

**TWO HEADS ARE BETTER THAN ONE!  
ELVIS' TWO HEADED  
LOVE CHILD IS A NASA  
ROCKET SCIENTIST!!  
PROGENY CLAIMS: : "IT'S EASY TO  
DO, IT AIN'T ROCKET SCIENCE!!"**



# ***SKY BUSTER* NEWS**

## **EXCLUSIVE PHOTOS!**

**BEWILDERED FLIERS WITNESS:  
THERE'S A DEMON THAT  
LIVED IN THE AIR!  
HE LIVED AT MACH 1!  
TERRIFIED ROCKETEER EXCLAIMS:  
"I SAW SATAN LAUGHING  
WITH DELIGHT THE DAY  
MY ROCKET DIED!"**



## A Note from the President...

What's the difference between a rocketeer and the average human inhabitant? We are risk takers. If you are from Northeast Ohio AND a rocketeer, you are also a die-hard, outdoor thrill seeking, hibernating through the winter, sun-deprived, often frustrated with our education system, to-heck with that asteroid that's coming to devastate us all, high-power non-explosive propellant using, government regulation obedient, model building, gluing stuff out of cardboard, spray painting to cover up goofs, my cable bill is paid for in my bundled high-speed internet package, my kids are better than yours because they can spell and explain apogee, pseudo scientific, yes I get picked last in softball, happily married (or divorced), God loving, rocket enthusiast, with a little money left over to burn on stuff that shoots off into the sky, thus defying gravity daily - kind of person, and welcome to the club!

The difference between a Skybuster, and any other rocket club is, we are a founders club for the hobby, with a membership list of individuals that helped put the sport on the map. We are a unique group of men and women who are teachers, educators, students, police officers, house cleaners, care givers, machinists, CAD gurus, TV engineers, road builders, salesmen, graphic artists and more, but also research scientists, FAA supervisors, corporation owners, military aircraft contractors, producers of Estes tubes, originators of North Coast Rocketry Kits, owners of the world's largest model rocket company (LOC Precision), hybrid rocket launch system designers, NASA propulsion engineers, and one guy who started High Power Rocketry by daring to be the first to fly a G motor thus creating Large and Dangerous Rocket Ships (LDRS) launches! In our travels with rocketry, we are swapping stories with John Glenn, Homer Hickam, Roy Lee Cook, Quentin Wilson, Burt and Dick Rutan just to name a few. Let's face it, most of us did not choose this hobby by choice, but rather by chance we found that rocketry runs in our blood, thus realizing our destiny in life.

Sure we all wish that some night our phone would ring, and it's some official from the Cape calling us to substitute for one of the astronauts that could not make it on the next mission. But we also hear a call in the silence of our busy lives, from our own field of dreams – right here in Northeast Ohio, where rocketry as a hobby began, with the Skybusters! Let's keep the faith, hope for good weather, (and perhaps a summer flying field) and continue the tradition of launching model rockets for the good of all mankind!

When people ask me, "Describe your ideal job description.", I respond, "One with a count down, 5, 4, 3, 2, 1.....!"

"Keep the pointy end up, and the noisy end toward the ground!"

Martin Dorociak  
Skybuster President

## A Message from the Tripoli Prefect:

Greetings to all GLRMR participants from the Northern Ohio Tripoli Rocketry Association.

As President/Prefect of one of the oldest Tripoli Prefectures, I welcome you to a rocket launch with a great history. The original Great Lakes Regional Meet launches were held by the Suburban Northern Ohio Association of Rocketry (SNOAR) back in the late '70's and early '80's. It was at later GLRM launches held in Medina, Ohio where some of the first high-power rockets, or rockets using "model rocket technology" were flown. By 1982 GLRM eventually morphed into what was considered an "amateur" rocket launch, as high-power was called at the time, at a little thing called Large and Dangerous Rocket Ships. The rest is history.

I'm happy that the Skybusters have revived GLRM as a high-power sport launch in the tradition of the early LDRS launches.

Enjoy the launch!

Chris Pearson

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## BS From the Editor ---

Well folks, it's been a while, and the long promised next edition of the Sky Buster News (no longer called the Tri-City Sky Busters, mind you!) is in your hot little hands.

Once again, this is *your* newsletter, which I will try to get out in a more timely fashion, and I'll gladly accept any submissions for inclusion. Please feel free to help with submissions of project updates, product reviews, event reports, photographs, details about road trips, exposés about notable rocket personalities, scandalous pictures of club officers in compromising positions, dollar bills, outright bribes, payola, w h a t e v e r .



That being said, all contents are copyright 2005 © the Tri City Sky Busters. Any opinions stated in an article are strictly those of the author of that particular article, and do not reflect the opinions of the rest of the club, the officers, their relatives, pets or wives. Anything without an author's byline that smacks of sarcasm, yet still maintains that warm and cozy tone to it, was most probably written by yours truly. So there.

Please patronize our advertisers, tell'em Big Al sent ya!

Sky Buster News is published when I have vast quantities of free time (I ain't winnin' no LAC awards, so....)

Hugs and kisses until the next time----

Alan Tuskes – Editor and Minister of Propaganda

## Review:

### Dr. Zooch R-7 Luna

#### Brief:

This is a sport scale craftsman's kit of the Russian R-7 booster with the Luna payload. Requires quite a bit of modeling skill for a model rocket and I wouldn't recommend it for women, children, or weak persons. If you're the kind of person who absolutely needs your balsa to be laser cut and falling out of the balsa sheets already, then move along. This kit's not for you. If you're a man, I mean a "real man's" man, in the Hemingway sense of the word, who likes to build



his rockets, please come along for the ride...

