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TOPMODEL CZ *Pegasus*

Lightweight motor floater

In the world of electric powered sailplanes, there has been a movement to major competition in the form of the ALES class and the European version called F5K. The idea is to have thermal duration competition without the need for winch equipment and that makes this kind of contest easy to manage. In order to keep the investment in models and equipment lower to enjoy this segment of the sport, the European pilots have a second classification known as F5K-400. In this class, the models are limited in the power-plant and system, which allows models of a much more modest investment to be used. Basically, the rules are catered to sporting class pilots who enjoy a light plane with good thermalling capability that are economical enough for anyone to handle. The subject of our review takes a close look at one of these models, the Top Model-CZ "Pegasus".

The mythical character, "Pegasus" is the flying horse. This image alone points to the model being a flying workhorse for the pilot, although I think the Pegasus is going to be more enjoyable for us. With an empty weight of about 10 ounces and a flying weight of between 23.5 and 27 ounces, there is little doubt that this electric powered sailplane is going to display some serious hang-time regardless of the lift conditions! She is constructed of balsa ribs and a carbon fiber main spar plus a carbon leading

edge. The wing and tail sections are covered with an iron-on film that is perfectly applied in transparent yellow. With this covering, you can see the construction is impeccable as there is no excess glue to be found anywhere! Although there are carbon tube spars, beware that this model can be easily over-powered by the modern motors of today. Over-powering the Pegasus could be disastrous and care should be taken to choose an appropriate power plant and battery.

Key Features

- > Excellent quality and workmanship.
- > Very light finished weight.
- > Strong wing based on carbon-fiber tube spar and leading edge.
- > Very pleasing flight handling.
- > Looks great!

Pros

- > Very fine quality and workmanship
- > The kit hardware is complete, save for the spinner and prop
- > Climb performance on a 2S battery is perfect
- > The flight handling is responsive in all modes

Cons

- > The instructions are 95% illustrations only



Author's Opinion

This is a lightly built aircraft of impeccable quality. There is not a drop of excess adhesive anywhere and the overall finish is beautiful. The completed model is very lightweight and consequently, will not withstand high-speed performance. However, with the right motor/battery combo, this compact thermal plane gets to the 150 meter altitude mark efficiently, without stressing the airframe. The Pegasus is also quite an eager thermal hunter, as we readily engaged lift on the maiden flight without trying. The flaps are great at slowing the Pegasus, decreasing altitude rapidly and allowing for gentle landings in a small school yard. This is a great model to relax and enjoy on a lazy day, plus do well in ALES/F5K-400 competition.

