

# NARCS IMPACT

VOLUME II, NUMBER 2

MARCH / APRIL '77

HAVE YOU NOTICED THAT PEOPLE SEEM TO GET DISGUSTINGLY NOSTALGIC ABOUT THINGS THEY WEREN'T REALLY VERY CRAZY ABOUT IN THE FIRST PLACE? WELL NOT IMPACT, MAN! WHILE ALL THOSE OTHER NEWSLETTERS ARE SINGING THE PRAISES OF ORGANIZED MODEL ROCKETRY'S TWENTIETH ANNIVERSARY AND REMINISCING ABOUT "WAY BACK WHEN...", WE'RE THINKING ABOUT WHAT IT WAS REALLY LIKE IN THOSE

## CRAPPY DAYS

(So forget that this looks a lot like MAD's parody and read the story already!)

RICHEL, BE CAREFUL WITH THAT THING!  
DON'T YOU KNOW THAT FIREWORKS ARE  
EXTREMELY **DANGEROUS**?!

RELAX, DAD!  
IT'S ONLY A  
**MODEL  
ROCKET!**



WHAT A CRAZY MIXED-UP GENERATION OF KIDS!  
YOU WEAR **BLUE JEANS**, AND LISTEN TO  
THAT AWFUL **ROCK 'N' ROLL** MUSIC! AND  
NOW YOU'RE PLAYING WITH **MODEL ROCKETS!**  
YOU'RE ALL SUCH SUCKERS FOR **FADS!!!**

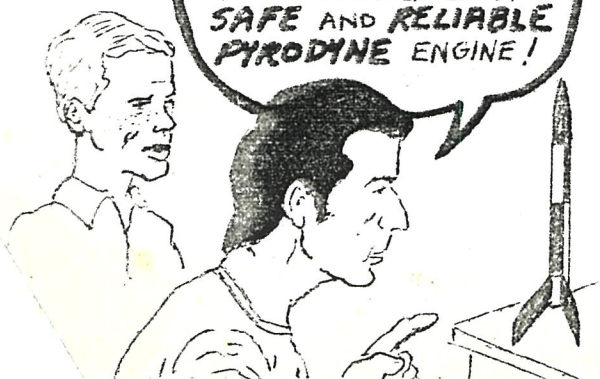
**HEY - YAHHH!**

I'M GONNA FORGET YOU SAID THAT, MISTER C!  
EVERY BODY KNOWS THAT MODROCKS ARE COOL!  
**WHOA - OHHHH!**



GEE, FONZ! I DIDN'T KNOW  
THAT YOU WERE INTERESTED  
IN **MODEL ROCKETRY!**

SURE, CUNNINGHAM!  
HEY, HERE'S ONE OF  
MY FAVORITE BIRDS...!  
IT'S POWERED BY A  
**SAFE AND RELIABLE  
PYRODINE ENGINE!**



YA KNOW, IT'S JUST LIKE  
THE SONG SAYS:

**I DON'T CARE WHAT  
THOSE NERDS SAY,  
MODEL ROCKETS ARE  
HERE TO STAY!**  
**HEY-AHHYY!**



•FINIS•



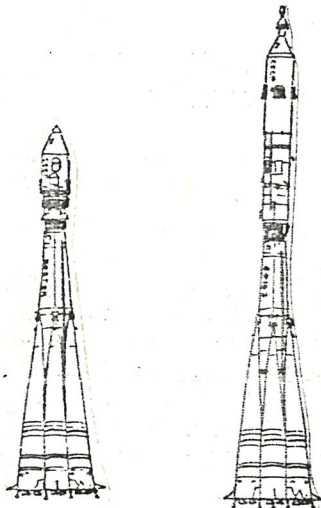
# SOVIET LAUNCH VEHICLES

OR

## *YOU'LL Never Get me into one of those things!*

by George Gassaway

All the following information comes from a Senate Staff Report compiled in 1970 about the Soviet Space Program (Document Number 92-51). A great deal of the data given on the launch vehicles is speculation since the Soviets release very little details about their rockets. Still, it is interesting.

