



Thermals

Newsletter of the Rocky Mountain Soaring Association

February 2001

AMA Chartered Club 1245

Volume XXV Number 2

President's Message

Happy Valentines Month – I hope the season of “Luv” finds everyone in good cheer and looking forward to another soaring season with anticipation. Hopefully those winter sailplane construction projects are going well and some of them may be nearing completion. I have been learning a lot about composites this winter and slowly repairing a “valentines red” Emerald that was the victim of a mishap. Plasticare in Littleton has been collecting quite a bit of my disposable income of late and I have been experiencing the joys of carbon fiber and West Systems 105 – the most beautiful epoxy resin on the planet. It is amazing how nicely those delaminated molded skins go back together with a little pin-holing and CA. Going through the grits all the way up through 600 and beyond to rubbing compound can put a wing back together like you wouldn’t believe. My next experiment gets me to mixing red pigment with resin to take a shot at re-coloring a repair. The technology of repairing models has certainly changed, but it is still fun to get a model back in flying shape after an unfortunate incident. I think that you can rebuild just about anything with a little time and determination and that concept has remained true from the stick-built model through today’s best molded composites. I don’t know why, but tinkering and sanding away on these little projects in the basement is one of the most satisfying things I do and I enjoy it right along with flying. I’ll bet you do too.

The coming year is getting off to an exciting start with the Southwest Classic scheduled in Phoenix for the first week of February. Sixteen RMSA pilots will be making the trip and probably a half-dozen PPSA guys will head down for the festivities. RMSA will be the largest single sailplane club at the contest and we expect to “go home with wood”. I hope to see many of you there. I have been working in Phoenix quite a bit and spending a bit of time getting familiar with the properties of those Sonoran Desert thermals. Schnepf Farms is a beautiful facility and the competition should be exciting with many RMSA pilots vying for the top spots.

RMSA leadership has been hard at work addressing rules and calendar issues associated with the coming contest season. During the January meeting, changes to the current rules were made which will be finalized by vote at the February meeting. Those of you who are interested in these changes should read Jim’s write-up and consider attending the February meeting. Contest changes are an all-or-nothing situation. Either the proposal drafted at the January meeting will be adopted by vote at the February meeting, or the original rules from last year will be retained. The contest calendar has been drafted with many volunteers stepping forward to CD contests. We still have a few vacancies that will be identified by Jim.

The “real balls” have arrived. We need volunteers and a working meeting to address the obvious winch maintenance / upgrade tasks. More about this plan later.

Next Meeting:

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

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



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Finally, our search for an I-70 corridor meeting place continues. We currently have offers of meeting places in Broomfield near the US36 exit from Dr. Dan and in Marshall (South edge of Boulder) from me. If anyone has a more central place to propose, please let me or Jim know. Right now, Dr. Dan's office seems to be the leading candidate. There might be "free adjustments" involved, so you have been warned.

Good luck to everyone flying in the Classic.
Regards, **Shannon**.

Meeting Topics

Some additional topics will be discussed at the next meeting that were not resolved in January. There is some confusion and ambiguity surrounding the counting of year end points for the Challenge Cup. There are a number of members who are dual members with PPSS. In the last 2 years I have taken the score of each RMSA member participating and normalized it to the score of the highest scoring RMSA member for year end points. The first question is: if a PPSS only member should win the Challenge Cup should the scores be normalized to the overall contest winner – not just the highest RMSA member? The second question is: should dual member scores count for RMSA year end points if they fly for the PPSS team? Resolution of these questions will help me perform scoring according to the wishes of the membership.

Another item is the status of 2M and RES competitions for 2001. The club decided that we will support year end awards for 2M and/or RES if we can get enough support from CDs to conduct the events. There was some concern that have two series with 3-4 contests each would exceed our capacity to conduct the events. We discussed the possibility of holding 4 additional "combined" contests where we fly both 2M and RES in the same day. Attendees could participate in either or both of the events. If you participate in both events you would have to fly twice. This was left undecided at the last meeting. If you are willing to CD one of these events please contact one of the officers and/or attend the next meeting. If we are unable to schedule enough committed contests we will not have a 2M or RES series this year.

