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.

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

Wing Span: 36.5 in / 930 mm
Wing Area: 346 sq in / 22.3 sq dm
Flying Weight: 19-23 oz / 540-650 g
Fuselage Length: 41.5 in / 1055 mm
Requires: 4-channel radio w/ 4 micro servos. Outrunner Motor KM0283010 w/ Propeller Adaptor HW2340100 20A Brushless ESC, 2 cells 7.4V 15C 1300 mAh (indoor flying) to 3 cells 11.1V 15C 1800 mAh (outdoor flying) Li-Po battery & charger.

* Specifications are subject to change without notice.*
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 :-

1. Apply epoxy glue.
2. Apply instant glue (C.A.glue, super glue.)
3. Apply thread locker
4. Must be purchased separately!
5. Assemble left and right sides the same way.
6. Ensure smooth non-binding movement while assembling.
7. Peel off shaded portion covering film.
8. Cut off shaded portion.
9. Drill holes with the specified diameter (here: 3mm).
10. Pierce the shaded portion covering film.
11. Pay close attention here!
12. Warning! Do not overlook this symbol!
Parts List

1. MAIN WING -- 1 pair
   SCREW PB2x22mm -- 4 pcs
   STRAPER PL4112106 -- 2 pcs
   CLEVIS PL4112105 -- 2 pcs
   HORN PL4113102 -- 2 sets
   FUEL TUBE d2xD4x4mm -- 4 pcs
   PUSHROD Ø1.4x60mm w/ Threads (For Aileron) -- 2 pcs
   FIBRE TAPE 17x420mm -- 2 pcs

2. FUSELAGE -- 1 set
   STABILIZER & ELEVATOR -- 1 set
   FIBRE TAPE 17x300mm -- 1 pc.

3. VERTICAL FIN & RUDDER -- 1 set
   FIBRE TAPE 17x200mm -- 1 pc.

4. TAIL LANDING GEAR PL3410030 -- 1 set
   SCREW PA2x10mm -- 2 pcs

5. MAIN LANDING GEAR -- 1 set
   MAIN WHEEL Ø40mm PL3116040 -- 2 pcs
   COLLAR Ø2.6mm w/ Set Screw -- 2 sets
   SCREW PA2x8mm -- 2 pcs
   PLYWOOD 26x40x2.5mm (For Main Landing Gear) -- 1 pc.

6. SCREW PB2x18mm -- 2 pcs
   FUEL TUBE d2xD4x4mm -- 2 pcs
   CLEVIS PL4112105 -- 1 pc.
   STRAPER PL4112106 -- 1 pc.
   HORN PL4113102 -- 1 set
   PUSHROD Ø1.4x50mm w/ Threads (For Elevator) -- 1 pc.

7. SCREW PB2x18mm -- 2 pcs
   FUEL TUBE d2xD4x4mm -- 2 pcs
   CLEVIS PL4112105 -- 1 pc.
   STRAPER PL4112106 -- 1 pc.
   HORN PL4113102 -- 1 set
   PUSHROD Ø1.4x125mm w/ Threads (For Rudder) -- 1 pc.

8. SCREW PM3x6mm -- 4 pcs
   SCREW PM2x12mm -- 2 pcs
   SCREW PA2.6x8mm -- 2 pcs
   WASHER d3xD7mm -- 4 pcs
   SPINNER Ø45mm -- 1 pc.
   FOLDING PROPELLER SET PL6314020 -- 1 set

9. WING TUBE Ø6x360mm -- 1 pc.
   RUBBER BAND 1x30mm -- 2 pcs

10. BATTERY COVER -- 1 pc.
    BATTERY TIE 200mm -- 1 pc.
    SPONGE 10x50x150mm (For Radio Equipment) -- 1 pc.
    DOUBLE-SIDED TAPE 30x35mm (For Brushless ESC) -- 1 pc.

11. DECALS: GE039 DEC -- 1 set
Please do not overtighten PB2x22mm screw. Once the screw brings the horn and backplate in contact with the foam, add 1/2 turn will do. Overtightening will damage the foam.

- Bottom View
- Bottom View
- Bottom View

Ø1mm pilot holes for The Wings Maker horn are pre-drilled. Please look for pin-hole marks at underside of control surfaces.
2 Stabilizer & Elevator

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

3 Vertical Fin & Rudder

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

4 Tail Landing Gear

- PA2x10mm Screw 2
- PA2x10mm Wheel Ø23mm
- Plastic Collar

Joining surfaces should be clean and dry. Slightly roughen surfaces with sandpaper for best results.
5 Main Landing Gear

- **PA2x8mm Screw**: 2
- **2.6mm Collar**: 2

![Bottom View](image1)

- **Bottom View**

- **Plywood**: 26x40x2.5mm
- **Wheel Ø40mm**
- **2.6mm Collar**
- **PB2x18mm Screw**: 2

6 Elevator Pushrod

- **Ø1mm pilot holes for The Wings Maker horn are pre-drilled. Please look for pin-hole marks at under side of control surfaces.**

![Bottom View](image2)

- **Bottom View**

- **Please do not overtighten PB2x18mm screw. Once the screw brings the horn and backplate in contact with the foam, add 1/2 turn will do. Overtightening will damage the foam.**
Rudder Pushrod

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

- Please do not overtighten PB2x18mm screw. Once the screw brings the horn and backplate in contact with the foam, add 1/2 turn will do. Overtightening will damage the foam.

Outrunner Motor / Spinner

- 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
9 Main Wing

- Rubber Band

10 Radio Equipment

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

- Outrunner Motor
- Battery
- Receiver
- Battery Tie
- Sponge
- Brushless ESC
- Double Sided Tape
- Battery Cover

Completed
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**: 50mm 50mm
- **Rudder**: 60mm 60mm
- **Ailerons**: 40mm 40mm
**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.

# **Handyman 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.
Optional Parts

**ACCESSORIES**

### 3 - Pin EZ Connector
- **Code No.:** KP0011310
- **Size:** 40A Max. Current
- **Package:** 1 set

- Ideal for electric models

### 2 - Pin EZ Connector
- **Code No.:** KP0011210
- **Size:** 40A Max. Current
- **Package:** 1 set

- Ideal for electric models

### Clevis Wrench
- **Code No.:** PI8210010
- **Size:** Small & Large Clevis
- **Package:** 1 set

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

### Propeller Adaptor
- **Code No.:** HW2340100
- **Size:** d3x5
- **Package:** 1 set

### Outrunner 28/30
- **Code No.:** KM0283010
- **Size:** 1 pc

- 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
- **Code No.:** KC2025A02A
- **Size:** 24x45x11mm
- **Package:** 1 pc

- 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: / finishes
- 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.