Brandon Wright

Flight Report

33% Edge 540

Hangar 9's monster aerobat is an outstanding value in a large-scale RC

Hangar 9's new 33% Edge 540 arrives in two large boxes, one containing the wings and the other containing the fuselage, cowl, landing gear and accessories. As I unpacked this huge model, I became more and more impressed with the quality of the covering and the great color choices for the airplane. All the parts looked good and were packed very carefully.

Hardware is not included with this kit, although it's available in two sperate kits from Horizon Hobby. One kit accommodates JR servos and the other is for Futaba. The only difference between these kits is the servo arms, which must fit the servos chosen by the modeler. I opted for the JR hardware kit to complement my JR 10X RC system.

In addition to servo arms, the hardware kits contain all the titanium ProLinks, wheels, wheel studs, standoffs, ball links, fuel tank, tail wheel kit and Robart Super Hinge Points. The hardware is all top notch USA and everything fits great. The engine I chose was the Zenoah GT-80 horizontal twin that Hangar 9 recommends for this airplane and 3D aerobatics.

Hangar 9's Edge 540 entering knife edge.

The 33% Edge kit also comes with a special firewall standoff for the Zenoah G-62. The airframe is warranted against damage for these two motors, but if the 80cc limit is exceeded, it voids the warranty. If using the GT-80, modelers will require the 2-3/16" propeller adapter to get the distance required to prevent the spinner from rubbing the cowl. It is easy to exchange the adapter by removing two Allen bolts, pulling the old adapter and installing the new adapter with the two Allen bolts and some blue threadlock to keep them from loosening. While working on the motor configuration, I decided to install the mufflers and remove the spring starter to save weight. Instead of the traditional spring starter, I chose a Sullivan Products Model 4 Mega-Tron Starter with two Sullivan 12V NiCD Packs to start my Zenoah GT-80 twin.

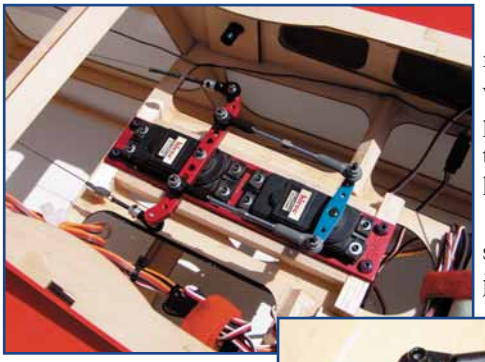
When I finished preparing the engine and its related components, I planned for my work on the airframe by reading through the manual to get an idea of how everything would go together; much greater care and attention is involved with the assembly of an airplane as large as this, and my first step would be the installation of the aileron servos and extensions, then I would sand all the Robart Super Hinge Points and install them with Hangar 9 12-Minute Epoxy.

Specifications

- Wingspan: 97.5 inches
- Length: 85 inches
- Area: 1730.6 square inches
- Weight: 22.5 to 25.5 pounds
- RC: 4-channels with 8 servos
- Engine: 3.8-4.8 C.I.D.

ARF Features

- Plug-in wings and stabilizers for easy transport and field assembly
- Light weight construction
- Designed by veteran TOC competitor Mike McConville
- 90 percent factory-built 1/3-scale ARF
- Superior controllability and aerobatic flight characteristics



Brandon Wright uses JR 10X transmitter and receiver to direct eight Hitec RCD metal gear servos in his Hangar 9 33 percent Edge 540. Pull-pull control systems and top-notch USA hardware kits assure slop-free surface movement with no flutter. UltraCote strips are used to seal hinge gaps, and Hitec Digital Servo Programmer makes linkage adjustments easy with multiple servos on a single control surface. Hangar 9 offers Edge 540 hardware kits for JR and Futaba servos.

In doing this, I found it helpful to place a small drop of oil on the pivot of each Hinge Point, preventing epoxy from fouling the knuckle during installation. After all the hinges are secure in the surfaces, it's time to install the linkage.

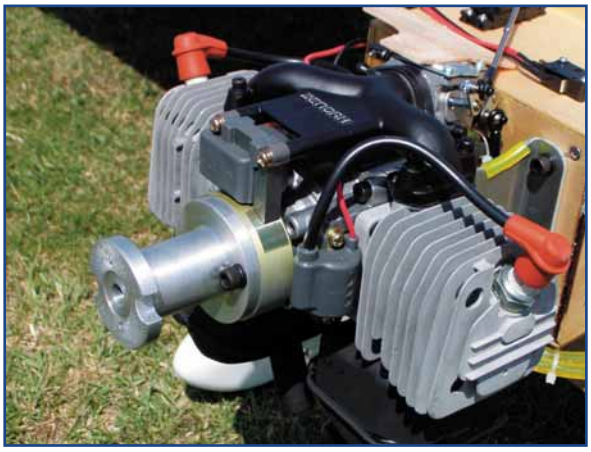
I chose Hitec's powerful HS-594MG servos for the airplane's ailerons and elevators. I like how I can program them with the Hitec Servo Programmer, eliminating the need for servo matching devices while saving some weight and extra wiring at the same time. I sealed all the hinge gaps with clear UltraCote to prevent control surface flutter. Sealing surface gap is an extremely important step on models of this size, and one that should never be overlooked. My next step was to repeat the hinging procedure on the elevator panels and stabilizer, and hinge the rudder to the vertical fin.