#### Package contents:

Over a period of time, I acquired all the Dr Zooch kits from Rebar Rocketry, so right there you know how long ago I got this kit Being a huge fan of the R-7 booster design, I thought it would be the most fun to dig into first. The kit came packed in a sturdy 3.5"x3.5"x12" mailer box with all the parts neatly packed inside. The parts included:

- 1 - 6 7/8" long BT-20 core tube
- 1 - 3 1/8" long BT-50 upper sustainer tube
- 2 - 2050 centering rings
- 1 Pre weighted balsa nose cone
- 1 Short balsa bulkhead
- 1 Long balsa bulkhead
- 2 Thin wooden dowels
- 2 Sheets balsa stock
- 1 Screw eye
- 1 Engine hook
- 1 Launch lug
- 1 Snap swivel
- 1 24" long 1/8" elastic Shock cord
- 1 Red trash bag parachute
- 1 Strip of chute reinforcement dots
- 1 Bundle of bullet proof Kevlar® shroud line material
- 1 Tank rolling dowel
- 3 Card stock wrap sheets
- 1 Set of instructions. [NOTE: Download the PDF with the updated instructions for this kit before you start building. Steps 6 and 7 have some changes made that you are made aware of before you get there.]

#### Construction:

All of the parts were accounted for. Actually, there were more parts than were listed in the instructions--there were 2 thin dowels and 2 small sheets of balsa stock rather than one of each listed) so there was no shortage of pieces to complete the rocket. Everything was of good quality materials. The nose cone was a bit "fuzzy" with a lot of open grain. I'm sure that this was due to the fact that the cone is extremely short, going from the tip of the cone all the way out to a BT-50 diameter in 3/4"--that's an extremely blunt cone being cut cross grain. It requires a bit of strengthening, filling, and sanding to get a good finish. That's nothing however, compared to the amount of work that's going into the rest of the build. The BT-20 and BT-50 tubes are the only "normal" part of the build here. Even the BT-50 has to be cut into 3 shorter tubes. You will need good scissors, a straight edge, and a new X-Acto blade to cut out the following parts from the cardstock sheets:



2050 paper adapter

- 4 main booster strap-on bodies
- 4 strap-on nose cones
- 16 engine bells!
- 8 booster trim strips

Various cutting, alignment guides and fin templates

Most of these parts have to be rolled to form structural parts, some of which could actually benefit from a little practice if you don't do this kind of modeling that often. The instructions state that Dr Zooch has graciously provided extras of the engine bells for the base of the rocket but I only counted the required number. What would actually be beneficial is possibly one extra sheet of the strap-on boosters. There are two boosters on each sheet. You are given two of those, so you have enough to build four boosters, but they can be challenging enough to build that one extra sheet would be nice to have just in case it takes one or two to actually get the hang of getting these things together (like it took me). It may well be worth scanning the booster sheet and printing onto comparable cardstock in order to cut them out and try then before committing to the real thing. More on that later though.

If all you've been building has been recent Estes laser cut and slotted stuff with lots of molded parts, welcome back to model rocketry from the Golden Age. I haven't had this much fun building a kit since I was in my parent's basement building my original Mars Lander while listening to Murray Saul play "Dynamo Hum" on WMMS when WMMS was worth listening to.

The instructions are 6 sheets of double sided typing paper profusely illustrated with old-style Estes line drawings. If you have been keeping up with the reviews or are familiar with any of the other kits from this manufacturer, you are aware that the instructions have a certain amount of sarcastic wit about them, which you will either love or hate. I find it amusing. (Much like having my old buddy Nick D telling me how to build a rocket from scratch.)

Beginning assembly is fairly straightforward, starting with marking the BT-20 body tube and installing motor retention. This kit does have an engine hook, but no engine block, which is common in other Dr Zooch kits as well. It saves 20 cents or so in the kit cost, and is easily remedied with a razor saw and an expended engine casing. Next, a "tube cutting guide" is cut from the cardstock and wrapped around the BT-50. The builder can even cut two pieces off the BT-50. This is where the updated instructions come in. The pieces should be 3/8" and 1" long, as opposed to the 3/8" and 3/4" per the included instructions. Then, the longest piece of BT-50 is attached to the forward end of the BT-20 tube with the 2050 centering rings and a paper transition that is also cut from the cardstock. The next step is the addition of balsa "spider beams" made from small balsa strips used to align the strap-on boosters. The instructions describe them as being "no more than 1/8 inch wide and 3 1/4 inches long" and fitting between the base of the transition and the top of a reinforcement band that goes under the motor retainer clip. Oddly enough, I only had 2 3/4 inch length between these two points. Being reasonably sure I followed the instructions fairly exactly and worried that a blunder on my part would screw up my build down the

line, I fired off an email to Dr Zooch (which was quite promptly answered I might add) and found that the spider beam length was irrelevant and only for alignment purposes. I think that Dr Zooch built his and wrote the instructions afterwards, relying on a "best guess" estimate for the size of this particular aspect of the kit. I based this on the fact that for all the templates and alignment guides included on the cardstock, there was no pattern for the spider beams themselves. That question being answered, I continued with my build.

