Jeff Troy

Flight Report

E-flite's Piper Pawnee 15e

Here's a great scale crop duster from a company that does electric power right.

Having the opportunity to review a new E-flite model is always a pleasure. This company produces some of the finest assembling and flying ARF aircraft models around, and it seems as though each new model they release is only surpassed by their next.

The Piper Pawnee is an unusual airplane. Designed for crop dusting and other service in the agricultural field, the full-scale Pawnee is an enormous airplane for a single-place civilian bird. E-flite's model is a good representation of the AG Piper, and the kit is impressive.

The box contains the primary airframe components — fuselage, two wing panels and ailerons, horizontal stabilizer and two elevator panels, vertical fin and rudder — all factory constructed from laser-cut, select woods, and handsomely factory covered in white, blue and yellow polyester, heat-shrink film.

The primary components are complemented by a factory-painted fiberglass cowl and crystal-clear canopy with painted frames, a sturdy aluminum landing gear, pushrods, control horns and linkages, and a complete hardware kit that includes soft foam wheels and a steerable tail wheel assembly, and all the fasteners needed to complete the 62-inch-span model in top-shelf style.

HM's Pawnee uses E-flite's Power 25 Brushless Motor, 60-amp ESC and 11.1-volt 4200mAh LiPo battery.

Two motor setups are recommended for the Pawnee by E-flite. The Scale version suggests using the E-flite Power 15 Brushless Outrunner Motor and their 40-amp electronic speed control, and the Sport version suggests the Power 25 Brushless Outrunner and the 60-amp E-flite ESC.

One can always slow down if desired, but sporty performance is harder to meet with only modest power, so I opted for the more powerful Sport setup. I also had to select my radio equipment.

I chose the newly released 2.4GHz DSM2 DX6i system from Spektrum RC. This comes with the two-piece, full-range AR6100 receiver. I added the recommended four MN48 mini-servos, a 6-inch Y-harness and two 6-inch servo extensions from JR SPORT for elevator, aileron and rudder control. Two additional MN48 servos and another Y-harness were selected to operate the optional flaps.

Specifications

- Wingspan: 62 inches
- Area: 550 square inches
- Length: 41.5 inches
- Weight: 4.25 pounds
- Motor: Power 15 or Power 25
- RC: 4-or-more channels with 4 servos (6 with flaps) and ESC.

ARF Features

- Factory-built airframe components
- Factory covered in polyester film
- Scalelike seat and instrument panel
- Factory-painted fiberglass cowl
- Control horns, pushrods and links
- Complete hardware and fasteners
- 48-page instruction manual

Pawnee wing is a two-panel affair that's easily joined with Hangar 9 slow-setting 12-Minute or 30-Minute Epoxy. A two-part, laminated plywood wing joiner sets the wing's dihedral angle. Apply adhesive and hold panels with blue masking tape until the epoxy fully cures.

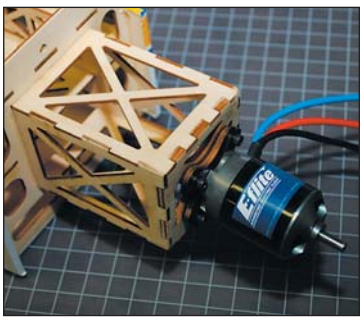
The Pawnee's assembly begins by installing the aileron servos and linkages into each of the two main wing panels. The real work is already done by the factory, so all the modeler needs to do is mount the servos on the compartment covers, trim the output arms and install the horns and rods.

Optional wing flaps add another dimension to the Pawnee's performance range, so I suggest making use of them. The designers planned the flap option carefully, and the only real modeling task is to separate the short length of flap from each full-length aileron. Two ribs come factory installed, side-by-side, in each aileron, and all you do is slit the film covering between them, then use a fine-tooth Zona saw to separate the leading and trailing edges.

