

FREE FLIGHT SUPPLIES - MAIL ORDER CATALOGUE AND PRICE LIST

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Free Flight Supplies continues to develop. The theory behind this operation is to supply items, which are needed by the free flight modeller, or any other modeller, that cannot be readily obtained through the normal model shop outlets. I also believe in the builder of the model principal so what you will find, on my list, are components, plans materials etc: rather than the ARTF stuff. I supply the goods by mail order in the main. I have built this little operation alongside my flying activities and many of the items listed are used or have been developed and tested by myself. Although I am not a shop but if you are passing through Norwich you are welcome to call in, a quick telephone call first to check that I'm at home will save a wasted diversion.

You can also find me at major free flight events - look out for the red and yellow "Free Flight Supplies" flag. As well as the UK events I also attend a few of the major overseas free flight events. I take a selection of my range of items with me to all events so give me a look and make a purchase. The range is now so vast it is not possible to bring everything so, to avoid disappointment please give me a call. Special deliveries can be made at events, let me know your specific requirements so that I can arrange, if you order this way please remember to turn up and collect.

I am always trying to extend the range of items sold, so suggestions for additions please? Presently I'm trying to deepen rather than widen the range rather than widen into new lines. If you know where I can obtain suitable items, or have something that I could distribute, please advise. Keep in touch for additions and changes to the list (the list is usually updated each quarter). An A5 (minimum size) SAE plus post £1.00 will bring a new list. If you are able visit the web site as it is regularly updated with the latest information. I try to keep the range of items stocked consistent. However, the specialised nature means that sizes and specifications may be subject to unforeseen changes. If there are any improvements to the products that you consider useful please let me know and I will look into the possibilities. As time permits this list and the web site will be developed to provide additional useful data. The weights or measurements that are quoted are a mixture of metric, Imperial etc. dependent upon the source of supply – the supply measurements will be used, derived dimensions will be in parenthesis (). Remember if I have it then I list it! and vice versa! If I'm out of stock of an item I will advise accordingly amend the charge and supply as appropriate. As and when stocks are replenished I will advise.

Over the past few years due to stable economic conditions I have been able to hold my prices steady with only the odd adjustment. However the recent problems within the Global economy is having an effect on all of our lives. Free Flight Supplies is not immune to these problems. The fall in the value of the pound sterling against most major currencies is having an effect on the price that I am now paying for some of my stock. This means that I will have to increase prices as and when stock is replaced. This will not impact on those of you on the right side of the currency equation, the biggest impact will be for my domestic (UK) customers. Please be aware in these times I may have to make instant changes. So do check the prices before ordering. Come what may Free Flight Supplies will continue to operate!

I receive many queries. I try to answer everybody. However, please enclose an SAE or reply coupon, give me a call/fax, or send me an e-mail. Feel free to copy and pass on this list - spread the word, it all helps!

To assist ordering, the list is sorted into generic types or class to which they are applicable i.e. covering material or glider, where possible I try to put in cross references. As it is impossible to pigeonhole some items, you are still advised to browse the whole list! Although I try hard not to make mistakes on these pages there are errors that slip through from time to time. If you spot one I would be most grateful if you would point it out.

If you are browsing for a friend, thinking of a gift for a relative, or a prize for an event Free Flight Supplies is more than happy to provide you with a voucher to be cashed by the bearer for any of the products on the list.

I'm trying to make my contribution to saving the planet so I will send stuff in reused packaging materials, tubes and envelopes whenever possible. Remember to let me have tubes, jiffy bags, boxes and glass jars back for reuse OK? Thanks.

ORDERS

Place your order by telephone, letter or fax. Internet orders or e-mail see Free Flight supplies web site. I have an answer-phone so please leave a message if we are not there.

To assist the processing and supply of goods, please write clearly or type your name and complete address on the top of your order. Please add your telephone number in case I need to query your order. I will add this information to my file of customer details, this list is held for Free Flight Supplies use only. PLEASE RE-READ BEFORE PLACING YOUR ORDER. USE FAX OR E-MAIL FOR YOUR QUERIES/ QUESTIONS BEFORE FINALISING YOUR ORDER.

PAYMENT METHODS - PLEASE NOTE PAYMENT WITH ORDER

CASH (GBP £'s, US \$ & EUROS ONLY), CHEQUE, POSTAL ORDER OR BANK DRAFT WITH ORDER – PAYABLE TO FREE FLIGHT SUPPLIES. DUE TO EXCESSIVE COST CASH ON DELIVERY (COD) TERMS ARE NOT AVAILABLE.

An overseas draft or cheque should be drawn on a U.K. Bank. A cheque or draft drawn in your home bank or currency must include an additional sum to cover U.K. Bank charges allow £15.00 per cheque.

DIRECT TO FREE FLIGHT SUPPLIES BANK ACCOUNT

Payment can be made direct to Free Flight Supplies Bank account please request details. Remember to cover the cost of the UK bank charges

CREDIT/DEBIT CARD

Free Flight Supplies accepts card payments. The following cards are acceptable: - VISA/MASTERCARD/MAESTRO, VISA DEBIT & VISA ELECTRON, SWITCH, SOLO & JCB. Please advise: - Card type - number - expiry date - issue date – security number – issue number if appropriate. Orders placed by 'phone please have all the details of your order and card to hand. Card orders under (excluding postal charges) £10.00 will be subject to a surcharge of £1.00.

WESTERN UNION

Where payment by standard methods is difficult you can, if you wish, pay using the facilities of the Western Union agencies. Make the payment to your local office and simply advise me the payment number.

PAYPAL

Payment can be made to mike@freeflightsupplies.co.uk. Please advise when the payment is made. PAYPAL orders under (excluding postal charges) £10.00 will be subject to a surcharge of £1.00.

POSTAL – ARRANGEMENTS

All mail order items are sent via the national postal authorities. The authorities place various conditions on goods handled. The size, particularly the length, is restricted to, in the main, 90cm. FFS products are tailored to suit; this restriction precludes the sales of longer lengths of the thicker grades of carbon sheet. However some of the thinner grades of carbon can avoid the additional postal charge by being send rolled. If products arrive damaged or you believe they may be lost in transit please advise immediately. I try to re-cycle packaging whenever possible so mailing tubes, jiffy bags, boxes and glass jars etc are always welcome ask for a refill!

POSTAL CHARGES	UK	EUROPE	US & REST OF WORLD
Price lists	£1.00	£1.50	£2.00
Rolled Esaki tissue	Add 1.00GBP	Add 1.00GBP	Add 1.00GBP
Orders under 100.00GBP	Add 15% to order value	Add 15% to order value	Add 20% to order value
Orders over 100.00GBP	Add 12.5% to order value	Add 12.5% to order value	Add 15% to order value
Minimum charge	£1.00	£2.00	£3.00
Packages over 90cm long postal premium charge	In addition to the above £4.00 to order	In addition to the above £15.00 to order	In addition to the above £15.00 to order

All orders are sent at the standard rate, this is air within Europe. Outside Europe orders are sent by **surface**. For airmail extra payment is required. **NOTE NEW ADDITIONAL CHARGE FOR LONG PARCELS**

TERMS AND CONDITIONS

In the event of price changes, or currency problems, I will adjust the quantities supplied to agree with the payment. Prices are in Pounds GBP, Sterling foreign currency conversion will be at the rate pertaining at the date of sale. As my operation is carried out on a part-time basis, and as many of the goods come from overseas and/or are “special”, there may be occasional delays in getting supplies to you. Please be patient. I try to send off orders by return of post. Also note goods may be sent in more than one package so don't panic, the rest should be in the next post! **But allow up to 28 days for delivery. PS I do go on holiday sometimes! Remember there is only me carrying out the work so please don't hassle after just a couple of days of no show!** Also remember recent changes in mail delivery don't help!

If you have a problem with any of the goods received, please advise and I will do my best to solve the problem. I cannot be responsible for goods ordered in error; refunds will be subject to a 10% handling charge and return postage. The minimum handling charge is 1.00.

REMEMBER PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE. SOME ITEMS WILL EFFECTED BY CHANGES IN EXCHANGE RATES. LOST/DAMAGED ITEMS ARE REPLACED WHEN AGREED BY THE POSTAL AUTHORITIES.

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CATALOGUE AND PRICE LIST

1. LIGHTWEIGHT COVERING MATERIALS

OS FILM

25 foot rolls of this lightest of films is now available for the covering of indoor models “2-gauge” or 0.5microns thick. £28.00 per roll plus post. It is not cheap but it is a very special product.

CONDENSER TISSUE

(7.8 gms per sq. metre) WHITE ONLY 500mm x 1000mm; £5.00 plus post.

POLYESTER TISSUE sold as “Polyspan” in the USA.

Very tough, takes little dope, use like tissue, or iron on film, shrink with heat not water, any creases will be removed with an iron when the model is covered. Sold from the roll of 1 metre width, folded. WHITE ONLY Lightweight (15 gms per sq. metre) - £2.50 per sq. metre, plus post.

Standard (25 gms per sq. metre) - £3.00 per sq. metre, plus post.

Reinforced heavyweight (35 gms per sq. metre) - £5.00 per sq. metre, plus post.

ESAKI TISSUE AND SILK

Quality tissue made in Japan by Esaki, a tissue developed by the original manufacturers in a range of colours and weights specifically for covering model aircraft. Cover shiny side inside, not critical but don't mix as a different sheen results from the two different surface finishes. There is very little grain but it runs down the longest measurement of the sheet. The Lite Flite is probably the best tissue to use over Mylar covering.

Lite Flite: 450mm (18”) x 600mm (24”) (12.5 gms per sq. metre)

Red/Yellow/Blue/Orange/Green/White/Black/Brown £0.60 per sheet Silver £2.00 per sheet

Chequered (12mm Squares) Red/White, Black/White, Black/Red, Black/Yellow, Blue/White. Yellow/White £1.50 per sheet

Medium Flite: 600mm (24”) x 900mm (36”) (14.0 gms per sq. metre)

Blue/White £1.20 per sheet

Super Flite: 600mm (24”) x 900mm (36”) (21.5 gms per sq. metre)

Red/Yellow/Orange/Green/White £1.20 per sheet

Silk: 900mm (36”) x 900mm (36”) (11 gms per sq. metre)

Red/Yellow/Lemon Yellow/Blue/Sky blue/Orange/White/Black/Green/Rose pink/Silver £13.00 per pack

Prices plus post (Prices are for tissue sent folded in an envelope, large orders or extra for packaging and post will ensure it is sent rolled, remember that the cost of post and packaging can cost more than the tissue! If sent folded and it arrives creased, iron with warm household iron and leave flat overnight then use and it will be o.k.) You can send a tube with your order if you wish.

COLOURED HEAVYWEIGHT MIKALENTA TISSUE

Tough, grainy Japanese type paper. Not for use over Mylar.

Colours: Green.

Size: 780 mm (31”) x 1000 mm (39”), (26 grams per square metre).

Price: 80p per sheet sent folded.

WHITE MIKALENTA TISSUE

Traditional Japanese tissue. Sold from the roll of 1 metre width - £2.50 per sq. metre, plus post.

DOPE PLASTICISER

Tricresyl Phosphate (TCP). Add to clear dope to help guard against warps. A few drops per fluid ounce will do the trick. 30 mls £2.00 plus post. **NOT AVAILABLE FOR OVERSEAS THROUGH THE POST. Return your empty bottle for a credit.**

DOPE SOLVENT/TISSUE REMOVER

Just paint on to soften dope then simply peel off tissue. 200 mls, £1.70 **NOT AVAILABLE THROUGH THE POST, ONLY ON THE FLYING FIELD.** Please return your empty bottles for recycling.

TRANSPARENT MYLAR FOIL

2 micron (0.002mm, 0.0000787”), (2.4 gms per sq. metre) 30 cm wide, 5 metre lengths £2.50 plus post. Weatherproof glass/Kevlar covered sheet, fix to the surface with resin. Also for covering indoor models.

MYLAR COVERING MATERIAL

Use instead of tissue or under Esaki Lite Flite tissue. Clear or single side aluminised finish with no stripes.

5 micron (1/4 mil) clear (6.8 gms per sq. metre) 10 metres x .315 metres wide £5.00 plus post.

5 micron (1/4 mil) aluminised (6.8 gms per sq. metre) 7.5 metres x .315 metres wide £5.00 plus post.

10 micron (1/2 mil) clear	(13.6 gms per sq. metre)	10 metres x .315 metres wide	£5.00 plus post.
10 micron (1/2 mil) aluminised	(13.6 gms per sq. metre)	7.5 metres x .315 metres wide	£5.00 plus post.
15 micron (3/4 mil) clear	(20.4 gms per sq. metre)	7.5 metres x .315 metres wide	£5.00 plus post.
15 micron (3/4 mil) aluminised	(20.4 gms per sq. metre)	7.5 metres x .315 metres wide	£5.00 plus post.

5 micron (0.005mm, 0.0001968") recommended for wings up to F1B and tails of up to F1A size models
10 micron (0.010mm, 0.0003937") recommended for wings for F1B size and tails for F1C size models
15 micron (0.015mm, 0.0005905") recommended for wings of large gliders and power models

HEAT SEALING IRON

Teflon coated shoe, temperature adjustable use to attach Mylar, MICA FILM, AIRSPAN, LITESPAN, etc. £32.99, plus post.

SOLARFILM PRODUCTS

Airspan - (24-28 gms per sq. metre) very light, thin synthetic fibre tissue. Slightly porous so needs a light coat of dope to seal, this gives the rigidity and tension of a doped finish plus post the extra strength and toughness of synthetic fibres. Colours:- White, Yellow, Orange, Red, Blue, Black, Cream, Fluorescent Yellow, Fluorescent Pink

Litespan - (28-32 gms per sq. metre) very light, thin synthetic fibre tissue. Has been factory "doped" with a totally fuelproof resin. Colours - Tissue colours - Yellow, Orange, Red, Blue. Scale colours - Cream, Black, White, Silver, Dark Green (a Military shade).

Sizes - sheets 36" x 20" (910 mm x 500 mm) £3.10 per sheet, plus post.
- sheets 72" x 20" (1820 mm x 500 mm folded) £5.35 per sheet, plus post.

Balsaloc - 110 gm jar - £4.10 plus post. Water based emulsion that dries to a clear odourless film. Applied to a surface when dry, it forms a heat seal adhesive.

See Section 23 - "How-To-Do-It" No's. 1, 4, 5, 10, 13 & 14, for help in using these covering materials.

2. SUNDRY MATERIALS

PCB TAPE

Black crepe tape .031" wide, 16.5 metres long - for turbulators and invigorators. £2.50 plus post

7 STRAND STAINLESS STEEL WIRE

10 metre pack of 0.5mm dia 10 lb 4.5kg or 0.6mm dia 15 lb 7.5kg steel wire, ideal for auto and bunt lines £4.00 (both sizes) plus post.

COPPER WIRE

Useful for binding wire components together before soldering or use as hinge material.
22 swg and 24 swg, 5 metre coil £0.95, plus post.

PTFE SLEEVING

1D 1.19 mm OD 1.79 mm outer surface etched to allow bonding to structure with cyano., epoxy, etc. ideal for friction free line guides, 5 metre length £6.50, plus post.

HE30TF ALLOY TUBE 16 SWG WALL THICKNESS

5/16" OD - 90p per foot - ideal for winding rods, 48" lengths for delivery at contests £3.60 each plus post.

HE30TF ALLOY TUBE 22 SWG WALL THICKNESS

3/16" OD - £0.50 per foot, plus post - 10 swg ID.

1/4" OD - £0.50 per foot, plus post.

5/16" OD - £0.55

per foot, plus post.

All three tubes will fit together to make rear motor peg assemblies for rubber models

48" lengths for winding rods for delivery at contests, 5/16" £2.20 each.

7076-T9 HARD ALLOY TUBE 0.008" (0.20mm)-0.010" (0.25mm) WALL THICKNESS

0.178" (4.52mm) OD x 30" (762mm) £2.00 each plus post.

0.248" (6.30mm) OD x 30" (762mm) £2.00 each plus post.

BRASS AND ALLOY TUBE

12" lengths - 6, 8, 10, 12, 14, 16, 18, 20, 22 swg bore.

50p per length, plus post.

Sizing 8swg fits 6swg, 10 fits 8, 12 fits 10, 14 fits 12, 18 fits 14, 20 fits 16

MYLAR HINGE MATERIAL 0.2 mm x 25 mm wide x 5 metres long - £1.00 plus post.

TYVEK

Spun bound olefin "Tyvek" (75gms per sq. metre)- paper like material that can be used as a lightweight hinge for rudders, can also be used for paper fairings and reinforcements, etc.

Can be glued easily with PVA or cyano. 5 A4 sheets (210 mm x 297 mm) £3.00, plus post.

SHEET METAL 4" x 10" SHEETS

Brass	0.005" 40 swg	£2.19 per sheet	Aluminium	0.016" 27 swg	£1.59 per sheet
	0.010" 33 swg	£2.15 per sheet		0.032" 21 swg	£2.15 per sheet
	0.015" 28 swg	£2.85 per sheet		0.064" 16 swg	£3.15 per sheet
	0.032" 21 swg	£4.99 per sheet	Tin	0.008" 36 swg	£1.50 per sheet
Copper	0.024" 23 swg	£5.49 per sheet			all plus post.

