

WASHINGTON AEROSPACE

INSIDE THIS ISSUE:

<i>Monroe Flight Report</i>	2
<i>WheatChex 2001</i>	4
<i>Offutt Lake</i>	5
<i>Aerotech Delay Alert</i>	6
<i>Tip—Igiter Case</i>	6
<i>Aardvark Rockets</i>	7
<i>LDRS 21 Announced</i>	7
<i>Regional Schedule</i>	8

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- President—Kent Newman
- Treasurer—Christopher Scott
- Secretary—Traci Scott
- Operations Manager—

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FROM THE PRESIDENT.....

BY KENT NEWMAN

Ah, here we are in August already! Just as it is for a grade school child, it seems that time drags so slowly through the winter months only to speed along much too fast during the summer months. Here again, it's August and I'm wondering where the summer went!

This newsletter is being published right after the August Monroe launch and Kimberly Harms, a member of the Monroe Administrative Staff, has compiled some interesting figures for the Monroe flying season so far.

Total flights this year to date: 993
 Total flights last year same date: 1066

In 2000, Monroe was only unable to launch one month at this point in the year. In 2001, there have been two cancelled flight days.

Total registered fliers year to date: 145
 Total registered fliers year end: 195

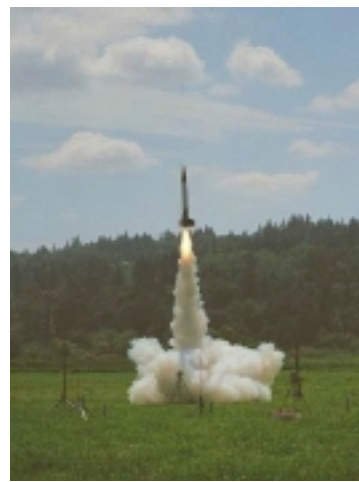
Flight breakdown by power class:

<u>2000:</u>	
Low-power:	52.6%
Mid-power:	33.6%
High-power:	13.6%
<u>2001:</u>	
Low-power:	57.0%
Mid-power:	26.4%
High-power:	16.3%

It would certainly seem that mid power folks are moving up at Monroe. It appears to be the natural maturation of the sport for many fliers. And that's a good thing! We must, however, be sure to provide for the legacy of our sport by informing, educating and nurturing younger fliers as well. For that reason, let me continue to encourage anyone with ties to Cub Scouts, Boy or Girl Scouts or any youth group to join us on the first Sunday of the month at Monroe to fly rockets and enjoy a group of people with a common interest. It's a family thing!



Ed Mirabella readying his WAC Corporal



Off the pad with a K550 in the motor mount.



Straight and true against the Monroe blue skies!

MONROE FLIGHT REPORT—JULY

BY KIMBERLY HARMS

It was a great day of flying at the Monroe Spaceport the first Sunday of July. Winds were very light and the sky was clear. We were setup and ready to go by 10:30 and kept flying until after 5.

We did a total of 184 flights. Here is the breakdown by motor:

1/2A 1	F 21
A 22	G 29
B 8	H 10
C 46	I 14
D 13	J 7
E 11	K 2

Total 184

Down from last month but larger than July 2000. That's the most "I" flights that I have on record.

We had seven new certifications:

1 Scott Bowers, PML Endeavor, I211. Flew to about 1600 feet and the main deployed at 400 feet without a scratch.

2 Chris Piwowarski, RDS Quasar, I284. Flight was completely nominal with no damage.

3 Mike Wyvel, BSD Horizon, H128. Good flight.

4 Steve Sibbick, Public Enemy Fatboy, H123. An interesting rocket for a certification but worked just fine.

5 Mike Watkins, PML Lunar Express, I357.

6 Karl Foose, PML Amraam, I284. Good flight.

7 Bob Nieman, Scratch built, J570. A nice project in need of some shear pins but good enough for a L2.



Pat Floyd readies his upscale Estes Trident for liftoff on a J350.

Good job guys!

With so many big flights it's hard to know where to begin. I sure hope someone took pictures!

