The "Kelling Flier" *Aug 21*

Hi all

One year after their original date, my youngest daughter has finally got married and the weather gods were kind giving us a warm sunny day! Following all the organisational logistics and isolation, I am now looking forward to resuming flying and catching up with you all at the field. Our barbecues have certainly proved popular, as you will see further on. If you haven't been to one yet, it would be great to see you and catch up, so, please come along!

Don't forget to submit all items to me at awjenkins@sky.com and thank you to those of you who have.

Thanks, Andrew

STANS QUIZ CORNER

Well, how did you do in Stan's last quiz? Here are the answers together with another group of aeroplanes for you to identify. Good luck!

Keep balsa bashing, Stan!

QUIZ - WHAT'S THE AEROPLANE ?

1. A Hatfield hunt for the wily lady
2. Ernies "biggy" causes lots of sadness
3. In the scrapyard, just one plane on top of another
4. Up by the Canadian border, one can get a ride with Wagner.
5. Just a wee trip from Scotland to the Isles.

Answers to Quiz - 1. McDonald's Phantom. 2. Mig 21. 3. Handley Page Hastings. 4. BA 111. 5. Messerschmidt 323 Gigant.

Identify the item!

Last month's item, submitted by Steve Kessel, was correctly identified as a "Clevis or Quicklink" by John Wells, Jim Watts and Edward Allen – Well done all and we will have another "guess the item" next month! As always, all suggestions to me by email at awjenkins@sky.com and all correct entries will get a mention.

On the 'Pipe' - A quick look at two-stroke tuning

by Stan Bucknole……

The tuning of these temperamental, smelly, engines can be very interesting. I'm assuming the members are familiar with the whys and wherefores of the two-stroke motor.

A typical 2 Stroke engine

To tune a two-stroke for more power, first of all, 'stuff the crank case', ie. reduce the volume of the case. Full fly wheels and some padding in place (these must not 'clonk' any moving parts) will raise the primary compression ratio and ensure the gas from the carburettor is rapidly shunted through the transfer ports into the combustion chamber where it is ignited. Reducing the volume of the crank case and the pumping action of the piston enables a larger charge of fuel to enter the combustion chamber, and hence, bigger bangs for your bucks.

The other method to achieve more power lies in the exhaust system. When the bang happens, the piston descends and opens the exhaust and the transfer ports. The exhaust gases explode into the exhaust pipe. Unfortunately, this happens so fast that it takes some of the incoming fuel with it. It is this wasted fuel that makes the two-stroke a gas-guzzler.

Walter Karden, an engineer with MZ Motorcycles, designed an exhaust system to give the engine more power. This exhaust system used the pulse of the exhaust gases to work in a different way. The system involved a restricted 'tail pipe'. As the pulse of the exhaust gases hit the restricted outlet, it was reversed in the system and, just as the exhaust port is closing, it pushed back the unused fuel into the cylinder - resulting in a bigger bang. Unfortunately, the former only occurs within a certain rev band. Outside that rev band, only very low power is generated.

Karden's breakthrough brought the two-stroke to the fore in motor cycle racing. MZ had the fastest 125 and 250 cc bikes in the world and won world championships. This was at a time when East Germany was in existence. Their champion rider, Ernst Degner, went 'missing' at the Swedish Grand Prix one year. The following year, a very fast 250 two-stroke appeared, wearing Japanese colours. It wasn't long before Japan ruled the roost with its two-stroke powered bikes.

Without the Karden modification, therefore working within a small range of revs, the 50 cc racers (yes, 50 cc) had to be creative! One German team had a 3 speed and a 4 speed box, giving them a 12 speed box and it needed all of them.

The sound of a two-stroke engine hurtling past the stands during the TT week in the Isle of Man is something we'll never hear again - a pity.
-Thanks for a great informative insight into Two Strokes Stan!

BUILDERS BOARD

Billy Buck's Piper Cub……..

While flying at Muckleburgh on Monday afternoon a Piper Cub landed and as I had my small cub with me I thought I would take the opportunity to take a picture of the two cubs together.

Billy's model dwarfed by the "real thing"

The larger Piper Cub in the picture is the L-4J Grasshopper version and was built in 1944 with the construction number 12566 and carried the USAF serial number 44-80270, serving in Sicily towards the end of the war, but now carries civil code G-HEWI.

The other smaller cub in the picture is mine built from "The Vintage Model Company" kit. It has a wingspan of 42" and is a four channel model but it is not like most kit built models as there is no plan to build the model on. Instead all the laser cut parts are just slotted together very easily and are then glued using superglue.

The fuselage has a central box which houses the motor, battery, servos and esc and once this is built the laser cut balsa sheet fuselage sides, top and bottom are fitted again being slotted in place and then glued.

The fin and horizontal stabilizer are also laser cut balsa sheet. The fin is fitted into the stabilizer and then both are slotted into to the rear of the fuselage then glued.

And the build goes on…….

