

SDAP NEWS

Late 1989 - Early 1990

THE LEADER IN SPACEMODELING

\$2.50

**BIG
HONKIN'
MOTORS!**



Model Rocketry's Longest Publishing, Most Controversial Newsletter!

Late 1989 - Early 1990

Volume 16, Number 1



"The Long and Winding Road"

If you are a regular SNOAR NEWS reader, you have been no doubt disappointed by the lack of recent issues. I know we hear at the editorial offices have been concerned. We have discussed possible courses of action, etc. to see what we can do to resolve the situation. Unfortunately, the solution is not a particularly desirable one.

After careful consideration, SNOAR NEWS will effectively cease publication five issues from now.

This has been an extremely tough decision for us to make. The bottom line, though, is that there is no longer the time, the interest, nor the desire to continue. This newsletter has moved a long ways from it's humble origins as a section newsletter for a club in Cleveland, Ohio. No longer do members from Ohio make significant contributions to SNOAR NEWS, nor does the newsletter provide timely information to SNOAR members. Instead, SNOAR (Continued on Page 21)

Editorial Stuff, Snappy Patter, Legalese, and so on...

QUOTABLE

"Estes is now moribund. Estes is playing defensive ball right now. Estes has NOT done the hobby very much good in the last few years because they have concentrated on the mass market and making model rockets more toy-like. The "high tech" image is gone. The educational image is gone. There is nothing left for an Estes rocketeer to do past building Level 4 kits. No Cimerocs. No Transrocs. Etc. But we will see a BIG change in the next few months with the entry of Aerotech and MRC with some REALLY NEW stuff. Estes has peaked out. It's an 800-pound gorilla with arthritis."

Harry Sune, discussing Estes industries.

COVER STORY:

Big Hankin' Black Powder Motors! This baby was powered by four Rocketflite G100 motors in the bottom stage, and four more in the upper stage at the fall Danville Dare launch. The model was electrically staged, and flew superbly! Could there be bigger black powder motors in your future? Read on! (Chris Pearson photo.)

CREDITS:

The only one left in charge is our Complaints Editor, Helen Wait. If you have a complaint, you can go to Helen Wait. Thank you.

IMPORTANT STUFF

SNOAR NEWS is published on an intermittent schedule by SNOAR, NAR Section #337. It is the official C.D. Tavares irritation publication, and apparently works better than itching powder. Why, we haven't the foggiest...

The contents of this issue, SNOAR, SNOAR NEWS and IMPACT are all copyright ©1990 and 1992 by the SNOAR syndicate. If that doesn't deter you from violating the copyrights, what will? On second thought, go ahead and try just try!

Subscriptions are no longer available. If you would like to get an issue, it will now be at the cover price on an individual issue basis. We're not in the California rocketry publishing mode of operation.

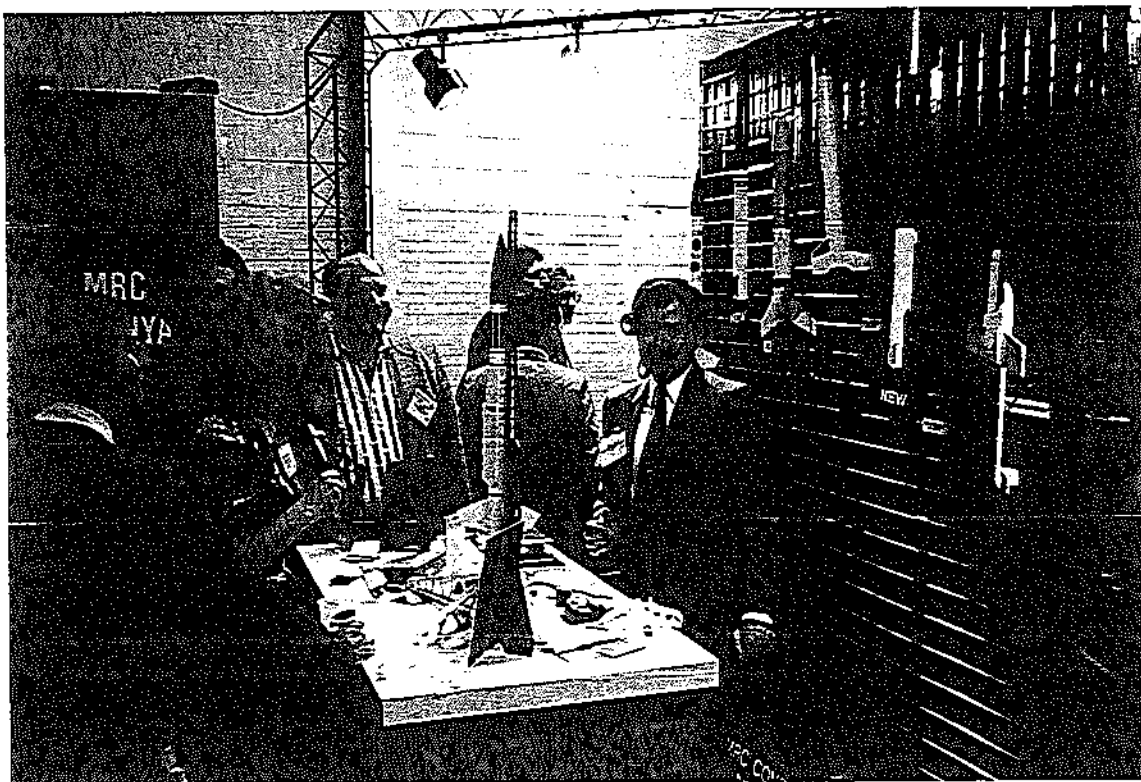
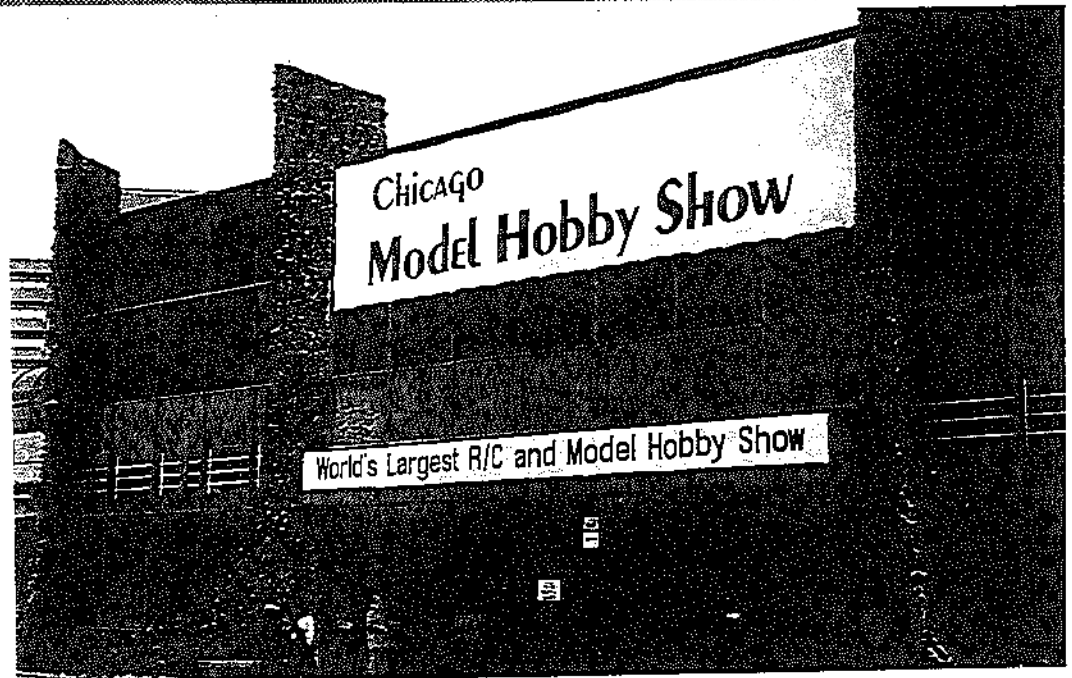
Any resemblance to any real persons in this publication is extremely random incidents that may occur, but are never measurable, due to the Heisenburg Uncertainty Principle. If you think that we got close to resembling you, please realize that the laws of physics do not allow for verification, without causing substantial physical harm to your being. The opinions and viewpoints expressed within do not represent SNOAR, NCR, the NAR, or anyone else.

Publishing Funds: Courtesy North Coast Rocketry
Published with a Mac SE and a Laserwriter HNX.
Th...Th...Th...That's all, folks!

1989 RCHTA Show Highlights

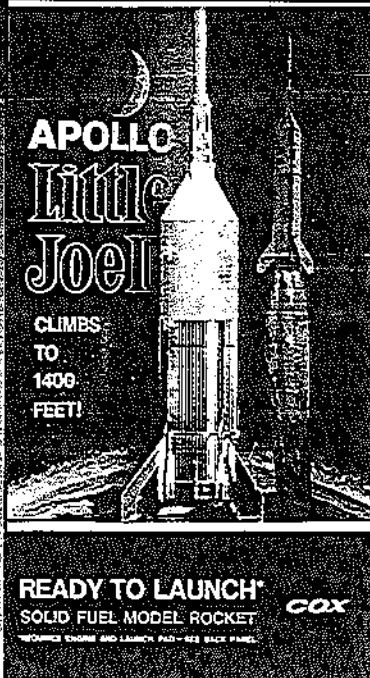
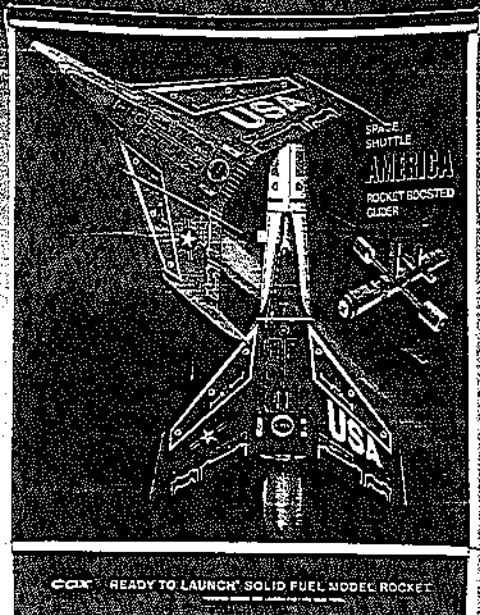
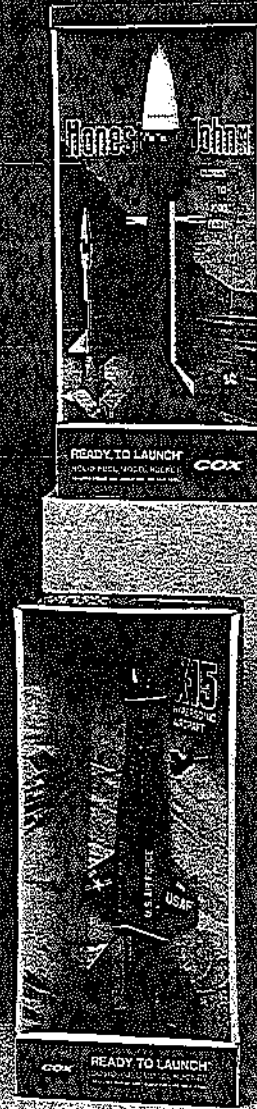
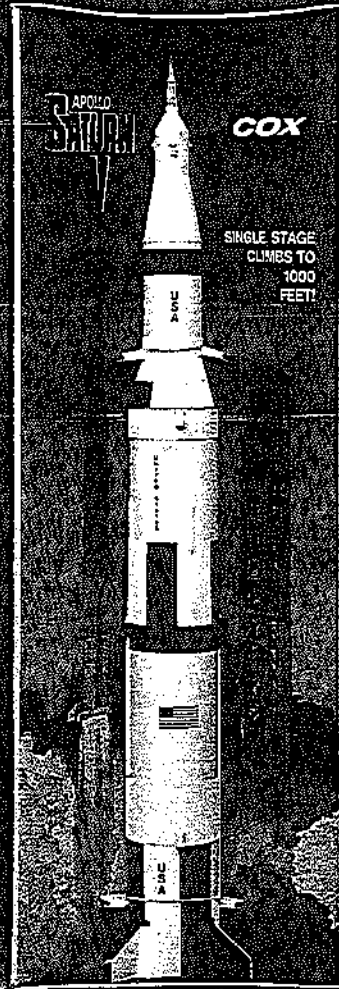
The 1989 Radio Control Hobby and Trade Association (RCHTA) Chicago Trade show was held in early November, 1989. Many of the new rocketry products that you are just now beginning to see in your hobby shows appeared there.

