

August 2014

President: Harvey Jenkins Contest Dir: Eber Graham Vice President: John Barr Treasurer: Bruce Aveson Equipment Manager: Major Anderson

# <u>Soari ng</u>



Keith Kindrick August 2014

What's happening? Major is! Here is what he has been up to: I was invited by one of my former flying students to go to a meeting of the "QB's" which is a very select group of professional pilots who are mostly retired yet some remain active. He encouraged me to become an active member then volunteered to be my sponsor. After attending a few meetings I ran into another instructor that had worked with me at Air Executive at Ontario where I was the "Chief Pilot". It was really fun to meet with pilots in all types of aircraft once a month. My sponsor Lane Leonard was one of the students that went to work for Western Airlines who eventually was bought out by Delta Airlines. He retired from Delta about 7 years ago. He also is a paid SWSA member who never comes out to fly! My claim to fame is I signed him off for his instrument instructor rating. Most of these pilots have many thousands of hours logged. I currently have 4,000 hours logged in single and twin engine airplanes (I did not know that -KK) my pilot license says "Airline Transport -Single & Multi-engine Instructor Land" # 1695887

That is enough about me except for my great time at this year's QB-Shindig!!! This is a once a year day at FLA Bob Airport in Riverside. There were about 200 QB members from chapters all over the US and probably elsewhere! There were static displays of many new airplanes old and new. The main attraction was the "FLA Bob Express" which is a DC3. I was awarded the ride in the DC3 and was given the chance to fly it from the right seat for over 30 minutes. In my wildest dreams I never thought I would get a chance to fly a real airliner in my life. Thanks to Lane and being a candidate for membership I got to fly the "BIG BIRD". I was amazed at the difficulty in flying that airplane!!! It was a "real job" to fly that plane!! No altitude hold or heading hold was there I tell you. This was a fly it every minute by the minute pilot job! It trimmed out pretty good but if there was any kind of turbulence where it went some place you didn't want it you had to fix it!!! My hand goes out to the US Pilots who flew this



plane and the military version C47!!! Man what a day I had!!!



(Editor's Note - Love the CVRC shirt!)

August 2014 Tight squeeze in-between seats





Silent Wings Soaring Association



Thank you Major! That was awesome!!

This summer is in full swing. We just had the first meaningful rain of the year with a huge thunderstorm traveling through the area on August 3, 2014. We needed it. How many times have we all wondered if the other pilots have landing problems like we do? I saw a series of post in response to the conversation Jerry started which might shed some light on this for the rest of us.

Jerry had his comment after he flew in the AMA Nationals: "Just got back from the NATS and had a great time and did well for me, but my down fall is always landings. Twice I had great approaches and put it down just outside the tape. I think I missed three in the two days but points are not what they need to be. Now I know I'm getting old and maybe my depth perception isn't what it should be, but wondered if anyone has done anything to help themselves. I have tried moving the tape at different angles but straight always seems best for me. Need all the help I can get Jerry "

Joe Wurts (USA/New Zealand Team Pilot & World Champion) : "I can empathize with this... I was forcibly reminded recently about the skills of youth in the landing circle. Hard to

August 2014 compete against their fast reflexes!

When I was younger I could make my approach to the landing and easily gauge my position to the target via peripheral vision. This went away maybe 10 years ago. Oh well! Nowadays I use a lot of practice to compensate, and a few other things to help me to have situational awareness of the spot location. I always practice with a well defined landing pattern. With repetition in practice I can better tell when I am deviating from my normal pattern and make small corrections early rather than bigger corrections later.

I put the landing tape at 90 deg to the approach, this makes it easier to see the target for me. I also stand about 4 feet from the target, and try to stand at the same location relative to the target every time. I end up aiming for the same spot with respect to my feet. Again, repetition in practice makes for better success in a contest. Just place the plane relative to where you are standing... "

#### Michael Lachowski (US Team Pilot): "/

place the tape pointing to the left usually. I want to focus on the center of the spot and I find the landing tape is a distraction. You can be over the tape and decide to push over just because it's in the spot. If your "put it down just outside the tape" remark is that you landed short, then the landing tape is becoming a distraction and most likely loosing focus once you see the model near the tape, but not near the center of the spot. As a benefit, if it happens to be a big fat tape, there is less of a chance that you will skip on the tape if you happen to hit it.



