

# Radio Controlled Soaring Digest

January 2013 Vol. 30, No. 1





January 2013  
Vol. 30, No. 1



**Front cover:** A collage of launch photos from the First F3F World Championships, Kap Arkona Germany, by Pierre Rondel.  
Canon EOS 650D

---

## 3 **RC Soaring Digest Editorial**

## 4 **She**

Aeromodeling poetry by Ken Stewart.

## 5 **First F3F World Championships**

Complete text and photo coverage of this premiere event, held at Kap Arkona Germany, by Pierre Rondel / <http://www.planet-soaring.com>.

## 44 **Molded wing repair with urethane foam**

Tom Broeski / <http://www.adesigner.com> describes the method he uses to get damaged wings back into flying shape.

## What I love about the Eastern Soaring League — Learning! 51

Ed Anderson reviews how he improved his piloting skills over the last season and how you can do the same.

## Slope candidate... Shark UL 56

Shark UL - a low-wing tandem-seat entry from Shark.Aero, s.r.o., Slovakia.

---

**Back cover:** Jazz pianist Alfio Origlio playing with an Arcus from Robbe in the French Alps. Photo by Pierre Rondel  
Canon EOS 10D, ISO 400, 1/1500 sec., f8, 110mm

# *R/C Soaring Digest*

January 2013  
Volume 30 Number 1

Managing Editors, Publishers

B<sup>2</sup> Kuhlman

Contact

rcsdigest@centurytel.net  
<http://www.rcsoaringdigest.com>  
Yahoo! group: RCSoaringDigest

*R/C Soaring Digest (RCSD)* is a reader-written monthly publication for the R/C sailplane enthusiast and has been published since January 1984. It is dedicated to sharing technical and educational information. All material contributed must be original and not infringe upon the copyrights of others. It is the policy of *RCSD* to provide accurate information. Please let us know of any error that significantly affects the meaning of a story. Because we encourage new ideas, the content of each article is the opinion of the author and may not necessarily reflect those of *RCSD*. We encourage anyone who wishes to obtain additional information to contact the author.

---

Copyright © 2013 *R/C Soaring Digest*  
Published by B2Streamlines <<http://www.b2streamlines.com>>  
P.O. Box 975, Olalla WA 98359  
All rights reserved

---

*RC Soaring Digest* is published using Adobe InDesign CS6

## *In the Air*

This issue begins the thirtieth year of publication for *RC Soaring Digest*. Started by Jim Gray as a vehicle for disseminating club newsletter materials to a wider audience, *RCSD* quickly became "the journal for R/C soaring enthusiasts." At its peak, *RCSD* boasted a subscriber base of 2,200. Over time the number of subscribers declined, and when the move from print to electronic distribution took place in early 2004 there were only about 200 subscribers remaining. The move to digital format and free distribution has dramatically increased the number of *RCSD* readers, to the point where there are now more than 2,500 RCSoaringDigest Yahoo! group members and a very large international audience downloading issues directly from the *RCSD* web site.

Because *RC Soaring Digest* does not have paid subscribers and does not carry advertising, it relies solely on reader donations to cover its operating expenses — domain registration and hosting fees, DSL, publication software, etc. If you wish to make a monetary contribution simply go to the main page of the *RC Soaring Digest* web site and press the yellow PayPal <Donate> button.

Pierre Rondel is an extraordinary photographer, and a number of his photos have appeared on these pages over the years. This issue features his photos on both the front and back covers, in addition to his coverage of the First F3F World Championships in Kap Arkona Germany. Our sincere thanks to Pierre for contributing his stunning images to *RCSD*!

Time to build another sailplane!



# SHE

by Ken Stewart, kenmstewart@gmail.com

She's long and sleek ready for flight  
Eighty paces counted out just right  
Raised arm straining against the pull

With a mighty toss she leaps from my grip  
Rotating, climbing and gaining speed  
She rides the line toward the apex and freedom

A pulse from the radio to keep her true  
The vertex is reached, the chute falls away and time starts  
Wings level and couple of clicks to set the trim

The search begins as gravity begins to work its magic  
Gently falling and turning, falling and turning  
A bump of air and a wing tip jumps

Tighten the turn to a circle and she starts to rise.  
Circling and riding the lift  
Her slender lines diminish as she climbs

Birds scatter as she soars by  
Climbing and circling almost out of sight  
The timer calls the time remaining

Best set up for landing  
Pop the spoilers to bring her down  
Her nose drops and she falls.

Release the spoilers, she recovers and flies  
Straighten the arc for a down wind run  
Her form steadily grows as she descends

A turn to base and she's still too high  
Go around, go around  
Listen for the time and note what's left

A turn into the wind she slows  
Still too high through the circle  
Still wanting to fly

Set up again; downwind just about right  
A turn to base; line up for the end of a perfect flight  
The timer continues his count. Seconds to go

A turn to final; she begins to slow  
She floats along the line toward the pin  
Still a little high.

Add some flaps to slow her down  
Her nose droops a little but steadily descends  
The line is just about right

The countdown stops  
As her belly slides in the grass  
Inches away from perfect.







# **First** **F3F WORLD CHAMPIONSHIPS** **Kap Arkona, Germany**

Pierre Rondel, [pierre.rondel@gmail.com](mailto:pierre.rondel@gmail.com)  
<http://www.planet-soaring.com>





2012 has been a very important date for F3F category with the very first world championship in history. Franz Demmler and the team of the Modellflugsport clubs TU Dresden welcomed 54 pilots coming from 19 nations to battle during a week on the low coastal slopes of the island of Rügen in the Baltic Sea.

The organization was a remarkable example of efficiency with 23 rounds accomplished, and the full event was broadcast in HD on the internet thanks to the main sponsor, allowing the entire F3F community to watch all of the flights direct and live.

The weather was a gift as we got very little rain showers despite the season, but plenty of wind on three different slopes, making the competition very selective. We saw super fast flights, action, crashes, drama... in brief, a very intense world championship.

The first two days were at the Turbulator in strong but growing conditions. The second day was pretty rough with the wind blowing like crazy, very close in average to the limit of 25 m/s.

We saw quite a few planes in the water and a couple others lost in the bushes to the left of the course.

The third day we moved to the "Windtunnel" slope, a bit higher and less technical slope. The wind was a bit crossed from time to time but overall stayed OK.

Thursday was declared "day off," with a beautiful sunny day, but no wind at all; a good opportunity for the teams/pilots to relax and visit the surrounding area.

Friday, after a wind direction shift, we resumed the competition on the higher and more conventional slope of Witt. The fastest time of the competition with 31.93s was achieved by Stefan Hölbfner in round 20 at the end of the day.

We flew the last three rounds up to round 23 on Saturday in Dranske at the Turbulator. This time we got an unusual crossed wind from the left, making the flying conditions very challenging for everybody.