We will be meeting at a new location this month. Dr. Dan has offered the use of his office in Broomfield so we have a good place to meet. The board realizes that this is a somewhat north location and would like to split the meeting locations with another location more south. If any member can suggest a more southerly location we can alternate meeting locations to make travel to the meetings more equitable. Dr. Dan's Office is at 26 Garden Ctr BROOMFIELD CO 80020-7012. The office is just off of Rt 287 in Broomfield across Midway from the Target plaza. The following map shows the route to the office from the Broomfield exit of US36 (Boulder Turnpike).

Real Balls !!

The Real Balls winch endplates have arrived. We will need to arrange for all of the club winches to be gathered for installation and rebuilding of the frames to be more compact and lighter. In the new design we will not have to remove the wheels from the frame when setting up. Dr. Dan is providing the welding equipment and expertise. Bob Rice is coordinating the effort. Installation of the Real Balls should improve the efficiency of the winches as well as increasing the lifespan of the motors. We expect to have this completed before the first contest.

CAUTION AT THE CLUB FIELD

Be aware that recently one of our members was flying out at the sod farm when some people in a truck pulled into the parking area and stole a transmitter and other items from the member's car including 1 purple/outside and red/inside sailplane bag and 1 Vision Transmitter with 44 & 21 frequency modules. They also must have turned on the transmitter and nearly shot down his Graphite...

If these items show up for sale to somebody please call Jon Padilla @ 932-2504. Since there is now a berm of dirt between the field and the parking area, visibility of the cars is limited. Be sure to lock your vehicles while flying.



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Map to new meeting location

2001 Contest Program Ratification

The meeting this month will focus on the ratification of the changes to the contest program that were voted on by members at the last meeting. The single vote will be to accept the revised contest program as-is or to reject the changes which will leave the contest program as it was last year. Included below is the text of the revised program for your review. Note that underlined sections are where new or significantly revised text was changed. Strike-thru letters indicate deletions from the document.



ROCKY MOUNTAIN SOARING ASSOCIATION CONTEST PROGRAM - 2001

PURPOSE

1. To help members develop flying skills by competing against an equally skilled group
2. To allow advancement to a higher level skill group.
3. To challenge all members to develop their design, building, and flying skills.

RMSA CONTESTS

RMSA usually schedules at least one contest per month, March through November. Tasks are chosen to provide variety and challenge for all skill levels. At the beginning of each year, the Board of Directors normally obtains AMA sanctions for nine regular monthly contests to be counted toward **Open class** season points. The Board or individual contest directors may from time to time also request or schedule additional specialty contests. All AMA/RMSA sanctioned Open class unrestricted contests will count toward season point totals and awards. RMSA also schedules at least 4 contests for Hand Launch class for HLG season championship points. RMSA may also conduct season awards programs for other classes of events such as 2-Meter and Rudder/Elevator/Spoiler classes as determined by the Board of Directors at the beginning of each season. Specialty contests, fun flies, etc. are non-point events.

NON-RMSA CONTESTS

The Colorado Challenge Cup is normally held in July and sanctioned by the club holding the cup for the year and is a counting event regardless of the club holding the event.

To encourage AMA members to participate in national level competitions, any national contest spanning two or more days with 30 or more contestants may be counted towards season total points.

~~To encourage reciprocity with the Pikes Peak Soaring Society (PPSS) ONE PPSS contest may also be used for season points.~~

Contests must be of a class compatible with the RMSA class they will be counted against, e.g. Open Thermal Duration (including F3J and F3B) for the RMSA Open class, or HLG for the RMSA HLG title. **NO MORE THAN TWO ONE NON-RMSA CONTESTS CAN BE COUNTED TOWARDS SEASON POINTS TOTALS!!** ~~This is a total for BOTH HLG and Open class.~~

CLASSES

Novice New members with limited flying experience. Novice pilots are limited to Rudder-Elevator-Spoiler sailplanes. Pilots flying full-house sailplanes are automatically promoted to Sportsman.

Sportsman Members with contest experience and have advanced by contest points.

Master Member having advanced through contest achievement from other classes.

New Member Classification

At AMA/RMSA contests, all members are expected to identify themselves as novice, sportsman or masters pilots based on the above guidelines. New members should elect to place themselves in the Sportsman class if they are accomplished RC pilots (power or glider) or have had significant prior contest experience. The Novice class is intended to encourage new flyers to enter the club contests. New members with vast contest experience may petition the Board to be placed directly into the Master class.