NEED TO KNOW

MANUFACTURER: Topmodel CZ

DISTRIBUTOR: Esprit Models

TYPE: Electric powered sailplane

FOR: Sport or ALES/F5J-400 Competition Pilots

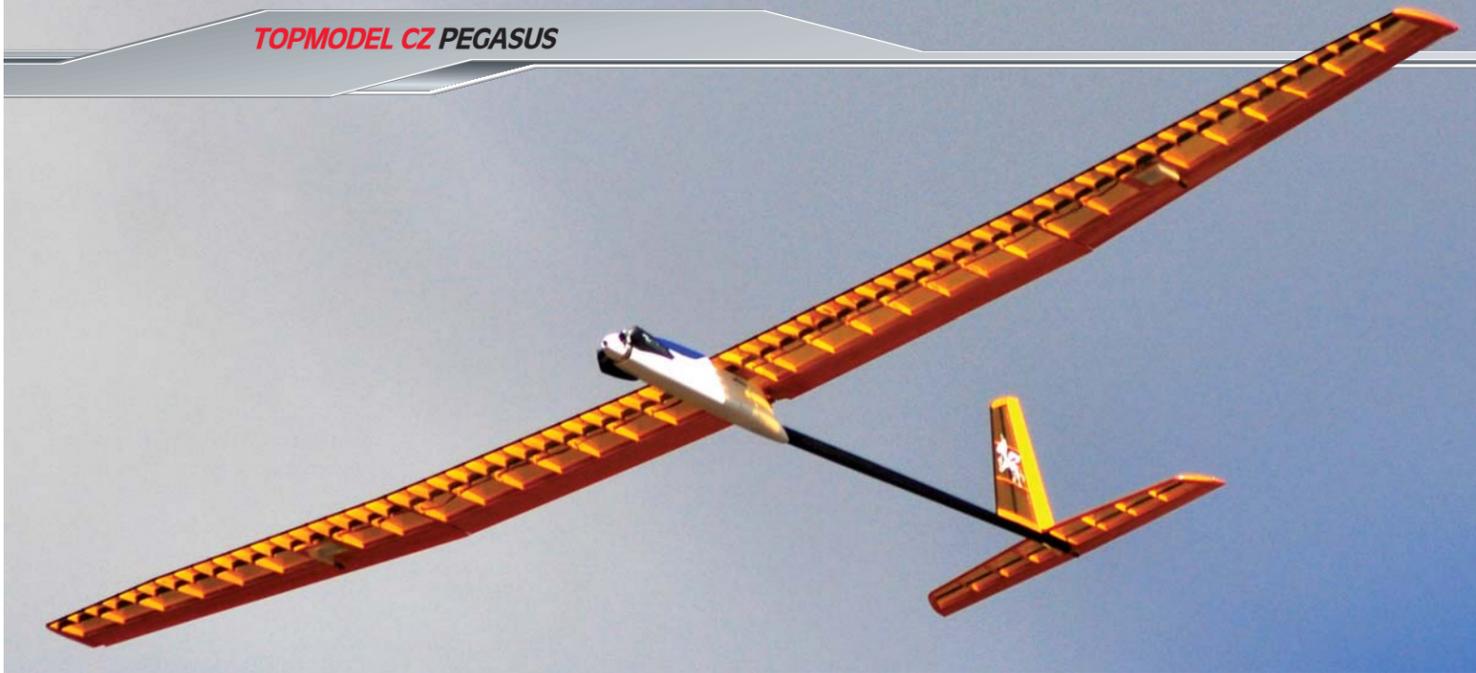
PRICE: \$265.00

MINIMUM FLYING AREA: Club field

NEEDED TO COMPLETE: Outrunner motor, ESC, five servos, receiver, 2S LiPo between 850 and 1500mAh, spinner and propeller.



Author, Mike Lee, hand launches the Pegasus on a perfect throw.



IN THE AIR

Our maiden flights took place on a sunny day with an 8 mph wind coming at us. Because the Pegasus is built with a more modern AG airfoil, I didn't worry much about penetration into the wind. My choice of radio was a Spektrum DX6 New Generation transmitter connected to an AR610 receiver. This radio allowed me to set up five flight modes: cruise, thermal, reflex, launch and landing. With the launch mode set, the Pegasus was given power and she easily pulled away from my hand as I took only one step forward. I was waiting for something to happen, like a sudden roll or pitch up, but the reality was nothing but a straight climb out at 30-degree up angle. Very nice! It only took 25 seconds to reach the competition altitude of 150 meters and the motor was shut down. I must lead a charmed life, because the Pegasus hooked into a thermal only moments into the flight. Normally, I would bail out immediately so that we could get the flight photos first, but this time, I made an exception. We had a significant breeze and the Pegasus going with it quite happily.

I was very surprised with the positive aileron response from the Pegasus, as I like a snappy aileron response. The DX6 had the rudder mixed into the aileron input and this proved to be a factor in the ability of the plane to turn and circle smoothly. This also tells you that the rudder has good authority. Using the control throws as recommended by the instructions worked out fine, as I never felt that the plane lacked authority. I had to try the stall, but with the wind we had, I could not get the Pegasus to get a clean stall, as it opted to turn the nose and slide downwind instead. A bit of pull on the elevator and the plane was right back to level flight. Thermal hunting is what the Pegasus is built to do and it will cover some sky for you in the cruise mode. This also means that because it is not as large as the big three-meter planes, the Pegasus is going to get smaller faster. Not to worry as that transparent yellow film is like a beacon in the sky.

Landing the Pegasus is just a delight! The flaps are nicely effective at slowing down the plane and with a bit more deflection, you get good braking which is effective for a steep descent. With the Pegasus weighing in at only 23.5 ounces, the landing is very gentle and slow. This is a very satisfying model to fly, as it does anything you ask of it and has no bad habits to speak of. I would love to see the F5K-400 class of flying take hold here in the U.S. just to see more of this kind of model. With a list price of only \$269.00, the Pegasus delivers quality and performance. I mentioned that the name Pegasus alludes to a plane being a workhorse. I think I can understand that now. This plane is going to get a lot of use in the very near future! I like it!

ASSEMBLY TIPS

This model is very complete in the hardware department and the airframe components are of excellent quality. You will need some basic building skills with this one, as the amount of space for radio and power plant components is quite limited. I tackled the wings first, which are a work of pure craftsmanship...they have to be because with the entire structure covered in transparent yellow film so you can see everything there is to see in between! You can't miss seeing the carbon fiber tube main spar and leading edge. The main task here is to modify the aileron servo wires by about eight more inches in order to reach the wing center section. Forget using a servo extension connector because you will simply destroy the ribs trying to fish it through the wing. This is a job for an experienced soldering jockey. Once that is tackled, the aileron servos are glued to the servo bay covers and then the covers may be held in place with clear tape. Install the fiberglass control horn and pushrods and the



ailerons are done. My Pegasus was equipped with Spektrum A3030 thin servos and the fit was perfect!