On flights with a lot of thermalling, especially at great distance, I like to bring the model in closer around 2 minutes and spend some time looking at the spot. Visualize what the final is going to look like. It also gets the old eyes used to focusing in closer rather than far away. And familiarize yourself what the grass or markings look like on the ground at the center of the circle.

To help with reflexes, also take some time to relax around 2 minutes. Take your hands off the sticks. Tense hands clenching a transmitter just don't work as well.

Practice helps the most. If you have plenty of time, wait a little longer between doing practice landings. Some day I'll have to try that.

Think about why you miss, and where. Sometimes there is just something a little wrong with the model setup or program. "

#### Jim Monaco (Past F3J Team Manager):

"For me - I use the Mike Verzuh approach... Drive the airplane all the way to the spot. The pattern is very important but most important is my final approach spot. I try to drill that spot in the sky into my head so I can get there regardless of the approach. This helps me adjust for broken patterns due to collision avoidance or straight in approaches because I am short on time for a normal pattern. Once I am at that spot in the sky it is a straight glideslope to the 100. I always prefer a high relatively steep approach as long as I am landing mostly into the wind. This way I have enough energy to account for poor air on the approach and avoid landing short. August 2014

My reflexes are not that good any more so trying to judge the worm burner approach and push exactly right and ensuring the stick seems to be a much harder problem for me. That means the downwind approaches need much more of my attention. I too like to have the tape to the side and focus on the 100 spot. I get excited and push too soon coming up the normal tape.

Practice and repetition are the keys. Mike V and I try to get some landing practice in every day at lunch time... Good Luck... Jim "

#### Daryl Perkins (USA team World

**Champion F3B/F3J) :** I've never understood the reason some choose to fly a base leg. For my purposes, all it does is cause timing consistency issues. I fly a horseshoe or U turn approach.

The models have gotten so light, a slightly steeper approach seems to work well in some conditions. But I'm too old to make those kinds of changes. So now, instead of 40 to 60 degrees of flap on final, I tend to carry only about 1/4 to 1/2 flap stick. And like Joe, I have created a habit of always pulling the flaps up prior to touchdown.

As far as the tape orientation? I think whatever you practice will work fine. I like to fly down the tape and nose over at the end. It keeps me lined up.



#### Daryl Perkins continued

For me it's about proper positioning and energy at about 3 to go. If I'm about knee height at 3 to go, look out hundred's.

So there you have the words from the guys who do this activity best! Hope we all do better!



That is it for this month. Thermals to all ~ Keith

	Α	ugust 2014
Sunday, <b>Sept 14, 2014</b>	SWSA CLUB	James <b>Smith</b>
Sunday <b>Sept 21, 2014</b>	Wilson Cup	CVRC
Saturday & Sun Oct 4-5, 2014	day VISALIA FSF	CVRC
Sunday, <b>Oct 12, 2014</b>	SWSA CLUB	Keith <b>Kindrick</b>
Sunday, <b>Nov 09, 2014</b>	SWSA CLUB	Edgar <b>Vera</b>

The 88<sup>th</sup> AMA Nationals is in the BOOKS

The event has passed but I attached the Soaring and Free flight news edition for your enjoyment on the next page.

If you have any events let me know



2014 Contest Schedule



August 2014



Walter Tomasch (IN) whimsically trims his big rubber model.

July 29

Soaring Free Flight

Academy of Model Aeronautics International Aeromodeling Center, Muncie IN website: www.modelaircraft.org; email: natsnews@modelaircraft.org Copyright Academy of Model Aeronautics 2014 Editors: Ashley Rauen, Rachelle Haughn, Liz Helms



Our simple rubber models require a lot of gear. Bud Romak (CA) grinds away.



Bill Vanderbeek (CA) looks aloft with his C NosGas My Sin at the ready.



Left: A merry Dan Berry (AR) flew this 1/2A gas job to victory.

> Right: Clark Darling (NY) and his big C NosGas Ramrod.

he 2014 Free Flight Nats got off to a *howling* start Monday morning. I say howling, because the winds were gusting up to 20-plus miles per hour. With the winds blowing hard out of the west and northwest, the drift of the models aloft was insane and retrievals a nightmare. Many 3-minute flights were blown miles off the field. (You often wonder what the neighbors think when they see all these scruffy guys walking around, waving weird-looking antennas in all directions.)

On the positive side, temperatures were quite nice during the day, barely cresting  $80^{\circ}$  in the afternoon. This made excursions into the corn and beans a much more pleasant affair.