Then comes the cutting and rolling of strap-on parts. This is where it gets a little tougher if you haven't done this much before. I found some good tips on paper modeling on The Rocketry Forum about getting the parts pre-curved, most notably using the tank rolling dowel like a rolling pin, with the part to be curled on a pliable yet moderately firm surface like a neoprene mouse pad. It takes quite a bit of pressure but the prepared parts will have enough curl in them to make this part of the job easier--at least for the open ended cone that is the main body of the strap-on. I used my regular Elmers's wood glue on the glue tab, which is quite large and dries quite hard. If the paper hasn't been pre-curved quite enough to hold it's shape, you will end up with a less than circular cross section through the booster. If I were to do it again, I would probably cut the glue tabs off completely and glue them on the back of the cones using rubber cement as described in the instructions for the Apogee Saturn V kit and detailed in the Apogee "Peak of Flight" newsletter in the article about making your own paper transitions. The rubber cement stays flexible and allows for a smooth, pliable curve through the glued area. The smaller, fully closed cones at the forward end of the boosters come to a sharp point and are a true pain in the neck to roll and glue smoothly. Rubber cement would help here, as well as a few extras of these parts to allow for the foul ups that will likely occur, especially since I have fingers the size of Twinkies. Balsa disks that are cut from the balsa stock are glued into the base of the cones after assembly for both strength and



roundness. The circle template seemed to be a little on the large side, so they needed to be sanded down a little to fit. A good pointer here would be to sand a bevel onto the edge of the disk (instead of straight sides) since you're

going to be inserting it into a cone rather than something with parallel sides like a body tube. It will seat better and give less of a gap to fill around the edges of the disk. Next is attaching the strap-ons to the main body and the slightly oversized fins to the strap-ons. This is easy enough with the included templates and the spider beams are a great help in keeping the boosters aligned and free from rolling out of position. Once those are dried, cut out and roll the 16 engine bells then glue them to the bottom of the strap-ons. Seeing as the engine bells may be the first thing to hit the ground, I wicked in some thin CA for strength after attaching them. Wes also suggests the same for the fins. The interstage/nosecone section is next. A thin dowel is cut into 1/2 inch pieces with an angle sanded into the end then glued into 5 "V" shapes. These are then glued onto a tube/bulkhead part using a clever alignment sleeve, which has been cut and rolled from one of the cardstock sheets. The result is fine for a fun-scale rocket (and this kit is far from true scale), but if I were to do it again, I would probably get or make thinner dowels and do the math to come up with the proper number of trusses. The same alignment guide is used to glue the second stage section on which pretty much completes the construction of the rocket, save for the addition of the recovery system.

Dr Zooch details using one of the Estes-style three fold shock cord mounts, gluing it "to the inner wall of the main body tube about one inch down." I strongly advise against this as the BT-50 tube at the forward end is only 1" long, and 7/8" of this is used by the shoulder of the nose assembly. I opted to make an approximation of the old MPC style punched cardstock mount, with the shock cord laced through this, and mounted it down into the T-20 tube as far as my pinky finger could reach. It may have been smarter to do a Kevlar® anchor to a thrust ring, but I was too lazy to get off my butt and go find one. I hope I don't regret that decision. The 15" trash bag chute is then assembled and construction is complete. I sat back, looked at the rocket, and decided to add a few details to make it look cooler. As my kit came with an extra dowel, I used it, some scrap balsa, some pieces of coffee stir stick, (which I always grab a handful of when getting my non-fat-no-whip-venti-mocha at the 'Bucks) and leftover cardstock to make some raised panels, retro rockets, and equipment tunnels to dress my model up a bit. If'n it ain't utilitarian looking, it ain't Cold War Russian....

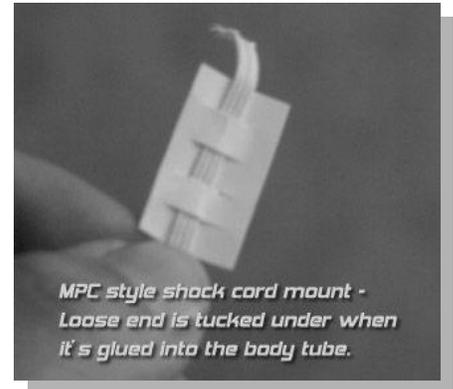


#### Finishing:

There isn't much balsa to fill, just the 4 small fins and the

nose cone. I covered the circles at the base of the booster cones with wood glue when I glued on the engine bells, so those didn't require any filling. Dr Zooch provides you with two different paint schemes, the

"perceived" color scheme (from incorrectly color balanced cold-war era photographs) and the "actual" color scheme. I chose the incorrect color scheme, sort of. I based the entire thing out with gray primer, masked off the small section that was to remain gray, then hit it with olive drab. The finished paint job looked a little dull, so I dusted it just slightly with a bit of Krylon Crystal Clear just to kick a few highlights, and was pretty satisfied with the results. There were no decals included with the kit.



*MPC style shock cord mount -  
Loose end is tucked under when  
it's glued into the body tube.*

#### Flight:

Dr Zooch, without getting too specific, only recommends B and C motors. As I didn't have access to a regular club launch field on the day of the first flight and had to settle for a local city park surrounded by trees and a public pool, I settled for a B6-4, which I figured would be a good flight. Model was prepped using dog barf for wadding. Packing the chute was a bit on the tight side as you really need to get it through the BT-50 upper tube and into the BT-20 lower body tube in order to get the nose cone on. On a B6-4, the flight was pleasantly peppy, as the model builds fairly light. Since I was pretty close and my eyes aren't calibrated that well, I'd say it hit between 200-300 feet conservatively speaking. It really ought to rip on a C engine.

