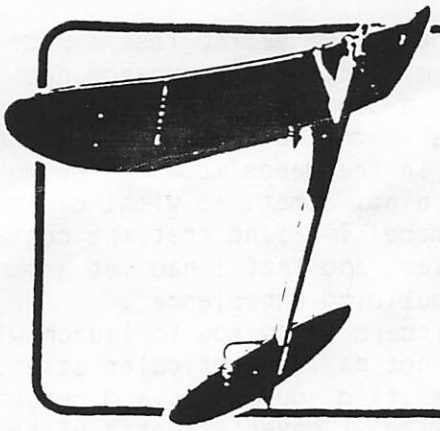


MINNEAPOLIS MODELER

Published six times per year by the Minneapolis Model Aero Club
1011 Highland Ave., So. St. Paul, Mn. 55075

ESTABLISHED 1937 -- CHARTER No. 379

Annual Dues: Open.... $15.00 Senior.... $5.00 Junior.... Free
Subscription rate for non-members.... $6.00/year

President	**John O'Leary**	**888-0638**
Secretary	**Jim Ladwig**	**920-1245**
Treasurer	**Gary Fessler**	**422-0593**
Editor	**Dave Braun**	**457-2264**

No. 247 **Nov. - Dec. 1995**

Coming Events

The next meeting of the MMAC will take place **Nov. 3d** at the Donaldson Corp. Try to make this one as elections for officers will be held. Don't worry about being nominated (unless of course you want to be) as a couple of stout hearts have already expressed interest. All that remains to be done is the official raising of cooled aluminum cannisters of free flight lubricant in their honor.

November 19, 1995 **Gary Oakins *429-3150***

Fun Fly - Trim Session

December 17, 1995 **Dave Braun *457 - 2264***

Peanut Scale	Walnut Scale	Bostonian
No - Cal Scale	Penny Plane	Easy B
Mini - Stick	Catapult Glider	HLG (SO)
HLG (J)	Junior Rubber	

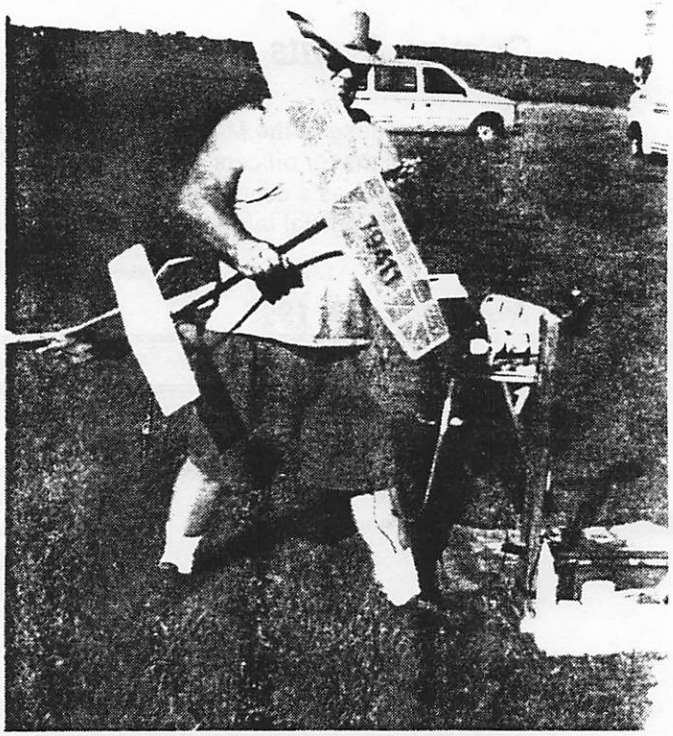
Time: Contests will be from **1:00 PM** to **6:00 PM** ***(Must be out by 6:15)***
Registration: Registration shall remain open until the commencement of official flights in an event or event grouping.
Note: All ages combined except as noted
Site: ***Mpls. Junior Academy*** 3500 Williston Rd., Minnetonka Mn.

