



Thermals

Newsletter of the Rocky Mountain Soaring Association

March 2001

AMA Chartered Club 1245

Volume XXV Number 3

President's Message

March – Its time. Contest season is here. It seems like only a few months ago and we were living it up at Visalia. I hope the “windy” month finds all of you getting ready for another fun soaring season. I’ve been collecting a few new models and getting rid of a few old ones. Gotta get some of those “ready for radio” models in the air before summer. It seems that I have been spending more time breaking and rebuilding a small speed 400 electric sailplane than anything. I haven’t quite figured out how to avoid those radio failures with the “resistor trick” and other remedies to keep electric speed controllers from interfering with radios. Go figure. I’ll have to ask Lenny about that one.

Simplicity seems to be in fashion lately, but that certainly doesn’t seem true of the direction of soaring equipment. Models have become very sophisticated and many of the pilots in the club will be flying machines that really “push the envelope” this season. Everything seems to be stronger, lighter and faster this season with Skip putting the very best equipment in our hands as usual and many of the RMSA pilots have developed skills to match the aircraft. These two factors will make this one of the most competitive seasons in RMSA history.

Simplicity, however, may be one of the most satisfying parts of soaring. I’ve spent lots of time this year south of Phoenix flying my hand-launch on desert plains devoid of anything man-made. As work takes me into the burgeoning desert, I find the out-of-the-way places welcome my weary mind and lift my simple poly hand-launch and my spirit as well to a place above the rat race. I hope you find these hidden patches of barren ground too and redefine the meaning of “wasteland” which offers no interference with a perfect cobalt blue sky. Maybe someday I’ll buy me a chunk of this ground and keep it open and wild.

We’ve had the two big organizational meetings in January and February to clarify the contest rules for next year. In a nutshell, we will have a relatively “pure” unlimited contest schedule this year and a nice hand-launch calendar, but we won’t be counting PPSS contests toward club points. We will still encourage club members to attend PPSS events and many members will. We have received the “real balls” winch bearings and Charley (high man at the Southwest Classic by the way) has graciously agreed to install them. Dan Williams has offered the club a permanent meeting place in Broomfield for the season and will be working to redesign the frames for club winches as the contest season progresses. Thanks to all of you

Next Meeting:

Date/Time: March 6, 2001 - 7:00PM

Location: Broomfield Advanced Chiropractic
26 Garden Ctr
Broomfield CO 80020-7012
See map in this newsletter



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who contributed to resolving the new rules and dealing with the new winch bearings. A special thanks goes to Dr. Dan who is really making a contribution to the club with his efforts this year.

A couple of things to look out for this year:

1. We have neighbors – the new housing development is active and will be an issue at contests.
2. We have had some theft at the field – lock your vehicles – they are now out of sight while flying due to a new berm.
3. The real balls will make the winches stronger and we will be working with heavier line this year to reduce the amount of breakage related delays in contests – Take it easy on those first few launches until we get the gist of the strength of the lines.
4. Several of us may be experimenting with discus-launch-style hand-launches this season and the national hand-launch competition scene is changing rapidly to this technique. Lets focus interest on learning about the technique and its safety issues together.
5. We will be hosting a regional F3J contest coming up Memorial Day weekend. Lets begin to focus on learning about equipment and techniques associated with this international event together so that we can make a good showing and host a successful event. I will be suggesting some practices and providing some resources in the future to address this exciting event.

Well that's it. Another contest season begins. Lets make it a good one! Cheers!

Shannon & Jim

March 11th Open Contest CD Shannon Bingham

Entry Fee: \$5.00
Registration: 9:15 AM
Pilot's Meeting: 9:30 AM
First Flight: 10:00 AM

We are starting a little later than normal this contest. It has been a very cold year and hopefully it will warm up a little by 10:00.

Current (2001) AMA membership is required and must be shown – if you haven't renewed – get to it...

