

Free Flight News

CONTENTS

NFFS Symposium Report	98	Macedonia Cup, Prilep, North Macedonia, October 1-2	100
October at Lost Hills	98	Trofeo Città di Capannori, Capannori, Italy, October 8-9	100
Sierra Cup, Lost Hills, USA, October 8	99	Krka Cup, Šentjernej, Slovenia, October 14-16	101
Kotuku Cup, Lost Hills, USA, Oct 9	99	Stonehenge & Equinox Cups, Salisbury Plain, Sept 3-4	101
South Bohemian Cup, Vsechov, Czech Republic, Sept 17	99	Crookham Gala, Salisbury Plain, Sept 18	101
Hogo Cup, Zabokreky, Slovakia, Sept 24	99	Southern Coupe League	102
Zabokreky Cup, Zabokreky, Slovakia, Sept 25	100	Century of British Free Flight	107
vol libre Rhône-Alpes, Arzay - Bossieu, France, Sept 24-25	100	UK Competition News	107
Anatolian Cup, Ankara-Golbasi, Turkey, Sept 30-Oct 2	100	Free Flight News Subscription Renewal Form 2023	108

FFn DIARY

A subscription renewal form is included at the last page of this issue

November 5-6 31th Herend Cup (postponed from April). Tapolca, Hungary F1A F1B F1C F1P F1Q World Cup event Contact: Ferenc Kerner, +36 2058 15349 ferenc.kerner@hotmail.com	April 1-2 Salonta, ROU May 13 Salonta, ROU July 1 Canada July 1 Sweden July 2 Canada July 2 Sweden July 31 Turda, Romania August 1-4 Turda, Romania August 5 Turda, Romania August 5-6 France August 7-8 France August 9-10 France August 12-19 2023 France August 19-20 Toszek, Poland August 25-27 Zülrich, GER September 2-3 Salisbury, UK	Harghita Cup F1A F1B F1C F1P F1Q F1H World Cup event Salonta Cup F1A F1B F1C F1Q World Cup event Canada Cup. F1A F1B F1C World Cup event Swedish Cup. F1A F1B F1C F1Q World Cup event Huron Cup. F1A F1B F1C F1Q World Cup event. Alvaret Cup. F1A F1B F1C F1Q World Cup event World Cup F1E "Memorial Popa Crângu". F1E World Cup event F1E World Championships World Cup F1E "Turda Cup". F1E World Cup event Dupuis 2 min and Hispano-France F1ABCQ World Cup event Belgian Cup F1A F1B F1C F1Q World Cup events Poitou F1A F1B F1C F1Q World Cup event FIABC World Championships and FIABP Junior European Championships Friendship Cup Of Ukraine F1E World Cup event 53.Eifelpokal. F1A F1B F1C F1Q World Cup event Stonehenge Cup and Equinox Cup. F1A F1B F1C F1Q World Cup event
November 6 or 13 BMFA Buckminster Gala. See page 107 of this issue.		
November 12 Carpatia Cup. F1N Contact: Henryk Krupa, Jedlicze, Poland tel: +48668185394, kruhen@poczta.fm		
December 4 8th Grande Coupe de Birmingham. See FFn North Luffenham 2209. F1G 2 flights between 10.00 and 12.00 then 3 rounds to a timetable. Pre-1970 Coupe 3 flights no rounds including pre- 1958 vintage Start 10.00, finish 14.45, followed by flyoffs Entry £10. Contact:- Gavin Manion gavin.manion84@gmail.com tel 01543 422509 or Stuart Darmon stuartdarmonf1a@yahoo.com 01858 882057		
December 10-11 Otto Hints Memorial. F1D Contact: Ioana Slanic Prahova, Dumitru, tel: +40723620600, email: Romania ioanaeu822@yahoo.com		
December 12-15 2022 F1D Indoor World Championships Slanic, Romania		
December 22-24 2 World Cup events. Dec 22: Negev Open, Urim, Israel Dec 23-24 Hanukha Open. F1A F1B F1C F1P F1Q World Cup event Contact: Itsik Omer, tel: +972528566200, email: itsik@aeroclub.org		
<i>The following is a list of events in 2023 which have been registered or informed to me by October 30. Many more events are likely to be registered – this is just initial information.</i>		
February 15 North American Cup. F1A F1B F1C Lost Hills, USA World Cup event		
March 4 Eagle Cup. F1A F1B F1Q World Cup Gjøvik, Norway event		
March 24-25 Raná 2023. F1E 2 World Cup events Czech Rep		

7 Ashley Road, Farnborough, Hants, England GU14 7EZ

email: info@freeflightnews.org.uk

Web site address: <https://www.freeflightnews.org.uk/home.htm>

Compiled and produced by Ian Kaynes

NFFS SYMPOSIUM REPORT

The 2022 NFFS Symposium Report has been published and is available from FFN

The Report was edited by Bill Booth. While describing his aeromodelling history, he explains that he needed persuasion to take on the task, but it has been well worthwhile

The first article is David Lindley's "Flying Indoor Free Flight in the Eighth Wonder of the World" which is a complete history of the West Baden Springs Hotel and the associated indoor flying. The building has been recognized as a Historic Site by AMA. The covers of this Sympo show the ornate ceiling with an indoor model flying under it.

Kit Bays gives "Confessions of a Civy Boy Addict" with a detailed history of this power model first published in 1949. The large tail and long moment arm with 100%CG gave a good glide but with marginal stability

Daniel Berry's "Duck!! It's a Spacer!!!" is in a similar vein describing another power model, the Spacer, with knife edge trim.

"This is a Hobby" is a consideration of tailless models and gyros by Gil Morris.

Fred Terzian's "Small Field Flying with the Oakland Cloud Dusters, then Taking it to the Extreme" is his description of flying at various small sites in the San Francisco area, usually resulting in being banned from the sites. Small catapult gliders had been developed for small field use.

Ross Jahnke & Gary Fogel describe "The National Free Flight Society University (NFFS U)". Gary Fogel has established an aeromodelling module to introduce his 150 aeronautics students at San Diego State University to practicalities of aircraft. It included building and flying, with the help of local club volunteers. The NFFS is aiming to expand the program to other universities

Jim Parker gives "A Historical Perspective of FAI Free Flight From "SCATTER" 1961-1969" with extracts from Scatter during the sixties. In many ways little has changed, the same issues are identifiable now from a different perspective.

The editor Bill Booth contributes "The Stories, Diary, Records & Chronicles of Lee Hines" including extracts of articles, such as building indoor HLG, and concludes with pages of 3-views of Lee's most significant designs.

In the theory section, Brian Eggleston takes "Another Look at Airfoils for F1B Models" in which he assesses the effect on initial climb or glide of modifications to previous sections and the effect of flaps. He also describes his technique for including turbulators in XFOIL.

Role R BLACK's "Predicting Indoor Model Flight Times Using Python" is a detailed discussion of implementing model performance predictions in the compute language Python. The fundamental methods all seem fairly standard, but I might question the use of XFOIL for a Reynolds number as slow as the quoted 4876. And that is another feature of the article – the already precise 4876 is given to ridiculous accuracy with 15 decimal places. That disregard of meaningful accuracy continues with all detailed results being given to this same 15 decimal places.

