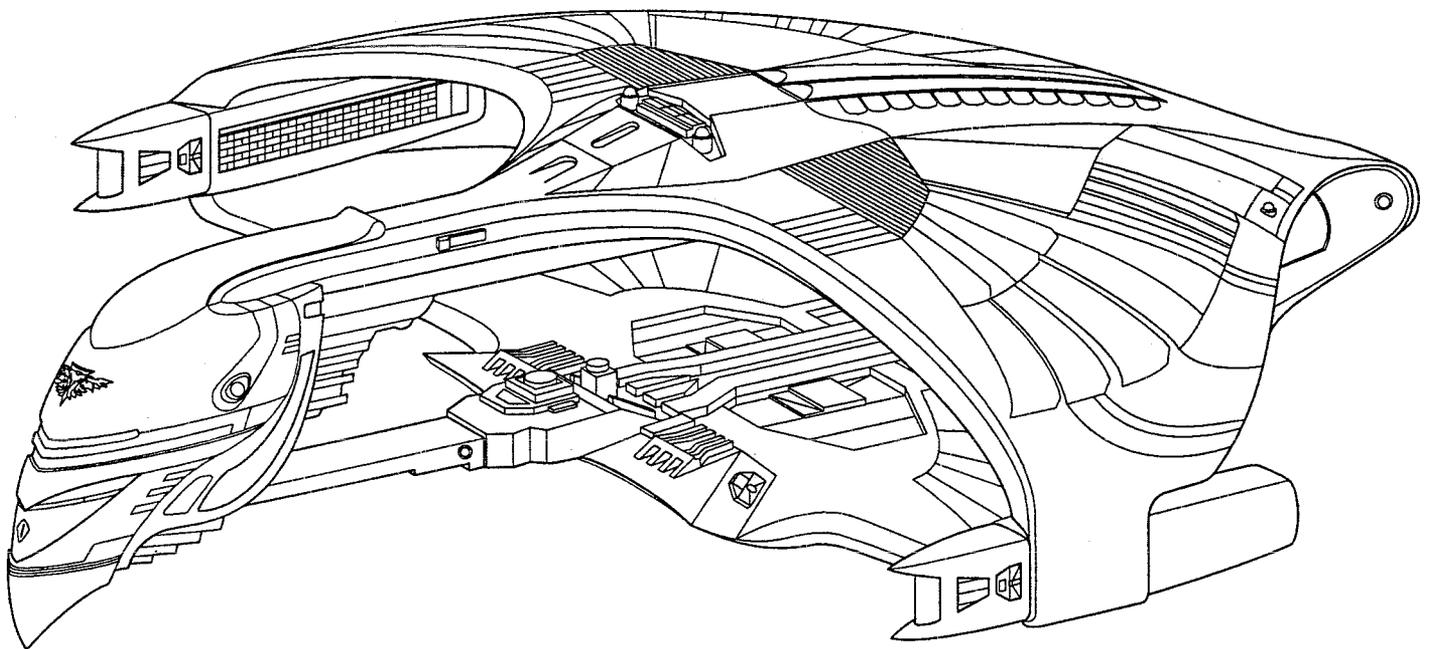


Star-Date 1991

The Newsletter of ASTRE, Section of Champions
STAR-DATE, Winner of the 1988-89 LAC Newsletter Award
Mickey Gottung, 1989-90 A Division National Champion
ASTRE, 1989-90 Section Reserve Champion



Romulan Warbird

Length: 4400 feet
Breadth: 3200 feet

**STAR
TREK**
THE NEXT GENERATION

STAR-DATE 1.91

**Volume 5, Number 5
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Articles, plans, letters, suggestions for publication, or exchange newsletters should be sent to the addresses above. Submissions should be clearly hand-written, typewritten, or (preferably) on a 3.5" 720k or 5.25" 360k IBM-compatible disk (other formats are possible, call us). Submissions should reach us by the 20th of the month preceding the desired cover date for full consideration for publication.

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Production crew: Chuck Hemker, Jean-Etienne LaVallee, Jim Nolan, John Sicker, Jeff Vincent.

Editors of the Month: Jean-Etienne LaVallee, Jim Nolan, and John Sicker.

Contributors: Debbie Schultz, Dave Montovani.

It's Rough ! (60 grit)
It's Tough ! (Tougher than LOC tubes)
Life at the keyboard !!!

On The Cover

From the files of the Federations Most Wanted ...

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Editor's Thermal

Here we are, a new year, a new newsletter, a new editor. I must say the work behind the scenes is just as enjoyable as reading the newsletter. I thank John, Jim, Jeff, and my father for their support in the production end of things --- it helped. Now let's not dance around on this while there are more serious things to talk about.