O'Leary Ink

Fred Emmert.from Belmont.CA. a lifelong free-flighter, and currently very active on the OT/FF power scene returned to the Twin Cities' area to attend to the settling his mother's affairs following her passing. Fred attended a couple of our meetings.our August contest. and broke bread (toast) with us at "Peaches" restaurant. Fred was one of the founders one the Mpls. Model Aero Club and a former president. He shared reminisces of the early days of the MMAC and gave Hank L. a number of newspaper clippings with pnotos dating from the late 30's and early 40's. If you didn't get a chance to see these accounts of the early days of our club. make sure you touch base with Hank. Can you imagine one of our current contests being attended by 10.000 spectators? What kind of problems did that pose for traffic. and crowd control.not to speak of the legal liabilities of an errant first time gas model flown by a fourteen year old. Thank you. Fred and "hats off" to our club founders. Fred currently is a member of the Oakland Cloud Dusters. certainly one of the most prestigious FF clubs in the country.and whose membership ranks included such FF luminaries as Paul Andrade.dec..Joe Biligri.dec..and Hank Cole.Joe Foster.Roger Gregory.Bob Meuser.Erv Rodemsky. Bud Romak. and many other famous FF legends.

When I was a youngster.in the wilds of the Upper Peninsula of Michigan.we did a lot of recreational skiing. Well. sort of recreational. because down hill skiing involved strapping on the skis. and cross country skiing to the hill (Mt. Zion) some two miles distant and then "herring-boning" up. perhaps three times for the thrill of a a two minute schuss down the the slopes.In 1941 or so. some farsighted city father built a warming shack. canteen and wonder of wonders. a ski lift. While that rope tow was primitive.it rivaled one of the Seven Wonders of the World to this fly guy. Now. I'm not the type that gushes about FF gadgets.but I'm convinced that the radio directional finders now on the market provide the technological breakthrough comparable to the ski lift of the 40's. I've had my Walston unit since last September and I have yet to lose a model. Furthermore my contest performance has improved immeasureably. Pre-radio finder. I'd put up a flight.maybe max. and spend an hour or two in the weeds looking for my plane. Returning. sometimes with. often without my model I'd find that the contest was about over. and that I had yet another "character building experience".
The radio finders allow you to launch with confidence. not paying particular attention to the "line".find your plane.and return to the flight line. I haven't lost a plane since I bought the unit. and now my building skills are eroding because I'm flying and repairing the same old crap. Hell. I'm so enthusiastic I'm planning on installing the unit in my indoor planes.

Well fly guys. we ll be having our annual election of officers at our next meeting. Nov.3rd. Both Jim Laqwig and I having served admirably on an interim basis are declining to "re-up". We've had our turn in the barrel. Grapevine skinny indicates that there are some candidates ready to grasp the reins and lead the club into the next century. God bless them.each and everyone! Be there or be square! Your prez. for now but not for long.



Now that he's retired and moved away (and can't get at me) I can publish this picture of **Don Spehn** in Full Free Flight Regalia firing up a gas job.

MEETING MINUTES of MINNEAPOLIS MODEL AERO CLUB
SEPTEMBER 8, 1995 DONALDSON COMPANY, INC.

Called to order at 8:18 P.M. by Interim President John O'Leary.

SECRETARY'S REPORT- Gary Oakins moved and Mike Spiess seconded that the minutes of the August meeting be accepted as published.

TREASURER'S REPORT- Treasurer Gary Fessler stated that the balance is down considerably since paying for the caps and patches and other bills. The good news is that dues will be received in November and December.

OLD BUSINESS-

1. All members were admonished to buy caps at $7 each and patches at $6 each, to restore the funds in the club treasury.

2. Indoor contest sanctions were signed by the CDs for mailing by 9/12.

3. All were reminded of the contest on Sunday, Sept. 10. Gary Fessler will bring a cellular phone to the field. Gary says that cellular airtime is free on weekends.

4. Jim Ladwig will bring copies of the MMAC information sheets Sunday for Dennis Sussman, who needs them to mail to prospective prize donors.

5. Second reminder - redeem your certificates now at the Hobby Van; when Del moves they are NULL and VOID (and worthless, too).

