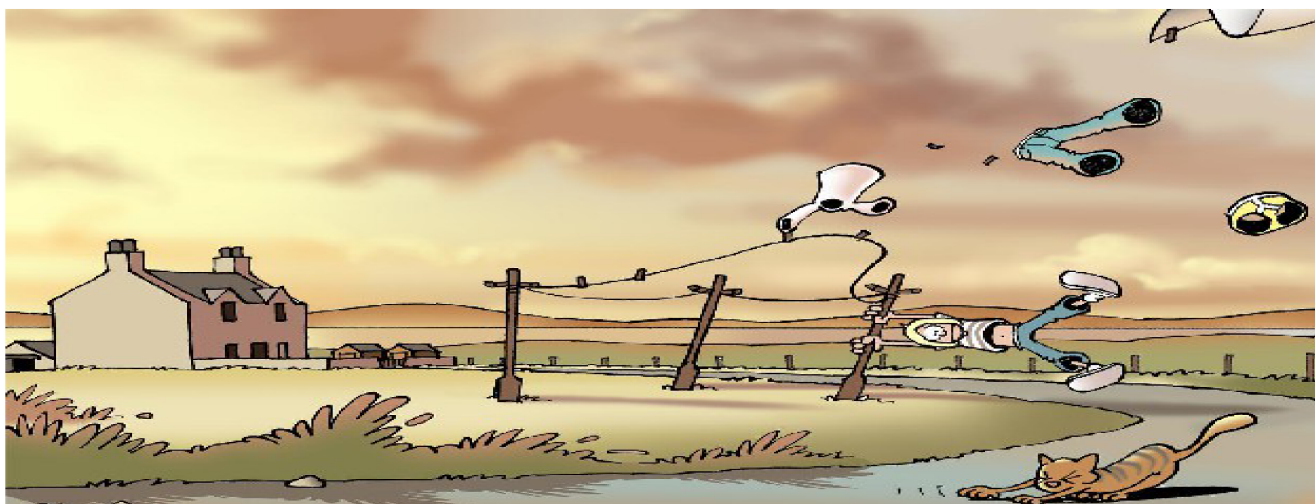


CELEBRATING 35 YEARS OF CONTINUOUS PUBLICATION



LAUNCH SEASON BEGINS WITH CANCELLATIONS

We will just keep this article simple by stating that the first three scheduled launches fell victim to the Kansas winds and/or forecast for them. We still have a very exciting schedule ahead, check out the back page of the KOSMONaut, mark your calendars, and lets reboot and begin the season again. Looking forward to seeing you all our at the launch sites. We've missed your beautiful faces since January.

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MEMBERS PROJECTS

KRAMO 36 EVENTS

2016 LAUNCH CALENDAR

NEXT LAUNCH – SATURDAY MAY 14 HUTCHINSON, KS.

STATE FAIR GROUNDS PARKING LOT - 10 AM -5PM

INCLEMENT WEATHER ? WE MEET AT KEN'S PIZZA @ 11AM

PREVIEW OF *KRAMO 36*- ANNUAL REGIONAL CONTEST

BY STEVE SANER, KOSMO CONTEST DIRECTOR

KRAMO 36 will be a NAR sanctioned regional meet. The competition is open to anyone who wishes to participate. We will be following official NAR rules for each competitive class. Ribbons and Subway gift cards will be presented for each class as well as an overall trophy. Sport flying of Class 1 rockets that can be reasonably be recovered in the launch area will also be allowed each day.

OFFICIAL NAR COMPETITIVE EVENTS -

- **OPEN SPOT LANDING**
- **PREDICTED DURATION**
- **"B" EGGLOFT DURATION**
- **"1/2A" SUPER-ROC DURATION**
- **"1/2A" HELICOPTER DURATION**
- **"A" BOOST GLIDE DURATON**

EVENT DETAILS:

For Predicted Duration, the predicted duration must be between 30 and 50 seconds. Due to safety concerns, a tower-style launch pad will be allowed for eggloft duration only if the body tube of the rocket has a uniform diameter(not tapered) or if tapered also uses a piston launcher in the tower.

While KRAMO 36 is being organized as a NAR sanctioned regional meet, if we do not have enough participants we will have to re-organize as an open meet. In that case, we will drop 1/2A Helicopter from the official results. We will still fly 1/2A Helicopter and prizes will be awarded. However, those results will not be included in determining the overall contest winner and they will not be submitted to the NAR.