Please be registered and have planes assembled by Pilot's Meeting

Winchmasters: Please be at the field by 9:15AM. If you are unable to attend please contact the CD to arrange to have your winch/retriever available

Tasks: Tasks will be man on man duration with times set according to conditions.

Landing: Regular AMA landing tapes will be used.



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4TH ANNUAL RMSA PRO/AM SOARING EVENT

| | |
|-----------------------|--|
| What is it? | A fun TEAM soaring event with 2-man teams picked randomly. |
| Who is it for? | Everyone - One Pro and one AM per team |
| Why? | To help new and current non-contest fliers learn to fly better, for our Masters to pass on their fantastic knowledge, and to tune up for the coming soaring season |

How will it work?

One Pro and one Amateur will be paired as a team for the entire day. The team scores will be combined at the end of the day to determine the winning team.

- Round 1 will be the "Trim" round. In this round the Pro may fly 1 time to achieve the round duration, but the Am may fly as many times as they can/want to achieve their "best" score. Best is defined as a combination of 1 flight and landing. Landings may not be combined with a different flight. It need not be the last flight. During this round the pro may launch and fly the Am sailplane to help with trimming and setup, but only flights completely flown by the Am are eligible for scoring.
- Rounds 2-n will be standard AMA T1 International Duration with only 1 scoring flight allowed per contestant and FAI 15 meter landing tapes.
- Amateurs are allowed 2 popoffs per round - Pros are allowed 1 per contest.
- Rounds will be flown "open winch" which will allow the Pros to instruct the Ams in air reading and selecting a time to fly.
- Rounds will be 50 minutes long and you must launch prior to the round-end signal in order for the flight to count.
- Pro and Am MUST time for each other - Pro should help the Am learn the basics of timing.
- There are no field boundary requirements - land safely where you can for flight points.
- In order to balance the number of Pros and Ams it may be necessary for a single PRO score to count with more than one AM score (different teams) or vice versa..
- The CD will make the final determination of who is a Pro and who is an Am. Basically all Masters are Pros and all Novices or non-contest flyers are Ams. The Sportsmen pose a classification challenge. For simplicity - any flyer that went to sportsman in the last 1/2 of the 1998 season will be considered an Amateur unless in the opinion of the co-CDs the flyer is significantly closer to a masters skill than a novice. The guiding rule is fairness.
- Amateurs are encouraged to fly their plane up the winch with the Pro throwing and pedaling the winch, but for those unable or fearful of the winch, the Pro may fly the sailplane to the top of the launch, but must give the transmitter to the Amateur immediately when the plane is off the towline.
- Your first flight of a round must be your scoring round (except flight 1 for Amateurs), but after you have completed a scoring round you may fly as many flights for fun as you can in the rest of the flight window.
- The person that fetches the chute has priority for launching on that winch – generally you will fetch the chute in order to fly...

Masters - This is an opportunity to have some fun and help out our newest flyers and members... and tune-up for the contest season.

Beginners/Novices - This is your opportunity to work one on one with a Master for a whole day, and even if you never fly another "contest" this will improve your soaring skills a great deal. Come take advantage of it...

Date: Sunday March 18, 2001
Registration: 8:30 AM to 9:00 AM
Pilot's Meeting: 9:00 AM
First Round: 9:15 AM
CD: Jim Monaco (303) 464-9895 jim.Monaco@econvergent.com
No Entry Fee, AMA Membership Required
Certificates will be awarded to the top 5 scoring teams and the top Pro and Amateur



Rocky Mountain Soaring Association

Meeting Topics

The club contest program has been approved as written and published last newsletter. If you would like to see the current version please go to the club web site at <http://rmsa.homestead.com>.

You should attend the next meeting. Jim Keller has contributed a coupon for some time in a full-scale flight simulator. We will be raffling the coupon off at the meeting – THANKS JIM...



