



January February 2014

Edited by Bryan Gostlow
Distributed by Tony Harper

Luton Minor *designed for free flight, converted to radio assist* by John Valiant

Plan

Aeromodeller December 1953 was published with a free plan of the Luton Minor designed by Eric Fearnley for freeflight using a Allbon Dart. As a young lad I sent away for the plan from the Aeromodeller plans service in the late 60's. The model presented here is the third I have built from the original plan. The first two did not survive the trimming stage in those early days of aeromodelling on Newmarket Heath. But the undercarriage has been used from the first one to the present. You can download the plan from www.outerzone.co.uk in pdf format.

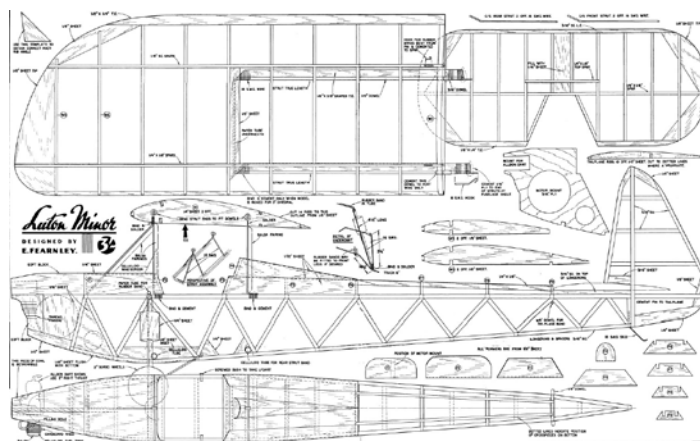
Changes made

Construction follows the freeflight version as closely as possible. The nose is slightly wider to accommodate the electric motor and the fin and elevator have been hinged for two channel radio assist. The electric motor has the same down thrust as the plan shows. Fin hinged with sewn blue thread and mylar strips used for the elevator. 1/16 ply horns cut and drilled to suit 0.032 thou piano wire push rods. 3/16 ply motor mount has been replaced with 1/8 liteply. I changed the balsa wing spars to spruce. 1/16 ply plate inserted for the servos to be housed. An extra former made from 1/8 balsa for the receiver was positioned under F2.



Radio installation

0.032 piano wire was used for push rods with a plastic outer sleeve. Z-bends made to attach to the 1/16 ply horns and quick links used on the servo arms. I find these very easy to adjust the piano wire push rod which you can slide backwards and forwards to find a neutral setting. The receiver was attached to the extra former under F2 with velcro. Also the Esc was velcroed to the front side of the motor 1/8 ply mount.



Colour scheme

I searched for Luton Minor as images on Google and chose G-ASAA as a simple and straightforward scheme. The letters were enlarged from an alphabet published in the Clarion, Dec. 2003 p.34. Enlarged photocopies of the registration were then stuck on thick cardboard and templates cut.

Covering

You can't beat the feel and look of a tissue covered model, so lightweight mylar using balsaloc as adhesive applied to all ribs and stringers covers all the open structures. Lightweight blue and white Esaki tissue used wet covers the model applied with 50/50 non-blushing dope and thinners. All items were purchased from FliteHook on trips to Old Warden. I painted white acrylic on white tissue for the registration letters on the fuselage. Wing

registration cut from blue tissue and flooded with thinners to adhere to wing. The tailplane after covering was cemented to the fuselage after removing tissue so you get a balsa to balsa surface to glue.



First Flight

The model was balanced as the plan shows. The all up weight ready to fly including LiPo came to 522 grams (1lb 2oz).

The first flight was made on a early morning trip in July to Girton. Blue sky, slight breeze were ideal. A range check was made and all was OK. I thought I would give it a power glide to start with. So with a little throttle, a few steps forward and a gentle launch the Luton Minor went straight ahead without losing height. Wow, this looks good. A bit more throttle and she was gaining height and still stable. A little rudder to keep her in the field showed she was very stable. With the large rudder and dihedral as detailed on the plan she loses very little height in the turn. Being designed for freeflight it's very easy to fly. For landings, point into wind and you can glide in dead stick.

Flights of around 25-30 minutes at less than half throttle are easily achievable.

