



Maryland Tripoli Report



Cover: Fred Wallace's Level 3 Rocket "Big Wahoo".

Editor's Corner :

<http://www.erols.com/robertu>

email: robertu@erols.com

Editor Bob Utley

Have any of you noticed that I've been doing the newsletter for over a year now? Did you notice that Neil McGilvray's Level 3 newsletter is in HPR, or that the club's ad's in HPR? Well, if it was not for the members, I would not be doing this. Please give Neil a pat on the back, without his write-ups of the launches this newsletter would be boring.

So NYPower and Orangeburg are over and LDRS is around the corner. Just so you pass the test later, Fred Wallace's Rocket is featured at this years LDRS, so pay attention to LDRS. Good Luck Fred.

I would like to thank Guy DeStafano, Fred Wallace, and the members at Whitaker for their help in this issue.

So on with the good stuff.

Treasurer report:

Treasurer David Weber

May 28, 1999. The bank balance was \$3067.00.

June 10, 1999. The balance was \$3066.00

Meeting summary:

May 28, 1999

Performance Hobbies showed up at 7:45pm.

D. Bullis is working on a summer launch field. If it does get an OK it will be near 301 and 50. The field is not that big and is close to the road.

Aerotech has made an announcement about the 38mm delay liners. They have changed them from the white liner to the red liner, this has caused loads of problems. If you want the new (old) liner, call Aerotech and they will send you the white ones for free.

June 10, 1999

D. Bullis found the nose cone to the J-Turn about 100 yards from 404. It took a plane ride and a GPS to find it in a tree.

Fred Wallace is chairman of the Fund Raiser, you will have to contact him via email or come to the meeting to find out what this is about.

Upcoming launches:

See Calendar at end of newsletter for local launches for July and August 1999.

Launch summary:

ESL # 27

Whitakers 6/26-27

ESL #27

Launch Report for May 15 1999.

To sum it up in one word. WOW! Saturday 5-15-99 was a BIG day for Maryland Tripoli and Daves Heavy Metal Rocket Club. Skies were clear and thank God the range was clear as the envelope was once again pushed to a new limit. Once again the members of Maryland Tripoli showed their resolve to keep moving upward and onward in High Powered Rocketry. In the short time that I have been involved with High Powered Rocketry the evolution has been amazing. Saturday demonstrated yet another quantum leap. Fred Wallace wowed the crowd with his M-2240 Kosdon Level 3 certification flight and Dave Bullis went where no man on the East Coast had gone before with his N-4750 flight. Congratulations to both. Not to mention Dave Weber reaching the century mark with his rocket named Tuber. One Hundred flights on the same rocket are unheard of. Way to go Dave! We were also fortunate enough to catch a glimpse of the seldom seen B-2 Bomber. I guess when you have the ability to carry nuclear weapons that our measly little waiver doesn't mean a whole lot. Regardless, it is a majestic plane and I suppose the only way you are going to see it flying is when it is not dropping bombs on you.

Wrap up on the day is as follows in alphabetical order. Mike Ash and family, Mike Jr. and Victoria, flew 5 rockets. From

the B to H power level. The most notable flight was Mike's determined Level 1 certification flight on his beautiful Gemini Titan on an H-123. Mike finally figured out how to keep the fins, only to have the upper stage parachutes decide to vacate the vehicle with no means of attachment. Patience and determination is a virtue that Mike apparently has plenty of, as he will try again to certify with the Gemini Titan rocket. John Boatwright flew 3 rockets on Saturday. His Green Machine on a G-80, his Double Trouble with two B-6s for double the fun and Goose on an E-30. All the flights were successful and we should be seeing John at the next launch having the same success.

Bob Booker had 3 flights in the lower power range, E to G. Apparently slumming after certifying Level 2. Bob flew his Upscale Rampage, (sounds like an angry rich woman) on a G-64, something scratch built on an E-15 and an Areotech Arcas on an F-25. The Brown family was there in full force flying 5 rockets from the A to G range. Adam had 3 flights, 1 on his Fatboy and two on his powered Asteroid Hunter. Sarah had one flight on her A-10 powered Jinx and Dad Rick flew his Py-R-Gone with a G-35, between RSO duties, for a nice high flight. Ed Brun flew just one rocket on Saturday. He flew his Sod Buster on an I-211 for a nice high and loud flight.

