



M.D.R.A. Report

Volume 6, Number 6



Cover: Dave Weber rocket Super Tuber.
Photo by John Ritz.

Editor's Corner :

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Editor Bob Utley

Christmas is that time of year we like to give, well, ok, maybe receive. Either way if you give you will receive, it just works that way.

That leads to, yes, you should give to the club at launches. Setting up, taking down is getting better every launch and we are getting it done much faster. We still need to have some more members help out with Pad Managing and RSO. If we don't get help Pad Managing then it takes it's toll on the equipment. Moving wires on top of the blast shield tends to burn up the wires. Moving cables so they don't following the pad numbers and the LCO launches the wrong rocket.

The RSO gets to meet most all the fliers and see how they put their rockets together. It's a great place to learn names, and get ideas for your bigger and better rockets. It's easy to do and comes with a chair most of the time.

Were looking for a 1 or 2 hours of your time and doing it once per launch is not that much to ask. In the next couple of weeks or before the end of January, I hope to have a web page so we can list what time slots for each are open. We would like to have them filled up before the start of the launch. Think about it. And while your doing that, consider this, what would you do if Neil could not make it to the launch, who would do the LCO? What if I couldn't make it, who would hook the electronics? None of this is hard but its important that more members know the workings of their club equipment. You members paid for it, you should get to know it. With the size of our club half should know most of it.

So ask if you can help or just pitch in, we won't bite, most of us won't anyhow....

Oh,yea with all the money you got for Christmas, buy some more MDRA shirts and hats.

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

ESL #67 Higgs Farm 11/8 & 11/9

The fall season is finally upon us. After a great summer season of flying on the Central Sod Farm, it is time to really spread our wings as we find ourselves back on Higgs Farm for another fun filled big field season of smoke and fire. Our thanks go out to Tommy Higgs and his family for making this all possible. We always talk about the negative influences that affect our hobby and it is nice to mention one of truly positive influences. Tommy Higgs is surely one of the positive influences. Thank you many times over Tommy! The weather was typical fall Eastern Shore, a little bit of wind, a little bit of cloud cover and a whole lot smokey streaks in the sky.

Jeff Adams launched his Caliber ISP containing a H-153 and two G-69's. Dave Bathras punched a hole in the sky with his 6" Up Scale Strong Arm. This is one mean looking machine. Especially rising over the Eastern Shore of Maryland on what is now Daves (stolen from Sean McAndrew) Medieval Motor Works trademark sparky propellant in the L-950 flavor. Awesome fire, smoke and noise from this motor providing for a fantastic flight and recovery. Bill Brown had his Red Dragon and Sub Zero in action on G and H power. Bruce Canino stayed on the mat with two flights of his Sumo. Glenn Davis proved that sometimes twice is a charm as he inched another rung up the certification ladder with completion of his level II. Congratulations Glenn. The big boy motors are just around the corner. Angelica and Rob Friemayer combined for four flights in the A to F range.

Mike Harris got in two flights. One on his Bull Puppy on a G-75 and another on his Periwinkle powered by a J-140. Richard Hickok flew three times with his Vigilante, acrid AA6 and his Red Fox. Tom Hier busted off his now well worn Nike Smoke on a K-560 for a nice flight. Bob Lussier had his High Tech 45 in high gear with G-79 power. Scott McCluskey launched his scale RIM 67 on a BMW L-1000 white load for a scale flight. When the rocket left the pad and slightly weather cocked it looked like videos showing the real deal leaving the ship on it's way to teach someone or something a lesson they will never forget. I am sure this

is a flight Scott will never forget. Even more so since he actually got the rocket back on the same day in relatively good condition. Curt Newport was test flying his Proteus I rocket on G-79 and H-143 power for upcoming Level II attempt. Eric Oldale flew his D powered Blue Ninja. John Ritz got in three flights with his TB 1, TB 2 and Greenie. All the flights were great but I do have one question, is TB short for two bellies? Joe Ruzzi had his groove on with Groove Tube on a G-35. Allie and dad Kevin Scrimgeour combined for eleven flights utilizing power plants spanning the C to G range. Ross Sorci had the blue Ninja air bound on a D-12.

Jeff "Mr. Loki Research" Taylor might consider changing the name of the company to "Loki Need To Search". Jeff flew an experimental concept motor that had no nozzle. Jeff had cast a propellant nozzle into the bottom grain that would erode and expand its diameter as the motor burned to control the KN. What ever that means to anyone, bottom line is it worked. The rocket tore off the pad like a raped ape and flew out of site. The rocket was recovered the next day pretty much in tact. It will save Jeff from needing to clean that pesky casing as just about everything was blown out the back end. Nelson Wallace got in three flights on his I-205 powered Endeavor, G-64 powered Phobos and Mirage-D. Dave Weber blew the crowd, (and almost his rocket), away with the Dave Bathras – Medieval Motor Works M-2400 sparky load. Daves Super Tuber rocket weighs in at over 80 pound and the way this thing took off you would think that it weighed 80 ounces. The big orange and green rocket tore off the pad on a huge trail of golden sparks and black smoke, not to even mention the thunderous roar that these motors produce. Very nice work to both the Daves.

Sunday was to be the better of the two days for flying. The winds were lower and the temperature was quite pleasant. The sky above Higgs Farm would be alive with sound and smell of lots of AP being burned. Jeff Adams had his I-205 powered Amraam in action. Dave Bathras had more titanium he needed to burn and what better way than to mold it into a M-2100 sparky motor and fly it in his 7.5" Up Scale Strong Arm. Makes sense to me, but what do I

know? Once again all eyes were on the away cell when this beast roared to life and clawed its way into the sky for a great flight and recovery. It is so nice when a plan comes together. Dave also assisted his two young ones Ashleigh and Noah with their A and C powered projects. They will be catching up to dad real soon. Bill Brown had Sub Zero and the Red Dragon flying again on G and H power. Scott Brown really dug deep into his pocket for three flights. IO on a J-400 and two K-700 flights with Elara. Doug Cameron made the trip down from the city that never sleeps to launch his Nike Smoke on a K-665 for a spectacular flight and recovery.