Flight was very straight and the 15 inch chute brought it back fairly close to the pad. It does descend fairly quickly but since it landed on grass, there was no damage. A couple of folks who watched my flight commented on the unique appearance of the rocket as all they were familiar with was the "Questes" tube and fins type rockets. Overall it was a very good flight and I will be looking forward to launching again in the future.

#### Summary:

PRO's: If you have tastes like me, and you enjoy building the rocket as much or more than you do flying them, this is a kit for you. It brings back the fun you had when you were a kid and actually had to build a rocket, rather than toss a tube of glue into the box, shake it a couple of times, and pour out a completed rocket. It doesn't look like every other rocket on the pad. It was a fun build and I look forward to getting another and possibly bashing it into a Vostok. Dr. Zooch has other R-7 based kits available now, which are the Sputnik-1 and a Soyuz.

CON's: Could use an extra sheet or two of the cardstock parts as they can be a bear to roll into shape without

screwing up a part or two and they can't be that expensive to include. Maybe a sheet of hints on cardstock model building or at least a web link to a card model builder's hints and tips page might be in order. They also may want to rethink the shock cord attachment instructions. Overall, a fun build of a historical subject at a reasonable cost. I would highly recommend any of Dr. Zooch's kits if you like to actually build your rockets.

---- reviewed by Alan Tuskes

### Skybuster Launch Windows 2008 ---

All launches are subject to the NAR Model Rocket, High Power Rocket, Radio-Controlled Rocket Boosted Glider Rocketry safety codes (i.e. U.S. Model & High Power Rocketry Sporting Codes) **AND** our own Sky Buster Launch Rules. You do **NOT** need to be a Skybuster OR NOTRA member to launch rockets with us. Members do enjoy reduced launch fees however as well as other benefits. Standard launch dates will be the **FIRST WEEKEND**, and **THIRD WEEKEND** of each month. Rescheduled dates are the **SECOND WEEKEND & FOURTH WEEKEND** of each month as needed. **These dates may be changed however to accommodate holidays.** We also have impromptu launches throughout the year. These may be to test new launch locations or for special events. The launch location may vary from one launch to the next depending on field conditions and/or availability.

#### First weekend launches launches May 3<sup>rd</sup> or 4<sup>th</sup>

June 7<sup>th</sup> or 8<sup>th</sup>  
 \*\*\*Father's day launch – June 14<sup>th</sup> or 15<sup>th</sup> \*\*\*  
 July 5<sup>th</sup> or 6<sup>th</sup>  
 August 2<sup>nd</sup> or 3<sup>rd</sup>  
 September 6<sup>th</sup> or 7<sup>th</sup>  
 October 4<sup>th</sup> or 5<sup>th</sup>  
 November 1<sup>st</sup> or 2<sup>nd</sup>  
 December 6<sup>th</sup> or 7<sup>th</sup>

#### Third weekend

June 21<sup>st</sup> or 22<sup>nd</sup>  
 July 19<sup>th</sup> or 20<sup>th</sup>  
 August 16<sup>th</sup> or 17<sup>th</sup>  
 September 20<sup>th</sup>  
 October 18<sup>th</sup> or 19<sup>th</sup>  
 November 15<sup>th</sup> or 16<sup>th</sup>  
 December 20<sup>th</sup> or 21<sup>st</sup>

If a launch is canceled or postponed for any reason, we make every attempt to notify everyone by e-mail. If you plan on attending a launch, please call one of the club officers the day of the launch to confirm. Remember, this is only a **tentative** schedule. Launch dates are variable due to weather, field availability, and other conditions. Most launches have FAA Waivers to 5,200 feet AGL.

Launch rules, fee schedules, last minute launch updates, and even the *real* secret of life can be found at the Sky Busters website at:

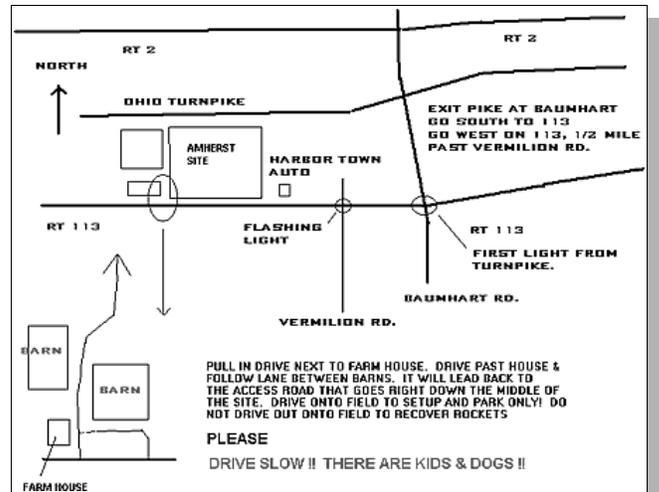
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### Your Sky Buster Officers for 2008:

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5. Turn right (West) onto Rt. 113.
6. Go two(2) miles to 51236 Rt. 113. It is on the right hand side of the road. You will see the club launch sign and cars out in the field.



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## Review: Semroc Mark II

The Mark II is a single stage Retro-Repro kit of Orville Carlisle's Rock-A-Chute Mark II model rocket. It is, as noted by the history sheet that came with the kit, not a clone kit, but rather a reproduction of a classic kit updated with the latest technology and building components.