Dave Bullis never one to let an excessively heavy rocket get in the way of climbing a mile into the sky, showed us all how to accomplish the task. Just put a bigger motor in the rocket. And that is just what he did. Saturday was to be the day finally that we were to witness Maryland's first and I know, not last N motor. The motor selected for the flight was a Mitchell 4750 with a full 19,000 NS of power. The motor was to burn for a mere 4 seconds. Quite an amazing feat when you consider the size of the motor. Combine that with a 6" diameter Stainless Steel rocket with a staged weight of 164 pounds and you had a real rocket on your hands. Dave spent most of the day prepping and pondering the flight. The reoccurring question was, "what am I forgetting". As it turned out it wasn't a matter of forgetting but a matter of compensating. The rocket lifted off into the clear Maryland sky at about 7:00 PM right at the end of the waiver after the completion of the Tripoli launch. J-Turn roared off the

tower, arced slightly and then straightened up and rose high and fast on a thick column of white exhaust smoke. The smoke blocked the view of many as the rocket reached apogee.

At apogee is when things really got interesting. Two of the three rather robust apogee charges separated the booster from the payload / parachute section and dislodged the nosecone from the front of the rocket. This caused the main chutes to deploy at apogee and allow the rocket to continue to fly through three 3/16" Vinyl coated stainless cables. The three cables were cut like kite string and the nosecone along with the two 15' military chutes went drifting off over the horizon. The rest of the rocket meanwhile began to accelerate toward its impending date with Mother Earth. Ouch!!!!!!! All that work. It took about an hour and a half to locate the rocket about a mile away from the launch site.

The payload section sustained the most damage as did the attached payload coupler. Plans are now in the works to replace the payload / parachute section and fly J-turn again. The fin section had two fins bent as the rocket came in flat. Dave feels confident the success rate will be 100% next time and he can once again warn people not to try to catch the rocket. The real beauty of this flight is that there was a flight. When you get to the point that you are flying the big rockets it takes a high level of confidence in your own abilities and a great deal of intestinal fortitude for the couple of percent of doubt that remains. Safety was the main consideration, as it always is. But with a flight of this magnitude you have to be extra careful. The unblemished safety record is still intact and we all know that failure must be taken into account because it may just be a countdown away. I could go on about this project but I don't want to steal Dave's thunder.

Ray Carlino had two beautiful flights on his PML Eclipse powered by a J-650, finally a big motor. He also flew his HV Arcas on an H-100 for another great flight. Lino Cristio flew his Initiator twice on an F-25 for a nice high flight. David Crosby gave his 2" Amraam a work out with two flights. One on a G-54 and the second on an H-128, see ya!

Guy DeStefano completed three flights. He flew his scratch built Uncle Sams

Ax, is there a political message here, on an I-284 for a neck cranking flight. He also flew two Thoy products. His Ibis on a G-64 and Peacock on a G-33. Kathy Gilliland was once again showing us that proper color coordination and accessorizing do mix with High Powered Rockets. Kathy made 6 fashion statements on Saturday. She flew her Sun Taxi on an H-240, Initiator on a G-120, V-2 on a D-12 and her Impulse on two D-12s. Kathy also, with some prompting from Bob Utley, flew her Lester Sherman design Sun Seeker on an I-300 for a fast Blue flight. With that success behind her it was time to push the envelope a little further with an Kosdon J-295 Black Jack. Nice flight, but the rocket will be on the D.L till Bob can fix it again. Dave Green got hip deep in the action with his Scratch built Crayon on a G-54, his LOC Speeder on a H-128 and his Explorer on a H-242. I always thought it would take a bigger motor than an H to more a car as big as an Explorer.

Sam Guccione flew his PML Del Tech Special on an I-211 for one of those famous loud fast and smokey flights the 211s are famous for. Steve Hacket flew his scratch built Old Glory on an H-54 and his Lance Beta on a G-35. Nice job. New addictee John Kyte got in two flights. His first was a test flight on his PML Phantom and the second more important flight was the nerve racking Level One Certification Flight. Piece of cake once it is over with and successful. John did have quite a wait and a walk in the recovery portion of his attempt. But that helps make for a longer story to bore your non-Rocketeer friends with. Congratulations John, now you start thinking about that Level Two project. Get your wallet out. Kenny accepts credit cards also. Dave Lucas got his 3" Amraam up on an H-123 for a great flight and recovery. Bill "seems to nail it every time" Mantell flew his Tomahawk on an I-211 to another perfect flight followed by one of his patented two stage recoveries. Nice flight Bill.

Neil McGilvray once again demonstrated that all the tape in the world will not keep the nose cone on when you use a small scale thermonuclear device for the apogee charge. Amazing Grace was flown with a K-550 to 4000 feet only to have the drogue and the main deploy at apogee. The stitching on the Sky Angle chute came loose at the rocket was recovered un-

damaged under drogue. Socially Unacceptable took to the sky again on a K-700. The long burn, full K shot the rocket to an altitude of 6447, not bad except for the fact that once again that pesky robust apogee charge knocked the nosecone loose and the main deployed at 6000 feet. Like some of the earlier flights a little bit of exercise was in order to recover the rocket. With Bill Mantells help the rocket was found about two miles, away right at the edge of a tall grass field. I wish Bill would help with the prep of the nosecone instead, his never come off till they are supposed to.