Map to new meeting location



Rocky Mountain Soaring Association

NEW MEETING LOCATION

We are happy to thank Dr. Dan Williams for the use of his office space for our monthly meetings. There is plenty of space for all. The meeting will be at:

Broomfield Advanced Chiropractic
26 Garden Ctr
Broomfield CO 80020-7012

Note that the office is far back in the parking lot on the North side of Midway. Look for where the Ambulances are parked and the office is located just east of the Ambulances.

For Sale

- Eraser/F3J- tips MH-32, Airtronics 141's flaps, JR 331's ailerons and v-tail., 76 ounces. Slightly beat up, but flies great, still very strong \$525.00 Very competitive airplane.
- Futaba Conquest 4- channel tranny with 7 channel receiver, good beginner or slope radio. CH 29, \$75.00.
- Airtronics Vanguard 6-channel Tranny and receiver. CH 26 \$80.00.
- Airtronics Vanguard 6-channel tranny only. Ch 47. \$40.00.

Bob Lewan
303-655-1649 Eves.
303-884-3142 Days bobless@bwn.net

- Dartar with SD7035 wing, built-in finger grips on fuse, v-tail. Very good performance. \$100
- Monarch D-lite, 9.35 oz, \$125
- DJ Aerotech Spectre 6.2 oz. \$100
- Climmax Pro with 7037, 4 HS-50's. Good light slope ship as well as thermal. \$100
- Climmax Poly, excellent flyer. \$100
- Kummerow Helix with MH-32. \$125
- Kummerow RAD, prototype high aspect ratio design, 7 oz. \$150
- Epsilon kit with one piece wing built by designer. High quality. \$100
- Illusion built, RTF, \$100.
- Climmax ARF kit \$175
- NSP Omega 129" F3J/AMA TD ship, molded, 6 servo wing, V-tail, slip on nose cone, 66 oz., includes servos. RTF minus battery and rx. Beautiful ship - \$595.

The hlg's for sale are all built and ready to fly minus rx.

Tom Gressman (H) 303-979-8073 (O)303-744-3535 X3101

Emerald

Too many planes in the hangar so I'm selling an Emerald. This one is nicely built with and set up with Volz servos. It is black and white and is the sister ship to my contest plane. It's in perfect condition and has only been test flown. It also has the built up rudder and carbon pushrod mods and is competition ready at 69 ounces. Selling for same price as one in the box **\$695** for the plane, and the installed Volz servos are available for **\$50** each. Stylus program provided to the buyer.

Lenny Keer
Lenny970@aol.com
(970) 352-1194



Rocky Mountain Soaring Association

Online Membership Signup/Renewals

I am currently putting in place a web page to allow members to signup online. This will submit the application form to Bob Rice for processing. In addition I have also set up the option to pay your membership online with your credit card using the PayPal service. Existing PayPal members can use their existing account to pay. Non-Paypal members will need to setup an account – an easy one step process. The PayPal service is a secure website that will transfer the membership fee from your credit card to the RMSA account. There are no Paypal fees to the payor (you). There is a small fee that is charged to RMSA so we will add \$1 to your membership fee if you choose to pay online. This mechanism is purely for your convenience – you can continue to pay by mail and we will not add the \$1 fee to your membership. I will send out an email to all known email addresses when the system is complete and ready to use. It should be sometime in March. *Jim*

SouthWest Classic

RMSA had 16 pilots participate in the 2001 Southwest Classic. It was a wonderful event – warm weather – lots of flying and lots of fun. Team RMSA took 3rd in the team competition. Charlie Miller was our top performing pilot in the lucky 13th position – congratulations Charlie. The competition was stiff with World Champion Daryl Perkins finishing up at 90th place (way to beat the world champ Kevin Moffett!!!). Mark Howard did excellent winning the RES class and finishing a very respectable #47 overall with his Victory RES sailplane. Our youngest member tasted his first non-RMSA contest and did very well – Congratulations Joseph Newcomb on your 138 finish. He will be an up and comer in our contests this next season... It was a great break from the cold and certainly was a great event. If you get the opportunity be sure to put this on your calendar for next year! If you want all the scores go to the CASL website at <http://www.users.qwest.net/~slickraft/swc2001final.htm>

