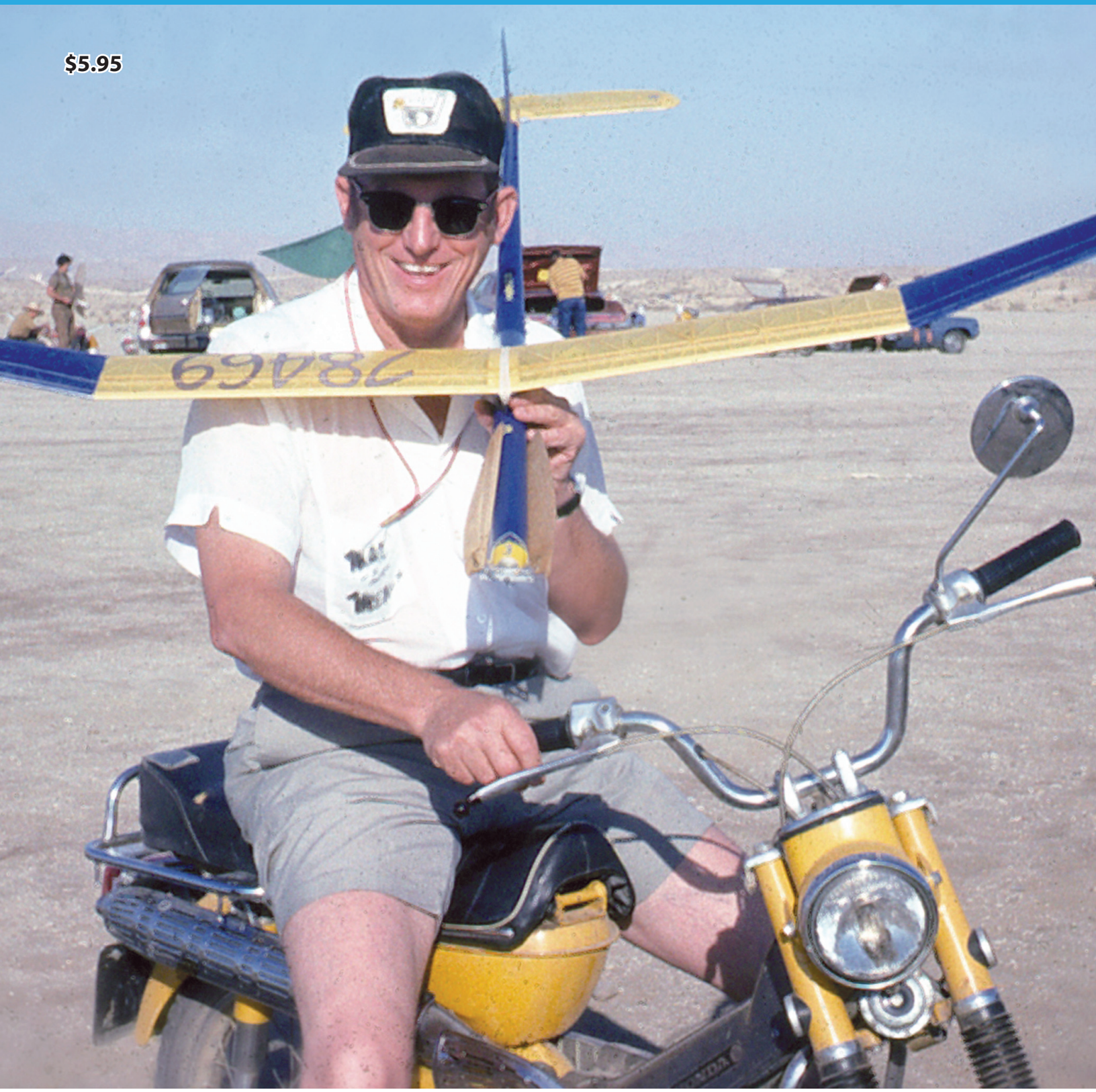
VOLUME LII, NUMBER 5

SEPTEMBER–OCTOBER 2018

FREE FLIGHT

THE NATIONAL FREE FLIGHT SOCIETY DIGEST

$5.95



Junior World Champs • Danish E-36/F1S Designs • Slusarczyk's record-setting A-6 • FAC Jet Catapult: XF-89 • Indoor Catapult winner: "Rantoul Special" • Nos Rubber: Buckeridge • F1E Primer • New Texas Flying Site

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is an AMA-affiliated, nonprofit organization whose purpose is to preserve, enhance and promote the art, sport and hobby of Free-Flight model aviation in all its forms. Website: http://www.freeflight.org.

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On the Cover: America's Cup founder Al Hotard and F1B at Taft, California sometime in the early 1970s. *(Photo supplied by Randy Secor)*

ELECTRIC NOSTALGIA

I'm yielding my column space this month to Jack Murphy, originator of the Electric Nostalgia events. Jack is one of the top electric flyers in the USA, and strong advocate for E-Nos. —Ed.



Electric Nostalgia was a result of a brain itch while flying with the great John Oldenkamp. "How about Electric Nostalgia, John?" I stammered. He smiled wryly and said "you do it". The process for establishing a Provisional Event is well defined in the NFFS Rulebook. To have it deemed "Official" is likewise:

> 3.4.4 Rule Book Incorporation
> The event will then be added to the rule book as a provisional event and shall remain provisional for a minimum of two rule cycles or four years. If during that time the sponsor can show significant interest across a wide geographical area the sponsor may apply to have the rule declared an official event. In order for the event to be classified as "Official" the event must be sponsored at the Nats and shall be flown by at least 6 individuals during both the 3rd and 4th years of its provisional status. Sponsoring of the event at the Nats is the responsibility of the original event sponsor or their designee. At this point the NFFS will consider the event for "Official" status. This decision is ultimately up to the Board of Directors and Competition Committee under Section 3.4.

It is now time to complete the circle. I have been asked to somehow gather contest participation data. This is hard to do as Provisional Events are not tallied for National Cup points so the data is scant. Nats participation is being proven.

There are some sound advocates among us with experience and enthusiasm for the Event. Jerry Murphy, Jim Jennings and Bernie Crowe have contributed thoughts included here. Additionally, I have conducted a poll on Facebook pages using the Survey Monkey medium.

NFFS Board of Directors are listed on page 2 of every *Digest*.

Key Dates

>>ALWAYS confirm dates before traveling<<

Nov. 3-4 SW FAI Challenge.....Boulder City
Nov. 10-11 Texas Scale Champs...Gainesville
Nov. 10-12 Patterson Memorial.....Lost Hills
Jan. 19-21 SW Regionals.....Eloy, Ariz.
March 2-3 EAA Indoor.....Oshkosh
March 19-21 King Orange.....Palm Bay
March 23-24 Cat. III Indoor.....West Baden
April 5-8 Round Valley Indoor.....Eagar, Ariz.
April 21 Kent State Indoor.....Kent, Ohio
April 28 Indoor Fling.....Flint, Mich.
May 30-June 2 AMA Indoor Nats...Eagar, Ariz.

If you have further input contact your Regional VP or Competition Committee member. Competition Committee is Bob Mattes, (Chair), Bob Sifleet, Joe Williams, Lee Hines, Keith Fulmer, Scott Lapraik, Bob Stalick and Don DeLoach.

—Jack Murphy

I started flying F1Q when it was it first nominated in 2007, and over the years have competed in America's Cup and World Cup events. My design "Noah's Quark" was selected as one of the NFFS Models of the Year in 2009 and it was kitted and sold by BMJR. I was a member of the NFFS electric power subcommittee in 2010 and helped define the "new" E-36 rules; my design "Slick Willie" was published in *Free Flight Quarterly* in October that year. I also fly AMA Electric, F1S, E-20 and Electric Nostalgia regularly. I built my first Electric Nostalgia model when the event was proposed by Jack Murphy in 2014. It is a UK gas design by Brian Eggleston called the "Creep", and has a 300W electric system turning an 8x4.5 prop at 13,400. I have found E-Nos to be the most rewarding format, free from major restrictions and providing a satisfying power-to-weight ratio. I enjoyed designing the power train from scratch, and get a jolt from the burst of speed at launch. Designer Brian Eggleston saw me fly this at Lost Hills a couple of years ago and observed "It goes up just like the gas version!" We now have four E-Nos fliers in our Club (SCAMPS) and I have flown against other fliers at Lost Hills and other venues. It's a blast to fly, and is easier for first-time electrics fliers to get into than some of the other classes. Let's make it an official event!

—Bernie Crowe

Several years ago when I retired and had time to pursue my passion for Free Flight I began flying some of the rubber classes. It didn't take long for me to realize the lack of a field to trim and practice on was going to keep me from even a moderate amount of success. My son soon switched from rubber to electric, while I stubbornly marched on. I had fun flying the smaller classes until we lost the very small field we had for a short period of time. I started flying some of the electric classes because unlike the rubber classes which needed full winds to trim to the torque, I could find places to trim bec4use I only needed at best a 10-second motor run and could DT quickly plus fields were more available, especially with the quieter electric motors. I don't think that anyone would argue that electric Free Flight has had an an amazing growth period, so much in fact that the technology may be growing too fast for some of us. I just turned 81 and frankly can't do the marathon maxes that are going to be required in the very near future. I believe that the Nos electric events are perfect for me and those like

Jack Murphy's E-Nos Poll
September, 2018

Should Electric Nostalgia be made an official NFFS event? (31 respondents)

45% (14/31) answered "Absolutely"

29% (9/31) answered "Maybe"

25% (8/31) answered "I don't care" or "No"

continued on page 36

AMA SCHOLARSHIP WINNERS

Alex Stalick

Alex attended St. Francis High School and graduated Summa Cum Laude in the spring of 2018. He will be attending Oregon State University where he plans to study Business Administration in the Dean's Academy.

Modeling: Two-time USA representative for FAI Junior Free Flight World Championships – third



in F1P (2016, Macedonia), fifth in F1A (2014, Romania), team second place in F1P (2016 Macedonia). He was Junior National Cup Champion for Free Flight 2013, Junior High Point Champion in 2013 at the Free Flight Nationals, Junior High Point Leader in F1A America's Cup 2013 and 2015, National Free Flight Society Scholarship Recipient 2018, Member of National Free Flight Society and Southern California Aero Team.

Joseph Szcur

Joseph Szcur is 18 years old and from Chantilly, VA. Joseph grew up around model airplanes since he was born and his first official "solo" was at the age of 5 years old. From there, he competed in his first pattern contest at the age of 7. Some of his accomplishments since then include: two-time F1D U.S. team member, three-time F1D US record holder, four-time F3A team member, three-time F3P US team member, two-time F3A Junior World Champion (2015 and 2017), F3P Vice Junior World Champion (2017), 8th



place finish at the 2017 F3A World Championships.

Oliver Sand

Oliver is a graduate of Saint Ann's School in Brooklyn, New York, and will attend Brown University in the fall. He has been involved with modeling over the past four years, focusing primarily on building and flying Free Flight rubber-powered models and competing in regional and national contests. He was



named Dave Stott Junior Modeler at the 2016 Flying Aces Club Nats in Geneseo, New York, was twice Grand Champion at the Barron Air Field Races in Wawayanda, New York, and placed first in WWII and Embryo Endurance categories at the 2018 FAC Nats in Geneseo. He also flies with the Pinkham Field Irregulars club in Durham, Connecticut, the birthplace of the FAC. Oliver enjoys the outdoors and has worked in the summers as a volunteer trail maintenance worker on the Appalachian Trail in Maine.

NATS RESULTS ERROR

In the last *Digest* with the Nats coverage (well done), there was an omission in the Electric Top Five—only four were listed, leaving out second place finisher Bob Sifleet, who was edged out by only one point.

—Bob Hanford

ORV OLM

It is with great sadness that I just learned that Orv Olm, owner of Gizmo Geezer and a good friend passed away. Orv had been suffering from a years-long battle with cancer that finally overwhelmed that great heart of his.



Orv was one of those people that make you glad to be alive as he was such an enthusiastic and warm person. The world will be smaller place with his loss. Sympathy cards or notes to his wife, Marci, can be sent to the business address of Gizmo Geezer, 45 Kirk Crescent, Saskatoon, SK Canada S7H 3B1.

—Tom Arnold

FROM THE PRESIDENT

As I am writing this Patti and I are getting ready for a trip to Lost Hills for the 2019 Team Selection. For those of you that don't know about this program, it is run every two years and is formatted to pick the best FAI Free Flight team possible. NFFS and the Team Selection Committee (TSC) have been running this program for many years. In fact, this group has been instrumental in having AMA allow us to basically run our own program and thus opened the door for other special interest groups to follow. We paved the way and they have followed. The TSC has been through many iterations and this one has proven to work reasonably well.



It basically is set up with each category (F1A, F1B and F1C) flying two contests each in three days, with the winner of each contest guaranteed a position on the team. The third member is selected by the best placing contestant with the two contest results combined. Thus, if the flier took a 2nd and a 5th, he would have a score of 7. Add everything up and we now have the third member. Needless to say, there are rules to cover a tie. It can be an intense couple of days but I feel we have been able to get a good team in place.

This all would not take place without the volunteers that run it, Chuck Etherington (main man), Charlie Jones, Bill Booth (organizer extraordinaire), Faust Parker, Blake Jensen, Aram Schlosberg, Gene Ulm, Jim Bradley and Bob Sifleet. Without these gentlemen and those in the past, we would not have the program we have...thanks to all of you!

I was recently thinking about my Free Flight past and determined that I have really been missing something and it is all my fault. Back in the day, I would keep the second Monday night open all the time to go to the Bong Eagles Free Flight club meeting. We would bring models, get an explanation of the latest and greatest toys, and just mingle. It was one of my highlights and I enjoyed it tremendously. The Bong Eagles are still around but for some reason, I haven't attended a meeting in years. I have kept up my membership and am proud of all they have done (without me!). I think some of this has to do with the minor change in the group. No longer are there any power fliers and my closest friends (and I mean no disrespect to the many friends I still have in the club) are long past. Somehow the thrill is gone.

And this is where I need to change my ways. This club has been in existence for 50 plus years. It has proudly had many members that were (and are) known nationwide. Tony Italiano, Dick Swenson, Willard Smitz, Gil Graunke, Mike Kirda, Jeff Annis, and many others have been (or are) members. With a solid foundation it still sponsors contests, both indoor and outdoor. But, I really do not support these and I need to change that. Yes, I can use the excuse that I do

continued on page 38

NFFS 2019 one-designs

1/2A SHOCER

Build as; 44" span with 252 sq. area
Or
48" span with 282 sq. area



$54.00 + postage

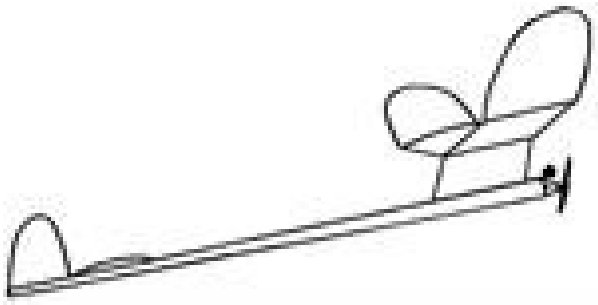
Double Kit—2 models in 1 box
$88.00 + postage

from

BMJR Models
P.O.Box 1210
Sharpes, FL. 32959-1210
321-537-1159 www.bmjrmodels.com

Second model for 2019 is the;

1/2A Maverick



Available from

Retro RC LLC
retro RC and FF model aeroplane kits & accessories

CAMPBELL'S CUSTOM KITS

Monday in Pazardzhik was set aside for model processing in the morning and an early evening opening ceremony. Processing took place in our hotel so it was easy to get there, but the room was very small for the job assigned to it. The result was the crew soon got behind. Fortunately for our team, we were second in line and had the rest of the day to do some local sightseeing.

The opening ceremony took place in a scenic public park literally around the corner from our hotel. It was a very nice setting and the speeches were short. As in the past, the teams walked in carrying country flags and identification signs. Good atmosphere and sportsmanship were evident and many pictures were taken of the teams.



The 2018 U.S. Junior Free Flight Team (L-R): Sevak Malkhasyan (Assistant Team Manager), Hayden Ashworth (F1P), Roman Stalick (F1A), Adelaide Ulm (F1A), Joel Yori (F1A and F1B), Kyle Gerspacher (F1B) and Jim Parker (Team Manager).

PHOTOGRAPHY: ZDRAVKO TODOROVSKI, BOB STALICK AND GENE ULM

F1A DAY

Tuesday dawned early on the field and it became apparent that the location of the flight line would be a challenge for the glider fliers. The contest management moved the HQ tent a couple of times before the opening round. Then after flying one round, the flight line was adjusted again. It was to be a problem all day, as the wind direction continued to shift sporadically during the day, causing all sorts of line crosses, tangles and the like.

Round one was a four minute round, and our team of Joel Yori, Roman Stalick and Adelaide Ulm were up to the task—all recording maxes. An auspicious start for team USA.

Round two started with a three minute max recorded by Joel, but Roman had a towline break, and the glider suffered a poor launch, recording a disappointing 2:22. Adelaide also had a launch into tricky air to record a 2:09.

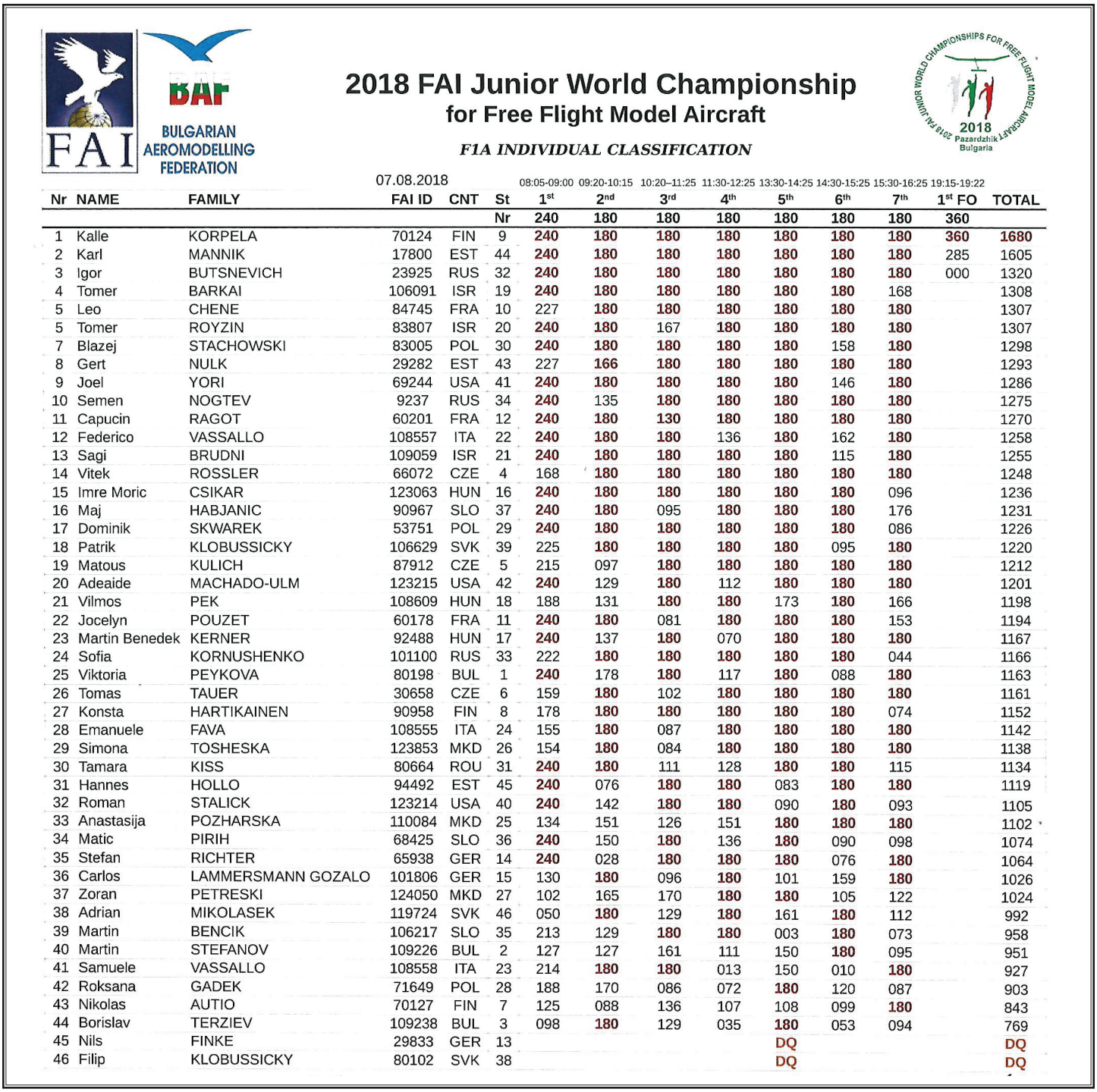
Round three saw light winds and equally light thermal activity; however, our team pulled out three maxes to redeem their second round showing.

At this point in the story, I'd like to note that the team members who were not flying formed the chase crew for those who were. This is a common practice for U.S. teams and allows active fliers to concentrate on their flying. On a day like this, which was a hot one, the contribution of the chase team was very much appreciated.

Round four began with Joel registering a max after getting a good launch than an unusual drift off to the side of everyone else who launched with him. Roman put up a max. Adelaide recorded a 1:51 even after a number of our team supporters tried to break loose some lift by flapping under her model. At the end of the round, a scheduled lunch break of one hour was much appreciated.