"Free Flight Model Aircraft Airfoil Section Design" by Roy E. Smith is exactly that, a design exercise to create aerofoil shapes but without any analysis of their aerodynamics. He also states that aerodynamic moments do not exist, it is just an error in placing where the force acts. Obviously he has never seen the simplicity of always quoting a force at a fixed location - the quarter-chord point of an aerofoil - and an associated moment.

Blake Jensen's "Model Box Concept and Design" introduces some interesting techniques, such as vacuum infusion moulding, which he used to produce a box for 4 F1Bs which can be carried as cabin baggage. While quoting it to meet a length+width+height limit of 55 inches, I am

sure it would be too long to meet European specific length, width, and height limits.

As a contrast to a model box, Mike Isermann's article describes "Scale Detailing: Making a Spinner for Flying Scale".

"Altimeter Flyoffs, Electronic Devices, The Rules Change Process and the Objective of FAI Free Flight Competition" by Roger Morrell discusses all these subjects. He advocates faster work towards developing new processes with the ultimate application being automated timing and recording results.

Aram Schlosberg's "Winding Rubber Motors" looks at techniques for stretch winding and considers the compound coils that form when rubber is wound.

Jim Bennett & Don Deloach present "The NFFS Archives: A Treasury of Free Flight Champions, Records & Awards" which consists of tables of the names of the winners of all the various programs.

Models of the year are:

Black Light F1B by Alex Andriukov

Bellance CF – mega rubber power by Dave Mitchell

GTS Falcon E36 by Gevorg Malkhasyan

Dawn Patrol II – dawn unlimited by Rud Romak

FILCHED – F1L indoor rubber by Ray Mazzocco

Pontiac Special, Indoor catapult by Kurt Krempetz

Hall of Fame inductees are Wally Farrell, Fred Terzian, Rick Pangell, Bill Chenault

The report closes with the NFFS President's report, contact details of the authors, 2 full page colour photos (Ron McBurnett with power model, and Geralyn Jones launching F1E) and finally a tribute to Ukrainian friends in our thoughts.

FFN availability

The report is available from FFN at prices including postage £41 UK, £44.50 Europe, £53 for anywhere outside Europe.

Although given a good dollar price by NFFS the final cost here suffers from the Trussonomics effect on the pound-dollar exchange rate.

OCTOBER AT LOST HILLS

Ian Kaynes

The Sierra Cup and Kotuku Cup events were held in October spread over 6 days, with 2 days of F1E flying followed by 2 days of mini then 2 days of F1ABCQ. The following week was taken up by the USA team selection flying. For the whole of the period the weather had light winds, sunny, dry and hot or very hot. A notable change on the site was that some of the orchard trees are being removed, which is reported to be final but there could be the possibility of planting replacement trees...

F1E was flown to 180 max throughout and Mike McKeever won both, including a full score in the Kotuku Cup. F1G was the best supported mini class and the Sierra Cup needed two flyoff rounds to decide the winner.

F1A at Sierra Cup was won by Jim Parker after two flyoffs while Kotuku Cup was won by Javier Abad with the only full score. Ken Bauer had a podium place in both events. As usual both F1B events needed two flyoffs. Sierra Cup F1C had three flyers but Kotuku Cup only one – Guy Menano who won both events. Neither F1Q events needed a flyoff. At the first Mike Richardson had 6 maxes and then a crash in the last round, in the second event I was in the same position of 6 maxes and then, with Mike Richardson timing me, I flew in a breezy rough thermal that put the model on the ground at the end of the run.

The weather held for the following days for the US team selection finals. This has two one-day contests for each class.

The winner of each contest wins a team place and the second and third in each contest go forward to a flyoff to decide the third team place, plus a lady team member when any have taken part. There were some comments about the small number of flyers in the finals, but I understand there is a considerable entry fee and so only those in serious contention for a team place participate. The selected teams are as follows (note Walt Ghio's double success):

F1A Ken Bauer, Andrew Barron, Brian Van Nest, Anat Goldstein

F1B Walt Ghio, Alex Andruikov, Sevak Malkhasyan, Aimee Raymond

F1C Don Chesson, Walt Ghio, Jeff Ellington

Sierra Cup, F1E 12 flew Oct 4

1	M McKeever	USA	476.31
2	P Brocks	USA	470.70
3	F Terzian	USA	460.25
4	R Sifleet	USA	455.15

Kotuku World Cup F1E 12 flew Oct 5

1	M McKeever	USA	500.00
2	P Brooks	USA	461.67
3	F Terzian	USA	450.00
4	G Jones	USA	446.67

Sierra Cup Mini, October 6

F1G 7 flew 4 full scores

1	J Fitch	USA	600	+240	+360
2	T Odell	USA	600	+240	+347
3	L Horak	CAN	600	+240	+298

F1H 1 flew

1	B Jensen	USA	600
---	----------	-----	-----

F1J 2 flew

1	M McKeever	USA	600
---	------------	-----	-----

F1S 5 flew

1	J Murphy	USA	600
2	L Norvall	USA	598
3	J Van Nest	USA	574

Kotuku Cup Mini, October 7

F1G 6 flew 4 full scores

1	T Odell	USA	600	+145
2	L Horak	CAN	600	+137
3	G Jones	USA	600	+129

F1H 1 flew

1	B Jensen	USA	600
---	----------	-----	-----

F1J 2 flew

1	T Kerger	USA	582
---	----------	-----	-----

F1S 5 flew

1	D Sechrist	USA	600	+130
2	J Murphy	USA	600	+88

SIERRA CUP, LOST HILLS, USA, OCTOBER 8

F1A 17 flew

1	J Parker	USA	1380	+360	+400
2	G Goldstein	USA	1380	+360	+343
3	K Bauer	USA	1380	+199	
4	A Barron	USA	1379		
5	A Goldstein (J)	USA	1360		
6	K Kulmakko	ESP	1345		
7	J Abad	ESP	1314		
7	J Pencenkovic	BIH	1314		

F1A-Junior 1 flew

1	A Goldstein	USA	1360
---	-------------	-----	------

F1B-Junior 1 flew

1	I Kohavi	USA	1380	+360	+280
---	----------	-----	------	------	------

F1B 18 flew 10 full scores

1	S Malkhasyam	USA	1380	+360	+353
2	L Horak	CAN	1380	+360	+310
3	B Booth	USA	1380	+360	+308
4	M Schroedter	USA	1380	+360	+295
5	B Jensen	USA	1380	+360	+293

F1C 3 flew 2 full scores

1	G Menanno	USA	1380	+180
2	F Parker	USA	1380	

F1Q 5 flew

1	D Seacrist	USA	1313
2	J Murphy	USA	1311
3	B Tarcher	USA	1273

KOTUKU CUP, LOST HILLS, USA, OCT 9

F1A 11 flew

1	J Abad	ESP	1320
2	K Bauer	USA	1296
3	A Barron	USA	1280
4	E Pecenkovic	USA	1234

F1B 16 flew 8 full scores

1	A Andriukov	USA	1320	+360	+386
2	J Fitch	USA	1320	+360	+378
3	I Kohavi (J)	USA	1320	+360	+359
4	G Simon	USA	1320	+360	+345
5	B Booth	USA	1320	+360	+312

