PMP New Year Newsletter 2018

Welcome

Well another year has been and gone with the weather as usual a mixture of good and not so good. For those able to pick their days there have been a number of excellent flying days. For the rest of us it was pot luck although the August Bank Holiday was brilliant. I am afraid our hobby still seems to be in decline with at least one model shop a month closing, the demise of Traplet with loss of the magazines they published and another distributor experiencing straightened times and changing hands. Life at PMP moves on with three more kits added to the range last year, nineteen now! Hopefully you will find this newsletter an interesting read. As normal most items are the result of conversations with you the modeller.

Oskosh

In July I fulfilled a longstanding ambition to attend the Experimental Aircraft Association (EAA) flying jamboree at Oskosh in Wisconsin USA. The EAA is probably the sport flyers equivalent of our BMFA but many many times bigger. The show takes place in July each year and is spread over seven days. It takes a visitor that length of time to do it justice. Unfortunately we could only spend three days there due to my sons business commitments. The show is held on the EAA airfield which is reminiscent of a typical WW2 Lincolnshire bomber base. The airfield also houses the EAA Museum of sport flying. It is very easy to spend a full day there as in addition to an extensive range of aerospace artefacts there are a number of short seminars on various aerospace topics to listen in on. Whilst at the museum I missed an opportunity to get a postcard signed Rick Rutan who with Jeane Reager flew non-stop around the world without refuelling in 1986. Rick had just finished a short talk + Q&A on the flight and was signing souvenir postcards. It was only when he was packing up that I realised who it was but by then it was too late. The actual aircraft is on display in the museum. Quite an exhibit.

We were left with many memorable memories of our visit to Oskosh from the relaxed atmosphere, vastness of the event, quality, variety and accessibility of the aircraft on display and flying displays I am unlikely to ever see again. At one time there were between 40 and 50 aircraft in the air over the runway in three stacks of 15 to 20 aircraft. We saw aerobatics that we have not seen a model perform let alone full size such as a vertical tailslide with three rolls on the way down for good measure! Flocks of

T28 basic trainers, a conglomerate of 16 B25 twin engined bombers taking off one after another and a pack of P49 Mustangs with a couple of B29 Flying Fortresses overseeing proceedings.

Around the world Voyager

The trade stands were also impressive with anything from cockpit fittings to full aircraft kits on display for the kit builders. Of the full size aircraft for sale I particularly liked the Slovak built Viper and the US built Icon A5 floatplane one of which unfortunately crashed a few weeks later killing the company test pilot and a leading baseball player. Sport aviation in the US seems to enjoy a lot more freedom than we do in the UK. It would appear aircraft that only require a Sport Pilots Licence (SPL) in the US would require a full Private Pilots Licence (PPL) in the UK. As regards airworthiness certification there also seems to be another brake point. If the aircraft is more than 51% home built there is a different controlling body with different regulations. As an aside Oratex is $50.00 a square metre but it does have seven coats of paint!

To sum up. What a jamboree. One certainly worth adding to your bucket list if you have the inclination and resources. If you do decide to go try not to package it in three days as we did but chill out on the camp site for the week! You will not get bored, there was entertainment in the evenings. It also works out cheaper if you jointheEAA.

Brushless Epoxy Motor Mounts

This tip was passed on by a customer. Brushless motors, unlike IC engines, can go from low throttle to full throttle almost as fast as you can move the stick so if the throttle is moved rapidly from low to high then it is possible for the motor to tear itself from its mountings if it is not mounted securely. It is therefore very important that the structure around the motor is up to the job. A tip, if using an epoxy glass motor mount in a moulded fuselage, is to file V notches around its circumference to provide a key for the epoxy resin also, where possible, set the mount back 2-3mm from the end of the fuselage so there is a bead of resin around the front of the mount for added support. Unless you require rapid motor run-up, program a soft start on the speed controller to guard against accidentally knocking the throttle fully open and the risk of ripping the motor out.