The one piece wing is self jigging with the main spar being placed on a flat surface the spar doublers, rear spar, ribs, wingtips, leading and trailing edges can be added and once square superglue can be wicked into all the joints.

This makes a very strong, lightweight and quick build model which I then covered in cub yellow film I finished it off with the provided stickers. The cub is fitted with a 2213 935kv brushless motor a 10x4.5 prop a 30 amp esc 4x9g servos and a 3s 2200mAh lipo.

It flies very well in light winds 10mph or less.

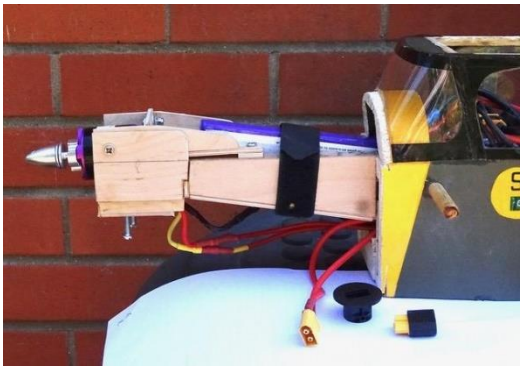
Another great model and great photos – thanks Billy!

Geoff Cleall tells us why the J60 is getting a stretched nose…….

After I built my Junior 60, I discovered that it was really tail heavy. In order to get it balanced I chopped into the nose, fitted a hefty 3S 3700 mAh battery plus 10 oz of lead right behind the prop. The plane flew alright but it was clearly a very weak point in the design. Landing recently, I came in too slowly and stalled at the flair point. OK, it was on the runway but landed with quite a bang. This shook the battery/lead tray out. I subsequently did a bodge repair but the lead weight retaining arrangement was really now too weak and that soon failed.

After a long chat with Billy and Steve, a decision was made to stretch the nose.

Picture one (left) shows the fuselage with nose hacked off. Picture 2 (right)shows where I am with the rebuild. The nose looks very long in this picture but it is only 12mm longer than the Super60 model. It has a handy tray at the front to fit lead if any is needed. All the work so far is in plywood and stuck together with De Luxe Speed Epoxy 20 mins. **–** *A great modification, looking forward to the flight trials Geoff!*



(More building projects in the next instalment!)

A diesel conversion from John Wells…….

Secondhand Picco engine

You may remember that my first tether car used a P.A.W. 2.5 c.c. diesel engine. Although having had only a couple of runs with it, I thought that I needed another car as it's quite a drive to Buckminster to risk running only one car without a back-up. So began the search for a suitable engine as the basis for another car.

Contra piston and head

Crankshaft and bearing assembly

As I wanted to make it into another twin drive-shaft version, a used Picco 15 (2.5 cc) racing buggy (glow) engine looked suitable, as it already had the remains of a pull-start attachment at the rear of the crankcase, that when removed should give access to the extended crankpin. Making up a twin bearing extra driveshaft and housing was quite straightforward, using the measurements from the pull-start and clutch assembly. This is a very powerful engine and with its high RPM probably not really suitable for driving the rear wheels directly without the usual buggy reduction gearing.

Reading an article in the January 'Aeromodeller' magazine about Peter Tarns glow-plug to diesel engine conversions, started me wondering about attempting a similar conversion myself, inthe hope that it would tame the engine down a bit. The first step is to machine a housing for the contra piston from Meehanite, a type of fine grain cast iron, incorporating an annular squish band that fits snugly in place of the original glow head. Then a 10mm diameter contra piston was made from mild steel to fit very tightly into the cast iron sleeve.

Next step was to machine the cylinder head from T6 alloy, to snugly house the contra-piston assembly. Mounting this in reverse on a mandrel using the drilled and tapped hole for the M5 compression screw, the external shaping and cooling fins were completed. The four equally spaced holes for attachment were also drilled at the same time.

Second crankshaft and housing

Cylinder head

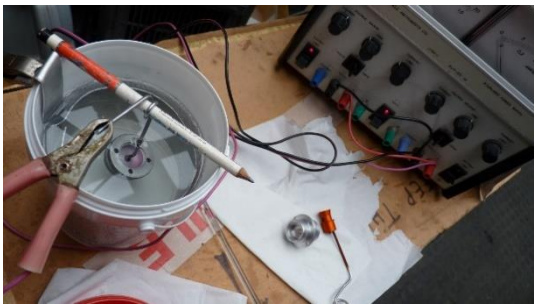
Venturi

Test fitting parts

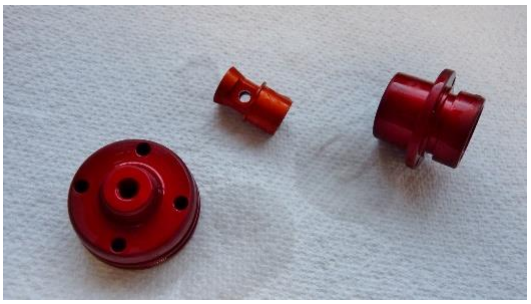
A plain alloy venturi with smaller throat orifice to cope with the higher viscosity diesel fuel, was machined with a couple of internal tapers, to carry a needle valve (from a P.A.W.), replacing the original R/C carbI'm going to try home anodising of the new bits, before trying to start it….. if I can source some H_2SO_4.