**DATES FOR KRAMO 36 ARE SATURDAY JUNE 11, 10AM-5 PM
SUNDAY JUNE 12, 10AM-4PM**

LOCATION: KANSAS STATE FAIR GROUNDS PARKING LOT- HUTCHINSON KS

**ENTRANCE FEES: SPORT FLYERS \$1/CONTEST ADULT \$7, CONTEST YOUTH \$5,
FAMILY CONTEST \$15, SPECTATORS FREE**

CHECK OUT OUR WEBSITE : kramo427.org

The latest updates on launches (including weather related issues), NAR links for each competitive event featured at KRAMO 36, current issue of the KOSMONaut as well as past issues for the last 9 years. Maps of launch sites. Links to other websites of interest.



The KOSMONaut is published bi-monthly by the KANSAS ORGANIZATION FOR SPACEMODELING NAR SECTION #427. Hard copy subscriptions are \$8 for 6 issues. Membership is only \$10 a year and includes the KOSMONaut (digital version or hard copy, please specify when you join or renew) Membership also has the benefit of reduced fees at launches. Newsletter editor is the current KOSMO secretary Duane Lanterman and submissions are encouraged and can be sent to rocketsandracing@cox.net. Membership and subscriptions checks should be made out to KOSMO and sent to Sharon Lanterman, 642 N. Homestead Rd. Great Bend, Ks. 67530

MEMBER PROJECTS STEVE SANER

So far this year, I have been busy with so many other activities that I have had little time for building new rockets. That's not to say that I have been completely idle with regards to rocketry. I've been doing some work on a long term project, a 54mm minimum diameter rocket that I am optimizing for altitude and velocity. Late last year I turned a wood nose cone on the lathe. This will be a plug used to make a fiberglass mold and ultimately a fiberglass nose.



Perhaps the most significant thing that I have done with regard to rocketry, as well as many other projects, is to join the MakeICT maker group in Wichita. As a member, I have access to a laser cutter, 3D printers, a full wood shop, metal shop, and more. For rocketry, I am particularly excited about the opportunity to cut custom fins, centering rings, and other wood parts with the laser cutter. The first thing I have used this machine for is to make a parting board that will be used in the mold making process for the nose cone (pictured below). If anyone needs some custom parts, let me know !

Steve Saner - KOSMOonaut



MEMBER PROJECTS: KEITH RAVENSTEIN

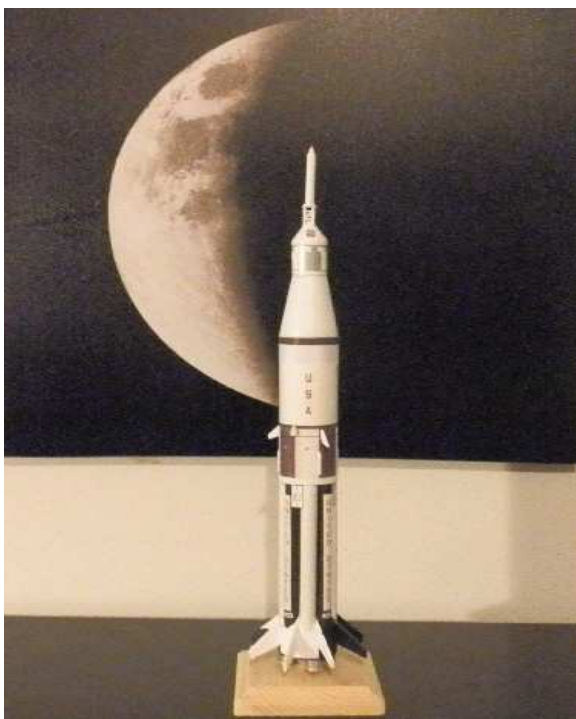
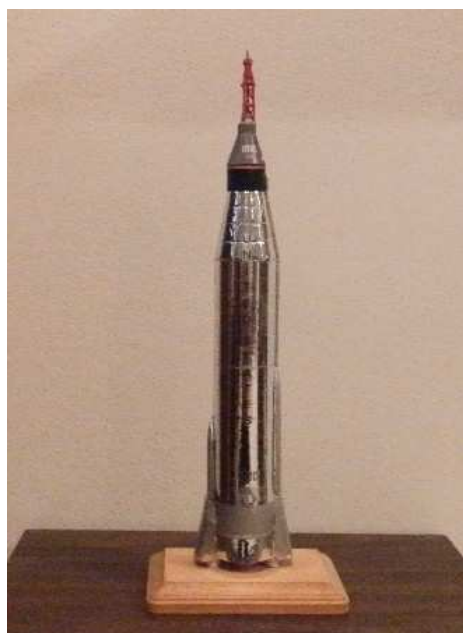
As some of you may have figured out I am working on a **LARGE** project. It is still in the building stages but it is coming along. When finished we will have available at our launches a mobile firefighting unit. It is based on a 1991 Cushman model with only 1,989 hours on it as per the meter, runs good, has 3 speeds forward, one speed in reverse. It needs some minor work, but is very usable. I will be acquiring parts to put a spray rig on it. The idea is to put a boom system on the front bumper and have a spot spray wand available as well. The nozzles I have selected are 1 gpm fan spray and I want to put 4 of them on. The reason for the front placement is so that you can drive and get the ground wet as you drive to and through the fire and see where you are going. The boom will be mounted just about the bumper. I plan on purchasing a 35 gallon poly tank. I am in the process of purchasing a host of other needed item. To get the Cushman to the launch site I am constructing a trailer. I have decided to do a tilt bed design and therefore get rid of ramps. The trailer is 5' X 12' without the dovetail and will have a full or partial 2X6 floor. It will have the capability to have stake side walls as well. I still need to mount lights, dove tail, floor, tie down rings, and a system to hold the bed up when loading and unloading. Look for it at an upcoming KOSMO launch !

