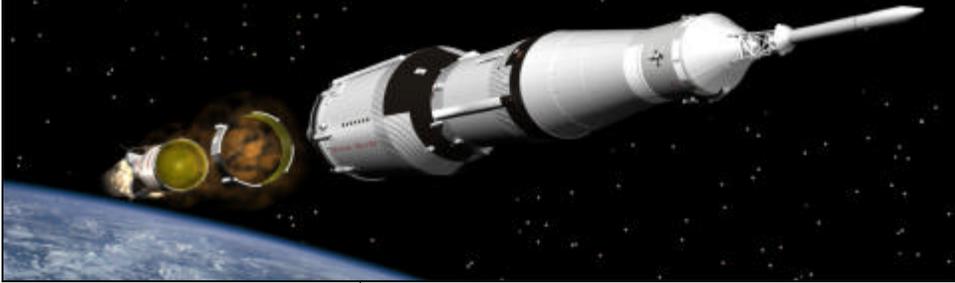


# Jackson Model Rocketry Club



# JMRC NEWS

Volume 4, Issue 3

December 2010

## INSIDE THIS ISSUE:

Maintenance Day	1
2011 Launch Dates	1
Upcoming Birthdays	1
2010 Business Meeting	2
Christmas Party	3
2011 Contests	3
PTO	3
Don't try this at home	4
FALCON AIM-4E	5
Christmas party photos	10

## 2011 LAUNCH DATES

January 8	MIS
February 12	TBD
March 12	TBD
April 9	TBD
MAY 14	MIS
June 11	MIS
JULY 9	MIS
August 13	MIS
September 10	MIS
October 8	TBD
November 12	TBD
December 10	TBD

February March and April launch location will be determined as soon as possible June, July and August launch dates may change due to races at MIS.

## DECEMBER MAINTENANCE DAY

### JMRC Maintenance Day December 4, 2010

Although the launch scheduled for December 4 was cancelled due to an unavailable launch site it did not deter the JMRC from getting things done. Roger offered to host a "maintenance day" at his house so that any member could come over, hang out with friends, talk rockets and work on either equipment or special projects.

As it turned out only four folks attended. Roger Sadowsky, Scott Miller, Tony Haga and Dale Hodgson were determined to make a day of it and chose to do something a little bit different.

Roger had acquired the launch equipment and miscellaneous containers from GLAR; a club that had previously existed and flew on the east side of the state. The club had disbanded some years ago; Roger was contacted to see if he could make use of any equipment. It was decided to look at the electronics and check the control boxes. Although upon initial inspection it appeared as though renovating the controllers would be a long expensive process Scott decided to accept the challenge and try to work a miracle. So, after removing switches, old cord and what seemed to be pounds of solder the boxes were resurrected. It was like sitting around a camp fire while Uncle Scotty regaled the rest with stories just how this stuff could be made functional. After a few hours of reworking the boxes are very close to being functional after some minor switching around and some quick-connects are



## UPCOMING BIRTHDAYS

The members below have birthdays coming up in the next few months, so if you see them at a launch, be sure to wish them a happy Birthday!

### January

Gabe Osborn 1/4  
Kathy Miller 1/14

### February

Carl Wagner 2/3  
Ken Karbon 2/18

### MARCH

Shawn Denton 3/7  
Steve Wagner 3/13

Remember, I can only post the birthdays I have, so if you don't see your name here, please let me know your birthday, and I'll get it posted!

Thanks!

installed. The plan is to run the boxes to our relay boxes at the pads just as we do now. Once done the boxes will be compatible with the rest of the launch equipment. It was decided that after field testing the controllers would serve as backups or as loaners should someone need them. It was quite an accomplishment. But...it wasn't over just yet. Upon opening several other totes and other containers rockets were discovered...lots of them. Some were missing parts, needed very minor repair and others were ready to fly. Several unopened kits were also found. It was decided that this "wealth" should be shared. So, the rockets were sorted by condition and were to be placed on the raffle table to serve as prizes. All ended up going home with their new owners on Sunday; we will certainly see them again.

The day was not over.....

Scott left for home but Roger, Tony and Dale remained. By this time Emma Sadowsky returned home and despite repeated warnings decided to hang out with dad and those other old guys anyway. After a dinner break Roger decided to work on his L3 project with absolutely no prodding by Tony and Dale.