One hundred-grit sandpaper on a thin block or a Perma-Grit tungsten-carbide sanding tool is the right choice for sanding the cut edges smooth, then the open ends can be covered with small pieces of the film removed from the flap servo bays. Flap servos install just like the aileron servos.

Assembling the fuselage means no more than installing the horizontal stabilizer and vertical fin, then connecting the elevators and rudder with the supplied hinges and thin CA adhesive. Horns and pushrods are next, and the two servos and receiver go in the RC bay above the wing saddle.

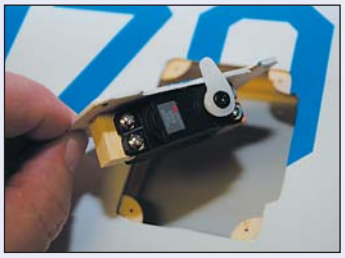
The Power 25 brushless outrunner goes in without a hitch, and E-flite provides a pair of plywood spacers that



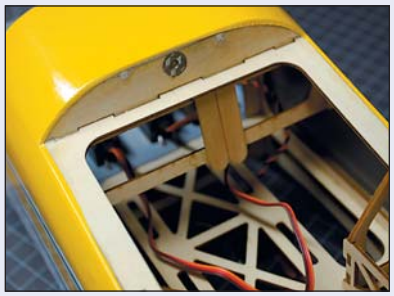
E-flite Power 15 is recommended for scale, and the sport setup calls for the Power 25 shown here. Beautifully factory-painted fiberglass cowl covers the motor and allows plenty of air entry and exit.

RC Gear and Installation

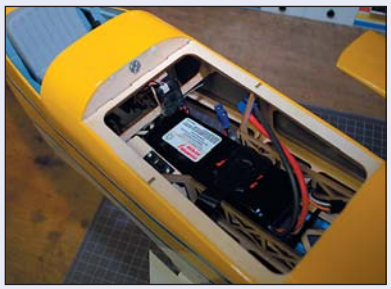
Jeff Troy's review model is nicely equipped with the new DX6i DSM2 2.4GHz transmitter and AR6100 receiver from Spektrum RC. JR SPORT MN48 mini-servos handle Pawnee's aileron, elevator and rudder control, with two of the six on the optional flaps.



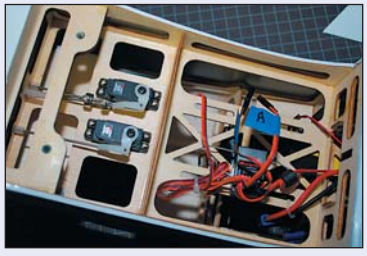
JR SPORT MN48 servos produce 48 ounces of torque at 4.8 volts, more than enough for the scalelike flight of an agricultural service airplane like the Pawnee. Aileron servos, and the flap servos if the option is chosen, are concealed beneath plywood servo covers so that only the pushrods and arms are visible after assembly.



Spektrum's AR6100 is a two-part receiver. The main component is installed in the RC bay, but HM's editor wanted the sub-component to ride at a 90-degree angle to the main. A popsicle stick was cut in two and mounted above the battery compartment with medium CA to hold the small receiver part.

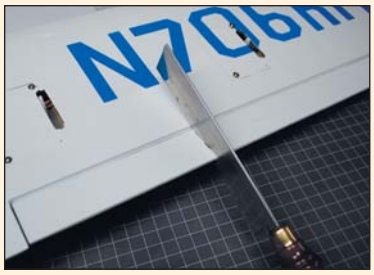


The Pawnee's battery bay is easily accessed through a cover with a dowel pin up front and a magnetic catch at the rear. Note the Spektrum small receiver component, neatly mounted on the popsicle sticks with hook & loop material. A 1/8-inch lite-ply plate was installed to hold the ESC's on-off switch.