NEW BUSINESS-

1. Interim President O'Leary announced the following rotation of events for the Indoor Contests:

	Nov.	Dec.	Jan.	Feb.	Mar.
Gliders	1	3	2	1	3
Lightweights	2	1	3	2	1
Heavyweights	3	2	1	3	2

2. The October contest in Lawrenceville has changed dates so it now conflicts with the MMAC Oktoberflug. O'Leary suggests Oktoberflug '96 be scheduled so as to avoid that conflict. (Jack is planning to win at Larwenceville in 1995, and will miss our Oktoberflug.)

3. MMAC has been offered 1996 EAA calendars for $6 each if we order 12 or more. Jim Ladwig and Henry Liljequist can get them at that price for single copies. See them if you want this fine airplane photo calendar.

4. Treasurer Gary Fessler announced his resignation from office at the end of this year, and pointed out that a complete new slate of officers needs to be nominated at the October meeting.

5. Motion by Tim Johnson was tabled. This concerned holding a future club meeting at Hobby Warehouse at 72nd and Chicago in Richfield. Tim says the owner might be willing to stock free flight items for us.

Terry Taylor moved and Tim Johnson seconded to adjourn at 8:45 P.M.

SHOW & TELL-No items were brought to this evening's meeting. Members travelled to Kinko's for a plans swap session. Failure of the large copier was a definite hinderance to this activity.

Respectfully submitted by Jim Ladwig, Interim Secretary.

MEETING MINUTES of MINNEAPOLIS MODEL AERO CLUB
OCTOBER 6, 1995 DONALDSON COMPANY, INC.

Called to order at 8:00 P.M. by ex-President Gary Oakins standing in for the absent Interim President Jack O'Leary.

SECRETARY'S REPORT- Interim Secretary Jim Ladwig read the minutes of the September meeting. Minutes approved and will be published as modified.

TREASURER'S REPORT- Treasurer Gary Fessler was not present. No report.

CORRESPONDENCE- MAAC Delegate Aaron Petersen reported that:

1) MAAC proposes to have a booth at the MN Sport Aviation Conference to be held Feb 24 & 25, 1996 at the Mpls Convention Center. There will be no cost to the model clubs and sales are permitted. Aaron moved and Don Patterson seconded that MMAC participate. Approved.
2) MAAC proposes an Outdoor Fun Fly for all clubs, to be held at a convenient location, perhaps Rosemount or Hastings.

OLD BUSINESS-

1. The Indoor Trim Session has been moved from Nov 12 to Nov 19, at the request of the MJA. The printed schedule is to reflect this change.

2. The MMAC Christmas Party will return to Gary Oakins' place for 1995. A special notice is to be mailed to all members. Liquid refreshments will be furnished by the host.

NEW BUSINESS-

1. Don Patterson will need help with the model club at Northview Jr. High, as Hank Liljequist is to have surgery soon on his knees. Weekly meetings are 2:30-4:30, tentatively set for Wednesdays, starting in November. Call Don now at 476-2057 to offer your help with classes.

2. Aaron Petersen reported he and Harry Gerrish are having further talks with the risk management director at the Metrodome.

3. Jim Ladwig discussed a draft of the application for $1000 from the AMA Youth Education Stipend (YES) funds for supplies, etc.

4. Tony Saunderson will search for a replacement site in the event we lose access to the Hentges Sod Farm. He will report status in December.

NEXT MONTH'S MEETING-

1. Dues will be collected; cash or checks accepted. No credit cards.

2. Elections will be held. Nominations presently are: President, Mike Spiess; Secretary, Tony Saunderson; Treasurer, Gary Fessler (reluctant).

3. The opening of the National Hobby Company on Central, north of 694 was mentioned. One of the founders is Brian, formerly of Hub Hobby in Little Canada. They carry SIG balsa and jap tissue, may carry more F/F.

Don Berggren moved and Dennis Sussman seconded to adjourn at 8:59 P.M.

SHOW & TELL-No items were brought to this evening's meeting.

Respectfully submitted by Jim Ladwig, Interim Secretary.

