Before commencing assembly, please read these instructions thoroughly.

ZOERO FIGHTER 60 (GA015)

Specifications

- Wing Span: 60.0 in / 1520 mm
- Wing Area: 635 sq in / 41.0 sq dm
- Flying Weight: 7.5 lbs / 3400 g
- Fuselage Length: 45.5 in / 1150 mm
- Required: 2-stroke 0.60-1.75 engine
- 6-channel radio w/ 6 standard servos and 1 low profile retract servo

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 engine 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.

* Specifications are subject to change without notice.*

THE WINGS MAKER
FACTORY PRE-FABRICATED
ALMOST-READY-TO-FLY (ARF) SERIES
MADE IN CHINA
www.thewingsmaker.com

GA015PO30031406
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:

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

1. MAIN WING -- 1 pair
   SCREW KA3x14mm -- 8 pcs
   RIGHT ANGLE WHEEL SPACER PL4121040 -- 2 sets
   COLLAR 4.1mm w/ Set Screw -- 2 sets
   MAIN WHEEL Ø58mm -- 2 pcs
   RETRACTABLE LANDING GEAR COVER -- 2 sets

2. RETRACTABLE LANDING GEAR -- 1 set
   SCREW KA3x14mm -- 8 pcs
   RIGHT ANGLE WHEEL SPACER PL4121040 -- 2 sets
   COLLAR 4.1mm w/ Set Screw -- 2 sets
   MAIN WHEEL Ø58mm -- 2 pcs
   RETRACTABLE LANDING GEAR COVER -- 2 sets

3. SERVO MOUNTING PANEL PL5310000 -- 1 pair
   SCREW PWA2x8mm -- 8 pcs

4. TRI-HORN M3x14mm (L) -- 2 sets
   STRAPER -- 2 pcs
   CLEVIS -- 2 pcs
   FUEL TUBE Ø6x5mm -- 4 pcs
   SCREW PB2x12mm -- 2 pcs
   SCREW PB2x16mm -- 4 pcs
   PUSHROD Ø1.8x90mm w/ Threads (For Aileron) -- 2 pcs

5. PLYWOOD 9x29x90mm (Wing Joiner) -- 1 pc.
   PLYWOOD 4x30x61mm -- 1 pc.

6. LINKAGE CONNECTOR Ø2.1mm w/ Set Screw -- 2 sets
   SCREW PWA2x16mm -- 4 pcs
   CLEVIS -- 2 pcs
   FUEL TUBE Ø6x5mm -- 2 pcs
   PUSHROD Ø1.8 mm Y-style w/ Threads (For Flap Servo) -- 1 pc

7. DROP TANK -- 1 pc.
   SOCKET HED SCREW M3x14mm -- 2 pcs
   WASHER d3xD7mm -- 4 pcs
   M3 NUT -- 2 pcs

8. STABILIZER & ELEVATOR -- 1 set

9. VERTICAL FIN & RUDDER -- 1 set
   TAIL LANDING GEAR -- 1 set
   TAIL WHEEL Ø25mm -- 1 pc.
   SCREW PA3x12mm -- 2 pcs
   COLLAR Ø2.1 w/ Set Screw -- 1 set

10. FUEL TANK 380cc -- 1 set
    CABLE TIE 1.5x5x400mm -- 1 pc.
    DOUBLE-SIDE TAPE 40x100mm -- 1 pc.

11. ENGINE MOUNT PL5111070 -- 1 set
    SOCKET HEAD SCREW M4x25mm -- 4 pcs
    WASHER d4xD9mm -- 4 pcs

12. ENGINE MOUNT PL5111070 -- 1 set
    SOCKET HEAD SCREW M4x30mm -- 4 pcs
    WASHER d4xD9mm -- 8 pcs

13. COWLING -- 1 pc.
    TRANSPARENT 3D TEMPLATE -- 1 pc.
    SCREW PB2x12mm -- 3 pcs
    SCREW PB2x16mm -- 6 pcs
    CLEVIS -- 2 pcs
    FUEL TUBE Ø6x5mm -- 2 pcs
    PUSHROD Ø1.8x730mm w/ Threads (For Rudder) -- 1 pc.