So, out came the tubes, glass, epoxy and saw horses. With Emma doing the photo documentation three 11.5" Teal Steel tubes from Dave at Red Arrow were wetted out with 10 oz. and 6 oz. fiberglass. A project this size definitely requires more than one person. Each tube was prepped, rolled and glassed, trimmed and allowed to cure. Each tube turned out better than expected and should prove to make an excellent airframe for Roger's project.

## JMRC Annual Business Meeting – December 5, 2010 Minutes

The meeting was called to order by Prefect, Scott Miller, at 2:30 PM

The first order of business was the election of the Board of Directors, which is required by our Bylaws each year. The current Board – Scott Miller, President, Roger Sadowsky, Vice-President, Rob Dickinson, Secretary, Bob Dickinson, Treasurer, Dale Hodgson, Board member, Tony Haga, Board member, Buzz Nau, Board Member, and Paul Tobias, Board Advisor all indicated that they were willing to run for their current



positions again. Nominations were open to the floor for any member wishing to run for a Board position, but there were none. The vote was called, and the members listed above were elected to remain in their current positions by the members present.

Scott expressed his thanks to the many people beyond the Board who work to ensure JMRC's continued success. Bob Dickinson for his work on the monthly Newsletter. Eldred Pickett and Buzz Nau for the photos they take at our launches and share on their websites. Art Upton and

Tom Kureka for their Videos of our flights. JoAnn Miller and Tony Haga, who have just updated our website. Pinky for running the Café during our launches and keeping us all fed and happy.

Roger also wished to thank the vendors who provide motors and supplies at our Launches. Scott Miller of Miller Motor Works, Dave McVeigh from Red Arrow Hobbies, Jay Calvert from Impulse Buys, Art Upton from Boostervision, Fred Ziegler from Fade to Black Rocket works.

At this time, Bob Dickinson provided a financial report for the Club. For the 2010 year, the club saw income exceed expenses by roughly

\$550. The club currently has over \$1,000 in our bank account, and Bob stated his intention to have the loan on the JMRC trailer, which is currently set



to run until 2015, paid off by the end of 2011.

Rob Dickinson gave a quick membership report, explaining the launch statistics reports he distributed at the meeting, and reported that the club currently has 39 members.

Scott then asked the members present if the current launch schedule, of flying on the 2nd Saturday of the month, was still the best for those present, and it was decided to leave the launch date there, with the understanding that summer launches at MIS may be shifted to accommodate the track's race schedule. Rob Dickinson

## JMRC Christmas Party

The 2010 JMRC Christmas party was held at the Grotto Club in Jackson on December 5<sup>th</sup>. 28 people attended the party. The party started with a pot luck luncheon. There were chicken, ham, lasagna and meat balls for the main dishes. There were two types of potatoes, pasta salad and soup for sides, Plus a shrimp tray and a cracker and cheese tray. Dessert included pie,



cake, and cup cakes I don't think anyone left hungry!

After lunch the business meeting was held. It is covered in a separate report.

There were a lot of items available for the raffle this

year. Jim Fustini donated two nice parachutes and a really neat rocket stand. Two Carl Wagner field boxes were donated. In addition to the donated items there were a LOT of rockets, rocket kits, and assorted rocket parts that Dale, Scott, Roger and Tony had sorted from the items we received from the GLAR club, thanks to Carl Wagner's efforts. It appeared that everyone made at least one trip to the table to pick their prize. Rob Dickinson went home with a bag full of Big Berthas.

When the raffle was completed Scott auctioned off twelve items. They included rocket kits, motor casings and motor reloads. Dave McVeigh donated a Mercury Redstone kit that got the high bid of the auction. The kit includes a highly detailed



nose cone that is a duplicate of the mercury capsule. Red Arrow Hobbies make the capsule for the kit. Dave is also working on a BIG version of the capsule. I have seen his prototype and it is going to be awesome.

I had a great time at the party. It is a good thing the officers were elected before I made the treasurers report with my Christmas hat on. I believe everyone who was there also had fun. Perhaps we should change the club name to JMRF, as it is a lot more like a family than a club.

## 2011 CONTESTS

We will be holding a 2011 altitude contest at each launch this year. It will run until the 2011 Christmas party, or till the altitude is hit. Half of the money donated will be paid as the prize. The rules will be the same as the 2010 contest. We will also have random altitude contests at some launches. In addition we will have a Bunny Chute, Masters Tournament and the second annual Turkey Chute. Each of these will operate the same as the Turkey Chute we had in November. Participation in these contests is a fun way to help finance club

## DIGITAL TV

Chris Palmer has donated a digital TV to be used as a fund raiser. We will be selling raffle tickets at each launch. The tickets will be \$5.00. The drawing for the TV will be at the two day summer launch.



