

**Impington  
Model Aeroplane Club**  
Founded in 1946 by Ray Malmström

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## Port Victoria PV7



Paul poses with his very nice PV-7. It's an unusual and very small 1917 biplane from a little known British company. Like most unusual designs it was a tricky blighter to trim!!

## Moulded Canopies

Mark Saunders has refined his method of making canopies from old plastic bottles and writes –

I have been experimenting with fabricating cockpits from plastic bottles whilst building my Bambina from the RCM&E free plan. The plan said 'cockpit cut from suitable pop bottle' but I couldn't find a bottle to fit right.

In the same issue of the magazine they were also showing a method using a modified sealant gun to push out a cockpit from sheet plastic whilst heating the material with a heat gun. I think I found an easier way, which is to jam a cockpit mould into a bottle (with one end cut off), pack it out until tight, and then just heat-shrink the bottle onto the mould.

Not all bottles are created equal - when I used a 'squeezy' ketchup bottle, the resulting cockpit would probably be bullet proof - it was so tough I could barely cut it. In the end I settled for a nice green number.



Initially create a balsa "plug" for the canopy



Put the plug in the bottle and pack it tightly



The bottle after heat treatment

One thing to watch out for is that the bottles tend to shrink in length as much as they do in diameter, so it's best to get the ends to shrink on tight before working on the middle.



The finished canopy on Marks Bambina

## What's this then?



What's the aircraft, where was the picture taken and who is posing in front of it.

Answer at the end of the newsletter.....

## Public Open Day 15<sup>th</sup> March

Despite the threat of the virus, a decent crowd turned up to fly and hear the excellent talk from Andrew Boddington of Aeromodeller.

A few photos from the day and the competition results are at the end of this newsletter. If anyone has any more good photos, please let me have them.

## Posing at the flying field



Mark flies his Easy Star using his new DJI high definition FPV system. Alan poses nearby!

If you are thinking of getting into FPV, have a chat with us about the new DJI system before you take the plunge.

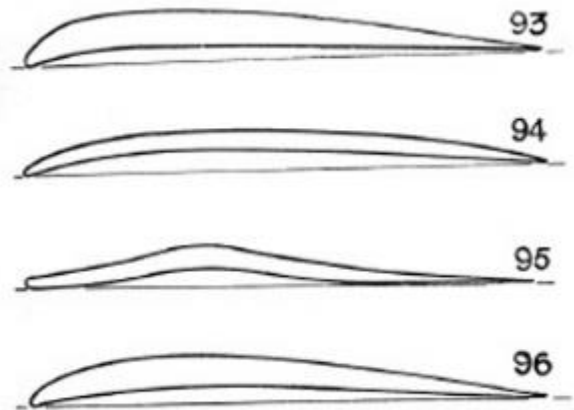
This photo was taken in early February before the wind and rain descended on us!!

## Einsteins Wing Flops

Bryan Gostlow unearthed this gem which we can all take heart from!! Even the greatest minds can get it wrong.....

Einstein once took an interest in aviation and tried to design an improved wing. He wrote a technical article in August 1916 in which he proposed a new shape for wings that he hoped would improve lift.

His proposal was a wing with a large mid-chord arch. [#95 in the following illustration]



His paper began with the question, "Where does lift come from that allows airplanes and birds to fly?" To answer the question, he searched the existing published literature on the subject and concluded that not even a primitive answer was to be found.

He evidently didn't have the Wright brothers' 1902 wind tunnel data or he probably would have pursued a different idea.

The hump on the top of the wing surface, Einstein thought, would create an even longer path for the air to travel, resulting in additional lift.

Einstein's proposal for a wing design was given to Paul Ehrhardt who had flown for two-minutes as a passenger with Orville in 1909. He was the technical manager of an aircraft company in Berlin. He forwarded the proposal to his engineering group for evaluation. Engineering consulted with Einstein and subsequently compared 99 conventional airfoils in a wind tunnel with Einstein's foil. All but two the conventional foils had higher lift-to-drag ratios. This was not a result that Einstein envisioned.

Following the German wind tunnel tests on the Einstein wing, they constructed a full-size prototype airplane consisting of a WW I German biplane with "Einstein's wings"

attached. Ehrhardt decided to be the test pilot. After a long takeoff run, the plane went in to an unintended roll as he took-off. Ehrhardt said that he landed quickly and safely and "was overjoyed to find himself on firm ground and still in one piece."