CHARGERS FOR MINI-ELECTRIC MODEL AIRPLANES - by Jim Ladwig MMAC

There are several commercial chargers available for charging the 50 mAh and 110 mAh cells used to power the mini-electric motors in small model airplanes. The Cyclon rechargeable sealed lead-acid batteries made by Gates can be used to power many of them.

If you do substitute in your charger these Cyclon cells for alkaline or ni-cad cells, be sure to adjust the number of cells for the difference in cell voltage. Cyclons have about 2.1 volts per cell, alkalines about 1.5 volts per cell and ni-cads about 1.2 volts per cell.

Thus, three Cyclon cells (6.3v) would replace four alkalines (6.0v)or five ni-cads (6.0v).

You can make your own low cost charger simply by using a number of the Cyclon cells equal to the number ni-cad cells to be charged and a Type 1156 or 1157 automobile tail lamp. (More Cyclon cells could be used, since the lamp will regulate the current quite well.)

HERE'S HOW TO DO IT!

1) Connect the Cyclon cells in series (positive of one cell to the negative of the next), if not already connected that way.

2) Connect the lamp to the plus terminal of the battery. To do this:
a)Take a piece of bare copper wire (#16 to #12) about three inches long and wrap one end around the copper shell of the tail lamp base.
b)Leave about one inch of the other end free, which should give just more than one-half turn around the base. Solder to the base shell.
c)Solder the free end to the most positive terminal of the series-connected cells. It may be most convenient to put the glass bulb of the lamp next to the cells, with the base up. (This assumes the positive terminal of the battery is pointed up.)

3) Solder the positive charging lead to the solder point at the center of the lamp base. Be careful not to short out to the shell of the base.

4) Solder the other charging lead to the negative battery terminal.

5) Connect the type of connector appropriate to your setup to the other end of the charging leads.

This charger will put out about one ampere to any number of ni-cad cells equal to or less than the number of Cyclon cells.

To determine how many minutes at one ampere are needed to fully charge a ni-cad battery which has been fully discharged (down to 1.1 v per cell), divide the capacity of the ni-cads in mAh by 1000 and multiply by 60. This is also the ni-cad capacity in Ampere-minutes.

This is a convenient method of timed charge which nicely suits this simple charger. You should also occasionally feel the cells being charged to see if they are overheating. The cells should never feel more than slightly warm. If they are, disconnect the charger.

MMAC Late Summer Meet - Sept. 10, 1995

1/2 A Gas (13)

1. Bill Roush	120	120	94	**334**
2. Jorge Triana	76	120	120	**316**
3. D. Sussman	78	104	120	**302**
4. D. Bloomqist	65	111	120	**296**
5. Dell Marchant	80	83	120	**283**
6. Gary Oakins	120	42	120	**282**
7. J. Jorgensen	71	120	88	**279**
8. Gary Fessler	120	90	55	**265**
9. Hank Liljequist	6	120	118	**244**
10. Terry Taylor	45	105	76	**226**

A Gas (12)

1. Gary Oakins	120	120	120	113	**473**
2. Al Muller	120	120	120	83	**443**
3. Jorge Triana	104	120	120		**344**
4. Dennis Sussman	119	78	120		**317**
5. Don Spehn	120	85	81		**286**
6. Gary Fessler	120	42	88		**250**
7. Terry Taylor	120	72			**192**

BCD Gas (5)

1. Jorge Triana	120	120	120	71	**431**
2. Gary Oakins	120	120	120		**360**
3. Dick Bloomquist	120	117	120		**357**
4. Don Spehn	120	69	92		**281**
5. Al Muller	90				**90**

Nos. Gas (6)

1. Al Muller	120	120	120	**360**
2. Don Spehn	120	103	120	**343**
3. Hank Liljequist	120	89	120	**329**
4. Dennis Sussman	118	65	120	**303**
5. Dick Bloomquist	90			**90**

Pee Wee 30 (3)

1. Jorge Triana	**1752**
2. Bob Kumferman	**1065**
3. Hank Liljequist	**1004**

Mulvihill (6)

1. John O'Leary	120	120	120	
		180	240	**780**
2. Aaron Petersen	119	94	120	**333**
3. Mike Spiess	112	100	120	**332**
4. Ted Wlazlo	92	120	64	**276**