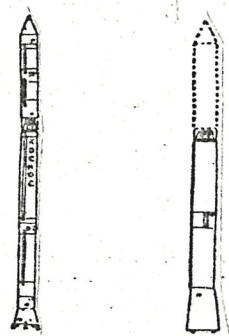


A-1 The A-1 and A-2 are derived from the Sapwood SS-6 ICBM. The A-1 launched the first Sputnik, the first recovered orbital space object (two dogs in a capsule), and the Vostok series. As of 1970, the A-1 and A-2's had launched more payloads (293) than the U.S. Thor (263). It is still in use, more than 20 years after its initiation! Both vehicles have 1.1 million pounds of thrust.

A-2 The A-2 is basically the A-1 with an improved upper stage. (The A-1 can orbit 10,000 pounds. The A-2 can do 16,000 pounds.) The A-2 was used for Voskhod and is still used for the Soyuz and various Kosmos payloads. Its 1.2 million pounds of thrust puts the A-2 pretty close to NASA's Saturn-1 series.

B-1 The B-1 is a stronger Soviet equivalent of the U.S. Scout, having an orbital capability of 800 pounds. Its basic uses are for scientific payloads and possibly for spy satellites. The B-1 has about 150,000 pounds of thrust.

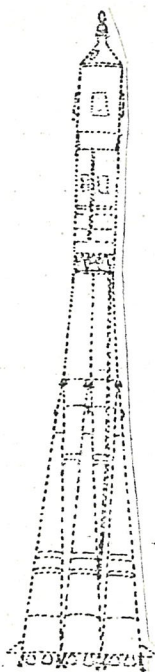
C-1 The C-1 would probably be classed with the U.S. Delta as to capabilities. It orbits 1400 pounds with a probable thrust of 300,000 pounds. Its uses would be for navigation, weather, communications, and more advanced military payloads. It has also launched multiple payloads.



D-1-e The basic D vehicle is estimated to have the same general design as the A-1 series, meaning four strap-ons attached to the sides, but scaled up in size. Total thrust is about 3.4 million pounds, over twice the power of a Saturn 1B.

The D-1-e is the D-1 booster with additional upper stages for heavy payload lifting. It orbits up to 40,000 pounds and can send 15,000 pounds out of earth orbit. Its orbital uses would best be known as the vehicle that has orbited the three or four Salyut space stations. It has sent very heavy payloads to the Moon, such as the Luna 17 that soft-landed a remote-controlled lunar rover (Lunokhod 1) that did some examination of the Moon's surface (ended weight was 6000 pounds).

The D-1-e vehicle has been plagued (at least thru 1970) by a high ratio of failures to achieve orbit or of interplanetary spacecraft failing to escape Earth's gravity. This ratio was probably close to a 20% failure rate, and should be much lower by now.



G-1 Alright, here's the greatest thing since Prodynes! This vehicle is estimated to be a huge booster vehicle with multi-strap-ons that would be maybe 50 feet in diameter and 80 feet long, with a liftoff thrust of 10 to 14 million pounds. Since the development of the booster is hard enough, it is speculated that the D-1 class vehicle would be used as the second and third stages. This "thing" tried to take off in July 1969 (just a few days before Apollo 11. There is a very good chance that there were 3 or 4 cosmonauts inside and this was an attempt to beat Apollo 11 to the Moon). Whatever the reason, it blew-up during liftoff and the explosion put most of the Tyuratam Space Port out of commission for nearly a year. Two more flights have since been attempted, each exploding about 10 miles up (possibly during staging). If developed for future use, despite the 3 failures, the probable use would be to orbit a larger space station than Salyut, one capable of having four Soyuz spacecraft to dock with it. This monster could put 450,000 pounds into Earth orbit and 150,000 into Lunar orbit.



# SOVIET LAUNCH VEHICLES (con't)

Though the thrust of some of these vehicles is very high, the Soviets do not use very efficient liquid propellants and are not designing as efficiently as we do in the U.S. However, they do put emphasis on R&D in solid propellants for ICBM's instead of liquid fuels that have little military use. If their vehicles were built with Saturn 5 technology and used modern propellants with high specific impulse, their payload capacity would be nearly doubled. This would mean 80,000 pounds orbital capability for the D-1-e and about 800,000 pounds for the G-1 class. For comparison, the heaviest object ever put in orbit was Skylab, weighing nearly 200,000 pounds.