# P<sub>THE</sub> TO

The PTO (Pay the trailer off) fund raiser will be held at all of our launches in 2011. The objective of the fund raiser is to pay off the trailer loan by the end of the year. We will be accepting donations at each launch. All donations will be recorded so that each donor will get a donation letter for tax purposes at the end of the year. This fund raiser will replace the Willow Run Fund we held in prior years. In addition to taking donations at the registration table we will have canisters in the trailer and in the mule. Please consider making a donation at each launch. We will have a link at <http://www.sfsmindustries.com/thermometer.htm> that will track our progress. The total amount we owe on the trailer is \$3850. We will be making our normal monthly payments on the trailer which will be included in the tracking. Let's start 2012 with no trailer debt!

## CHRISTMAS PARTY PHOTOS



This article has been submitted to [SPORT ROCKETRY](#) magazine

## DON'T TRY THIS AT HOME

By Bob Dickinson NAR 88944

In May of 2006 my son Rob showed me a rocket he was building. It was a PML Tetras that he was going to use to certify level one. He told me about high power rocketry and the club he had joined, Jackson Model Rocket Club. I attended the launch when he made his certification flight and immediately became a BAR. Since that time both Rob and I have certified level three and fly regularly with JMRC.

One of the side benefits of the club is a very active Yahoo group where many of the club members exchange ideas and comments. The site is a great place to ask rocketry questions and get a wide variety of answers.

Rob was building a 7.5" tube fin rocket. He wanted to reinforce the inside of the coupler with Kevlar and resin. After his first attempt he sent me an E mail describing the problems he had encountered. When I was able to stop laughing and wipe the tears from my eyes I showed it to his Mother. She did not see it as funny and was worried about Rob's health.

I decided I had to share the E mail with the members of the rocket club. I posted the file under the heading "Don't try this at home". Being a loving father I did not want to embarrass Rob by mentioning his name, but I did happen to mention that the person who wrote the E mail did call me Dad! Here is the note Rob sent me;

Done any rocket work lately? I've been working on my big tube fin rocket. Tried to Kevlar reinforce the inside of the connector tube last night, 7.5" diam. tube, about 18" long. Technique is to coat the inside of the tube with epoxy, then put the Kevlar sock through the tube, and stick a balloon in the sock, and inflate until the Kevlar is pressed tightly against the inside of the tube.

Sounds good on paper, doesn't it?!!

Well, the inside of the tube took the epoxy fine. I had some big balloons that would get big enough for what I needed, so I thought I was set. But I realized that I had to get the balloon into the middle of the 18" length of the tube to start inflating it. So I had the boy (Rob's son) hold the wet, dripping tube up while I crammed my face into it to start inflating the balloon. In case you were wondering, my face is GREATER than 7.5" in Diameter! So I get the balloon started, and it starts to grow, and I try to pull back away from the tube, and of course the Kevlar sock comes with me because I've epoxied it to my face in a nice 7.5" circle.

So I hold the tube, while the boy stops laughing long enough to peel the sock off my face, so I can keep inflating the balloon. Now, when I size-tested the balloon, I didn't put the Kevlar sock in the tube, I just blew up the balloon in the empty tube, and it fit fine, no problem. What I failed to realize ahead of time is that since the Kevlar sock is only 4" in diameter when it's relaxed, it's going to take real force to get it out to 7.5". So I'm killing myself blowing into this epoxy covered balloon, which after about 6" or so, doesn't want to get any wider, just wants to grow longer down the inside length of the sock. So I get Robby to twist off his end of the sock to keep the balloon from growing towards him (it was the long end of the sock), and I, being somewhat trapped by this point, decide to see if I can get the balloon to expand by pushing in on my end with my face (remember that I'm still blowing into it as well). Can you see it in your mind? Are you saying to yourself "Oh, God, it didn't?!".

OF COURSE the balloon breaks! Robby, who had his end protected by the sock, is startled by the pop, and lets go of his end, which releases the tension on the Kevlar so the entire sock, balloon (which is still IN MY MOUTH) and tube, which were all well coated with epoxy, fly in the only direction left for them to go, into my face! And yes, if you should ever find yourself in need, this technique is PERFECT for coating the inside of your mouth with epoxy. As the balloon broke, the Kevlar kept all the pieces together, so the pieces and the wet epoxy all followed the

escaping air, which decided it needed to escape back into my open mouth.