Mike McHugh got his Yellow Brant up on a G-25. Glenn McNemer burned some AP on Saturday with three flights. His Thunder and Lightning on an H-123, Tomahawk on an H-128 and His Eclipse on an I-310. Lots of fire and noise, that's what we like. Tim Nist showed us all his little trick he calls defying gravity. Tim flew his scratch built Eclipse on a long burn J-275 and once again launched a paper rocket to Mars. As usual Tim had great success and a flawless recovery. I'm glad he finally joined our club so we can claim him as on of our own.

Ted Proceus, AKA Mr. Separation Anxiety and custom sewn parachute, flew his VB Javelin on a neck cracking flight with an H-128. Bill Rossi launched his big Instant Insanity on a K-458 for a superb High Power flight. We need more or that Larry Rumbley should have renamed his rocket Instant Insanity as he flew an Estes Kit called a Big Daddy on an H-128. As far as I know the rocket is still going up at this writing. Maybe it will come down by the next launch at Tommy's. Fred Schumach and son Joshua flew 4 rockets on Saturday. They flew a HV Arcas on a G-40, a Strong Arm on an F-25 and F-20 and the Blue Cuda on an F-20. Even though Fred had those mirrored sun glasses on there was a certain glint in his eye as he walked away from Performance Hobbies with two High Power kits and a Transolve P-5. Just doing it for the boy, yea right, forget it Fred your just like the rest of us. You're hooked. So when are you going to be buying that M casing. All things considered an M is really economical to fly....ha ha ha!!!!

Kevin Shepard was back in the thick of things with scratch built Versi. Kevin built this rocket out of many different materials, most notably the clear Lexan or PVC

altimeter bay. Kevin choose the Kosdon K-800 Black Jack to power his bird. Nice flight, smokey black , fast and loud. Brian Slogick, Mr. lets see what happens if I switch this grain with this casing and try this nozzle here..... Needless to say Brian has the true Rocketeer spirit and sometimes the success rate that goes along with it. Someone has to see if it will work. Unfortunately Saturday was not to be the day. While the intentions were good the thrust to weight ratio on a J-200 in his Magnum, (I never know if what I write up for Brian is really what's on the report, but you got to love that), was on the low and slow side of the equation. The rocket took off and immediately went into a subnominal trajectory on a plume of sparkly, black smoke. I will leave the rest to your imagination at this point. Maybe the names should be changed to protect the innocent. Nah! Patrick Smith let two birds loose on Saturday. His Blue Brant on a G-125, Bam! And after many igniter changes he finally launched his Initiator on a G-35.

It's been some time coming, but we all knew the result before the button was even pushed. It was like a give-me in golf. Fred Wallace did what we all knew he would , certified Level 3 and did it in style. Fred did his usual meticulous job in the construction and preparation of the rocket. The rocket was an up-scale of a Wa-Hoo, weighed in at about 65 pounds and flew on a Kosdon 2240 M motor. After a couple of tries with a finicky launch control system The Wa-Hoo blazed of the pad to over 500 feet, (ask Fred how high it really went). Perfect separation of the booster and payload and drogue deployment at apogee. At about 700 feet the custom 16 foot Rocketman chute was fully deployed and Maryland had their newest Level 3 Rocketeer. Fred has just set a new standard for finesse with big rockets. I know he will tell us his secrets, but will we listen? Congratulations Fred, way to go!!!!!! You will be hearing more from Fred on the details of the flight.

Fred Wallace wasn't the only one making history on Higgs farm on this fine day. Dave Weber was able to accomplish something most of us won't do with all our flights combined. He flew the same rocket 100 times. (Not in one day you idiots) The reason Dave does it? Because it's cool! Dave calls the rocket Tuber because it has

no fins – it has 3” tubes for fins and obviously works great. The big question is can Dave get 100 more flights out of it? I think he can and right now Dave has to be holding some sort of record for flights on a G powered rocket. Anyone who might know please speak up. Congratulations Dave. Way to go - whoo whoo whoo!!!! Dave also flew a couple of other rockets. His LOC Graduator on a G-80 and a great flight with his Honest John with an H-123. Dave is also learning what kind of a wallet emptying exercise High Powered Rocketry can really be. For years Dave was, and I mean it in the past tense, content flying lower and mid power rockets. Someone check his temperature, he's burning up. Dave tried his hand at some of the bigger stuff with altimeters. Dave flew his slightly under powered Sticker Shock on an I-195 with altimeter for one of those painful low thrust to weight ratio subnominal flight. Once again I will leave the outcome to your imagination. All I will say is OUCH!!!!. Dave also flew one of his biggest rockets to date, I believe. A Cluster R Skyraider, good thing it wasn't a Cluster F..., on a J-460. Now we're talking. The launch was great the flight was great the delay was just a little too long. By the time the chute had deployed the rocket was touching down. A minor zipper repair and the Skyraider will be back in business. Go ahead Dave shoot the works, K-550 and I will lend you the casing.