History of the original G-ASAA

The aircraft is still on the British Civil register as a Phoenix Luton LA-4A Minor and was first registered on 19.4.1962. The present owner is a Mr M. J. Aubrey of Stanner, Kington, Hertfordshire. It has been in store since June 2001.



Air-Britain Photographic Images Collection

© Dave Peel

Items used

Transmitter – Spektrum DX6i.

Receiver – Spektrum AR6200 6 channel.

The next seven items were purchased from BRC Hobbies:

Motor/Esc Combo EMax CF2822 (409938) + 20A Esc (400264) £14.97.

3mm Propsaver £2.

Prop – GWS Hyper Drive 8 x 4 Electric Prop £0.99.

BRC High Torque 9g Servo 4 pack £14.99.

Used to connect motor to Esc:

2mm Gold Plated connectors 5-pair pack £2.95

Used to connect Esc to LiPo:

Ultra T. Deans Type Connectors 3-pair pack £1.50.

Quick Link – 1.5mm 4pk (416130) from Robotbirds.com

LiPo – Overlander Sport 25C – 1000 – 11.1v – 3S.

2" lightweight foam wheels from FliteHook.

Pilot purchased for 50p at an Old Warden car boot. I found this to be too heavy so copied the shape and made a blue foam version for a fraction of the weight. Only used the goggles.

| | | |
|--------------|-----------------|-----------------|
| span | 42 inch | 1,067 mm |
| area | 2.47 sq ft | 22.96 dm sq |
| wing loading | 7.45 oz / sq ft | 22.74 g / dm sq |

A New Year is coming

a message from Chris Strachan

A New Year is coming and we have a new Newsletter editor. Our thanks are very much due to Gordon Hannah who is "retiring" after being editor since the beginning of 2006. Eight years of sterling work for which we are all grateful.

As I write this Christmas is approaching at the speed of an express train, we will soon be in the New Year and the flying season will be just around

the corner. What ever happened to all that time that looked as if it was available to build things for the new season?

2013 has had its difficulties, especially with the issues around availability and booking of rooms at the College. This has now settled down and at the AGM I think there was at least an acceptance that we are getting the best deal that is currently

available. However the College facilities are going to be under continuing pressure in the current educational and financial climate and I can see no magic solution that will provide us with the ideal venue once a week. In any stock taking of where we stand remember that we have the use of the Gropius as often as it is free, the Sports Hall on as many Saturday afternoons as we chose to book (as well as for two public meetings per year) and the Sports field throughout Summer Time. That is a set which would not be easy to replace. The Dining Hall offers the best available space for those Fridays when the Gropius busy but it was clear at the AGM that its acoustics are not good. I propose that we investigate holding any other talks that we