Hangar 9 recommends one 8611 or two 8411 servos on the rudder, and the servo cutouts for both configurations are already in the fuselage. One hole is cut in the covering, so all you need to do is cut the the hole for the second servo if you choose to set it up with two. I had a servo tray with two Hitec 5735 servos all ready to go, so I installed it in the plywood plate that's right under the canopy. I did some simple reinforcing with flat carbon and balsa triangle stock so the fixture would be strong enough to handle the load from the servos, then I cut he exit slots for the pull-pull cables into the sides of the Edge fuselage.

Next on my list were the carbon fiber landing gear, wheel pants and wheels. Modelers will need to make a plywood plate for the tail wheel springs that fasten to the rudder. The directions have a clear picture of how to make it.

At this point, the airplane is really starting to take shape and you can see just how big this model really is. Now comes the business end — engine installation. The firewall comes factory drilled for the GT-80, so the engine is simply bolted on with the heavy duty fasteners supplied. If modelers choose the G-62, they'll need to install the cup that comes with the motor, then install the wood adapter included with the kit, which then bolts to the firewall.

Once my engine was mounted, I installed a Hitec RCD HS-6965HB high speed Karbonite gear throttle servo using the ProLink and ball links on both ends. Where some modelers are okay with slower servos on the throttle, I just prefer a faster one, especially for advanced 3D flying. A Du-Bro kill switch setup and Du-Bro Kwik Fueling Valve were secured to a plywood mount I added under the cowl, then I made the appropriate cutouts in the cowl for the mufflers, fueler, kill switch and carburetor needles.



Since there is no airflow from forward movement during hovering maneuvers, I also made a baffle inside the cowling so the wash from the propeller would flow though the cylinders to help keep the engine cool. This is a good idea for anyone who plans to hover a lot. I installed the spinner and a 24x10 Mejlik propeller to complete the front of the model.

I chose a 6-volt 3300mAh NiMH pack. Since I'm running all high-torque digital servos, I like to make sure they have plenty of battery.

Zenoah GT-80 horizontal twin is one of the recommended engines for the big Edge. Baffles were added inside the fiberglass cowl to direct cooling air over the cylinders during hovering maneuvers. Brandon skipped over the simple spring starter in favor of his powerful Model 4 Mega-Tron electric starter and two NiCD battery packs from Sullivan Products. Diligent planning makes for an excellent engine installation, reliable operation and a long engine service life.

Brandon Wright prepares for the maiden flight of his Edge 540.

Finally, I set the control surface throws and expo rates in the transmitter, and set all the program mixes up for the multiple elevator and aileron servos.

The entire Edge 540 project went very well. The quality of this almost-ready-to-fly airplane kit is top notch. It took me just four evenings to assemble the model and set it up for the flightline. Before heading for the field, I ran three tanks of gasoline through the Zenoah to put some time on the engine and get the carburetor settings dialed in. Once at the field, we assembled the model and range checked with the motor running — and not running — to make sure we had no ignition interference problems. Everything checked out so we turned for the runway.

The airplane rolled out smoothly and was airborne in a very short distance. It took only a couple clicks of trim to fly hands-off. We flew around for awhile to get familiar and make the inverted clunk test, then it was time to bring it in. Approach is a breeze, and the big Edge lands like a trainer. We checked the model over, then refueled. After the second takeoff, I wanted to see how the Edge 540 would hover, so I brought it in low and slow, then went right into it. The model is very easy to control and has the control surface authority to put the airplane where you want it. It's almost impossible to make the Edge stall, which is really nice insurance during slow maneuvers. The model performs really nice knife edge flight with hardly any correction needed. It does awesome walls with no wing tipping at all when you go full elevator from level flight at almost half throttle. I was very impressed with this flight characteristic, and it's a lot of fun to come low down the runway and go into this.

The big Zenoah twin runs flawlessly and the airplane flies even better than it looks. I brought six models to the field that day, but the only one I flew was the Edge. I put several flights in, as did a few friends who also wanted to give it a try. Everyone loved the way it flies. The 33% Edge 540 is a very stable and smooth flying airplane. It lands like a dream, even in a moderate wind. It performs precise maneuvers crisply with authority, and it stops rolling as soon as you stop the input. Point rolls are beautiful, and I would say that this is one of the best flying airplanes I have ever owned. I'm looking forward to many more flights.

For more information about the hangar 9 33% Edge 540, the Zenoah GT-80 horizontal twin and the JR 10X RC system, see the ads on pages 5 and 53, or telephone Horizon Hobby at 217-352-1951. **HM**

Hangar 9's 33 percent Edge 540 performs a slow flypast over the runway at Lancaster County RC Club flying site in Pennsylvania.