The Vostok and Soyuz were/are also crude. This was proven during the Apollo-Soyuz Test Project. Also, the Soviets have lost five (or more) cosmonauts during actual missions. A new generation of spacecraft would seem to be in order and maybe we'll see one by 1980. Don't confuse their military might with the comparatively inefficient nature of their non-military vehicles. Some of their ICBM's are MEAN! Who else uses an Intercontinental Ballistic Missile the size of a SATURN-1??

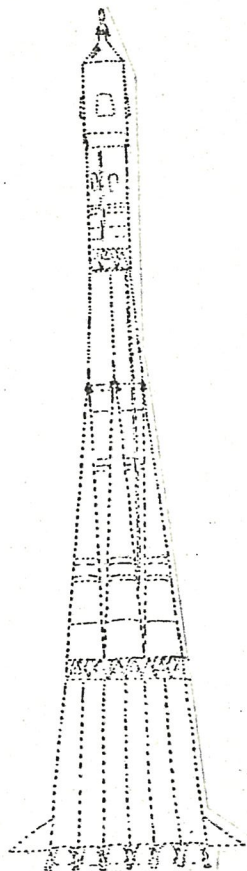
Though the data on all these vehicles is subject to error due to some guess work, you should at least know a lot more about the Russians' launch vehicles than you know before.

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FROM RUSSIA WITH LOVE DEPT.

## CHICKENOV GUTZKY<sup>2</sup>

Here it is, folks!  
Probably the worst  
strip this side of  
Siberia!

BY ANTONOV VILLYMS  
KGB#26698

THIS STRIP IS FOR G. HARRY STINE & THE ORIGINAL F.M.T. FLIGHT CREW! TALK ABOUT GOLDEN OLDIES!

Hey gang, I don't have to do this, ya know! I'm a **PERSONAL FRIEND** of Frank the Starburst Man (Clone)!

THESE BAMR CAPSULES'RE GONNA MAKE ME FAMOUS!

GREEN MT. PROVING GROUNDS

IT'S A MIRACLE OF MODERN TECHNOCRACY: THAT **D12** DIDN'T BLOW-UP!!

That Dane Boles must be a genius!!!

Mmm... looks like the Vikings have even here, too!

LOOK! IS GLORIOUS COSMIC HERO "MODEL Rocket" IN A PILE OF HORSE MANURE!

HEY, THAT GIVES ME AN IDEA!

...AND THEN OL' G. HARRY SEZ TO ME, HE SEZ, "HAND ME THAT TUBE OF D13'S... AND A CLOTHES PIN!!" YUK-YUK! CHOKLE!

HA-HA! GEE, DOUG! YOU SURE TELL FUNNY STORIES! NO WONDER WE WON THE LAC NEWSLETTER AWARD!

HEY, WHATEVER HAPPENED TO THE **STARBURST**?! WHADDABOUT THE **SATELLITE**?!

REMEMBER WHEN **BIG'S** WERE **IT**, MAN? AND HOW ABOUT **ENERJETS**?!

...AND THEN WE ADDED SOME ZINC SULFATE...!

A SPECIAL HELLO TO JON-BOY RAINS, THANKX FOR THE SCALE DATA!

Well I'll be damned!

PER MOTHERLAND MUST BE REPESTED IN THIS AMERICAN (PTUI) MODEL ROCKET CONTEST!

I WANT ONLY **TRACKING EAST**! TRACKING WEST CAN NOT BE TRUSTED! (...AND SO ON...)

FIGURE THE REST OUT FOR YOURSELVES, KIDS!

LATER AT A PRESTIEGEFOUS (?) EAST COAST REGIONAL MEET...

ASSORTED GREETINGS TO: DOUG PRATT, CHRIS TIMM, ANDREW CONDORS, HANK SIMPSON, AND ALL THOSE LITTLE PEOPLE WHO MADE IT ALL POSSIBLE!

STAY TUNED FOR "DON CARLSON, DON CARLSON!"

THE BEST THING ABOUT BEING THE ARTIST IS THAT YOU CAN WRITE ON THE BORDERS!