Jim

RMSA Placings at the SW Classic

| Place | Name | Score | Plane | Normalized |
|-------|-------------------|-------|---------------------|------------|
| 1 | David Zucker CASL | 3350 | Emerald | 1000 |
| 13 | Charles Miller | 3257 | Emerald | 972 |
| 19 | Skip Miller | 3230 | Eraser Xtreme | 964 |
| 22 | Dusty Miller | 3221 | Escape | 961 |
| 29 | Robert Lewan | 3193 | Eraser | 953 |
| 39 | Lenny Keer | 3128 | Emerald | 934 |
| 47 | Mark Howard | 3098 | Victory RES | 925 |
| 84 | Kevin Moffett | 2885 | Eclipse | 861 |
| 94 | Robert Moffett | 2832 | | 845 |
| 104 | Philip Jones | 2769 | Starlight Euro Hera | 827 |
| 108 | Don Ingram | 2745 | Emerald | 819 |
| 117 | Jim Monaco | 2640 | Emerald | 788 |
| 121 | Gary Lewan | 2550 | Emerald | 761 |
| 135 | Shannon Bingham | 2295 | Emerald | 685 |
| 137 | Marc Monaco | 2252 | Eraser | 672 |
| 138 | Joseph Newcomb | 2245 | Eclipse | 670 |
| 144 | Dan Williams | 2128 | Emerald | 635 |



Rocky Mountain Soaring Association

Team RMSA



Launching to the Moon





Rocky Mountain Soaring Association

Sailplane Design

A recent post on RCSE was asking whether a lighter design is always better than a heavier design. Don Stackhouse of DJ Aerotech famed designer of a number of successful handlaunch gliders posted an interesting reply. I am printing his post here for the edification of members who may have missed it – or do not have internet access. It is obviously biased toward DJ Aerotech Designs, but some interesting design issues are discussed. For what it is worth – the article follows.

Regarding all this controversy about "is there such a thing as 'too light'?", the answer for an individual design is "yes", but for an overall competition class it's "not necessarily".

For example, the Chrysalis HLG was designed for folks who wanted to try HLG's for a very small investment, and didn't want to have to invest in exotic ultra-micro radio gear up front before they'd decided if they wanted to make the commitment to go into HLG's big time. With that in mind, I gave it enough wing area to be able to do a tolerable job of thermalling while lugging around full-sized servos and a 250 mah battery. It will fly OK if you build it at 13 ounces flying weight, and fly much better (including launch height) at about 9.5 to 11 ounces. It will float like a dandelion seed at 7 to 8 ounces, but penetration and launch height will both suffer. There's just too much wing area.

OTOH, when we designed the poly Spectre, we estimated what finished weight was possible, and designed the wing around that weight and around the capabilities of the airfoils we had available at that time. It launches and penetrates very well at 6 ounces flying weight, and of course floats extremely well.

The low speed performance is due to the reduction in induced drag. Assuming that the planform, twist, airfoils, etc. are all reasonably well matched, the induced drag essentially comes down to how much lift you need to carry the weight you're trying to support, and how much air you're grabbing to make that lift from. The amount of air the wing is using to make that lift depends on the air density, the airplane's airspeed, and the wingspan. The air density is already determined by where we choose to fly, the airspeed is pretty well determined by the amount of wind we expect to be able to penetrate, and for most competition classes the wingspan is set in stone by the rules of that class, or for things like Open class, etc., by the need to have adequate maneuverability. The only parameter left that we can significantly change to minimize induced drag is the weight.

