Before commencing assembly, please read these instructions thoroughly.

SUNRISE EP

Specifications

Wing Span: 39.5 in / 1000 mm
Wing Area: 292 sq in / 18.8 sq dm
Flying Weight: 27 oz / 760 g
Fuselage Length: 40.5 in / 1030 mm
Requires: 4-channel radio w/ 4 micro servos. Outrunner Motor KM0283010 w/ Propeller Adaptor HW2340100 20A Brushless ESC, 3 cells 11.1V 15C 1800 mAh Li-Po battery & charger.

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.

* Specifications are subject to change without notice.*

THE WINGS MAKER
FACTORY PRE-FABRICATED ALMOST-READY-TO-FLY (ARF) SERIES
MADE IN CHINA
www.thewingsmaker.com

GM040PO27791202
BEFORE YOU BEGIN

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 instant glue
  (C.A.glue, super glue.)
- Apply thread locker
- Must be purchased separately!
- Assemble left and right sides the same way.
- 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!
- Do not overlook this symbol!
Parts List

1. MAIN WING -- 1 pair
   MICRO AILERON SERVO MOUNT PL5310020 -- 1 pair
   STRAPER PL4112106 -- 2 pcs
   CLEVIS PL4112105 -- 2 pcs
   FUEL TUBE d2xD4x4mm -- 4 pcs
   HORN PL4113103 -- 2 pcs
   PUSHROD Ø1.4x65mm w/ Threads (For Aileron) -- 2 pcs
   SCREW PA1.7x8mm -- 8 pcs
   FIBRE TAPE 17x300mm -- 2 pcs
   PLYWOOD 36.7x36.7x3mm -- 2 pcs

2. FUSELAGE -- 1 set
   STABILIZER & ELEVATOR -- 1 set
   FIBRE TAPE 17x380mm -- 1 pc.

3. VERTICAL FIN & RUDDER -- 1 set
   FIBRE TAPE 17x175mm -- 1 pc.
   PLYWOOD 36.7x36.7x3mm -- 1 pc.

4. TAIL LANDING GEAR PL3410030 -- 1 set
   SCREW PA2x8mm -- 2 pcs
   PLYWOOD 36.7x36.7x3mm -- 1 pc.

5. MAIN LANDING GEAR -- 1 set
   MAIN WHEEL Ø40mm PL3116040 -- 2 pcs
   WOODEN COLLAR Ø2.6mm -- 2 pcs
   COLLAR Ø2.6mm w/ Set Screw -- 2 sets
   SCREW PA2x8mm -- 1 pc.
   SCREW PWA2x6mm -- 4 pcs
   PLYWOOD 48x35.7x2.5mm (For Main Landing Gear) -- 1 pc.
   MOUNTING PLATE 12x20mm -- 2 pcs
   WHEEL PANTS -- 1 pair
   LANDING GEAR COVERS -- 2 pcs

6. MICRO AILERON SERVO MOUNT PL5310020 -- 1 pc.
   SCREW PA1.7x8mm -- 4 pcs
   FUEL TUBE d2xD4x4mm -- 2 pcs
   CLEVIS PL4112105 -- 1 pc.
   STRAPER PL4112106 -- 1 pc.
   HORN PL4113103 -- 1 pc.
   PUSHROD Ø1.4x135mm w/ Threads (For Elevator) -- 1 pc.

7. MICRO AILERON SERVO MOUNT PL5310020 -- 1 pc.
   SCREW PA1.7x8mm -- 4 pcs
   FUEL TUBE d2xD4x4mm -- 2 pcs
   CLEVIS PL4112105 -- 1 pc.
   STRAPER PL4112106 -- 1 pc.
   HORN PL4113103 -- 1 pc.
   PUSHROD Ø1.4x130mm w/ Threads (For Rudder) -- 1 pc.

8. SOCKET HEAD SCREW M3x6mm -- 4 pcs
   SCREW PM2x12mm -- 2 pcs
   SCREW PA2.6x8mm -- 2 pcs
   WASHER d3xD7mm -- 4 pcs
   SPINNER Ø45mm SP27045BKO -- 1 pc.
   10x6 FOLDING PROPELLER SET PL6314020 -- 1 set

9. WING TUBE Ø6x458mm -- 1 pc.
   RUBBER BAND 4x30mm -- 2 pcs

10. COCKPIT -- 1 pc.
    BATTERY TIE 200mm-- 1 pc.
    SPONGE 10x50x150mm (For Radio Equipment & Battery) -- 2 pcs
    DOUBLE-SIDED TAPE 30x35mm (For Brushless ESC) -- 1 pc.