Round five was to be a difficult one for all the contestants, as this is when the wind shifted seemingly every few minutes. Shifts of were sometimes as much as 180 degrees and shifts where fliers were towing nearly down the flight line. We were at pole position number 2, which put us very near the parking area. Joel had to abort his first attempt as he was running into parked cars trying to get a good launch. Line tangles and crosses were common plus determining when lift was present was even more difficult. Joel managed to get his max. Roman didn't, scoring 1:30 with a launch that somehow veered to the left before release. Adelaide got her max.

Round six was more of the same with the wind. Joel recorded his only drop of the day. His flight was 2:26. Roman decided to change gliders after his difficulties of the prior round, and his windy weather model was just the



BULGARIAN AEROMODELLING FEDERATION

2018 FAI Junior World Championship
for Free Flight Model Aircraft

2018 FAI JUNIOR WORLD CHAMPIONSHIPS FOR FREE FLIGHT MODEL AIRCRAFT
2018 Pazardzhik Bulgaria

F1A INDIVIDUAL CLASSIFICATION

07.08.2018

						08:05-09:00	09:20-10:15	10:20–11:25	11:30-12:25	13:30-14:25	14:30-15:25	15:30-16:25	19:15-19:22	
Nr	NAME	FAMILY	FAI ID	CNT	St	1st	2nd	3rd	4th	5th	6th	7th	1st FO	TOTAL
					Nr	240	180	180	180	180	180	180	360	
1	Kalle	KORPELA	70124	FIN	9	240	180	180	180	180	180	180	360	1680
2	Karl	MANNIK	17800	EST	44	240	180	180	180	180	180	180	285	1605
3	Igor	BUTSNEVICH	23925	RUS	32	240	180	180	180	180	180	180	000	1320
4	Tomer	BARKAI	106091	ISR	19	240	180	180	180	180	180	168		1308
5	Leo	CHENE	84745	FRA	10	227	180	180	180	180	180	180		1307
5	Tomer	ROYZIN	83807	ISR	20	240	180	167	180	180	180	180		1307
7	Blazej	STACHOWSKI	83005	POL	30	240	180	180	180	180	158	180		1298
8	Gert	NULK	29282	EST	43	227	166	180	180	180	180	180		1293
9	Joel	YORI	69244	USA	41	240	180	180	180	180	146	180		1286
10	Semen	NOGTEV	9237	RUS	34	240	135	180	180	180	180	180		1275
11	Capucin	RAGOT	60201	FRA	12	240	180	130	180	180	180	180		1270
12	Federico	VASSALLO	108557	ITA	22	240	180	180	136	180	162	180		1258
13	Sagi	BRUDNI	109059	ISR	21	240	180	180	180	180	115	180		1255
14	Vitek	ROSSLER	66072	CZE	4	168	180	180	180	180	180	180		1248
15	Imre Moric	CSIKAR	123063	HUN	16	240	180	180	180	180	180	096		1236
16	Maj	HABJANIC	90967	SLO	37	240	180	095	180	180	180	176		1231
17	Dominik	SKWAREK	53751	POL	29	240	180	180	180	180	180	086		1226
18	Patrik	KLOBUSSICKY	106629	SVK	39	225	180	180	180	180	095	180		1220
19	Matous	KULICH	87912	CZE	5	215	097	180	180	180	180	180		1212
20	Adeaide	MACHADO-ULM	123215	USA	42	240	129	180	112	180	180	180		1201
21	Vilmos	PEK	108609	HUN	18	188	131	180	180	173	180	166		1198
22	Jocelyn	POUZET	60178	FRA	11	240	180	081	180	180	180	153		1194
23	Martin Benedek	KERNER	92488	HUN	17	240	137	180	070	180	180	180		1167
24	Sofia	KORNUSHENKO	101100	RUS	33	222	180	180	180	180	180	044		1166
25	Viktoria	PEYKOVA	80198	BUL	1	240	178	180	117	180	088	180		1163
26	Tomas	TAUER	30658	CZE	6	159	180	102	180	180	180	180		1161
27	Konsta	HARTIKAINEN	90958	FIN	8	178	180	180	180	180	180	074		1152
28	Emanuele	FAVA	108555	ITA	24	155	180	087	180	180	180	180		1142
29	Simona	TOSHESKA	123853	MKD	26	154	180	084	180	180	180	180		1138
30	Tamara	KISS	80664	ROU	31	240	180	111	128	180	180	115		1134
31	Hannes	HOLLO	94492	EST	45	240	076	180	180	083	180	180		1119
32	Roman	STALICK	123214	USA	40	240	142	180	180	090	180	093		1105
33	Anastasija	POZHARSKA	110084	MKD	25	134	151	126	151	180	180	180		1102
34	Matic	PIRIH	68425	SLO	36	240	150	180	136	180	090	098		1074
35	Stefan	RICHTER	65938	GER	14	240	028	180	180	180	076	180		1064
36	Carlos	LAMMERSMANN GOZALO	101806	GER	15	130	180	096	180	101	159	180		1026
37	Zoran	PETRESKI	124050	MKD	27	102	165	170	180	180	105	122		1024
38	Adrian	MIKOLASEK	119724	SVK	46	050	180	129	180	161	180	112		992
39	Martin	BENCIK	106217	SLO	35	213	129	180	180	003	180	073		958
40	Martin	STEFANOV	109226	BUL	2	127	127	161	111	150	180	095		951
41	Samuele	VASSALLO	108558	ITA	23	214	180	180	013	150	010	180		927
42	Roksana	GADEK	71649	POL	28	188	170	086	072	180	120	087		903
43	Nikolas	AUTIO	70127	FIN	7	125	088	136	107	108	099	180		843
44	Borislav	TERZIEV	109238	BUL	3	098	180	129	035	180	053	094		769
45	Nils	FINKE	29833	GER	13					DQ				DQ
46	Filip	KLOBUSSICKY	80102	SVK	38					DQ				DQ

ticket for this flight as he hooked into a big chunk of lift and was way up when Jim Parker suggested an early RDT. Good thing, too, as the model landed well off-site in a sunflower field.

Adelaide continued her excellent flying, recording another max. She used the same pink wingtip model for all her flights—apparently it's a Victor Stamov design, as Jim Parker would call out "Go, Victor" to encourge it. In fact the our local official timer asked if Adelaide's name was actually Victor!

Round seven was the last round, and hopes were high for a strong finish. Joel was first off again for his max. Roman, still using his windy weather model, got a good launch into questionable air and was down in 90 seconds. Adelaide finished the team's flying for the day was another max.

The scores for our team were: Joel, 1286; Adelaide, 1201; and Roman, 1105. For awhile, it appeared team USA might have a shot at a team trophy, but it was not to be. A weary bunch of fliers and supporters ended a hot and frustrating day, looking forward to cool showers.



F1B DAY

Our F1B team consisted of only two fliers, Kyle Gerspacher and Joel Yori. Joel was doing double duty as he had flown in the F1A competition. Kyle was coming off a convincing win from the past weekend. We knew that we didn't have a shot at the team trophy because we were a teammate short, but we were hopeful for an individual trophy or two. Twelve teams were entered with a total of 29 contestants.

The competition began at 8 a.m. and immediately it was apparent that the flight line was not set up to take advantage of the large field, as models were drifting into the crops nearly from the first flight. However, the management decided to wait out this round, which was for a 4-minute max, and move before Round two. Kyle was first on the line, but just as was preparing his model, his loaded motor broke, so Joel actually put in Team USA's first flight, a nice 4-minute max. Kyle went next and recorded his max easily. Both our competitors were flying Andruikov models; Joel's was a model #121 and Kyle's a model #180.

As noted above, the flight line was moved between rounds about 200 yards upwind, delaying the competition by 30 minutes, but giving the flies a better chance of staying on the field. In my estimation, the flight line could have been moved upwind another 200 yards, but that wasn't my call.

Round two began with Kyle putting his model higher than anyone on the field for an excellent max. Joel followed up with another 180.

Round 3 saw Kyle launch into less-than-perfect air and, for the first time, the USA team supporters took off under the model flapping away. He made the max. Joel flew second and got his 180 again.

Round 4 began with Kyle launching his model and watching it drift into the corn downwind, A max, but a difficult chase. Kyle launched and when the model dethermalized, it was over the parked cars, David Ehrgott (Hayden Ashworth's dad), was on the chase crew and just happened to be in the right spot to catch the model before it was damaged.

Lunch break followed the fourth round, and the food service folks showed up just in time with another lunch for the hungry crowd.

Round five got underway, but a broken D.T. line would put Kyle on the sidelines to prepare his reserve model. That meant Joel was up. He was up to the task with another max. By now, Kyle had model #2 prepped and ready, but the timers had not watched him wind his model as required by the rules, and he was forced to unwind it, then rewind with a timer observing. This seemed to be a rule that was sometimes enforced but other times not, leading to some sharp words. Soon, all was hashed out, and Kyle put in a max flight in a huge thermal.

Round six was much calmer, as both Kyle and Joel easily maxed.

Round seven, the final round, was a difficult one for air picking. Joel was wound an ready to go, but the wait on the line was seemingly forever. Some suggested that he should replace the motor, and steps were underway to do just that when some decent air was detected, and Joel elected to launch. The result was a disappointing 99 seconds. All the flapping in the world didn't seem to help as the air just wasn't there.

Kyle was back to flying his number one model with the repaired D.T. line, and he maxed it well into the cornfield.

The flyoffs were to begin at 7:15 and were for 6-minute flights. Five contestants were in the queue: two Russians, an Israeli, an Estonian and Kyle representing the USA. Our

F1A TEAM CLASSIFICATION

POS.	CONTRY	NAME	FAMILY	SCORE	TOTAL	POS.	CONTRY	NAME	FAMILY	SCORE	TOTAL
		Tomer	BARKAI	1308				Federico	VASSALLO	1258	
1	ISR	Tomer	ROYZIN	1307	3870	9	ITA	Emanuele	FAVA	1142	3327
		Sagi	BRUDNI	1255				Samuele	VASSALLO	927	
		Leo	CHENE	1307				Kalle	KORPELA	1320	
2	FRA	Capucin	RAGOT	1270	3771	10	FIN	Konsta	HARTIKAINEN	1152	3315
		Jocelyn	POUZET	1194				Nikolas	AUTIO	843	
		Igor	BUTSNEVICH	1320				Simona	TOSHESKA	1138	
3	RUS	Semen	NOGTEV	1275	3761	11	MKD	Anastasija	POZHARSKA	1102	3264
		Sofia	KORNUSHENKO	1166				Zoran	PETRESKI	1024	
		Karl	MANNIK	1320				Maj	HABJANIC	1231	
4	EST	Gert	NULK	1293	3732	12	SLO	Matic	PIRIH	1074	3263
		Hannes	HOLLO	1119				Martin	BENCIK	958	
		Vitek	ROSSLER	1248				Viktoria	PEYKOVA	1163	
5	CZE	Matous	KULICH	1212	3621	13	BUL	Martin	STEFANOV	951	2883
		Tomas	TAUER	1161				Borislav	TERZIEV	769	
		Imre Moric	CSIKAR	1236				Patrik	KLOBUSSICKY	1220	
6	HUN	Vilmos	PEK	1198	3601	14	SVK	Adrian	MIKOLASEK	992	2212
		Martin Benedek	KERNER	1167				Filip	KLOBUSSICKY	DQ	
		Joel	YORI	1286				Stefan	RICHTER	1064	
7	USA	Adeaide	MACHADO-ULM	1201	3592	15	GER	Carlos	LAMMERSMANN GOZALO	1026	2090
		Roman	STALICK	1105				Nils	FINKE	DQ	
		Blazej	STACHOWSKI	1298							
8	POL	Dominik	SKWAREK	1226	3427	16	ROU	Tamara	KISS	1134	1134
		Roksana	GADEK	903							

F1B INDIVIDUAL CLASSIFICATION

08.08.2018

Nr	NAME	FAMILY	FAI ID	CNT	St Nr	1st 08:00-08:55 240	2nd 09:30-10:25 180	3rd 10:30–11:25 180	4th 11:30-12:25 180	5th 13:30-13:25 180	6th 14:30-15:25 180	7th 15:30-16:25 180	1st FO 18:30-18:37 360	2nd FO 19:20-19:27 480	TOTAL
1	Karl	MANNIK	17800	EST	76	240	180	180	180	180	180	180	360	480	2160
2	Kyle	GERSPACHER	123213	USA	74	240	180	180	180	180	180	180	360	339	2019
3	Yuval	SARIG	109058	ISR	60	240	180	180	180	180	180	180	360	127	1807
4	Sofia	KORNUSHENKO	101100	RUS	73	240	180	180	180	180	180	180	296		1616
5	Ilia	NESTERENKO	109466	RUS	72	240	180	180	180	180	180	180	247		1567
6	Martin	FISERA	86187	CZE	55	240	180	180	180	180	169	180			1309
7	Vladislavs	DREJERS	84898	LAT	65	211	180	180	180	180	180	180			1291
8	Tabea	WIESIOLEK	65957	GER	58	240	180	180	180	180	180	148			1288
9	Aleksandar	CVETANOVSKI	84663	MKD	67	240	180	180	180	180	146	180			1286
10	Arvis	BITANS	112238	LAT	66	240	180	180	180	137	180	180			1277
11	Vladislav	KUZNETSOV	86180	RUS	71	240	180	130	180	180	180	180			1270
12	Zofia	ZDANCEWICZ	68733	POL	68	240	180	180	180	180	180	126			1266
13	Anna	WIESIOLEK	78618	GER	57	240	180	180	180	125	180	180			1265
14	Kacper	LUKASZEWICZ	53972	POL	70	240	116	180	180	180	180	180			1256
15	Petr	DROBISZ	17069	CZE	53	235	180	180	180	180	180	120			1255
16	Angel Libera	IACONO	124460	ITA	61	240	180	180	180	180	180	114			1254
16	Vanesa	VESKOVA	109226	BUL	50	240	180	180	114	180	180	180			1254
18	Filip	RUDZINSKI	82999	POL	69	240	109	180	180	180	180	180			1249
19	Jekaterina	DEMCHENKO	94109	LAT	64	240	180	104	180	180	180	180			1244
20	Sebastian	JACKEL	78230	GER	59	240	103	180	180	180	180	180			1243
21	Joel	YORI	69244	USA	75	240	180	180	180	180	180	099			1239
22	Aleks	MOISTUS	17750	EST	77	240	180	087	180	180	180	180			1227
23	Gregor	MOISTUS	112528	EST	78	240	180	180	180	180	140	123			1223
24	Benedetta	MARTINELLI	124459	ITA	63	171	151	180	180	180	180	180			1222
25	Juliette	TISSEROND	71307	FRA	56	240	180	153	180	162	180	115			1210
26	Kristina	IVANOVA	109238	BUL	51	240	161	180	140	122	180	180			1203
27	Anna	FISEROVA	93853	CZE	54	240	148	126	180	157	180	159			1190
28	Grigor	MILANOV	92381	BUL	52	066	180	180	113	180	180	058			957

F1B TEAM CLASSIFICATION

POS.	CNTRY	NAME	FAMILY	SCORE	TOTAL
1	RUS	Ilia	NESTERENKO	1320	3910
		Sofia	KORNUSHENKO	1320	
		Vladislav	KUZNETSOV	1270	
2	LAT	Vladislavs	DREJERS	1291	3812
		Arvis	BITANS	1277	
		Jekaterina	DEMCHENKO	1244	
3	GER	Tabea	WIESIOLEK	1288	3796
		Anna	WIESIOLEK	1265	
		Sebastian	JACKEL	1243	
4	POL	Zofia	ZDANCEWICZ	1266	3771
		Kacper	LUKASZEWICZ	1256	
		Filip	RUDZINSKI	1249	
5	EST	Karl	MANNIK	1320	3770
		Aleks	MOISTUS	1227	
		Gregor	MOISTUS	1223	

POS.	CNTRY	NAME	FAMILY	SCORE	TOTAL
6	CZE	Martin	FISERA	1309	3754
		Petr	DROBISZ	1255	
		Anna	FISEROVA	1190	
7	BUL	Vanesa	VESKOVA	1254	3414
		Kristina	IVANOVA	1203	
		Grigor	MILANOV	957	
8	ITA	Angel Libera	IACONO	1254	3262
		Benedetta	MARTINELLI	1222	
		Jacopo	PEGONZI	786	
9	USA	Kyle	GERSPACHER	1320	2559
		Joel	YORI	1239	
10	ISR	Yuval	SARIG	1320	1320
11	MKD	Aleksandar	CVETANOVSKI	1286	1286
12	FRA	Juliette	TISSEROND	1210	1210





downwind crews were deployed and when the 7-minute window opened, Kyle was the first to go. All five fliers got off in time. Kyle made the 6-minute flight as did the Estonian and the Israeli. Both Russians dropped out. Kyle's model drifted off the field heading west into the tobacco crops.

The second flyoff round was for an 8-minute max and was to begin at 8:15 p.m. The sun was setting and the sunset was spectacular. Kyle was first to launch, followed a couple of minutes later by the Estonian. The Israelis were ready near the end of the 7-minute launch window, and it was getting pretty dark by now. As they launched, it became apparent that they had attached a light flasher to their model, as the blinking light made the model easy to spot in the twilight; however, a short while into the flight, the model dethermalized, and came down in less than 3 minutes, landing on the flat roof of the old hangar downwind.

Kyle's model, meantime was drifting behind the hangar at some distance, The timers lost sight of it at 4:19, but unofficial observers were certain it was still airborne at 7 minutes. The Estonian won first place, Kyle came in second and the Israeli third. The entire U.S. team cheered and congratulated Kyle for his amazing flying. Photos and selfies were flashing in what was now darkness. He did all of us proud. As we were leaving the field after a long, hot day, we saw the Israeli team jury-rigging ladders to retrieve their model from the top of the hangar. I understand they were successful.

F1P DAY

For excitement, this day ranks near the top. The final result is important, of course, but the way it unwound is the real story.

A few comments to begin. Nearly all 16 contestants flew the same model design. It's a very low-pylon model with raked wing tips and forward fin. It's all carbon construction and covered with a mylar-like film, and except for color combinations, telling one from the other is not possible. The models are all from a single source in Ukraine and available by internet. Finally, all were powered by Cyclon or Fora engines as best I could tell. Quality of performance then, becomes a matter



of model trim and pilot ability—plus two other factors: thermal picking and luck! The USA had a secret weapon in the thermal picking department, as Assistant Manager Sevak Malkasyan had his computerized heat sensor in operation thoughout the competition.

This day at the field would start off just like the previous two days but since only six countries had teams, the flightline was much more compact.

The first round began promptly at 8 a.m., and Hayden put his ship in the air first. Since there was nearly no drift, the model was picked up after it's 3-minute max just a couple hundred yards downwind. Other fliers followed suit and at the end of the round, 11 of the 16 had perfect scores.

Round two saw a slight breeze come up, and after some time passed, Hayden launched, but the air soon turned cool and although the model got plenty of altitude, it seemed to be losing it fast. Fortunately, he squeaked out a max, dethermalizing about 50 feet off the ground...a close call. By the end of the round, only nine contestants had perfect scores.

Round three saw a wind shift toward the dreaded corn on the south end of the field. However, Hayden got really high in some lift, and decided to D.T. of the end of this round. Only seven had perfect scores.

Round four was a repeat, and another max. Only five were left with perfect scores: USA, Russia, Estonia, Romania, and Poland.

Time for the one-hour lunch break. Our food once again was delivered to the field.

Round five began promptly at 1 pm, and Hayden put in another max. One more flier dropped out of the running, which left four remaining with perfect scores.

Round six would prove to be almost too exciting. On Hayden's first attempt, the model got launched a bit to the left and off pattern. The resulting poor transition put the model into a swooping dive, which, thanks to Sevak's quick thinking, he told Hayden to hit the quick D.T. just as the model was pulling out of its dive—too near the ground. The D.T. kicked in, and the ship settled to the ground in 19 seconds, recording an attempt. Time to calm nerves and assess the situation...and take a deep

breath! Second attempt was a perfect flight and another max. Now there are three fliers remaining with perfect scores: USA, Russia and Estonia.

Round seven brings another max. Flyoffs are next. The three in the flyoff are Hayden, Nulk of Estonia, and Lipore of Russia.

The first flyoff round was set to begin at 6:15. It was to be a 5-minute max. As the sun was getting lower in the sky, the winds were blowing almost due east, 5 minutes would test the limits of the field, but our chase crew was out there waiting. As with the other flyoffs, this one had a 7-minute launch window. This time, the Estonian launched first, and he went off pattern to the left for a mediocre height. However, his drift carried him over the tobacco field, where he was able to pick up some lift and earn his max. Hayden was waiting for good air, and the Russian was ready for the next flyoff round, set to begin at 7:15. Now only two had perfect scores.

A bit of intrigue now occurred, as the Estonians were having trouble retrieving Nulk's model, and they asked the jury if the next round could be delayed so they could get it back. After a consultation, it was decided that a delay should be granted. The Estonian model came back, and the time for the next flyoff was set for 7:20 p.m.

The second flyoff round began on time, and the Estonian launched first into some good air and was drifting downwind. Hayden launched, but the model climbed vertically, and when the engine cut, it was pointed straight up. The transition was poor and very likely cost 100 feet in altitude before it finally settled down into a glide. After it came down, the Estonian dethermalized his model, and the contest was over.

