NEWSLETTER

BMFA MEMBERSHIP

All those members who have renewed their membership through WLMAC should by now have received their policy document and BMFA membership card through the post. Anyone who hasn't yet received them should contact membership secretary Peter Emanuel or Treasurer Peter Nielsen. We will be writing separately to those members who have arranged BMFA other than through WLMAC and have not yet shown their card to a committee member.

COMMITTEE JOBS FOR 2004

Honorary President: .... Lloyd Ressler
Chairman: .... Bob Young
Secretary: .... Leon Taylor
Field manager: .... Des Wheatley
Treasurer: .... Peter Nielsen
Newsletter Editor: .... Bob Young
Scale Day organiser: .... Peter Emanuel
Membership Secretary: .... Peter Emanuel
Welfare Officer .... Roy Lanning
Entertainment Manager: .... Roy Lanning
Bring and Buy Organiser: .... John Fowles

'A' TEST RESULT FOR DAVID WHITELEY

A very determined David Whiteley who braved the wheather and passed his 'A' Test just before the dark clouds fell upon the field is shown above with Club Examiner Peter Emanuel.
Huge congratulations to David, who spent most of the day relentlessly practising the schedule.
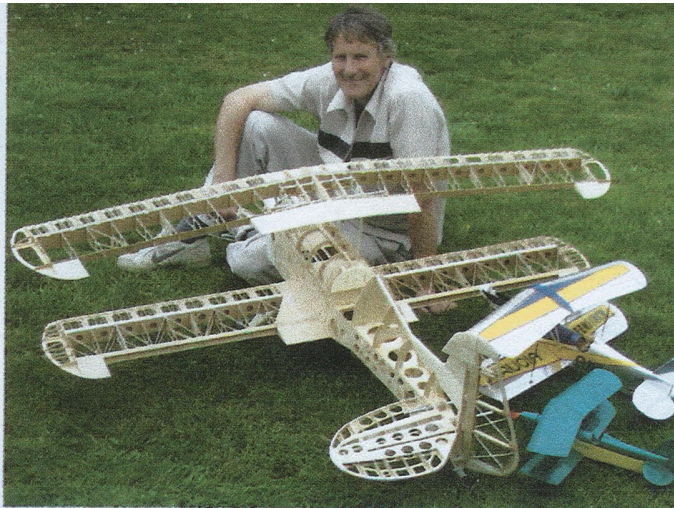
SEQUOIA IS BACK!

ROGER MOFFATT of Sequoia Systems is back on line. After a two year sabbatical, Roger is back producing those superb CNC cut biplane kits - the Goldfinch and Greenfinch. The larger model, shown here - the Bullfinch 2 prototype - is still under development, but is 68" span, can take engines 10 to 30cc and up, or electric, will have around 800 machined parts in the kit, made mostly from birch ply with some balsa, with a target weight of about 5-6kg. Features, amongst many other things, removable plug-in tail, all control surfaces scale hinged and removable, adjustable incidence top wing to set the stall as either very gentle, or very ungentle as required, built-up undercarriage with springing adjustable for motor weight ... and so on and on.

The kit isn't ready yet, so watch this space. In the mean time if you need to contact Roger, ring 01784 482 829, or email: sequoia@seqsys.co.uk

Our **next club meeting** is at the **Battle of Britain Club on Thursday, February 10th.** Roger Moffatt will give a talk on the progress he has achieved with the Bullfinch 2 prototype. He will also exhibit the models shown in the article to the left. Roger, a long term WLMAC member, has had a break from film work recently which has allowed him to focus on his Aero Model developments.
This talk promises to be extremely interesting to the model builder, as the accuracy of the components produced by the CNC machining is amazing.
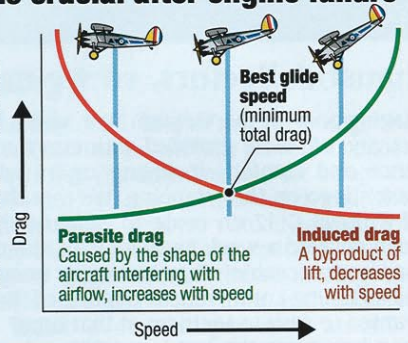
AEROPLANE Explains...

The Pitfalls of EFATO

A ERO ENGINES ARE VERY reliable. They should be, for not only does the design need to be thoroughly type-tested, but all components must have known origins and histories; this applies also to replacement parts. The ruling covers all engines on aircraft that qualify for Certificates of Airworthiness, and to all military machines. There are certain exemptions for aircraft that operate on permits to fly, such as homebuilts.