In order to get adequate penetration and launch at this low weight, we then need to keep wing area down and wing loading up. Part of the trick is then in coming up with the airfoils that can handle the low Reynolds numbers that naturally result from low wing area at a fixed span. And of course we can't even begin the wing design without a decent estimate of the airplane's final weight.

In the case of the Spectre VR and poly Spectre VR (a presently experimental 2-channel version of the VR) HLG's, we had the data from the original poly Spectre HLG to give us a better estimate of the possible flying weight, and we also had some new airfoils (the DS9101 family and its derivatives) that helped the wing's capabilities. This allowed us to better match the various parameters of the entire design, resulting in performance improvements over the entire operating envelope. Mike Garton had some interesting speculations in one of his recent articles in Model Aviation about how he thought we optimized the aspect ratios of the different Spectres. It was a valiant attempt, but well off the mark. The different aspect ratios really reflect the chronological positions of the different Spectre designs in our somewhat evolutionary exploration of the Spectre concept. Each design gave us a better idea of what was possible and reasonable in terms of finished weight and overall performance capabilities, which then allowed us to do a better job of optimizing the design. We still have some cards we have not yet played in that game, and further room for future development.

A 2-channel poly Spectre VR at 5.1 ounces will outlaunch, outrun and outfloat a 5.9 ounce 2-channel poly Spectre, and of course leave an 8 to 9 ounce 2-channel Monarch 'D-lite' or a 10-ounce Chrysalis in the dust, at BOTH ends of the speed range. This is possible ONLY because the poly VR was optimized to fly AT THAT WEIGHT.

Like the adage says, no man (and no single design parameter) "is an island". You cannot successfully optimize one parameter of a design without considering its impact on all the other parameters of the design.

Don Stackhouse @ DJ Aerotech
djaerotech@erinet.com
<http://www.djaerotech.com/>



Rocky Mountain Soaring Association

2001 RMSA Contest/Event Calendar

| Date | Event | CD | Notes |
|----------------|--------------------------|------------------------|---|
| Jan. 2 | RMSA Meeting | | |
| Feb. 6 | RMSA Meeting | | |
| Feb 2-4 | <i>Southwest Classic</i> | | <i>CASL Southwest Classic - Phoenix AZ</i> |
| Mar. 6 | RMSA Meeting | | |
| Mar. 11 | Open* | Shannon Bingham | |
| Mar. 18 | Pro-Am | Jim Monaco | Fourth annual Pro-Am |
| Mar. 24- Sat | <i>PPSS OPEN</i> | <i>Greg Tarcza</i> | <i>March Madness</i> |
| Apr. 3 | RMSA Meeting | | |
| Apr. 8 | Open* | Jim Barr | |
| Apr. 15 | HLG** | Shannon Bingham | |
| Apr. 22 | <i>PPSS OPEN</i> | <i>Dave Kurth</i> | <i>Humps & Bumps</i> |
| May 1 | RMSA Meeting | | |
| May 6 | Open* | Lenny Keer | |
| May 12 | HLG** | Bob Lewan | Saturday event |
| May 19 - Sat | <i>PPSS OPEN</i> | <i>Austin Cleis</i> | <i>May Fly</i> |
| May 26, 27, 28 | F3J* | Mark Howard | Special National Event |
| June 2-3 | <i>IHLG</i> | | <i>International HL Contest Torrey Pines CA</i> |
| June 5 | RMSA Meeting | | |
| June 10 | Open* | Bob Moffett | |
| June 16 | HLG** | Bob Lewan | Saturday event |
| June 24 | <i>PPSS OPEN</i> | <i>Jack Dech</i> | <i>Summer Solstice</i> |
| July 3 | RMSA Meeting | | |
| July 8 | Open* | Bob Pederson | |
| July 14 - Sat | <i>PPSS RE</i> | <i>Barry Welsh</i> | <i>Memorial Fly</i> |
| July 21 - Sat | <i>PPSS RES</i> | <i>Rich O'Connell</i> | <i>Height of the Season</i> |
| Aug. 7 | RMSA Meeting | | |
| Aug. 12 | Open* | Jim Monaco | Kinda-F3J |
| Aug. 18 - Sat | <i>PPSS OPEN</i> | <i>Frank Deis</i> | <i>Night Fly</i> |
| Aug 19 | HLG** | John Kappus | |
| Aug. 26 | <i>PPSS OPEN</i> | <i>John Read</i> | <i>Dog Daze</i> |
| Sept. 4 | RMSA Meeting | | |
| Sept. 9 | Open* | Bob Rice | AKA: Colorado Challenge Cup |
| Sept. 22- Sat | <i>PPSS OPEN</i> | <i>Bob Avery</i> | <i>Soar Bash</i> |
| Oct. 2 | RMSA Meeting | | |
| Oct 6&7 | <i>Visalia</i> | | <i>Visalia California</i> |
| Oct. 6 - Sat | <i>PPSS HLG</i> | <i>Milt Woodham</i> | <i>HandLaunch</i> |
| Oct. 14 | Open* | Jim Monaco | |
| Oct. 21 | <i>PPSS RES</i> | <i>Mike Fritz</i> | <i>Witches Brew</i> |
| Nov. 6 | RMSA Meeting | | |
| Nov. 11 | Open* | Shannon Bingham | |
| Nov. 17 - Sat | <i>PPSS OPEN</i> | <i>Dave Meyers</i> | <i>Turkey Shoot</i> |
| Dec. 9 | Awards Banquet | | |
| Dec. 15 | <i>PPSS OPEN</i> | <i>John Read</i> | <i>BAM Fly</i> |