# Personalities

































# Launches

































# Racing

















































# Scores







# 1st FAI World Championship

## Soaring model aircraft F3F 2012 - Kap Arkona Germany



Rounds Complete 23						Round 1				Round 2				Round 3			
Fastest Time of the Competition 31.93 by Hölbfer, Stefan						Fastest Time 37.68 by Hölbfer, Stefan				Fastest Time 39.39 by Gaubatz, Lukas				Fastest Time 37.22 by Gaubatz, Lukas			
Rank	Pilots Name	Country	Total Score	%	Discards	Time	Penalty	FAI	Rank in Round 1	Time	Penalty	FAI	Rank in Round 2	Time	Penalty	FAI	Rank in Round 3
1	Hölbfer, Stefan	AUT	19997.82	100.00%	0 / 837.35	37.68		1000.00	1	43.21		911.59	6	1911.59	2	39.88	2844.89
2	Gaubatz, Lukas	AUT	19889.54	99.46%	0 / 757.33	38.08		989.50	2	39.39		1000.00	1	1989.50	1	37.22	2989.50
3	Herrig, Martin	GER	19724.39	98.63%	768.75 / 799.32	45.71		824.33	12	43.43		906.98	7	1731.30	11	39.96	2662.74
4	Herrig, Andreas	GER	19404.64	97.03%	737.31 / 810.52	40.16		938.25	3	41.39		951.68	3	1889.93	3	40.64	2805.77
5	Paulson, Kyle	USA	19121.76	95.62%	691.05 / 768.59	42.78		880.79	7	40.49		972.83	2	1853.62	4	40.79	2766.10
6	Borchert, Helge	GER	19042.97	95.23%	705.59 / 795.10	47.39		795.10	15	49.22		800.28	24	1595.39	16	44.88	2424.71
7	Paulson, Kyler	USA	18693.87	93.48%	669.03 / 751.42	56.32		669.03	30	44.10		893.20	9	1562.23	19	43.42	2419.44
8	Mervelet, Matthieu	FRA	18643.15	93.23%	716.53 / 748.74	42.66		883.26	6	44.17		891.78	10	1775.04	8	49.71	2523.79
9	Rondel, Pierre	FRA	18363.13	91.83%	688.66 / 722.63	43.00		876.28	8	43.60		903.44	8	1779.72	6	43.97	2626.21
10	Krogh, Søren	DEN	17980.61	89.91%	699.84 / 785.38	41.76		902.30	5	44.97		875.92	12	1778.22	7	46.15	2584.72
11	Marechal, Alexis	FRA	17867.08	89.35%	670.62 / 675.62	47.63		791.10	16	41.41		951.22	4	1742.32	10	55.09	2417.94
12	Newnham, Martin	GBR	17843.88	89.23%	670.17 / 690.82	41.10		916.79	4	46.44		848.19	15	1764.98	9	50.15	2507.15
13	Redsell, Mark	GBR	17842.97	89.22%	721.48 / 733.83	46.77		805.64	13	46.42		848.56	14	1654.20	14	50.72	2388.03
14	Thornton, Simon	GBR	17702.77	88.52%	0 / 673.68	51.48		731.93	21	47.18		834.89	17	1566.82	18	48.99	2326.57
15	Torp, Espen	NOR	17497.35	87.50%	652.69 / 699.72	57.73		652.69	35	47.79		824.23	19	1476.92	24	48.16	2249.77
16	Chang, Tai-Chang	TPE	17431.17	87.17%	636.26 / 668.20	56.39		668.20	31	48.78		807.50	22	1475.71	25	49.58	2226.41
17	Segnini, Raul	VEN	17422.70	87.12%	679.57 / 701.69	44.96		838.08	11	46.52		846.73	16	1684.81	12	51.78	2403.62
18	Plaza, Gerardo	ESP	17378.39	86.90%	647.08 / 695.64	53.10	100	709.60	25	46.41		848.74	13	1558.34	20	45.33	2379.43
19	Tseng, Kuo-Tung	TPE	17075.99	85.39%	555.29 / 665.24	53.01		710.81	24	49.20		800.61	23	1511.42	23	46.62	2309.79
20	Lee, Wei-Tee	TPE	17063.24	85.33%	664.98 / 667.49	56.45		667.49	32	44.50		885.17	11	1552.66	21	49.49	2304.73
21	Monte, Brandon	USA	17056.08	85.29%	674.37 / 681.80	46.99		801.87	14	53.64		734.34	30	1536.21	22	54.59	2218.02
22	Rivero, Carlos	VEN	17054.27	85.28%	644.47 / 714.07	44.65		843.90	10	47.24		833.83	18	1677.72	13	43.09	2541.50
23	Hebsgaard, Knud	DEN	16930.22	84.66%	634.37 / 666.79	48.56		775.95	17	47.99		820.80	20	1596.74	15	51.87	2314.31
24	Day, Warren	USA	16901.53	84.52%	562.97 / 624.83	44.05		855.39	9	41.82		941.89	5	1797.29	5	50.92	2528.24
25	Hagen, Bjørn Tore	NOR	16889.20	84.46%	687.22 / 690.73	52.68		715.26	23	56.14		701.64	36	1416.90	30	54.16	2104.12
26	Lee, Angus C M	HKG	16702.80	83.52%	597.84 / 657.71	51.94		725.45	22	53.19		740.55	29	1466.01	27	52.81	2170.80
27	Plich, Radovan	CZE	16458.09	82.30%	0 / 615.74	48.80		772.13	18	48.40		813.84	21	1585.97	17	52.65	2292.91
28	Bertschi, Stefan	SUI	16323.75	81.63%	0 / 642.61	0.00		0.00	52	54.01		729.31	31	729.31	51	56.30	1390.41
29	Silgado, Alvaro	ESP	16232.18	81.17%	629.03 / 641.53	51.18		736.23	20	54.28		725.68	32	1461.91	28	56.74	2117.88
30	Kalensky, Filip	CZE	16063.38	80.33%	0 / 500.24	0.00		0.00	52	51.52		764.56	26	764.56	50	50.77	1497.67
31	Blumer, Reto	SUI	16005.54	80.04%	0 / 0	50.33		748.66	19	65.87		598.00	46	1346.65	34	60.17	1965.24
32	Vojta, Jaroslav	CZE	15924.90	79.63%	544.20 / 554.80	55.91		673.94	29	51.66		762.49	27	1436.43	29	61.38	2042.81
33	Chan, Stanley C F	HKG	15810.94	79.06%	538.84 / 628.83	59.73	100	630.84	36	55.25		712.94	34	1343.78	35	57.42	1991.99
34	Skoglund, Dag	NOR	15784.46	78.93%	0 / 601.63	62.14		606.37	41	60.74		648.50	43	1254.87	39	54.95	1932.22
35	Nielsen, Kaj H.	DEN	15706.35	78.54%	559.77 / 581.42	55.67		676.85	27	49.57		794.63	25	1471.48	26	59.53	2096.71
36	Donker Duyvis, Frits	NED	15671.82	78.37%	0 / 0	54.20		695.20	26	0.00		0.00	53	695.20	52	70.31	1224.57
37	Maslo, Marian	SVK	15544.28	77.73%	529.24 / 545.74	57.61		654.05	34	51.84		759.84	28	1413.89	31	49.98	2158.59
38	Wiklicky, Josef	AUT	15432.19	77.17%	598.83 / 638.22	55.69		676.60	28	56.39		698.53	37	1375.13	32	51.74	2094.50
39	Klusek, Andrzej	POL	15060.41	75.31%	0 / 591.05	63.75		591.06	43	60.14		654.97	41	1246.03	40	59.00	1876.88
40	Ruisl, Frantisek	SVK	14834.34	74.18%	459.72 / 513.69	61.65		611.19	39	54.54		722.22	33	1333.41	36	60.52	1948.42
41	Elizondo, Inaki	ESP	14636.06	73.19%	0 / 0	66.61		565.68	44	60.07		655.73	40	1221.42	41	53.01	1923.55
42	Kopp, Martin	SUI	14515.83	72.59%	0 / 431.76	70.39		535.30	45	60.80		647.86	44	1183.17	44	59.71	1806.51
43	Bury, Adam	POL	14505.72	72.54%	0 / 494.26	60.26		625.29	37	57.94		679.84	39	1305.13	38	0.00	1305.13
44	Ivan, Lubomir	SVK	14443.15	72.22%	0 / 0	57.42		656.22	33	56.66		695.20	38	1351.42	33	60.08	1970.92
45	Bury, Jakub	POL	14362.12	71.82%	0 / 0	63.55		592.92	42	65.96		597.18	47	1190.10	43	0.00	1190.10
46	Cruz, Manuel	POR	13901.14	69.51%	0 / 500.79	75.24		500.80	48	69.10		570.04	49	1070.84	47	61.38	1677.23
47	Miskiewicz, Ryszard	POL	13737.26	68.69%	482.11 / 488.31	73.92		509.74	46	61.96		635.73	45	1145.47	46	61.67	1749.01
48	Concepcion, Ramon	VEN	13659.57	68.31%	0 / 0	60.57		622.09	38	68.12		578.24	48	1200.33	42	64.15	1780.54
49	Heijne, Erik	NED	13322.24	66.62%	0 / 0	74.66		504.69	47	60.33		652.91	42	1157.60	45	71.20	1680.35
50	Mestre, Joao	POR	13192.81	65.97%	406.51 / 472.13	78.04		482.83	49	78.04		504.74	52	987.57	48	60.32	1604.61
51	Hermans, Robert	NED	12763.72	63.83%	0 / 414.56	90.89		414.57	51	72.32		544.66	51	959.23	49	76.09	1448.39
52	Mishyn, Oleksandr	UKR	10910.88	54.56%	0 / 0	0.00		0.00	52	71.39		551.76	50	551.76	53	0.00	551.76
53	Tse, Dip-Suen	HKG	10134.11	50.68%	0 / 0	61.90		608.72	40	55.57		708.84	35	1317.56	37	73.18	1826.17
54	Netselia, Volodymyr	UKR	2821.60	14.11%	0 / 0	87.23	100	431.96	50	0.00		0.00	53	431.96	54	70.75	958.04

Created on 13.10.2012 at 16:25



[illegible][illegible]