My first desire is to congratulate the NARAM-33 staff for their choice of events. I see not only consideration in their decisions, but also a search for a well-balanced NARAM. Granted, there are no high-power events, but I don't see many unchallenging events, either. B Eggloft Altitude, C Helicopter, RC R/G, and A R/G are far from being simple events. I also have the viewpoint of a seventeen-year-old kid who works, goes to school, plays sports, and can't afford to pay the money involved in high-power rocketry for just one flight. Overall, it is my feeling that Mark Bundick and the NARAM-33 staff have established a well-rounded and technically-pleasing NARAM.

My closing note is in response to the editorial situation of this newsletter. I feel that, in the future, production, continuity, and accurate communication should be the foremost objective of this newsletter.

That's it for my airtime. Enjoy.
Etienne

Beginning RC R/G - The Right Way (or, The Sky is Falling!)

by Etienne LaVallee

As one goes down the list of events for this coming NARAM, one comes to what seems to be a great specter on the list: Radio-Controlled Rocket/Glider. While many cringe at this event making it to the level of the National Meet, it should be considered a gift in disguise. The techniques used in building a model such as this are excellent for honing the skills of a rocketeer who feels he needs a little more of a challenge. For those who think it's an expensive event, I can only say this: if you get the itch to do it, the price doesn't hurt. And it's not that expensive, anyway. In future installments of this column, I plan to give step by step details on how to build and fly a beginner's RC R/G for less than \$175. Before one should contemplate this, they should first research it and start out with some flying experience. Here is a list of pre-RC R/G items that one should look into before they even start to build a model:

1) Research - find books, magazines, and catalogs on RC planes. These books can be found in hobby stores and libraries. If you are renewing your AMA insurance/membership, then you can get the AMA News magazine. Here are some catalogs that I recommend:

Tower Hobbies - Box 778,
Champaign, IL 61824-0778.
Three dollars for a catalog
containing probably the
best-priced and best-handled RC
materials, from models to gear
and tools.

Hobby Shack - 18480 Bandilier
Circle, Dept HR050, Fountain
Valley, CA 92728-8610. Nice
starter gliders and good supply
of tools.

SIG Manufacturing - 401 South
Front Street, Montezuma, IA
50171. Three dollars for a
catalog with excellent balsa
wood and tools, but poor prices
on RC gear.

2) Get building experience - Tower Hobbies has a variety of RC gliders that one can choose from to build. After a person has done this they will realize that RC has a lot to offer in the area of rocketry, as far as building techniques go.

3) Get flying experience - if you don't want to build that much, you can get an Almost Ready to Fly (ARF) model from the Hobby Shack. The glider, called the Spirit of 76, retails for \$21.00 alone or \$34.00 with a High-Start launcher. Add some inexpensive radio gear (the Futaba 2NBL for \$50.00) to make a superb trainer for learning to glide.

That's about it for now. Next time I'll have the plans and instructions made up for the Ozone Killer, a beginner's RC R/G made with foam wings. Until then, remember: head up, hand on the stick, and no crowd-diving!

The Mystical One

A Way Cool E Helicopter Design

by Etienne LaVallee

Every summer, when the sun is at its brightest and the humidity is at its thickest, a band of northeastern rocketeers get together to fly. And the oddest thing occurs --- they fly for the fun of it (the thought of such a thing!). As the years wore on, WUBBA became associated with having fun the competitive way, flying events no one has ever dared (or wanted) to fly in the past. Thus came the growth of the popularity of high-powered helicopters as a WUBBA event...

The Mystical One was designed as a model that pushed the aerodynamics of such a model without compromising strength. While I have developed plans for a single composite E model, the plans below are for the flight-proven clustered model. This version of the model won E HD for the Mystical Ship Team at WUBBA-13 and set a new U.S. Record of 153 seconds in the process. Here's a list of parts:

- 1 - 1/4" x 36" hardwood dowel
- 1 - NCR 36" thick-walled BT-20 tube
- 1 - Estes Big Bertha nose cone
- 2 - 1/8" x 4" x 36" medium-weight
A-grain balsa
- 1 - 0.032" x 36" music wire
- 3 - Estes NB-20 nose blocks
- 1 - spool of 20-gauge copper or
hanger wire
- 1 - sheet of Trim Monokote or mylar
- 1 - 1/4" I.D. fiberglass, aluminum,
or carbon fiber tube
- 1 - 1/16" x 2" x 2" plywood
- 2 - Estes 3/16" launch lugs
- Several #64 rubber bands

If you've ever built a Rose-roc, then you shouldn't have trouble with this, except for changes made in the nose/hinge area and in the fin area. The fin unit is made by first aligning and gluing the fins to the dowel. Next, cut three tubes to 4 1/2". Block one end of each tube and cut an exhaust hole in each. Glue one of these between each fin, allowing about 1/2" overhang at the end of the model, and fillet with Hot Stuff and micro-balloons. And there it is --- a cluster fin unit.

