Dallas Area Rocket Society ("DARS")

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A Dallas Area Rocket Society Production

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A Newsletter of the Dallas Area Rocket Society

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

Special points of interest:

- Read the article on Page 2 for a brief on the latest kits available from two of DARS' vendors: Squirrel-Works' Firebird and Red River Rocketry's Predator. Both of these kits are just fantastic!!
- More finishing secrets revealed by the master. Another helpful article from Doug Sams is on page 3.
- J. Stuart Powley resurrects a Baby Bertha and transforms it into one of Estes' "zany" Goonybirds. This is a fun and informative article that you don't want to miss.
- Not many launches left on the DARS launch calendar. Turn to page 7 for the dates to reserve on your own calendar.

Inside this issue:

Dallas Area Rocket Society ("DARS")

Safety—It's Job One

By James Gartrell

I don't often get on a soapbox, so please excuse me, but if you're in tune with the recent NAR "hot topics" you'll understand why I think this article is important. It was important enough for Mark "Bunny" Bundick, NAR President, to cover the issue in the two most recent NAR newsletters and to establish a Special Committee on Range Operation and Procedure. While the special committee's job is to very seriously study range safety, as Bunny noted, **"EVERY NAR member has an obligation to do their utmost to protect and enhance our safety record."** More than anything, that statement made me stop and think.

I remembered the time Blake and I were out launching rockets in a neighborhood field and a rocket failed to launch after pushing the launch button. Blake hadn't been flying rockets very long at that time, but long enough to know the igniter failed. He grabbed an igniter from the range box and started towards the rocket. "Wait a minute, Blake!", I demanded. "Why!!", he demanded back. The rocket took off about that time. It was one of the longest delayed firings I believe I have ever seen. It was probably between 30 and 35 seconds delayed. Blake learned a very important safety rule that day: Always wait 60 seconds before approaching a rocket that fails to ignite. More importantly, I learned something, too. The safety rules work only if we follow them. You see, I almost let Blake approach the rocket. As a club, we probably face that kind of decision every launch.

Thankfully, to date, cooler heads have always prevailed whenever there's been a safety issue on the range. We have an excellent safety record. One that all of us can be proud of. It's always tough, though, both on the person making the call as well as the flier. So, next time the SCO or RSO makes a safety call, don't be offended, be thankful they're doing their job. After all, safety is job one!

Buzz McDermott took this picture at one of the DARS Outreach events for the YMCA. Very nice rockets, guys!! Three very good reasons why safety always has to be job one. No, I'm not talking about the rockets. ;-) Aim high! Pay forward! Be safe!

NTHP/Jim Turner Memorial Launch

By James Gartrell

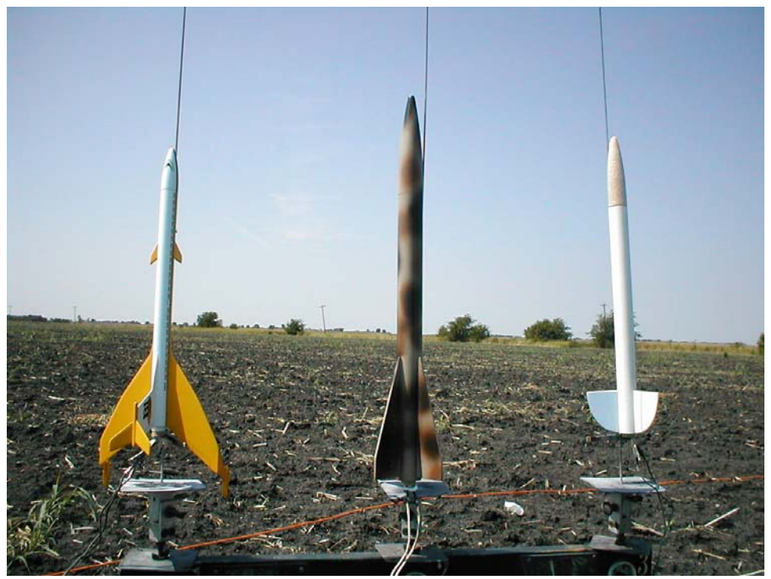
A lot of folks came out for some fun flying rockets at the NTHP/Jim Turner Memorial Launch. The "memorial" aspect of the launch was a make-up for the partial rain-out of the Memorial Day Jim Turner Memorial Launch. Sharon Turner and her daughter-in-law, I believe, came out this time. They said they were doing fine. I'm sure everyone was glad to see them there and to know they are doing well.