F1B-Junior 1 flew

1	I Kohavi	USA	1320	+360	+359
---	----------	-----	------	------	------

F1C 1 flew

1	G Menanno	USA	960
---	-----------	-----	-----

F1Q 6 flew

1	J Murphy	USA	1278
2	T Ioerger	USA	1275
3	I Kaynes	GBR	1167

SOUTH BOHEMIAN CUP, VSECHOV, CZECH REPUBLIC, SEPT 17

F1A 20 flew 4 full scores

1	J Danier	CAN	960	+180	227m
2	P Findahl	SWE	960	+180	207m
3	L Kornhofer	CZE	960	+180	156m
4	V Papez	CZE	960	+180	55m

F1A-Junior 2 flew

1	V Kornhofer	CZE	488
---	-------------	-----	-----

F1B 12 flew 5 full scores

1	V Urban	CZE	960	+180	93m
2	M Kovalenko	UKR	960	+180	59m
3	A Krawiec	POL	960	+180	49m
4	S Stefanchuk	UKR	960	+180	0m

F1B-Junior 1 flew

1	M Lara	GER	166
---	--------	-----	-----

F1C 2 flew

1	S Johannes	GER	949
---	------------	-----	-----

F1Q 8 flew

1	A Pogonowski	POL	952
2	I Fodor	HUN	910
3	M Tietz	GER	803

F1Q-Junior 2 flew

1	W Bartel	POL	461
---	----------	-----	-----

HOGO CUP, Zabokreky, Slovakia, Sept 24

F1A 44 flew 13 full scores

1	D Fric	CZE	1020	+360	+356
2	R Lesko	CRO	1020	+360	+354
3	T Jeziorny (J)	POL	1020	+350	
4	J Jeziorny	POL	1020	+260	
4	T Weimer	GER	1020	+260	

F1A-Junior 8 flew

1	T Jeziorny	POL	1020	+350
2	J Zajic	CZE	1020	+205
3	P Klobusicky	SVK	1020	+179

F1B 21 flew 10 full scores

1	A Starov	UKR	1020	+370
2	D Cimochoowski	POL	1020	+337
3	M Kovalenko	UKR	1020	+335

F1B-Junior 2 flew

1	V Vackermann	EST	804
---	--------------	-----	-----

F1C 5 flew

1	B Bauer	HUN	1020
2	D Jermol	CRO	1004

F1Q 9 flew 4 full scores

1	M Varadi	HUN	1020	+120	+125
2	I Fodor	HUN	1020	+120	+113
3	A Buzas	HUN	1020	+120	
4	C Andras (J)	HUN	1020	+25	

F1Q-Junior 3 flew

1	C Andras	HUN	1020	+25
2	K Pogonowski	POL	763	

ZABOKREKY CUP, Zabokreky, Slovakia, Sep 25**F1A 42 flew 12 full scores**

1	J Vosejpka	CZE	1020	+467
2	J Danier	CAN	1020	+426
3	B Bagari	SLO	1020	+409

F1A-Junior 8 flew

1	L Halasz-Szabo	HUN	1020
2	T Jeziorny	POL	1004

F1B 20 flew 6 full scores

1	O Kulakovsky	UKR	1020	+424
2	E Dag	NOR	1020	+365
3	V Urban	CZE	1020	+360

F1B-Junior 2 flew

1	V Vackermann	EST	992
---	--------------	-----	-----

F1C 3 flew

1	B Bauer	HUN	1020
---	---------	-----	------

F1Q 7 flew 3 full scores

1	I Fodor	HUN	1020	+360
2	M Varadi	HUN	1020	+354
3	F Badylak	POL	1020	+305

F1Q-Junior 1 flew

1	K Pogonowski	POL	774
---	--------------	-----	-----

VOL LIBRE RHÔNES-ALPES, ARZAY - BOSSIEU, FRANCE, SEPT 24-25**F1A 15 flew 8 full scores**

1	E Ragot	FRA	720	+240	56m
2	A Van Wallene	NED	720	+240	49m
3	M Van Dijk	NED	720	+240	31m
3	J Laureau	FRA	720	+240	31m
5	C Ragot (J)	FRA	720	+240	8m
6	L Jensen	DEN	720	+232	7m

F1A-Junior 4 flew

1	C Ragot	FRA	720	+240	8m
2	M Ragot	FRA	692		

F1B 13 flew 7 full scores

1	M Rigault	FRA	1020	+360	+600
2	J Bodin	FRA	1020	+360	+592
3	D Barberis	FRA	1020	+360	+496
4	R Nouvian	FRA	1020	+360	+433

F1B-Junior 1 flew

1	E Rigault	FRA	986
---	-----------	-----	-----

F1C 1 flew

1	M Reverault	FRA	1020
---	-------------	-----	------

F1Q 2 flew 1 full scores

1	D Barberis	FRA	600
---	------------	-----	-----

ANATOLIAN CUP, ANKARA-GOLBASI, TURKEY, SEPT 30-OCT 2**F1A 11 flew**

1	O Gurer	TUR	1380
2	I Keskin	TUR	1355
3	Y Olgun	TUR	1335

F1B 7 flew

1	O Askin	TUR	1307
2	M Gurer	TUR	1244
3	M Yildiz	TUR	1243

MACEDONIA CUP, PRILEP, NORTH MACEDONIA, OCTOBER 1-2**F1A 21 flew 4 full scores**

1	A Pesic	SRB	1020	+480	+420
2	M Mandichev	BUL	1020	+480	
3	N Batocanin	SRB	1020	+437	

F1A-Junior 5 flew

1	V Peykova	BUL	1006
2	L Najdoski	MKD	981

F1B 8 flew 3 full scores

1	B Gostojic	SRB	1020	+480
2	K Masin	MKD	1020	+312
3	V Veselinovic (J)	SRB	1020	+296

F1B-Junior 3 flew

1	V Veselinovic	SRB	1020	+296
---	---------------	-----	------	------

F1C 2 flew

1	K Stojanovski	MKD	281
---	---------------	-----	-----

F1Q 1 flew

1	G Petrov	BUL	458
---	----------	-----	-----

F1PJ 1 flew

1	B Dochev	BUL	273
---	----------	-----	-----

TROFEO CITTÀ DI CAPANNORI, CAPANNORI, ITALY, OCTOBER 8-9**F1A 5 flew**

1	S Vassallo	ITA	1005
2	V Brussolo	ITA	974
3	M Gobbo	ITA	970

F1B 8 flew 4 full scores

1	A Gey	GER	1020	+360	+360
2	S Stefanchuk	UKR	1020	+360	+325
3	J Bodin	FRA	1020	+360	+236
4	S Tedeschi	FRA	1020	+360	+185

