

TESTING, TESTING!



# Pilatus PC-9

EXHAUSTED YOUR TRAINER AND LOOKING FOR YOUR FIRST LOW-WINGER? STEVE SALES DESCRIBES AN IDEAL CANDIDATE

**W**hen I was asked to review a model for this special publication I was told that I could choose what I liked, provided it was an ARTF (Almost Ready To Fly) low-wing trainer that would perform well on a .46 two-stroke engine. A difficult choice? Not really! Having had some experience with the Seagull range I knew exactly the model to go for. The Pilatus PC-9 was my first low-wing aeroplane, it proved a great choice for helping me hone my flying skills and it remains a good choice for pilots taking that first post-trainer step.

The PC-9 has been in the Seagull range for a few years now. It's a pretty-looking



*Pretty as a PC-9.*



*If you've a hankering for a warbird at some stage in the future, the PC-9 will provide a great introduction.*

model with a good scale appearance that's relatively easy to fly, and its tricycle undercarriage makes take-off and landing a breeze. The kit has been subject to further development since its initial introduction and there's no doubt that the overall quality of the current version is significantly better than my original example of a few years back. Finishing is to a very high standard and the PC-9 looks splendid in its Roulettes RAAF aerobatic team livery.

The build itself is a very quick affair thanks to a low part count, and most of the fiddly jobs are already done for you.

Very easy to follow, the instruction manual has many photos relating to each stage of the build and assuming you've already gained some experience by putting your high-wing trainer together, the PC-9 shouldn't pose any problems. Providing you follow the booklet page-by-page you could have the model complete with just a few evenings' work. I won't take you through a full-on assembly sequence as the manual does that quite adequately, however I will just pick out a few things to note for when you eventually get building.

## WING

The wing panels are built to a very high standard and already have the correct dihedral at their roots to match that of the main ply brace. Ailerons are supplied pre-hinged with CA hinges (commonly known as hairy hinges) that need gluing in position with thin cyano' wicked into the hinge area. One servo is used per aileron, and standard servos are perfectly adequate (I used a pair of Futaba 148s). Do note that the servo leads aren't long enough to connect to the receiver so 300mm-long extensions are needed, threaded down through the wing and out through a pre-cut hole on the top.

undercarriage saddles, in preference to the kit-supplied straps, as they seemed a bit stronger. However, this was purely a personal choice.

## THE REST

With the wing done and dusted we can move quickly on to the fuselage. There's very little to say about this part of the build. All the control rods are pre-installed in nylon snakes and the nylon quick links (already fitted



*Overall the quality of fittings and accessories is very good indeed.*



*The inverted engine installation is, perhaps, the only drawback with the model, though it does at least maintain the clean lines of the cowl.*

choosing a motor for your first low-winger remember that reliability is more important than brute power). I like to run a few tanks of fuel through my engines on the bench so when I get to the field all that's needed is to fuel up and fly, confident that the engine is running perfectly before the maiden flight. There's nothing worse than having an engine cut when you're not expecting it, especially on a model you've not flown before.

## RADIO INSTALLATION

I cannot stress enough the need for threadlock on the adjustable servo connectors. Believe me, they will vibrate or work loose if you don't lock the nuts when installing them, and then you'll need a bin liner to take the remains of your once beautiful PC-9 home!

One advantage of having separate aileron servos is the ability to program a computer transmitter to make the pair do



*She won't drop a wing unless really pushed - very handy for snappy take-offs.*

When joining the wing panels together it's a good idea to use epoxy that has a setting time of at least 30 minutes, which will give a good strong joint and allow you time to make any necessary adjustments whilst it sets. A point to note here; make sure you use enough epoxy to completely 'wet' the joint, and remember to pour some down the wing brace socket. It's very easy to clean up excess epoxy but very difficult to add some more! Any glue that squeezes out can easily be cleaned off using either methylated or white spirit (before it dries, of course!)

Now, the only deviation I made with the wing assembly was to fit some JP

to the rods) have PVC keepers on them, which is a nice touch. I found the fuel tank a little fiddly to install, a small amount of plywood trimming being required to get the tank all the way into its compartment. Installing the tail feathers is simple, with the control surfaces (rudder and elevator) having pre-installed CA hinges as per the aforementioned ailerons.

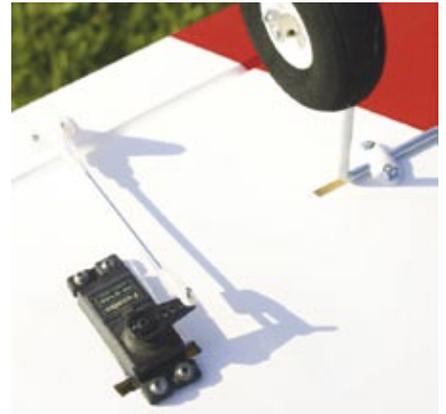
Since the engine mount is pre-installed, the engine is a veritable breeze to fit. Do, however, check that the bolts holding the mount to the fuselage are nice and tight before adding your chosen engine, just to be sure. I decided that a trusty O.S. 46LA would be an ideal powerplant (when



