



M.D.R.A. Report

Volume 7, Number 5



Cover: Bill Brown's Frost Bite. Photo by John Ritz.

So on to the newsletter and seeing your name in print....

Editor's Corner :

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We are moving out to the Big Field in a couple of months and you want to make sure you have the right stuff.

Try and remember that there is hunting in the winter months and make sure you know what is being hunted. Deer, small game, guns or bows, that's one of the reasons I wear bright orange, that and I'd make a good size kill without the horns for some hunter.

If you have to walk into the woods come find one of the members running the launch, they should be everywhere. You need to get instructions on what to do and what not to do, as in driving on the field.

Since we launch in a cornfield, wear boots since the field will be muddy from time to time and there are creeks and ditches with water in them you don't want wet feet. Warm clothing is a must, even if you leave home and it feels ok, you can bet it's going to be colder in the field.

Most times we have Tommy with his Road Kill café but you might want to bring a hot drink just in case you get a chill.

When flying remember that the sun drops like a rock with a brick tied to it in the winter months. Around 4:30pm it starts getting dark so you want to plan your flights so you're not out looking for it at 5:00pm when it's dark. Bring a flashlight just in case, the animals come out to feed and we'd hate to find out you were dinner.

There are plenty of hotels and motels around the launch field but you should plan to reserve a room as much as a month before the launch as there are many special events that cause them to book early. We try to have special rates at the Sleep Inn during the winter months so tell them you are part of the Rocket Club to get this rate.

Batteries don't work very well when it's cold, so try and remember to keep them warm or out of the cold as much as possible before you launch your rocket. I try and take them with me into the hotel if I'm flying the next day to help.

Well that should about cover most of it. It might be cold outside but think warm thoughts.

ESL #75

Sod Farm

7/24 & 7/25, 2004

By Neil McGilvray

The best flying weather of the year is upon us. It was too bad that this weekend was hampered by a low cloud ceiling, northerly wind and the potential threat of rain. But then again it is a rocket launch, why wouldn't it be this way. Monday surely would be clear and sunny. As low as the clouds they were not low enough to get in neck cracking flights. MDRA was again launching at the Central Sod Farm. Our many thanks go out to the Warpinski's for their gracious hospitality.

Peter Allen was launching his Tomahawk on an A-8 and a B-6. Peter also launched his Legacy on an E-28. Robert Allen launch twice with his Ariel on an H-180 and his Tethys on a J-350. All the Allen flights went up and returned safely. Bill Brown had is Stub Zero doing an Energizer Bunny imitation with an H-50 for a long burn and high flight. Mike Candell got in two flights in the D and E range. Seth Chapman was working like a rented mule with eight flights. Seth flew his Comanche twice as a two stage and once as a three stage. He also flew his Green Machine on a B-6, Legacy twice on an E-9 and F-20, Dark Knight on a D-12 and his Flying Colors on an E-9.

Glenn Davis flew his Bits and pieces on a G-64. This is a rocket made of four others owned by two different people. If you think that is confusing, just try to order something with Glenn. He also flew his Gold Member on a BMWK-450 White Load for a "back on the pad" recovery. Patrick Ferro flew four times with E-9 power in his Pringles and his Eliminator and an F-20 in the Eliminator. Kathy Gilliland had here Pink Mama strolling off the pad on D-12 power. Paul Habeline and family were quite busy and squeezed in five flights. These consisted of a Wart Hog on an F-23 and G-35, Archer on an H-123, Mini Magg on an H-140 and a V-2 on an I-211. Richard Hickok flew his Streamer Model, that was suppose to be a potential NAR Competition Rocket, out of a mini tower on a B-6, Red Eye on a

F-21 and G-64's power both his Red Fox and Vigilante.

Neil McGilvray flew Comfortably Numb on a K-400 to 3,600 feet and a near miss of the pond upon recovery. Water landings only work well for NASA. Dave Olson took some time out of taking pictures and documenting the launch and flew his Air Spike on an F-20 for a nice flight and recovery. Rich Cameron flew five times in the A, B and C range. John Ritz had some heads and necks cranking with Liberty Blue J-600 flight of his Falcon. You didn't want to blink for this one. The rocket tore off the pad with that trademark brilliant BMW Liberty Blue flame. Breanna and Charlie Sipe flew two A-8's

Dick Stafford had all sorts of object in the air, both vertically and horizontally. Dick flew his dowel stabilized Shai Hulud, (the Sand Worm from the book "Dune"), on a G-75, Big Brute on a G-80, Killer Bee on a G-79, Twice Removed on a I-357. Dick also flew his always entertaining Hat of Death on a G-35 and his rotating, dis-assembling Nonami Saucer on three E-9's. This was a 3-bladed fan with E-9's. The motors got the blade spinning but the centrifugal force flung the motors right out of their mounts. Bob Utley was reinventing the wheel static testing three different blends of Blue 22 to see "what went wrong". The jury is still out as all three motors worked great.

Brian Wadsley warmed up with his Astrobee D on a G-64 in preparation for his Level One Certification flight. Brian flew his back up rocket, a ¼ scale Patriot on a H112 for a picture perfect flight and recovery. Congratulations Brian, now the sky is the limit. Dave Weber didn't know whether he wanted to wrestle with igniters or fly rockets. Dave was flying his Night Hawk on a seven motor cluster. It consisted of four G-80's and three F-50's. The problem was none of the motors lit on the initial attempt. The first igniters were Davey Fires. Dave replaced them with Aerotech "First Light" igniters. For what still remains a mystery the launch system would not fire these igniters. Various attempts and individual efforts were made to get these to fire, ultimately wasting all seven. For those keeping score the tally is 14 igniters down, seven more to go. Dave was determined to get the rocket in the air, even if he had to throw it there. The final seven "dipped" Davey Fires did the trick.

Unfortunately, one of the single use commercial motors blew a bulkhead, separated the rocket under power and lit it on fire sending it crashing to the ground. Other than that it was a great flight, actually it was a "Really Cool" flight. Someone has to do it and it looks like it was Dave's turn in the barrel. Benji, Jonathan and Joshua Williams had good flights on A-8 power as did Nate and Steve Woods.

Sunday was an equally cloudy and breezy day. The low cloud ceiling once again made flying the big birds almost impossible. Almost being the operative word. Peter and Rob Allen combined for five flights. The flights ranged from the B to H range. We are sure that the Allen's will be going back to Buffalo with some positive stories about their experience at MDR.A. Bill Brown was back on Sunday to launch three more rockets. Bill successfully launched and recovered his Bob Utley donated Mini BBX, (the question is what is wrong with the rocket?) on a G-64 and H-180 and his Frost Bite on an I-435 for a neck cracking flight. Chris Byron launched three C motors and his dart rocket on a G-35. Timmy Cardwell had two B flights in his Heat Seeker rocket. Jim Cox had a nice high flight with his Executioner on a G-75. Maybe too high, as the rocket ended up in the trees and forced Jim to spend the better part of his day attempting to get it out to no avail.

Glen Davis busted off his Bits and Pieces on an H-165. Life imitated art as the rocket turned back into Bits and Pieces. It is repairable and will fly again, if only someone will lend Glenn some epoxy. Alex Deschenes attempted his long awaited Level I flight. Alex flew his H-143 powered Gamma only to experience a "recovery failure". It was a great attempt and we always learn by our mistakes. Alex will be back again and success will follow. Rob and Angelica Freimayer combined for seven flights in the C to G range and in the one to three motor combinations. Seven flights show many things but most importantly enthusiasm. When a family flies together in big numbers that is a good thing. Ivan Galysh broke from the Nitrous ranks and actually flew some motors that didn't make a buzzing noise. Ivan flew his 4-24-SS on two G-35's. Chuck Hartley flew six times including two flights of his IO on G-64 power. The ever present Richard Hickok, (who by

the way is steadily moving up the power ladder, it looks like the MDRA bug has bit), flew five times. Richards bigger rocket flights were his Switch Blade on an H-1645 and his Vigilante on an I-161. Vince Leonardi is climbing back up the high powered ladder but for a different reason. Vince allowed his TRA membership to lapse for over one year from his renewal date. *When you stop paying your dues to TRA or NAR you are uninsured with them. The date on your card is the beginning of the month, not the end of the month. NAR will give you a 30 day Grace Period, TRA will not. Both organizations will hold your certification levels for one year. After that you back to Level 0. As you all know you must be a current member of either TRA or NAR to fly above an H motor with MDRA. You can only fly within your certification level. That means if you are Level I, you may fly up to an I motor. If you are Level II you may fly up to an L motor. If you are Level III you may fly unlimited motor combinations, within reason.* Vince went down this road and now he is coming back. Vice flew his Pterodactyl Jr. on an H-148 for a successful Level I Certification flight. Vince celebrated with an I-357 flight on his Warlock and a fun flight on his F-20 powered Mustang.