Embryo (4)

1. Aaron Petersen	120	120	120	+5	**365**
2. Herman Fessler	84	120	120	+9	**333**
3. Bill Rogers	4	67	71	+9	**151**
4. Terry Taylor	4	26		+9	**39**

Junior Event (2)

1. Cody Spiess	56	52	63	**171**
2. Jason Fessler	30	39	35	**104**

P-30 (12)

1. Terry Taylor	67	116	120	**303**
2. Mike Spiess	120	59	120	**299**
3. Gary Oakins	86	113	100	**299**
4. Bob Kumferman	120	57	120	**297**
5. Joe Huettl	120	120	51	**291**
6. Aaron Petersen	100	120	69	**289**
7. Herman Fessler	68	77	120	**265**
8. Jim Jorgensen	120	52	63	**235**
9. Bill Rogers	108	67		**175**
10. Dick Diers	70	67		**137**
11. Bill Roush	85	38		**123**
12. Don Spehn	34			**34**

Cat. Glider (12)

1. Dick Diers	120	60	60	**240**
2. Herman Fessler	111	43	43	**197**
3. Bill Rogers	41	23	45	**109**
4. Bob Kumferman	45	33	30	**108**
5. Joe Huettl	38	33	32	**103**
6. Bill Roush	38	34	29	**101**
7. Tim Johnson	21	27	45	**93**
8. Dell Marchant	25	37	25	**87**
9. Gary Fessler	37	28	41	**79**
10. Don Spehn	25	23	18	**66**

Coupe D'Hivre (8)

1. Herman Fessler	120	120	120	**360**
2. Bob Kumferman	99	70	120	**289**
3. Aaron Petersen	61	120	51	**232**
4. Hank Liljequist	104	69	41	**214**
5. Mike Spiess	120	56		**176**
6. Joe Huettl	64	52	52	**168**
7. Bill Rogers	72	64		**136**
8. Jim Jorgensen	37	48	50	**135**

Hand Launch (4)

1. Joe Huettl	104	44	49	**197**
2. Dick Diers	47	38	21	**106**
3. Tim Johnson	28	33	18	**79**
4. Gary Fessler	15	14	9	**38**

A/2 Nordic (1)

1. Jorge Triana	120	**120**

Daily High Point total goes to ***Aaron Petersen*** with 33

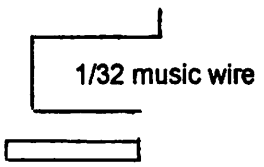
From the Dept. of Bearing it All.... Variations on a theme

This front end has worked well for me on profile models. Its benefits are ease of construction and its ability to be easily adjusted for both side and down thrust; a major advantage in my book. As with most front ends, however, it doesn't allow for prop removal.

DB - MMAC

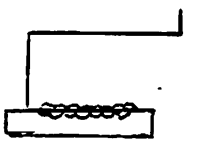
Not to scale

(1) For reference, the length of brass tubing on my profile P-47 is 1/4".



1/16 OD X 1/32 ID brass tubing

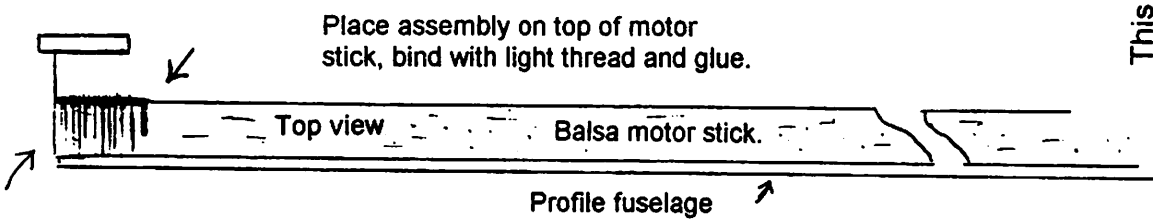
(2)



Solder together carefully, making sure that the tubing sticks out past the music wire.

This would work well with larger size wire / tube combinations as well.

