PIPER J-3 CUB EP

Requires: 4-channel radio w/ 4 micro servos, Outrunner Motor w/ Propeller Adaptor 20A Brushless ESC, 3 cells 11.1V 2100mAh Li - Po battery & charger.

Specifications

<table>
<thead>
<tr>
<th>Description</th>
<th>Measurements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wing Span</td>
<td>48.5 in / 1230 mm</td>
</tr>
<tr>
<td>Wing Area</td>
<td>330 sq in / 21.3 sq dm</td>
</tr>
<tr>
<td>Flying Weight</td>
<td>28 oz / 800 g</td>
</tr>
<tr>
<td>Fuselage Length</td>
<td>30.0 in / 760 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 ......................................................... P. 1

Read through the manual before you begin, so you will have an overall idea of what to do.

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.

Symbols used throughout this instruction manual comprise of the following:

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

1. MAIN WING -- 1 pair
2. HORN -- 2 sets
   CLEVIS -- 2 pcs
   STRAPER -- 2 pcs
   FUEL TUBE d2xD4x4mm -- 4 pcs
   SCREW PB2x14mm -- 4 pcs
   SCREW PA1.7x8mm -- 8 pcs
   PUSHROD Ø1.4x69mm w/ Threads (For Aileron) -- 2 pcs
   SERVO MOUNTING PANEL -- 1 pair
3. WING JOINER 5x13x82mm -- 1 pc.
4. STABILIZER & ELEVATOR -- 1 set
   FUSELAGE -- 1 pc.
   SCREW PB2x8mm -- 2 pcs
   ELEVATOR LINK PL4510010 -- 1 pc.
   BALSA 3x6x7mm -- 1 pc.
5. VERTICAL FIN & RUDDER -- 1 set
6. TAIL LANDING GEAR -- 1 set
   SCREW PA2x8mm -- 2 pcs
   ALUMINUM PLATE 0.3mm -- 1 pc.
   SCREW PM2x8mm -- 1 pc.
   M2 NUT -- 1 pc.
7. FUEL TUBE d2xD4x4mm -- 1 pc.
   CLEVIS -- 1 pc.
   HORN -- 1 set
   SCREW PB2x8mm -- 2 pcs
   PUSHROD Ø1.4x413mm w/ Threads (For Rudder) -- 1 pc.
8. PUSHROD Ø1.4x403mm w/ Threads (For Elevator) -- 1 pc.
   FUEL TUBE d2xD4x4mm -- 1 pc.
   CLEVIS -- 1 pc.
9. FOLDING PROPELLER SET (10x6) -- 1 set
   SPINNER Ø36mm -- 1 set
   SCREW PM3x6mm -- 4 pcs
   WASHER d3xD7mm -- 4 pcs
   SCREW PWA2x8mm -- 4 pcs
   COWLNG -- 1 pc.
   DUMMY ENGINE COVER -- 1 pair
10. WIND SHIELD & SIDE WINDOWS -- 1 set
    SCREW PWA2x8mm -- 4 pcs
11. SPONGE 10x50x150mm -- 1 pc.
    DOUBLE-SIDED TAPE 30x35mm -- 1 pc.
    FUEL TUBE d2xD4x4mm -- 2 pcs
    BATTERY TIE -- 1 pc.
    STRAPER -- 2 pcs
12. MAIN LANDING GEAR Ø2.5mm -- 1 set
    MAIN WHEEL Ø50mm -- 2 pcs
    LANDING WIRE STRAPS (PL4114030) -- 3 pcs
    PVC PLATE 0.5x6x32mm (For Main Landing Gear) -- 2 pcs
    BALSA 22x73x80mm (Main Landing Gear Cover) -- 2 pcs
    SCREW PA2.6x10mm -- 6 pcs
    COLLAR Ø2.6mm w/ Set Screw -- 4 sets
    SCREW PM2x6mm -- 4 pcs
    WASHER d2xD6mm -- 4 pcs
    M2 NUT -- 4 pcs
    TRANSPARENT DECALS 20x70mm -- 4 pcs
    SCREW PM2x10mm -- 1 pc.
    WASHER d2xD5mm -- 1 pc.
    M2 NYLON INSERT LOCK NUT -- 1 pc.
    MOUNTING PLATE 5x15mm PL4114015 -- 1 pc.
    PLYWOOD 2x60.7x62.7mm -- 1 pc.
13. SCREW PM2.5x25mm -- 2 pcs
    WASHER d2.6xD7mm -- 2 pcs
    BALSA 6x25x82mm (Wing Protection) -- 1 pc.
14. SCREW PA2.3x8mm -- 6 pcs
    WING STRUTS -- 1 pair
15. DECALS -- 1 set

COVERING:--

LIGHTEX SGX 331 CUB YELLOW
1 Main Wing
- Apply instant type CA glue to both sides of each hinge.

Aileron Servo Lead

- Bottom View

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.

