Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wing Span</td>
<td>53.5 in / 1360 mm</td>
</tr>
<tr>
<td>Wing Area</td>
<td>538 sq in / 34.7 sq dm</td>
</tr>
<tr>
<td>Flying Weight</td>
<td>5.3 lb / 2400 g</td>
</tr>
<tr>
<td>Fuselage Length</td>
<td>57 in / 1450 mm</td>
</tr>
</tbody>
</table>

* 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 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.
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 thread locker
- 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

2. **SCREW PB2x22mm** -- 4 pcs  
   PUSHROD Ø1.8x80mm w/ Threads (For Aileron) -- 2 pcs  
   CLEVIS PL4112103 -- 2 pcs  
   STRAPER PL4112102 -- 2 pcs  
   FUEL TUBE Ø6x5mm -- 4 pcs  
   HORN PL4113102 -- 2 sets  
   SERVO MOUNTING PANEL PL5310000 -- 1 pair  
   SCREW PWA2x8mm -- 8 pcs

3. **WING TUBE Ø16x285mm** -- 1 pc.

4. **STABILIZER & ELEVATOR** -- 1 set  
   FUSELAGE -- 1 pc.

5. **VERTICAL FIN & RUDDER** -- 1 set

6. **TAIL LANDING GEAR Ø2mm** -- 1 set  
   SCREW PA3x12mm -- 2 pcs  
   COLLAR Ø2.1mm w/ set screw -- 1 set  
   TAIL WHEEL Ø25mm -- 1 pc.

7. **PUSHROD Ø1.8x730mm w/ Threads (For Elevator)** -- 2 pcs  
   SCREW PB2x14mm -- 4 pcs  
   CLEVIS PL4112103 -- 2 pcs  
   FUEL TUBE Ø6x5mm -- 2 pcs  
   HORN PL4113102 -- 2 sets

8. **RIGGING COUPLER Ø1.8x27mm w/ Threads (For Rudder)** -- 2 pcs  
   SCREW CB3x12mm -- 2 pcs  
   CLEVIS PL4112103 -- 2 pcs  
   COPPER TUBE d2x3.2x8mm (For Rudder) -- 2 pcs  
   SCREW PM2x20mm -- 2 pcs  
   M2 NUT -- 2 pcs  
   WASHER d2.5xD8mm -- 2 pcs  
   HORN (Without Base, For Rudder) PL4113102 -- 2 sets

9. **MAIN LANDING GEAR HW2403137** -- 1 pair  
   COLLAR Ø4.1mm w/ set screw -- 4 sets  
   SCREW HM4x35mm -- 2 pcs  
   WASHER d4.2xD14.5mm -- 2 pcs  
   WHEEL PANTS -- 1 pair  
   MAIN WHEEL Ø55mm -- 2 pcs  
   ALUMINUM PLATE 1mm -- 1 pair

10. **ENGINE MOUNT PL5111050** -- 1 set  
    SOCKET HEAD SCREW M4x25mm -- 4 pcs  
    WASHER d4.5xD9mm -- 4 pcs

11. **FUEL TANK 320cc PL1111320** -- 1 set  
    CABLE TIE 1.5x5x400mm -- 1 pc.  
    DOUBLE-SIDED TAPE 40x100mm -- 1 pc.

12. **LINKAGE CONNECTOR Ø2.1mm HW7111060** -- 1 set

13. **SOCKET HEAD SCREW M3.5x30mm** -- 4 pcs  
    M3.5 NUT -- 8 pcs  
    WASHER d3.5xD8mm -- 8 pcs  
    THROTTLE PUSHROD Ø1.2x480mm -- 1 pc.  
    PLASTIC TUBE d2xD3x300mm -- 1 pc.

14. **PUSHROD Ø1.8x110mm (For Elevator)** -- 1 pc.  
    RIGGING Z BEND Ø1.8x27mm (For Rudder) -- 2 pcs  
    COPPER TUBE d2.5x3.2x8mm (For Rudder) -- 2 pcs  
    FUEL TUBE Ø6x5mm -- 1 pc.  
    STRAPER PL4112102 -- 1 pc.  
    PUSHROD CONNECTOR PL4410010 -- 1 set  
    SPONGE 60x70x90mm (For Radio Equipment) -- 1 pc.

15. **SCREW HM4x35mm** -- 2 pcs  
    WASHER d4.2xD14.5mm -- 2 pcs  
    BELLY PAN -- 1 pc.

16. **CANOPY** -- 1 pc.  
    SCREW PWA2.3x8mm -- 4 pcs  
    SILICON GROMMET d1.5xD6.5mm -- 4 pcs  
    DOUBLE-SIDED TAPE 900mm -- 1 pc.

17. **COWLING** -- 1 pc.  
    TRANSPARENT 3D TEMPLATE -- 1 pc.  
    SCREW PWA2.6x12mm -- 4 pcs  
    SILICON GROMMET d1.5xD6.5mm PL1265035 -- 4 pcs  
    SPINNER Ø62mm -- 1 set

18. **DECALS: A249L DEC** -- 1 set

**COVERING:**  
TOUGHLON STL201 BLACK  
TOUGHLON STL490002  
STRIPE FER.RED / WHITE (6cm)
1 Main Wing

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

2 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.