PTFE SHEET 1 mm thick white PTFE sheet cut for friction free washers 2" x 18" - £1.75, plus post.

CLEAR ACETATE SHEET

Ideal for glazing windows and moulding canopies. A4 size sheets (300 x 210 mm) 11³/₄" x 8¹/₄".

360 micron (.01417") - £2.85 per pack

Sold in packs of 5 sheets of each size plus post

DOUBLE SIDED MYLAR

Ideal material for hinging rudders, etc. Heat sensitive, adhesive both sides form a sandwich between balsa laminations and seal with hot iron, £1 20 per sq. foot (6" x 24"), plus post.

WHITE DEPRON FOAM

Lightweight plastic foam for indoor models. Easy to cut and mould.

6mm x 300 x 210 (A4) £0.70 per sht. 3mm x 300 x 210 (A4) £0.60 per sheet, plus post.

LEAD FOIL WEIGHT

Strips of self adhesive lead weight 12" length £1.50 plus postage

ROUND ELASTIC

The elastic is manufactured from 100% natural latex, which gives it a better balance over a wide temperature range, a high rate of stretch and a faster recovery rate. Colour coded and self-lubricating due to an internal silicone treatment. Supplied in 10 metre packs. £1.20 per pack plus postage.

Number	Code	Diameter mm	Colour
1	R7400	0.49	Hot red
2	R7401	0.66	Flourescent pink
3	R7402	0.75	Bright yellow
4	R7403	0.84	Flourescent orange
5	R7404	0.93	Bright green
6	R7405	1.06	Yellow

8	R7406	1.27	Dark yellow
10	R7407	1.44	Flourescent red
12	R7408	1.60	Magenta
14	R7409	1.80	Dark blue
16	R7410	2.00	Green

3. HI-TECH MATERIALS

CARBON/KEVLAR - MIXED CLOTH

66 gms per sq. metre (1.94oz per sq yard) 1.0 metre wide, £45.00 per sq. metre, plus post.

KEVLAR CLOTH

36 gms per sq. metre (1.05oz per sq yard) 1.0 metre wide, £18.50 per sq. metre, plus post.

60 gms per sq. metre (1.76oz per sq yard) 1.0 metre wide, £38.00 per sq. metre, plus post.

93 gms per sq. metre (2.74oz per sq yard) 1.0 metre wide, £20.00 per sq. metre, (Russia), plus post

CARBON FIBRE CLOTH

Lightest available at 93 gms per sq. metre (2.74oz per sq yard) 1.0 metre wide, £60 per sq. metre, plus post.

GLASS FIBRE CLOTH

21 gms per sq. metre (0.60oz per sq yard) 38" wide £7.50 per sq. metre, plus post.

25 gms per sq. metre (0.75oz per sq yard) 38" wide £3.00 per sq. metre, plus post.

48 gms per sq. metre (1.40oz per sq yard) 38" wide £3.00 per sq. metre, plus post.

68 gms per sq. metre (2.00oz per sq yard) 38" wide £4.00 per sq. metre, plus post.

108 gms per sq. metre (3.20oz per sq yard) 38" wide £7.00 per sq. metre, plus post.

All glass, carbon and Kevlar cloth is plain weave.

To avoid wastage the 93 gms Carbon, 36 gms and 60 gms Kevlar cloth and mixed cloth are supplied cut on the bias that is at 45°. Remember that when laying out your material requirements that cutting to 45° reduces the width of the cloth when measured across the diagonal! Off-cuts from the initial trimming of a new roll produces 45° triangle shaped pieces - carbon £10, Kevlar £4, mixed £7 subject to availability.

Lengths of greater or less than one metre, prices pro rata.

All glass and 64 and 93gsm Kevlar are cut at 900 degrees

CARBON FIBRE TISSUE

Looks like medium weight tissue.

20 gms per sq. metre (0.60oz per sq yard). Approx. 0.005" thick, consists of 1" pan. based carbon fibre, very strong when fixed with dope or resin. 1 metre wide £9.00 per metre plus post.

FLAT CARBON FIBRE TOW

0.8095 gms per metre, (12,000 filaments per tow) £0.10 per metre, plus post, infinite length!

0.0700 gms per metre (1,000 filaments per tow) £0.05 per metre, plus post, infinite length!

KEVLAR TOW

0.33 gms per metre (3000 denier 1,333 filaments per tow) £0.07 per metre, plus post, infinite length!

RUSSIAN UNI-DIRECTIONAL CARBON CLOTH

0.08 mm and 0.12 mm thick, 210 mm width £10.00 per metre, plus post.

Ideal for making your own uni-directional laminations either on its own or onto spruce, balsa or foam.

CARBON FIBRE "SOCK"

Woven tube of carbon filaments impregnate with resin to lay up as tubes or to bind spars and webs together:-

Dia mm	Width mm	45° Dia	Price per
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	From To	From To	mm	metre
SC1014	0.9 - 5.0	3 - 15	1.5	2.00
SC1020	1.5 - 7.5	4 - 24	2.5	2.50
SC1032	3.0 - 13.0	8 - 40	10.0	3.00
SC1045	5.0 - 18.0	15 - 55	15.0	4.00

RUSSIAN CARBON FIBRE "NET" TAPE

Carbon fibre open weave net 60mm wide, 0.1 gm per metre, opens to form a "Fish net" tape for reinforcement of sheeted areas and prop blades - £3.00 per metre, plus postage.

UNI-DIRECTIONAL CARBON FIBRE MATERIAL

Finished carbon sheet for spars and other structural components.

1.Sheet 36" (910 mm) long 4" (100 mm) wide 0.005" (0.13 mm) thick	£12.00 per sheet
2.Sheet 36" (910 mm) long 6" (150 mm) wide 0.007" (0.18 mm) thick	£12.00 per sheet
3.Sheet 48" (1220 mm) long 6" (150 mm) wide 0.007" (0.18 mm) thick	£15.00 per sheet
4.Sheet 36" (910 mm) long 3" (75 mm) wide 0.014" (0.36 mm) thick	£12.00 per sheet
5.Sheet 48" (1220 mm) long 3" (75 mm) wide 0.014" (0.36 mm) thick	£15.00 per sheet
6.Sheet 36" (910 mm) long 3" (75 mm) wide 0.021" (0.54 mm) thick	£20.00 per sheet
7.Sheet 48" (1220 mm) long 3" (75 mm) wide 0.021" (0.54 mm) thick	£24.00 per sheet
8.Sheet 36" (910 mm) long 3" (75 mm) wide 0.030" (0.76 mm) thick	£25.00 per sheet
9.Sheet 48" (1200 mm) long 3" (75 mm) wide 0.030" (0.76 mm) thick	£30.00 per sheet
10.Sheet 36" (910 mm) long 3" (75 mm) wide 0.042" (1.06 mm) thick	£30.00 per sheet
11.Sheet 48" (1200 mm) long 3" (75 mm) wide 0.042" (1.06 mm) thick	£45.00 per sheet
12.Sheet 28" (710 mm) long 3" (75 mm) wide 0.030" - 0.014" thick (0.76 mm-0.36 mm)	£15.00 per sheet

Some suggested uses: Sheets 1, 2 capstrips Sheets 3 - 10 spars Sheets 5, 6,7 trailing edge

All plus post. The sheet can be cut with a diamond saw and used without recourse to any further finishing. Alternatively cut with heavy-duty knife. Fix with either epoxy or cyano.

UNI-DIRECTIONAL CARBON FIBRE MATERIAL CUT TO SIZE

These spars meet the demand for pre-cut carbon spars rather than using sheet stock to cut ones requirements. The range of spar sizes available should satisfy most needs. The spars are cut on a diamond saw so can be used straight away without any further finishing. The user easily cuts Capstrips with a knife from sheet.

1.Tapered spar 16" (405 mm) long 0.08" (2 mm) taper to 0.04" (1 mm) 0.007" (0.18 mm) thick,	£0.50 each
2.Tapered spar 24" (610 mm) long 0.20" (5 mm) taper to 0.08" (2 mm) 0.014" (0.36 mm) thick,	£1.25 each
3.Tapered spar 24" (610 mm) long 0.20" (5 mm) taper to 0.08" (2 mm) 0.021" (0.54 mm) thick,	£1.50 each
4.Tapered spar 36" (910 mm) long 0.20" (5 mm) taper to 0.08" (2 mm) 0.014" (0.36 mm) thick,	£1.75 each
5.Tapered spar 36" (910 mm) long 0.20" (5 mm) taper to 0.08" (2 mm) 0.021" (0.54 mm) thick,	£2.00 each
6.Tapered spar 36" (910 mm) long 0.40" (10 mm) taper to 0.16" (4 mm) 0.021" (0.54 mm) thick,	£2.00 each
7.Tapered spar 36" (910 mm) long 0.48" (12 mm) taper to 0.16" (4 mm) 0.030" (0.76 mm) thick,	£4.75 each
8.Tapered spar 36" (910 mm) long 0.48" (12 mm) taper to 0.16" (4 mm) 0.042" (1.06 mm) thick,	£5.50 each
9.Trailing edge 24" (610 mm) long 0.10" (2.5 mm) 0.021" (0.54 mm) thick,	£1.50 each
10.Trailing edge 24" (610 mm) long 0.14" (3.5 mm) 0.030" (0.76 mm) thick,	£1.75 each
11.Trailing edge 36" (910 mm) long 0.10" (2.5 mm) 0.030" (0.76 mm) thick,	£1.75 each
12.Trailing edge 36" (910 mm) long 0.14" (3.5 mm) 0.030" (0.76 mm) thick,	£2.50 each
13.Spar 24" (610 mm) long 0.06" (1.5 mm) 0.014" (0.36 mm) thick,	£1.00 each
14.Spar 24" (610 mm) long 0.10" (2.5 mm) 0.014" (0.36 mm) thick,	£1.25 each
15.Spar 28" (710 mm) long 0.12" (3.0 mm) 0.030" taper to 0.014" thick (0.76 mm to 0.36 mm),	£1.50 each
16.Spar 28" (710 mm) long 0.20" (5.0 mm) 0.030" taper to 0.014" thick (0.76 mm to 0.36 mm),	£2.50 each
17.Trailing edge 24" (610 mm) long 0.10" (2.5 mm) 0.030" (0.76 mm) thick,	£1.75 each
18. Spar 24" (610 mm) long 0.06" (1.5 mm) 0.021" (0.54 mm) thick,	£1.25 each
19.Tapered spar 12" (305 mm) long 0.25" (6 mm) taper to 0.08" (2 mm) 0.007" (0.18 mm) thick,	£1.00 each
20.Tapered spar 24" (610 mm) long 0.12" (3 mm) taper to 0.06" (1.5 mm) 0.014" (0.36 mm) thick,	£1.25 each
21.Tapered spar 24" (610 mm) long 0.12" (3 mm) taper to 0.06" (1.5 mm) 0.021" (0.54 mm) thick,	£1.75 each
22.Strips for strengthening/reinforcement 270mm x 7mm x 1.0mm thick	£1.00 each
25.Tapered spar 18" (457 mm) long 0.75" (19 mm) taper to 0.20" (5 mm) 0.007" (0.18 mm) thick,	£1.25 each

Mix and match your own preferences -just let me know what combinations and sets you want.

Some suggested uses: Spar 1 - F1B, F1H, tip, F1G 2, 3, 20,21, - F1B, F1H, F1J. centre panels & F1A tips

Spar 4, 5, 6, - F1B and F1H wing. 7, 8, - F1A and F1C centre panels.

Trailing edge 9, 11 - F1B, F1H, F1J, F1C tail 10, 12 - F1A, F1C

Spar 13, 14 - F1A, F1B, F1C, F1H, F1J tails, F1G wings 15, 16 - F1B, F1H, F1J

Off-cuts from cutting process small 50p, large £1.00 per strip, useful for odd fill in work etc. Check availability before ordering. All plus pos

ROHACELL '51' (WEIGH 52 KG/M³-3.2LB/F³)

2" x 12" x 0.25" thick for rubber model prop cores two pieces per propeller, £3.00 plus post.

PULTRUDED CARBON FIBRE TUBE

0.125" (3.18mm) OD x 0.070" (1.78mm) ID x 36" (915mm) £3.00 each plus post

0.196" (4.98mm) OD x 0.120" (3.00mm) ID x 36" (915mm) £3.00 each plus post

PULTRUDED GLASS FIBRE ROD

1.5 mm £0.50 per metre plus post. Ideal for reinforcing leading edges of wings, etc.

3.0 mm £0.60 per metre plus post. Burn the end to melt the epoxy out; the remaining glass makes a very good disposable brush for epoxy.

KEVLAR THREAD

Thread ideal for binding stressed parts e.g. wing joiner tubes & spars, you can use Kevlar thread in any situation in which binding is called for.

50metre card £4.50 or 200metre card £10.00 both plus postage.

TUBULAR CARBON SPARS

The spars are produced from uni-directional cloth.

Tail spars - 3.2mm dia x 400 0.80grams, 3.5mm dia x 450mm long, 1.5 grams,

4.0mm dia x 450mm long, 2 grams.4.5mm dia x 550mm long, 2.5 grams 5.2mm dia x 550mm long, 3.5 grams.
£8.00 each plus post

3.2mm dia x 800 1.60grams £13.00 each plus post

Wing spars - 6.0mm dia x 700mm long, 6 grams. £13.00 each plus post

Wing spars - 8.0mm dia x 700mm long, 10 grams, 10.0mm dia x 700mm long, 15 grams.

12.0mm dia 800mm long, 25 grams, £13.00 each plus post

Note that all the spars will telescope together. Weights are guide only.

PULTRUDED SECTIONS (MAARTEN VANDIJK)

Maarten is developing the production of special pultruded sections of carbon fibre:-

Trailing edge

Trailing edge section 1.60mm x 0.60mm to 0.4mm x 1000mm £3.50 each plus post

Trailing edge section 3.00mm x 0.70mm to 0.5mm x 1000mm £3.75 each plus post

Trailing edge section 3.80mm x 0.85mm to 0.6mm x 1000mm £4.00 each plus post

Spars

Spars 1.00mm x 0.40mm x 1000mm £2.00 each plus post

Spars 2.00mm x 0.40mm x 1000mm £2.20 each plus post

Spars 3.00mm x 0.40mm x 1000mm £2.30 each plus post

Spars 3.00mm x 0.60mm x 1000mm £2.40 each plus post

Spars 4.00mm x 0.60mm x 1000mm £2.50 each plus post

Spars 6.00mm x 0.60mm x 1000mm £2.60 each plus post

Spars 2.00mm x 0.80mm x 1000mm £2.50 each plus post

Spars 3.00mm x 0.80mm x 1000mm £3.00 each plus post

Spars 6.00mm x 0.80mm x 1000mm £4.00 each plus post

Spars 8.00mm x 0.80mm x 1000mm £4.00 each plus post

Spars 4.00mm x 1.10mm x 1000mm £4.00 each plus post

(HM)Tapered Spar From 10.00mm to 2.5mm x 1.1mm x 800 mm £6.25 each plus post

HM = high modulus for extra stiffness. These F1A spars are from the strongest material that is available.

Cap strips (old packaging) -when sold this packaging will not be repeated

Cap strips 0.55mm x 0.12mm 35 metre (minimum) coil £24.00 per coil plus post

Cap strips (new packaging)

Cap strips 3.00mm x 0.13mm 10 x 1 metre lengths £15.00 per pack plus post

Cap strips 2.00mm x 0.13mm 10 x 1 metre lengths £15.00 per pack plus post

Cap strips 1.50mm x 0.12mm 10 x 1 metre lengths £15.00 per pack plus post

Cap strips 1.00mm x 0.12mm 10 x 1 metre lengths £15.00 per pack plus post

Half round

0.70 mm x 1 metre the size is the radius (wing leading edge) £2.00 each plus post

1.00 mm x 1 metre the size is the radius (wing leading edge) £2.00 each plus post

1.50 mm x 1 metre the size is the radius (wing leading edge) £3.00 each plus post

2.00 mm x 1 metre the size is the radius (wing leading edge) £3.00 each plus post

2.50 mm x 1 metre the size is the radius (wing leading edge) £3.00 each plus post

Rods

0.25 mm x 1 metre £2.00 each plus post (wing leading edge)
0.50 mm x 1 metre £2.50 each plus post (wing leading edge)
0.75 mm x 1 metre £2.50 each plus post (wing leading edge)
1.00 mm x 1 metre £3.00 each plus post (wing leading edge)
1.50 mm x 1 metre £2.00 each plus post (rubber model longerons)

2.00 mm x 1 metre £3.00 each plus post

2.50 mm x 1 metre £3.50 each plus post

3.00 mm x 1 metre £4.00 each plus post (F1B wing joiner)

0.125" x 1 metre £5.00 each plus post (F1B wing joiner)

4.00 mm x 1 metre £4.00 each plus post (F1B wing joiner)

5.00 mm x 1 metre £7.00 each plus post (Wing joiner)

0.250" x 1 metre £5.00 each plus post (F1A & F1C wing joiners)

Micro tubes

0.7 mm OD 0.27 mm ID x 1 metre weight 0.4 grams £4.00 each plus post

1.0 mm OD 0.50 mm ID x 1 metre weight 0.8 grams £4.00 each plus post

1.5 mm OD 0.70 mm ID x 1 metre weight 2.0 grams £4.00 each plus post

2.0 mm OD 1.00 mm ID x 1 metre weight 3.5 grams £4.00 each plus post

2.5 mm OD 1.50 mm ID x 1 metre weight 4.6 grams £4.00 each plus post

3.0 mm OD 2.00 mm ID x 1 metre weight 5.6 grams £4.00 each plus post

4.0 mm OD 3.00 mm ID x 1 metre £4.00 each plus post

4.0 mm OD 2.50 mm ID x 1 metre £4.00 each plus post

5.0 mm OD 4.00 mm ID x 1 metre £4.00 each plus post

6.0 mm OD 5.00 mm ID x 1 metre £8.00 each plus post

8.0 mm OD 7.00 mm ID x 1 metre £10.00 each plus post

Note that were ID and OD sizes are the same the tubes will telescope.