Bruce Canino wrestled with Sumo on G and H power along with his E-9 powered rocket, which shall remain nameless. Gene Costanza did his best go home rocket less with his flight of Forsaken on L-2000 power. Gene, "What the hell were you thinking?" Forsaken ripped a hole in the sky and disappeared from sight for some time before it was discovered under chute in tact, yet more than a stones throw away. Jeff Davenport was barking with the big dogs also. Jeff launched his 7-Up on a K-750 and his Upper Stage on a J-450 Blue Motor. Glenn Davis had four flights, most notably was his two PAC III flights on BMW K-400 power and a MMW K-400 sparky motor. Mike deBey loaded up the racks twice. Mike flew his Arreaux on a F-25 and then flew his Slippery When Wet on a J-300 BMW White load. The Slippery When Wet is a modified caution cone that you may find in your local super market to warn of the spilt milk on the floor. Actually I think that is where Mike liberated the Cone. The Cone flies surprisingly stable for a nice low, loud and smokey flight. Kathy Gilliland was getting some sun under her chin as she launched Sun Seeker on BMW K-400 white load. Justin Gleiter joined the White Lightning clone parade with his flight of Osprey on his version of a J-850. Yes they make those, at least they do now. Kenny Goduch flew his Air Sorcerer on a B-4. Alan Gorecki, "Mr. Hawk Mountain" flew his Proteus on an Ozark Aerospace N-4000 for an outer sight neck cracking flight. The rocket tore off the pad well into the five digits of the waiver. John Gramick had three flights in the F and G range. Haley Hart got in a B flight. Richard Hickok flew every type of

flying vehicle from rocket-assisted gliders to objects that resembled rockets. Richard powered his creations in the D to F range. Maggie Hier had her Sky dive back in action on B power. Maggie's Dad, Tom Hier had a K-700 providing the muscle for his Nike Smoke flight.

Jack Joseph had the no name rocket in the air with a G-80 in the business end. Kevin Kelly wasn't clowning around when he flew his M&M on a BMW K-1200 White Load. Bill and Gina Krehrmann combined for four flights in the B to G power curve. Alex and Scott Liddell each flew once on C-6 Power. Bob Lussier was thinking big when he launched his Magnum on a J-295 for a nice flight and recovery. Sean McCorkle had his warlock cranking on an almost extinct J-350. Neil McGilvray flew the 100-pound rancor on a Big Boy Pants Blue N-2500 for a nice high flight and I am proud to say that the chutes were even used for their intended purposes. Glenn McNemar busted off his No Name rocket on a J-280. Joseph Nicolas launched his Multi Stance on a combination D-12' s and B-6's for an interesting flight.

Rick Oasen got in two flights. Rick had his Lilac Time working on F power and his Popper Pride ripping on a J-285. Jerry O'Sullivan got in two flights and both were spectacular. One of the flights was Jerry's 12" diameter Nike Smoke powered by three BMW White M-2800's that combined for Newton Seconds well into the O range. The 160-pound rocket took off like a shot, straight and true on a huge trail of white smoke and fire. There was an increase to the pucker factor at apogee when the rocket went into a 12 second flat spin before the drogue was released. The rest of the flight and the AARD recover device worked as advertised and the rocket landed not far from the pit area. Jerry Also flew his Ntropy on a sparky M-1000 motor. This rocket contained a down looking camera that captured some great video of the golden flame ascending away from mother earth. Kenny Paduch got in two B and C powered flights. Mark Polansky cranked up the jams with his flight of his Nike Hercules on a J-420 and his flight of his Endeavor on a K-1100. I thought these motors went the way of the dinosaur? Ted Proceus had art imitating life with his orange flame J-300 pushing his rocket called Orange Crush. I

use to have a rocket called Orange Crush, did I ever tell you all about it? Steve Reeves was moving his Amraam in an upward direction on a G-38. John Ritz had his Thoy Falcon heading north on both J-300 and K-650 Mild Blue motors of his own making. Eric Roberts flew twice and probably wishes it was only once as he trashed his beautifully finished NCR Archer on a H-128 and had better success on his f-38 powered Big Daddy. Rob Roberts emerged from his home brew laboratory to launch his sugar powered rocket call Sugar Rush. Rob concocted a G-127 sugar based motor that really got the rocket moving. Rob also got off his Trouble rocket on a H-135.

Ed Romani had his Red and Black in the air twice, (must be a Johnny Walker fan), on H-100 and H-148 motors of his own hand. Ed also got in a static test of his H-100 motor. Michael Rossbach launched his Ariel on an I-161 and his Phobos on a G-104. Fred Schumacher turned in a spectacular, if not another loosing effort, with his drag race flight against Bob Utley. Bob was flying his Bada Bing and Fred was flying his Over (weight) Kill VI. Both rockets were powered by BMW motors, (who would have guessed?), of the M-2800 variety. The launch was picture perfect with both rockets rising from the pads almost simultaneously on long trails of thick white smoke all the way from the ground to burn out. Fred's rocket was just slightly behind all the way up, but we have come to expect that from Fred. Over Kill and Bada Bing were recovered successfully and we look forward to the next M powered drag race, though Fred claims to have a secret weapon up his sleeve. Fred's son Josh also got in on the action with three flights of Over Kill II on F and G power. Kevin and Allie Scrimgeour once again proved that the family that flies together, lunches lots of rockets. They combined for eight flights; it must have been a slow day, in the C to G motor range. George Sechrist was making long white trails of smoke on his Raising L flight. George did it the old fashion way, he bought the real deal from Aerotech. George had great flight on a L-952 with a perfect recovery. Looks like it is almost time to break out another N motor for that Level 3, George. Ross Sorci had E, G and H motors working for him with his flights of Big Daddy, his Black Brant and the flight of his Caliper.

