

# Percival Mew Gull

Peter Maw tests this 74" span classic vintage scale racer from Seagull Models



I haven't assembled an Almost Ready To Fly (ARTF) for around five years because many early examples seemed to treat glue as an optional extra, relying on the covering to keep things all together, and seemed designed for a life expectancy of three months. They provided less value for money than paying to watch Bolton Wanderers on a wet Tuesday in February. However I had noticed that several members of my club had managed to keep the same ARTF plane flying for a couple of seasons so perhaps it is time to re-evaluate ARTF models. This is going to be my re-introduction to ARTF models.

The full size Mew Gull was the winner of many speed trials in the 1930s, eventually reaching a top speed of 265 mph in its final 1939 form. Google 'G-AEXF' to find a mountain of information on this particular plane.

## Our First Night Together

At 74" wingspan the model is quarter scale. It retains the proportions of the original and the tailplane is frighteningly small when compared to many sport-scale models that have enlarged tailplanes to assist stability.

First impressions were good, not many major components, but all perfectly finished. Naturally I tugged the servo-mounting tray to see if it came loose, and pulled all the bits that were visible. The all-wood fuselage looks lovely, a particularly striking feature being the beautifully formed wing fairings that match the wing

profile; how do they do that and get Profilm to stick on a convex shape – quite brilliant! All the tail surfaces are airfoil section and the wings are a standard 'D' box construction with semi-symmetrical section. Apart from the fibreglass mouldings looking a bit on the thin side, everything else is very impressive.

Instructions are no better than five years ago; manufacturers seem to have a problem in deciding what to describe. If you need three pages of instructions to work out how to fit control horns,

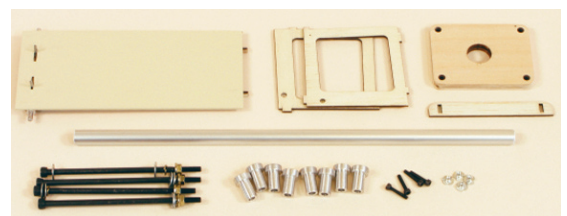
you probably shouldn't be building or flying this plane. They cover most of the information needed, but unfortunately attaching the cowl and flying information being the major exceptions.

All the servo mounts needed some easing, but it is better to have cut-outs too small than too large. I used Hitec 645MG servos on all flying surfaces.

**TOP TIP: Don't forget to apply the underwing decals before fitting the wing servos, otherwise it will be impossible to apply them flat.**

The undercarriage legs are a substantial unit, but beware! The oleo leg is attached to the torsion arm by 3 grub screws. It doesn't matter how many screws are used, the leg will still twist under normal take-off or landing pressures, which will break the fairings and cause misery, so it is essential to file at least two flats onto the torsion arms.

*'beautifully formed wing fairings that match the wing profile'*



The box contents showing all parts and hardware included (images courtesy J.Perkins Distribution Ltd.)

**TOP TIP: File them to give a small amount of toe-in on the wheels for better ground control. While you have the file out, put flats onto the main and tail wheel axles to ensure their securing collets stay put.**

**Playing with the Pants**

There are many pictures of the real G-AEXF on the interweb, some show the fuselage profile as being straight rear of the cockpit, some show a curved profile. Like most things that have lasted 70 years this Mew Gull has had a chequered history with a number of unscheduled arrivals as well as the occasional bit of vandalism, such as having the wings cut off while in storage. One thing that has remained constant is the shape of the wheel pants that have a distinctive cut-away at the front. It is no problem to modify the supplied wheel pants to a reasonable profile with a fretsaw or a Dremel, but why can't the manufacturers get this sort of thing right? A little bit of extra attention to detail would really make the model stand out with no cost disadvantage. The distinctly un-scale tailwheel is another example of lack of attention to detail; the full size didn't have one!