# 1st FAI World Championship

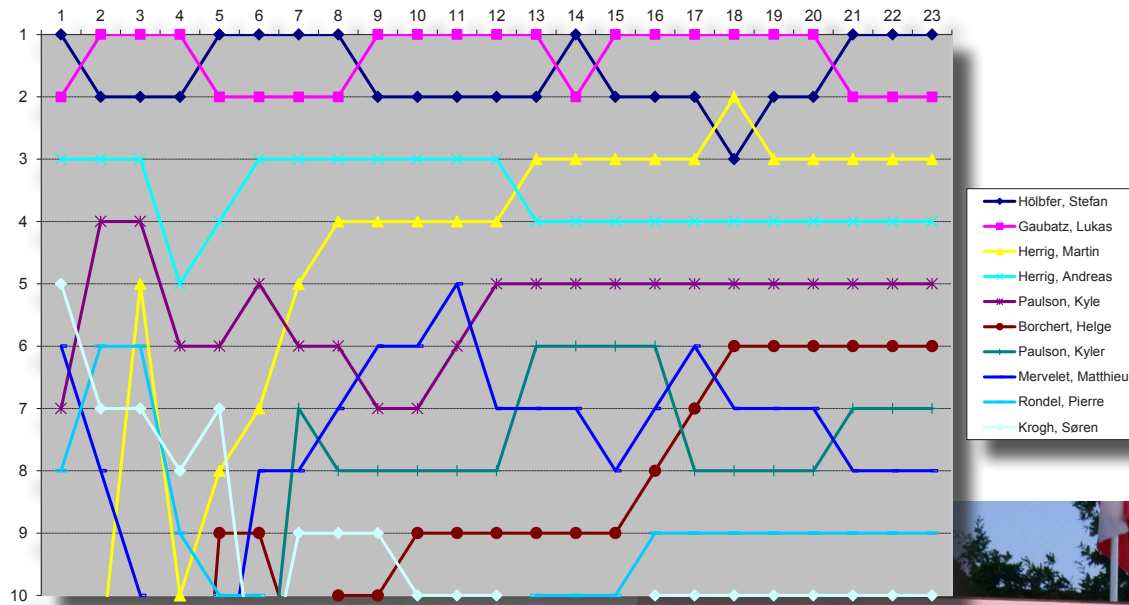
## Soaring model aircraft F3F 2012 - Kap Arkona Germany



Rounds Complete					23					Round 20 (2 Discards Active)					Round 21(2 Discards Active)					Round 22 (2 Discards Active)					Round 23 (2 Discards Active)				
Fastest Time of the Competition 31.93 by Hölbför, Stefan					Fastest Time 31.93 by Hölbför, Stefan																				Fastest Time by min				
Rank	Pilots Name	Country	Total Score	%	Time	Penalty	FAI	Rank in Round 20	FAI Subtotal	Rank to Round 20	Time	Penalty	FAI	Rank in Round 21	FAI Subtotal	Rank to Round 21	Time	Penalty	FAI	Rank in Round 22	FAI Subtotal	Rank to Round 22	Time	Penalty	FAI	Rank in Round 23	FAI Subtotal	Rank to Round 23	
1	Hölbför, Stefan	AUT	19997.82	100.00%	31.93		1000.00	1	17118.10	2	39.66		1000.00	1	18118.10	1	49.80		879.72	6	18997.82	1	44.25		1000.00	1	19997.82	1	
2	Gaubatz, Lukas	AUT	19889.54	99.46%	37.00		862.97	8	17233.95	1	44.87		883.89	2	18117.84	2	50.76		863.08	9	18980.92	2	48.70		908.62	6	19889.54	2	
3	Herrig, Martin	GER	19724.39	98.63%	33.21		961.46	2	17069.01	3	51.59		768.75	7	17837.76	3	48.43		904.60	4	18742.37	3	45.06		982.02	2	19724.39	3	
4	Herrig, Andreas	GER	19404.64	97.03%	35.02		911.76	4	16756.56	4	53.79		737.31	10	17493.87	4	43.98		996.13	2	18490.01	4	48.38		914.63	5	19404.64	4	
5	Paulson, Kyle	USA	19121.76	95.62%	38.07		838.72	10	16526.50	5	48.27		821.63	3	17348.13	5	50.06		875.15	8	18223.28	5	49.25		898.48	8	19121.76	5	
6	Borchert, Helge	GER	19042.97	95.23%	34.54		924.44	3	16435.04	6	49.52		800.89	4	17235.93	6	50.02		875.85	7	18111.78	6	47.52		931.19	4	19042.97	6	
7	Paulson, Kyler	USA	18693.87	93.48%	37.66		847.85	9	16147.81	8	52.78		751.42	8	16899.23	7	48.19		909.11	3	17808.34	7	49.97		885.53	10	18693.87	7	
8	Mervelet, Matthieu	FRA	18643.15	93.23%	39.31		812.26	19	16173.55	7	55.35		716.53	12	16890.08	8	53.60		817.35	14	17707.43	8	47.29		935.72	3	18643.15	8	
9	Rondel, Pierre	FRA	18363.13	91.83%	36.75		868.84	7	15983.86	9	57.59		688.66	18	16672.52	9	52.93		827.70	11	17500.22	9	51.28		862.91	15	18363.13	9	
10	Krogh, Søren	DEN	17980.61	89.91%	38.29		833.90	11	15598.85	10	49.80		796.39	5	16395.23	10	55.51		789.23	20	17184.46	10	55.58		796.15	24	17980.61	10	
11	Marechal, Alexis	FRA	17867.08	89.35%	39.12		816.21	18	15216.27	15	53.00		748.30	9	15964.57	14	43.81		1000.00	1	16964.57	12	49.03		902.51	7	17867.08	12	
12	Newnham, Martin	GBR	17843.88	89.23%	36.54		873.84	6	15441.17	13	50.98		777.95	6	16219.12	12	58.83		744.69	31	16963.81	13	50.28		880.07	11	17843.88	13	
13	Redsell, Mark	GBR	17842.97	89.22%	38.79		823.15	14	15545.32	11	54.97		721.48	11	16266.81	11	56.02		782.04	22	17048.85	11	49.49		894.12	9	17942.97	11	
14	Thornton, Simon	GBR	17702.77	88.52%	39.33		811.85	20	15281.82	14	58.87		673.69	24	15955.51	15	49.53		884.51	5	16840.03	15	51.29		862.74	16	17702.77	14	
15	Torp, Espen	NOR	17497.35	87.50%	39.88		800.65	25	15104.04	16	55.40		715.88	13	15819.93	16	53.03		826.14	12	16646.06	16	51.98		851.29	17	17497.35	16	
16	Chang, Tai-Chang	TPE	17431.17	87.17%	38.98		819.14	16	14997.41	18	56.13		706.57	16	15703.98	18	51.05		858.18	10	16562.16	18	50.92		869.01	13	17431.17	17	
17	Segnini, Raul	VEN	17422.70	87.12%	38.86		821.67	15	15082.08	17	56.52		701.70	17	15783.77	17	54.12		809.50	16	16593.27	17	53.35		829.43	19	17422.70	18	
18	Plaza, Gerardo	ESP	17378.39	86.90%	39.06		817.46	17	15457.50	12	61.29		647.09	31	16104.59	13	56.30		778.15	25	16882.74	14	63.61		695.65	41	17578.39	15	
19	Tseng, Kuo-Tung	TPE	17075.99	85.39%	38.74		824.21	13	14984.97	19	71.42		555.30	44	15540.27	19	54.42		805.03	19	16345.31	19	60.56		730.68	38	17075.99	19	
20	Lee, Wei-Tee	TPE	17063.24	85.33%	40.52		788.01	28	14795.46	20	59.64		664.99	27	15460.45	20	53.69		815.98	15	16276.44	20	56.24		786.81	28	17063.24	20	
21	Monte, Brandon	USA	17056.08	85.29%	40.14		795.47	27	14745.44	21	58.81		674.38	23	15419.82	22	57.10		767.25	27	16187.07	23	50.92		869.01	13	17056.08	21	
22	Rivero, Carlos	VEN	17054.27	85.28%	39.66		805.09	24	14723.38	22	55.54		714.08	15	15437.46	21	54.23		807.86	17	16245.31	21	54.70		808.96	23	17054.27	22	
23	Hebsgaard, Knud	DEN	16930.22	84.66%	42.63		749.00	35	14638.92	24	57.85		685.57	19	15324.49	25	56.21		779.40	23	16103.89	25	53.55		826.33	20	16930.22	25	
24	Day, Warren	USA	16901.53	84.52%	39.55		807.33	22	14708.30	23	58.97		672.55	25	15380.84	23	54.33		806.37	18	16187.21	22	54.34		814.32	22	17001.53	23	
25	Hagen, Bjørn Tore	NOR	16889.20	84.46%	41.28		773.50	30	14627.08	26	55.40		715.88	13	15342.96	24	56.68		772.94	26	16115.90	24	50.67		873.30	12	16889.20	24	
26	Lee, Angus C M	HKG	16702.80	83.52%	36.48		875.27	5	14525.25	27	60.30		657.71	29	15182.96	26	56.22		779.26	24	15962.22	26	59.75		740.59	36	16702.80	26	
27	Plich, Radovan	CZE	16458.09	82.30%	42.09		758.61	33	14328.96	28	64.41		615.74	36	14944.70	27	57.37		763.64	28	15708.34	27	59.02		749.75	33	16458.09	27	
28	Bertschi, Stefan	SUI	16323.75	81.63%	40.74		783.75	29	14157.09	29	60.64		654.02	30	14811.12	28	58.56		748.12	30	15559.24	28	57.88		764.51	32	16323.75	28	
29	Silgado, Alvaro	ESP	16232.18	81.17%	39.53		807.74	21	14142.29	30	61.82		641.54	33	14783.83	29	66.35		660.29	40	15444.11	29	56.15		788.07	27	16232.18	29	
30	Kalensky, Filip	CZE	16063.38	80.33%	42.44		752.36	34	13826.81	33	58.25		680.86	21	14507.67	32	55.88		784.00	21	15291.67	30	57.34		771.71	31	16063.38	30	
31	Blumer, Reto	SUI	16005.54	80.04%	38.60		827.20	12	13832.55	32	58.34		679.81	22	14512.35	31	61.30		714.68	34	15227.04	31	56.84		778.50	29	16005.54	31	
32	Vojta, Jaroslav	CZE	15924.90	79.63%	42.76		746.73	36	13735.89	35	57.93		684.62	20	14420.50	34	63.82		686.46	38	15106.97	33	54.10		817.93	21	15924.90	33	
33	Chan, Stanley C F	HKG	15810.94	79.06%	43.30		737.41	40	13620.50	37	62.97		629.82	34	14250.33	36	53.21		823.34	13	15073.67	34	52.85		837.28	18	15910.94	34	
34	Skoglund, Dag	NOR	15784.46	78.93%	41.94		761.33	32	13869.96	31	65.92		601.64	38	14471.60	33	60.80		720.56	33	15192.16	32	55.85		792.30	25	15984.46	32	
35	Nielsen, Kaj H.	DEN	15706.35	78.54%	39.56		807.13	23	13803.43	34	70.85		559.77	43	14363.20	35	62.94		696.06	36	15059.26	35	59.23		747.09	34	15806.35	35	
36	Donker Duyvis, Frits	NED	15671.82	78.37%	42.95		743.42	37	13451.45	38	59.06		671.52	26	14122.97	38	57.81		757.83	29	14880.80	37	55.94		791.03	26	15671.82	36	
37	Maslo, Marian	SVK	15544.28	77.73%	43.06		741.52	39	13643.77	36	69.83		567.95	41	14211.72	37	60.55		723.53	32	14935.25	36	62.41		709.02	39	15644.28	37	
38	Wiklicky, Josef	AUT	15432.19	77.17%	45.53		701.30	48	13338.12	39	60.11		659.79	28	13997.91	39	63.20		693.20	37	14691.11	38	59.71		741.08	35	15432.19	38	
39	Klusek, Andrzej	POL	15060.41	75.31%	45.14		707.35	46	13121.13	41	65.26		607.72	37	13728.85	41	62.55		700.40	35	14429.25	41	60.52		731.16	37	15160.41	39	
40	Rušíl, František	SVK	14834.34	74.18%	39.98		798.65	26	12780.19	43																			



