**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

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wing Span</td>
<td>90.0 in / 2290 mm</td>
</tr>
<tr>
<td>Wing Area</td>
<td>1482 sq in / 95.6 sq dm</td>
</tr>
<tr>
<td>Flying Weight</td>
<td>18.5 lbs / 8400 g</td>
</tr>
<tr>
<td>Fuselage Length</td>
<td>79.5 in / 2020 mm</td>
</tr>
</tbody>
</table>

* Specifications are subject to change without notice.*

FACTORY PRE-FABRICATED
ALMOST-READY-TO-FLY (ARF) SERIES
MADE IN CHINA
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.
- **C.A**: Apply instant glue (C.A. glue, super glue.)
- **L/R**: Assemble left and right sides the same way.
- **N.I.**: Must be purchased separately!
- **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!

INDEX

BEFORE YOU BEGIN
- Parts List
- Assembly
- Safety Precautions

P. 1

P. 2

P. 3-11

P. 11
Parts List

1. MAIN WING -- 1 pair
METAL HINGES -- 10 pcs

2. SCREW PM4x60mm -- 2 pcs
M4 NYLON INSERT LOCK NUT -- 2 pcs
SCREW PWA2x8mm -- 8 pcs
PUSHROD 2.5x95mm w/Threads (For Aileron) -- 2 pcs
HEAVY DUTY SERVO HORN PL4120250 -- 2 sets
HEAVY DUTY HORN BRACKET -- 2 sets
HEAVY DUTY CLEVIS PL4112200 -- 4 sets
SWIVEL CLEVIS HORN FAIRING PL4610010 -- 2 sets
SERVO MOUNTING PANEL (For Aileron Servos) -- 1 pair

3. FUSELAGE -- 1 pc.
STABILIZER & ELEVATOR -- 1 set
SCREW PA3x16mm -- 2 pcs
WASHER d3xD7mm -- 2 pcs
STABILIZER TUBE 16x321mm -- 1 pc.
METAL HINGES -- 6 pcs

4. VERTICAL FIN & RUDDER -- 1 set
METAL HINGES -- 3 pcs

5. TAIL LANDING GEAR -- 1 set
SCREW PA3x12mm -- 2 pcs
RUDDER WHEEL 30mm -- 1 pc., COLLAR 2.6mm w/setscrew -- 1 set

6. SCREW M4x80mm -- 1 pc.
M4 NYLON INSERT LOCK NUT -- 2 pcs
EYE SCREW M2.5x8x25mm w/Threads (For Rudder) -- 2 pcs
COPPER TUBE d2.5xD3.2x8mm (For Rudder) -- 2 pcs
LINKAGE CONNECTOR 2.1mm -- 1 set
HEAVY DUTY CLEVIS PL4112200 -- 2 sets
HEAVY DUTY SERVO HORN PL4120250 -- 2 sets
SWIVEL CLEVIS HORN FAIRING (Pull-Pull System) PL4610020 -- 1 set

7. PUSHROD 2.5x132mm w/Threads (For Elevator) -- 2 pcs
SCREW PM4x50mm -- 2 pcs
M4 NYLON INSERT LOCK NUT -- 2 pcs
HEAVY DUTY CLEVIS PL4112200 -- 4 sets
HEAVY DUTY HORN BRACKET -- 2 sets
SWIVEL CLEVIS HORN FAIRING (Pull-Pull System) PL4610020 -- 1 set

8. MAIN LANDING GEAR -- 1 set
MAIN LANDING GEAR COVER -- 1 pair
AXLE SHAFT 4x60mm (For Main Wheel) -- 2 pcs
SOCKET HEAD SCREW M4x16mm -- 4 pcs
SCREW PWA2.3x8mm -- 16 pcs
M8 NYLON INSERT LOCK NUT -- 2 pcs
WHEEL 90mm -- 2 pcs
COLLAR 4.1mm w/screw -- 4 sets
WHEEL PANTS -- 1 pair
ALUMINUM PLATE 1mm -- 1 pair
WHEEL PANT DECORATIVE COVER -- 1 pair
PLASTIC WHEEL COLLAR 4.1mm -- 2 pcs