As people were milling about congratulating the fliers, the Estonian came over to Hayden and said a few words. Handshakes between the two youngsters exhibited good sportsmanship by both. It was a fitting end to some excellent flying.

Hayden had a great contest, and since he turned 16 during these World

F1P INDIVIDUAL CLASSIFICATION

09.08.2018

						08:00-08:55	09:00-09:55	10:00–10:55	11:00-11:55	13:00-13:55	14:00-14:55	15:00-15:55	18:30-18:37	19:20-19:27	
Nr	NAME	FAMILY	FAI ID	CNT	St	1st	2nd	3rd	4th	5th	6th	7th	1st FO	2nd FO	TOTAL
					Nr	180	180	180	180	180	180	180	300	420	
1	Gert	NULK	29282	EST	95	180	180	180	180	180	180	180	300	285	1845
2	Hayden	ASHWORTH	118103	USA	94	180	180	180	180	180	180	180	300	195	1755
3	Vladislav	LIPOV	70657	RUS	92	180	180	180	180	180	180	180	245		1505
4	Kacper	ZBARECHEWICZ	106423	POL	86	180	180	137	180	180	180	180			1217
5	Polina	POLIAKOVA	92300	RUS	93	180	180	180	103	152	180	180			1155
6	Michal	KREZEL	84783	POL	85	180	091	180	137	180	180	180			1128
7	Stefan	RACASANU	124043	ROU	90	180	180	180	180	154	069	180			1123
8	Hannes	HOLLO	94492	EST	97	089	180	180	142	180	180	171			1122
9	Ilya	TRAPEZNIKOV	83410	RUS	91	180	180	000	130	180	180	154			1004
10	Laurentiu	ANCA	179137	ROU	88	174	072	180	098	078	162	180			944
11	Pawel	ZULAWINSKI	54249	POL	87	180	180	180	104	105	000	180			929
12	Teodor	IONICA	86494	ROU	89	180	102	146	057	089	172	165			911
13	Karl	MANNIK	17800	EST	96	180	180	180	078	180	026	015			839
14	Nikol	PAVLOVA	72080	BUL	80	120	026	033	006	035	148	056			424
15	Martin	STEFANOV	109226	BUL	2	23	018	012	000	000	000	000			53
16	Borislav	TERZIEV	109238	BUL	3	005	011	000	000	000	000	000			16

F1P TEAM CLASSIFICATION

POS.	CNTRY	NAME	FAMILY	SCORE	TOTAL
		Vladislav	LIPOV	1260	
1	RUS	Polina	POLIAKOVA	1155	3419
		Ilia	TRAPEZNIKOV	1004	
		Kacper	ZBARECHEWICZ	1217	
2	POL	Michal	KREZEL	1128	3274
		Pawel	ZULAWINSKI	929	
		Gert	NULK	1260	
3	EST	Hannes	HOLLO	1122	3221
		Karl	MANNIK	839	

POS.	CNTRY	NAME	FAMILY	SCORE	TOTAL
		Stefan	RACASANU	1123	
4	ROU	Laurentiu	ANCA	944	2978
		Teodor	IONICA	911	
5	USA	Hayden	ASHWORTH	1260	1260
		Nikol	PAVLOVA	424	
6	BUL	Martin	STEFANOV	53	493
		Borislav	TERZIEV	16	



Champs, he will be back in two years to fly again.

CLOSING CEREMONIES

The usual protocol for the Junior World Champs is to set aside the last day for making up rounds in case of poor weather and/or to provide time for early morning flyoffs. This year none of that was needed as the flying conditions on all three competition days were excellent. Every day was warm (into the high 80s at least) and although sometimes the wind picked up more than might be comfortable, it was always flyable. Wind direction was tricky all three days, and the variability gave the contestants and officials some problems. Mostly, it was a great meet, well run on a really nice field.

GENERAL TEAM CLASSIFICATION

TEAM	SCORE
RUSSIA	11090
ESTONIA	10723
POLAND	10472
UNITED STATES OF AMERICA	7411
CZECH REPUBLIC	7375
BULGARIA	6790
ITALY	6589
GERMANY	5886
ISRAEL	5190
FRANCE	4981
MAKEDONIA	4550
ROUMANIA	4112
LATVIA	3812
HUNGARY	3601
FINLAND	3315
SLOVENIA	3263
SLOVAKIA	2212

So, since we didn't have the possible flyoff rounds on Friday, the U.S. team took advantage of the unexpected free time, and, thanks to Carolyn Ulm, we took a 30-mile trip to the city of Plovdiv. Plovdiv is the site of significant Roman ruins, some just recently discovered, some not so recent. It is also Bulgaria's cultural center. This guided walking tour covered not only the Roman period but every historic period since. We walked among the ruins and got pictures of the team and the supporters. We sat on the colosseum steps right where the emperor would have sat 2000 years ago.

After lunch and gelato we were on our way back to Pazardczik to clean up for the closing ceremony, which took place at the same location as the opening ceremony—a city park just down the street from our hotel.

After the obligatory speeches, the trophy awards began. The practice is to award the individual award in an event first, then to follow it with the team award.

It was also announced at the end of the event that the 2020 Junior World Championships would be held once again in Romania (as it was in 2016).

After the ceremony, it was time for the end of contest dinner at the Hotel Trakia (our home hotel for the week). All of the teams were there, at least to start. When it was apparent after an hour that the food would be late in being served, several of the contestants started making the rounds trading for pins, decals, shirts, caps and jackets. This part of the event is always a fun activity to watch, spoiled for me this year by the very loud music playing in the venue, and making it difficult to carry on a conversation without yelling. Didn't seem to bother the youngsters, though. When the main course finally arrived at the two-hour mark, I finished mine and headed upstairs for a more quiet and restful evening.

WRAP-UP

Jim Parker was the Team Manager; however, the title doesn't describe the job he did with this group of young Free Flighters. Jim was the definition of the word "coach." He got Sevak Malkasyan to be his assistant, which proved to be an excellent resource on the flight line as well as a valued adviser. Jim also kept the team focused and loose. Corny stories, encouragement, organization, supportive suggestions and never a harsh word to the team were a staple. When the need arose to defend against an unexpected slight from the timing crew, he was there. The respect he garnered from the team and all of their supporters was evident from the start. I was impressed that our team jelled quickly and began to work together from the beginning. Even though most of us didn't know each other at the start, we soon acted as though we'd worked together for a long time. I admired his leadership and the teamwork exhibited by all. It's a group. I was proud to be a part of it.

To that end, this team will lose two valued members for 2020. Both Joel and Kyle will age out, since both will be over 18. We will need to replace them, and add to our team. If

Adelaide, Hayden, and Roman qualify for Romania, we have room on the team for six more fliers or fliers who can compete in six events. We should be encouraging our youngsters to participate. Twelve and thirteen year old fliers now will be old enough for 2020 and 2022. Fifteen and sixteen year olds will be ready for 2020. Let's encourage them!

I did a quick review of the participant list and found that 11 of the 16 teams had young women on them, including the USA. Some had more than one. Germany had two sisters. Russia had one of the youngest F1P fliers on the field at age 14, and she flew well. We should not overlook our good fliers who are young women. I have it on good authority that if a youngster is interested, models are available. Contact Charlie Jones at FAI Model Supply or Jim Parker at <N89015@aol.com> for specifics. Also a good amount of the expense of these trips is underwritten by AMA, NFFS and some important donors.

A few thoughts about travel to countries where the alphabet is Cyrillic. Try as I might, I have not cracked the code. Road signs, storefronts and other landmarks are printed in Cyrillic in Bulgaria, as they were in Macedonia. If you think you can get around easily without a GPS system in your car or on a portable device, you are a better person than I am. Be smart, and just get one before your trip or make sure the car you rent has one; otherwise you'll spend a lot of time looking lost—because you will be. Fortunately, some signs are also subtitled in English, and many of the locals do speak a bit of English, so it might be possible to "muddle through," but why take the chance.

To the contest management: I appreciated the large site and the organization of the meet. It was great to be able to read the posted scores within an hour after the end of each round. The recorded announcements were a plus when they were accurate (which was nearly all the time). By and large, the timers were well trained and knew what they were doing. They certainly got the hang of it after the first few rounds were finished. Although wind direction shifts were a huge issue especially on F1A day, the launch line seemed to be too close to the south end of the field nearly all contest long. Drift to the cornfield, sunflowers and the dreaded empty hangar were too common, and many a model was found in that mess. A further move "upwind" would have made it more possible to land on the field instead of in the crops, the cars, or on the hangar.

Also, a word about portapots. These units were placed in front of the hangar, which depending on the flightline location, was between 1/4 and 1/2 mile away. Since motorbikes and the like were not available, and the cars were parked quite some distance away, this entailed a long hike there and back—both time and energy consuming. Having some units on a trailer to move along with the flight line would be a big plus. Also, if the units could be serviced and have toilet tissue replaced regularly, that would be a good thing too.

The Hotel Trakia was well situated about 12 miles or so from the field. The rooms were modest and outfitted with generally uncomfortable beds. The food was generous and after awhile tasted the same from meal to meal. A trip to a local pizza parlor proved a nice change on thursday evening. Coffee was typical european with a small espresso serving as the morning jolt. A good cup of Starbucks would have been appreciated. I don't believe the hotel was up to the banquet on Friday evening, as service was slow to start and slow to continue.

The hotel wifi system was easily overloaded and, as I found out when attempting to send my reports and pictures, unreliable until after midnight and before 6 a.m., and only then if done in or near the lobby. I actually pirated a password from the Cakebar Cafe next door and got better dependability.

I will give the locals credit. They were a friendly lot. The wait staff was overworked and put in long hours, but seemed ready to help.


Kyle Gerspacher

Finally, A word about storks. On F1B day, the air seemed to attract storks. One was flying with the models —just circling with them. Unusual but lovely. If storks think, I wonder what their thoughts were to be flying with such unusual looking birds.

After we (Tom, Roman and I) left Pazardzhik on Saturday morning, we stopped in Sofia for a day before heading home. Sofia is a very attractive city with plenty of downtown park area. In fact, it reminds me of Portland, Oregon. That must mean I'm ready to go home.

I look forward to making the trip to Romania in 2020 as the reporter/photographer one more time if I'm able.

Bob Stalick, Albany, Ore.
freefliter@aol.com

In the July-August 2018 Issue of *Digest*, an incorrect version of the Lucky Lindy was presented as representing the Lucky Lindy used to win A Nostalgia at the 2018 Nats. The plan was the Lucky Lindy Mk. III which is not the Nostalgia-approved version of this Lucky Lindy nor was it used by Bob Sowder to win the event. The Nostalgia-approved Lucky Lindy used by Bob Sowder was an earlier version as detailed by and available from Jim O'Reilly at <jimoreillymodelplans.com>.

The major differences between the approved version and the Mk. III are enumerated below. The Mk. III version featured in the July-August issue was flown by Larry Conover to a first place finish in the 1960 World Champs. This design would be suitable for Vintage FAI or if reduced in size to 1/2A, it could be flown as a Golden Age model.

For history buffs, the Nostalgia approved Lucky Lindy can be found in 3-view form on page 42 of the 1957-1958 Zaic Model Aeronautic Yearbook, while the Mk III version can be found on page 39 of the 1959-61 yearbook.

The 3-view of the Nostalgia-approved design presented herein was provided by Jim O'Reilly to help illustrate major differences between the Nostalgia-approved design and the Mk. III. The major external differences are:

1) Horizontal stab tip mounted vertical stabilizers (fins) on the approved design have about two-thirds of the area below the horizontal stab. The Mk. III has about 90% of the area above the horizontal.

2) The approved design has a blunt pylon as wide as the fuselage. The Mk. III design has a more streamlined profile about half as thick as the fuselage.

3) The Mk. III design has a small dorsal fin on the center vertical, and the fin is intended to slide up and down in the fuselage. The Nostoaglia has no dorsal and is fixed in place.

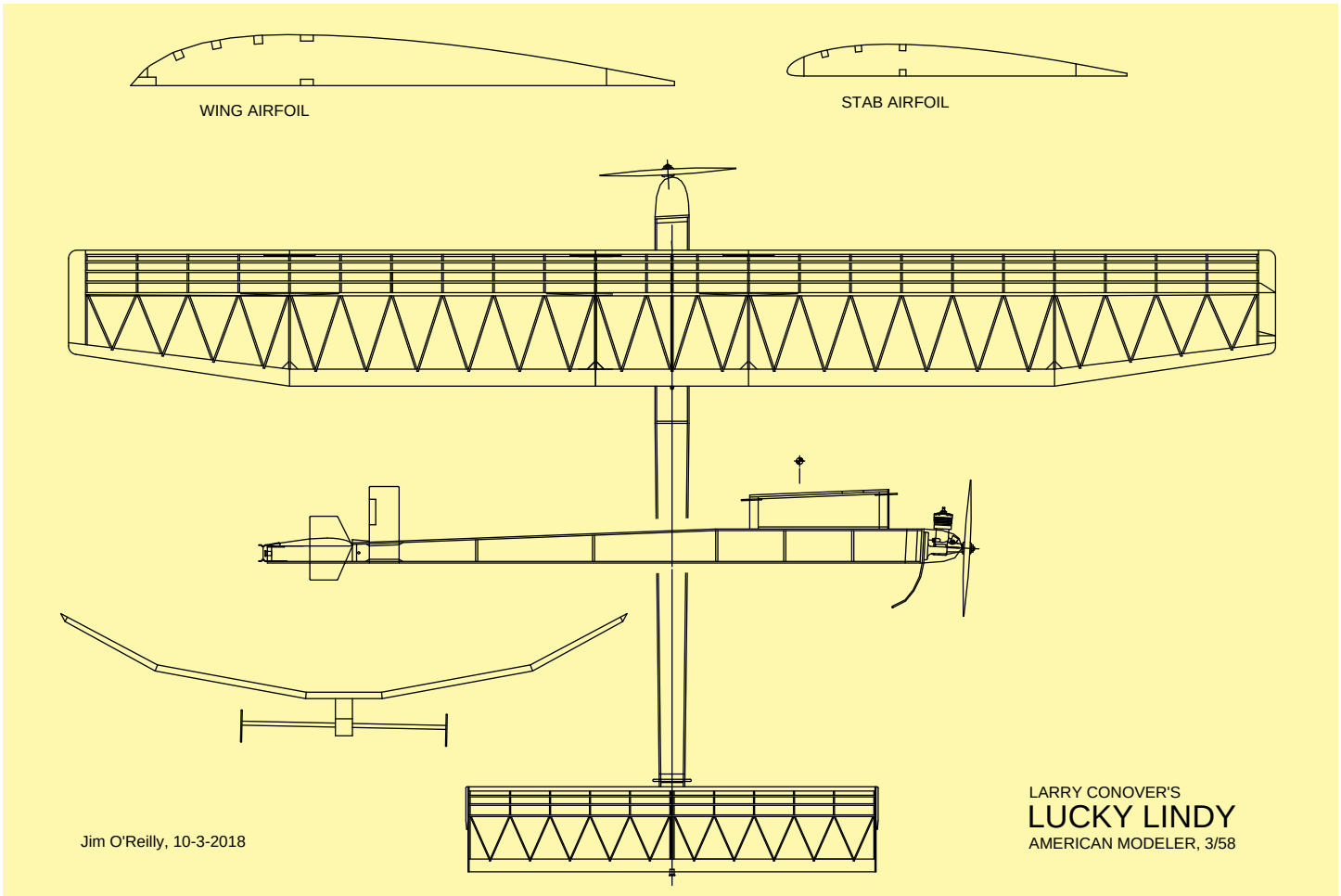
4) The Mk. III wing design has a partial depth main spar and three turbulator spars. The Nostalgia design has a full depth main spar and two turbulator spars.

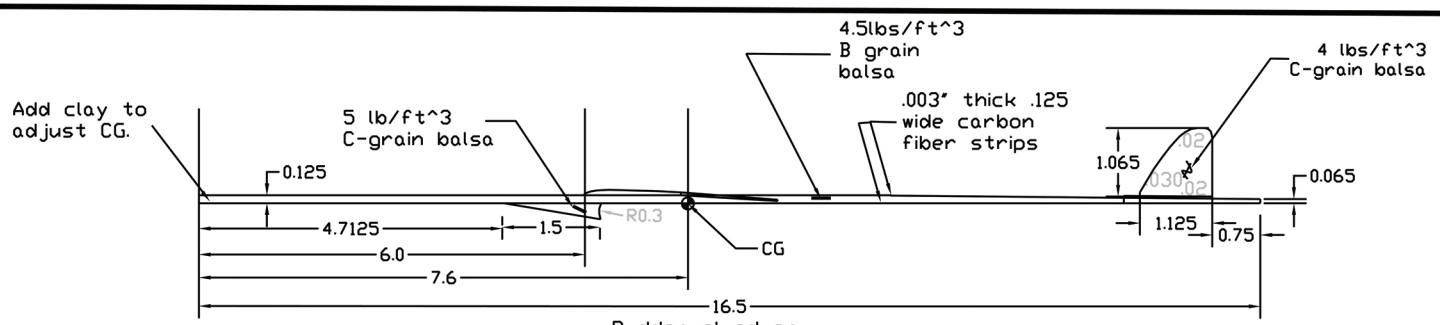
5) The wingspan of the Nostlagia design is 71". The Mk. III design span is 65".

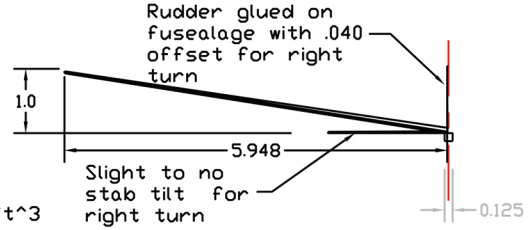
Other minor differences are apparent if one were to compare these plans side by side.

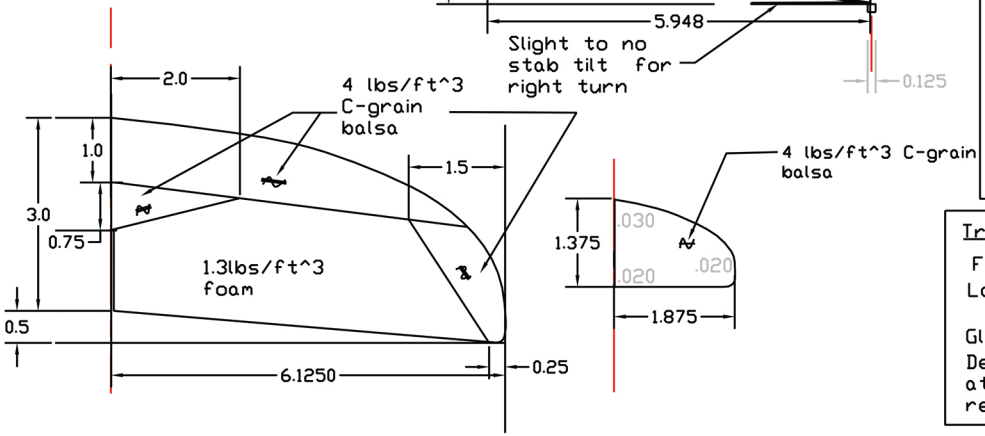
What the Nostalgia committee was concerned about is that these two different designs might be confused and that fliers might see fit to build a non-approved Nostalgia Lucky Lindy only to have it disqualified at the contest field. We hope this article corrects any confusion.

Submitted by Bob Stalick.
with Bob Mattes and Keith Fulmer.





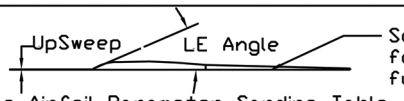




Weight Table (in grams +-.05)	
Wing	1.5
Fuselage	0.4
Stab	0.1
Rudder	0.05
Launch Hook	0.1
Ballast Clay	0.05
Total	2.2g

Trim/Flight Notes

Flight Pattern---> Right-Right
Launch Rubber ---> .040"wide X 10.5" loop of FAI Super Sport
Glide Circle Radius approx 50 ft
Decalage adjustment for straight launch at wing to fuselage joint (use acetone to remove/shim/reglue

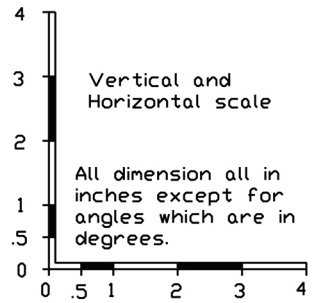


Wing Airfoil Parameter Sanding Table

Span Location	0	1.516	3.031	4.547	6.000
Chord	3.000	3.000	2.910	2.493	1.080
High Point (HP)thickness	0.066	0.066	0.064	0.055	0.025
HP to Leading Edge (LE)	0.900	0.900	0.873	0.748	0.324
Foam Flap Chord	1.250	1.549	1.871	1.805	N/A
Thickness at LE of flap	0.030	0.037	0.044	0.035	N/A
UpSweep	0.010	0.010	0.010	0.010	0.010
LE Radius	0.010	0.010	0.010	0.010	0.010
Trailing Edge (TE) thickness	0.020	0.020	0.020	0.020	0.020
LE Angle	23	23	23	23	23

Glue joints

Launch hook to fuselage	CA
Dihedral wing joint	CA
Foam to balsa joints	Weldbond
All other joints	Duco Cement thinned 50%



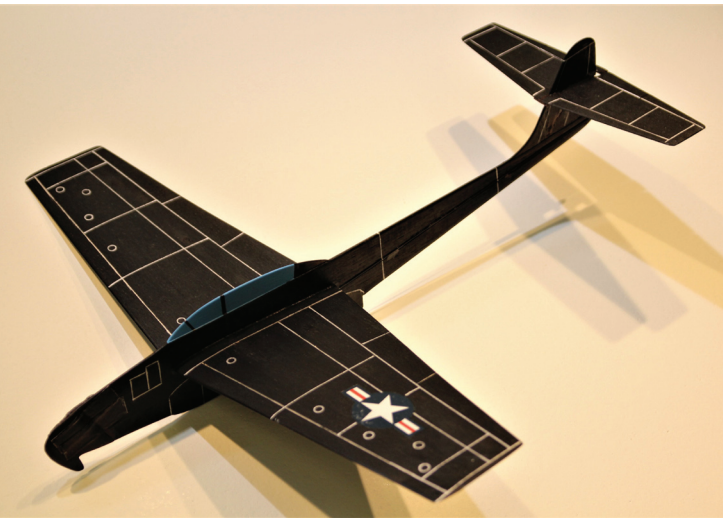
Rantoul Special-2018

K. Krempetz

1st Place-2018 US Nationals

Best Two flight total Time:
1 minutes 47.6 seconds
Launch Height approx. 42 ft

A common complaint about Jet Catapult models is that they usually don't fly very well. That is certainly true if measured by AMA catapults or hand-launched gliders, but such a comparison misses the point. The FAC rules specify that the models must be of "any man carrying jet or rocket propelled aircraft" and those were designed for speed rather than gliding ability.