We've included a number of photographs (by Dan Kaufun) and copies of promotional literature to try and tell the story.



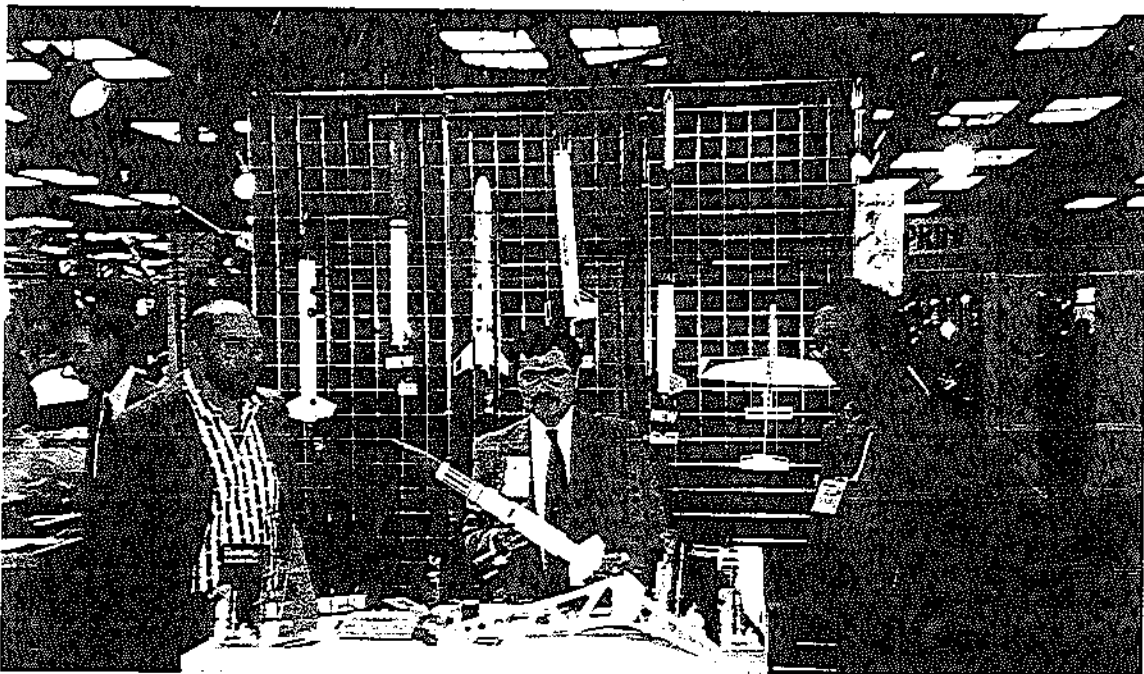
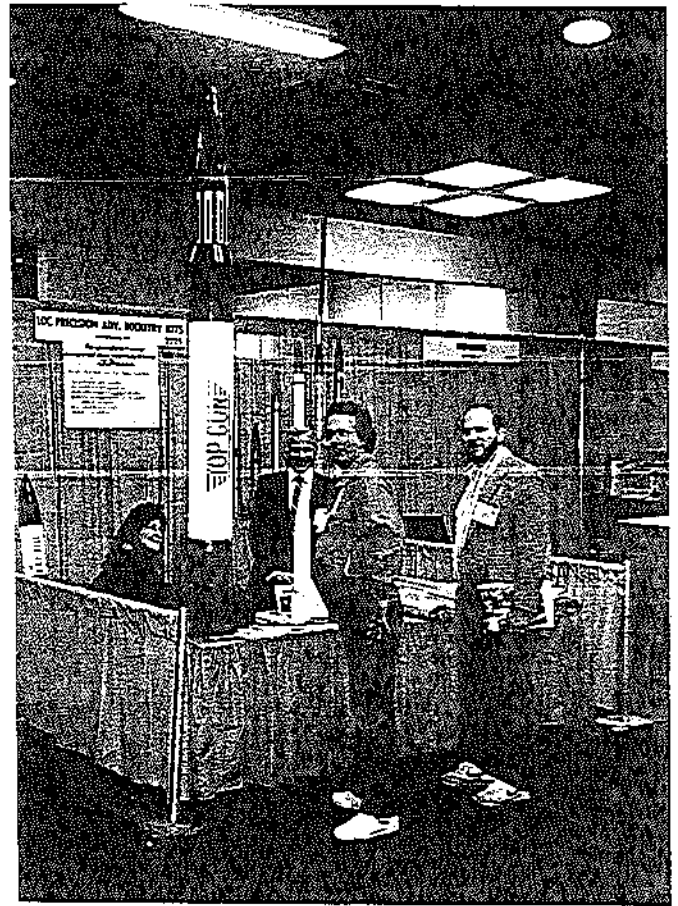
Above:
The Chicago Model Hobby Show was housed in a huge exhibit area right next to O'Hare International Airport.

Left:
A number of people stopped in to see the MRC "Concept II" rocket line, including Mary Roberts, Chris Pearson, and Matt Steele.



<u>Cat. No.</u>	<u>Description</u>
5000	X-15
5025	Saturn 1B
5050	Honest John
5075	Saturn V
5100	Apollo Little Joe
5200	Space Shuttle

COX HOBBIES, INC.
 1525 E. Warner Avenue
 Santa Ana, CA 92705



Top Left: The Aerotech Initiator kit and Mantis Launcher signaled the expansion of Aerotech's line of products.
 Top Right: Deb and Ron Schultz from Lots of Crafts discuss their display with Chris and Matt.
 Lower Center: Matt and Chris (these guys seem to be EVERYWHERE, don't they?) try to con a free sample of the Concept II line from Bill Stine. It hasn't worked so far!

CONCEPT II

- **16 completely new products.**

A complete line of rocket products with new engines, new kits and new launch support equipment.

- **A line of high quality rocket kits aimed at the serious hobbyist.**

The first line of rockets to seriously address the experienced modeler.

- **New packaging.**

Quality full color packaging with imagery to appeal to all ages. Sturdy full color blister cards for the kits and clamshell package for engines. Completely compatible with the way you merchandise rockets now.

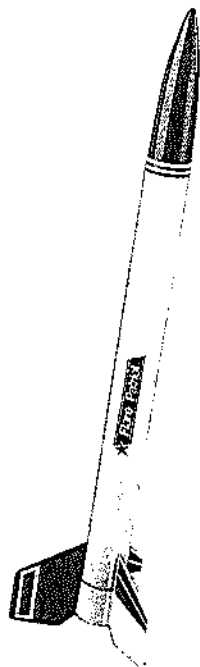
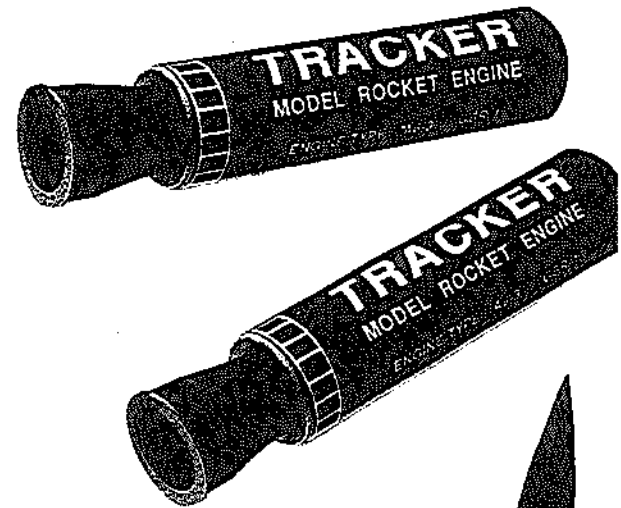
- **POP Merchandising Aids.**

New waterfall peghooks allow you to merchandise in 1/3 the space. POP signage to additionally get the selling message across.

- **All new – designed from the ground up.**

- **Starter Kit available.**

Complete with Flare Patriot rocket, launcher, controller, engines and more.



Flare Patriot
Prod. No. LS 103

TECHNICAL PROFILE

Length: 25"

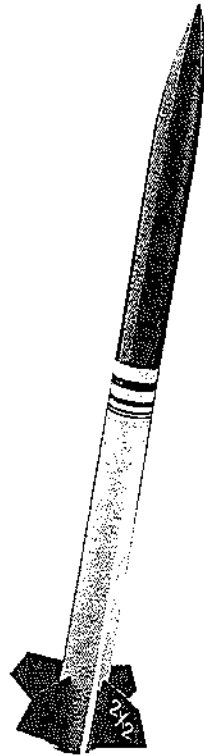
Diameter: 1.75"

Weight: 3.0 oz.

Recovery: 18" fabric parachute

Features: 3 molded fins, molded nose cone, Kevlar shock cord, 3 FX engine mounts, ejection baffle, color coded parts

Skill level: One – beginner



2 x 2
Prod. No. LS 102

TECHNICAL PROFILE

Length: 27"

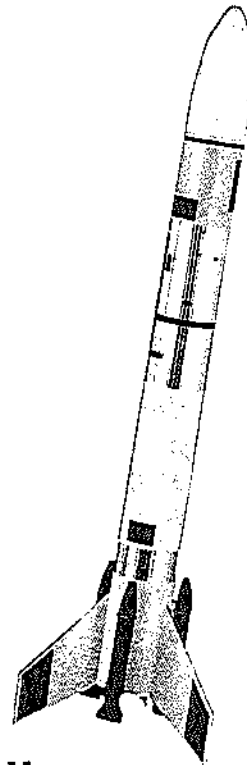
Diameter: 1.75"

Weight: 3.1 oz.

Recovery: 18" fabric parachute

Features: 4 molded fins, molded nose cone, Kevlar shock cord, 3 FX engine mounts, ejection baffle, color coded parts.

Skill Level: One – beginner



IronMan
Heavy Lift Launch Vehicle
Prod. No. LS 100

TECHNICAL PROFILE

Length: 24"

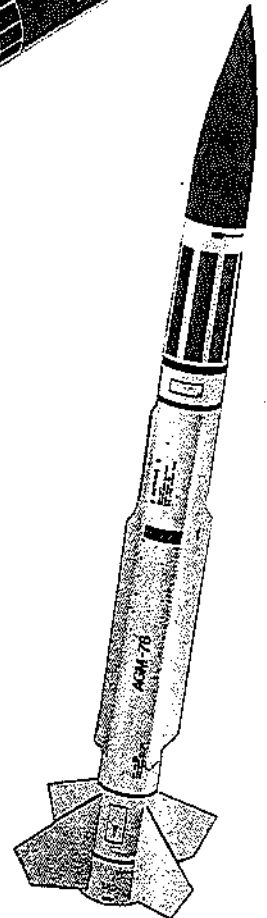
Diameter: 2.0"

Weight: 4 oz

Recovery: 18" fabric parachute

Features: 3 pre-cut fins, molded nose cone, Kevlar shock cord 3 FX engine mounts, 3 molded recruits, textured body wraps, ejection baffle.