- Pushrod Ø1.8x80mm
3 Main Wing

- Please apply glue to all surfaces of wing tube.

- Make sure to glue securely. If not properly glued, a failure in flight may occur.

4 Stabilizer / Elevator

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

*Also refer to step 18 Wing Setting

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

- Completed
5 Vertical Fin & Rudder

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

6 Tail Landing Gear

<table>
<thead>
<tr>
<th>Part</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>PA3x12mm Screw</td>
<td>2</td>
</tr>
<tr>
<td>2.1mm Collar</td>
<td>1</td>
</tr>
</tbody>
</table>

- Complete assembly of the tail landing gear.
7 Elevator Pushrod

- PB2 x 14mm Screw
  - 4

- Clear the Ø1mm pilot holes for World Models Tri-horn.
- Look for pin-hole marks at the underside of control surfaces.

8 Rudder Pullwire

- PM2 x 20mm Screw
  - 2
- M2 Nut
  - 2

- Clear the Ø1mm pilot holes for World Models Tri-horn.
- Look for pin-hole marks at the underside of control surfaces.

9 Main Landing Gear

- M2.5x12mm Socket Head Screw
  - 6
- PM4x38mm Screw
  - 2
- KA2.3x8mm Screw
  - 2
- M4 Nut
  - 2
- 4.1mm Collar
  - 2
- d4.5xD9mm Washer
  - 4
- d2.5xD8mm Washer
  - 4

- Quick Release Nylon Rivet
  - 2

- Completed
**10 Engine Mount**

- M4x25mm Socket Head Screw: 4
- d4.5xD9mm Washer: 4

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

**11 Fuel Tank**

- Cable Tie 1.5x5x400mm
- Double-sided Tape 40x100mm

**12 Servo Set**

- 3x3mm Set Screw: 1
- Linkage Connector: 1
- M2 Nut: 1
- 2mm Washer: 2

Please refer to the attached sheet for linkage connector installation.
13 Engine

- M3.5x30mm Socket Head Screw: 4
- M3.5 Nut: 8
- d3.5xD8mm Washer: 8

14 Radio Equipment

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

- Bottom View

- Elevator Pushrod Ø1.8x730mm
- Rudder Servo
- Throttle Servo
- Throttle Pushrod Ø1.2x480mm
- Riger Z Bend Ø1.8x27mm
- Plastic Tube d2x3mmx300mm
- Copper Tube
- Pushrod Connector
- Elevator Servo
- Fuel Tube Ø6x5mm
- Straper
- Sponge 60x70x90mm
- Battery
- Front View

- J1(Pushrod Ø1.8x110mm)
- J2(Pushrod Ø1.8x730mm)
**15 Main Wing**

- HM4 x35mm Screw
- d4.2xD14.5mm Washer

- HM4 x35mm Washer
- d4.2xD14.5mm

**16 Canopy**

- PWA2.3 x 8mm Screw
- d1.5xD6.5mm Silicon Grommet

- d1.5 x D6.5 mm Silicon Grommet
- PWA2.3 x 8mm

**17 Cowling**

- PWA2.6 x 12mm Screw
- d1.5xD6.5mm Silicon Grommet

- Silicon Grommet d1.5xD6.5mm
- PWA2.6x12mm
- Fuselage
- Cowling

- Spinner Ø62mm
- Propeller N.I.
18 Wing Setting

- Adjust the wing and fuselage configuration as shown in the diagrams.
19 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.

Rudder
45mm 45mm

Elevator
18mm 18mm

Aileron
10mm 10mm

20 C.G.

The ideal C.G. position is 117mm (4.6 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.


❗ 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.

# Spot-on is specially designed to be powered by 4C 0.5-0.70 engine, using a more powerful engine does not mean better performance. In fact, over powered engine may cause severe 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.
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.

A249LPO27471203
Usage of the transparent 3D template

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

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

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>
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</tbody>
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Fuel Filler

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

180mm Y-Cord

<table>
<thead>
<tr>
<th>Code No.</th>
<th>Size</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>KW0021800</td>
<td>180mm</td>
<td>1 pc</td>
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</tbody>
</table>

Charge Receptacles

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

Field Stand

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

<table>
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<tr>
<th>Code No.</th>
<th>Size</th>
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</thead>
<tbody>
<tr>
<td>PL8210010</td>
<td>1 set</td>
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</table>

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

Standard Servo

<table>
<thead>
<tr>
<th>Code No.</th>
<th>Size</th>
<th>Package</th>
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</thead>
<tbody>
<tr>
<td>SV4031</td>
<td>1 set</td>
<td></td>
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</table>

Speed: 0.17 sec / 60° @4.8V
0.14 sec / 60° @6.0V
Torque: 3.2kg.cm / 44.8 oz - in @4.8V
4.1kg.cm / 57.4 oz - in @6.0V
Size: 40.6 x 20 x 37mm / 1.60 x 0.79 x 1.46 in
Weight: 39.4 g / 1.39 oz
Coversing
Accessories
Trainer, Boat
Glider
Sports
Electric
Scale
Futnity
Warbirds
Pattern
Ducted Fan