At this point, Beverly (Rob's wife) came downstairs, and speaking loudly, so she could be heard over the Boy, who was trying very hard not to pee himself from laughter, asks me what part of rocketry requires me to Kevlar reinforce my head?

So I unpeel myself from the sock, pick the larger balloon pieces off my face and out of my mouth, and go upstairs to wash up a bit.

You know that orange-smelling Gojo soap that mechanics use to clean their hands? It may smell like oranges, but it does NOT taste like oranges! Jessy (Rob's daughter) came into the kitchen as I was trying to clean out the inside of my mouth with a plastic chore boy, and told me that I shouldn't do that, as the chore boy just sits out on



the edge of the sink and isn't very sanitary. I wanted to explain to her that the chore boy, while unsanitary, was probably better than the Gojo I had just pumped into my mouth to clean with, and besides, the inside of my mouth has been rendered totally germ-proof by its shiny new epoxy coating, but between the epoxy, Gojo, and chore boy, I was not really able to properly enunciate these thoughts. So I just gave her the finger, and kept scrubbing

my tongue.

Fortunately, there wasn't much cleanup to do downstairs; as I had provided a 'drop-cloth' of sorts for the messy epoxy-covered parts, and now the tube is epoxy coated, but not reinforced. Robby took the epoxy soaked Kevlar sock, which by this morning had hardened into a bullet-proof wad of material that could drive nails, and said he's going to keep it to show to me when I'm feeling down, to remind me of my special evening.

You better save up; because there's NO WAY I'm paying for his college!

Anyway, I've been spending the morning peeling bits of dried epoxy off myself, and discovering which of my taste buds still function.

Take it easy!

The posting got a lot of attention and many members made comments. A posting by Steve Kristal, a group member and a physician was a prime example. Steve wrote "Rob, I have a medical concern. I can't stop laughing"

Rob ultimately did complete the rocket and it made its maiden flight at LDRS 28 in New York. He has flown it several times since and it is always a crowd pleaser.

# Falcon AIM-4E

Photographed by Eldred Pickett  
 Measured by Eldred Pickett and Kathy Miller  
 RockSim files and drawings by Kathy Miller

This is an actual size Falcon. It is on display at the AMVETS Post in New Baltimore, MI. It came from Selfridge Air National Guard Base.



Exterior shots from the bottom and view from the front.



## *A bit of info:*

The AIM-4F was the first air-to-air guided weapon to enter service with the USAF, becoming operational in 1955.

The Falcon 4F originally designated GAR-3A had a new dual-thrust (boost/sustain) M46 rocket motor, and improved SARH (*Semi-active radar homing*) guidance that gave it increased accuracy.

## **Data for GAR-3A (AIM-4 F):**

Length:	2.18m (85.5 in)
Wingspan:	0.61m (24 in)
Diameter:	0.168m (6.6 in)
Weight:	68 kg (150 lb)
Speed:	Mach 4
Range:	11.3 km (7 mi)
Propulsion:	Thiokol M46 dual-thrust solid-fuel rocket
Warhead:	13 kg (29 lb) high-explosive