Flexible Foamies

Recently a fellow sloper at St Agnes was having problems with a flying wing. Apparently the model was a few years hold and had a number of previous owners. It was bought cheap, fully equipped for a tenner from the previous owner who could not get it to fly in a fully controlled way! Watching from the sidelines I thought the way it was being flown the pilot was a novice so I approached the him asking if he needed any assistance. So after a cursory check of C of G and control movements etc. said I would fly the model for him and trim it out. This turned out to be almost impossible. In fact I made more of a *'pigs ear'* flying the model than the owner. On landing I carried out a more thorough inspection and found a vicious warp in one wing. After a bit of *'agriculture'* twisting we managed to remove the warp. Launched the model again. Big smile on owners face. Moral of story, EPP models due to their construction are virtually indestructible but if *'hangered'* with something pressing against them, over time this will distort the model. Fortunately it is easily rectified with the aid of a moderately hot film iron / heat gun and some judicious twisting.

Aerotow Release Servos

We had an incident at one of our 'Devon' glider days recently where the aerotow line got entangled with the model being aerotowed. The procedure when this happens is for the tug to release the towline. Due to the tension on the line the servo was not strong enough to release the towline. On the ground the servo and tow release mechanism was tested and under normal loads worked normally but stalled under abnormal loads. Advice do not to use a standard 3Kg servo for towline release on large models but something a bit more substantial.

Graupner & Horizon Hobbies

What a sorry story. As most are aware Horizon along with Graupner have closed their UK warehouses and now serve the UK market from their German

warehouses. Horizon closed all their UK accounts and only invited a handful of UK shops to apply for a German account. We were unfortunately not one of them we do however have a Graupner account but as yet have not used it. The reasons being our inability to give customers the aftersales service they deserve and are legally entitled to. Read the comments on the forums re Horizons servicing issues not mention the huge price hikes. Loosing Horizon / Spektrum was a big blow for UK modellers / shops as it was the dominant UK R/C brand. At the same time Hobbico withdrew warehousing from the UK but fortunately recognised the impact it would have on their UK business by coming to an agreement with LogicRC to distribute their products which includes the Top Flite inventory. We have an account with LogicRC so if we do not have the items you require in stock we can order them .

Battery Testers

Recently there was an item in the BMFA News regarding receiver battery testers. Basically, Nickel Metal Hydride (NiMH) batteries must be tested under load to get a true indication of the batteries state of charge. Most combined multipurpose LiPo / NiMH battery testers DO NOT put a load on the battery and are only checking off load terminal voltage. As a result modellers are taking off, thinking their Rx batteries are fully charged when they are not and crashing their models. Due to a drop in sales we are aware of only one distributor stocking Rx battery load testers and they unfortunately have been out of for several weeks although they are due in shortly! Incidentally when checking your Rx batteries please check at both the battery and switch harness terminals. If there is a difference change the switch harness. It could be faulty switch or an indication of black wire corrosion.

Senior Moments!!

Yes, very occasionally I do have one! Unfortunately during the building of the prototype Pzazz-E I had four! The first was not pinning one wing to the building board whilst gluing the top sheeting in place resulting in a propeller blade for one half of the wing. The second was gluing one of the wing servo mounts in the wrong way around. The third, and I do not know how it occurred, was drilling the wing dowel tube holes in the wrong place (I was pushing the wing down on its wingseat whilst drilling the holes). The forth, which occurred in rectifying number three, was putting a knuckle through the wing leading edge sheeting. Fortunately they were all easily rectifiable as PVA was used on all the glue joints which can be broken apart with patience and water. My only excuses are my haste to complete the model and regular interruptions to answer the telephone.

Pzazz-E

Number 19 in our revamped kit range, if you count all the variants, with number 20 at the floating in the brain stage. The electric version of the Pzazz came about as a number of customers who had built slope versions of one of our kits telephoned asking for advice on how they could electrify them. Without building a completely new fuselage this was not a practical proposition. The alternative was to produce an electric version of one of our kits. We choose the Pzazz. The Pzazz-E is, as with all our electric models bar one designed around the cost effective 2200 3S LiPo using a 40A ESC and Overlander 2836 /08 motor. With the recommended set-up either using a 3S or 4S LiPo the Pzazz-E has a near vertical climb and the aerobatic performance of the glider version with added zip. Please check out Pzazz-E on our website where you will find a more detailed appraisal and a copy of the plan along with the building instructions.

