

Big Sky Rocketry Association

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Inside this newsletter

BSRA-What's It All About
April 15th Launch Report
1999 Launch Report
2000 Launch Schedule
Tripoli Montana Civil Air Patrol
Sponsors
Internet Links

BSRA - What's It All About?

BSRA is a non-profit organization dedicated to bringing together rocketry enthusiasts of all types under one banner. Our main goal is to provide a place where rocketeers of all ages, skills, and areas of interest can come together and have a safe place to fly low, medium, or high power rockets. Some schools have model rocketry as part of their science curriculum. Community-service organizations, such as Scouts, 4H Clubs, Church groups, and Civil Air Patrol participate in some form of model rocketry. BSRA is an organization offering continued fun and learning beyond the completion of these projects. We encourage leaders of groups that have an interest in rocketry to come see what we are all about. Our purpose is not to interfere with any existing clubs or organizations, but rather to encourage continuing participation in model rocketry by providing a place for enthusiasts to gather and fly! We may even be able to help with your programs by assisting in a building seminar, demonstration launch, or a seminar on applied math or physics related

to model rocketry. For more information contact Paul Mazel by phone at 245-7427, or by email at bigskymnm@juno.com.

April 15th Launch Report

The first launch of 2000 was a big success! Even the sub freezing temperature could not keep us from flying. Several new people came out to participate, some as far away as Lander, Wyoming. There was a total of 43 rocket launches. Spectators were impressed with small rocket launches including several boost glider flights as well as high power rocket flights. Derek Longshore, a Ponderosa fifth grader and 3rd place winner in this years Science Fair, was the most prolific flyer, with eight flights. Derek's Father, Steve Longshore had two nice flights with his four-inch diameter scale model of NASA's Saturn Five. Pat Kenney, impressed the crowd with a magnificent scale model of the North Coast Rocketry's Bomarc flown twice on F62-4 Darkstar motors.



Pats Bomarc lifting off on a F62-4 Darkstar motor.

Pat is a Science teacher at Ponderosa School, and head up the school's own rocket club. He is an avid R/C airplane enthusiast, and his modeling skills show in his rocketry construction and finishing techniques. The crowd was also impressed with several high power rockets, most notable was Dale Emery's 11 pound, 5.5" diameter Scale Nike Smoke. Dale launched his Nike Smoke on an Aerotech J415 White Lightning motor. The rocket ripped off the pad and tore a hole in the sky, reaching an altitude of over 3500 feet, traveling over 400 miles per hour.



Dale's Nike Smoke lifting off on a J415 motor.

Next month's launch will be even better, and certainly warmer!

1999 Launch Report

Last year we had 12 monthly launches that resulted in over 170 flights recorded using motors ranging from 1/2A through K power. That's over 60,000 newton-seconds of propellant burned! Rocketeers from as far away as Washington State and New Jersey State came to fly with us. We had over 50 different participants and spectators. The Billings Gazette wrote a article about us when Andrew Meteer launched his 7.5"

diameter, 9 foot tall LOC Bruiser EXP rocket on a K motor, the most powerful motor ever used in Montana.



Andrew's LOC Bruiser EXP lifting on a K550

The weather at almost every launch last year was great. Beautiful blue sky provided an excellent backdrop for photos. A great set of photos highlighting last year's flights can be viewed in Tripoli Montana web pages. See the links section of this newsletter for the web site address.

2000 Launch Schedule

Launches are held on Saturdays from 8:00am through 4:00pm. Sunday will be the back up day if a launch is canceled due to weather.

Local Launches

April 15	May 13	June 10
July 15	August 12	October 14

Other Major Launches

July 1-4 , LDRS 2000
Orangeburg, South Carolina

July 29 - Aug. 4, NARAM 2000
Canon City, Colorado

September 9-10, Black Rock XII
Black Rock Desert, Nevada

September 15-17, Hellfire 6
Bonneville Salt Flats, Utah

Launch Field

The launch field is located 12 miles north of Billings Heights. The land is designated by the BLM as "Mile 17", 1.7 miles west of Hwy 87 on Crooked Creek Road. A letter of authorization is on file, securing permission for public land use. Our FAA waiver allows us to fly up to an altitude of 5000 feet above ground level. We fly under the safety rules set forth by the Tripoli Rocketry Association and the National Association of Rocketry. Copies of these codes are available at the launch field. Only motors and biodegradable wadding may be used. Anyone who uses high power motors must be a member of Tripoli or NAR, and a certified user. Membership in NAR or Tripoli is encouraged but not required as liability insurance is provided. Launch pads and electronic controllers are available. The launch area is primitive. Hiking boots, sunglasses, and sunscreen are recommended. Bring your own binoculars, folding chairs and tables, food and drinks. No alcohol or smoking permitted. Please pack out all trash.

