



# M.D.R.A. Report

Volume 6, Number 2



©J. Weber 2003

Cover: George Sechrist L3 attempt on a N2000. Photo by Jill Weber.

## Editor's Corner:

*email: robertu@erols.com*

*Editor Bob Utley*

### **Rocketry in the darnest places.**

As most of you remember on February 1 Columbia was lost. Like everyone else I wanted to know what could have caused it to burn-up on re-entry. I watched hours of NASA, Fox News, read postings on the Internet, tons of newspaper articles. About a week ago the investigating team have concluded a hole in the left wing allowed super hot gases to enter the wing and cause it to burn off, they won't go as far as blaming it on the foam flying off the external fuel tank.

What surprised me the most is not what the investigating team reported. But where I got most of the information on this. HAM Radio magazines. I subscribe to QST and CQ magazines, for the past 2 months they have 10-15 pages in each issue on the shuttle. They helped with communications in the search of fallen parts of Columbia. Others were the contact with each of the astronauts over the pass couple of years. It really surprised me the amount of information they had and printed.

A couple of months ago, I posted to the membership where they could write to NASA and get a FREE cd-rom with the written communication of all the man space flights from Mercury to Apollo. On the cd-rom are pictures and diagrams and other information. I found it in a corner of CQ magazine.

Next time your looking for something to read that might be rocket related try a copy of CQ or QST, you might be surprised what you'll find in it.

Hats off to Neil McGilvray, Extreme Rocketry has *finally* published an article of Neil's, in the latest issue (#27). To buy a copy of it or to check out the index go to <http://www.extremerocketry.com/index.htm> So I guess for this month we won't call it West Coast Rocketry.

## Spring Cleaning

An e-mail titled "Spring Cleaning" was the catalysis for Neil and Bob's excellent adventure number two. After last years short hop, skip and a jump to South Carolina the 800 miles to Tennessee would surely be a challenge.

A 20-quart Hobart Mixer has been a topic of conversation ever since it was decided to seriously proceed with the Liberty Project. At various points since the projects inception there has been lots of behind the scenes wrangling and negotiating to find someone capable of providing the motors required for the project. Hence the theoretical need for a 20-quart mixer. After all, no home or rocket motor mixing home should be without one. If we couldn't find the right person then we would just do it our selves. A year or so ago Bob and I searched for a reasonably priced unit, to no avail. These were expensive and there seemed to be enough demand that prices would stay high. Apparently people use these for something other than mixing up rocket propellant. They don't know what they are missing.

We still wanted to do the motors "in-house" and "in-group". As time went on our own Darren Wright stepped up to the plate. The loaded gun to his head seemed to help. Plus, Darren had been doing his homework and was quickly climbing the motor making ladder. The plan slowly came together as did the weight of the project, now guesstimated at 1,300 pounds. Darren was able to do what Bob and I was unable to do, buy a reasonably priced 20-quart mixer.

That was the end of our search until an e-mail arrived on our computers doorstep entitled "Spring Cleaning" a couple of weeks before our journey. It seemed that Jim Mitchell of DPS Motor fame and Thunderflame fame was looking to get out of hard-core rocketry and was liquidating much of his inventory. One of the items that caught my eye was his 12" diameter, 16' tall Nike Smoke that had flown in the N to P range. The price was right so I immediately said I would take it. I never gave the mixer a second thought until.....As Bob seems to remember it...

*A couple of weeks ago, I received an email titled "Spring Cleaning" and there's a 20-quart Hobart mixer on the list. I sent the list to Neil and asked, what do you think? Neil responded, well I'm getting the rocket and "we" have the mixer if "we" want it. When I see the "we", I'm thinking the "we" in Liberty Project and wonder how "we" would get it here.*

What really happened is the following...Bob ...

I had the same e-mail but since Darren had a mixer and was handling the propellant making chores it never dawned on me that there might be some interest in another 20-quart mixer. When I saw the e-mail from Bob inquiring about it and since I had been talking to Jim it was natural for me to think that Bob wanted it for himself. However it was steep price to pay for one guy, so I figured that lots of people who were looking to fly the bigger 6" motors would chip in and lighten the financial load all around. Before investigating the interest I panicked and told Jim "we" would take it. As time went on it became obvious that the "we" I anticipated had shrunk to "we" as in Bob and I. So much for that plan.

The way Bob remembers it ....  
*In the course of a couple of days, emails are going back and forth. I mention to Kathy that is looks like Neil is getting a big mixer, she asked are you sure you're not buying it too? Neil has a way of sucking money out of my pockets faster than my X does, he strikes again. Now I understand, we, is for you and me, not the Liberty Project. Oh boy.*

*Now that we are buying the mixer and rocket how are we going to get it? It comes down to, it's best to get it ourselves, just how far is Huntington TN? Oh, 18 hours 800 miles, not very far. 18 hours one way is a long time to spend in a car with me. It's bound to get ugly. Checking Map Quest shows only 13 hours, ok, not too ugly. Then we have a trailer to haul back, oh, yea longer for sure, high ugly factor.*

What really happened is the following...Bob ....

Once we were in for a penny we were in for a pound. There was talk about bringing the whole mess to Orangeburg, South Carolina for their Experimental Launch. That wouldn't work as we had a launch scheduled and I didn't want to miss standing around freezing in the cold and the

wind. There was also talk about leaving some of the stuff in North Carolina if people unknown to us would be willing to hold on to the rocket and mixer. Nahhhh!! That wasn't going to work. There was talk about shipping it all to Maryland. But the costs were prohibitive. Best to control our own destiny and make the drive. How bad could it be, 26 hours of driving in just two days with Bob Utley? You do the math. Worse yet, 26 hours with me. Screw it! We will adapt and survive.

Just to add some more ripples to the pond the United States decided that on the week end Bob and I were going to pick up our rocket stuff, they were going to embark on a little adventure called Operation Iraqi Freedom. Oh great a war! That ought to make things easier! There was talk of roadblocks and inspections. We discussed how it would be interesting to explain a 16' tall Nike Smoke in the trailer to some already nervous State Troopers. Lucky for us that aspect never entered into the picture. The ride was long but we kept plugging away at the miles. You don't realize how big Virginia really is until you drive breadth of it. It was almost 6 ½ hours riding in Virginia alone.

Tennessee was fairly uneventful, but for the truck wreck we saw. The driver must have taken a turn too tight and lost his load of Train wheels and axels all over the road. We passed as he was explaining to the State Trooper that it wasn't his fault. We left Columbia, Maryland about 10:30 a.m. and about 11:30 p.m. our time, we drove through a time and didn't realize it, and we called it quits for the night.

The next morning we were off again and thankfully only ½ hour from Jim's. Jim has every rocketeers dream house, his work shop is twice as big as his house. He is set up with a lathe and all sorts of other machining tools, pool table, rocking stereo, elevated T.V., lots of rocket stuff and a trash can full of empty beers. So you know the room serves multiple purposes. After a couple of hours chewing the fat and loading up the one way rental U-Haul trailer I had Jim pick up, we were off again heading east. The ride was as long as the day before only when it was...it was over. That was the motivation to keep going. We arrived back in Columbia about 1:30 a.m. Sunday morning and unloaded what we could.

The things we do for rockets. I have to wonder why I needed another 12" rocket. As if the 400 pound Cow rocket was not enough. The Nike Smoke loaded is a mere 240 pounds and that will allow for some future O or "baby" P flights. The mixer will sure come in handy for making those future motors that are only a twinkle in our eyes today. But tomorrow is another story. The ability to mix 4,000 to 6,000 grams at a time will definitely accelerate the process and ease the wear and tear on the girlish 6-quart mixers.

Probably the biggest thing you come away with beside a sore back after one of these long trips is the appreciation of the relative closeness of the fields that the MDRA has. I use to think Whitakers in North Carolina was a haul. Four hours....Hah!! I can drive that in my sleep. The 1-½ hour drive to Rhodesdale, our furthest field, is nothing. Do your self a favor, Take one of these marathon rocket trips to either a far away launch like LDRS or to pick up those "much needed rocket accessories" and I guarantee you that you'll never miss another MDRA due to the perceived long driving time.

*Neil McGilvray*

*Bob Utley*

ESL #58  
Price, MD  
3/29-30/03

Spring has sprung, the grass has rise, I wonder where the rockets is??? The weekends leading up to this scheduled launch indicated that ESL #58 would be a smoking good time. It never fails that when you want the weatherman to be wrong he never is. They are always great at bring the bad news. Saturday had temperatures in the 70's and it felt like the winds were giving the temperature a run for its money. We needed one of those giant fences that you see at golf driving ranges to catch the rockets before they left Higgs property. It didn't matter whether you flew 400 feet or 4000 feet; you were in for a walk. Sadly, this was the best part of day. Conditions gradually

got worse as the cloud ceiling lowered and band of rain came through. We hung on as long as was prudent, to about 3:00 P.M. on Saturday.