**The Front End**

Seagull supply the I/C powered version of the model to have the engine almost side-mounted, leaving the maximum amount of engine sticking out of the cowl, I assume to allow the exhaust of a 2-stroke to hang underneath? I knocked out the T-nuts and re-drilled the holes to put my ASP 1.80 4-stroke engine inverted. I ordered a 90-degree manifold knuckle from Just Engines to ensure that the silencer stays neatly inside the cowl. Front shots of the full size show a massive air intake and shots of the underside show a series of in-line cooling holes.

All that is left at the front end is to cut out holes in the cowl for intake and air outlets. The front air intake cut out is approximately 28 cm<sup>2</sup> and the outlet holes I cut have a total of 27 cm<sup>2</sup>.

The electric conversion kit supplied comes in useful now. Its battery holder can be used to house the receiver battery, and other bits can be used to make air directors within the cowl. (Don't say electric stuff is of no use to I/C engine enthusiasts!)

**Cowling Installation**

There are reinforcements for the cowl mounting screws glued inside the fuselage. Sadly the instructions only manage one diagram and zero words with no measurements on how to fit the cowl, as well as no dimensions for screw positioning.

To safely fit the cowl, drill one hole at a time, cut some reinforcement blocks from a bit of beechwood, drill a pilot hole into the beechwood, glue the face and attach to the inside of the fuselage using the cowl screw for the joint. Finally fuelproof all the exposed wood.

Once all the fiddly stuff has been done, pop all the wood bits together; all the joints are perfect and final assembly is a delight.

Next check the C of G and do whatever final fettling you want to do before wandering off to the flying field.

Even with the ASP 180FS up front, my 6 V 3 A battery pack needs to be well forward to make a safe C of G... and this is where the instructions really let the kit down. The suggested C of G is 70 mm back from the leading edge at the tip. This is 150 mm back from the LE at the wing centre, approximately 50% of the mean chord. Fortunately I have been flying long enough to know this would be disastrous, and so I set-up the Mew Gull with the C of G at 95 mm back from the LE at the centre of the wing, and at just over 30% of the mean chord, which is much safer.

**IMPORTANT C of G NOTE: After consultation with the UK distributors, it is recommended that you start by setting the C of G to the manufacturer's recommended position; Ed.**



*Substantial oleo legs and high quality spinner are typical of the quality of components in this kit*



*Completed undercarriage assembly with modified wheel fairing; note the slight toe-in on the wheel, also note that the fairing is set to ensure that the wheel can bounce up and down without interference*



**The Real Test**

The C of G is set, the engine works, no excuses. The wing tapers from 380 mm chord at the centre to 170 mm at the tip with



*Nice fin assembly, light weight and beautifully finished*

*All the main assemblies are self-aligning, making the plane a joy to put together*



no washout. The wing loading is 32 oz/sq ft so I will be interested in the stall and low speed characteristics.

I recruited Steve Capp from my club for the initial flight while I did the photography. Wind was around 10 knots with occasional gusts. The engine turned the 18" x 10" Classic Airscrew at 6,800 rpm. Our first attempt resulted in the nose tipping forward as power was applied, so we went for a different approach. This time club-mate Joe Rogers held the plane while Steve applied full power and full up elevator. It unstuck in less than five metres, climbing away nicely and looking rock solid. Steve reported sluggish ailerons, but positive elevator response. However it went where it was pointed. With the sharply tapered wing uppermost in our mind, Steve landed the plane with a little power on, flying it in all the way. I had set the ailerons with 4 mm of up deflection to introduce some washout and Steve said he felt comfortable landing the plane. It showed no tendency to drop a wing or stall, and looked stable on approach. He bought it in on its main wheels and rolled gently to a stop.

The elevators had 25 mm movement both ways before the first flight, more than twice the recommendation in the instructions, however it was obvious that they would need this movement.

We decided that the ailerons needed more differential, so we set them with 20 mm up and 10 mm down movement. We kept the rudder at 55 mm each way as this hadn't been any problem.