Mike O'Connor got in three flights, the most notable being his Flis Kits Deuces Wild. This rocket makes for a great visual lift of with two motors canted with the nozzle ends out to produce a "V" like trail of fire and smoke as the rocket rises from the pad. I am looking forward to the day when we see an M powered version of this Kit. Wes Oleszewslar was flight testing some small scale kits he is considering marketing. While the power level is low the kits are extremely detailed for their size and a worth will consideration for anyone that is into scale rockets. Wes flew his Russian R-7, Saturn C-2, Saturn-V, Saturn I, Block II, Saturn-1B and Saturn C-2A. I bet you didn't know that there were that many versions of the Saturn. Actually there are not, Wes made it up....only kidding! Dave Olson took some time from taking pictures and getting ready for the next Web Page Up-Grade to fly his Comanche successfully in the tree stage configuration and his Nimbus on an I-287. Jerry O'Sullivan was test flying his Concept 98 rockets on J-460 power for successful flights.

John Ritz got his Falcon off the gauntlet twice powered by an I-400 and a J-300. Scaredy Pants, Fred Schumacher static tested his K-700 Blue 22 motor, which performed flawlessly. Scott Madison flew his Stars and Stripes Forever on a J-460. Scott may be renaming the rocket Strips and Bits forever as he experienced a motor failure followed by one of those pesky high speed disassemblies. The Scrimgeours, Allie and Dad Kevin combined for 13 flights. Like the Freimayers, the Scrimgeours are a family that flies together and also breaks the mold of the father a son flying team. Both families are father and daughter flying teams. Kevin and Allie smiled all day launching between the C and F range of power. Joe Sorrentino got in two flights. It may have been more but his stubborn F-40 powered Rocket J. Squirrel decided that it wanted to eat about five igniters before leaving the pad. Joe also flew a True Modeler Nike Smoke on an F-24.

Brian Wadsley flew is Astrobee D on a G-64 and his big 4" scale Sidewinder on an I-284 for a test flight for his upcoming Level II attempt at a future launch. Dave Weber finally broke his LDRS curse with the successful flight of his Sky Raider powered by a central J-800 and successfully air starting two out board H-220's. It feels good to get the rocket back in one piece, doesn't it Dave? The Williams, Benji, Joshua and Jonathan got in a flight each on A-8 power. Fellow Cub Scout Pack 495 members Steve Woods, Emilio and Ricky Yslas also got into the act. Flying five rockets on A and B power.

ESL 75 was a pleasant and successful weekend of rocket launching. Good people, good rockets and a fantastic land owner, the Warpinski's that allow us to "do the things we do". Keep in mind that that we are there because they are good people and our membership needs to takes special care and give special consideration when we are on their property. Treat it with respect and also treat any of the neighboring property with the same respect. Keep in mind not everyone understands what we do. Every member is a representative of MDRA and rocketry as a whole. Let's continue to leave a positive impression. Fly high and recover low, until next time, be safe.

ESL #76

Sod Farm

8/7 & 8/8 2004

By Neil McGilvray

How does the song go? "Summer time and the liven' is easy." And so it was at ESL #76 at the Central Sod Farm. We have had so many launches there it feels like home. You can almost lose your appreciation for having a summer field like this or a summer field at all. For those of you who remember there was a time where we had much less desirable places to launch from during the summer months. We at MDRA are very much indebted to the Warpinski's for the benevolence they show to our little group of rocketeers. Once again the weather was on our side; maybe God actually does like rockets. Saturday brought light winds out of the southeast.

Jeffery Adams launched two rockets, his ISP on a G-69 and his Amraam 3 on an I-205. Wayne Anthony was down from New York to do some static testing. It is probably a good thing that Wayne didn't put these motors in his rockets. I know what you're thinking. But motors will generally do one of three things. 1) They will perform as expected. 2) They will over perform (and we usually know what that spells). 3) They will under perform, something we don't see too often. Wayne was able to create a fourth category, "there is no way you can make a J motor burn for 30 seconds." Wayne found a way and something tells me he will be making something with a little more punch next time down. Ethan Czebatar had five rockets in the air powered from A's to E's. All flew great and were returned safely.

Glenn Davis had his Glad-He-Ator working on H-220 power. The big fins made for an interesting flight profile. Any body can fly them arrow straight, Glenn likes a challenge. Kathy Gilliland is still working is scaled back mode and living the simple life during the summer. Kathy had her Pink Mama in the air on D-12 power. However she also found out that even D powered rockets need repair after a flight. Larry Harris flew twice with his Pathfinder on a D-12 and his H-242 powered Checker rocket. Richard Harris flew his Areonux on a G-40. Alan Holmes had some necks cracking with

his J-460 powered Endeavor. You have got to love the J-460, it's like a mini K-550. David Jarkey did some flying and some sky writing. Dave flew his HV Arcas on a G-64 and used the same motor to power his Lamp Shade rocket. The Lamp Shade rocket was exactly that and flew as one might expect. You could pull a neck muscle trying to follow this thing. It makes me dizzy just thinking about it.

Bob Lussier trucked out the pads twice. Bob was out get as much bang for his buck as he could. Bob launched his Star Burst on a pair of E-30's and his Viking on a G-80 and two G-40's. Kevin Mitchell not to be out done launched his Stovi on seven D-12's. The motors lit in a staggered start which provided a nice acceleration effect as the remainder of the motors kicked in. Aiclen O'Connor launched her Patriot on a C-6. Mike O'Connor launched four rockets in the C and D range. Sean O'Connor lofted two rockets skyward on C and D power.

Jerry O'Sullivan cranked off his Nike Smoke on an L-3000 for a nice flight and perfect recovery. While the rocket faired well, Jerry had the dubious honor being the second MDRA member to meet the neighbor. John Ritz flew his Fluttering Heights on a K-1000 skid mark for an impressive flight and recovery. Unfortunately John was number one in line to meet the neighbor. The long story made short is more about the lesson learned rather than the episode. ***The lesson and the new MDRA rule is the following. If your rocket lands outside of the property line from which we are flying you must see the RSO, LCO or any other MDRA BOD member and find out what is the proper way to retrieve your rocket. Please keep in mind that how we approach the various surrounding land owners will vary from person to person and from field to field. It is imperative that all members follow this simple rule.***

David Starkey launched his Maple Seed on an A-3 for a twirling maple seed like recovery. Norwood Truitt flew twice with an impressive selection of motor combinations. Norwood first attempted his Trailblazer on an I-195 Air Starting two G-35's and then staging to a G-40. Unfortunately the Air Starts didn't fire and the staging event failed. This resulted in the disassembly of the upper stage and some

damage to the booster. The good news was that Norwood had the G-35's for an attempt on Astrobee 1500. This was another Air Start attempt with the central motor being a J-350. Unfortunately the pesky G-35's were resistant to lighting and will see use, probably one at a time in the near future. Speaking of bad days, Brian Wadsley had one that must have seemed like it would never end. Brian was attempting his Level 2 with his nicely constructed Sidewinder. The rocket flew on a J-350 for a nice accent. The rocket became tangled in the recovery webbing and the air frame got zippered eliminating the chance for a certification to award on this flight. Brian was able to finagle a second J-350 and fly a repaired / modified version of the Sidewinder only to have another recovery issue befall on him. At the end of the Brian was batting 0 for 2, but he was determined to achieve his goal of a successful Level 2 flight and went home to make it happen. All he needed was a Level 2 capable rocket, another motor and good weather, what could go wrong? Don't touch that dial.

Fred Wallace flew his rocket called Mag-It on I-300 power for a quick loud burn and a good recovery. James Welch got in 13 flights in the B to D range. Ben, Joe and Jonathon Williams each launched once in the mighty A range. Joe, Melissa, Nate and Steve Woods combined for 6 flights in the A to C range.