Business End



Nose Cone



Side view



Side View, CP and Vent



The Forward End



Close up – Vent Opening



AFT END



ID TAG CLOSE UP



FIN DETAIL



ID TAG



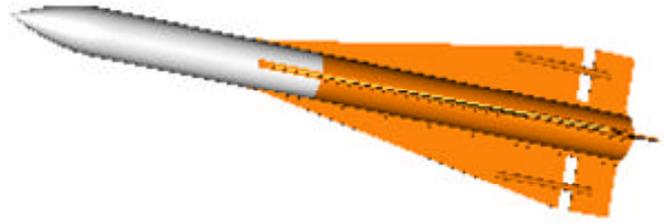
BETWEEN THE FINS



"Triggering Area, handle with care"  
On the edge of all 4 fins



FIN EDGE



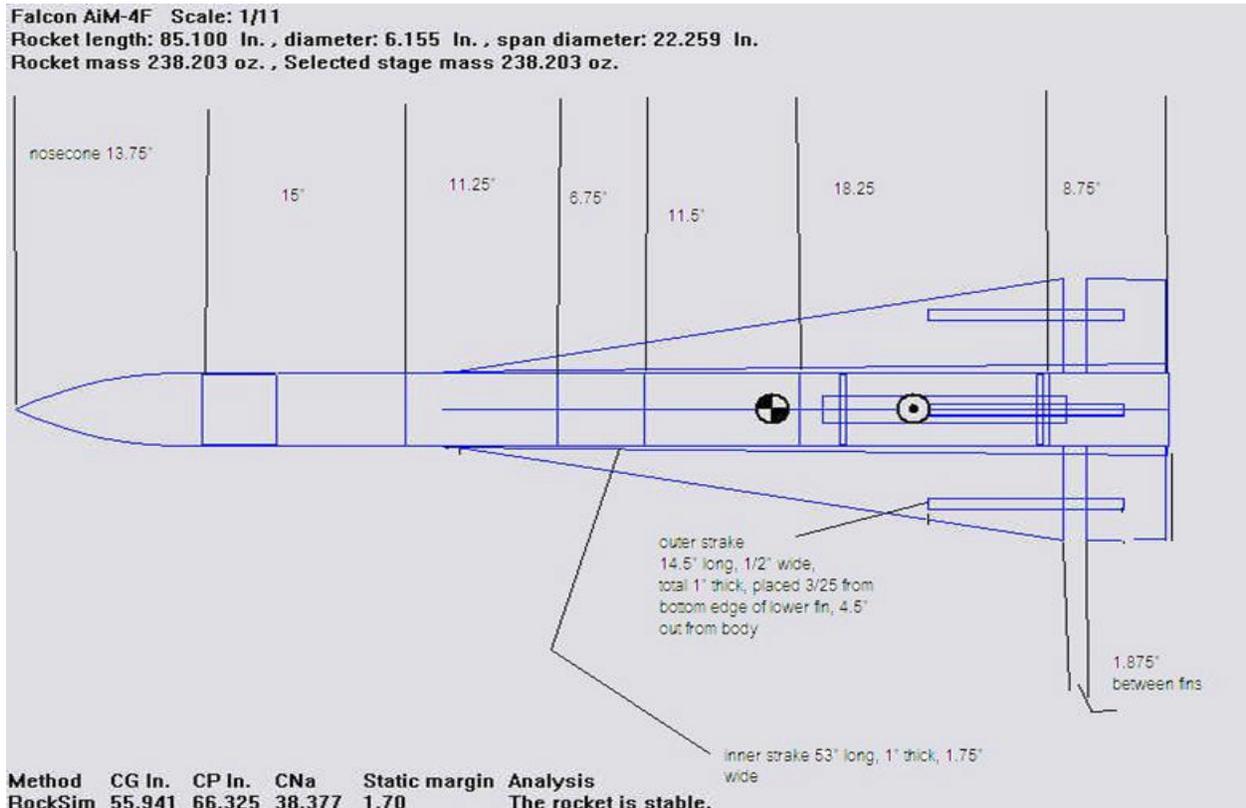
ROCKSIM 3D DRAWING



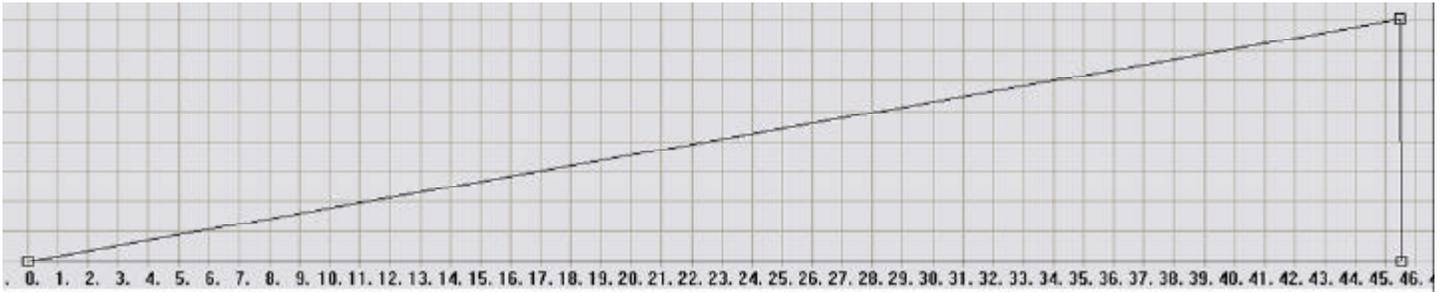
FALCON LOGO



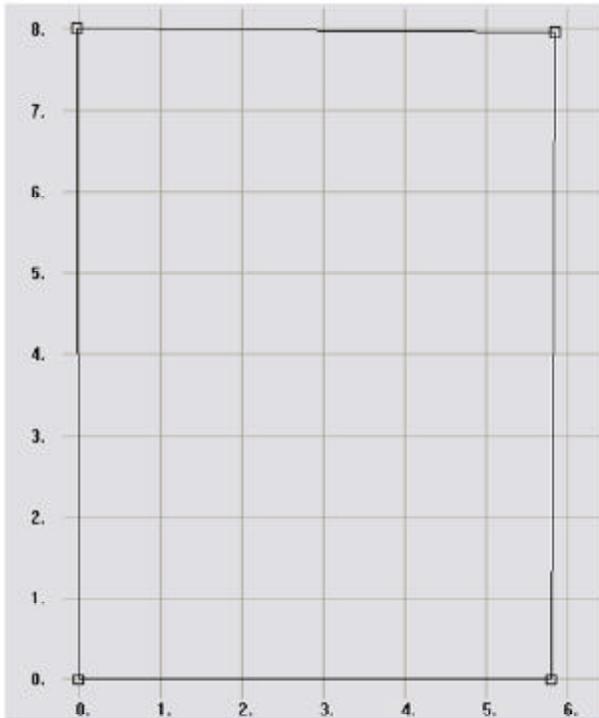
RAIL GUIDES, TWO SETS



ROCKSIM DRAWING



## Fin drawing dimensions and other information.



There is a measured gap between the upper (top diagram) and lower (left diagram) fins. The "inner" strake on the RockSim file measured  $1 \frac{7}{8}$ " wide and  $\frac{3}{4}$ " thick. It is rounded at the bottom. The top end was tapered to a rounded point about  $\frac{1}{2}$ " beyond the tip of the fin.

The "outer" strake bottom edge is  $3 \frac{1}{4}$ " from the bottom edge of the lower fin. It is  $\frac{1}{2}$ " wide by  $12 \frac{1}{2}$ " long. I estimate it is 1" thick,  $\frac{1}{2}$ " on each side of the fin. The lower edge is rounded and its top end is tapered to rounded point like the inner strakes. Its placement wasn't measured, but I guesstimate it is slightly off-center in the direction of the airframe. In the .rkt file I used Estes BT-5 tubes to simulate these strakes for proper placement.

The lowest section of airframe had four cutout sections that may have been used for vents as the end of what seemed to be the motor nozzle was recessed  $7 \frac{1}{2}$ " inside the airframe. This Falcon may or may not have had a boattail as there wasn't one on the photographed rocket; however, there are rivets that indicate one may have been there at one time.