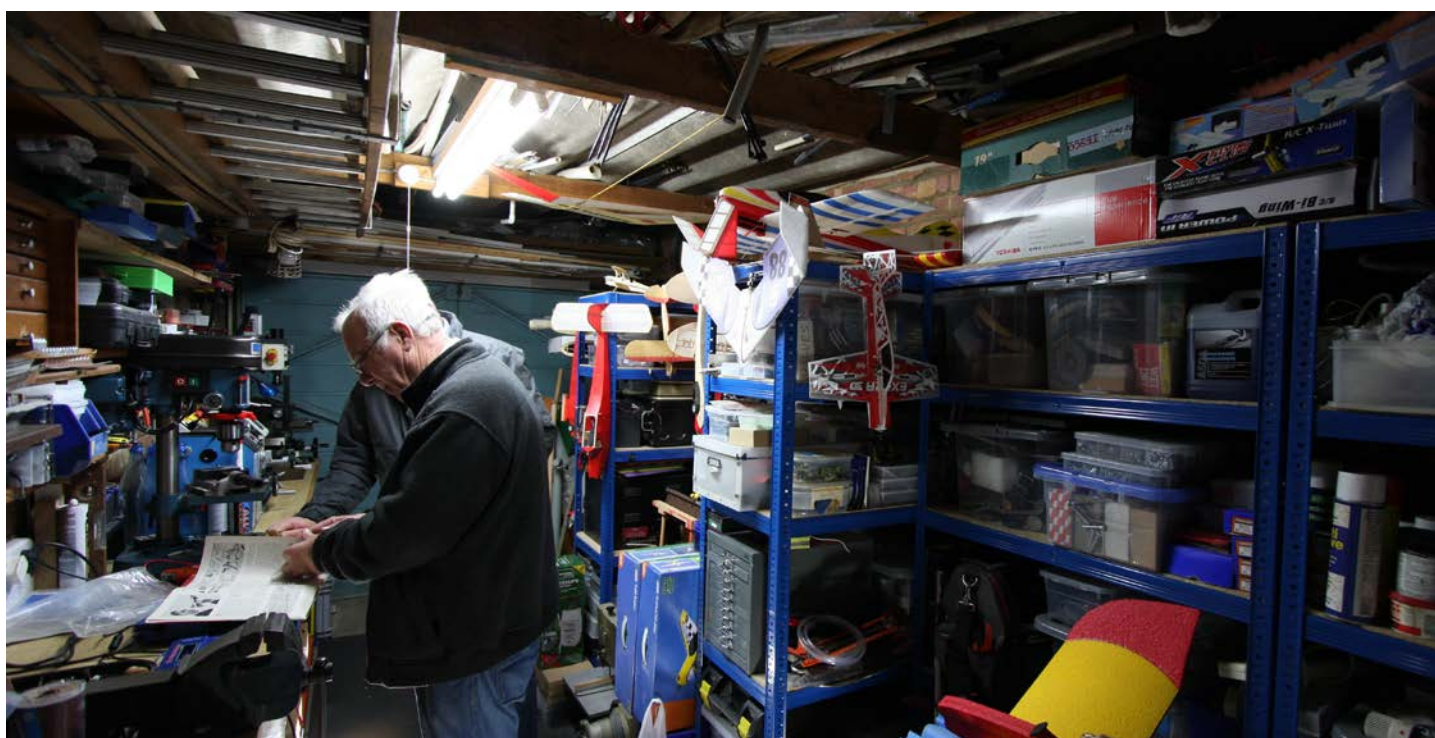
organise in the Conference Room in the Sports Centre.

2014 is the 75th anniversary of Impington Village College and a programme of celebrations in being put together by Amy Wormald (Development and Engagement Manager). We are one of the three organisations who have the longest continuing presence at the College, along with the Music Society and the Sports and Social Club. Michael Marshall and I will soon be going to a meeting with her and their representatives to see how we could take part. As soon as we know how this is shaping up we will let you know.

So here comes 2014. A Happy Christmas to all of you.

Snapshot

We visit **Alan Hunter**, "A view from the workbench"



Many thanks to Alan for letting us in on his collection of models, magazines and much more.

Midland Air Museum 2014 club visit

Margaret Staples is arranging another visit

After visits to Brooklands and the RAF Museum in Hendon this time Margaret is arranging for us to visit the Midland Air Museum on March 8th. See Margaret for details and to book your seat *[with extra leg room]*

Gliding Gransden Lodge Airfield

Peter Cunnison will be arranging another gliding evening with the Cambridge Gliding Centre for later in the new year.

SAM 1066 newsletter "New Clarion"

To find the SAM 1066 newsletter either enter <http://www.sam1066.org/clarion.html> or just Google SAM 1066

Ask a man who knows

We ask **Richard Staines**, "How do you get out of lift safely?"



One soon learns that whilst finding the elusive thermal can be a challenge, flying within it to use the rising air to the best advantage is more so and then, that when you realise 'B***** H***' that is high, the challenge now becomes how to get the model back down again safely.

The following thoughts are what I have found work for me and have been gathered from many sources and discussions with fliers.

When first faced with the situation of a model at great height, in rising air and probably down wind ones instinctive reaction can be to apply down elevator which will surely result in the model coming down but possibly in pieces. What tends to happen is the model accelerates quickly (and remember it is perhaps not too easy to see what is happening), the pilot sees this and releases the down elevator where upon the excess speed causes the model to zoom up and most likely stall. Very little height will have been lost because of the zoom, the pilot may be a little disorientated and will in all probability repeat the down elevator again with the same effect or, will hold the down elevator a little longer and as often can happen, flutter sets in and the model breaks up. So really this is not ideal.