These movements are nowhere near the recommendations of



*Built-in right thrust clearly shows up in this shot*

*'a false sense of security in the instructions'*



*Mounting holes and fixings for both electric and I/C installations are incorporated; the weird mounting position for the I/C installation can be seen, but fortunately the thrust lines are marked on the former*



*If you use extension leads for the wing servos it is wise to use heat shrink or some other fixing method to make sure nothing can come apart*

*The comprehensive electric conversion pack, which is now helping to deflect air around the ASP 180 installed!*



the instructions, being more than twice the levels suggested. We could only conclude that the model would be impossible to fly based on the C of G and control throw recommendations, but only experience can tell you this. Unfortunately (because the kit is so well presented and so easy to build) there is a false sense of security in the instructions, which could cause major disappointment when it comes to the flying bit.

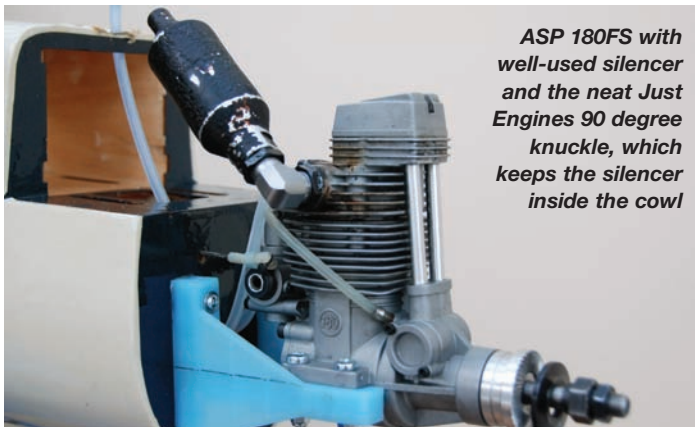
Off we went again, and once more we were away in less than five metres. This time on the right turn after take-off Steve reported that the ailerons were now properly effective, so it was time to explore more of its flight capabilities. First up was a roll, which was surprisingly axial with just a touch of down, and at a nice scale speed. Next was a loop, and the ASP power was really evident here. The diameter was huge with perfect tracking; it would be impossible to do better with a pattern ship. We thought we ought to check the stall; gain height into wind, chop the throttle, feed in the up. A gentle nod and right wing drop

occurred, predictable and nothing to worry about, just don't slow it down too much on approach. At this point I reminded Steve that: "this was my plane, my transmitter, my fuel and it was my go!"

The ailerons are lovely on a 2:1 differential rate. Messing about with the throttle makes little difference to forward speed, but really helps on the vertical manoeuvres. This will undoubtedly fly on any of the engines suggested, but there is no harm in using a 180FS as there was no tendency to torque roll on take-off, and it is not



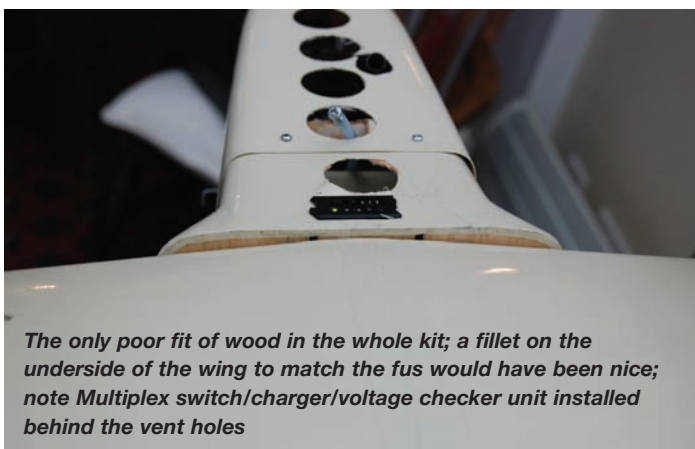
*File flats onto the undercarriage torsion bars to make sure the legs don't twist and break the pretty fairing. If you can incorporate a little bit of toe-in ground handling will be improved also*