Directions

From I-90, proceed north on US Highway 87 in Billings (Main Street). Turn left (north) on US Highway 87 just past the KMart towards Roundup. Twelve miles north of Billings, just before the 17 mile marker, turn left (west) onto Crooked Creek Road (there is a new sign now). Drive 1.7 miles west on the county road and you are there!



Tripoli Montana is the High Power section of BSRA and received its official charter in March of 1999. Starting a local chapter of Tripoli Rocketry Association requires stepping thorough several regulatory hoops. Dale Emery, Tripoli Montana's Prefect, was instrumental in taking care of all the necessary work to charter Tripoli Montana, including securing permission from the BLM for public land use, and filing the necessary papers for a FAA flight waiver. Through Dale's commitment, we now have a growing rocketry program developing in Montana. An election was required for the first time for the position of Prefect. Dale wanted to continue as Prefect, and ran an amazing campaign. Fortunately, Dale was unopposed, winning easily. As newly appointed secretary, Paul Mazel is responsible for notifying all Tripoli Members the good news, and providing an official copy of the election results to Tripoli's head quarters in Orem, Utah.

In addition to our local launches, representatives of Tripoli Montana traveled to two major launches. Medicine Wheel Four, hosted by the Canadian Association of Rocketry in Alberta Canada and Hellfire Five, hosted by UROC at the Bonneville Salt Flats, Utah.

Three members successfully achieved High Power Certification. Andrew Meteer certified Level 2 with a successful flight of his LOC Magnum launched with a J275. Paul Mazel certified Level 1 with a successful flight of his scratch built two-stage Screaming Demon

launched with H and G motors.



Paul's Screaming Demon lifts off on a H128

Joe Mazel certified Level 1 with a successful flight of his PML Quasar launched with a H123. At Hellfire Five, Dale Emery's Level Three Certification attempt with his 7.5" diameter 12 foot eight inch tall, 63 pound scratch built scale Iris launched on a M1 939 Aerotech reloadable motor was absolutely awesome. Certification rules are strict, and unfortunately a small tear in his rocket's airframe during flight recovery was the cause for the noncertification.



Dale's Level 3 Certification attempt with his Scale Iris on a M1939

Even though our 5000 foot waiver won't allow Dale to launch his Iris here on a full M motor, Dale does have plans to launch the Iris on a cluster of three J570's. Each J570 motor has an initial thrust spike of over 400 pounds! Tripoli Montana members launch awesome rockets every month. Come and see, you will be impressed!

Civil Air Patrol

Major Steven C. Heffel of the Civil Air Patrol plans to organize either a Montana Wing Model Rocketry Aerospace Encampment or possibly a Montana Wing Model Rocketry Competition for the summer of 2001 at the BSRA launch field. Major Heffel also hopes that enough interest will be generated to start a local chapter of National Association of Rocketry. This would enhance the aerospace education for all the Montana Wing cadets, and a welcome addition to the BSRA. The Parmly Billings Library has asked the Beartooth Composite Squadron of the CAP to organize some educational activities for July 22, which are complimentary to the library's summer reading program focusing on astronomy and astronautics. Paul Mazel will be assisting the squadron to organize some of the astronautics related activities in conjunction with NASA's Traveling Space Camp.

Sponsor

Jim's Junction, located at 811 16th Street West has been a sponsor of BSRA since 1999. The store specializes in Model Railroading and has a large inventory of trains, tracks, scale building supplies and books to choose from. Jim's Junction also stocks Estes, Aerotech, and

Holverson Design products. Aerotech is the leading manufacturer in high quality mid-power rocketry. At present, Jim's Junction is the only store in Montana stocking Aerotech and Holverson Design rocketry supplies. Holverson Design is a new rocketry manufacturer and makes kits of high quality and competition grade, perfect for the avid modeler.

Best of all, BSRA Rocketeers enjoy a 20 % discount on all rocketry purchases. Support Jim's Junction for his generous sponsorship. Please tell Jim you are with the BSRA **before** the purchase.

Internet Links

Tripoli Rocketry Association:
www.tripoli.org

National Association of Rocketry:
www.nar.org

Tripoli Montana:
www.tripolimontana.org

Rocketry Online:
www.rocketryonline.com

Dale Emery's Rocket Page
www.tripolimontana.org/demery/