F1B-Junior 1 flew

1	J Pegonzi	ITA	1014
---	-----------	-----	------

F1C 6 flew 3 full scores

1	A Banci	ITA	1020	+420
2	F Gradi	ITA	1020	+223
3	G Venuti	ITA	1020	+134

F1Q 5 flew 3 full scores

1	F Gradi	ITA	1020	+360	+445
2	U Schaller	ITA	1020	+360	+433

KRKA CUP, ŠENTJERNEJ, SLOVENIA, OCTOBER 14-16

F1A 36 flew 15 full scores

1	S Beltram	SLO	1020	+480
2	M Hrast	SLO	1020	+463
3	D Sauter	GER	1020	+441
4	I Bombek	CRO	1020	+430
5	D Fric	CZE	1020	+426
6	L Halasz-Szabo(J)	HUN	1020	+383

F1A-Junior 8 flew

1	L Halasz-Szabo	HUN	1020	+383
2	M Habjanic	SLO	984	

F1B 13 flew

1	S Stefanchuk	UKR	1140	+245
2	B Bagari	SLO	1140	+199
3	T Vinko	CRO	1101	
4	I Yurtseven	TUR	1083	

F1B-Junior 1 flew

1	F Cabaravdic	BIH	846	
---	--------------	-----	-----	--

F1C 8 flew 4 full scores

1	C Wachtler	GER	1140	+480
2	G Briere	FRA	1140	+392
3	V Sychov	SLO	1140	+390

STONEHENGE & EQUINOX CUPS, SALISBURY PLAIN, SEPT 3-4

The results of the Stonehenge and Equinox Cups were given last month. Report by Peter Martin:

After a gap of 3 years enforced by Covid, the Stonehenge and Equinox Cups finally returned to Salisbury Plain in early September. Saturday began calm but misty, although this cleared enough for the 9am start and a 4 minute max in Round 1. The Southerly wind allowed flying from near the "airstrip" in a long direction (on both days). The max was held at 3 minutes for the rest of the day, despite rising wind once the mist cleared. There were no full houses in F1A, C or Q, with John Carter's glider score spoilt by a last round zero, giving the win to John Williams who only dropped 15 seconds. Henrikas Aukstakis, over from Ireland again and flying a Babenko model, won F1C by 1 second over Neil Allen. In F1Q, Ian Kaynes continued his run of contest form, taking the win by nearly 2 minutes over Pete Watson in 2nd place. The only flyoff was in F1B, but an unexpected DPR start from a loosely held model and the subsequent scramble with a reserve model, meant that Peter Martin made a low score, giving Peter Brown a comfortable Stonehenge Cup win.

The original forecast for Sunday was poor, with strong winds and a lot of rain expected, which strongly affected the turnout. However, despite a steady breeze, the day was perfectly flyable and there was just one, rather heavy, shower in the afternoon. Again, only F1B produced a flyoff, with C and A being won by father Alan and son Richard Jack respectively. Peter Brown again had a full house and this time faced Mark Benns to decide the Equinox contest in calmer conditions at the end of the day. Mark flew slightly earlier in unhelpful air, whereas Peter appeared to have some thermal assistance at times during his flight, taking the double win with a margin of over a minute and a half.

CROOKHAM GALA, SALISBURY PLAIN, SEPT 18

Chris Redrup: Conditions bright and sunny but chilly. Wind probably around 10 / 11 mph and gusting mostly from N veering NW. Flying from trimming field.

Combined Modern / Vintage Coupe 9 flew

1	A Brocklehurst	6.00	+2.45
2	R Ewing	6.00	+1.31
3	C Chapman	3.49	
4	D Jiricny	3.44	

All flew modern coupe of O/D. Two vintage coupes entered but no flights registered. Rick Ewing came from Seattle, Washington State! Visiting his daughter on London and had a day off to fly. Superbly built model.

Combined Power

1	C Redrup	7.30	+2.16
2	S Dixon	7.30	+1.57
3	D Cox	6.52	
4	P Watson	4.50	

All entries flew Dixielanders

E36 4 entries but only 2 flew

1	T Grey	6.00
2	R Fryer	2.23

Mini-Vintage

1	A Shepherd	6.00	+1.37	Le Timide
2	D Norwood	6.00	+1.23	Dyna-Moe
3	N Peppiatt	5.57		Pinochio
4	J Paton	4.51		Buckeridge

Nick managed to DT early on his last flight from a certain max & so missed the fly-off! Dyna-Moe flown by Dave Norwood (who came down from Prestatyn) is by Wally Simmonds of the USA.

Combined Glider

1	S Dixon	5.00	Lucifer
2	P Williams	4.10	O/D

2 other entries did not fly



The Combined Power flyers, all with Dixielanders

SOUTHERN COUPE LEAGUE

Ninth Round – Crookham Gala, Salisbury Plain, Sept 18

By Peter Hall

A good turnout but a disappointing day for most coupe flyers. Three flights were required and nine flew. Only nineteen flights out of the possible twenty seven were attempted and only seven of these were maxes. Two flew off and Alan Brocklehurst won the Crookham Coupe trophy. Only two entered vintage coupe but made no flights.

Why such a poor showing? We were on the 'trimming field' and the cool northwesterly delivered many flights straight into the jaws of Death Valley. The restless gusty air made thermal picking impossible for all but those with hypersensitive skin and Job's patience. Struggling up and down the steep sides of the Valley through the unmown hay on legs long past their best before date and after dropping your flight seemed less appealing than an extended lunch and chatting with friends.

Alan Brocklehurst reports -

With a 10-12mph wind from the North West (NNW later), it was never going to be easy as models were taken away from the 'trimming field' across the valley. It was clearly my lucky day, as I managed 3 maxes while most others dropped time, all except Rick Ewing, visiting from Seattle, USA, who also maxed out. (It was great to meet Rick again and it brought back memories of flying at Andy Crisp's event at Oxford in 2014 when Rick's carbon model did about 2 minutes in the fly-off, but unfortunately landed outside the field for a zero score, while Roy Vaughn did a similar time just within the boundary to win. On that occasion I came 3rd, after I failed to max in the last round. Rick remembered that the evening before, a cow had tried to eat the wing tip of my Coupe after I won the progressive Champaign fly-off - nice to reminisce, but I digress).

Three flights on Salisbury Plain in a brisk wind which sometimes took models towards the trees is enough for anyone and after a friendly discussion, we both opted to preserve our models in the fly-off by D/T'ing at 2:00 for a 'last-man down' and launched together on the count of one, two, three! Rick's model climbed well, but mine somehow found better air and D/T'd from greater height on the southern side of the valley, to land just short of the trees. Afterwards we retrieved together. Rick is a great sport and I'm sure he enjoyed the day. I look forward to flying against him again whenever he is able come over here in the future. The idea of launching together in a D/T fly-off adds to the excitement and makes it easy to compare the flights, especially on the undulating terrain of Salisbury Plain.

Rick Ewing in second place writes -

I was encouraged by the beautiful weather when I arrived. For the 1st flight I waited for a temperature rise followed by what I thought was "fill", and threw the plane up into a nice strong thermal. It took me longer than I expected to walk out and get the plane back. The weather report that I had seen indicated higher wind speeds later, so I got the 2nd flight off pretty soon after, and was lucky to put it in another big thermal. The wind had really picked up when I got back from that flight and I was worried that the afternoon might get too rough for me. So I quickly put up the last flight, after waiting thru a clear lull, launching into the gust that followed. The plane went down wind in a hurry, but also up and I fortunately had found another big thermal. Although it actually calmed down some after that, Alan Brocklehurst and I agreed that a fly off with DT timed to the ground seemed like a civilised way to conclude. As Alan and I got ready to launch together, I attempted to latch my prop blade hold open springs and found that one wouldn't engage.

