The "Kelling Flier" *Jan 22*

Hi all,

I turned "60" on 29th December and the advantage of having a birthday so close to Christmas allowed me to combine prezzies and manipulate budgets! Consequently, I used my special birthday cash to acquire a "Sebart Wind S50E"with Hacker motor, speed controller ,Lipo and digital servos (as per photo) which is currently residing in our spare bedroom due to the size of the box! I know its ARTF, but this is as close to building as I get, so watch this space for updates!

As always please continue to submit all items to me at awjenkins@sky.com.

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. Up near the Canadian border, there is some real anger.
2. The street trader has a salty, feathered, friend.
3. At the just built dock, a 'birth' has been recorded.
4. The fireproof bird is doing a bit of 'dib, dib, dib'.
5. The Dagenham flier has a trio.

Answers to last month's quiz - 1. Boeing Stratojet. 2. Vickers Wellington, 3. Bristol Bulldog, 4. Albatross D1, 5. Martynside Elephant.

Builders board…… OQ2 Undercarriage update…….

The OQ2 project was getting to the stage where we had to make a decision whether to use a dolly to take-off and belly land or fit an u/c to the fuselage. The dolly idea is ok for take-off but belly landing a model of the size and weight of the OQ2 was always going to be a little tricky. Every landing would have to be spot on to avoid damaging the airframe.

The OQ2's flown from Muckleburgh were flown off a catapult and recovered by deploying the parachute. We did not fit a parachute, however, after a trawl through the internet we did uncover some film of the OQ2 being flown using a fixed u/c. As we could now legitimately claim that some OQ2's were flown with an u/c we decided to fit one to our model.

Thanks to our chairman Steve and his design we have a very good strong u/c. It is made from a combination of 30mm x 1mm stainless steel flat bar, 20mm round steel tube, some 1/8” metal plate and a bit of brass here and there.

Bending and shaping the steel bar to form the undercarriage

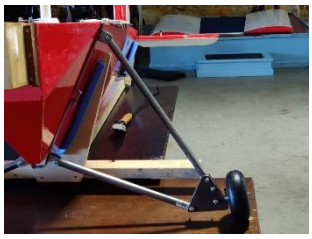
Working to Steve's drawing, I first cut and bent the stainless bar to shape, drilling attachment holes for fixing it to the airframe. I then cut out and bent to shape the brackets for the u/c strut attachment points. Before I could do that I had to make a bending break (I think that's the right term). I used some scrap bits of angle iron from the metal my father has had in his shed for about 60 years. You know the sort, “It might come in handy one day”. Well, it did. Holes were drilled for the round tube u/c legs through the brackets. Some time ago I bought a set of drills for drilling s/s, they have a relief ground into them just behind the cutting edge. One thing I have learned drilling s/s is not to let the work get too hot, if you do it becomes very hard to work. Not too much pressure on the drill and a method of cooling the work, light oil or even water, if you see the water start to boil away while drilling stop and add more.

The 4 u/c leg brackets were attached to the u/c frame with silver solder. At the bottom of the legs, where the top and bottom leg tubes come together, there are two 1/8” metal plates, triangular in shape.

These sandwich the tubes and support the sprung pivoting axle. Again, materials of the “come in handy” kind. These were turned on my lathe and cross drilled for the pivot using my bench drill. One thing I have always had great difficulty doing was drilling a hole accurately through the centre of a piece on round stock, be it metal or wood. I apologize to those who already know how to do it without special tools.

I don't want to appear to teach you how to suck eggs, but this is worth knowing if you don't already. First place your round workpiece in the drill vice, make sure that part of the work is higher than the top of the vice jaws, then place a 6” steel rule 90” across the work where you want to drill.



Close up (left to right) showing the fitting of the frame to the fuselage

Fit a small pilot drill in the chuck, do not switch the drill on yet, and slowly bring the drill down until it makes contact with the rule. Now look to see if the steel rule is level, if it is you are close enough to centre. If not move the vice back or forward until it is level. When you are satisfied it is level, drill the pilot hole, then change and drill to the size you want. The hole should be very close to through the middle.


Close up of axle (left) and completed undercarriage (above)

The axle is from 6mm piano wire, held in the pivoting part of the suspension with a grub screw. The 6mm axle is meant to be sacrificial in the event of a heavy landing, simply unscrew the grub screw, pull out the old axle and fit a new one. Wheels are ones that I had already got for an abandoned project so were pressed into use. The springs are from a certain hardware shop in Sheringham, as is the wire used for bracing.