I'll just list the bigger flights and let the owners post some details of their flights as I'm sure we would all be interested. I really hope folks do this. If it was a good flight, let us know. If you had a problem, let us know and tell us what you would do different to avoid the problem. Let us learn from your successes and failures.

DENNIS KNOCH, "Rebuilder" I284

ERIC BLOOM, "Nad Gazim", I218 Redline!

PAT FLOYD, "Tinky Winky", I161

KENT NEWMAN, "V2", I357

MARK SMITH-LIN "Style Points", I200.

(Lost I think. Hope it gets found).

TOMM ALDRIDGE, "Scratch 3.2", I357

STEVE BLOOM, "AMRAAM", I284

GREG GALLACCI,

"unknown", I284

KENT NEWMAN, "Quantum Leap", I300 staging to an H123

TOM VAN ETTEN, "J-Rock", J350

PAT FLOYD, "Trident", J350

TOM GONSER, "Quantum Leap", J350

ROB CLEMENT & TOM VAN ETTEN,

"Bulldog", J275

TOM GONSER, "TVI", J350. This had on-board video. Will be cool to see.

STEVE BLOOM, "Gemini-DC", K550

ED MIRABELLA, "1/2 Scale WAC Corporal", K550

To finish this launch report I thought I would do something a bit different. Here is some info that might be interesting.

Who puts on the monthly launch in Monroe? Who are those folks with the "Launch Support" badges? It is advertised that the launch is co-sponsored by Tripoli Puget Sound and Washington Aerospace. But do these two clubs "run" Monroe? No, they don't. A group of individuals, some members of each organization, some not, provide the time and effort that makes Monroe work. With a small crew everyone has a job and has made a major commitment in time and effort to make sure that these launches happen each month and work well.

I thought I would take a minute in this launch report to talk a bit about who these folks are. Why do they do it? Sometime we ourselves wonder, but we do it each month when the weather is good and when it's not. And because of that we have a safe and fun event twelve months a year.

"That's the most "I" flights that I have on record".

Steve Bloom

Steve Bloom is usually about on the field working as Range Manager, RSO and LCO. He brings a wry wit to our team that we could not do without. Because we all like it so much, Steve has brought his beautiful and fun upscale Gemini DC each July for a flight on a K550. It is always a hit. Steve also spends lots of time putting impossibly big motors in impossibly small rockets - usually something based upon the FatBoy design. Steve is a Level 2 NAR certified flyer.

Dave Davis

Dave is the GSE wallah on our team. If you have ever been at the range setup you know what great shape all the equipment is in. All the rods are spotless and the cables neatly coiled with the clips clean. The batteries are always charged. Then if you were ever at the range takedown you would see how everything gets tossed in without regard to order. During the weeks between each launch Dave unpacks everything. He cleans it all, repairs any breakage, does any upgrades and repacks it in the right order. Without Dave doing the dirty work (literally), things would not go as they do. Dave is the local Tripoli Prefect and is a Tripoli Level 2 certified flyer.

Pat Floyd

Pat is our local expert on construction and wiring. Coming from a background in plastic models and radio control, he has excellent skills in construction techniques. You may have seen his large Trident upscale at this month's launch or his scale Standard missile at the hobby show. Pat handles RSO and LCO duties at the field. Pat has supplied many of the solidly constructed and weather-proof cables that we use in the GSE. Pat is a Tripoli Level

3 certified flyer.

Kimberly Harms

Kimberly is responsible for all these online communications, flight reports, important notices, etc. She works to get all the slots filled in for LCO and PM. You may have been cornered by her and forced to sign up for range duty. She takes a lot of Range Manager duty because she likes helping flyers with their projects. Kimberly also has organized a team to build some very large projects that you may have seen on the web - Community 7 and Community 8. Kimberly is Tripoli Level 3 certified and serves on the Tripoli TAP committee and the NAR L3CC. These two national groups certify new Level 3 flyers.

Kent Newman

Kent does Range Manager, LCO, and RSO duty while at Monroe and acts as the liaison with the Washington State Department of Corrections people. He still manages to usually fly some very impressive projects. His Doorknob (the rocket with the odd, but accurate, name) has flown several times at Monroe. He is the owner of the Snapshot rocket which has given us quite a lot of nice pictures of the various launches he attends. Kent holds the current record for the largest motor flown in Washington state - a Kosdon "L" at Spokane. Kent is a NAR Level 3 certified flyer. He is also the President of Washington Aerospace, one of the co-sponsors of this launch.