Reclassification

Members may petition the board for consideration of changing classification either up or down based on extenuating circumstances. The board will examine the merits of the petition and make a recommendation based on fairness to the member and other competitors.

ADVANCEMENT

Class points are given as follows;

- 1st place in class = 3 points
- 2nd place in class = 2 points
- 3rd place in class = 1 point

Advancement to the next class requires the following:

1. Novice to Sportsman = 12 points and 1 class win or 3 class wins.



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2. Sportsman to Master = 21 points and 2 class wins or 4 class wins.

In all cases there must be at least three competitors in your class to be counted towards advancement points.

No class points are carried forward at advancement, however class points are carried forward to the next contest year.

STANDINGS

Normalized scores from each contest will be used to develop advancement points and annual awards.

Annual awards shall be given at least through third place in each class. Only the six best Open contests are counted towards annual Open points. For Handlaunch only the best 3 contests are counted. In addition only two one of the special noted contests may be counted toward the six best (~~including one contest hosted by the Pikes Peak Soaring Society~~).

The RMSA club champion shall be recognized as a true champion pilot, showing both skills as a pilot and the willingness to compete against his peers inside and outside of RMSA. Points for the club champion trophy shall be computed from the total of the normalized, documented scores from all AMA sanctioned contests entered during the year by that competitor. Normalized points from outside contests must be documented, signed by the contest director, and submitted to the club scorekeeper prior to November 15 for that contest year. Annual awards shall be given in the class where the pilot spent most of the year.

Example: If the pilot advances from Sportsman to Master by virtue of contest points during mid-year, he/she will be eligible for an award only in the class where he/she spent the majority of that year's club contests. In the event of a tie for any standings, co-champions will be declared.

For Sale

- 1) Sailplane Winch - Beautifully engineered. Ford long shaft motor with "Real Balls" bearings and field adjustable timing. Timbs Engineering Power Disconnect and Heavy Duty Solenoid. Rahm Friction Brake and Drum. Easily transportable winch frame design with wheels. Includes heavy duty line, chute, foot switch, and turnaround. Ready to Use..... \$650
- 2) Xantipa (3rd generation Large Flap Design) Includes ballast tube, Volz Micro-Max in Flaps, Hitech HS-85 in fuse. Includes 1400 mAH battery and Airtronics Servo Connectors. \$ 400
- 3) Sailair Nostalgia Plane (Brand New in Box)... \$50

Gyros for Sailplanes

Following is an article from the internet by a well known aerodynamicist on the application of gyros or electronic stabilizers for sailplane flying. I hope you enjoy it!

I have used a rate gyro on both R&E and aileron sailplanes.

Rudder and Elevator:

I have many hours on a big R&E model of my own design - the big one at the top of the page at:

http://members.home.net/evdesign/pages/plane_geometry.html

This particular model has too little vertical stabilizer and is underdamped in yaw. It works fine if I am smooth, but when attempting precision landings I tend to bang the stick around in the panic mode and the plane gets ugly. I added a rate gyro a rate gyro to solve this problem, and it did, very nicely. The gyro senses yaw rate and drives the rudder to counteract the yaw rate. I was concerned that the gyro would make it difficult to detect and center thermals. This has not been the case within my not-particularly-expert capabilities. The gyro does not seem to reduce thermal detection or centering at all. I should note that the key thing that I look for while thermalling is the vertical rate of the model first, rolling motion second, and lateral drift third, if at all.

The model was initially adequately spirally stable, taking modest bottom rudder to hold it in a constant bank. With the rate gyro, it takes more bottom rudder to stay in the turn. I anticipated this and I was afraid that this would make the plane feel "doggy". Instead, I find that it gives the plane a kind of solid feel that permits great precision and smoothness in setting and holding bank angle. I like it.



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For what it is worth, I am now using a Cirrus piezoelectric rate gyro from Hobby People (made in Taiwan, I think by Grand Wing Servo). It costs only \$50, weighs 7 grams, about half a cubic inch in volume and consumes only 10 mA. It works well.

