1/4 Clipped Wing Cub

0.91 cu. in. displacement 2-stroke
1.20-1.60 cu. in. displacement 4-stroke

Requires: 4 - channel radio w/ 4 high torque servos and 1 standard servo (throttle)

Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wing Span</td>
<td>88.0 in / 2240 mm</td>
</tr>
<tr>
<td>Wing Area</td>
<td>1330 sq in / 85.8 sq dm</td>
</tr>
<tr>
<td>Flying Weight</td>
<td>14.0-16.0 lbs / 6400-7300 g</td>
</tr>
<tr>
<td>Fuselage Length</td>
<td>65.0 in / 1650 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 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.)
- **N.I.**: Must be purchased separately!
- **L/R**: Assemble left and right sides the same way.
- **L/R**: 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!
1. MAIN WING -- 1 pair
2. PUSHROD Ø1.8x120mm w/ Threads (For Aileron Servo) -- 2 pcs
FUEL TUBE Ø6x5mm -- 4 pcs
STRAPER PL4112102 -- 2 pcs
SCREW PB3x20mm -- 6 pcs
SCREW PWA2x20mm -- 8 pcs
SERVO MOUNTING PANEL PL5310000 -- 1 pair
CLEVIS PL4112103 -- 2 pcs
TRI-HORN M3x22mm(L) -- 2 sets
3. SOCKET HEAD SCREW M3x15mm -- 12 pcs
WASHER d3xD7mm -- 8 pcs
M3 NUT -- 4 pcs
MAIN WING STRUTS -- 1 set
WING STRUT WIRE Ø3x1420x183mm -- 2 pcs
WIRE BRACKET PL5330030Y -- 8 pcs
4. FUSELAGE -- 1 pc.
FUEL TANK 500cc -- 1 set
CABLE TIE (For Fuel Tank) 1.5x5x400mm -- 1 pc.
DOUBLE-SIDED TAPE 40x100mm -- 1 pc.
5. ENGINE MOUNT PL5111080 -- 1 set
SOCKET HEAD SCREW M4x30mm -- 4 pcs
WASHER d4.2xD14.5mm -- 4 pcs
M4 BLIND NUT -- 4 pcs
6. ALUMINUM PLATE (For Engine Mount) -- 1 pc.
ANTI-VIBRATION MOUNT PL5214094 -- 1 set
INCLUDED: SOCKET HEAD SCREW M4x35mm -- 4 pcs
SCREW KM3x20mm -- 8 pcs
WASHER d3xD7mm -- 8 pcs
M3 NUT -- 8 pcs
7. SCREW PWA2.6x12mm -- 4 pcs
SILICON GROMMET d1.5xD6.5mm (For Cowling) -- 4 pcs
DUMMY ENGINE COVER -- 1 pair
COWLING -- 1 pc.
TRANSPARENT 3D TEMPLATE -- 1 pc.
8. SCREW PA3x12mm -- 2 pcs
SOCKET HEAD SCREW M3x14mm -- 2 pcs
WASHER d3xD7mm -- 2 pcs
ALUMINUM PLATE 2mm -- 2 pcs
9. MAIN LANDING GEAR -- 1 set
SCREW PA3x12mm -- 12 pcs
WASHER d3xD7mm -- 12 pcs
MOUNTING PLATE 12x20mm -- 6 pcs
10. SCREW PA1.7x8mm -- 6 pcs
SCREW PB2x16mm -- 6 pcs
COPPER TUBE ø2.5x3.2x8mm (For Rudder) -- 8 pcs
11. STABILIZER & ELEVATOR -- 1 set
12. VERTICAL FIN & RUDDER -- 1 set
13. TAIL GEAR ASSEMBLY 11-22LBS PL3410021 -- 1 set
SCREW PA3x14mm -- 3 pcs
SCREW PWA2x12mm -- 3 pcs
PLATE (For Staying on Tail FUSELAGE Bottom) 1.5x10x34mm -- 1 pc.
14. FLYING WIRE ø0.8x1300mm -- 1 pc.
FLYING WIRE BRACKET -- 6 pcs
FLYING WIRE BRACKET CLEVIS -- 4 pcs
EYE SCREW M1.6x8x12mm -- 4 pcs
SCREW PM2x16mm -- 6 pcs
SCREW PM2x8mm -- 4 pcs
M2 NUT -- 6 pcs
WASHER d2xD5mm -- 6 pcs
15. SCREW PB2x16mm -- 3 pcs
FUEL TUBE Ø6x5mm -- 1 pc.
CLEVIS PL4112103 -- 1 pc.
TRI-HORN M3x22mm(L) -- 1 set
PUSHROD ø1.8x1065mm w/ Threads (For Rudder Servo) -- 1 pc.
16. SCREW PB2x16mm -- 6 pcs
FUEL TUBE Ø6x5mm -- 2 pcs
CLEVIS PL4112103 -- 2 pcs
TRI-HORN M3x22mm(L) -- 2 sets
PUSHROD ø1.8x955mm w/ Threads (For Elevator Servo) -- 2 pcs
17. LINKAGE CONNECTOR ø2.1mm -- 1 set
18. PLYWOOD 3x152x218mm (For Fuselage Servo) -- 1 pc
19. FUEL TUBE Ø6x5mm -- 2 pcs
STRAPER PL4112102 -- 2 pcs
Nylon INSERT LOCK NUT M3 -- 8 pcs
Nylon INSERT LOCK NUT M4 -- 4 pcs
THROTTLE PUSHWIRE ø1.2x480mm -- 1 pc.
PLASTIC TUBE ø2x3x300mm -- 1 pc.
20. SCREW PWA2x12mm -- 4 pcs
Pilot PC001102A/B -- 1 set
SIDE WINDOWS -- 1 pair
COCKPIT BASE PANEL 3x145x165mm -- 2 pcs
21. SCREW PWA2.3x12mm -- 10 pcs
SILICON GROMMET ø1.5xD6.5mm (For Cowling) -- 4 pcs
DUMMY ENGINE COVER -- 1 pair
COWLING -- 1 pc.
TRANSPARENT 3D TEMPLATE -- 1 pc.
22. SCREW PA3x12mm -- 2 pcs
SOCKET HEAD SCREW M3x14mm -- 2 pcs
WASHER d3xD7mm -- 2 pcs
ALUMINUM PLATE 2mm -- 2 pcs
23. SOCKET HEAD SCREW M3x8mm -- 2 pcs
WASHER d3xD7mm -- 4 pcs
M3 NYLON INSERT LOCK NUT -- 2 pcs
24. DECALS: A057DEC -- 1 set