All Free Flight events wind up being retrieval contests eventually, but this started early in the high-performance events like Moffett. Quite a few elected not to fly, so dire were the prospects. Still, 15 flew and the conditions produced low but hard-fought scores. David Sechrist (IN) won with a score of 780 seconds, usually just enough to make the middle of the pack.

The Small Mulvihill event produced similar results. Eight flew, and the victory went to Joe Williams (PA) with 549 seconds, again usually only sufficient to make modest results. The unofficial mass-launch Small Mulvihill event Sunday evening was won by this writer in that evening's breezes.

The stiff breezes made the gas-powered events very interesting. Again, a few elected not to fly, but most wouldn't be denied. The .020 Replica event,  $\frac{1}{2}$ A Gas, and C NosGas were all contested by around a dozen fliers, mostly to close finishes. Brad Bane (NY) won C NosGas with 960 seconds, and Bill Schlarb won



.020 Replica with 348 seconds. Of the three events, Dan Berry's (AR) almost-3-minute margin of victory in  $^{1}/_{2}A$  Gas was the most decisive.

The Payload event drew its usual panel of experts, all familiar with each other. The conditions made this one a real slog. Denny Dock (MI) eked out a narrow victory with 268 seconds.

One aspect of Monday's flying stood out, and that was the large number of kids on the field. About 40 kids and their parents came to attend their first Nats. Rocco Ferrario and Tim Batiuk, both from California, have been mentoring this group of well-motivated students from Connections Academy, holding model-building and flying sessions. Monday was a real eye-opener for them. They had a ball!

Quite a few kids flew well against the adults, too. Young Hayden Ashworth (IN) came in second against the grownups in B Electric—no small feat. It took an expert like Dick Ivers (MA) to beat him. Adding frosting to the cake, he beat his grandfather, Graham Selick (GA).

Hayden had company. Kyle Gerspacher (OH) placed second in Old-Timer HLG, no mean feat because a serious amount of arm strength and thermal-picking is required.

Tuesday's promised conditions will be less arduous. Winds are expected to moderate a little to the low teens. Monday's overnight temperatures produced a Muncie record low of 47°! Monster thermals are expected under clear, sunny skies once things warm up. We'll see what happens.



Young Kyle Gerspacher and his glider. He won second against adults.



A smiling Rick Pangell (CO) and his 1/2A Gas Satellite.

**Students** and parents from Connections Academy, a K-12 virtual school, visited AMA to build Free Flight gliders Monday. With instruction from National Free Flight Society (NFFS) Vice President (western district) George Batuik, and Rocco Ferrario, NFFS scholarship committee chairman, the visitors had the opportunity to fly their gliders at the International Aeromodeling Center.

--Information and photos provided by Jim Mayes







### **Free Flight**



Another victorious kid, Will Reuter (OH), won Junior 1/2A Gas.



The smiling winners in C NosGas.



The exuberant winners in .020 Replica.



The humbled winners in Old-Timer HLG. Again, the short one came in second.



The B Electric winners. The short one came in second.



## Free Flight

The winners in Mulvihill were a well-traveled lot.



An overgrown kid, Robert Marier (GA), won Senior 1/2A Gas.



The winners in 1/2A Gas. After flying is done for the day, more than gas goes into winner Dan Berry's (AR) tank.



The hard-won winners in Payload. Denny Dock (right) eked out a close one.

#### Soaring

### **Cross Country Weekend**





Chuck Pinnell and Tom Broeski give a young spectator a flight lesson on the buddy box.

he combination of a train that blocked the course for almost an hour and the wind getting up to the low teens really put a hurt on Saturday's results. The successful runs posted involved getting real high and basically running the course with more or less good luck finding loft along the way.

Tons of 6- to 9-foot-high corn on the majority of the course really made for big swaths of sink. There were little bubbles of lift here and there from occasional house/barn/ lawn parcels, but it's difficult to ride those bubbles up before the lift is sheared apart by the stiffening breeze.

Saturday mileage best flights:

Team Thick and Thin: 1.9 miles Team Virginia: 3.9 miles Team Michigan: 2.2 miles

Sunday conditions were even worse than Saturday. The teams fought to snag any lift at the launch and resorted to launching and getting on course. This added mileage to their Saturday runs, but didn't change the finishing order.