Speaking of K-550s, Dave Young launched his Patriot on one of those for a spectacular flight. The two stage recovery went as planned, however the brittleness of the PML tubing reared its ugly head and part of the parachute section broke apart. Better that than the booster. We hope to see the Patriot back in action soon as it is a great flying kit.

Once again we all have to give our thanks to Tommy Higgs for his generous use of his property. With out him there would be no High Power Rocketry in Maryland. Thank him personally when you see him at a launch and shake his hand. Tommy is a great guy and we are lucky he likes big rockets because there are more headed his way. Hopefully the Roadkill Café will be back in business at the next launch. Terry Chalfants daughter graduated High School and Terry was resigned to cooking duties at home. Remember that we always

need help with all aspects of the launch. Don't be shy about chipping in. It's a good way to meet new people and it is actually fun to spend a couple of hours helping run the launch. Till the next launch, Aim High-Recover Low.

Neil McGilvray

Whitakers June 26-27

Certified Level 2 on a scratch built rocket called "Black Jack" on a J350W, rocket and father are doing fine.

Kevin McGee

Maiden flight of a new 4" Estes/Carbon Fiber/Kevlar reinforced basa fins surface mount, on 3 H124FBJ, excellent flight.

C.F.Wender 2.56 Estes/ Carbon/ Fiber Glass, surface mount balsa fins, on I161W Perfect, except for landing in a tree. (Did get it back)

Jerome Craig

5th flight on 4" PML Eclipse, this time on a K350 Kodson for an altitude of 6,155ft, for another perfect flight.

Bill Mantell

Python, D12. Impulse 2 D12. 2 the Stars I211. Sun Seeker I357. Sky Taxi, Elmo H123.

Kathy Gilliland

High Frequency on G35-7, good flight. Astrobee 1500 on I195, air started 2 G45 Perfect Flight. Camraam, P5, 35mm Camera, I284 catoed big flame-out , rocket destroyed, but P5 and camera ok. (Great cato). The Endeavor flew flawlessly with all the chutes popping on time. The camera took the entire roll of film and I got about 10 good pictures. The P5 altimeter really did it's job. Made up for the disaster Saturday. I was really floating on air the rest of the day.

Norwood Truitt

3" Fat Grat H128, Good flight. IWSY Tomahawk E18, good. 3" Rigel, Ellis I150 to 2134ft.

Ted Proscus

Saturday
 Minie Magg H125-7 Aerotech
 (Minie-Magg 018)
 Smokin Plover I140 Aerotech 2,805'
 Bruiser K900 Aerotech 3,622'
 (Bruiser-012)
 Sunday
 Magnum J340 APS 1,470'
 (Magnum-022)
 Monster L1100 APS RedEye 2,021'
 (Monster-009)

Joe May

LOC Caliber ISP J90 Aerotech
 LOC Caliber ISP J200 Spitfire

Bryan Slogick

Kevin Mitchell finally put up his Terrier/Sandhawk to 6630 ft.on a M2240, K550. After riding his case on Saturday he put it up on Sunday. Thanks Kevin for allowing me to help you prep your rocket. Outstanding Flight.

Fred Wallace arrived late on Sunday and was going to fly some rockets, but I had to leave before he put them up.

Bob Utley

REWARDS

When I went to Michigan last July to visit my wife's family, I had a goal that I wanted to accomplish before the visit was over.

It started with a magazine and some old photos. My wife's cousins, young kids to be exact, were always thrilled when I sent them pictures of rockets. Their aunt bought them a few Estes kits and I would get letters from them stating how good the flights were and how many rockets fell victim to the trees. It excited me to receive this mail, so I was going to accomplish my goal by packing up the Estes section of my basement and lug it all up to Michigan.

Well, to make a long story short, it was a hot, breezy day but these kids didn't care. They knew I had rockets. They brought out their fleet along with launch pads and a crowd. I brought many motors as did all of them. Rockets were flying all day long. Some were even arguing on who was next to launch. Well, I played pad manager. We used all safety rules and to my surprise they were all patient! There

were some crashes but I consoled them saying it wasn't their fault and built one bigger and better next time. This reassured them. I launched my DAGGER, THUNDERHAWK and CORKSCREW all on C motors. These young ones were all over the field looking for rockets in the tall grass. Even I did but ended up with a rash from the picker bushes. OUCH!!!! Well, when the day was closing, motor supply was running out but not the excitement. Before my wife packed it all in, I thought to myself. These kids had a great time. My rockets are in great shape, I don't fly ESTES anymore and they're taking up space in my basement. Out of the kindness of my heart, I gathered the flyers in a circle and asked if they had a good time. One young girl hugged me and said she would miss me. Well between that and all the smiles, it melted my heart. I gave my rockets to these kids even if it was their first or tenth rockets, my gifts to them was a reward for me. Here ends the story.... Good day to all!

