

# MASA PLANET

February 2000

Volume 3, Issue 1

## Upcoming Events

March 6 - Meeting

Location: Science Museum  
of Minnesota, St. Paul

Time: 7 - 8:30 p.m.

Topics: Using Aerotech reloads -  
how to do it (and are they worth it?)

April 3 - Meeting

Location: Science Museum  
of Minnesota, St. Paul

Time: 7 - 8:30 p.m.

Topics: Building session -  
egg lofters!

March 25 - Launch

Location: Blaine

Time: 11 am - 2 p.m.

April 22 - Launch

Location: Elk River

Time: 10 am - 1 p.m.

There's more information at our Web Site:

<http://www1.minn.net/~estenson/masa/index.htm>

## Your Dues are Due

Our treasurer has asked that this message be passed on to all of you. Please make your checks out to him when you send in the filled out form found on the back of the newsletter. Notice that we did not have an increase in price this year.

## What the Prez Says

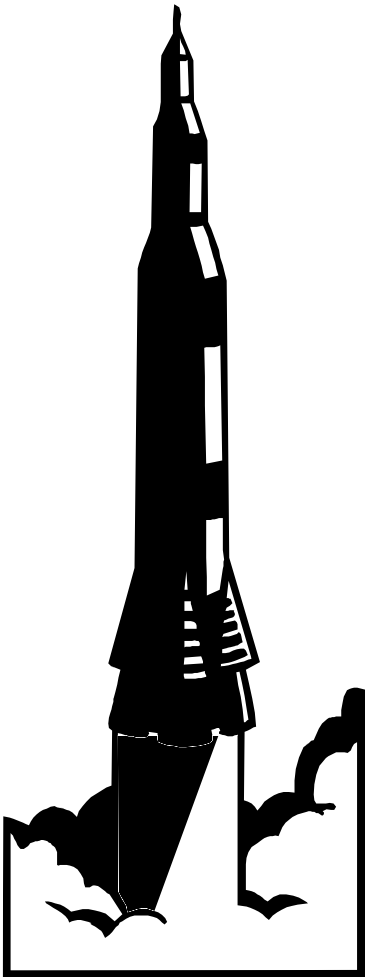
Hello Rocketeers!

I hope that you are hard at work finishing up your winter projects because spring is just around the corner and MASA is gearing up for another busy year. If you have not already joined MASA for this year, please consider doing so. You will receive a nifty MASA badge to wear at club meetings and launches and become eligible to compete with other members in club sponsored, contests and members only events. You will also be providing us with the funds that help pay for insurance, our yearly section dues with the NAR, and the other assorted materials needed to keep our launches and meetings running smoothly.

Last year the club held 9 regularly scheduled launches, 11 meetings, and flew a total of 995 rockets (on 1085 engines) from micro-max to H impulse. Two hundred of those flights took place in one day during our April launch! This is more flights than are often seen at nationally advertised launches! Despite some changes in the access to our largest field, MASA never slowed down a bit in 1999.

This year should be just as exciting. We have access to three good flying fields and many new members. MASA is beginning its third year stronger than ever. It is great to see so many people enjoying the hobby. I am looking forward to an exciting spring and seeing all your winter projects take to the skies!

Russ



# Hometown Rocketeer Visits Kennedy Space Center

By Doug Regester

Whether you're just starting out in rocketry with your first mini rocket, or have advanced to the big High Powered rockets, most rocketeer's curiosity never tires of experimenting with ever bigger and bigger rockets. I'm certainly no different, and when I had the chance to visit Florida on a recent vacation, I jumped at the chance to visit the Mecca of the ultimate "BIG" rockets, the Kennedy Space Center.

As you drive up to the Visitors Center, you notice a strange resemblance to Minnesota. Water everywhere. Yes, the KSC is built on a big swamp, otherwise known as Merritt Island. Actually, it's on the east coast of Florida, where there is easy access for the ships that bring in the big pieces of rocket hardware from all over the U.S. In fact there are two ships that retrieve the solid propellant boosters from Space Shuttle missions and tow them back to a hangar at Port Canaveral, where they are prepped for another Shuttle launch.