A safer way is to spin the model down by holding on full rudder and full up elevator and keep it on until the model is much easier to see when centralising the controls will result in the model settling back into stable flight. The speed buildup is not too great but it a method that should be tried at lower altitudes first to ensure the maximum rudder/elevator settings give the desired result. This method is very suitable for all types of model including RC assist aircraft which by virtue of their light loading are 'thermal bait' and not ideal for 'diving' at speed.

With a model that has ailerons (other than full span) there is another option provided two servos are used i.e. one for each aileron and ones transmitter has a mix to allow both to be used as flaperons. Set up a mix so the ailerons can be switched to be used as flaps but reversed so that when selected as flaps controlled by preferable a

slide to allow proportional control, they both raise to a maximum of some 30 degrees. This will cause a loss of lift, high drag and a high degree of washout for stability. Whatever you do, DO NOT allow the ailerons to droop as with conventional 'in board' flaps for whilst creating the required drag, they will create lift and most seriously result in 'wash in' at the wing tips leading to tip stalling and instability. As always with new programming, try the mix at altitude to assess the effect. A quantity of elevator correction will in most cases also be need to be mixed in so that operation of the slide control will control the descent. If too steep or fast, reduce the down elevator mix and vice versa.

In part two **Richard** demystifies "Crow Braking"

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The Interview with *Gotthelf Wiedermann*

What tool wouldn't you want to be without?

Permagrit sanding and filing tools. I can't understand why I did not invest in them earlier. They are pricy but worth it. It got rid of those folders and plastic bags full of half used sandpapers.

Do you have a favourite model past or present?

I like models that are either characterful and quirky, or very elegant. One of my favourite models is the 'Wasp' by L.S. Wigdor (plan appeared in *Aeromodeller* April 1938 and again in the 1980s) With its long undercarriage and stick wing mount it looks almost primeval or prehistoric. The original was powered by a 2.2 cc Elf petrol engine, but I used a .75 Mills which provides more than adequate power both for free-flight and lightweight RC. I am now converting it to electric power. The motor will be hidden inside a mock-up of the original Elf engine, for which a very kind fellow club member turned a cylinder head on his lathe.

Never happier than when I'm . . . on the other hand I hate having to . . .

Dislikes: Bending undercarriage wire – it never quite turns out the way it's supposed to. Oh yes, and gluing widow glazing – you always end up with some smudge somewhere.

Likes: The anticipation of building a new model, doing the research and thinking about improvements. And flying them. Actually, I like all of it. It's just a very creative hobby where you can let your imagination roam, both the aesthetic and the scientific.



What got you started?

Although I had always been interested in aeroplanes and have flown full-size gliders during my student days at Bonn University, it was an immense frustration with my PhD at Cambridge during the early 1980s that did it for me. I remember walking down King Street in 1980 and chancing upon a shop called Model Mania. That was it! I started salivating heavily (metaphorically, of

course) almost immediately at the sight of all those lovely kits (all new to me as a foreigner in this country). What caught my eye especially were the Andrew Moorhouse kits with their beautifully drawn plans. I walked home clutching a kit of his Luton Minor, but this was soon followed by the rest of his kits, all of which were a joy to build and fly. Unlike with a PhD there was the satisfaction of a tangible achievement within a very short time. Soon after I joined IVCMAC where I encountered so much friendliness and help to overcome my inexperience in flying these little wonders.

What do you fly?

I started with Peanut models (Andrew Moorhouse and Peck Polymer kits) in the winter, then moved to small free-flight models with CO₂. I then discovered SAM 35 and the vintage scene which I thought was a fantastic way to indulge in powered flight without having to bother with RC. From 1984 to 1988 I returned to Germany for a research fellowship where I soon made contact with aeromodellers and became one of the founders of the German vintage model association, the 'Antik Modellflugfreunde Deutschland'. After a long break from modelling (much of my spare time was taken up by sailing), I returned to aeromodelling about three years ago. I now enjoy exploring electric flight with RC, flying sports models and electric gliders.

It took me a while to get there but . . .

I do quite like taking on challenges. For example, I have taken on petrol engines and learned to use them, but have stopped using them as you only get to fly them rarely. My present challenge is electric power. I find with so much friendly and generous advice from fellow aeromodellers nothing remains a challenge for very long. I suppose the only thing that will always be a challenge is the black art of rubber power!