11. DECALS: GM040 DEC -- 1 set
Please choose either (02L&02R) or (03L&03R) or (04L&04R) that suits your servo.
2 Stabilizer & Elevator

- Bottom View

Fibre Tape 17x380 mm

- Bottom View

3 Vertical Fin & Rudder

- Completed

Fibre Tape 17x175 mm

- Completed

Plywood 36.7x36.7x3 mm

- Completed

Joining surfaces should be clean and dry. Slightly roughen surfaces with sandpaper for best results.

4 Tail Landing Gear

PA2x8mm Screw 2

PA2x8mm Wheel Ø23mm

PA2x8mm

- Bottom View

Joining surfaces should be clean and dry. Slightly roughen surfaces with sandpaper for best results.

Plywood 36.7x36.7x3mm

- Bottom View
5 Main Landing Gear

![Diagram of Main Landing Gear]

- **PA2x8mm Screw**: 1
- **PWA2x6mm Screw**: 4
- **2.6mm Collar w/ Set Screw**: 2

- **Boeing Gear Covers**: 2
- **Landing Gear**
- **Fuselage**
- **Wheel Ø40mm**
- **Wheel Pants**
- **Mounting Plate 12x20mm**
- **M3x3mm Set Screw**
- **2.6mm Collar**

- **Completed**

- **Please choose either (02L&02R) or (03L&03R) or (04L&04R) that suits your servo.**

6 Elevator Pushrod

![Diagram of Elevator Pushrod]

- **PA1.7x8mm Screw**: 4

- **Elevator Pushrod Ø1.4x135mm**
- **Fuel Tube d2x0.4x4.4mm**
- **Striper**
- **Clevis**
- **Horn**

- **Bottom View**
7 Rudder Pushrod

- PA1.7x8 mm Screw (4)

- Please choose either (02L&02R) or (03L&03R) or (04L&04R) that suits your servo.

8 Outrunner Motor / Spinner

- M3x6mm Socket Head Screw (4)
- PM2x12mm Screw (2)
- PA2.6x8mm Screw (2)
- d3xD7mm Washer (4)

- Optional Parts
  - Outrunner Motor 28/30 KM0283010
  - Propeller Adaptor (d3x35) HW2340100
  - Clevis
  - Clevis Wrench
  - Folding Propeller Set PL6314020

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

- Don’t over-tighten the M3 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
9 Main Wing

- Install and arrange the equipment as shown in the picture.

10 Radio Equipment

- Install and arrange the equipment as shown in the picture.
Adjust the control throws as shown in the diagram. These throws are good for general flying. You can adjust according to your personal preference.
**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.

# **SUNRISE 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.

# Check and re-tighten up all factory assembled screws, use thread locker if necessary.


The ideal C.G. position is 95mm (3.75in.) 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.
Optional Parts

(3WM 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

Clevis Wrench

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

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

Propeller Adaptor Wrench

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

Outrunner 28/ 32 Deluxe (25% higher power)

<table>
<thead>
<tr>
<th>Code No.</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>KM02832R1</td>
<td>1 pc</td>
</tr>
</tbody>
</table>

• Kv(rpm/V): 1010
• Operating Power: 225W
• Operating Voltage: 6-15V
• Operating Current: 15A
• Peak Current: 20A (max. 15 sec.)
• Internal Resistance: 102 m ohms
• Diameter: 28mm
• Length: 32mm
• Weight: 60g
• Shaft Diameter: 3mm
• Shaft Length: 15mm
• Mounting Screw: M3 (Front) and M2 (Back)
• Distance of Mounting Holes: 16mm and 19mm (Front), 12mm (Back)

Propeller Adaptor

<table>
<thead>
<tr>
<th>Code No.</th>
<th>Size</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>HW2340100</td>
<td>d3x5</td>
<td>1 set</td>
</tr>
</tbody>
</table>

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.