Early rockets were launched from nearby Cape Canaveral by the Air Force's 45th Space Wing out over the ocean where they would fall harmlessly in the Atlantic Ocean. Early NASA launches in the 1950's utilized the equipment at Cape Canaveral, and only later did NASA begin using its own facilities at the Kennedy Space Center.

There is a great tour of the Air Force facilities called Cape Canaveral: Then and Now. I didn't have a chance to take this tour, but it looks to be very interesting to see the sites of manned space flight history, as well as get a look at the actual Air Force missiles at the Space & Missile museum. Maybe you'll get some inspiration for that next scales masterpiece you've been thinking about.

One thing you should figure out right away is how much time you will want to spend at the Kennedy Space Center. We spent about 8 hours on our tour, and since I was with some non-rocketeers, we breezed through a few of the exhibits where I would have liked to examine the exhibits more closely. So, plan on a minimum of one full day at KSC. KSC is open to visitors from 9 a.m. to 6:30 p.m. everyday of the year except on Christmas. In reality, we also didn't get to see a number of things right at the Visitors Center. So, if you're seriously into it, I'd say plan on two days to do the whole thing. If you want to see Cape Canaveral, then it would be three days total. Also be aware that the Cape tour costs extra.

When you buy your pass to see various parts of the Kennedy Space Center, you will have several options. We got the Maximum Access Badge, which includes the KSC bus tour, and two of the three IMAX movies available. This sets you back \$26 at the current time. The good thing about the passes is that you have a whole year to use them. You can return and use any part of your pass that you haven't already used. A computer keeps track of what you've seen by the bar code on the back of your badge. Pretty cool.

Also keep in mind that what time of year you go will determine how long you have to wait in line. We went just before the Christmas holiday rush, and we never waited in line for more than a couple of minutes. If you go in the summer when families are vacationing, you will probably have to wait a lot longer in lines.

The Visitors Center has many great exhibits like the Rocket Garden, the IMAX theaters, Space Shuttle walk through exhibit, Robot Scouts exhibit, and Universe Theater. But my favorite was the Space Gift Shop. You can buy all kinds of great stuff that is rocket related. They actually had a couple of Estes kits for sale there as well. My favorite items were the pins that are custom made for each shuttle mission. Since I'm a pin collector, I bought several of those, including one from the Challenger mission, STS-51L, that blew up on Jan. 28, 1986.

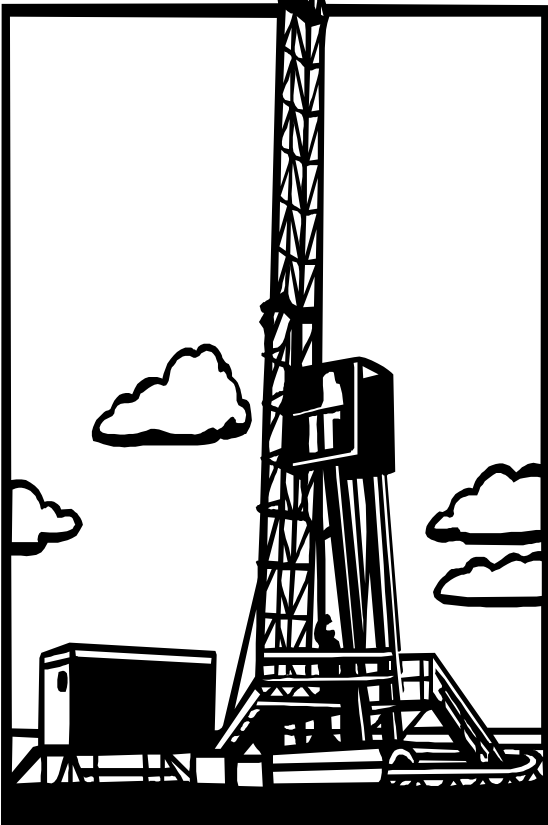
I also bought the pin of the Shuttle Discovery's mission, STS-103, whose countdown had already begun. Scheduled to launch two days after we were at KSC, the Discovery crew would repair and upgrade the Hubbell telescope. Delayed due to cloudy weather, Discovery didn't launch until we were already out of Florida on our way home.