Christopher Scott

Christopher is the launch director. As such, he handles the FAA waiver and insurance stuff. He is a NAR-certified RSO. Christopher works with many new flyers on teaching motor assembly and rocket construction. He handles all those tough questions during the launch when something



The Trident lifts for a successful dual deployment flight!

out of the ordinary comes along. Christopher is a Tripoli Level 3 certified flyer and is the Treasurer of Washington Aerospace.

Traci Scott

You have all met Traci as she staffs the registration table. Traci is a NAR Level 1 certified flyer. Without Traci there to make sure that the staff remembers to drink plenty of fluids we would all be dead.

Adding to these folks are a volunteer pool that helps with some aspect of each launch - setup, take down, LCO and Pad Manager. These folks, some same and some different each time, help out doing the work that needs to be done. The staff always is very grateful for the volunteer help that comes each month.

At the July launch these fine folks helped out. At LCO Robert Geer, Eric Shankland, Mike Pearson. "Team Anstead" (taking LCO and PM), and Don Qualls. At Pad Manager we had Abigail Chang, Robert Geer (doing two shifts!), Eric Shankland (another 2 shift hero), Tom Aldridge, and Michael Dennis.

Great job guys. As I said above, we could not do it without you.

"Without these folks volunteering, the launch would not happen. Thank them next time you see them".

WHEATCHEX 2001

BY KENT NEWMAN

The members of the Spokane Area Rocket Club (S.P.A.R.C.) hold an annual two-day launch event each June. This year's event is called "WheatChex 2001". The event presents an excellent opportunity to see what rocketeers are doing in the Eastern part of the state. And rocketeers in the Eastern part of the state are doing very well, thank you! For a group of enthusiasts only organized for the last four years, S.P.A.R.C. continues to improve its operation, to educate the general public about hobby rocketry, to improve its GSE, to improve the efficiency of its operations and to grow in numbers.

Leaving South Hill about 5:00 p.m. on Friday, my family and I arrived at the launch site just as darkness was beginning to fall around 9:30. Tracy Conant met us as we drove up, helping us register, providing information about the weekend's activities and pointing us to camping site options. There were already about 12 to 15 campers on site.

The 11,000' agl waiver was in effect at 8:00 a.m. the next morning and I decided that the Arcon would be a suitable first flight for the calm morn-

ing. I had a Kosdon L1175 that was pushing up against the decertification date in August and the Spokane field would be great for this loud, raucous motor. My wife and son helped me carry the 6" diameter, 11' 2" long, 44 lb Arcon out to the away cell where we loaded it on the rail. I armed the RRC2 and the AltAcc, checked continuity and "away we went!" The Arcon took off with a roar and flew perfectly straight to 4200'. The drogue deployed at apogee, the rocket fell to 1000' and the R18C deployed perfectly. Another great flight for the Arcon!

Thus began a myriad of flights from model to high power. The questionable weather forecast on Friday didn't come to pass and the weather, although cloudy, held nicely. Bret Conant, Marty Weisner, David Glass and others were all flying interesting projects. Scott Binder came on Sunday and flew his up-scale Diablo several times with the last flight being on a J570! That rocket got up in a hurry! David Glass flew his "Tuborg beer bottle" rocket but it met with an untimely demise.

This provides David with an excuse to build another "artistic application in rocketry".

Steve Mraz, a Washington Aerospace member, flew his PML 4" Amraam and suffered a lawn



A partial view of the WheatChex flightline as seen from the "Snapshot". The 3" rocket exposes an entire roll of film at preset timed intervals using an Olympus Epic Stylus 35mm camera. This shot is taken from about 900'.

dart, unfortunately. It appears that the piston wedged in the airframe resulting with the rocket flying full force into an alfalfa field.

