock, but it will pick up soon after the parachute deploys. The signal includes the altitude, but it should be noted that it takes awhile for the GPS to adjust its reading and the rocket will have lost considerable altitude before the display catches up.

The real test came with my high power certification flight. While many like low and slow, I have a love of seeing a rocket shoot out of my range of sight. While building my level 1 rocket, I put a tube to hold the tracker into the nose cone and foamed it into place. I then build a sled to hold the tracker in the tube. On launch the rocket went to just under 2400 feet. Someone did spot the rocket under parachute, though I never picked it up. I placed the coordinates into my iPhone and went to the location indicated. When the phone said I was 38 feet away I was standing over my rocket. In my particular case there seems to be a consistent variance between my phone and the rocket's reported location.

All in all, it was quite nice to not have to keep constant track of where the rocket fell. And since my birthday surprises also included that someone found

the rocket that had teleported out of sight three months earlier, I will be launching that one into the skies soon as well. Next up is dual deployment so the walk isn't as far.

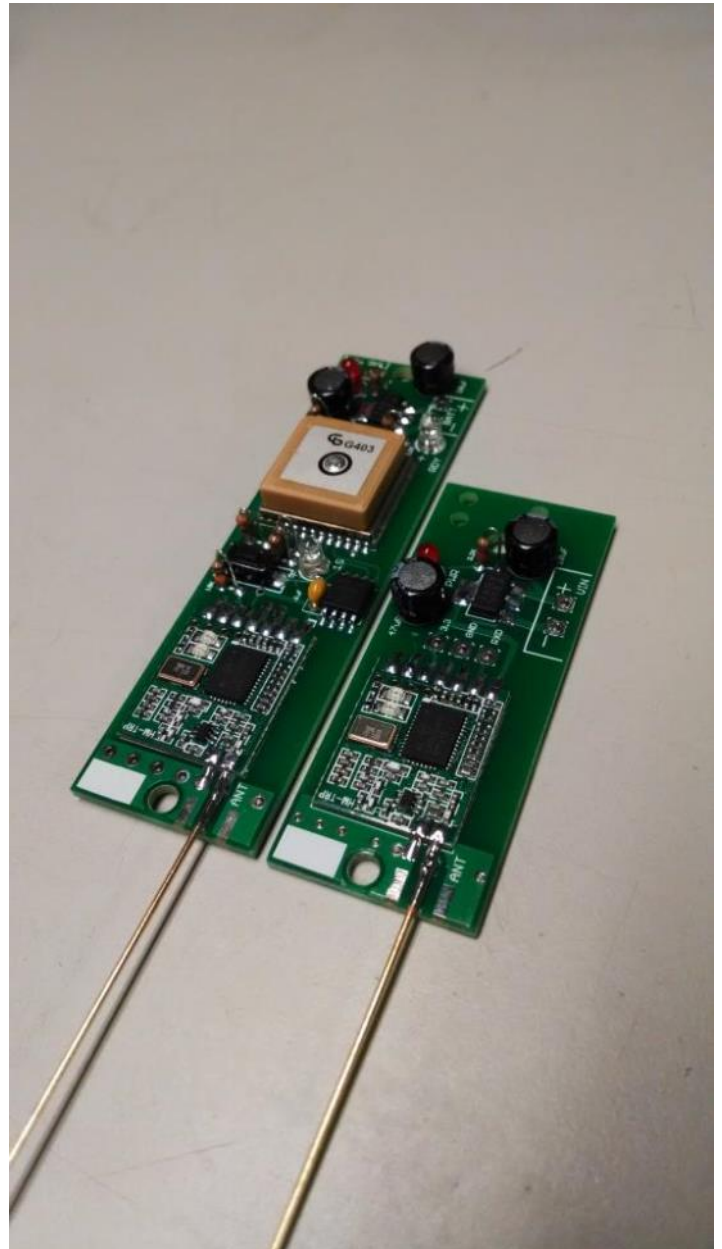


Photo from Rocketry Forum member Landru.
Tracker left, receiver right

Use Your DARS Card and Save Money—Member Discounts



8.25% Discount on the field and at meetings

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PLANO NOW @ 75 & PARKER

10% Discount on all rocketry related items.
Lots of kits and motors from Estes and Aerotech

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The Dallas store carries Estes, Quest, Aero-
tech, and PML kits with a great
selection of Estes and Aerotech motors.