Bracing wire attachment to the u/c will be with brass square with a hole drilled through the middle and silver soldered to L brackets and grub screws. Attachment to the airframe will be the same.

James Folan (right) giving scale to the impressive OQ2 complete with all new undercarriage at Muckleburgh

-Well done to all at the Wednesday Workshop!

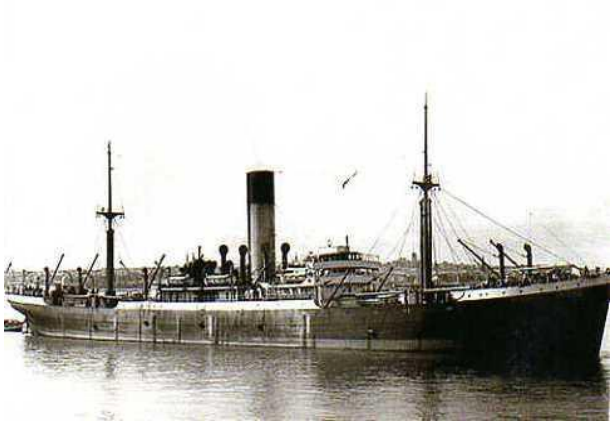
My Super 60, Ailerons or Not by Geoff Cleall

I've been a member of KMFC for nearly seven years. My log shows a total time in the air of 10 hours. That's less than 1.5 hours spread throughout each year. I'm 77 years old as well. No wonder my progress has been so slow. I have to agree that I need more 'stick time'. I hope 2022 will do the trick! I built my Junior 60 as a 3-channel aircraft. It is a stable and slow enough for my brain to stand a chance of keeping up with it. Also has one less button to push.

One Super 60 minus ailerons (For now!)

I built my Super-60 with 4-channels. I think that I'm happy with no ailerons at the moment. Let's not get too ambitious! So work is in hand to build a 3-channel wing. I hope it will help although I really know that there is nothing like more time in the air. *– I think we are all guilty of not having enough "Stick-Time", although yours is a little excessive Geoff! Let's hope we can correct that in 2022 and get you solo. Look forward to seeing you up the field and thanks for the updates.*

The Loss of the SS Meriones by Billy Buck



The SS Meriones (left) was a 7,557 ton steam merchant ship, from Liverpool, owned by the China Mutual Steam Navigation Co. Ltd and was built at Palmers Shipbuilding & Iron Co. Ltd of Newcastle upon Tyne and launched in 1922.

On 21st January 1941 the Meriones was part of a convoy of ships heading to the port of Hull to complete her cargo before heading to Australia. She was already part loaded with 1,933 tons of general cargo which included cement, Sodium Nitrate, Manganese, Tinplate and a large quantity of cable and machinery. There were also two race horses owned by the Duke of Gloucester who had recently been appointed the 11th Governor of Australia. She had 101 men on board crew and stevedores with many of them being Chinese and the convoy had an armed escort which included the Lowestoft based trawler Galvani (right) which was armed with a heavy machine gun.

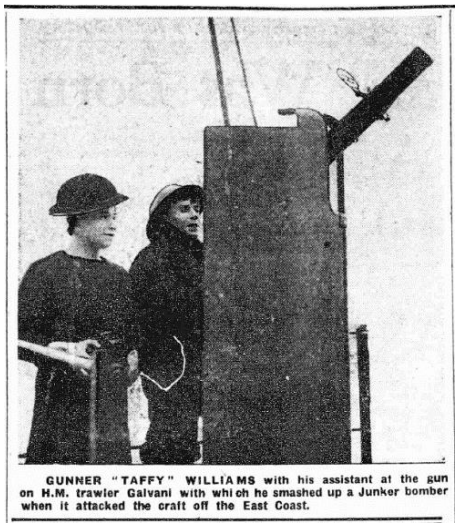
During the early hours of 22nd January 1941, the Meriones hit the submerged wreck of the SS Monte Nevoso on Haisbro Sands holing her No 6 hold which filled with water and she became stuck fast. The SS Monte Nevoso was stranded on the sands 14th October 1932.

On 24th January 1941 an attempt was made to salvage the Meriones with the Great Yarmouth based salvage tug Richard Lee Barber. Henry Blogg, the Cromer lifeboat Coxswain, was aboard the Richard Lee Barber along with the Chief Salvage officer to see if would be possible to salvage the Meriones. Henry Blogg knew the Haisbro Sands better than anyone. While the Richard Lee Barber was approaching the Haisbro Sands, the Meriones came under attack from German aircraft which were driven off by the escort ships, three attacks were made on the ship during the day with a total of twenty three bombs being dropped none of which hit the ship but one of the Meriones gunners was injured.