Despite the conditions, it was a rocket launch so we launched some rockets. The Barnsley's were there in their usual force with a full battery of creative rockets. Ivan flew his What-Ever on a H-210 for a tops-turvey flight. Ivan needs to look at the old CP calculation for this rocket one more time. He flew his 1/152 scale Saturn V with the same results on a D-12. Ivan did have some better luck with his Whistler on a H-123. Though the wind blew most of the whistle down range. Jeanie Barnsley flew her Phat Boy on an E-9 for a nice straight flight. Ivan did you see that? Jeanie also got very daring with her flight of Hat Trick powered by four C-6's, two D-12's and an E-9. These motors were flown in a combination of air starts and all the motors appeared to light.

Steve Bastow had a really cool flight with his PML Ariel on a H-143. The rocket left the pad normally but a forward closure failure blew more flame out the front of the rocket than was coming out the nozzle. The bright twisting flame really lit up the ever-graying day. Doug Cameron shook of the press the button; never see the rocket again jinx that he been experiencing. Doug broke with tradition and actually got his two rockets back. Doug flew his level 2 V-2 rocket with an I-285 for a nice flight and succeeded on his air-starting attempt with two G-80's air starting two G-40's for a nice flight and a long walk. It makes the walk well worth it when you actually return with an intact rocket. Bruce Canibo had a good flight with his Sumo powered with a H-128. A nice flight was quickly followed long recovery walk.

Tom Hier tempted the high winds with his Amraam 4 powered by a J-420. The rocket flew to about 3,700 feet and drifted at least double that in the gentle spring zephyr. Ted Proceus performed a couple of static motor tests and flew his Pyramid on a J-100. The motor had plenty of power and sent the Pyramid cork screwing all over the sky for a really cool flight. There was so much aerodynamic pressure on the sidewall, it was caved in and will require some re-enforcement. Rob Roberts had another successful flight with his Un-Ezi powered by

an I-170. This motor has Kn of 650, anyone guess what kind of propellant Rob used? Ed Romani also did a couple of static firings and flew his rocket called Old Crow on a H-331. This was Ed's first Ex-Motor and while the motor performed as expected the recovery was another story. I am sure Tommy Higgs would like to thank Ed for the new post hole, but could you move it about 10 feet to the left?

Karl Schuler had three flights. Karl flew his Finster Blast on a D-12 and his Black Brant XII on a D-12. Both flights worked out great and the walk was minimal on this windy day. Karl also had a nice flight with his Strong Arm launching on the business end of a F-23. Ed Walters drove down from Pittsburgh to launch his Black Brant X on a K-600. The motor worked flawlessly and sent the rocket to over 4,200 feet. The high upper level winds carried the drougless rocket way down range to an eventual soft landing. This recovery required a drive to the landing site. Got to love the wind, just getting ready for LDRS in Kansas where wind like this is just another day at the office.

It was about 3:00 that the persistent rain and wind forced us to throw in the towel and head back to the hotel. Once at the hotel a quick look at the weather Channel showed that there was significant open band in the fronts that were coming in from the west. Jerry O'Sullivan had half prepped his Nike Smoke and was determined to get it into the air. Needless to say there were more than a few of us that were willing to assist in the effort. After all it was Jerry's rocket. A quick scrabble had about 10 die-hard rocketeers back in their cars for the 25-mile trip back to the field. Once there the rocket was assembled and prepped for launch. This was going to prove to an interesting flight at a minimum. Jerry had planned to initially launch the 40-pound rocket with eight H-180's and then air start a L-750. Once on the tower and after the normal pre-flight check out and banter from the peanut gallery, (is that putting it lightly), the rocket was ready to go. The button was pushed and the 8 H-180's all came to life and formed a perfect crown of blue flame under the Nike Smoke. The rocket was boosted straight up and and and and..... nothing. The rocket was now slowing and arching over. No air start! Even without the

air start the flight was still spectacular with an up close and personal view of the ARRD recovery. It was probably a blessing in disguise as the weather was closing in once again.

However the day was not over for Jerry and Dave Weber as they decided to drive to the recovery area and fetch the rocket. Both vehicles ended up getting buried up to the doors in mud. Thankfully, Tommy Higgs son Chris came to the rescue with a huge 6 wheeled farm tractor to pull Dave and Jerry from the slop. This concluded the day of flying for Saturday.

Sunday dawned to even stiffer winds and driving rain. The core group of the MDRA returned to the field only to determine that the launch equipment would be put away in the rain. What fun!!! A quick mobilization of the forces at hand got everything in the trailer and after a couple of pathetic attempts at backing it into the final resting spot ESL 58 was in the can.

*Neil McGilvray*

## Rhodesdale Launch 4/06-07/03

Having been kept off the field by geese and bad weather for most of the last 6 months, MDRA got back onto the Rhodesdale field and got rid of more AP and black powder that we had lying around taking up space all winter. As always the weather forecast for the Eastern Shore was "Yes, we will have weather", but things worked out and there was plenty of flying. I have records of 29,385 NS being burned in 37 flights. There were a few more off-the-record low power flights early in the morning that didn't have cards. It sounds like a low total but it sure didn't seem that way to me.

In the fall I'm going to do what I've been saying I was going to do for a long time. There will be a chart at the RSO table that you can enter your name and other data after your flights, such as the altitude or how many pieces the rocket came back in (rounded to the nearest thousand in my case). This theoretically will make the launch reports much more interesting. If nothing else it will make them slightly longer.

Many of you have been very generous at the April and March launches in donating to the landowner. We thank you very much for this. I know originally he was reluctant to take anything for using the field, but we insisted and your contributions are gratefully acknowledged. As an aside, we have had no complaints about any of our activities from the owner of the Rhodesdale field. Also, Norwood and I visited the owner of the Coverdale field in February and were told that he has never had any complaints or problems with our using the property. This is good to hear and speaks well of the individuals that fly with us, and the hobby as a whole. The issues with Coverdale this year were due to bad weather, and an unfortunate rotation of crops that made the best parts of the field impossible to walk on. We are told that Rhodesdale (with corn, potatoes, and veggies) will open back up around October 2003, and Coverdale (with soybeans) around mid-November 2003.

I have trouble reporting these things as a narrative, so I've decided to use poetry instead. So, in free verse form below is my interpretation of the April Rhodesdale launch.

Ok I'm kidding, it's just a list.

Dave Alewine:

"Pink Missile" H143SS  
 "V2" G60  
 "V2" G79SS

Mariah Alewine

"Tiny Pterodactyl" F50  
 "Tiny Pterodactyl" F50

Dave "Sparky" Bathras

"Corporal" J300 Sparky  
 "Strong Arm" L1500 Sparky Really cool!!  
 And loud too.  
 "Strong Arm" J300 Sparky

Jim Cox

"G Force" G75 The Kosdon kind not the AT.  
 "Xcalibur" H100

Chris Cox

"Screamin Mimi" D12

Kathy Gilliland

"2 the Stars" K400 White Man's Load

Richard Hickok

"HARM" D12  
 "D.C. Thunder" D12 Glider  
 "R-33 AMOS" G35 Russian Air to Air Missile  
 "Javelin" D12  
 "Big Jim and the Twins" E15 Two gliders!  
 "Fred's Frog" B4 Yet another glider

Tom Heir

"Amraam 4" J370 Green Gorilla

Kieth Holt

"Gear Head" K600 Dirty Harry (I think for the 2000 case)  
 "Gear Head" K500 Red flame 54/1750 case

Sean McAndrew ("The Original Mr. Sparky")

"Spool" J650 Diamondback  
 "Spool" J sparky

Neil McGilvray

"Anthem" 98mm 2-grain Bottom Feeder Blue L

Ted Proseus

"Orange Crush" 6-grain 38mm Pitchblack  
 "Cherokee" 54/1400 P-motor scraps (Altimeter failed, Cherokee now rests in pieces)  
 "Small Pyramid" 3 flights on 29/100 (Blue22 and K nitrate/ sorbitol loads)

John Ritz

"Tempest" J530 slow (Old Kosdon load)  
 "6pak" J300 Yella  
 "LOC IV" H168 Redline  
 "Tempest" J500 Blue

George Sechrist

"Viper IV" 4xD12

Joseph and Jack Stopak (NAR Team America flights)

"J+J" D12-0, 2x C6-0, D12-7  
 "J+J" 3x D12 to 1x D12-5

Norwood Truitt

"2 NCR Patriots Drag Race" 4xD12's in each rocket

Bob Utley

"Bada Bing Bada Boom" M2000 Red from Bozo Motor Works, Inc

That's it. I'm working on the March Rhodesdale report which is a good bit larger. See you at the field. (*ED: Ted that's my line I stole from you*)

*Ted Proseus*

## ESL #59 Price, MD 4/12-13/03

There is an old saying "Good things come to those who wait". It seems as though we have been waiting forever for good things, specifically good weather. It did finally arrive; we knew it was out there. After a full week of rain and wind Saturday morning started off like any other launch on the Eastern Shore, rainy, overcast and windy. What a surprise!! But as the morning wore on the conditions improved and by 11:00 a.m. the die was cast for the rest of the weekend. This launch was going to be another big one in the MDRA record books as many of the larger projects were forced to stand down over the winter months and their time to shine with the sun had finally come.

