

THE WINGS MAKER

Handyman EP

by Colin Post

SPECS**PLANE:** Handyman EP (pre-assembled combo set reviewed)**MANUFACTURER:** The Wings Maker**DISTRIBUTOR:** The World Models Manufacturing Co. Ltd.**TYPE:** 3D Foamy**FOR:** Intermediate to advanced pilots**WINGSPAN:** 36.5 in.**WING AREA:** 346 sq. in.**WEIGHT:** 22 oz.**WING LOADING:** 9.16 oz./sq. ft.**LENGTH:** 41.5 in.**RADIO:** 4 channels required; flown with a Spektrum DX7 transmitter, Spektrum AR6100 receiver, 4 World Models SV2031 micro servos (incl. and pre-installed)**POWER SYSTEM:** Flown with a KM0283010 brushless outrunner motor (incl. and pre-installed), a 7WM PL6314020 folding propeller (incl., along with spinner and HW2340100 prop adapter), a brushless 28-amp speed control and a Multiplex 3S 18C 2500mAh LiPo battery (outdoors); if flown indoors, it calls for 2S 7.4V 15C 1300mAh LiPo**FULL THROTTLE POWER:** 20 amps, 180 watts; 8.18 W/oz., 130 W/lb.**TOP RPM:** 12,000**DURATION:** 25 minutes with throttle management**MINIMAL FLYING AREA:** Indoor sports arena or ballpark**PRICE:** \$139.99**COMPONENTS NEEDED TO****COMPLETE:** 4-channel radio, 20A brushless ESC, 2S 7.4V 15C 1300mAh (indoor)

to 3S 11.1V 15C 1800mAh (outdoor) LiPo battery and charger

SUMMARY

I wanted to get an airplane that was a few steps up from my foam trainer because I was ready to start doing some aerobatics (maybe my thumbs were getting a little twitchy from all the video games). Dad suggested the Handyman EP, as it was constructed from a durable foam (it could take my abuse) and gradually be ramped-up in the aerobatics department. It turned out to be the perfect next airplane for me, and I enjoy flying it a lot.

Although I have been flying for a few years, I haven't been as diligent about getting out and practicing as much as I should (sports, video games, hanging with my friends, etc., seemed to get the priority). This past summer, I was able to spend a little more time and quickly mastered the takeoff, flying around and landing aspects of RC flight, but I wanted something more.

That something turned out to be the aerobatic Handyman EP from The Wing Maker. My Dad saw it in hobby shop and, knowing that I was looking to advance my thumbs, he thought it was the perfect next airplane for me because I could gradually dial in more throw on the control surfaces on high rates when I was ready for that next step in aerobatics. He also liked the fact that it is made from durable EPO foam. What I liked about it was I now had a plane with which to perform aerobatics and that it was my very own (not one of my Dad's).

TIPS FOR SUCCESS

The instruction manual has very few written words for assembly; it is mostly drawings and photos. Everything is clearly marked, so the building process is easy. The manual includes the extra steps for the ARF version; I just

bypassed those.

The supplied fiber tape is used to reinforce the hinge lines for all control surfaces (bottom for ailerons and elevators halves and the left side of the rudder). Be sure to seat the tape all the way into hinge grooves; then flex them to ensure that they move without binding. For my pre-assembled combo version, to apply the tape, I had to detach the pre-installed aileron control-rods from their horns.

At this point, Dad and I diverted from the manual and hooked up the power system to test out the pre-installed motor. It worked perfectly. We then applied the decals. This

was not an easy process, as they are very flimsy and tend to tear or fold-over onto themselves via "static cling." In their application process, patience is the key. An extra hand helps, too.

Back to the manual: the horizontal and vertical stabilizers are epoxied (30-min.) into place, and then their control rods are attached. The tailwheel is pre-assembled and -installed, so that step can be skipped.

The wing halves slide onto a carbon fiber tube and are attached together, inside the fuselage, via a rubber band and the two lite-ply hooks that are built into each wing root. We hooked this up and

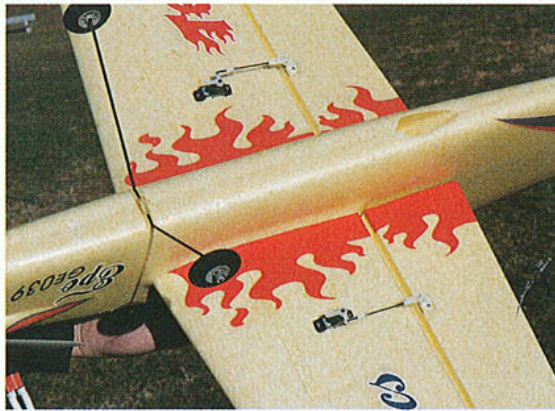
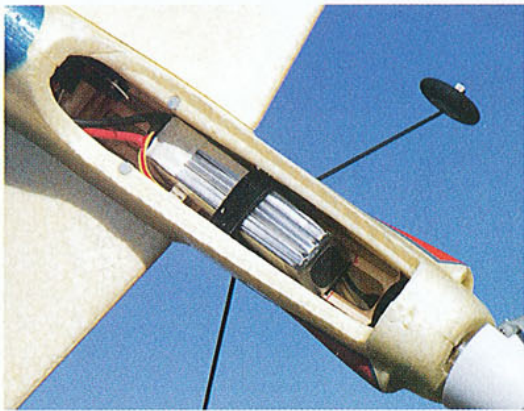


The proud author with his new airplane—the one he doesn't have to share with his Dad.