Ehrhardt further elaborated on his experience, saying that the plane was hard to control tending to "waddle while flying something akin to the flight of a pregnant duck." Einstein accepted the failure of his wing design with good humor. He wrote to Ehrhardt, "That is what can happen to a man who thinks a lot, but reads little."

extract from [Famous Aviators](#)  
by Dr. Richard Stimson

## Dates for your Diary

Summer is almost here – isn't it? Outdoor flying beckons!!

**Sadly the public health restrictions made it impossible to continue with our indoor flying at the college so all indoor events have been cancelled till we resume indoors in September.**

Outdoor flying at Girton and on Fridays at IVC will continue as normal and is unaffected by any restrictions (at time of writing!!).

**Fri 17<sup>th</sup> April** – First outdoor session on the Impington Sports field. 7pm till dark!!

## John Valiants new marvel

John writes that he has just finished a Morane Saulnier M406 C1 in peanut size for the BMFA Indoor Scale Nationals held at the University of Wolverhampton in April. He was trimming the model and trying not to damage it at the Open Day on Sunday 15 March.



Here are a few pictures of the model and a black and white image of the original. Also a little bit of information about the history of the plane.



The Morane Saulnier MS-406 was a single engined French fighter developed before World War 2. The first flight took place on 8 August 1935 and it entered service in 1938. More than 1000 aircraft were produced and 30 aircraft were delivered to the Finnish Air Force in February 1940 and Finnish aces won 14 victories. The aircraft was based at Petroskoi airbase.



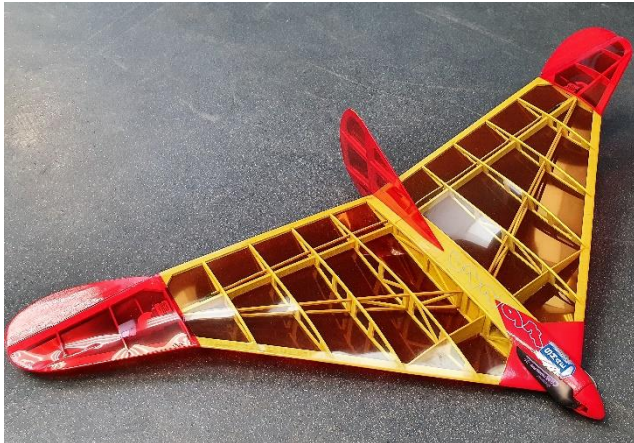
MS.406C1 MS328/"Black 8" of Sgt Martti Vihinen, 1/LeLv 28, Solomanni, March 1943

Four different pilots used this aircraft to score five victories, which were duly marked on its fin. In 1940-41, while still in French camouflage but wearing these markings, MS328 had been the assigned aircraft of flight leader 1Lt Tuomo Hyrki.

A five victory ace, one of his claims to fame was that he scored the first Morane victory in the Winter War – a DB-3 bomber – on 17 February 1940. At that time the Moranes were armed with only three 7.5mm machine guns.

## Spotted at the Open Day

Just a couple of models I spotted at the Open Day – more next month!!



This is Richards radio conversion of the Skyleada flying wing. Originally a 1947 rubber powered model, Richards has mini RC and a 2S 350mAh lipo to power it. Still to fly at the time of writing. Total weight 7.6 oz.



This is Chris Strachan's Lippisch P13a – an Austrian post war ram jet design powered by coal dust!!

Chris designed the model and it flew well with a Rapier rocket motor – it flew for the full duration of the rocket burn, but Chris says it needed to be a bit bigger and lighter. It still has the burn scars from the rocket motor on its belly!!

## Answer to What's this then?

It's an Argentinian Pucara ground attack aircraft pictured on Pebble Island in the Falklands in 1982 after a famous SAS raid.

Your Newsletter editor poses.....

## Open Day results

Chris kept the scores on the doors and reports

Today's meeting went reasonably well considering the current situation, with probably around a third of the normal number of attendees. However those who did come enjoyed themselves and especially relished an excellent presentation from Andrew Boddington.

With the limited numbers there were very few entries in the various competitions. Those that we did run were:

### Bostonian Duration

1st	Bernard Guest	217 sec
2nd	Bruce Lindsay	204 secs
3rd	Roy Selwood	197 secs
4th	Michael Marshall	56 secs (2 flights)

### Car Race

1 <sup>st</sup>	André Bird
2 <sup>nd</sup>	Dave Banks
3 <sup>rd</sup>	Chris Strachan

We also held a mass launch for consumable prizes

## Outdoor flying

In these rather tricky times, getting outdoors to fly in the decent weather is probably a really good way of keeping our spirits up and enjoying our hobby. We'll just need to be sensible about staying 2m apart etc etc.