The Barnsley's, Ivan and daughter Jennie were wearing a path to the pads early and often. Between the two of them they launched 15 rockets. Not bad for one days activities. Ivan launched 9 and Jeannie launched 6 rockets. The motor selection ranged from B motors to the almost extinct J-350. There was only one rocket of the whole group that was launched twice. The more notable flights for Ivan were the Whistler on a G-69 and the Loud As It Looks on a J-350 and two G-54's. Jeannie Hat Trick on a F-20 and her Super Stilt Fin performed well. Dave Bathras lit up the sky and the field with his two Sparky flights. Dave flew is Strong Arm 4 on a J-300 Sparky motor and his Strong Arm 5.5 on a L-600. Both rockets roared off the pad on a tail of snap, crackle and pop as the thick black smoke accentuated the titanium belching out the business end of the motor. Both flights also gave a few of us an opportunity to get in some badly needed

exercise racing out to the pads to douse the fire the motor caused.

Doug Cameron broke with his old tradition of loosing rockets and started a new one, recovering the rocket on the same day as the launch. Doug had three good flights with his BBX on a G-80, V-2 on an I-285 and his Tiapan on a J-330. Jim Cox and son Chris flew twice. Chris with his aptly named Cow Motif rocket called Cow-Moo-Flauged on a D-12. Jim flew his G-Force on an I-240 for a nice flight. Kathy Gillian, AKA Princess Prechlorate, trudged out to the pads three times and went two for three. Kathy flew her V-2 on D-12 to warm up and then flew her Sunseeker on a K-450. The Sunseeker lived up to it's name as it ripped into the blue sky and disappearing for a short while before a soft landing in the tall grass and puddles. Kathy had a minor set back with a G-80 in her Star Blue. It seems that the commercial motors like to go Pop more than the EX motors these days, what's up with that? John Gramick launched his Bull Puppy 2.1 on a F-20 and his Phantom 4000 on a G-40.

Scott-Damm the Electronics-Hayes got six rockets in the air on Saturday. Scott flew his Alpha 3 on a G-55 for a ripping flight and actually got it back, Red on a G-80, Mustang on a F-20 and later on a F-40, Stretch I-Roc on a J-415 for great smoky flight (you got to love that White Lighting...but we are getting closer to cracking the secret brew) and finally his Magnum on a J-460 for a nice blue flight at dusk. Keith Holt turned some heads and got some people stomping with his flight of Gear Head on a Sparky K-550. Maybe he should change the name of this rocket to Hot Foot, I know my feet were. Kevin Kelly and son James were back in the rocket launching swing of things between helping other people prep and recover their rockets. James launched his Mustang Sally on a F-23 for a nice high flight. Kevin looked at that as a challenge from the little wiper snapper as he launched his Man Hole Blaster on a BMW, not the finely crafted German car but Bozo Motor Works L-1800. The rocket tore off the pad and left no doubt the rocket was heading to the top floor and it would be a while before it came back down stairs. Bob Lussier flew his Big Brute on a F-40 that had a finicky ejection charge. The rocket did come in ballistic but only the nose cone was

damaged. Sean McCorkle flew his Intruder on a H-152 and his Callisto on a G-80. Ted Proceus flight-tested his Pyramid rocket on an I motor of his own making. John Ritz made the drive down from Massachusetts once again to fly with the MDRA. John Static fired 3 motors and flew twice. John flew his The Good, The Bad and The Ugly on a J-450 and two H-180 Combination. John also took part in a Cluster Drag Race to be described later.

Dick Stafford flew three different saucers on Saturday. He flew his 3X24 Saucer powered by three D-12's, Delta Saucer 4 and Delta Saucer 6 on an A and D motor respectively. Dick also flew his Big Brute on an F-50 and his Bigger Big Brute on a J-285. Jeff Taylor was testing some new flavors of smoky and Star Grain Motors that he had been working on. Jeff did manage to get air borne in a big way with his Boston Terrier rocket powered by J-500 Star Grain configuration motor. The rocket leap from the pad on the high initial thrust spike and kept on rolling right out of site until it was spotted at about 800 feet before recovery. George Tiger launched his Green Shadow on an I-285 for a nice straight flight. Dave Weber almost saw the last flight of his venerable Tuber being flown on a H-97. The flight was perfect as usual but the chute got tangled in the tube fins and never fully opened. The rocket did survive and will see a flight 146.

There were two anticipated events that finally took place on Saturday after being postponed due to weather or scheduling issues. One was the Clustered Drag Race. The criteria to participate were to have central 54mm motor and air start two outboard 38mm motors. This was waived for John Ritz who joined the race with his rocket called Ugly powered by a J-800 central motor and two H-180 outboards. Ugly weighing in at about 22 pounds. The other participants were Fred Schumacher with his 45 pound Over Kill 6 powered by a BMW L-1500 and two outboard J-600's, Dave Weber's 35-pound Sky Raider powered by a K-1100 and two I-366's and finally Neil McGilvray with the 36 pound Udder Madness powered by a L-1500 and two J-600 outboards. All four rockets were set on the pad and after the usual pre-launch banter we were ready to push the button. The only thing that we forgot to do

was to determine what would constitute winning and that was probably a good thing. When the button was pushed the smaller central motors lit first. John Ritz was first off the pads followed by Dave Weber, Fred Schumacher with Neil McGilvray pulling up the rear long after the other rockets had left and was air borne. The Cow motif Udder Madness central motor finally pressurized and the rocket tore off the pad and as it was stampeding by the other three rockets the air starts kicked in and set the Cow jumping over the moon. John had some sort of issue with his rocket, as it appeared to jumping all over the sky. Fred Schumacher had a staggered air start with the final motor lighting after the rocket was under chute and put on quite a display of skywriting. Dave Weber recovered normally, though painfully low at about 1,400 feet. Udder madness was just reaching apogee at about 5,600 feet while the other three were dancing a jig. Fred Schumacher was first to get back to the ground followed by Dave Weber and John Ritz. Udder Madness landed some time later down range about a ½ mile or more. Who won? Who knows? Who cares? All that is important is that it was cool and cool it was. It is quite a sight to see about 138 pounds of rockets in the air under power all at once as well as the multiple deployments at apogee and extraction of the mains.

The other anticipated flight was the joint effort between Darren Wright and Neil McGilvray with the latest of the O powered Rancor flights. This was to be flight number three in the series. Each time we flew with a different flavor of motor. The first flight was a brilliant white "Tiger Tail" mixture, the second flight was on kicking Blue formulation and this flight would be on Sparky "Chromium Comet" blend. There was some reluctance to fly the rocket on Saturday as it was planned in my mind to do it Sunday but the lack of wind and the chance for a dusk shot of a Sparky O motor made the decision for us. Darren had characterized the motor to be erosive due the Sparky motor nature. But how erosive wouldn't be known until the button was pushed. When it was pushed the motor came right up to pressure and started to lift the rocket off the pad when it shifted into super gear and sounded like a cannon going off. Most people thought it cato'ed on the



pad but it was the result of the motor being a little too erosive exposing too much propellant to the flame. All the people taking pictures or doing video turned their cameras away at the same time as the 140-pound rocket roared into the sky. The motor produced waves of brilliant white sparks thought the ascent of the rocket as it powered it to about 5,200 feet. It was without a doubt the loudest motor all in attendance have ever heard. The motor wasn't what Darren wanted it to be but still produced an awesome flight. Back to the drawing board for flight 4.

Sunday, 4-13-03, dawned to a beautiful clear day without a cloud in the sky that stayed with us all day. It would be a great day to populate the sky with pointy nosed creations. There was double the number of fliers as there was on Saturday which meant the launch system would be huffing and puffing all day long. Part of that was due to the high incidence of bad igniters. It took some rockets two and three tries to get the motors lit.