A time it came close to disaster or phew, only just got away with that!

Unfortunately, or perhaps fortunately, I have nothing dramatic to report. It's all been quite civilised and genteel.

When I'm not aero modelling . . .

I still do quite a bit of sailing. I keep a traditional 12 foot smack's dinghy with a lug sail on the Orwell and am a member of the Old Gaffers Association (the 'Old' refers to the boats!). I also resumed gliding at the Cambridge Gliding Centre two years ago and am really impressed at the advances in knowledge, glider design and assistive technology that has been achieved in the past 37 years. I sing in a very good choir in Cambridge (The Fairhaven

Singers), love photography and gardening – so no danger of getting bored ever.

An unfulfilled ambition

I think if I had a second chance, and better maths and physics teaching at school, I still would like to be an aeronautical engineer. Aeromodelling is a bit of a compensation for this unfulfilled ambition, and quite a good one, too.

Love the smell of . . hate the smell of . .

Unlike my wife I actually like the smell of dope. On the other hand I hate the smell of superglue which I think is really nasty and causes me allergic reactions.



Old dog new tricks

I have always been somewhat wary of electric power, as I don't really understand the physics of it. However, I had a go and am impressed with the new technology of brushless motors and LiPo batteries. I now understand just enough to use this technology effectively and safely (I hope). It's been a real eye-opener. Still a lot to learn, though.

What's your covering material of choice . . and adhesive . .

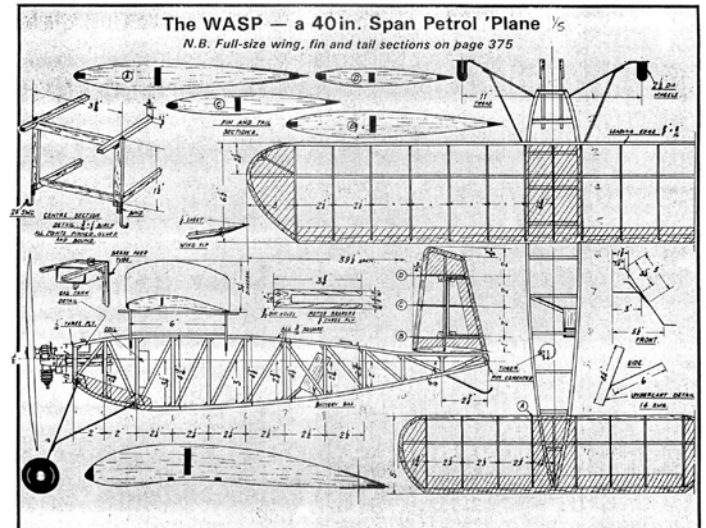
Depends on the model. I am comfortable with tissue and dope, and I have learned quite a bit about using iron-on films last year. Another material I like is Aerospa which can be covered totally or partially with tissue. It's very tough yet still quite light. At the same time it heat-shrinks and you can correct or induce wing warps as required, even with tissue on.

Do you have a favourite model of Ray's

I haven't built any of his models, but I have been tempted to build the Tom-Tit Triplane.

Where does it happen . .

I build my models in my son's heavy metal bunker. Actually, it is a converted garage which was my son's bedroom before leaving home for university. Putting him in the converted garage had turned out to be a shrewd move, as he developed a liking for heavy metal music and it allowed him to torture his guitars without harmful effects on the rest of us.



If you could turn the clock back . .

No need to turn the clock back! We are fortunate in our hobby that we can model in a traditional style, use the latest materials and technology, or any combination of these. And most materials, engines and technologies are still available today – quite amazing!

A modeller you admire . .

I admire the late David Baker for his unbelievable energy and enthusiasm that has attracted so many people to the vintage scene in the UK (SAM 35 and SAM 1066). He was one of the most delightful and generous modellers I have met.



Gyminnie Cricket Competition

Bruce Lindsay reports

This competition on the 8th of November was very well supported with eight entries. With so many entries only three flights per person could be managed and all were to count. Mick Staples set the ball rolling and set the bar at the same time with 144s.