COVERING: --
(CUB YELLOW WITH THUNDER BOLT)
TOUGHLON STL 201 BLACK
TOUGHLON STL 331 CUB YELLOW (BLUE / WHITE SUNBURST)
TOUGHLON STL 100 WHITE
TOUGHLON STL 251 SKY BLUE
(RED / WHITE SUNBURST)
TOUGHLON STL 100 WHITE
TOUGHLON STL 312 BRIGHT RED
1 Main Wing

- Aileron Servo Lead

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.

- PB2x30mm Screw x 6
- PWA2x8mm Screw x 8

- Bottom View
### 3 Main Wing

- **M3x15mm Socket Head Screw**: 12
- **d3xD7mm Washer**: 8
- **M3 Nut**: 4

![Bottom View]

### 4 Fuel Tank

- **Cable Tie (For Fuel Tank)**: 1.5x5x400mm
- **Double-sided Tape 40x100mm**
- **Fuel Tank 500cc**

![Fuel Tank Diagram]

- **Completed**

- **Double-sided Tape 40x100mm**

![Completed Fuel Tank]
5 Engine Mount

- M4x30mm Socket Head Screw (4)
- d4.2xD14.5mm Washer (4)
- M4 Blind Nut (4)

- Engine Mount
- PL5111080

- Washer d4.2xD14.5mm

- Socket Head Screw M4x30mm

6 Engine

- M4x35mm Socket Head Screw (4)
- KM3x20mm Screw (8)
- d4xD12mm Washer (8)

- M3 NYLON INSERT LOCK Nut (4)
- M4 NYLON INSERT LOCK Nut (8)

ANTI-VIBRATION MOUNT INSTALLATION

1. Copper Tube d4.1xD5x67.2mm

2. Copper Tube d3.1xD4x7.2mm

- KM3x20mm

Make sure the rounded edges are facing the shock absorbing SILICON PAD.

- M3 Nylon Insert Lock Nut
- d4xD12mm Washer

- M4 Nylon Insert Lock Nut
- d4xD12mm Washer
- M4x35mm Socket Head Screw

- Installed Engine Position

- 147mm
- 5.79 in.

