



# Pocket size Piwi



SINCE FLYING TOYS STARTED TO DISTRIBUTE JAMARA MODELS IN THE UK JUST OVER A YEAR AGO, THE RANGE IT OFFERS HAS STEADILY INCREASED. JAMARA FOUR-CHANNEL HELICOPTERS OFFER A GOOD WAY TO GET INTO THE HOBBY AS THEY ARE WELL BUILT, READY-TO-FLY AND FEATURE A GOOD SPECIFICATION. HERE WE TAKE A LOOK AT THE LATEST SUB-MICRO MODEL CALLED THE PIWI



The UK distributor of a range of Jamara helicopters, Flying Toys, is referring to the

little Piwi as the top of its Jamara range for 2010. The company also says that the four-channel Piwi offers a particularly rewarding performance for a specialist helicopter of this size. This is quite a claim as it's up against some stiff competition as there are many similarly sized models with very similar specifications on the market already. Having said that, we already know that German R/C model specialist, Jamara produces a number of good quality products with good spares backup, so based on this the Piwi should be a pretty good bet.

The Piwi is supplied in a neat box with a carry handle. The box is actually quite large for such a small model so you might expect to be

getting something bigger than the diminutive 270mm long machine, but it does mean there is plenty of room for packaging and the model arrives safely encased in copious amounts of polystyrene.

Inside the box you will find the helicopter, a four-channel 2.4GHz transmitter, a small 7.4V 500mAh LiPo battery pack, mains charger and instruction book. That's pretty much it, just about everything you need to go flying, but nothing extra.

#### MODEL DESIGN

The Piwi follows the very fashionable

pod and boom style design and is made to look like a miniature 3D model. It's understandable that there are so many models that use this design as the models look good and the bigger 'real' 3D models are what many new pilots aspire to flying one day. Therefore the Piwi has a

very simple and lightweight little polycarbonate canopy at the front. This is pre-painted in a nice bright yellow and is adorned with the Piwi

name down each side so you can't forget what you're flying.

Moving back from the canopy there is a strong alloy tail boom which has a single support stay and a little twin-bladed passive tail rotor mounted at the end. Going up from the canopy is the main shaft which has a small swashplate at the bottom and then two sets of rotorblades in the traditional co-axial or contra-rotating manner. On the very top of these is a metal flybar that features adjustable weights at either end for fine-tuning



#### Features at a glance

- Latest 2.4GHz technology
- Four-channel transmitter
- Only 4 x AA cels required
- Co-axial rotors for stability
- Many lightweight alloy components
- 7.4V 500mAh LiPo battery pack
- 240V mains charger supplied
- 10-15 minutes flight duration



The Piwi looks the part and comes supplied with a brightly painted canopy



The alloy tail boom is joined straight to the airframe and has a single stay



The 7.4V 500mAh LiPo and 240V mains charger



The Piwi is supplied with a decent 2.4GHz radio



The supplied LiPo is good for around 10 - 15 minutes of flight time

flight characteristics.

Under the main 'pod' of the model is a thin plastic undercarriage made up of a couple of flexible skids which should be able to withstand most heavy landings and impacts.

**UNDER THE CANOPY**

Removing the little canopy is pretty easy as it mounts just like a bigger model using rubber grommets. Once inside you can see that the main frame of the model is really just a single plastic plate onto which everything else is bolted. It's simple, but lightweight and effective. In fact the whole assembly feels pretty rigid and strong.

Now where the Piwi differs slightly when compared to some of its competitors is in the use of 'proper' miniature servos for the controls. Many models of this type now have linear servos incorporated into a circuit board that houses all the electronics, not so the Piwi. It has tiny servos and a small speed controller and receiver unit which all look much more like those used in larger models. The motors look equally substantial and have purple anodised heatsinks clipped onto them to aid cooling. Of course, having separate electronics does mean there is some wiring required and the Piwi uses traditional servo wires and plugs

to join everything up which means that should the worst happen and a component gets damaged or malfunctions, it should be a relatively simple job to replace it.

And that's really it for the Piwi. It's a simple, well thought out design that feels light, yet strong. So far, so good, but how does it fly?

the model and keeps the centre of gravity nice and low and aids the overall stability of the model.