PB2x14mm Screw 4
PA1.7x8mm Screw 8

- Please choose either 02L & 02R or 03L & 03R or 04L & 04R that suits your servo.
3 Main Wing

- Please dry fit wing joiner into left and right wing to make sure they fit with the proper dihedral angle, mark the wing joiner if necessary. Apply epoxy glue to both sides of all surfaces in contact. Use a stick to apply the glue to inner side of wing joiner sleeve, and apply the glue to wing joiner before putting them together. Wing joiner not glued properly will lead to wing failure and plane crash.

4 Stabilizer & Elevator

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

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

- PA2x8mm Screw: 2
- PM2x8mm Screw: 1
- M2 Nut: 1

- Plastic Collar

7 Rudder Pushrod

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

- Pushrod Ø1.4x413mm
- Clevis
- Fuel Tube d2xD4x4mm
- Horn
- PB2x8mm
8 Elevator Pushrod

- Pushrod Ø1.4x403mm
- Clevis
- Fuel Tube d2xD4x4mm

- Bottom View

9 Outrunner Motor / Cowling

- Make sure rotating motor casing is not in contact with wirings or anything.

- Don’t over-tighten the PM3 screws, too much stress on the screws could split the firewall.

- Don’t over-tighten the PM2 screws, let the propeller blades align themselves when spinning.

- Completed
10 Wind Shield/ Side Window

PWA2x8mm Screw

1.5mm

L/R

11 Radio Equipment

Elevator Pushrod Ø1.4x403mm

20A Speed Controller

Elevator Servo

Battery

Battery Tie

Straper

Rudder Pushrod Ø1.4x413mm

Fuel Tube d2xD4x4mm

Rudder Servo

Double-Sided Tape

Sponge
15 Wing Setting

- Adjust the wing and fuselage configuration as shown in the diagrams.
16 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

25mm

25mm

Elevator

15mm

15mm

Aileron

10mm

10mm

17 C.G.

The ideal C.G. position is 50mm (2.0 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.

# Piper J-3 Cub EP is specially designed to be powered by KM0283010 Outrunner Motor.

# Make sure the air field is spacious, never fly the plane too close to people and never get too close to a running propeller. Extreme caution should be exercised when working with electric powered models. Make sure the propeller is cleared of all objects, especially your hands before connecting the battery to the model. Make sure you understand the operation of the ESC (Electronic Speed Control) by studying the ESC manual. Once you plug in the battery for electric powered model, always treat the propeller as a rotating one, as accidental movement of the throttle stick will spin the propeller and could cause injuries.

# 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.
Optional Parts

(ACCESSORIES)

3 - Pin EZ Connector

<table>
<thead>
<tr>
<th>Code No.</th>
<th>Size</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>KP0011310</td>
<td>40A Max. Current</td>
<td>1 set</td>
</tr>
</tbody>
</table>

-ideal for electric models

Propeller Adaptor Wrench

<table>
<thead>
<tr>
<th>Code No.</th>
<th>Size</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>HW3111400</td>
<td></td>
<td>1 pc</td>
</tr>
</tbody>
</table>

Clevis Wrench

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

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

Brushless ESC

<table>
<thead>
<tr>
<th>Code No.</th>
<th>Size</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>KC2025A02A</td>
<td>24x45x11mm</td>
<td>1 pc</td>
</tr>
</tbody>
</table>

- Voltage Range: 5.6 ~ 16.8V
- Current: 25A continuous
- Current (Burst, <10 seconds): 35A
- Weight: 24 g  
  (with wires and connector)
- BEC: 5V / 2A
- Low Voltage Cut-off:
- Light weight with low internal resistance for high current operation.
- BEC function for Li-ion / Li-poly
  - 2-4 cells; Nimh / Nicd 5-12 cells operation.
- Low battery voltage auto cut off to reserve power to the servos.
- Safe start up motor.

2 - Pin EZ Connector

<table>
<thead>
<tr>
<th>Code No.</th>
<th>Size</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>KP0011210</td>
<td>40A Max. Current</td>
<td>1 set</td>
</tr>
</tbody>
</table>

-ideal for electric models

Propeller Adaptor

<table>
<thead>
<tr>
<th>Code No.</th>
<th>Size</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>HW2340100</td>
<td>d3xD5</td>
<td>1 set</td>
</tr>
</tbody>
</table>

Outrunner 28/30

<table>
<thead>
<tr>
<th>Code No.</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>KM0283010</td>
<td></td>
</tr>
</tbody>
</table>

- Max speed: 12000 rpm
- Kv (rpm/V): 1015
- Operating Power: 180W
- Operating Voltage: 6-12V
- Operating Current: 15A
- Peak Current: 20A (max. 15 sec.)
- Internal Resistance: 95 m ohms
- Diameter: 28mm
- Length: 30mm
- Weight: 60g
- Shaft Diameter: 3mm
- Shaft Length: 14.8 mm
- Mounting Screw: M3
- Distance of Mounting Holes: Front (16mm and 19mm)
Ducted Fan

Pattern

Warbirds

Funfly

Scale

Electric

Sports

Glider

Trainer

Boat

Accessories

Covering
(Lightex / Toughlon)

The World Models
Manufacturing Co., LTD.
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