Jack Stopak did another two D-12 to two B-6 flight of his no name rocket.

Jeff Taylor cracked the sky with his Scorpion on a L-600 for a flight that he got back the same day. I am sure Jeff is thankful for that. Norwood Truitt had Chicken Scratch clucking on a J-650 Pink flame motor. Nelson Wallace had his Ariel in the air with an I-205 providing the ummph! Larry Walz was using I-400 power to overnight his Rocket Express. Colon Wright flew his Black Brant on a D-12. Larry Zupnyk tore a hole in the sky with his K-777 powered Ultra Max Super.

This was a fun weekend of flying and it was great to be back at Higgs Farm again. A few things to keep in mind. We can always use your help with RSO and Pad management during the launch. We are getting more consistent help with the set up and break down and the guys that are pitching in are getting with the program quickly. This is your club and we need your participation not only in the flying aspect of the launch but also to assist with operation. It is a great way to expand your own horizons and to meet the other members of the club. I for one truly enjoy the time I spend performing the LCO duties. I can say for certain when I am waist deep in prepping a rocket I miss most of the flights and there are some spectacular ones that you never see. When you are up performing RSO and Pad Management duties there is a little of you in each flight and you can take a small measure of pride knowing that you helped a fellow Rocketeer get his project in the air. And if he trashes the rocket it was probably his fault anyway. Either way you win, what's not to like about that. So when you hear the call for help, step up to the plate. The people that are currently doing it can serve as your inspiration. If they can do it, surely anyone can. Until next time, fly high and recover low.

Neil McGilvray

ESL #68 Higgs Farm 12/13 & 12/14

It's that time of year again, though it seems that we were just sweating our butts

off at the Sod Farm. Christmas is almost here as is the end of the 2003 flying season. This is the time of year look back and be thankful. If you can read this and even think about looking back that is probably a good thing. As individuals we all had our up's and down's, literally. As a group the MDRA has continued to make huge steps toward national recognition and respect, if not out right envy. We definitely have the best gig in the country and all you have to do is attend a non-MDRA launch to realize that. As we continue to move forward it is important that all of our members understand that MDRA does not exist in a vacuum. MDRA exists because of its members and it exists for its members. Without the attendance and support we get at each launch we would have nothing. Keep this in mind when you attend your next launch. This is your club also; hence it should be your New Years Resolution to get involved in the operation of your club. You don't even have to do the same thing each time. Some days you might be there to set up, others it might be to help break down. Some days you might help out with pad management or RSO duties. The more people that get involved the less time those that do volunteer will have to spend their time making it easy for you to launch your rocket. Remember that the guys and gals that "work" the launch are giving up their launch time so you can get out to the pads.

We will be looking forward to another banner year at all of the MDRA sites. Higgs Farm, The Sod Farm, Rhodesdale and Coverdale all will be active in 2004. Try to get out to all of these fields. Without us regularly using them there exists the possibility of losing them. We need to make sure the Land Owners know we appreciate the use of their fields and there is no better way than to have them see a line of cars, trucks and smiling faces looking skyward at a trail of flame and smoke.

Speaking of trails of flame and smoke. Dave Bathras had his big, 7 ½ " Strong Arm in action at Higgs Farm. Dave powered this big boy with a M-2000 BMW clone of a white lighting clone...what could go wrong? The lift off and the flight were picture perfect. But it goes to show that you can't always judge a book by its cover. The recovery was right on cue but the main was packed so tightly in the deployment bag the

tether that was attached to the nose cone broke loose from the bag. This unfortunate event allowed the bag to remain on the chute, which never deployed. The rocket smashed into the ground, only aided by the drogue, with a resounding thud. The damage may be insurmountable, but I am sure we will be seeing the 7 ½ " StrongArm back in the air soon. Whether or not is powered by the same motor is another story. To add insult to injury Dave experienced some major blistering on the motor casing that will render it useless for future flights. There is always a mountain to climb no matter how well you prep your rocket, it seems.

Jason Beard got in three flights on his Polaris on C-6 Power. Aaron Blizzard demonstrated that "if at first you don't succeed try, try again" Aaron flew his customized Bull Pup on a J-330 for his Level Two Certification attempt. However there was a little too much motor for the canards that caused the rocket to perform a wide spiral during the ascent of the rocket. This resulted in a major zipper on the Quantum Tube airframe, failing the attempt. Aaron had built the rocket in a modular form so it could fly in a couple of different configurations. After some soul and money searching Aaron dug deep into his pockets and bought a second J motor. This time he was successful on J-285 power and can now start looking at that Level Project. Congratulations Aaron.

Bill Brown got in three flights on three different rockets. Bill flew his Sub-Zero on an H-180, Red Dragon on a F-64 and his Last Frontier on an I-435 for a blistering flight. All Bill's rockets returned safe and sound. Bruce Canio launched his Sumo on a H-165. Jeff Davenport busted off his Maxum for a neck cracking flight on a K-600. Glenn Davis got three birds into the air. Glenn flew his Harpoon on an E-28, DBNP (you should all know what this stands for by now) on a G-64 and his PAC III on a BMW (you should all know what this stands for by now also) K-400. Something must be wrong because Glenn got them all back alive. Mike deBey has been moving up in the power ranks, partly in thanks to the specialists at the BMW Laboratories. Mike flew his Stretch Explorer on a BMW J-300 and his Midnight Express on a BMW J-600. Jack Gelfand

took to the air on D-12 and G-64 power in his Scratch built rocket and his Mirage.