Tom Broeski and Chuck Pinnell's 2-mile advantage from the previous day proved to be insurmountable on Sunday where all the teams added another mile or so.

—Skye Malcolm



First place team: Tom Broeski and Chuck Pinnell.

## Soaring











Second place team: Peter Baumeler with two students from the University of Michigan, Nate DeRoo and Kohei Harada.





RES and Nostalgia models staged between flights.

he forecast of strong and steady winds held true for the Rudder-Elevator-Spoiler (RES) and Nostalgia-class Soaring pilots on Monday. These classes are run concurrently and Contest Director Jim McCarthy ably guided a combined 93 entrants through four rounds of each class before calling it quits for the day.

Thirty-five pilots posted scores in Nostalgia, 58 pilots made valid flights in the RES class. Not entirely dissimilar, each class predominantly features simple polyhedral design gliders with rudder and elevator control. Most also have spoilers for glidepath control, and there are some Nostalgia designs such as the Challenger that feature flaps in addition to spoilers.

Nostalgia models must be designs that

were kitted or published before 1980 and few modifications are permitted. The majority of these models feature just rudder, elevator, and spoiler control, as was the standard for the time. The RES class allows only these control surfaces but there are no restrictions on design or construction methods and materials. Generally similar in appearance, an RES model offers greater performance through increased strength, less weight, and modern airfoils.

In addition to the CD, there is a group of dedicated volunteers from the League of Silent Flight that coordinates the Soaring events and performs event director, timing, scoring, flightline, and winch duties. Without these people, the Soaring week just couldn't happen and they deserve special mention for their efforts. Indeed, before the first group could be sent out, the wind direction required the winches and landing zones to be reset, which the LSF crew plus some pilots performed quickly so that the day could get started.

Nostalgia got the day going and six groups later the first round was in the books. There are few pilots who do not recognize most of the Nostalgia designs and have some personal attachment to at least one of them. In fact, their choice of model is often because of their fond memories of their first or second sailplane, choosing it over something of perhaps higher performance.

Not that any of the Nostalgia designs have a particularly startling performance compared to modern sailplanes. The cutoff date for designs intentionally limits. The early-1980s Sagitta is considered the next leap in performance so this and all later designs are deliberately excluded.

While all pilots have competitive intent, Nostalgia is the least cutthroat of the Soaring disciplines; the experience and memories both past and present being of greater meaning than the placing on the score sheet. Throughout the day it was common to hear the spectators alternately cheering or groaning in sympathy as the pilots wrestled Sailaires, Paragons, and Challengers back to the landing zone in gusty winds. So often what appeared to be a good approach would be sent awry by a gust of wind leaving the model short of the landing tape or flipped inverted next to the landing tape. After four rounds Kevin, Gillette holds the top spot, with Mike Lachowski second and Jack Strother third.





Flying 30-plus-year-old designs is not without risk, even with structural reinforcement, and unfortunately the strong winds took their toll on a few Nostalgia models. It is always sad to see the demise of a beautiful model and the time and effort it represents. Monday saw at least two Challengers and a Sailaire fly their last flight, but their owners will be back with new models.

The RES class has a larger number of entries than Nostalgia, largely because competitive models can be bought in an almost-ready-to-fly (ARF) form, where Nostalgia aircraft must be built from plans or a kit—or perhaps found on the used market. Fortunately, there are still newly built Nostalgia models that appear each year, adding to the population.

One of the new models this year was Barry Andersen's Challenger. It is great to see Barry return to Soaring after a severalyear break, and his old Sailaire was also in attendance in the hands of a new owner.

Avas dominate the RES class, although there are several other designs, such as the Precision RES and Eagle, sprinkled among them. Some pilots choose to have their Nostalgia model perform double duty and fly it in the RES class also, so it's not unusual to see an Ava circling in a thermal with an Olympic or Paragon.

For most of the morning, thermal activity was weak and it was unusual to see the light lift being chased downwind. Those who did, more often than not, had difficulty getting back to the landing zone and out



landings of various distances were seen. After the lunch break, thermal intensity increased and following lift became comfortable. It was now possible to gain enough altitude to allow even the slowest Nostalgia models to make the run home.

With lift comes sink, and there were still a few groups that could not escape the descending air, and flights of 4 or 5 minutes were enough to win the heat. On a few occasions, a pilot would be scraping into the landing zone to shoot a landing after a 2-minute flight, while those from the previous flight group were coming home after a leisurely 10-minute ride.