*Club Open points contest ** Club HLG points contest

Italics indicates major national level contests available for points and PPSS events



2000 Board Members

| | | | |
|------------------------|------------------------|-----------------------|--|
| President: | Shannon Bingham | (303) 499-2314 | binghams@boulder.earthnet.net |
| Vice President: | Jim Monaco | (303) 464-9895 | j.m.monaco@worldnet.att.net |
| Secretary: | Bob Rice | (303) 745-5269 | bob.rice@tobin.com |
| Treasurer: | John Pearson | (303) 306-6800 | jp7120@aol.com |
| Past President: | Mike O'Hearn | (303) 693-6925 | m.o.hearn@worldnet.att.net |

Member Support

<http://rmsa.aeromail.com>

Chief

| | | | |
|-------------|---------------|----------------|--|
| Instructor: | Jack Zika | (303) 279-1549 | (303) 505-9488 (Pager) |
| Instructor: | Mark Howard | (303) 278-7519 | MHoward@spaceimaging.com |
| F3B/F3J: | Mark Howard | (303) 278-7519 | MHoward@spaceimaging.com |
| Librarian: | Tracy Cochran | (303) 934-8838 | Tcochran@idcomm.com |
| Newsletter: | Jim Monaco | (303) 464-9895 | j.m.monaco@worldnet.att.net |

Winch Masters

| | | |
|-----------------|----------------|--|
| Bob Rice | (303) 745-5629 | Bob.rice@tobin.com |
| Bob Moffett | (303) 426-0328 | Rtm0007@aol.com |
| Shannon Bingham | (303) 499-2314 | binghams@boulder.earthnet.net |
| Gary Lewan | (303) 277-1375 | |
| Matt Curtis | (303) 698-4376 | |



Directions to Field

Take I-76 to exit 16. Turn left and follow the frontage road through the circle onto 120th eastbound towards the airport. Take 120th East to Tower Rd. Continue straight through traffic light and look for the sod sprinkler on the left. We are on the southwest corner of that part of the sod farm.

Flying for RMSA members and accompanied guests only.



Rocky Mountain Soaring Association
1123 S. Oakland St
Aurora CO 80012

First Class Mail

Forwarding Address Requested