Dave Alewine was very busy on this day launching five times. Dave launched his Magnum twice on J-400's, his V-2-4 on a G-69, his V-2-5.5 on a H-143 and his Pink Missile on a H-153. All for nice flights. Richard Ash flew his R2D2 on a C-6 all over the lower sky before setting the field on fire with the ejection charge. I guess he doesn't have the last name Ash for nothing and it goes to show how easy it is to light what should have been saturated hay and grass on fire. A quick response got it out before there was any problem. Victoria Ash strayed from the family tradition of burning down the house and had a nice flight in her rocket called Victoria on a B-6.

Doc Beven took swing number two at his Level Three Certification. Doc didn't have to wait long or for the dreaded three times a charm syndrome. The rebuilt and extended version of his previous attempt would do the trick. The 65-pound rocket flew straight and true on the AMW 1850 Green Gorilla. The main was deployed at apogee and the rocket had some drift but was recovered after great flight. Congratulations Doc, welcome to the top rung of the ladder. Man, it's getting crowded up here. I guess we need a bigger ladder. Jim Cox flew twice with his scratch built rocket powered by a J-180 for a nice long burn and his Endeavor

powered by a cluster of motors. This flight would have a power plant consisting of a central J-350 and two G-54's. It proved to be a great combination in Jim's rocket. Glenn and Dave Davis combined for seven flights two of which were unexpected drag races with other unsuspecting racers. It goes to show what happens when the launch system is not re-set between flights. Oppps, sorry about that. Glenn and Dan launched their Bull Pup twice on F-12 and F-24 motors. They also launched their Harpoon on a F-24, wart Hog on an E-18, Slim Jim on a G-80 and their Strong Arm on a G-64. All for nice if not un-expected flights. Gary Deaver spent most of the day in spin cycle with his 24" Mono-copter powered. It was powered three times on D-11's and the fourth time the more powerful E-15 made it dis-assemble itself under power. Gary also launched a real rocket, of sorts. He launched an I-80 Hybrid Rat Works motor in his rocket called L-1. Low and slow but the motor worked and performed as expected. Alan Gorecki, Mr. Hawk Mountain, was flight-testing two of his kits by punching holes in the sky. Alan flew his Beast on a K-700 and decided it might be a good to not have to repack the chutes and brought it back with no deployment. The rocket was so well balanced it came back intact in a flat spin all the way to the ground. The damage was minimal. If it was my rocket it would have broke the sound barrier coming back to it's demise, but someone was looking over Alan's shoulder on this day. He also flew his Talon 3 on a L-1400 for a really ballsy flight. This rocket was consumed by the blue sky and was not seen until it popped the mains about 4 ½ minutes later. Way to Go!!! John Gramick launched his Stealth on a G-40 for a nice flight. Augie Gray was breaking out some classic motors that are in very short supply on this day. Augie flew a K-700 in his 6" Harpoon for a gorgeous flight on a long trail of white smoke. The rocket called Kodiak was flown on a M-1419 for an awe-inspiring flight. This is what High Power should look like. Lots of flame and lots of smoke that seemed to go on forever. Excellent job on both flights.

Not having any altimeters to prep made it easy for Scott Hayes to get seven more rockets in the air. Scott combined with Noah Kramer on two of the flights. Those were the Expediter on a G-80 and the

highflying and quickly disappearing Strato-Buster on an I-132. Scott also flew his Priority mail on an I-134, Red Mailer on a G-25, Expediter on an I-357, Mustang on a F-39 and his Magnum on a J-360. Richard Hickok made it to the pads seven times flying C to E powered rockets as well as helping out some of the team America participants practice for their upcoming competition. Richard flew his Phoenix on a E-15, Screw on a C-6, AA-6 Acrid on a E-30, Blow Pipe on a D-12, Blue Meanie on a D-12, Harpoon on a E-15 and his Javelin. Tom Hier got in 5 flights, three of them under the watchful eye of his 2-½ year old daughter Maggie. Maggie helped Dad fly and recover their Alpha that was flown on B-6's and an A-8. Tom also got in some high power action with his Mini Magg on an I-170 and his higher flying Amraam IV on a J-370. Keith Holt was pushing the envelope with his two flights. Keith launched Gear Head on a J-400 and drilled a hole in the sky with Bite Me powered by a L-1000 for a cranking flight that was approaching double digits in altitude. Rob Kaufman was back flying again with his finely finished Velociraptor on a L-850 for another one of those mysterious disappearing flights. I'm not sure if it was Rob Kaufman or Rob Copperfield. Either way the rocket, like many other got out of Dodge rather quickly. Luck for rob he was using the Walston Retrieval System and that helped locate the rocket and prevent losing a favorite toy.

Kevin Kelly had re-prepped man Hole Blaster for another one of those BMW Clown Motors. This one wasn't fooling around as it threw the baby out with the bath water and rifled the rocket straight up and out of here. From apogee it looked like the rocket separated but the fin had hit the payload section and knocked off 20" or so of tube that fell unattended. The rest of the rocket was recovered under chute for a good recovery and a reduction of 4 on the pucker factor. Tom McDonald got things going with his ASP on a J-400.

Scott McCluskey had one of those projects that make the price of admission well worth it. Scott had the long anticipated flight of his Two Stage Standard ARM Rocket. The sustainer was the Standard ARM and the booster was a Nike. After a full day of prepping this complex rocket Scott was ready to go, as was the waiting crowd.

The booster was powered by an M-2400 and the sustainer was powered by a K-550. When the button was pushed the M-2400 came to life and lofted the big rocket skyward. At burn out the two sections stayed together momentarily and then the sustainer slipped away from the booster for a picture perfect ignition of the second stage. It looked like Scott really meant to do it that way. At apogee the charges separated the sustainer sections but the nosecone came off and the main came out somewhere around 7,500 feet. Can you spell t-r-o-u-b-l-e, sure ya'can. While this was going on the booster was under pilot/drogue setting up for the ARRD deployment of the main. But as the booster got closer to the ground it was evident that the main was going to stay packed its bag for the next flight. Luckily for Scott he built it strong and the booster survived it's hard landing on the soft ground. The sustainer is another story, one I can personally sympathize with. The sustainer floated away under chute to the south east and as of this writing it has not been found. Scott plans to enlist Doc, The flying Rocket Finder, Bevans to fly over the suspected landing zones and see if the rocket can be seen fro the air. Best of luck Scott and great flight.

Sean McCorkle flew three times, twice with his Intruder on an H-143 and on an I-212. Sean flew his Phobos on an H-143. All were nice flights and recoveries. Russell Miller took to the air four times. Russ flew his Tiny on a H-238, Yellow Jacket on a H-165, Pin Head on a H-220 and Folding Rocket on an I-138. Folding rocket was another one of the disappearing rockets that was later found hanging across the power lines. Lucky for Russell the rocket was eventually blown free and fell to the ground. Remember if you rocket goes over the power they carry a minimum of 17,000 volts and will get your attention real fast. Safety first, we will find a safe way to get your rocket back. Joseph Nicolas flew his two stage J&J twice powered by a D-12 and two C-6's in the booster and the sustainer was powered by a d-12. This would be a nice combination to upscale to K and L motors. Any takers??? Jerry? Bob? What about you Scott you don't have a rocket? Rick Oasen flew twice with his Lilac Time on a F-50 and his Amraam IV on an I350. Both flights went well for Rick.

Jerry O'Sullivan was busy putting holes in the sky and burning holes in the field. Jerry started out the day with his Nike Smoke on a S.M. M-1100 Sparky motor. The Smoke ran up the tower with a huge trail of black smoke and crackling titanium following it skyward. Once again the impromptu fire crew was kept busy as hot titanium set the field ablaze. All was quickly brought under control and the rocket flying resumed. The Nike had a perfect flight and a classic ARRD recovery. Later in the day Jerry flew his High 5 to new heights on another S.M. K-1200. The rocket joined the gone again; here again club as it disappeared into the clear blue sky. Ken Paduch flew his Tinee on a ½ A, Big daddy on a D-12 and his Small Endeavor on a G-40. Mike Plitt had a couple of nice G-80 flights. One was in his upscale Mars Lander for a nice flight and nice two-parachute recovery. The other was in his SA-14-01 Standard Arm for a cool spinning flight.

Mark Polansky was down from Pennsylvania to fly three times. Mark flew his Beer Bottle inspired rocket called Blast Off Brew on a G-104. The beer was shaken but the bottle and the cap were recovered safely under separate chutes. Mark also scratched at some higher altitudes with his Silver Bullet on an I-284 and his entry key to the Mile High Club called Kick n Tail powered by an I-284. Ted Proceus was giving his Nike Smoke a work out with a J-500 Tiger Tail blend and a K-400 75-5 formulation. Both flights worked great and the testing continues. John Ritz did some testing of his own with a couple of static firings and three flights. The flights were on his Hawkeye blasting off the pad with a J-850, his Falcon on an I-400 and Ugly Mama on a cluster of a J-600 and two H-180's. John likes to make the trip down from Massachusetts worth it. Rob Roberts flew his Vulcanite on a H-200 Candy blend motor for a nice flight and his COC IV on a H-135 AN motor. Both motors worked great and if they didn't Rob could grow some vegetables with one and eat the other.