Blake and I only made it out for the first day of the launch. We arrived to find Royce Frankum who got there a little earlier. One of his cousins had come out with him and brought along his son. We parked next to them and started to set up our canopy. Just as we got started Don and Terri Magness pulled in next to us, so we all pitched in together and got the canopies up pretty quickly. After meeting everyone and showing off our rockets, we chatted some to catch up on the latest news and then settled into prepping our rockets for flight. Royce got his together first and headed off to the pads and put up an outstanding flight on an H-motor. Blake and I and Don followed up close behind with our models. I had just finished one of Squirrel-Works' latest kits, the Firebird, and was anxious to put it up in the air. Blake was flying his Estes Army Hawk clone, again, and Don was going to test one of his latest designs.

The Firebird looked super on the pad. Because of the laser-cut fins, fin-alignment templates, and decals designed to go on in sections, the rocket goes together a lot easier than it looks like it would. Actually, it was a lot of fun to build. Breaking up the long decals that run down the sides was a great idea, turning an otherwise difficult job of application into a relatively easy one. The flight was no less spectacular than the look of the rocket. Unfortunately, the parachute tangled around one of the lower wing pods and didn't fully open. Amazingly, the rocket flattened out upside down and almost went into a glide but broke one of the stabilizers upon hitting the ground; an easy fix. I later told Don I thought he should advertise that the rocket comes close to gliding and offer a prize to the first person that makes it glide while still maintaining the same look. I don't think he was willing to risk that one. ;-)

When I got back to the pads, John Dyer was there with his newest kit, Predator. John had earlier asked me to beta test the kit for him. Having seen an early prototype of the kit made accepting a no brainer. It is a fantastic kit!! Below is a picture of the completed model, which I started the next week. I don't know if you can see them in the picture, but there are six fins in addition to the two large wings. Thankfully, the fins were laser-cut, making an otherwise difficult build very easy. The decals finish off the unique look of this rocket very well. I'm looking forward to its maiden flight! John has three other models also available for sale. Check 'em out at www.redriverrocketry.com.

It was a great day!!



Above—Left to right, My Squirrel-Works' Firebird, Blake's Army Hawk, and a sneak peak at a new design Don Magness was testing. Photo by James Gartrell.

Bottom right—The finished Predator. What an outstanding kit! Photo by James Gartrell.

Dallas Area Rocket Society
-- NAR Section #308

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Renewal through: _____
Email to Secretary: ____ card sent: ____
Date processed: _____

Membership Application

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Address: _____

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Phone Number(s): _____

☐ New Membership OR ☐ Renewal

OR ☐ Single Membership ($10/yr) *(Make checks payable to DARS)*

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Member of: NAR #_____ or / and TRIPOLI #_____

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DARS event notification by: phone call at this number _____-_____-_____

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Mail to: *DARS Membership, c/o Suzy Sprague, 1104 Ellard Dr., Hickory Creek, Texas 76210-3900*

For additional information contact Suzy at 940-321-2132 or 940-497-7009

DARSAPP.doc revised September 2004

DARS EVENTS:

- **10/15-16** Shoot for the Stars Sport Launch in Windom, Don Magness is Launch Director
- **11/12-13** Turkey Shoot Sport Launch in Windom, Annie Scheidemantle is Launch Director
- **12/10** DARS Potluck Lunch, Contact Rags Fehrenbach

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.

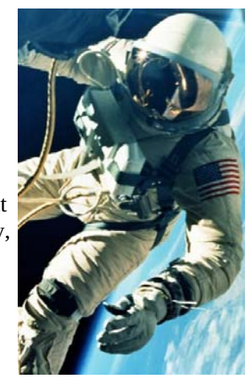
Membership in DARS is open to all interested persons. Membership in NAR is encouraged, but not required. Annual dues are $10.00 for individuals and $15.00 for families. The entire family, including children, are welcomed to the meetings. Fill out and send the application, above, to join or renew your membership.

The club 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

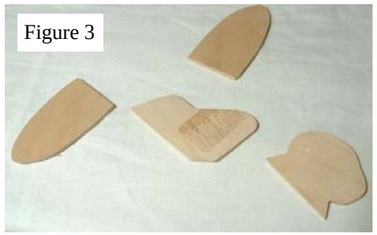
Exit off Hwy 75 to East Plano Parkway (just north of George Bush Turnpike—Hwy 190) and go east, turn left on K St., and turn right into the shopping center just north of 18th St.



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

slightly until they looked pretty close to the original. I cut out the patterns and transferred them to the basswood sheet, then cut out the

Figure 3



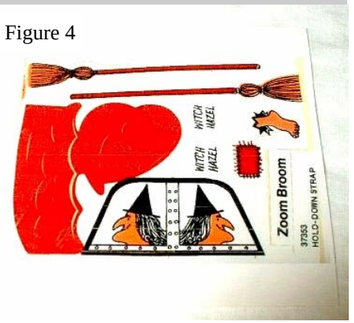
fins (Figure 3). I sanded and sealed them and then used my old Estes fin jig to attach them.