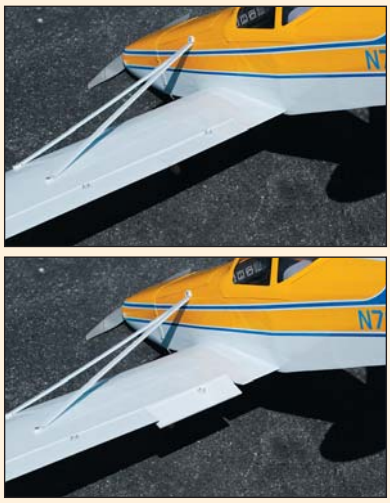
E-flite's Piper Pawnee 15e has plenty of room in the RC bay above the wing. Two JR SPORT MN48 servos are in there for the rudder and elevators. The main component of the Spektrum two-part AR6100 receiver is mounted beneath the battery platform, as is the E-flite 60-amp ESC located just ahead of the wing bulkhead.

Optional Wing Flaps



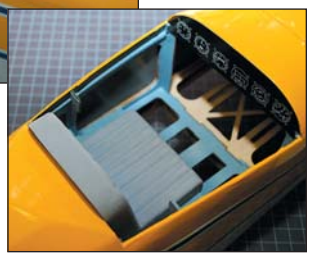
Flaps are separated from the ailerons with a fine-tooth Zona saw. Factory construction allows for separation by cutting through the leading and trailing edges of the ailerons. Side-by-side ribs make the modification neat and easily accomplished. Care must be taken to prevent cutting into the trailing edge of the wing.

After a careful sanding with a 100-grit Perma-Grit tool or 100-grit paper on a flat sanding block, use a Hangar 9 covering iron and small pieces of the scrap film removed from the flap servo bays to seal the exposed edges of the flaps and ailerons. It takes just a few minutes, and maintains the quality of the model's finish.



Here's a dual image of the Hobby Merchandiser Piper Pawnee 15e review sample with the optional wing flaps installed and fully operational. The top image shows the flaps in their neutral position, and the lower image shows the flaps drooped for landing and slow-as-a-crawl flight. As with any control surface on a contemporary RC model, the end points for neutral and extended flap positions are adjustable mechanically or through programming.

The payoff for installing the Pawnee's flaps is obvious in this image, as the agricultural workhorse makes a low-and-slow flaps-down pass across the green Pennsylvania countryside.



Semi-scale cockpit details include a mock velour ribbed pilot's seat and a good looking instrument panel. Use Pacer Industries' Formula 560 Canopy Glue to secure the big, factory-painted canopy over the 'pit.

assure the correct mounting distance from the firewall so the propeller adapter and propeller will neatly clear the cowl.

Two evenings, roughly 10-12 hours, had my Pawnee 15e ready to fly, and that included setting the CG by shifting the battery position, matching the control throws to the instructions, and programming the DX6i for expo and dual rates. The end result was worth the effort, and a lot more.

This is a fine flying model. Rollout is straight, and the takeoff is smooth and predictable with a gentle climb. After trimming, a few passes had me very comfortable with the airplane. Loops, stall turns and slow rolls are realistic and very easy to perform, but my favorite thing about flying the Pawnee is making low-and-slow passes over the runway with the flaps extended, especially with the rolling field and farmland structures behind Brandon Wright's private airfield in the background; E-flite's Pawnee appears to be completely in its element. Landing the Piper is as predictable as the takeoff. Just reduce power, keep the flaps down and head for home. Remember that flaps allow the model to fly at lower speeds, so don't ever raise them before powering up to compensate.

Takeoff is smooth and easy with the E-flite Power 25 sport motor setup. E-flite's Piper Pawnee is an ideal intermediate RC airplane.

For more information about E-flite's Piper Pawnee 15e, brushless motors and brushless speed controls, JR SPORT servos and accessories, and Spektrum 2.4GHz RC systems, see the ads on pages 5 and 53, visit *www.horizonhobby.com*, or call Horizon Hobby in Illinois at 800-535-5551. **HM**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