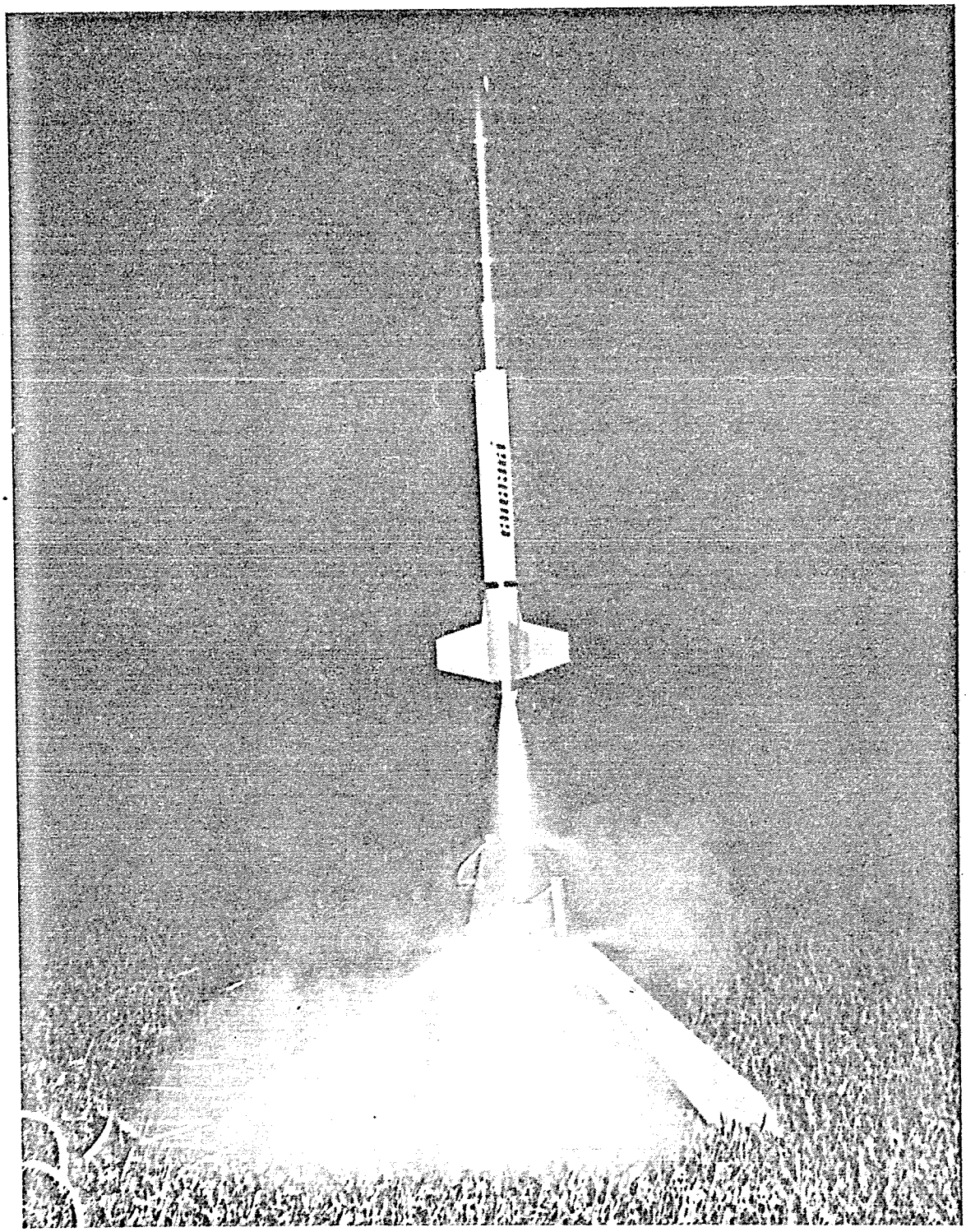
SNOAR NEWS

VOLUME 3

NUMBER 7



SNOAR NEWS

ABSOLUTELY, POSITIVELY

FREE

YES, FOLKS...IT'S TRUE! SNOAR NEWS, A MODROC HEAVY, IS NOW YOURS POSITIVELY, ABSOLUTELY FREE! YOU READ THAT RIGHT! SNOAR NEWS, WHICH WAS THE HONORABLE LOSER IN THE LAC NEWSLETTER AWARD FOR THE PAST TWO YEARS, AT ABSOLUTELY, POSITIVELY NO COST!

SIMPLY WRITE YOUR NAME AND ADDRESS ON THREE ONE-DOLLAR BILLS, A FIVE, OR ANY COMBINATIONS OF TENS AND TWENTIES, AND SEND THEM TO MATT AT THE ADDRESS BELOW.....AND THEN WE'LL SEND YOU SNOAR NEWS ABSOLUTELY, POSITIVELY FREE! (IF YOU BELIEVE THIS, I'VE GOT SUCH A DEAL FOR YOU) OR FILL OUT THE NIFTY COUPON BELOW, AND BECOME A LEADER IN YOUR OWN COMMUNITY!

NAME_____ NAR#_____

ADDRESS_____ CITY_____

STATE_____ ZIP_____

I _____ understand that I am under no obligation to SNOAR NEWS for any amount of $$$ for my free subscription, enclosed, however, is $3.00 for Filbert Insurance, which is required by law for any and all subscribers of SNOAR NEWS.

Mail to: Stainless Steele's 'No Rust' Trust Fund
2888 Station Rd.
Medina, Ohio (where?)
44256

SNOAR NEWS

VOLUME 3

NUMBER 7

QUOTEABLE QUOTE OF THE MONTH

"I'd like a chocolate-covered rat-on-a-stick, please."

-Larry Chumlea
NOMID-'77

Editors Nook.....

Well, hi gang! It's your old pals, Matt and Chris, back with another great issue of SNOAR NEWS. Just in time for the Mini-Con too. My, isn't that nice? This is a special 'Medina? Where the hell is that?' issue from us to you.

Ask and thy shall receive department: Thanks for all the plans, folks. As you can see, this issue contains more plans than any other issue ever! Boffo! We've got even more lined up for the next issue! Still, keep sending them in, along with those articles! (Hint! Hint!).

Lost & Stranded Department: Matt's adress from January 1 to June 1 is: Box 103, Apple Hall, Kent,Ohio. Yeah! I'm still plugging away, admist the tear gas and fences. Please only send personal correspondance , solicitations, ect. to Kent; newsletter exchange still goes to Medina (where?). Also, for you pyro pen pals, Mark J. Volpe's college address is Box 90, Founders Hall, Ada, Ohio, 45810.

Cheap Thrills Department: In an effort to cut costs and save $$$, we are forced to cut the number of free subscriptions that we are handing out. So, if you've been getting SNOAR NEWS free for some time, we're finally on to you! And unless we slip up, chances are that this is your last issue. The only freebies we will be handing out is to the newsletter exchanges that come to me (not Alan).

Hello Dolly Department: A hearty welcome to our newest member and field owner, Mike Wagner. Mike's speciality is sport gliders and prangs. Mike is also a KSU radical, and general rabblerouser.

Well, Christmas will soon be upon us, and as usual, everyone will get clothes instead of rockets. So with that in mind, remember that it's time to renew your subscription to SNOAR NEWS. This year we printed seven issues (only five last year) so you have to renew earlier than last year in order not to miss any dynamite issues. 'Tis the season to be jolly.....'

Sad Statistics Department: Glancing through an old issue of Model Rocketry Magazine, I (Matt) came across the NAR's top twenty for 1971. I only found one rocketeer that showed up on the final standings of this last year. This person, fellow humble editor, Chris Pearson, placed fifth in the team standings that year, and seventh in the team standings this past year. Only three sections remain from 1971; NOVAAR, NARHAMS and MARS. Why does the NAR have such a big turnover? What are we doing wrong? Whoever can awnser this and many other questions should be the next president.....

Well, that's all folks.....