Such is the fickleness of nature and why each flight is scored only against the other pilots in that group, not the entire round. Called man-onman scoring, this offers the most level playing field for a competitive event that occurs in such a dynamic medium. Enough rounds are flown and the pilot draw randomized such that each competitor should fly against each other at least once. This format will continue through Wednesday and Thursday's Unlimited competition, and ALES on Friday and Saturday.

After four rounds, the ever-consistent Mike Lachowski holds the lead in RES, with Jerry Shape second, and Jeff Carr holding down third. Tuesday promises milder conditions but there is still plenty of opportunity for moving and shaking on the leaderboard. Stay tuned for more pictures and final results.









Contestant	Daund 4	Round 2	Round 3	Round 4	Round 5
	Round 1				Round
MICHAEL LACHOWSKI	1,094	1,070	1,069	908	
JERRY SHAPE	940	1,015	1,093	955	
JEFFREY CARR	1,030	1,000	1,057	895	
PETER GOLDSMITH	1,089	981	896	1,000	
JOHN IAFRET	1,000	852	1,000	1,023	
NORM POTI	997	770	998	1,000	_
CRAIG GREENING	992	934	696	1,075	
CHARLES PINNELL	674	1,000	843	972	
DOUG PIKE	515	626	1,027	1,084	
WILLIAM CHRISTIAN	881	1,000	473	849	1
1 RICHARD BOTHELL	958	539	1,053	631	E
2 THOMAS BROESKI	821	998	277	1,010	Contraction No.
3 JOHN LINDSAY	982	429	839	781	
4 ANKER BERG SONNE	783	491	868	862	
5 WILLIAM CUNNINGHA	M 1,000	674	932	393	
6 SKYE MALCOLM	1,000	722	521	696	
17 RICHARD RENNECAM	P 995	690	720	512	
18 DAVID BEACH	485	1,000	973	435	
19 ARTHUR HILL	978	571	467	868	
20 ARTHUR MARKIEWIC	Z 417	1,047	1,089	323	
21 BERNARD STROTHER	8 560	475	935	878	
22 KENNETH SHAW	894	995	515	443	_
23 SCOTT SHAW	0	856	1,000	965	
24 THOMAS SCULLY	123		735	988	
25 GAVIN TRUSSELL	973	353	1,000	438	-
26 DON CLEVELAND	510		496	1,000	
27 MARK GROVES	674		538	742	
28 ALEXANDER HALL	493		983	450	
29 RANDALL EVERLY	988		0	658	
30 KENNETH BATES	674		380	770	
31 DAVID CORVEN	563	-	408	982 658	
32 ROBERT ROBINSON	1,069	-	806 403	658	
33 CHARLES BAIR	898		403	366	
34 DONALD RICHMOND	1,000	614	497	300	

	1,000	0	788	652	
PAUL PERRET		603	347	1,000	
POH KHAW	474	407	1,000	405	
KEVIN GILLETTE	611		978	489	
JERRY GROSS	389	564	702	455	-
WALTER ADASCZIK	554	702		774	-
WALTER ADAGGENTH	0	1,000	604	714	-
JERRY GRIFFITH	456	770	412		
EDWIN RAU	513	915	279	643	
2 STEWART SWANSON	592	222	492	1,000	
3 RICHARD CHRISTIAN	619	292	428	934	
THOMAS KALLEVANG	300	656	283	1,000	
5 NEVILLE NEWMAN	331	580	608	585	
46 PETER SCHLITZKUS	988	1,000	0	0	
LUKENT NOGY	0	1,084	210	678	
48 JERRY ROBERTSON	990	0	439	338	