Sunday, 8-8-04, was an even nicer day than the previous Saturday. The wind was light out of the south west and there was AP smoke in the air. Desra Abogal launched the Viking on a B-4. Bobby Braden launched three times in the A to C range. Scott Branche launched a variety of rockets, most of which were carrying small down linked video cameras on board. (Hopefully, we will see the results of these flights soon.) Scott flew most of these as two stager flights. He launched his Proteus on a D-12, Proteus III on a D-12 to D-12 and his Delta 3 on a D-12 to E-9 twice. Bill Brown got rocking and rolling twice on his Mini BBX powered by an H-180 and then on his Frost Bite with a rip snorting J-350 flight. Dave Bullis was on hand to launch his rocket, so he thought. Dave was honored by the MDRA BOD and the MDRA members for his years of selfless service that has ultimately led to making MDRA the premiere rocketry

organization in the United States and with out a doubt in the world. It is because of Dave's vision and perseverance that the MDRA even exists. Dave was thanked with the presentation of a glass encased sword with an engraved placket that says In appreciation for 4 years of service cutting a path and blazing a trail to new heights in rocketry. "Keep the pointy end up and the fiery end down". Dave also got to fly his Glorious Aboundous on a J-120 for a nice long burning flight. Chris Byron flew his Eagle One on a G-35.

Doug Cameron will be seeing his Chiropractor after his Concept III flight powered by a J-570. Jim Cox finally stopped looking for and recovering rockets to actually fly one. Jim flew his Storm Chaser on an F-39. John D'Addio got in three flights in the E and F range with his Phoenix, Aspire and his No Name rocket. Bill Davidson launched his Pterodactyl on G-69 power for a nice flight. Glenn Davis learned what happens when you move up in rocket size and power. Every aspect of rocket flying and recovery gets logarithmically more difficult. Glenn teamed up with Russ Miller for the flight of their rocket called Arrow Bix. This was Glenn's first attempt at a 6" diameter rocket on his biggest motor to date, an L-1100. The flight was perfect, unfortunately the main parachute was deployed at apogee and the rocket drifted well over a mile away to its temporary resting place in a corn field. Two airplane flights and 7 trips to the corn field finally resulted in Glenn returning home with the rocket. The lesson learned here is when moving up in power and the size of the rocket, ask lots of questions. There are many fliers that will share their experiences and knowledge to help you bring them home again on the same day you fly them. Glenn also flew his Bits and Pieces earlier in the day for a successful flight and did a static test of a J-200 of his making.

Mike deBey and his two sons Zack and Nick had their own private launch going on with a combined total of thirteen flights. Mike and sons flew the forward end of the alphabet from A to G power. Alex Deschenes conquered his previous Level One attempt Demons and got signed off with the flight of his rocket called Maudite on an H-153. Congratulations Alex. To celebrate Alex flew his TFM 2.0 on an I-205. Rob and daughter Angelica Friemayer combined for

11 flights in the C to G range and as single motor, cluster and staged flights. They had all the bases covered. Kathy Gilliland and her friend Terri teamed up for the clustered flight of Pink Impulse on 2 D-12's. Two motors, two women, which makes sense to me. The two and two concept seemed to work as the Pink Impulse put in a good flight. John Gramick flew four times in the F and G range with his Amraam II, Onyx, eliminator and his SS Arrow. Chuck Hartley flew his Falcon on a C-6 and then jumped right up to high power with his flight of an H-238 powered IO. Mark Hornberger flew his Arreanux on an F-20 and his Hi Tech 45 on G-69 power. Adam Jockle was out to the pads five different times flying in the C and D range. Adam did manage to fire eight motors in the five flights. Two stagers and clusters are a beautiful thing.

Bill Kuehrmann launched three times. Bill fired off his Explorer on a cluster of G-80 and two G-40's and his small Endeavor twice on G-40's. Gina Kuehrmann also launched three times. All of her flights were on D-12's. Tom McDonald was a happy camper. He had retrieved his 4" diameter ASP from the rocket eating trees and the repairs were complete. It would like flying a new rocket. I have to wonder if Tom is pulling a fast on us and have to consider the possibility that his real name is Murphy and not McDonald. Tom was going to fly the ASP on a J-330, which "was" a motor with a great reliability record, up until this point. When the button was pushed the motor separated from the aft closure and literally burned the rocket to the ground as it sat on the pad. Some things are not meant to be and the follow on flight of Tom's ASP was one of them. Welcome to the "Barrel" Tom, you're in good company. Scott McCluskey was on hand to launch his Stretch Forte' on a J-415. The Aerotech motor performed well with a nice trail of fire and smoke. Neil McGilvray turned the LCO duties over to Dave Bullis and got in two flights. Slam Dance flew on a K-1000 and Cold Comfort flew on a K-500. Both rockets were returned intact after good flights and nice recoveries putting the rockets back on the nice, soft, green grass of the Sod Farm.

Curt Newport can't get "looking for things" out of his blood. Normally Curt likes looking for things other people loose. He must be getting bored and has recently been

loosing his own stuff. This held true once again with the flight of Proteus III on a BMW L-1000. The flight was perfect and the motor performed well. The recovery was on cue, but over the dreaded trees. After searching and a major recover effort Curt and crew had the rocket back on the ground just before night fall. Dave Olson flew his Initiator on a G-35 and then upped the ante' with his successful flight of his Nimbus on a _287. Dave's daughter, Nicolette, got in a whopping eight flights in the A to F range. John Ritz, not deterred from the previous days events launched his almost aptly named rocket Long Gone on a G-70 and then on an H-250. John was able to the zone of danger. For some unknown reason, John also did a static test of his E-20 motor.

Chuck Rudy put the video camera down long enough to launch four times. Chuck launched his Mach Buster on an H-55, never to see it again. He flew his No Name Rocket on a G-69 and his Suspicion of Extreme Ignorance on an H-282 and an I-284 for its second flight. Fred Schumacher had an itch to scratch and did so with his flight of Nasty Habit on a BMW K-700. All three aspects of the launch worked well, the motor, the flight and the recovery. Bill Schworer and Jerry O'Sullivan combined for two test flights of the Athena Avionics system with their Concept 98 rocket powered by a Loki J-860 and a J-800. Joe Sorrentino launched twice with his Rocket J. Squirrel on a G-64 and his Aura on an F-40. Eric Thesing had Blue Gue in the air on G-20 long burning power.

Bob Utley, recovered from his fiery mishap at LDRS with his rocket called Sky In My Eye, was ready to rock and roll again on BMW M power. The 75 pound 7.5" diameter rocket was going to be one of the premiere flights of ESL 76. The rocket sported two onboard video cameras to capture all the action. The BMW M-2000 White Load pouched the big rocket off the pad and well into the blue Maryland sky. Recovery was nominal and everything was looking good. It seemed that Bob had kicked the LDRS curse, "seemed" being the operative word. Upon arrival at the recovery site Bob noticed something strange. It seems there were more pieces of the rocket on the ground than he assembled prior to flight. How could that be? It was a perfect flight. The lesson learned here is that even a

“perfect flight” can kick your butt! The booster section of the rocket, which was covered with two layers of Carbon Fiber and one layer of Fiber Glass by the way, had broken in half just above the fin section. Some days it just doesn't pay to get out of bed in the morning. To add insult to injury both video cameras failed during the flight and no video was captured. The good news is that Bob is getting really good at rebuilding this rocket and we will see it again.

Speaking of doing lots of building, Brian Wadsley continued his mad dash to achieve his Level Two. After the failed attempts on Saturday, Brian was back and he was determined. Brian was flying a combination of rocket parts, begged, borrowed and stolen. He still retained the Sidewinder booster section and the remainder of the rocket looked strange, yet functional. It seemed that three times was a charm and that is what Brian called the rocket. Finally after the powerful burn of the J-350 motor the parachute was deployed and Brian had his rocket on the ground, intact and got his Level II signed off. Congratulations Brian, “way to hang in there”. To Celebrate Brian also flew three other times on an F-23, H-128 and H-123. Fred Wallace had repaired and repainted his “Barney” rocket, which is actually an upscale Pterodactyl. He calls it the “Rocket Formally Known As Barney” on a L1100. The motor performed flawlessly and Fred started a new chapter with a new paint job of bringing it back alive.

Nelson Wallace put three birds in the air but will only be flying two of them again. Nelson flew his Mirage -D on an H-128 and his Amraam on a J-345 for successful flights. Nelson had been driving all around the country, literally with his big Bruiser EXP on the roof of car. This was the day it was coming and being put on the rack to fly. The rocket had a slight bow to it as it sat on the pad, probably due to all the rain storms the paper rocket saw during its travels. The K-700 motor was patiently waiting for the igniter start the firing sequence. When the button was pushed the rocket traveled in a remarkably stable flight profile, despite the bow in the air frame. However just after apogee it was apparent that things were heading south, quickly. This was confirmed when through the silence of

the crowd you could hear Nelson's voice exclaiming, “Oh no! Not again!” Classic! A few seconds later the rocket came in hot, nose first, never to fly again. Some days chicken, some day's feathers. This definitely qualified as an MDRA “really cool flight”.