Norton Freak and The Man of Steel

****

EDITORS

Co-Editor & Section Relations

Matt Steele
2888 Station Rd.
Medina, Ohio 44256

Co-Editor & Products Editor

Christopher T. Pearson
37541 Grove Ave. #202
Willoughby, Ohio 44094

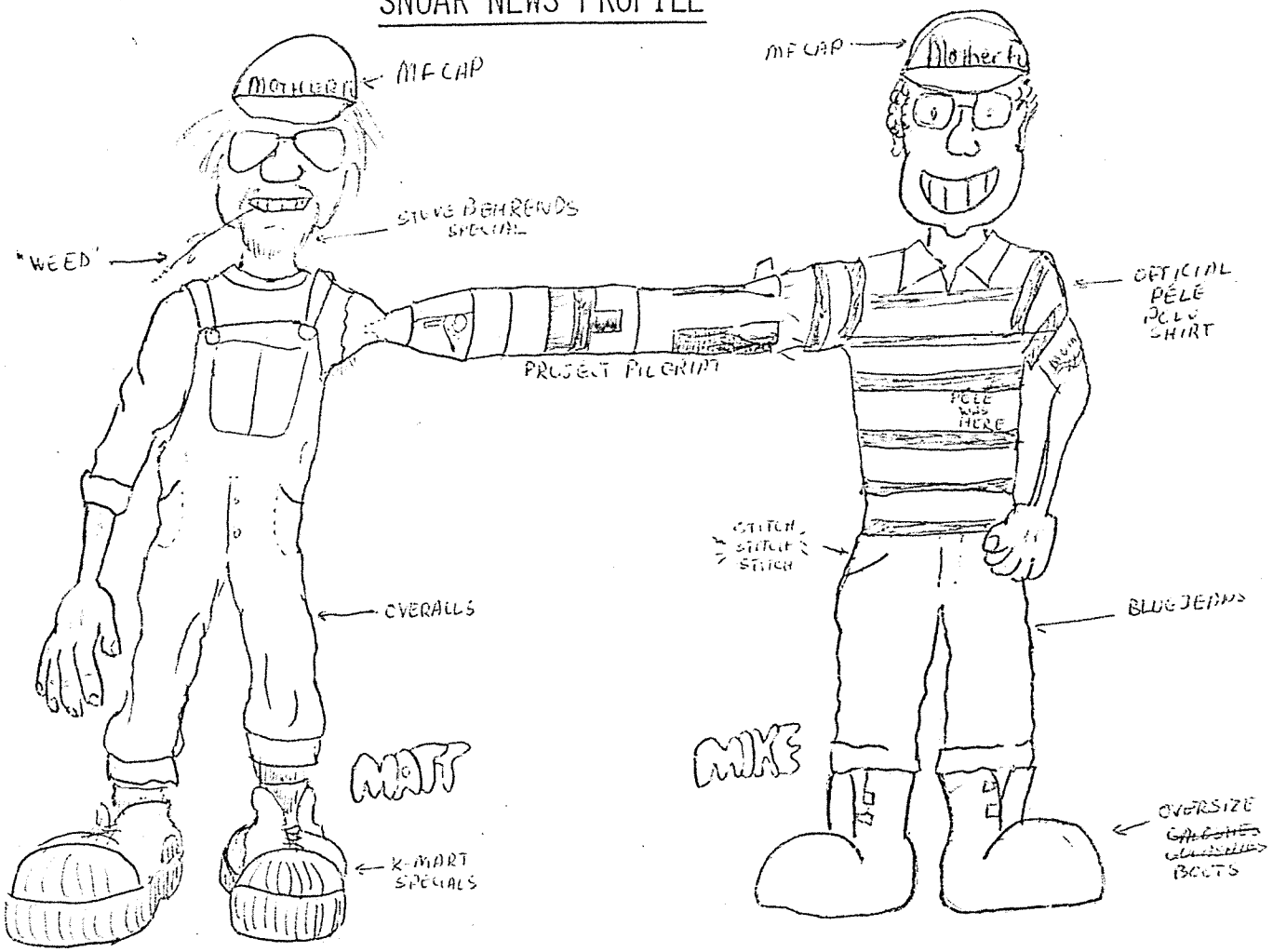
Plans Editor

Mike Nowak
9900 South Highland
Garfield Hts. Ohio 44125

Technical Editor

Chris Johnston
26481 Shirley
Euclid, Ohio 44132

SNOAR NEWS PROFILE



SNOAR NEWS PROFILE: Mike Nowak/Matt Steele, Siamese Twins and Reserve Team Champs, 1977

Favorite Drink: Milk/Ol' Rotgut

Least Liked Engine: D12's (in any delay)

Most Quoteable Quote: "We've been had!"

Last Book Read: 'Humpty Dumpty meets The Neutron Bomb'

Latest Accomplishment: Reading this without moving our lips.

Most Memorable Prang: GLRM-'76, Mike had a D12 distroy his scale Redstone, and Matt had both D12's in his Dual Egglofter cato.

Schools Attended: Case Western Reserve/Kent State University

Profile: Mike Nowak and Matt Steele, are a pair of Siamese twins joined by a Project Pilgrim. Mike was born on Friday, December 13, 1957, and Matt was born two two weeks later, and again three days after that.
Mike and Matt are unique in the fact that while being Siamese twins, they actually have two different mothers! They also attend two different schools 50 miles apart. Such a pair, those two! And you ask, what is their favorite modroc newsletter? SNOAR NEWS, of course! The newsletter of Reserve Chumps!

UP COMING EVENTS OF SOME MINOR IMPORTANCE

AKRON ASSOCIATION FOR THE ADVANCEMENT OF ROCKETRY OPEN MEET

At Medina, Ohio. Events:

- Atlas Super Roc
- Design Efficiency
- Predicted Altitude
- Class 2 Streamer Duration
- Class 00 Streamer Duration
- Class 1 Parachute Duration
- Open Spot Landing
- Hawk Boost-Glide
- Hawk Rocket-Glide

Date to be Announced at a later date. Look to SNOAR NEWS for more details.

SOOT-2

June 4, 1978; at Medina, Ohio (SNOAR's Obscure Open Tournement 2)

Events:

- Class 3 Parachute Duration
- Class 2 Streamer Duration
- Ostrich Eggloft
- Gemini Dual Eggloft
- Dual Payload
- Class 5 Altitude
- Eagle Rocket-Glide
- Eagle Boost-Glide
- Open Spot Landing (C engine

(Do you believe these events???)

MMRR-'78

June 24-25, 1978; Who knows where? (Midwest Model Rocket Regional '78)

Events:

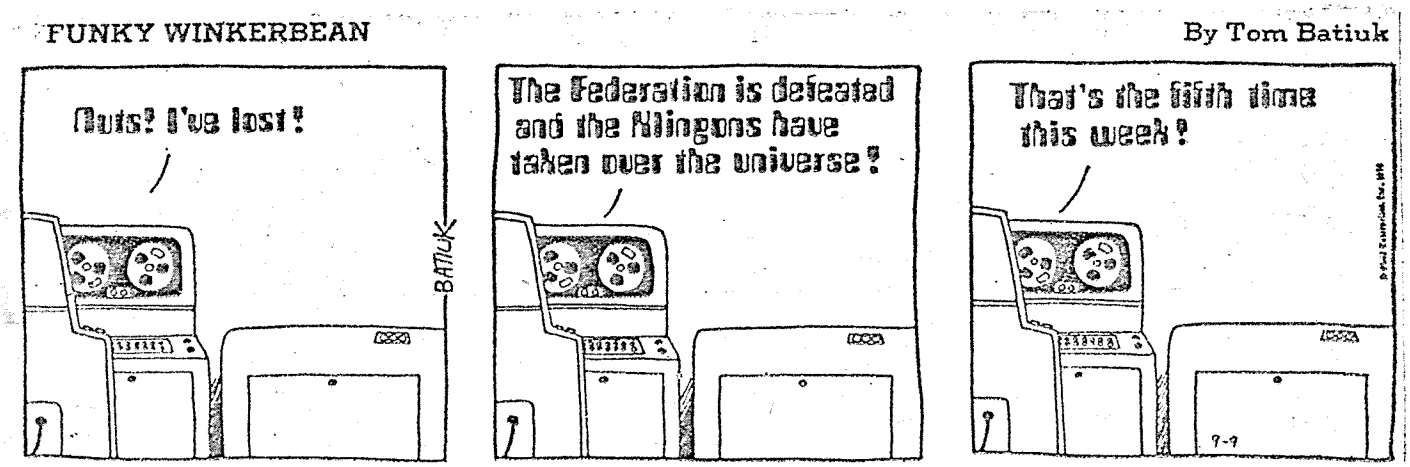
- Robin Eggloft
- Swift Boost-Glide
- Sparrow Rocket-Glide
- Class 1 Parachute Duration
- Class 1 Scale Altitude
- Class 3 Helicopter Duration
- Mercury Dual Eggloft
- Hawk Rocket-Glide
- Plastic Model

****

HELP NAME THE SECOND U.S. SPACE SHUTTLE

With the successful letter writing campaign which changed the name of the first Space Shuttle to 'Enterprise', another campaign has been started to name the second shuttle 'The Millenium Falcon' after the Corellian ship in the movie 'Star Wars'. All those interested should write the United Space Agency, NASA, President Carter and everyone else associated with the space program to let their choice known.

****



ALL YOU WANTED TO KNOW ABOUT

LAUNCH LUGS

BUT WERE AFRAID TO ASK.

By Matt (The Man of Steel) Steele

Materials:

Basically, there are two different types of launch lug materials, depending on the design of the model. The paper type are the ones most commonly used. AVI/MPC paper lugs glue great to models, but their brown color necessitates using a primer coat of paint over them when finishing the model. CMR lugs are also colored and very rough, and best used only as pop lugs. Estes/Centuri lugs are a mylar core with a paper wrap. This tends to make the lugs strong and light, but the paper has a tendancy to peel from the mylar sometimes leaving you without a lug. Overall, though, they are the best because the mylar tube usually crush or flare out. Aluminum or brass may be used for lubs, esp. for large models. Look in your hobby shop for the correct size tubing.

Diameters:

Usually a 1/8 inch inside diameter is used on models weighing less than eight ounces. For bigger birds, it is advisable to use a 3/16 inch ID aluminum lugs because of the increased strength of both the launch lug and launch rail.

Cutting:

The best way to cut a launch lug is to slip a wood dowel inside the lug and then cut (not crush!) with a sharp knife. For a nifty touch or to reduce drag, you can cut the lug at an angle. For an aluminum lug, a razor saw is the best bet. This goes a lot easier if you find something with a 'L' shape to hold the lug in place while cutting it.

