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R/C Report

Great Planes P-6E Hawk EP

It is known as the golden age of aviation.

Glen Curtis was unquestionably a genius. The Wright Brothers held a patent on the wing warp method of roll control, so to circumvent this Glen invented the aileron, the method of roll control still used on the vast majority of today's aircraft. Glen was also the first person to successfully fly his airplane from a ship. He even invented the seaplane. Everyone interested in aviation is familiar with the Curtis JN-4 Jenny of World War I and barnstorming fame and what is likely the most widely known design of the Curtis Aircraft Corporation, the P-40 Warhawk made famous as the mount of the AVG "Flying Tigers" during World War II.

During the 1920s Curtis was involved in the design and production of a series of military biplanes. Beginning with the P-1 (P-stood for pursuit), the most well known of all the P-series of biplane fighters was the P-6E. This was a period of time shortly after the "war to end all wars" and military spending was at a minimum. Unlike the thousands of fighter aircraft produced during World War I and the tens of thousands of fighters produced during World War II there were a total of only 43 of the P-6E biplanes produced. Of this total only nine of the airplanes were painted in the "snow owl" scheme. And this was exclusively for the 1932 Cleveland Air Races, as with the materials available during this period, the scheme was simply too difficult to maintain.

Already outdated by the time of its introduction into military service, 23 of the P-6E Hawks were lost to attrition, and as the others began to show signs of wear, they



were donated to aviation schools as non-flying instructional aides. It is most likely a combination of several factors, but the Curtis P-6E Hawk is vastly popular beyond what its production numbers should dictate.

Years ago Great Planes offered the P-6E as a "giant-scale" airframe, with the upper wing spanning 76 inches and I was able to secure the first example sent to my favorite hobby shop. Over the years the airplane was flown extensively at a number of club events. It was finally sold several years ago when my wife walked into the "dungeon" looked around and told me to, "Thin out the air force." Doing what I was told, the airplane was sold and even though I understand a kit is available again in an extremely limited production run, I should never have let mine go as I've always missed it.

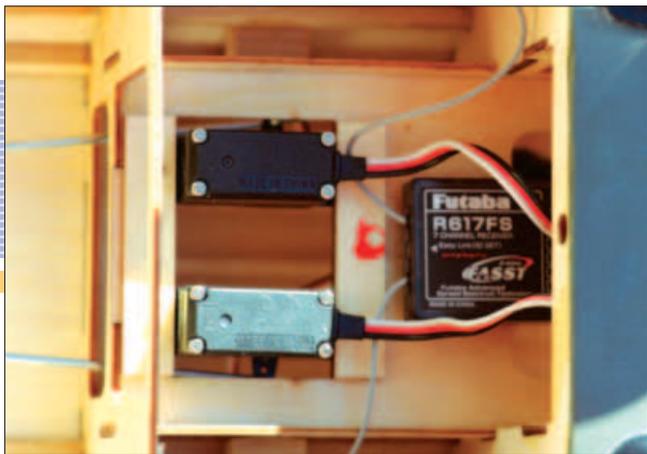
First seen at the Weak Signals Show in April, I could not wait to get my hands on the new EP (Electric Powered) version. It had all of the features its big brother had except the need for a 20cc glow, or gasoline/ignition engine. From all outward appearances it was the giant Hawk, substantially reduced in size. This model would be a good flying, fun-scale airplane.

The problem was the airplane on display at Toledo was only a prototype. Production had not yet begun on the actual product, and it took what seemed like an eternity before the airplane was finally available for shipping to stores.

Once in hand, the box was opened, but let your cus-



A variety of tools will be needed to assemble the P-6E, including every modeler's favorite clamp, the spring clothespin.



Considering the size of the model, the radio compartment is huge, with more than ample room for the selected receiver.

tomers know not to tear into the contents like a kid at Christmas. Great Planes uses a lot of tape—a whole lot, I wish I'd bought stock in the tape company GP uses—and a number of corrugated cardboard dividers to prevent damage to the contents. Each end user will have his own method, but I find a simple set of scissors to cut the tape the best method of releasing the individual parts.

