

FFLYPAPER

(2007—our 28th year)



Journal of Felbridge Flyers Radio Model Flying Club

Special points of interest:

- Free Club stickers
- RCV woes
- Dodgy noselegs
- Those Hedge Trolls strike again

Chairman's Chatter (or disconnected ramblings)

Sorry that the newsletter is later than usual, it seems to have slipped a month..... It has been a bit hectic for me over the last months with work and home there has been no time to write it up. That situation should improve soon as I am retiring early from my job—hooray.

HAMSTERS ARE LAZY, A RAT MAY HAVE BEEN BETTER.....

The Club barbeque was held on 4th August on a very hot but quite windy day, no hint of rain this time. The event came at the end of the massive wet spell that had been with us since early June, the same week I went on holiday to the (wet) Yorkshire Dales.

This was a free event with 2 tickets per member. The food was great, Chicken, marinated pork, speciality sausages and 100% beef burger from Bristows's Butchers in Outwood, exceptional quality. This was accompanied by potato salad, rice, green salad, French bread and relishes. This was followed up by strawberries and cream with "cream tea" scones to finish.

As it was pretty hot we did not have our usual bonfire which was probably just as well with all the dry cut grass laying on top of the recently cut outfield.

We seemed to attract a lot of wildlife that afternoon, we had a family of 3 Kestrels hovering right above the strip, completely unconcerned by us or bothered by the quite strong and gusty wind. We then has 2 small deer in the far field with another 2 running through the south end of the field with the strip in it. Just goes to show that our operation has a positive affect of wildlife. We also have spotted Adders, but they are very shy and will slink away before you notice

them. On hot sunny days just be careful around the mower as they like to rest under things.

We were able to make good use of the new picnic table which comfortably seats 6 members. The woodstore was used as a sloping table for all the extras. Max brought along his old parachute (yes parachute) as a tablecloth which was very colourful. He had it while he used to do full size gliding but like all "safety" related equipment it had a "do not use after...." date. He had to get another one from Irvine which cost £800 in 1983..... They got a tour of the factory which he said was great. The motivational message they had in the factory wasn't something like "quality counts" but a list of all the people who had been saved by their parachutes, sure gets you relating to the product..... Better than all the *motivational* nonsense talked about in my Company by people who could not run a bath.

Thanks to all the people who organised and helped before or on the day. All of the Committee (except me—I missed the Committee meeting where all the jobs were handed out), plus the Smith Family who supplied the barbeques to cook on and provide the head chef as well. Thanks also to Dave Nice who repaired the lights for us, we did not use them on this occasion as the event was run on a very bright day and was not planned to finish late. We will surely use them in the future.

We now have a coloured logo which we are getting produced on some self adhesive vinyl. There will become complementary ones for each member with the ability to purchase additional ones (see "Club Notices" item later in the newsletter).

I noticed that one of the pioneers of man powered flight, Paul MacCready, has died at the age of 81. Paul was an

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Mike's Hurricane

aeronautical engineer, inventor and champion glider pilot (The first USA gliding world champion). His first man powered machine, Gossamer Condor had a span of 90 feet and a weight of only 70 lbs. This craft, powered by a racing cyclist, Bryan Allen, achieved an 8 mile figure of 8 course in California.

Two years later, 12 June 1979, with an improved airframe called Gossamer Albatross Bryan Allen pedalled across the English Channel at an average speed of 8 miles an hour to claim the £100,000 prize.

Paul went on to design solar powered aircraft and in 2001, Helios, a solar powered unmanned aircraft of 247 feet span attained an altitude of 97,000 feet, a record for a non rocket powered plane.

He even constructed a small plane powered by a hamster (yes hamster). This was a failure, "Hamsters are lazy" he said "A rat may do the trick".

ooOOoo

Just a reminder to not divulge the gate combination to anyone who is not a member. If you do not know the person get them to speak to the membership secretary, Max Woodhead. The field owner visits occasionally, her name is Christina Pate, she is a bit deaf so do bear that in mind if you speak with her.

ooOOoo

Good to see our BMFA representative, Bob Cutter, on the mend after his recent hospitalisation. Lets hope we see him down at the field again soon.

I had noticed that Graham Wiseman had not been about of late and we had an e-mail conversation where he said he was in a Birmingham hospital for 4 days..... He felt a bit breathless after an event with his band and the hospital admitted him straight away, they inserted a Stent into one of his arteries. He says he feels much better and will be down the field soon with a "minder" as he can't drive for 4 weeks.



Ryushi Lindsay 14, is planning to join Felbridge Flyers soon and needs to find a complete outfit on a budget. Please can you consider if you can sell any of the following items:

Trainer airframe eg Tutor 40. (Jeremy Clark perhaps?)

Engine - .46 2stroke or .52 4 stroke.