Eric, Ray and Tyler Waiter combined for twelve flights in the C to I power range. Steve and Tristan Williams launched once each on C-6 power. T. Willis also launched twice with E-9 power. One of the most memorable people of the entire weekend was little Nate Woods, who I am guessing is not, much more than 4 or 5 years and a cute kid to boot. After I had pushed the button on Bob Utley's 75 pound M motor flight and was watching it like a hawk calling out the play by play on the flight I thought I felt a tug at my leg. I dismissed it quickly and then felt repeated tugs. I looked down to see these big eyes looking up at me and in a meek little voice he said “My name is Nate, N-A-T-E, and I have a C motor” all of this while Bob's rocket was screaming to apogee on a long trail of fire and smoke. You have got to love it! It was actually a welcome relief after the stressful issues from the previous day. Nate did launch his C motor on his Shockwave rocket for a successful flight. Larry Zupnyk launched his Purple Phantom on an I-200 and brought it back alive.

We had some good times and bad times this weekend and learned some important lessons. One thing that will be changing is a stricter enforcement of group or joint projects. If you are flying a project as part of a team and the motor being used is above your certification level, the certified flier on the project is on insurance and overall responsibility “hook” should there be an issue. Each flier and /or project team leader must be certified either by Tripoli or NAR to fly at that desired level. This means that if you are Level I and want to fly your personal project with a Level II motor, take the test and certify. If you are doing a true group project, then the lead member with the motor certification is the responsible person. This is important from an insurance perspective and a “off site” land owner perspective. This should not be a major issue, be certified, be safe and have fun. Until next time fly high and recover low, just keep it on the launch site land owner's property.

On the Road Again



August 21 and 22, 2004

By Neil McGilvray

We have to be thankful to the Warpinski's for their generous use of the Central Sod Farm for our summer launches. We are truly blessed. However keeping the MDRA style of rocket flying contained for a five to six month period gets tough. There are some of us that are pining to launch those bigger rockets on bigger motor that the Sod Farm can safely handle. Granted a bunch of the MDRA faithful were at LDRS earlier in July and got to fly or at least attempt to fly some big rockets in Geneseo, New York but that didn't do the trick for some of us. What was the alternative? Pack up the truck and start driving.

Once again we were heading north back to New York. This time was to fly with the METRA Group at a huge Sod Farm in Pine Island. When I said huge I meant HUGE! This place is big. When I say "we", the group that headed north was myself, Neil McGilvray, Jerry O'Sullivan, Bob Utley, Kathy Gilliland and John Ritz. John traveled separately and the rest of us traveled together. As fate would have it the weather became an issue, there was a launch scheduled...shocker! Saturday was literally a total wash out and we left late and took our time. Like we had a choice as we crawled along the New Jersey Turn Pike. The ride ended up being about 7 hours, much longer than it should have been, but when we were there we were happy and the ride was over. The skies were clearing and Sunday looked promising.

When we arrived at the field the size was very comforting. You can fly high here and be sure to get it back. There was lots of open land and of course there are always obstacles to look out for. In MERTA's case it is a small river and a tree line, but nothing that can't be dealt with. The sky was cloudless and there was no wind, ok what's the catch? Strange but true there was no catch. We saw many familiar faces while there as many of the METRA Guys are MDRA members. Since it was a Tripoli Experimental launch, prefect Dennis Lappert

had a fliers meeting to explain the rules only to find himself surrounded by MDRA Tee Shirts. Dennis looked around, shook his head and said. "Since many of you are wearing MDRA tee shirts I have to assume that you know what you're doing". With that we were ready to launch.

The only issue we had with the field was the call in requirements for flights over 5,500 feet that the local FAA office mandated. This was not a problem in the mechanics of the call but in the wait for clearance to push the button. As the afternoon wore on and more and more calls were made the FAA office was having some heartburn that we were complying with their rules. In other words there were lots of high, big motor flights.

Kathy was the first of our group to fly her sun seeker on a PMS, (Princess Motor Systems, Feel the Rage) motor. It was a K-400 Whinny White. The rocket tore off the rail for a great flight and recovery. Hopefully this will bode well for the rest of us. I was next with Cracked Actor weighing in at about 85 pounds. I would be flying on an N-2800 with a slight red tint and hopefully smokey motor of my making. The motor was lit with 17 grams of Thermite and started with loud chuff sound, pause then full thrust. The burn was just what I wanted and the rocket flew to about 6,200 feet. The recovery was perfect and put the rocket back down onto the green sod.

Jerry O'Sullivan was next to launch with his Nike Smoke on a 6000ns M motor. After a full morning of prepping Jerry was ready to take to the pads. Once the rocket was ready to go then the waiting period began which was only about 15 minutes but seemed to last for ever. The Smoke finally was cleared and tore off the pad only to hit some apparent wind shear on the way up. It looked like it might upset the apple cart but the rocket kept on getting it! The main was to be deployed via a Defy Gravity, pyro release device but the main did come out at apogee. This was disappointing to Jerry but in the end it didn't matter as the rocket touched down right next to the field road about 400 yards from our parking place.

Bob Utley had his Bada Bing Bada Boom rocket loaded with another 6000ns motor, containing BMW M-3000 white propellant. Bob had to endure the same wait as Jerry and when the clearance arrived the

rocket left. Another blistering high flight and great recovery, despite the nose cone working loose at about 3,500 feet. Like Jerry's it still didn't matter due to the immense size of the field.

John Ritz also got two or three rockets into the air. One was in the M range and the others were in the K to L Range. The beauty of the weekend we were all bring our rockets home "practically" undamaged. Actually, give the strain we put on these things I am amazed that anything ever comes back with out some sort of damage. It is sure a good feeling when that happens, or so I have read.

Also on hand were Darren Wright and Jeff Taylor to perform a static test of their 150mm 50,000 ns P motor. This would be the propellant that was going to power the much anticipated Wedge Oldham 3 P Powered 107% Black Brant II at Balls 13 this year in the Black Rock Desert in Nevada. The motor was lit with 50 grams of Thermite and came up to pressure instantaneously. The motor performed like a champ, as expected and to the relief of Wedge, who was on the phone with Jeff to at least hear the motor first hand. I have no doubt that he had an ear to ear grin 3,000 miles away in California. Darren also tested a very experimental 54 mm M motor that ended its life in a spectacular CATO. It was "really cool" test.

There were many other flights and MDRA members at this launch such as Dennis Lappert, Gene Costanza, Rob Bazinet, Al Goncalves, Tim Hetland and the list goes on and on. It is well worth making the occasional trip to some of the other sites around the country and see how the other guys do it. It really helps put some perspective on what we have with MDRA and also helps to put some faces with the name you see on the internet, magazines and in some of the videos. There are a great group of rocket guys out there and yes some gals...or so I'm told and they are worth getting to know. If you have any thoughts about traveling up to METRA, check out their website at www.metrarocketclub.org. There is reasonably priced lodging and restaurants near by. All you have to do is sort through that funny New York accent and pray the Yankees don't win another world series. We all know the Super Bowl is out of the question this year once again. Go Pats!

LDRS 23



July 1-6, 2004

By Bob Utley

Another road trip, oh boy.....

Dave & Jill Weber, Neil McGilvray and son, Jerry O'Sullivan, Kathy Gilliland and I with my son, all traveled to New York for LDRS 23. Using FRS radios, GPS, maps and the ability to get lost we managed to find Geneseo, but not before I took Neil and Jerry on a detour on Route 80.

Geneseo is in rolling hills with the college on the side of a hill and the town a little beyond the college on top. The range is in a big valley, so the road allows you a view of the range. Although the hills are far enough away, some folks did manage to land their rockets there. I really think you had to try to do this, as I'm sure Jerry will tell you how hard he worked to get it done.

Being that this is a college town and the middle of summer, there were no students. There were plenty of large old homes, which gave it a quite peaceful look. Only later did we find out it's just not as it seems.

LDRS 23 share's the field with a working airport. This is a grass runway with rides in historical plane's taking off about every 45 minutes or so. Most rocket folks like to watch things fly and some of the old planes are like art in motion. The B17 stationed at the airport took off, circled the field and flew off to another air show. Lucky me, it flew over me when it was 500' off the deck. Several days later we watch the B17 return.