PULTRUDED MATERIAL AND SHEET ONLY SUPPLIED IN FULL LENGTHS.

LAMINATING EPOXY RESIN (SMITH & GIBBS SP113)

1/4 Kilo pack, ideal for attaching glass, Kevlar and carbon. Also suitable for laminating thin balsa sheet - full instructions included £13.99 plus post.

10 ML PLASTIC SYRINGES Plastic syringes for measuring epoxy, etc. 2 for £1.75 plus post.

COLLOIDAL SILICA Add up to 10% to thicken epoxy to fill gaps etc. 60 ml jar £1.50 plus post.

MICRO BALLOONS 40 gram pack use with SP113 for a lightweight filler. £3.99 plus post.

CARBON FIBRE/ALLOY BOOMS

F1B/F1H -	12 mm to 5 mm x 740, 7.0 gm -	£20.00 plus post
F1G -	12 mm to 5 mm x 740, 5.0 gm -	£18.00 plus post
F1A -	17.5 mm to 5 mm x 920 mm 17.5 gm	£16.00 plus post

CARBON FIBRE CLOTH BOOMS

Lightweight construction

F1B/F1H -	11.5 mm to 5.5 mm x 760, 7.5 gm -	£20.00 plus post
F1G -	11.5 mm to 4.5 mm x 790, 6.0 gm -	£18.00 plus post

KEVLAR MOTOR TUBES - HOT CURED EPOXY MATRIX

F1B - 3 layers 93gm Kevlar - 520 mm x 29.0 mm to 26.0 mm dia, weight 22 gms, £18 plus post.

CDH - 2 layers 93gm Kevlar,- 400 mm x 20.5 mm to 18.5 mm dia, weight 7 gms, £17 plus post.

For a complete F1B & F1G fuselage system see rubber accessories and Kits - Prima F1B. Booms and motor tubes are supplied in plastic tubes. Please return for recycling if possible.

CARBON FIBRE/GLASS BOOMS - UNGROUND FINISH

F1A -	13.5 mm to 6.0 mm x 1000 mm 16 gm	£12.00 plus post
	17.5 mm to 10.2 mm x 950 mm 22 gm	£12.00 plus post
F1B/F1H -	11.0 mm to 5.4 mm x 800 mm 12 gm	£10.00 plus post
F1G -	8.0 mm to 3.3 mm x 650 mm 7 gm	£8.00 plus post
“CHUCKIE” -	6.0 mm to 2.8 mm x 510 mm 4 gm	£7.00 plus post

Light sanding will considerably reduce the tube weights (20% reduction?) and produce a ground finish

CARBON FIBRE 'D' BOX SHELLS

F1A – Centre panel 760mm x 48 mm → 35 mm x 0.16mm thick. Tip panel 550mm x 35 mm → 27 mm x 0.16 mm thick, weight 48 grams - £42.00 per set plus post.

F1B/F1H/F1J/F1P - Centre panel 550 mm x 30 mm @ 25 mm x 0.12mm thick. Tip panel 350 mm x 25 mm → 20 mm. x 0.12 mm thick, weight 19 grams - £38.00 per set plus post.

MOULDED CARBON COMPONENTS FOR F1A & F1B

F1B - Fin mounts - For booms 7.50 mm or 9.00 mm for fixed or all moving fin £2.50 each plus post.

F1B/F1H- Tail mounts – For Booms 6.00 mm or 7.50 mm both mounts £4.00 each plus post.

F1B - Nose skids - £2.00 each plus post.

F1B - Pylons - weight 9 grams, glass, £10.00 each, carbon, £12.50 each. carbon pylon with integral joiner block £17.50 each (3mm joiner) plus post.

F1B - Spinners - 30 and 32 mm dia. Andriukov DPR pattern, £3.00 each plus post.

F1A - Tail mounts - Encircles fuselage 10.00 mm or 12.00 mm both mounts £4.00 each plus post.

SURMANCO TUFKUT SCISSORS

KEVLAR is an extremely difficult material to cut without the proper equipment. These scissors are designed to cut difficult materials and are ideal for cutting Kevlar. To cut Kevlar the material should be held taut and the cutters operated smoothly and slowly £5.75 plus post.

See Section 23 - “How-To-Do-It” No’s.3,8,9 & 11 for help in using these hi-tech materials.

4. FIXINGS

CUP WASHERS

Pressed tinplate washers, 20, 18, & 14 swg £0.60 for pack of 30, plus post. **No Mixed packs. 16 swg no longer available**

Pressed brass cup washers 16 swg only £1.20 for a pack of 10 plus post

CH/HD, C/T SCREWS

Supplied in packs of 10 complete with all items. Plus post.

4BA steel 1" long - full nuts - lock nuts - small washers - s/coil washers.	£1.60
6BA steel 1" long - full nuts - lock nuts - small washers - s/coil washers.	£1.60
8BA steel 1" long - full nuts - lock nuts - large washers - s/coil washers.	£1.60
8BA nylon 3/4" long - full nuts.	£2.70
8BA nylon 1" long - full nuts.	£2.70
10BA steel 1/4" long CSK - Good for timer mountings.	£1.25
10BA steel 3/16" long - Good for timer mountings.	£1.25
10BA brass 1" long - full nuts - lock nuts - Large washers.	£3.90
10BA brass 3/4" long - full nuts - lock nuts - Large washers.	£3.40
10BA brass 1/2" long - full nuts - lock nuts - Large washers.	£2.90
12BA steel 3/8" long - full nuts - large washers.	£2.25
2.0M nylon 12mm long - nuts.	£1.75
2.5M nylon 20mm long - nuts.	£2.65
3.0M nylon 20mm long - nuts.	£2.65

5. RUBBER

FAI RUBBER TAN SUPER SPORT

1/16", 3/32" 1/8", 3/16" & 1/4" in 16 oz (450gram) box £25.00, plus post. By the yard, 1/4" £0.40, 3/16" £0.35; 1/8" £0.30, 3/32" £0.25, 1/16" £0.20 plus post. NOTE Approx. 80 yds in a box of 1/4" rubber. I can supply a box of mixed sizes at a £1.00 supplement per box.

I try to ensure the product I sell is OK. The rubber is supplied in date stamped factory sealed boxes. However, I can offer no guarantees regarding energy storage, number of turns achievable or the longevity of the rubber. As rubber is a natural product, there will be occasional variations in quality.

FAI SUPER SPORT - STRIPPED FOR INDOOR FLYING

Sizes can be slightly variable due to the difficulty in stripping the material. 16 foot lengths width in inches.
0.020; 0.025; 0.030; 0.035; 0.040; 0.045; 0.050, 0.055; 0.060; 0.065; 0.070; 0.075; 0.080; 0.085; 0.090; 0.095;
0.100; 0.105; 0.110; 0.115; 0.120; 0.125 £2.00 each, plus post.

SKY-HI SOFT SOAP & GLYCERINE LUBRICANT 15ml, £1.00 plus post.

SILICONE RUBBER LUBRICANT

Dow Corning 200 (5000 cst viscosity) - Cleaner and more slippery than castor oil or soft soap.

30 ml £2.00, 60 ml £3.00, 120 ml £5.00, 250 ml £8.00 plus post. 500ml £15.00 not available through the post.

If ordered with rubber I can dispatch it more safely. Please return your empty jars for recycling if possible.

Binding Agent - The silicone oil makes tying knots difficult. However, dip the ends to be tied in the colloidal silica binding agent and tie. Voila, it knots! 60 ml jar of binding agent £1.50 plus post.

6. RUBBER ACCESSORIES

CHINESE WAKEFIELD (F1B) PROP UNITS

Fully machined from aluminium. Montreal stop, front of the unit pulls forward for release. Snap on plastic spinner, nose ring, 30 mm outside diameter. Weight 30 gms. roots are a hollow cuff to take prop blades. Rubber attached to integral bobbin. £22.00 plus post.

FREE FLIGHT NEWS (FFN) (F1B) PROP UNITS

All units now sold. However there are a few spare parts left in stock, ask for details and prices.

FREE FLIGHT NEWS (FFN) RUBBER BOBBINS

One piece, aluminium, thin wall tube with ends machined to clip into a winding tube. OD 1/4" x 1" long will take 5/32" motor peg. 10p each plus post.

WAKEFIELD (F1B) PROP UNITS & ACCESSORIES

Finished units are no longer in production. Some spares are still available: Nose ring £2.00; shaft £1.90; stop pin and clip £1.30; Montreal pin and clip £1.30; rear hook £1.90; front nut £1.25; roots £0.90 per pair; Flexible spinners red, black, white, yellow and green, £0.49; Springs set of 2, £0.30. Part finished units that with some work could be finished £5.00 for a set of parts. Adjustable pitch hubs for use separately or with prop hub, £4.50 per pair. Journal races for F1B prop units or similar use. 3/8" OD for 1/8" shaft, 5/32" deep with flanges deep grooved. £4.00 for a pair of bearings, all items plus post.

F1G PROP UNIT, MOTOR TUBE, BOOM & COUPLER COMPLETE (BUKIN)

Prop unit and nose ring - Very neat ultra light with spinner and ball race mounted shaft, complete with nose ring, clip on rubber holder and prop hangers. £55.00. Spare nose rings £6.00, bobbins £5.00, prop hangers £3.50. Prop blades £25.00 per set all items plus post.

Motor tube - 2 layers 93 gm Kevlar 400 mm x 20.5 mm to 18.5 mm dia, weight 7 gms, £16 plus post.

Boom - 12 mm to 5 mm x 740, 5.0 gms - £18.00 plus post.

Connector - two piece alloy coupler for motor tube/boom.- £15.00 plus post.

Complete F1G fuselage - with prop unit and blades £120.00 without blades £100.00, Tubes and connectors only £45.00 plus post.

F1B MOTOR TUBE, BOOM & COUPLER COMPLETE (BUKIN, VIVCHAR)

Motor tube - 3 layers 93gm Kevlar 520 mm x 29.0 mm to 26.0 mm dia, weight 22 gms, £18 plus post.

Boom - Carbon fibre cloth 11.5 mm to 5.5 mm x 750, 7.0 gms - £20.00 plus post.

Connector - two piece alloy coupler for motor tube/boom.- £15.00 plus post

Complete F1B fuselage - £50.00 plus post.

This fuselage complete can be used as an upgrade to the Prima F1B kit.

The complete F1G & F1B fuselage units are dispatched in plastic tubes please return for recycling if possible.

REAR MOTOR PEGS

Hollow alloy pegs 3/16" OD with screw end, to fit 28 mm dia. fuselage will take 12 swg stooze pin "neat" and "secure" £1.90 each, plus post.

Heavy duty version of the above 1/4" OD with screw end, two sizes to fit 28 mm and 30 mm dia. fuselage 10 swg stooze pin £2.10 plus post.

THRUST RACES

3 sizes:- 14 swg (2 mm), 16 swg and 3/32" brass housing with steel balls £3.50 plus post.

THRUST WASHERS (PRESSED STEEL)

16 and 18 swg, £0.75 each, plus post

BRASS BUSHES

14, 16, 18 swg - £0.85 each, plus post.

RUBBER BOBBINS

One piece, no seams very thin wall aluminium, very light, £0.85 each, plus post.

- | | |
|---|---|
| 1. hole size 1/4", 7/8" dia. 1/4" wide | 2. hole size 5/32", 3/4" dia. 1/4" wide |
| 3. hole size 5/32", 3/4" dia. 3/8" wide | 4. hole size 1/4", 3/4" dia. 3/8" wide |

Delrin, very light all sizes plus post.

- | | |
|---|--|
| 1. hole size 1/8", 12mm dia. 1/8" wide £0.60 each | 2. hole size 1/8", 15mm dia 1/8" wide £0.70 each |
| 3. hole size 3/16", 18mm dia. 3/16" wide £0.80 each | 4. hole size 3/16", 20mm dia 3/16" wide £0.90 each |
| 5. hole size 1/4", 20mm dia. 1/4" wide £0.90 each | 6. hole size 1/4", 25mm dia 1/4" wide £1.00 each |

REAR MOTOR PEG MATERIAL (HE30TF alloy tube 22 swg wall thickness).

3/16" OD, 1/4" OD, 5/16" OD - 3/16" & 1/4" 50p per foot 5/16" £0.55 per foot, plus post.

The tubes will fit together to make rear motor peg assemblies for rubber models or use with bobbins.

Pultruded carbon fibre tube

0.125" (3.18mm) OD x 0.070" (1.78mm) ID x 36" (915mm) - £3.00 plus post.

0.196" (4.98mm) OD x 0.120" (3.00mm) ID x 36" (915mm) - £3.00 plus post.

WING JOINERS Full details see section 7 glider accessories.

PROP LOOPS (TIM GRAY PATTERN)

14 swg heavy duty (open and F1B) £0.40, plus post. Plastic tube for sheathing £0.90 per metre plus post.

16 swg standard (open and F1B), small (Cd'h), £0.35 each both sizes, plus post. Plastic tube for sheathing £0.80 per metre plus post.

CZECHOSLOVAKIAN IGRA RUBBER MODEL PROPELLERS

240 mm £1.50, 200 mm £1.25, 150 mm 75p. All plus post. The thin light blades can be trimmed to shape. The 240mm is the P30 prop of choice! For complete units see SPENCER WILLIS items below.

SPENCER WILLIS

Prop units Spare prop units for Spencer's P20 and P30 kits these units feature IGRA propellers. 8" P20 £3.00 and 10" P30 £3.50 plus postage.

Hand carved Propellers Senator £19.00, Gypsy £24.00 plus post.

Torque meters Sizes – P20/P30, Mini vintage/Coupe and Vintage/Large rubber – all 3 sizes £11.50 each plus postage

BMFA EDUCATION PROGRAMME

Spare propeller units- fits all BMFA models red 5.5" or black 6" either propeller. £0.50 plus post.

KP AERO MODELS PRODUCTS

Adjustable nose button. Plastic with thrust line adjustment. Double pack £1.50 plus post.

Simple nose button. Large or small. Pack of 10 either size £1.00 plus post.

Ball bearing nose button. 3 sizes 1.0mm, 1.2mm, 1.6mm £1.50 each or pack of 4 for £5.00 both plus postage

Indoor rubber winder. 5:1, 10:1 or 15:1 ratio (specify preference) - £7.95 each, plus post.

Lightweight plastic wheels. 22 mm (7/8") dia £0.95 per pair 25 mm (1") dia £0.95 per pair

32 mm (1 1/4") dia £1.20 per pair 10mm (3/8") dia pack of 10 £1.05. All sizes plus post.

10-4 Winder. 10:1 & 4:1 combined winder for medium size outdoor models. Made from nylon reinforced plastic, ball races support the moving parts, spade handle & spring loaded motor attachment weight 305 grams now supplied complete with an analog counter £75.00 plus post.

INDOOR RUBBER WINDER COUNTER

A small electronic counter produced by Tony Elliott that is easily fitted KP Aero Models winder and is programmable to all of the 3 ratios. Complete kit £5.00 plus post

GIZMOGEEZER PRODUCTS

The range of precision rubber accessories produced by The Gizmo Geezer products are now available.

Complete Precision Freewheeler Units. 7", 8" or 9.5" prop £8.00 each either size plus post.

Spare parts 7", 8" or 9.5" prop £1.50 each size, Parts Package £3.00 each, Rebuild/Customising Pack £3.00 each, Nose Button Unit £4.00 each. Each pack plus post.

Use the Gizmo's to enhance your own design P30, modify either the Al Lidberg NJAPF or the Andrey Burdov Bird Dog Kits or enhance the plans of the Tweety by Thedo Andre the Ex-plane by Per-Thomas Skjulstad the Polecate by Don DeLoach or the Tubular Bustard by Jim O'Reilly. See section no. 20 kits and section no. 18 plans.

COMPRESSION SPRINGS

12.5mm long x 3.4mm dia, 0.3mm wire. For prop stops, light or medium compression £1.00 for 10 either weight plus post.

Additionally check out the pages for materials, components, timers, plans, kits, equip. etc.

7. GLIDER ACCESSORIES

WING JOINERS (ALSO FOR RUBBER & POWER MODELS)

NOT CHEAP BUT UNBENDABLE!! NOTE THAT YOU CAN CUT TO SHORTER LENGTHS.

F1A/F1C 5.0 mm x 165 mm & 5.5 mm x 165 and 200 mm, £7.00 each.

F1A 4.0 mm x 165 mm, £6.00 each. F1B/F1H/F1J 3.0mm x 90 mm £5.00 each. All plus post.