Radio - 4 channel combo or better.

Flight box.

Starter and power panel - Max has these. £10.

12V flight box battery. - Chris Searle has one he will donate.

What have you got ? Turn your un-used kit into beer tokens.

Max Woodhead (number on page 6)

Happy Torque—Max Woodhead

You may have read accounts of prop driven aircraft swinging on take off or experienced it yourself if you have flown fullsize prop driven aeroplanes.

It does happen on models also although usually is easily controllable or barely noticeable. (*Ed note: You do notice it if you do a slow approach and go around, as you increase the power the model goes left—try it*) My Beaufighter swings wildly to the left and this got me trying to understand what was happening and with it the realisation that I had accepted this 'swing business' happens but not really understood why.

I had heard that it was caused by the rotating propwash hitting one side of the fin and rudder first and giving a 'weather cock' effect, seems plausible. I knew that it was not due to misaligned wheels. My Beau is a twin with a single fin and rudder and there is little propwash over the fin/rudder, but it will turn left very quickly after even a modest application of power. How does torque which will make the aircraft roll produce a strong yaw as well ?

One thing that most agree on it is caused by the torque from the engine / prop combination. So if you have a twin engined aircraft with props turning in opposite directions there is no swing. E.g. Lockheed's P38 Lightning.

My Beaufighter has both props turning the same way and has a LOT of torque. 27000 rpm motor speed geared down to 7500 rpm prop speed. Don't try this at home folks but if you held one of my motors in your hand with prop attached and applied full power you would have a struggle to hold on to it, both from the thrust and the torque. So these strong forces are transmitted to the airframe when you open the throttle.

I decided to ask my friend Robin Collord in the USA how the swing comes about, he should know as he was one time owner/pilot of the real P51D Stump Jumper. We keep in touch via Skype and here is my question and his reply. In this case we are talking about a prop that rotates clockwise from the pilots seat point of view, the same as our models, resulting in a swing to the left.

Hi Robin, a question for you. When you flew Stump Jumper it would swing on take off like many powerful prop driven aircraft, left or right

according to the direction the prop turns. How is the engine/prop torque translated into this swing ?
Cheers Max.

Hi Max,

TORQUE! IT IS THE PROPELLER THAT CAUSES THE "SWING" OF THE PLANE. IT HAPPENS IN THE AIR AS WELL AS THE ON THE GROUND. THE DIFFERENCE ON THE GROUND IS THE WHEELS PREVENT THE ROLL BUT THE ENERGY HAS TO GO SOMEWHERE AND THE TORQUE DRAGS THE AIRPLANE INTO A YAW FROM TRYING TO PRESS THE LEFT WHEEL INTO THE GROUND.

WHEN ALIGNING THE PLANE ON THE RUNWAY, THE EXPERIENCED PILOT WILL ALIGN ABOUT 15 TO 20 DEGREES TO THE RIGHT. THIS ALSO ALLOWS YOU TO SEE IN FRONT OF YOU....DOWN THE RUNWAY.

THERE IS A CHECKLIST ITEM, SET THE TRIM 6 DEGREES RIGHT RUDDER....FOR THE EFFECTS OF TORQUE TO THE LEFT. I TAUGHT PUPIL PILOTS TO NOW SET THE MANIFOLD PRESSURE TO ABOUT 30 IN. HG. (THE PLANE WILL FLY AT THIS LOW SETTING) A QUICK CHECK OF INSTRUMENTS AND RUNWAY CLEARANCE THEN SMOOTHLY AND DIRECTLY PUSH IT UP TO THE TAKEOFF SETTING...I USED 55 TO 60 IN. HG.

THIS IS WHERE THE NOVICE MAKES HIS FIRST MISTAKE. (NOT SETTING TRIM TO THE RIGHT COULD BE A PROBLEM...BUT CORRECTABLE) THE NOVICE WILL BE SURPRISED AT THE ACCELERATION (AND NOISE) AND INTERRUPT THAT SMOOTH THROTTLE ADVANCEMENT. IN THAT DELAY THE PLANE ACCELERATES RAPIDLY, EVEN AT LESS THAN TAKE OFF POWER. AS IT ACCELERATES THE TORQUE PULLS THE PLANE TO THE LEFT. NOW THE PILOT SEES THAT THE POWER IS LESS THAN DESIRED AND PUSHES IN THE FINAL AMOUNT. BIG MISTAKE!!! LIKE A TURBINE ENGINE, THE LAST 10% OF THROTTLE MOVEMENT IS ABOUT 80% OF THE POWER. THE PLANE NOW IS AT A POINT WHERE THE TAIL (AND TAILWHEEL STEERING) IS COMING UP AND DIRECTIONAL CONTROL TRANSFERING TO THE RUDDER. THIS IS A TRANSITION PHASE AND THE RUDDER IS NOT FULLY EFFECTIVE WITH THAT AIRFLOW....AND THE TORQUE IS REALLY SWINGING THE PLANE TO THE LEFT. BUT WITH THE RIGHT RUDDER TRIM IN, THE INCREASING AIRFLOW OVER THE RUDDER AND PILOT APPLICATION OF ADDITIONAL RUDDER, THE PLANE CAN BE CONTROLLED STRAIGHT DOWN THE RUNWAY.