### Construction:

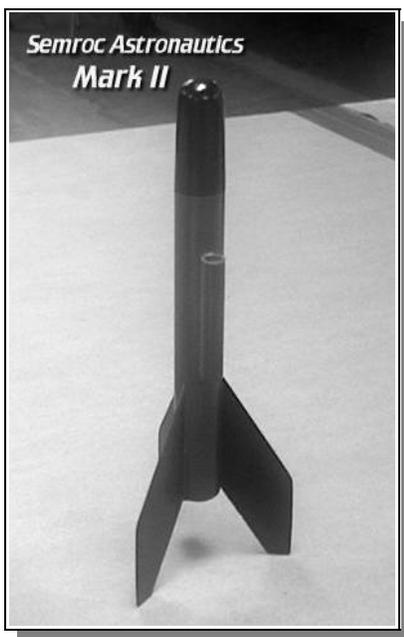
Opening the packaging and laying out the contents revealed what would be an easy build, using the high quality components that Semroc is known for. The package contents included:

- 1 Precision turned balsa nose cone
- 1 Series 10 body tube
- 1 Series 7 to 10 engine mount kit (engine tube, engine hook, thrust ring, 2 centering rings)
- 1 BT-3 launch lug
- 1 Recovery kit (Kevlar® and elastic shock cords, screw eye, 12" parachute kit)
- Extremely clean laser cut balsa fins.
- Instructions and history of the Rock-A-Chute
- No decorative decals, however there is a name plate decal, which includes the name of the kit, and a production number.

I got the Mark II as part of my purchase from a Semroc sale at the end of December 2005, so what better way to ring in the new year than hanging in The Rocketry Forum chat room and building this kit at my desk.

Yeah. I know. Get a life...

Anyway, the instructions are straightforward, starting with assembling the EM-710 motor mount. The engine tube even comes pre-slotted, so there is no question about where the motor hook goes. Semroc does have a better trick for attaching the Kevlar® shock cord attachment than what I usually use and it's a real forehead slapper. (You know...you smack yourself in the forehead and say "Now why didn't I think of that?") I usually loop the Kevlar® around the engine tube and notch the centering ring to allow the Kevlar® to exit the body tube. Semroc has you just tie the Kevlar® around the engine block itself and glue that into place. It is much less work and as long as you use a good



grade of glue (because of the attachment point, I glued the block in with wood glue and reinforced with a dab of 5 minute epoxy), it isn't going anywhere.

While that assembly is drying, I put the #10 body tube on the fin marking guide that was printed on the instructions. I personally prefer the wraparound type, but the way Semroc does it maintains the integrity of the instructions (which are printed on a good grade of cardstock, interestingly enough...) for filing away for future use and perhaps allowing them to be preserved for a generation of yet to be born BARs? The three fins themselves are extremely clean laser cut and pretty much fell away from the surrounding balsa. I sanded all edges except for the root edges round and used my handy yellow plastic Estes fin attachment tool to attach the fins with wood glue. After those were set, the engine mount was installed (again with wood glue) and the Kevlar® shock cord is fed through the front of the body tube, attached to the generous length of elastic shock cord, and then to the beautifully turned balsa nosecone via the included screw eye. Finally, the oversized launch lug (accurately reflecting Carlisle's original) is attached to the body tube.

### Finishing:

I gave the nose one and fins a coat of thinned Elmer's Fill 'n' Finish. The next morning, I sanded them smooth and hit the rocket with a shot of sandable primer just to make sure the grain wasn't too obnoxious. That was then followed by a couple of coats of red spray paint, then one fin and the nose cone were masked for a shot of black. With that it was called finished, and I assembled and installed the 12" plastic Semroc parachute. The rocket was then ready for the January 8th Sky Buster launch!

### Flight:

Well, the January 8th launch was canceled for poor field conditions and since most of the flyers are HPR guys, a lack of a waiver due to changing of the officers, so there was no big launch that day. However, not being one to let a mid-winter 45 degree day go by, I packed my rockets, my daughter, and myself up for a launch at Lakewood park Semroc recommends the following engines: A8-5, B6-6, C6-7. The only one's I had out of those 3 were the C6-7s, but the park wasn't big enough for those motors in that rocket. I did, however, have some Quest A6-4s and thought that would be even better that risking too short a delay with the A8-3s I did have. Since the park is also surrounded by trees, I swapped out the chute for a streamer for the first flight. My daughter hit the launch button and the Mark II shot arrow straight into the sky, popping the streamer at apogee, which I estimate to be possibly 200 feet. As there was virtually no wind, the rocket landed maybe 30 feet away from the pad with the streamer recovery resulting in no damage. For the second flight I put the chute back in the rocket in place of the streamer, and launched again with my last A6-4. Once again, arrow straight flight, popping the chute right at apogee or maybe just a breath thereafter. This time, there was a little drift but nothing serious. The 12" chute is just the right size for a rocket this weight. Recovery was right next to but not quite in a mud puddle. A few swipes with a baby wipe cleaned the crud off the gloss paint. This little

bad boy is looking to cut loose on a real field this spring!

**Recovery:**

There was no damage at all. I used dog barf for wadding and it proved to be adequate protection for the recovery system. The chute is the right size for a rocket this size and weight, but the rocket is small, light, and sturdy enough that a streamer can also be used easily.

**Summary:**

PRO's: Very simple, inexpensive replica of a historic model rocket that can be put together in an hour or so (depending on how slow setting your glue is) at one sitting. Good performer. Good beginner kit without being insultingly simple (i.e., Rip the package open and launch).  
CONs: I can't think of any.