This was the day George Sechrist has been waiting for over a year to come. Finally the weather was cooperating with his schedule to attempt level 3. George thought he would do a little warm up flight on his rocket Raising "L" on a L-952. Some warm up! The 952 are like a baby M-1419 in

appearance with the right rocket and George had the right stuff with raising "L". Nice boost and picture perfect recovery from somewhere in the stratosphere. Later in the afternoon came time for the BIG Dog on the porch to bark. The rockets name is Top Dog and it was ready to howl on a N-2000. Now that's how you attempt to certify Level-3, none of those 3" Baby M motors for George. In for a penny, in for a pound. After some frustrating igniter issues the rocket was finally ready to roll. And roll it did on a thick cloud of spent AP. About 3 1/2 seconds into the flight the rocket began to cone and it was getting worse. The reason for the coning was the oscillations of the G-10 fins that were beginning to flutter. The ultimate result was a rocket becoming very unstable and like all good rockets that go unstable Top Dog came apart under power. All four fins blew off and there were pieces coming in from everywhere. The rocket continued to dance, as there was about 2 seconds of thrust left in the big N motor. The chutes were deployed and promptly destroyed. It's back to the drawing board for George but fear not he is not discouraged and he will be back. George did not get his coveted Level 3 certificate on this day but he did join an exclusive club of those who have trashed N powered rockets. That's pretty good company if I do say so myself.

Ross Sorci flew in the lower end of the alphabet four times. Ross flew his Black Brant on a D-12 and his larger Black Brant on a G-40, Blue Ninja on a C-11 and Nike X on a C-6. Joe Sorrentino flew his Auiza on a F-40 and after 100 or so igniters Joe flew his Arrow on another F-40. Phil Stein launched his Rosed to the Max on a H-242 and his Fire Cracker on an I-284. Jack Stopack launched three times with his cluster two-stage Team America rocket on a D-12 and two C-6's in the booster and a D-12 in the sustainer. Unfortunately there was motor problem and the rocket is now toast. Jack also launched his AMDR on a d-12 and his Express on a D-12.

Jeff Taylor was getting some flying time in as he launched three big projects. Jeff took the leash off the Boston Terrier as he launched it on a K-400 Smoky Star Grain. I know terriers can jump high but this is ridiculous. Jeff also flew his V-2 level 3 rocket with a L-1200 to warm up to the later L-2500 flight. All of Jeff's flights were great

with ARRD recovery on the V-2 flights. There seems to more and more ARRD recovery, what's up with that? Probably because it makes a cool flight look even cooler. Nikki Taylor, no relation to Jeff, flew her Nike Smoke with a C-6. George Tiger flew his Cherokee D on a D-12 and his Green Shadow on an I-285 for a rocking good flight.

Bob Utley has his fingerprints on less M flights these days because he flying some of his own. Bob launched his Level 3 rocket, Bada Bing Bada Boom, on a BMW M-2000 white smoky motor. The motor worked great and each tweak to the formula is getting closer to the Holy Grail of White Smoke. The 49 pound rocket went about 6,600 feet with bob's formula, something it didn't do on the commercial brand. The flight was perfect along with the recovery effort. All that means id that Bob is getting closer to that ever-present "Barrel". Fred Wallace flew his ATF Special on a two motor cluster of I-320's for a fast and furious flight. The fast part was going up and the furious part was coming down. Due to an undetermined electronics issue the apogee charges didn't fire sending the rocket heading back in a ballistic trajectory. The main charges did go and woke the rocket up like there was no tomorrow, which there wasn't for the upper section of the rocket. Fred also launched his big, purple rocket called Barney. Fred launched it on a 98mm 2 grain motor that spec'ed out to be about an L-1200. The two-grain motor sent the rocket soaring to well over 5,000 only to deploy the main at apogee. After an extensive search the rocket and nosecone were found to put a smile back on Fred's face. Dave Weber of Tuber and now Super Tuber fame launched the big guy on a BMW M-2000. The tubes that are used for fins kept the rocket reaching up as straight as any rocket launched all day. The big green and orange rocket came over the falls nicely and deployed two chutes at about 1,000 feet. It looked like clowns coming out of a clown car with all those chutes. But that what you get when you fly Bozo Motor works.

We want to once again thank Tommy Higgs for the use of the land and his hard work at the Road Kill Café, "You kill it and he will grill it". Tommy is the reason we can enjoy this hobby the way we do at MDRA. There is nothing out there currently

that holds launches the way we do month after month. Thanks again Tommy. To all of those that help out during the day thank you. You know who you are and to those that would like to but aren't sure what to do, just ask. We will give you something to do. All we need is an hour or so of your time. Speaking of time, until next time fly them high and recover them low.

## Interview: Dave Bullis

*Ed: This is a new feature I thought it might give us a look into other members minds. We will not be asking the same question in each interview. As you know Dave Bullis is the President of MDRA.*

Questions by Neil McGilvray

### **Q:How long have you been into rocketry?**

**A:** I started launching rockets back in September or October of 1980. I launched into 1986 the got out due to lack of more powerful motors.

### **Q:When did you get into High Power?**

**A:** After reading a HPR magazine, back in the summer of 1995. I joined Tripoli on December 16, 1995 at ESL#2. By the way I have tapes of the launches from ESL#1 though ESL#9.

### **Q:What are you working on now?**

**A:** Putting leveling jacks on my two rocket tower/launcher trailers.

### **Q:What is the next project that you are considering?**

**A:** A large scale rocket that will be launched off my big tower. PS. It's not the liberty Project either. That's is another project.

### **Q:What do you do for a job?**

**A:** I am a estimator for a thermal insulation installation company.

### **Q: How are you able to juggle your work and rockets related activites?**

**A:** This is not easy, depending on my work load and time available. Lots of time, I come right home from work and go straight to my rocket hobby. If I have to lay fiberglass on a

nosecone, while they epoxy dries, I then go to work on something else.

**Q: What kind of time on average do you invest in rocketry?**

**A:** Probabaly at least 4 hours a week until a week comes with a launch at the weekend. Then I have to spent in excessof 24 hours a week.

**Q: Why do you do it?**

**A:** The fun, commeradery, knowledge, fellowship, and the monthly get together of my friends.

**Q: What aspect of rocketry do you like best?**

**A:** The fire, smoke and roar in the boost phase of a rocket Liftoff!

**Q: What aspect of rocketry do you like the least?**

**A:** the BS Politics.

**Q: Are you involved in any other non-rocketry related activities?**

**A:** Plenty: Deep sea fishing, railroading, high power rifles & church.

**Q: Tell us about why you stay involved in the operations end of the MDRA?**

**A:** To constantly have a open venue of access to rocketry that is above the mediocracy of other rocketry organizations that prevents growth and gets caught up in politics.

**Q: Is it working:**

**A:** Yes

**Q: How have things changed over the years?**

**A:** MDRA has been eliminating the ridiculous control and proparanda of Tripoli and the NAR thinking that they are the only game in town.

**Q: If yo had three rocketry wishes, what would you change?**

**A:** 1:)complete elimination of the BATF control on propellant: 2:)A club house for meeting and fund raising activities right at the launch field. 3:)A October LDRA at Price, Coverdale Crossroads or Rhodesdale.

**Q: Where do you see thing going in the future:**

**A:** 1:) Eventually our club buying our own land for launching rockets. 2:) Our club launching a rocket that will go over 100 nautical miles high!

**Q: Any Regrets:**

**A:** Spending to much of my Sundays on Rocketry instead of going to church and worshipping God.

**Q: Any words of wisdon?**

**A:** Keep up the faith.

Questions by Bob Utley (*the important ones*)

**Q: What is your favorite beer?**

**A:** New Castle brown nut ale, Coors Lite.

**Q: How much stock do you really have in Liquid Nails?**

**A:** unfortunately, not enough.

**Q: Is it true your writing a book titled "Making HPR from household items"?**

**A:** As a matter of fact, I have taken photos to actually write a book on How to build Rockets out fo common things you have around the house, and to do it inexpensively.

**Q:Like the Pres. Bush who has his finger on the button, you get to push it, how does that feel ?**

**A:** When I LCO, I try to bring some meaning to each person's project than just counting down and pushing the button. Pushing the button also brings a feeling of accomplishment.