14. ENGINE MOUNT PL5111070 -- 1 set
    SOCKET HEAD SCREW M4x25mm -- 4 pcs
    WASHER d4xD9mm -- 4 pcs

15. Engine Mount PL5111070 -- 1 set
    SOCKET HEAD SCREW M4x25mm -- 4 pcs
    WASHER d4xD9mm -- 8 pcs

16. COWLING -- 1 pc.
    TRANSPARENT 3D TEMPLATE -- 1 pc.
    SCREW PB2x12mm -- 3 pcs
    CLEVIS -- 1 pc.
    DOUBLE-SIDED TAPE -- 1 pc.
    FUEL TUBE Ø6x5mm -- 1 pc.

17. TRI-HORN M3x9mm (L) -- 2 sets
    SCREW PB2x16mm -- 6 pcs
    CLEVIS -- 2 pcs
    FUEL TUBE Ø6x5mm -- 2 pcs
    PUSHROD Ø1.8x655mm w/ Threads (For Elevator) -- 2 pcs

18. LINKAGE CONNECTOR Ø2.1mm w/ Set Screw -- 2 sets
    SCREW PB2x6mm -- 2 pcs
    WASHER d4xD9mm -- 2 pcs
    M3 NYLON INSERT LOCK NUT -- 4 pcs
    ALUMINUM PLATE 1.5x10x153mm -- 2 pcs

19. ENGINE MOUNT PL5111070 -- 1 set
    SOCKET HEAD SCREW M4x35mm -- 2 pcs
    WASHER d4xD15mm -- 2 pcs

20. DECALS: GA015DEC -- 1 set
    COVERING FILM -- 2 pcs

- COVERING:
  TOUGHLON STL 202 GRAY
  TOUGHLON STL 330 CADMIUM YELLOW
  TOUGHLON STL 340 OLIVE DRAD
1 Main Wing

2 Retractable Landing Gear

3 Aileron Servo
4 Aileron Servo

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

- Bottom View

5 Main Wing

- Please apply glue to all surfaces of wing Joiner.

- Peel off shaded portion covering film for lead to another aileron servo.

- For Flap Servo

- Plywood 4x30x61mm Lead to Aileron Servo

6 Retractable Landing Gear Servo

- Linkage Connector
  - 3 x 3mm Set Screw
  - Linkage Connector
  - 2mm Nut
  - 2mm Washer

- PUSHROD TRAVEL
  - 21mm

- To L-side
  - Wheels down Position

- To R-side
  - Wheels up position
7 Flap Servo

- Fuel Tube: 6x5mm
- Plywood: 2x8x20mm
- Ring: Ø2.3mm

Peel off shaded portion covering film.

8 Drop Tank Setup

- Plywood: 2x8x20mm, 1.5mm
- M3 x 14mm Socket Head Screw: 2
- d3xD7mm Washer: 4
- M2 Nut: 2

Completed Main Wing

- Drop Tank
- Bottom View
9 Stabilizer / Elevator

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

10 Vertical Fin / Rudder

11 Fuel Tank

Completed

GA015PO30031406
12 Engine Mount

- M4x25mm Socket Head Screw: 4
- d4x9mm Washer: 4

Illustration is for side mounting. You can mount the engine upright or inverted simply by rotating the engine mount. Thrust angles will not be affected.

13 Engine

- M4x30mm Socket Head Screw: 4
- d4x9mm Washer: 8
- M4 Nut: 8

Illustration is for side mounting. You can mount the engine upright or inverted simply by rotating the engine mount. Thrust angles will not be affected.

14 Cowling

- PA3x12 Screw: 4
- PM3x8mm Screw: 4
- d3xD7mm Washer: 8
- M3 Nylon Insert Lock Nut: 4

Fuel Filler PL8110030

Blind nuts are off-centered to keep the spinner at the fuselage axis.
15 Canopy

- First insert the grommet to the canopy then apply screw.