--- Review by Alan Tuskes



**Cowboy Rocketry**

*Yea Ha, Git along all ya little doggies*



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**Edmonds Aerospace**  
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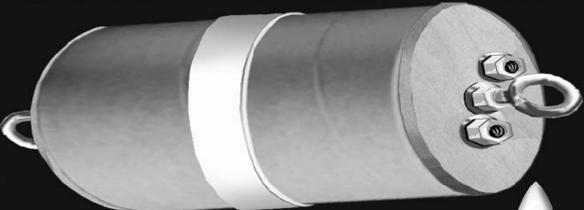


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**Fly Hard, Fly Safe, Fly LOC!**

## Review: Quest Bright Hawk

Single stage, parachute recovery, skill level 1 kit featuring a plastic nose cone and fin can, making assembly virtually foolproof.

### Construction:

Bought the Bright Hawk kit at a Hobby Lobby 40% off sale in order to have something extremely simple that I could build with my 4 year old daughter without having to worry about anything getting messed up. This kit appeared to be just the thing. Upon opening the kit, everything appeared to be accounted for and of the usual high Quest quality. The parts were:

- 1 T35 body tube, 17 inches long
- 1 motor clip
- 1 thrust ring
- 1 motor mount tube
- 2 fiber centering rings
- 1 plastic nose cone
- 1 plastic fin can
- 24 inch long elastic shock cord
- 21 inch long Kevlar® shock cord
- 2 strips of 3 gripper tabs each
- 3 26 inch shroud lines
- 1 14 inch parachute
- 1 self-adhesive decal sheet
- assembly instructions

One thing I noted was that the quality of the parachutes has increased lately. They no longer have that poly grocery bag quality of a few years ago that seemed to tear very easily. Packaging quality was very good and there was no damage to any parts.

My daughter and I sat down to put the Bright Hawk together at the dining room table. The only tools needed to assemble the kit (per the instructions) are a hobby knife, a pencil, white glue, and either scotch or masking tape. Curiously enough, plastic cement, for bonding the fin can to the body tube was not listed but more on that later.



The first step was construction of the motor mount, which was very straightforward, included the installation of the standard Quest Kevlar® shock cord, which was wrapped around the engine tube for a very strong mount. A nice touch which I don't remember seeing before was that the

engine tube already had the slit for the engine hook cut into it. I think that if the nose cone didn't have had some plastic flash in the shock cord eye, you could have gotten away with assembling this kit without even having the hobby knife on hand.

After installing the dried engine mount, using either white or wood glue, the following step caused me some concern:

Step 7 - Slide the one piece molded fin unit onto the body tube as shown.

That's it. No mention of plastic cement or tape. Nothing. Using glue was no problem for me, but I was concerned that another person, perhaps building this as a first model, may have their model disassemble itself under thrust. Wondering if this was an oversight or possibly a way of changing out fin cans in case of damage, I made a call to customer service at Quest and was promptly put through to Matt Constable (aka "El Chubbo" on The Rocketry Forum). He assured me that it was not an oversight but that the fin can was molded with a bit of taper on the inside and that its friction fits quite nicely onto the body tube.

However, plastic cement or a silicone sealer could be used to secure it if so desired. I ended up not gluing it on but put a couple of small pieces of masking tape on the body tube to make sure the fin can fit extra snug. Inertia can be a bear and I could just imagine my daughter's rocket being the first Bright Hawk to fly out of its fins...

As the launch lug is molded into the fin can, you didn't even need to worry about gluing that on straight. In a way, this kit reminded me of my very first rocket from about 1970, the MPC Pioneer-1, which also had the molded fin can with integral launch lug.

The last steps were to assemble the parachute and tie the shock cord to the

nose cone. I opted to put the chute on a snap swivel as this bird looks sturdy and light enough to be able to use streamer recovery without too much problem. Besides, I'm old and fat and I don't want to walk



that far to recover my rockets anymore.  
Wait a minute! It's my daughter's rocket. She can walk after it. Where's that chute?

#### Finishing:

The fin can is molded in bright yellow plastic, nose cone is orange, and the body tube is white, so no painting is really necessary. The self-adhesive decals are also in bright, happy yellows and oranges as well. My daughter finished the rocket off with markers and other miscellaneous stickers. Every time I turn around, she has either removed a sticker or added a new one, so it appears to be that this rocket will be a "work in progress" until she tires of it or it is lost or destroyed.

