Zero Fighter EP

Requires: 5-channel radio w/ 5 micro servos, Outrunner Motor KM0283010 w/ Propeller Adaptor HW2340100, 20A brushless ESC, 3 cells 11.1V 2100 mAh Li - Po battery & charger.

Specifications

- Wing Span: 39.5 in / 1000 mm
- Wing Area: 264 sq in / 17 sq dm
- Flying Weight: 27 oz / 760 g
- Fuselage Length: 32 in / 820 mm

*Specifications are subject to change without notice.*

Warning! This model is not a toy.

It is designed for maximum performance. Please seek advice if one is not familiar with this kind of electric powered precision model. Operating this model without prior preparation may cause injuries. Remember, safety is the most important thing. Always keep this instruction manual at hand for quick reference.
BEFORE YOU BEGIN

1. Read through the manual before you begin, so you will have an overall idea of what to do.

2. Check all parts. If you find any defective or missing parts contact your local dealer. Please DRY FIT and check for defects for all parts that will require CA or Epoxy for final assembly. Any parts you find to be defective after the gluing process may be difficult to remove for warranty replacement. The manufacturer will replace any defective parts, but will not extend to the parts that are good before gluing to defective parts during assembly. Warranty will not cover any parts modified by customer.

3. Symbols used throughout this instruction manual comprise of the following:

- **AB**: Apply epoxy glue.
- **CA**: Apply instant glue (C.A.glue, super glue.)
- **L/R**: Assemble left and right sides the same way.
- **N.I.**: Must be purchased separately!
- **3mm**: Drill holes with the specified diameter (here: 3mm).
- **Pay close attention here!**: Pay close attention here!
- **Cut off shaded portion.**: Cut off shaded portion.
- **Drill holes with the specified diameter (here: 3mm).**: Drill holes with the specified diameter (here: 3mm).
- **Peel off shaded portion covering film.**: Peel off shaded portion covering film.
- **Apply thread locker**: Apply thread locker
- **Ensure smooth non-binding movement while assembling.**: Ensure smooth non-binding movement while assembling.
- **Pierce the shaded portion covering film.**: Pierce the shaded portion covering film.
- **Warning!**: Do not overlook this symbol!
### Parts List

1. **MAIN WING** – 1 pc.
2. **RETRACTABLE LANDING GEAR** – 1 pair
   - SCREW KAZ 2.3x8mm – 8 pcs
   - COLLAR Ø2.6mm w/ Set Screw – 2 pcs
   - MAIN WHEEL Ø40mm – 2 pcs
   - RETRACTABLE LANDING GEAR COVER – 2 sets
3. **LINKAGE CONNECTOR Ø2.1mm w/ Set Screw** – 2 sets
   - PLYWOOD 2x7x21mm – 2 pcs
4. **SCREW PB2x12mm** – 4 pcs
   - FUEL TUBE Ø2x4x4mm – 4 pcs
   - STRAPER – 2 pcs
   - CLEVIS – 2 pcs
   - HORN – 2 sets
   - PUSHROD Ø1.4x22mm w/ Threads (For Aileron) – 2 pcs
5. **STABILIZER & ELEVATOR** – 1 set
   - FUSELAGE – 1 pc.
6. **VERTICAL FIN & RUDDER** – 1 pc.
   - TAIL LANDING GEAR – 1 pc.
   - TAIL WHEEL Ø23mm – 1 pc.
   - PLASTIC COLLAR d1x25x2mm – 2 pcs
   - SCREW PA2x8mm – 2 pcs
7. **PUSHROD Ø1.4x430mm w/ Threads (For Rudder)** – 1 pc.
   - FUEL TUBE Ø2x4x4mm – 1 pc
   - CLEVIS – 1 pc.
   - HORN – 1 set
   - SCREW PB2x8mm – 2 pcs
8. **PUSHROD Ø1.4x355mm w/ Threads (For Elevator)** – 2 pcs
   - FUEL TUBE Ø2x4x4mm – 2 pcs
   - CLEVIS – 2 pcs
   - HORN – 2 sets
   - SCREW PB2x8mm – 4 pcs
9. **SCREW PM3x6mm** – 4 pcs
   - WASHER Ø3x7mm – 4 pcs
10. **9x6 FOLDING PROPELLER (GRAY) (3 BLADE)** PL6315031 – 3 pcs
11. **SCREW PM2x12mm** – 3 pcs
12. **COWLING** – 1 pc.
13. **SCREW PWA2x6mm** – 4 pcs
14. **Ø36mm EP SPINNER WITH BACKPLATE FOR FOLDING PROPELLER (3 BLADE)** – 1 pc.
15. **PUSHROD Ø1.4x52mm (For Elevator)** – 1 pc.
16. **BATTERY TIE 180mm** – 1 pc.
17. **FUEL TUBE Ø2x4x4mm** – 2 pcs
18. **STRAPER** – 2 pcs
19. **PUSHROD CONNECTOR 5.6x7.2x16mm** – 1 set
20. **SPONGE 10x50x150mm** – 1 pc.
21. **DOUBLE-SIDED TAPE 30x35mm** – 1 pc.
22. **PLASTIC PLATE 1x23x74mm (Wing Protection)** – 1 pc.
23. **NYLON SCREW PM2.5x20mm** – 2 pcs
24. **NYLON WASHER Ø2.6xD9mm** – 2 pcs
25. **FUEL TUBE Ø2x4x4mm** – 2 pcs
26. **SCREW PWA2x8mm** – 4 pcs
27. **PILOT (PC101042A)** – 1 pc.
28. **ANTENNA** – 1 pc.
29. **LAZYBACK** – 1 pc.
30. **DECALS** – 1 set