Augie Gray made an appearance to launch his Kodiak on K-550 power. As usual Augie got it up on a trail of thick white Aerotech smoke and got it back in one piece. Keith Holt got two unexpected surprises, both on one rock. His appropriately named Katonic Bliss. Due to error at the LCO, (ho is that guy and why does he keep coming back?), Keith's rocket got launched simultaneously with another rocket resulting in what started as an unexpected drag race. Unfortunately for Keith the drag race turned into drag separation or early ejection as the rocket decided to disassemble itself while under power. It rated in the "really cool" flight category. Jeff Hooker was looking skyward three times with his flights of Miranda on a H238, Arcas on a G-35 and his G-Force on a G-35. Kevin Kelly was seeing red as he shot off his M&M on BMW L-1200 red load power. The flight was arrow straight on bright red flame for a nice flight. Neil McGilvray flew the 4" diameter, 16-pound Comfortably Numb to a 7,400 foot altitude at 850 MPH. The rocket looked like it was lost forever until the main deployed at 1,000 feet about a mile away from the C-rack.

Glenn McNemar launched his two stage upscale Thunder and Lighting on a J-450 staging to an I-300. The boost work as advertised, however the second stage refused to light and now Glenn only has buy another booster motor and figure out what went wrong. Curt Newport certified level II on his Proteus II. The Hawk Mountain constructed kit took off like a shot and thankfully the Pro-38 delay element allowed for some high altitude tracking. The rocket arrived safely back on earth for a successful Level II attempt. Congratulations Curt! Joseph Nicholas had his Comet in the air on F-25 power and his Ring Hawk boosted on a C-6. John Ritz was squinting as his KC-1 blasted off on a L-900 and his Falcon tore off the pad on a K-600.

Fred Schumacher unveiled his new rocket "Money Shot" powered by a BMW M-2200 and launched it to over 7,500 feet. The 6" all fiberglass and aluminum rocket roared straight up like it was on a string trailing a huge plume of white smoke and flame. Josh Schumacher was following dad's lead with his Get Up and Go on H-128 power. Jack

Stopak had his Skyline in the air on F-21 power and his no name rocket flying on a F-50. George Tiger got in one flight with his Orange Fury boosted by a H-210 for a nice flight. Bob Utley raised the stakes in his rocket Bada Bing / Bada Boom. Bob finally got to use the 98mm motor mount with a BMW M-2000 white load. The rocket hesitated on the 20-foot tower for a moment as the motor built pressure but Bob's efforts were reward by a nice high flight to over 7,500 feet. All systems were go as the rocket raced to apogee and was recovered intact. Nelson Wallace had his I-420 powered Endeavor flying in a northbound direction with a southbound attitude. Ray Wright got in four flights on his DC-Y on a D-12, Viper IV powered by four D-12's (and they all lit!). Ray also got in a couple of high power flights on his Honest John powered by an I-285 and a J-400. Larry Zupnyk had his Black Widow cranking on an AMW Blue Baboon. The flight worked fine, too bad the end of recovery didn't work out so well. Larry's rocket ended up on the power lines. Luckily for Larry arrangements were made with the local Lineman who took time out of his day to retrieve the rocket.

That wraps up the final launch of 2003. It has been a fast and enjoyable year of MDRA madness. 2004 promises to bring more big projects, more members, more launch dates and the long anticipated Liberty Project launch. So don't touch that dial things are just starting to get good. Until next time fly high and recover low.

Neil McGilvray

Interview: Kathy Gilliland

What project are you working on now?
I'm hoping to build a V-2 sometime soon.

How does your new projects compare to your past projects?
Building bigger and fewer rockets.

Does size matter?
It's not the size, it's the thrust.

When did you first get interested in rockets?
Who's to blame?

Over six years ago, blame Bob.

How does it feel to be one of the few female Level III's?

This hobby definitely needs more estrogen.

You seem to spend a lot of time working the launches; it must be cutting into your flying time.

It does, but I get to meet (harass) a lot of people.

What do you do for a job now?

As treasurer, I handle registration which means I get to harass people and take their money.

How are you able to juggle your work and rocket related activities?

It's not easy, but if I didn't work, I couldn't afford to fly rockets.

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

Couples of hours/week with the bookkeeping and hosting work parties for rocketeers.

Why do you do it, fly rockets that is?

Love the noise and the competition. Don't tell me it's not about competition!

Are you involved in any other non-rocket related activities?

My favorite hobby besides eating, is reading.

How have things changed over the years since you first got involved in this activity?

Six years ago I flew my maniac on an E and that was cool. Dave Young was flying K550's and that was the highlight of each launch. Now it's standard to fly several M's at each launch.

Where do you see things going?

Bigger and better rockets, with bigger and better experimental motors.

What can the male flyers learn from the female perspective?

It's easier to find a pink rocket than a camouflage one.

What do you like best about flying rockets, besides being surrounded by all these hunky guys with six-pack abs? Or is that abs that suffer from too many six packs?

I'm over 29 and single. All the guys look good to me.

Any words of wisdom?

With all this bigger and better stuff we need to keep things SAFE.

From Bob:

Does color really matter?

Absolutely.

What color makes the rocket sound louder or fly higher?

Pink, only because people notice it more.

How many pink motors would you buy?

All of them.

2003 numbers:

In 2003 we had a one weekend launch almost every month. The exception was February and only a Saturday launch in December. We flew 1356 flights with 1411 motors used. According to the flight cards we burned 1,099,350 ns of propellant, which is an S motor. The most used motor is G at 214 flights, followed by F at 184 then C at 176. First place for most flights is Richard Hickok at 58 flights, he would be a great pad manager since he spends more time than most fliers at the pad. Glenn Davis had 42 and his buddy Bill Brown had 40, two more candidates for Pad managers. So another safe year under our belts and more ns than last year, pat yourself on the back, another record breaking year.

Bob Utley

PERFORMANCE HOBBY

<http://www.performancehobbies.com>

Don't forget that I stock "plenty" of Firefly, as well as Daveyfire igniters.

See you at a launch soon!

Phone (202) 723-8257, fax (202) 723-0010.



MDRA "Freedom" t-shirt for the Liberty Project.

NEXT ISSUES:

- More words from Neil.
- Launch report of Jan & Feb.
- Events for March & April.
- Interview with a Famous Flier.



MDRA newly designed hat in two styles of hats.