Concern was raised about the safety of the crew aboard the Meriones and with increasing winds and roughening seas it was decided to abandon the ship. The Cromer lifeboat H F Bailey, with second coxswain Lewis Harrison in command, was called to assist with the evacuation of the ship. On reaching the scene coxswain Henry Blogg was transferred from the Richard Lee Barber to the H.F. Bailey. The worsening weather made it difficult for the lifeboat to get along side, three times the lifeboat went to the Meriones to remove the passengers and crew who were transferred to the Royal Navy tug Saint Mullion. Another forty crew were removed and taken to the Richard Lee Barber leaving just eight officers on board but before leaving with the officers the Duke of Gloucester's race horses had to be shot. With that done the last crew left the Meriones.

The H.F. Bailey left the Meriones at 1:00am with eight officers, the ship's doctor and a gunner who had been injured from the previous day's attack but because of the bad weather and heavy seas Henry Blogg decided to anchor in deeper water and wait till daybreak before returning to Great Yarmouth.

The life-boat waited for five and a half hours in the bitter cold and at daybreak the coxswain was able to fix his position, aided by Winterton church steeple, and they headed back to Great Yarmouth. Captain Peard and his crew were landed at Great Yarmouth at 10:15am on 26th January 1941. The weather was so bad with an easterly swell which made it impossible for the life-boat to get onto her slipway so the crew were taken back to Cromer and when the weather eased on 30th January the crew returned to Great Yarmouth and took the life-boat back to Cromer.


GUNNER "TAFFY" WILLIAMS with his assistant at the gun on H.M. trawler Galvani with which he smashed up a Junker bomber when it attacked the craft off the East Coast.

The German Luftwaffe had received information, from an intercepted radio message, that a British merchant ship was in difficulties off the Norfolk Coast near Great Yarmouth. At 08.00hrs a single aircraft took off from Schiphol tasked with finding and attacking the ship, the aircraft was a Junkers Ju88 A-5 Wnr. 0634 coded 4D+LS from 8/KG30.

A Newspaper photo (left) detailing the shooting down of the bomber by Gunner "Taffy" Williams of the Galvini

The crew were Pilot: Fw. Walter Guttmann, Obs: Uffz. Fritz Martin, Radio Op: Uffz. Simon Gaber and Eng: Uffz. Josef Schmalze.

The crew spotted the stranded ship while flying at 600ft which they dive bombed from 150ft, which set the ship on fire, but it is believed that the blast from one of the bombs damaged the starboard wing and engine causing it to catch fire. Fw. Walter Guttmann had no choice but to crash land the damaged aircraft. He chose the marshes near Holmes Farm, West Somerton. At 09:05 hrs, flying in from north to south, the damaged aircraft hit the ground and bounced into the air before hitting the ground for a second time sliding to a stop shedding pieces as it went. Two of the crew were injured in the crash, but only slightly. The four-man crew offered no resistance and were captured by two local men Mr Harry Thain and Mr Robert Sadler, both members of the local Home Guard, who just happened to be nearby when the aircraft crash landed. The captured crew were collected by soldiers from the 9th Battalion Royal Berkshire Regiment and taken to Burnley Hall, where they were billeted. Nothing else is known about the crew after their capture.

The crew of the Galvini with Temporary Skipper M P Peck highlighted

There is a mystery to this crash because there is no real explanation as to what caused the damage to the aircraft causing it to crash land.

There are three explanations:-

One is that the aircraft flew through the rigging of the Galvani causing the damage which led to the aircraft crash landing, but there was no damage reported to the ship.

The second explanation is that the aircraft was shot down by the Galvani but when the aircraft was inspected, after the crash landing, only one .303 bullet hole was found in the tail fin which would not have been enough to bring the aircraft down.

The wreckage of the Junkers Ju88

The third explanation is that the aircraft was damaged by the blast from one of its own bombs, which on exploding damaged the starboard wing and engine causing it to catch fire. This seems to be the most logical explanation as on inspecting the aircraft, after the crash landing, damage was discovered to the starboard wing and engine. It is also believed that the cockpit was set on fire by the crew hoping to destroy the aircraft so as not to give any information away about any new equipment fitted to it.