CZECHOSLOVAKIAN CIRCLE TOW HOOKS

Hook, complete with all adjustments, built into integral mounting block, very light £12.00 plus post.

TOWLINE WINCHES (IVAN HORESJI)

A close copy of the "Maxaid" winch, £21.50 plus post. Spare reels £4.00 each plus post. The standard reel is 18mm wide, spacers (3mm) to increase the width, for thick towlines (35kg and upwards) are available at £1.20 plus post. Please send an S.A.E. for detailed specification of the winch.

TOWLINE WINCHES (MAXAID)

I have a few drums and parts as new from Elton Drew. Drums £2.00 each plus post. Regarding spare parts please send SAE for details.

TOW LINE (KLAUS SALZER)

Yellow coloured yarn, very strong 10KG (0.5mm dia) £1.00, 16KG (0.65mm dia) £1.30, 21 KG (0.8mm dia) £1.80, 35 KG (1.05mm dia) £2.90, 45KG £3.10. Price for 50 metres. Greater lengths prices pro rata, plus post. Cut off a length at the next contest!

Additionally check out the pages for materials, components, timers, plans, kits, equip. etc.

8. POWER ACCESSORIES

WING JOINERS Full details see section 7 glider accessories.

PACIFIERS

Pacifier bulbs small (1ml) large (2ml) 12 for £12.00 either size plus post postage. Syringes for filling (60 ml) £2.50 each plus post.

HARD PLASTIC FUEL TUBE (METRE LENGTHS)

1.5 mm bore x 1.0 mm wall 80p per metre (for diesel/glow fuel and sheathing prop loops) plus post.
2.0 mm bore x 1.0 mm wall 90p per metre (for diesel/glow fuel and sheathing prop loops) plus post.

SILICONE FUEL TUBE (METRE LENGTHS)

1.5 mm bore x 0.5mm wall £1.50p per metre (squash off for engine timers) plus post.
2.0 mm bore x 0.5mm wall £2.00 per metre (squash off for engine timers) plus post.
1.5 mm bore x 1.0mm wall £2.00p per metre plus post.
2.0 mm bore x 1.0mm wall £2.10p per metre plus post.
2.5 mm bore x 1.0mm wall £2.30p per metre plus post.

Additionally check out the pages for materials, components, timers, plans, kits, equip. etc.

9. INDOOR ACCESSORIES

For items specifically applicable to indoor check the following sections : -

1. LIGHTWEIGHT COVERING MATERIALS Tissue, OS Film and Mylar etc	15. TOOLS Razor blades etc
2. SUNDRY MATERIALS Wire and masking tape etc.	18. PLANS Czech peanuts
3. HI-TECH MATERIALS Carbon and Kevlar etc.	20. KITS FLY IN, MRL & BMFA kits Co2
5. FIXINGS Cup washers	21 A.A.LIDBERG PLANS AND KITS
6. RUBBER Stripped rubber and lubricant	22 Wood
7. RUBBER ACCESSORIES KP Aero Models winders, counters, wheels & nose buttons	23 "HOW TO DO IT" PUBLICATIONS

10. CO₂

CO₂ SODASTREAM ADAPTER (KP AERO MODELS PRODUCTS)

No longer available but repairs to old units can be undertaken.

11. TIMERS - D/T FUSE, ETC.

D/T FUSE 5/32" or 1/8" dia both sizes £6.50 per hank, plus post.

D/T BANDS size no.6 (15mm/5/8") £0.60 pack of 250 plus post.

MINI TIMERS - EXCLUSIVE TO FREE FLIGHT SUPPLIES

Based upon Tomy Toys mechanisms. Single, dual, three and four function run for approximately 5 minutes.

1. Single function - for small rubber and glider - weight 5 grams, £18.00 plus post
2. Dual function - for small rubber and glider - weight 5 grams, £18.00 plus post
3. Three function – for small rubber and glider - weight 6 grams, £19.00 plus post
4. Four function – for small rubber and glider - weight 6 grams, £19.00 plus post
5. Engine squeeze off – for small power - weight 6 grams, £18.00 plus post

TOMY TIMERS MECHANISMS

Basic units - Use in home build timers, weight 3 grams, £1.60 each, plus post.

Knobs – Spare winding knobs £0.10 each plus post

Mechanisms partly converted - The Shafts have been modified and the vibrating governor has the “waggler” fitted, all you need to do is add your own faceplate etc £10.00, plus post.

Mechanisms partly converted - As above, the Shafts have been modified **only** you have alter the waggler yourself. £5.00, plus post.

Plastic scrolls - for use on your home built timers, £1.50 each, plus post.

See Section 23 - “How to do it” No.2 on how to convert the units to make your own timer.

WINGS AND WHEELS MINI TIMERS

1. Badge classic and lite 1.2 grams £11.00, plus post.
2. Button classic and lite 0.7 grams £15.00, plus post.
3. Button dual function classic and lite 0.7 grams £15.00, plus post.

Spare parts:- d/t pulley £1.00, arms for dual £1.00, pack of screws, line & fittings £0.50 plus post.

Made from Delrin and are rotary viscous fluid timers with a single moving part, with fittings and instructions for suggested use. Ideal for ultra light models. The loading of the Classic is approx. twice that of the Lite.

POLISH TIMERS

Based upon Russian camera mechanisms these units are from the premier manufacturer in Poland. The range is constantly being developed and improved based upon experience and user feed back.

- | | | | | |
|-----|--|-----------|----------|------------------|
| 2. | Single function | (F1A) | 17 grams | £21.00 plus post |
| 3. | Three function | (F1B) | 20 grams | £18.00 plus post |
| 4. | Three function | (F1B) | 18 grams | £25.00 plus post |
| 5. | Five function | (F1C) | 29 grams | £29.00 plus post |
| 6. | Engine squeeze off | | 15 grams | £19.00 plus post |
| 7. | Four function | (F1B/F1J) | 20 grams | £25.00 plus post |
| 8. | Engine cut-off valve timer | | 22 grams | £22.00 plus post |
| 9. | Ignition cut-off timer | | 18 grams | £25.00 plus post |
| 10. | SLOP 3 function faster running | | 18 grams | £26.00 plus post |
| 11. | Single function flat scroll a replacement for the KSB* | | 21 grams | £22.00 plus post |
| 12. | Two function | | 19 grams | £21.00 plus post |
| 13. | Combined single function for DT and fuel Squeeze off | | 21 grams | £28.00 plus post |

* The KSB weighed 20 grams this replacement weighs 21 grams

Spare parts and partial units:

1. Mechanism with spring just add your own face plates and arms £12.00 plus post
2. Scrolls Without ears £1.00 plus post
3. Scroll screws (left-hand thread) long (12 mm) or short (10 mm) £1.00 each, plus post.
4. Long faceplate screws 60p for a set of 3, plus post.

Remember that the timers, all except the F1C, have a LEFT HAND threaded scroll screw. As the Polish and mini timers are produced to Free Flight Supplies specification, repairs to worn or damaged units can be undertaken. Some spares are stocked so you can either do your own repairs or build your own timers! Ask for details. However the repair service has to fit in with production of new units so it may take some time.

'CHEEPO' TIMERS

These timers and the idea was passed to me by Ralph Sparrow. These plastic dampers can be used in home constructed timers. Very light (1.2 grams) Ralph's full conversion details supplied - £3.50 each, plus post.

ORTHODONTIC ELASTICS

1/4" for d/t bands - £1.20 per pack, plus post. Other sizes see section no.17 Sundry field equipment.

FEODOROV TIMERS

3 function timers Camera mechanism minimal size £15.00 plus post

TIMER START LEVERS

Spring loaded release levers for timers can be used for instant start release for F1B or power £10 plus post.

FUEL SHUTOFF VALVE - EXCLUSIVE TO FREE FLIGHT SUPPLIES

Spring loaded shut-off valve for timer operation, weight 5 grams £8.00 plus post.

TIMER MOUNTING SCREWS

Roundhead brass screws 2 x 1/14" and 2 x 3/8" - pack of 20 either size - £1.25 plus post.

TENSION SPRINGS 10mm long x 3.0mm dia, 0.3mm wire. For timer start £2.50 for 5 plus post.

BUTTON TYPE VIT ADJUSTERS FOR F1B

Standard - alloy tail stop fitted with 2.5 mm nylon C/T screw drilled for hold down line, - lighter, simpler than the usual "hammers" £3.00, (also suitable for F1A bunt system)

Mini - alloy tail stop with 10BA brass C/T screw drilled for hold down line, £3.00, both sizes plus post.

AUTO RUDDER ADJUSTERS

Dural rod, horn and stop fitted with two 10BA adjusters - £2.50 per set, plus post.

WING MOVERS - SPECIALS FROM VLADIMIR FEODOROV TO FFS SPECIFICATION

F1B wing movers, fully functioning to raise trailing edge of outboard wing panel, complete with mounting screws and full installation instructions, £12.50, plus post.

SILICONE FUEL TUBE (METRE LENGTHS)

1.5 mm bore x 0.5mm wall £1.50p per metre (squash off for engine timers) plus post.

2.0 mm bore x 0.5mm wall £2.00 per metre (squash off for engine timers) plus post.

DATA CHARTS

To build seriously you need to be able to check out data simply and quickly. No longer will you have to look for that mislaid scrap of "dog eared" paper that contains the information. FFS have produced laminated cards with all the details that you need. The doubled-sided A4 card £2.00 each plus post.

CHART No. 3 Contains details on the servicing and maintenance of clockwork timers.

12. ELECTRIC

KP AERO MODELS PRODUCTS

Full range of electric items is available: Other KP Aero Models Products items section no 7 rubber accessories and no 9 CO2.

1.	006	KP 01 kit incls props, cells and accessories etc.	£22.50
2.	007	KP 01 kit incls prop, exclds cells and accessories.	£20.00
3.	008	KP 02 kit incls props, cells and accessories etc.	£25.50
4.	009	KP 02 kit incls prop, exclds cells and accessories.	£23.00
5A.	010	KP 01 Motor/gear Assembly (4.25:1 ratio)	£7.00
5B.	011	KP 01 Motor/gear Assembly (6.25:1 ratio)	£7.00
6.	012	KP 02 Motor/gear Assembly	£9.50
7.	016	Flight Charger for KP 01 and KP 02 - up to 3 cells only	£17.00
8.	017	Mains Charger for Flight Charger (UK only)	£8.00
9.	018	Speed trimmer KP 01 only	£1.80
11.	024	110 mAh cells welded pack of 3, 22 gms.	£6.50
12.	025	120 mAh cells welded pack of 3, 18 gms.	£7.50
13.	027	270 mAh cells welded pack of 3, 40 gms.	£9.00
14.	028	270 mAh cells welded pack of 4, 53 gms.	£12.00
15.	044	138 mm (5 3/8 in.) dia x 90mm (3.6 in) pitch propeller 2mm hole	£0.45
16A.	045	150 mm (6 in) dia. x 109mm (4.3 in) pitch propeller tractor 2mm hole	£0.65
16B.	046	150 mm (6 in) dia. x 109mm (4.3 in) pitch propeller pusher 2mm hole	£0.65
17A.	047	178 mm (7 in) dia. x 119mm (4.7 in) pitch propeller tractor 2mm hole	£0.65
17B.	048	178 mm (7 in) dia. x 119mm (4.7 in) pitch propeller pusher	£0.65
18.	086	2.5 mm Jack plug	£1.00
19.	087	2.5 mm Jack socket	£1.00
22.	093	Set of 4, 2 mm x 12 long screws, nuts & washers	£0.85
23.	030	Pinion KP 01	£0.50
24.	031	Pinion KP 02	£0.50
25.	035	Gear 4.25 : 1 For KP 01	£0.50
26.	036	Gear 6.25 : 1 For KP 01	£1.00
27.	037	Gear For KP 02	£1.00
28A.	003	KP 00 Motor & gear assembly complete with prop (2.67:1 ratio) Style 1 1mm shaft	£12.50
28B.	004	KP 00 Motor & gear assembly complete with prop (2.67:1 ratio) Style 2 2mm shaft	£12.50
28C.	005	KP 00 Motor & gear assembly complete with prop (4.75:1 ratio) Style 3 2mm shaft	£12.50
28D.	901	KP 00 Motor & gear assembly complete with prop (4.75:1 ratio) Style 4 1mm shaft	£12.50
32.	085	2.5mm switch jack	£3.50
33.	002	KP 00 Motor + propeller	£5.00
34.	013	KP 00 Motor only	£4.50
35.	014	KP 01 Motor only	£3.25
36.	015	KP 02 Motor only	£3.75
39.	084	Charger lead	£3.50
41.	001	Ducted fan 44 mm dia. KP 02, 4.8 volt, 54 grams thrust	£12.95
42.	026	120 mAh cells welded pack of 4, 24 gms. For fan note KP charger is not suitable.	£10.00
43.		KP.00 Gear train only (2.67:1 or 4.75:1 ratio)	£8.00
44.		KP.01 Gear train only	£3.75
45.		KP.02 Gear train only	£5.75
46.		Fan moulding only	£8.20
47.	019	50 mAh single cell	£2.35
48.	020	110 mAh single cell	£2.30
49.	021	120 mAh single cell	£2.50
50.	022	270 mAh single cell	£3.00
51A.	050	150 mm (6 in) dia. propeller tractor – pack of 3 2mm hole	£1.50

51B.	051	150 mm (6 in) dia. propeller pusher – pack of 3 2mm hole	£1.50
52A.	052	178 mm (7 in) dia. propeller tractor – pack of 3 2mm hole	£1.50
52B.	053	178 mm (7 in) dia. propeller pusher – pack of 3 2mm hole	£1.50
53.	038	85 mm dia 45 pitch prop pack 1 mm hole for KP00 direct drive or 2.67:1ratio	£1.00
54.	039	85 mm dia 60 pitch prop pack 1 mm hole for KP00 direct drive or 2.67:1ratio	£1.00
55.	040	85 mm dia 45 pitch prop pack 2 mm hole for KP00 4.75:1ratio	£1.00
56.	041	85 mm dia 60 pitch prop pack 2 mm hole for KP00 4.75:1ratio	£1.00
57.	042	96 mm dia 60 pitch prop pack 2 mm hole for KP00 4.75:1ratio	£1.00
58.	043	96 mm dia 70 pitch prop pack 2 mm hole for KP00 4.75:1ratio	£1.00
59A.	032	Gear 2.67 : 1 For KP 00 hole 1mm Style 1	£1.00
59B.	033	Gear 2.67 : 1 For KP 00 hole 3mm Style 2	£1.00
59C.	034	Gear 4.75 : 1 For KP 00 hole 3mm Style 3	£1.00
60.	029	Pinion KP 00	£0.50
61.	049	138 mm (5 3/8 in.) dia x 90mm (3.6 in) pitch propeller (pack of 3)	£1.00
62	905	KP 00 Double motor/gear 4.75:1	£16.00
63	904	KP 00 Double motor/gear 2.67:1	£15.00
64	902	96 mm dia 70 pitch folding prop 1mm hole	£1.00
65	903	96 mm dia 60 pitch folding prop 1mm hole	£1.00
66	906	104 mm dia 75 pitch folding prop 2mm hole	£1.00
67	907	116 mm dia 90 pitch folding prop 2mm hole	£1.00
68	908	137 mm dia 115 pitch folding prop 2mm hole	£1.00
69	909	149 mm dia 130 pitch folding prop 2mm hole	£1.00
70	913	Electronic time and speed regulator for free flight models	£16.50
71	914	DF 32 Ducted Fan 32mm dia	£28.50
72	915	Feigao 7.35 KV Motor 12mm dia 1.5mm shaft	£19.50
73	916	Feigao 7.35 KV Motor 12mm dia with m2 adaptor	£20.50
74	917	DF 32 Ducted Fan 32mm without motor	£9.50

All items plus postage.

13. JET-X & RAPIER

Please be aware that there are currently production problems with both JET-X and Rapier products. I have very little or in the case of some items no stock available. Please check availability before placing any orders. At this time I'm not able to advise as to when a normal supply situation will resume.