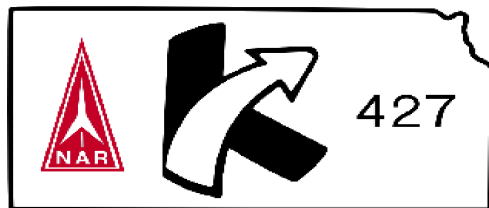


MEMBER PROJECTS: JOHN PALMER

OK, we've had some wonderful projects from KOSMO members in this issue. Steve making some really cool parts and learning a lot in his maker group. Keith putting together a really big project that makes use of his mechanical skills. And now John Palmer, who we call affectionately "Mr. Scale." This boy has been building ROCKETS this winter. And so we present four beautiful models below that are just waiting to blast off into our beautiful (and hopefully calm) Kansas skies. Great work John. Makes the rest of want to hit the shop a little harder and show up with some new stuff.

TOP ROW: LEFT, MERCURY ATLAS. RIGHT, MERCURY REDSTONE
BOTTOM ROW: LEFT, SATURN 1B, RIGHT, STRONG-ARM





KOSMO - NAR #427

KOSMO 2016 LAUNCH CALENDAR



**SAT. MAY 14 SPORT LAUNCH- STATE FAIRGROUNDS
PARKING LOT**

*In case of inclement weather we will meet at Ken's
Pizza at 11am that day.*

HUTCHINSON KS 10AM-5PM

**SAT. JUNE 4 RUSH CO. 4H/KOSMO LAUNCH-RUSH CO. AIRPORT
LACROSSE KS. 8AM-2PM CLASS ONE ROCKETS – Come out to help
the 4H'ers launch their county fair rockets and bring some of your
rockets so the kids don't have all the fun !**

**SAT.-SUN. JUNE 11-12 KRAMO 36 STATE FAIRGROUNDS PARKING
LOT HUTCHINSON KS. REGIONAL NAR LAUNCH (SEE PAGE 2 FOR
DETAILED INFO)**

JULY 23-29 NARAM 58 WALNUT GROVE, MO.

**SATURDAY JULY 30 – ELLINWOOD AIRPORT – COSMOSPHERE
XTREME CAMP LAUNCH – 10AM – FEATURING 20-25 LEVEL ONE
ROCKET CERTS FROM STUDENTS ENROLLED IN THE CAMP. *All
KOSMONauts encouraged to attend and help with various aspects of
this endeavor.***

**SAT. AUG. 20 SPORT LAUNCH/FAMILY BBQ-STATE FAIR GROUNDS
PARKING LOT 9PM-1PM BBQ TO FOLLOW**

**SAT. SEPT. 3 FINAL FRONTIER FUN FLY- ELLINWOOD AIRPORT OR
LANTERMAN FAMILY FARM 10AM-5PM 10,000' FAA WAIVER
(BACKUP DATE SEPT. 17)**

**SAT. OCT. 15 ROCKET-TOBER- ELLINWOOD AIRPORT OR
LANTERMAN FAMILY FARM 10AM-5PM 10,000' WAIVER**

**SAT. NOV. 12 NIGHTFLIGHT- STATE FAIR GROUNDS PARKING LOT
HUTCHINSON KS 3PM-7PM NIGHT PORTION BEGINS AT SUNSET**

**ALL LAUNCHES AT ELLINWOOD OR HUTCHINSON HAVE A LAUNCH FEE OF \$3 FOR
MEMBERS, \$4 NON-MEMBERS. (EXCEPTION BEING REGIONAL CONTEST IN HUTCH)
LAUNCHES IN HUTCHINSON ARE FOR CLASS ONE ROCKETS THAT CAN BE
REASONABLY RECOVERED IN THE FIELD. LEVEL ONE OR TWO HIGH POWER CERTS
ARE AVAILABLE AT ELLINWOOD.**