Placement:

This is critical to your model's performance because it affects how your model will fly from ignition until the model is traveling fast enough for the fins to guide the model. Too often, the lug is just slapped onto the model as an afterthought, without any reguards to alignment or placement. This is especially true of 'home designs'. Take your time and think before you glue your launch lug on.

If you're going to use one launch lug, make sure it is long enough. One inch launch lugs are notorious for hanging up models on the pad (in fact, the Lindburg 'Mars Probe' is the worst model for hanging up on the pad that I have ever seen). The best way to prevent this to to use long launch lugs, ala John Squirrek. The single launch lug should be placed near the models center of gravity. Be careful not to place the lug too far up on the model, as it tends to make the model hang up or weathercock severly. A much better idea, where practical, is to use two small launch lugs. This arrangment allows the model to slide freely, even when the wind is blowing. The best arrangment is to place a launch lug near the top and the bottom of the model. This allows set up allows you to attach your clothes-pin (or whatever) at the lug instead of a tube, fin, ect. The placement of launch lugs on gliders is critical because they are so sensitive to wind. I have had the best luck using two small lugs glued on top of the pod. In extreme situations, a third lug on the tail of the glider might help.

Attachment:

This is where your workmanship (or workwomenship) counts most. When gluing one lug on, make sure it is parallel to the tube, and eyeball it from the end of the tube to insure it's proper position. When using two lugs, it is a good idea to use a launch rod to line up the lugs properly. Five minute epoxy is recomended to glue the lugs because of its strength and quick curing time. Do not forget to fillet your lugs. This cuts down on drag and the frustration of having a lug fall off as you prepare the model for launch. There is no quick method. Just do one side at a time.

Thats about it! For more information; consult the 'Joy of Launch Lugs' by Jack Cough.

Products Review

By Frank Peri and Chris (Norton Freak) Pea

ESTES NIKE-AJAX: The Estes Nike-Ajax is a challanging scale model of America's first supersonic anti-aircraft missle. The model is an eyecatching demonstration model too, but suprise! It is also a good Scale model, especially for all you A Divisioners. The Nike-Ajax is just loaded with details that will drive the Scale judges into orgasms of delight. However, care must be taken to insure that these details are done correctly, or you will have a rocket that looks like it has been mutilated by your kid brother. The model is finely detailed, but some key dimensions are left out that could cost you some static points. Estes also did a good job scaling the model, but they weren't perfect. The fins are too big and the interstage coupler is not very detailed. I have flown the model only once in competition, and that was at Munchkin 2. Although it was DQ'ed for engine ejection, (remember those engine hooks folks) it scored over 700 static points, which gives an indication of the models worth. Overall, the Estes Nike-Ajax is a challenging model that is a great demonstration bird and a decent Scale bird. Scale data is also available from Estes Industries.

****

Now is the time for all good men to come to the aid of their planet.

****

LET'S PLAY..... # HOBBY SHOP

The Rules Are Simple:

1) The two players write down the names of as many NAR Trustees during 1961 as they can remember.
2) Whoever can remember the least is the victim, or customer.
3) The other one is the prankster, or shopkeeper.
4) The victim asks the shopkeeper for a rocket kit.
5) The shopkeeper, who does not have a single rocket kit whatsoever in his shop, must give an excuse why he does not have that particular kit in stock. If he says he doesn't have it, he loses. He must give an excuse (see examples).

6) The victim asks for another kit.
7) The shopkeeper gives another excuse.
8) This continues until:

a) The customer runs out of kits or repeats himself/herself, in which case, the shopkeeper wins.

b) or; the shopkeeper keeps the customer in the store for more than three minutes, in which case the shopkeeper wins.

c) or; the customer attacks the shopkeeper, or has a fit of any kind, in which case, the shopkeeper wins.

d) or; the shopkeeper pauses for more than three seconds before giving an excuse or repeats himself, in which case the customer wins (this is not like real life; but then, this is a game).

e) or; the shopkeeper admits that he has not one rocket kit whatsoever, in which case the customer wins and is able to punch the shopkeeper in the teeth.

****SPECIAL RULES**** For skilled players, real life hobby shop owners, and Jon Rains; Same as above, but shopkeeper must keep customer in shop for 40 min

A few simple excuses for beginners;

1) There's little call for it.
2) It'll be in next Tuesday.
3) They couldn't get the parts molded for it yet.
4) That kit's not in production anymore.
5) I sold the last one 30 minutes ago.
6) I wouldn't recommend that one, it's;
   a) Too hard.
   b) Too expensive
   c) Missing half of it's parts.
   d) All of the above.
7) I'll have to check.....Oh my! The rat's have gotten to it!
8) Kuhn hasn't sent me the current prices yet.
9) AVI hasn't sent me the current catalog yet.
10) I can order it for you.
11) Can I ask you what engine your planning to fly it with?
12) They might have one in Port Huron, Michigan.
13) There's been a run on those.
14) That's the one I had picked out for myself.
15) We don't have the Estes one (or Centuri one, depending on what you asked for).
16) I've had that on backorder for two months.
17) I haven't seen the new catalog yet.
18) It isn't contest certified yet (CMR kits only).
19) Is that like the one Stine had years ago? (Esp. effective when customer requests a
20) Do you see it hanging up? Space Shuttle!)
21) Steve Behrends doesn't build those.
22) MIT can't get them either.
23) Fred Shector ate the last one.
24) You might write RV2.
25) Its all;
   a) Mannings fault.
   b) Elaine's fault.
   c) Pittsburgh's fault.
   d) Board of Trustees fault.
   e) Stine's fault.
   f) Carlson's fault.
   g) Rain's fault.
   h) NOAR's fault.
   i) NOVAAR's fault.
   j) Behrend's fault.
   k) Filbert's fault.
   l) Scapegoat of your choice.

****

COMING IN THE NEXT ISSUE!

Developing a Contest Stratagy (Maybe I'll get it written)

The complete uncensored story of the life history of the Project Pilgrim

Various other holiday goodies!

SNOART-1

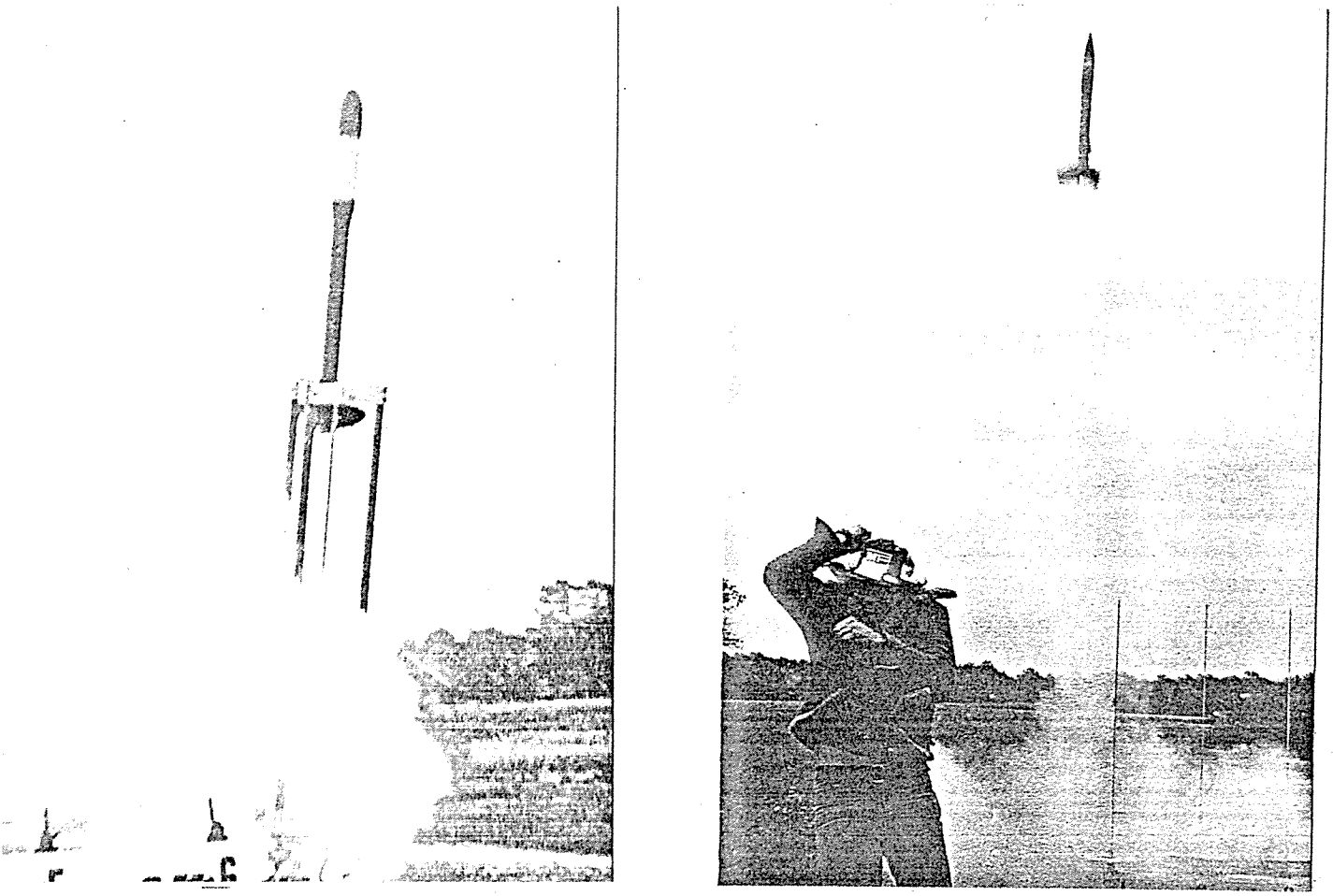
By Mike Wagner & Matt Steele

On October 9, 1977, a blustery Sunday, SNOAR's first annual record trials and Ice Fry competition was held in near freezing, near snowing and nearly too windy weather at the Wagner Memorial Prangmunde 4 site in Medina (where?), Ohio. The field, owned by SNOAR's newest member, Mike Wagner, is a beautiful piece of land that needs no insurance and is only one minute from Matt's house. Unfortuneately, it is about two hours away from anyone else. The decaying situation at the Garfield Hts. site necessitated the change, and on that fateful Sunday, a few reluctant, but dedicated (insane!) people, er, rocketeers ventured to the new site to fly rockets (of all things)!