Skill Level: Three – advanced



Standard ARM
AGM-78 Missile
1/14th sport scale model
Prod. No. LS 101

TECHNICAL PROFILE

Length: 25"

Diameter: 1.75"

Weight: 3.2 oz

Recovery: 18" fabric parachute

Features: 4 molded fins & strakes, molded nose cone, Kevlar shock cord 3 FX engine mounts, pre-marked body tube, ejection baffle.

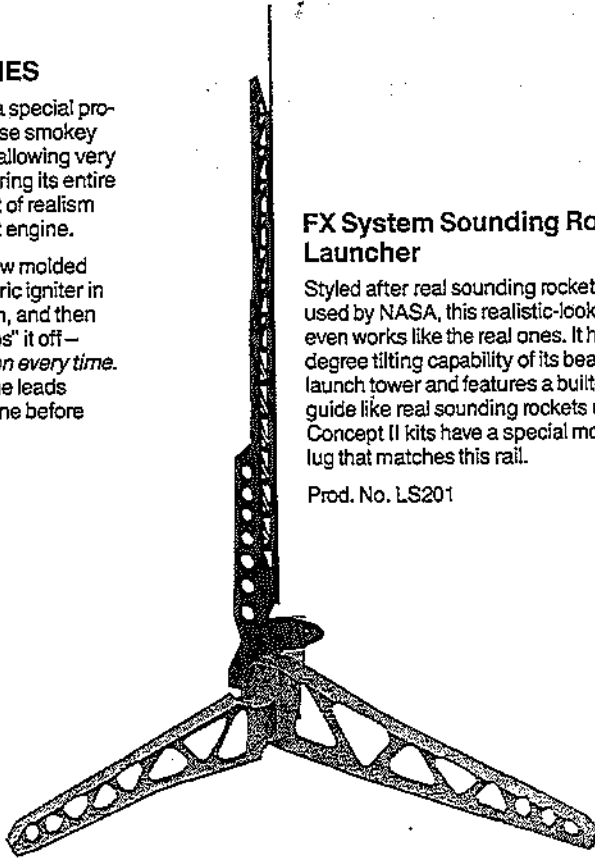
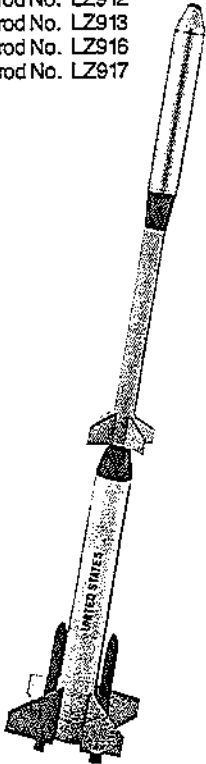
Skill Level: Two – intermediate

TRACKER™ MODEL ROCKET ENGINES

Exclusive MRC design utilizing a special propellant formula to produce a dense smokey exhaust during boost and delay allowing very easy "tracking" of your rocket during its entire powered flight. Creates an effect of realism you won't find in any other rocket engine.

TRACKER Engines feature a new molded nozzle that firmly holds the electric igniter in place until the moment of ignition, and then the pressure of the exhaust "pops" it off—*assuring the most reliable ignition every time.* Reliably solves the problem of the leads pulling the igniter out of the engine before ignition.

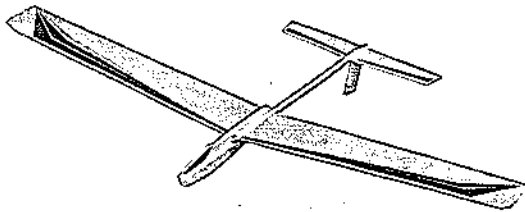
A8-3 Prod No. LZ910
B4-2 Prod No. LZ911
B4-4 Prod No. LZ912
B6-4 Prod No. LZ913
C6-3 Prod No. LZ916
C6-5 Prod No. LZ917



FX System Sounding Rocket Launcher

Styled after real sounding rocket launchers used by NASA, this realistic-looking launcher even works like the real ones. It has a full 30 degree tilting capability of its beautiful 30" tall launch tower and features a built-in "C-Rail" guide like real sounding rockets use. All the Concept II kits have a special molded launch lug that matches this rail.

Prod. No. LS201

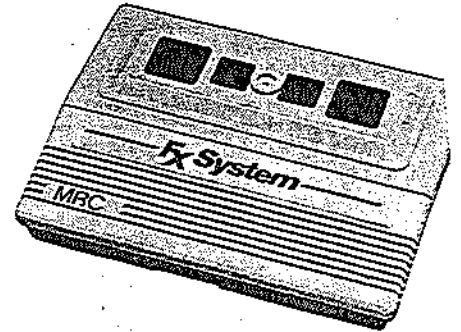


Thermal Hawk Glider Prod No. LS 140

TECHNICAL PROFILE
Length: 17"
Wing Span: 16"
Weight: 2.5 oz
Pod Recovery: Streamer
Features: Molded body with alignment slots for wings and tail section.
Molded pod attachment.
Skill Level: Two—intermediate

TrailBlazer Sounding Rocket 1/17th sport scale model Prod. No. LS 104

TECHNICAL PROFILE
Length: 34.3"
Diameter: 1.75"
Weight: 4.0 oz
Recovery: 18" fabric parachute
Features: 4 molded fins, molded transition & payload, molded recruit, Kevlar shock cord, 3 FX engine mounts, ejection baffle
Skill Level: Four—master modeler

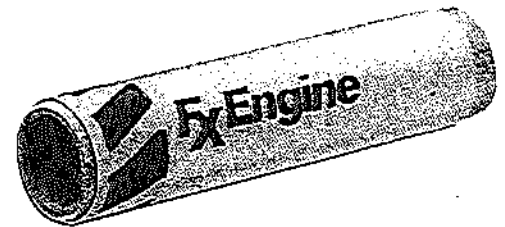


FX System Dual Electric Launch Control Panel

Completely assembled, features two independent launching circuits that allow separate ignition of engines for use with the MRC FX system pre-lift-off smoke. Sturdy molded case contains a printed circuit board and all soldered connections for consistent operation. Also has adapter plug to connect to outside power supply such as an RC car 7.2V rechargeable battery pack. Can also be used for single circuit launchings.

Requires 4 "C" batteries not included.

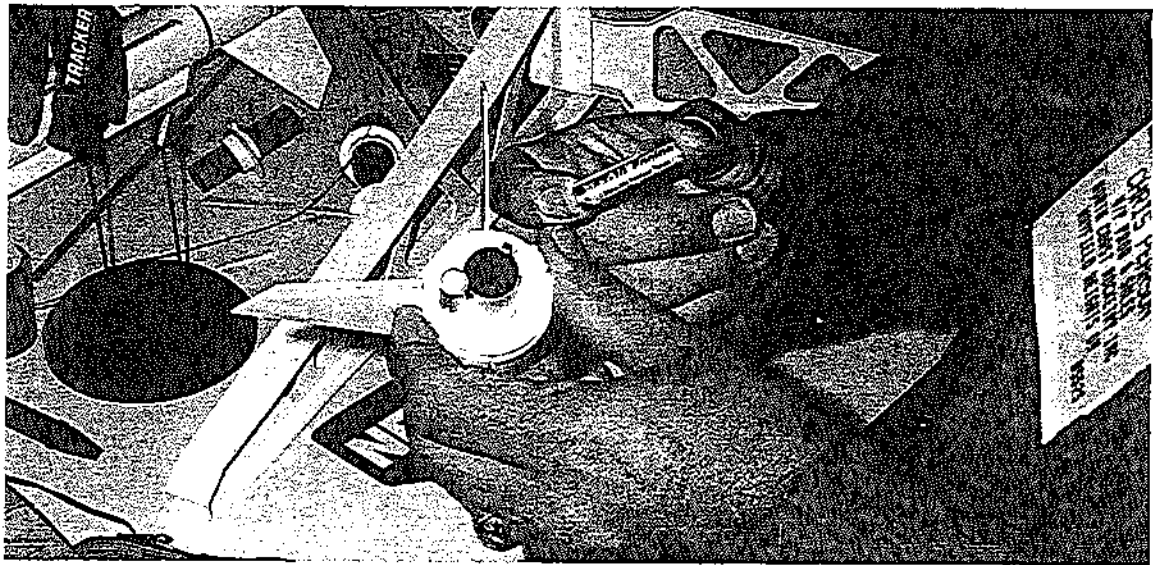
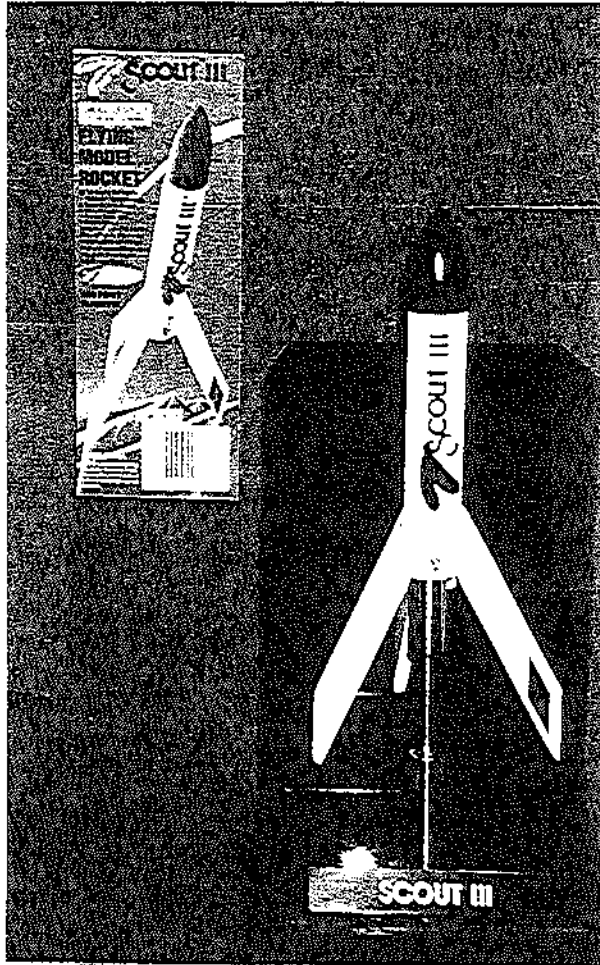
Prod. No. LS 205