The .rkt file airframe is divided up into sections based on how we measured the Falcon for placement of the "rivets" and the paint scheme. I did not include couplers except for a possible avionics bay.

## 2010 CHRISTMAS PARTY



**Jackson Model Rocketry Club**

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*Blast off with Rocketry!*

*The Jackson Model Rocketry Club (JMRC) is a prefecture of the Tripoli Rocketry Association (Prefecture 96), and the National Association of Rocketry (Club 620). JMRC is a 501(c)3 tax-exempt organization, and donations to the club are federally tax-deductible.*

*Prefect—Scott Miller*

*Vice Prefect—Roger Sadowsky*

*Secretary—Rob Dickinson*

*Treasurer— Bob Dickinson*

*JMRC holds launches monthly (weather permitting) year-round from two primary fields in the Jackson area. The club has launch equipment sufficient to launch any rocket from the smallest Estes model to large high power rockets, including hybrids. Waivers are 5,000 ft. AGL or 9,000 ft. AGL, depending on location. To find our next launch, or for more information on JMRC, see our website, [www.jmrconline.org](http://www.jmrconline.org), or call Roger Sadowsky at 517.764.7514.*

**OUR MEMBERS AT THE**



Pinky got to eat instead  
Of cooking



MUST BE DEBAUCHERY!



Izzy looking adorable as usual!

Have a  
MERRY CHRISTMAS  
And A  
HAPPY NEW YEAR

Bob Dickinson

Photos by:  
Eldred Pickett  
Buzz Nau  
Emma Sadowski  
Bob Dickinson