

Elder 40 - Gold Edition (Top Flite)

by Dean Eusepi

REVIEW

MODEL NAME:

Elder 40

MANUFACTURER

Top Flite

TYPE:

Sport Scale

WINGSPAN:

65 in. (1650 mm)

WING AREA:

778 sq.in. (50.2 sq dm)

WEIGHT:

5.5-7.0 lbs (2500-3182g)

WING LOADING:

16-21 oz/sq.ft

LENGTH:

49.5 in. (1257 mm)

NO. OF CHANNELS

REQUIRED:

4 channels w/4 servos

ENGINE SIZE

RECOMMENDED:

0.40-0.46 2-stroke or 0.52 4-stroke

AIRFOIL TYPE:

Flat bottom

TYPE OF WING

CONSTRUCTION:

Balsa



PHOTO TAKEN WITH A KODAK DX 3600

In 1932, back in Italy, my grandfather painted a little water colour of a plane. I wanted to build and fly a model of the aircraft, but the painting isn't detailed enough. However, the plane does look very much like the Elder 40 on floats. So when the newer, revised Elder 40 "Gold Edition" came along, it felt like it was time. I would build this plane a little differently though ... I would build it as an electric!

What's in the Box?

The box is filled with clean bundles of sheet and stick balsa, and some nice light ply, with die or laser cut parts. Full rolled plans, a very detailed manual, and most of the hardware is included. You will also need a fuel tank, wheels, radio, and engine, a couple of rolls of MonoKote, plus a few other small odds and ends, if you plan to fly it with a .46.



Construction

I really like to build, and I could see by the quality of the wood and how clean all the die cut parts were, that I was in for a treat!

Because of my decision to go electric, I had a choice to make. I could try to lighten up the plane during construction, or build it as designed and see how the MaxCim motor would do. I chose to build it as designed.

I started by reading the manual and looking over the plans. Everything was clearly detailed, so I started with the tail-feathers. Once all my sticks were cut and the die cut parts located, it was simply a matter of sanding and gluing. I liked the gussets for the horizontal stab so much that I duplicated the technique on the vertical fin.

Next came the wing. The ribs popped out of their balsa sheet with such a nice finish that I didn't need to sand them. I cut the basswood and balsa to the lengths recommended and, following the manual, put everything together. Everything fit perfectly. I made one minor adjustment when gluing the two wing halves together ... I added some short 1/4" balsa sticks

in the corners where the ribs and the dihedral brace were connected.

Next, it was time for the fuselage. I located the fuselage sides and glued them together as outlined in the manual, put them aside to dry, then sanded. The open structure was easy to do. I laid the prepared basswood longerons and pinned them to the plans. I marked and cut all the longeron braces about 1/16" longer than needed and sanded until they fit. Once the aft open pieces were dry and sanded, I glued them to the waiting fuselage sides.

From here it was simply a matter of gluing in the formers to one side and, once dry, bringing the two sides together. Then I sheeted the top and bottom, added the upper and lower longeron braces, and let it all dry. I mounted the firewall exactly as the manual recommended, but again added some 1/4" balsa stick on the inside corners. Once the fuselage was completely dry, I sanded the aft section and added the remaining gussets.

Finally, it was time to install the MaxCim motor mount. I lined up the MaxN32-13Y motor to make sure the prop shaft was where the 0.46's shaft would have been, marked the motor's location, and drilled out four holes for the 4-40

mounting screws, lock-washers, washers, and blind nuts. Then I drilled out a 1 1/2" hole in the firewall at the center on the motor mount to let the motor's wire pass. Finally, I drilled out three 1/2" air holes in a horizontal row so air could flow through, keeping the batteries and speed control cool. I was careful to locate the air holes safely above the motor mount, and in a way that would not impact the firewall's structural integrity. Happy with the fit, I removed the motor and proceeded to cover the rounded cowl area. Once all was installed, I used some filler where needed and sanded everything smooth.