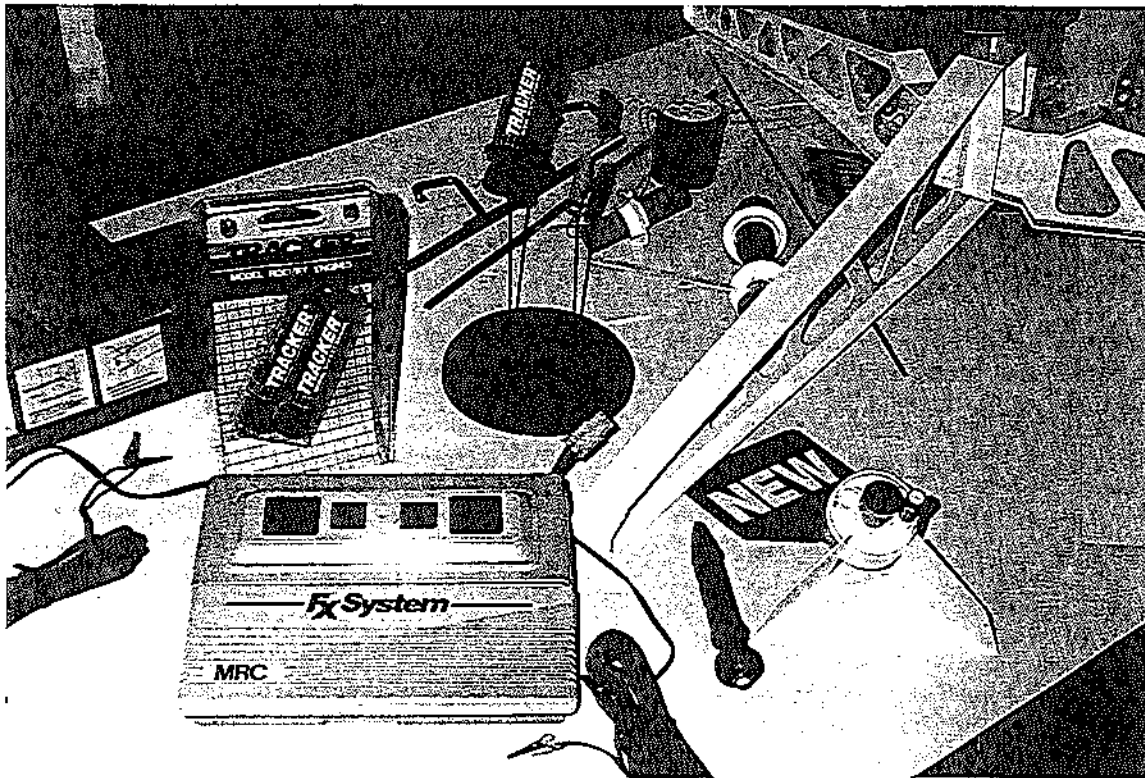
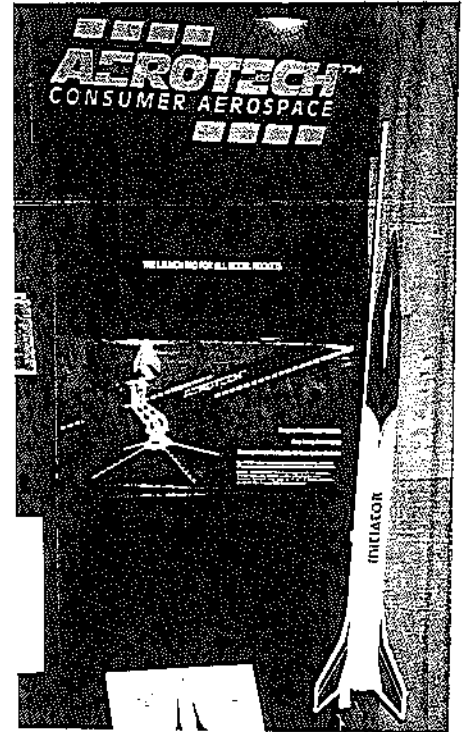
FX Engine™ Experience the added realism!

FX Engines are low thrust, long-burning, dense smoke-producing engines that are used only in conjunction with a TRACKER primary engine to create pre-lift-off smoke for added realism. They produce only a slight momentary thrust insufficient to lift the model and then emit a dense white smoke. When used with the MRC FX System Dual Launch Control panel, the FX Engines can be ignited first allowing the rocket to sit on the launch pad and billow smoke for up to ten seconds before the primary engine is ignited to lift the rocket.

FX-10 Engines Ten second burn time (pack of 6)
Prod. No. LZ 940



Top Left: Estes brought back the Scout again, this time with mini motor power.
 Top Right: The lovely Mary Roberts shows off the Estes booth. The booth was frequented by both hobby people and financial types (who were looking to buy Estes at the time). Mary said it was easy to tell the two types apart.
 Lower Center: Here's a close up of the new FX smoke motors and how they fit into the MRC kits.



Top Left : Gary Rosenfield proudly poses with a cutaway of the Initiator kit.

Top Right: The Aerotech booth featured the Initiator and Mantis, and both attracted a lot of attention.

Lower Center: Here is some of the real MRC hardware, including the FX dual launch controller, and the Tracker motors. The Tracker motors will come two to a pack, rather than the traditional three.

Rocketry in the 80's: A Retrospective View

By Chris Pearson (no longer riding a Norton)

Now that the 80's are behind us, it is important to examine some of the aspects of the past ten years that made rocketry what it is (and is not) today. There are many important events and famous (and infamous) personalities that have and will continue to influence model and high-power rocketry, some better known than others. We will examine and tell a little about them.

Publications

➤ First and foremost, how could anyone not acknowledge *American Spacemodeling* (formerly *The Model Rocketeer*). The official publication of the National Association of Rocketry, it has been the most widely disseminated and read rocketry publication of the 80's. An offshoot of the legendary *Model Rocketry* magazine, it has evolved continuously since its inception. It has had some tremendous shake-ups since the late 70's. While not always being timely with publication date or information, it was nevertheless, a good rag. While pronouncing the official NAR line made it a little less credible, it is a good source of information.

In the past few issues, a noticeable lack of advertising has taken place, and the content is getting a little thin. However, *AmSpam* continues into the 90's with a new editor, a new look and the entire future of model rocketry to look forward to.

➤ *Tripolitan* is the official publication of the Tripoli Rocketry Association. First and foremost a high-power publication, it has fallen on hard times of late with being over a year behind in publication for lack of a magazine editor. The former editor, Tom Blazanin, one of the founders of Tripoli and creator of the magazine, continues to try and get an issue out when his other duties permit.

The *Trip*, as it is called, was the first mass market magazine to show the whole spectrum of the high power sport, from all parts of the country, and not just the view of the west coast. While being biased toward certain manufacturers, it shows lots of rockets flying, and is a great influence in the high power community.

Its future seems uncertain at this point, as no one in Tripoli wants to take the responsibility for its editorship. It would be a shame to see this fine magazine cease to be.

➤ *Spacemodeler* was the creation of Taras Tataryn, and was another model rocketry publication that ran for several issues over the span of one year. Taras was formerly employed by Canaroc, a Canadian rocketry company. Created and printed in Canada, with a lot of news of rocketry in Canada, it was a refreshing change from *Model Rocketeer* magazine. Primarily model rocketry oriented, it did show some high-power activities. Lack of advertising was the primary reason for its folding.

Taras is still active in the model rocketry community in Canada, with the CAR (Canadian Association of Rocketry), and with a small company that he founded which sells plans for scale rockets.

➤ *High Power Research (HPR)* magazine was the first truly professional high power magazine to be published. This magazine was published by Mike Nelson who also ran a company called, of course, High Power Rocketry. The magazine was beautifully done, and was the first (beating *AmSpam* by one month) to have full color covers. Unfortunately, the magazine was a little "thin" in content, as Mike felt that people wanted to look at photographs and not read text. Mike and his wife owned and operated a print shop and for a while printed *SNOAR NEWS*.

At first the publication, a quarterly that was actually printed four times a year, was a great influence, but as the hobby evolved, the magazine became more and more one sided, kind of like "what Mike Nelson flew at the last launch". Strange as it may seem, the whole purpose for its existence was because Mike Nelson wanted to be a "Big Name Rocketeer". And with the magazine he was. However, toward the end, only one or two issues a year were published.

The last promised issue never materialized and no subscription refunds were given. The last issue to come out was basically Nelson's idea of who and what were important in high power rocketry. It was obvious, from the tone of his magazine, that Mike felt he was one of the "movers and shakers" in rocketry. From what we know, Mike is no longer in the hobby.

➤ *California Rocketry* magazine was one of the many creations of Jerry Irvine. *CRM*, as it was known was primarily a vehicle for Irvine to promote his other shadowy enterprises. *California Rocketry* was one of the reasons the the NAR refused to even consider letting high power rocketry be considered for model rocketeers until the mid-80's. It showed the types of rocketry that was routinely done in California, and scared the pants off the NAR zealot types. Creation and firing of a bazooka, gasoline rockets, pyrotechnic testing, ram jets, fin-less rockets and home made motors graced its pages. While supposedly promoting the hobby, it actually did more harm than good in the long run. Even though it ceased publication in 1984, Jerry still advertises subscriptions, in order to sell off back issues. Chuck Rogers bought publication rights for it in 1985, (in what had to be one of the greatest con jobs ever) and promised resumption of publication. It never happened, and neither did the promised refunds. Jerry is now advertising another publication (and has been for the past five years), but it actually doesn't exist.

➤ *SNOAR News* (Hey, if you don't toot your own horn, who will?) is one of the longest running section newsletters ever. We won't say much about *SNOAR News*, but one thing remains a fact; everything the newsletter crusaded for, or every cause that was backed was either realized or proven true over time. Some people thought that "if we didn't bitch, we'd have nothing to say", but where are those people (or their newsletters) today? *SNOAR News* published continuously for more than 15 years, and was where the people who wanted to know what really was happening got

their news. *SNOAR News* predicted many trends in the hobby, and probably fueled more "Nasty Grams" from the NAR powers-that-be than any other publication, including two threatened lawsuits and one NAR reprimand (they had to tell us they slapped our hands, because we sure didn't feel it!). Unfortunately, like many other volunteer operations, the load became too great, and it will cease publication in the upcoming year.

Associations

☞ We don't need to tell you much about the NAR (National Association of Rocketry) except that to expect some great changes in the hobby of model rocketry as the NAR views it in the 1990's. With the incorporation (or legalization) of high-power rocketry, the greatest changes since the creation of the hobby have happened in the past few years. Now, if the government gets off its butt, we'll see some more things happening, like 1500 gram models that won't require an FAA waiver. Perhaps within the next decade we'll get the to have the propellant weight limits raised to 125 grams.

☞ The Tripoli Rocketry Association, was a organization formed to get around government restrictions associated with larger Class B motors. The name Tripoli actually comes from a model rocket club in Pittsburgh bearing the same name. Formed by Mark Weber, J.P. O'Connor and Tom Blazanin, Tripoli has grown since its inception at LDRS-4 into a well rounded organization, and they claim to have over 1000 members. Two of its founders resigned within a year after its creation under allegations of financial mismanagement. Tom Blazanin was left to carry on alone as editor of their magazine, the *Tripolitan*, and take care of all other duties. After some leadership shake-ups in the intervening years, Tripoli has stabilized again, and seems to be heading in the right direction, with a great magazine back in publication, and sound leadership. Tripoli is currently negotiating with Aerotech for use of their testing facilities for motor certification, talking with the NAR about certain aspects of the high power hobby, still searching for some sort of rational insurance rate, and talking with the NFPA and several state fire marshals.

☞ The American Rocketry Association was the created in the mid 1980's. It was supposed to be a rival association to the NAR. They published a single newsletter outlining their goals and promised a lot of things, such as local sections, motor certifications, a contest calendar, national meets and conventions. However, within a year, they were defunct. They suffered from the same malady that plagues a lot of volunteer organizations, that is, lack of volunteers! All membership money was refunded at the time of their demise with their apologies.

☞ The Advanced Rocketry Society was the creation of Tom Blazanin, who saw the need for a high-power organization (which pre-dated Tripoli). He started this organization himself but never got many members, and had absolutely no volunteers to assist with any of the work necessary to run the organization. After a year, he folded the organization and refunded everyone their membership fees.

☞ The Canadian Association of Rocketry (CAR) was not very visible in the 1980's. Basically a counterpart of the NAR, they offer many of the same services. There have been many attempts to get rocketry up to a level of activity like that in the United States, but they are getting some resistance. One of the great problems with rocketry in Canada is the price of model rocket products, which must all be imported from the US. Custom tariffs and taxes, combined with the difference in the exchange rate may cause a rocketeer in Canada to pay up to twice as much for the same kit or motor (how about \$29.95 Canadian for a F motor!) that we can buy in the US over the counter. Several of their national meets have been canceled because of organizational problems or just lack of participation. Canada sometimes fields a small team to the Internats.