2 M 3 E	KEVIN GILLETTE	Round 1	Round 2	Round 3	Round 4	Rour
2 M 3 E		844	681	1,025	1,000	
3 E	MICHAEL LACHOWSKI	970	1,000	558	928	
	BERNARD STROTHER	1,000	679	774	960	
		722	534	1,000	1,000	-
	NORM POTI	1,025	1.000	902	300	
	ED WILSON	688	705	1,000	749	-
	DONALD HARRIS	633	992	353	1,000	
	JERRY SHAPE		612	289	1,000	
- E	JOHNNY BERLIN	1,025		891	0	5
	RAY HAYES	1,000	1,025	675	338	-
E	DONALD RICHMOND	925	970		0.21015	-
	CRAIG GREENING	0	804	1,025	998	-
	KENNETH BATES	706	1,000	1,025	0	-
	DAVID BATEY	824	762	503	611	
	JOHN IAFRET	763	414	498	998	-
- 0.5d	CHARLES PINNELL	410	1,010	651	575	
	SKYE MALCOLM	0	1,000	1,000	646	
1.51	POH KHAW	626	1,000	501	371	_
	MARK GROVES	619	903	571	389	
	PETER GOLDSMITH	1,000	876	0	579	
-	DOUG PIKE	948	723	254	495	
	JERRY GRIFFITH	952	0	467	1,000	
283	BEN PITCHKITES	573	421	383	987	100
	THOMAS SCULLY	1,000	881	460	0	
	STEWART SWANSON	403	799	368	699	
	ROBERT ROBINSON	575	1,025	309	311	
	RYAN WOEBKENBERG	494	546	320	860	
	7 DAVID BEACH	741	0	437	1,000	
	8 THOMAS BROESKI	622	930	360	196	
	9 KENNETH SHAW	435	558	555	522	
	ALEXANDER HALL	427	497	267	388	-
0.5	NELSON WHYTE	0	753	266	63	
	33 PAUL WIESE	782	0	0	0	
	34 Scr-BARRY ANDERSEN		0	0	0	-
	CO-DART ANDEROEN	130	0	0	0	

#### Aviation Weather Forecast at Muncie, Indiana

DATE			TUES	SDAY Y 29						WEDN	ESDAY						THUR	SDAY			
HOUR	8:00 AM	11:00 AM	2:00 PM	5:00 PM	8:00 PM	11:00 PM	2:00 AM	5:00 AM	8:00 AM	11:00 AM	2:00 PM	5:00 PM	8:00 PM	11:00 PM	2:00 AM	5:00 AM	8:00 AM	11:00 AM	2:00 PM	8:00 PM	2:0 AM
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TEMP (F)	52	66	70	71	69	61	58	56	59	69	74	75	70	62	59	58	61	73	77	73	63
WIND IRECTION IZIMUTH)	320 ×	300	310 ×	320 ×	300	280	270 —>>	270 >	270 —>>	270 ->>	290	280	290	280	250 <i>A</i>	260	250 <i>X</i>	260 	270 —>>	270 —>>	18
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#### Scores

#### Scores

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99999	≯ 83.3	357.1 97	166.7	734.7	875.0	819.4	947.4 710.5	681.8	907.9	522.7	791.7	947.4	2772	4 CCX	398.0	1000	665.9	642.9	947.4	750.0	681.8	818.2	625.0	1000	1000	TAN	<u>1</u>	い 入 入
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		400.0	700.0	771.4	700.0	571.4	700.0	771.4	1000	1000	700.0	571.4	7717	771 4	1000	771.4	250.0	1000	1000	1000	1000	1000	771.4	1000	1000	Laar	3	•
·		697.4	220.0	433.3	441.0	848.6	390.3 860 8	1000	302.7	949.4	1000	36.7	100	440 5	702.6	1000	0.086	677.2	180.9	533.3	338.5	794.9	1000	9	977.1	o cro	4	
		709.3	817.7	618.5	805.2	563.1	661.5 613.0	753.5	805.6	748.3	951.9	942.7	1000	0.060	811.1	570.3	735.5	520.3	831.5	807.6	583.2	650.0	1000	956.4	1000	LJXJ	(U) )	
		445.6	538.5	395.7	967.4	567.8	871.8 630.4	626.1	526.3	622.7	304.3	430.3	156 5	2202	766.3	656.1	469.6	721.7	1000	972.8	1000	677.7	668.5	570.7	695.7	L2X4	6	
		392.7	770.4	7 <del>04</del>	662.1	523.8	389.6 809.4	761.9	852.0	745.0	849.3	1000	770 5	251 5	818.7	872.3	952.1	932.9	826.5	997.8	1000	1000	921.5	547.0	970.3	1234	7	
		414.1	618.6	040.0 891.4	823.2	493.2	818.7 569.4	574.6	853.3	810.6	700.0	770.2	7090	1 273	804.5	963.2	1000	1000	709.1	543.2	815.9	997.5	¥€1.4	811.7	1000	1000	00	
		614.8 665.2	622.5	870.3	683.8	812.4	624.7 796.4	804.4	798.4	758.5	901.2	934.8	0271	0.0056	948.1	1000	1000	891.3	954.5	893.4	913.0	976.5	944,1	991.5	1000	3200	9	
		257.1 400.0	333.3	571.4 571.4	400.0	740.7	571.4 771 4	771.4	571.4	771.4	771.4	571.4	1000	1000	771.4	771.4	771.4	740.7	771.4	1000	771.4	771.4	771.4	1000	1000	Lddr	10	
		325.8 514.1	379.9	181.8	504.7	479.6	536.6	775.3	826.6	636.4	556.2	738.6	1000	27070	5.786	620.8	854.1	1000	525.3	1000	896.7	834.7	872.6	989.2	469.1	L2x4	11	
		420.1 349.0	633.7	523.5	573.5	589.3	753.5	577.4	612.0	768.7	1000	/20.2 877 1	7560	7.009	973.5	754.0	944.6	663.4	1000	609.1	997.2	814.4	1000	1000	980.2	3200	12	
		144.0	381.6	222.0 452.9	199.6	845.3	1000	252.2	372.2	1000	666.7	657.9		1000	561.4	636.8	828.9	971.6	598.7	829.6	959.0	842.1	1000	902.2	904.9 881.6	AUp4	13	
		473.2	728.0	435.7	631.2	522.1	\$81.8	674.3	925.7	860.0	761.0	1000	270.4	104.4	0.088	588.7	921.7	789.6	628.8	747.1	971.6	927.2	959.8	1000	1000	30f6	14	
- 		227.5	180.0		331.8	722.7	676.5	496.7	571.4	265.4	264.8	1000	1000	\$7 ,	356.2	9	264.7	9	476.7 536.7	287.0	247.9	767.8	1000	1000	356.2	Lixs	15	
		100/10				_	100/5																		01/001	& Rnd	Penalty	
	83.3	6,309.6 2,499.4	7.698.7	7,949.8	9,179.4	9,322.1	10,012	10,069	10,436	10.563	10.690	11,118	11,109	11,192	11,196	11,205	11.228	11.234	11,328	11,574	11,893	12,109	12.381	12,604	12,973	Score		