On our bus tour of the KSC complex, we first went to Observation Gantry LC-39. The gantry is located where you can see both Shuttle launch pads 39A and 39B at some distance. While Discovery was on one pad, the other was already occupied by Endeavor, scheduled to launch in late January of 2000 with the second section of the International Space Station (this may have been delayed because the Russians have once again delayed launching the first piece on a Proton rocket).

The huge crawler vehicles move the assembled Shuttles from the VAB to the launch pads about 3 months prior to the launch date. Suddenly the phrase "launch prep" takes on a whole new meaning. The rotating arm on the launch pad swings in toward the back of the Shuttle, where the cargo bay doors are located. A large seal is inflated with air to keep dirt out of the Shuttle, then the cargo bay doors are opened and crews can load and prep equipment that the Shuttle will carry on its mission.

There is a nice movie "briefing" of Shuttle activities at LC-39, along with several exhibits involving how the shuttle is assembled, launched, and lands. On top of the gantry you can view the launch pads through binoculars, or stand next to a real 7,000-pound Shuttle main engine.

On the bus ride to the Saturn V/Apollo exhibit, you'll go right past the VAB, or Vehicle Assembly Building. This is a massive structure; the envy of every rocketeer with barely a few inches of workbench space to assemble their own space bound creations. The VAB stands 525 feet tall, and covers 8 acres of land. It was originally built to assemble the Saturn V rockets for the Apollo missions. The VAB is so massive, that rain showers can develop inside the building. The VAB's ventilation system is designed to prevent such problems



# 1/29/2000 Launch Report

By Alan Estenson

On Saturday, January 29th, a small group of MASA members and visitors gathered for the first official MASA launch of 2000. The weather cooperated with temperatures in the low to mid 20's, clear blue skies and only a light breeze out of the southeast. There was a good six inches of snow on the field. (Hey everybody, winter launching is fun! See you in February?) Launching started at 10 am and wrapped up around noon.

Alan Estenson started out the day with his modified Estes Invader on a C6-0. Mike Martens immediately followed with the traditional Stomp Rocket (BOINK!). Later, Mike flew his Estes F22 Air Superiority Fighter. The foam parasite glider flew incredibly well! Continuing his streak of good fortune, Mike flew his scratch built Triad on a cluster of 3 C motors for a perfect flight. At the end of the day, he launched his scratch built "Proud Mary" on a D12-5 for another flawless flight.

Lee and Mollie Frisvold flew a variety of rockets including a Corkscrew, Big Dawg, Big Bertha, Fat Boy, Metrix, and Alpha IV. Mike Town also flew a bunch of rockets such as an Alpha, Fat Boy, Initiator (on an E23-5t), and the infamous "Penguin's Revenge" which uses Windows 95 CD's for fins! After flying his Invader, Alan Estenson flew his "Really Ugly 1", a Maniac, Fat Boy, Meteor, Der lil' Red Max, Razor and Corkscrew.

Russ Durkee's Aerotech Cheetah arrowed into the snow for some serious damage after an ejection failure on the D9-4 reload. Art Gibbens once again showed us how staging is done by launching his "Blue Arrow" first on B6-0; B6-6 and then on C6-0; C6-6. Mark Thell showed us how to stage D motors by flying his Omega on a D12-0; D12-7 combination. Unfortunately, he couldn't show us how to properly recover a 2-stager; the sustainer, sans nosecone, ended up in someone's front yard down the street.

John Knoll brought his reconstructed NCR X-Wing! After seeing the carnage inflicted on

John rebuilt it. Crossing his fingers, John decided to launch this "Phoenix-X" on another NCR F62-4. Boost was awesome and everything stayed together when the ejection charge popped out the motor pod. Unfortunately, the cold nylon chute refused to open and John's X-Wing hit hard in the snow to suffer serious damage. He swears that he will rebuild it again! We'll be watching for it, John.

The totals were: 43 flights, 49 motors. The cumulative total impulse was 532 Ns with an

## From the Editors

You too can be published! Simply get those articles to us in .doc or .txt file format, by attaching them to an e-mail and sending them to:

art@wwrrr.net

If you didn't write it, we need to know who did so we can give credit where credit is due. We are hoping to publish quarterly this year, so keep the articles coming.