JET-X

Full range of Powermax Jet-x products stocked:

1.	JX1	Kit inc. 50Z motor, 36 fuel pellets, fuse & washers	£18.99
2.	JX1A	Kit inc. 50Z motor, 36 contest fuel pellets, drill, fuse, washers in a clear presentation box (anniversary set)	£25.00
3.	JX2	50Z motor only	£08.00
4.	JX3	10 boost gauzes for 50 size motor	£04.00
5.	JX4	5 Sleeves for boost gauzes for 50 size motor	£04.00
6.	JX5	2 spring motor mounts for 50 size motor	£01.10
7.	JX6	40 fuel pellets 50Z standard	£13.00
8.	JX6C	40 fuel pellets 50Z contest	£14.50
9.	JX7	1 metre fuse Note sold only with a fuel purchase	£04.50
10.	JX8	10 washers 50Z (thick)	£02.95
12.	JX9	1 safety motor clip 50Z	£02.25
13.	JX10	Kit inc. 35 motor, 36 fuel pellets, fuse & washers	£16.99
14.	JX11	Kit inc. 35 motor, 36 contest fuel pellets, drill, fuse, washers in a clear presentation box (anniversary set)	£25.00
15.	JX12	35 motor only	£08.00

16.	JX13	66 fuel pellets 35 standard	£13.00
17.	JX14	66 fuel pellets 35 contest	£14.00
18.	JX15	10 washers 35	£02.99
19.	JX16	10 boost gauzes for 35 size motor	£04.00
20.	JX17	5 Sleeves for boost gauzes for 35 size motor	£04.00
21.	JX18	2 spring motor mounts for 35 size motor	£01.10
22.	JX19	1 safety motor clip 35Z	£02.25
23.	JX21	Kit inc. 100Z motor, 18 fuel pellets, fuse & washers	£25.00
24.	JX21A	Kit inc. 100Z motor, 27 fuel pellets, drill, fuse, washers, in clear presentation box (anniversary set)	£33.50
25.	JX23	100Z motor only	£14.00
26.	JX24	30 fuel pellets 100Z contest	£20.00
27.	JX24A	30 fuel pellets 100Z standard	£18.99
28.	JX25	10 washers 100Z	£03.50
29.	JX26	10 boost gauzes for 100 size motor	£05.25
30.	JX27	5 Sleeves for boost gauzes for 100 size motor	£05.25
31.	JX28	2 spring motor mounts for 100 size motor	£01.10
32.	JX29	1 safety motor clip 100	£02.25
33.		Jet-X finger drill 1.5mm	£02.00
34.		Jetex igniter pen (Produced by John Emmett) for wick free starting, needs a "C" size high capacity Ni-cad cell. Now in gold anodised finish for the Millennium! At the same price	£22.99
35.		Jetex igniter wick	£4.50 per metre

Do be aware that the new Jet-x products are not compatible with the old style Jetex

All items plus postage.

RAPIER

		L1	L2	L2LT	L2HP	L3	L4
Length	mm	40	50	50	50	60	60
Inner diameter	mm	6.5	7.5	7.5	7.5	10	10
Outer diameter	mm	10	11	11.0	11.0	14.6	14.6
Overall mass	grams	5	7.3	7.3	7.3	11.6	11.6
Propellant mass	grams	2.9	4.5	4.5	4.5	6.5	6.5
Chamber mass	grams	2.1	2.8	2.8	2.8	5	5
Burn time	seconds	20	20	26	17	20	20
Mean thrust	mN	50	100	85	250	200	200
Total implus	Ns	1	2	2	2	4	4
poste							
Price plus post		£7.95 for10	£9.95 for10	£9.95 for10	£9.95 for10	£8.25 for 5	£7.95 for 5

Note that Jetex igniter wick is now available and can be used, if required, with Rapiers.

BE AWARE THAT THE OUTPUT OF THE RAPIERS IS PRONE TO VARY. EACH BATCH THAT I RECEIVE ARE DIFFERENT, THE VALUES QUOTED ABOVE ARE THUS NOMINAL.

See section 18 "Plans" for designs by Ian Dowsett, Malcolm Sharpe, Dick Twomey and Peter Lloyd. **See section 20 "Kits"** for Pel-Aero Zephyr.

14. TOOLS

DOUBLE EDGED CARBON (BLUE) STEEL RAZOR BLADES

Sharp edges: may be broken in half lengthways (take care). Edge width 1.455" (36.95mm). Blade thickness 0.005" (0.127mm). Pack of 10 £3.50 plus post.

DOUBLE EDGED STAINLESS STEEL RAZOR BLADES

Sharp edges: may be broken in half lengthways (take care). Edge width 1.69" (43.00mm). Blade thickness 0.004" (0.100mm). Pack of 10 £1.40 plus post.

CARBON STEEL SINGLE EDGE RAZOR BLADES WITH SAFETY SPINE £2.25 for 10, plus post.

SCALPEL BLADES

No's. 10, 10a, 11 for No.3 handle. No's. 22, 23, 26 for No.4 handle. Pack of 5 blades £0.75 plus post

METAL SCALPEL HANDLES

Small No.3. Large No.4 £3.99 each both sizes, plus post

DAVID COMBI PLANE

Razor plane - multi use, for smoothing & shaping - £7.50 plus post. Pack of 10 blades - £2.99 plus post.

SURMANCO TUFKUT SCISSORS

For details see section no.3 Hi-Tech materials

HEAT SEALING IRON

For details see section no.1 lightweight covering materials.

MODELLING PINS made in Czech Republic

Plastic head, safe and easy to use, very fine points, - £4.00 per box of 50 plus post

PERMA-GRIT TOOLS - TUNGSTEN CARBIDE

Sanding tools that last and last. The flexible strips can be cut and shaped to make your own cutting tools. The grit will cut and finish the majority of materials used in model aircraft.

Flexible sanding strip

FXT 103	2" x 11"	Fine Grit)£7.99 each plus post.
FXT 104	2" x 11"	Coarse Grit)
FXT 106	2" x 5 1/2	Fine Grit)£5.99 each plus post.
FXT 107	2" x 5 1/2	Coarse grit)

Hand tool

F101	9" x 1 1/2"	Fine Grit)£6.99 each plus post.
F102	9" x 1 1/2"	Coarse Grit)

Sanding Block

SB 140 5 1/2" x 2" Fine one side, Course one side, £13.99 each plus post.

SB 280 11" x 2" Fine one side, Course one side £22.99 each plus post.

Needle files

Standard NF1 set of 5 files £21.99 per set plus post.

Large LNF1 set of 5 files £30.99 per set plus post.

Handle for files, state NF or LNF £2.99 each plus post.

GIZMOGEEZER PRODUCTS Gritubes pack of 4 £5.70 plus post.

POSTAL SCALES

Small hand held postal scales calibrated in grams (up to 100) and ounces (up 4). Simple to use. Just hold between the fingers or hang from a small hook and clip on the object to be weighed. The weight can then be read against the protractor scale. Use with the Data chart in section 22. Ideal for checking the weight of wood before making the purchase. Supplied in a small case that fits in the pocket. £5.75 plus post.

15. RETRIEVAL SYSTEMS

RETRIEVAL SYSTEM BATTERIES

MIRAE BR 435 batteries, lithium 3.0 volt, cap.40mah. 4x35mm weight 0.8gms 10-12 days life. Use with Biotrack, Ruyter or Doring System etc £1.50 each plus post. Both battery types operate in the same way as Panasonic.

INSTALLATION PACK

Pack of materials (tube, pins and copper tape) to make holders for BR435 and BR425 batteries. If you want a quicker solution I can now supply finished battery holders, complete with leads, to take the BR435 battery £2.50 plus post.

See Section 23 - "How-To-Do-It" No. 12 - Radio tracking of free flight models which gives details on how to make the battery holders.

16 SUNDRY FIELD EQUIPMENT

MYLAR STREAMERS

Aluminised Mylar streamer 3/8" wide x 20' long, ideal thermal indicator £1.25 plus post.

ORTHODONTIC ELASTICS

Quality rubber bands, ideal for many applications. (1/4" for d/t bands). In packs of 100. Dias. 1/8", 3/16", 1/4", 5/16" & 3/8" - £2.00 per pack. 1/2" - £2.50 per pack. 5/8" & 3/4" - £3.00 per pack, plus post

POCKET WINDSPEED AND TEMPERATURE METER

Dual display for wind speed and temperature. Records both maximum and averaged readings over an appropriate range. Can be either hand held or mounted on a pole. £45.00, plus post.

17. PLANS

Note that all plans are sent folded and are plus post. Please remember that the details as shown with the plans listed below do not provide evidence of the provenance of the design with respect to eligibility to meeting vintage, nostalgia or classic class rules.

3-VIEWS

East Anglian Area Newsletter – A limited edition of scaled and dimensional drawings, 43 A4 size drawings, featuring free flight competition models originally published in the EAA Newsletter £5.00 per set.

Jorgen Korsgaard – Those of you who have seen them must agree that Jorgen produces superb 3-views that often appear in magazines such as "Vol Libre". Drawing representing 46 of these models are now available. There 61 A4 pages that include some full size drawings £6.00 per set.

Miscellaneous 3-views – A collection of drawings 40 in all built up over the years £5.00 per set.

For some of the plans laser cut kits of parts are available from Belair kit cutting phone 01362 668658 web site <http://www.belairdigital.co.uk/index.asp>

For some of the rubber model plans Free Flight Supplies can provide custom made propellers enquire for details.

FREE FLIGHT SUPPLIES COLLECTION

D. Aldridge

OMEGA 64" span "V" dihedral A/2 published January 1956 winner of the "Queen's Cup" £4.00

Bob Amor

LUCIFER The A/2 that Bob flew to 2nd place in the 1956 World Championships £5.00

Theo Andre

WINGER beginners F1A straight tow. SWINGER beginners F1A circle tow either design (when the stock of plans is sold these designs will no longer be available) £4.00

TWEETY P-30. 10, A3 pages of details of different variations on the basic model. Enhance with a Gizmo

Geezeer see section 6 rubber accessories £4.00 a complete set.

Alexander Andruikov

AA30 (1520mm span, standard model), AA31 (1920mm span, "long" model), AA32 (1800mm span, as used by Oleg Kulakovsky to win the 1999 World Champs & World Cup) and the 2001 version of the 1800mm span model. Any plan £7.00

Slobodan Babic

PETREL 1957 World Champion A/2 76" span	£5.00
<u>Gordon Beal</u>	
OPTIMIST Classic A/2 glider	£5.00
<u>A. Brooks</u>	
Y-BAR 1955 1.5cc power	£5.00
<u>Tim Bucher</u>	
From STICK AND TISSUE MODELER'S ALBUM VOL 2. For details and Vol 1 See Section 24 Books	
HENDY HOBO. Giant rubber scale 1929 low wing open cockpit monoplane 48" span	£6.50
CURTIS ROBIN. 1/2 A Texaco scale semi-scale based upon the 1937 Comet kit 58" span	£6.50
<u>J. Buckeridge</u>	
CATS WHISKER. 1946 lightweight rubber.	£4.00
LIGHTWEIGHT DURATION (laser kit available see top of section for details)	£4.00
<u>Andrey Burdov</u>	
BIRD DOG P30. A high performance model. Enhance with a Gizmo Geezeer see section 6 rubber accessories	£4.00
HOT DOG P30. A hi-tech version of the BIRD DOG design. Enhance with a Gizmo Geezeer see section 6 rubber accessories	£4.00
COUP DE GRAS (LAWN MOWER) COUPE. A high performance model.	£4.00
<u>Don Butler</u>	
FUGITIVE A/2 from the classic period	£5.00
<u>Victor Chop</u>	
YB-38 victor's 1987 world F1A Championships winning model. Traditional structure from the pre-bunt era but still a very good model	£5.00
<u>Radoslave Cizek</u>	
XL 56B/58/59 Wakefield from the classic period 50 & 80 Gramme versions	£5.00
<u>Mike Cook</u>	
NORTHERN LINE plan from Aviation Modeller International for a modern hi-tech F1A	£5.00
<u>Andy Crisp</u>	
MILLENNIUM FLASHBACK. Andy has updated and revised his Flashback for the Millennium. Andy's uniquely styled drawing together with building and flying instructions. Construction based upon many of the materials and components that are available from Fee flight Supplies. On receipt of an S.A.E. I will send copies A4 sized 3 views of the above before you commit to a purchase.	£5.00
<u>Marc Croome</u>	
ORION 66" span hi-tech open rubber model	£5.00
<u>D. Davitt</u>	
DIG 150 , contest winning Coupe d'hiver, 2 versions shown	£5.00
<u>Ian Dowsett</u>	
Jetex plans	
ARROW 100. Contest winning model for the 100 size unit	£4.00
ARROW 50. A reduced size version for the 50	£2.00
FIZZLE QUICK. Two in one. Open frame fuselage contest models for the 50 & 100	£4.00
FIZZLE BUG Simple all sheet model for the 50	£2.00
<u>F.G. Draper & A. R. McClean</u>	
TRUMP CARD. 1950's 30" span rubber model	£5.00
<u>Arne Ellila</u>	
THE 1949 WINNER. This plan is drawn from the sketches and original drawings still on exhibition in the Science Museum of Helsinki.	£6.00
THE 1950 WINNER	£6.00
<u>Guido Fea</u>	
LUCKY STRIKE 1950 Wakefield by Guido Fea (Italy).	£6.00
<u>Mario Feruglio</u>	
VELEGGIATORE complex but extremely attractive Italian early 1960's A/2	£5.00
<u>George French</u>	
1/2A TRAIN, a 1/2a mini version of George's famous 1960's FAI Night Train.	£5.00
<u>George Fuller</u>	

STOMPER. 1953 design for 1cc - 1.5cc engines	£6.00
ZOOT SUIT. The 1954 version of the 1953 World Championships 2nd placed model (laser kit available see top of section for details)	£6.00
DIXIELANDER classic power model, the original Yeoman kit plan with instruction leaflet (laser kit available see top of section for details)	£5.00
A commemorative "T" shirt is also available	£7.50
Commemorative sticker	£1.50
DIXIELANDER classic power model, fully detailed drawing the latest version with auto rudder	£5.00
<u>Enzo Giusti</u>	
LOERENZO. This model from Italy was probably one of the most elegant A/2's ever built, placed 4 th in the 1955 World Championships. Drawn up by Geoff Hindley and certified as correct by the designer	£6.00
<u>Walter Hach</u>	
BEGINER F1K. Plans from the CO ₂ ENTWICKLUNGSGRUPPE AUSTRIA of Jedelsky construction	£3.00.
Pack of 6 3-views of competition models with construction article	£3.00. Combined package £5.00.
<u>Max Hacklinger</u>	
URUBU A/2 Typical German. One of Max's early models "V" dihedral and pod nose to meet cross section requirements.	£4.00.
MP12 A/2 Max's last A/2. Sheeted wing and turbulator published January 1955	£5.00.
<u>C. J. Hancock</u>	
SHORTY A/2 Very short nose model published April 1955	£5.00.
<u>John Hannay</u>	
TOPSCORE A/2 John was a regular on the UK team in the 50's this was the final development of his design. 73" wing span published in January 1958	£5.00.
<u>D. Holt</u>	
CORSAIR 48" span rough weather A/2 published June 1953 winner of the "Thurston Trophy"	£4.00
<u>Gianfuero Janni</u>	
SANCHO PEPE. 1949 World Championships Italian team member.	£6.00
<u>Jiri Kalina</u>	
PEDRO & HUGO a pair of chuck gliders from Jiri Kalina of The Czech Republic	£5.00
<u>KSAK-3</u>	
SUNNAVIND 1946 38" span lightweight glider	£5.00
<u>Paul Lagan</u>	
KIWI 2. 1969 A/2 similar in style to the Lively Lady and Wishbone designs. 2 versions shown	£4.00
<u>Silvio Lanfranchi</u>	
SWISS MISS 58" wing span old rule FAI model flown successfully by Silvio and Arthur Collinson. Published December 1954	£5.00
<u>P Law</u>	
TADPOLE 78" A/2 elegant long tail moment published in July 1953	£5.00
<u>J.A. Ledezmo & Pablo E Olson</u>	
OP 18 A high-tech structure F1H from Argentina featuring all the latest ideas including bunt.	£4.00
OP 18.1 A modified version of 18 featuring all the latest ideas including bunt.	£4.00
On receipt of an S.A.E. I will send copies A4 sized 3 views of the above before you commit to a purchase.	
JAL 28 & OP5.1. A pair of chuck gliders. OP5.1 includes a bunt mechanism. The pair of designs	£1.00.
<u>Geoff Lefever</u>	
OTTAIR 80gram Wakefield flown in the 1956 Championships	£5.00
FEVAIR 50gram Wakefield flown in the 1958 Championships	£5.00
1963 Wakefield Team place 1965	£5.00
1967 Wakefield first of the "long" models	£5.00
ALTAIR 1955 A/2 team qualifying glider	£5.00
MANTIS A 9 foot span vintage glider	£5.00
OPEN RUBBER MODEL Mid 1960's model, a simplified Wakefield	£5.00
<u>Rudi Lindner</u>	
SPINNE the 1954 World Champs A/2 winner, the Graupner plan plus full instructions in German	£5.00
<u>Peter Lloyd</u>	
NOVAIRIE F01H for the experienced builder	£5.00