# WINNING

compiled & illustrated  
by Tony Williams

EVERYTHING YOU EVER WANTED TO KNOW ABOUT

# DUAL EGGLOFT\*

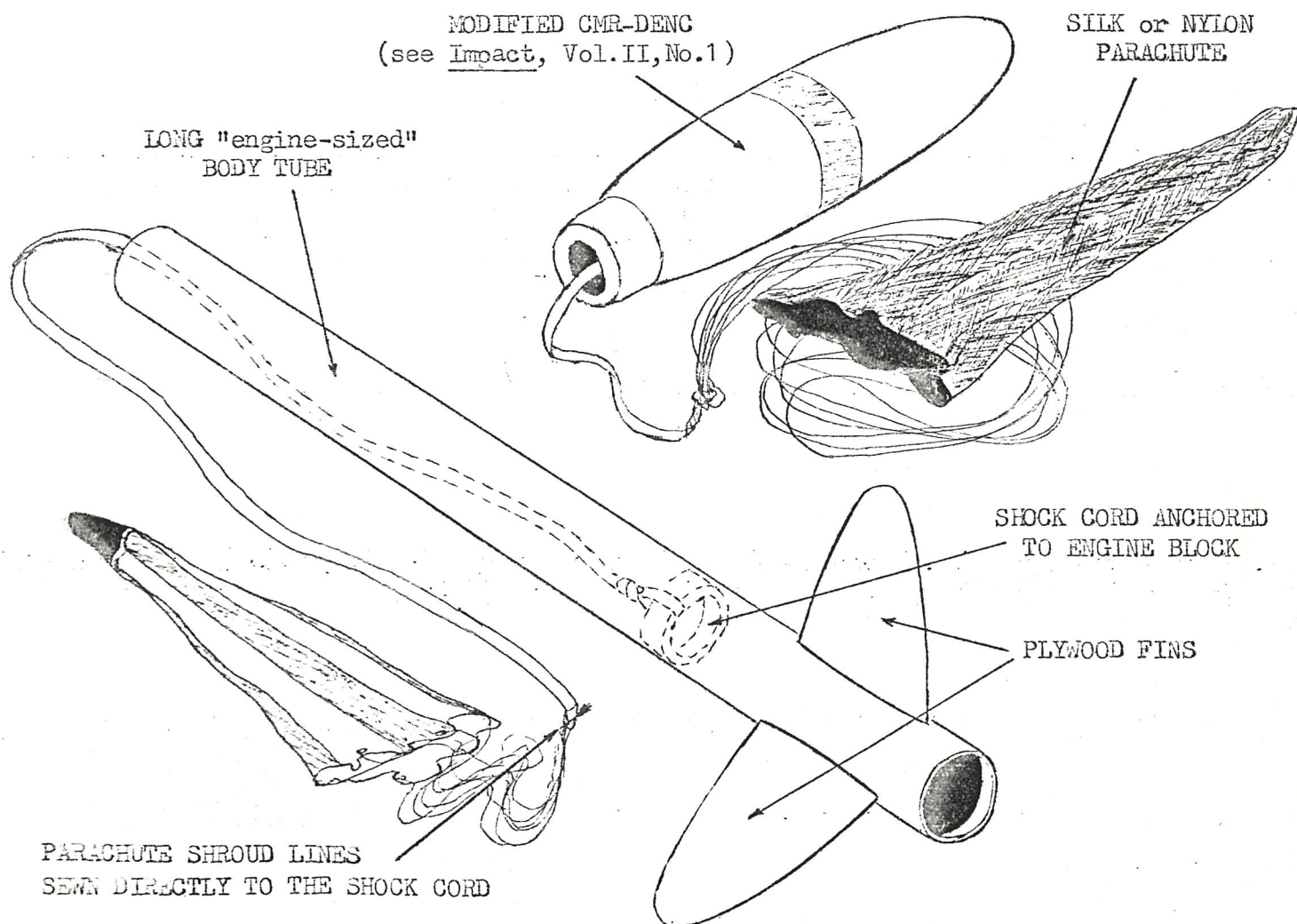
\* BUT WERE AFRAID TO ASK

In the January/February issue of IMPACT this column featured modification of the CMR-DENG Dual Egg Capsule to insure safe and reliable flights. This time the attention is focussed on the launch vehicle.