MODEL ROCKET COMPANIES THAT DIDN'T MAKE IT TO 1990

Enertek
 Celestial Enterprises
 Pine Cap Associates
 Model Rocket Technology
 Rocket Glider Technology
 Kopter
 Roto-Rockets
 Canaroc
 Competition Model Rockets
 High Power Research
 Hapart Rocket Igniters
 Stargate Rocket Systems
 Competition Parachutes
 (also known as "Mom's Chutes")
 Reaction Technology
 Reaction Labs
 Whirwind Rocket Motors
 Composite Dynamics
 Astro-Dynamics
 (aka Experimental Rocket Systems &
 Eagle Aerospace Systems)
 Small Rocket Sounding Systems
 (later Crown Rocket Technology)
 Ace Rockets
 PowerTech
 California Model Rockets
 Centuri Engineering Co.
 AVI Astroport
 Lone Star Rocketry
 Pan Axiom Autonetics
 A & A Engineering
 Advanced Rocketry Systems
 Airo-Dynamics Cooperate
 Astro-Craft
 Dura-Flight
 Rocket Engineering Corp.
 Toy Rockets
 High-Altitude Research and Design
 Internal Ballistics
 KO Rockets
 Nova Research Associates
 Orion Supply Company
 Para-Stream

And now, the Second Annual... Decade in Review Achievement Awards

↳ **Greatest Non-Event of the Decade:** Who else, but Enertek. Founded by Lee Piester, formerly of Centuri Engineering Company and Enerjet, it was supposed to be the largest high-power company in history, and was envisioned to be second only after Estes. After spending upwards of \$100,000, thrilling everyone with their beautiful catalog, and making lots of promises, all they had to show for it was a nice display, 17,000 left over flyers, plus a host of pissed off and broke investors, and several lawsuits. They never manufactured one piece of product. Aerotech, slated to be their motor manufacturer, came out of it losing some money, but eventually released many of the products that were in the Enertek catalog.

↳ **Idiot of the Decade Award:** For the second consecutive decade, this award goes to Jim Backlas, for actually HAVING a Enerjet D21 motor (given to him by Lee Piester) and FLYING it away in a minimum diameter rocket. Today, this motor, the most desirable of all collector motors, and the rarest, would probably fetch upwards of \$250 from a motor collector at an auction. By the way, the Centuri Enerjet D21 is tied with the Estes Cylon Raider and Estes Starship Cygnus as one of the greatest non-events of the 70's.

↳ **Stupidest Rocketry Idea of the Decade:** Rocket Golf. The brainchild (?) of Doug Frost, it is actually a golf game you play on the golf course with rocket powered plastic golf balls! The putting is done with a actual putting iron, however (don't want exhaust blast burns on those expensive greens).

↳ **Greatest Comeback of the Decade:** Cox. After almost 20 years, someone dusted off their injection molds and decided that it might be worth it to start producing rocketry kits again. Premiered at the 1989 Chicago RCHTA show, they are the same kits that we saw in 1971. Cox will not be producing motors however. One will remember, that it was a accident in which two Cox employees were killed that prompted their departure from the rocket hobby in the early 70's.

↳ **Greatest Rocketry Con-Man of the 80's:** Who else, but Jerry Irvine? One could write volumes on the antics of this jerk since he decided that he could make a fast, easy buck by preying on model rocketeers. Our favorite scam was his the US Rockets Earth Orbital Project! What a laugh! Suffice to say, if you send him any money, you are taking your chances on not seeing it again. Delivery (if any) is likely to take 6 to 12 months. Combine this with shoddy product and zero customer support after sale, and you have a bad situation. I've seen guys threaten him with physical violence in order to get their money back (one came all the way from Canada). Jerry has in the past two years began making his own motors, because no motor manufacturer will sell to him anymore. The last guy who helped Jerry had his shop burn down! Jerry's new motors have a high failure rate, and you can forget about

refunds. He claims they are NAR certified. They are not. If you buy me a drink at the next launch and have a couple of hours, I will entertain you with more of "Jerry Stories".

↳ **Biggest Rocketry Pain-In-The-Ass Award:** This coveted award goes to Mark Weber and Don Carter of the now defunct Reaction Labs. Supposed motor manufacturers, they seem to produce more promises and hot air than motors. Mark's and Don's erratic behavior as businessmen has earned them a negative reputation. Delivery time of their products has been measured in years! The observed failure rate for anything over a G motor is about 95%. I have only seen ONE Reaction Labs motor work properly in four years, and that a FI motor at Danville 2.

Mark and Don singlehandedly screwed up the regulations that allowed Class B motors to be shipped by UPS with their meddling. They also allegedly conducted a counterfeit post-card campaign against Aerotech and Tripoli, although they both continue to deny it.

Another of Carter's great scams is to take orders and money for motors to be delivered to a launch by him, and then never show up! He won't even come to the phone! Your motor blows up? Sorry, no refunds!

Mark and Don have been banned from the Danville launch (which they started) and have since supposedly conducted phone campaigns in an attempt to shut the launch down. They are both generally unwelcome at any launch.

We understand that Mark's latest ploy is to misrepresent himself as a defense contractor, teacher, or big deal executive to snoop for information, since no one will talk to him anymore.

Mark's favorite phrase; "I'll sue you!". I'm sure he's picking over these very words, looking for some slanderous statement.

↳ **Back from the Grave Award:** Goes to Bill Stine, who singlehandedly brought MRC's model rocket line back from the brink of extinction. Bill was hired by MRC to develop a new concept for their rocketry products, and he named it, appropriately enough Concept II. What is amazing is that a big company like MRC actually listened to a rocketeer, instead of their accountants. In addition to the new line, Bill beefed up the old line of kits with stronger parts, and better motors. Bill has Estes sweating.

↳ **Your Motors are in the Mail (You call this guy a Businessman?) Award:** This little baby goes to Scott Dixon, of Vulcan Systems, who, over the span of 12 months told North Coast Rocketry three times that he had sent his new Smoky Sam motors to the NAR Standards and Testing for certification. He never did. They were never certified. He no longer produces those motors. He will probably be doing the same song-and-dance with his new Tracer/Hellfire motors. Scott also gets the Magical Variable Delay Award for never sending NCR a batch of one type of motor with the same delay more than once.

↳ **Do We Have A Motor for You Award:** Goes to Wayne Schaefer of Ravenna Rocket Research, who produces the most dazzling array of motors you will ever see. Wayne burst on the scene a couple of years ago producing bargain priced motors. After having a few production problems, he came

back on line this year with his Mix and Max line of Class C and B motors. The best thing (besides the low price) about his motors is that they work, much to the dismay of "companies" like US Rockets and Reaction Labs. He has started experimentation with I and J motors, which he prototyped successfully at Danville 2. Wayne hopes to get his Class C motors certified this year. Besides having a knock-out wife, Wayne is one of the nicest guys in high-power rocketry.

↳ **Special Runner up:** Gary Rosenfield of Aerotech, the leader until Wayne's late entry.

↳ **The "I spent a lot of \$\$\$ but have nothing to show for it" Award:** This award goes to Larry Broadbent, formerly of Stargate Rocket Systems. Larry came on the scene in the early 80's right when the high-power thing was getting started. He spent big bucks buying up what was left of Composite Dynamics, forced his partner out, paid big-billies for foam nose cone tooling and prototypes, and then did nothing. No advertising, no catalog, no kits (although he did show several prototypes), no nose cones.... and he wondered why no one bought anything from him. He started selling off his product to US Rockets (Jerry, of course, bounced several checks off him), and NCR later picked up much of the remainder. Hey, anyone want a solid aluminum BT-39 nose cone? Larry is

now into photography and mega-watt car stereo systems.

↳ **The "Send in the Clones" Award:** Shared by West Coast Rocketry, East Coast Rocketry, Gulf Coast Rocketry, and Space Coast Rocketry. We're still waiting for North Pole Rocketry.

↳ **The Magical Changing Name Award:** goes to Mike Burgess formerly of Astro Dynamics, who has changed the name of his company twice time since its creation.

↳ **The "Big Honkin' Motors" Award:** goes to Rocketflight, for producing the paper-cased G50 (later the G100) motor. A large 1.5 inch diameter black-powder motor that is actually a G (about 100 n-s)! And they work! At \$6.00 each, they are a bargain, and bring back memories of those bygone days of huge F100 motor clusters. A fire-and-smoke lovers dream motor, without the price tag shock of composites.

↳ **The Son of Stinger Award:** goes to some foreign terrorists who once again got the idea that you could use model rockets to shoot at things like cars and planes. The FBI confiscated all their toys, festooned with the manufacturer's

UNSOLICITED ADVERTISEMENT

NEVERTEK BONUS COUPONS!

Values Worth Up TO \$2038.75!

<p>NEVERTEK BONUS COUPON WORTH \$1.25</p> <p>Toward The Purchase Of A #IW-1 IGNITO-WAD™ Igniter Stuffer.</p>	<p>NEVERTEK BONUS COUPON WORTH \$2.50</p> <p>Toward The Purchase Of A #SSBS-1 SURE-AS-SH*T™ IGNITER Bulk Pack</p>	<p>NEVERTEK BONUS COUPON WORTH \$5.00</p> <p>Toward The Purchase Of a #NEK-100 STUD MUFFIN™ Rocket Kit</p>
<p>NEVERTEK BONUS COUPON WORTH \$10.00</p> <p>Toward The Purchase Of a #6969 EVIL KNIEVEL BASEBALL BAT™</p>	<p>NEVERTEK BONUS COUPON WORTH \$20.00</p> <p>Toward The Purchase Of #DB-1 LEE PEESTER'S SISTER™ (one night only)</p>	<p>NEVERTEK BONUS COUPON WORTH \$2,000</p> <p>Toward The Purchase Of THE WHOLE DAMN™ COMPANY!</p>

name, along with a instructional videotape showing them shooting a rocket, bazooka style.

▷ The "Slow-as-Molasses in January" Award: goes to the Federal Aviation Administration, who have been sitting on the NAR's request for a change in the model rocket weight limit for more than three years.

▷ The "There is Justice in this World" Award: goes to the Huntsville police official who had the flying shut down at NARAM-30. It turned out he was an FAA Safety Instructor on the side, and didn't like the rockets messing up his air, regardless of the laws. He died of a heart attack seven months later. We hope you are kept in a eternal holding pattern on your way to see St. Peter, and watch out for those rockets!

▷ The "You paid your money and take your chances!" Award: This prize is shared by Mike Nelson and Jerry Irvine, for advertising motors or kits, and taking orders (and money) for product that didn't even exist! Jerry used to refer to this as the "Consumer Funded Development" approach. In Nelson's case, it was for the infamous "Stinger" G30, a 1.5" diameter, 120 n-s motor. Why anyone would want something like that is beyond me! He couldn't get anyone to make it for him, and it never hit the market. As for Jerry, he does it all the time, but the best example is for the G90 motor, which never existed (except in his mind).

▷ The "But is he Class B qualified?" Award goes to astronaut Jay Apt, who doesn't have a Tripoli membership, but is gonna fly high power anyways! And, he'll beat Jerry Irvine into orbit!

▷ The "Public Relations Scam of the Decade" goes to Wayne McCain for his many ill-fated publicity attempts, including the LOFT-1 flight at the Cape. Heard much from E Prime Aerospace lately? Heard anything from McCain. He's in the same class as Irvine, only a lot slicker.

▷ The "I'm Allowed to Change My Mind" Award goes to Harry Stine, who only a few years back was not enthused about high power. Now he wants the NAR to expand even farther than 3.3 lbs! Time and technology sure change things, don't they?