**COVERING**:
- LIGHTEX SGX 216000
- LIGHTEX SGX 216001
- LIGHTEX SGX 331 CUB YELLOW
1 Main Wing

- Apply instant type CA glue to both sides of each hinge.

2 Retractable Landing Gear

- Bottom View
3 Retract Servo

Please refer to attached sheet for linkage connector installation.

4 Aileron Servo

- Ø1mm pilot holes for World Models tri-horn are pre-drilled. Please look for pin-hole marks at under side of control surfaces.

5 Stabilizer & Elevator

Temporary install the main wing, adjust leveling of the stabilizer to make it as parallel to the main wing as possible.

- Apply instant type CA glue to both sides of each hinge.
6 Vertical Fin, Rudder & Tail Landing Gear

- Bottom View

- Apply instant type CA glue to both sides of each hinge.

- Completed

7 Rudder Pushrod

- Ø1mm pilot holes for World Models horn are pre-drilled. Please look for pin-hole marks at under side of control surfaces.

- Φ1.4mm pushrod Ø1.4x430mm
- Fuel tube Ø2x4x4mm
- Horn
- PB2x8mm
- Clevis
- PB2x8mm
- Plastic collar

P.5
8 Elevator Pushrod

- Ø1mm pilot holes for World Models horn are pre-drilled. Please look for pin-hole marks at under side of control surfaces.

PB2x8mm Screw 4

L/R

9 Outrunner Motor / Cowling

- Don’t over-tighten the PM3 screws, too much stress on the screws could split the firewall.

PWA2x8mm Screw 4
PM2x12mm Screw 3
PM3x6mm Screw 4
PA2x6mm Screw 3
d3xD7mm Washer 4

20A Brushless ESC TWM KC202SA02A

- Make sure rotating motor casing is not in contact with wirings or anything.

PM2x12mm
PM2x12mm
PM2x12mm

- Don’t over-tighten the PM2 screws, let the propeller blades align themselves when spinning.

Ø36mm EP Spinner

M5 Nut

TWM HW3111400 PROPELLER ADAPTOR WRENCH:

N.I.

TWM PL8210010 CLEVIS WRENCH

N.I.

TWM KP0011310

Optional Parts

Outrunner Motor 28/30 KM0283010

Propeller Adaptor (d3xD5) HW2340100

PA2x6mm

TWM HW3111400 PROPELLER ADAPTOR WRENCH:

N.I.
10 Radio equipment

- Install and arrange the servo as shown in the diagram.

11 Main Wing

- PM2.5x20mm NYLON BOLT (2)
- d2.6x9mm NYLON Washer (2)

Front view and bottom view illustrations are provided.
Adjust the wing and fuselage configuration as shown in the diagrams.

A=A'  B=B'  
C=C'  D=D'

PWA2x8mm Screw

Pilot

Lazyback

Antenna

L/R

Antenna

Lazyback

P.8
14 Control Throws

Adjust the control throws as shown in the diagram. These throws are good for general flying. You can adjust according to your personal preference.

- **Elevator**
  - 10mm
  - 10mm

- **Rudder**
  - 15mm
  - 15mm

- **Ailerons**
  - 6mm
  - 6mm

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15 C.G.

- The ideal C.G. position is **63mm (2.5in)** behind the leading edge measured at where the wing meets the fuselage. In order to obtain the C.G. specified, add weight to the fuselage or move the battery position. Check the C.G. before flying.

