The Mitsubishi Zero is one of several recognizable aircraft of WWII. To the Japanese, the Zero was a great weapon of war, that was irreplaceable and revered. To the Allies, it was a scourge, and a force with which to be reckoned. During the early days of the second great war, the Zero was an excellent dogfighter, unmatched in many ways. It was designed and built with ideas and manufacturing techniques that seemed ahead of the times.

One of the features that made it such a great combat aircraft was its very light wing loading - this gave the Zero a great advantage by allowing the plane to fly much slower and be more maneuverable than its combatants. A large downfall to the light wing loading was the fact that there was very little protecting its most valuable asset - the pilot. It has been said that a single strafing pass by an Allied aircraft could down a Zero - but they'd first have to get it in their sights.

**Introduction**

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The World Models has added a new Zero to their lineup - the Zero EP 40 ARF. The Zero EP is a warbird designed for electric power and boasts some very nice features, so let's dig into the box and see what we've got!

### Specifications

- **Name:** The World Models Zero 40EP ARF with Electric Package
- **Price:** $259.99 (Price at Review Publishing Date)
- **Stock Number:** E310
- **Wingspan:** 50" (1270mm)
- **Wing Area:** 428 in² (27.6 dm²)
- **Weight:** 3.5 lbs. (1600 g)
- **Length:** 42" (1065mm)
- **Center of Gravity (CG):** 3" (76mm) from the leading edge where wing meets the fuselage
- **Radio Used:** Futaba 7C
- **Receiver Used:** Futaba R617FS
- **Battery Used:** TrueRC 14.8V 4000mAh LiPo
- **Channels Used:** 5 total - Elevator, Aileron, Flaps, Throttle and Rudder

### Items Needed To Complete:
- 5 Channel Radio (minimum) and Receiver
- 5 Mini Servos
- 4S 3200–4000 mAh LiPo Battery and LiPo Charger
- Thread Locking Compound, CA, and Epoxy
- Various Shop Tools

### Control Throws:
- Elevator, up/down: 10mm
- Ailerons, up/down: 6mm
- Rudder, right/left: 15mm

### First Look

The Zero arrived in a sturdy box with a large, nicely adorned label. Inside, I found that all the individual pieces were bagged, taped, and separated by cardboard to protect the contents during shipping. Mine arrived in perfect shape.
A quick inventory showed that all parts were accounted for and looked great! The World Models offers the Zero in two versions - a standard ARF, and the ARF with an electric package. I will be reviewing the electric package version. It came with a 3748 750kV brushless outrunner motor, a 40 Amp ESC capable of handling a 4S battery, a composite motor mount, a 11x8 electric propeller, a prop adapter, and even a prop adapter wrench!

I really like the front hatch - this makes battery changes easy, without having to remove the wing.

Another great feature is that the retractable landing gear has been installed at the factory, which means a lot of setup work has already been done! All of the panel lines, rivets, and other details are printed directly on the covering material, and nearly every line matched where the seams met - I don't know how they do it! Some of the other details included a lightweight pilot figure, a headrest and antenna mast, and a very nice fiberglass cowl.

The assembly manual is very typical for TWM - not many words are used, but there are LOTS of assembly illustrations that do a very nice job of assembling the Zero. It's a good idea to look over the manual a couple of times before you begin assembly, though, to familiarize yourself with the different symbols that are used throughout assembly.

Assembly started with hinging the ailerons. CA hinges are used, and a few drops of thin CA on each side of the hinge was all it took to keep them in place. As I stated earlier, the retractable landing gear (including the wheels) were pre-installed at the factory, so I just had to attach the gear covers. They are made of a lightweight composite material, and consisted of two pieces glued to the wire gear leg with medium CA. I wiped the wire with a rag and some denatured alcohol to remove any residue on the metal - this provided a clean surface for which the gear cover could adhere.

The aileron servos were then mounted on the servo hatches.
After connecting a 12" servo extension to the aileron servo, I pulled the wire through the wing using the pre-installed pull string, and secured the servo hatch in place.

A control horn was installed next, and was easy due to the pre-drilled holes in the aileron. Once in place, the push rod was assembled and installed.

After a quick 'dry fit' of the wing joiner and two wing panels, I mixed up a batch of 15-minute epoxy, assembled the wing, taped the halves together and set the entire wing aside while the epoxy cured.

Retract Servo Installation

Installing the servo itself was easy, but adjusting the endpoints took a little more time - this was one of those times that I'm really thankful to have a great computer radio! Once adjusted correctly, the retracts worked flawlessly.

Tail Installation
With the wing installed, I checked the fit of the horizontal stabilizer - it was parallel to the wing, and fit perfectly! I secured the stab using more 15-minute epoxy. When the epoxy had cured, I installed the elevator halves using some thin CA and the included CA hinges.

The tailwheel assembly was installed next, which took a little time to get the long wire (the part that goes to the rudder) fished through the fuselage. It was not a difficult procedure at all, but did require some patience to get through the fuse. The tailwheel assembly was then attached with a pair of screws.

The vertical fin was installed next, and fit perfectly in the slot on the top of the fuselage - no adjustment was needed, so I secured it with 15-minute epoxy. The rudder was installed next using the same procedure as the elevators and ailerons, paying close attention to the wire arm of the tailwheel - it fit into a pre-drilled hole in the leading edge of the rudder, and was secured with a small amount of epoxy.

The elevator and rudder control horns were installed next, along with their respective push rods.

Motor, ESC and Cowl Installation

The motor was attached to the composite mount, and the assembly was then attached to the firewall. Reviewer's Note: Be sure to use a drop of thread locking compound on ALL metal-to-metal connections to prevent vibrations from loosening the machine screws.