Keep The Pointy End
up and the Fierly
End down.

D. Bull is

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

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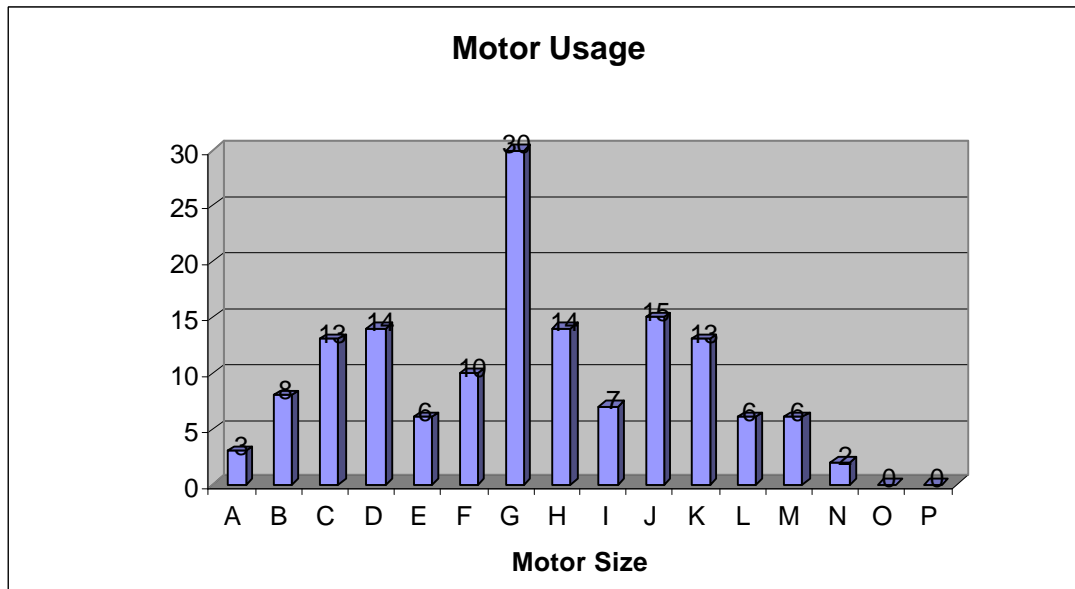
Log November 8-9, 2003 ESL #67

Flyer		Manufacturer	Model	Motors	Result
Adams	Jeffery	LOC	Caliber ISP	"G69, H153"	
Bathras	Dave	Scratch	Strong Arm	L950	Sparky
Brown	Bill	Scratch	Red Dragon	G64	
Brown	Bill	Scratch	Sub-Zero	H180	
Canino	Bruce	Aerotech	Sumo	H238	
Canino	Bruce	Aerotech	Sumo	G38	
Davis	Glenn	Scratch	Pac 3	J285	*Cert 2*
Davis	Glenn	Scratch	Pac 3	J350	*Cert 2*
Davis	Glenn	Scratch	Crack the Sky	G35	
Freimayer	Anjecica	Quest	Galileo	A8	
Freimayer	Anjelica	Estes	FatBoy	B6	
Freimayer	Rob	Estes	X-Flyer	B6	
Freimayer	Rob	Scratch	10.5 saucer	F25	
Harris	Mike	PML	Bullpuppy 2.1	G75	
Harris	Mike	PML	Periwinke	J140	
Hickok	Richard	Shrox	Vigilante	G35	
Hickok	Richard	Scratch	Acrid AA 6	F24	
Hickok	Richard	Scratch	Red Fox	G35	
Hier	Tom	Performance Rocketry	Nike Smoke	K560	
Lussier	Bob	LOC	HiTech 45	G79	
McCluskey	Scott	Scratch	Rim 67	L1000	BMW WL
Newport	Curt	Scratch	Proteus I	H143	
Newport	Curt	Scratch	Proteus I	G79	
Oldale	Eric	Estes	Blue Ninja	D12	
Ritz	John	Scratch	TB2	H130	
Ritz	John	Scratch	Greenie	G80	
Ritz	John	Scratch	TB1	H90	
Ruzzi	Joe	Scratch	Groove Tube	G35	
Scrimgeour	Allie	V.B.	Purple Haze	D21	
Scrimgeour	Allie	Scratch	Sparkel	C6	
Scrimgeour	Allie	Scratch	Sparke	C6	
Scrimgeour	Allie	Scratch	Black Widow	C6	
Scrimgeour	Allie	Scratch	Purple Haze	C7	
Scrimgeour	Allie	Scratch	No Name	D12	
Scrimgeour	Allie	Scratch	Cromo Blue	D12	
Scrimgeour	Allie	Scratch	Black Widow	C6	
Scrimgeour	Kevin	Scratch	Big Red II	G35	
Scrimgeour	Kevin	V.B.	Big Red	E30	
Scrimgeour	Kevin	V.B.	Big Red	E15	
Sorci	Russ	Estes	Blue Ninja	D12	
Taylor	Jeff	Scratch	Zoom	K??	Nozzleless
Wallace	Nelson	Aerotech	Phobes	G64	
Wallace	Nelson	PML	Endeavor	I205	
Wallace	Nelson	Aerotech	Mirage-D	G64	
Weber	David	Weber Eng.	Super Tuber	M2400	
9-Nov					
Adams	Jeff	PML	Amraam	I205	
Bathras	Ashleight	Estes	Purple Haze	A8	
Bathras	Ashleight	Estes	Chrome Dome	A8	
Bathras	David	Scratch	Strong Arm	M2100	Sparky
Bathras	Noah	Estes	Recon	C6	
Bathras	Noah	Estes	Recon	C6	
Brown	Bill	Scratch	Red Dragon	G64	
Brown	Bill	Scratch	Sub-Zero	H180	
Brown	Bill	Scratch	Sub-Zero	H180	
Brown	Scott	Scratch	IO	J400	
Brown	Scott	Scratch	Elara	K700	
Brown	Scott	Scratch	Alra	K700	
Cameron	Doug	Performance Rocketry	Nike Smoke	K665	
Canino	Bruce	Aerotech	Sumo	G40	
Canino	Bruce	Scratch	No Name	E9	
Canino	Bruce	Aerotech	Sumo	H165	
Costanza	Gene	Scratch	Forsaken	L2000	
Davenport	Jeff	Scratch	7-UP	K750	
Davenport	Jeff	Scratch	Upper Stage	J450	blue
Davis	Glenn	Scratch	Drunk Bob No Pants	G64	
Davis	Glenn	Aerotech	Broken Arm	G35	
Davis	Glenn	Scratch	Pac 3	K400	