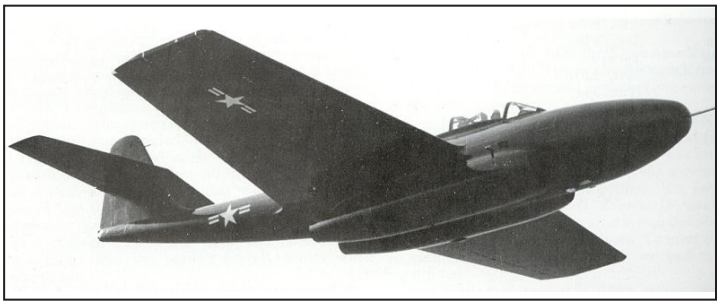


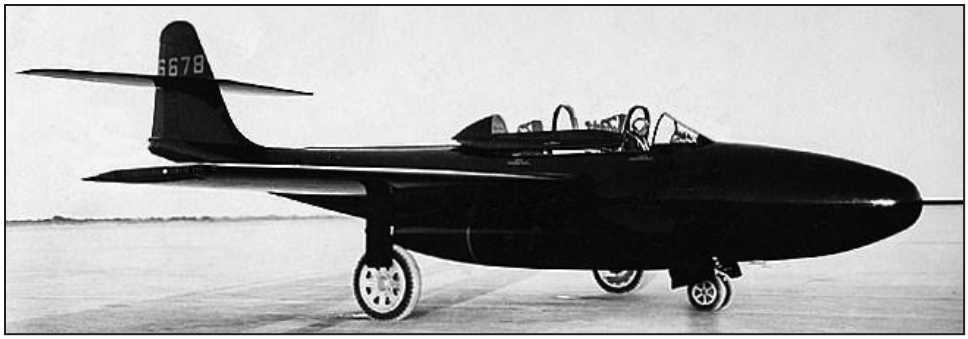
PHOTOGRAPHY: KIT BAYS

There are several factors that limit the performance of the typical Jet Catapult model. First is the fact that many military and civilian jets have swept wings and models with that feature usually fly fast and land soon. A second problem is that scale models of jets frequently have very short tail moments compared to duration gliders. This combined with the fact that most jets are midwing designs means that the stab will be flying in the downwash of the wing which can cause some erratic flight patterns.

The Northrop XF-89 has some attractive features that partially offset the usual disadvantages. The main one is the conventional wing platform which helps avoid the lawn dart problem of swept wings. A second attractive feature is that the original jet was designed with an upward slope in the rear profile with the stab mounted high on the fin (it's not for nothing they named it the scorpion). This puts the stab higher than is typical so it usually should be flying in cleaner air.







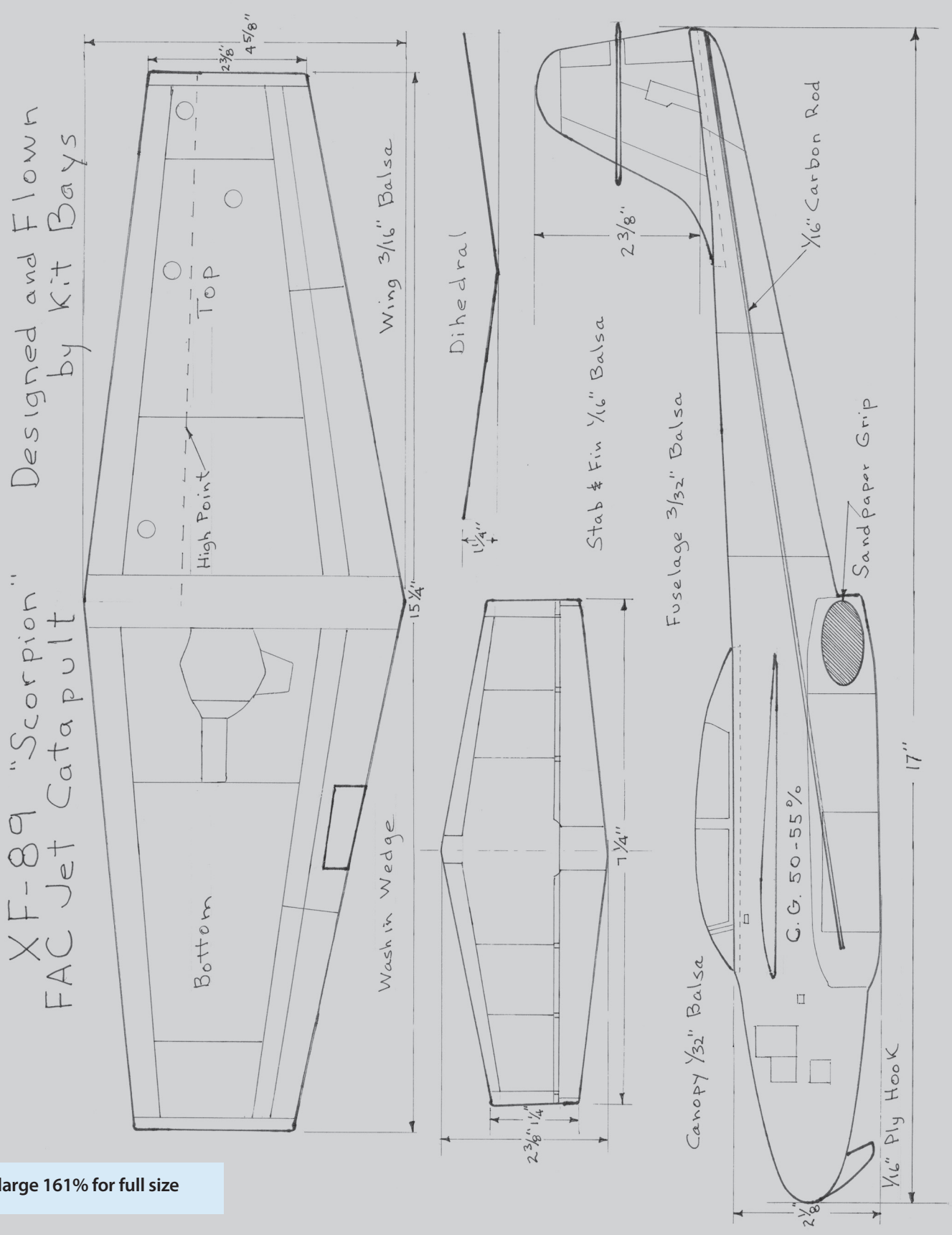
I choose to model the prototype, XF-89, mainly because it did not have the large armament pods mounted on the wingtips. The rules allow bonus points for such features but I have found them to be a problem in trimming. When the model yaws the tip plates not only create drag but act as a spoiler to the inside wing, and every launch is a new experience. I decided to follow the advice of C.O. Wright from many years ago: "Sometimes we must choose a bird of flight rather than a bird of plumage."

The construction of the model is conventional with the exception that the fuselage is 3/32" balsa with a 1/16" carbon rod embedded with CA glue. Rudder and elevator tabs were made adjustable with thin copper wire hinges. I carved washout into the outer two inches of each wingtip. The XF-89 had a shorter nose than the production variants of the Scorpion which also helps in stall recovery. The model has a lot of side area behind and above the center of gravity which can cause spiral instability in turbulence. After several flights I added a washin wedge to the left wing to offset a tendency to spiral in when it encountered really rough air. The right rolling moment also improved the climb pattern and recovery.

FAC rules require documentation and the XF-89 prototype was a one-off example (it also crashed on it's 102nd flight). All the subsequent versions had longer nose moments and either machine gun or rocket pods mounted on the wing tips.

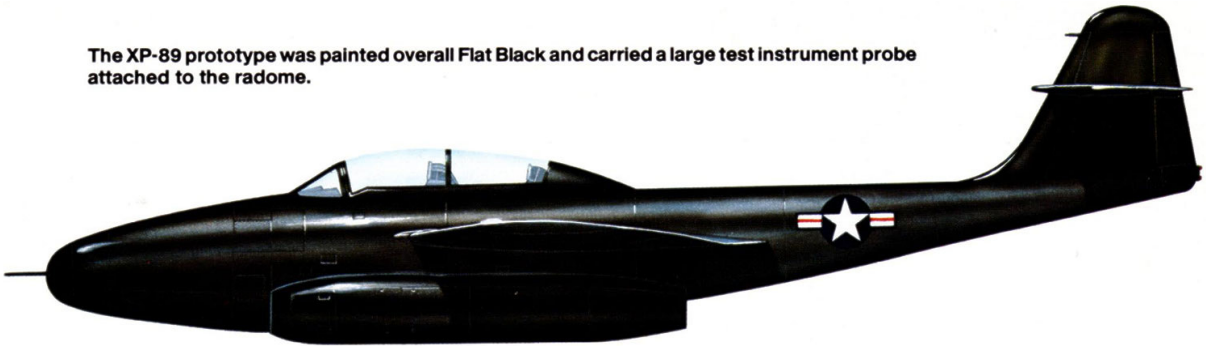
The American Fighter, Orion Books, 1985 has details of all versions of the F-89 and excellent three views that illustrate the location of panel lines.

Kit Bays, Greenville, N.C.
BAYSC@ecu.edu



Enlarge 161% for full size

The XP-89 prototype was painted overall Flat Black and carried a large test instrument probe attached to the radome.



Hi-Start glider was flown on Friday July 27 in a steady 5-7 mph west wind under mostly sunny skies with moderate lift. Hi-Start flying combines some of the best aspects of rubber and glider flying. Think of it as rubber power without needing a stooge, winder or blast tube. And you don't even have to carve a prop. The Hi-Start launch means you don't have to run.


John Stott and Lulu II

PHOTOGRAPHY: ANDY TOMASCH



Walt Tomasch and Thermic 50

The only change to the rules for this year were to permit the fixed end of the Hi-Start to be up to five feet above ground level to help keep the rubber from hanging up in the grass. This worked well, using a fiberglass pole as the anchor stake.

Ted Firster won first place flying his Dragmaster. It's remarkable how well such a large model can launch powered only by fifty feet of 1/16" rubber. A steady breeze certainly helps.

Second place went to Chuck Powell. Chuck took second place last year flying a Mini Master. This year he was flying a rare A-1 sized model called a Cicada, from a German kit, with equally good results.

Third place went to Jack Murphy. Jack started flying his original Leapin' Lizard, last year's winning model, but had to switch to a backup model. He had some trouble getting the second model to release, but no harm was done since the model would simply settle to the ground while still on the towline.



Jack Murphy and Leepin' Lizard

Other flyers were Mark Freeland flying his Retro Gnome, John Stott with his nifty Lulu II and Walt Tomasch with a Thermic 50.

The top three finishers took home BMJR glider kits for their prizes.

We're still waiting for our first junior contestant. This is a nice entry level event. The models are a handy size, easy to build and really fun to fly. The prizes are there for the taking, so who will be the first Junior to compete? Seniors are welcome too!

Three years' experience have proven this event to be feasible and fun. Special thanks to all of the flyers who participated. Dig an old classic model out of the closet, build a new model from a kit, or design your own model from scratch and enjoy some fun, low stress towline glider flying.

Andy Tomasch, Ann Arbor, Mich.
atomasch@umichigan.edu

The "Stumpy" A-6 is a design that actually started off as a joke between me and my dad. At a prior indoor contest my dad had timed Tom Sova and he liked Tom's A-6 design so Tom sent him a 3-view of it. My dad asked me to draw Tom's design in AutoCAD so he could have a full-size template of the wing and stab to build from. As I drew it on the computer we started to joke how it would look if we had the wing as the tail to make a tandem out of it. Then we both looked at each other with a twinkle in our eye and the joke became serious consideration. At the time Bill Gowen was having great success with his nearly -tandem A-6 design. So what started out as a joke turned into "let's give it a try".

The biggest challenge would be to build it to weight as the condenser paper covering would be a large portion of the model's weight. So care had to be taken in wood selection and monitoring weights as the model was being built. The first time the model was flown was at West Baden and after a few test flights I flew my personal best A-6 time of 8:44. The model showed some dutch roll tendencies at higher torques so the sub fin was added. Over the next few years I never really got the model to perform as well as I did that day at West Baden. So I kind of stopped flying the model. Then when the rules changed to allow plastic I revisited the model and removed the paper and recovered with plastic. The weight dropped a little and the covering was a little tighter with the plastic compared to the bumpiness of the condenser paper.



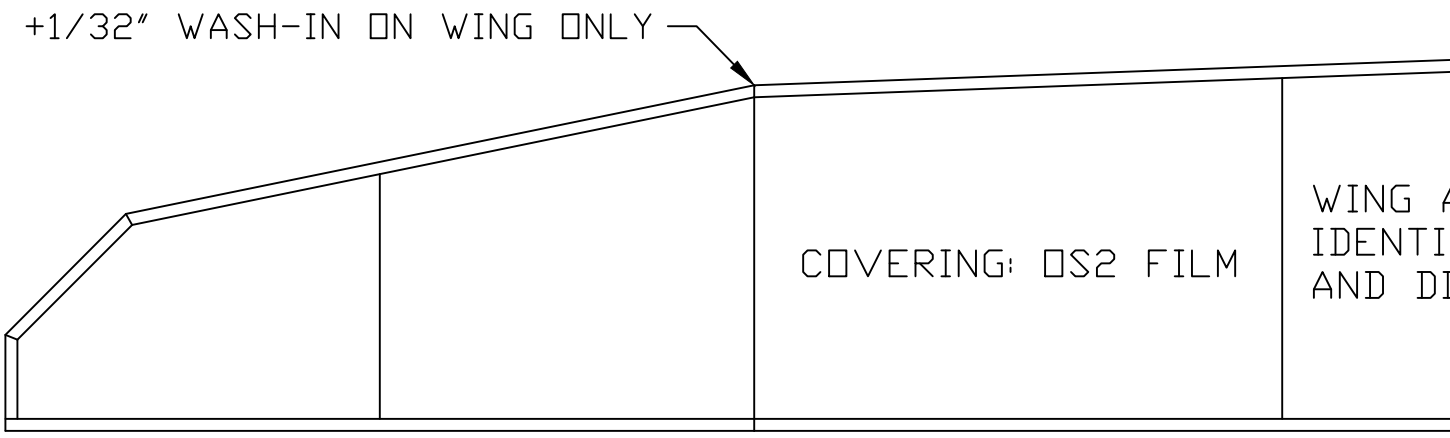
PHOTOGRAPHY: CONTRIBUTED

I took "Stumpy" to the 2018 AMA Nats and started flying it again with plastic covering and it was flying rather well. I had been flying on heavier loops of rubber (1.0-1.1 gram) so decided to just try a lighter shorter loop after my dad suggested it. Dad had been talking to Chuck Markos and he was using lighter loops. The test flight with the lighter rubber was over 7 minutes so I decided to take an official flight. That flight was 7:27, only 23 seconds away from the record. So I did some calculations and found I could just get the turns for an 8-minute flight. Since the air was good and the model was flying good I decided to give it a try. I lubed up the motor and carefully wound in 3200 turns, then backed off 30 to drop a little torque. The flight bumped for about 3 minutes and the last bump allowed it to climb and peak just below the ceiling about 4 minutes. From then on it was a waiting game.

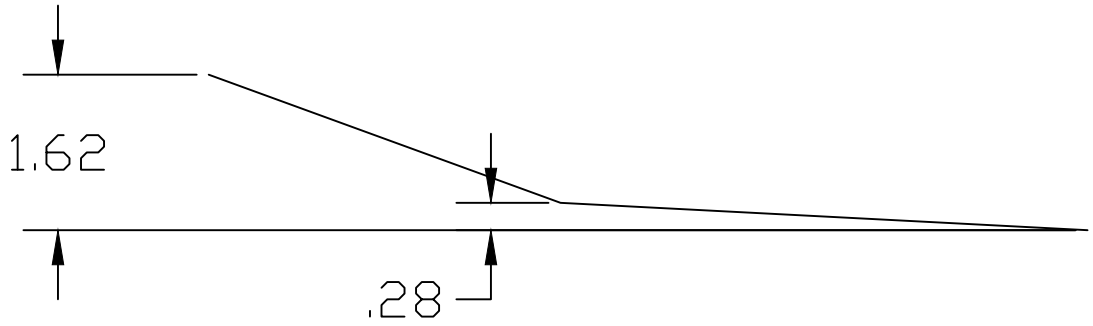
The model passed 7 minutes and was still up about halfway. Then at 7:30 it was about 15 feet up. It was going to be close, it held on and passed the record when about 10 feet up then I can see it was running out of winds. Luckily the prop did not lock up but kept spinning and touched down at 8:10 out of turns. After 4 years "Stumpy" had set a record. It was unexpected, I had no intention of going for the record before that day. It was just one of those days were the conditions were right and everything worked in my favor.