After soldering connectors on the ESC and motor, I secured the ESC in the fuselage using the included piece of double-sided tape.
The cowl was installed next, and presented no issues - I used the prop adapter and the spinner back plate to set the cowl in its correct location, before securing it with four screws. The propeller and spinner were installed, and the nose was complete.

**Receiver, Elevator and Rudder Servos, and Pushrod Installation**

I really liked the elevator push rod joiner that TWM uses - it is a secure connection that is easy to assemble inside the fuselage. Once the push rod had been assembled, I installed the elevator and rudder servos, and a small plywood brace was epoxied in place on each side of both servos per the manual. Using a zip-tie, I secured my Futaba receiver to the underside of the battery tray - this made for a clean installation that was easy to get at!

**Final Touches**

The pilot figure was installed using the included precut double-sided tape, while the antenna mast and headrest were epoxied in place. When the epoxy had cured, the canopy was installed using four screws.

That's it! Assembly has been completed, and this is one good lookin' Zero! Only three small tasks remained. I checked the Center of Gravity (CG) and found I was able to balance the plane perfectly by moving the battery, added a few of the included decals, and set the control throws per the manual.

Time to head to the flying field and she how this WWII warbird flies!
TrueRC Inc. is an importer and distributor of rechargeable li-polymer batteries. They specialize in building battery packs for radio controlled models for hobby, commercial, research and military applications. TrueRC was started in 2004 in hopes of providing li-polymer batteries to hobbyists everywhere at affordable prices. Since then, their company has become one of the trusted names in the industry. Their goal is to keep li-polymer packs affordable, with main focus on Quality and Safety.

For the World Models Zero 40EP ARF, a 14.8V (4S) 4000mAh LiPo battery was used.
One of the reasons I really like flying electric powered planes is the convenience factor - when it's cold, you simply plug in the battery and you're ready to fly! November in Minnesota can be downright chilly, but as luck would have it, the day for the maiden was beautiful! Now, when I say beautiful, I mean that in relative terms - the sun was shining, the winds were under 10 MPH and the temperature was around 45-50 degrees.

I set the Zero down on the edge of our textile runway, and taxied the plane out to the center line. I really liked the ground handling! The steerable tail wheel directed the Zero around nicely without feeling oversensitive.

The throttle stick was gently advanced, and the 3748 750kV motor came to life. I added just a touch of right rudder to keep her rolling straight down the runway, and when I got to half throttle the Zero was already airborne! The brushless outrunner, 40 Amp ESC, and 11x8 propeller (included with the electric power package) were easily pulling the plane upwards! I let the plane gain some altitude, retracted the main landing gear and then checked the trim - two clicks of right aileron were all that was needed!

I was immediately comfortable with the Zero. I was so impressed by the handling of this plane that on the third pass, I was flying 'down on the deck' and having a ball! At full throttle, the Zero moves across the sky quickly and tracks very true. With that said, it will slow down to nearly a snail's pace and just hang in the air as well!

Since the original Zero was such a great combat plane, I had to try out some aerobatics - this new version from The World Models does not disappoint! Loops and rolls are easy and fun, and stall turns look great too! I felt that the control throws in the manual are spot on for flying the Zero, and the motor has plenty of power for large loops and pulling the plane vertical!

At the 10 minute mark, I decided it was time to land - I didn't want to run short of power in case I needed a 'go-around' on the landing. With a light wing loading, the Zero seemed to glide forever! I missed the runway on the first attempt, because it seemed as though the plane didn't want to quit flying. On my second attempt, I cut the power before making my final turn - This worked well, and I was able to touch down and keep the plane on our 107' runway. With the retractable landing gear, fairly small wheels and sprung gear legs, grass landings are a little tough - unless the runway is smooth and the grass is short.

The World Models Zero 40EP ARF
Time to wrap this up: The new Zero 40 EP from The World Models is a great looking plane, it's easy to assemble, and it flies very well - at no time did I feel uncomfortable flying this plane! If you're looking for a nice warbird designed for electric power, look no further than the Zero 40 EP ARF - you'll be glad you picked one up for yourself!

Summary

Contact Information

The World Models
Distributed through:
Airborne Models
4749 - K Bennett Drive
Livermore, CA 94551
Phone: (925) 371-0922
www.airborne-models.com

ZAP Adhesives
Distributed by:
Frank Tiano Enterprises
3607 Ventura Drive E.
Lakeland, Florida 33811
Phone: (863) 607-6611
www.franktiano.com

FASST
Distributed through
Hobbico
2904 Research Rd
Champaign, IL 61822
Phone: 1-217-398-8970
www.futaba-rc.com

LITHIUM POLYMER BATTERIES

TrueRC
Phone: (773) 203-8695
www.truerc.com
There are no comments

The comments, observations and conclusions made in this review are solely with respect to the particular item the editor reviewed and may not apply generally to similar products by the manufacturer. We cannot be responsible for any manufacturer defects in workmanship or other deficiencies in products like the one featured in the review.

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<td>RCGF, a Chinese manufacturer of gasoline engines, designs and manufactures engines specifically for 'the RC aircraft market.'...</td>
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<td>RCGF, a Chinese manufacturer of gasoline engines, designs and manufactures engines specifically for 'the RC aircraft market.'...</td>
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<td>Seagull Models</td>
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<td>30% PT-17 Stearman ARF (U.S. ARMY)</td>
<td>Some may call me lucky. I would agree! One of the reasons that the PT-17 is so close to my heart is that I have a personal co...</td>
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<td>Bomberfield USA 2015</td>
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<td>HeliMax</td>
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Comments on RCU Review:

The World Models Zero 40EP ARF with Electric Package

There are no comments

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