Perhaps we may never know what really happened to bring this aircraft down on the marshes at West Somerton 26th January 1941 but it is another story to add to Somerton's history. – *Yet another fascinating article of the local wartime history of our coast, thanks Billy!*

Stan Bucknole and the “Old Warden Mass Wakefield Launch”……

What is a Wakefield? It was, and still is, a rubber powered model, built to a set of rules.
The rules required a model to have a wing area of 190 to 200 sq. inches and a minimum weight of 8 ounces, plus a cross section ratio for the fuselage – i.e. the longer the fuselage, the fatter it becomes.

A "typical" Wakefield aircraft

The Wakefield was the Blue Riband, the top dog, numero uno, etc. And why? - because it was a difficult model to both build and fly. Construction was the cutting edge of the day. The model airframes were usually around 5 ozs and the wing span about 45 to 48 inches. The normal amount of rubber was about 4 ounces. This may not seem much, but when there is a 1,000 turns wound on, it packs a punch and this has to be tamed. Add to this, a propellor approximately 18” in diameter and you have generated a hefty dollop of gyroscopic precession.

Having got control of that power, the model can R.O.G. The launch was governed by strict rules. The flier could hold the prop and the wing tip, whilst standing ready to fly. On release, the hands were not allowed to guide the model. It was a case of ‘hands up’, like a footballer who’d fouled his opponent. When the power burst is tapering off, the model reaches the cruise period of the flight, but it must still climb. When a motor runs out, it needs a good glide and achieving this is not helped by the free-wheeling propellor as this is acting as an air brake.

As you can imagine, the trimming is very much a try and see process. Once the model is flying, the trim is all important. There is no radio, so no transmitter re-trim. Rubber power models are ones that change speed constantly until the glide. As the motor runs down, so does the speed. Yes, it’s all part of the fun. The modern rubber-powered competition models are complex, with carbon fibre electronics and aluminium wing covering, all part of the mix and to lay out what is what would take another article.

A "Wakefield" in flight

So, what is with the Old Warden mass hand-launch? Well, one year I decided I would have a go. My old Gypsy Wake was dragged from the loft, dusted off and banded together. I pre-wound the rubber motor (if I remember correctly, it was about 15 yards of 1/4 inch flat rubber).
On the day, Gerry (see added note) and myself stood amongst a group of dedicated Wake fliers, all wound up and raring to go. On the command of launch, I heaved my Gypsy and she gained a few inches, dropped a wing and flew into a bystander’s shoulder. No flight, nil point.

Gerry Boughton. Some of you will remember Gerry. He was a club member for many years and a great Old Warden fan and, in my shed, I have a Wakefield built by Gerry. - *Thanks for another great article on these timeless vintage aircraft Stan!*

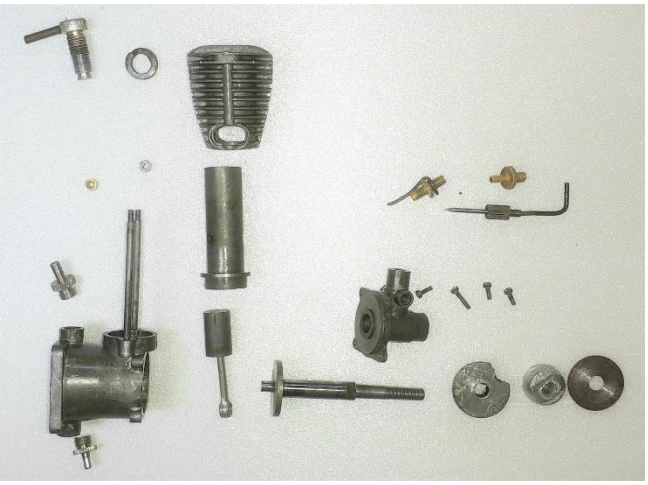
and finally…… A word from our Chairman

Dear All,

I hope that you had a very good Christmas and have managed to spend some time preparing to go flying when the weather improves. The break in our activities for the holiday festivities mean that there isn't a lot for me to say about club matters. At the time of writing we haven't had the first club meeting or Workshop Wednesday of the New Year so I thought that you might be interested to hear about one of the engines that we discovered among Peter Thrower's things…….

Peter Thrower's Engine Collection

Those of you who came to the December club meeting will have seen some of Peter's collection of engines that we are selling on his behalf. Three of them were sold to members that day and many of the others have sold via EBay. Most were relatively conventional glows, but one was a real vintage type, a 1cc Frog 100 MkII diesel that dates from the 1940's. Frog engines and models were produced by International Model Aircraft Ltd. at their factory in Merton, SW London through to the 1960's and helped inspire many young aeromodellers. I've never seen one of these little engines before so I thought it would be a good idea to try and get it running to see how it performed.