I then stuck the nose cone on, slapped an engine in the back and looked for the center of gravity. It wasn't good. With the heavier fins and engine the CG was at the upper third of the fins. If I was going for one caliber stability I was going to have to get the lead out. I placed two fishing weights in the nose and covered them with epoxy. The rocket now weighed a ton, but it would be stable. I added a new shock cord and chute and glued on a launch lug. I was now ready to paint.

Because I once worked in photography and pretty much bathed in photo chemicals, I've developed contact dermatitis. In other words, if I use regular spray enamel, I stand a good chance of blowing up like Violet on Willy Wonka. The cure came in the form of the new H2O paints by Krylon. This paint does a nice job, but it can tend to run a little easier; probably due to the fact that the solvents that cause typical paint to dry quickly have been left out. Still, I got a pretty good gloss finish on the rocket.

The decals came next. I use Testors ink jet decal paper, and have always been pleased with the results. They are thinner than typical decals, but if any amount of care is taken in using them they will produce great results. Actually, it's that thinness that helps the result be so good. There are no edges to make the decals stand out where they're not supposed to. You have to remember to seal the decals after printing them and before dipping them in water, or you'll just get a bowl of ink (Figure 4). I used

Figure 4



pictures of the original "Zoom Broom" to guide the placement of the decals. After hitting them all with a clear coat to keep everything in place, I was done.

The result is pretty good for a model that I was just killing time with (Figure 5). I could have done better if I had used new materials instead of cannibalizing old ones, but that was part of the fun. The model looks nice next to my "Goblin," which was what I was going for. All in all I think it came out reasonably well, and it was a lot of fun to build. The struggles were a small price to pay to have a Goony in the sky once again.

Figure 5

Repairing Wrecked Rockets: Replacing the Front End after a Lawn Dart

By Doug Sams

At my last rocketry outing on Father's Day, June 19, 2005, I had great fun. Of 12 flights that weekend, 11 were quite successful, which in this hobby is outstanding. (Hey, if there's no chance of wrecking, there's no thrill of success :)

The Midget T30 (or Quidget) is a 1.2x upscale of the original Astron Midget, and uses Quest T-30 tubing for the main airframe (Figure 1).

Figure 1

It was built to be a regular flyer, something I could take to every launch. But it seems to be jinxed. In only two or three flights, I've had to glue two broken fins back together, one of them twice. And after Father's Day weekend, it's ready for major re-work if not totally starting over.

After a good boost on a B6-0, the C6-7 sustainer never did light, and the rocket lawndarted near the creek. As I approached and saw it in the bare dirt, I momentarily had hopes that the dirt might be soft, that the rocket might have escaped damage.

Figure 2

But it wasn't to be. The nosecone had been partially swallowed, and the airframe accordioned (Figure 2). My first thought was that, if I could find a suitable coupler, the fin can might be salvageable. Otherwise, I'd be putting a whole new rocket under the nosecone.

While I didn't have a T30 coupler per sé, a spent 29mm single use Aerotech motor, with a couple wraps of tape, fits perfectly in the Quest T30 tubes.

After leaving the rocket on the bench a few weeks, I finally took a closer look to see what might be salvaged. The nosecone, being made of hard pine, had only minor damage and could be easily repaired with sanding and filler.

There were multiple issues with the airframe. It needed to be cut off at the lower end of the accordion wrinkle. However, the forward motor mount centering ring was not far below that point, and ideally, there needs to be ~1 caliber of coupler below the joint (and another caliber above). This helps ensure that the replacement tube lines up perfectly with the original.

Another consideration was the launch lug. If the cut line could be kept even with or just forward of the

(Continued on page 4)

Figure 3

(Continued from page 3)

lug, then that would not need to be replaced (Figure 3).

There was only a little over 1" of good (unwrinkled) airframe forward of the motor mount, but I cut if off farther forward, at the end of the lug. The idea was that any remaining wrinkles could be filled and that the coupler would more than compensate for any loss of strength due to the filled wrinkle.

The two previously broken fins were removed and replaced. For the coupler, I sawed the ends off a spent Aerotech F23 and sanded its insides to remove all the residue. A new forward tube was scavenged from my small stash of Quest parts. I wasn't too concerned with getting it exactly the right length. In fact, I was thinking that making the rocket a tad longer than scale might come in handy if another incident befalls it.

After applying a couple wraps of masking tape, the coupler and replacement airframe were epoxied in place. One really nice feature of epoxy is that it doesn't set real fast. You have time to work things around and get the tubes perfectly aligned.

I set the rocket aside and returned to it a few days later. With my Dremel, I grinded down the seam and removed enough material so that once the area was filled, it would be flush; there would be no hump at the seam.

