Specifications

- **Wing Span**: 39.5 in / 1000 mm
- **Wing Area**: 421 sq in / 27.2 sq dm
- **Flying Weight**: 25.4 oz / 720 g
- **Fuselage Length**: 39.5 in / 1000 mm

*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:

- 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!
- Apply instant glue (C.A. glue, super glue.)
- Ensure smooth non-binding movement while assembling.
- Cut off shaded portion.
- Must be purchased separately!
- Pierce the shaded portion covering film.
- ! Warning! Do not overlook this symbol!
### Parts List

1. **MAIN WING** -- 1 pair

2. **PUSHROD Ø1.4x90mm w/ Threads (For Aileron)** -- 2 pcs  
   - **STRAPER** PL4112106 -- 2 pcs  
   - **FUEL TUBE** d2xD4x4mm -- 4 pcs  
   - **HORN** PL4113102 -- 2 sets  
   - **SCREW** PB2x10mm -- 4 pcs

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

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

5. **TAIL LANDING GEAR PL3410030** -- 1 set  
   - **TAIL WHEEL** Ø23mm -- 1 pc.  
   - **ALUMINUM PLATE** 0.3mm -- 1 pc.  
   - **SCREW** PA2x8mm -- 2 pcs  
   - **SCREW** PM2x8mm -- 1 pc.  
   - **M2 NUT** -- 1 pc.

6. **MAIN LANDING GEAR** -- 1 set  
   - **MAIN WHEEL** Ø40mm PL3116040 -- 2 sets  
   - **COLLAR** 2.6mm w/ set screw -- 2 pcs  
   - **LANDING WIRE STRAPS** PL4114030 -- 3 pcs  
   - **SCREW** PA2.3x10mm -- 6 pcs

7. **PUSHROD Ø1.4x443mm w/ Threads (For Elevator)** -- 2 pcs  
   - **CLEVIS** PL4112105 -- 2 pcs  
   - **SCREW** PB2x10mm -- 4 pcs  
   - **FUEL TUBE** d2xD4x4mm -- 2 pcs

8. **PUSHROD Ø1.4x497mm w/ Threads (For Rudder)** -- 1 pc.  
   - **CLEVIS** PL4112105 -- 1 pc.  
   - **FUEL TUBE** d2xD4x4mm -- 1 pc.  
   - **SCREW** PB2x10mm -- 2 pcs

9. **FOLDING PROPELLER SET(10x6) PL6314020** -- 1 set  
   - **SPINNER** Ø36mm PL21R3610/PL21SB360 -- 1 set  
   - **COWLING** -- 1 pc.  
   - **SCREW** PWA2x8mm -- 4 pcs  
   - **SCREW** PM2x10mm -- 2 pcs  
   - **SOCKET HEAD SCREW** M3x6mm -- 4 pcs  
   - **WASHER** d3xD7mm -- 4 pcs

10. **PUSHROD Ø1.4x40mm (For Elevator)** -- 1 pc.  
    - **PUSHROD CONNECTOR** PL4410020 -- 1 set  
    - **FUEL TUBE** d2xD4x4mm -- 2 pcs  
    - **STRAPER** PL4112106 -- 2 pcs  
    - **SPONGE** 10x50x150mm -- 2 pcs  
    - **BATTERY TIE** 200mm -- 1 pc.  
    - **DOUBLE-SIDED TAPE** 30x35mm -- 1 pc.  
    - **SCREW** PM2x10mm -- 2 pcs  
    - **WASHER** d2xD5mm -- 2 pcs  
    - **M2 NYLON INSERT LOCK NUT** -- 2 pcs  
    - **MOUNTING PLATE** PL4114015 -- 2 pcs  
    - **PLYWOOD** 2x56x95mm -- 1 pc.  
    - **BALSAL 1.5x56x205mm** -- 1 pc.