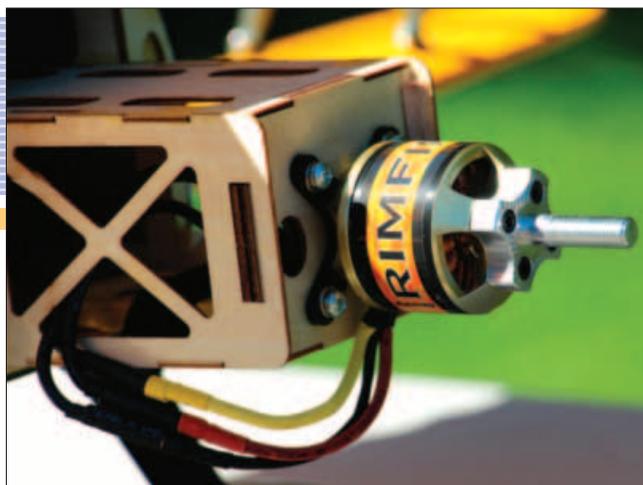
Once removed from the packaging, the pieces were inspected for damage. As is usual, other than a few wrinkles in the covering, nothing was out of the ordinary. About the only thing noted is the electric version is smaller and weighs about 10 pounds less than its big brother.

Available only as an ARF (Almost Ready to Fly) there is substantial add-on sale potential with the P-6E.

Recommended are four Futaba S3115 Servos (#FUTM0415), ElectriFly RimFire .32 800kV outrunner motor (#GPMG4700), ElectriFly Silver Series SS-45A ESC (#GPMM1840) and a 11.1V 3S 2200mAh 30C lithium battery. Chosen was an ElectriFly (#GPMP0861), but there are a number of battery options available. The most important is the use of a Deans Ultra Plug connector to match the ESC.

There is also the need to select a receiver. Once again there are many options available and selected for the P-6E was an economical, yet reliable, six-channel Futaba R617FS (#FUTL7627) which was linked to a workhorse Futaba 10CG transmitter after dedicating a model memory to the Hawk.

Construction begins with assembling the servo mounts to the wing hatches. The manual shows heat-shrink tubing used to secure the needed nine-inch extension leads. I've said this over and over, but any hobby is all about choices; encourage your customers to begin thinking independently. To save a couple of grams here, which would be added in the way of detailing later, dental floss was wrapped around the con-



Having a little extra power on tap, like that provided by the recommended RimFire, is always appreciated by a scale modeler.

nector and secured using a surgeon's knot. Dental floss is remarkably strong and the amount used for this assembly is so minuscule it cannot even be weighed with a common household scale.

Following the manual, assembly procedure proceeded as suggested. Admittedly construction took much longer than normal for a kit of this type (see the sidebar), but the results are a very good looking rendition of the "golden age of aviation" fighter aircraft. Yet, it isn't looks alone that makes for a good model. We need to find out how the airplane performs.

The manual mentions that with the windscreen mounted, fitting a battery could be a bit difficult. That really isn't true. I have very large hands, and at first, until a system had been worked out, battery installation and removal were more like impossible. I was actually asking club members with smaller hands for assistance. The solution came in the form of an ESC to battery extension that was soldered together using a Deans Ultra Plug female (#1303) and a Deans Ultra Plug male w/pigtail (#2013). The extension allows the battery to be connected outside of the fuse and then it can easily be slid into the compartment.

Finally, with everything hooked up and ready to go, throttle was applied and the Hawk took to the air. The airplane was spot-on from the moment of liftoff, need-



The first flight of any model is always a bit apprehensive, but the P-6E flew great "off the board," with no trim input needed.

ing no trim input. As with most biplanes that use aileron control on the upper wing only, there is a noted amount of adverse yaw, but this can easily be eliminated by plugging the individual right and left aileron servos into channels one and six respectively on the receiver and a then differential throw programmed into the transmitter.