-Another brilliant piece of engineering John!

John Wells Diesel Update!.....



John Wells is cooking up something!



The finished article

I managed to get some sulphuric acid and had a go at anodising, the venturi is the first part out .... should be red, but turned out rather a nice orange! – *Looks very impressive to me!*

Colin Bullock's exploits with a tree!.....

Replacement wing tip repair in progress

Here are a few photos of Colin Bullock's Max Thrust lightning glider after a fight with a tree. I have been advised that it is now in progress of being repaired. Unfortunately, after having several flights, the battery ran out of power causing the aircraft to lose control. After an hour searching for the model, assisted by Colin Woollacott and Paul Blake, they had no luck and were finally faced with a bull which they obviously didn't want to stand and chat with! Undaunted our search party returned the following day and subsequently set off on a three-mile trek in search of the downed aircraft. With hopes fading our weary hunters returned to the airfield and typically found it in a tree at the end of the runway opposite the caravan (a certain law comes to mind!). The model, as you will see from the pictures, is undergoing the obligatory repairs but just like the phoenix, WILL fly gain soon! – *Sorry to hear of the mishap Colin, we have all been there (as I should know!) and look forward to it gracing the skies soon.*

Photo's above showing damage to fuselage and leading edge of wing

"Your article" – Could be here in the next instalment! So, get scribing and emailing and share it with our fellow modellers and don't forget to keep sending in your mystery object suggestions and items - awjenkins@sky.com

Geoff Cleall and his lens capture an afternoon at Andrew Taylor's field at Binham……..

Colin Woollacott launches his "Radio Queen"

Nick Kirk's "Peashooter"

Stan Bucknole's modified electric "Leprechaun"

Jim Watt's electric glider in Steve Kessel's hands!

Steve Kessel's Fokker on a low pass

Colin Woollacott's "Radio Queen" in flight

And to round off a great days flying, members held another of the popular "Bring your own grub barbecues"! These have proved so successful that we are intending on holding another event towards the end of the month. Full details are in Steve's article and I look forward to seeing you there!

Steve's Fokker back on terra firma!

Identify the plane or the pilot!

In last month's issue we were seeking any information on the attached aircraft which was captured on a low pass by our own Jim Watts. Andrew Taylor has kindly solved the mystery and writes – "The plane is a `one-off` modified Gypsy Moth with a view to racing. The thrust line has been lowered, the fuel tank is smaller and has been blended in with the top wing section. The cabane struts are diagonal instead of vertical and u/c struts are similar. The rear fuselage, wooden on the Gypsy, takes on a slightly semi-circular cross section. The pilot is Henry Labouchere and Langham church can be seen in the distance. Thanks for the information Henry. Registration is G-AAXG. Presumably it is still about". – *Thanks for letting us know Andrew!*

and finally…… A word from our Chairman

Hello All,

Since the last newsletter we have enjoyed some fine weather and have had some good turnouts at Muckleburgh and Binham. The meetings at Binham in particular seem to be going from strength to strength as more members have ventured out to discover for themselves what a good site it is. A new member joined us this month, his name is Graham Mayger and he is a complete newcomer to our hobby. So if you see him at the field please say hello and offer your help if it's required.

Flylogix

As I mentioned last month, we shall be having visitors to Muckleburgh in August. Flylogix will be using it as a base for their fixed wing RPV that will be used for atmospheric measurements along the North Norfolk coastline. They should not clash with our activities but if you do have any concerns about them then please don't hesitate to let me or another member of the committee know.

BBQ

It seems that the BBQ at Muckleburgh in June was very popular and so we are planning another one for Monday 23rd August. This time I suggest we will start a little earlier, at 4pm, because the nights are beginning to draw in. The arrangement will be as before, I'll bring the BBQ and you bring what you would like to cook on it. Fingers crossed that the weather will be fine.

DH71

The attached photos show the latest state of play with my DH71. The warm dry weather has enabled me to crack on with painting it and that has certainly transformed the way it looks. I'm trying to emulate G-EBQU which was bronze-gold and black. The turtleback has still to be painted in black and then it will be ready for the markings to be applied. These are relatively straightforward, the registration letters on the sides of the fuselage and on the underside of the wing plus 'Tiger Stripes' on the top surface of the wing and the fin and tailplane.

The model will be powered by a large outrunner motor so there is no need for fuel-proofing the metallic paint, which I know from previous experience can be problematical. Acrylic car paint in spray cans has been used for the black and gold. It is getting close to being finished now so I'm hoping it can be ready for a test flight before the winter sets in. More photos will follow as it progresses.

Replica DH71 in Canada

I hope to see you at the airfield soon.

Happy Landings, Steve