11. **CANOPY** -- 1 pc.  
    - **SCREW** PWA2x8mm -- 4 pcs

12. **EYE SCREW** PA2.5x10x23mm AM1180105 -- 2 pcs  
    - **WING TUBE** Ø8.6x240mm -- 1 pc.  
    - **RUBBER BAND** Ø30x1mm -- 2 pcs

13. **DECALS:** E288SDEC -- 1 set

● **COVERING:**  
   - LIGHTEX SGX000 TRANSPARENT  
   - LIGHTEX SGX030 TRANSPARENT YELLOW  
   - LIGHTEX SGX100 WHITE  
   - LIGHTEX SGX050 TRANSPARENT BLUE  
   - LIGHTEX SGX241 TURQUOISE  
   - LIGHTEX SGX360 VIOLET  
   - LIGHTEX SGX330 CADMIUM YELLOW  
   - LIGHTEX SGX313 PINK  
   - LIGHTEX SGX201 BLACK  
   - LIGHTEX SGX251 SKY BLUE  
   - LIGHTEX SGX250 BLUE  
   - LIGHTEX SGX311 FERRARI RED  
   - LIGHTEX SGX310 RED

E228SXMP025581107

P.2
1 Main Wing

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

2 Aileron Servo

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

3 Stabilizer & Elevator

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

- Apply instant type CA glue to both sides of each hinge.
4 Vertical Fin & Rudder

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

5 Tail Landing Gear

EB2x8mm Screw 2

Wheel Ø23mm
PA2X8mm
Plastic Collar
M2 Nut
PM2X8mm
6 Main Landing Gear

- **PA2 .3x10mm Screw**
- **2.6mm Collar**

![Image](Image_1.png)

- **2.6mm Collar**
- **M3x3mm Set Screw**

7 Elevator Pushrod

- **PB2x10mm Screw**

![Image](Image_2.png)

- **PB2x10mm**
- **Horn**
- **Fuel Tube Ø4x4mm**

8 Rudder Pushrod

- **PB2x10mm Screw**

![Image](Image_3.png)

- **PB2x10mm**
- **Horn**
- **Fuel Tube Ø4x4mm**

---

- Ø1mm pilot holes for World Models horn are pre-drilled.
- Please look for pin-hole marks at under side of control surfaces.
9 Outrunner Motor & Cowling

- 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.

Optional Parts

- M3x6mm Socket Head Screw 4
- PM2 x 12mm Screw 2
- PWA2 x 8mm Screw 4
- d3 x D7mm Washer 4

1. Outrunner Motor 28/30 KM0283010
2. Propeller Adaptor (d3 x D5) HW2340100
3. N.I.

Solder

4. PM2 x 12mm
5. M5 Nut

6. PA2.6 x 8mm

Spinner Ø36mm

Optional Parts

- TWM KP0011310 Solder
- TWM HW3111400 PROPELLER ADAPTOR WRENCH
Install and arrange the servos as shown in the diagram.

### Radio Equipment

- **PM2 x10mm Screw**: 2
- **M2 Nylon Insert Lock Nut**: 2
- **d2 x D5mm Washer**: 2

![Radio Equipment Diagram]

### Canopy

- **PWA2x8mm Screw**: 4

![Canopy Diagram]
12 Main Wing

Eye Screw PA2.5x10x23mm

Wing Tube Ø9.6x240mm

Lead to Aileron Servo

Rubber Band

Bottom View
13 Wing Setting

- Adjust the wing fuselage configuration as shown in the diagrams.
**13 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.

- **Elevator**
  - 20mm
- **Rudder**
  - 45mm
- **Ailerons**
  - 15mm

**14 C.G.**

The ideal C.G. position is 90mm (3.54 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.

# **FUN WORLD-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

### 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

### Clevis Wrench

<table>
<thead>
<tr>
<th>Code No.</th>
<th>Size</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>PI8210010</td>
<td></td>
<td>1 set</td>
</tr>
</tbody>
</table>

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

### 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>1 pc</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)

### 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.