- Measure C.G. with the wheels in retracted position.

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Warning!

Important Safety Precautions

# First time flyer should never fly by himself / herself. Assistance from experienced flyer is absolutely necessary.

# Pre-flight adjustment must be done before flying, it is very dangerous to fly a badly pre-adjusted aircraft.

# **ZERO FIGHTER EP** is specially designed to be powered by **KM0283010 Outrunner Motor**.

# Make sure the air field is spacious, never fly the plane too close to people and never get too close to a running propeller. Extreme caution should be exercised when working with electric powered models. Make sure the propeller is cleared of all objects, especially your hands before connecting the battery to the model. Make sure you understand the operation of the ESC (Electronic Speed Control) by studying the ESC manual. Once you plug in the battery for electric powered model, always treat the propeller as a rotating one, as accidental movement of the throttle stick will spin the propeller and could cause injuries.

# If you find wrinkles on the covering as a result of weather changes, you can use hot iron to remove the wrinkles. Please begin with lower temperature setting and gradually raise the temperature until the wrinkles are gone. Too hot an iron may damage the covering. Don't use hot iron near the seams or edges, hot iron will melt the glue and shrink the covering at the same time, causing the seams to pull away.

# Check and re-tighten up all factory assembled screws, use thread locker if necessary.
Product Registration Form (US Customers)

We would like to share with you any relevant information regarding your model, including product news and free upgrade parts when applicable. Please fill in the following and send to AirBorne Models, 4749-K, Bennett Drive, Livermore, CA 94551 USA.

1. Name:______________________________________________________
2. Address:____________________________________________________
3. Phone #:____________________ E-mail:__________________________
4. Model:______________________________________________________
   Wing QC#________   Fuselage QC# ____________________________
   (QC numbers are stamped on wing and fuselage)
5. Date of Purchase:____________________________________________
6. Store Name:________________________________________________

Please call AirBorne Models at 925 371 0922 for any assistance in filling this form. Thank you very much for purchasing our product.
### Optional Parts

**ACCESSORIES**

<table>
<thead>
<tr>
<th>Code No.</th>
<th>Size</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>KP0011310</td>
<td>40A Max. Current</td>
<td>1 set</td>
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</table>

- Ideal for electric models

### Propeller Adaptor Wrench

<table>
<thead>
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<th>Code No.</th>
<th>Size</th>
<th>Package</th>
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</thead>
<tbody>
<tr>
<td>HW3111400</td>
<td>1 pc</td>
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</table>

- Special tool for clevis installation. Suitable for standard and small (EP) clevis.

### Clevis Wrench

<table>
<thead>
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<th>Code No.</th>
<th>Size</th>
<th>Package</th>
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<td>PL8210010</td>
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### Brushless ESC

<table>
<thead>
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<th>Code No.</th>
<th>Size</th>
<th>Package</th>
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</thead>
<tbody>
<tr>
<td>KC2025A02A</td>
<td>24x45x11mm</td>
<td>1 pc</td>
</tr>
</tbody>
</table>

- Voltage Range: 5.6 ~ 16.8V
- Current: 25A continuous
- Current (Burst, <10 seconds): 35A
- Weight: 24 g
  (with wires and connector)
- BEC: 5V / 2A
- Low Voltage Cut-off: /
- Light weight with low internal resistance
  for high current operation
- BEC function for Li-ion / Li-poly
- 2 ~ 4 cells; Nimh / Nicd 5 ~ 12 cells operation.
- Low battery voltage auto cut off to reserve power to the servos.
- Safe start up motor.

<table>
<thead>
<tr>
<th>Code No.</th>
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<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>KM0283010</td>
<td>1 pc</td>
<td></td>
</tr>
</tbody>
</table>

- Max speed: 12000 rpm
- Kv (rpm/V): 1015
- Operating Power: 180W
- Operating Voltage: 6-12V
- Operating Current: 15A
- Peak Current: 20A (max. 15 sec.)
- Internal Resistance: 95 m ohms
- Diameter: 28mm
- Length: 30mm
- Weight: 60g
- Shaft Diameter: 3mm
- Shaft Length: 14.8 mm
- Mounting Screw: M3
- Distance of Mounting Holes: Front (16mm and 19mm)
Ducted Fan

Pattern

Warbirds

Funfly

Scale

Electric

Sports

Glider

Trainer

Boat

Accessories

Covering

(Lightex / Toughlon)

The World Models Manufacturing Co., LTD.
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