Flyer		Manufacturer	Model	Motors	Result
Davis	Glenn	Scratch	Pac 3	K400	Sparky
deBey	Mike	Scratch	Slippery When Wet	J300	BMW WL
deBey	Mike	Aerotech	Arreaux	F25	
Gilliand	Kathy	Scratch	Sun Seeker	K400	BMW WL
Gleiter	Justin	Scratch	Osprey	J850	WL
Goduch	Kenny	Scratch	Air Sorcerer	B4	
Gorechi	Alan	Hawk Mountain	Proteus	N4000	Darren Blue
Gramick	John	NCR	Big Brute	G80	
Gramick	John	NCR	Elimator	G35	
Gramick	John	Binder	Stealth	F50	
Hart	Haley	Estes	The Basher	C6	
Hickok	Richard	Edmonds	DJ Thunder	D12	
Hickok	Richard	Estes	Phoenix	E11	
Hickok	Richard	Estes	Phoenix	F24	
Hickok	Richard	Scratch	Sea Skua	F21	
Hier	Maggy	Estes	Skydive	B6	
Hier	Maggy	Estes	Skydive	B6	
Hier	Tom	Performance Rocketry	Nike Smoke	L700	
Joseph	Jack	Scratch	No Name	G80	
Kelly	Kevin	Scratch	M&M	K1200	BMW WL
Kuehrmann	Bill	Scratch	Astrobee 1500	D12	
Kuehrmann	Bill	PML	Explorer	G40	
Kuehrmann	Gina	Estes	Maxi-Alpha 3	D12	
Kuehrmann	Gina	Estes	Fat Boy	C6	
Liddell	Alex	Estes	Speeding Eagle	C6	
Liddell	Scott	Estes	Maxtrax	C6	
Lussier	Bob	LOC	Magnum	J295	
McCorkle	Sean	LOC	Warlok	I350	
McGilvray	Neil	Scratch	Rancor	N2500	Big Boy Pants Blue
McNemar	Glenn	Scratch	No Name	J280	
Nicholas	Joseph	Scratch	Multi-Stage	"D12,D12,B6,B6"	
Oasen	Rick	LOC	Liliac Time	F39	
Oasen	Rick	PML	Popper's Pride	J285	
O'Sullvian	Jerry	Scratch	Nike Smoke	"M2800, M2800, M2800"	BMW WL
O'Sullvian	Jerry	Scratch	Entrape	M1000	Sparky
Paduch	Kenny	Estes	TransWing Glider	C5	
Paduch	Kenny	Estes	Meteor Masher	B6	
Polansky	Mark	Scratch	Endevour	K1100	
Polansky	Mark	Scratch	Nike Hercules	J420	
Proseus	Ted	Scratch	Orange Crush	J300	orange
Reeves	Steve	PML	Amraam	G38	
Ritz	John	Thoy	Falcon	K650	Mild Blue
Ritz	John	Thoy	Falcon	J300	Mild Blue
Roberts	Eric	NCR	Archer	H128	
Roberts	Eric	Estes	Big Daddy	F38	
Roberts	Rob	Scratch	Sugar Rush	G127	
Roberts	Rob	Scratch	Trouble	H135	
Romani	Ed	Scratch	Black & Red	H148	
Romani	Ed	Scratch	Black & red	I100	
Romani	Ed	Scratch	Static Test	H100	
Rossbach	Michael	PML	Aviel	I161	
Rossbach	Michael	PML	Phobos	G104	
Rossbach	Michael	Scratch	Nike Smoke	G80	
Schumacher	Fred	Yo-Yo	Overkill 2	F20	
Schumacher	Fred	Yo-Yo	Overkill 6	M2800	BMW WL
Schumacher	John	Yo-Yo	Overkill 2	F20	
Schumacher	Josh	Yo-Yo	Overkill 2	G40	
Scrimgeour	Allie	Scratch	Cromatic Blue	D12	
Scrimgeour	Allie	Scratch	Black Widow	C6	
Scrimgeour	Allie	Scratch	Cromatic Blue	D12	
Scrimgeour	Allie	V.B.	Purple N Gold	D12	
Scrimgeour	Allie	Scratch	Cromatic Blue	E30	
Scrimgeour	Kevin	Aerotech	Stars & Stripes	G35	
Scrimgeour	Kevin	Scratch	The Boob Tube	J285	
Scrimgeour	Kevin	LOC	Red & Gold	G80	
Sechrist	George	Scratch	Raising L	L952	
Sorci	Ross	Estes	Big Daddy	E18	
Sorci	Ross	PML	Black Brant	G80	
Sorci	Ross	LOC	Claiber	H148	

Flyer	Manufacturer	Model	Motors	Result
Stopak	Jack	Scratch	No Name	"D12,D12,B6,B6"
Taylor	Jeff	Scratch	Scorpion	L600
Truitt	Norwood	Scratch	Chicken Scratch	J650 Pink
Utley	Bob	Scratch	"Bada Bing,Baba Boom"	M2100 BMW WL
Wallace	Nelson	PML	Ariel	I205
Walz	Larry	Scratch	Rocket Express	I400
Wright	Colon	Estes	Black Brandt	D12
Zupynk	Larry	Scratch	Ulmax Super	K777