After finding the field out in the middle of nowhere (we're hearing it so many times we'ew beginning to believe it ourselves!) the laborous task of setting up the tackers and launchers began. An hour later, things were ready to go. Among the attempts was Matt's piston launched Class 1 Altitude bird, (Trackers....did you see it? See what???) John Alexander attempted a Mercury Dual Egglofter, and after about 427 misfires, the engine cato'ed half-way into the burn. Fried and frozen omlets, anyone? John did manage to set a record for freezing the @#$%&*! off of the trackers. A almost stable Class 3 Streamer Duration attempt by Matt turned in a 39 second flight, and that was all folks! Three whole tries! Wow!

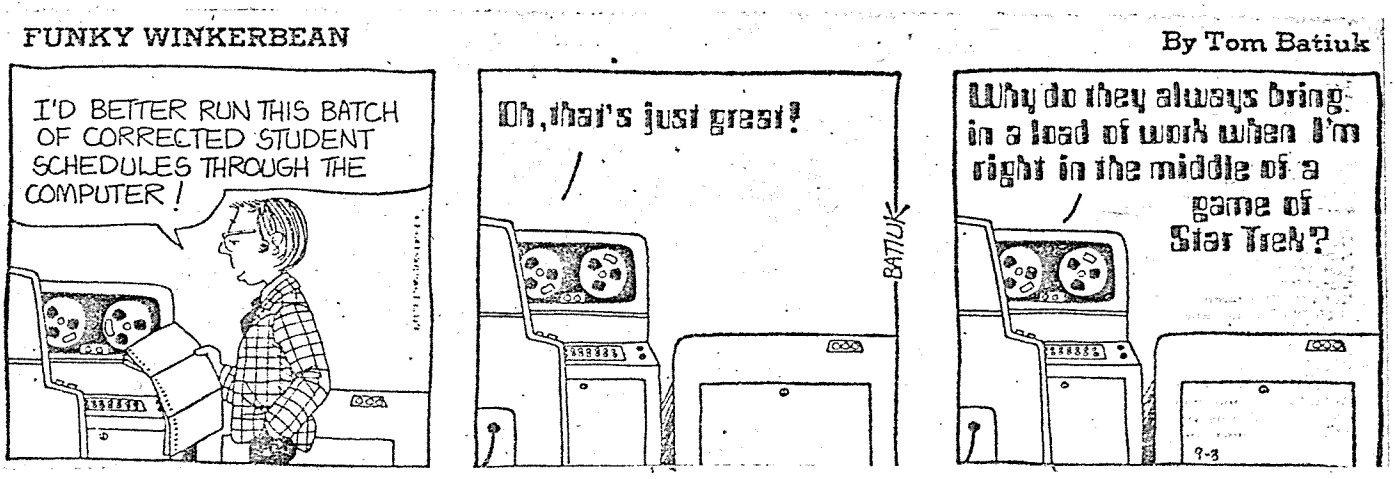
Chris Pearson did get some tracks in on his Alpha 3, even with some bad A engines, and Matt got his Lineas Turkey tracked (it will do about 150 meters on a C6-3, Predicted Altitude fans). Chris also attempted a Super-Roc flight, only to have a vintage C6-3 distroy his model (but AVI said they were still good!). Matt's Birdie flew about seven times, including the few times that ti hung up on the pad, right in front of the photographers face. Matt also launched a Cineroc, and despite a case of seemingly frozen batteries, the film ran. Catch the flick at an upcoming SNOAR meeting, cinema fans. (Do you get the feeling that Matt was the only one carzy enough to fly rockets?)

The only redeeming factor of flying was that used engine casings made great hand warmers. Afterwards, a Bull session was held at the local Mc Donalds (The Rocketeers Choice!). And while no records were set, SNOART-1 came off a success because it did give us a trial! Better luck next year, record fans!



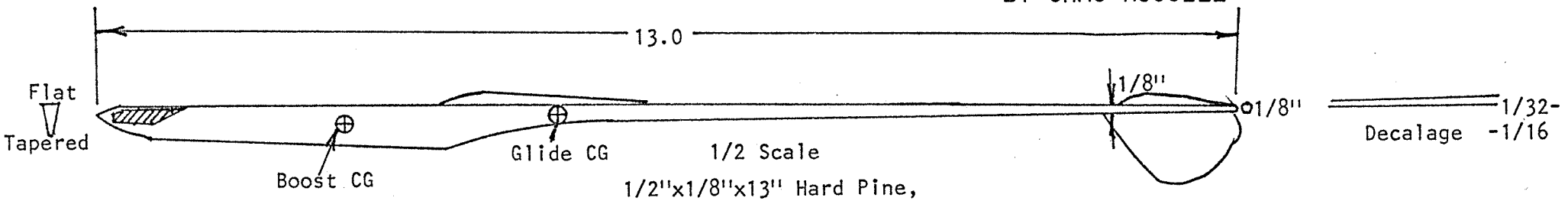
(Left) John Alexander's E11.8 Dual Eggloft Attempt. The engine cato'ed about 30 feet into the air. (Right) A unique test developed by SNOAR. The 'Quick Reactions Test' consists of holding onto a D12 powered model until ignition, and then count how many fingers you have left. Photos by Mike Wagner.

****

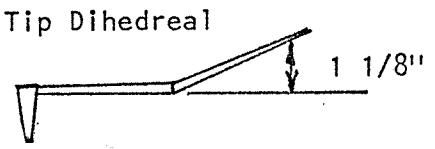


FLUTTERBYE SPARROW BOOST-GLIDER

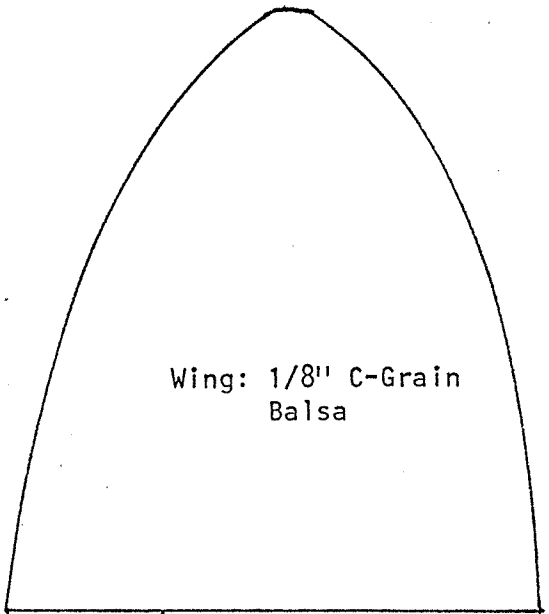
By Chas Russell

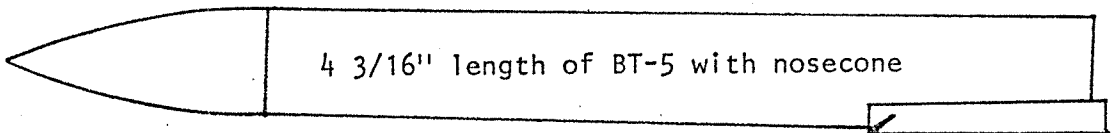


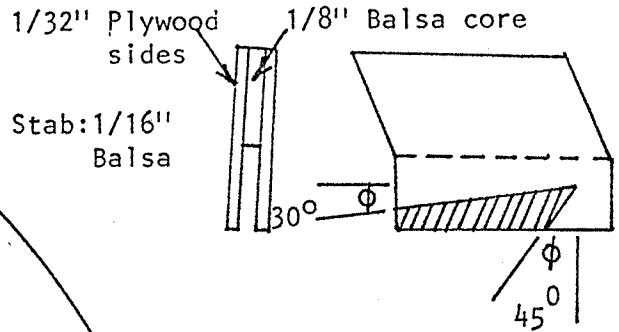
ALL SURFACES ARE FULL SCALE

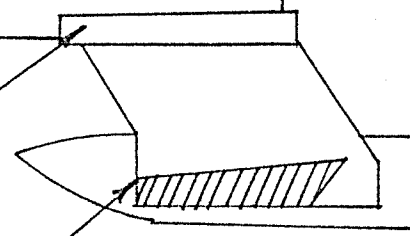


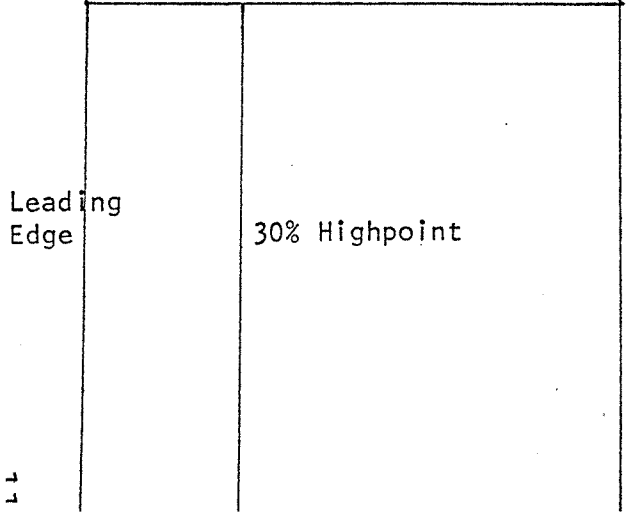
Note: 5 inch parachute is used in pod
Use Scotch tape turbulator
Use 1/2A3-2T or A3-2T engines

