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(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.

* Specifications are subject to change without notice.*
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.)
- **N.I.**: Must be purchased separately!
- **L/R**: Assemble left and right sides the same way.
- **3mm**: Drill holes with the specified diameter (here: 3mm).
- **!**: Pay close attention here!
- **! Warning!**: Do not overlook this symbol!
Parts List

1. MAIN WING -- 1 pair
   - SCREW PB2x30mm -- 4 pcs
   - SCREW PB2x25mm -- 2 pcs
   - SCREW PWA2x8mm -- 8 pcs
   - STRAPER PL4112102 -- 2 pcs
   - CLEVIS PL4112103 -- 2 pcs
   - FUEL TUBE Ø6x5mm -- 4 pcs
   - TRI-HORN M3x14mm(s) PL4111221 -- 2 sets
   - PUSHROD Ø1.8x100mm w/ Threads (For Aileron) -- 2 pcs
   - SERVO MOUNTING PANEL PL5310000(For Aileron) -- 1 pair

2. SCREW PB2x16mm -- 6 pcs
   - FUEL TUBE Ø6x5mm -- 2 pcs
   - CLEVIS PL4112103 -- 1 pcs
   - TRI-HORN M3x14mm(s) PL4111221 -- 1 set

3. STABILIZER & ELEVATOR -- 1 set
   - FUSELAGE -- 1 pc.
   - SCREW PASX12mm -- 2 pcs

4. VERTICAL FIN & RUDDER -- 1 set
   - TAIL WHEEL Ø23mm -- 1 pc.
   - COLLAR Ø2.1mm w/ set screw -- 1 set
   - SCREW PWA2X12mm -- 2 pcs
   - SCREW PB2x16mm -- 3 pcs
   - PUSHROD Ø1.8x700mm w/ Threads (For Rudder) -- 1 pc.
   - CLEVIS PL4112103 -- 1 pc.
   - FUEL TUBE Ø6x5mm -- 4 pcs
   - TRI-HORN M3x14mm(s) PL4111221 -- 2 sets

5. MAIN LANDING GEAR -- 1 pc.
   - SOCKET HEAD SCREW M3x16mm -- 3 pcs
   - MAIN WHEEL Ø58mm -- 2 pcs
   - WHEEL PANTS -- 1 pair
   - SCREW PM4x38mm -- 2 pcs
   - M3 NUT -- 2 pcs
   - M4 NUT -- 2 pcs
   - WASHER d3xD7mm -- 4 pcs
   - WASHER d4.5xD9mm -- 4 pcs
   - COLLAR Ø4.1mm w/ set screw -- 4 sets
   - ALUMINIUM PLATE 1mm -- 1 pair
   - MAIN LANDING GEAR FARING -- 1 pair
   - QUICK RELEASE NYLON RIVET PL1208042 -- 4 pcs
   - SCREW KA2 3x8mm -- 4 pcs
   - SOCKET HEAD SCREW M3x10mm -- 2 pcs

6. FUEL TANK 320CC PL1111320 -- 1 set
   - CABLE TIE (For Fuel Tank) 1.5x5x400mm -- 1 pc.
   - DOUBLE-SIDED TAPE 40X100MM -- 1 PC.

7. ENGINE MOUNT PL5111030 -- 1 set
   - SOCKET HEAD SCREW M3x20mm -- 4 pcs
   - WASHER d3xD7mm -- 4 pcs

8. LINKAGE CONNECTOR Ø2.1mm HW7111060 -- 1 set

9. CRAWLING -- 1 pc.
   - SCREW PB2x16mm -- 6 pcs
   - PWA2 6x12mm -- 4 pcs
   - SPINNER Ø62mm PL2111062 -- 1 set
   - SILICON GROMMETS PL1265035 -- 4 pcs
   - TRANSPARENT 3D TEMPLATE -- 1 pc.

10. LINKAGE CONNECTOR Ø2.1mm HW7111060 -- 1 set

11. WING TUBE Ø16x515mm -- 1 pc.
    - SELF-TIGHTENING LATCHING PIN PL9120010 -- 2 pcs
    - WIRE Ø0.8mm -- 1 pair
    - M3x8mm SET SCREW --2 pcs

12. COWLING CONNECTOR PL4410010 -- 1 set
    - STRAPER PL4112102 -- 2 pcs
    - FUEL TUBE Ø6x5mm -- 2 pcs
    - PUSHROD Ø1.8x90mm(For Elevator) -- 1 pc.
    - SPONGE 10x8x200mm -- 2 pcs
    - BALSA 6x6x63mm(For Elevator & Rudder Servo Stand) -- 2 pcs

13. COCKPIT -- 1 set
    - CANOPY -- 1 pc.
    - SILICON GROMMETS PL1265035 -- 4 pcs
    - SCREW PWA2 3x8mm -- 4 pcs
    - PILOT PC001085B -- 1 pc.
    - SOCKET HEAD SCREW M3x16mm -- 2 pcs
    - DOUBLE-SIDED TAPE 1000mm -- 1 pc.