I had a chance to fly my "Snapshot" for a roll of 35mm pictures of the flightline and surrounding wheat fields. The rocket flew straight and true on an H242 to 1200', deployed its dual chutes and took 20 pictures in the air and 4 lovely pictures of the growing summer wheat.

My son, Erich, flew his IQSY Tomahawk on an F52 for a great flight and then followed that up with the Tomahawk on an F39.

The wind began to pick up early Sunday afternoon and a bit of rain began to fall so the SPARC team made the decision to cease launch operations. Regardless, the weekend was very enjoyable with some 180 flights recorded and everyone AP satisfied!

"And rocketeers in the eastern part of the state are doing very well, thank you!"



David Glass and co-pilot keep things flying at WheatChex 2001!

We're on the Web!
www.hawkfeather.com/wa-aero/

OFFUTT LAKE—JULY 7TH

BY JIM POMMERT

The launch at Offutt Lake on Saturday, July 7th turned out to be a great start to our NAR sanctioned contest year. Washington Aerospace Club sponsored the contest that was open to any rocketeer but with NAR members also flying in sanctioned competition. Events flown were A-engine Boost Glider and A-engine Super-Roc Duration. Conditions were just about perfect and several really nice flights were recorded. It seemed less a matter of if your rocket found a thermal and more a matter of how long your rocket could stay in the thermals that appeared to cross the site every few minutes. Of course if you missed the thermal you often found your rocket in the downdraft that brought several models quickly back down.

The low winds allowed most rockets to land close to the pads, even the mid and high power rockets that were also flown during the day. Few clouds crossed the sky all day so tracking the rockets only became a problem when they neared the ground. The Scotch Broom that grows in spots around the site made recovery of some of the smaller models even more challenging than at Monroe.

In A engine Boost Glide, SE-ANAR member Robert Geer put up the longest glider flight of the day just before competition closed at 3 PM. His glider played in and out of a thermal for much of its flight, alternately ascending and descending. It finally landing only a few hundred yards away from the launch pad. His time of 2 minutes 4 seconds easily took first place. Michael Pearson would have captured second with a time of 1 minute 18 seconds on

the first glider flight of the day. Unfortunately the glider went into stealth mode on landing and refused to be found. Royce Clay flew shortly after Michael and put up a nice 1:12 time that eventually gave him second place. Bill Clugston captured third with a flight of 1:03 with a glider that looked like a cross between a CMR Manta and a Holverson flying wing. Robert Geer's oldest daughter, 10-year old Amber, showed that she could do it, too. Her Holverson glider captured first in the Junior Division with a nice time of 57 seconds. Jim Pommert and Abigail Chang turned in flights of 38 and 27 seconds respectively to round out the scoring. Engines used seemed to be an even mix of Apogee A2 and Estes mini motors

At the same time that Boost Gliders were flying the A engine Super-Roc Duration models were also being put up. This was the first time any of us had flown these long skinny models and we weren't sure what to expect. For those of you who haven't seen one of these rockets, the first thing you'll notice is how long and skinny they are. All three competitors in the event were flying rockets that were over 4 feet long yet not over $\frac{3}{4}$ of an inch in diameter. Super-Roc Duration rockets are awarded points in two areas: length of rocket and length of flight. The length of the A-engine Super-Roc models must be at least 75 CM from the tip of the nose to the back of the engine. Any length beyond 150 CM is not counted. Points are also awarded for the length of the flight in seconds. The length in centimeters is multiplied by the flight duration in seconds to reach the score for the flight.

Andrew, Robert and I all realized that a model that is near the maximum scored length will be more competitive than one that might go a little higher of the minimum length. The current NAR adult division record for the event was 90540 points. A quick division by the maximum length scored of 150 CM showed that the rocket that held the current record must have stayed aloft for at least 603 seconds! That flight score was actually longer than the current A engine Parachute Duration record of 510 seconds.