The first job was to strip it down, it was well and truly gummed up with congealed oil and seized solid, so I gave it a soak in some white spirit and eventually, with some teasing, managed to get it all apart. It was then given a thorough clean in an ultrasonic tank. The photo shows all the parts laid out ready for reassembly (left) and there are some interesting features that are worthy of note.

Firstly, there is the built in fuel tank, which is incorporated into the cast aluminium crankcase. Small diesels of this era often had an integral fuel tank because they were mostly used on free flight models and didn't need excessively long run times. It is a very simple arrangement with one nipple for filling on the top of the tank and another on the bottom for the drain/feed. A short length of tube connects the latter to the spray bar tube which is also somewhat unusual in that it is not a 'tube' at all but just a nozzle that screws into the side of the air induction pipe. The needle valve screws in from the opposite side and forms an annular orifice where the point of the needle enters the nozzle; a bit like the jet arrangement in an SU or Stromberg car engine carburettor – but much simpler.

The cut-away drawing on the attached engine Test Report, which I think is from a vintage 'Aeromodeller' or 'Model Aircraft' magazine, shows these features on a Frog 180; a larger engine but of the same basic design.

TEST REPORT

FROG 180

by HENRY J. NICHOLLS

THE Frog 180 is the third in the series of I/C engines produced by Messrs. International Model Aircraft, being a development of the well-known " 100 " engine.

Many of the components of the " 100 " and " 180 " are interchangeable and standardisation of parts has been used to reduce tooling costs and consequently cost of production.

It can truly be said that the Frog engines are as nearly mass-produced as any small engine can be and the very extensive plant laid down at Merton for their manufacture is unusually comprehensive and self-contained.

The result is an engine at a very low price as compared with most other British engines of similar capacity.

SPECIFICATION

The crankcase, the rear portion of which forms the fuel tank, is an aluminium alloy die casting and has four holes for radial mounting.

The front end of the crankcase, which is in one with the induction system and houses the main crankshaft bearing, is also die-cast in aluminium alloy.

The main bearing is meehanite. The crankshaft is hardened mild steel which in meehanite forms a good bearing surface, an essential to the maintenance of performance in a motor with crankshaft induction.

The cylinder is meehanite and the piston and contra-piston are both case-hardened mild steel, this combination having been found to give better wearing qualities than the original set-up, which was a cast-iron piston in a steel liner.

Conrod is forged hiduminium, an aluminium alloy specially developed for its good wearing qualities when used as a bearing surface with steel.

The gudgeon pin is silver steel.

MANUFACTURING METHODS

Pistons and contra-pistons are turned from solid bar on Capstan and Bechler Automatic lathes and are finished exactly .001-in. oversize. They are then case-hardened to a depth of .008-in. so that after lapping to size on a Newall machine the depth of hardening is correct.

Cylinders are also machined from solid bar, the bore being reamered .008-in. undersize. At this stage the cylinder is mounted on a mandrill and the exterior turned to ensure concentricity of interior and exterior surfaces.

The internal transfer ports are then shaped and the exhaust ports milled.

The bore is precision ground on a Churchill automatic and the final honing to a limit of .0005-in. is carried