The first day of the launch is laid back as rocketeers arrive, vendors are setting up for business and the range is opened. The layout was nice for a launch this size. Starting at the road, you had the visitor parking, with all the port-a-johns, the rocketeers parking area, then the range. The RSO was on one side the Registration on the other side so there is a path to the range. Each club had flags or banners to show off, this helped me find my way back to the MDRA parking area.

Commercial motors were on order for the first couple of days. Since there is plenty to see around Geneseo, Neil, his son, Kathy, me and my son all left for Niagara Falls to do some sight seeing. On the drive out I followed Neil, so we took all the right roads. Once there we walked around so much that we ended up in Canada. Canada gave us a little Canadian flag since it was their Canada Day (Independence Day). We were all surprised that either country would let me in or back in, but they did. Take 50 cents so you can get out of Canada, they have turn styles on the way out. Of course I had to laugh when the custom agent asked me if I had \$10K on me in cash. Later I realize that Canada had casinos.

Friday the launch was in full swing. People everywhere and where there weren't people there was rocket stuff. Today was a good day to start meeting the folks you talk to via email or see pictures of in the magazines. Paul Robinson was there selling AMW motors and hardware. Busy as ever, but willing to stop and take some time to talk shop. Darren Wright was knee deep in explaining the ARTS and what it can do for you. He also had a couple of rocket flights with the ARTS on board to show customers. Jeff Taylor in the same booth was showing off all of Loki motors and hardware. Along with the standard hardware, Jeff had some hardware he designed that was light weight, always something new coming from Loki.

The ever present Bruce Kelly had his booth setup selling the HPR magazine or give out the latest issue to subscribers. If you ever want to find Bruce, just look for the big copper color Ford truck. Across from the HPR booth was Rocketman, Ky Michaelson with Bruce Lee showing off the nosecone of his space shot, along with all kinds of Rocketman products. As expected there was a long line of folks wanting to hear the story that only Ky can give. Performance Rocketry and Hobbies were there with tons of stuff to sell.

As the day moved on so did the Tripoli Board members. Pat Gordzelik seemed to be everywhere, one of the nicest guys you ever wanted to meet. So of course I gave him a hard time, that's what I do. Ken Good who is right around the corner from MDRA land was working hard at the launch. Bill Davidson who attend's MDRA launches and is always willing to help with a smile on

his face and a handshake. He showed up to check out Neil's "Cats in the Cradle" rocket, if you can call it a rocket, walked away smiling and shaking his head.

Saturday was the day MDRA ran the launch, not just a shift, NO, that's too easy, lets do the whole day. The crew consisted of, Neil to run his mouth all day, like that was hard for him. Kathy, Ritz, Phil Stein, Darren Wright and Jeff Taylor performed RSO duty. Dave Weber was on pad assignment. Fred Wallace did away-away cell duty. Megan Wallace help sort flight cards. Pad Managers were Bill Brown, Glenn Davis, Scott McCluskey and a couple of others. Since I like to push buttons I got to operate the launch system. Before we knew it the day was over and Neil wasn't done talking. We packed it in so we could attend the banquette.

Sunday was a day that some folks started to move closer to home. It started to thin out a little but there were still plenty of rockets to see, which is what I did. Everyone wants to show you what they are selling and what's new. Some of the photos that people took are just amazing as compared to the way it was 8-9 years ago. There were flyers showing me their rockets and what they did and how it's going to work or the neat idea of getting the chute out or how the webbing is connected. Well before I knew it, the day was almost gone and I've only been half way around the pit area.

Monday and Tuesday was time spent flying rockets or helping others get their rockets ready. Helping Jerry O find his long lost rocket, helping Dave Weber get his rocket to fit in a smaller car. Talking to all the media folks and the stories others told them. All in all, going to LDRS are not just about flying rockets, there is folks to meet, things to see you might never see any place else. The stories that are told and the stories that come from LDRS, if you ever get a chance to go do it, even if you can only stay a day or two.

Inter viewing Bill Brown

What in your background brought you to HPR?

Bought my sons a rocket to get them off the video games and once we saw an MDRA launch, I had to go and build something larger.

How long have you been into HPR?

Year and a half.

Why did you start?

MDRA crew was a bad influence!

What makes rockets different that other activities you have been involved in?

You get to see a lot of different projects and the people are willing to help you. It is a very organized, safe environment.

Where do you see yourself going in HPR?

Level 2 is my comfort zone for now. (we'll change that soon enough)

What do you do for work?

Journeyman Carpenter Local 132 Wash. D.C.

Sounds like you have done some major traveling, is this it?

I was in Alaska for several years until my Dad got sick with cancer. My family and I came back to MD to help my Mom out.

How do you find the time for rockets?

I make time! My wife calls it "His Dungeon"

Is there anything you do that MDRA can profit by?

Buy more T-shirts.

What is your next big project?

An all fiberglass 4" airframe w/54mm motor mount, new Level 2 rocket.

How far do you usually travel to launch a rocket?

Around an hour.

How much time do you put into the hobby over the course of a normal week?

At least 10 hours if not more.

What changes to the hobby, (obsession), have you observed over the years?

Many people come and go, too many regulations since 911.

Where would you like to see things go with MDRA?

I would like to see LDRS at Higgs Fram with MDRA as the host!. We will show'em how it's done.

What would you like to change in rocketry if you had a magic wand?

The price of reloads to drop with no hazmat fee!

Any words of wisdom

When in doubt, PRESS THE BUTTON!

Bob's questions:

So you built a bridge at Higgs, but never use it, what are you trying to tell us?

I will cross that bridge when the time comes! I built a lot of things that I never see again. The bridge is for the people that like to get exercise while flying rockets. Myself, I like'em close to the pad.

Since to are a carpenter and don't like to build things after work, who builds your Rockets for you?

(not) Glenn Davis, I would rather my dog built it. I like quality work, so I must do it myself.

Is it true you use nails and screws to hold your rockets together?

West System Epoxy.

When do you expect to have your Level 3 ready to fly??

Maybe next year. To many people certify to Level 3 too quickly and never get a good understanding of the fundamentals of rocketry. Level 3 is the ultimate goal but once you have it there is no room to advance, that's why I will be happy with my Level 2. Plus the motors are a lot cheaper.

NEXT ISSUES:

- More words from Neil.
- Launch report of Sept. & Oct.
- The Trip to Balls 13.
- Interview with other Famous Fliers.

M.D.R.A.

Freedom to Fly

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

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Log July 24-25, 2004 ESL #75