A	3	7.5
B	8	40
C	14	280
E	6	240
F	10	800
G	30	4800
H	14	4480
I	7	4480
J	15	19200
K	13	33280
L	6	30720
M	6	61440
N	2	40960
O	0	0
P	0	0
147	TOTAL MOTORS	200857.5 NEWTON/SECONDS



Alien	0
Atlantic	0
Aerotech	9
Apogee	0
Art Applewhite	0
Binder	1
BSD	0
Centuri	0
Cluster R	0
Custom Rockets	0
Cosmo Drome Rocketry	0
Dynacom	0
Edmonds	1
Estes	22
Fliskits	0
Giant Leap	0
Hawk Mountain	1
High Flight Tech	0
Hobby Lab	0
Impulse Aero	0
JD Cluster	0
LOC	7
Launch Pad	0
Missile Works	0
MSH	0
NCR	3
Newton 3rd	0
Neubauer	0
PML	11
Performance Rockerty	3
Pratt Hobbies	0
Public Enemy	0
Quest	1
Rocketman	0
Rocket R&D	0
Rocket Teck	0
Rogue Aero	0
Rocket Vision	0
TCB	0
Thoy	2
True Modeler	0
Scratch	73
Shrox	1
Smokin Rockets	0
V.B.	4
Unknown	0
US Rockets	0
Vertical Concepts	0
Weber Eng.	1
Yankee	0
Yo-Yo Dyne	4

144 TOTAL ROCKETS

Log December 13-14, 2003 ESL #68

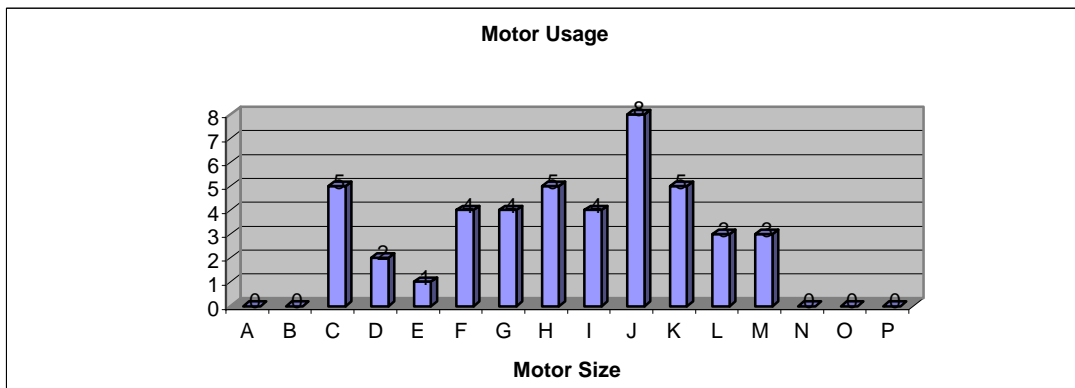
Flyer		Manufacturer	Model	Motors	Result
Bathras	David	Scratch	Strong Arm 7.5	M2000	BMW WL
Beard	Jason	Estes	Polaris	C6	
Beard	Jason	Estes	Polaris	C6	
Beard	Jason	Estes	Polaris	C6	
Blizzard	Aaron	Scratch	Bull Pup	J330	*Cert 2*
Blizzard	Aaron	Scratch	Bull Pup	J285	*Cert 2*
Brown	Bill	Scratch	Red Dragon	F64	
Brown	Bill	Scratch	Sub-Zero	H180	
Brown	Bill	Scratch	The Last Fronter	I435	
Canino	Bruce	Aerotech	Sumo	H165	
Davenport	Jeft	Scratch	Maxum	K600	
Davis	Glenn	Scratch	Harpoon	E28	
Davis	Glenn	Scratch	Patriot PAC 3	K400	BMW
Davis	Glenn	Scratch	DBNP	G64	
deBey	Mike	PML	Stretch Explorer	J300	Spark MMW
deBey	Mike	Scratch	Midnight Express	J600	BMW Blue
Gelfand	Jack	Estes	Scratch Built	D12	
Gelfand	Jack	Aerotech	Mirage	G64	
Gray	Augie	Scratch	Kodiak	K550	
Holt	Keith	Scratch	Kaotic Bliss	J300	
Hooker	Jeff	PML	Miranda	H238	
Hooker	Jeff	Aerotech	Arcas	G35	
Hooker	Jeff	Aerotech	G-Force	G35	
Kelly	Kevin	Scratch	M&M	L1200	BMW Red
McGilvray	Neil	Scratch	Comfortably Numb	L1120	
McNemar	Glenn	Scratch	Upscale Thunder N Lighting	"J450,I300"	
Newport	Curt	Scratch	Proteus II	J285	*Cert 2*
Nicholas	Joseph	Scratch	Comet	F25	
Nicholas	Joseph	Scratch	Ring Hawk	C6	
Ritz	John	Scratch	KC-1	L900	yellow
Ritz	John	Thoy	Falcon	K600	yellow
Schumacher	Fred	Yo-Yo	Money Shot	M2200	BMW WL
Schumacher	Josh	Scratch	Get up and Go	H128	
Stopak	Jack	Scratch	Skyline	F21	
Stopak	Jack	Scratch	no name	F50	
Tiger	George	Scratch	Orange Fury	H210	
Utley	Bob	Scratch	"Bada Bing,Bada Boom"	M2000	BMW WL
Wallace	Nelson	LOC	Endeavor	I420	
Wright	Ray	Public Enemy	Honest John	I285	
Wright	Ray	Quest	DC-Y	C6	
Wright	Ray	LOC	Viper IV	"D12,D12,D12,D12"	
Wright	Ray	Public Enemy	Honest John	J400	
Zyphic	Larry	Scratch	Black Widow	K400	Monkey Motor

A	0	0
B	0	0
C	5	50
D	2	40
E	1	40
F	4	320
G	4	640
H	5	1600
I	4	2560
J	8	10240
K	5	12800
L	3	15360
M	3	30720
N	0	0
O	0	0
P	0	0