Guy DeStefano

Fred Wallace's Big Wahoo a.k.a. Level 3 **Design and Construction Summary**

This project was conceived about eight or nine months ago as my level III project. It is an upscale of one of my favorite sport rocket designs/kits, the Wa-Hoo from the Ky Michelson's collection of kits.

The design is 1.93 to 1 up-scale of the original kit design, body width and fin size. The length of the rocket is 2.11 to 1 upscale of the original kit length. The length was increased to make up the difference in aft CG placement, resulting from increased weight as a result of construction methods used for a level three project, in particular, motor mount and fin construction. Even with the increase in length, the final design indicated a need for four pounds of forward ballast to achieve correct CG. However, a static check of the CG determined only two pounds of ballast is needed, fully assembled, including loaded motor. I could not determine why, but suspect fiberglass laminate composite construction to be the cause. In any case, I am pleased with the outcome. In my other hobby, I never built a

RC aircraft, from a kit or scratch, where the CG was as the plans or my design indicated.

To determine the basic rocket design dimensions, I started the project using a piece of paper, pencil, and calculator. I then used the Rocksim CAD type software to design the airframe, determine mass weight of hardware and parts, CP, and projected CG. In addition, I used Winrock altitude/flight simulation software to predict flight simulations. I ran the numbers using CD figures of .65, .70, and .75. Based on fin design, airframe cross section, weight, and what I have observed fly, I settled on a CD of .70. The differences in altitude predictions, between the three CD calculations, are less than three hundred feet and give me no heartburn.

After the basic design was determined, I started building. I glassed all of the body tubes with two layers of six-weight fiberglass and West Systems epoxy. I then broke the construction into modules; 1. Aft/booster section including the motor mount/fin and aft body tube assemblies; 2. The payload section and electronics; 3. The forward body section; 4. The nosecone section; 5. The recovery system. As I constructed each section, I weighed and added weight calculations to the design using the Rocksim design software program. As a result, the difference in the completed rocket weight, compared to the design weight, is only four pounds.

The aft/booster section is built on a 98mm motor mount. A 76mm adapter is used for the Kosdon, M-2240. Fiberglass and West systems epoxy is used throughout the construction process. If it looked like it needed glass and epoxy, it got it. Three eight-inch all-thread was used to tie all the centering rings together. Yellow pine and maple stringers were used to re-inforce the fin to motor mount and body to fin joints, along with fiberglass strips and epoxy. After the aft section cured, builders foam was pumped into all cavities for added strength. Now I can trust the thrust!

The payload section is built around a twelve-inch long section of 7.5" coupler, re-inforced with yellow pine stringers and epoxy. It holds two altimeter bays constructed from 54mm tube and coupler inserts. Each bay holds an Adept Alt 25,

each with it's own vent and electrical connections. In addition, contained in the payload bay is apogee and main recovery harness attachment hard points, mounted to a single aft bulkhead and forward stabilizing bracket.

The forward body tube section is bolted to the payload section with eight stainless steal, flat head aircraft structural hardware screws and blind nuts, attached through the stringers in the payload bay. Other than aerodynamic load stress and deployment system stress, to the forward body tube, there are no hard point attachments requiring stringers or internal fiberglass reinforcement. However, double wall construction was used in two formats. A 6" wide X 12" long inner tube assembly, along with two couplers are used to effect double wall reinforcement and provide a containment bay for the chute. This assembly keeps the R-16 chute forward during the thrusting phase of flight.

The nose cone assembly is made up of a standard 7.5 inch, PML, fiberglass nose cone and a 12" payload section, used for balance weight containment or payload when and if used.

The recovery system is based on two Adept altimeters, each backing up the other. Apogee deployment is activated by the altimeter, through an electric match, one from each altimeter, into a single piro-charge. My reasoning for the single charge is simple. I do not want two, five gram, charges going off at apogee. As I could not set that parameter on the altimeter, one charge with two matches is the logical way to go. The recovery harness is made up of seventy five feet of tubular nylon, (MIL SPEC rated at 4000lb bursting strength) along with a ten foot seat belt strap harness, connecting the aft body and forward body sections together. The seatbelt harness helps to prevent zipper if recovery timing is off. No steel cable is used. Heat shielding is used, consisting of tubular fiberglass and nomex cloth, along with wadding and aluminum foil, as needed. The main recovery system uses thirty feet of the same rated tubular nylon, seat belt strap, and heat shielding. In addition, a bagged Rocket Man, R-16 chute is used to provide main recovery.

The rocket is painted off white and red with Monocote red and black checkerboard trim on the fins.