Aileron Sailplanes:

I have also used a rate gyro on two aileron models. In these airplanes the gyro senses primarily yaw rate and drives the ailerons to roll opposite to the yaw rate.

The first model was a 120 inch span, lightweight built-up model (about 8 oz/ft²) with very little dihedral. I found this model very challenging to fly due to spiral instability. I had to spend too large a fraction of my limited brain power concentrating on maintaining bank angle and airspeed. This was particularly hard to do at altitude. A simple rate gyro was adequate to drive the single aileron servo that drove the ailerons through a lengthy linkage. The effect of the gyro was to provide spiral stability similar to a rudder and elevator polyhedral model. Moderate bottom aileron was required to hold the model in a bank, and when the stick was released, the model rolled out and flew straight in less than a circle.

Other aspects of the model's handling were not impaired with the exception of landing in gusty crosswinds. I noticed that the model was less immune to side gusts because of the yaw-roll couple that the gyro provides.

The second model that I have flown for only a limited time is Bill Watson's Emerald as described in the article at:

http://members.home.net/evdesign/pages/spiral_stability_gyro.html

This full-house, variable camber model uses a more complex rate gyro that drives the two aileron channels and has in-flight adjustable gain via a seventh channel and a knob on the transmitter.

What surprised me was how easy this model is to fly even with the gyro gain zeroed. It seemed that I had more trouble controlling the speed precisely than the bank angle, but I was doing fine. What surprised me next was how much better the model flies with the rate gyro gain turned up. Bank angle control was substantially improved and as a result, it was much easier to hold a constant, and slower, airspeed. I did not detect any reduction in the ability to find and center thermals. Bill has not noticed any reduction in precision in the landing pattern, either. This is in contrast to my experience with the lightweight model. Of course, the gyro gain could be turned down for landing if this is a problem.

The more complex gyro came from Tower Hobbies and cost \$129. The make and model are specified in the web article.

Should Gyros Be Legal?

In my experience, gyros enhanced the flying characteristics and flying experience for several different sailplane models. In no way, however, did the gyro launch or fly the model, find thermals, center the thermal, or land the airplane. It is still plenty challenging! The gyros are nice to use, even for sport flying. They are an overall enhancement, inherently worth the investment of time and money.

The cost and negative technical impact (size, weight, complexity) of the gyro on the airplane is small. Many other innovations are considerably more complex and expensive, as owners of thousand dollar computer radios and thousand dollar factory-molded models recognize.

Some future technical innovations may provide a competitive advantage but reduce the quality of the soaring experience. The legality of such innovations should be examined carefully.

I believe that gyros should be legal because they enhance the soaring experience. Give it a try and see for yourself!

Blaine Beron-Rawdon
Envision Design
San Pedro, California
<http://members.home.net/evdesign/>



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Renew Now – or this is your LAST Newsletter!!

Now is the time to renew or you will no longer receive the Thermals. If your name is not on the attached list your membership payment has not been recorded for 2001. If you have mailed a payment and your name is not on the list please contact Bob Rice to fix the problem.