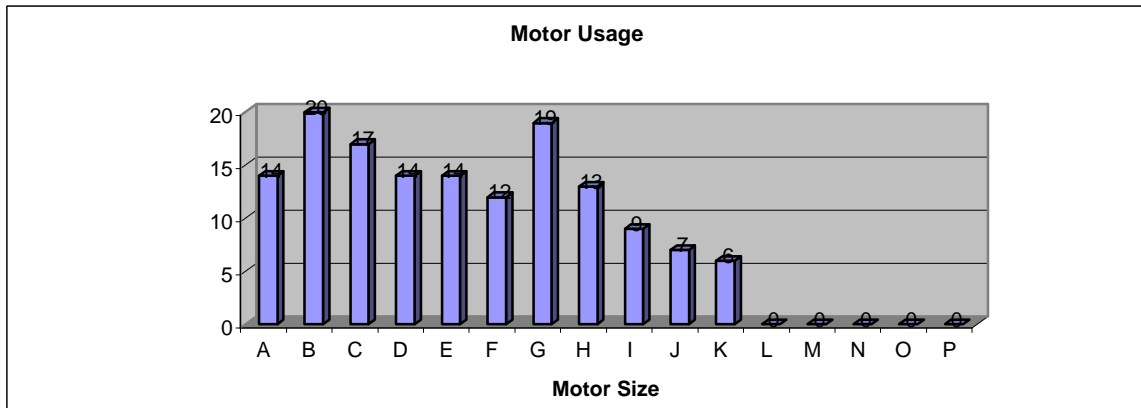
Flyer		Manufacturer	Model	Motors	Result
Allen	Peter	LOC	Legacy	E28	
Allen	Peter	Scratch	Tomahawk	B6	
Allen	Peter	Scratch	Tomahawk	A8	
Allen	Peter	PML	Ariel	H180	
Allen	Robert	PML	Tethys	J350	
Brown	Bill	Scratch	Stub Zero	H50	
Candell	Mike	Scratch	no name	D12	
Candell	Mike	Scratch	Trouble	E9	
Chapman	Seth	Estes	Comanche	C6C6	
Chapman	Seth	Scratch	Flying Colors	E9	
Chapman	Seth	Estes	Comanche	"C6,A8"	
Chapman	Seth	Scratch	Green Machine	B6	
Chapman	Seth	LOC	Legacy	E9	
Chapman	Seth	LOC	Legacy	F20	
Chapman	Seth	Scratch	Dark Knight	D12	
Davis	Glenn	Scratch	Gold Member	K450	BMW White
Davis	Glenn	Scratch	Bits & Pieces	G64	
Ferro	Patrick	Estes	Eliminator	F20	
Ferro	Patrick	Scratch	Pringles	E9	
Ferro	Patrick	Estes	Eliminator	E9	
Ferro	Patrick	Estes	Eliminator	E9	
Gilliand	Kathy	Estes	Pink Mama	D12	
Haberlein	Paul	LOC	Mini Mag	H140	
Haberlein	Paul	Aerotech	Wart Hog	F23	
Haberlein	Paul	NCR	Archer	H123	
Haberlein	Paul	Aerotech	Wart Hog	G35	
Haberlein	Paul	LOC	V2	I211	
Hickock	Richard	Scratch	Red Eye	F21	
Hickok	Richard	Scratch	Streamer Model	B6	
Hickok	Richard	Scratch	Red Fox	G64	
Hickok	Richard	Scratch	Vigilante	G64	
McGilvray	Neil	Scratch	Comtortably Numb	K400	
Olson	Dave	Aerotech	Airspike	F20	
Rich	Cameron	Quest	Sonic Boom	A8	
Rich	Cameron	Quest	Sonic Boom	C6C6	
Rich	Cameron	Quest	Sonic Boom	B6	
Rich	Cameron	Quest	Sonic Boom	B4	
Rich	Cameron	Quest	Sonic Boom	B6	
Ritz	John	Thoy	Falcon	J600	
Ritz	John	Scratch	Plastic	shaving burn	
Sipes	Breanna	Estes	Black Jewel	A8	
Sipes	Charlie	Estes	Charlie's Thunder	A8	
Sorci	Ross	Estes	Shuttle Express	B6	
Stafford	Dick	Scratch	Shai Hulud	G75	
Stafford	Dick	NCR	Big Brute	G80	
Stafford	Dick	Scratch	Killer Bee	G79	
Stafford	Dick	Scratch	Twice Removed	I357	
Stafford	Dick	Scratch	nonami saucer	"E9,E9,E9"	
Stafford	Dick	Scratch	Hat of Death	G35	
Utley	Bob	Scratch	Static Test	K400	BMW Blue22
Utley	Bob	Scratch	Static Test	K400	BMW Blue22 Mag
Utley	Bob	Scratch	Static Test	K400	BMW Blue 22 org
Wadsley	Brian	Aerotech	Astrobee D	G64	
Wadsley	Brian	PML	Patriot 1/4	H112	*Cert 1*

Flyer		Manufacturer	Model	Motors	Result
Weber	David	Thoy	Nighthawk	"G80,G80,G80,G80,F50,F50,F50"	
Williams	Benj	Estes	Black Knight	A8	
Williams	Jonathan	Estes	Blue Streak	B6	
Williams	Joshua	Scratch	Bad Blue	A8	
Woods	Nate	Estes	The Ghost	A8	
Woods	Steve	Estes	Shock Wave	A8	
25-Jul					
Allen	Peter	Estes	Patriot	"B6,B6"	
Allen	Peter	LOC	Legacy	E28	
Allen	Peter	Scratch	Morena	D24	
Allen	Peter & Bob	PML	Ariel	H210	
Allen	Robert	PML	Small Endeavor	H128	
Brown	Bill	PML	Mini BBX	H180	
Brown	Bill	PML	Mini BBX	G64	
Brown	Bill	Scratch	Frost Bite	I435	
Byron	Chris	Estes	Patriot	C6	
Byron	Chris	Estes	Patriot	C6	
Byron	Chris	Scratch	The Dart	G35	
Byron	Chris	Estes	Patriot	C6	
Caldwell	Timmy	Estes	Heatseeker	B6	
Caldwell	Timmy	Estes	Heatseeker	B6	
Cox	Jim	Estes	Executioner	G75	
Davis	Glenn	Scratch	Bits & Pieces	H165	
Deschenes	Alex	PML	Gamma	H143	*Cert 1*
Freimayer	Anjelica	Estes	Fat Boy	D13	
Freimayer	Anjelica	Estes	Big Daddy	"D12,D12,D12"	
Freimayer	Anjelica	Estes	Executioner	F39	
Freimayer	Anjelica	Art Applewhite	Saucer	G35	
Freimayer	Anjelica	Estes	Bandit	C6	
Freimayer	Rob	Estes	Mercury Redstone	E11	
Freimayer	Rob	Estes	Silver Comet	E18	
Galysh	Ivan	LOC	4-24SS	"G35,G35"	
Hartley	Chuck	PML	IO	G64	
Hartley	Chuck	Quest	Falcon	C6	
Hartley	Chuck	PML	IO	G64	
Hartley	Chuck	V.B.	Stretch Blobbo	D12	
Hartley	Chuck	Estes	Polaris	C6	
Hartley	Chuck	Quest	Pip Squeak	B6	
Hickok	Richard	Scratch	Vigilante	I161	
Hickok	Richard	Scratch	Harpoon	D12	
Hickok	Richard	Scratch	Seattle Special	B4	
Hickok	Richard	Scratch	AA-6 Acrid	E30	
Hickok	Richard	Scratch	Switch Blade	H165	
Leonardi	Savannah	Estes	Starry Starry Night	C6	
Leonardi	Vince	LOC	Warlock	I357	
Leonardi	Vince	Aerotech	Mustang	F20	
Leonardi	Vince	PML	Pterodyal Jr	H148	*Cert 1*
O'Connor	Mike	Fliskits	Acme Spitfire	D12	
O'Connor	Mike	Estes	CC Express	"C11,C11"	
O'Connor	Mike	Fliskits	Duces Wild	"C6,C6"	
Oleszewslar	Wes	Scratch	Russian R7	B6	
Oleszewslar	Wes	Scratch	Saturn C-2	C6	
Oleszewslar	Wes	Scratch	Ant-Scale Saturn V	B6	
Oleszewslar	Wes	Scratch	"Saturn I, Block II"	B6	
Oleszewslar	Wes	Scratch	Saturn C-2A	C6	
Oleszewslar	Wes	Scratch	Saturn 1B	B6	
Oleszewslar	Wes	Scratch	Saturn C-2A	C6	
Olson	Dave	PML	Nimbus	I287	
Olson	Dave	Estes	Comanche -3D	"D12,D12,D12"	
O'Sullivan	Jerry	Performance Rocketry	Concept 98	J460	
O'Sullivan	Jerry	Performance Rocketry	Concept 98	J460	
Ritz	John	Thoy	Falcon	J300	
Ritz	John	Thoy	Falcon	I400	
Roberts	Rob	Scratch	Un-EZ-I	I450	
Roberts	Rob	LOC	Vulcanite	G155	
Schumacher	Fred	Scratch	Static Test	K700	BMW Blue
Scott	Madison	Scratch	Stars & Stripes Forever	J460	
Scrimgeour	Allie	Scratch	Black Widow	C5	

Flyer		Manufacturer	Model	Motors	Result
Scrimgeour	Allie	Scratch	Sparkel	C6	
Scrimgeour	Allie	Scratch	Sparkel	C6	
Scrimgeour	Allie	Scratch	Black Widow	C5	
Scrimgeour	Allie	Estes	Beige Birtha	E9	
Scrimgeour	Allie	Scratch	Black Widow	C5	
Scrimgeour	Allie	Scratch	"Red, Blue & Purple"	D12	
Scrimgeour	Allie	V.B.	Red Head-up	E30	
Scrimgeour	Allie	Scratch	Double Trouble	"C6,C11"	
Scrimgeour	Kevin	V.B.	Purple Haze	D12	
Scrimgeour	Kevin	V.B.	Big Red	D12	
Scrimgeour	Kevin	V.B.	Purple Haze	F38	
Scrimgeour	Kevin	Scratch	Moon Rocket	F25	
Sorrentino	Joe	Scratch	Rocket J. Squirrel	F40	
Sorrentino	Rob	True Modeler	Nike Smoke	F24	
Wadsley	Brian	Aerotech	Astrobee D	G64	
Wadsley	Brian	Scratch	Sidewinder	I284	
Weber	David	Cluster R	Skyraider	"J800, H220,H220"	
Williams	Benj	Scratch	Red Angel	D12	
Williams	Jonathan	Estes	Viking	A8	
Williams	Joshua	Scratch	Bad Blue	A8	
Williams	Joshua	Scratch	Bad Blue	A8	
Woods	Steve	Estes	The Ghost	A8	
Yslas	Ricky	Estes	Alfa #3	A8	
	Emilo	Estes	Air Force #1	B6	
	Emilo	Estes	Air Force #1	B6	
	Emilo	Estes	Air Force #1	B6	