▷ The Editor's Choice Award for the Most Historic Series of Launches: LDRS-1 through LDRS-5. In the span of five short years, G motors grew to L motors, the NAR went from kicking people out of the NAR to visiting and seeing the sights, and Medina, Ohio became the focal point for the growth of high power. Nowhere else in the USA were so many flyers people in attendance each year than at LDRS. Without the fine range support and emphasis on safety, it is unlikely that Tripoli would exist in its present form, nor is it likely that the NAR would be examining high power. LDRS was simply the most significant single event to emerge from the 80's. And with it, emerged the high power rocketry scene.

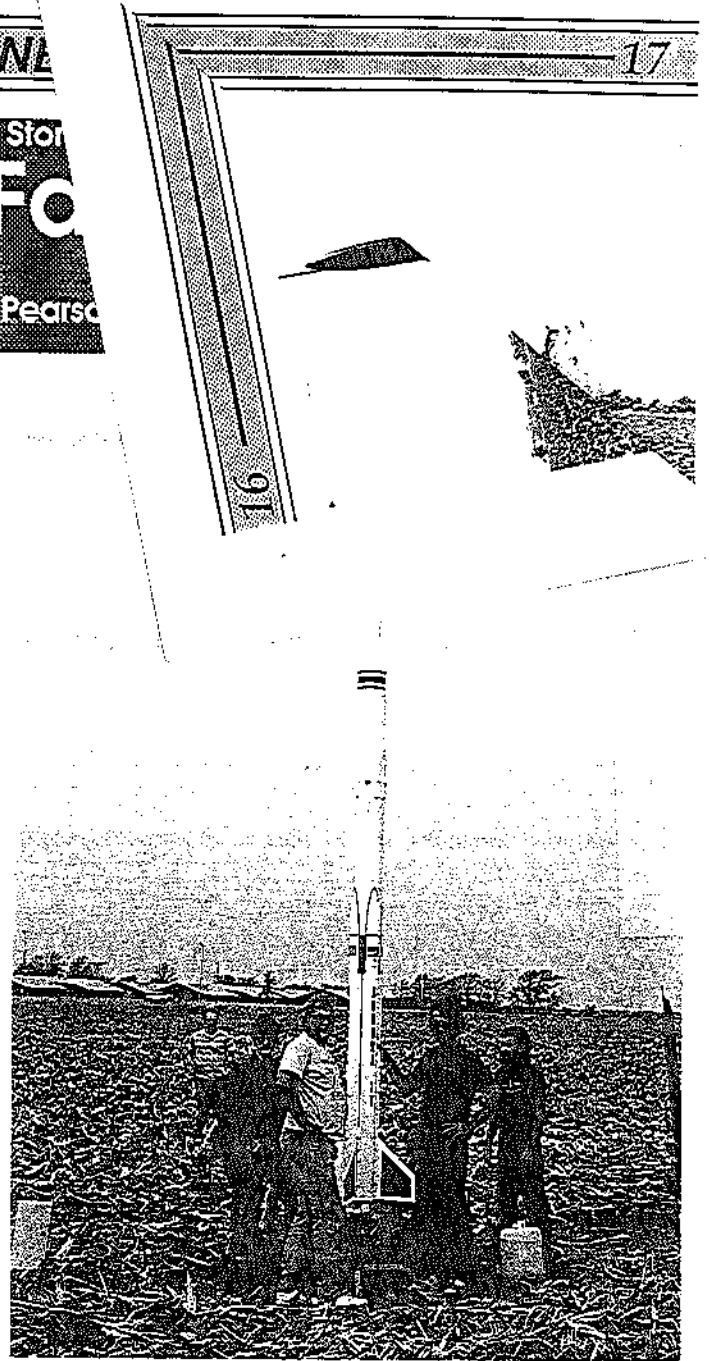
▷ The "Who flew the G motor" Award goes to the man who made the popular bumper sticker in the early 1980's. Who did it and started all the ruckus? It was Brad Bowers!



Photo Story

Danville Dare Fo

by Chris Pearso



Opposite Page, Top: Ric McBroom and son with a staged sounding rocket style model.

Opposite Page, Lower: Frankenstein made it to the field!

This Page, Top Left: This futuristic design actually weighed in under a pound!

This Page, Top Right and Lower Right: Rich Zarecki's "Aurora 4" powered by four Vulcan J motors. The model featured redundant VEET-1's for delay, but only three of the four motors ignited.



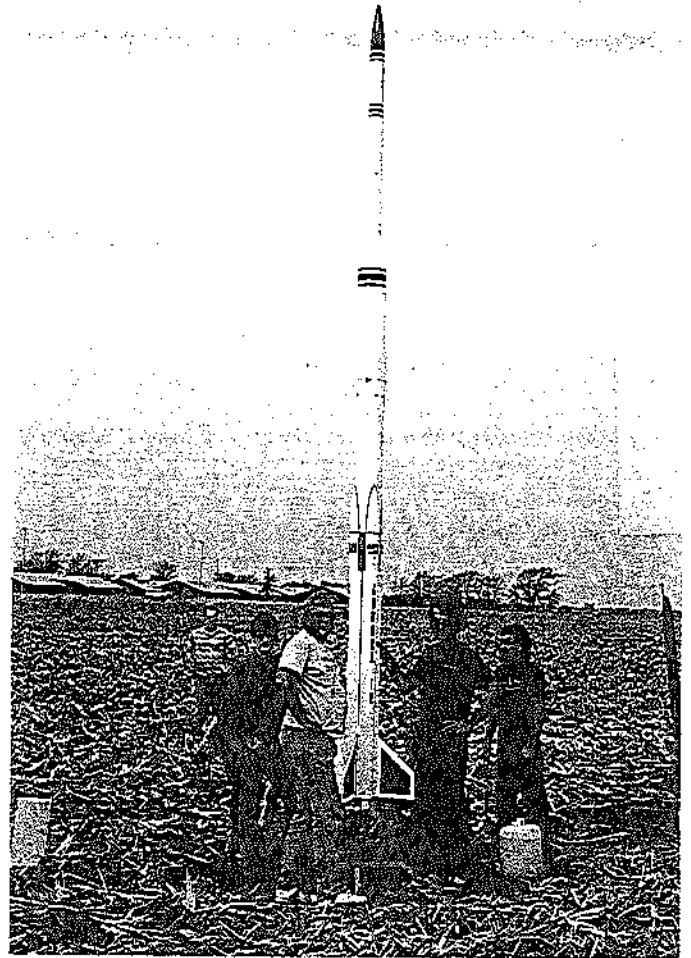
Photo Story

Danville Dare Fall '89 Launch

by Chris Pearson



Opposite Page, Top: Ric McBroom and son with a staged sounding rocket style model.

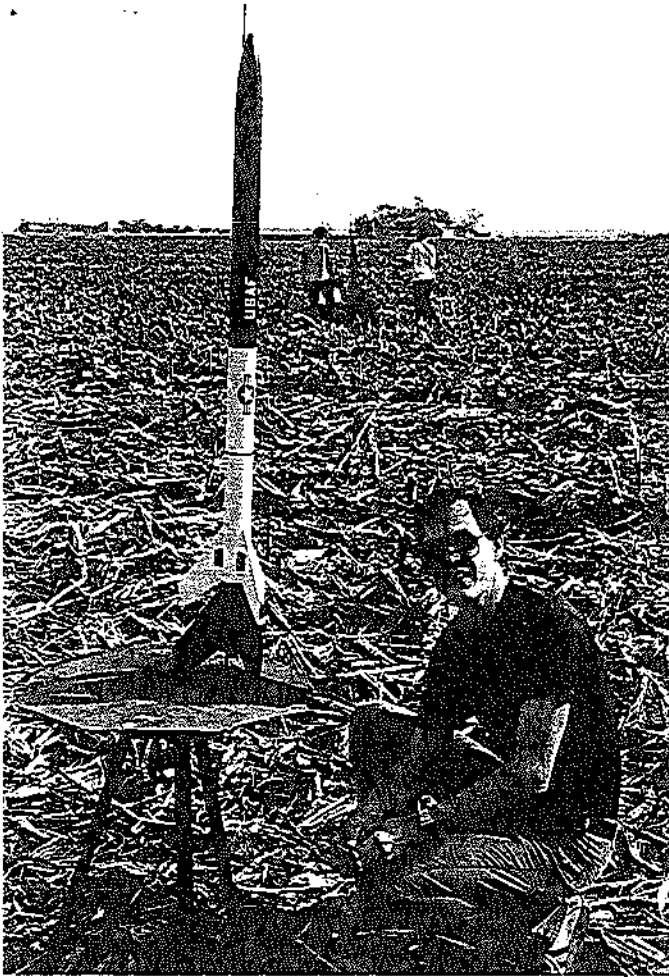


Opposite Page, Lower: Frankenstein made it to the field!

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This Page, Top Right and Lower Right: Rich Zarecki's "Aurora 4" powered by four Vulcan J motors. The model featured redundant VEET-1's for delay, but only three of the four motors ignited.





Top Left: Mike Kelly flew an NCR Quantum 2 with two F100's! Worked, too!



Top Right: Lovett Reddick brought his "Cloud 9" cluster model that featured electronic parachute ejection. Note the nice job he did faring in the nose cones of the outboard tubes to the main body tube.

Lower Right: Wayne Schaefer of Ravenna Rocket Research brought out some big birds to test his prototype I and J motors. The prototypes flew fine (when they all ignited)





Top Left: This futuristic design was built by Steve Sochetto. Danville seemed to bring out a number of different exotic designs.

Top Right: Here are the remains of Wayne Schaefer's three J powered rocket. One motor didn't ignite.

Lower Left: These are the remains of Walter Blanca's "Pumpkin Pusher" that was flow with a bad Vulcan J250. Wonder if he bought the motor from the guy who sold him that T shirt?

1990 NAR Board of Trustees Meeting

The February Board of Trustees' Meeting was held in Houston, Texas on February 23-25, 1990.

The meeting was attended by twelve trustees, with only John Worth absent. Rookie trustees Ed Pearson and Larry Shenosky were joined by old timers Pat Miller, C. D. Tavares, Jack Kane, Matt Steele, John Pursley, Connie Pursley, Chas Russell, Vern Estes, Bryant Thompson and Mark Bundick. The Board meetings are always fun, if you consider fun to be all day and all night marathon sessions talking about such sexy subjects as budgets, insurance, by-laws and parliamentary procedures.

The Friday night sessions primarily dealt with budget projections and membership growth. The membership is now about 4300, with the loss in members primarily in the Juniors. This was not really unexpected by the Board, as the Estes kit stuffer program had reached its saturation level. Seniors are still growing. Various programs were discussed to boost the membership.

The second issue discussed was *American Spacemodeling*. The decision was made to go to a 48-page magazine every two months. It was felt that this would offer more material to the NAR members and improve the content, without pushing the NAR's budget too hard. The Friday night meeting ended after midnight.

Saturday began with a review of the new Contest Rules Revision process developed by Terry White. After some minor revisions, it was unanimously approved. The biggest portion of the meeting was taken up with the discussion of possible incorporation of Advanced High Power Rocketry (AHPR) into the NAR. Vern Estes kicked off the discussion with an overview of the commission's charter and scope. Jim Barrowman's committee put together the interim report and made it available to the Board about two weeks before the meeting. There was a wide variety of comments, both pro and con. Strongly in favor of incorporation was G. Harry Stine, with other positive reactions from Paul Hans, Gary Rosenfield and John Worth. Negative reactions from Mary Roberts, Martha Sienkiewicz, Chuck Mund, and Vern Estes offset the positive, leaving the panel evenly divided.

The discussion then turned to Chuck Mund, who presented the Tripoli point of view to the trustees. Chuck felt that "having the NAR get into AHPR is a bad idea for both the NAR and Tripoli". Chuck then suggested that the NAR and Tripoli begin a dialogue of working together.