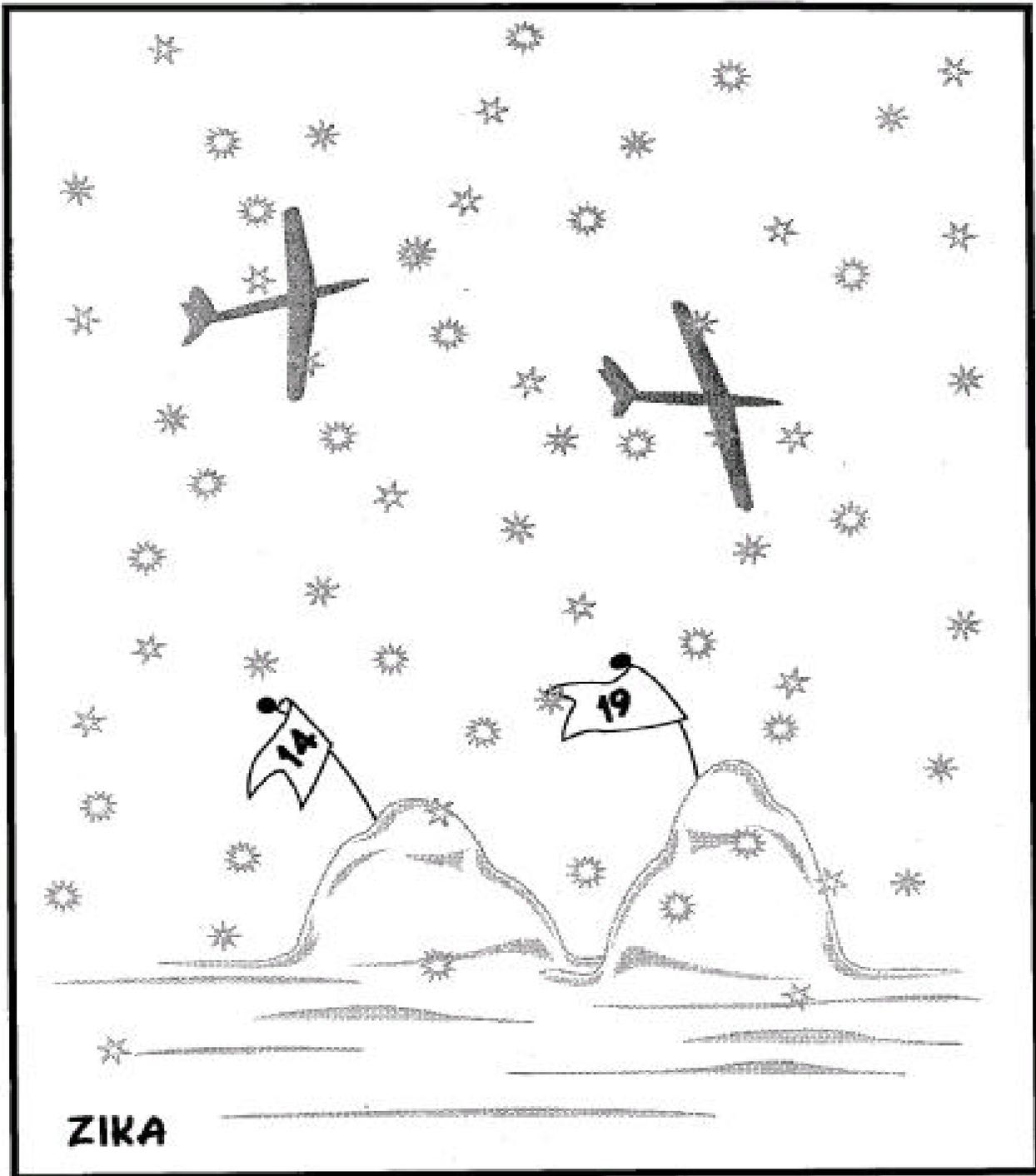
I am considering making the facilities available to allow online membership application/renewal and even online payment using charge cards. This would be accomplished using PAYPAL. If you become a member of PAYPAL you can send electronic payments to others with the charges going to your credit card. We would establish a PAYPAL account for RMSA and PAYPAL Members can pay their dues via credit card or directly from their checking account. I have used the system successfully a number of times. There are NO charges to RMSA or PAYPAL users – it is a free service. If you would be interested in this method of payment let me know and I'll consider setting it up if enough members are interested. – Jim