## February Meeting

By Alan Estenson

On February 7, MASA members gathered at the Science Museum in St. Paul for our monthly meeting. About 18 people were in attendance, and Russ ("gimpy") Durkee started up the meeting about 7 pm.

The "topic" for the meeting was "Saturn rockets - bring yours!". A number of examples, both in stock form and highly modified, made an appearance.

Mike Kutzke brought his beefed-up Saturn V. It has a 29mm motor mount, slightly larger fins, plywood centering rings, an Aerotech ejection baffle, and an internal launch lug. It has flown once (last October) on a G35-4.

Art Gibbens had his 2-stage (D to D) Saturn V. He built it from an old, partially-started kit which someone gave to him. He has launched it twice.

Damian Kostron brought several rockets. He had a stock Saturn V, a big Saturn 1B that he plans to kit (some day...) as a Kosrox model, and a smaller Saturn 1B that was modified from an old Estes kit into a 2-stage rocket. The upper stage has "fins" that hide in the body tube and flip-out when the booster drops away. Damian also had a Saturn V Skylab which he is in the process of modifying for 2-stage flight. It will use an electronic timer to ignite the upper stage motor, and it will also have flip-out fins on the upper stage.

Carl Persson brought his sci-fi "Saturn 7". This is the rocket that looks simply incredible when it launches on a cluster of seven (yes, 7) D12's. Also, although it wasn't a Saturn, we made Carl talk about the new rocket that he brought along. It's a sorta-Nike/military 2-stager that will have seven (yes, 7) C motors in the booster and a D motor in the sustainer. [Carl seems to have a thing for the number 7.]

Ted Cochran brought along his (very nicely done) Saturn V. Ted's has an internal launch lug, and it was modified so that it can fly with the molded plastic F1 rocket nozzles in place. It has flown once on an E18.

# Membership Application to MASA

Please send this completed form to: **Damian Kostron**  
**3023 Copper Oaks Alcove**  
**Woodbury, MN 55125**

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_ Zip \_\_\_\_\_

Phone (\_\_\_\_) \_\_\_\_\_ - \_\_\_\_\_

E-mail \_\_\_\_\_

From Damian the Treasurer: "The price breakdown is a little strange, but I'll try to explain it."

Individual (18 or older)	\$10
Jr. Individual (17 and younger)	\$5
Family (max of 4 people - main rocketeer plus 3)	\$12
Insured Individual (18 or older with current NAR membership and NAR insurance)	\$5
Now I have been asked the question: "What if I am insured and want the family option?". The answer is	\$7

## Hometown Rocketeer Continued...

The Saturn V/Apollo exhibit is the highlight of the bus tour. Inside the main building is a real Saturn V rocket. This thing is truly massive. Each Apollo mission is reviewed, along with multimedia presentations on the first Lunar landing, and a suspenseful reenactment of an Apollo launch in the Firing Room Theater.

There is also a recovered Apollo capsule on display, showing what re-entry does to a nice white paint job. When you look inside the capsule, you can only wonder how claustrophobic you might get on the long ride to the moon and back. There is literally no room to move inside when everyone is seated.

When you realize that none of the KSC tours or exhibits are funded with taxpayer dollars, but only with money from selling tour passes at KSC, you can almost understand this glaring oversight. There may be more on the Mercury years on the Cape Canaveral tour, which I didn't get to go on.

Both the IMAX movies we saw, Mission to MIR and The Dream Is Alive, were excellent, lasting approximately 40 minutes each. The footage of the Russian Proton launch was very special. The crumbling cement on the launch platform looked a little scary to me, however.

The Official Tour Book cost \$5 and is well worth the price, because it includes a lot more detail on various parts of the KSC operations than you get from the tour bus drivers or the on-bus videos. The tour books are available at any of the gift shop stops spread along the tour and at the visitor center itself.

Overall the Kennedy Space Center is an incredibly interesting place for anybody, and especially rocketeers. If you get anywhere near (its only a 45 minute drive from Orlando), you will want to make the effort to get there. Make sure you allow

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