JAZZMAN A SLOP or AMA "A" Gas design based upon the DIXIELANDER	£6.00
J-30 A 30" span pylon layout Jetex 100 size model	£4.00
MORRIS DANCER DLG ver 2.1 - Competition Discus launched Glider Jokingly known as "twirling hurling", discus launched gliders are all the rage in free flight hand launched glider circles (recently banned in New Zealand) because of the performance gained; exceeding what a conventional "smaller" javelin launch model (used for the last 60 years) can achieve. You can now join the "DLG Generation" with the Morris Dancer. Available as a full-size plan, this model has the largest wing area (10.25 sq dm or 159 sq") of all the 36" span plans or kits on the market and comes with 2 styles of wing construction. Unfortunately it is not a beginners model. 35" projected span (89cm), length 32.5" (83cm), weight 110grams.	£5.00
<u>John Malkin</u>	
MISER 50/40 gram Wakefield from New Zealand flown in several champs in the 60's	£5.00
<u>Norman Marcus</u>	
BAZOOKA 30" Span mini vintage rubber model	£5.00
EUREKA 50" Span 1.5cc – 2.5cc classic power model	£5.00
<u>Bryan Marsh</u>	
SILVER EAGLE (NZ) 1953 Wakefield entry	£6.00
<u>Vin Morgan</u>	
P30. A state of the art and a regular contest winner in "Oz"	£5.00
<u>John O'Sullivan</u>	
EXECUTIONER 1.5cc Open power model.	£5.00
<u>Dave Posner</u>	
DREAM WEAVER 56" span classic power model	£5.00
<u>Edgardo Sadorin</u>	
MERAU 1949 World Championships Italian team member placed 2nd	£6.00
<u>Paul Seely</u>	
36D A proven contest winning F1H	£4.00
<u>Malcolm Sharpe</u>	
LITTLE PHUTT 1951 Jetex 100 power Australian Jubilee state champion	£4.00
<u>Per-Thomas Skjulstad</u>	
EX-PLANE Per-Th's answer to the Window Plane. An unusual large chord geodetic PGI trim model. Enhance with a Gizmo Geezer see section 6 rubber accessories	£3.00
<u>Vic Smeed</u>	
HUSSY Vintage 1/2a size pylon power model	£5.00
GOLDEN WINGS A/1 including full building and flying instructions (laser kit available see top of section for details)	£5.00
<u>Sune Stark</u>	
1951 WINNER. This is from the original drawing of the model flown, photos taken at the event feature a different model.	£6.00
<u>Ron St Jean</u>	
RAMROD 600 re-drawn by Paul Straney from the 1958 kit plan (laser kit available see top of section for details)	£5.00
<u>Hans Thomann</u>	
AQUILA 80" wing span assymetric wing A/2 published March 1958	£5.00
<u>Dick Twomey</u>	
FIRECREST SPECIAL. Jetex 100 model. Winner of the 1st Jetex International Competition (1949). £5.00.	
STILETTO. Jetex 200 model used to quality for the 1953 ICI Challenge contest.	£5.00.
<u>Igor Vivchar</u>	
PRIMA. A plan of the kit model. Full kit available see section no. 20 kits. On receipt of an S.A.E. I will send an A4 sized 3 view of the Prima before you commit to a purchase. Plan only	£5.00.
<u>K. M Webster</u>	
K-18 78" wing span 1960's A/2	£5.00
<u>Barry Wheeler</u>	
ELIMINATOR 45" 1.5cc power Published Aeromodeller 1953 (laser kit available see top of section for details)	£5.00
<u>Harry Wilkinson</u>	

BORDER REIVER_The late Harry's open rubber model drawn up by Terry Rose to support an article in the BMFA News. For details of how to carve the propeller See Section 23 - "How-To-Do-It" No 15 plan £5.00

Nev Willis

1956 A/2 design Neville has re-visited his successful model. The plan has been drawn from the original sketches, an ideal model for the classic period events. £6.00

Don Wilson

1952 ENTRY. NZ Wakefield entry (NZ) £6.00

Mike Woodhouse

CLASSIC WICHITA A/2 developed and flown in the late 50's based on the "Lucifer" & "Altair" £6.00

WICHITA A/2 Developed through Sixties and Seventies, many times contest winner £3.00

WHIFFLER A/2 Seventies update of the WICHITA £3.00

WICHITA 79/WHIFFLER-2 A/2 "D" box wing, Russian hook, etc. £3.00

WHISKAS Wakefield - 5 different plans 1980, 1981(2), 1984(2) all featuring several variations on each plan from the long series of successful 40 gm models (will convert to 35 and 30 gm rules) £3.00 each plan.

Roy Yeabsley

NEBULA. 72" span advanced for its time A/2 published July 1954 £4.00

"ATLANTA AERO MODEL CO" (Howard Towner plans)

BELL AIRCOBRA 1 601Sqd 26" span £5.00

BOULTON & PAUL DEFIANT 27.5" span £5.00

BRISTOL BLENHEIM IV 28" span £5.00

HANDLEY PAGE HAMPDEN 29" span £5.00

SHORT STIRLING 37" span (2 sheets) £6.00

ELITE MODEL AIRPLANE SUPPLIES

NO.2 GLIDER 36" span £5.00

"CLOUDCRAFT"

MILES MAGISTER 15" span £1.00

ZENITH 36" span vintage rubber £5.00

"CONTEST KITS"

INCHWORM 1954 A/2 (laser kit available see top of section for details) £5.00

EMPRESS 1957 A/2 £5.00

"KEIL-KRAFT"

ACE 30" mini vintage rubber model £5.00

AJAX 30" mini vintage rubber model £4.00

COMPETITOR 32" 1946 rubber cabin re-drawn by Paul Straney from the kit plan £5.00

GYPSY 40" 1949 Wakefield re-drawn by Paul Straney from the kit plan (laser kit available see top of section for details, hand carved propeller available £24.00 plus postage) £6.00

ROVER 40" sport power model £4.00

SENATOR. 30" wing span lightweight rubber, a very successful flyer. Kit plan complete with notes by Ian Davitt on how to make this model a contest winner (laser kit available see top of section for details, hand carved propeller available £19.00 plus postage) £5.00

STAR JET. By Ian Dowsett. Sport model designed for the Payloader, complete with instructions £4.00

"MERCURY"

SWAN 52" span lightweight glider £5.00

"SKYROVER" & "SKYLEADER"

The plans below were designed and developed in the 40's and 50's many by Peter Kelsey. The drawings are produced both for historic interest as well as for construction, some plans will require a degree of interpretation. Wing spans ().

"Skyrova" Junior series any of the plans £1.00

Flying scale – FAIREY FIREFLY (12”), DeHAVILLAND TIGER MOTH (10”), AVRO AUSTER (14”), HAWKER TEMPEST (12”)

Duration models. RUBBER (16”), GLIDER (20”)

“Skyleader”

SWALLOW cabin duration (20”), FALCON cabin duration (23”), GRASSHOPPER (13”) each plan	£1.50
ZIPPER power (44”) 2 sheets	£5.00
JUNIOR ZIPPER power (32”) each plan	£3.00
BANTAM Power by Ron Warring (44”) 2 sheets	£5.00
Rubber duration. BEGINNERS (26”), CAVALIER (30”), CADET (24”) each plan	£3.00
FLYING WING rubber powered (32”) 2 sheets	£5.00
1945 WESTON CUP winning glider (50”) £4.00	NORTHROP BLACK WIDDOW (24”) £4.00
KORDA 1939 winner	£5.00
CANBERRA Jetex 100 21” span	£4.00

DON DELOACH PLANS

The plans described below as drawn on computer using CAD software.

POLECAT MKX by D. DeLoach U.S. NATS winner in '89, '90, '91, '05 and U.S. senior record holder. Slow but relentless climb with 4-5 strands of 1/8” rubber. Enhance with a Gizmo Geezeer see section 6 rubber accessories £5.00

1954 UNLIMITED by Ted Becker, U.S.A. From 1955 Zaic Year Book. 145 square inch wing, very long Warren truss fuselage, MVA 301 wing section. £5.00

COPACETIC 1951 Wakefield by Doug Moran, U.S.A. From 1951/52 Zaic Year Book. Long warren truss fuselage and high A/R wing. Very competitive Nostalgia Wakefield. £5.00

W 55/5 Team Wakefield by J. Altmann, Germany. 4th place in 1955 W/C flyoff. Very lightweight and sleek; fantastic glide with 7% thick Benedek wing section. £5.00

JIM O'REILLY MODEL PLANS

The plans described below as drawn on computer using industrial strength CAD software. In addition to pleasing appearance, they offer outstanding accuracy, with formers and ribs that fit their structures and contours that accurately fair.

Old-timer rubber powered

EUGENE Ed Lidgard wing span 43.5” wing area 190 sq. ins. £5.00

PUSS MOTH Lanzo with RAF32 that Chet originally used. £5.00

C FUSELAGE Lidgard is published in the Zaic MODEL AIRPLANE MEET IN PICTURES. £5.00

HEOSLER HIFFLER Bob Cahil's 1935 300 sq. in. combo fuse & stick. Earliest folding prop. £5.00

FLYING ACES MOTH 24 in. W.S. Commercial rubber. £4.00

52 TEAM WAKEFIELD Ed Lidgard An 8 oz. wake. 1953 Zaic year book page 65. £5.00

ULTRA CLODHOPPER Jim Cahill '48 team Wakefield. An 8 oz. wake £5.00

WANDERER Art Horak from 3-'45 MAN, an FAC OT stick 30” wing span. £4.00

Old-timer gas

ALERT Michael LaTorre's for 0.29/0.30 £5.00

SWOOSE Jack Roeser's in Bantam 0.19 size as modified by Parmenter & others. £5.00

Others

TUBULAR BUSTARD is an AMA P-30 has a thin highly cambered airfoil with a wing chord of 4.75”. Enhance with a Gizmo Geezeer see section 6 rubber accessories £4.00

SNOOTY 1/2A gas. 290 sq in. wing area for 1/2A schneurle. £5.00

BOULTON & PAUL DEFIANT Modified Stahl Half shell fuselage is replaced by longerons & formers £5.00

TUBERSTAKE III Latest 250 sq. in Mulvihill. £5.00

MSP PLANS PRESENTS

Vintage, Classic, Sport and Duration Designs

MSP PLANS drawn by Martyn Pressnell, offers a collection of model aircraft designs selected for their aesthetic qualities or unique origins. Plans of selected more complex models are called ‘Collectors Plans’ and are printed to order including Historic Notes. All drawings are A0 size, some as twin plans.

VINTAGE MODELS PRE 1951

MICK FARTHING 1942 The 40" span Lightweight Contest rubber model with a diamond fuselage. Redrawn from an early source drawing, now as a fully developed plan showing all details. A model to the older FAI specifications, about Wakefield size.

MICK FARTHING'S 'THE PAPER BAG' This is the unique plan of the late Mick Farthing's last lightweight rubber model. The very light machine had a near vertical climb and extended duration in fairly calm conditions. Produced from the designer's working drawing. Meets SAM Small Rubber class rules. Twin plan with the RAFF V.

RAFF V 1947 Designed by Norman Marcus who was National Champion in 1946. His very successful RAFF V was typical of the lightweight type of rubber model, now suiting the BMFA Rubber class rules and SAM small rubber rules. Better proportioned than many, it proved a thoroughbred with its single-bladed folding propeller. Twin plan with the PAPER BAG.

FRANK LOATES' 1949 WAKEFIELD The Canadian Wakefield that placed 5th in the World Championships staged at Cranfield, England, in 1949. A distinguished model of attractive appearance, and with a double-bladed folding prop. Collector's Plan

BORJE BORJESSON'S 1949 WAKEFIELD The Swedish Wakefield which placed 6th in the Championships staged at Cranfield, England, in 1949. A semi-streamlined, triple finned, shoulder winged model with a free-wheel prop. The most visually attractive in the top group. Collector's Plan

ODENMAN'S 1950 NORDIC A2 Swedish Championship glider, placed second in the first World International in 1950. Acknowledged trend setter, probably the best vintage Nordic A2 glider before the Classic era of 1951. Published in Sweden.

SENATOR 1950 RUBBER Designed by Albert Hatfull and kitted in 1950. Probably the most successful kitted rubber model of all time. Renowned for its stability and contest performance, with 30" projected span (32" true span) and tip dihedral. Twin plan with the ACE.

ACE 1950 RUBBER Designed by Bill Dean and kitted in 1950. Reliable and attractive beginner's model of 30" span and V-dihedral wing. Drawn with traditional balsawood free-wheeling propeller. Twin plan with SENATOR.

CLASSIC MODELS 1951 TO 1961

GHOST WAKEFIELD 1951 John Gorham's 1951 Wakefield, produced from photographs and in accordance with the original working drawings. One of the most successful rubber models from the early 1950's. Suitable for 75 g motor as defined for Classic models from 2007. Collector's Plan

RON WARRING'S 1952 WAKEFIELD The geared geodetic model, developed by Ron Warring for twin motors, being the ultimate design in his long series of famous Wakefields. Drawn from the original model and contemporary sources. Collector's Plan

FRED BOXALL'S 1956 OPEN RUBBER MODEL One of the most successful open rubber models of its time, designed by this highly respected British team member. Winner of the Model Aircraft Trophy at the 1958 British Nations and other successes. Potentially as capable today with 75 g rubber as a BMFA Rubber class model. Approved by the Bournemouth MAS for Club Classic Rubber events. Twin plan with Boxall's SEAPLANE.

LAST RESORT 1956 CLASSIC RUBBER The remarkable small Open Rubber Model designed by Jim Baguley, a model resembling a small stretched Wakefield of 1953. Dependable and easily trimmed, climbs in a steep and rapid spiral climb. Has proven to be the most popular model approved for Bournemouth MAS Club Classic Rubber events. Twin plan with FIRST RESORT.

WINDING BOY II 1956 design by Urlan Wannop from Scotland with many successes north of the border, a 38" span, V dihedral wing of geodetic construction and with a diamond box fuselage. This is a potentially high performance rubber model to suit the BMFA Rubber class, while being an approved Bournemouth MAS Club Classic rubber model. Twin plan with MCGILLIVRAY'S LIGHTWEIGHT.

JACK MCGILLIVRAY'S LIGHTWEIGHT 1958 The ultimate Canadian lightweight rubber model of 36 in. span, V-dihedral wing, with jig-built diamond box fuselage. Two piece wing to avoid damage and for easy transport. Approved Bournemouth MAS Club Classic design. A challenge to the discerning builder, or with simplified construction for the BMFA Rubber class. Twin plan with WINDING BOY II.

CAPRICE 1959 GLIDER The renowned lightweight glider of 51" span, designed for kitting in 1959 by Neville Willis. The most successful competition glider ever kitted, with innumerable wins to its credit. A favourite with aeromodellers world wide. Twin plan with GAUCHO.

NEW PLAN VAKUSHNA 1959 A2 Designed by Brian Dowling this glider won the 1960 Pilcher Cup along with other successes. It should be regarded as a straightforward and satisfying build, very suited to rough British weather. Accepted for SAM events but not meeting BMFA publication requirements.

GAUCHO 1960 POWER DURATION A first class model for 1.5 cc engines. Designed in 1959 by Neville Willis, it proved an ideal kit introduction to free flight power duration. A classic model suited to British Power events today. Twin plan with CAPRICE.

NIGHT TRAIN Mk II 1960 George French's Night Train which pioneered the use of VIT systems in the UK, to control the power-on trim of FAI models. Coming at the end of the Classic era it was to prove immensely successful in future international events. A most attractive model with elliptical surfaces, it will perform well in Classic and SLOP events today. Collector's Plan

SPORT AND OTHER DURATION MODELS

JUDGE 1945 WAKEFIELD This design was conceived by Bert Judge to the 1945 rules as a direct descendent of his 1936 Wakefield Cup winner, as kitted by FROG. It was closely related to the FROG JANUS power model of 1947. The Wakefield was not built until Bert's retirement many years later. A beautifully conceived and well-proportioned model with aerodynamically clean lines. Collector's Plan

FIRST RESORT 2006 Designed by Martyn Pressnell for the BMFA Rubber Class, development of Jim Baguley's design using 50g of rubber, 36" span, tip dihedral. Twin plan with LAST RESORT.

HERMES MAJOR A 150% enlargement of the 1959 HALFAX HERMES, the purposeful high wing sport model, designed by John Magson for Halifax models of Halifax in 1949. In the true vintage style but sleek to capture the competitive thrust of that time. Very suited to Texaco type events or for stooing around. Designed for radio assist by Martyn Pressnell. Collector's Plan

FRED BOXALL'S SEAPLANE Completing this duo of contest machines, commemorating the memory of Fred Boxall. The Seaplane established itself in this challenging form of flight, constructed in his inimitable style, guaranteed to fly well. Twin plan with the 1956 OPEN RUBBER MODEL.

Each standard A0 plan or twin plan is supplied at £6.00, plus postage

Collector's plans with historical notes are supplied at £10

DISCONTINUED PLANS

The following will be discontinued when stocks are exhausted

1954 INCHWORM Designed by Mick King and later kitted by his company Contest Kits. Probably the most successful A2 glider design of its era in the UK, with countless contest wins to its credit. Many innovative features.

CALYPSO MAJOR 1957 The Contest Kits classic power duration model originally for FAI or Open events, now very suitable for Slow Open Power, and Classic events. At 64 in span it will suit 2.5 cc engines or larger. One of the trio of Calypso kits very successful in their day, simple and straightforward design.

EMPRESS 1957 A2 The very attractive semi-scale A2 sailplane, kitted by Contest Kits in 1957 and designed by Mike King. The drawing defines the original kit model of 78 in. span with two-piece wing, including the option to build a compact R/C slope soarer version.

CRESTA A 38 in wingspan low-wing design for small diesels with option for electric power, original drawn by MSP and kitted by Contest Kits in 1955.

CZECH SCALE PLANS

You will have seen the photos in the magazines over years and no doubt wondered at the excellence of these models. Now buy the plans. The range is being steadily added to, so keep in touch for additions to this exclusive range of drawings. Most of the models are designed and drawn by either Lubomir Koutny or Pavel Stránik. Apparently they have some 400 different designs! Suggestions are welcome re additions to the selection. Most of the popular WWI and WWII aircraft are available. Lubomir's or Pavel's comments are appended. Please be aware that these plans are not for the inexperienced model builder. All plans plus post.