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*A nice bit of kit and a model you'll be happy to fly in all weathers and in a variety of locations. In short, it's a superb aerobatic Sunday hack.*



*Since each aileron has its own servo, flaperon mixing is an option.*

something a little different, and to this end I use my ailerons as flaperons. The model can be a fast flyer in experienced hands so speed can be reduced for

to around 2.7kg (6 lb). Using a larger engine might reduce the need for as much lead, but whatever engine you choose don't overlook this critical check.

years I've flown large electric models and the power-to-weight ratio afforded by a brushless motor and a brace of Li-Po batteries is addictive. I'd forgotten that



landing by using this particular mix. At the flick of a switch both ailerons move down and act as flaps, whilst still operating (albeit with reduced movement) as ailerons. If you intend to go the same route then be aware that you'll also need a receiver with at least six channels and, of course, a Tx that offers the function.

### BALANCE

Before flying, one final check needs to be made and it's one of the most important pre-flight checks for any model - the C of G (centre of gravity). The PC-9 surprised me here. My previous example flew straight from the box without the need for any balancing, yet the review model was very tail heavy, needing a portly 300g (10.6oz) of lead behind the firewall to get the balance point anywhere near the recommended 80mm (3.1") back from the wing i.e. (leading edge) suggested in the instructions. This brought the dry weight

Get it wrong and the model's first flight could be its last!

So that's it, she's ready to go. Flight ready in just 10 hours. That's a quick build.

### FLYING

It's curious how sometimes we have to re-learn or re-visit matters. In the last few

'standard' i.c.-powered models don't always have this power reserve, which became apparent when I made my first take-off and found the PC-9 running out of runway long before she was ready to rotate. Needless to say I aborted this run before she found the long grass and brought her back for another try.



*The PC-9 will take care of low-wing rookies but will also reward those prepared to throw her around a little.*

Set into wind once again the run was a lot better this time and with a hefty heave on the elevator the front wheel lifted off, quickly followed by the mains - she was airborne! The climb-out wasn't quite as sprightly as my previous PC-9, which I put down to that 300g of lead ballast. Two clicks of left trim and three of down saw her tracking straight and level in hands-off flight. With the rates set at the recommended first-flight settings the model is very docile, with a reasonably slow roll rate and sufficient elevator to



give the budding low-wing pilot some confidence. The rudder is very responsive, with only a slight touch needed to smooth out the turns. She tracks straight and true, and to prove the point I made several approaches with little or no correction. The next flight characteristic to investigate was the stall, and here I was pleasantly surprised, the wing dropping very gently to the left with the model flying at a little over walking pace.

Quite capable of maintaining level flight at a little under half throttle the PC-9 will happily travel at high-wing trainer speeds, making it very suitable indeed for that first foray into low-wing piloting.

Now that I'd explored the lower end of the flight envelope I decided to see how much further this little model would help the learner progress. I flicked out the low rates and went for the higher settings to give full movement of the control surfaces. The flight envelope was subsequently opened up, the model proving to be very aerobatic. Flick-rolls in the vertical axis are superb, as is the inverted section of the schedule, needing very little down elevator to maintain a level heading. To test the rudder's power I felt a stab at knife-edge flight was in order and was surprised to find her able to maintain the knife-edge almost indefinitely.

Getting the model back on the ground is a breeze - simply cut the throttle after making the approach and the PC-9 will

do the rest, touching down almost hands-off. The drag of the three wheels means that the model will slow down quite quickly on the ground, so smaller runways are easily handled.

#### WELL?

This offering from Seagull has been around for a few years now and remains deservedly popular. It carries the look and character of the full-size and has a performance that will suit those moving on from their high-wing trainer as well as experienced flyers.



Despite its relatively modest size it's a pretty little scale model that still turns heads at the club field. The overall quality is excellent and with a price tag in the shops of less than £100 you really can't ask for much more!



*With a colour scheme like this visibility is never going to be a problem.*

## DATAFILE

<b>Name:</b>	Pilatus PC-9
<b>Aircraft type:</b>	ARTF semi-scale military trainer
<b>Manufactured by:</b>	Seagull Models
<b>UK distributor:</b>	J. Perkins Distribution Tel. 01622 854300 Web: <a href="http://www.jperkinsdistribution.co.uk">www.jperkinsdistribution.co.uk</a>
<b>RRP:</b>	£99.99
<b>Wingspan:</b>	1540mm (60")
<b>Fuselage length:</b>	1110mm (43.7")
<b>Wing area:</b>	0.4sq. m. (4.2sq. ft.)
<b>All-up weight:</b>	2.7kg (6 lb)
<b>Wing loading:</b>	7kg / sq. m. (23oz / sq. ft.)
<b>Rec'd radio:</b>	4-channel, 5 servos
<b>Control functions:</b>	Aileron, elevator, rudder, throttle
<b>Rec'd motor:</b>	.46 - .52 two-stroke, .50 - .70 four-stroke