Don Slusarczyk, Willoughby, Ohio
don@slusarczyk.com

.25″ LONG T



SPARS ARE 1/16″ X 1/16″ 4.5# BALSA
TIPS AND FIN ARE 1/16″ X 1/16″ 4# BALSA



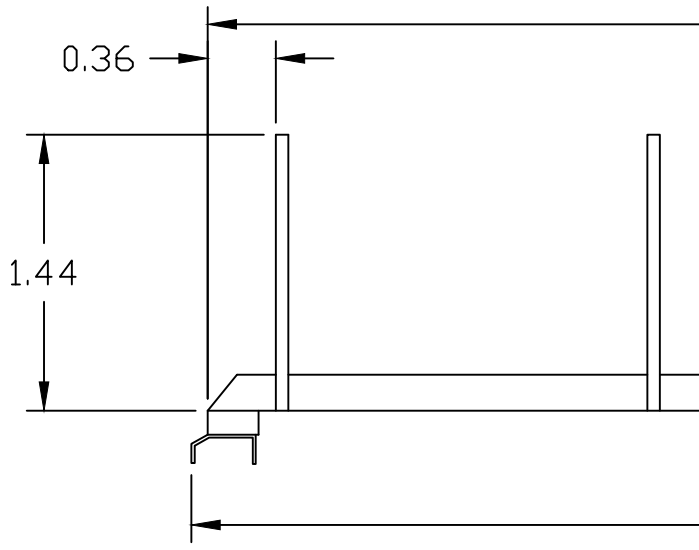
WING/STAB DIHEDRAL

G
B

PROP SPARS .0
SANDED TO AL
BLADES FROM
BLADE PITCH

WEIGHTS:
Body: .410
Wing: .315
Stab: .315
Prop: .190
Total: 1.230 grams

Motor: 16″ x .750 grams
3/02 Tan II
Winds: 3200 minus 30

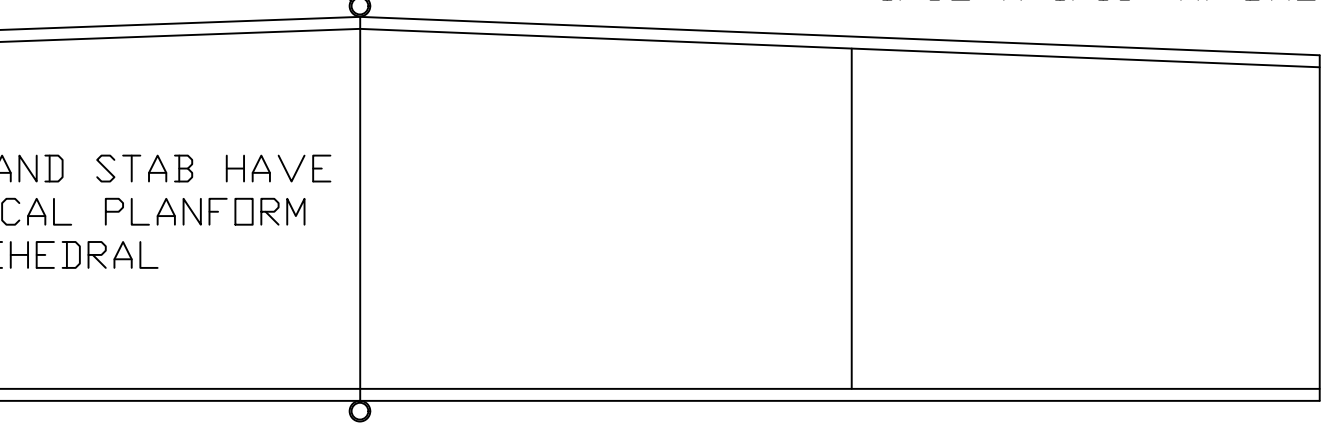


"STUMPY"
TRUE TANDEM A-6 DESIGN
BY: DON SLUSARCZYK

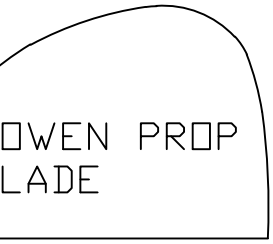
Cat II AMA Open Record Holder and 2018 AMA Nats Winner
Flight Time: 8:10 set on 5/26/2018 in Rantoul Hangar 3

ISSUE TUBES

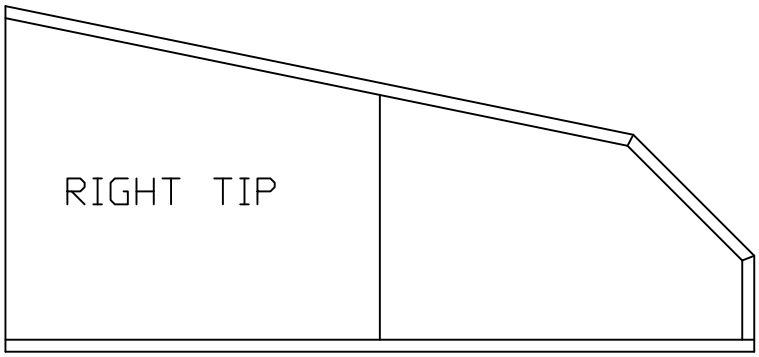
ALL RIBS ARE 6% SIMPLEX
1/32 X 1/16 4# BALSA



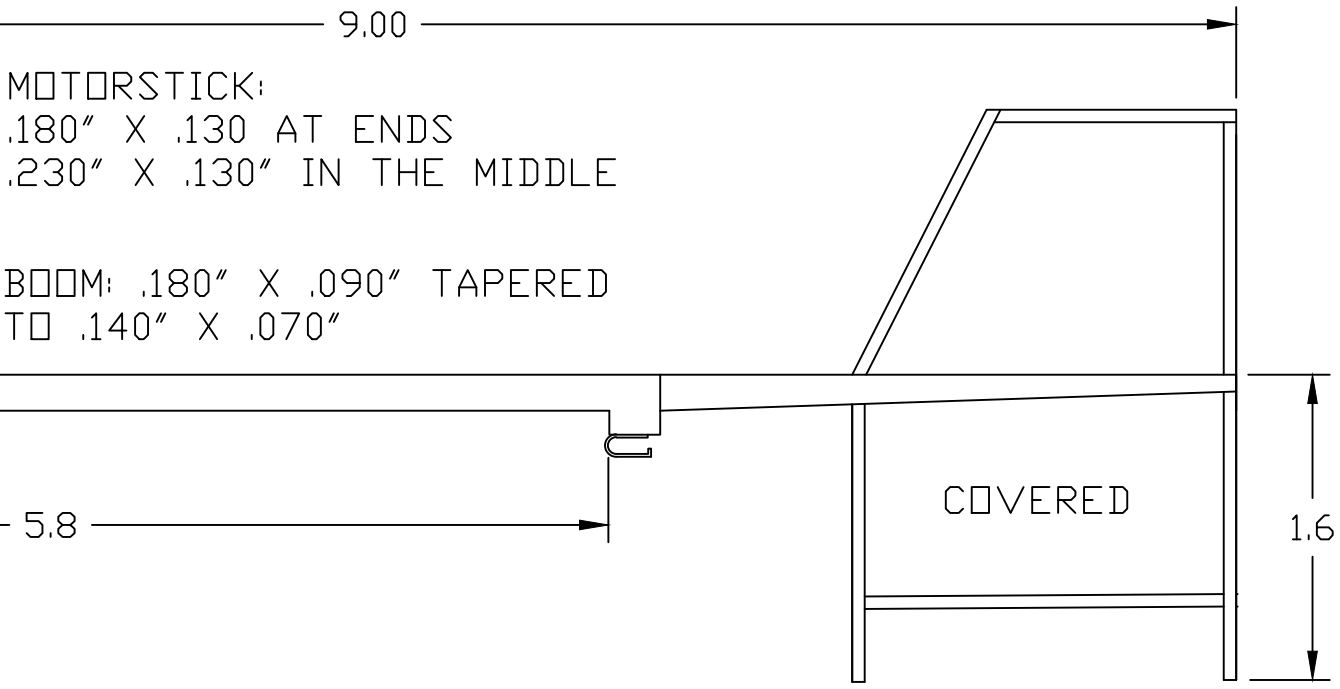
AND STAB HAVE
CAL PLANFORM
EHEDRAL



OWEN PROP
LADE



020" X .050" BASSWOOD
LLOW FLARING.
1/32" 3.8#
ANGLE: 37°



On September 22nd and 23rd, The Texas Cloud Climbers hosted their 71st Annual Regional Free Flight Championships at a new flying site at the Hamilton Municipal Airport in Hamilton, Texas.



PHOTOGRAPHY: TERI TEAFF AND JAN LANGELIUS

The City of Hamilton is centrally located in the great State of Texas and is approximately 100 driving miles southwest of Fort Worth between Stephenville and Austin. Visitors coming from the Austin area can expect a similar drive time northwest of the capital. We feel fortunate to have discovered the Hamilton Municipal Airport site. The airport manager and the City of Hamilton have been incredibly welcoming and open to sharing their 1.75 mile by 1 mile site. The airport is home to an active full-scale soaring club and we're all looking forward to building new relationships and collaboratively sharing this excellent flying site. Those familiar with flying sites in Texas have described this site as one of the best they've seen. ("Even *better* than Seguin"—previous site of several U.S. Team Selection Finals). Rarely have we seen such interest and hospitality when introducing Free Flight to a new location. This was reminiscent of our introduction to the Marion, Kansas site.

We send a very special thank you the Airport Manager/Hamilton City













Secretary, Ryan Polster, who helped us secure site permissions and who even brought his family out to the field to see what Free Flight is all about. Assistant Airport Manager, Pat Kelly, was also incredibly accommodating, open, and helpful with site logistics and details throughout the weekend.

From a competition perspective, we were glad to see flyers from around the region join us under uncertain flying/site conditions. Rain softened field conditions, unfamiliarity with the site, and our desire to have a flawless and neighborly introduction to Hamilton led us to make conservative decisions regarding flightline location and flight maximums. Even with the most unfavorable wind direction, we had competitive flying sessions and strong demonstrations of the different disciplines of Free Flight modelling.

Another special thank you goes out to all the flyers who helped make our introduction to Hamilton as successful as we had hoped for. We all look forward to new contest possibilities in Hamilton. It looks like Free Flight in Texas may have a brand new home.

71st Texas Cloud Climbers Champs - Sept. 22-23, 2018 - Hamilton, Texas

1/2A|1/2A Cl (45)	*Gerald Brown, 270*	*Bob Hanford, 265*	*Steve Spence 288*
CD Gas *(5)*	*Jim Parker, 261*	*Tom Bell, 175*	*Gerald Brown, 24*
CD Classic *(3)*	*Gerald Brown, 360*	*Bob Hanford, 357*	*Tom Bell, 86*
1/2 A Nos|Early *(5)*	*Bob Hanford, 260*	*Tom Bell, 235*	*Jesse Shepherd, 43*
Catapult Glider *(2)*	*David Bevan , 24*	*Jesse Shepherd, 19*	
Nos. Rubber *(2)*	*Bob Hanford, 133*	*Pete Reinhart, 32*	
Mulvihill *(2)*	*Bob Hanford, 255*	*Pete Reinhart, 22*	
Hand Launch Glider	*Mike Fedor, 82*	*Jesse Shepherd , 20*	
AB Gas *(4)*	*Gerald Brown, 360*	*Jim Parker 324*	*Tom Bell, 278*
AB Classic *(3)*	*Bob Hanford, 370*	*Gerald Brown, 336*	*Tom Bell, 326*
P-30 *(2)*	*Bob Hanford, 195*	*Pete Reinhart, 106*	

***F1A**, David Bevan, 46; **F1B**, Mike Fedor 304, **F1C**, Faust Parker 381; **F1G**, Pete Reinhart, 450; Mike Fedor, 430; **F1J**, Faust Parker, 450; **F1S**, Julie Parker, 321; **A-B-C Nos**, Jesse Shepherd 211; **1/4A Nos - .020 Rep.**, Bob Hanford 227; **Jet Cat. Scale**, David Bevan, 44; **Classic Towline**, Jesse Shepherd, 90.*

Please join us for future events.

jAn Langelius, Haslet, Tex.
Jan.Langelius@PACCAR.com



Since 1957 modelers in the mountianus regions of central and eastern Europe have been flying FAI class F1E for slope soaring gliders. The models are flown from a high hill or slope into the wind.

A magnetic steering device keeps the model directed into the wind or at a desired direction to take advantage of the best lift along the slope. This device called the pilot consists of a forward fin with an attached rudder that is attached with an adjustable coupling to a magnet that steers the model in the desired direction.

If the glider turns left the magnet moves the steering vane left, which forces the nose of the glider right,and when the glider turns right, the fin turns right forcing the nose to the left until the glider is again heading in the desired direction.

The rules for F1E allow for a wide range of model sizes and design ingenuity. The maximum wing area is 150 dm and the maximum wing loading is 100 grams per dm and maximum flying weight is 5 kilograms. A contestant may use as many as five models in a contest. Typically a competitor uses three types of models. For light winds of 0 to 3 mph a large lightweight model is used. For more breeze up to 12 mph a smaller middle-speed model is used. For stronger wind a model with a higher speed airfoil is used.

A contest consists of five 1-hour rounds with a maximum flight time of 3 to 5 minutes determined by wind velocity and flying site conditions. Flight scoring differs from the total of accumulated flight times used for other duration Free Flight competitions. Each flight is scored by dividing the flight time by the max time or the longest time if a max is not achieved, then multiplying by 100. This method of scoring allows changing max flight times without affecting the final scores which occurs in other Free Flight events when max times are changed.

A fly-off is held if two or more competitors have scored 500 points or have identical scores at the end of five rounds. The flight line is moved down the slope to make the flight time difficult to achieve. The first fly-off max is 7 minutes. For successive fly-offs the flight line is moved further toward the bottom of the slope and 2 minutes is added to the max time.

F1E gliders are sent aloft by a simple hand launch when the proper breeze is present to provide lift. Many modelers have perfected a bunt type launch by launching their model at a 40 to 60 degrees with a quite hard push with the stab set at a low angle, then the bunt action occurs at 1.2 to 1.5 seconds, resulting in an altitude gain of up to 15 feet. Another launch method is becoming popular. The stab is set at a low angle and the model is launched quite hard at about 30 degrees and coasts upward in an arc until the model has leveled out and has begun to nose down, then the stab comes up to glide position. This launch can attain up to 15 feet also and gets the model away from the hill with good speed to be out of the turbulance that is common near the ground on a slope.

Making a good flight is more complex than launching a model straght into the wind. The shape of the slope and the wind velocity influence the lift over the slope. Watching other models flying away from the slope will give indication of the air conditions. If the



PHOTOGRAPHY: BOB SIFLEET





models are flying away slowly and holding or gaining altitude, launching in their direction if the model is set to fly to where they are usually has a good result. The slope lift may be present for some distance from the slope, but can vary from 100 to 200 yards up to as much as 1000 yards from the slope depending on the slope height and wind velocity.

If models are flying out of lift a short distance from the slope resulting in short flights, then the best method of achieving a max flight is to set the pilot to fly the model to fly sideways to the wind across the slope so the model stays in the lift. This is like setting a sail boat to tack to the side of the wind.

If the wind is not straight into the slope but to some angle to the slope it is then necessary to fly sideways along the slope in the direction the wind is going. The pilot must be set to steer in a direction that it will flying just to the downwind side of the wind and keep near the slope as the lift is only present near the slope. Should the wind velocity be strong enough to prevent the model from flying away from the slope or is blowing the models back into or over behind the slope, weight is then attached to the models to make them fly faster. A small weight is generally 35 to 50 grams. In a strong breeze weights of 100 to 250 grams is commonly used. If there is no (or very light) wind, there will be little or no slope lift. Then it is necessary to pick a thermal just as it approaches the launch site. Usually a good thermal at the start of the flight will provide enough height before flying out of the back of the thermal to fly long enough to possibly enter another thermal and make a max flight. Watching other models and flying to where there one has found a thermal usually has good results.

Bob Sifleet, Muncie, Ind.
rksorchid@aol.com

Formerly Walston Retrieval

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Email: mikec@caretrak.com

A National Park Service retiree, Bill Swift started modeling at the age of ten and has been more or less active since. Like many others, he took time out with graduate school, family and career. Bill joined the Willamette Modellers Club in 2003 after he retired. He flies predominately Old Time and Nostalgia rubber.



PHOTOGRAPHY: BILL SWIFT

This model was inspired by the new Small Nostalgia Rubber class as well as the incorporation of designs from the "post war" years into both Old Timer or Nostalgia eras. With these changes came access to some interesting designs that can be used in multiple classes. For instance, the Buckeridge Lightweight can be flown in Old Timer Small Cabin, Small Nostalgia Rubber, Andrade Rubber (with a 20-gram motor), Moffett (with consideration given to overall weight) and FAC Old Timer (with a change to a freewheeling prop).

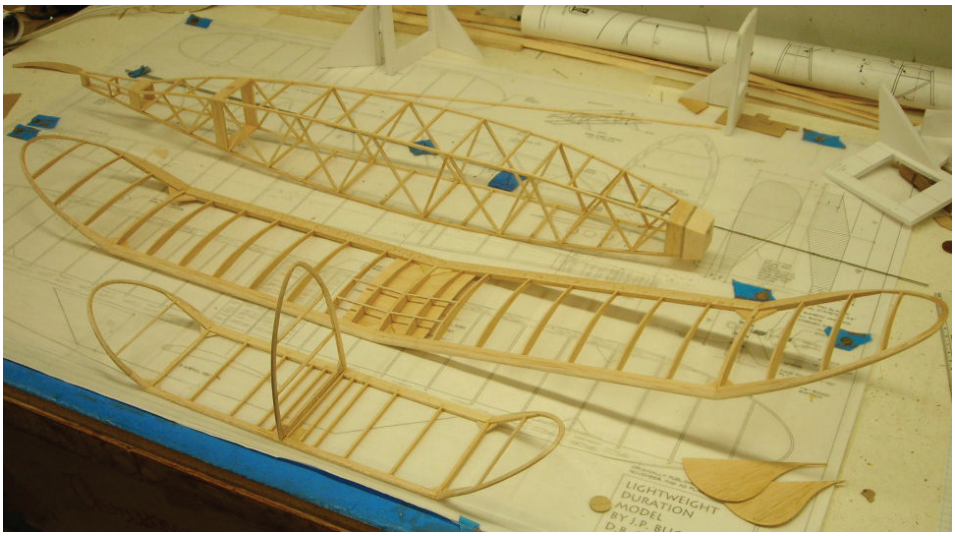
When the Small Nostalgia class was announced, Steve Dona sent me a copy of *Free Flight Quarterly* from October, 2006, that featured an extensive article on the English Lightweight craze that sprung up in England in the immediate postwar years due to limited availability of building and flying materials. Several younger modelers, such as Jack North, Mick Farthing, Jim Buckeridge, John Barker and others also wanted to break with traditional Wakefield-style designs in favor of smaller, lighter designs that could build fast and be rather expendable.

In that article the Buckeridge Lightweight was suggested as the best of the best because it combined an ideal size with a large double-bladed folding propeller. John Barker's Hepcat was also on that list, but with a single bladed folder. Another critical difference between the two is, in Old Timer events, the Buckeridge is a "cabin" design complying with the $L^2/100$ or larger cross section rule, while the Hepcat is a stick design fitting the less than $L^2/200$ rule. If flown against each other, such as in Small Nostalgia Rubber, the Hepcat might be a better choice as it can be built lighter.

In my examination of the *FFQ* article and its included comparison table it became apparent that one should calculate the cross section of any of the English Lightweight designs before committing to a build because some designs may fall between the cross section rules for Old Timer while others may be slightly too large for the Small Nostalgia Rubber wing area requirement.

I found the Buckeridge design to be everything other builders had reported: a straightforward build, consideration being given to a rather delicate fuselage with long unsupported runs of longerons, sparless construction which could lead to extensive warping and excessive dihedral, and easy trimming with a tendency to wander in the glide.

Relative to construction one can notice from the photographs that I added additional cross pieces between the longerons because of my tendency to grip models too tightly when launching. I also settled for a straight landing gear leg mounted within a socket ala Hepcat for ease of transport. When finishing the flying surfaces, I used Esaki tissue, shrunk with multiple treatments of alcohol, then finished with Krylon. Both the tail group and the wing now reside in frames to prevent warps but both seem stable.





Krylon does give a softer feel to the typical tissue finish, when compared to Nitrate dope.

The fuselage was covered with tissue over ¼-mil mylar, again finished with Krylon. The one issue I encountered with the fuselage was using thin Nitrate dope to attach the tissue to the mylar. When I applied the tissue using thinner to wick the dope through the tissue, the tissue shrank enough to cause small wrinkles in the underlying mylar between those unsupported sections of longeron. Non-tautening Nitrate would have been a better choice. Then I used Krylon as a top coat.

Another departure from the original plan was my use of a standard Old Timer prop hub rather than the built-up hub shown on the original plan. I did use the original design for the prop blocks and set compound hinge angle with a drill gauge. I used 17 degrees for the hinge angles.

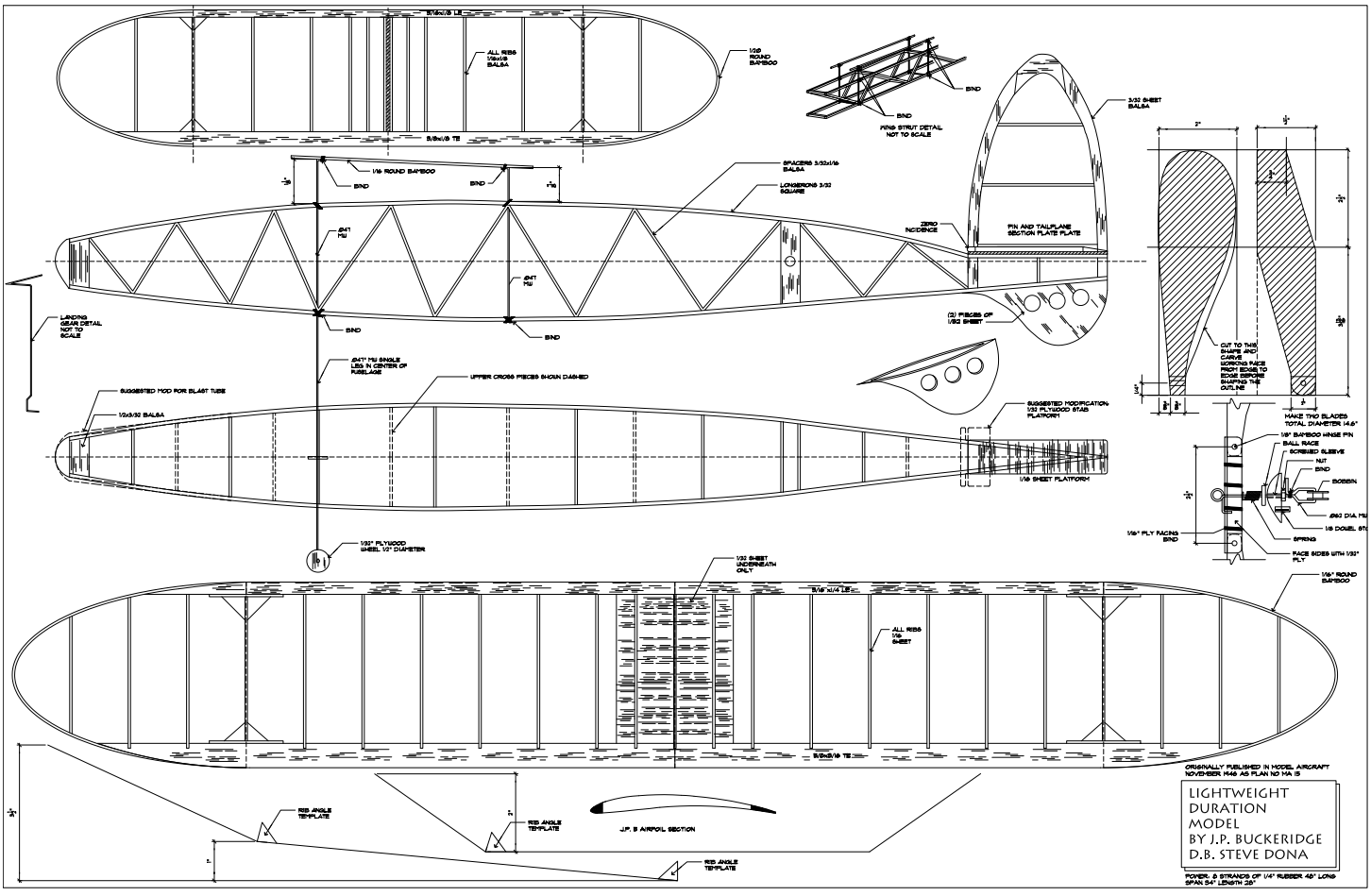
As of this writing the model has been hand-glided where it flew almost off-the-board with a CG at about 60% of the root chord. It required only a minimum of nose weight. Attaining a reliable glide turn has been a bit of a challenge, particularly if one tries stabilizer tilt as the non-lifting stabilizer does not lend itself to this approach. I have yet to work out the proper combination of tilt and rudder tab. Power adjustments have been easy, requiring only right thrust up to this point, which is 300 winds on a 12-strand 20-gram motor. The safest trim suggested by others is right climb, adjusted with thrust, and left glide, adjusted with rudder tab.