So I bent it to what looked about right and got it to hold open for my instant prop start to function. But my nice climb was followed by an awful glide. After retrieving the model I found that the hold open spring had not disengaged, so I think that spoiled the glide, and I feel lucky that it didn't spin in and get damaged. I had a great day, except I wish I had taken more time to meet and speak with more of the other flyers.

Chris Chapman, third place, comments -

The Crookham Gala as always was well run and very sociable. The fresh breeze from the north created tricky low-level turbulence over the hilly terrain. My three flights all struggled to climb above the rough air. I was surprised to finish in third place. I must say that Alan and Rick coped extremely well and are to be congratulated.

Dusan Jiricny, fourth, tells us -

This time the weather was quite unpredictable. Very strong gusts made even the preparations difficult. I wasn't cautious enough and a sudden gust threw my model on the winding stooge. So I had to fix the model even before first flight. I managed it and maxed. I dropped 16 secs in the second flight. However model landed quite hard. Not having a second one and not being able to fix it on the field left me with single choice - to enjoy the rest of the day with my family in Salisbury.

Ray Elliot in fifth place regrets -

The only positive comment I can make about my performance is that at least I made all three flights (I had to get my tenners' worth). All three flights were made in what felt like reasonable air but the model never got to a decent height. I think the main reason for this was that through a combination of foolishness and laziness I hadn't made up new motors. Using previously wound (thrashed?!) motors clearly didn't help. So the moral must be to only use new motors for contest flights. But we all know that, don't we!

Ben Hobbs in sixth place laments -

Not a good day for me (but most enjoyable). Best not write about it!

Martin Staggs, seventh, admits -

I can't say much about the Crookham gala. As usual I was a bit late. Joined Alan Brocklehurst who was preparing for his first max in coupe. It was quite windy and a bit chilly so my models stayed in their box (wimp). The format was three flights in coupe which was sensible given the conditions and ageing legs.

The Dixielander comp attracted a good entry, the climb of some of these models would have surprised even George Fuller. Very impressive.

Alan, meanwhile had maxed out along with an American visitor (whose name escapes me) and it was agreed that a 2:00min D/T fly off would decide. In the event the American gent's very 'state of the art' model was down in less than two minutes leaving Alan's 2:45 odd a worthy winner. Chris Chapman had been plugging away and was pleasantly surprised to come third (see attached photo)

At the All in all even though my unsuccessful season continued it was good to be out, being part of B & W's achievements and enjoying the company of all my aeromodelling mates.

Ken Taylor, eighth place tells us -

His first and only flight was launched some distance back from the valley edge and flew out of sight in just over a minute behind

the bushes and parked cars. The length of the retrieve showed that he would have maxed. Launching closer to the valley would have avoided the problem but placed his coupe in the rollover.

Peter Hall, ninth, complains -

I was careless and impatient. Usually I get a sense of the air before flying, but not this time. The gustlets were short and rapid apparently without pause so I didn't wait long and chucked into a downer of course. A shallow climb then a fast descent out of sight into the valley for fifty five seconds - that's about the length of the motor run. The wind above ground level was carrying models further than expected. I did not intend to stay for a fly - off, only for the satisfaction of maxing out, now denied. I consoled myself with lunch - mature stilton with caramelised onion pickle on toasted ciabatta again, with half a pint of coke followed with chocolate digestives. Why not?

Only one round in the league to go for this year, Coupe Europa on Salisbury Plain, Sunday October 9th. Gavin Manion who was in the lead, missed Crookham suffering a back problem and has now been Covidised !! Alan Brocklehurst, last year's winner, will keep the league cup unless he stays in bed and Gavin wins Europa. Don't bet on it.



Alan B. and Richard Ewing before fly off



October FFn correction re Coup profile

Alan Brocklehurst: Just to let you know that the photo of the Coupe at the end of Chris Chapman's article in F2210 and New Clarion, is in fact my (C-04) model and not Chris'. I suppose the egg-box structure (which I copied from one of Chris' earlier models) caused the confusion.

Crookham Gala League scores

1	A Brocklehurst	12	7	M Stagg	4
2	R Ewing	9	8	K Taylor	3
3	C Chapman	8	9	P Hall	2
4	D Jiricny	7	10	W Butler	1
5	R Elliott	6	11	J Paton	0
6	B Hobbs	5			

Coupe Europa League scores

1	D Jiricny	12
2	A Brocklehurst	9

Final Southern League 2022

		Brum	Area2	London	Nats	Area5	Odiham	Southern	Crookham	Europa	TOTAL
1	A Brocklehurst	Bristol&West	8	8		7	12	7	12	9	56
2	D Jiricny	Birmingham	6	2	4	7		9	7	12	45
3	G Manion	Birmingham		12	12	3	8	8			43
4	C Chapman	Bristol&West		5	6			12	8		37
5	R Vaughn	Crookham		5	9		5	8			27
6	B Hobbs	Oxford					3	6	3	5	25
7	D Thomson	Croydon		7	1	4	4	7			23
8	R Fryer	Oxford			5		9		6		20
8	I Davitt	Morley				8	12				20
10	B Dennis	Oxford	3		9	6					18
11	R Elliott	Croydon	2					9		6	17
12	A Crisp	Oxford	7		3				5		15
13	M Marshall	Impington	5		3	5					13
13	P Hall	Crookham					2	5	4	2	13
15	C Foster	Morley	12								12
15	S Willis	Croydon				12					12
17	P Woodhouse	Morley	4		7						11
18	C Redrup	Crookham	9		1						10
18	A Moorhouse	Vikings	1			9					10
20	R Ewing	USA								9	9



In 2012 Andrew published in Free Flight Quarterly what is still the definitive exposition of the functionless Coupe approach. He has provided me with a revised (slightly) version of this in answer to my questions below. I hope it will provoke comment.

I have always taken the functionful route. In 2015 I kept a record of my mistakes in competition coupe flying and it does I'm afraid, demonstrate his case. Out of eleven flights I had one prop. mis-fold, two hub failures, three flat throws and five V.I.T problems. I devised a 'No Mistakes Policy' which led to some improvement. Unfortunately medical problems have prevented Andrew from flying in competition but he is still trimming.

1. Your article 'The British Lightweight 1942 - 53' published in Free Flight Quarterly October 2006 did much, I am sure, to promote interest in the class - it certainly encouraged me. You have an outstanding record of publication and competition success in this class and in Coupe. Could you comment on this history and the dedication it demonstrates?
2. You favour locked down coupes and traditional materials - why?
3. How do you pick the air?
4. What is your current practice?