The launch pad system to be used is a custom 12' rail, built by Jim Stanlick. Ignition for the Kosdon M-2240 will be provided by a custom propellant based igniter, with electrical activation by my custom high capacity relay system or whatever is set up at the away cell.

Although this is not the most complex rocket I have constructed, it is the heaviest (sixty pounds) and because of the heavy duty construction requirements for level three projects, has taken the most time to design, construct, and prepare to fly.

Fred Wallace

New Toys:

Pratt has two new products this month. The G-Wiz LC and the G-Win LC Deluxe. I purchased the G-Wiz LC at Battle Park for \$89.95, and received it 2-3 weeks later as promised. The G-Wiz is an Accelerometer base unit, the difference between the two style (units) is the Deluxe has a main chute deployment at 400' via barometer. Both units have cluster or staging for channel one, apogee for the channel two. Channel one is jumpered for either cluster, fire at liftoff detection, or staging, fire at deceleration.

One nice thing about this unit is you can use either 9 volts for it or split the battery. Use one 9 volt battery for the unit, and another battery of any voltage for the fire circuit, so if you have a big ignitor that requires 12 volts you can use it.

Yes, this is a new product that most Rocketeer's will have the wait-and-see before-I-buy attitude. I went to Whitakers to test my G-Wiz LC out, I am hoping to use the staging option in a future T/S project. Since the G-Wiz LC does not have the barometer in it for main, I enclosed it in a 38mm motor tube with end caps and screwed it to the inside of Kathy rockets, of course I would not test it in my rockets. Motor ejection was for backup.

First flight was in her "2 the Stars" to 1215' and all worked well, both the motor and the G-Wiz fired at the same time at

apogee. On the second flight in Kathy's "Sun Seeker" at apogee, 986' the rocketed dumped it's chute. It was not until I went to clean up the motor that I noticed the motor did not fire it's BP. So I would have to say two test is not a lot, but enough to let me know that I can setup the unit easily and it does work.

So if you are looking for a small easy to use unit, I would give this 2 rockets up.

Bob Utley

Performance hobby

<http://www.performancehobbies.com>

The new PML tubes are available in two sizes for now 2.1 and 2.5 inches.

Almost anything you could need they should have. Phone (202) 723-8257.

Next Issues:

- Launch Summary for July & August, LDRS
- Events for July & August

KEEP THE POINTY END
UP AND THE FIERY
END DOWN

D. BULLIS

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

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Flight Log May 15, 1999 ESL #27

Flyer		Manufacturer	Model	Motors	Result
Ash	Michael	scratch	kit	C5	
Ash	Michael	scratch	Ant Satellite Rocket	D12	
Ash	Michael	scratch	Gemini Titan	H123	<Cert 1> no go
Ash	Mike	Estes	Aim 97	C5	
Ash	Victoria	Estes	Arm-97	B6	
Boatwright	John	scratch	Goose	E30	
Boatwright	John	scratch	Green Machine	G80	
Boatwright	John	scratch	Double Trouble	B6 (2)	
Booker	Bob	scratch	Upscale Rampage	G64	
Booker	Bob	scratch	n/a	E15	
Booker	Bob	Aerotech	Arcas	F25	
Brown	Adam	Estes	Asteroid Hunter	A8	
Brown	Adam	Estes	Asteroid Hunter	A8	
Brown	Rich	Estes	Py-R-Gone	G35	
Brown	Sarah	Estes	Jinx	A10	
Brun	Ed	scratch	Sod Buster	I211	
Bullis	Dave	scratch	J-Turn	N2100	
Carlino	Ray	PML	Eclipse	J650	
Carlino	Ray	Aerotech	HV Arcas	H100	
Cristoti	Lino	Aerotech	Initiator	F20	
Crosby	David	PML	Amraam 2	H128	
Crosby	David	PML	Amraam 2	G54	
DeStefano	Guy	scratch	Uncle Sam's Ax	I284	
DeStefano	Guy	Thoy	Ibis	G64	
DeStefano	Guy	Thoy	Peacock	G33	
Gilliand	Kathy	scratch	Sky Taxi	H240	
Gilliand	Kathy	scratch	Sun Seeker	J295	
Gilliand	Kathy	scratch	Sun Seeker	I300	
Gilliand	Kathy	Aerotech	Initiator	G120	
Gilliand	Kathy	MSH	V-2	D12	
Gilliand	Kathy	Estes	Impulse	D12 (2)	
Green	David	scratch	Crayon	G54	