We had each run simulations of our models to see what we might expect. Depending on the chute sizes we thought a good flight might last two minutes or so. Materials used and designs were also similar. Each rocket entered was powered by the Apogee A2 engine. The long gentle thrust would place less stress on the tender airframes than an Estes A3 engine. Each of the three competitors had at least one model made from Blackshaft tubing. Blackshaft tubing is a stiff phenolic tube that has a good deal more strength than standard paper tubes. It also came in 30 inch lengths so fewer joints are needed compared to standard 18 inch long tubes. Both Andrew's first model and mine had a 30" by $\frac{1}{4}$ " diameter upper tube and then transitioned to a larger lower tube for the chute and the motor. Parachutes were a mixture of aluminized Mylar and uncoated polyethylene. Aluminized Mylar doesn't pack as well and is harder to open but it shows up much better in the sun, as we were all about to witness.

The first Super-Roc up was my 'Black Noodle' on an Apogee A2-5. Immediately after the aluminized Mylar chute

opened it began to gently sway around as a thermal sucked it higher and higher. The winds at the time were very low allowing me to simply walk along directly below the model as it drifted gradually up and to the east. It drifted about 10 minutes before leaving the field, continued high above the trees ringing Offutt Lake. Now well over 1000 feet, it made the crossing of Offutt Lake after another 10 or so minutes, finally landing just across the lake about 25 minutes after take off.

Timers had followed it for a full 20 minutes and 3 seconds in an incredible first place flight with 180450 points in the event. The flight time of 1203 seconds is longer than any parachute duration flight record in any NAR age category or event. It certainly was an amazing flight and one I'll long remember! **The model was recovered late Sunday afternoon for a new NAR national record of nearly twice the previous total.**

Andrew MacMillen came out and flew two different Super-Rocs and captured second in the event. His first model turned in a 5100 point total. Robert Geer added to his win in Boost Glide by capturing third in Super-Roc with a 3500 point total. This gave Robert the most total NAR points in the two events and the meet championship.

The great day of rocket flying has many of those attending looking forward to the next contest. On August 5th Washington Aerospace will again be sponsoring a couple NAR sanctioned events during the 2001 Washington State Rocket Drag Racing Championships, this time at the First Sunday Monroe launch.

AEROTECH RECALLS DELAYS

From the Aerotech Website:

AeroTech has identified an issue with RMS Plus™ delay grains supplied as part of the following Blue Thunder reload kits:

F62T G104T H238T H242T I357T

We have determined that a chemical interaction takes place between the delay grain and the unbagged propellant grain(s) in these kits which can substantially shorten delay times. The actual amount appears to be a function of the amount of time that the reload kit has been sitting on the shelf and the ambient

temperature during storage. One or two months storage appears to be sufficient to cause an unacceptable deviation from the certified delay time (i.e., more than 20%). However, we have determined that once the delay grain is installed in the rocket motor the delay times remain stable.

Note: This effect does not occur with other Blue Thunder reloads. In order to prevent this interaction, these reloads are now packaged with a non-porous barrier (plastic bag) maintained between the delay grain and all propellant grains. This barrier must be maintained until the grains are installed in the motor.

Flyers with these reload kits manufactured prior to 7/2/01 must replace the existing delay grain with a new delay grain prior to use! These replacements may be obtained through your dealer or direct from AeroTech warranty (www.warranty@aerotech-rocketry.com).

All AeroTech Easy Access dealers have been notified of this issue. They will correct the problem with the affected reload kits in their stock.

If you have any questions regarding this information release, please call me at 702-920-2716 or Jason Blatzheim at 702-920-2711.

YANK ENTERPRISES

(ROL Newswire) --

Yank Enterprises is announcing the long awaited release of their 5.5" Kit Series. These kits include: SandHawk, IRIS, IQSY Tomahawk, BBX and a new HAWK. Ranging in length from 78" to 144", they take to the sky on a standard 3" motor mount. Or bring it down to a 54mm with our included

easy switch adaptor. Other features include: Pre-Slotted Flexible Phenolic Tubing, 1" Tubular Nylon cord, Motor Retention and all necessary mounting hardware, easy switch adaptor, and our highly durable Baltic Birch fins and rings.

And since many of our customers have asked, a 5.5"

Altitude Package is available to go with each kit. This will include everything you'll need for dual deployment set-up. You can get the details at www.YankEnterprises.com or ask your HPR dealer!

Editors' Note: Check with Ursula at All Hobbies to determine availability of Yank kits.