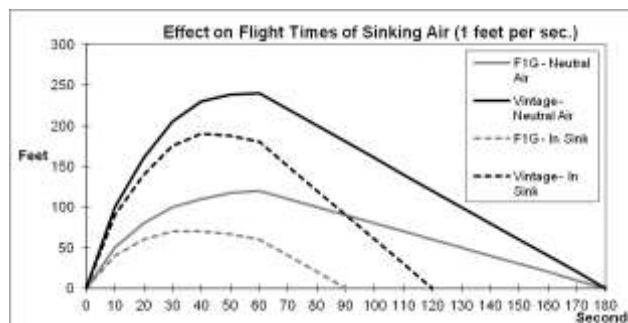
Flying Functionless F1Gs

This is my philosophy for functionless F1Gs. As I hope to persuade you, the low wing loading that characterises this class makes Coupe flying almost unique in free flight because glide and cruise speeds are very low and therefore sectional efficiency and the boundary layer have a particularly critical relationship.

Some years ago, I was timekeeping for Gerry Ferrer. It was windy and we were crouching near the ground waiting for a calm patch and Gerry said, "You know, Coupe is just an exercise in

air picking". You may think this is the case with all classes of free flight but you would not be theoretically correct. The more ballistic the flight path, the less it will be affected by vertical air movements and it follows that Coupes, being the antithesis of ballistic, are most affected.

To prove the point let us compare a typical Coupe and a typical vintage model such as the Senator. All have, shall we say, a motor run of one minute and a still air glide of two minutes. However, the Coupe has a better glide by far and sinks at one foot per second compared with two f.p.s. for the vintage model. It follows that the vintage model must climb twice as fast to attain twice the altitude. What we do know is that both models can and do produce similar times to the ground. This is diagrammatically shown by the two continuous lines in Fig 1.



Now let's introduce a downward air movement of one f.p.s. and we find that the vintage model has still secured the two-minute max but the poor old Coupe has not (Fig.1 dotted lines). If that seems to deny logic, it is easier to understand the opposite case. If the Coupe finds air rising at one f.p.s. it will never come down but the vintage model surely will.

What has this to do with functionless Coupe trimming you may ask? To find out you have to follow my argument which begins with the following premise: It is more important for Coupes to find neutral air or better than most other classes of free flight because the chance of dropping a flight is much higher. If you fly Coupe, you will know this is true.

So how would that fact modify your behaviour? As in many other classes you have two ways to go. But in this case if you make the wrong choice the stakes are higher. The first option is to take risks and climb as high as is possible. The second way is to have absolute reliability and maybe climb less high. From the first paragraphs you will see that however high-tech your model you cannot escape the air picking bit, so it follows that if your flying machine is a Coupe, reliability is paramount.

Systems equipped models come with more risks than the most obvious. The late Pete King won't mind me mentioning that he once connected the D/T line to one of the other functions and was down in 30 seconds. That's an obvious risk but there are others. Having a model which is inherently unstable at some parts of the flight envelope is another. Systems are heavy, particularly wing wigglers. Ending up with an overweight model costs climb height. It's just physics but is often forgotten.

I made a VIT coupe once and lost it with an 8 minute OOS flyoff. As luck would have it, I completely messed up the launch and the plane spent the first five seconds flying very fast parallel to the ground. Of course, it was the superb glide in gentle lift that in the end rescued the flight. From that day on I bothered no more with VITs as launch angle turned out to be an unexpected risk in using it. So, if you like technology, my advice would be to concentrate on your portable weather station and understand what it is telling you. I don't bother with one but that is only

because I always seem to be a bit too busy. I suppose a lifetime obsession with toy planes helps sense what the air is doing.

So, you are now in complete agreement that reliability is a necessity and a systemless model is more likely to achieve that goal. No? Well don't discourage me right now because I am ploughing on regardless. To do without systems I think you would not dispute that you need to keep the prop turning for quite a long time because short motor runs are yet another risk. Fifty to seventy second run is good. The reason is that Coupes fly very slowly in the second part of the climb and can often stall or semi-stall. This I believe is much to do with variation in the shape of upper surface separation owing to the low RN. Someone once described low speed aerodynamics as like flying through treacle. It's sticky stuff and great lumps are sticking to the top of the wing, then breaking away and/or dissipating. The plane is in a wrestling match where the pitching moments are varying. To hold the plane at the correct attitude, it is advisable to have large stabilising forces in terms of dihedral, CG position and tail volume. The late Anselmo Zeri advised me never to stint on tail volume as there is no point in doing so with the FIG rules as they are. You can't deny the truth of that, but you see a lot of Coupe flyers with models that ape F1Bs complete with tiny stabs.

Some years ago at the Coupe Europa, I befriended this French chap who parked alongside. He had a magnificent Coupe with a long fuselage and a tiny all-balsa tailplane avec dihedral. He was giving me the *raison d'être* about it in Franglais but I was secretly sceptical. It was windy and I had a battered old SoCoupe, with of all things, a triangular fuselage. It looked pathetic compared with his machine but the old SoCoupe kept struggling for height all through the day and the French threat swooped up and down, well, mainly down. When I collected the pot, I caught sight of him at the back of the hall looking rather quizzical.

The advocates of system equipped models will recognise that the great advantage in varying incidence is to reduce drag at high power and it certainly gives an impressive initial climb. Inevitably the motor run is short because this is the best way to exploit the acceleration that low incidence provides. Sometimes I have seen runs less than 30 seconds. This leaves the poor Coupe with a long glide to make the max. I can't help feeling sorry for the little darlings – the models that is. Even without incidence reduction you can still get an impressively steep initial climb through patient trimming. By trimming I mean not just a turn of a screw or a bit of packing, you may require alternative props and stabs. Wings even.

So, the trimming tools at your disposal are:

- Right/left and right/right trim.
- Prop diameter related to wing area and aspect ratio
- Left rolling differential wing warp
- Tail size and section
- Right thrust
- Rudder
- CG position

I will now take things in the order I would follow when out in the park with a nice new model.

Trimming for the Glide

Before doing anything, I like to be sure that the wing is working. Some wings work better than others for reasons to do with the formation, separation and fluctuation of the boundary layer. Hand building must be where the variations in shape or texture occur. I don't know whether the use of a moulded D box entirely resolves this problem but I have heard tales suggesting that it may not. Anyway, in my experience you have to identify bad

wings quickly and burn them otherwise they waste an enormous amount of time. I always hand glide a lot with a stopwatch to see I am getting 6 seconds or so. If I am in doubt, I will swap a wing to check it out. If a stick and tissue wing does not work you can play with turbulators but I prefer to give it a Viking funeral because although you can improve it, you can never cure it. Of course, if you have a D box wing you will probably know if it requires turbulating strips. Incidentally, I have tried a balsa D box with a single 1/32 down step in the top of the section - it didn't work.