Evolution of the Ranking of the first ten places



# Awards





# Nation's Cup

after round

23

place	team	pilots			points			sum
1	GER	Herrig, Martin	Herrig, Andreas	Borchert, Helge	19724,39	19404,64	19042,97	<b>58172,00</b>
2	AUT	Hölbfer, Stefan	Gaubatz, Lukas	Wiklicky, Josef	19997,82	19889,54	15432,19	<b>55319,55</b>
3	FRA	Mervelet, Matthieu	Rondel, Pierre	Marechal, Alexis	18643,15	18363,13	17867,08	<b>54873,36</b>
4	USA	Paulson, Kyle	Paulson, Kyler	Monte, Brandon	19121,76	18693,87	17056,08	<b>54871,71</b>
5	GBR	Newnham, Martin	Redsell, Mark	Thornton, Simon	17843,88	17842,97	17702,77	<b>53389,62</b>
6	TPE	Chang, Tai-Chang	Tseng, Kuo-Tung	Lee, Wei-Tee	17431,17	17075,99	17063,24	<b>51570,40</b>
7	DEN	Krogh, Søren	Hebsgaard, Knud	Nielsen, Kaj H.	17980,61	16930,22	15706,35	<b>50617,18</b>
8	NOR	Torp, Espen	Hagen, Bjørn Tore	Skoglund, Dag	17497,35	16889,20	15784,46	<b>50171,01</b>
9	CZE	Plch, Radovan	Kalensky, Filip	Vojta, Jaroslav	16458,09	16063,38	15924,90	<b>48446,37</b>
10	ESP	Plaza, Gerardo	Silgado, Alvaro	Elizondo, Inaki	17378,39	16232,18	14636,06	<b>48246,62</b>
11	VEN	Segnini, Raul	Rivero, Carlos	Concepcion, Ramon	17422,70	17054,27	13659,57	<b>48136,54</b>
12	SUI	Bertschi, Stefan	Blumer, Reto	Kopp, Martin	16323,75	16005,54	14515,83	<b>46845,12</b>
13	SVK	Maslo, Marian	Ruisl, Frantisek	Ivan, Lubomir	15544,28	14834,34	14443,15	<b>44821,76</b>
14	POL	Klusek, Andrzej	Bury, Adam	Bury, Jakub	15060,41	14505,72	14362,12	<b>43928,25</b>
15	HKG	Lee, Angus C M	Chan, Stanley C F	Tse, Dip-Suen	16702,80	15810,94	10134,11	<b>42647,86</b>
16	NED	Donker Duyvis, Frits	Heijne, Erik	Hermans, Robert	15671,82	13322,24	12763,72	<b>41757,78</b>
17	POR	Cruz, Manuel	Mestre, Joao		13901,14	13192,81		<b>27093,95</b>
18	UKR	Mishyn, Oleksandr	Netselia, Volodymyr		10910,88	2821,60		<b>13732,48</b>







Stepfan Hölbfner and Lukas Gaubatz dominated the competition, closely followed by the Herrig's brothers, Martin and Andreas, and the Paulson family, Kyle and his son Kyler. It is funny to see that retrospectively, the top 10 was determined after the first five rounds. In the team ranking the 3rd place switched several time between USA and France, but the French finally gained the 3rd

place by 1.65 points over a total 55,000 points at the very last flight. This is just crazy.

Congratulations to Stefan, Lukas, and Martin for their podium. They deserve it! Congratulations to Germany, Austria and France for the top three team ranking. Well done. Congratulations also to first and second place Juniors, Kyler Paulson and Adam Bury (photo above).

A huge thanks to the organizers and Franz Demmler for this unforgettable F3F worlds !

For the full detailed results or to replay the broadcast that is still online, visit the following URLs:

News <<http://f3f.de/index.php?id=161>>

Videos <<http://f3f.de/index.php?id=150>>



# Molded wing repair *with urethane foam*

Tom Broeski, tom@adesigner.com

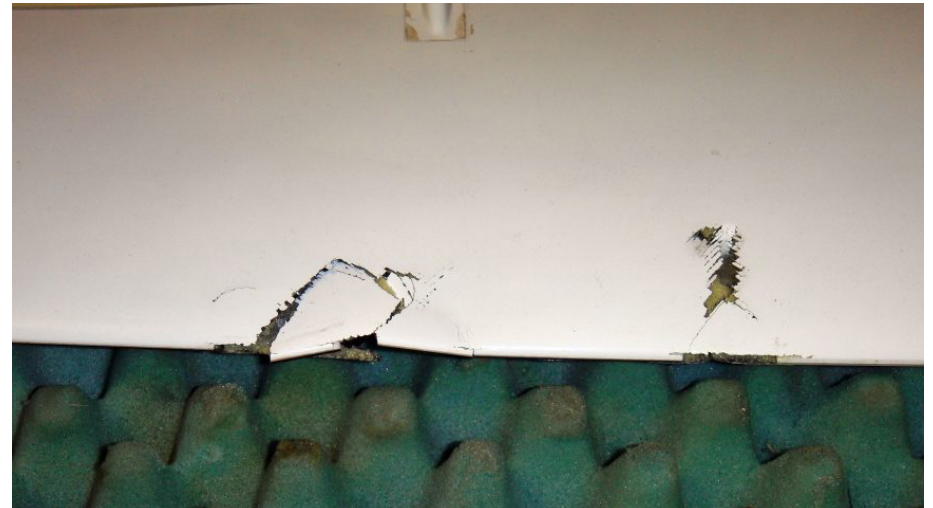
I've seen a lot of guys give up or do a crappy job on hollow wing repairs. It's really not that difficult with the right stuff.