A piece of aircraft tissue paper was cut to cover the seam. Regular strength Elmer's Fill-n-Finish was used to begin filling the seam. Thinned FNF was applied to the tissue. That in turn was applied over the seam and coated with more thinned FNF. Basically, this method is a miniaturized version of tape-and-bedding drywall. But instead of drywall mud and tape, I use FNF, tissue and thinned FNF.

After the seam treatment, I filled the fin roots and around the launch lug with FNF. A wet finger works great to shape the FNF and minimize the amount of sanding needed later Figure 4).


Figure 4


Figure 5

Just as with drywall, filled seams will eventually show through the finish if you don't tape them, and the tissue prevents that.

Looking down the tube, the coupler is visible (Figure 5). The wet look around the coupler is due to the epoxy. The wet appearance of the tube opening is caused by CA. A few drops were applied and spread around with a Q-tip, then sanded smooth. This prevents the opening from getting "fuzzy" due to the repeated insertions and extractions of the nosecone. Plus it helps protect the tube against dings.

With some primer and a little more sanding, this rocket will be ready for paint and soon be back in action. DS.

July 13, 2005

Zoom Broom

By J. Stuart Powley

I began my association with model rocketry in 1971. I was in the 3rd grade and my cousin had an Estes catalog that I would pour over for hours. I still remember seeing my first model rocket launch; his Astron Alpha. It took a couple of more years before I was building and flying my own models, but once I started I was in and out of the hobby for the next 30-odd years. In those years I've seen a lot of models come and go. On average they were….well…average. There were some models that were extraordinary; even legendary. There were others that were simply stupid. There is a third category, though, that combines the first two. They are models that are legendary because they were stupid. An example of this third category is the Goonybirds.

I'm not really sure what Estes was thinking when they came up with these flying sight gags. Released in 1973, they were marketed as "The zaniest flying freaks in the universe." There were six models, "Star Snoop," Galaxy Guppy," Missile Toe," Sky Shriek," "Zoom Broom," and "Cloud Hopper." They didn't really catch on at the time, and by 1975 they were being offered three for five dollars. By 1976 they were gone. I actually bought one when they first came out. I think it was the "Cloud Hopper." I didn't really like that one more than any of the others, it just happened to be at the Radio Shack where I bought my rockets at the time.

Flash forward 31 years. I was knocking around the house looking for a new rocket project to work on. I had just finished my Estes "Goblin" clone, so I was in that frame of mind. I wanted to build something using materials that I already had on hand, so that pretty much killed any visions of cool high power projects. Then I started looking at an old "Baby Bertha" that I had built for the annual rocket unit I do for the school where I work. This thing was old. This thing was ugly. This thing reminded me of something. The Goonybird had returned.

I decided to build the "Zoom Broom" because it kind of went with the "Goblin" thematically. I went to Jimz to get the plans and I found that they were incomplete. There were no fin patterns or dimensions at all. There were decals, however, and I thought I might use those, along with the knowledge that the models were BT-60 based, to scale the rest of the model. Therefore my clone would be "sport scale." My measurements would be best guesses.

I ripped the fins off of the old "Bertha" and then printed out the decals. I then compared the body tube to the pictures of the "Zoom Broom." By looking at the decals I could see about how big everything should be. It looked like the "Bertha" is a little longer than the "Zoom Broom." I cut the body tube down to 5 5/8 inches. I then made the decision to leave the standard engine motor mount in place


Figure 1

(Figure 1). The original model had been mini-engine powered, but I wanted my broom to really zoom. It was also easier than switching it out.

I decided to make my fins out of 3/32 basswood. The reason was simple, I had the basswood on hand. I once again used the decals to plan the fins. I set them on a sheet of paper and then drew the fins free-hand (Figure 2), changing them

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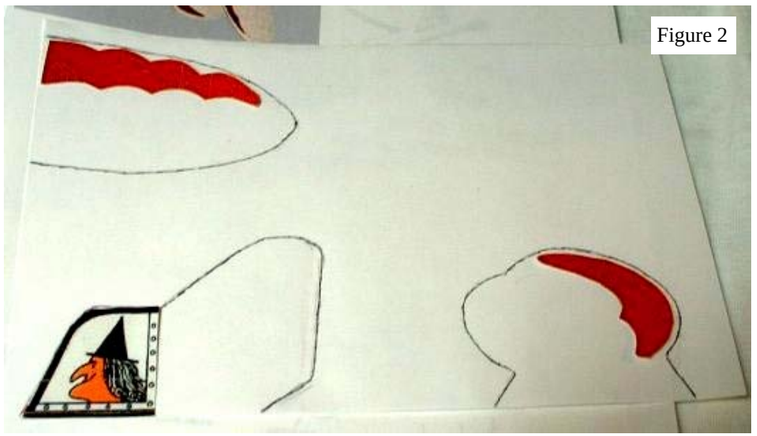
Figure 2