14. DECALS: GA050DEC -- 1 set

COVERING:---

TOUGHON STL 100 WHITE
TOUGHON STLGA050FUS
TOUGHON STLGA050WIG
LIGHTEX SGX 311 FERRARI RED
TOUGHON STL 490002
STRIPE FER.RED / WHITE (6cm)
1 Main Wing

Aileron Servo Lead

2 Aileron Servos

- PB2 x 30mm Screw: 4
- PB2 x 25mm Screw: 2
- PWA 2 x 8mm Screw: 8

PB2 x 30mm

PB2 x 25mm

Fuel Tube Ø6x5mm

Clevis

Tri-horn M3x14mm(s)

PB2 x 25mm

PB2 x 25mm

PWA 2 x 8mm

Fuel Tube Ø6x5mm

Pushrod Ø1.8x100mm

Clevis

Completed
3 Stabilizer & Elevator

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

4 Vertical Fin & Rudder

C=C'

Completed
5 **Tail Landing Gear**

- PA3x12mm Screw (2)
- 2.1mm Collar (1)
- 3mm Set Screw (1)

6 **Elevator Pushrod**

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

- PB2x16mm Screw (6)

7 **Rudder Pushrod**

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

- PB2x16mm Screw (3)
8 Main Landing Gear

- M3x16mm Socket Head Screw: 3
- M3x10mm Socket Head Screw: 2
- PM4x38mm Screw: 2
- M3 Nut: 2
- M4 Nut: 2
- d3xD7mm Washer: 2
- d4.5xD9mm Washer: 4
- 4.1mm Wheel Collar: 4
- KA2.3x8mm Screw: 4
- Quick Release Nylon Rivet: 4

1. Bottom View
   - Landing Gear Faring (Left)
   - M3x16mm

2. Bottom View
   - Landing Gear Faring (Left)
   - PM4x38mm
   - d4.5xD9mm Washer
   - M4 Nut
   - Set Screw 3mm
   - Plate 1mm
   - Collar 4.1mm
   - Collar 4.1mm
   - Wheel Ø58mm

3. Bottom View
   - Landing Gear Faring (Right)
   - Landing Gear Faring (Left)
   - d3xD7mm Washer
   - d3xD7mm Washer
   - M3 Nut
   - M3x10mm

9 Fuel Tank

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

Fuel Tank 320cc

Completed
**10 Engine Mount**

- **M3x20mm Socket Head Screw**: 4
- **d3xD7mm Washer**: 4

![Engine Mount PL5111030](image)

- **M3x20mm**: Washer
- **d3xD7mm**: Washer

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

**11 Servo Set**

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

![Servo Set](image)

- **Throttle Pushwire**: Washer 2mm
- **M2 Nut**: Washer 2mm
- **3x3mm Set Screw**: N.I.

**Please refer to the attached sheet for linkage connector installation.**

**12 Engine**

- **M3x25mm Socket Head Screw**: 4
- **d3xD7mm Washer**: 8
- **M3 Nut**: 8

![Engine](image)

- **M3x25mm**: Washer
- **d3xD7mm**: Washer
- **M3 Nut**: Washer

**Installed Engine Position**

- **110mm**: 4.3 in.
- **Plastic Tube**: d2xD3x190mm
- **Throttle Pushwire**: Ø1.2x310mm

**N.I.**

- **M3x25mm**: N.I.
- **d3xD7mm**: N.I.
- **Plastic Tube**: N.I.
- **Throttle Pushwire**: N.I.
13 Cowling

- First insert the grommet to the cowling then apply screw. Please refer to the attached sheet for usage of the transparent 3D template.

14 Radio Equipment

- Install and arrange the servo as shown in the diagram.
**15 Main Wing**

- **Wing Tube Ø16x515mm Lead to Aileron Servo**
- **M3x16mm Socket Head Screw** 2
- **M3 x 8mm Set Screw** 2
- **Wire Ø0.8mm**
- **Set Screw M3x8mm**
- **Self Tightening Wing Latch**
- **Set Screw M3X8mm**

**Completed**

**16 Canopy**

- **M3x16mm Socket Head Screw** 2
- **PWA2.3x8mm Screw** 4
- **d1.5x0.65mm Silicon Grommet** 4

**Pilot**

- **M3x16mm**
- **PWA2.3x8mm Silicon Grommet**
- **Double-sided Tape 1000mm**

**Completed**
Adjust the wing and fuselage configuration as shown in the diagrams.
18 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

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Elevator

---

Aileron

The ideal C.G. position is 100mm (3.9 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.

19 C.G.

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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.

# is specially designed to be powered by 2 c 0.46-0.55 or 4 c 0.70-0.81 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.
After fastening the round nut, make sure that the linkage connector can rotate freely.

Drill 2mm hole at servo horn.

Insert linkage connector into servo horn.

Make sure shoulder of screw is cleared from servo horn. Add washer to reduce play if necessary.

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.
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. 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>
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</thead>
<tbody>
<tr>
<td>KW0011800</td>
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<td>1 set</td>
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180mm Y-Cord

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<tr>
<td>KW0021800</td>
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<td>1 pc</td>
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Fuel Filler

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<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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Clevis Wrench

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<td>PL8210010</td>
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Charge Receptacles

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Standard Servo

<table>
<thead>
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<th>Package</th>
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<tbody>
<tr>
<td>SV4031</td>
<td>40.6x20x37mm</td>
<td>1 set</td>
</tr>
</tbody>
</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

Field Stand

<table>
<thead>
<tr>
<th>Code No.</th>
<th>Size</th>
<th>Package</th>
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</thead>
<tbody>
<tr>
<td>MS9111450</td>
<td>600 x 240 x 350mm</td>
<td>1 pc</td>
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