The wing flaps are unique and this is where you start to notice the meticulous care taken to reduce weight and keep things simple. When the wings are joined, the left flap connects to the right flap with a fiberglass alignment pin. A fuselage mounted flap servo handles the task of controlling both flaps with one pushrod. Finish



SPECS

WINGSPAN: 2-meter (79.8 inch)
WING AREA: 540 sq. inch (34.9 dm²)
WEIGHT: 26.7 oz (23.5oz actual)
WING LOADING: 6.24 oz./sq. ft.
CUBE LOADING: 3.21
LENGTH: 43.1 in (1095mm)
RPM: 7253 RPM (Fromeco Optical Tach)
PROPELLER: Aeronaut CAM 10 x 6 folding

We Used

TRANSMITTER
 Spektrum DX6, SPM6700



RECEIVER
 Spektrum AR610, SPMAR610



SERVOS
 (2) Spektrum A3030, SPMSA3030, (3) E-flite S75, EFLRS75



MOTOR
 Hyperion Gs2213-14/1337



ESC
 Castle Creations Thunderbird 54, 010-0053-00



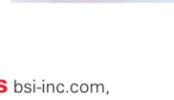
BATTERY
 E-flite 2S 1500mAh LiPo 20C



PROPELLER
 Aeronaut 10x6 folding



SPINNER/YOKE
 Aeronaut 34mm/8mm



CONTACT
BOB SMITH INDUSTRIES bsi-inc.com,
 (805) 466-3683

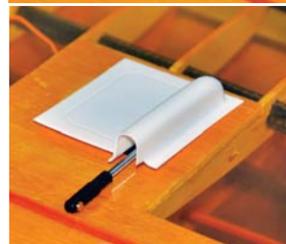
ESPRIT MODEL espritmodel.com,
 (321) 792-4287

E-FLITE e-fliterc.com, (217) 352-1913

HYPERION MOTORS espritmodel.com,
 (321)792-4287

SPEKTRUM spektrumrc.com, (217) 352-1913

For more information, please see our source guide on page 97.



A Spektrum A3030 servo is glued to the servo cover and ready to place into the wing. It was a perfect fit.

the wing by attaching the ailerons and flaps to the wings using hinge tape.

The fuselage comes up next and it is mated to a fine looking carbon fiber tail boom. The boom is fitted by bringing the tail tip of the boom into the fuselage through the open nose. The boom is in the final position when the lip of the boom is just behind the servo bay of the belly. You will have to roughen up the boom and the fuselage areas where epoxy will be applied to set the boom in place permanently. Allow the epoxy to cure completely before any further handling.

Moving to the tail feathers, the horizontal stabilizer and fin with rudder are mounted to the boom next. Epoxy is used here and again, the boom needs to be roughened up a bit for a strong glue joint. The horizontal stab is first, followed by the vertical fin. Both the elevator and rudder are solid balsa structures with tape hinged to the trailing edge of the vertical and horizontal stabs. Make sure you get a proper alignment and then come back to it after the epoxy is cured.

Installing the servos will take some thought, as the fuselage servo bay is pretty small. Think this out and carefully set the servo tray in position to make sure the placement is right. The one servo to worry about is the flap servo, which sits on the tray from the opposite side of the elevator and rudder servo.

Not to worry, as you can open a hole in the wing saddle to allow installation. I used Bob Smith Industries IC2000 rubberized CA to hold the tray in place and this worked great. From here, install the supplied wire pushrods and hook them up to the control surfaces.

At the nose, you get to mount the fiberglass motor mount. For best effect, I used a slow set epoxy and took my time to get the alignment correct. Behind that mount is a Hyperion Gs2213-14/1337 brushless outrunner, which is perfect for the Pegasus on 2S lithium battery power. Although the motor can easily take 3S power, I don't use it. Take my word for it, you don't need it. Topping off the nose is an Aeronaut 34mm spinner with folding prop yokes and an Aeronaut 10x6 prop.

The build is not hard, but it may take a little thought to understand the illustrations. In the end, my Pegasus is a delightful 23.5 ounce lightweight that should be a nice thermal machine.

THE LAST WORD

Make no mistake about it, this is a high quality motor sailplane that might take some advanced building skills, but it will deliver on the flight capability. The light structure and resulting light weight is impressive and also allows easy thermal flight. With practice to know just what this plane can do, you will be flying this model from nearly any open field without worry of running out of landing space. I like the snappy control response and handling of the Pegasus. If they ever start flying F5K-400 class here in the States, this is going to be a popular model. ☺