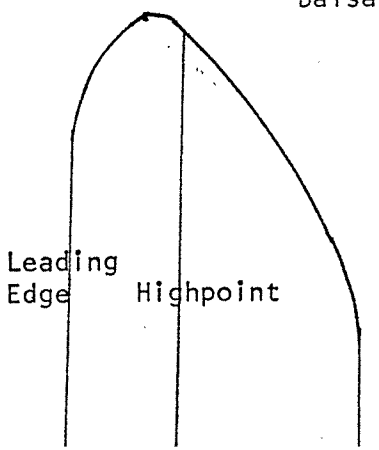


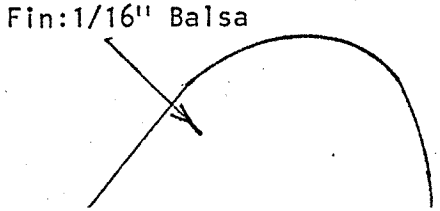












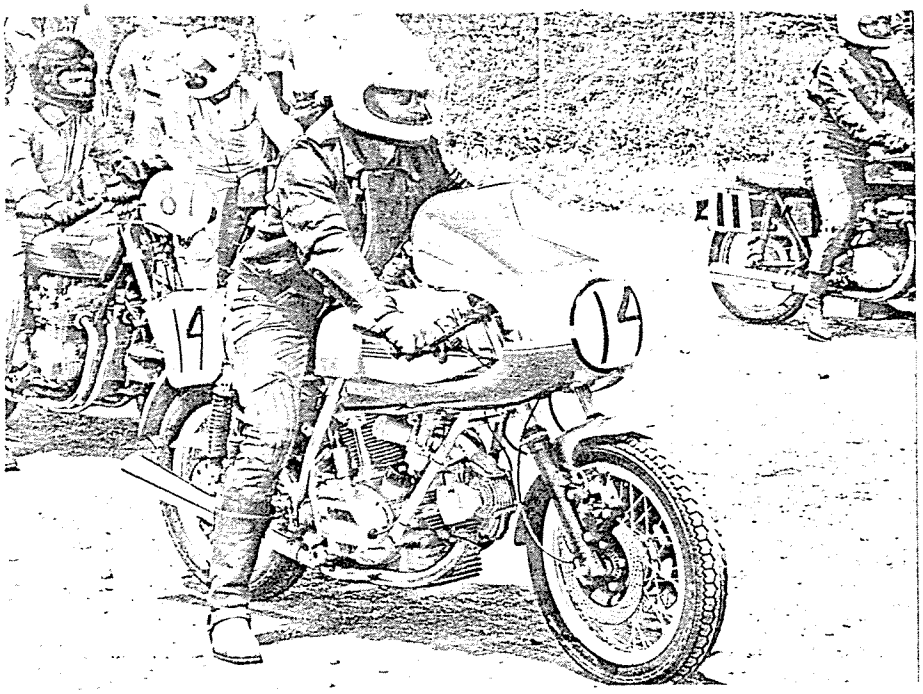
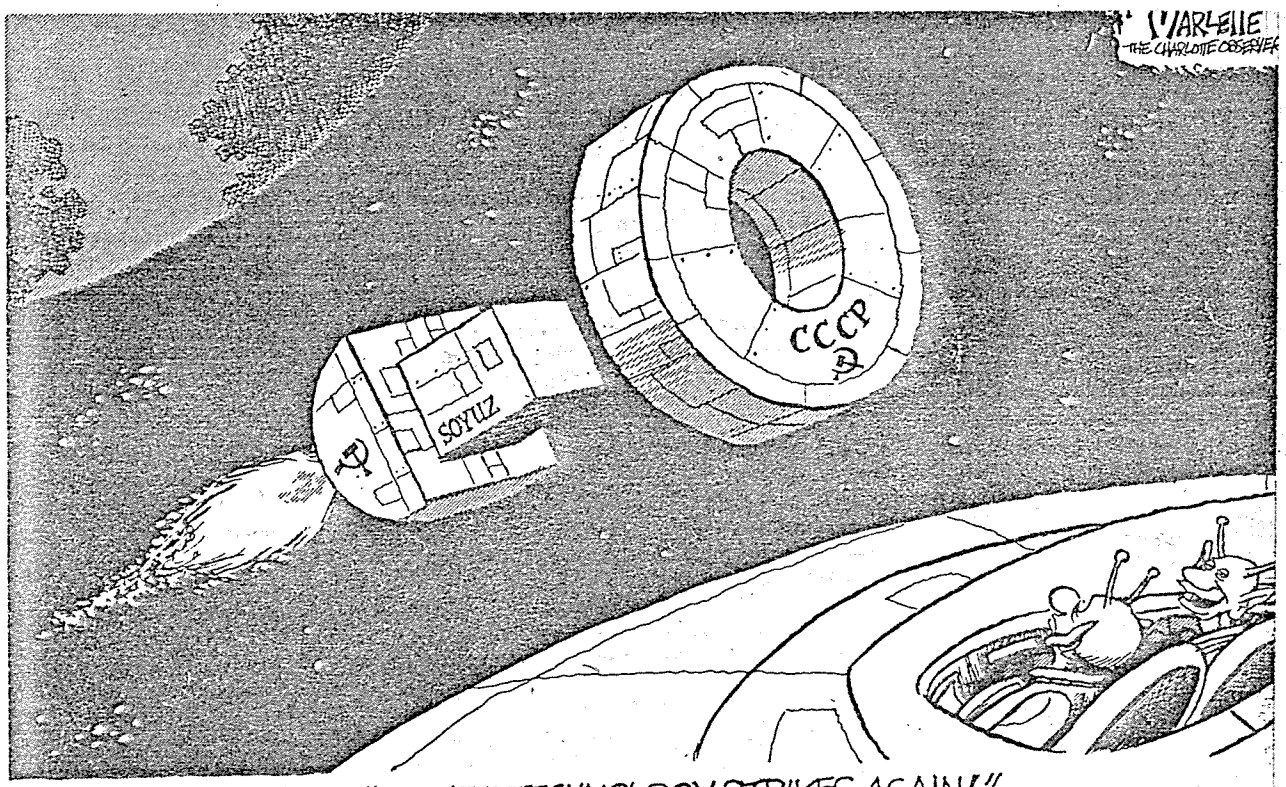


PHOTO OF THE MONTH

"Grand-Son-of Mar? What the f___k is that???"

-Chris Pearson aboard his Desmo Ducati Super Sport at Nelson Ledges Road Course during Grand-Son-Of-Mar Weekend.