After switching on the transmitter it's time to power up the model. This is easily achieved by plugging in the battery pack. As with most other sub-micro models of this type, the Piwi isn't fitted with a power switch which is a

The passive tail rotor is fitted purely for looks



**FLIGHT TEST**

After charging the small LiPo battery pack using the 240V mains charger which took around an hour for the first charge, it was time to install the power pack in the model. It sits in a cradle under the main fuselage and is held in place by a small piece of Velcro that is already fixed to the battery and model. This is ideal placement for what is really the heaviest component used on

shame, but I suppose we'll have to forgive that as it would add extra weight. The 2.4GHz radio gear does its thing and pairs the model and transmitter quickly and easily and it's then ready for the off.

Although it's not the most sophisticated radio in the world, the supplied transmitter feels good in the hands and certainly belies its simplicity. As it uses DSM2 2.4GHz spread spectrum technology it's also quite economical on power



Under the canopy you can see the Piwi is quite simple



The electronic control unit sits at the front of the model



The Piwi is fitted with 'proper' mini servos

and only requires four AA batteries.

You never really know how these little models are going to fly. Granted, most these days make a pretty good fist of it, but now and then you get one that really isn't up to the job. Well I'm very pleased to say that the Piwi isn't one of these and it flies very well indeed. The two tiny motors provide more than enough power for a model of this size and weight and they help it to get airborne in no time.

Our flight test was conducted within the confines of a typical size living room which can sometimes pose quite a challenge when first setting up and getting used to a new model. The Piwi isn't the smallest model and being quite powerful I was concerned that it might get away from me and cause some damage, but I was very pleasantly surprised when it lifted off easily into a very stable hover and just sat pretty steadily with little input required. I always think this is a good start to a flight test and bodes well for the rest of it. Sure enough, the Piwi responds well to all control inputs and despite being quite a nippy little thing, it always feels

**The Piwi certainly looks the part and is very well built**

under control.

The heading lock gyro does a good job of holding the Piwi steady and it doesn't take long for the model to gain your confidence and allow you to further explore its flight envelope. Although it's quite pokey, the model always remains under control and really is a fun little helicopter to throw around. It looks good in the air and responds much like a larger model.

**THE VERDICT**

Flying small models like this indoors is never easy as there are usually plenty of obstacles to be avoided, but the little Piwi is in its element in such a space. Its nippy nature coupled with its controllability allows you to get out of



trouble quickly should you stray too close to a lamp or photo frame.

I really enjoyed flying the Piwi. Being slightly larger than some of its competitors helps to make it feel a bit more stable in the air and it may even be possible to take it outside on a calm day. I easily achieved between 10 and 15 minutes of flight

time from a single charge of the LiPo which really isn't bad at all.

So now we come to the only real downside of the model, its cost. With a SRP of just under £200 it is quite a bit more expensive than some of its rivals and it doesn't come with any spares, but it may be available for less than this so it is worth shopping around. The standard co-ax rotor blades are actually quite flexible so should be able to withstand quite a bit of abuse and hopefully negate the requirement for too many spares.

The model is well designed and put together and flies really nicely and would be ideal for a beginner looking to gain helicopter flying experience and more confidence indoors before venturing outside. It is a little on the pricey side for a sub-micro model, but it does look and feel good quality and should serve its owner well.

Neil Mead



In flight the model is stable and quite forgiving

**TECH SPEC**

<b>Jamara Piwi</b>	
<b>PRODUCT TYPE:</b>	Sub-micro co-ax electric heli
<b>ROTOR DIAMETER:</b>	270mm
<b>LENGTH:</b>	270mm
<b>WEIGHT:</b>	125g
<b>FLIGHT BATTERY:</b>	7.4V 500mAh LiPo
<b>CHARGER:</b>	UK mains charger supplied
<b>CHARGING TIME:</b>	1-2 hours for full charge
<b>FLIGHT DURATION:</b>	Approximately 10-15 minutes
<b>RADIO:</b>	Four-channel 2.4GHz transmitter and receiver (four x AA alkaline batteries required for transmitter)
<b>SRP:</b>	£199.99
<b>AVAILABLE FROM:</b>	Many model and toy shops
<b>UK DISTRIBUTOR:</b>	Flying Toys
<b>TEL:</b>	01702 295110
<b>WEB:</b>	www.flyingtoys.com



The servos control a simple rotor head arrangement



The tiny motors are quite powerful and fitted with heatsinks