RMSA 2001 Paid Members

Full Name	Address	City	Stat	Zip	Phone	Work Phone	Ama
Wayne Angevine	4160 26th St.	Boulder	CO	80304	303-443-5165	303-497-3747	6502
Jim Barr	1255 Ivy St	Denver	CO	80220	303-355-3833	303-337-4743	594
Byron Blakeslee	1448 W. Briarwood Ave	Littleton	CO	80120	303-738-1104		6153
David Bradfield	8641 Jellison St.	Arvada	CO	80005	303-424-5704		605314
Mark Bradfield	6280 W 110 Pl	Broomfield	CO	80020	303-466-8180		629927
Robert Bradfield	6280 W 110 Pl	Broomfield	CO	80020	303-466-8180		407977
Jeff Burg	21059 E Belleview Pl	Aurora	CO	80015	303-627-9895	672-1307	62392
Jim Butler	9505 W Wagon Trail Dr	Littleton	CO	80123	303-978-1656		602989
Tracy Cochran	680 S. Canosa Ct.	Denver	CO	80219	934-8838		261901
Matt Curtis	2929 West Floyd Ave #115	Denver	CO	80236	303-783-2867	303-722-6081	268554
Jack L. Dech	PO BOX 25188	Colorado Springs	CO	80936	719-590-7673		2829
Dana Falconer	995 Hy-Vu Drive	Evergreen	CO	80439	303-679-8692	303-410-5630	561475
Ali Ghaffari	2802 N. Torreys Peak	Superior	CO	80027	720-938-9122	720-938-9122	700485
Tom Gressman	7753 Emerald Peak	Littleton	CO	80127	303-979-8073	303-744-	20538
Bob Johnston	1217 Milner Ln	Longmont	CO	80503	303-678-5597	303-449-7400	671539
Phil Jones	9840 S. Concord Ct	Highlands Ranch	CO	80126	720-344-0307	720-533-3587	653305
John Kappus	851 Lafaette St.	Denver	CO	80218	303-861-7121	303-273-	135340
Gary Lewan	1305 Quaker	Golden	CO	80401	303-277-1375	303-980-0540	543294
Robert W Lewan	540 Locust Ave	Brighton	CO	80603	303-655-1649	303-884-3142	5428
Kevin Moffett	8330 Zuni St #120	Denver	CO	80221-4674	303-426-0328		523189
Robert Moffett	8330 Zuni St #120	Denver	CO	80221-4674	303-426-0328	303-451-5318	396839
Bill Moxon	2626 W 6th St.	Greeley	CO	80634	970-304-9008	303-659-8221	686226
Jon Padilla	7655 S. Allison St.	Littleton	CO	80123	303-932-2504	303-462-7591	277950
Don Port	711 Beech St.	Golden	CO	80401	303-232-8842		8832
Tom Powers	10361 Tennyson Ct.	Westminister	CO	80031	303-466-2678	303-624-1677	108839
Peter Rackow	5425 S. Hoyt St	Littleton	CO	80123	303-973-9934		112455
Bob Rice	1123 S. Oakland St.	Aurora	CO	80012	303-745-5629	303-831-3412	8101
Art Ries	2020 So. Monroe St. Apt 802	Denver	CO	80210	303-759-4383		488935
Matt Sheldon	7800 W 35th Ave #8	Wheat Ridge	CO	80033	303-445-9457	303-432-8259	1880
Ray Tate	10900 E. 153 Dr	Brighton	CO	80601	303-466-1169	303-469-3523	572801
Dave Thompson	1740 W 102nd Ave	Denver	CO	80260-6386	303-438-5765		631272
Paul Welschinger	2918 Benton St	Wheat Ridge	CO	80214	303-238-1944	303-583-0265	632520
M. J. Welschinger	7040 W. 20th Ave #104	Lakewood	CO	80215	303-238-4989		581263
David West	9352 S. Mountain Brush St.	Highlands Ranch	CO	80126	303-470-6356	303-355-4585	509122
Dr. Danny Williams	26 Garden Center Ste 1	Broomfield	CO	80020	303-420-8687	303-430-7777	Applied
Jack Zika	2390 Braun Dr.	Golden	CO	80401	303-279-1549		8223



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Marc and I practicing for the SWC Saturday January 27, 2001



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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
Apr. 3	RMSA Meeting		
Apr. 8	Open*	Jim Barr	
Apr. 15	HLG**	Shannon Bingham	
May 1	RMSA Meeting		
May 6	Open*	Lenny Keer	
May 12	HLG**	Bob Lewan	Saturday event
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
July 3	RMSA Meeting		
July 8	Open*	Bob Pederson	
Aug. 7	RMSA Meeting		
Aug. 12	Open*	Jim Monaco	Kinda-F3J
Aug 19	HLG**	John Kappus	
Sept. 4	RMSA Meeting		
Sept. 9	Open*	Bob Rice	AKA: Colorado Challenge Cup
Oct. 2	RMSA Meeting		
Oct 6&7	<i>Visalia</i>		<i>Visalia California</i>
Oct. 14	Open*	??????	
Nov. 6	RMSA Meeting		
Nov. 11	Open*	Shannon Bingham	
Dec. 9	Awards Banquet		

*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