Event	Last Name	First Name	AMA #	City	State	Tîme
1/2AGasJ						
31						
1	Reuter*	Will	952825	North Oimstead	OH	160

Scores	5
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Event		Last Name	First Name	AMA #	City	State	Time
020Rej	plica						
52							
	1	Schlarb	Bill	14425	South Bend	IN	348
	2	Bane	Ruth	63176	Lyndonville	NY	341
	3	Oliver	John	557832	Pierceton	IN	284
	4	Vanderbeek	Bill	853	Altos Hills	CA	283
	5	Blake	Simon	20644	Toronto	ON	242
	6	Pangell	Rick	16165		со	241
	7	Firster	Ted	3524	Riverside	CA	222
	8	Abriss	Alan	53207	Rego Park	NY	204
	9	Kelly	Jim	37564	Yorktown	VA	181
	10	Romak	Bud	27032	Lincoln	CA	157
	11	Erridge	Roger	20953	Saranac	MI	100

Event		Last Name	First Name	AMA #	City	State	Time
1/2AG	asS						
32							
	1	Marier**	Robert	842547	Roswell	GA	581
	2	Vucovich**	Daniel	844281	Lititz	PA	252

Event		Last Name	First Name	AMA #	City	State	Time
SMulvh	illRubber						
92							
	1	Williams	Joe	247709	Brookville	PA	540
	2	Perkins	Frank	16827	Tuscaloosa	AL	516
	3	Sneed	Ed	556614	Columbus	OH	447
	4	Sechrist	David	574560	Bristol	IN	336
	5	Powell	Chuck	465518	Benton	KS	268
	6	Coffin	Jim	163	Annandale	VA	78
	7	Ringlen*	Larson	865223	Cgarkitte	NC	60
	8	Tomasch	Walter	539559	Mishawaka	IN	4

#### Scores

1							
Paylo	adJSO						
2							
	1	Dock	Denny	514011	Stevensville	МІ	268
	2	Kane	Dan	9192	Marion	он	265
	3	Berry	Danieł	79311	Benton	AR	251
	4	Sperzel	Hank	80586	Bellevue	NE	152
	5	Stalick	Bob	26731	Albany	OR	4