To eliminate the draggy "empty zone" created between the hinge disk and nose cone on a conventional Rose-roc, I created what I call a floating nose cone. The cone itself is not glued in place, but allowed to "float". The hinge disk is made like a Rose-roc disk by lacing the rotor's music wire hinge to the hinge disk with copper or hanger wire. The Big Bertha nose cone needs to have the end cut off so that it is open on the adapter end. Drill three evenly-spaced holes around the nose cone about 1" down from the tip of the cone. Before attaching the rotors, the disk must be fitted so it will slide snugly into the nose cone's open end. The tubing (1/4" I.D.) is glued to the center of the nose cone and serves two purposes. First, it centers the nose cone on the dowel and the model. Second, by passing the rubber bands through the nose cone holes and around the tube, a simple rubber band mount is made and the bands can be easily replaced when they wear out. In essence, the nose cone is pulled down and the rotors are pulled up by the rubber bands.

Manufacturers News

Pacer Technology

by Etienne LaVallee

Pacer Technology has released a new line of epoxies and Zap accessories. They have the usual equal-mix epoxies in 5, 15, and 30 minute setting times, as well as a finishing epoxy that is comparable to PIC coating epoxy (10 minute set time, brushable, 5-to-1 mix) and costs about two dollars less. In the cyanoacrylate line, they've made a new accelerator that is not Freon/CFC-based (let's hear it for the environment!). This works as well as the older stuff, but it takes a slight bit longer to evaporate from the surface.

Unique Tools

by Etienne LaVallee

The World of Science stores (Crossgates Mall and Clifton Country Mall) have some great little dissecting scissors that are perfect for prepping rocket/glider and helicopter models (list price \$3.49). They also carry an assortment of cleaning brushes that take the ejection gunk out of tubes cleanly and easily (list price \$1.50-\$3.00).

Nasal spray manufacturers are switching over to a new pump style sprayer that makes an ultra-fine mist. After using the contents of one, I cleaned it out, dried it, and filled it with Hot Stuff accelerator. The results are nice, with the ability to spray either a light shot of accelerator directly onto Hot Stuff (to accelerate the cure without foaming) or a

The final construction tip is on tuning the rotors. In the plans, the music wire hinge is bent so that when it is mounted on the rotor, the rotor's leading edge is angled downward about 20-30 degrees (when viewed from the tip). This creates a spinning effect much like that of a drill bit (and that's exactly what it will do if left this way --- drill your model into the ground). By steaming the middle of the rotor, you can warp the outer half so the rotor's leading edge is angled upward 0-5 degrees (when viewed from the tip). This whole process results in a rotor that has an inner section creating increased rotation speed and an outer section creating increased lift. On paper it's a way cool idea. In practice, it tends to work better than no warping at all, but it can be troublesome in turbulent air.

Prepping is pretty straightforward. The rotors are first folded widthwise, then folded down lengthwise and held there with two or three wraps of nylon thread. The thread is then passed through an exhaust hole and taped down. For E flights I've used both C6s and C5s in clusters. Don't mix C6s and C5s on the same flight --- that makes for too much fun. In calm weather, five second delays work the best, with three second delays being more suitable in windy weather. I prefer to use flashbulbs for ignition, as they are more reliable than Solar ignitors and bus wire. Be sure to let the RSO know that you are using flashbulbs, as many launch systems can cause a premature ignition during a continuity test.

That's it, that's all, enjoy, and maybe I'll see you at WUBBA having a fun time next summer.

powerful shot to cure it instantly. This seems to make a good replacement for those accelerator dispensers that drip, leak, spray in streams or at angles, etc.

LOC/Precision's New Products

by John Sicker

Contrary to the report we published on the Chicago RCTHA Hobby and Model Show in STAR-DATE 11.90, LOC/Precision has released several new products.

LOC/Precision has reintroduced its 7.51" airframe tubing and has released a 7.51" molded plastic nose cone. This big nose cone is 28" long and weighs over two pounds. LOC has released four new rocket kits for '91. The Warlok is a 7.5" diameter kit that is 4.4 feet long and has a single 38mm motor mount. The Bruiser is also a 7.5" diameter rocket that is 6.9 feet long and is designed for 54mm I motors. These two kits feature a new round 5/16" shock cord that attaches to a centering ring shock cord mount. The release of the Warlok and Bruiser should put to rest the rumors of LOC's departure from large rocket kits.