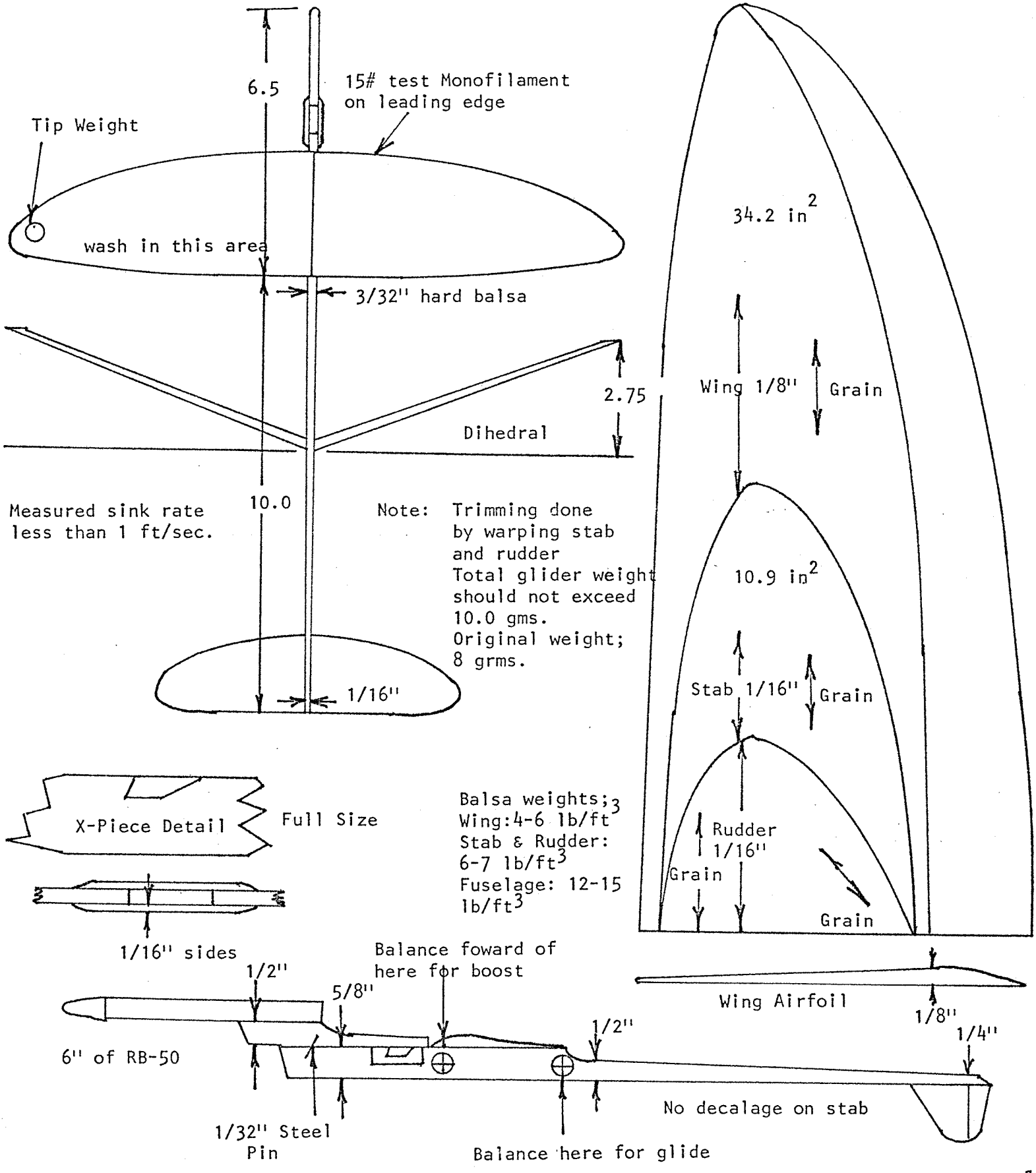
****



"SOVIET TECHNOLOGY STRIKES AGAIN!"

A HIGH-PERFORMANCE BOOST-GLIDER

By Guppy



Measured sink rate less than 1 ft/sec.

Note: Trimming done by warping stab and rudder
Total glider weight should not exceed 10.0 gms.
Original weight; 8 grms.

SMALL SOUNDING ROCKET SYSTEMS

P.O. Box 341 • Mountlake Terrace, Washington • 98043

SMALL SOUNDING ROCKET SYSTEMS was formed in 1973. Since then research and development has progressed on a series of products for the advanced model rocketeer and also for various commercial and experimental applications. Naturally, this R & D has taken much longer than anticipated, and in fact is still going on. But the real news is: SOME PRODUCTS ARE NOW AVAILABLE!! That's right--we have a supply of rocket motors available off-the-shelf and small-scale production is underway. Specifications are given for two model rocket motors and one for more advanced applications. All specs are nominal and are subject to variation.

	Total Impulse (n-sec)	Dimensions (mm)	Mass (g)	Delays (sec)	
E32-X	40	28.6 x 70	60	4 to 12	$[redacted] 5.00
F64-X	80	28.6 x 101	85	6 to 14	$[redacted] 8.00
G128-X	160	28.6 x 165	140	8 to 16	$[redacted] 15.00

(Please add $ .50 shipping per motor.)

Delays are available in increments of one second within the ranges specified. In addition, all motors are available in a plugged version (e.g. E32-P) with no delay or ejection charge. These are priced $ .50 less than the corresponding motors with delays.

Please note that these motors are not currently NAR-certified, and therefore are not presently acceptable for use in NAR-sanctioned competition.

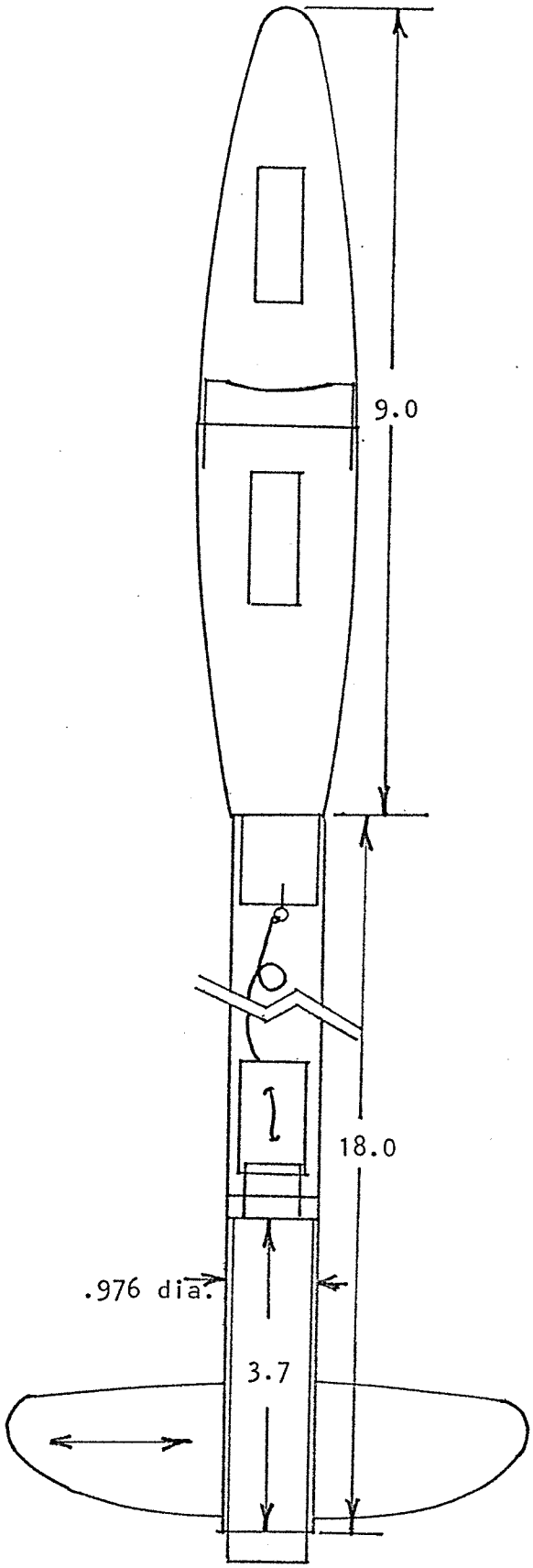
It may have already occured to you that the E and F motors are the same diameter, although somewhat shorter, than the corresponding Enerjet motors, and thus are ideally suited for any Enerjet models you may have gathering dust somewhere.

Yes, we know the specs and prices are hard to believe, especially in view of "comparable" motors now available-- there really are none. These are beyond-the-state-of-the-art propulsion devices in a class by themselves. Don't take our word for it-- try one!

If you'd like more information on these or other products, just send us a letter or post card; you'll get a prompt reply. You'll also be placed on our mailing list to receive all product bulletins and other literature sent out. If you've sent us a letter at any time in the past, you're already on the list. You should be receiving bulletins soon announcing such things as our first kits, a high-quality firing system, and perhaps payloads such as radio transmitters. Both larger and smaller motors are also under active development.

And most importantly: Let us know what you would like to see on the market. We're starting from scratch-- we need your ideas!

Dedicated to the advancement of small solid propellant rocket technology.



Parsec-13

MERCURY DUAL EGGLOFTER
UNITED STATES RECORD HOLDER
C DIVISION

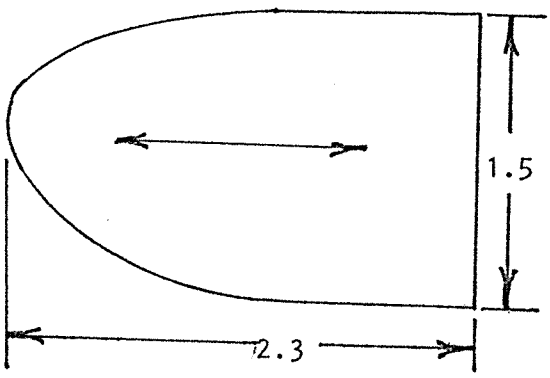
This Mercury Dual Egglofter, designed and built by Bob Kaplow, currently holds the United States record in that event, with an altitude of 500 meters, which was achieved in August 1976.

Lift-off weight: 270 grams

Empty weight: 200 grams

All di mensions in inches.

Full size fin pattern



BUILDING AND FLYING THE PARSEC-13

PARTS LIST:

1	18" BT-50
1	1/8" x 36" Elastic Shock Cord
1	3/4" x 1 1/2" Card Stock
8	1" Weatherstrip
1	1" x 6" Adhesive Mylar
1	AR-2050
3	1/32" Plywood Fins
1	MARS Dual Egg Capsule*
2	18" Mylar Parachutes
1	E11.8-7.5
2	Eggs (in a non-hard boiled condition)

*Note: Mars capsule can be replaced by a CMR DENC-50 and a plastic ring from the Humpty Dumpty kit (about $0.75 each seperately).

CONSTRUCTION:

1. Cut out and airfoil the three fins from 1/32" plywood, noting the direction of the wood grain. This is very important.