Chuck was then grilled by many of the Trustees on various Tripoli viewpoints. The Board tried to make it clear that the NAR had no hidden agenda nor had any desire to undermine Tripoli. Instead, the Board emphasized that this study was to look at the high power hobby as a whole.

The Board then took turns expressing their viewpoints regarding the interim report. The general response was that: a) a consensus had not been developed; b) there were risks associated with incorporating AHPR; c) the benefits of incorporating AHPR were not clear; and d) more time was needed to study this complex issue, given the risk associated



with such a move.

As a result of these discussions, the Board extended the deadline for the final report on the subject. Another draft report, discussing the possible programs the NAR may implement, is due in time for the August Board meeting.

The Board then reviewed the Committee Action Plans and Long Range Plans. Most of the plans have a number of general ideas to improve services.

The meeting then concluded with a review of a summary of items that the Senior Advisors submitted that "Need Fixin'". This survey was sent to all of the NAR senior advisors in hope of getting problems solved quickly and efficiently. The Board addressed a number of issues. One of the surprising things to come out of the review will be a deletion of the NAR discount coupon program, to be replaced by a NAR decal sheet. It was felt by the majority of the Board members that more people would use the decal than the 3% or so who are using the discount coupon program. The discount coupon program also ran into serious budget problems last year, forcing a re-look at the entire program.

The meeting concluded with most people making plans to get together at NARAM and in Florida for Jay Apt's launch.

No doubt about it, the NAR Board of Trustees is serious business these days. No one in their right mind would sit in a conference room with other rocketeers for two and a half days and not build or fly a rocket!

Quotable Quotes from the Meeting....

"This Board is predictably unpredictable"
Overheard

"No, sending a contribution to the President's Corner does not qualify you for a free *American Spacemodeling* T-shirt".
John Pursley to Pat Miller

"He really ought to see a doctor about that condition.."
Mark Bundick, discussing another trustee

"The last Section Manual was produced by Don Carlson"
John Pursley

"You are never to mention that name in a Board of Trustees Meeting ever again!"

Matt Steele

"Some skeletons remain buried a long time, don't they?"
Chas Russell

"Oh, I can just see it now..... Board tells NAR members to stick it"

Overheard during a discussion of placement of NAR decals on cars so that they would all look alike.

"I am the hidden agenda!"

Larry Shenosky

The Future of Estes?

This is what people were saying about Estes and possible composite motor manufacture. This transcript is from the MODELNET SPORT ROCKETRY CONFERENCE on January 19, 1990.

Attendees:

Bunny (Mark Bundick) - Chicago, IL
 Roy Green - Atlanta, GA
 John B - John Buscaglia - Boston, MA
 Michael Hellmund - Denver, CO
 Chuck Mund - Los Angeles, California
 William Safford - Albany, NY
 John Sicker - Albany, NY

(Chuck Mund): If Estes wants to go composite, they should license technology from Aerotech or Vulcan.

(Bunny): Why do you suggest that as an approach?

(John Sicker): Why re-invent the wheel, Chuck? Why don't they just bulk buy from Aerotech?

(Roy Green): They already have old technology from Enerjet/Centuri.

(John Sicker): Yea, Roy. The motors that go boom. Enerjet bombs.

(Roy Green): I never saw an Enerjet cato until they all got ancient. Remember the last one was made in 1975 or so.

(Bunny): From a business point of view I think it might be wiser to develop some in-house expertise. My spies tell me that the Estes R&D guys already know composite technology. But there are some other business considerations, like they don't have Aerotech or Vulcan's manufacturing expertise. To license the technology, you have to admit that you can't develop it in a cost effective fashion. I'm not convinced that Estes can't develop the composite technology if they wanted to. But I don't think despite the rumors here on the Net, they want to do that. I think they want to stay with black powder, for better or worse.

(Michael Hellmund): (1) Isn't a black powder G too big to meet current NAR standards? (2) With the things happening in Eastern Europe, do you think that we may see some of their products over here? (3) Chuck, what is the status in CA on Class B rocketry?

(Bunny)Let me answer some of those questions. Yes, a black powder G motor would contain too much propellant to be certified or shipped as Class C stuff. But Estes could develop a good black powder E or F and do just as well. I mean, even the HPR guys use D12's for effect. As to Eastern Europe I think a more likely result of the unrest there is a cessation of model rocketry. Without government support, the activity could well die out. I mean, how can those guys afford to travel to the Internats if they don't have a subsidy.

Chuck Mund): By technology I meant not just chemistry and fluid dynamics, but the manufacturing techniques also. Aerotech and Vulcan have been working on making composites for over ten years. They have both been improving their techniques all that time. I don't know why Tripoli is still late in filling membership requests. As far as California Class B happenings, we have invited the CA State

Fire Marshall to the next Lucerne launch in two weeks. We'll see how he reacts to our best behavior.

(Bunny): I guess I still think the big decision Estes would have to make isn't technology, but business policy. Do they really want to go into composites, or stick with their black powder experience?

(Michael Hellmund): Is there a way to make black powder "hot"? I mean a more refined formulation that could squeeze more power out of less grams? And my comment on Eastern Europe was more directed at Eastern European manufacturers.

(Bunny)Sorry for misunderstanding the Eastern Europe comment. I think the distinction between manufacturers and government is little or none, so major change is underway and as for getting their products, I'd not be too optimistic. As for black powder, ask Chuck, but I suspect the stuff has a limit on specific impulse around 80 or so.

(William Safford)First, I think it is unlikely that Estes will produce composites, because they are difficult to mass-produce, and are very labor-intensive. I'd love to be proved wrong, though. Regarding black powder, there are some ways to increase specific impulse a little bit beyond 80, but that decreases the stability of the propellant (therefore more catoes). And it isn't really worth it to struggle to increase the Isp from say, from 80 to 100, when composites jump to Isp of 185, 200, or higher. Even so, I'll be very interested to see if Estes does feel the market pressure to release big motors. Mary Roberts at NARAM -31 did make some interesting comments to me along those lines.

(Chuck Mund)Regarding black powder specific impulse, it could be increased if you run it at higher pressures and use a nozzle convergent section Unfortunately, that is hard to do in paper. Higher energy propellants also could be pressed into grains using say AP and plastic spheres, but again there is a pressure problem in a paper case.

(Michael Hellmund)Bunny, why don't you rub your crystal ball and tell us what we might expect out of Estes the next few years? They all seem very happy down there and rumors have that they may reintroduce some of the kits that they long discontinued or acquired from Centuri.

(Bunny)To use a football analogy, Estes is behind by 4 points, but they've got second and two. That means they can run any play they want to. Since the buyout was for cash, they don't have to worry about the debt payments, so they are free to concentrate on long run business initiatives, instead of meeting next quarter's payments. I think Harry Stine's "elephant" comments here in the October CO were completely off base. He's underestimated the energy and vision of the people out there. They want to improve the product and have some good ideas about how to do that. While I certainly don't know the specifics, I'm willing to bet that were going to see some innovation come out of Penrose. A final thought. Since the plant management will be given the opportunity of buying an equity interest in the firm, they'll certainly have a vested interest in making it all work well. As to old kits, that's up to them. I assume if they think it would be a good seller, they'll put it out. *****

NORTH COAST ROCKETRY

Photo Contest!

We're holding a photo contest to get "the best" photos for the 1990 catalog! If you have a great shot of an NCR product, send it to us! You could turn that photo into hundreds of dollars worth of NCR products and merchandise! Just send it in! Photos previously submitted to NCR will also be considered.

Grand Prize: \$200

First Runner Up: \$100

Second Runner Up: \$75

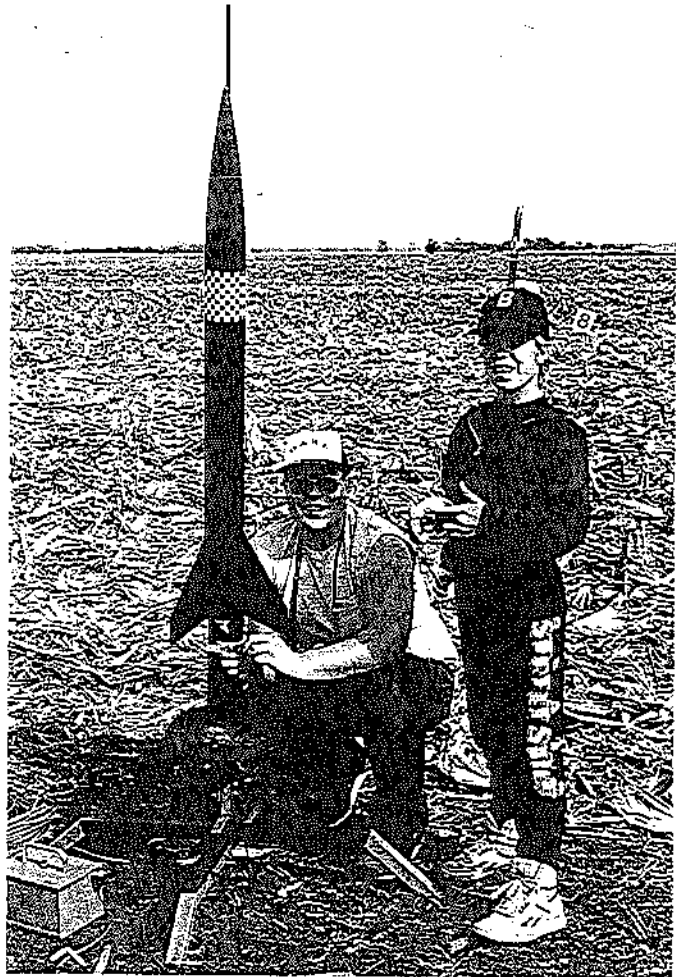
Third Runner Up: \$50

Any other photo selected for use in the catalog:
\$20 per photo

Rules:

- 1) Winning photos will be selected for clarity, composition, and subject matter.
- 2) All entries must be postmarked by May 15, 1990 to be considered.
- 3) Prints (either black and white or color) must be 3" x 3" or larger. Please include negatives with prints if at all possible. Slides (mounted) or transparencies are also accepted.
- 4) Include your name, address, phone number, and a caption on the back of each photo.
- 5) All entries become the property of North Coast Rocketry, Inc.
- 6) Entry in the contest constitutes permission to use the photograph(s) for promotional purposes.
- 7) Photos can not be returned. Sorry!
- 8) Send all entries to: North Coast Rocketry, Dept. PC, P.O. Box 24468, Mayfield Heights, OH 44124.

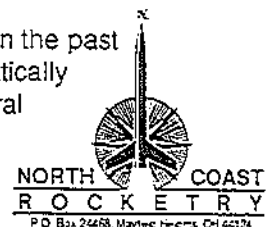
Winners names will be printed in the 1990 catalog.



About The 1990 NCR Catalog...

We are planning on mailing the catalog in early July, 1990. If you have ordered from us in the past year, or if you have ordered a 1989 catalog from us since February, 1990, you will automatically get a 1990 catalog. It looks like an exciting catalog, with six new high power kits and several competition kits added to our current offerings.

Look for it this summer!



From Your Sometimes Sober Editors

(Continued from page 2)



has become two separate clubs, one kept in touch by the national newsletter, and a smaller local club that still calls Cleveland home. As such, it is better at this time to let the

club in Cleveland carry on as they see fit, and close down the national level operation. Fifteen years is a long time to keep a volunteer operation in business.

That's the sad story we'd like you to believe. The truth, though, is another matter....