Materials:

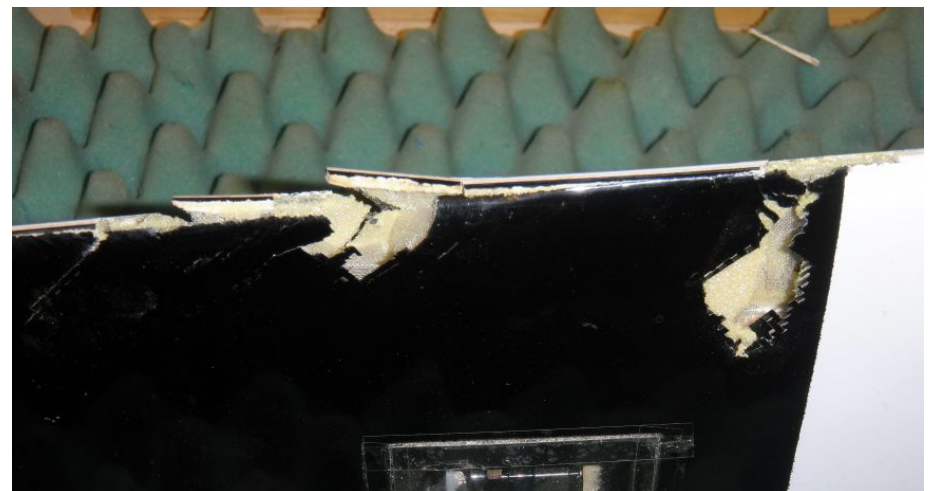
- Dixie cup
- mixing stick
- sandpaper
- plastic (an old bottle will do)
- two-part Urethane (not the squirt foam)
- tape
- catalog or phone book (only for large holes)
- CA
- sucker (big type)
- white putty
- paint (some auto paint stores will scan your wing for a perfect match and put it in regular spray can)

Pictures are of a tree impaled wing tip. All the way to spar, but no structural damage.

*Top surface of the wing showing two points of fracture.*



*Bottom surface of the wing showing the two fracture points and the separated leading edge.*



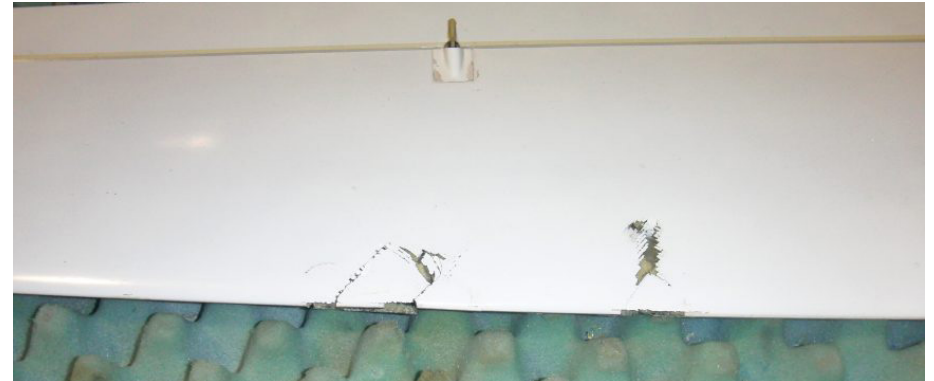


### CA parts

CA in what parts you can.

This was a fairly hard hit, but I managed to find a couple pieces.

*Top surface of the wing with parts CA'd in place.*



*The fracture that went all the way back to the spar wasn't as bad as the other.*



### Bend Plastic

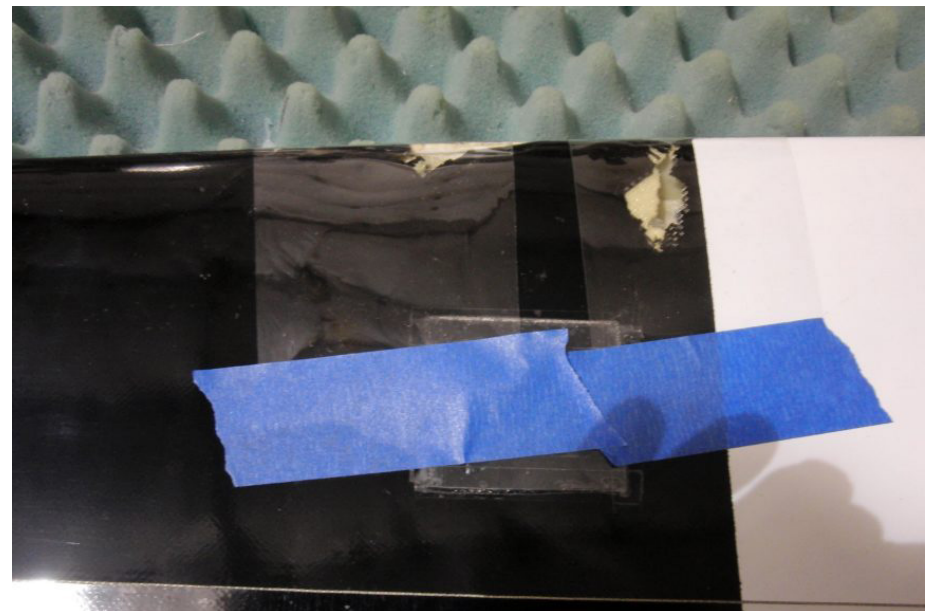
Bend some plastic or mylar to match the airfoil.

I sometimes use an undamaged wing to bend it with a little heat. Not too much heat or you can damage the other tip.

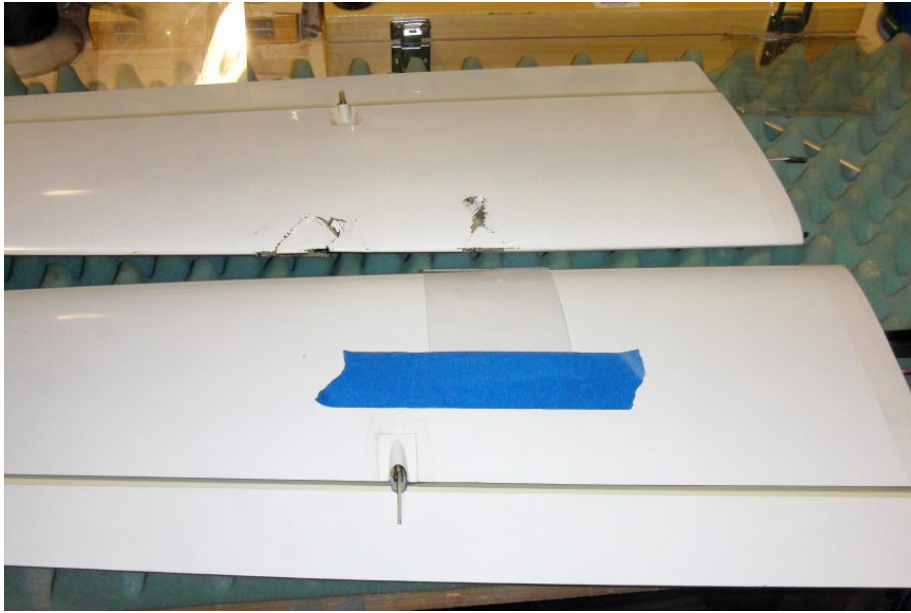
NOTE: Be sure to wax or use mold release. You can also use the silicone release paper from your covering. I used to throw a lot away, but now I keep it.

Remember, the leading edge is not necessarily sharp, so don't just fold it.