WITH THAT ADDITIONAL POWER APPLICATION THE PLANE REALLY PULLS TO THE LEFT AND THE BIG, BIG (FATAL) MISTAKE IS THAT AS THE PLANE STARTS TO DEPART THE LEFT SIDE OF THE RUNWAY, IT "FEELS" LIKE IT CAN FLY SO THE PILOT DECIDES THAT IT WOULD BE BETTER TO BE AIRBORNE AND FLYING THAN RUNNING OFF THE RUNWAY. SO, HE PULLS BACK ON THE STICK...USUALLY ABOUT 90 TO 100 KNOTS. THE PLANE RESPONDS AND LIFTS OFF.

WHILE ON THE GROUND THE PLANE RESISTS THE ROTATIONAL TORQUE BY THE FACT THAT ITS MAIN GEAR ARE BOTH ON THE SURFACE. NOW THE PLANE IS IN THE AIR AND THERE IS NOTHING TO PREVENT THE ROLL AND TORQUE TO PULL AND ROTATE LEFT. AIRFLOW IS STILL TOO LOW TO HAVE AN EFFECTIVE RUDDER AND THE PLANE CONTINUES TO ROLL TO THE LEFT.

CLUB NIGHTS CLUB NIGHTS CLUB NIGHTS CLUB NIGHTS CLUB NIGHTS CLUB NIGHTS CLUB NIGHTS

CLUB NIGHTS ARE HELD AT THE THE FOREMAN CLUB AND INSTITUTE IN BLINDLEY HEATH ON THE **FIRST** WEDNESDAY OF THE MONTH. WE MEET IN THE GROUND FLOOR ROOM, COME ALONG TO CATCH UP .

FIRST OF THE WINTER CLUB NIGHTS IS SCHEDULED FOR 3RD OCTOBER, COME ALONG FOR A NOGGIN AND NATTER.....

THE CLASSIC ACCIDENT REPORT WILL READ....1000 TO 1500 FEET DOWN THE RUNWAY, 50 FEET OFF THE EDGE, LEFT WING CONTACT AND CARTWHEEL OR CRASHED INVERTED

An addendum to this is that subsequent to writing I have equipped my Beaufighter with opposite rotating props and the swing to the left has been eliminated. So it does work as in the case of the quoted P38 Lightning. I also studied a picture of a P38 at rest and it appeared from the pitch of left and right props that it was arranged that both left and right prop tips rotated inwards towards the fuselage at the bottom of their arc so I copied this arrangement.

I cannot see that it would make any difference rotating the other way but, if someone's is bored they can come up with a theory.

(Further Ed note—The full size Hurricane actually had the fin with one degree of "right" built into the structure, I have reproduced this on my model)



Lancaster NX611 instrument panel while running up the inner engines on an open day at the Lincolnshire Aviation Heritage Centre. The Lancaster is non flying but often taxied with all Merlins running

RCV engines—some thoughts

RCV engines have been with us now for a number of years. The engines are 4 strokes of innovative design. They are rotary valve engines using the cylinder as the valve which rotates around the piston. They are made in "conventional" format but with a lower cylinder height as there is no conventional valve gear. There are also models where the cylinder is parallel to the propshaft. These models tend to be geared for highish engine rpm but low prop rpm.

We have quite a few members who have the "conventional" layout models and one who has the "in line" format. Without exception all members have had mechanical problems which have necessitated a return to the factory, some more than once. The factory have always provided an exemplary service returning the engines repaired with no charge so full marks for Customer service.

Some are now running OK but Chris Searle, who has a 58 in his Halberstadt, has one that is not running well. It sounds very realistic in his WW1 biplane in that it pops and bangs and seems set to fail at any time. There seems to be nothing wrong with the installation it just runs very badly. Chris will replace with an OS 4 stroke that he already has from a previous aircraft.

Stuart Willis has perhaps had the most problems. He purchased a used 90 "in line" model and installed this in his rebuilt Mustang. This one is geared 2:1 and he had a big 4 blade prop. The initial problem was one of poor idle. The engine went back to the factory and when returned did idle OK.

His next problem related to the noise test, no matter what he did the model would not pass the noise test. He even purchased a special large volume, internally baffled, silencer which still did not allow a noise test pass.