*ASP 180FS with well-used silencer and the neat Just Engines 90 degree knuckle, which keeps the silencer inside the cowl*



*Built-in downthrust is clearly visible in this view*



*The only poor fit of wood in the whole kit; a fillet on the underside of the wing to match the fus would have been nice; note Multiplex switch/charger/voltage checker unit installed behind the vent holes*



*Cooling holes with additional exit hole for the 4-stroke silencer*



*Distinctly un-scale tailwheel assembly*



*Plenty of cooling air can get directly onto the engine with this scale inlet*

particularly quick in the air. Next time out I adjusted the undercarriage, moving the wheels 10 mm forward by putting a kink in the torsion bars to cure the tip-over on take-off.

We have now had several outings with the plane, and are getting to know it well. It will stall in a steep turn, and a lot of opposite rudder is needed when the wings are sharply banked. Low speed, low level handling is fine providing the sticks aren't slammed around, but don't point the nose too high.

Contrary to expectation it will do safe 3-point landings.

It is not a beginner's plane, and it isn't suitable as a first scale model either, but for an

experienced flyer it is an interesting project. I'm looking forward to many more flying sessions with it.

*'The ailerons are lovely on a 2:1 differential rate'*

**In Conclusion**

Seagull should be congratulated on producing a gem of a semi-scale model, it needs some thought to make it fly well, but that's the fun of this hobby. There is no reason to spend any extra cash once this kit has been bought – the accessories are good, the woodwork is first class and all the components fit perfectly. The fairings and cowl are short of the quality that modellers building from plans or builders kits would like, but considering the price this is brilliant value for money, and compared to what was available for this price five years ago (nothing!) there appears to be a quantum leap in the design, manufacture and quality of ARTF kits. **RCMW**



*The little racer is ready to go*





Steve Capp readies the plane for its first flight, assisted by Joe Rogers



Banked flypast and it could be real



Racing turn around the pylon, typical of the type



On finals for the perfect touchdown!

## SPECIFICATION

### INFORMATION

<b>Name:</b>	Percival Mew Gull
<b>Manufacturer:</b>	Seagull Models (Seagull Mfg. Co.)
<b>Distributor:</b>	J Perkins Distribution Ltd

<b>Model Type:</b>	Sport scale low wing monoplane
<b>Recommended Engine:</b>	1.20 cu in 2-stroke; 1.25~1.50 cu in 4-stroke
<b>Test Engine:</b>	ASP 180 4-stroke
<b>Construction:</b>	Balsa, Lite-Ply, and Plywood throughout

### R/C FUNCTIONS

6 servos required (most suitable types can be used):

- 1 Throttle (standard)
- 2 Rudder (Hitec 645MG)
- 3 Aileron (2 Hitec 645MG servos)
- 4 Elevator (2 Hitec 645MG servos)

### SPEC

<b>Wingspan:</b>	74 in (1880 mm)
<b>Wing Area:</b>	797.2 sq in (51.4 sq dm)
<b>Length:</b>	61 in (1543 mm)
<b>Target weight:</b>	10~11 lb (4.6 - 5 kg)
<b>Actual Weight:</b>	11 lb 2 oz (5 kg)
<b>Wing Loading:</b>	32 oz/sq ft

### TEST

#### Dislikes

Cowl and wheel fairing mouldings  
Tailwheel  
Instructions

#### Likes

Wing fairings  
Finish  
Quality of accessories  
Self-jigging assembly  
Adventurous attitude of Seagull Mfg. Co.  
Flying

### Contacts

**J Perkins Distribution Ltd.**  
www.jperkinsdistribution.co.uk  
Tel: 01622 854300

**Just Engines**  
www.justengines.unseen.org  
01228 712800