Others who have constructed this model suggest motors up 30 or 40 grams and beyond and usually made-up with 16 strands. Sixteen strands of 1/8" at 30 inches in length would be around 30 grams. Longer motors, as a result of the hook to peg distance of about 19 inches will require careful winding and/or braiding. I personally braid all my motors, even folders, and will be braiding anything I put in this model. Some do, some don't.

Bill Swift, Roseburg, Ore.
swiftrose@douglasfast.net

BUILD A BUCKERIDGE

Order the Buckeridge Lightweight (#P-947) for $8 plus shipping from NFFS Plans Service, 5164 Fischer Rd., Clarksville, Ohio 45113. 937-289-9706, <davgerspacher@yahoo.com>. Online ordering at <www.freeflight.org> or make checks payable to NFFS.



Danish Per Grunnet has spent most of his Free Flight time flying F1A models. From 1965 to 1987 he was often on Danish F1A teams at World and European Championships. Since his retirement in 2012 Per has devoted his time to electric models in the classes F1Q and E-36/F1S.

This article is in three parts. First a short section about definitions and terms, so you know what I mean with the words. Over the years I have experienced that terms and definitions are not necessarily used the same way by all Free Flight modellers.

The second part is about trimming two basically different model types: pylon models and high thrustline (HTL) and very high thrustline (VHTL) models. The third part tells about my E-36/F1S models with plans of the three latest, Elmann 3, Elmann 4 and Elmann 5. All three are VHTL models.



PHOTOGRAPHY: PER GRUNNET

DEFINITIONS AND TERMS

Incidence and Decalage

Fig. 1a shows two almost identical fuselages of a traditional E-36 models seen from the side. The one in the top has the baseline of the wing parallel to the top of the fuselage. We normally refer to the top of the fuselage (the boom) as a zero line, when we talk of the incidence of a wing or a tailplane. In this case the incidence on the wing is zero.

But look at the tailplane and the dotted line following the baseline of the tailplane. It has a negative angle to the zero line—the tailplane has negative incidence. The decalage is the angle between the incidence of the wing and the incidence of the tailplane.

On the upper model the motors' thrust-direction is shown with another dotted line. It is parallel to the zero line through the fuselage and to the baseline of the wing. In this case the motor has zero downthrust.

The lower model is a little different. The baseline of the wing makes a sharp angle to the top of the fuselage, so the wing has positive incidence. But on this model the incidence of the tailplane is zero. This means that the decalage on this model looks the same as the decalage of the top model.

Now look at the motors' thrustline. The thrustline is the same on both models. But, as thrustline is relative to the baseline of the wing (and not to the zero line through the fuselage)—the motor has a little downthrust on the lower model.

These two models will glide the same, because their decalage is the same. But when the motor runs, their patterns will be very different because of the downthrust of the lower model. (All this is of course under the assumption, that the two models are completely alike, except for the setup of the incidence on the wing and tailplane).

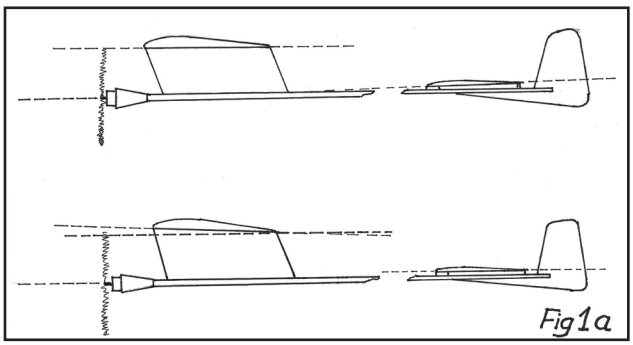
The incidence does not affect the models flying characteristics (unless you go to extremes)—it is just a way to describe, how we have set up the wing and tailplane on the fuselage. The next angle—the angle of attack—can't be set. The air and the trim of the model decides the angle of attack.

Angle of Attack

Fig. 1b shows the lower model gliding in the air when the motor is stopped. The arrows show the forward (horizontal) speed and the downward (vertical) speed. The combination of these shows the flight direction. And the angle between the flight direction and the baseline of the wing shows the angle of attack on the wing.

The angle of attack is normally somewhere around 7 or 8 degrees. Let us say 8 degrees on this model. Let us assume the decalage is 3 degrees, then the angle of attack on the tailplane is only 5 degrees.

Most of the airfoils we use for E-36/F1S-models have maximum lift at gliding speed around an angle of attack of 8 degrees. So our wing flies with a near optimal angle of attack. The tailplane does not. It has an angle of attack of 5 degrees and does not lift optimally.



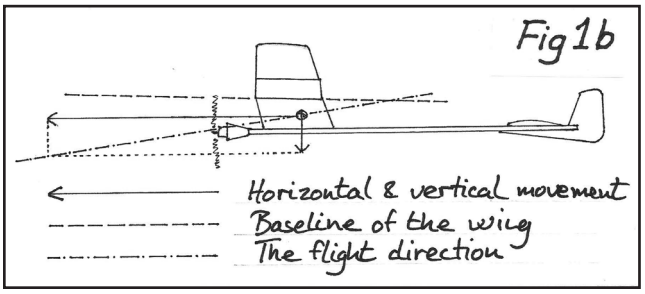
When we start the motor and launch the model, it will fly faster than gliding speed. The lift of the wing and tailplane will increase proportionally with the square of the speed. This



means that the lift of the wing will increase much—and the lift of the tailplane will increase proportionally less. So the model will turn its' nose upwards and make either a stall or a loop.

TRIMMING E-36/F1S MODELS

When I built my first E-36 model in spring 2014, I copied the popular "Super Pearl" and changed some details—the structure of the wing and the shape of the tips. The electric part of the project was completely new to me and by far the biggest problem I faced. I had to reread what I learned in school decades ago about basic electricity: ampere, watt, volt, joule, capacity and other far forgotten things.



This first model was a pylon model, and it was trimmed to fly in right hand circles both in the climb and in the glide. Way back in the early 1960s I built a "Dixielander" power model (a very popular design by George Fuller). It had proportions much like the "Super Pearl", and it was trimmed the same way.

Trimming Pylon Models

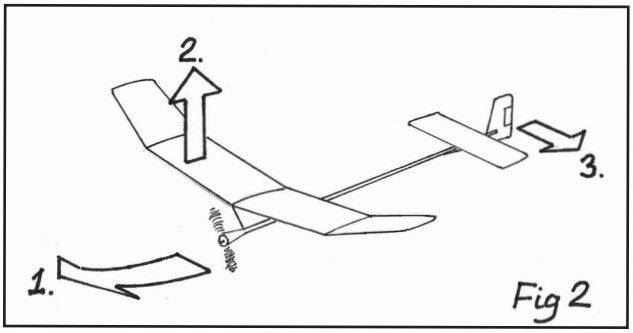
The pylon-model is characterized by having the wing mounted above the motor. Typically the wing root is 7-10 cm above the motor. This means that the center of gravity (CG) will be placed somewhere above the thrustline and under the wing. The thrust from the motor will produce a "nose-up" moment. I have tried to illustrate this on Fig. 2—the arrow no. 1 represents the nose-up moment.

The nose-up moment is increased by the increased lift from the wing and tailplane, when the speed of the model is increased, as explained above. So the combination of high speed with the motor running and the thrustline passing under the CG will apply a nose-up moment, that will make the model loop, if nothing else affects the flight.

That is why pylon models are normally trimmed with washin in the right wing. The extra incidence combined with the high flying speed will lead to increased lift on the right wing compared to the left wing. This means, that the model will roll anti-clockwise seen from behind the model. This is illustrated in Fig. 2 by the arrow no. 2 representing the increased lift in the right wing. The roll moment is increased by a moment from the propeller, that turns clockwise and produces an anti-clockwise moment on the model.

The combination of the pattern with both a loop and a roll will, if properly balanced, result in a spiral climb in a right spiral. In most cases you have to add a little right rudder to get a perfect climb—this is arrow no. 3 on Fig. 2.

The trim of pylon models has a very big advantage compared to other trims: It is to a certain degree self-stabilizing. If the model for some reason flies faster or slower, the forces on it increase/decrease, so the balance of the forces is not changed dramatically. The disadvantage of this trim is, that the model uses energy to climb in a spiral instead of using all energy to climb. If it is possible to make the model use all the energy from the motor to climb, it would get higher with the same motor run time. This is possible…but not with a traditional pylon model. You have to change to another layout. You have to enter the world of HTL and VHTL models.



Trimming HTL/VHTL Models

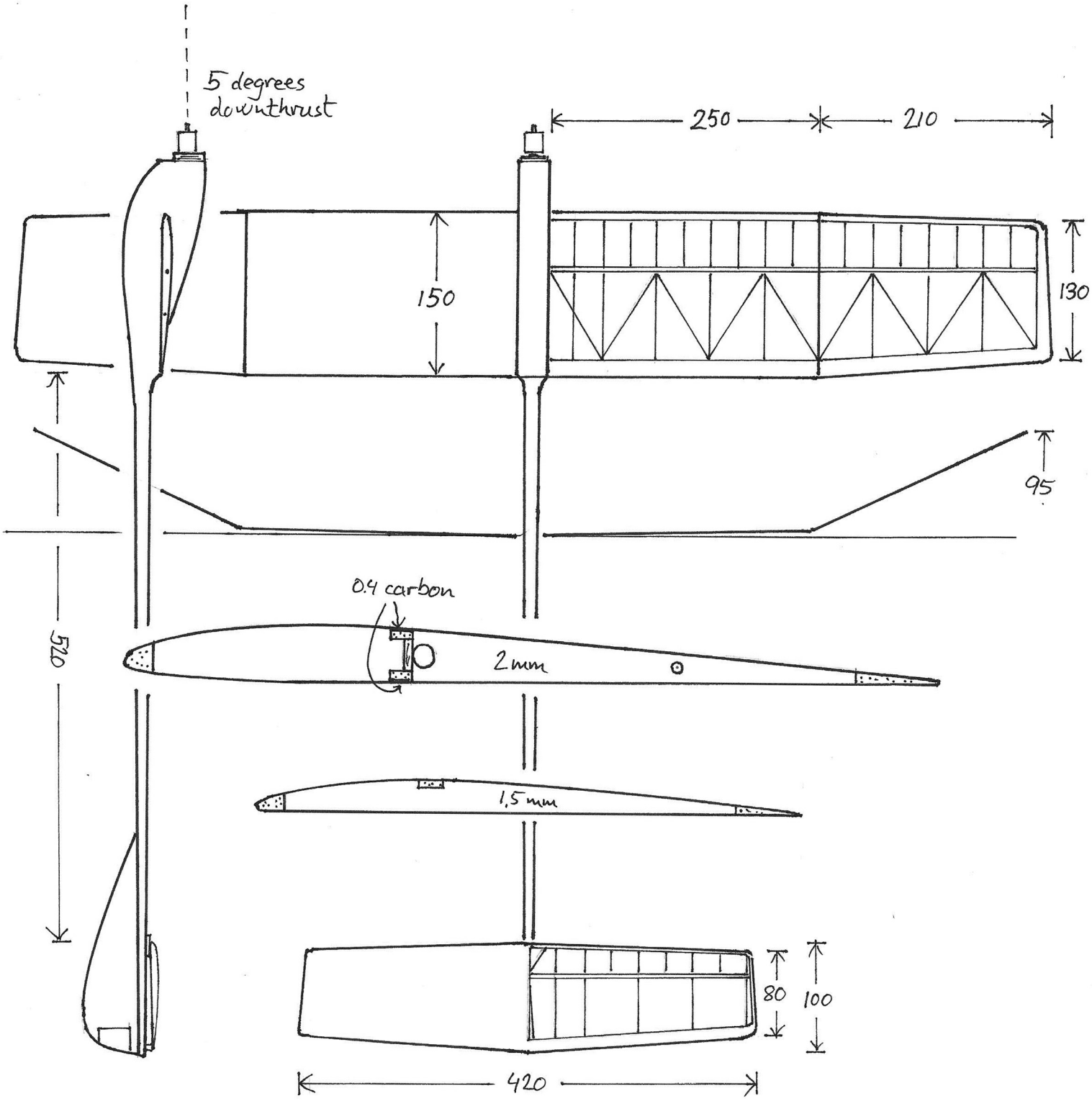
Years back, before the multi-function timers, power models were just like E-36/F1S-models today—there were no variable incidence tailplanes, no auto-rudders or other functions available.

In those days where models like the Dixielander were dominating, some fliers developed different models with high thrustline (HTL) or even very high thrustline (VHTL). The aim for these modellers was to make the models climb steeper with less rolling. Or, in other words, use the energy from the motor to get high!

We have the same aim today with our E-36/F1S-models—and the same possibilities to reach the goal.

In Fig. 3 you see sketches of two models seen from the side. The upper one has a very high thrustline, because the thrustline passes above the wing—it is a VHTL model. The other one is a HTL model, because the motor is placed level with the wingmount.

The VHTL and HTL models are trimmed to balance the nose-up moment with a nose-down moment under power. On both models the

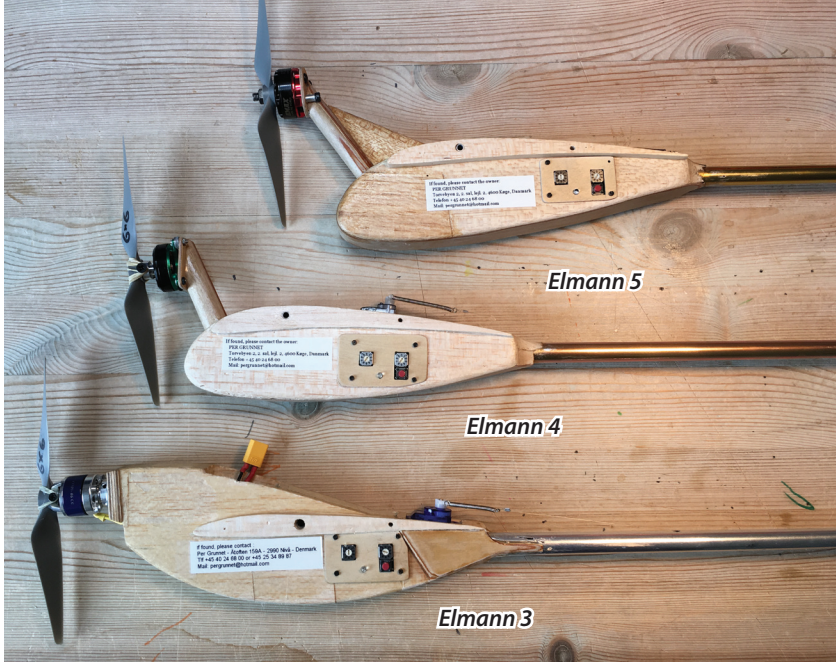


Elmann 3

An E36/F1S model by Per Grunnet, 2016

All dimensions in millimeter
Motor: Hyperion Z1709-06 – Propeller 6x6 APC-E
Battery: Turnigy Nano-Tech 65-130C, 300 mAh
Timer: eMAX by Texas Timers
ESC: HobbyKing 12A 5-10 NiMH
The motor has 5 degrees downthrust

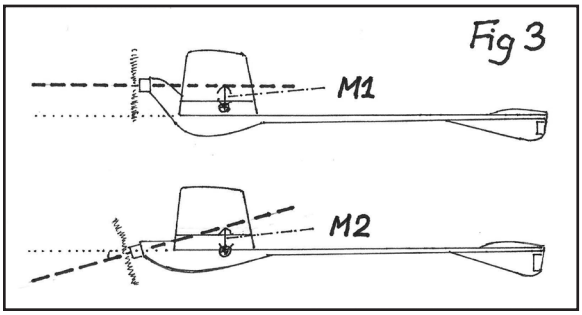
Center of gravity at 70% of the root chord
Weight including battery 160 gram
The model is trimmed left-left
2 mm wash-out in both wingtips
2 mm wash-in in left inner wing panel
0 degrees incidence on the wing



thrustline passes above the C.G.—on the VHTL-model the distance M1 is obtained with little or without downthrust on the motor. On the HTL-model the distance M2 is obtained with generous downthrust.

Stan Buddenbohm and Ralph Ray use about 20 degrees downthrust on their outstanding "Apache" design. I use less or no downthrust on my VHTL-designs. In theory you will get best use of the energy without downthrust, as all energy can be used to pull the model forward. But the loss with downthrust can be calculated as one minus cosine of the downthrust angle.

The Apache will lose 1–cos (20 degrees) = 0.06. This is a 6% loss on 20 degrees downthrust. If you can do with 15 degrees downthrust, the loss will only be 3.5%. And, as you can see in Fig. 3, you can increase M2 by moving the motor forward relative to the C.G.



The nose-up moment from the wing and tailplane under power can be balanced by the thrustline passing above the C.G. How high depends on many things: the motor, the airfoil, the propeller, etc. I cannot set up a formula to calculate the distance. But you can trim to the right balance by changing the thrustline. If the model loops, apply more downthrust. If it dives, reduce the downthrust.

My aim is to make the model climb straight or maybe with a little rolling tendency, so the model climbs to the left. A clockwise roll of the model will be needed for this—so the left wing has to have a little wash-in to establish the roll. My models normally need a little left rudder to get an almost vertical climb with a half to a full roll during a 10-second climb.

The transition after a vertical climb is for some reason not critical, as you might expect. Normally the models just slow down and find the gliding position. It is my experience, those transition problems are more likely to arise if the model rolls several times through the climb.



The straight, vertical climb is more critical than the spiral climb of the pylon models. A bad launch can spoil a flight. But my best VHTL-models get 25-30% higher than my best pylon-models did. And there is no difference in the glide, so it means better performance.

The downside of VHTL is, that the model does not forgive a bad launch. If you launch too flat, the model will probably speed up and dive until the motor stops (or is stopped by RDT or by hitting the ground). Same thing if you launch too much to one or the other side. It is a critical trim.

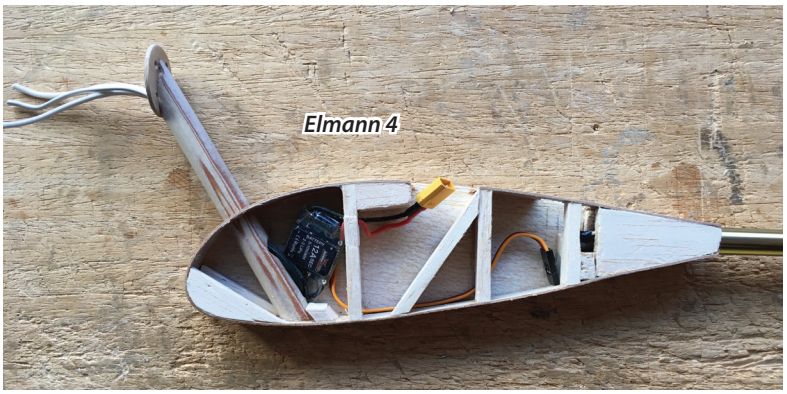
How to Combine a Good Climb with a Good Glide

No matter whether you fly a pylon model or a HTL/VHTL model, you must combine the climb trim with the glide trim—and in most cases you cannot change one thing without affecting the other.

I normally trim the glide first by throwing the model and trimming decalage and rudder setting. Then I trim the climb, first with very short motor run time. When I have a nice 5-second climb, I add gliding time. Every time I change anything that may affect the climb trim, I go back to 2.5 seconds motor run and start all over. This may sound a long process, but normally I have a new model trimmed in a couple of hours.

- Changing the decalage, wing-warps or rudder setting will affect both climb and glide much.
- Changing the CG will change the glide, but hardly the climb.

- Changing tail tilt will change the glide, but hardly the climb.
- Changing the thrustline will only affect the climb.
- Switching the propeller to another size may affect both climb and glide.



THE STORY OF THE ELMANNS

Elmann 1: The short story of my first HTL model

I had heard of the Apache by Stan Buddenbohm and Ralph Ray. I found a plan of the model and decided to copy the HTL layout. I did not understand the reason to have 20 degrees downthrust, so I finished the model without downthrust.

The first flight with 2.5 seconds motor run time made me realize the need for downthrust. The model looped and almost hit me in the back. I added downthrust, until the loop was gone, and the model climbed almost vertically. It had around 15 degrees of downthrust.