(3)



Bind with thread and glue

Use a small needle nose pliers to bend in or out, up or down for side thrust and down thrust adjustments.

A Modest Proposal



I gave sailing a try this year and had four days of light to calm conditions. The few times I flew this year, it blew like crazy.

So, here's the deal. If the club could kick in about 30 grand toward my sailboat fund .....

I'd promise to go sailing on contest days, thereby assuring good flying conditions.

It sounds good to me!

MMAC Oktoberflug October 8, 1995

1/2 A Gas (8)

1. JorgeTriana	120	120	83	**323**
2. Dell Marchant	98	120	70	**288**
3. Gary Fessler	70	120	59	**249**
4. Gary Oakins	52	47	88	**187**
5. Terry Taylor	85	95		**180**
6. Gary Crawford	97	75		**172**
7. Denny Sussman	45	120		**165**

A Gas (9)

1. Al Muller	120	120	120	120	120	**600**
2. Jorge Triana	120	120	120	89		**449**
3. Gary Crawford	120	120	120	55		**415**
4. Gary Fessler	120	61	74			**255**
5. Don Spehn	57	120	53			**230**
6. Terry Taylor	86	120				**206**
7. Denny Sussman	120	48				**168**
8. Gary Oakins	117					**117**

BCD Gas (4)

1. Al Muller	120	120	120	**360**
2. Gary Oakins	117	120	120	**357**
3. Don Spehn	98	120	92	**310**

Nos - Gas (4)

1. Al Muller	120	120	120	**360**
2. Dennis Sussman	120	71		**191**
3. Don Spehn	73			**73**

.020 Replica (6)

1. Dell Marchant	120	120	120	96	**456**
2. Jorge Triana	100	78	120		**298**
3. Gary Oakins	120	58	59		**237**

Mulvihill (5)

1. Joe Huettl	120	120	74	**314**
2. Aaron Petersen	83	63	120	**266**
3. Ted Wlazlo	63			**63**

Embryo (4)

1. Aaron Petersen	67	120	120	+5	**312**
2. Herman Fessler	85	95	102	+9	**291**
3. Bill Rogers	66	70	69	+9	**214**
4. Doug Zimmer	33	38	78	+6	**155**

Congratulations to ***Aaron Petersen*** for garnering the daily high point award (33) and to ***Al Muller*** for maxing out in all three events entered

OT Rubber (9)

1. Mike Spiess	120	120	90	**330**
2. Aaron Petersen	120	90	109	**319**
3. Herman Fessler	106	104	91	**301**
4. Joe Huettl	55	114	120	**289**
5. Bob Kumferman	39	41	88	**168**
6. Pete Owen	64			**64**
7. Doug Zimmer	25			**25**

Hand Launch (6)

1. Joe Huettl	49	42	51	**142**
2. Dick Diers	32	50	60	**142**
3. Doug Zimmer	33	37	29	**99**
4. Bill Rogers	30	29	29	**88**
5. Gary Fessler	7	10	13	**30**

Catapult (9)

1. Herm Fessler	80	120	49	**249**
2. Dick Diers	55	41	59	**155**
3. Bob Kumferman	33	45	35	**113**
4. Joe Huettl	25	37	27	**89**
5. Gary Fessler	29	24	25	**78**
6. Don Spehn	28	20	20	**68**
7. Bill Rogers	18	14	15	**47**
8. Dell Marchant	4	11	6	**21**

P-30 (14)

1. Aaron Petersen	112	81	120	**313**
2. Mike Spiess	86	116	71	**273**
3. Gary Oakins	71	120	66	**257**
4. Herman Fessler	62	59	103	**224**
5. Don Spehn	82	52	59	**193**
6. Pete Owen	120	68		**188**
7. Bob Kumferman	48	34	76	**158**
8. Ted Wlazlo	42	41	63	**146**
9. Terry Taylor	76	61		**137**
10. Joe Huettl	120			**120**
11. Doug Zimmer	52	23	27	**102**
12. Bill Roush	44			**44**

A/1 - A/2 (2)

1. Jorge Triana	88	120	120	**328**
2. Herman Fessler	81	113	119	**313**

Junior Event (3)

1. Cody Spiess	44	63	73	**180**
2. Cassie Spiess	45	58	40	**143**
3. Jason Fessler	21	40	39	**90**

CHARGING CYCLON SEALED LEAD ACID CELLS - by Jim Ladwig MMAC

From time to time Cyclon sealed lead acid cells manufactured by Gates become available through surplus stores or by other low-cost means. These are usually size D cells at 2.5 Amp-hour capacity, or size X at 5 Ah. Model airplane flyers have found a number of uses for them on the flying field.