Debbie Schultz has designed a new rocket called the LOC Stovi. It is an interesting design that features seven external booster tanks in a 3" body tube with six fins. The model is about four feet long and uses a 3.00" to 2.14" reducer on its upper section. Aerotech's inexpensive G42s are one of the recommended motors for this kit. LOC has also released a 1.52" diameter payload model for beginners, the Legacy. This rocket is over four feet tall and has a 29mm motor mount. For those of you that forget to bring recovery wadding or worse, forget to put in your high-power rocket, LOC has designed a Modular Baffle Unit. These units eliminate

the need for recovery wadding. They come in 24mm, 29mm, 38mm and 54mm sizes. In the fashion department, LOC has a new t-shirt that looks sharp, with a jaws design nose cone rocket on it.

So, it appears LOC/Precision has been very busy with new designs and ideas for the new year. LOC will be sending out their new 1991 catalog in January. LOC/Precision's address is

LOC/Precision
1042 Iroquois
Macedonia, OH 44056
216-467-4514.

We would like to thank Debbie Schultz for bringing LOC's new products for '91 to our attention.

Mid-America Spacemodeling Convention

MASCON 1991

Jackson, Michigan

Jackson Community College

Michigan Space Center

March 8 - 10



Static Scale Contest • Poster Session • Space Center Tour
Topics in Advanced Rocketry • Scale Data/Plan Exchange
Keynote Speakers • Kit Bash Contest • Scale Modeling Topics
Model Rocketry Auction • Door Prizes • Other Events TBA
On-site Meals • Low Motel Rates!!

For More Information:

Huron Valley Rocket Society
2742 Beacon Hill
Ann Arbor, MI 48104
313-971-6033 or 517-548-4254

ASTRE Calendar

January 8 - Club meeting at ASRC, 100 Fuller Road, Colonie, NY Tuesday, 7-9pm. Elections and more fun stuff. Contact: Jeff Vincent (439-2055) or John Sicker (785-0302).

Late January/Early February - Fire & Ice High-Power Launch, Great Sacandaga Lake, NY. Details as they become available. Contact: John Sicker (518-785-0302).

February 12 - Club meeting at SUNY Albany (site tentative), Tuesday, 7-9pm. Contact: Jeff Vincent (439-2055) or John Sicker (785-0302).

March 12 - Club meeting at SUNY Albany (site tentative), Tuesday, 7-9pm. Contact: Jeff Vincent (439-2055) or John Sicker (785-0302).

March 15-17 - NARCON-91 National Convention, Huntsville, AL. Contact: Matt Steele, 13011 Branscomb Road, Huntsville, AL 35803.

August - NARAM-33 National Meet, St. Charles (Chicago), IL. Events: 1/2A PD, A SD, A R/G, C HD, A PL, B ELalt, B B/G, 120 sec RC R/G, 120 sec PrecDur, OSL, R&D, and Peanut Sport Scale. Contact: Mark Bundick, 1350 Lilac Lane, Carol Stream, IL 60188.

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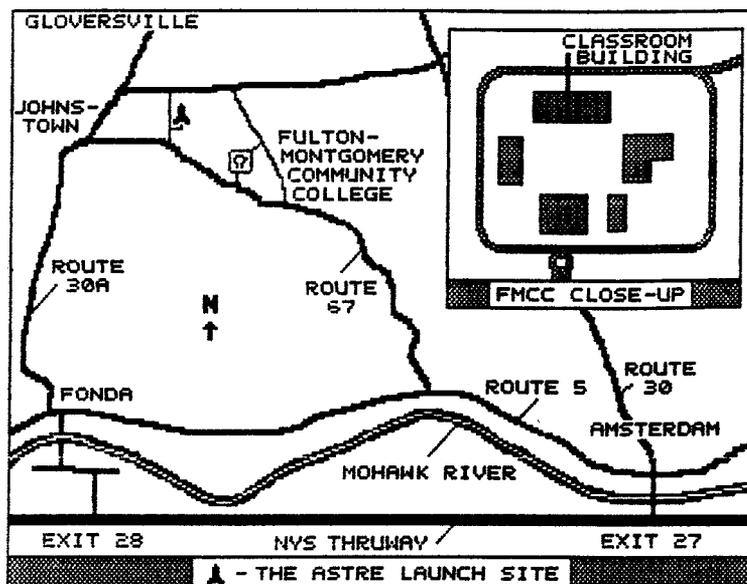
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- * Take the Amsterdam exit (#27) off the Thruway.
- * Take a right and follow Route 30 North for one mile.
- * Take a left at the second light after the bridge (Route 5 West).
- * Follow Route 5 for 3 miles. Take a right onto Route 67.
- * Follow Route 67 for 4 miles and FMCC will be on your right.
- * To find the flying field, continue 1.5 miles on Route 67. Take a right on the small road by Ed's Auto Service (look for the plane). After 1/2 mile you will see JBJ Equine on your right. Follow the driveway and park in the parking lot and walk to the range.



Jeff Vincent
Box 523
Slingerlands, NY 12159

THE Mystical One

Designed By: Jean-E. LaVallee

Drawn With

Notes:
See Text

ROBOCAD-4