Flight Log May 15, 1999 ESL #27

Flyer		Manufacturer	Model	Motors	Result
Green	David	LOC	Speeder	H128	
Green	David	PML	Explorer	H242	
Gristoti	Lino	Aerotech	Initiator	F20	
Guccione	Sam	PML	Del Tech Special	I211	
Hackett	Steve	scratch	Did Glory	H45	
Hackett	Steve	NCR	Lance Bata	G35	
Kyte	John	PML	Phantom	G54	
Kyte	John	PML	Phantom	H128	<Cert 1>
Lucas	David	PML	Amm Ramm3	H123	
Mantell	Bill	PML	Tomahawk	I211	
McGilvray	Neil	scratch	Socially Un-Accep	K700	bow-wow
McGilvray	Neil	scratch	Amazing Grace	K550	
McHugh	Mike	PML	Yellow Brandt	G25	
McNemer	Glenn	PML	Thunder N Lighting	H123	
McNemer	Glenn	PML	Tomahawk	H128	
McNemer	Glenn	PML	Eclipse	I310	
Nist	Tim	scratch	Eclipse	J275	
Proseus	Ted	V.B.	Jarelin	H128	
Rossi	Bill	scratch	Instant Insanity	K458	
Rumbley	Larry	Estes	Big Daddy	H128	crazy man
Schumacher	Fred	Aerotech	HV Arcas	G40	
Schumacher	Fred	Aerotech	Strong Arm	F25	
Schumacher	Joshva	Aerotech	Blue Cuda	F20	
Schumacher	Joshva	Aerotech	Strong Arm	F20	
Shephard	Kevin	scratch	Versi	K800	
Slogick	Brian	LOC	Magnum	J200	
Smith	Patrick	PML	Blue Brant	G125	
Smith	Patrick	Aerotech	Initiator	G35	
Wallace	Fred	scratch	Big Wa-hoo	M2240	<Cert 3>
Weber	David	Weber Eng.	Sticker Shock	I195	uh-oh
Weber	David	Public Enemy	Honest John	H123	too nice
Weber	David	Cluster R	Skyraider	J460	
Weber	David	Weber Eng.	Tuber	G75	100 th FLIGHT
Weber	David	LOC	Graduator	G80	
Young	Dave	PML	Patriot	K550	

A	3	7.5
B	2	10
C	2	20
D	3	60
E	2	80
F	6	480
G	16	2560
H	14	4480
I	7	4480
J	5	6400
K	5	12800
L	0	0
M	1	10240
N	1	20480
O	0	0

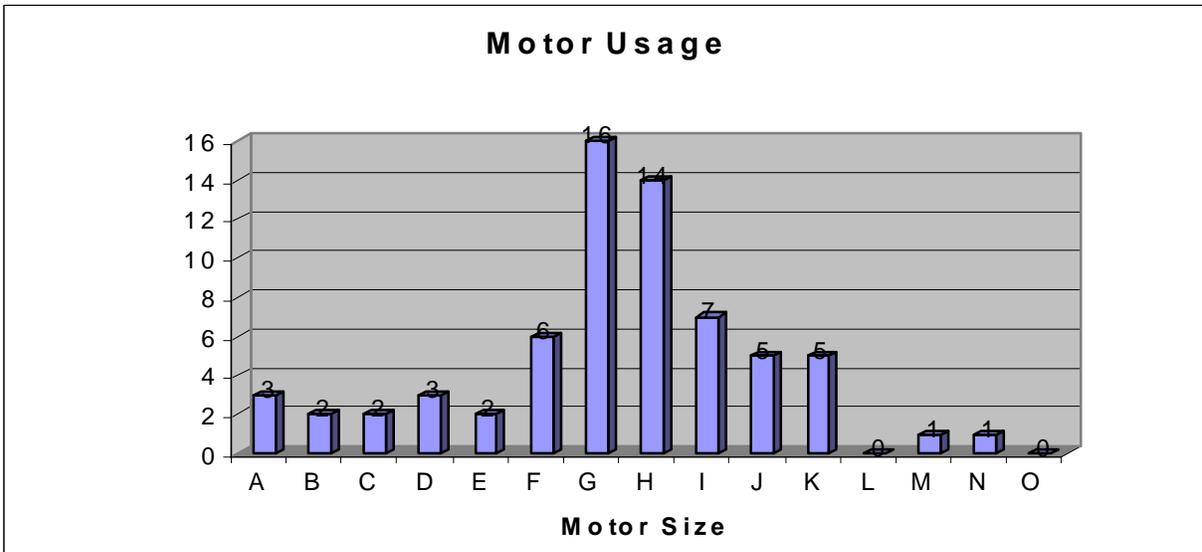
67

TOTAL MOTORS

62097.5

NEWTON/SECONDS

Atlantic	0		
Aerotech	10		
Binder	0		
Cluster R	1		
Dynacom	0		
Estes	8		
Hawk Mountain	0		
High Flight Tech	0		
Hobby Lab	0		
Impulse Aero	0		
JD Cluster	0		
LOC	3	67	Flights on 5/15
Launch Pad	0	67	Total Flights
MSH	1		
NCR	1		
Neubauer	0		
PML	15		
Pratt Hobbies	0		
Public Enemy	1		
Quest	0		
Rocketman	0		
Rocket R&D	0		
Rogue Aero	0		
TCB	0		
Thoy	2		
True Modeler	0		
Scratch	22		
V.B.	1		
Unknown	0		
US Rockets	0		
Weber Eng.	2		
	67	TOTAL ROCKETS	





©B. Booker 99
Kathy Gilliland's Sun Seeker on a I300.