If these have been discarded from a time-sensitive application, they may have been discharged before removal. If so, it is important to charge them as soon as possible, since the lead plates in the cell deteriorate in the discharged condition. Test cell voltage before buying, if at all possible.

Fully charged, the open circuit voltage of these cells is approximately 2.1 volts. An ordinary charger for 12 volt automobile batteries will charge a series-connected battery of 6 or 7 of the Cyclon cells. (DO NOT use a fast-charge or booster-type setting, however. That would result in overheating and damage to the cells. A trickle charge will be just fine.)

If you have fewer than 6 cells, even only one, the automobile battery charger may still be used, if a Type 1156 or 1157 or similar automobile taillamp is connected in series with the battery during charging. The lamp will limit the current to a safe value of less than 1 ampere. This setup will sometimes bring to life a long-discharged battery, charging one cell at a time.

Full charge will be indicated by a voltage during charge of about 2.6 volts per cell, and which has stopped increasing with time. Should the cells become very warm to the touch, stop charging no matter what the cell voltage reads.

Check the voltage regularly and keep the cells properly charged and they will give you good service for a long time.

1995 Outdoor Season Points

1. Aaron Petersen	150	14. Gary Crawford	49	***Juniors***	
2. Jorge Triana	136	Terry Taylor	49		
3. Gary Oakins	135	16. Jim Jorgensen	45	1. Cody Spiess	11
4. Herman Fessler	125	17. John O'Leary	44	2. Jason Fessler	9
5. Joe Huettl	113	18. Gary Fessler	38	3. Erik Sears	6
6. Al Muller	104	19. Dell Marchant	36	4. Cassie Spiess	2
7. Mike Spiess	90	20. Bill Roush	34	5. Megan Fessler	1
8. Don Spehn	84	21. Ted Wlazlo	18	D. Lange	1
9. Dick Diers	79	22. Pete Owen	15		
10. Dennis Sussman	67	23. Tim Johnson	12		
11. Bill Rogers	63	24. Dave Braun	8		
12. Hank Liljequist	60	25. Garrett Crawford	5		
13. Bob Kumferman	54	26. Don Berggren	4		
		27. Fred Switzer	2		

Annual High Point Awards to ***Jorge Triana*** with 304 (Op/Sr) and to ***Cody Spiess*** with 27 (Jr)

John and Clyde's Excellent Adventure

Clyde "Snag" White and I went to Lawrenceville. Ill. for annual Mid-America Champs on Oct. 7th and 8th. Saturday. the 7th dawned cool and windy (about 15mph) but improved throughout the day. I flew two events. Pre- '37 Wakefield (1st place) and Mulvi (4th place). On the three minute fly-off flight in Mulvi. a workman at a machinery yard downwind. retrieved my plane and stored it in a corrugated tin shed. rendering my finder useless. Meanwhile. Clyde. was another mile downwind beating the bushes and blistering his feet trying to find the plane. After an hour or so. I found out that the workman (bless his soul) had returned the plane to another flyer and it was back with the CD. It took me another hour to find Clyde. Sunday.Oct.8 (which coincided with our Oktober Flug) was one of those contest days that made you forget about all the ugly contest weather you've ever experienced. Seventy two degrees and zephyrs not exceeding five mph. I flew my trusty Lanzo "Duplex" in OT Cabin to 3rd place and had the most fun of all in the Moffett event (2nd). I piloted my "Admiral" design through the four minute level. but didn't allow myself enough time to finish. Say La Vee or something. This is a great contest on a great site. and the competition from the East.South and Midwest is first rate.