2. Sand the glaze off the BT-50 body tube. Use epoxy glue to install the engine block so that 3/8" of the engine projects from the rear of the model.

3. Epoxy on the three fins. Fillet with lots of epoxy or Epoxolite.

4. Epoxy the shock cord and mount into the model as close as possible to the top of the engine mount.

5. Cut off the tip of one half of the egg capsule. Install a small loop of cord on the shoulder. Epoxy the shoulder into place. Cut 8 1" pieces of weatherstrip and affix 3 in each half of the capsule and the other 2 to the top and bottom of the spacer.

6. Sand and finish the model well. A high-gloss, high-visibility finish is recommended. Do not paint, but polish the egg capsule with rubbing compound.

FLYING:

Install the E11.8-7.5 using lots of tape. Insert wadding and lots of tracking powder. Put two eggs into the capsule and tape it closed with adhesive mylar. Attach one 'chute to the capsule and insert it into the body. Then attach the other 'chute to the shock cord and pack it. Install the capsule shoulder into the body, and install an igniter in the engine. Fly from a COS Tower and use a Zero-Volume Piston for best altitude. For Gemini Dual Eggloft, try an E11.8-0/C6-7 tandem or a booster.

****

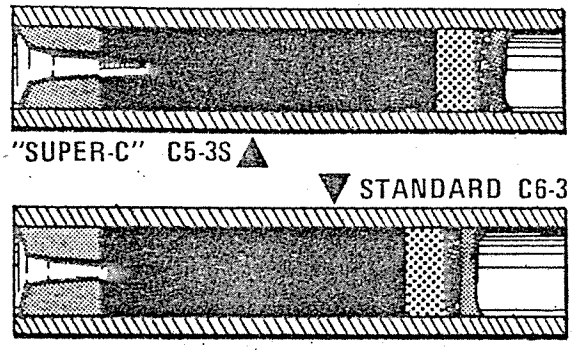
COMING UP IN THE NEXT ISSUE

More Plans! (Can you take it!)

NOMID-'77 coverage, or, 'I just love flying in the snow!'

And more humor than we care to mention!

TECHNICAL SPECIFICATIONS FOR CENTURI 'SUPER-C' ENGINES



Centuri Engineering Co. has finally graced us with the technical specifications for the new Centuri 'Super-C' engine.

As of the time of printing, it is not known if the Super-C engine is Safety Certified, and it is known that it is not Contest Certified.

ENGINE CONSTRUCTION: The "SUPER-C" engines (C5 series) are modifications of the popular standard C6 series. The cutaway drawings above illustrate the major differences of "SUPER-C": larger nozzle opening, nozzle cored deeper into the propellant grain and slightly more fuel. The "SUPER-C" is in the same size casing as standard engines. They fit regular engine mounts and require no adapters for use with existing kits.

The "SUPER-C" single-stage and booster engines are designed to boost big model rockets and multi-stagers higher and straighter! They do not replace the standard "C" engine but add a new dimension to rocket flying. Packed 3 to a box; includes igniters. "SUPER-C" engines are reasonably priced, slightly higher than standard "C's." See catalog for prices.

The "SUPER-C" total power of 10 Newton-Seconds is the same as in a standard "C", but it is delivered in a different manner; somewhat like changing transmissions in a stock automobile to increase performance. The "SUPER-C" gives a higher, initial thrust "spike" at lift off to stabilize a large rocket early in its flight path. Thrust then drops a little below that of a standard "C", to maintain direction. This kind of power delivery is especially useful in contests, such as egg-lofting, scale flights and plastic model kit conversion.

25% GREATER ALTITUDE: Altitude measurements of flights with "SUPER-C" and standard "C" engines used alternately in certain large models.

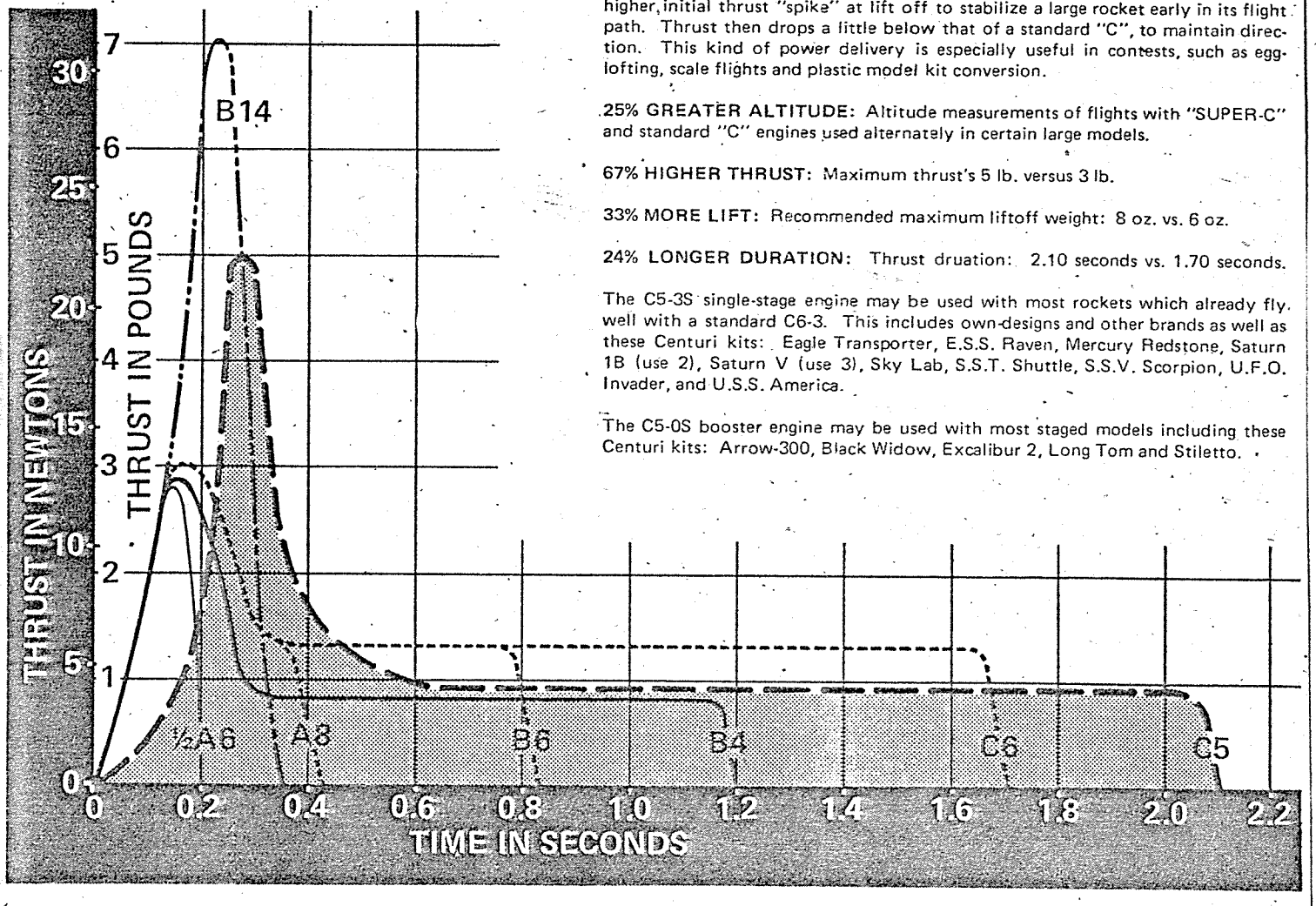
67% HIGHER THRUST: Maximum thrust's 5 lb. versus 3 lb.

33% MORE LIFT: Recommended maximum liftoff weight: 8 oz. vs. 6 oz.

24% LONGER DURATION: Thrust druation: 2.10 seconds vs. 1.70 seconds.

The C5-3S single-stage engine may be used with most rockets which already fly well with a standard C6-3. This includes own-designs and other brands as well as these Centuri kits: Eagle Transporter, E.S.S. Raven, Mercury Redstone, Saturn 1B (use 2), Saturn V (use 3), Sky Lab, S.S.T. Shuttle, S.S.V. Scorpion, U.F.O. Invader, and U.S.S. America.

The C5-0S booster engine may be used with most staged models including these Centuri kits: Arrow-300, Black Widow, Excalibur 2, Long Tom and Stiletto.



SPECIFICATIONS & TECHNICAL DATA FOR SUPER-C	Product Number	Type	I_T Total Impulse lb/sec N/sec		F_{AVG} Average Thrust ounces/Newt.		F_P Maximum Thrust ounces/Newt.		T_B Thrust Duration seconds	T_D Delay Time + 15% seconds	Engine Weight ounces/grams		Propellant Weight ounces/grams		Recc. Max lift-off wt. (with eng.) ounces/grams	
Single-stage (green)	5592	C5-3S	2.24	10.00	17.11	4.76	80	22.25	2.10	3.00	.90	25.5	.46	13.0	8.00	227
Booster (red)	5590	C5-0S	2.24	10.00	17.11	4.76	80	22.25	2.10	0.00	.82	23.2	.46	13.0	8.00	227

Armstrong Launch

By Chris (Norton Freak) Pearson

How many of you would drive for five hours to get to a little hick town just to fly sport rockets? Well, on June 19, a whole herd of SNOAR membersmade the trip just so Matt Steele could have some company, since he went all by his little self last year.