*Plastic sheet bent around leading edge.*





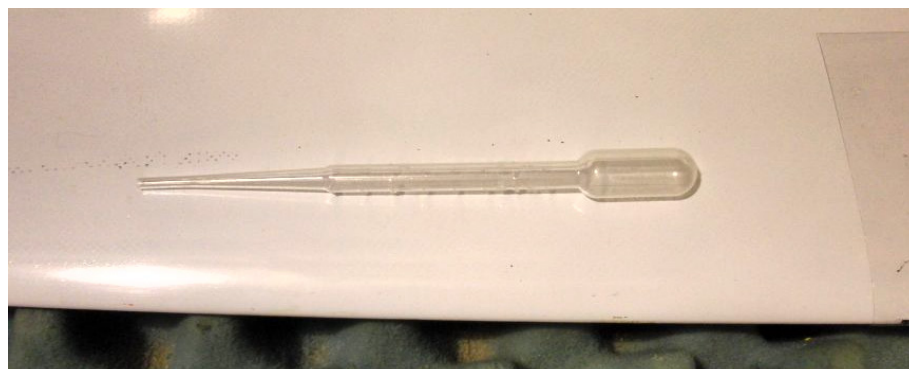


*Upper left: Using the undamaged left wing to shape the plastic for the repair on the right wing.*

*Above: Using a heat gun to help shape the plastic. Too much heat will damage the underlying wing surface, so be careful.*

*Left: The shaped plastic. Note the rounded leading edge.*





*Left: The flavor injector can be used to get deep into the wing. Clean with lacquer thinner.*

*Left below: The Sucker, used for repairing narrow openings.*

*Below: Use equal amounts of parts A and B.*

*Below right: A small amount mixed in a Dixie cup.*

### Sucker

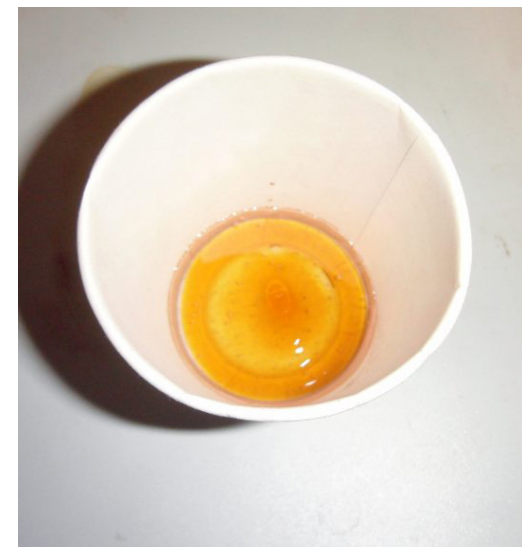
Sometimes if I have to get up into the middle of a wing, I use a flavor injector. With the foam, you have to drop it in a jar of lacquer thinner immediately after use. This one has made it through a number of repairs and is still like new.

The other tool I use is a Sucker. The larger holed ones work great. For the narrow repair I used it, but for the larger hole, I just poured the foam in.

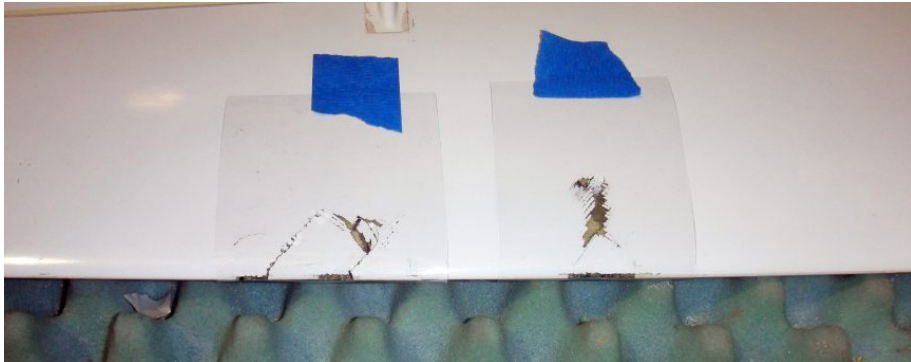
### Mix the foam

Once you have everything ready, you can mix the foam. Equal amounts of A and B.

NOTE: It is better to use too little than too much. A tiny bit goes a long way.





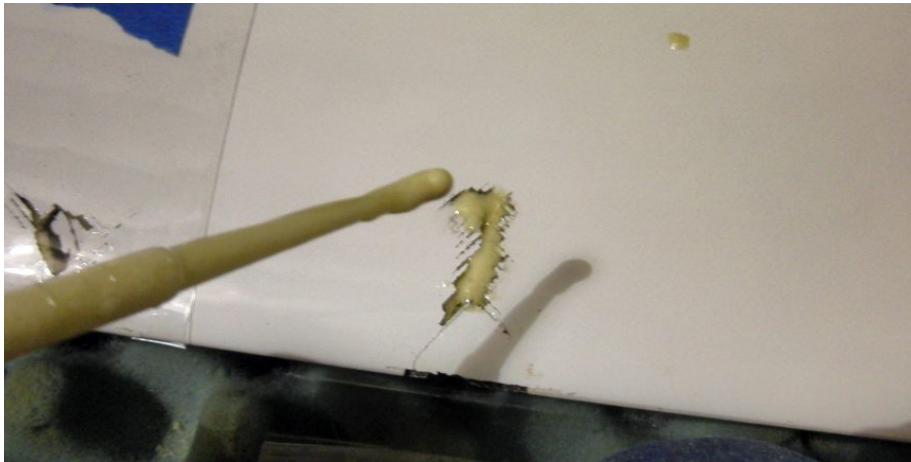


*Left: Plastic sheet will be taped over the hole in this manner after the foam is applied.*

*Left middle: The mixed foam will come out of the Sucker by itself.*

*Left below: The second hole.*

*Below: I inserted the wing into the center of a catalog to help secure it.*



I opted to do one hole at a time, since you only have a minute or so to work.

I did a quick mix (a couple of seconds) and sucked it up into the tube.

It will start coming out right away, so work fast.

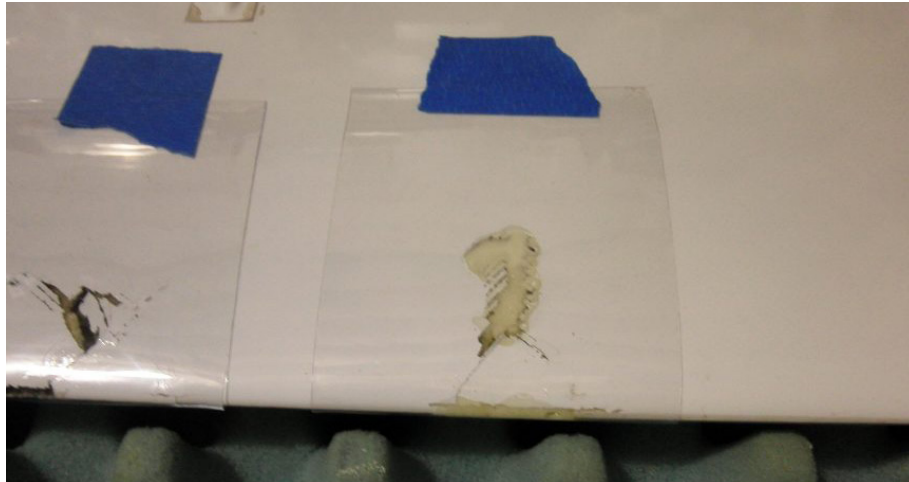
#### Cover with plastic

Once you have the foam in, tightly attach the plastic. For the first hole, I just taped it.

On the second hole, I used a catalog to help secure it. Again, be sure the plastic sheet is waxed (on the inside). You can do a simple test. If masking tape won't stick to it, it is okay.







### A little white putty

After it sets, remove the plastic. I usually wait about 30 minutes, but it only takes about 10. The main thing is to not take off the plastic too soon, or it will pull off some of the foam. If done right, you have an almost perfect surface.

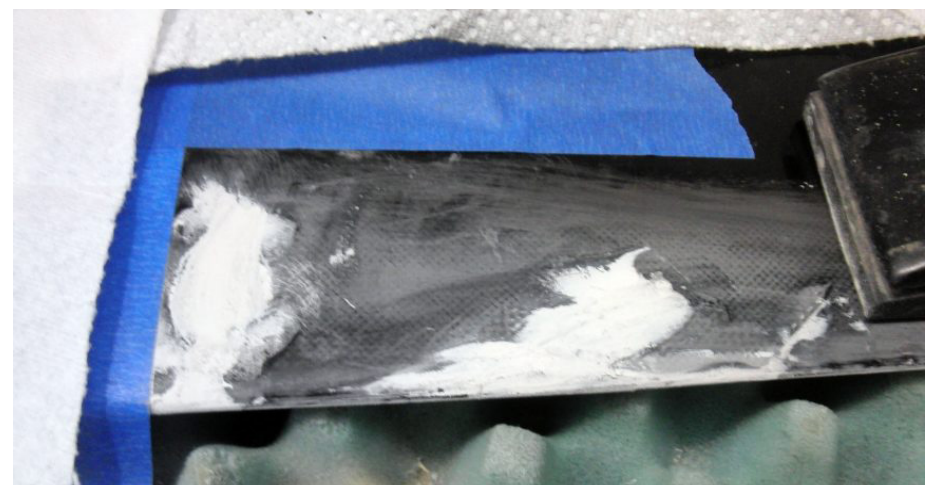
A little white putty and block sanding and it's almost done.