Additional 5% discount on regularly stocked mo-
tors. Enter DARS in the coupon field at check
out. Huge inventory of Aerotech motors.

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20% Discount on all rocketry related items.
Great selection of saucers, odd rocs, and
launch equipment.

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10% Discount on all rocketry related items. Estes
kits and motors. Great selection of plywood and
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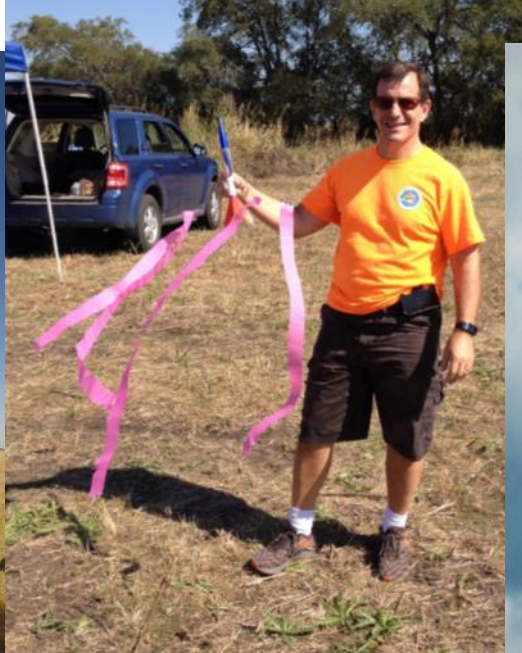
DARS supporters not currently offering a discount



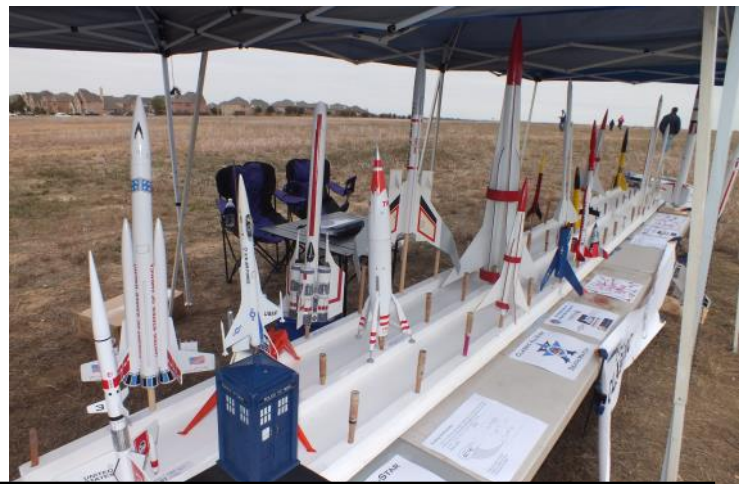
Click on logos to link to websites

Parting Shots

Photos by Various Artists



Upper left, lower right photos by Chris Bender. Upper right, lower left photos by Nick Viggiano. Sam Barone's "Tow for the Cure" rocket. How many Classics can you count in Steve Pierce's rocket box?



Top left to right: The Briggs rocket corner in All Star. Stuart Powley's Odyssey. Chris Bender's Cherokee-I. Middle: Shot of the stand and Stuart Powley's Viper after landing. Bottom: 1-3 Prizes fro each category and Best in Show and the entire table set up.

Spectators watch a rocket take off at the Classic



Jack Sprague's rock, paper, scissors, play off for prizes

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.

DARS Officers

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

Upcoming Events

12/6	DARS Business Meeting @ Coppell
12/13	High Power Launch @ Gunter
12/20	Monthly Launch @ Frisco
1/3	DARS Business Meeting @ Coppell

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, fill out and send in 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 off the Sam Rayburn toll way and Denton Tap Road.

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