TIP- MAKE AN IGNITER CASE

BY KENT NEWMAN

Do you run into the problem of trying to carry igniters from one launch to the next without breaking, crushing or cracking the pyrogen? Boy, I sure do! And it's so frustrating to spend time dipping igniters or, worse yet, buying igniters only to ruin them during transportation.

Fortunately, club member Rob

Clement has a perfect solution to the problem and, as is so often the case, Rob's solution is elegant in its simplicity.

Rob purchased a length of ABS plastic pipe with one end threaded. He cut the length to about 14" (although the length can be decided by the typical length of your igniter wires). Rob then glued an end cap onto one end using

PVC adhesive and secured a removable threaded cap to the other end. A cotton ball stuffed down into the closed end of the pipe and another one put into the threaded cap protects the igniters by preventing the wires from being jostled about and breaking the pyrogen. The carrier can be included in your range or motor box and will protect an igniter with much less chance of crushing the pyrogen. Thanks, Rob!

"Rob's solution is elegant in its simplicity".

AARDVARK ROCKETS

(ROL Newswire) -- Aardvark Rockets is preparing to ship the first of new kits in the Thalos Line of Exotic 2.6" Rocket Kits. This entire line is tied together with a theme and a light storyline! There are cluster models, staged models, as well as standard engine kits in this line. They are all designed to easily fit in E, F, and G range. They are all GREAT performers and get the crowd's attention with our unique designs.

This is the first of the new exotic mid and high power lines designed and produced by Aardvark Rockets. Our new lines of exotics are focused on one thing - bring back the fun and fantasy to rockets.

These kits are truly crowd pleasers and can challenge the most professional finishers with paint and detail decisions! Once the BETA testers have finished with their builds, they will begin to ship out immediately!

The American Dream Kits are now shipping! This kit is available in 2.6", 4", 6", and 7.6"! Now you can fly a GREAT looking and performing kit no matter what the field or conditions!! The 7.6" American Dream is available with a 76mm core surrounded by six 29mm full length motor mounts. A proven performer on a simple K550 or with the HyperTEK L610. Try a mix of White Lightning core with



Steve Bloom preps his Gemini DC to fly on a K550 at Monroe.

Black Jack airstarts for a truly unique smoke trail!!

LDRS 21 ANNOUNCED

(ROL Newswire) -- Tripoli Amarillo # 92, POTROCS INC, (Panhandle Of Texas Rocketry Society) proposal to host the 2002 Tripoli National launch has been accepted by the Board of Directors. Bruce Kelly informed Pat Gordzelik, Prefect/President of Potrocs, of the Boards decision on Monday, July 23. Gordzelik stated that the launch will be held July 11, 12, 13, and 14 commercial motor, with a fol-

lowing "Mini Balls" experimental motor launch to be conducted on July 15 and 16. He also commented that "no way, no how, would Potrocs have bid for LDRS 21 without significant assistance from other surrounding clubs, but with several Texas Prefectures and NAR Sections, Tripoli Oklahoma, and the Kloudbusters weighing in with promised help for the event, 'Temporary

Insanity' gripped me," and the results shall we say is history. For the first time ever LDRS will be held in Texas. Potrocs' flying field boasts 5.5 square miles of open pasture and range land, and a whopping 21,500' AGL waiver. Site altitude is 3,452' MSL. For further information please go to Tripoli Amarillo's web site, www.Potrocs.org. An official LDRS21 website will be forthcoming soon.

"Potrocs' flying field boasts 5.5 square miles of open pasture and range land, and a whopping 21,500' AGL waiver."

AEROTECH REDLINE MOTORS STATUS

Aerotech announced the following motors available for its retail distribution network as of mid-July:

29/180 - H165R
29/240 - H210R
29/360 - H268R

38/360 - I218R
38/480 - I285R
38/720 - J420R

54/852 - J315R
54/1280- J540R
54/1706- K695R

75/6400- M1550R
98/7680- M1600R
98/10240 M2000R

Be sure to contact Ursula at All Hobbies to get your Redline motors!



The Gemini DC takes to the air!

Club Meetings

The first Saturday of every month!