*Above: Foam cured under the plastic sheeting.*

*Above right: Fast drying White Putty from Squadron Products.*

*Right: Upper surface with White Putty applied to the holes.*

*Right below: Bottom surface after the White Putty is sanded down.*





## Prime

I primed, sanded, primed, both top and bottom. I didn't have any gloss black, so I don't have a final picture of the whole job. Needs a tiny bit more sanding on the leading edge.

Weight (with servos) before repair, 7.5 oz.  
After repair, 7.7 oz.

I could probably have used a bit less putty if I had waited a little longer for the foam to set on the big repair. Could also have used some lightweight filler before using the white putty.

Two tenths of an ounce isn't too bad for such a large repair.

I have the foam kit for sale here:  
<<http://www.rcgroups.com/forums/showthread.php?t=1787195>>

Believe me, a little goes a long way.

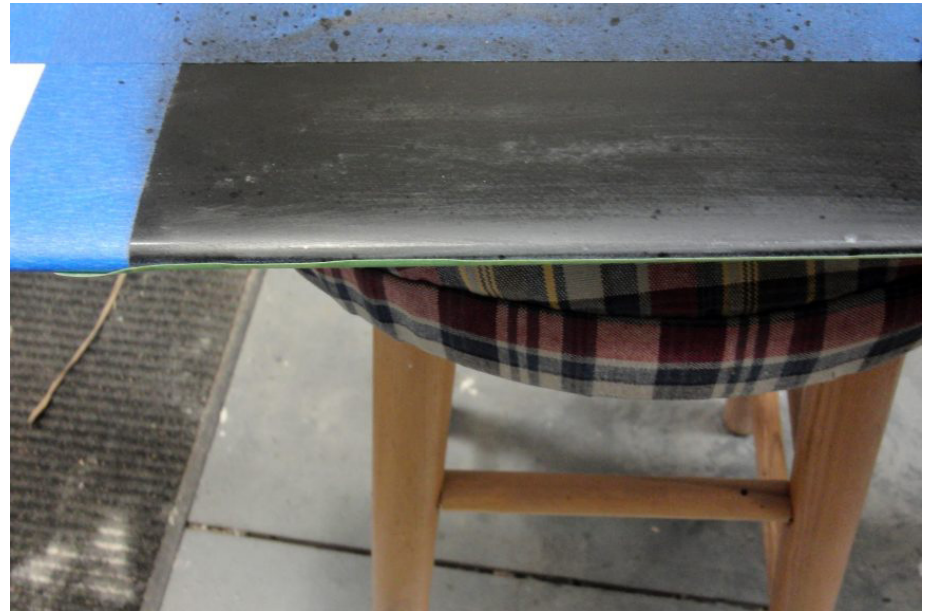
For those wondering, "Is this just a cosmetic patch? The fibers are still broken, so is the structural integrity compromised?"

There's not much of a "structure" in front of the spar. You want the airfoil shape to match. Since it is solid foam, it has as much structure as you would need. For really big areas you can always glass over it.

It is also great for those leading edge dings. If done right, it has a hard smooth surface.



*Right: The bottom wing surface primed and sanded.*



*Below: The top surface of the wing after priming and painting.*





What I love  
about the  
Eastern Soaring League

# *Learning!*

Ed Anderson, [aeajr@optonline.net](mailto:aeajr@optonline.net)

This will be about learning, not competition. Because, when you are flying the same task as 40 other pilots, you get the special opportunity to watch what they do and how they do it. You have an opportunity to talk to them about soaring in the context of that task. And, most importantly, you get to try what they told you, sometimes immediately, to see if it makes a difference in your results.



Yes, you can do some of this at the club field just flying with friends but how do you know if you are doing it right? How do you know if it made a difference. Did you have a short flight because you did it wrong or was it the conditions? Was your flight longer because you did things better or was it the conditions? How do you know?

When we fly an ESL flight group you are typically flying with three to four other pilots who are flying the same air and the same task you are flying. Their goal is the same goal and the conditions are the same. For example, the task may be ten minutes, and you came down in five. Was that a bad flight or a good flight? Well, if you are the first on the ground among four pilots, it was a poor flight. What did the others do that you did not? You learn! However, if you were the last on the ground among four pilots, that five minutes is a pretty good flight. You have an objective way to measure your performance.

Four pilots launch and look for lift. You launch and go left because you think you see lift indications, but you are wrong. You ask your timer where the others are and how they are doing. The others went right and found lift. Can you get to where they are and catch that lift? You know

where the thermal is because you have three other pilots marking it for you.

You run to the lift but arrive at half launch height. Now you need to see if you can find the lower part of that thermal. Do you know where to look? Can you visualize the shape of the thermal? Go and try, test your knowledge and your insights. They are skied out and you are at half launch height. Can you find the bottom and work your way up? You know there is lift there, somewhere, but can you work it?

What did they know at launch time? What did they see that you did not? Or maybe it was one top pilot and two followers. Well, after the flight you can ask them, while things are fresh in their minds. Learn from their success rather than dwell on your failure. And you will generally find they are happy to share their insights.

You can watch launch techniques. With 40 pilots and eight rounds there will be 320 launches to watch that day. How high do they launch? How do they do it? Is anyone flying a similar plane to yours? How do they launch compared to how you launch?

Maybe there is a launch group with three or four of the same glider. You see a lot of flight groups with three or four Supras

or maybe two or three Explorers. Did they all get the same launch height? Was it technique that made the difference or was it the way the pilot set-up the plane before he came to the winch? You watch and learn.

Do Supras launch consistently higher than the others or are the Pikes the kings of the launch? Or is it more pilot dependent and less plane dependent? If those two pilots swapped planes would the same plane launch higher or the same pilot, now flying a different plane? I wonder sometimes. My observation is that it is the pilot more than the plane.

You have four guys going up one after the other. How did they throw the glider? Overhead? From behind? Did they throw it up or out? Who launches highest and why? Do they go full pedal? Did the full pedal guy do significantly better or worse than those who tapped the pedal? What does their release look like? Do they dip deep and go straight up? Do they come off flatter but with more speed? Did they direct their launch or go straight out? How did they do it, and why? You can watch four launches, one after the other within 90 seconds. Which would you like to try on your next launch or your next practice session?

---

*Title page: A Phil Barnes launch – note the launch line.*

---





*A sea of gliders.*

You can ask them later where they set the tow hook. Ask whether they use launch mixes or not. How do they use them? What kind of launch mix? Does it include elevator settings? Do they switch from launch to reflex on the zoom? When do they go to cruise. Most of them will be happy to tell you. Some will even offer to work with you after the contest day to help you tune your launch.

I have seen launches that looked like they were in trouble because they had pulled to the side. But later I realized that the pilot had directed his launch and his zoom was in the direction he wanted

to travel after coming off the hook. Rather than go up and then float over, he zoomed to the area where he wanted to fly with very little sacrifice in height. I have seen people do half loops and rolls to run straight to the back while still climbing off the zoom. Hummm, perhaps something I should try?

At this year's end of season contest, in Daniel Boone Pennsylvania, we had some strange conditions. For five of the eight rounds on Saturday and all but the last round on Sunday, there was virtually no detectable lift and very little breeze. I watched, learned and greatly improved

on a flying technique I had not done well in the past, the minimum sink flight.

Here you launch as high as you can, pick your starting area and head for it. In this case it was the tree line forward of the winches. While there was no real lift there, the air was more buoyant along the perimeter of the field, over the trees, than anywhere else. You could not really climb, you would just sink slower. And if you did start to rise it was not enough to turn. A turn of any significant degree just cost you height, so you cruised.

As I timed for other pilots I asked what they were doing and why and how. The





*Midseason contest at Daniel Boone Pennsylvania.*

answer was always the same. Get level with the right speed, put in thermal camber and just fly smooth. Set your elevator so you can fly without stalling and touch the sticks as little as possible.

Stay off the right stick and fly with the rudder only, as much as possible.

And so I did this, and over several flights my times got better. I flew over nine minutes with a Supra on virtually rudder only. On one flight I circled the field

twice, for 9:30, on rudder alone, and won my group. During that flight I hardly breathed for fear of disturbing the air. At no time did I see anything that looked like lift I could turn in.



I watched other pilots try to turn in what looked like lift only to see them come down early. They were wasting a lot of energy for no return. Meanwhile other pilots just floated through that same area without turning, seeing that turning was not working. They did not see the lift that the turning pilot thought he saw. I watched and I learned.

In the past I would have turned in some of those small bumps and would have given up a lot of height. But watching the top pilots fly this pattern over and over again was very instructive. Timing for them as they did it gave me a chance to ask how they did it. And I learned. Often they made their times while I still fell short, but my times were improving. So, what were they doing better than I was? I watched and I learned. It was fun and very satisfying. I now have a new skill and a new flight technique I did not have when I went to that contest.