*The next step in
aerobatic fun*



Maintaining the Handyman's knife-edge flight attitude required only minute roll and pitch corrections.

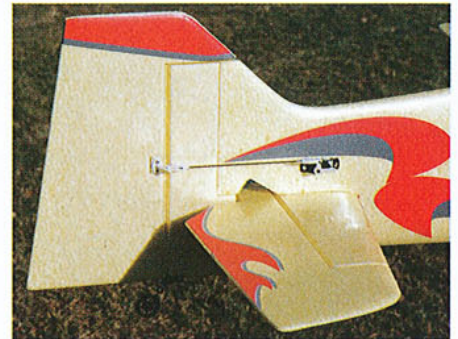


Far left: For the first few flights, a Multiplex 3S 11.1V 18C 2500mah LiPo battery was used, which resulted in flight times of up to 25 minutes with throttle management. The red marks indicate battery placement for CG purposes.

Left: The pre-assembled landing gear and the lite-ply filler piece slide into their slot and a screw secures them in place. The aileron servo is a World Models' SV2031.

Dad pulled on one wing panel to check the solidity of this set up. Hmm! On to plan B! As the Handyman EP has only a 36-inch wingspan and would be easy to transport assembled, Dad decided to epoxy the wing panels into place and then use the rubber

band as insurance. With this being a 3D aerobatic model, we didn't want the wings to pull out from the G force. I suppose one could get a tighter fitting rubber band, but installing it wouldn't be too easy in the fuselage's narrow space.



The horizontal and vertical stabilizers are glued into place with 30-minute epoxy. The rudder and elevator are moved by the same SV2031 servos as are the ailerons.

AIRBORNE

When I first flew my Handyman EP, it was a perfectly clear, crisp, no-wind November day. With Dad overseeing, I carefully rechecked everything at the field and then was ready to go. He had me taxi it around a bit to get the feel of steering with the left stick in a conventional-



The Handyman goes into and maintains a hover quite easily. I might add some more aileron throw to prevent it from torque-rolling out of the hover when the throttle is bumped up. It flew just as well in the inverted attitude as it did right-side-up.

I at last had an airplane that would instantly respond when I moved the sticks.

Dad started me off with a moderate, aerobatic throw-rate on the control surfaces, but after a couple of flights, I was ready to bump that up. The Handyman seemed to enjoy the increased aerobatic capabilities as much as I did.

As the battery life wound down, it was time to land. Dad had me switch back to low rates, fly a landing pattern and touchdown when I was ready. The Handyman lands just like my trainer did: smooth and easy—nothing to it.

Dad says my next adventure should be on a day with some wind to really test my skills. Thanks, Dad, but I'll stick with calm days for now!

gear configuration; the model taxis well on a smooth surface.

Now it was time for the takeoff. With low rates set, I gradually added some throttle, steered with the rudder and my Handyman was off the ground in about 20 feet with a little more than 1/2 throttle. The model definitely has more power than it needs to fly, but that extra power comes in handy during aerobatics.

To achieve straight and level flight, I added a couple of beeps of up-elevator and right-aileron trim. Dad had me take it up-elevator to a safe altitude, switch to high rates and play with the controls to get a feel of how responsive they were. They definitely were! I was loving this!

The landing gear was attached and then all the control throws (high and low rates) were set up before the propeller was added. Dad said it was much safer to do this step last because if you happen to bump the throttle while working on the model, you could cut your hand or clear your work bench.

The CG is located at 110mm aft of the wing-root's leading edge and required only moving the battery slightly aft to balance the Handyman.

CONCLUSION

I found the quality of the materials excluding the decals, to be very good and the pre-installed items are well done. For me, I'm 14, The Wings Maker Handyman EP is a fun plane to fly and it was the perfect next step in my RC advancement. For the intermediate pilots who are looking to add some 3D to their flying abilities, the Handyman EP would be a good choice. Check one out soon! 🍀

Links

The Wings Maker, www.thewingsmaker.com, (925) 371 0922

Spektrum, distributed by Horizon Hobby, www.spektrumrc.com, (800) 338-4639

The World Models Manufacturing Co., Ltd., distributed by AirBorne Models, www.airborne-models.com, (925) 371-0922

Multiplex, www.multiplexusa.com, (858) 748-6948

For more information, please see our source guide on page 121.