My models glided noticeably slower than most other Coupes. My timekeepers were always remarking on it. This either due to the fact that I would never fly more than 2 grams over the weight limit or it may be to do with being able to operate nearer the stall. To explain why this might be so, I now role out a concept first aired to me by Sean O'Connor, that is, you have the standard two dimensional "wing section" but also a three dimensional concept where the section and its surface treatment become the whole machine. A wing with thread turbulators shows consideration of 3D requirements but it looks like a compromise based on a love affair with the section itself and a dismissal of the importance of surface texture. I would argue that a system of surface lumps and bumps is proper 3D because the section is constantly changing spanwise. What is the point of that? Well, this is what birds do. In birds you see 3D turbs everywhere. If you can get on top of a cliff and look down on gulls slope soaring below you can see it in action. The small front feathers (lesser and median coverts Fig 2) are constantly being lifted up and down by local fluctuations in pressure. They don't all lift up together in a straight line except possibly when deliberately stalling to land. At lesser angles they lift seemingly at random but in fact precisely as needed to energise the boundary layer. They are the most sophisticated automatic 3D turbulators imaginable. In Fig 3 we see some old Stork deliberately stalling her wing to land. Her Coverts are lifting to both delay the stall and act as a stall warning. In Fig 4 we see a gull just hanging at the stall. The low pressure caused by the inverse dihedral break is demonstrated by the uplifting of the feathers in that area. When soaring birds need to fly near the stall, as we are trying to do, they operate this device constantly.

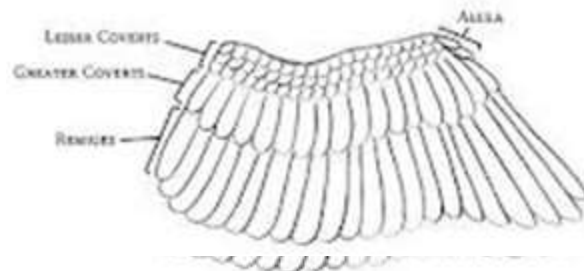


Fig.2



Fig.3



Fig.4

In my opinion, the surface of the wing is much more important than the section itself. If you look at the FFQ Coupe Review you can see that this is true because there is so much variation in sections used by successful models. Yet you are reading this without wholly believing it. The truth is that we adore our wing sections. They may be science but they are definitely art as well. There is a grace and femininity about the shape that subliminally captivates us. For Coupe (note) I believe that the only important things as far as the section is concerned are the thickness and nose radius. Even the camber is (within limits) irrelevant to performance although it may affect the ratio of importance between climb and glide. Therefore, playing with Profilli and X Foil is not for me because they pretend to know what we just don't know.



Fig.5

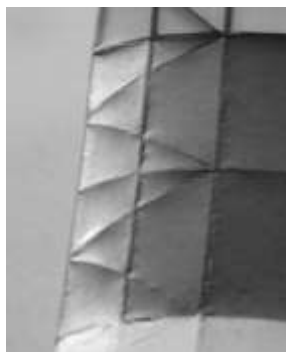


Fig.6

In figs 5 and 6, I have snapped a couple of *Couper S* wings under oblique light to show the effect the diagonal truss construction and tissue sag. Compare this with the wader and hawk wings in figs 7 and 8. I think the sophistication in the feathered surface is self evident compared with anything we can do. But I like to think that we can make the connection that smooth surfaces are wrong for gliding and cruising.

Trimming for Low Power

Whether a lumpy bumpy wing is of any use at the start of the motor run is unlikely, probably the reverse, because the attack angle is much lower. Another reason to use a longer motor run perhaps? But before we get there we have to trim for low power. Here we are looking for a steady and very stable climb all the way to the end of the run with a smooth transition to the glide. Once the first five seconds are over, the model is basically a powered glider flying slowly, often slower than when gliding. The point where the first burst expires is a danger area. To help it, all you can do is provide attitude control for the wing via tail volume. In this respect I have never been able to get a reliable coupe with a CG further back than 60% chord no matter how big

the stab. Further back than that and they will suffer the occasional prolonged dive when disturbed. If you are using a lifting tail section you can appreciate that you may be exacerbating this tendency. I soon moved to symmetrical sections for Coupe tailplanes so that says something although possibly limited to my own layouts.

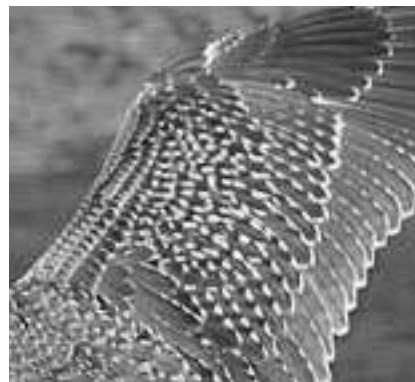


Fig.7

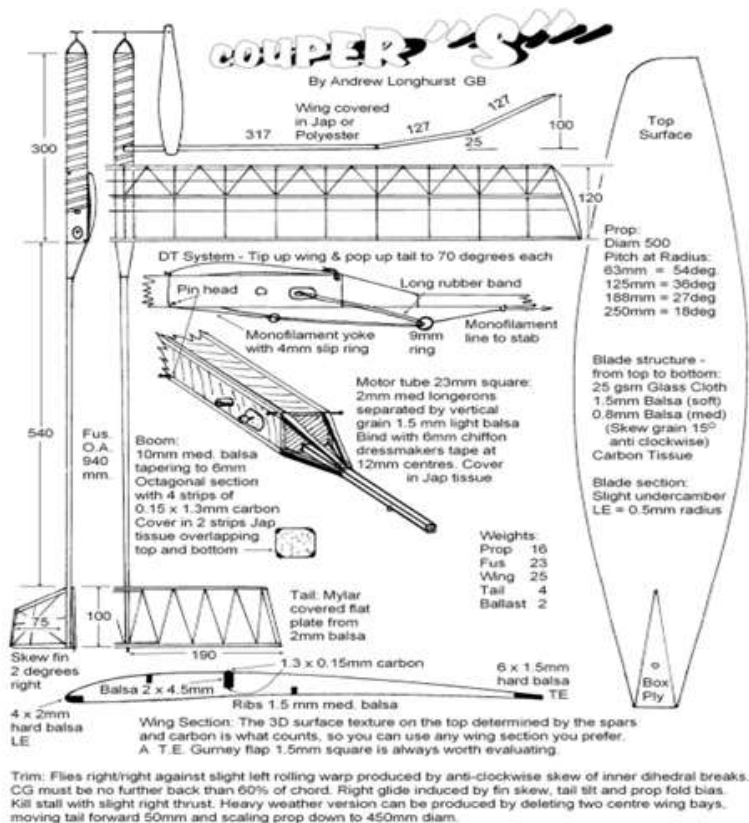


Fig.8

Lastly, do you induce turn by right thrust or right rudder? There is also the position of the folded prop blades. I have found that a little right skew on the fin coupled with a little right bias from the folded blades are all you need to get the model to glide right. Consequently, I tended to use hardly any right thrust. There is a theory that right thrust is better than right rudder because were the speed to drop off and the model be in danger of a stall, prop power will be pulling it the right way. Unfortunately, the prop will probably also stall at this point owing to the rise in wing drag. I have never got on with this concept which probably forces the use of right/left trim or auto rudder to make it work. Of the two I have only used right/left trim with a slightly shorter motor run and it has worked well. Unfortunately, trimming in a small field, the prolonged straight bit of flight before the glide turn sets in can be an embarrassment. Not with radio DT though – but that's an extra 2 grams over a Tomy.