OTHL

56								
	1	Hale	David	35667	Wilmington	он	191	
	2	Gerspacher*	Kyle	885651	Centerville	он	176	
	3	Wilson**	Claiburne	1014271	Atlanta	GA	161	
	4	Ringlien	Andrew W.	76902	Charlotte	NC	131	
	5	Marier**	Robert	842547	Roswell	GA	130	
	6	Ringlen*	Larson	865223	Cgarkitte	NC	128	
	7	Batiuk	Tim	L135	San Juan Capistr	CA	120	
	8	Langelius	Jan	32138	Haslet	тх	116	
	9	Powell	Chuck	465518	Benton	KS	108	
	10	Gerspacher	David	762428	Centerville	он	98	
	11	Schlarb	Bill	14425	South Bend	IN	81	
	12	Pangell	Rick	16165		со	61	
	13	Lewis	Jim	119	Macon	GA	60	
	14	Powell	Linda	977828	Benton	KS	18	

Event		Last Name	First Name	AMA #	City	State	Time
Moffett							
3							
	1	Sechrist	David	574560	Bristol	IN	780
	2	Konefes	Ed	53758	Wauconda	IL.	673
	3	Hardin	Edward	312473	Kingston	TN	545
	4	Hanford	Robert M	7272	Broken Arrow	ок	489
	5	Kothe	Herb	6910	Boukter	co	480
	6	Sneed	Ed	556614	Columbus	OH	365
	7	Romak	Bud	27032	Lincoln	CA	365
	8	O'Reilly	Jim	9729	Wichita	KS	360
	9	Mills	David	7717	Atlanta	GA	342
	10	Williams	Joe	247709	Brookville	PA	341
	11	Vanderbeek	Bill	853	Altos Hills	CA	298
	12	Marier**	Robert	842547	Roswell	GA	293
	13	Bowls	Thurman	428725	New Smyrna Bea	FL	120
	14	Allen	Carrol	8395	Copake	NT	111
	15	Brown	Gerald	79269	Henderson	ТΧ	69

Event		Last Name	First Name	AMA #	City	State	Time
cNosGas							
51							200203
	1	Bane	Brad	54695	Lyndonville	NY	960
	2	Wicks	Gene	5898	Normal	IL.	937
	3	Marsh	Jack	99723	South Bend	1N	578
	4	Dock	Denny	514011	Stevensville	м	480
	5	Fulmer	Keith	31552	Mishawaka	iN	438
	б	Smith	Gene	9584	Stillwater	OK	412
	7	Vanderbeek	Bill	853	Altos Hills	CA	323
	8	Erridge	Roger	20953	Saranac	MI	26
	9	Hall	Dick	299	Athens	AL	220
	10	McGinnes	Dean	17788	Lakeland	FL	195
	11	Sperzel	Hank	80586	Bellevue	NE	120
	12	Darling	Clark	125532	Carmel	NY	12

Event		Last Name	First Name	AMA #	City	State	Time
Electric	B						
4							
	1	lvers	Richard	683557	West Newton	MA	475
	2	Ashworth*	Hayden	1006636	Indianapolis	IN	425
	3	Selick	H. Graham	12064	Athens	GA	354
	4	Hooke	Drake	2426	Newfoundland	PA	323
	5	Gewain	Matt	2433		CA	303
	6	Covalt	Richard	32551	Anderson	IN	299
	7	Elder	Dale	L76967	Orlando	FL	298
	8	Murphy	Jack	941945	SLC	UT	287
	9	Coffin	Jim	L163	Annandale	VA	239
	10	Lacey	David	25895	Alexandria	VA	86

Event		Last Name	First Name	AMA #	City	State	Time
1/2AGa	nsO						
33					đi.		
	1	Berry	Daniel	79311	Benton	AR	99
	2	Hanford	Robert M	7272	Broken Arrow	OK	78
	3	Parker	Faust	15980	Houston	тх	72
	4	Mollendorf	Joseph	25875	Amherst	NY	58
	5	Hall	Dick	299	Athens	AL	42
	6	Thompson	Ronnie	327893	Athens	AL	35
	7	Sowder	Bob	22179	Troutville	VA	35
	8	Brown	Gerald	79269	Henderson	ТΧ	35
	9	Morris	Gil	94509	Columbus	OH	34
	10	Smith	Roy E.	7759	Kingston	ON	30
	11	Jones	David	34983	Pittsburgh	PA	30
	12	Blake	Simon	20644	Toronto	ON	25
	13	Smith	Gene	9584	Stillwater	OK	120

### Scores