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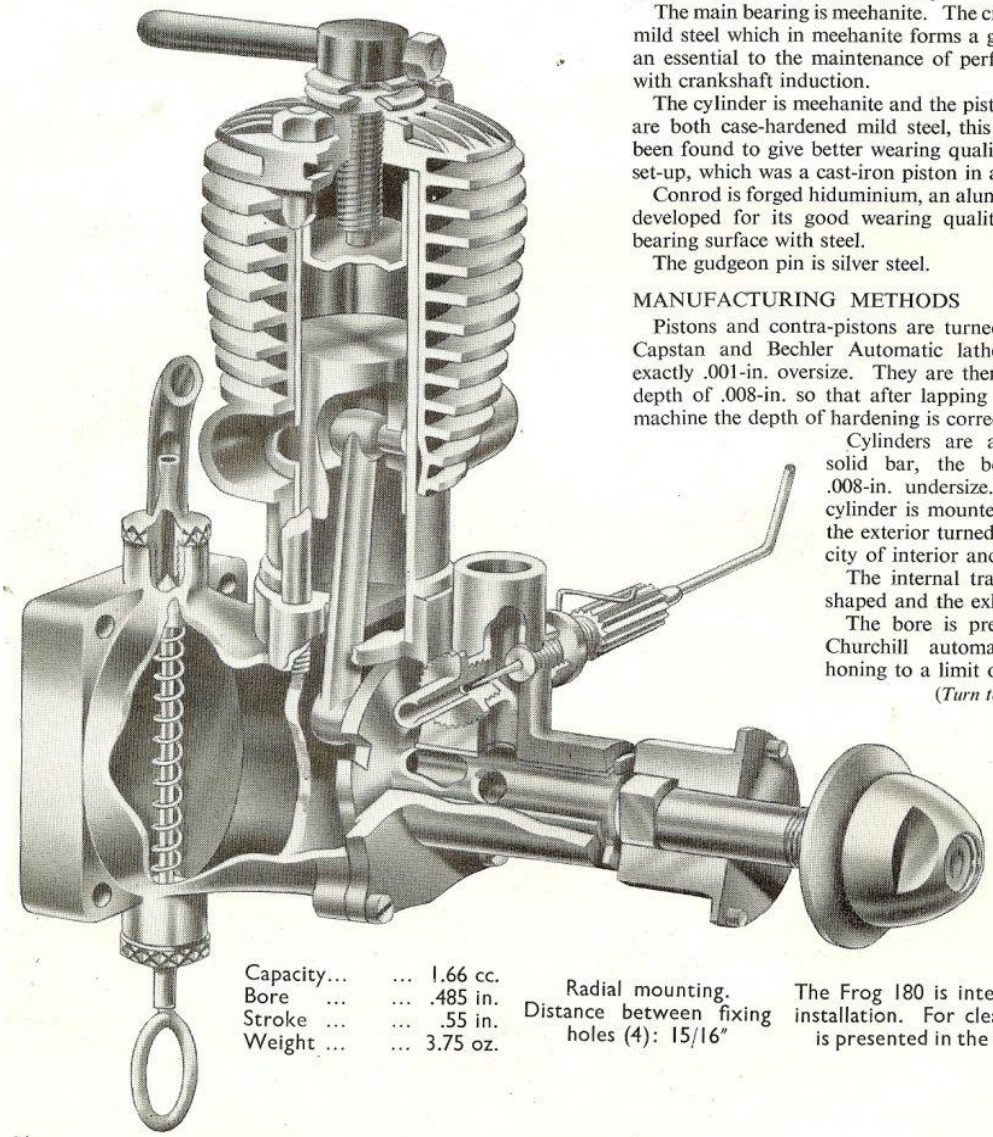

Drawing by F. A. HUNT

Capacity...	... 1.66 cc.
Bore ...	... .485 in.
Stroke ...	... .55 in.
Weight ...	... 3.75 oz.

Radial mounting. Distance between fixing holes (4): 15/16"

The Frog 180 is intended for inverted installation. For clearness, the cutaway is presented in the upright position.

Looking deeper into things, some of the proportions are very different from a modern model engine. For instance, the relative length of the piston is 15.2mm versus the diameter of 9.3mm (1.6:1) and the very long stroke to bore ratio is about 1.5:1. In both cases a ratio of 1:1 would be much more typical these days. However, these features helped to give these engines the ability to turn relatively large diameter props, up to about 9 inches diameter.

Finally, a curious feature, but quite logical if you think about it. The crankshaft and prop nut have left hand threads. So, the tendency is for the nut to tighten with use. How many, times have you seen a modern engine lose its prop, especially when being spun up by an electric starter? I wonder why this feature is not seen today.

So, how did this little gem perform? I tried it with the propeller that Peter had put on it, an 8x6 Nylon Master Airscrew. I considered this a large prop for a 1cc engine because I used to run far more powerful 2.5cc diesels in control line models using the same size propeller. The initial results were promising; it fired up quite easily and certainly didn't appear to be over propped, but it only on the prime and did not appear to be drawing fuel. The best run time was about 10 seconds.

Left and right shots of the engine on test

There is nothing wrong with the fuel, I ran another engine on it to check, and that was fine. After some experiments with an external fuel tank I've come to the conclusion that the Frog is very sensitive to the level of fuel in the tank. A little too low and it won't draw and a little too high and it floods! I will persevere with it and see if I can get it sorted. Either way I will let you know next month. Meanwhile, if you have any ideas that might help, please let me know.

I'll leave it there for now and hope to see you soon.

Cheers, Steve

"Your article" – Could be here in the next instalment! So, get scribing and emailing and share it with our fellow modellers and send me your photos and articles to awjenkins@sky.com