The BODY TUBE should be just large enough in diameter to contain the engine and the loosely packed recovery system (as well as the wadding and tracking powder). It should also be long enough to prevent severe oscillation.

Well-airfoiled elliptical FINS made from 1/16" or 1/32" plywood should be "riveted" to the body approximately one body tube diameter length from the rear. This helps to preserve the airflow along the body and therefore reduces drag. Smooth glue fillets at all fin/body joints will add strength and aid in reducing drag.

The elastic SHOCK CORD should be anchored to the ENGINE BLOCK. As with the capsule's recovery system, the parachute SHROUD LINES need to be sewn directly to the shock cord.





# ETC.

## Words from the Chief NARC

Well, NARAM-19's traveling has now come to an end. In October it seemed as if California had it, then in November it was Texas, and almost surely (yecch) Nashville in December. But the OFFICIAL word is Kansas City, Missouri. Contest Director will be Doug Pratt.

I have recently been appointed as Southland Regional Manager by Tom Hoelle. I hope I can do something helpful, but I need some cooperation. If you are receiving IMPACT and are in the Southland Region I need for you or someone to be a section contact. I hope to put out a very small newsletter to let everyone in Southland know what each other is doing. This small newsletter won't necessarily be tied in with IMPACT since the distribution of IMPACT is somewhat limited and can't be sent to all Southland sections. Just let me know what you're doing whether it be demos, contests, membership drives, etc. A special need for the DEEP South is to get more NAR and section members. If anybody has ideas that have gotten good results, please let me know and I'll print them.

NARCS is planning for what should be a really great meet in June. The name is the Southland Championship Regional Meet. If participation is as good as the promises some have made to me, I guess the winner could be called the unofficial SOUTHERN CHAMP. Note "Southern", not "Southeastern", as one or two Texas rocketeers may compete too. Events are somewhat challenging but not too bad. We're considering a new field to use for this if we can get permission. Further details on this page.

## CONTEST CALENDAR

MARCH 26-27, 1977 - BIRMINGHAM, ALABAMA.  
Name: Alabama Regional Contest-5 (ARC-V).  
Host: NARCS (#351). Events: CL.0 SD, PEL, GnB/G, CL.0 PD, HoR/G, PM, CL.4 SR, SwR/G, HoB/G, and Mercury DEL.

DATE UNKNOWN - BIRMINGHAM, ALABAMA. Name: Alabama Regional Contest-6 (ARC-VI). Host: NARCS (#351).

DATE UNKNOWN - ATLANTA, GEORGIA. Name: North Georgia Regional Meet (NGRM '77). Host: MASER (#128)

JUNE 25-26, 1977 - BIRMINGHAM, ALABAMA.  
Name: Southland Championship Regional Meet.  
(See info at the bottom of this page.)

AUGUST 1-6, 1977 - KANSAS CITY, MISSOURI.  
Name: NARAM-19. Hosts: Skytrackers, DARS, and GAR. Tentative events: Any 8 of the following: HoB/G, HwR/G, S, PA, CL.1 PD, R&D, CL.5 SR, PEL, CL.3 SD, and DP.  
(Info courtesy of the NOVAAR Free Press.)

\*\*\*\*\* NGRM '77 \*\*\*\*\*

Dear MASER,

We would like to attend NGRM '77. Will it be held? If so, what events? June will be busy and everyone needs to plan ahead for their models.

Sincerely,  
NARCS

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Chris,

you & Tony are doing a great job, keep it up. But, please don't  
criticizing other newsletters weekly, O.K.? The NEW PRODUCT NEWS  
in the Feb. "Free" could get Charles Atlas after you guys, but, it's  
O.K. to do that stuff in non-profit newsletters & somewhere Mad Mary, get away  
with murder. or speak, I'm just co-editor, Tony Williams does  
a lot of work in this so he deserves over half the credit / blame for  
IMPACT.  
Next I'll stop now & wait for National Campaign, Henry Winkler  
and ABC-TV to come & get us.  
P.S. next time, leave the rocket off the cover!

George Freeman

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to Chris Tavares.

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