The model was lost in its second contest flight—it was in a strong thermal and went out of sight before hitting the ground. It was probably in a forest, and I never found it.

Elmann 2/3: VHTL Models with LDA Airfoils

The short life of Elmann 1 had shown me the potential of HTL models, and my friend Christian Schwartzbach supplied me with plans of old HTL- and VHTL power models. I decided to go along the VHTL path to get the maximum out of the energy.

At the same time Christian told me about the advantage of letting the model climb with the wing in zero-lift-position. This is, what F1A-bunters do, when they climb vertically immediately after the release of the line. If the models have a low drag airfoil (LDA), the drag of the wing in zero-lift position is reduced drastically. Zero-lift position is normally obtained with a negative angle of attack of minus 2-3 degrees. You can't measure the angle of attack, so you have to try different set-ups of the model to find the trim, where the model climbs fastest. Then you have probably hit the angle of attack of zero lift.

I thought that this could be useful for E-36/F1S models, as these models are so powerful that they can climb vertically. So I decided to build two new VHTL models with LDA airfoils. They were Elmann 2 and 3.

Both models flew well occasionally, but they seemed impossible to keep in trim. From time to time I had really good climbs, and sometimes I saw very nice glides, but not always on the same flights.

Both models died on the same day, and in the same way. I had finally found a consistent climb, but first one model ended on the back and dove vertically into the ground. Half an hour later the second model did exactly the same. It seems that my LDA airfoil had the same problem, that had bothered some F1A fliers, that the center of pressure on the wing tended to move backwards, when the speed increased.

Elmann 3 with a New Wing

The fuselage from Elmann 3 had survived together with the tailplane from Elmann 2, so I made a new wing with flat-bottomed airfoil and re-named the model Elmann 3. And this one was an instant success. I had to add a little downthrust, as I fitted the model with a Hyperion 1709 motor and a 6x6 APC-E propeller. The model climbed high in an almost vertical climb with a slight clockwise roll. The glide was nice, but not spectacular. I have measured the climb to between 130 and 150 meters. The flight time in calm morning air is around 4:30 with a 10-second run.

Elmann 3 won the Danish F1S Championships in 2017 with full time in five rounds and in the first flyoff. It was only third in the 2017 Scandinavian E-36/F1S Championships because I launched it really bad in the fourth round, where it scored 38 seconds diving almost to the ground. In 2018 the model won the Scandinavian E-36/F1S Championships.

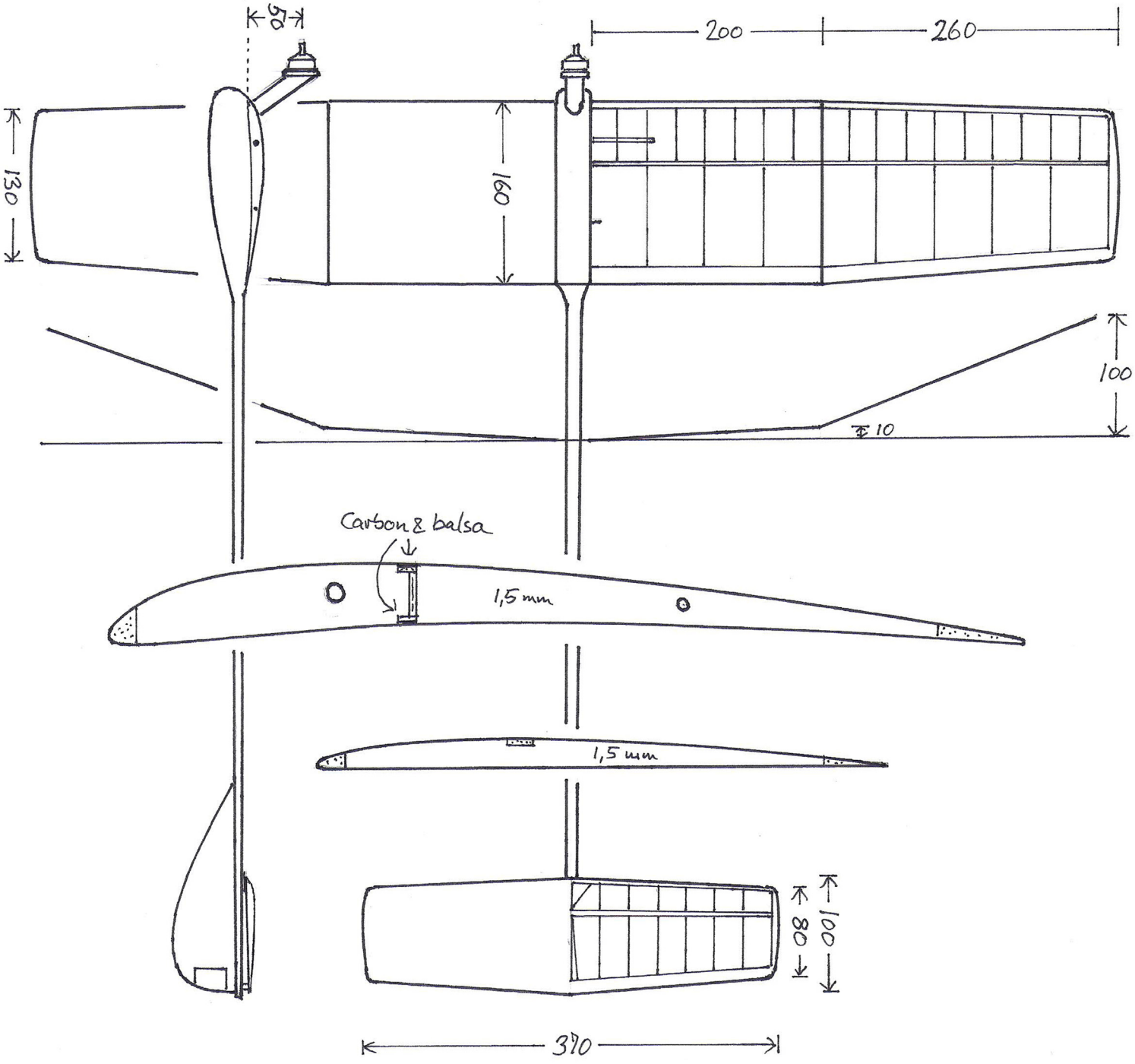
Elmann 4 with a Traditional Glider Airfoil

I wanted to improve the glide, so I used a traditional glider airfoil for the wing on Elmann 4. I also made the wing area bigger and the tailplane area smaller. And I finally tried to make the model lighter. Elmann 3 was 160 grams—I wanted to reduce weight to 140 grams or less.

This was partly obtained by choosing a Cobra 2203-28 F1S motor. This motor is light but has still much power and 2800 kV (kV is a measure for the rpm per volt without propeller—2800 kV will give 2,800 x 8 rpm = 22.400 rpm on 8 volts).

The rest of the weight savings came from a different way to build the fuselage. The motor is mounted on a tube rolled from 0.5 mm plywood, and the front fuselage is kind of a shell made from plywood and balsa.

Elmann 4 ended at 140 grams. It flies well, but the climb is not as impressive as I had hoped. It seems that the airfoil gives more drag than the flat-bottomed on Elmann 3. The glide is really nice, but the model ends

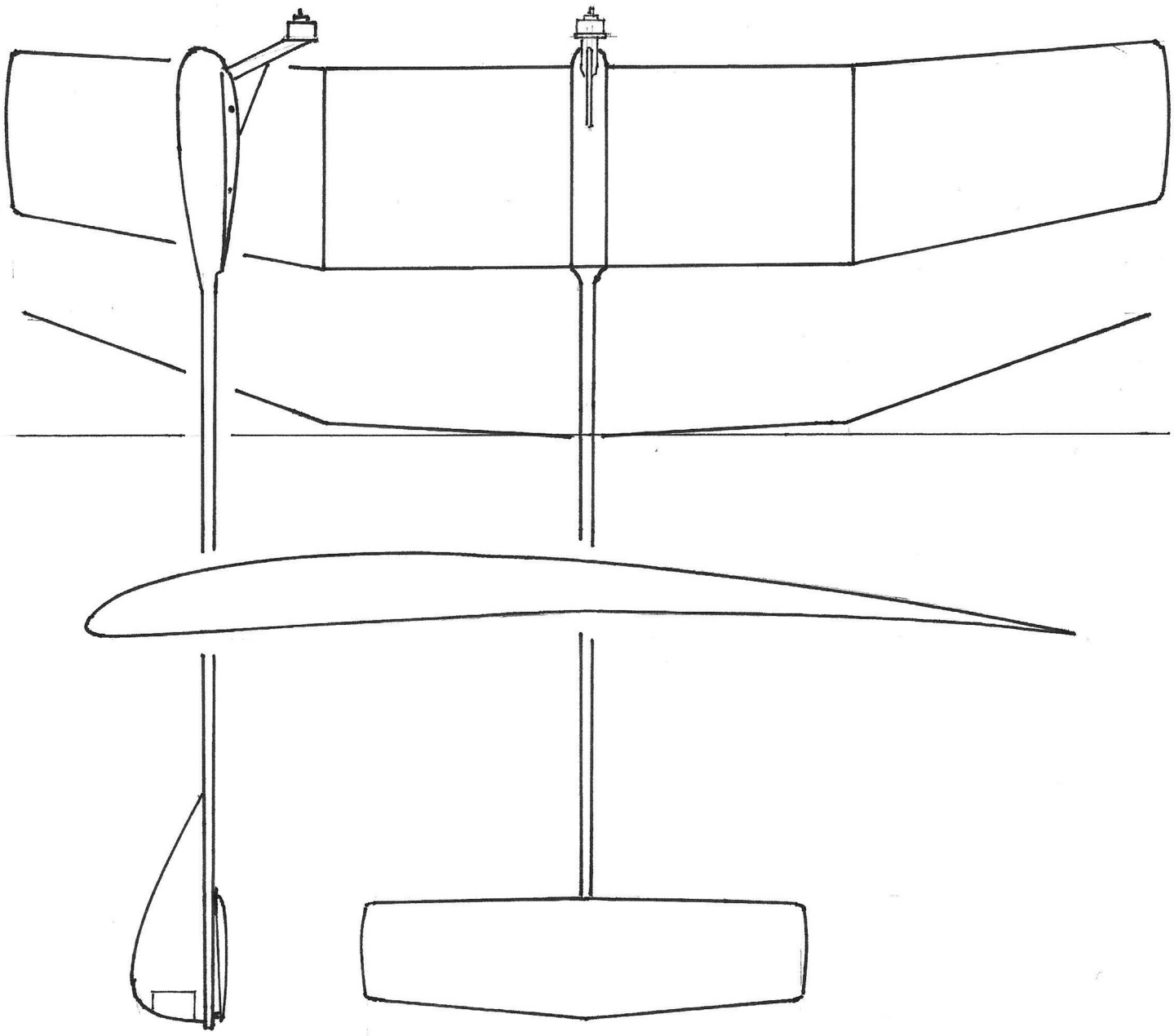


Elmann 4

An E36/F1S model by Per Grunnet, 2016

All dimensions in millimeter
Motor: Cobra C2203/28 – Propeller 6x6 APC-E
Battery: Turnigy Nano-Tech 65-130C, 300 mAh
Timer: eMAX by Texas Timers
ESC: HobbyKing 12A 5-10 NiMH
The motor has 5 degrees downthrust

Center of gravity at 65% of root chord
Weight including battery 140 gram
The model is trimmed left-left
2 mm wash-out in both wingtips
2 mm wash-in in left inner wing panel
0 degrees incidence on the wing



Elmann 5

An E36/F1S model by Per Grunnet, 2017

All dimensions in millimeter
Motor: Emax RS2205S – Propeller 6x6 APC-E
Battery: Turnigy Nano-Tech 65-130C, 300 mAh
Timer: eMAX by Texas Timers
ESC: HobbyKing 12A 5-10 NiMH
The motor has no downthrust

Center of gravity at 60% of root chord
Weight including battery 160 gram
The model is trimmed left-left
2 mm wash-out in both wingtips
2 mm wash-in in left inner wing panel
0 degrees incidence on the wing

The construction of Elmann 5 is similar to Elmann 4 – except for the swept-forward tips

at 120 meters after a 10-second run. It definitely glides better than the Elmann 3, but I have no morning air times for this one.

Elmann 5: Will More Power Help?

The Elmann 5 was built to suit the very powerful Emax RS2205S motor. My friend Jens Ole Larsen used this motor, and I was impressed by the performance it gave his model.

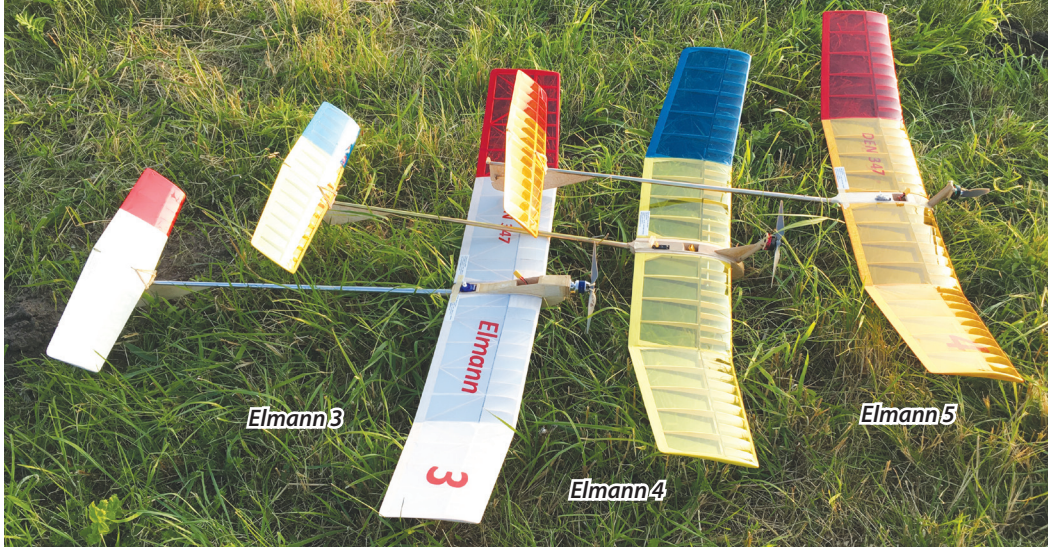
The Emax is heavier than the Cobra, so Elmann 5 ended at 155 grams.

The first flights were impressive—I have never had a model flying so fast! The model was quickly trimmed to a straight, vertical climb—and I thought I got the same altitude with a 5-second run with this one, as a 10-second run with Elmann 4. After the first trimming session I discovered that the motor mount has been damaged. Apparently the plywood tube was not strong enough for the 28g motor. The tube was also longer than on the Elmann 4, so no downthrust was needed to balance the nose-up moment.

After repairing the problem soon turned up again—the front fuselage was simply not strong enough for the eMax. I then rebuilt the front which added 5 grams, so the model weight is now 160 grams.

Until now I have not found the initial trim again. Elmann 5 climbs consistently to around 130 meters, and it glides quite well. I think the initial flights hit the point where the wing was in zero-lift position, so the drag on the wing was considerably less than it is now after the repairs.

As you can see on the sketch of the model, the wing tips are swept forward. This is an idea that Tapio Linkosalo mentioned in a Facebook-discussion about foldings propellers hitting the leading edge of the wing. With a 28-gram motor I thought that the nose of the model had to be very short to keep the C.G. around 65-70% of the wing chord. By making the sweep forward on the wing, the nose can be a little longer—on Elmann 5 it



is 18mm longer than without sweep-forward, just enough to make room for a folding propeller. It seems that the sweep-forward does not affect the flight in any way.

What step next? – The "Eldromeda" VHTL model

My next model after the Elmann 5 was named "Eldromeda", as Thomas Koster thought it was a scale model of his F1C-model "Andromeda" that won second place at the 1971 World Championships.

The model has 200mm wing chord in the root tapering to 130 mm in the tips. The airfoil is relatively thin and flatbottomed with a lifted nose for minimal drag. The trailing edge is straight, while the leading edge has a generous sweep back. The wing structure has more diagonal ribs than my former models, and the front fuselage resembles Elmann 3 with the motor placed a bit higher above the wing.

At first I planned to equip Eldromeda with the more powerful Emax 2306/2750 kV motor. But I tested the Emax RS2205S with a 20A Afro Race Spec ESC from HobbyKing and found out that this gave much more power than the 12A ESCs I had used until now. I decided to be content with this power and used an Emax RS2205S in the Eldromeda.

I found out that this was a lucky decision, when I had the first test flights with the model. As I started the motor, I cound hardly hold the model—I had to go home and glue sandpaper on the fuselage to secure a firm grip!

The initial flights were very promising; I recorded 60+ meters on a 2.5-second run. The flight pattern was also promising—straight up at a tremendous speed.



I have not had time to trim Eldromeda up to now, so I have no morning air times. But if I can handle the power and get the model trimmed for a 10-second climb, it will certainly reach 200 meters!

Per Grunnet, Denmark
pergrunnet@hotmail.com

MASTER FREE FLIGHT CALENDAR

Send event dates/flyers to: <ddeloach@comcast.net>. For the latest updates and event links visit <www.freeflight.org>.
VERY IMPORTANT: Verify with CD before traveling. We do our best to maintain accuracy but errors do slip through.

October 2018						
10-14	**F1A-B-C Team Selection Finals**	**FAI**	**N/A**	**FFTSC**	**Boulder City, Nev.**	**Blake Jensen yama23@comcast.net**
13	Indoor - Okie Flyers	AMA, FAI, FAC	N/A	OF	Okla. City, Okla.	Tom Solinski 405-414-6947
13-14	**October Hurricane**	**AMA, SAM, NFFS, FAC**		**CAFFA**	**Raeford, N.C.**	**John Diebolt jdiebolt@mindspring.com**
13-14	Fall Contest	FAC	N/A	MVA	Amesbury, Mass.	Rich Zapf rfzapf@gmail.com
13-14	FMA Memorial Meet	AMA, FAI, NFFS	NC	FMA	Palm Bay, Fla.	Jim DeMerritte 727-712-0996
14	Orbiteers Record Trials	AMA, NFFS, FAI, SAM	none	SDO	Perris, Calif.	Don Bartick dbartick@4-warddesign.com
20	TTOMA Monthly Indoor	Indoor, AMA, FAC	N/A	TTOMA	Dunwoody, Ga.	Nick Ray lasray@gmail.com
20-21	**Barron Field Air Races**	**FAC**	**N/A**	**FAC**	**Wawayanda, N.Y.**	**Tom Hallman maxfliart@hallmanstudio.com**
20-21	**SCAMPS/SCIF/FAC69 Fall Annual**	**AMA, NFFS, SAM, FAC**		**SCAMPS**	**Lost Hills, Calif.**	**Dan Heinrich 909-593-5789 aeronutd@msn.com**
21	PMAC Monthly	AMA, FAI, NFFS	NC	PMAC	Eloy, Ariz.	Jean Andrews 520-299-9030
21	Monthly Scramble	AMA, FAI, NFFS, SAM	NC	MMM	Denver, Colo.	www.themmmclub.com
26-28	**WESTFAC Sea Trials**	**FAC**	**N/A**	**FAC**	**Buckeye, Ariz.**	**www.westernfac.org**
27	Saturday Indoor	AMA, FAC	N/A	PMAC	Chandler, Ariz.	Dick Wood dickwoodok@aol.com
November 2018						
3	SGMA Fall Contest	AMA, NFFS, FAI, SAM		OCD	Rancho Cordova, Ca.	C. Borland candjborland@sbcglobal.net 916-457-4469
3-4	**Tulsa Glue Dobbers Fall Annual**	**AMA, SAM, FAI, FAC, NFFS**	**NC, TC**	**TGD**	**TBD**	**Bob Hanford 918-251-7564 bhantulsa@cox.net**
3-4	**Southwest FAI Challenge**	**FAI, AMA**	**N/A**		**Boulder City, Nev.**	**Mike Richardson richardson_r_m@yahoo.com**
4	Highland Springs Indoor Contest	AMA, NFFS, SAM, FAC	N/A	BB	Highland Springs, Vir.	Abram Van Dover 757-877-2830
4	Year-end Frito Pie Contest	AMA, FAI, NFFS, SAM	NC	MMM	Denver, Colo.	www.themmmclub.com
7	Bong Eagles Indoor	Indoor, AMA, FAC	N/A	BE	Racine, Wisc.	Jeff Annis jeannis@aol.com
10	Armed Forces Memorial	AMA, FAI, NFFS	NC	PMAC	Eloy, Ariz.	Jean Andrews 520-299-9030
10	Indoor - Okie Flyers	AMA, FAI, FAC	N/A	OF	Okla. City, Okla.	Tom Solinski 405-414-6947
10-11	Texas Scale Championships	FAC	N/A	LSS	Gainesville, Tex.	Rich Adams radams@flyingaces.org
10-11	**Patterson FAI**	**FAI**	**AC**	**SCAT**	**Lost Hills, Calif.**	**Brian Van Nest 760-873-5073 bisheatf1a@aol.com**
11	Orbiteers Record Trials	AMA, NFFS, FAI, SAM	none	SDO	Perris, Calif.	Larry Miller 858-292-1434 lmiller1@ureach.com
14	SCAMPS Monthly	AMA, SAM, NFFS	N/A	SCAMPS	Perris, Calif.	Dan Heinrich AeronutD@CS.com 909-593-5789
17	TTOMA Monthly Indoor	Indoor, AMA, FAC	N/A	TTOMA	Dunwoody, Ga.	Nick Ray lasray@gmail.com
17-18	FMA Fall Fling & Picnic	AMA, NFFS	NC	FMA	Palm Bay, Fla.	Skeeter Surguine carverpop@aol.com
24	Saturday Indoor	AMA, FAC	N/A	PMAC	Chandler, Ariz.	Dick Wood dickwoodok@aol.com
December 2018						
1-2	**Arizona Championships**	**AMA, FAI, NFFS**	**AC, NC**	**PMAC**	**Eloy, Ariz.**	**Elmer Nelson elmernelson@cox.net**
1-2	KOI Warm-Up	AMA, FAI, NFFS	NC	FMA	Palm Bay, Fla.	Bob Whitney 321-676-0554
5	Bong Eagles Indoor	Indoor, AMA, FAC	N/A	BE	Racine, Wisc.	Jeff Annis jeannis@aol.com
8	Indoor - Okie Flyers	AMA, FAI, FAC	N/A	OF	Okla. City, Okla.	Tom Solinski 405-414-6947
8	TTOMA Monthly Indoor	Indoor, AMA, FAC	N/A	TTOMA	Dunwoody, Ga.	Nick Ray lasray@gmail.com
9	Orbiteers Record Trials	AMA, NFFS, FAI, SAM	none	SDO	Perris, Calif.	Larry Miller 858-292-1434 lmiller1@ureach.com
12	SCAMPS Monthly	AMA, SAM, NFFS	N/A	SCAMPS	Perris, Calif.	Dan Heinrich AeronutD@CS.com 909-593-5789
22	PMAC Indoor	AMA, FAC	N/A	PMAC	Chandler, Ariz.	Dick Wood dickwoodok@aol.com

WORKBENCH

continued from page 3

me.