©J. Weber 99
Dave Weber's Big Rocket "Skyraider".



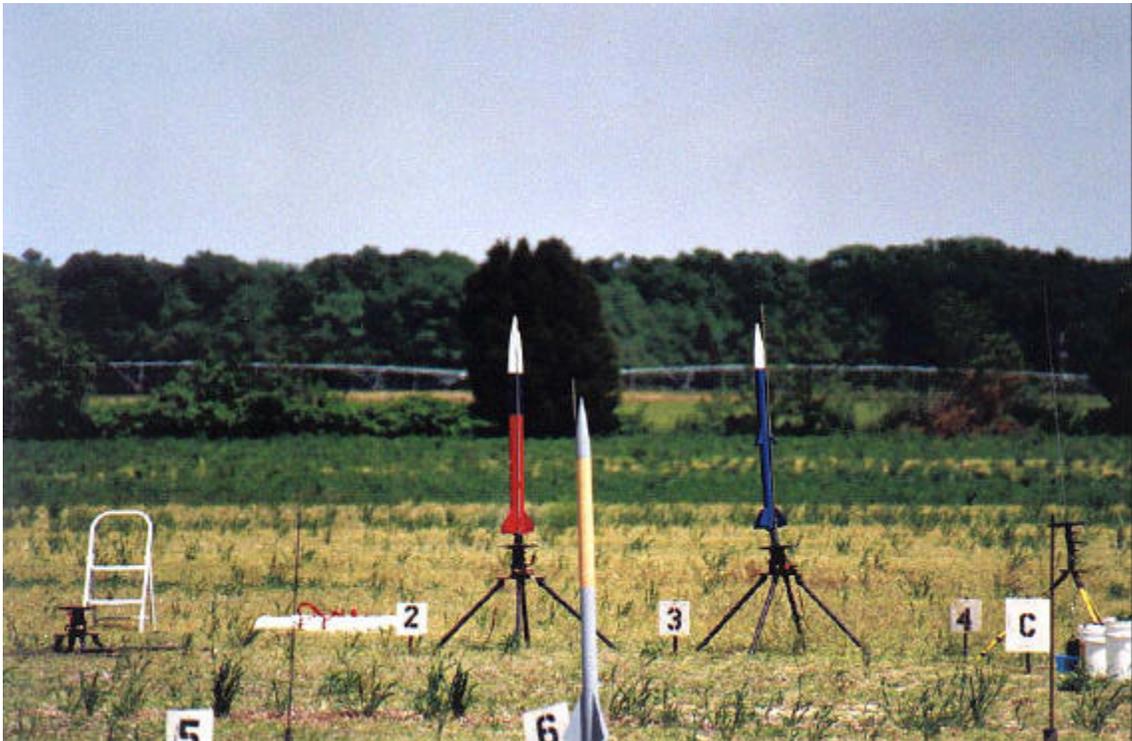
©B. Booker 99
Bob Bookers Arcas on a F25.



©S. Hackett 99
Steve Hackett, Lance on a G35.



©J. Weber 99
Uncle Sam's "B2 Bomber" nice flight.



©J. Weber 99
Just in case you miss these days.

July 1999

Rocket Calendar

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday																																																																																					
<table border="1"> <caption>June</caption> <thead> <tr><th>S</th><th>M</th><th>T</th><th>W</th><th>T</th><th>F</th><th>S</th></tr> </thead> <tbody> <tr><td></td><td></td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr> <tr><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td></tr> <tr><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td><td>19</td></tr> <tr><td>20</td><td>21</td><td>22</td><td>23</td><td>24</td><td>25</td><td>26</td></tr> <tr><td>27</td><td>28</td><td>29</td><td>30</td><td></td><td></td><td></td></tr> </tbody> </table> <table border="1"> <caption>August</caption> <thead> <tr><th>S</th><th>M</th><th>T</th><th>W</th><th>T</th><th>F</th><th>S</th></tr> </thead> <tbody> <tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td></tr> <tr><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td></tr> <tr><td>15</td><td>16</td><td>17</td><td>18</td><td>19</td><td>20</td><td>21</td></tr> <tr><td>22</td><td>23</td><td>24</td><td>25</td><td>26</td><td>27</td><td>28</td></tr> <tr><td>29</td><td>30</td><td>31</td><td></td><td></td><td></td><td></td></tr> </tbody> </table>				S	M	T	W	T	F	S			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30				S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31					1	2	3	Orangeburg, SC
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August 1999

Rocket Calendar

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