Where: Peace Lutheran Church
214 East Pioneer
Puyallup, WA 98372

Time: 7:00 p.m.

We're on the Web!
www.hawkfeather.com/wa-aero/

NAR Section 578 Super Discounts

All club members get the
following discounts at the
All Hobbies store

20%

Special Discount on single
item purchases of over
\$300.

15%

Estes
Dr. Rocket Motors
& Parts

10%

On all of the following:

LOC(except as noted)
AEROTECH KITS
IMPULSE AEROSPACE
DR. ROCKET
AEROTECH MOTORS
AEROTECH RMS
CUSTOM
QUEST
TOP FLIGHT
PARACHUTES
PUBLIC MISSILES, LTD.
THE LAUNCH PAD

NO DISCOUNT

All Red Sticker Items

ALL HOBBIES STORE
1430 E. Main
Puyallup, WA 98372
253-841-0089

<http://allhobbies.net/>

Regional Launch Schedule

Notes:

1. Monroe winter launches are weather permitting (as if the rest of the year isn't)
2. BEMRC launches (Boeing) are model rocket only. C impulse maximum.
3. No EX motors or allowed in regular launches; Kosdon motors not allowed.
4. No certified motors allowed on EX Only launches.

August 4th (Saturday)

August 5th (Sunday)

August 11th (Saturday)

August 11th (Saturday)

August 12th (Sunday)

August 18th (Saturday)

August 24-26th (Fri_Sun)

August 24-26th (Fri_Sun)

August 25th (Saturday)

September 8th (Saturday)

September 2nd (Sunday)

September 8th (Saturday)

September 9th (Sunday)

September 14th-16th

September 15th, (Saturday)

September 15-16th (Sat-Sun)

September 22nd (Saturday)

September 29th-30th (Sat-Sun)

October 6th (Saturday)

October 5th-7th (Fri-Sun)

October 7th (Sunday)

October 13th (Saturday)

October 14th (Sunday)

October 20th (Saturday)

October 20th-22nd (Sat—Mon)

November 3rd (Saturday)

November 4th (Sunday)

December 1st (Saturday)

December 2nd (Sunday)

Launch Contacts:

Washington Aerospace
Tripoli Puget Sound
Monroe Launches
Blue Mountain Rocketeers

B.E.M.R.C.

Seattle NAR (SEANAR)

Spokane Area Rocket Club (SPARC)

Tripoli – Oregon

Tripoli – Portland

Puyallup, WA (WA Aerospace Meeting)

Monroe, WA (TRAPS-WAC)

Dayton, WA BMR

Kent, WA (BEMRC)

Spokane, WA (S.P.A.R.C.)

Offutt Lake, WA (Washington Aero)

Brothers, OR (OREO—EX Launch)

Black Rock NV (Aeronaut 2001)

Redmond, WA (SEANAR) 60 Acres Park

Puyallup, WA (WA Aerospace Meeting)

Monroe, WA (TRAPS-WAC)

Dayton, WA BMR (Rolling Thunder)

Spokane, WA (SPARC)

Bonneville, UT UROC Hellfire 7

Offutt Lake, WA (Washington Aero)

Sheridan, OR (OREO) Mon EX Day

Redmond, WA (SEANAR)60 Acres Park

Black Rock NV BALLS 11

Puyallup, WA (WA Aerospace Meeting)

Black Rock, NV Aeropac XIII

Monroe, WA (TRAPS-WAC)

Dayton, WA BMR (Rocktoberfest)

Spokane, WA (SPARC)

Offutt Lake, WA (Washington Aero)

Brothers, OR (OREO)

Puyallup, WA (WA Aerospace Meeting)

Monroe, WA (TRAPS-WAC)

Puyallup, WA (WA Aerospace Meeting)

Monroe, WA (TRAPS-WAC)

Kent Newman 360-893-1148

Bruce Johnson 425-228-7292

Christopher Scott 253-858-7256

Tim Quigg 509-382-4176

Lauren Anstead 206-655-3238

Don Qualls 206-784-1667

Bret Conant 509-299-7122

Gary Fillible 503-843-3137

Dennis Winningstad 503-297-3685