Flying sites available to us include –

- **Impington** – Friday evenings from 17<sup>th</sup> April
- **Longstanton** – see Richard Staines
- **Cottenham** – see Steve Mynott or Norman Atkin
- **Girton** – see club website
- **Fulbourn** – see Alan Paul

Or just contact Alan who has info on all sites. Fulbourn is a private club, but welcomes new members. The other sites are "free".

Happy flying – take some photos for the newsletter!!

Oh – I forgot one site – the **new lake at Longstanton** where Steve and Alan plan to fly their floatplanes – now what could possibly go wrong? Answers on a postcard please.

## A near miss flying a Puss Moth in 1935

Leslie Worsdell was employed as a flying instructor at Marshalls from the early 1930s, when this exploit took place, till the mid 1980s. Reading this story, it's amazing he lasted that long!!

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One of the first charter jobs I had to do as a newly qualified professional pilot was to fly Sir Laurence and Lady Phillips from Gatwick Races to their home in Llanstephan. Sir Laurence was a relative of Mrs Rosemary Marshall, the boss's wife. Arthur Marshall had briefed me on the field which was in a Valley with very high hills on three sides so there was really only one way in and the opposite way out.

I cannot recall any particular problems with the landing. I had intended to let the passengers off leaving the engine running and go straight off again but my passengers insisted that I switched off and went up to the house for tea. A half hour later I was driven back to the aeroplane in the Estate run-about and then had the problem of starting the engine myself. I set the brakes, set the throttle, flooded the carburettor, made sure the engine switches were off and turned over the engine 3 or 4 times by swinging the propeller. I then had the driver of the run-about stand at the door with his hand on the throttle, showed him how to work the switches and explained that once the engine had started he should pull the throttle lever hard back so the engine just ticked over whilst I took 'control'. The switches on the aircraft which was a Pussmoth were put on and I swung the propeller without effect. I tried again and again and then realised to my horror that there was no loud 'click' as the engine went over compression. This indicated that the impulse magneto had failed. The Gipsy Major engine in the Pussmoth had two magnetos, one was fitted with a device so that as the engine was turned a spring was wound up which at the appropriate piston position would flick the magneto so that it produced a "fatter" spark than could be obtained by simply pulling on the propeller.

I abandoned attempts to start the engine, secured the aeroplane and was taken back to the house where I was immediately offered hospitality for the night.

I rang Fen Ditton Aerodrome and spoke to Mr Arthur Marshall, who suggested I made use of the run-about truck to take a lead from one of its plug leads to one of the plugs on the Pussmouth. This would give an almost continuous fat spark but would be out of sequence with the piston position in the firing cycle of that particular cylinder.

We rigged this up the next morning and after half hour of prop swinging I got the engine started. The trouble was that the engine seemed to fire whenever the propeller was touched but always going backwards.

Now came the silly part - I knew that I had checked the weather at Cambridge as being the cloud base of 2,000 ft. but the weather at Llanstephan was lousy with low cloud and the Valley almost filled with fog. Remember there were no navigation aids in those days, no radio - one went on map reading but I was so concerned at the prospect of having to shut down the engine and then again go through the nausea of re-starting that I decided to take-off - I didn't even have a watch; so the only way I had to gauge the passing of time was

by means of the fuel gauges of the aircraft noting that the fuel consumption of the Pussmoth was about 6 gallons per hour.

After I judged about 2 hours had gone when I was pretty sure that I was over the lower ground I began gentle let down. I had no pressure setting for the altimeter and at 1,200 ft I was startled to see a lightening of the cloud around me and suddenly lots of red lights a few feet below. I forced on full throttle and pulled nose up into a climb. I had not the slightest idea where I was but the only thing to do was to keep going except that a few minutes later I saw an aerodrome which I recognised as Sywell. By now I was thoroughly frightened and decided that the sensible thing to do was land. After ringing Cambridge to let them know where I was I was authorised to get a Sywell Ground Engineer to check the engine. He found that the impulse magneto shaft had actually sheared so I had made this stupid flight in cloud, no aids, and only one magneto.

Back plotting, I found that I had descended right in the middle of the wireless masts at Rugby, 1155ft above sea level!