I know that at the last two Nats there were people that would have flown these events if they had known about them. I urge anyone who has even the slightest interest in Nos electric to become involved in trying to promote these events and to change the status from provisional to regular classes. Our sport in in a decline and I firmly believe that we should do everything to help keep the current members and provide means by which we might attract new fliers. I believe the Nos electric classes will be better received if they are given a regular classification and will provide a way for some of us to remain active fliers.

—Jim Jennings

I believe the Free Flight community is ready for Electric Nos. I say this because Nostalgia models are usually easy to build, fly great, and usually look cool. Another reason for these events to be added to the NFFS rulebook is the fact that they are electric powered. Nostalgia legal engines are hard to find and when you do find one it has a high possibility of it being unsuitable for competition flying (can you say junk). I have been flying the 1/2A E-Nos for several years and won the inaugural Nats event in 2014. My experience in flying this event is it is a lot of fun with a model that has the performance that feels good on the flight line. The rules are simple and straightforward that don't require any of the F1Q complexity. Having wing area as the deciding factor defining the classes is simple as there is no equivalent to displacement with electric motors that is available to CDs on the field.

Another benefit is the electric motor is clean and always starts. No more flipping the prop as the thermal passes downwind. Next time you see Bobby Hanford on the field take a look at his starter box and note the number of burned out glow plugs he has. The timer technology is well developed and is readability available.

Go Electric and have a lot of fun.

—Jerry Murphy

Notice: Neither the National Free Flight Society nor the editorial staff of NFFS *Digest* is responsible for accuracy and/or content of advertising in this publication.

NOVICE MODEL BUILDER needs helps building paper airplane (display model) Philadelphia, Pa. 267-367-8794

My Collection of Over 530 Engines For Sale I have been collecting over 65 years. Most are new or NIB and go back to the 1920s. Ignition, glow, diesel, copressed air, kits, mags. I will be 90 this year so figure its about time. Still fly the Flying Aces Rubber but can't chase the bigger ones. Even have Irwin Ohlsson's first engine "The Wizard" in the collection. Dr. Don Chapton, <hotpilot@chapton.com>, 951-536-3122.

2016 FF Nats Video. 2 hours of Free Flight action. Couldn't come to the Nats? See what ya missed. Interviews with modelers showing close-ups of their airplanes. All types of models shown in flight. This is a DVD not to be missed! 1995, 1999, 2000, 2001, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014 still available. Each DVD $20.00 +$4 S&H Alan Abriss 94-20 66thAve. #1G Rego Park, NY 11374 or online <www.homegrowntv.com>.

Large Tapered Carbon Tail Booms Three sizes, Two wall thickness. (Large ID->Small ID, estimated wt gr.) Std Booms (1.22"->0.4", 52) (1.45"->0.63", 68) (1.6"->0.8", 70) all .010" wall, 46" length. $70 each. XT Booms (1.22"->0.4", 76) (1.45"->0.63", 98) (1.6"->0.8", 103) all .015" wall, 46" length, $90 each. Actual weight is estimated wt +/- 10%. Shipping for up to 3 booms $20. Light weight aluminum carbon booms coming soon! Contact Matt Gewain <mgewain@gmail.com>.

E-20 Electric free flight equipment for sale: Complete stock available for this fun new event. Timers, motors, props, connectors, etc. See <www.willamettemodelersclub.weebly.com> for details, or write: WMC, 1930 NW Heron Point Ct, Albany, OR 97321 for an order form (enclose SASE). Email: <Freefliter@aol.com>.

Used NFFS Symposia and other Free Flight publications for sale. Current inventory has over 400 used Symposia and other related books for sale. Contact NFFS Used Books, c/o Patti Lorbiecki, <nffspubs@yahoo.com>.

Nelson head for Cox .049-.051 $13.00, Nelson Holland Hornet head $13.00. 3mm needle valve assemblies for 1/2A engines 16.00, 4mm Needle valve assemblies for Nelson 15-21 and most other mid size engines $16. Two piece needle valve assembly with 4x.5mm thread $16. Add $2.90 for postage. Doug Galbreath, 2810 Cowell Blvd., Davis, CA 95618. E-mail: F1cdoug@aol.com

Glass Syringes for fueling tanks, pacifiers. 10-, 20- ,30- and 50-ml @ $14, $15, $16, $17. Also V, V-2 and V-3 repro spark plugs. Solid state ignition units, hi-tension leads, ignition coils, Polyspan, dye. P&H add $5.50. SASE for list. L. Davidson, 488 Peaks View, Moneta, VA 24121. 540-721-4563. <samchamp@jetbroadband.com>.

StarLink FliteTech Models. Free Flight Models and Equipment. F1B, F1G, and P-30. Band burner timers, Badge & Button viscous timers. SLFT Electronic timers for E-36, F1S, F1Q, AMA A/B & FAC. Radio DT and GPS trackers. Stooges and winders. <www.starlink-flitetech.com>, 858-231-4994.

E-36 Save your airplane Control your flight with the SLFT-RDT timer with two push operation. Flight tested by Ralph and Stan. <www.starlink-flitetech.com>. 858-231-4994.

Mattes Engine Rework. Custom heads and modified drop-ins for Nelson plugs for most NOS and AMA Power engines that run better than the stock setup. Also replace worn-out main sleeve bearings, balance cranks, and general hop-up/repair work. Bob Mattes, 190 Hunters Pointe Dr., St. Charles, MO 63304. 636-447-9580 bob@flyfreeflight.com. Also see <www.flyfreeflight.com>.

The 2016 FAC Nationals DVD captures the fun and camaraderie of the FAC Club members as they fly their airplanes. Featured in this 2 hour DVD are individual flight demonstrations and mass launches. If you attended the FAC Nats then this DVD will make a nice souvenir of the contest. If you did not attend then this is your chance to see the best scale model contest of the year. $20.00 +$4 S&H Alan Abriss 94-20 66thAve. #1G Rego Park, NY 11374 or online: <www.homegrowntv.com>.

NEW Carbon tubes for E-36 and Tip Launch Glider, new Super Sharp Cutter. Find them on the recently updated website <DISCUSKID.com>.

A GREAT BOOK! The late Bill McCombs' "Making Scale Models Fly," also non-scale types. The whole story under one cover for all types and aspects. Selecting-Improving-Constructing-Flying-Troubleshooting. Rubber-Gas-C0$_2$-Electric-Jet. Monoplane-Multiplane. Indoor-Outdoor. Tractor-Pusher-Canard-Tailless-Helicopter. No other book has all this reliable information. $18.95 + $6 S&H. Susan Creamer, 1925 Clark Trail, Grand Prairie, TX 75052. You may pay by Paypal at <creamer22@gmail.com>.

Electronic Timers. Used by Nats F1C winners and 2005 World Champ. 5 Function available; 7 Function and Radio DT coming. E-mail Rod Mogle at <rodmogle@juno.com> or call 315-732-7443.

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CAD and Laser Cut Parts: Laser cut rib sets, One Design rib sets, specialty parts, magazine quality plans drawn. Contest grade wood available! <gavoss@swbell.net> 405 692-1200

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Thermiksense - the German Free Flight Magazine - is published four times a year and reports about everything concerning free flight sports. It focuses on the international FAI-classes such as F1A, F1B, F1C, F1D, F1E and F1Q. However the "small" classes are not neglected. Each copy of Thermiksense contains app. 60 pages (21 x 30 cm). Subscription $32 per year. Special offer: 4 past issues for $10. For details see <www.thermiksense.de>. You may pay by Paypal.

Gorban Models. F1B & F1G. Most parts in stock. F1G Winders. Bob Tymchek. (805) 929-1605; <rtymchek@att.net>.

SUPER PEARLS! See <www.pearlfreeflight.com>. The first new Pearls in 30+ years. Truly modern AMA and Classic designs engineered for hot engines and *speed*. Traditional wood construction. A/B size is 542 and 1/2A is 282 sq. in. (wing area). Laser-cut short kits: 542, $54 (282, $35); CAD plans: 542, $10 (282, $7). **202-E for E-36**. plan $6, short kit $21. **NEW! Eureka 200** for E-Nos or E-36. $25 short kit, $6 plan. $8 P&H per kit/plan. <ddeloach@comcast.net>.

ADVERTISING RATES

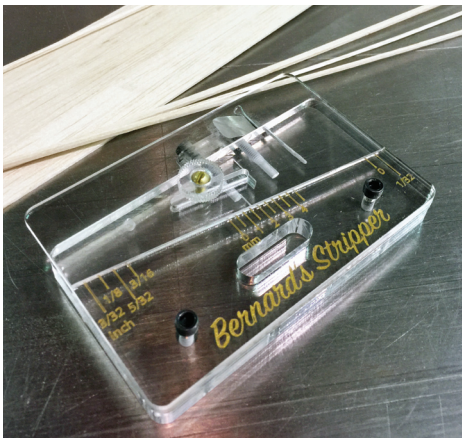
Display Ads (camera-ready copy only): One insertion (3.5-in. wide), $14 per column in. up to 1/4 page. Discounts apply for ads larger than 1/4 page and for multiple insertions. Multiple runs must be prepaid to get the discount. Write or e-mail (below) for details.

Classified Ads: $2.00 per line. No discounts for multiple insertions. Send ad copy via e-mail or U.S. Postal Service.

Inquiries, press-ready ad copy, payments: Send to Don DeLoach, 831 E. Willamette Ave., Colorado Springs, CO 80903. Email (preferred): <ddeloach@comcast.net>. Make checks payable to NFFS.

HUMMINGBIRD MODEL PRODUCTS

HMP is a small purveyor of fine model airplane kits, plans, art and tools. We specialize in items related to Free Flight model airplanes with





an emphasis on rubber-powered and electric designs. Particularly scale, Nostalgia, and Old Timer subjects but also some high-performance FAI related products. Contact: 587-894-2006, <bernard.guest@yahoo.com>, <hummingbirdmodelproducts.com>.

VINTAGE MODEL COMPANY

The Vintage Model Company was born out of Replikit, a company that



is over 10 years old and was acquired by us in March of 2012. We bought the company lock, stock and barrel: the designs, the CAD files, stock, machinery and so on.

We set out to improve the quality and availability of the 200+ vintage model aircraft kits we inherited and upgraded the machinery from a solitary 900mm x 600mm laser cutter to several 1200mm x 900mm machines.

As an ongoing process and in response to the valuable feedback we receive from customers, we are overhauling the CAD files and packing lists to ensure that our kits are as accurate and as enjoyable to build and fly as we can possibly make them.

In 2015, we launched a new range of small flying scale kits called the Magnificent Flying Machines. Designed by aeronautical engineer and keen aeromodeller Andrew Darby, these kits take full advantage of the benefits of laser cutting - accurate tight joints, an almost self-jigging construction and super detail for



grilles and wheels.

We "mass produce" the Magnificent Flying Machines range here in our workshop in Bakewell for supply to major retail chains, independent gift shops as well as model and hobby stores. If you can't find a shop near you, you can always buy direct from us on this website!

Our kits are aimed at modellers with varying degrees of experience. All of our kits require the use of glues, pins and craft knives and are therefore suitable only for ages 14 and over, however, given that children as young as eight used to build these kits in the 1940s and '50s, there is no reason why, with adult supervision, you should not introduce your youngsters to this rewarding and inspiring hobby!

All of our vintage replica kits are built to order. We have such a large range of models that it would not be practical or cost effective to hold all of our models in stock. Most kits are sent out on the same day you order them. Contact: <www.vintagemodelcompany.com>.

LEADING EDGE

continued from page 5

enough for FF but from a local stand point, I suck!

So my goal is to try (I mean it!) to do more for the group. After next year I will have no excuses and truly hope to make it better. In fact, I may even suggest that we do a few club meetings at members' houses. This was something that we used to do (and I know that the Detroit Balsa Bugs do this) and it may make things interesting—you get to see what they are building and how they do it—both very important to keep the juices flowing!

And with this, we have definitely seen a drop in clubs for the Free Flight community. I think you could count on one hand the clubs that are truly supported and doing things to keep FF going. If you are in an area where there is more than five modelers, why not set up a night where you visit one of the guys and have a beer and some chips and see what the other guy is doing? Who knows where that will go, but every little bit may help.

And yes, next year is my last as President so I am looking for a person to take over the responsibilities of the best Free Flight organization in the world. This is your chance to make it bigger and stronger and continue to move us forward. We have a solid base and need a strong personality to keep it going. If you are interested (and this will start in 2020) please contact me and I can clue you in to what is needed. We have great folks and I know we will find a great person to fill the role.

And, as always, see ya downwind!

John Lorbiecki, Hubertus, Wisc.
lorbieckie@sbcglobal.net



The premier organization dedicated to traditional stick-and-tissue Free Flight. $25 per year ($35 to Canada; $50 rest of the world; Paypal now accepted) gets you six issues of *Flying Aces News*, invitations to large FAC contests, opportunities to join your local FAC squadron, and much more!

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Checks payable to FAC, 997 Woodcliff Drive, Franklin Square, NY 11010. Or, join online:

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Membership Rates:

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I agree to abide by the Constitution and Bylaws of the Society of Antique Modelers and uphold the spirit of its Preamble. _____

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To continue receiving NFFS *Digest* without interruption, your dues should reach the NFFS Membership Office at least two (2) months before your current expiration date. For example, if your *Digest* mailing label says your month of expiration is August, NFFS should receive your payment by June. Do not wait for a reminder from NFFS. You will be late and miss an issue.

NFFS MEMBERSHIP & RENEWAL APPLICATION

Mail to: NFFS Membership Office
P.O. Box 74
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U.S. memberships (Age 19 & over) ☐ **2 years $58.00 ($18.00 Youth)** ☐ 1 year $30.00 ($10.00 Youth)

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☐ Check here if you desire *Digest* delivery via email. This saves valuable funds on printing/mailing, and you get your *Digest* about 3 weeks sooner. As a bonus, the electronic version contains exclusive content in each issue.

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NOTE: Current international members will continue to receive printed *Digest* until membership runs out. Effective with May/June 2012 issues, all new/renewal international memberships will receive *Digest* electronically.

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Please go to www.freeflight.org for credit card renewals.


Black Shadow
47438
nffs

The Voice of the Florida Modelers Association

Established 1967 AMA charter # 3222

September 2018

President ……. **Skeeter Surguine....** 386-673-6875 …..**carverpop@aol.com**

VP…… **Bob Whitney ……..**321-676-0554 ….**F2cracer@aol.com**

Secretary/Treasure **Bob Schuettler……** 863-655-3242 …..**loridabob@yahoo.com**

News Letter Editor ... **Brian Malin ……..**321-432-8460*****…**brian@bmjrmodels.com**

****phone service unreliable ..use email***

The Prez Sez.



The Executive office sez…..

Lets Fly

FMA Fall Fling Nov. 17-18
CD Joe Clawson
CLAw3132@bellsouth.net

Our Secretary / Treasurer Sez

Welcome our latest paid Active member ;
Rolf Svensson,
and a special thanks for his generous
field maintenance donation

The VP While going round and round Sez.



No it is not Control Line….
but does look the part….
Tim Miller with his mini-Contender ....

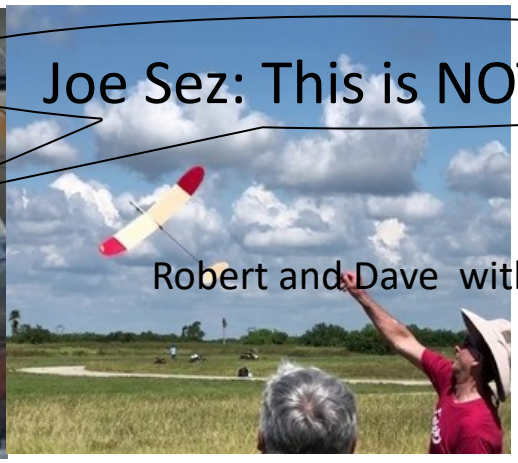
It's a Dave Platt design ….
Love this SHIT part….
RC might be something to conceder...

Shut up and Fly Meet 2018





It seems Tom Bell didn't get the memo …. Is this the remnants of the Ray Combs Hush-up



Duncan McBride with his King Harry in 2Bit+1. Nice looking model that eventually wen over the west canal ??





Dwight Foote flying some nice FAC models



Charley Shepherd flying the Blue Ridge Special. It was reported by Harry Grogan that Phil Hartman , Designer of the Blue Ridge Special, flew one at the Kudzoo Meet in NC , same week end .



Charley flying a Berkeley Chieftain in 2Bit+1



Dave trimming new Raven model with diesel .15 motor. It flew great at only half power.

BMJR really needs to kit this model

Remaining Contest's for 2018

Free Flight

SAM Champs	October		Eldorado Lake, CA
FMA Fall (C)	November 17-18	Joe clawson, claw3132@bellsouth.com	Palm Bay, FL
KOI Warm Up RT (Picnic)	December 1-2	Bob Whitney F2racer@aol.com	Palm Bay, FL
63 King Orange International	December 29-31	Skeeter Surguine, carverpop@aol.com	Palm Bay, FL

Control Line

Control Line KOI	September 14,15,16	Gene Martine 904-786-8650 gmflying@bellsouth.net	Glyn St Mary, FL
IRKS Ringmaster fly-in	October 7 & 8	Bob Whitney	Cocoa FL
MCLS Ringmaster fly-in	October 7 & 8	Will Davis	Huntersville, NC
MCLS, control Line	October 20, 21 , 22	Will Davis	Huntersville, NC

NEW DATES FOR KOI

Moved from Dec. 28,29, 30 , 2018 to

64th FF King Orange	**March 19-21** **Tues, Wed, Thur.**	Skeeter Surguine 316-673-6875	Palm Bay

2019 Contest Schedule

FMA January (C)	January 8-9 *	Ron Sharpton 386-767-6138	Palm Bay
FMA February (RT	February 12-13 *	Charlie Shepherd shepherd00embargmail.com	Palm Bay

NEW DATES FOR KOI

Moved from Dec. 28,29, 30 , 2018 to

64th FF King Orange	**March 19-21 Tues, Wed, Thur.**	Skeeter Surguine 316-673-6875	Palm Bay

All Palm Bay contests are Tuesday and Wednesday *

FMA Spring fling (C)	April 16-17 *	Rex Henson, rexh@tampabay.rr.com	Palm Bay
Kutzu Klassic	TBD	Jimmy Jordon, jjordan18@ec.rr.com	Reedford, NC
Rebel Rally (C)	May 14-15 *	Bob Schuettler, loridabob@yahoo.com	Palm Bay
FMA June (RT)	June 11-12 *	Skeeter Surguine, carverpop@aol.com	Palm Bay
FAC ½ Nats	July 19-22		Geneseo NY
Dixie Nats (C)	July 9-10*	Ron Sharpton, 386-767-6138	Palm Bay
AMA Nats FF Outdoor	July 22-26	AMA HQ	Muncie, IN
Empire State FF Champs	August	Ruth Bane, 585-765-9363	Geneseo, NY
District V FF Champs (RT)	August 27-28 *	Jim Demeritte 727-712-0996	Palm Bay
Shut-Up-And-Fly (RT)	September 24-25*	Dave Platt, 321-724-2144	Palm Bay
Sam Champs	September 23-28	Tom Brice	Muncie IN
Memorial (RT)	October 22-23 *	Jim Demeritte, 727-721-0996	PalmBay
Fall Contest(C)	November 19-20 *	Joe Clawson claw3132@bellsouth.com	
Christmas RT (Picnic)	December 10-11 *	Bob Whitney, F2racer@aol.com	Palm Bay

Perry Swap Meet	March 2-3	Georgia State Fairgrounds	Perry, GA