Now we are so accustomed to using the sports hall it is somewhat confining using the Gropius Hall especially when flying the Gyminnie Cricket, because of this many of the potentially good flights finished abruptly when hitting the walls, lights, projectors or ceiling.

Most people managed to do their flights in the first session. Some like myself had to put up with colliding with things and not be able to drop any. The last two competitors to make official flights

were Gareth Neal and Clive King. Gareth got three good flights to attain 148s beating Mick Staples by only 4 seconds. Clive's 2nd flight hit the ceiling causing it to only get 18s but his last flight was a highly commendable 63s.

| | | |
|-----|-----------------|------|
| 1st | Gareth Neal | 148s |
| | Mick Staples | 144 |
| | Clive King | 122 |
| | Chris Strachan | 121 |
| | Richard Staines | 118 |
| | Tony Neal | 112 |
| | Bruce Lindsay | 107 |
| | Chris Hinson | 58 |

New tricks for old dogs

Advanced Spirit Level Pro by Haiwen Soft

Raymond Fella has taken the tried and tested Keil Kraft Luscombe Silvaire kit as a starting point for conversion to three channel electric rc.

Free flight models need lots of inbuilt stability if they're going to recover from gusts and what have you, but this can get in the way when converted to rc.

From experience he knows to decrease the amount of dihedral and this includes longitudinal dihedral too.

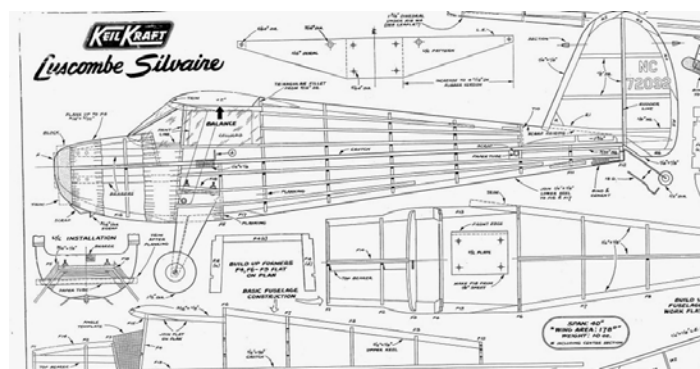
Building on a jig Raymond wanted to know how much to move the wing support and so . . .



With horizontal tail set to 0° he took a needle file and 'moved' the slots in the formers until the app showed that the incidence of the wing mount was as he wanted it.



The iPhone app is good for 0.1° and cost just £1.49 though there are plenty of others to choose from and some are free.



Great covers

Aero Modeller December 1973



Even aeromodelling isn't plain sailing all of the time and when I need a bit of inspiration I turn to this cover photo.

The guy looks to be having a brilliant time and why not. In the *Aeronca LB* he's chosen a great subject, the Sun is shining in a clear blue sky and I imagine the flying field extends almost to the horizon.

If you have a favourite cover then I'm sure we can get hold of a scan so why not share it with the rest of us?

Footnote

A comment or two from the *new editor*

Dr Who may think he's pretty smart, being able to regenerate, but newsletter editors can do it too. Since June '82 when Peter Hoskison started it off there has been Chris Hinson, Mick Flack, Chris Hinson again with Tony Harper riding shotgun, Roger Hines, Dave Burkin and Gordon Hannah. Now in new hands and struggling to get to grips with the software the theme is evolution rather than revolution and so you'll see some gradual changes.

You might like to let me know how you feel about *Great covers* – Aero Modeller covers we want to remember, *New tricks for old dogs* – hints and tips with a nod to innovation, *The Interview* – getting to know what makes us tick, *Ask a man who knows* - tapping into the expertise of club members and *Snapshot* – an excuse to ferret about in sheds and workshops.

Tony has said, "*eight pages and no more*" but the trend has been for more and more people to read this on-line. I'll be trying to fit in as many interesting images as I can and releasing the online version in PDF format*. You may also spot a change of font to *Verdana* which is said to have excellent readability on-screen and to two columns rather than three.

John Upton has tweaked the IVCMA website so that newsletters can not only be downloaded and re-read but viewed by a wider audience. You never know, we may reach new members or old friends.

A sincere thank you to everyone who's contributed to this edition.

* unless you prefer DOC as I see no problem in maintaining a mailing list for each