Despite all precautions, anything mechanical can fail. Also, sudden silence can happen for other reasons, such as fuel starvation or contaminated fuel. Therefore all pilots must be trained to cope when the shock occurs, for then there is the minimum of time available to make a decision and take rapid action. Also, it is the most likely time at which an engine will stop, as on take-off it is running at full power for the first and often the only time in a flight.

Until a few years ago, the ruling was rigid: as soon as power fails, put the nose down quickly in order to maintain airspeed and land as nearly ahead as possible, aiming to change heading by not more than about 30°,

Why attitude is crucial after engine failure

Every aircraft has a **best glide speed**, giving maximum distance covered for minimum height lost. It is attained by pitching the aircraft up or down to find the optimum attitude and is determined by plotting the curves for two types of drag, one which increases with speed and one which decreases (see right). Where the curves cross is the minimum total drag and indicates the best glide speed

Best glide speed (minimum total drag)

Parasite drag Caused by the shape of the aircraft interfering with airflow, increases with speed

Induced drag A byproduct of lift, decreases with speed

Drag →

Speed →

The dangers of turning back

❶ The engine fails on an aircraft shortly after take-off. Too low to troubleshoot and find the cause, the pilot elects to return to the runway (see the text to find out what would be a preferable option)
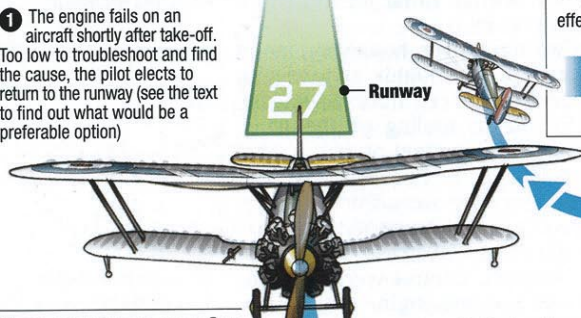
27 — Runway

❹ If the pilot makes it to the runway he will now have to attempt a downwind landing. The tailwind causes a higher ground speed, effectively shortening the runway and creating a higher landing speed

Wind

50kts + 12kts = 62kts
Airspeed   Wind speed   Ground speed

50kts − 12kts = 38kts

❸ In such a situation the requirement to turn the aircraft increases the possibility of an inadvertent stall or even spin, which would probably prove disastrous so close to the ground

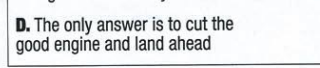## Two engines: a safer option if one fails?

A. The unaffected engine creates asymmetric thrust and the aircraft yaws

B. The speed of the port wing increases, resulting in increased lift and the aircraft rolls to port
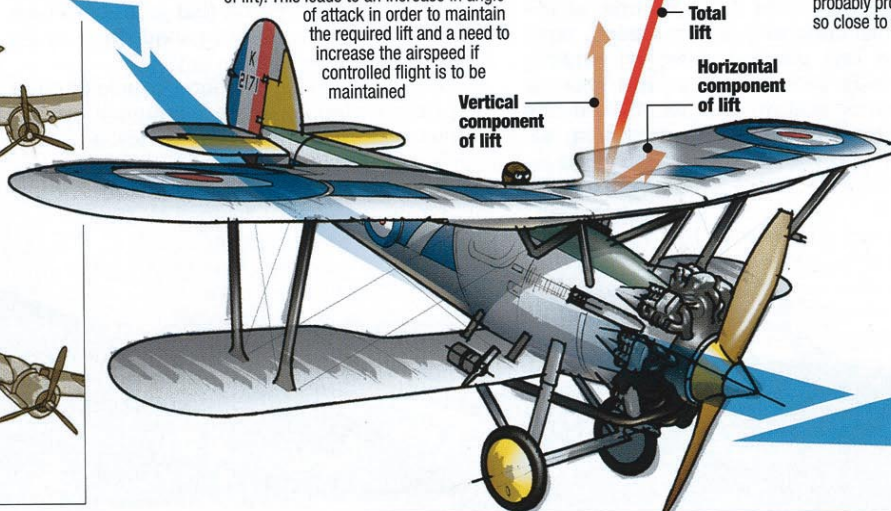
C. The low airspeed means the rudder is not effective enough to counter the yaw

D. The only answer is to cut the good engine and land ahead

❷ An aircraft uses lift to turn by banking and converting part of that lift into a sideways force (the horizontal component of lift). This leads to an increase in angle of attack in order to maintain the required lift and a need to increase the airspeed if controlled flight is to be maintained

Total lift

Horizontal component of lift

Vertical component of lift

Leon Taylor, our club chief examiner, who subscribes to Aeroplane Magazine, thought the above article would be of interest to our members particularly as we do from time to time have models visit the trees around our field because of EFATO. Clearly this is a well recognised problem in the full size world and hopefully the above explanation of the underlying considerations will help members in the future.