Once the fuselage, wing, and tail feathers were sanded and vacuumed, I spray painted the open structure and landing gear brown. Then I covered the rest of the parts with "Flat finish" MonoKote, installed a Williams Bros. pilot and gun, and Top Flite's superbly crafted wire wheels. I then CA'ed in some thin black elastics (that I purchased at a fabric store) for the flying wires and aft fuselage rigging.

I used a Futaba T6XA radio, a Futaba receiver, and three Futaba servos...power would be supplied by the 21-cell flight pack. I cut off the section for the throttle servo on the servo tray, and installed the tray between former four and five, simply to ensure that I had enough space for the three 7-cell Duratrax "Ultra Metal" 3000 NiMH Panasonic packs. When gluing in the servo tray, I made sure that servos had plenty of room between them and between the wing hold-down bracket.

Then I reinstalled the MaxCim MaxN31-13y motor (with a 3.33/1 MaxCim gearbox, an APC "E" 14x10 prop, and the MaxCim MAXU35D-21 BEC speed control). I drilled out two holes for the controller switch and indicator

light, and connected everything up. I changed the connectors on the Duratrax batteries to Anderson or "Sermos" style connectors to minimize current loss, and standardize all of my connectors. Before finalizing where the batteries would sit, I balanced the plane with the three battery packs. Once balanced, I "TY"-wrapped them in place.

Flight

It was +2°C with winds about 5kph and a beautiful sunny sky. Using an Astro Flight 110 D charger I peaked my flight pack. (This charger came heavily recommended, and after using it I know why ... it was simple to use and worked great). I armed the supplied fuse.



Please be careful: just because the prop isn't continually turning (as on a glow engine) doesn't mean it isn't dangerous!

After snapping a few photographs, I turned on the switch, performed a range test, and turned the radio over to good friend and fellow reviewer, Paul Grenier.

Paul started to apply throttle, and the plane tracked straight down the runway. The Elder was airborne at half throttle and just kept on climbing — as easy as could be. A few trimming passes showed Paul that he did not need one click of trim!

Slow stall was impressive. The Elder nosed over gently, and didn't showing any bad habits. Paul accelerated (with power — which surprised both of us), and did a series of rolls, loops, inverted flight, and so on. Stall turns needed



work, and it wouldn't knife edge, as it was obviously not designed for aggressive aerobatics. Halfway through the flight, Paul throttled up, pointed the nose straight up and, with some corrective rudder and elevator, the Elder just kept on climbing! A few low fly by's, and a touch and go showed just how gentle this plane was. If you plan to fly from a hard surface I would definitely recommend a tail wheel instead of the tailskid.

Paul kept flying until the bec kicked in — at around the 10-minute mark! He simply pulled the throttle stick back and took it around to land. As he was on final approach, he gave it a touch of throttle and had a smooth landing.

Conclusion

I don't think I can express just how pleased Paul and I were with the Elder 40. It flew absolutely beautifully, looked great, and had no bad habits. Our choice of power appears to be a perfect match, and definitely a good way to start if you are thinking of getting into big electric!

For those who know what electric flight is like, my Astro Flight Watt meter gave me readings of 38A, and 890 Watts (about 114 W/lbs) when the flight pack was freshly peaked...very impressive considering this plane weighs in at 7 3/4 lbs.

Quiet, clean, and very realistic. What more could you ask for? The Elder 40 is a great looking plane on its own, and would be a wonderful model with a glow engine. With this MaxCim motor combination (MaxCim motor, gearbox, and bec speed control, hooked up to three 7-cell Duratrax packs), it was absolutely awesome! ➤

Hits

- Looks awesome and has amazingly gentle flight.
- Parts fit very well.
- No bad habits.

Misses

- Gear seemed a little too rigid.

Top Flite
www.topflite.com

Futaba
www.futaba.com

Duratrax
www.duratrax.com

MaxCim Motors Inc.
(716) 662-5651
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