Props

I always used Pete King designed props as he was dead clever and props are insanely complicated. His Linda prop was as good or better than anything else I tried. Coupe blades also operate at low RN so I keep the top surface textured with coarse glass cloth. For 200 to 220 sq.ins wings I use either an 18ins prop on 10 strands of 1/8 or a 20ins. prop on 12 strands. I found the smaller prop to be a little more conservative and better for windy weather. I do not subscribe to the view that shorter runs are better when it is windy. If the wind is coupled with turbulence, often from trees, you get no second chance if it power stalls half way up. With a longer run it can stall, recover and still have enough gasp to max if the air you chose is half decent. My self-crafted Montreal stops are 34 times more likely to go wrong than my spring stops so that's what I used. This introduces a possible problem with the prop fold fouling the wing. I therefore used wire blade mounts of a suitable length to prevent this happening.



CENTURY OF BRITISH FREE FLIGHT

Some readers who bought copies of A Century of British Free Flight from the first print run may have noticed that on three pages (77, 90 and 102) there are frames and captions but no photos to go with them. If you drop an e-mail to martindilly20@gmail.com I can send you files to replace those three pages. It seems to have resulted from a quirk of MS Publisher whereby changing an item on one page strips random images from some others.

Copies of the book, complete with all photos, are still available from that e-mail address at £22 for the UK, £25 to the rest of Europe and £28 to everywhere else.

UK COMPETITION NEWS

Details of the competition at BMFA Buckminster on November 6 or 13. Events are:

Classic A1 (for the CA1 Trophy),
BMFA Classic Glider on 50m. towline,
Combined P30 + Pre- 1970 Coupe d'hiver
E36 (5 sec. run all flights unless very calm)
Combined CLG/ HLG
Mini Vintage

All maxes TBA on the day but won't exceed 2.00. Minor departures from BMFA rulebook may be required due to the exceptional site but the objective will be to run a 'normal' FF duration contest.. 10am start 3.30 finish. CD: Stuart Darmon stuardarmonfla@yahoo.com 01858 882057

Notification will be put on the FFTC website 48 hrs before start of contest to confirm if it is on or not. The fallback date will be used if need be.

FFN SUBSCRIPTION FORM

The FFN subscription renewal form is printed overleaf. In connection with this form, the following is a list of all those readers whose subscriptions expire later than December 2022, including payments received by October 26. The expiry date is given as year (last 2 digits) + month (eg 2306 is June 2023). Subscriptions that expire during 2023 can be extended to the end of 2023 by payment of a pro-rata fraction of the rate for the full year, with the possible addition of a full year subscription to continue to the end of 2024 if you prefer. Alternatively, you may pay the standard annual subscription to cover 12 issues from your current expiry month.

If at any time you choose to change from paper to an E-subscription then please send your email address to info@freeflightnews.org.uk and then your current subscription expiry date will be extended to correspond to the lower cost of the electronic subscription.

Paper edition							
2406	D Dolzinski	2312	P Chapman	2409	T Juell	2512	C Redrup
2312	A J Moorhouse	2308	B Cleasby	2404	A Klemetsen	2412	J Richardson
2312	R Peers	2312	M Cook	2308	A Klunghaug	2308	P Rovensky
2301	I Taylor	2312	S Darmon	2312	J Korsgaard	2309	S Rump
2506	O Torgersen	2312	I Davitt	2404	M Kusterle	2312	U Schaller
2304	C P Williams	2312	A Dean	2307	D Larsen	2401	A Schlosberg
2312	J R Williams	2312	R Elliott	2404	B Lumb	2303	C Schwartzbach
2306	G Woebbecking	2302	C Etherington	2310	R Mackus	2412	C Sharman
Electronic edition							
2312	T Andre	2310	T Fairlie	2312	MarcusCroome	2312	T Shepherd
2308	J Andrews	2312	J Fitch	2312	R Marking	2308	B Sifleet
2312	D Barberis	2303	P Fynn	2302	B McGarvey	2504	D Smith
2404	G Batiuk	2312	W Ghio	2408	S Milan	2307	G Smith
2403	M Bennis	2505	C Gianni	2404	V Morgan	2312	M Stagg
2305	W Booth	2310	D Ginns	2312	C Morton	2307	J Stout
2302	C Breeman	2410	V Greimel	2312	R Nouvian	2312	D Taylor
2307	S Brewer	2306	D Hambley	2303	D Oldfield	2503	P Tribe
2303	P Brocks	2302	M Harper	2312	T Oxager	2402	P Uden
2404	P Brown	2306	B Hobbs	2307	C Parry	2312	P Watson
2312	P Buchwald	2405	J Hutchinson	2403	J Partington	2303	A Winker
2312	G Bunney	2402	T Ioerger	2312	T Payne	2302	M Woodhouse
2408	B Butler	2303	A Jack	2604	M Pettigrew	2304	M Woolner

FREE FLIGHT NEWS SUBSCRIPTION RENEWAL FORM 2023

If you wish to renew your subscription for 2023, please complete the form below IN BLOCK CAPITALS and send it, with your remittance, to:

FREE FLIGHT NEWS
7 Ashley Road
FARNBOROUGH
Hants GU14 7EZ
England

or submit payment with Paypal at <https://www.freeflightnews.org.uk/ffnbuy.htm>

The current subscription costs for a renewal for 1 or 2 years are:

		UK	EUROPE	WORLDWIDE AIRMAIL (outside Europe)
2023	12 issues:	£21.00	£25.00	£32.00
2023+2024	24 issues:	£40.00	£47.00	£59.00

E-subscription £10.00 for 12 issues by email, £18.00 for 24 issues by email. Pay by Paypal or send form below

Payment may be made by cheque payable to FREE FLIGHT NEWS or by direct credit to the FREE FLIGHT NEWS account at Lloyds TSB bank:- IBAN: GB45 LOYD 3090 0901 781588, BIC LOYDGB21199... All subscriptions expire with the December 2022 issue except those listed overleaf. Direct payment by \$ checks from USA can no longer be accepted.

FFn back numbers are available at the cost of 70p each or at special prices for sets of issues. The annual sets of back numbers cost £2 per year for the 12 issues of the years 1989 to 2017. Back number prices include UK or Europe post. For countries outside Europe, please add £3 per set for delivery. Back numbers for all years from 2005 are available for free download from <https://www.freeflightnews.org.uk/home.htm>

NFFS Symposium Reports are available through FFn and you may order while renewing your subscription.

Sympo	2003	2016	2021	2022
UK	£5	£10	£20	£41
Europe	£8	£13	£23.50	£44.50
Worldwide	£14	£19	£30	£53

Please send 12 / 24 * issues of Free Flight News **BY EMAIL** commencing with the January 2023 issue to :

EMAIL address:

OR

Please send 12 / 24 * **PAPER** issues of Free Flight News commencing with the January 2023 issue to :

NAME

.....

ADDRESS

.....

.....

.....

* Delete as appropriate

Please also supply back numbers or books as follows:

I enclose a / cheque / have sent a bank payment / * to the value of payable to FREE FLIGHT NEWS.

Date