9. FIREWALL 10x131x153mm(Plywood)(F1) -- 1 pc.
ENGINE BOX SIDE PLATE 5x99x280mm (F20 & F21A) -- 2 pcs
UPPER PLATE 2x120.1x153mm (F21A) -- 1 pc.
LOWER PLATE 2x125.2x153mm (F21) -- 1 pc.
FUEL TANK HOLDER(Front)(F45) 3x69x143mm -- 1 pc.
FUEL TANK HOLDER(Back)(F47) 3x88x143mm -- 1 pc.
BALSA 10x10x153mm (F21B) -- 1 pc.
BALSA 10x10x106mm (F22) -- 2 pcs
BALSA 10x10x87mm (F23) -- 4 pcs
BALSA 8x8x101mm (F22A) -- 2 pcs
BALSA 12x12x99mm (F24) -- 1 pc.
BALSA 12x12x99mm (F24A) -- 1 pc.
BALSA 10x10x86mm (F48) -- 2 pcs
BALSA 10x10x69mm (F46) -- 2 pcs
FUEL TANK 800cc (Gasoline Fuel) -- 1 set

10. FUEL TANK 800cc (Gasoline Fuel) -- 1 set

11. SCREW PM3x12mm -- 6 pcs
WASHER d3xD7mm -- 6 pcs
SILICON GROMMET (PL1265035) d1.5xD6.5mm -- 8 pcs
SPINNER (w/alu.back plate) 102mm -- 1 set
COWLING -- 1 pc.
TRANSPARENT 3D TEMPLATE-- 1 pc.

12. DECALS  A162DEC -- 1 set

13. COVERING:
TOUGHLON STL100 WHITE
TOUGHLON STL201 BLACK
TOUGHLON STL241 TURQUOISE
TOUGHLON STL311 FERRARI RED
TOUGHLON STL351 DARK BLUE
TOUGHLON STL360 VIOLET
1 Main Wing

- Bottom View

Replace CA hinges by metal hinges. Glue the metal hinges to wing and aileron by epoxy.

2 Aileron Servos

- Bottom View

<table>
<thead>
<tr>
<th>Component</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM4x60mm Screw</td>
<td>2</td>
</tr>
<tr>
<td>M4 Nylon Insert Lock Nut</td>
<td>2</td>
</tr>
<tr>
<td>PWA2x8mm Screw</td>
<td>8</td>
</tr>
<tr>
<td>PM2x12mm PL4120250</td>
<td></td>
</tr>
<tr>
<td>Heavy Duty Clevis</td>
<td></td>
</tr>
<tr>
<td>Heavy Duty Clevis</td>
<td></td>
</tr>
<tr>
<td>Heavy Duty Horn Bracket</td>
<td></td>
</tr>
<tr>
<td>Pushrod Ø2.5x95mm</td>
<td></td>
</tr>
<tr>
<td>PM2x8mm</td>
<td></td>
</tr>
<tr>
<td>PM4x60mm</td>
<td></td>
</tr>
<tr>
<td>PA1.7x8mm</td>
<td></td>
</tr>
</tbody>
</table>
3 Stabilizer & Elevator

- Replace CA hinges by metal hinges. Glue the metal hinges to stabilizer and elevator by epoxy.