I tell you this because the ESL season is over and I feel I am a better pilot today than I was at the start of the season. I look forward to next year in the hope of becoming better still. When I was a Sportsman I took home many awards, but since moving up to Expert I have taken home none. That is fine with me because my goal is to become a better pilot, not just win awards. The awards will come again as I improve. I will try to practice more this off-season and hone my skills.



*Even an easy glider can score in the landing zone.*

If you would like to give this a try, now is the time to think about flying with the ESL next season <<http://www.flyesl.org>>. Or find a soaring league or some big contests in your region. It doesn't matter what glider you fly. Even an Easy Glider can be winch launched, can thermal for 10 minutes and can land on the scoring tape. What you want to learn is how to make the best of

what you have. Speak to the pilots at the contest. Speak to the pilots in your club. Ask them for advice and how to prepare for next year's contests. Then go and fly and learn. If you are like most of us, the better pilot you become, the more you will enjoy soaring with the birds, and rising into the sky on unseen forces.

Clear skies and safe flying, always!





# Slope candidate



SHARK.AERO, s.r.o. Letisko Senica - 906 31 Hlboké 406, Slovakia <<http://www.shark.aero>>

Advertized by the manufacturer as a “high-performance composite tandem-seat low-wing UL/LSA/ELSA aircraft, designed to be ideal for fast cross-country flights and flying for fun,” the Shark UL also seems to be a good candidate for scale slope soaring.

The full size aircraft structure is mostly carbon epoxy composite, combined with glass fabrics, carbon-aramid fabric, foam, honeycomb – to get the best weight/strength ratio, stiffness and safety. Materials include Textreme carbon fabric from Oxeon, PR220 resin and pultruded carbon profiles from 5M, Aeroglass glass fabric from Havel Composites.

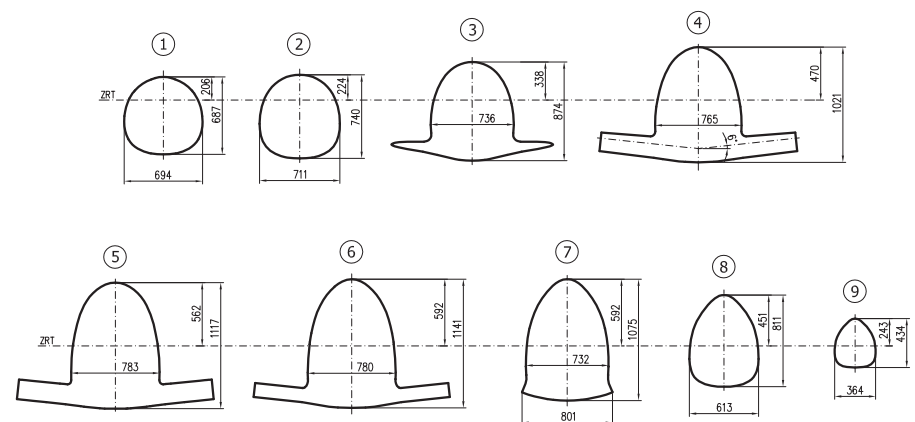
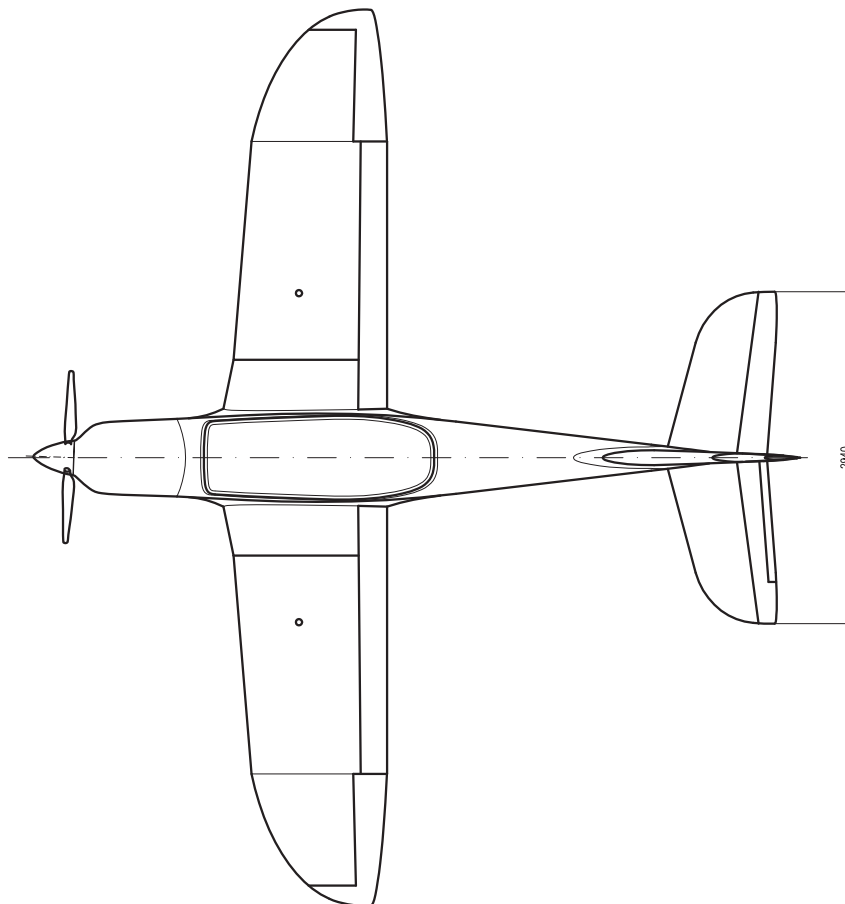
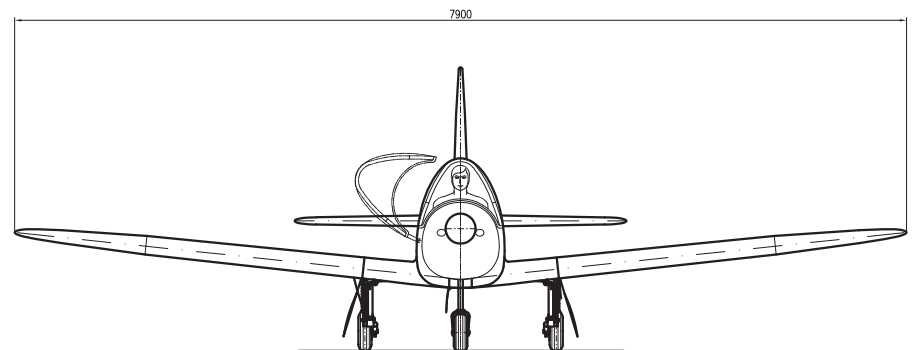
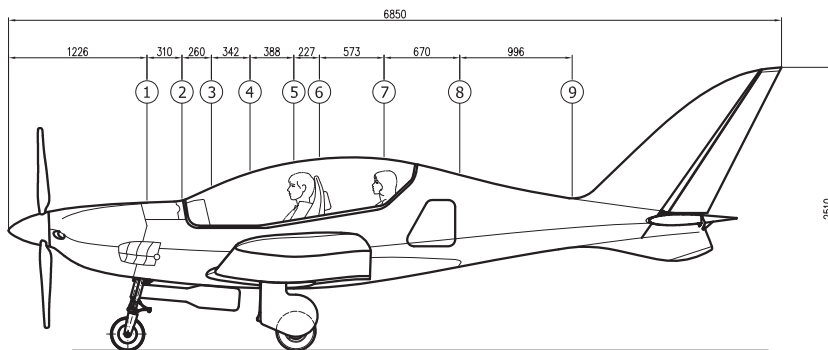
Composite wing with carbon-fibre main spar and rear spar carrying flap levers and aileron hinges has 60 % of the trailing edge occupied by powerful single-slotted flaps actuated by electric servo. Wings and horizontal tail can be quickly detached for transportation or storage.

The full size Shark UL is said to be very stable in flight, with easy handling in the air at both low and high speeds, with natural response of controls. And it has a steep descent with the large flaps.

RCSD welcomes a construction article!

Aircraft model :	<b><i>Shark UL</i></b>
Wing span	<b>7.9 m</b>
Length	<b>6.7 m</b>
Wing area	<b>9.5 m<sup>2</sup></b>
Engine	<b>Rotax 912ULS - 75 kW ( 100 HP )</b>
Empty weight	<b>295 kg</b>
Max. take-off weight	<b>480 kg</b>
Max. permissible speed	<b>V<sub>NE</sub> 333 km/hr</b>
Max. climb rate at the MTOW	<b>7 m/s</b>
Fuel capacity	<b>100 litres</b>
<b>Maximum load factor + 4 / -2,</b>	





**Shark** *UL* © 2012 SHARK.AERO

SCALE 1:40 3m