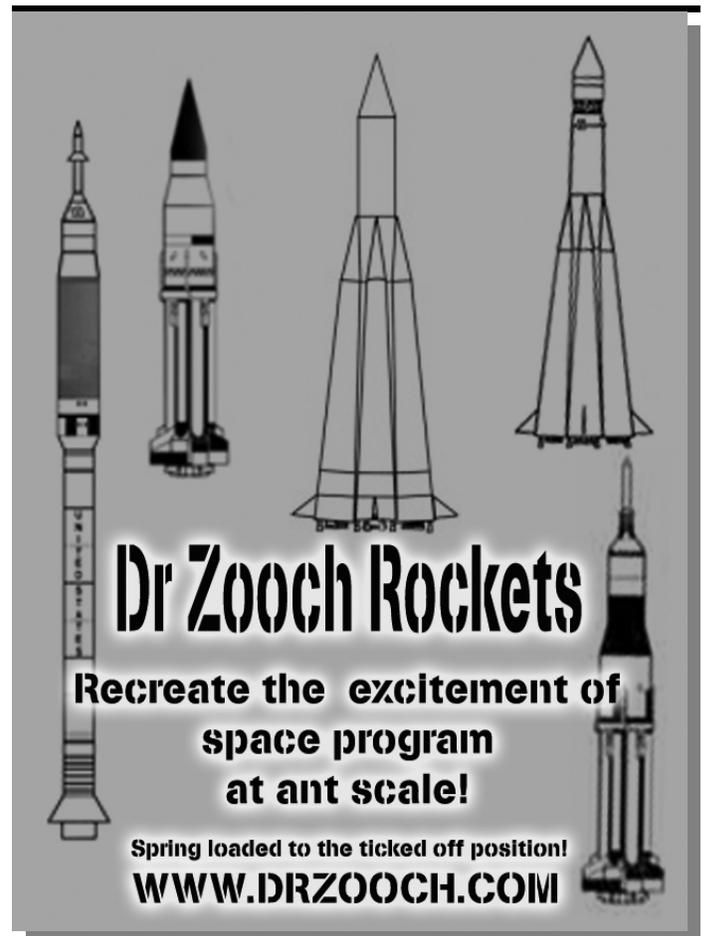
#### Flight:

The Bright Hawk flies well on B and C motors, and has no problems coming down on a streamer without damage. As a matter of fact, I would think that if you were feeling like a long walk and were to glue the fin can on, I'd say that the Bright Hawk would truly rip on an 18mm reload.

This is one of my kid's favorite rockets, right next to that damn Snitch.

But that's a story for another day.

Review by Alan Tuskes



#### Review: Dr Zooch - Saturn 1B Apollo 5

##### Brief:

This is a sport-scale version of the Apollo 5, which was used to launch a legless LEM for a test flight in January 1968. This is a single stage, parachute recovery kit. Having just built the Dr Zooch R7 Luna kit, I was still in the mood for another kit that required actual skill to put together. Having made it through this kit, I am certain that Dr Zooch fits into one of the following two categories:

Benevolent, smiling, messianic figure, possibly wearing either tie-dye or maybe a pristine robe while gifting us mere mortals with builder's kits for the purpose of delivering us from the insult of nearly pre-built, imported "toys". Or...

He's the pusher, skulking about in dingy alleyways, teasing and taunting us with his wares, knowing that once you're hooked, you will come back for more because you're a hopelessly hooked Zooch junkie. (A Zoochie?)

I'm not sure which he is, but I do know I have 4 more kits waiting to be built and I know I'll be buying the ones I don't have yet...

##### Construction:

Contents were packed in a sturdy cardboard box, which is handy for transporting and storing the completed rocket after it's built. Contents were fine quality and included:

- BT-60 lower thrust structure tube
- BT-60 S-IVB body tube

- Balsa Apollo adapter section (preweighted)
- BT-20 motor tube
- 4 Fiber centering rings
- Balsa fin stock and dowels
- Cardstock with various patterns
- Dowel for rolling fuel tanks
- Decal sheet
- 15" red plastic garbage bag chute kit
- Elastic shock cord
- Illustrated, 8 page instruction sheet

Once again, this is another fine kit from Dr Zooch. First step I would suggest would be to slap a coat of Elmer's Fill 'n'Finish (or wood filler of choice) on the adaptor section, which besides the fins is the only thing that needs filling on this kit. While that is drying, you can move on to the other steps in your build. As long as you read and follow the instructions, there are no real problems in building this kit. Heeding my own advise after building the R7 Luna, I rolled the first stage fuel and LOX tanks and glued these with rubber cement this time. Then I made sure that the little buggers would stay rolled by wicking some thin CA into the seam. The result was a set of tubes that were slightly flexible yet very strongly adhered. Not the crispy, stiff tubes like the conical boosters on the Luna. If you have read the other reviews of the other Saturn 1 or 1B kits, the construction process is very much the same, except this one is actually easier than the kits that have escape towers as this particular round had a shroud that housed a LEM. My only problem with the kit was the thread that is used with the unique engine bell creation.

This is the same Kevlar® thread that is used for the parachute shroud lines. It's great for that, but it has some sort of coating that makes it a bit springy and not want to conform to the tight winding necessary to get it to stay attached to the nozzles while the glue sets. If I wasn't so lazy, I would have gotten off my lazy butt and gotten a hold of some regular cotton thread, but I didn't. Instead I grabbed the CA, glued my fingers to the engine bells a couple or three times and made do with what came with the kit. Hey, it's a review of building of the kit. The thread came with the kit. I used it. So there. Now I feel better about being lazy (Or at least that's what I told myself.)

### Finishing:

As much of the finish is built into the kit with wraps, painting is pretty much confined to the Apollo adapter. (I recommended that you Fill 'n' Finish it at the beginning, remember?), the upper section of BT-60, and the fins. The good doctor does recommend that you paint the fins before attaching them (I also think it is a good idea) and also recommends that you trim away a sliver of the printed wrap around the lower thrust structure so the fins are attached to the tube underneath rather than the paper of the wrap. That was a good suggestion which I was, once again, too lazy to follow. That decision was made all the worse by the fact that before I attached the fins, I chose to dust the rocket and nose cone after painting and assembly with some Krylon Crystal Clear. Not a thick or even complete coat but just enough to give it a slight sheen. It was just enough to make the fin's bond a bit on the weak side. As long as it landed on the grass, I'm fine. (But, gosh dang it, why does it always have to land in a parking lot?)