A	14	35
B	20	100
C	17	170
D	14	280
E	14	560
F	12	960
G	19	3040
H	13	4160
I	9	5760
J	7	8960
K	6	15360
L	0	0
M	0	0
N	0	0
O	0	0
P	0	0

145 TOTAL MOTORS 39385 NEWTON/SECONDS



Alien	0
Atlantic	0
Aerotech	6
Apogee	0
Art Applewhite	1
Binder	0
BSD	0
Centuri	0
Cluster R	1
Custom Rockets	0
Cosmo Drome Rocketry	0
Dynacom	0
Edmonds	0
Estes	38
Fliskits	2
Giant Leap	0
Hawk Mountain	0
High Flight Tech	0
Hobby Lab	0
Impulse Aero	0
JD Cluster	0
LOC	9
Launch Pad	0
Missile Works	0
MSH	0
NCR	2
Newton 3rd	0
Neubauer	0
PML	12
Performance Rocketry	2
Pratt Hobbies	0
Public Enemy	0
Quest	7
Rocketman	0
Rocket R&D	0
Rocket Teck	0
Rogue Aero	0
Rocket Vision	0
TCB	0
Thoy	4
True Modeler	1
Scratch	58
Shrox	0
Smokin Rockets	0
V.B.	5
Unknown	0
US Rockets	0
Vertical Concepts	0
Weber Eng.	0
Yankee	0
Yo-Yo Dyne	0

148 TOTAL ROCKETS



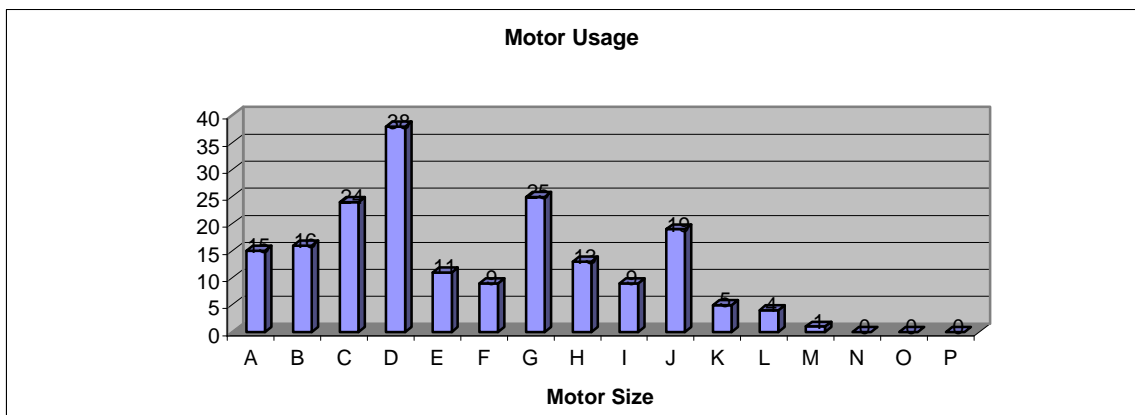
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Flyer		Manufacturer	Model	Motors	Result
Adams	Jeffery	LOC	ISP	G69	
Adams	Jeffery	PML	Amraam 3	I205	
Anthony	Wayne	Scratch	Static Test	J100	
Anthony	Wayne	Scratch	Static Test	J100	
Anthony	Wayne	Scratch	Static Test	H50	
Anthony	Wayne	Scratch	Static Test	J200	
Anthony	Wayne	Scratch	Static Test	J200	
Czebotar	Ethan	Estes	Mack 12	A8	
Czebotar	Ethan	Estes	Mack 12	C6	
Czebotar	Ethan	Scratch	Z5	"D12,D12"	
Czebotar	Ethan	Estes	Patriot	C6	
Czebotar	Ethan	Scratch	Pringles	E12	
Davis	Glenn	Scratch	Glad-He-Ator	H220	
Gilliand	Kathy	Estes	Pink Mamma	D12	
Harris	Larry	Estes	Pathfinder	D12	
Harris	Larry	Scratch	Checker	H242	
Harris	Richard	Aerotech	Aerouex	G40	
Holmes	Alan	PML	Endeavor	J460	
Jarkey	David	Scratch	Lamp Shade	G64	
Jarkey	David	Aerotech	HV Arcas	G64	
Lussier	Robert	LOC	Star Burst	"E30,E30"	
Lussier	Robert	NCR	Viking	"G80,G40,G40"	
Mitchell	Kevin	LOC	Stovi	"D12,D12,D12,D12,D12,D12"	
O'Connor	Aiclen	Estes	U.S. Patriot	C6	
O'Connor	Mike	LOC	Blood Shot	D12	
O'Connor	Mike	Estes	CC Express	"C11, D12"	
O'Connor	Mike	Fliskits	Spitfire	D12	
O'Connor	Mike	Estes	Blue Ninja	D12	
O'Connor	Sean	Estes	Fat Boy	C6	
O'Connor	Sean	Estes	Mean Machine	D12	
O'Sullivan	Jerry	Scratch	Nike Smoke	L3000	
Ritz	John	Scratch	Fluttering Height	K1000	skidmark
Sarkey	David	Scratch	Maple Seed	A3	
Truitt	Norwood	Scratch	Trailblazer	"I195,G35,G35,G40"	
Truitt	Norwood	Scratch	strobee 1500	"J350,G35,G35"	
Wadsley	Brian	Scratch	Sidewinder	J350	*Cert 2*
Wadsley	Brian	Scratch	Sidewinder	J350	*Cert 2*
Wallace	Fred	Scratch	Mag-It	I300	
Wallace	Nelson	Aerotech	Phobos	G64	
Welch	James	Estes	Gemini DC	B6	
Welch	James	Estes	Sky Winder	B6	
Welch	James	Estes	Sky Winder	C6	
Welch	James	Estes	Alpha III	B6	
Welch	James	Estes	Gemini DC	B6	
Welch	James	Estes	Gemini DC	DB6	
Welch	James	Estes	Sky Winder	B6	
Welch	James	Estes	Alpha III	G64	
Welch	James	Estes	Alpha III	C6	
Welch	James	Estes	Alpha III	D13	
Welch	James	Estes	Alpha III	D13	
Welch	James	Estes	Alpha III	B6	
Welch	James	Estes	Alpha III	B6	
Williams	Ben	Estes	Black Knight	B6	
Williams	Joe	Estes	Blue	A3	
Williams	Jonathon	Scratch	Atron	A8	
Woods	Joe	Estes	The Ghost	A8	
Woods	Joe	Estes	The Mime	A8	
Woods	Melissa	Estes	Mongoose	C6	
Woods	Nate	Scratch	Shockwave	C6	
Woods	Nate	Estes	Shockwave	C6	
Woods	Steve	Estes	The Ghost	B6	
8-Aug					
Abogal	Desra	Estes	Viking	B4	
Asher		Scratch	Yu-gi-oh	A8	
Brad	Bobby	Estes	Cosmic Cobra	C6	
Braden	Bobby	Scratch	Purple Cat	A10	
Braden	Bobby	Estes	Shuttle Express	C6	
Branche	Scott	Scratch	Delta 3	"D12,E9"	