- Throttle Pushwire Ø1.2x480mm
- Plastic Tube d2xD3x300mm

A057PO29971404
7 Cowling

PWA2.6x12mm Screw 4

4 d1.5xD6.5mm Silicon Grommet 4

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

8 Wing Struts Mounting Bracket

M3x14mm Socket Head Screw 2

2 HM3x13mm Screw

2 d3xD7mm Washer

9 Main Landing Gear

PA3x12mm Screw 12

12 d3xD7mm Washer

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

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

11 Stabilizer & Elevator

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

12 Vertical Fin / Rudder

A057PO29971404  P.7
13 Tail Landing Gear

- **PA3x14mm Screw**
- **PWA2x12mm Screw**
- **Copper Plate 1.5x10x34mm**
- **3.1mm Collar**
- **M3x3mm Set Screw**

14 Flying Wire

- **PM2x16mm Screw**
- **PM2x8mm Screw**
- **M2 Nut**
- **d2xD5mm Washer**

15 Rudder Pushrod

- **PB2x16mm Screw**
- **Clevis**
- **Fuel Tube Ø6x5mm**
- **Tri-horn M3x22mm**
- **Pushrod Ø1.8x1065mm**
- **1/3 portion**

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**
16 Elevator Pushrod

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

PB2x16mm Screw

PB2x16mm

Tri-horn M3x22mm

Clevis Fuel Tube Ø6x5mm

Pushrod Ø1.8x995mm

17 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.

18 Servo Tray

Servo Tray

Plywood 3x152x218mm
Radio Equipment

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

Windows

- Left Side
- Right Side

Wind Shield

- Peel off shaded portion covering film
- L/R

19

20

21
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 and apply the HM3 x 30mm 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 M3 x 30mm 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 PA3 x 30mm self-tapping screw.

Note: It is recommended that the wing tube stays with the left wing. Removal of the wings could be acheived 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.
23 Main Wing

M3x8mm Socket Head Screw 2
d3xD7mm Washer 4
M3 Nylon Inert Lock Nut 2

M3x8mm M3 Nylon Inert Lock Nut

24 Wing Setting

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

25 Control Throws

Rudder  55mm  55mm

Elevator  40mm  40mm

Aileron  20mm  20mm

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

# 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.

# 1/4 Clipped Wing Cub is specially designed to be powered by 2C 0.91 or 4C 1.20 - 1.60 engine, using a morepowerful 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.

The ideal C.G. position is 112mm (4.41 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.
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.
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>
</tr>
</thead>
<tbody>
<tr>
<td>KW0011800</td>
<td>180mm</td>
<td>1 set</td>
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</table>

180mm Y-Cord

<table>
<thead>
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<th>Size</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>KW0021800</td>
<td>180mm</td>
<td>1 pc</td>
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</table>

Charge Receptacles

<table>
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<th>Size</th>
<th>Package</th>
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</thead>
<tbody>
<tr>
<td>KP0041300</td>
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Field Stand

<table>
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<tr>
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<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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Fuel Filter

<table>
<thead>
<tr>
<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>
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</tbody>
</table>

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

Clevis Wrench

<table>
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<th>Size</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>PL8210010</td>
<td></td>
<td>1 set</td>
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</table>

Standard Servo

<table>
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<tr>
<th>Code No.</th>
<th>SV4031</th>
</tr>
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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
Optional Parts

ACCESSORIES

Silicon Tubes

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<tr>
<th>Code No.</th>
<th>Size</th>
<th>Package</th>
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<tr>
<td>PT1113040</td>
<td>D4xd2mm 1m (Transparent)</td>
<td></td>
</tr>
<tr>
<td>PT1113060</td>
<td>D6xd2.5mm 1m (Transparent blue)</td>
<td></td>
</tr>
<tr>
<td>PT1113082</td>
<td>D6xd3.2mm 1m (Red)</td>
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</table>

Fuel Filter

<table>
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<tr>
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<tr>
<td>HW7120100</td>
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<td>1 pc</td>
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Wooden Field Stand (Painted)

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<th>Code No.</th>
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<th>Package</th>
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<tbody>
<tr>
<td>WF9112400</td>
<td>41-72x28x46.5cm</td>
<td>1 set</td>
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Wooden Field Box

<table>
<thead>
<tr>
<th>Code No.</th>
<th>Size</th>
<th>Package</th>
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<tbody>
<tr>
<td>WCR572032</td>
<td>57-92x20x32mm</td>
<td>1 set</td>
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<tr>
<td>WCC572032</td>
<td>57-92x20x32mm</td>
<td>1 set</td>
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Wind sock

<table>
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<tr>
<td>AT3001052</td>
<td>D260x900mm</td>
<td>1 pc</td>
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Adjustable Wheel Chock

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<tbody>
<tr>
<td>MS6120040</td>
<td>D40-90mm (wheel)</td>
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Detachable Transmitter Stand

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<tr>
<td>MS9111500</td>
<td>200x115mm</td>
<td>1 set</td>
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Accessories Box with assorted screws and hardwares

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<th>Code No.</th>
<th>Size</th>
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<tbody>
<tr>
<td>PB2000618</td>
<td>210x115x35mm</td>
<td>1 set</td>
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