**PS. You forgot to ask Kathy, "What my favorite color is?" Green-for Money, Red-for fire engines, Black-for limos, White-for snow, Blue-for a smooth summer sea, Grey-for a over cast day, Yellow-for mustard and the French, Orange-for Bob's pumpkin shirt, Brown-for a good beer pretzel, Purple-for those Ravens.**

*Neil McGilvray & Bob Utley*

## PERFORMANCE HOBBY

<http://www.performancehobbies.com>

Pro 38, 54 and Animal Works Motors is in stock now. Need parts for your rocket, tell Kenny and he'll bring them to the launches.

Almost anything you could need he should have. Phone (202) 723-8257, fax (202) 723-0010.

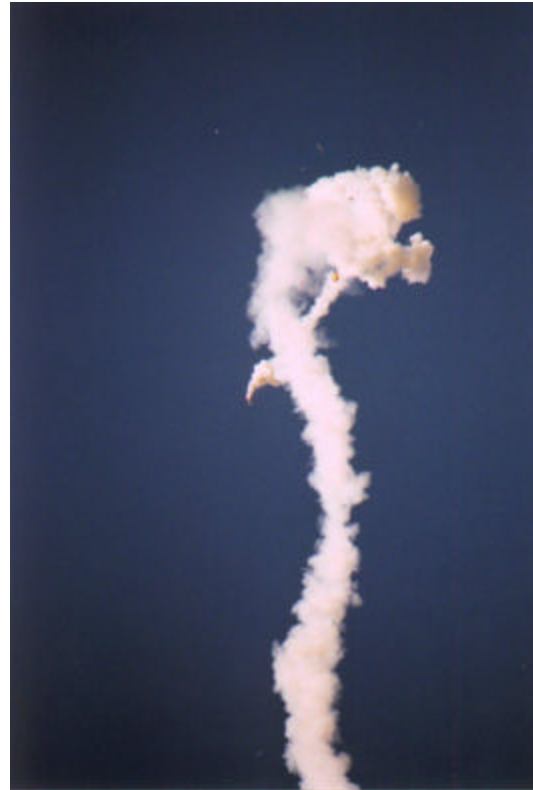
## NEXT ISSUES:

- Still waiting, How to use chutes from Neil.
- Launch report of May & June.
- Events for July & August
- Another last page funny.



©J. Kelly 2003

Mr. Bullis taking a break as LCO, Kathy Gilliland on the right laughing.



©J. Weber 2003

George missed L3 by this much. Nice O though.

Keep The Pointy End  
up and the Fier y  
End down.  
D. Bull is

<http://www.mdrocketry.org/>

Copyright 2003 M.D.R.A./ M.T.R. #68



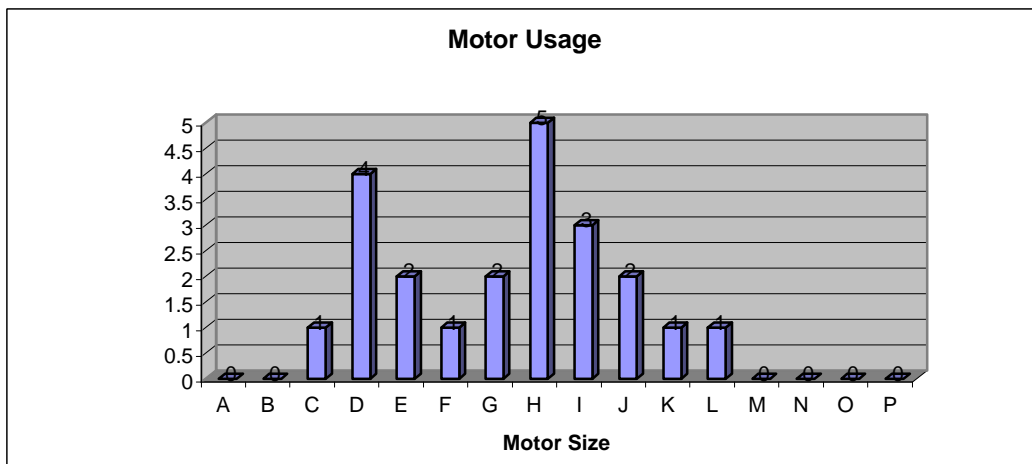
Kevin & Barb Mitchell at their wedding a year ago.....

**Log March 29-30 , 2003 ESL #58**

Flyer		Manufacturer	Model	Motors	Result
Barnsley	Ivan	Scratch	What-Ever	H210R	
Barnsley	Ivan	Scratch	1/152 Saturn V	D12	
Barnsley	Ivan	Scratch	Whistler	H123	
Barnsley	Jeanie	Scratch	Hat Trick I	"C6,C6,D12,C6,C6,E9"	
Barnsley	Jeanie	Estes	Phat Boy	E9	
Bastow	Steve	PML	Ariel	H143	
Cameron	Douglas	LOC	V2	I285	
Cameron	Douglas	Scratch	Cygnat	"G80(2),G40(2)"	
Canibo	Bruce	Aerotech	Sumo	H128	
Hier	Tom	PML	Amraam 4	J420	
O'Sullivan	Jerry	Scratch	Nike Smoke	"H180(8),L750"	
Proseus	Ted	Scratch	Pyramid	J100	
Proseus	Ted	Scratch	static test	I???	Titanium CarbNoz
Roberts	Rob	Scratch	Un-Ezi	I170	
Romani	Ed	Scratch	static sugar	G145	
Romani	Ed	Scratch	Old Crow	H331	
Schuler	Karl	Aerotech	Strong Arm	F23	
Schuler	Karl	Scratch	Finster Blast	D12	
Schuler	Karl	Scratch	Black Brant XII	D12	
Walters	???	PML	Black Brant X	K600	

Cant Read 3 names.

A	0	0
B	0	0
C	1	10
D	4	80
E	2	80
F	1	80
G	2	320
H	5	1600
I	3	1920
J	2	2560
K	1	2560
L	1	5120
M	0	0
N	0	0
O	0	0
P	0	0
22	TOTAL MOTORS	14330 NEWTON/SECONDS



Atlantic	0	
Aerotech	2	
Apogee	0	
Binder	0	
BSD	0	
Centuri	0	
Cluster R	0	
Custom Rockets	0	
Dynacom	0	
Edmonds	0	
Estes	1	
Giant Leap	0	
Hawk Mountain	0	
High Flight Tech	0	
Hobby Lab	0	
Impulse Aero	0	
JD Cluster	0	
LOC	1	
Launch Pad	0	
MSH	0	
NCR	0	
Neubauer	0	
PML	3	
Pratt Hobbies	0	
Public Enemy	0	
Quest	0	
Rocketman	0	
Rocket R&D	0	
Rocket Teck	0	
Rogue Aero	0	
Rocket Vision	0	
TCB	0	
Thoy	0	
True Modeler	0	
Scratch	13	
Shrox	0	
Smokin Rockets	0	
V.B.	0	
Unknown	0	
US Rockets	0	
Weber Eng.	0	
Yo-Yo Dyne	0	
	20	TOTAL ROCKETS



©J. O'Sullivan 2003

Jerry O'Sullivan's Smoke on a sparky motor at ESL#59.