Additionally, should you have a potential purchaser who is asking the routine question, “How does it fly?” you can respond with great, but caution must be used on takeoff. There is a huge motor spinning a very large propeller and this is generating a lot of torque. Slamming the throttle to full will cause a left swing the rudder cannot compensate for. Also, known as flying on the prop, the power available is capable of causing the airplane to leave the ground before it is actually ready to fly, especially if using a paved runway. The result is an airplane that is rolling hard left and fighting a stall until sufficient airspeed is obtained.

This is the sort of thing scale modelers have been dealing with for years. It will be nothing new to an experienced scale modeler, but for the builder who’s diving into a P-6E as his first attempt at scale, things might not



The Hawk builds into a good looking, brightly colored, model that is fully capable of performing period correct, scale style aerobatics.

work out very well. His adventure can be rather disappointing, or with the proper advice, lead to a future in building scale aircraft.

I have to admit, I'm prejudiced. No matter where the hobby of radio control aviation has taken me over the years, be it airplanes or helicopters, I always seem to migrate back to fixed wing scale, with early aviation favorite modeling topics.

And although this era is a personal favorite, don't use this as a guideline, the P-6E Hawk can be recommended to any modeler who is interested in scale aviation. Realize this is not a trainer. The purchaser will need to have some flying skill, and a little programming savvy will also be a big help, but the results are an eye catching model he will enjoy.

The P-6E Hawk is available only through Great Planes Distributors. **HM**

Don't Give Up, Things Will Eventually Work Out

Years ago I was conversing with Tom Herr (Herr Engineering) who, at the time, was designing kits for Midwest Products Inc. I was fighting a build and nothing seemed to be going right. Tom responded with words I have never forgotten, and passed along many times when I was working at Al's Hobby Shop, “Not every builder will get along with every kit. It has nothing to do with the quality of the product nor the capabilities of the modeler. There is no explanation other than it sometimes happens. Don't give up, things will eventually work out.”

That said, there is no reasonable explanation I can possibly offer, but I fought the Hawk from the minute the box was opened until preparing the model for its first flights, when I had to ask for help installing the flight battery.

Upon receiving the kit, the original plans were to do a modest weathering job to include such things as exhaust stains and adding a little personality to the pilot. However, a number of frustrations were encountered that started at the very beginning of the build when the aileron servo mounts were drilled. For some reason the holes didn't line up with the servo grommets, even though the actual servos were used as drilling jigs. And like I said, that was just the beginning.

The worst incident came when cyanoacrylate was being dribbled into the rudder and elevator servo screw mounting holes to harden the threads. The Fuselage slipped from my grip and instinct was applied—with both hands.

The resulting left-hand grasp broke the framework out of both sides of the motor box, while the right-hand squeeze emptied the better part of a bottle of CA all over the outer sides and bottom of the fuse.

Repeatedly setting the model to the side to regroup, it took a little over four weeks to complete what should have been an easy build. The pieces of motor box side frame were patched together for photos, but before putting the



model in the air they were sheathed with a bit of 1/64 plywood. Little by little, the fuse was cleaned of spilled CA by using a combination of acetone and debonder.

The point is to encourage every customer who's experiencing some trouble to persevere, no matter how many snags he hits, or how slowly he feels he is progressing. The Hawk was eventually finished, and although time constraints prevented any additional detailing, the

results are still nothing less than an extremely good looking model. Everyone who has seen it comments both on the way the airplane looks and the way it flies. The P-6E is a well engineered model aircraft and there is absolutely nothing to fault with the kit.

As previously mentioned, I cannot possibly offer a logical explanation as to why building this particular airplane was filled with so many frustrations, but it happens at one time or another to all of us—amateurs, professional modelers and journalists alike, no matter how skilled we may think we are. **HM**