Flyer		Manufacturer	Model	Motors	Result
Branche	Scott	Scratch	Proteus	D12	
Branche	Scott	Scratch	Proteus III	"D12,D12"	
Branche	Scott	Scratch	Delta 3	"D12,E9"	
Brown	Bill	PML	Mini BBX	H180	
Brown	Bill	Scratch	Frost Bite	J350	
Bullis	David	LOC	Glorious Aboundous	J120	
Byron	Chris	Scratch	Eagle One	G35	
Cameron	Douglas	Performance Rocketry	Concept III	J570	
Cox	Jim	Estes	Strom Caster	F39	
D'Addio	John	Estes	Phoenix	E15	
D'Addio	John	Apogee	Aspire	D12	
D'Addio	John	Scratch	No Name	D12	
Davidson	Bill	PML	Pteredactyc	G69	
Davis	Glenn	Scratch	Arrow Bix	L1100	
Davis	Glenn	Scratch	Bit's & Pieces	H165	
DeBey	Mike	Estes	Big Daddy	D12	
DeBey	Mike	Estes	Big Daddy	E18	
DeBey	Mike	Scratch	Bohica	G35	
DeBey	Mike	Scratch	Bohica	F40	
DeBey	Nick	Scratch	Razor	B6	
DeBey	Nick	Estes	Razor	B6	
DeBey	Nick	Scratch	Razor	C6	
DeBey	Nick	Scratch	Razor	A8	
DeBey	Zack	Estes	American Flag	A8	
DeBey	Zack	Estes	Zacks Rocket	C6	
DeBey	Zack	Estes	American Flag	A8	
DeBey	Zack	Estes	American Flag	A8	
DeBey	Zack	Estes	American Flag	C6	
Deschenes	Alex	Scratch	Maudite	H153	*Cert 1*
Deschenes	Alex	Scratch	TFM 2.0	I205	
Freimayer	Anjelica	Scratch	Goony Bird	F40	
Freimayer	Anjelica	Estes	Comanche	"D12,C6,C6"	
Freimayer	Anjelica	Estes	Big Daddy	C6	
Freimayer	Anjelica	Estes	Mercury Redstone	E11	
Freimayer	Anjelica	Estes	Big Daddy	"D12,D12,D12 "	
Freimayer	Anjelica	Estes	Yellow Jacket	C6	
Freimayer	Anjelica	Estes	Big Dawg	C6	
Freimayer	Rob	NCR	Big Brute	G64	
Freimayer	Rob	Estes	CBU-87	D13	
Freimayer	Rob	Estes	Silver Comet	E18	
Freimayer	Rob	Estes	Black Brant	D12	
Gilliand	Kathy/Terri	Estes	Pink Impulse	"D12,D12"	
Glenn	Davis	Scratch	Static Test	J200	Tiger Tail
Gramick	John	Public Enemy	Amraam 2	F50	
Gramick	John	NCR	Eliminator	G35	
Gramick	John	Public Enemy	SS Arrow	G35	
Gramick	John	LOC	Onyx	F25	
Hartley	Chuck	Quest	Falcon	C6	
Hartley	Chuck	PML	IO	H238	
Hornberger	Mark	Aerotech	Arreaux	F20	
Hornberger	Mark	LOC	Hi Tech 45	G69	
Jockle	Adam	Estes	The Skull	"C6,C6"	
Jockle	Adam	Estes	Renegade	C6	
Jockle	Adam	Estes	Screamer	D12	
Jockle	Adam	Estes	Comanche	"D12,C6,B6"	
Jockle	Adam	Estes	Comanche	C6	
Kuehrmann	Bill	PML	Explorer	"G80,G40,G40"	
Kuehrmann	Bill	PML	Small Endeavour	G40	
Kuehrmann	Bill	PML	Small Endeavour	G80	
Kuehrmann	Gina	Estes	Maxi-Alpha3	D12	
Kuehrmann	Gina	Estes	V2	D12	
Kuehrmann	Gina	Scratch	Astrobee 1500	D12	
MacDonald	Tom	Rocket R&D	ASP	J330	
McCluskey	Scott	Scratch	Forte	J415	
McGilvray	Neil	Scratch	Slam Dance	K1000	
McGilvray	Neil	Scratch	Cold Comfort	K500	
Newport	Curt	Scratch	Proteus III	L1000	BMW Whiteload
Olson	Dave	Aerotech	Initiator	G35	
Olson	Dave	PML	Nimbus	I287	

Flyer		Manufacturer	Model	Motors	Result
Olsen	Nicolette	Scratch	Green Jet	A2	
Olsen	Nicolette	Scratch	Purple Cat	A2	
Olsen	Nicolette	Estes	Comic Cobra	B4	
Olsen	Nicolette	Estes	Shuttle Xpress	B4	
Olsen	Nicolette	Estes	Sky Winder	C5	
Olsen	Nicolette	Estes	Sky Winder	C6	
Olsen	Nicolette	Estes	Green Jet	A10	
Olsen	Nicolette	Aerotech	Air Spike	F20	
Ritz	John	Estes	Longone	G70	
Ritz	John	Scratch	Static Test	E20	
Ritz	John	Scratch	Longone	H250	
Rudy	Chuck	Rocket Vision	Mach Buster	G55	
Rudy	Chuck	Scratch	No Name	G69	
Rudy	Chuck	LOC	Suspicion of Ignorance	H242	
Rudy	Chuck	Binder	Suspicion of Extreme Ignorance		I284
Schumacher	Fred	Yo-Yo	Nasty Habit	K700	BMW
Schworer/O'Sullivan	Bill/Jerry	Performance Rocketry	Concept 98	J860	Loki
Schworer/O'Sullivan	Bill/Jerry	Performance Rocketry	Concept 98	J800	
Sorrentino	Joe	LOC	Rocket J. Squerl	G64	
Sorrentino	Joe	LOC	Aura	F40	
Thesing	Eric	Aerotech	Blue Gue	G20	
Tyrrell	Scott	Scratch	Flipper Two	"I366,J400"	
Utley	Bob	Scratch	Sky In my Eye	M2000	BMW Whiteload
Wadsley	Brain	Scratch	3rd times a charm	J350	*Cert 2* YEA.....
Wadsley	Brain	Scratch	Late for Lunch	H128	
Wadsley	Brian	Scratch	Spare Parts	F62	
Wadsley	Brian	PML	Patriot	H123	
Wallace	Fred	Scratch	Formerly Known as Barney	L1100	
Wallace	Nelson	PML	Amram	J345	
Wallace	Nelson	LOC	Buser EXP	K700	
Wallace	Nelson	Aerotech	Marage-D	H128	
Wiater	Eric	Estes	Blue Ninja	D12	
Wiater	Eric	Estes	Pheonix	D12	
Wiater	Eric	Estes	LSX	C6	
Wiater	Eric	Estes	Blue Ninja	D12	
Wiater	Eric	Scratch	Eric's Big Boy	I154	
Wiater	Ray	PML	Bull Puppy	H135	
Wiater	Tyler	Estes	Blue Ninja	D12	
Wiater	Tyler	Estes	Stormcastor	D12	
Wiater	Tyler	Estes	Blue Ninja	D12	
Wiater	Tyler	Estes	Strom Caster	D12	
Wiater	Tyler	Estes	Maniac	D12	
Wiater	Tyler	Estes	Stormcastor	D12	
Williams	Jim	Quest	Renegade	C6	
Williams	Steve	Estes	The Ghost	C6	
Williams	Tristan	Estes	Mongoose	C6	
Willis	T	Estes	No Name	E9	
Willis	T.	Estes	V2	E9	
Woods	Nate	Estes	Shockwave	C5	
Zupnyk	Larry	Scratch	Pudle Phathom	I200	



A	15	37.5
B	16	80
C	24	240
D	38	760
E	11	440
F	9	720
G	25	4000
H	13	4160
I	9	5760
J	19	24320
K	5	12800
L	4	20480
M	1	10240
N	0	0
O	0	0
P	0	0
189	TOTAL MOTORS	84037.5 NEWTON/SECONDS

Alien	0
Atlantic	0
Aerotech	8
Apogee	1
Art Applewhite	0
Binder	1
BSD	0
Centuri	0
Cluster R	0
Custom Rockets	0
Cosmo Drome Rocketry	0
Dynacom	0
Edmonds	0
Estes	81
Fliskits	1
Giant Leap	0
Hawk Mountain	0
High Flight Tech	0
Hobby Lab	0
Impulse Aero	0
JD Cluster	0
LOC	11
Launch Pad	0
Missile Works	0
MSH	0
NCR	3
Newton 3rd	0
Neubauer	0
PML	12
Performance Rocketry	3
Pratt Hobbies	0
Public Enemy	2
Quest	2
Rocketman	0
Rocket R&D	1
Rocket Teck	0
Rogue Aero	0
Rocket Vision	1
TCB	0
Thoy	0
True Modeler	0
Scratch	58
Shrox	0
Smokin Rockets	0
V.B.	0
Unknown	0
US Rockets	0
Vertical Concepts	0
Weber Eng.	0
Yankee	0
Yo-Yo Dyne	1
186	TOTAL ROCKETS

Space Facts:

Kathryn C. Thornton logged the most space time for any women in the 20th century with over 21 hours in 3 space-walks.

Last Page Funny



Bill Schworer is taking order on this beauty. With his connections in the government he offers top quality mil spec parts.

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