## Log April 12-13 , 2003 ESL #59

Flyer		Manufacturer	Model	Motors	Result
Barnsley	Ivan	Estes	Fat Boy	D12	
Barnsley	Ivan	Scratch	Whistler	G69	
Barnsley	Ivan	Scratch	4X Gyroc	D12	
Barnsley	Ivan	Scratch	none given	G75	
Barnsley	Ivan	Scratch	Loud as it looks	"J350,G54(2)"	
Barnsley	Ivan	Scratch	BCX	E11	
Barnsley	Ivan	Estes	Saturn Block 2 1/70	D12 (4)	
Barnsley	Ivan	Estes	Goblin	B6	
Barnsley	Ivan	Scratch	Saturn V 1/155	E9	sweet
Barnsley	Jeanie	Estes	Fat Girl	D12	
Barnsley	Jeanie	Estes	Fat Girl	D12	
Barnsley	Jeanie	Scratch	Super Stilt Fin	D12	
Barnsley	Jeanie	Scratch	Hat Trick	F20	
Barnsley	Jeanie	Estes	Phat Boy	D12	
Barnsley	Jeanie	Scratch	Six Pack	C11	
Bathras	David	Scratch	Strong Arm 5.5	L600	
Bathras	David	Scratch	Strong Arm 4	J300	sparky
Cameron	Doug	PML	BBX	G80	
Cameron	Doug	LOC	V2	I285	
Cameron	Doug	Scratch	Tapan	J330	
Cox	Chris	Scratch	Cow Moo Flaughed	D12	
Cox	Jim	Aerotech	G-Force	I240	
Gilliand	Kathy	Scratch	Sunseeker	K450	BMW ML
Gilliand	Kathy	MSH	V2	D12	
Gilliand	Kathy	Aerotech	Star Blue	G80	cato
Gramick	John	PML	Bull Puppy 2.1	F20	
Gramick	John	NCR	Phantom 4000	G40	
Hayes	Scott	Estes	Alpha 3	G55	
Hayes	Scott	Scratch	Red	G80	
Hayes	Scott	Aerotech	Mustang	F20	
Hayes	Scott	Scratch	Strech I-Roc	J415	
Hayes	Scott	Aerotech	Mustang	F40	
Hayes	Scott	LOC	Magnum	J460	
Holt	Keith	Scratch	Gear Head	K550	sparky
Kelly	James	Scratch	Mustang Sally	F23	
Kelly	Kevin	Scratch	Man Hole Cover	L1800	BMW
Lussier	Bob	NCR	Big Brute	F40	
McCorkle	Sean	PML	Intruder	H153	
McCorkle	Sean	PML	Callisto	G80	
McGilvray	Neil	Scratch	Rancor	O3000	sparky
McGilvray	Neil	Scratch	Udder Madness	L1500 J600(2)	drag race
Proseus	Ted	Scratch	Pyramid	I???	Smoky
Ritz	John	Scratch	Static Test	I???	no metals
Ritz	John	Scratch	Static Test	I???	red
Ritz	John	Scratch	Static Test	I???	white
Ritz	John	Scratch	"Good,Bad & the ugly"	J450 H180(2)	
Ritz	John	Scratch	Ugly	J800 H180(2)	drag race
Schumacher	Fred	Yo-Yo	Overkill 6	L1500 J600(2)	drag race
Stafford	Dick	Scratch	4X24 Saucer	D12 (3)	
Stafford	Dick	NCR	Big Brute	F50	
Stafford	Dick	Scratch	Upscale Big Brute	J285	
Stafford	Dick	Scratch	"Delta Saucer 4""	A10	
Stafford	Dick	Scratch	"Delta Saucer 6""	D12	
Taylor	Jeff	Scratch	Static Test	I???	
Taylor	Jeff	Scratch	Static Test	J???	Smoky
Taylor	Jeff	Scratch	Boston Terrier	J500	star grain
Taylor	Jeff	Scratch	Static Test	H??	smoky
Tiger	George	Scratch	The Green Shadow	I285	
Weber	David	Cluster R	Skyraider	K1100 I366(2)	drag race
Weber	David	Weber Eng.	Tuber	H97	flight 145 and going
13-Apr					
Alewine	Dave	LOC	"V2 4""	G69	
Alewine	Dave	LOC	Magnum	J400	
Alewine	Dave	LOC	V2 5.5	H143	
Alewine	Dave	Scratch	Pink Missile	H153	
Alewine	Dave	LOC	Magnum	J400	
Ash	Richard	Estes	R2 D2	C6	
Ash	Victori	Estes	victoria	B6	

Flyer		Manufacturer	Model	Motors	Result
Beven	Doc	Scratch	Excalaber	M1850 *Cert 3*	
Cox	Jim	PML	Endeavor	"J350,G54(2)"	
Cox	Jim	Scratch	none given	J180	
Deaver	Gary	Alien	Mono 24	E15	
Deaver	Gary	Alien	Mono 24	D11	
Deaver	Gary	Alien	Mono 24	D11	
Deaver	Gary	Alien	Mono 24	D11	
Deaver	Gary	Scratch	L1	I80	
DeBay	Mike	PML	Explorer	I200	BMW
DeBay	Mike	Scratch	Crayola Skywriter	H150	BMW
DeBay	Mike	PML	Explorer	I200	blue BMW
Galysh	Ivan	LOC	EZI Cansat	J250	
Gilbert	Rob	PML	Ariel	J200	
Gleiter	Justin	LOC	Lil Nuke	F22	
Gleiter	Justin	Scratch	Static Test	K900	white
Gleiter	Justin	LOC	Lil Nuke	H360	
Glenn	Dan	Launch Pad	BullPup	F24	
Glenn	Dan	Launch Pad	Bull Pup	F12	
Glenn	Dan	Launch Pad	Harpoon	F24	
Glenn	Dan	Aerotech	Wart Hog	E18	
Glenn	Dan	Aerotech	Strong Arm	F39	
Glenn	Dan	Scratch	Slim Jim	G80	
Glenn	Dan	Aerotech	Strong Arm	G64	
Gorecki	Alan	Hawk Mountain	Talon 3	L1400	
Gorecki	Alan	Hawk Mountain	Beast	K700	
Gramick	John	Binder	Stealth	G40	
Gray	Augie	Scratch	Harpoon	K700	sweet
Gray	Augie	Scratch	Kodiak	M1419	nice
Hayes	Scott	Scratch	Priority Mail	I134	
Hayes	Scott	Scratch	Red Mailer	G25	
Hayes	Scott	LOC	Expediter	I357	
Hayes	Scott	Aerotech	Mustang	F39	
Hayes	Scott	LOC	Magnum	J360	
Hayes Kramer	Scott/Noah	LOC	Expedite	G80	
Hayes/Kramer	Scott/Noah	Scratch	Strato-buster	I132	
Hickok	Richard	Estes	Phoenix	E15	
Hickok	Richard	Scratch	Screw	C6	
Hickok	Richard	Scratch	AA-6 Acrid	E30	
Hickok	Richard	Scratch	Blowpipe	C6	
Hickok	Richard	Scratch	Blue Meanie	D12	
Hickok	Richard	Scratch	Harpoon	E15	
Hickok	Richard	Scratch	Javelin	E15	
Hier	Tom	PML	"Amraam 4""""	J370	
Hier	Tom	LOC	Mini Magg	I170	
Hier	Tom/Maggy	Estes	Alpha 3	B6	
Hier	Tom/Maggy	Estes	Alpha 3	B6	
Hier	Tom/Maggy	Estes	Alpha 3	A8	
Holt	Keith	Scratch	Bite Me	L1000	
Holt	Keith	Scratch	Gear Head	J400	
Kaufman	Rob	Binder	Velociraptor	L850	
Kelly	Kevin	Scratch	Man Hole Blaster II	L1500	red BMW
MacDonald	Tom	Rocket R&D	ASP	J400	
McCluskey	Scott	Scratch	Standard Arm	"M2400, K550"	
McCorkle	Sean	PML	Phobos	H143	
McCorkle	Sean	PML	Intruder	I212	
McCorkle	Sean	PML	Intruder	H143	
Miller	Russ	Scratch	Tiny	H238	
Miller	Russ	Scratch	Yellow Jacket	H165	
Miller	Russell	Scratch	Pinhead	H220	
Miller	Russell	Scratch	Folding Rocket	I138	
Nicholas	Joseph	Scratch	J&J	"C6,C6,D12,D12"	
Oasen	Rick	LOC	Lilac Time	F50	
Oasen	Rick	PML	"Amraam 4""""	I350	
O'Sullivan	Jerry	Scratch	High 5	K1200	
O'Sullivan	Jerry	Scratch	Nike Smoke	M1100	sparky
Paduch	Ken	PML	Small Endeavor	G40	
Paduch	Ken	Estes	Big Daddy	D12	
Paduch	Kenny	Edmonds	Tinee	1/2A	
Plitt	Mike	Scratch	Marz Lander	G80	