Thankfully, the festivities did not start until about 1:00 pm that day, and thus giving yours truely, and traveling companion, Big Al Tuskes, enough time to goof off all the way there. After a leisurely trip, stopping off at my old alma mater, in Tiffin, in order to re-fuel the car, buy some film (see photos) and visit the mens room, we arrived in the vast metropolis of Wapakoneta, Ohio (where?) just in time to get hopelessly lost.

After finding the field, which was just a football field, surrounded by houses and buildings, we setteled back to watch some radio controlled flyers make absolute fools of themselves. One plane managed to clip off one of its stabilizers upon take-off by hitting a phone line. Another plowed into a dirt pile at the end of the field, and the highlight of the day was the parachute drop of a GI Joe from what must of been the slowest flying model airplane I have ever seen. It was also the heavist, since upon running out of fuel, it prodeeded to fly into a high tension lines, knocking several down, and thus blacking out most of the city!!! After watching this demonstration of a supposedly 'safe' hobby, I remarked to no one in particular "RC planes are safe?" and thus receiving the evil eye from several of the RC group.

What was really impressive was the hot air balloon ascent from the field. The people had a bit of difficulty getting the thing inflated, since the strong winds kept blowing the half-inflated balloon sideways. Imagine watching a half-filled balloon, laying on the ground and then have it start to roll towards you, less than fifty feet away! They managed to get the balloon off the ground, a lot sooner than they would have wanted, and it sailed off to the horizon, probably never to be seen again!

We then proceeded to set the launch racks for our part in the demonstration. Gerry Gregorek was in charge of the demo, and several of the manufacturers had donated kits and engines for the demo, which were soon scarfed up by every one else in our group. The first thing off the pads were some Alpha's, which were used to demonstrate the power of various types of engines, from 1/2A to C. The people were not especially impressed. I guess they were expecting something like Saturn V's in size, power and noise. However, one of the first rockets off next was a D12 powered Goblin, which flies like a raped ape, therefore creating a great amount of noise. The reaction of the crowd, 'OOOhhhh', Ahhhh's' and the like, showed that we were on the right track. After that, we started to launch more and more powerful models, which the crowd loved. One small problem though, was all the @#$%&* kids that thought they could keep the models that they recovered! Five or six models were lost by brats running away with them (if we only had one phaser!). And many others were recovered by prying them out of the hands of snotty-nosed screaming punks. The people in the nearby houses must have thought that they were under attack by the way the rockets were raining down upon them!

Many of the SNOAR group came only to watch, and several people from the barren asteroid of Toledo, Ohio were there, including Grubworm Grubinski, Gary (#1) Ottgen, and a plither of other to sickening to mention. The highlight of the sporting launches was Matt Steele's flight of the Pilgrim Observer/Saturn V combo, dubbed 'Project Pilgrim' and it's flight was grim indeed. The monument of Plastic Model technology veered over at launch, looped and then obliterated itself against one of the lighting grids for the football field. It just didn't crash, it exploded. For many minutes afterwards, Matt was in a state of shock, from watching $20.00 worth of plastic model distroyed. Never fear though, 'Project Pilgrim' will reappear in even greater glory for the next contest year!

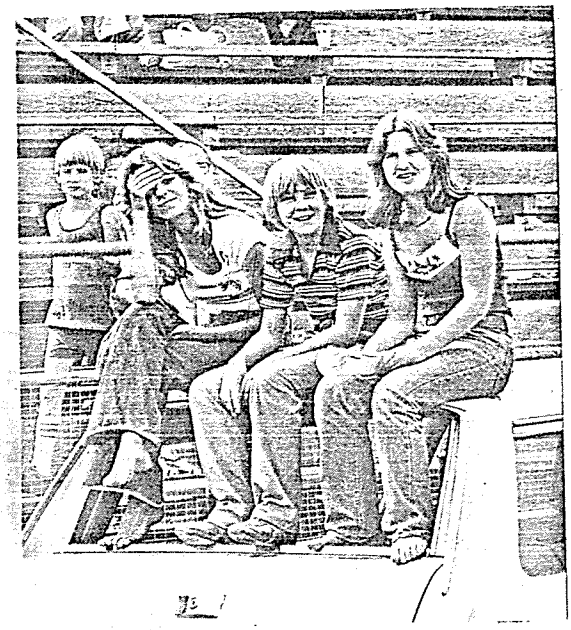
After the sporting launches, the crowd started to thin and we proceeded to fly some 'modified' contest events. Class 0 Parachute Duration, Class 1 Streamer Duration, and

a Scale event in which no data was required. Some of the contestants, which included some of Dr.Gregoreks family, didn't really know what Class 0 or Class 1 was, since they were using C engines.

The workmanship displayed in some of the models was great! Klingon Battle Crusiers were used for Parachute Duration, and everything under the sun for Scale and Streamer Duratio The real battle was between my humble self and Gary Ottgen. As it seemed that we were the only ones that were really seriously competing. Chris Pearson won the Scale event by a wide margin, and to tell you how 'relaxed' the rules were, with a taped on launch lug! Since this contest was not for points, no one really gave a f___! There were many scale flights, and most of them were kits, and some of them showed a fair degree of workmanship. In Streamer Duration, Chris Pearson once again showed his talent (modest, am I not?) by blowing away all others, with only Gary Ottgen coming close. The official 'Rip-Off of the Day' occured when Chris Pearsons PD bird took first with a 3 1/3 minute flight, and was told that it qualified even though it lost it's CMR nose cone. This decision was then reversed at the awards cerimony, much to the chargin of Chris,(@#$%¢&*/!). Gary Ottgen then took the award in PD, saying "That's not the way I like to win" but refusing to give the $15.00 Estes Award Certificate to Chris as a consolation prize.

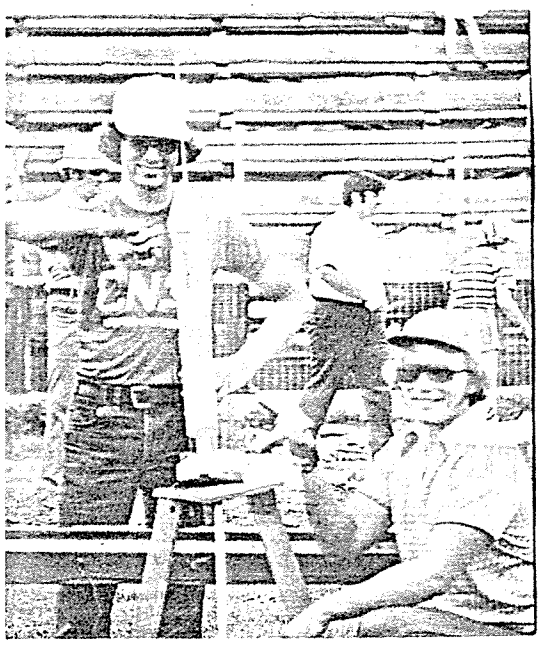
The return trip was the real highlight of the trip, in which Matt and Alan played Grand Prix all the was from Wapakoneta to Findlay, with speeds in excess of 90 mph. The rest of the trip included shouting obscenities at some of the local yummies, hanging out the windows and doors at 70 mph, and other automotive acrobatics.

Going to the Neal Armstrong launch every year is a refreshing change (and not the Uncola from the grind of the competition scene. It is a time when every one can get together and just shoot the breeze, fly for fun and make assholes of themselves. Are we going to go next year? You bet!!!!

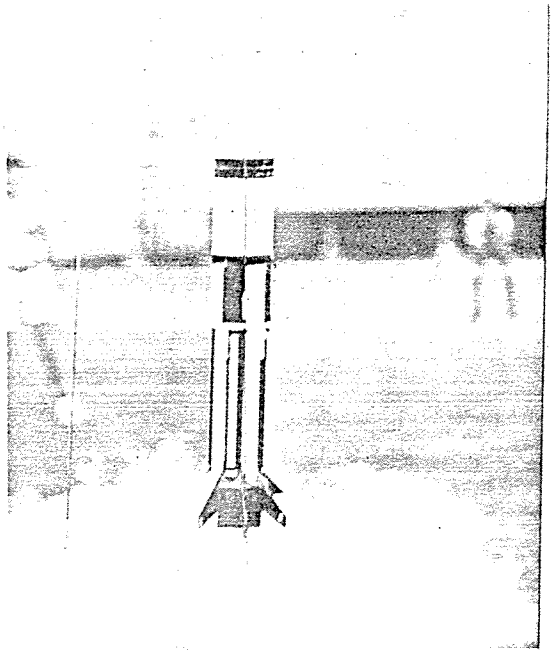


(Above) Some of the spectators at the launch. Wish some more of them would show up at our launches!

(Above) Some of the larger Scale demo rockets which were flown at the launch. The V-2 and Saturns really impressed the crowd.



(Left) Chris Pearson placing a Wiccan hex upon the Project Pilgrim, taking revenge for the loss to the Pilgrim at GLRM '77. (Center) Ignition! The last time the Pilgrim was seen in one piece. (Right) Matt Steele in shock, upon watching the Pilgrim strike a lighting pole and distroy itself.



(Left) Matt with the remains of his Project Pilgrim. (Right) One of the many Saturns that were flown at the demonstration launch.

Matt Steele
2888 Station Rd.
Medina, Ohio 44256

C. D. Tavares
157 Normandy Hill Dr.
Alexandria, VA
22304

THIRD CLASS