PEANUT (WING SPAN 13")

France

EDOUARD NIEPORT (1910/11)	Early mono-plane has flown 90secs	£1.25
HELIO SUPER COURIER	High wing monoplane has flown 90secs	£1.25

Finland

PIK-21

An excellent flyer, has done 98 sec's at a contest in Prague with the 140 mm prop. With 160 mm will do over 120 sec.in a high hall. Plan has been agreed with documentation from the designer of the full size aircraft. £1.25

Italy

MACCHI M67 (1929)

This was a superb Schneider Trophy seaplane racer. This Peanut is also superb but not easy to build. The model has flown over 60 secs. Scale judges award high points for static. £1.25

Russia

SU26M

Aerobatic monoplane will fly 60 secs. £1.25

ZLIN 50M

Long nose version of aerobatic aircraft. £1.25

ZLIN 526AFS

Very simple to build but a good flying model. The plan is very basic but many models have been built by pupils at Lubomir's school. All models have flown very well. £1.25

1/20 SCALE [APPROXIMATE WING SPANS IN ()**Brazil**

EMBRAER TUCANO (22")

Low wing, 2 seat trainer £3.00

Czechoslovakia

AVIA B-534 (19")

Pre-war biplane fighter 2 versions shown £3.50

Finland

VL PYORREMYRSKY (21")

WWII fighter £3.00

France

ARSENAL V6-39 C1 (22")

WWII fighter. Easy to build. An excellent flying model. £3.00

BREGUET 820 (30")

Twin, excellent flyer £4.00

CAUDRON C714 (18")

Low wing £3.00

NIEUPORT 28 C1 (16")

WWI fighter £3.00

Germany

ARADO AR240 (28")

Twin engine fighter £3.50

DONIER DO335 (37")

"Push-Pull" fighter £3.50

DORNIER DO435 PROJECT

Development of the DO335 £4.00

FIESELER STORCH BIS

Luftwaffe Observation (also P.30!!) £3.50

FI 256 (29")

FOCKE-WULF FW189 (35")

Luftwaffe twin engine, twin boom observation £5.00

FOCKE-WULF FW190 A4/R6 (21")

WWII fighter £3.00

FOCKE-WULF FW190 D9 (21")

"DORA" last version of the FW190 £3.50

FOCKE-WULF TA152H (28")

Long nose version of the best of the German WWII fighters £3.50

FOCKE-WULF TA154 V7 (31")

Luftwaffe "Moskito" £3.50

FOKKER DRI TRIPLANE (14")

WWI fighter £3.00

FOKKER DVII (17")

"Red Baron" WWI fighter £3.00

FOKKER DVIII (17")

WI Monoplane can fly 70 secs The "Flying Razor" £3.00

FOKKER V27 (20")

High wing monoplane end of WW1, long engine (in line) £3.00

FRIEDRICHSHAFEN FF43 (21")

WWI floatplane £5.00

HEINKEL HE51 (22")

1930's Biplane fighter £4.00

HEINKEL HE100D1 (19")

Heinkel's answer to the BF109E. £2.50

HEINKEL HE-112-B-0 (19")

WWII fighter £5.00

HEINKEL HE119 (31")

Single engine light bomber prototype £5.00

HEINKEL HE219 "UHU" (38")

Two sheets to this plan of the twin engine night fighter "Owl" £5.00

HENSCHEL HS 126 B1 (27")

Also suitable for C02 high wing monoplane £4.00

JUNKERS JU87 D3/D75 "STUKA" Famous dive bomber, 2 versions

(30"-32") £4.00

MESSERSCHMITT BF109E,

4 Different plans of the famous fighter - each plan £3.00

BF109F, BF109K & BF109H1 (20")

MESSERSCHMITT Me 209 (22")	final development of the 109 (prototype)	£4.00
MESSERCHMITT BF609 (30")	Twin fuselage variant of the 109 last prop project of III Reich	£3.50
PFALZ DIIIa (19")	WWI fighter	£3.00
ROLAND DII (17")	WWI fighter	£3.00
ROLAND D-V1b (18")	WWI fighter	£3.00
Great Britain		
ARMSTRONG WHITWORTH FK3 (24")	WWI bomber	£3.00
AUSTIN-BALL A.F.B (18")	WWI fighter	£3.00
BLACKBURN SKUA (28")	WWII navel fighter	£3.50
BRISTOL MIC (19")	Between the wars monoplane racer	£3.00
DE HAVILAND HORNET (27")	Twin engine fighter/bomber	£3.50
FAIREY BARRACUDA MK II (29")	Carrier borne dive bomber	£3.50
FAIREY FIREFLY MK II (28")	WWII heavy fighter	£4.00
FAIREY SWORDFISH (28")	WWII navel torpedo bomber	£5.00
HAWKER HURRICANE Mk I (24")	WWII fighter	£5.00
HAWKER TEMPEST MKV (24")	Pierre Closterman's Aircraft specifically drawn	£4.00
MARTINSIDE F4 BUZZARD (20")	WWI fighter	£3.00
MARTINSIDE G102 ELEPHANT (22")	WWI fighter	£3.00
MILES M-14 MAGISTER (21")	WWII trainer (Gasparian GM63 installation details shown)	£5.00
MILES M-38 MESSENGER (22")	WWII observation	£4.00
MILES MAGISTER (18")	WWII low wing trainer	£3.00
SE 5A (17")	WWI fighter	£4.00
SOPWITH PUP (16")	WWI fighter	£3.00
SUPERMARINE SPITFIRE MK XIV (22")	WWII fighter	£3.00
SUPERMARINE SPITEFUL (21")	WWII fighter "Spitfire" derivative	£3.00
TAYLORCRAFT AUSTER (22")	WWII A.O.P.	£3.00
WESTLAND WAGTAIL (18")	Inter-war bi-plane (Gasparian GM63 installation details shown)	£5.00
Holland		
FOKKER D XXIII (24")	WWII twin boom fighter prototype	£5.00
Italy		
FIAT G.55 CENTAURO (23")	WWII fighter	£4.00
FIAT G-56 (23")	WWII fighter (prototype)	£4.00
PANTERAVIA P66 OSCAR 100 (20")	A very simple high wing design. Built down to 20 grams this model is an excellent all weather contest model. Models of this design regularly fly over 80 secs.	£3.00
REGGIANE RE-2005	WWII fighter	£3.00
SAGITTARIO (21")		
SVA ANSALDO A-1	WWI fighter	£3.00
BALILLA (16")		
SAVOIA MARCHETTI SM-79 (42")	WWII three engine bomber	£5.00
Japan		
KAWASKI KI K-61 HIEN (TONY) (24")	WWII fighter, a very good flyer	£3.00
KAWASKI KI 84 HAYATE (FRANK) (23")	Army WWII fighter	£3.50
MANSYU KI-98 (23")	WWII twin boom fighter	£3.00
MITSUBISHI J2M2 RAIDEN (JACK) (21")	WWII heavy fighter	£3.00
NAKAJIMA C6N1 SAIUN (MYRT) (25")	Dive Bomber	£3.00
YOKOSUKA D4Y2 SUISEI (JUDY) (23")	WWII Torpedo bomber	£3.00

Russia

IS-4 (17")	Mono-biplane fighter WWII very unusual but an excellent flyer	£3.00
JAK3 (19")	WWII fighter	£3.00
LA-5FN/LA-7 (19")	WWII fighter	£3.00
LAGG 3 (20")	WWII fighter	£3.00
LAVOCHKIN LA.9/LA.11 (20")	WWII & Korean War fighter	£3.00
MIG-3 (21")	WWII fighter	£3.00
MIG-DIS (30")	Twin engine fighter long range escort fighter	£4.00
MIGI-224 (26")	WWII fighter	£5.00
POLIKARPOV ITP (20")	WWII fighter	£4.00
PE-3 (37")	Twin engine fighter variant of the PE-2	£3.50
TOMASEVIC (20")	WWII prototype fighter	£3.50
TUPOLEV ANT-63 (SD B) (37")	A very good plan of a twin which is a little trim sensitive but once adjusted will turn in excellent flights.	£4.00

U.S.A.

BELL P-39Q AIRACOBRA (21")	WWII fighter	£5.00
BELL P-63A KING COBRA (23")	WWII fighter	£3.50
BELLANCA SKYROCKET (21")	Low wing passenger	£3.00
BELLANCA TRIMOTOR (28")	Tri-motor between wars sport plane	£5.00
CHANCE-VOUGHT F40-ID	Carrier borne fighter	£3.50
CORSAIR (25")		
CURTISS P-40WARHAWK (23")	WWII fighter	£3.50
GRUMMAN F7F TIGERCAT (31")	Carrier twin engine WWII fighter	£3.50
GRUMMAN F4F WILDCAT ((23")	WWII fighter	£5.00
LOCKHEAD P-38G/L	Twin boom fighter	£4.00
LIGHTNING (33")		
MCDONNELL XP.67 (34")	'BAT' wing twin	£4.00
NORTH AMERICAN P51B	WWII fighter	£3.00
MUSTANG (22")		
NORTH AMERICAN MUSTANG P 51H (23")	WWII fighter - model will fly in all weathers to 70 secs	£3.50
NORTH AMERICAN F82 TWIN	Twin fuselage version of P.51H	£3.50
MUSTANG (31")		
VOUGHT OS2U Kingfisher (22")	WWII float and carrier aircraft, both version shown	£6.00
VULTEE XP-54 (33")	WWII twin boom pusher	£6.00

18. BOB JONES' PLANS All plans are £5.00 plus post

Over the years many of you will have purchased plans from Bob Jones. In the US some Bob's of plans were sold, for a number of years, through the late Ken Sykora's Old Timer Model supply (The "American list"). Bob has now passed on his plans service to Free Flight Supplies

For some of the plans laser cut kits of parts are available from Belair kit cutting phone 01362 668658 web site <http://www.belairdigital.co.uk/index.asp> A full kit for the BLACKPOLL ROC has now been kitted by Spencer Willis see section 19 KITS.

Lightweights

1945 MICK FARTHING - two blade freewheeler (30")	1946 HEP CAT (John Barker)	(30")
1947 DIZZY LIZZIE - land/float (Reg Parham) Laser kit (32")	1947 THE JINX (J. White)	(30")
1948 PINNOCHIO (Laurie Barr) Laser kit (28")	1949 BLACKPOOL ROCK MK3 (J. Owen)	(32")
1950 SCRAM (Laurie Barr) Laser kit (28")		

Wakefields - No minimum weight

1930 EHRHARDT (32")	1931 FEINBURG	(37")
1931 EHRHARDT Laser kit (36")	1932 GORDON LIGHT	(37")

Wakefields - 4 Ounce

1935 GORDON LIGHT Laser kit	(40")	1935 KUMMER	(45")
1936 MOFFETT (Bob Jeffrey) Laser kit	(42")	1937 DUPLEX (Chet Lanzo) Laser kit	(42")
Wakefields - 8 Ounce			
1937 DRUCOT- French	(41")	1939 KANSAS (E. Linn) Laser kit	(48")
1937 ELIMINATOR WINNER* (Fish)	(42")	1938 CLODHOPPER II Laser kit	(50")
1939 LOCTON PARK	(59")	1939 GYPSY (Earl Stahl) Laser kit	(44")
1939 WINNER (Dick Korda) Laser kit	(42")	1940 HI-HO* (Ed Lidgard)	(40")
1940 CALIFORNIA CHAMP (Engleman & Baker) Laser kit (50")		1942 SHARPSHOOTER Laser kit	(44")
1950 GUTTERIDGE TROPHY (Reg Parham) laser kit (42")		1950 GHOST - geared (John Gorham)	(47")
1950 FITTLEWORTH FLYER" (Boxall)	(44")	1950 JOHN KNIGHT	(44")
Nostalgia/Classic 1951 rules			
1951 BRITISH TEAM (Ian Dowsett)	(45")	1952 JOHN KNIGHT	(46")
1952 DRIFTER - geared (Joe Bilgri)	(48")	1953 WINNER - geared (Joe Foster) Laser kit	(48")
American Sticks (i.e. no U/C)			
1935 CLASS C RECORD* (Dick Korda)	(30")	1937 MULVIHILL WINNER* (Alvie Dague)	(36")
1937 CLASS C (Dick Korda)	(38")	1940 LANZO STICK (Chet Lanzo) Laser kit	(55")
1940 CHAMPIONSHIP STICK* (Al Casano) Laser kit (38")		1941 STICKLER (Dick Korda)	(42")
1941 SMITH Mulvihill (Johnson)	(35")	1941 MULVIHILL WINNER* (Homer Heller)	(42")
1941 CONTEST WINNER* (Reid Hull)	(40")	1941 RECORD STICK* (Ed Swenton)	(39")
1942 SLICK STICK (Johnson)	(50")		
American Duration (The "American" list plans plus post those marked thus * drawn for (OMS)			
1936 THE RANGER (Gordon S. Light)	(37")	1936 MOFFETT WINNER (Vernon Gray)	(39")
Bob Jones continued			
1936 STOUT WINNER - cabin (Ervin Leshner)	(49")	1938 STOUT WINNER (Arthur Beckington)	(38")
1939 MOFFETT WINNER (Ed Naudzius)	(40")	1939 DOUBLE FEATURE Moffett (George Reich)	(36")
1939 STOUT WINNER (Bob Toft)	(41")	1940 THE CRUSADER - cabin (Bob Romeister)	(38")
1940 MOFFETT WINNER (Bob Reich)	(41")	1940 THE VETERAN Moffett winner (Ken Carter)	(40")
1940 STOUT WINNER - cabin (Caldwell Johnson)	(40")	1940 MOFFETT WINNER (Ray Nelder)	(46")
1941 CLASS E RECORD HOLDER (Chet Lanzo)	(64")		
Small Duration/Sport			
1937 KANGA KITTEN (Col. Bowden)	(30")	1939 DEWFLY Cabin	(32")
1939 BABY DURATION TRAINER* (Felix Gilbert)	(30")		
1940 CONQUEROR cabin/stick (Dick Korda)	(30")		
1942 HUMP II (Noakes)	(24")	1942 WATTIE - Flight cup (R. Watson) Laser kit	(34")
1942 WREN duration (H McDougall)	(34")		
Duration/Sport			
1937 EAGLET - low wing racer (Knight)	(28")	1940 HURRICANE - low wing (Earl Stahl)	(33")
1940 CABINAIRE (Brown)	(18")	1941 MERCURY – Cloudcraft semi-scale	(24")
1945 CYGNET - biplane (Gordon Rae)	(28")	1947 JUPITER – FROG low wing	(36")
Scale			
1930 FAIRCHILD RANGER – Megows	(30")	1941 GRUMMAN SKYROCKET - twin (Struhl)	(42")
Scale - Jumbo			
1935 DEWOTINE D-33" - low wing (modified by Keith Horry)	(50")		
1936 REARWIND SPEEDSTER - burd (modified by Doug McHard)	(60")		
Gliders			
1940 THERMIC 50X (Frank Zaic)	(50")	1940 ELITE AIRBORNE	(42")
1942 BRISTOL BEAJUGLIDER NO 2	(40")	1942 BRISTOL BEAUGLIDER NO3	(50")
1945 LIGHTWEIGHT (Stephen Lacy)	(36")		
CO2			
1938 POWERHOUSE - Quarter size	(21")	1949 SLICKER 50X 2-3.5cc (Bill Dean)	(54")

19. KITS

BMFA EDUCATION PROGRAMME KITS

DART - BMFA version of the classic "Dart" simple rubber powered aircraft - Span 12" (30 cm) - £2.00

GYMINNIE CRICKET - rubber powered model - Span 15" (38 cm) - £2.20

FROG - Span 20" (51 cm) - model fitted with undercarriage from which it will take off - £3.50.

Spare propeller units- fits all BMFA models red 5.5" or black 6" 40p either propeller. All plus post.

STING AERO PRODUCTS (LEN SURTEES)

Butterfly 20 designed by Mick Page. Complete for the most famous chuckie in the UK. - £20.00 plus post.

PEL-AERO-KITS (PETER LLOYD) HAND LAUNCHED GLIDER RANGE FROM AUSTRALIA PERFORMANCE MODELS WITH THE WINNING EDGE

HIGH FLYER - Span 16" (40 cm), Length 16.3" (41.5 cm) - A no nonsense beginners model that requires the minimum of tools to complete. Pre-shaped components made from carefully Selected Contest Grade Balsa added to a minimum of supervision can create in 4 hours a fun flyer with contest capabilities. Suitable for school recreation activities or club fun days - £6.50 plus post.

WAMIRA 18 ver 3.1 (YOUNG EAGLE) - Span 18" (45 cm), Length 19.4" (49 cm) Based on the former Australian record holders' model, this design (now with a carbon reinforced fuselage) allows the beginner to expand their building skills or for the experienced modeller a budget price contest model. It takes longer to build but the results are worth it. £10.00 plus post.

EPSILON 21 ver 3.0 - Span 21" (53 cm), Length 21.6" (54.8cm). A "No holds barred" competition model designed for those finicky conditions when size matters! A fashionable 6 piece wing featuring built in wash-in for snappy launch recovery is added to a carbon/balsa composite fuselage and to bring your master piece back safely; full details to construct the "Broken Back" D/T system are provided. A perfect compliment to the Wamira. Not a beginner's kit. £19.00 plus post.