4 Vertical Fin & Rudder

- Replace CA hinges by metal hinges. Glue the metal hinges to vertical and rudder by epoxy.
5 Tail Landing Gear

PA3x12mm Screw  2
2.5 mm Collar  1

PA3x12mm  2.5 mm Collar

M3x3mm Set Screw

6 Rudder Pullwire

M4x80mm Screw  1
M4 Nylon Inert Lock Nut  2

166mm  56mm

Press down the center 1/3 portion

Heavy Duty Horn Bracket
M4 Nylon Insert Lock Nut
PA1.7x8mm
M2 Nut
PM2x8mm
Heavy Duty Clevis
Eye Screw M2.5x8x25mm
Copper Tube

L/R

P. 5
7 Elevator Pushrod

**PM 4 x 50 mm Screw**
- 2

**M4 Nylon Inert Lock Nut**
- 2

8 Main Landing Gear

**4.1mm Collar**
- 2

**M4x16mm Socket Head Screw**
- 4

**PWA2.3x8mm Screw**
- 16

**PWA2.6x8mm Screw**
- 4

**4.1mm Plastic Collar**
- 4

**M8 Nylon Inert Lock Nut**
- 2

**3mm Set Screw**
- 4

**4.1mm Collar**
- 2

**Wheel**
- 2

**Socket Head Screw**
- M4x16mm

**Aluminum Plate**
- M8 Nut

**3mm Plastic Collar**
- 2

**Wheel Pant**
- 2

**PWA2.6x8mm**
- 1mm

**PWA2.3x8mm**
- 1mm

**PWA2.3x8mm**
- 3mm

**PWA2.3x8mm**
- 3mm

**PWA2.3x8mm**
- 3mm
9 Engine Box

• Use epoxy to glue all parts together.

Completed
10 Fuel Tank

Fuel Tank 800cc

Install Plywood 10x10x144mm (For Fuel Tank Position Fixing) (F49)

Top View

11 Engine

N.I.

12 Radio Equipment

Install and arrange the servo as shown in the diagram.

Press down the center 1/3 portion

Copper Tube
Heavy Duty Clevis
M2 Nut
Eye Screw PM2x6mm

Rudder Pullwire 1x100mm

F32

N.I. Battery

HEAVY DUTY SERVO HORN PL4120600

N.I. Rudder Servo

F31

N.I. Receiver

Sponge

Front

Eye Screw M2.5x8x25mm

Heavy Duty Clevis

F25

Throttle Pushrod 1.2x460mm

F33

F25

F30

F30A
13 Main Wing

Step 1. Insert the aluminum wing tube with the pre-drilled hole end into the right wing. Align the lines marked at the wing root and wing tube, then apply the PM3x35mm machine screw through the pre-drilled hole on top of the wing. (please confirm the alignment of the hole by putting a 2.5mm diameter rod through the pre-drilled wing hole before applying the screw.) The hole on the wing tube is pre-threaded, do not over tighten the PM3 screw, the set up is for future removal of the wing.

Step 2. Install the right wing to the fuselage by inserting the wing tube (now attached to the right wing) through the fuselage, then install the left wing.

Step 3. Make sure the wings are resting against the fuselage tightly. Locate the pre-drilled 2.5mm hole at top of left wing, and drill along with 2.5mm drill bit until it passes through the wing tube. Apply the PA3x35mm self-tapping screw.

Note: It is recommended that the wing tube stays with the left wing. Removal of the wings could be achieved by removing the right wing machine screw, the right wing then the left wing with wing tube. If removal of wing tube from left wing is also required, it is recommended that instead of applying self-tapping screw in step 3, you pre-tap with M3 thread cutter and apply M3 machine screw.

P. 9
14 Cowling

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

15 Canopy

- First insert the grommet to the canopy then apply screw.
16 Wing Setting

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

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

P. 11
17 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

Elevator

Aileron

The ideal C.G. position is 170mm (6.7 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.

18 C.G.

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.

# 28% EXTRA 330L is specially designed to be powered by 60cc gasoline 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.
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.

Shoulder

Tighten up the round nut against the shoulder. Apply CA or permanent thread locker.

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.

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.
Ducted Fan Pattern

Warbirds Funfly

Scale Electric

Sports Glider

Trainer Boat

Accessories

Covering

(Lightex /oughlon)