Trimming & Test Flying

I am regularly asked for advice trimming / test flying a model so perhaps the occasional rehash of the subject is warranted. The first step is in the workshop away from the temptations of the flying field. Here basic centring of the servos and setting up of the control surfaces movements etc. and balancing the model are carried out. A servo tester is a valuable tool for initial centring of the servos as this can be done before their installation without the need for the transmitter. We recommend using a simple jig for balancing the model on the recommended Centre of Gravity (CofG) / Balance Point. These are easily made with a piece of wood and a couple of dowel pegs with chisel

shaped tops 3-4 mm wide to place model on. The flat tops help stabilise the model when balancing. For our flying wings (all are low-wingers) I tape a hexagonal pencil to the bottom of wing where the CofG should be. If you are unsure where the CofG should be the paragraph below is a guide to find it.

To determine CofG position first mark the distance halfway between the wing root and the tip on each wing. Measure the wing chord at this point. From the leading edge measure one third back on each wing panel and mark with a dot. Connect the two dots using a straight edge or piece of string. Where the line crosses the root mark with a dot. This is the CofG position. Virtually all the models I have built / designed have their CofG position at or near one third of the mean chord. The only exceptions have been our flying wings where the CofG is between 17%-18%. The above method works for all wing styles except for those with multiple tapers.

Test Flying

I do this in three stages. The first is to trim the model as a glider i.e. when the model is at a safe height switch off the motor or throttle down to idle. If the CofG and rigging is correct the elevator should be in the neutral i.e. no elevator trim required in the glide. If not reposition CofG forward or back as required.

The second stage is to check motor side thrust. To do this carry a full throttle low pass into wind and pull up into a steep climb. If, as the speed drops off, the model deviates to the left or right this indicates the motor sidethrust needs adjusting. When satisfied fly the model at full throttle to determine if you need to adjust motor Downthrust.

The third stage is a double check of the CofG. By checking how the model performs in a loop. For the loop, if the model has the correct entry speed, it should *'fly'* around the loop with minimum up elevator. If it appears to be 'labouring' i.e. running out of 'puff' this could indicate a too forward CofG or lack of speed. Likewise if it is a bit snappy a rearward CofG. A bit of sixth sense required here! For aerobatic models I also check the spin recovery characteristics. Most models should recover from a spin in under one turn. My models usually recover in less than half a turn although 'Vee' tail and 'Tee' models can take a little longer. If the model is slow to recover or flips back into a spin in the opposite direction this would indicate a rearward CofG. If the model does not want to come out of a spin of its own accord when the controls are neutralised then spin recovery procedure is to apply full opposite rudder and keep the model in a nose down attitude until it has built up sufficient speed to be recovered from the dive without flicking into another spin.

The final flying CofG check if it is a fully aerobatic is to fly the model upside down (inverted). All models require a certain amount of down elevator to fly inverted. The amount depends on the model and wing section. The less camber on the underside of the wing the more down elevator required. An excessive amount suggests the model is nose heavy. If pitchy then tail heavy. You will I have noticed I have not mentioned the dive test popular with some glider pilots as I think the above flight tests are a more accurate indicator. In the dive test if there is the slightest amount of elevator trim this will give an false result. Nearly all formulas in aerodynamics contain velocity squared which means the faster the model is travelling the more effective control deflections. Hence a small amount of elevator trim will either cause the model to tuck under (nose heavy) or recover from the dive prematurely (tail heavy).

I think I have written enough for one newsletter. I hope you found it an interesting read. Finally, a plug for PMP. Please check out our website www.phoenixmp.com , there are a lot of 'not readily' available items on there. More in house items are being added all the time so if you cannot find what you are looking and you think we can make it please give us a ring. Likewise if

there are other items on general release that we do not stock and are available to us from our regular suppliers again please ring.

Finally we wish you a happy and prosperous New Year with many uneventful landings.

Kind regards

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