44 TOTAL MOTORS 74370 NEWTON/SECONDS

Alien	0
Atlantic	0
Aerotech	4
Apogee	0
Art Applewhite	0
Binder	0
BSD	0
Centuri	0
Cluster R	0
Custom Rockets	0
Cosmo Drome Rocketry	0
Dynacom	0
Edmonds	0
Estes	4
Fliskits	0
Giant Leap	0
Hawk Mountain	0
High Flight Tech	0
Hobby Lab	0
Impulse Aero	0
JD Cluster	0
LOC	2
Launch Pad	0
Missile Works	0
MSH	0
NCR	0
Newton 3rd	0
Neubauer	0
PML	2
Performance Rockerty	0
Pratt Hobbies	0
Public Enemy	2
Quest	1
Rocketman	0
Rocket R&D	0
Rocket Teck	0
Rogue Aero	0
Rocket Vision	0
TCB	0
Thoy	1
True Modeler	0
Scratch	26
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

43 TOTAL ROCKETS





©C. Newport 2003
Curt Newport L2 rocket Flight



©M. deBey 2003
Mike deBey's Slippery when wet rocket.



©M. deBey 2003
Bob Utley & Fred Schumacher Drag race



©J. Ritz 2003
John Ritz's rocket on his blue load.

January 2004

Rocket Events

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday																																																																																				
<table border="1"> <caption>December 3</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>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td></tr> <tr><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td></tr> <tr><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td><td>19</td><td>20</td></tr> <tr><td>21</td><td>22</td><td>23</td><td>24</td><td>25</td><td>26</td><td>27</td></tr> <tr><td>28</td><td>29</td><td>30</td><td>31</td><td></td><td></td><td></td></tr> </table> <table border="1"> <caption>February 4</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></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	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							1 New Year's Day	2	3 Battle Park Launch
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February 2004

Rocket Events

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8 MDRA Launch Orangeburg Launch	9	10	11	12 Lincoln's Birthday	13	14 Valentine's Day																																																																																																		
15	16 President's Day	17	18	19 MDRA Club Meeting	20	21																																																																																																		
22 Washington's Birthday	23	24	25	26	27	28 Whitakers Sport Launch																																																																																																		
29 Whitakers EX Launch	<table style="margin: auto; border-collapse: collapse;"> <tr> <th colspan="7" style="text-align: center; border-bottom: 1px solid black;">January</th> </tr> <tr> <th style="text-align: center;">S</th> <th style="text-align: center;">M</th> <th style="text-align: center;">T</th> <th style="text-align: center;">W</th> <th style="text-align: center;">T</th> <th style="text-align: center;">F</th> <th style="text-align: center;">S</th> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">3</td> </tr> <tr> <td style="text-align: center;">4</td> <td style="text-align: center;">5</td> <td style="text-align: center;">6</td> <td style="text-align: center;">7</td> <td style="text-align: center;">8</td> <td style="text-align: center;">9</td> <td style="text-align: center;">10</td> </tr> <tr> <td style="text-align: center;">11</td> <td style="text-align: center;">12</td> <td style="text-align: center;">13</td> <td style="text-align: center;">14</td> <td style="text-align: center;">15</td> <td style="text-align: center;">16</td> <td style="text-align: center;">17</td> </tr> <tr> <td style="text-align: center;">18</td> <td style="text-align: center;">19</td> <td style="text-align: center;">20</td> <td style="text-align: center;">21</td> <td style="text-align: center;">22</td> <td style="text-align: center;">23</td> <td style="text-align: center;">24</td> </tr> <tr> <td style="text-align: center;">25</td> <td style="text-align: center;">26</td> <td style="text-align: center;">27</td> <td style="text-align: center;">28</td> <td style="text-align: center;">29</td> <td style="text-align: center;">30</td> <td style="text-align: center;">31</td> </tr> </table> <table style="margin: auto; border-collapse: collapse; margin-left: 20px;"> <tr> <th colspan="7" style="text-align: center; border-bottom: 1px solid black;">March</th> </tr> <tr> <th style="text-align: center;">S</th> <th style="text-align: center;">M</th> <th style="text-align: center;">T</th> <th style="text-align: center;">W</th> <th style="text-align: center;">T</th> <th style="text-align: center;">F</th> <th style="text-align: center;">S</th> </tr> <tr> <td></td> <td></td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">3</td> <td style="text-align: center;">4</td> <td style="text-align: center;">5</td> </tr> <tr> <td style="text-align: center;">6</td> <td style="text-align: center;">7</td> <td style="text-align: center;">8</td> <td style="text-align: center;">9</td> <td style="text-align: center;">10</td> <td style="text-align: center;">11</td> <td style="text-align: center;">12</td> </tr> <tr> <td style="text-align: center;">13</td> <td style="text-align: center;">14</td> <td style="text-align: center;">15</td> <td style="text-align: center;">16</td> <td style="text-align: center;">17</td> <td style="text-align: center;">18</td> <td style="text-align: center;">19</td> </tr> <tr> <td style="text-align: center;">20</td> <td style="text-align: center;">21</td> <td style="text-align: center;">22</td> <td style="text-align: center;">23</td> <td style="text-align: center;">24</td> <td style="text-align: center;">25</td> <td style="text-align: center;">26</td> </tr> <tr> <td style="text-align: center;">27</td> <td style="text-align: center;">28</td> <td style="text-align: center;">29</td> <td style="text-align: center;">30</td> <td style="text-align: center;">31</td> <td></td> <td></td> </tr> </table>					January							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	March							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			
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Space Facts:

Walter M. Schirra was the only astronaut to fly in Mercury, Gemini and Apollo.

Last Page Funny



Neil McGilvray wanted to find out if he could burn a hole in the forward closure of the motor case. Yep, you can Neil. If you check out the photo pages for DARE 2 you'll see how he did it and how the rocket flew, as expected from Neil, Outstanding job.

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