- Apply double-sided tape

- Peel off shaded portion covering film

- Tri-horn M3 x 14mm
- Fuel Tube Ø6x5mm
- Rudder Pushrod Ø1.8x730mm

PB2x12mm Screw 3
PWA2.3x8mm Screw 4
PA2x6mm Screw 2
d1.5 x 065mm Silicon Grommet 4

16 Rudder Pushrod

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

- Peel off shaded portion covering film

- Tri-horn M3 x 14mm
- Fuel Tube Ø6x5mm
- Rudder Pushrod Ø1.8x655mm

PB2x12mm Screw 3

17 Elevator Pushrod

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

- Bottom View

- Peel off shaded portion covering film

- Tri-Horn M3x9mm
- Fuel Tube Ø6x5mm
- Pushrod Ø1.8x655mm

PB2x16mm Screw 6

PA2 x 6 Antenna Fixing
TWM PL8210010 CLEVIS WRENCH
Fix the throttle servo tray either to the right or left side of the fuselage according to your throttle pushrod location.

Please refer to the attached sheet for linkage connector installation.
20 Main Wing

Adjust the wing and fuselage configuration as shown in the diagrams.

21 Wing Setting

22 Control Trows

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

**Warning!**

# 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 60** is specially designed to be powered by 50 c.c. gasoline engine, using a more powerful engine does not mean better performance. In fact, over powered engine may cause structural damage and injuries.

# Make sure the air field is spacious, never fly the plane too close to people and never get too close to a running propeller.

# 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.

---

The ideal C.G. position is **100mm (3.94 in.)** 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.

If you are converting this model to electric, please move the C.G. forward 10% of current C.G. distance from leading edge to compensate for weight of fuel.

---

**LINKAGE CONNECTOR**

**HW7111050 & HW7111060**

After fastening the round nut, make sure that the linkage connector can rotate freely.

1. Drill 2mm hole at servo horn.
2. Insert linkage connector into servo horn.
3. Make sure shoulder of screw is cleared from servo horn. Add washer to reduce play if necessary.
4. Tighten up the round nut against the shoulder. Apply CA or permanent thread locker.

After fastening the round nut, make sure that the linkage connector can rotate freely.

---

**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.

GA015PO30031406
Usage of the transparent 3D template

This transparent 3D template is used for position guidance of the actual cutting of the pre-painted cowling.

1

2

3

4

Simply cut the transparent 3D template to fit your engine and exhaust pipe, then slide onto the actual cowling and use as template to mark the openings required for final cutting.
**Optional Parts (ACCESSORIES)**

### 180mm Extension

<table>
<thead>
<tr>
<th>Code No.</th>
<th>Size</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>KW0011800</td>
<td>180mm</td>
<td>1 set</td>
</tr>
</tbody>
</table>

![180mm Extension Image]

### 180mm Y-Cord

<table>
<thead>
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<th>Code No.</th>
<th>Size</th>
<th>Package</th>
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</thead>
<tbody>
<tr>
<td>KW0021800</td>
<td>180mm</td>
<td>1 pc</td>
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![180mm Y-Cord Image]

### Fuel Filler

<table>
<thead>
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<th>Code No.</th>
<th>Size</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>PL8110030</td>
<td>15 x 22 x 49mm</td>
<td>1 x 1 pc</td>
</tr>
</tbody>
</table>

![Fuel Filler Image]

### Clevis Wrench

<table>
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<th>Code No.</th>
<th>Size</th>
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</thead>
<tbody>
<tr>
<td>PL8210010</td>
<td></td>
</tr>
</tbody>
</table>

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

### Charge Receptacles

<table>
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<th>Code No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>KP0041300</td>
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</table>

### Field Stand

<table>
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<tr>
<th>Code No.</th>
<th>Size</th>
<th>Package</th>
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</thead>
<tbody>
<tr>
<td>MS9111430</td>
<td>600 x 240 x 310mm</td>
<td>1 pc</td>
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</tbody>
</table>

![Field Stand Image]

### Standard Servo

<table>
<thead>
<tr>
<th>Code No.</th>
<th>Speed</th>
<th>Torque</th>
<th>Size</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>SV4031</td>
<td>0.17 sec / 60° @ 4.8V</td>
<td>3.2kg.cm / 44.8 oz - in @ 4.8V</td>
<td>40.6 x 20 x 37mm / 1.60 x 0.79 x 1.46 in</td>
<td>39.4 g / 1.39 oz</td>
</tr>
</tbody>
</table>

GA015PO30031406