There are a few ullage motors and retro rockets cut from scrap balsa and dowel pieces, but these are so small as to not even require filling before painting.

The only decals are red "United States" decals that go on the upper stage in four places and it's pretty much done.

### Flight:

Dr Zooch recommends either a B6-4 or C6-3 for this beast. I chose to launch it for the first time at a HUVARS launch at Lyon Park in Michigan. The finished rocket is surprisingly light and really moved out fast on the B motor. There was a little wiggle on the boost, most probably due to some misalignment in one or more of the 8 fins. The rocket was very stable and I couldn't have been any happier with the flight. A C

motor would be crazy high in a rocket this light and would have made for quite a hike to recover it. Ejection was right at apogee, and the 15 inch trash bag chute was the perfect size for this rocket. Unfortunately, it came down in the nearby parking lot and one of the fins was loosened. That was fixed for the next flight with a bit of thin CA. An outstanding flight for an outstanding kit. The only slight downside that I could see in this kit is that the shock cord that was included with the kit, a 1/8 inch cord about 20 inches or so long, was not quite long enough, considering the good sized, pre-weighted nose cone. I ended up with an "Estes dent" in my nose cone after the first flight. No big problem. A bit of epoxy putty ought to make it as good as new. I subsequently tied an additional length of shock cord in there before the next flight. I understand that Dr Zooch has addressed the issue with shock cords on his kits, and has been putting in longer/wider shock cord stock.

### Summary:

All good, no bad. I love the quality of the kits, the wit of the instructions, and the models that Dr Zooch chose to release. These are kits you build rather than rip out of the box and crap into the air



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## **Article submissions for the Sky Buster News.**

Articles for future issues can be submitted as attachments to emails, in the body of emails, carefully written/printed on paper, or scribbled on still smoking expended engine cases. The regularity of publication will be very much dependent on how much input I get from the readership. Some ideas for possible future articles include:

- Reports from road trips (NYPower, outreach?!)
- Kit reviews
- Product reviews (I hear we're getting new high power pads... how do you high power guys like'em?)
- Tips, tricks and techniques
- Plans, project documentation
- Pictures, editorial cartoons, artwork
- Snappy patter, hearsay and ribald repartee
- New product announcements
- Bribes, graft and payola always welcome!

Any and all of the above can be forwarded to editor Alan Tuskes at:

**SPFX1@SBCGLOBAL.NET**

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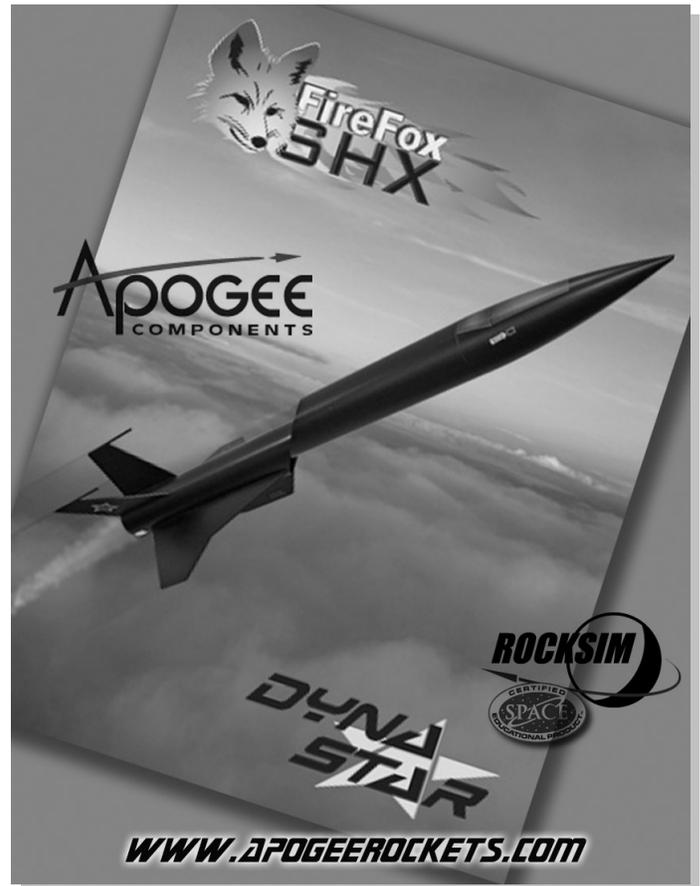


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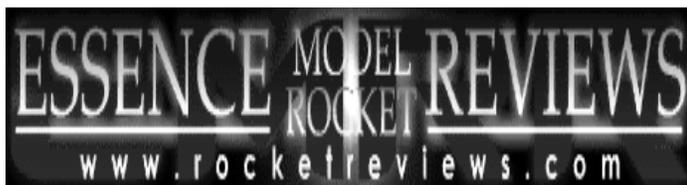
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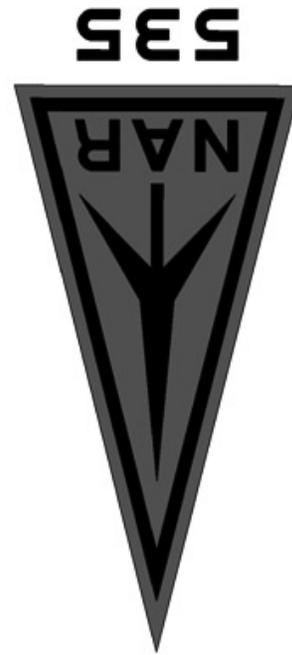


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