KATAMAX ver 3.0 - Span 18" (45 cm), Length 19.3" (49 cm). Created for the growing interest in catapult launched gliders, this kit has evolved to feature a "Pop-up" wing dethermaliser and introduces a carbon reinforced fuselage. This model allows you to discover the thrill of flying a hand launched glider without physical discomfort. As a potential contest winner, this design offers the best of two worlds. Not a beginner's kit. £13.50 plus post.

POTSHOT - Span 16" (39 cm), length 18.8" (47.8cm). POTSHOT is a unique model, designed not only for the fast growing outdoor catapult launched glider scene, but for the use of carbon fibre as an integral part of its construction and a "Tip-up" wing D/T (the only kit available to offer these features). Reviewed in the June 2003 issue of MODEL FLYER and recommended for fun flying or competition you can become a "Hotshot" with a POTSHOT. Not a beginners kit. £12.00 per plus post.

ZEPHYR - Span 18.0" (45 cm), Length 15.75" (40cm). Welcome to the fascinating world of Jetex/Jet-x powered Model Aircraft. These simple re-usable solid fuel motors coupled with the ZEPHYR offers the avid sport flyer an exciting low cost introduction to rocket powered flight with the added bonus that the ZEPHYR can be built as a Catapult Launched Glider Created for those who prefer a more simplistic approach.. This "Flitzer" all sheet style model is for 50 size motors and is convertible to Rapier power. £10.00 plus post.

ADDITIONAL ITEM. The carbon strips included in the kits are available separately.

POT SHOT - 12" (305 mm) long 0.25" (6 mm) taper to 0.08" (2 mm) 0.007" (0.18 mm) thick, £2.00 per pair plus post.

KATAMAX - 18" (457 mm) long 0.75" (19 mm) taper to 0.20" (5 mm) 0.007" (0.18 mm) thick, £2.50 per pair plus post

FLY IN (INDOOR SPORT RUBBER MODEL KITS FROM AUSTRALIA)

HANGER RAT - Original design by H. Barr - £6.45 plus post.

ZEPHYR - From a plan by Randy and Irene Wrisley and modified by Laurie Kelsall. A canard design complete with rubber tissue and hardware - £5.95 plus post.

IGOR VIVCHAR

PRIMA F1B - The kit is complete with all the parts that are needed (covering and glue excluded) to build this excellent introduction model for F1B class. Prima is a simplified version of the model the Igor flies with great effect. Send an S.A.E. for a scale three view. Complete kit materials/instructions £120.00 plus post. Full size plan only £5.00 plus post.

Fuselage upgrade components are described in detail in section no.7 rubber accessories.

SPENCER WILLIS

SWEET "P20" P20 rubber model. Laser cut balsa and ply parts, tubular balsa fuselage ready to finish, 2 rubber motors. £23.00 plus post.

SWEET "P30" P30 rubber model. Laser cut balsa and ply parts, tubular balsa fuselage ready to finish, 2 rubber motors. £32.50 plus post.

P.SUPA "P30" P30 contest rubber model. Laser cut balsa and ply parts, tubular balsa fuselage ready to finish, 2 rubber motors. £35.00 plus post.

Spare prop units for Spencer's P20 and P30 kits. 8" P20 £3.00 and 10" P30 £3.50 both plus post. Hand carved Senator propellers are also available at £19.00 plus post

BLACKPOOL ROC (Bob Jones plan) Laser cut complete kit, plan all parts, tissue. Metal parts and other materials supplied £29.00 plus post

BLUEBOTTLE SQUADRON

A new range of high quality kits. Strip wood and laser cut sheet parts, tissue, moulded canopies, pilot and other parts, propeller, hardware and transfers etc. etc. Excellent value

REGGIANE RE-2000 Italian WWII fighter 1/24scale 18" wingspan £27.36 plus post

BELL X-1E 1950's experimental supersonic rocket ship 1/24 scale 11" wingspan £21.05 plus post

WING-DING Inspired by the famous Wilmot Mansour jetex powered flying wing from the 1950's, but reduced to 20" wingspan and powered by a rapier L1 motor.£15.61 plus post

FOCKE-WULF 190D The initial prototype was successfully flown powered by electric power -Atomic Workshops Voodoo 25 motor and Zombie flight profiler. The pre production build was built as the rubber powered version and was flown at the 2008 FAC Nationals at Geneseo where it gained 2nd place in static and turned in repeated flights of approx 40 seconds.1/24 scale 18" wingspan £28.62 plus post

HAWKER TYPHOON. The superlative British WWII ground attack aircraft 1/16 scale 32" wingspan. This kit includes just about everything. Plans and instruction booklet for 2 versions. Laser cut sheet parts, hardware, moulded plastic parts, transfers, propeller and rubber. Can readily be converted to R/C electric, details included. £58.67 plus postage

LASER KITS

A new innovation that is changing the face of aeromodelling is the introduction of the laser cut kit. Free Flight Supplies has teamed up with Belair Kit Cutting. The plans list indicate those which are kitted and available from Belair, contact Belair <http://www.belairdigital.co.uk/index.asp> or 01632 668658

CUSTOM KITS

I am regularly asked what items do I need from the list to make a particular type of wing, fuselage or complete model. Please let me know your needs and I will see what I can suggest. We can discuss these needs and I can produce a customised package of parts.

20. A. A. (AL) LIDBERG PLANS AND KITS (USA)

Beautifully drawn plans all with explicit construction manuals. Full range of Al's free flight products stocked. Kits and the semi kits are beautifully prepared and presented. Excellent value for money. All are good flying models. Al plans and kits plus post. Note that all plans are sent folded.

PLANS

ANSWER	24" CO ₂ Old Timer	£5.00
BATHTUB	22 1/4" CO ₂ SCALE	£5.00
BLOHM-VOSS BV-141	28 1/4" Rubber Scale (Laser kits available see below)	£8.00
CESSNA AIRMASTER SM	20" Rubber Scale	£5.00
CESSNA AIRMASTER LG	40" Rubber Scale	£7.00
DAYTON-WRIGHT RACER	27 3/4" Rubber Scale	£7.00
FOCKE WULF TA 152H-1	40" Rubber Scale (extra parts & laser kits available see below)	£8.00
GLEN BEETS SPECIAL	25" CO ₂ Rubber	£7.00
FRISCO KID	22 CO ₂ Nostalgia	£5.00
IAR 80A	34 1/2" Rubber Scale	£10.00

LITTLE BIT	24" CO ₂ Sport/Compet.	£2.00
ME-163B KOMET	13" CO ₂ (A23) Profile Scale	£2.00
MILE MOHAWK	35" Rubber Scale	£8.00
MONCOUPE	29" & 40" Rubber Scale	£8.00
MORANE-SAULNIER A1	22" Rub., CO ₂ Elec. Scale	£6.00
NAPIER-HESTON	32" Rubber Scale	£7.00
NO TOUCH HOMBRE	34"/30" .02 PW/Payload	£5.00
PACEMAKER	20" CO ₂ Old Timer	£5.00
PIGEON-FRAER PURSUIT	23 7/8" CO ₂ Scale	£6.00
POWERHOUSE	21 3/4" CO ₂ Old Timer	£5.00
RWD-8	24" Rubber Scale	£6.00
SPERRY MESSENGER	18" Rubber Scale	£5.00
TEXAS TEMPLE MONOPLANE	37 1/2" Rubber Scale	£10.00
TURBO-PORTER	40" Rubber Scale	£8.00
VULCAN AMERICAN MOTH	29 1/2" CO ₂ Rubber Scale	£7.00
WAHOO	30".020 Rep. Old Timer	£5.00
MY SIN (By S. S. Hachenburg)	A-B-C 70" Nostalgia gas full size	£9.00
MY SIN (By S. S. Hachenburg)	Scaled to 1/2A 39"	£7.00
MY SIN (By S. S. Hachenburg)	Scaled to Pee Wee .020 24"	£5.00
FLEEBO	1995 nostalgia 1/2A 39"	£7.00

NOCALS PLANS profile scale rubber models. Simple to build. Good flyers.

(incl. 1 set of instructions & ideas per order for any quantity) 1 - 4 plans £1.50 each

5 - 10 plans £1.25 each 11 or more plans £1.00 each All 22 plans £18 per set.

Set of laser cut ribs and single plan £4.50

BALLERINA	NAPIER-HESTON	BEECHCRAFT STAGGERWING
POLIKARPOV MOSCA	BLOHM-VOSS BV-141	PZL-24G
CESSNA CENTURION	P-40	F2G CORSIA
P-51	F8F RARE BEAR	R2 BUMBLEE BEE
HANSA AIRLINER	SPITFIRE	HUGHES RACER
SWEE' PEA	MAULE LUNA ROCKET	TIPSY JUNIOR
MIG-3	ZERO	MITSUBISHI CLAUDE
ZLIN		
PEANUTS (13" SPAN)	Set of 6 plans	£5.00 per set
ARROW SPORT	ROSE PARAKEET	GENEAL WESTON METEOR
DEPREDUSIN	RYAN M1	TIMM COLLEGIATE

PARTS

Cockpit canopies for the TA152H-1	Pack of 2	£4.00
Egg Spinners (2)	Plastic, 2 pc. 1 3/4" dia. use with TA152	£2.50
TnT- Tools & Techniques	Lathe/Torque meter/Balsa Stripper (all three)	£2.00

KITS, SEMI KITS & PARTIAL KITS

P30 Kit NJAPF - (not just a pretty face!) full kit for P30 including rubber – enhance with a Gizmo Geezer see section 6 rubber accessories £28.00

The mini sets are 19"-23" span replicas of pre WWII gas models, for CO₂, small electric or rubber power

Series 1 to 4 semi-kits include plans, instructions and print-wood for curved/sheet parts, £20.00

M1 Mini-Set = BUZZARD BOMBSHELL, NEW RULER & SUNDUSTER.

M2 Mini-Set = PLAYBOY SENIOR, RECORD BREAKER & TRENTON TERROR.

M3 Mini-Set = INTERCEPTOR, KERSWAP & ROCKETEER A

M4 Mini-Set = BROOKLYN DODGER, MISS AMERICA & WEDGY

A, B and C full kits include plans and instructions, balsa & ply print-wood, stripwood, block balsa, wire, wheels, Esaki tissue, £30.00

MA full kit = CUMULUS, FLEA & SKYSCRAPER

MB full kit = MISS TINY, SIMPLEX & SPEARHEAD JNR..

MC full kit = CHAMPION, DELSKY & CHQ SPORTSTER

Mini-XL full kits free flight old-timers are 30" wingspan replicas for electric & CO2 power that include plans and instructions, balsa & ply print-wood, strip-wood, block balsa, wire, wheels, Esaki tissue, 6 Kits are available.

Cleveland VIKING, Beshar Models BABY CORSAIR, Louis Garami's STRATO-STREAK & SKYLARK, £25.00.

LANCER, CAVU. £30.00

Partial kits

FOCKE WULF TA 152H-1 40" wingspan Rubber Scale includes - plan, transfers, canopy, spinner and laser cut sheet parts £25.00

BLOHM-VOSS BV-141 28 1/4" wingspan Rubber Scale includes - plan, transfers, canopy and laser cut sheet parts £25.00

CABINETTE 36", TRENTON TERROR 28" laser cut sheet parts £25.00

ROCKETEER 42" laser cut sheet parts £35.00

21. BALSAL WOOD

PEL-AERO SELECT CUT CONTEST BALSAL WOOD

Pel-Aero Balsa is specially selected "premium" (note that "premium" quality is very rarely available in the UK) including quarter grain balsa wood as used in the PEL-AERO kits. Currently supplies of quality balsa are becoming difficult to obtain, please check availability before ordering.

Indoor packs (11 pieces) Sheet size 75 mm x 450 mm

Specially selected balsa of 4.5lb to 6.0lb density. Sheets 450mm long by 75mm wide. A selection of sizes dependent upon availability of the required light timber. Cost per pack £10.00 plus post.

See Section 23 - Data chart for balsa sizes/weights and recommended uses

22. "HOW TO DO IT" PUBLICATIONS

Write-ups on the process and procedures for handling some of Free Flight Supplies' products. Some of these write-ups are referred to in the appropriate section of this list. All publications plus post. Updates ()

No.1	Mylar Covering	5 pages on how to cover with Mylar. (03/07/04)	£1.50
No.2	Tomy Timers	10 pages of articles on conversion of snoopy timers from the Aeromodeller, plus post 2 pages by Bob Jones.	£3.00
No.3	High Tech Modeling	22 pages of thoughts and ideas on use of materials, copies of various papers.	£4.00
No.4	Mylar/Tissue Covering	5 pages on the application of tissue to Mylar. (08/10/07)	£1.50
No.5	Further Thoughts on Covering	8 pages on more advanced techniques using modern covering materials. (08/10/07)	£1.50
No.6	Indoor Foam Scale Flying Models	16 page booklet produced by David Deadman, Peter Smart and Richard Crossley -How to build and fly them.	£4.00
No.7	Finishing of HL Gliders	2 pages by Curt Stevens (USA) on how to produce a super light finish on chuckie wings.	£1.00
No.8	Hi-Tech Modeling	23 Pages of cross over technology as published in QFI.	£4.00
No.9	Hi-Tech Wings	21 page presentation to the 1997 BEFA Symposium	£4.00
No.10	Covering with Tissue and Silk	13 pages on how to cover with tissue and silk. (08/10/07)	£2.00
No.11	Hi-Tech Rubber Model Propellers	6 pages on how to make propellers from carbon fibre and Rohacell. (19/10/03)	£2.50
No.12	Radio tracking of free flight models	8 pages on how to track free flight models and install tracking systems. (08/10/07)	£2.50
No.13	Colour for free flight models	10 pages in particular how to colour Mylar. (10/06/06)	£2.00
No.14	The choice of covering materials	9 pages on the selection of covering materials. (08/10/07)	£2.00

No 15 Rubber model propellers from ½” balsa sheet	6 pages on how to carve a rubber model propeller. Details on the fittings included. (08/10/07) This is a companion paper to Harry Wilkinson's open rubber model	
	See Section 18 plans “Border Reiver	£2.00
No 16 Ribless carbon “D” boxes	A 15 page extended version of the two part article from AMI March April 2004	£3.00

RUBBER MODEL PROPELLERS

A new A4 size booklet (66 pages 65 line drawings, many full size) on how to make rubber model propellers. A comprehensive booklet that details the process from the layout of the blades through to production and all the necessary fittings £10.00 plus post.

The above publications will help you get the best from Free Flight Supply products. These write-ups are designed to pass on experience and the expertise gained by myself and others in order that you can achieve the best possible results. These publications are added to and improved as the techniques are developed and refined. Updates include ideas from you the readers, remember it helps everyone if the expertise is shared.

DATA CHARTS

To build seriously you need to be able to check out data simply and quickly. No longer will you have to look for that mislaid scrap of “dog eared” paper that contains the information. FFS have produced laminated cards with all the details that you need. The doubled-sided A4 cards £2.00 each plus post.

CHART No. 1 Contains data on balsa wood sizes/weights and recommended use. Suitable scales in section 14.

CHART No. 2 Contains data on wire sizes, machine screws sizes - cross referenced to drill and tap sizes.

CHART No. 3 Contains details on the servicing and maintenance of clockwork timers.

CLUB TALKS

As well as building and flying models, selling materials and writing about how to use them, I am also available to talk to clubs about free flight modelling and hi-tech materials etc. Give me a call to discuss possibilities my fees are (very) reasonable! Basically the cost is my travelling expenses.

23 BOOKS

Jetex Engineering Team

Two books from the USA, these are reprints of classic publications and are a must for any Jetex enthusiast.

ALL ABOUT JETEX. and **BUILDING MAINTENANCE & CARE OF**

48 pages by Paul Del Gatto. Covering the basics of Jetex through to competition designs. Fully illustrated with plans, technical drawings and performance graphs £8.95 plus post.

JET & MODELS GUIDE.

A companion book to ‘All About Jetex’ by Paul Del Gatto. There is some duplication however the additional data still makes it a worthwhile addition to your library £8.95 plus post.

Jim Norfolk

THUNDER AND LIGHTNING.

A book of instructions and full size plans to enable scratch building of stick and tissue replicas of 6 aircraft with thunder or lightning in their name £13.00 plus post.

WEIRD AIRPLANES

A book that contains drawings and details of 6 weird airplanes, both real and imaginary – F-5-F Skyrocket, F-4-D Skyray, XP 55 Ascender, Batplane, Single Seater and X Plane £13.00 postage 66p.

MIGS and a Loaf of Bread

Jim’s latest book containing notes and drawings on 6 MIG aircraft MIG3, MIG9, MIG21, MIG29, IL-2, IL-2 to IL-10 conversions. £14.50 plus post.

Jim’s books are all now out of print. I have a small stock on hand of all publications which cannot be replaced.

Don Ross

RUBBER POWERED MODEL AIRPLANES.

168 pages covering every aspect of rubber powered models from the simplest beginner's stick to complex contest models. £12.95 plus post.

FLYING MODELS

240 pages that extends no. 1 into the coverage of CO₂, electric and micro radio control £15.95 plus post

24 SURPLUS POST TO REQUIREMENTS

MODEL BOX

Russian glass fibre large size suitable for either F1A or F1B models (delivery at contest) £75.00

Please check availability before ordering. All plus post or shipping with respect to complete models.