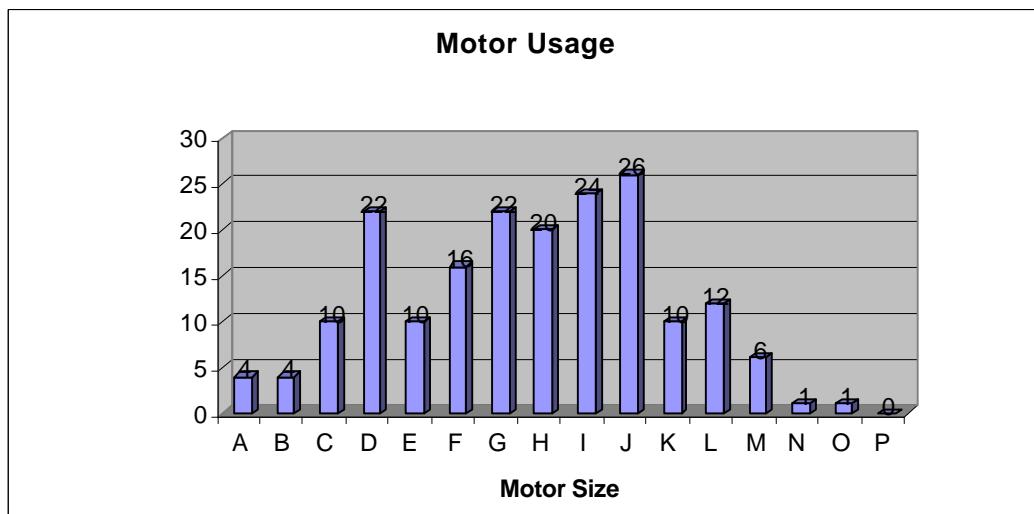
Flyer		Manufacturer	Model	Motors	Result
Plitt	Mike	Scratch	SA-14-01	G80	
Polansky	Mark	Scratch	Blast Off Brew	G104	
Polansky	Mark	Scratch	Silver Bullet	I284	
Polansky	Mark	Scratch	Kick n Tail	J350	mile high club
Proseus	Ted	Scratch	Nike Smoke	J500	tiger tail
Proseus	Ted	Scratch	Nike Smoke	K400	75-5
Ritz	John	Scratch	Hawkeye	J850	
Ritz	John	Thoy	Falcon	I400	blue
Ritz	John	Scratch	Static Test	H120	red
Ritz	John	Scratch	Static Test	H100	
Ritz	John	Scratch	Ugly Mama	"J600, H180(2)"	
Roberts	Rob	LOC	Vulcanite	H200	
Roberts	Rob	LOC	Loc IV	H135	
Sechrist	George	Scratch	"Raising ""L"""	L952	
Sechrist	George	Scratch	Top Dog	N2000	*Cert 3*
Sorci	Ross	Estes	Black Brant	D12	
Sorci	Ross	PML	Black Brant	G40	
Sorci	Ross	Estes	Blue Ninja	C11	
Sorci	Ross	Scratch	Nike X	C6	
Sorrentino	Joe	Aerotech	Arrow	F40	
Sorrentino	Joe	LOC	Auiza	F40	
Stein	Phil	PML	Rosed to the Max	H242	
Stein	Phil	Scratch	Fire Cracker	I284	
Stopack	Jack	Scratch	J&J	"C6,C6,D12,D12"	
Stopack	Jack	Scratch	AMDR	D12	
Stopack	Jack	Scratch	Express	D12	
Taylor	Jeff	Scratch	Boston Terrier	K400	Smoky
Taylor	Jeff	Scratch	V2	L1200	
Taylor	Jeff	Scratch	V2	L2500	
Taylor	Nikki	Quest	Nike Smoke	C6	
Tiger	George	Estes	Cherokee-D	E15	
Tiger	George	Scratch	The Green Shadow	I285	
Utley	Bob	Scratch	Bada Bing Bada Boom	M2000	white BMW
Wallace	Fred	Scratch	ATF Special	I320 (2)	
Wallace	Fred	PML	Barney	L1200	
Weber	David	Weber Eng.	Super Tuber	M2000	blue BMW

A	4	10
B	4	20
C	10	100
D	22	440
E	10	400
F	16	1280
G	22	3520
H	20	6400
I	24	15360
J	26	33280
K	10	25600
L	12	61440
M	6	61440
N	1	20480
O	1	40960
P	0	0

188 TOTAL MOTORS 270730 NEWTON/SECONDS

Alien	4
Atlantic	0
Aerotech	9
Apogee	0
Binder	2
BSD	0
Centuri	0
Cluster R	1
Custom Rockets	0
Dynacom	0
Edmonds	1
Estes	17
Giant Leap	0
Hawk Mountain	2
High Flight Tech	0
Hobby Lab	0
Impulse Aero	0
JD Cluster	0
LOC	17
Launch Pad	3
MSH	1
NCR	3
Neubauer	0
PML	17
Pratt Hobbies	0
Public Enemy	0
Quest	1
Rocketman	0
Rocket R&D	1
Rocket Teck	0
Rogue Aero	0
Rocket Vision	0
TCB	0
Thoy	1
True Modeler	0
Scratch	89
Shrox	0
Smokin Rockets	0
V.B.	0
Unknown	0
US Rockets	0
Weber Eng.	2
Yo-Yo Dyne	1

168 TOTAL ROCKETS



# May 2003

## Rocket Events

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday																																																																																				
<table border="1" style="display: inline-table; margin-right: 20px;"> <caption>April</caption> <tr><td>S</td><td>M</td><td>T</td><td>W</td><td>T</td><td>F</td><td>S</td></tr> <tr><td></td><td></td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr> <tr><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td></tr> <tr><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td><td>19</td></tr> <tr><td>20</td><td>21</td><td>22</td><td>23</td><td>24</td><td>25</td><td>26</td></tr> <tr><td>27</td><td>28</td><td>29</td><td>30</td><td></td><td></td><td></td></tr> </table> <table border="1" style="display: inline-table;"> <caption>June</caption> <tr><td>S</td><td>M</td><td>T</td><td>W</td><td>T</td><td>F</td><td>S</td></tr> <tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td></tr> <tr><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td></tr> <tr><td>15</td><td>16</td><td>17</td><td>18</td><td>19</td><td>20</td><td>21</td></tr> <tr><td>22</td><td>23</td><td>24</td><td>25</td><td>26</td><td>27</td><td>28</td></tr> <tr><td>29</td><td>30</td><td></td><td></td><td></td><td></td><td></td></tr> </table>				S	M	T	W	T	F	S			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30				S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30						1	2	3
S	M	T	W	T	F	S																																																																																				
		1	2	3	4	5																																																																																				
6	7	8	9	10	11	12																																																																																				
13	14	15	16	17	18	19																																																																																				
20	21	22	23	24	25	26																																																																																				
27	28	29	30																																																																																							
S	M	T	W	T	F	S																																																																																				
1	2	3	4	5	6	7																																																																																				
8	9	10	11	12	13	14																																																																																				
15	16	17	18	19	20	21																																																																																				
22	23	24	25	26	27	28																																																																																				
29	30																																																																																									
4	5 <small>Cinco de Mayo</small>	6	7	8	9	10																																																																																				
11 <small>Mother's Day</small>	12	13	14	15	16	17 <small>Armed Forces Day</small>																																																																																				
18	19	20	21	22	23	24 <small>Whitaker Launch Sport</small>																																																																																				
25 <small>Whitakers Launch Ex</small>	26 <small>Memorial Day (Observed)</small>	27	28	29	30	31 <small>MDRA Launch (Sod Farm)</small>																																																																																				

# June 2003

## Rocket Events

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday																																																																																				
1 MDRA Launch (Sod Farm)	2	3	4	5	6	7																																																																																				
8	9	10	11	12	13	14 Flag Day																																																																																				
15 Father's Day	16	17	18	19	20	21																																																																																				
22	23	24	25	26	27	28 Whitakers Launch Sport																																																																																				
29 Whitakers Launch Sport	30	<table border="1" style="display: inline-table; margin-right: 20px;"> <caption>May</caption> <tr><td>S</td><td>M</td><td>T</td><td>W</td><td>T</td><td>F</td><td>S</td></tr> <tr><td></td><td></td><td></td><td></td><td>1</td><td>2</td><td>3</td></tr> <tr><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td></tr> <tr><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td></tr> <tr><td>18</td><td>19</td><td>20</td><td>21</td><td>22</td><td>23</td><td>24</td></tr> <tr><td>25</td><td>26</td><td>27</td><td>28</td><td>29</td><td>30</td><td>31</td></tr> </table> <table border="1" style="display: inline-table;"> <caption>July</caption> <tr><td>S</td><td>M</td><td>T</td><td>W</td><td>T</td><td>F</td><td>S</td></tr> <tr><td></td><td></td><td></td><td></td><td>1</td><td>2</td><td>3</td></tr> <tr><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td></tr> <tr><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td></tr> <tr><td>18</td><td>19</td><td>20</td><td>21</td><td>22</td><td>23</td><td>24</td></tr> <tr><td>25</td><td>26</td><td>27</td><td>28</td><td>29</td><td>30</td><td>31</td></tr> </table>					S	M	T	W	T	F	S					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	S	M	T	W	T	F	S					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
S	M	T	W	T	F	S																																																																																				
				1	2	3																																																																																				
4	5	6	7	8	9	10																																																																																				
11	12	13	14	15	16	17																																																																																				
18	19	20	21	22	23	24																																																																																				
25	26	27	28	29	30	31																																																																																				
S	M	T	W	T	F	S																																																																																				
				1	2	3																																																																																				
4	5	6	7	8	9	10																																																																																				
11	12	13	14	15	16	17																																																																																				
18	19	20	21	22	23	24																																																																																				
25	26	27	28	29	30	31																																																																																				

Last Page Funny



MDRA Version of Team America.....

***No one is exempt from this page, we are starting at the top and working our way to the bottom of the barrel.***