Somewhat "p***** off" he started to investigate on website forums and discovered that it was just not possible to get through the noise test unless the engine was in a sound proof box, not a practical solution on the nose of a P51 Mustang. It seems that the gearing is the problem, the engine has so much mechanical noise that prevents it ever passing the test. He has now purchased a Laser. This Laser 100 easily passed the noise test and has flown the rebuilt aircraft.

Norman

Nose wheel problems

The humble nose gear on our models comes in for some harsh treatment. Hard landings can cause bending which can affect the tracking. You also notice that some nose gear legs seem very flexible and bend and flex alarmingly when being taxied along the strip.

Full size aircraft do also have frail nose legs, the small Cessna Singles (150/152 series) are prone and the handling notes say to land only on the mainwheels, then lower the nose wheel.

A work colleague was on an internal flight in Scotland on a Jetstream 41. The ground team had some problems disconnecting the tug tow bar and there was much banging and bashing coming from outside which freed the tow bar. The aircraft started to taxi toward take off when there was a crack and the nose fell forward onto the ground. The nose leg had broken, see picture. Good luck that it broke during the taxi not



Jetstream 41 with improvised nose gear

during the next landing.....

Norman

Those trees again

Those trees on the approach to the strip from the south have struck again. On 8th September 2 more aircraft were "grabbed by the Hedge Trolls" that lurk in the cut down hedge/tree line to the south.

I was on finals with my old Auster when I realised I was descending on the other side of the hedge line, I applied some power (good old Laser) and just popped over the hedge catching the topmost twigs/branches with the tail but continuing the approach. The only damage was a broken tail support rigging wire. The noise it

Glider guide and sausage sizzle

(Continued from page 4)

made certainly woke the other members up.....

Later that afternoon Mike Dyke was flying his electric Mick Reeves Hurricane. He started to turn onto final approach when it descended rapidly and



just caught the top of the trees which tripped it over and it fell forward to be caught by the lower branches.

We all trooped over and Stuart climbed up as far as he could, we then handed him our carbon fibre retrieval pole which he used to lift the model out by sliding the pole over a prop blade. The model tumbled down with a broken elevator horn and a missing dummy exhaust manifold, both of which Mike had spares for. It flew again a few days



The heaviest ladder in the world

CLUB NOTICE BOARD

CLUB STICKERS

The club has had produced some of the new coloured Felbridge Flyers stickers and two of these will be provided to each existing member free. Thereafter additional stickers can be purchased from Max at 40p each. The stickers come in two sizes 64mm and 75mm diameter. These can be attached to flight boxes / models and seem pretty proof against anything. Max cut one of the club stickers into four pieces and contaminated them with raw fuel, exhaust residue, water, and light oil. He left them for several hours and then cleaned them with Cillit Bang universal degreaser and there was no visible degradation to any of them. So the stickers should be ok mounted most anywhere. It may be a good idea to add a coat of fuel proof of your choice to the sticker to reduce contamination and fading.

The stickers will be placed in an envelope with each member's name on and left in the shed for you to collect. Those that are not collected after a reasonable period will be posted out.



later.

Two intrepid members, David and Max trooped over with the Club ladder which was a mistake as it is the heaviest ladder you can imagine, even splitting into its 2 parts for the return was hard work.

Norman

We need your articles— It is always a bit of a struggle to get enough content for the newsletter so articles are always welcome from members. It does not have to be long or complex and you will be surprised how easy it is to do. Your English does not even need to be up to much (just look at mine—I took 3 tries to barely get a pass at GCS "O" level—I know, it shows). Choose your own topic (aircraft related please) and get it to the Editor any way you can from handwriting to publisher (address/e-mail on final page), I can cope with them all.

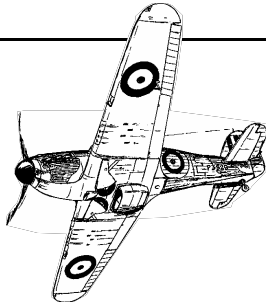


Committee and General

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Field Report

Imberhorne - Now closed for the summer. Chris continues to cut this and the rotary mower has been fixed. The ancient lawn tractor still going strong though.

Newchapel - The outfields have been cut and it all looks much tidier, you can actually now see the extended centre line markers. Frequent cutting of the strip and circulation areas means the strip and walkways are in superb condition.

We have cordoned off an area near to the shed to re seed this heavy use area, it will remain "out of bounds" until the grass is through and growing well. I imagine it is the synthetic oil that is causing the problem, old castor based fuels seemed to have little effect.

There is now large sheet of blue painted plywood in the shed. This should be used on the picnic table when you wish to use it a workbench. It will keep any mess off the table and mean any dropped small items will not fall through the gaps onto the grass and never be seen again.

KEEP YOUR SITE



WITH QUIET FLIGHT
BRITISH MODEL FLYING ASSOCIATION
AND LOW RPM's