Really, what happened is that this issue was finished right on time, see, but the Martians stole it and took it to Neptune. As luck would have it, Voyager was able to swing by at the time and send it back into Earth in the form of high resolution photographs that many people mistook for signs of intelligent life. Of course, given the slow transmission rate from Neptune to Earth, the issue was delayed for over two months. After it was received back in Houston, some pirates (on vacation in Texas) stole it before NASA could pass it back to SNOAR News HQ. They, in turn, sold the issue to a man in a circus who worked in newsletter slavery before it was traded to Columbia with a man laundering money for the drug cartel. Of course, it was immediately captured upon entering the country! The cartel tried to use the issue as a hostage to gain leverage with the Columbian government, but the only response they got was "Huh?". So, the drug cartel passed the issue off to Noriega as a favor. He took it with him when he was captured and brought to the USA, and only released it under intense questioning. We were able to negotiate for the release of the issue only on the promise that we would bring an end to this whole tawdry publication. So, the brute force of the US Government (and in particular, the Miami DA Office, the OMB, the DoD, the FBI, the CIA, the FDA, the NFPA, the KGB, and their subordinate organization, the IRS) has finally brought the mighty SNOAR News to it's knees.

Of course, you can understand why we have been reluctant to discuss these details previously.

Stay tuned for more details on the SNOAR News World Farewell Tour, where we become even more outrageous as the possibility of printing a retraction becomes less and less. Get ready for the T-shirts, the scalpers, the sky high ticket prices, the endless possibilities....

J. D. McNeil

Quotable Quotes...

"Trying to figure out the NAR insurance is like playing with a Rubick's cube; any way you twist it, it looks funny, and you'll go crazy if you want to make every piece fit together just so."

- Matt Steele

"I understand the question. I have no clue to what the answer is."

- Trip Barber at the NARAM contestant briefing, in response to a Bob Kaplow inquiry about blast deflectors under 'power towers'.

"I bet you never blew up a toaster oven!"

- Tina Barber to Jack Kane and G. Harry during the ORR dinner...discussion was about motor testing. (There must be a good story there somewhere, huh?)

"Well, that was another typically stupid John Rains question."

- John Pursley

"Chris, why do you ask?"

- Bob Geier to Chris Martin

"I don't know, I have to annoy someone."

- Chris Martin

"I'm just trying to sell these"

- John Pursley at auction

"You've got 'em sold, you're only dickering over the price"

- Sid "Vicious"

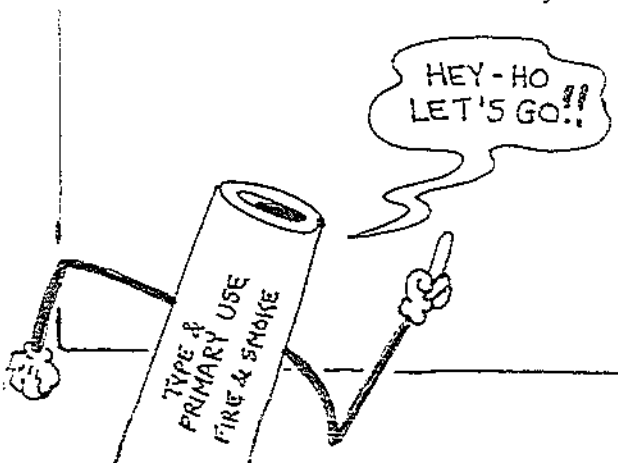
"G. Harry taught me an important lesson. Founders should not stay in power too long."

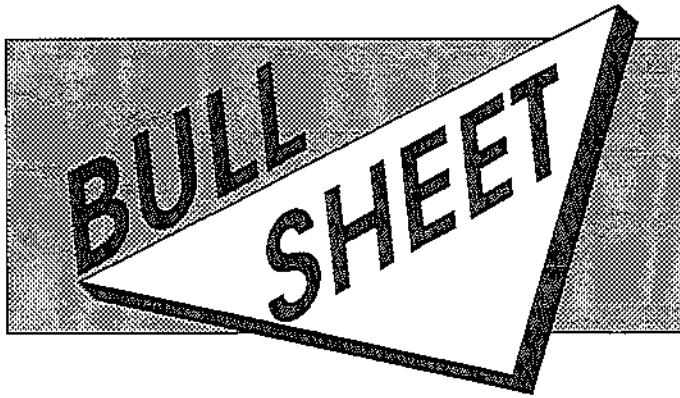
- Bruce Blackstone

NIGHTMARE ON
1295 H STREET!

Oh No.... MRC has finally
come up with something
that's INTERESTING!

T. WILLIAMS '90





Estes Sold!! According to Dow Jones News Service, American Magnetics has reached an agreement to sell Damon Corporation's Hobby Product Division to a new company formed by Peter W. Smith and company, a Chicago based private investment firm and TCW Capital, an affiliate of Trust Company of the West. Purchase price was \$43.6 million, well over the \$30 million that the company was expected to go for. The new company was financed as follows: (1) \$41.3 million in cash, and (2) \$2.3 million of notes, representing 10% of the equity in the new company that will be given to American Magnetics. Management at Estes/Hi-Flyer will be given the opportunity to invest in the new company, also.

This really looks good, folks. Since the Estes sale was not heavily financed, it means that they should have some cash for R&D. It also means that Estes will have to "grow the market" in order to continue to expand their business base, which translates to more rocketeers. We should see exciting new products from Estes in the future. It also meant that the current management structure at Estes will stay in place, so folks close to us like Mary Roberts, Bob Cannon and Mike Dorfler will stay.

Aerotech has expanded their rocketry line and condensed their motor line. New for 1990 from Aerotech will be the Mustang (1.9" diameter, 31" long, \$33.95, now available), Arreaux (1.9" diameter, 43" long, \$39.95, April release), HV Arcas (2.6" diameter, 56" long, \$45.95, April release), IQSY Tomahawk (1.9" diameter, 41" long, \$39.95, May release), and the Astrobe D (2.6" diameter, 68" long, \$51.95, May release). The following motors have been discontinued:

D8 E10 E28 F15 F20 F41 F101 G60 H90 G110

Most of these motors are only available through dealers, although very few are said to be on hand (North Coast has a small stock of some of these left).

What's the story behind the MRC FX-10 Motors/Smoke Cartridges? They will be allowed for use in contest models, but will have no total impulse. That will make them great for events like Giant Sport Scale at NARAM-32. Want to know a secret? The cases for the FX motors are North Coast 1/4" launch lug tubes filled with pyrotechnics. Bill Stine came to the southern office of NCR a number of months ago, and took a large quantity. He said at the time he had another use for them, but we now know better, don't we?

Who is this Vertical Advanced Rocketry, anyhow? Vertical Advanced Rocketry is John Pursley...and his dad!. John's

dad actually knows nothing about rocketry but is good at fabricating things. The Versatower is based on some tower designs John has developed in the past three or four years. The tower utilizes three, four, or six (depending on the Versatower model) 32, 48 inch rails (again, depending on model) which maintain alignment during adjustment (using a parallelogram device). Adjustment for any model takes 10 seconds or less...with most models being accommodated in just a couple of seconds (honest!). The standard Versatowers (\$49.95) handle up to 8" diameter models with 9.5" fin spans on 32 inch rails (about 36" of guidance). Optional 48" rails are available. The Super Versatower (\$89.85) is for you high-power guys with four 72" rails. It accommodates the same diameter and fin spans as the standard model. It has a heavier frame and swing-away blast deflector for bottom. Versatowers mount on standard camera tripods and can tilt to horizontal and swing through 360 degrees for loading. Though the ads say otherwise, shipping has been increased to \$7.50 each (they come almost completely assembled and the box is big). Check it out if you are in the market for a tower!

North Coast Rocketry's P.O. Box has changed! The post office got evicted from the building that they were in, forcing the change. The new address is: North Coast Rocketry, Box 24468, Mayfield Hts, OH 44124. Mail addressed to the old address is still being forwarded, and the phone number for orders and customer service is still the same.

Here's the latest on Jay Apt's mission, from a note that Jay dropped off on Compuserve a few weeks ago.

"I don't stop by this forum very often, but I saw the last few days of the shuttle thread. I'm delighted that our flight has generated so much interest. As a matter of fact, there are two model rocketeers on STS-37: Jerry Ross (who grew up in Indiana) is the other.

You folks probably have been keeping up, but here is a summary of the latest changes. We were originally scheduled for launch on April 5, 1990. General rescheduling moved us out to June 29. Then we were swapped with a DoD mission (STS-38), taking their June 3 slot. Not a good deal for us, since that squeezed us between STS-36 (another DoD high priority flight in early February) and Ulyses in October; all on Atlantis. When the February flight slipped to late February, the June slot was not possible, still making the tight Ulyses window. For a while looked like the DoD flight would move to November, but we ended up taking the slip instead. November 3, on Atlantis is the new target.

My own guess is November to January time frame.

We are still flying the Gamma Ray Observatory, the most massive payload ever deployed by the arm.

Jerry and I still have our EVA, the first since 1985 (No, we cannot launch a model...). Our secondary payload mix is changing: we have lost the ozone monitor (SSBUV) and the combustion expt (SSCE). We still have the ham radio (SAR-EX), and hope to talk to a lot of schools via local ham clubs.

We do plan to fly a model for the NAR, perhaps to add to the NASM display. I have a limited allocation in the "official flight kit" area, and will use one slot for the NAR.

Our training was picking up (the last week prior to the slip I wasn't home any night before 11PM), but is way down now. We'll start up again full time on May 3 (launch-6)."

-Jay

Thanks for the update! We'll all be watching!

PHOTO FUN!

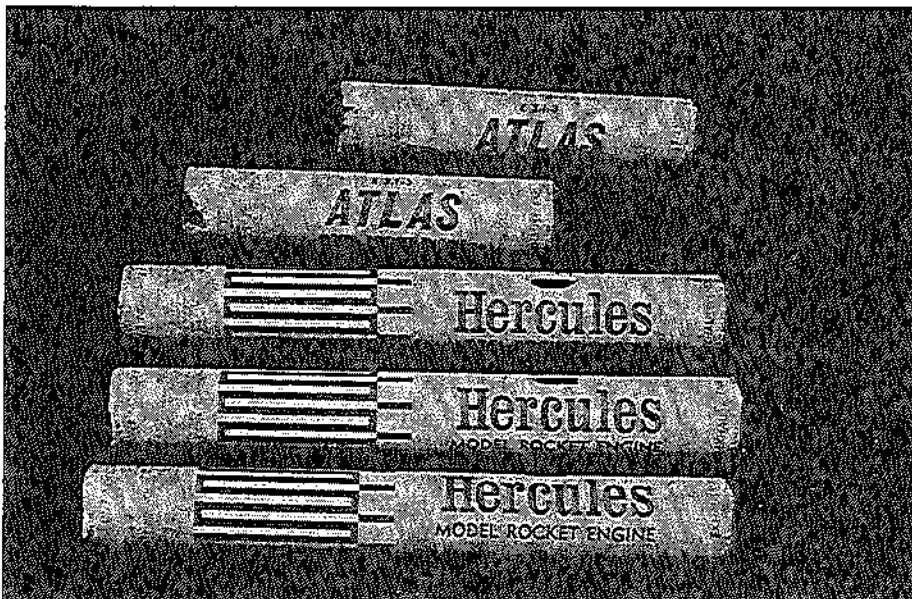


Left: Gary Rosenfield (Aerotech), Chris Pearson and Dan Kafun (NCR) all prep models for demonstration flights at NARAM-31. Gary later received the Howard Galloway Award for his composite motor development work.

(Matt Steele photo)

Right: Here's a rare sight! Proving that Tony Williams DOES indeed exist, George Gassaway poses next to him at a recent Alabama meet. The slim, trim Mr. Williams has taken time out of his busy schedule to help out at the range.

(Robyn Steele photo)



Left: How would you like to have these in your rocket motor collection? These little "gems" are from the collection of Gary Fillible. The top motors are Atlas E 1.3-3's, and the lower ones are Hercules F25-0's. These black powder motors were produced in the early 1960's and are worth over \$50 each!

(Gary Fillible photo)

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