Before commencing assembly, please read these instructions thoroughly.

Ultimate EP (GM052)

Specifications

- Wing Span: 32.5 in / 825 mm
- Wing Area: 357 sq in / 23 sq dm
- Flying Weight: 24 oz / 680 g
- Fuselage Length: 34 in / 870 mm
- Requires: 4-channel radio w/ 3 micro servos. Outrunner Motor KM0283011 w/ Propeller Adaptor HW2340100 20A Brushless ESC, 3 cells 11.1V 1300 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

GM052XMPO28951303
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. For pre-assembled kits, please check proper functions of all servos on the ground before flying. Servo gears could be damaged when control surfaces are hit during transportation of models. The manufacturer will replace any servos due to manufacturer’s defect, but will not cover plane crashes due to damaged servos not detected before flying.

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 set
   PLASTIC BRACKET -- 2 pcs
   FIBRE TAPE 17x380mm -- 4 pcs

2. BALL Joint CONTROL ARM PL4203100 -- 2 sets
   SCREW PM2.5x12mm -- 2 pcs
   WASHER d2.5xD8mm -- 2 pcs
   PUSHROD Ø1.4x92mm w/ Threads (For Aileron) -- 2 pcs
   STRAPER PL4112106 -- 2 pcs
   FUEL TUBE d2xD4x4mm -- 2 pcs

3. FUSELAGE -- 1 set
   STABILIZER & ELEVATOR -- 1 set
   FIBRE TAPE 17x240mm -- 1 pc.

4. VERTICAL FIN & RUDDER -- 1 set
   FIBRE TAPE 17x215mm -- 1 pc.
   PLASTIC BRACKET -- 2 pcs

5. TAIL LANDING GEAR PL3410030 -- 1 set
   SCREW PA2x8mm -- 2 pcs
   TAIL WHEEL Ø23mm PL3510230 -- 1 pc.
   PLASTIC BRACKET -- 2 pcs

6. MAIN LANDING GEAR -- 1 set
   COLLAR Ø2.6mm w/ Set Screw -- 2 sets
   PLYWOOD COLLAR Ø8x2mm -- 2 pcs
   MAIN WHEEL Ø40mm PL3116040 -- 2 pcs
   SCREW PA2.6x8mm -- 1 pc.
   PLYWOOD 26x20.4x2.5mm (For Main Landing Gear) -- 1 pc.
   MAIN LANDING GEAR COVER -- 1 pair
   WHEEL PANT -- 1 pair
   MOUNTING PLATE PL4114020 -- 2 pcs
   SCREW PWA2x6mm -- 4 pcs

7. CLEVIS PL4112105 -- 1 pc.
   STRAPER PL4112106 -- 1 pc.
   HORN PL4113103 -- 1 pc.
   PUSHROD Ø1.4x73mm w/ Threads (For Elevator) -- 1 pc.
   FUEL TUBE d2xD4x4mm -- 2 pcs

8. CLEVIS PL4112105 -- 1 pc.
   STRAPER PL4112106 -- 1 pc.
   HORN PL4113103 -- 1 pc.
   PUSHROD Ø1.4x133mm w/ Threads (For Rudder) -- 1 pc.
   FUEL TUBE d2xD4x4mm -- 2 pcs

9. SOCKET HEAD SCREW M3x6mm -- 4 pcs
   WASHER d3xD7mm -- 4 pcs
   SPINNER Ø36mm -- 1 set
   PROPELLER PL6314050 -- 1 set

10. CANOPY -- 1 pc.

11. SIDE CABANE -- 2 pcs
    CENTER CABANE -- 1 pc.

12. PUSHROD Ø1.4x125mm w/ Threads (For Elevator) -- 2 pcs
    CLEVIS PL4112105 -- 4 pcs
    HORN PL4113103 -- 4 pcs
    FUEL TUBE d2xD4x4mm -- 4 pcs

13. BATTERY COVER -- 1 pc.
    BATTERY TIE 160mm-- 1 pc.
    BATTERY MAT 2x50x150mm -- 2 pcs
    DOUBLE-SIDED TAPE 30x35mm (For Brushless ESC) -- 1 pc.

14. DECALS: GM052 DEC -- 1 set

GM052XMPO28951303
1. **Main Wing**

   **Upper**
   - Fibre Tape
   - Bottom View

   **Lower**
   - Plastic Bracket
   - Fibre Tape 17x380 mm
   - Bottom View

2. **Aileron Servo Lower Wing**

   - **PM2.5 x 12mm Screw**
     - 2
   - **d2.5x08mm Washer**
     - 2
   - **Ball Joint Control Arm**
   - **Washer d2.5x08mm**
   - **PM2.5x12mm**
   - **Straper**
   - **Fuel Tube d2x04x4mm**
   - **Pushrod Ø1.4x92mm**
   - Bottom View

---

GM052XMPO28951303 P.3
3 Stabilizer & Elevator

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

Fibre Tape 17x240 mm

Bottom View

4 Vertical Fin & Rudder

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

Fibre Tape 17x215 mm

Bottom View

5 Tail Landing Gear

PA2x8mm Screw 2

PA2x8mm Wheel Ø23mm

Plastic Bracket

Bottom View
6 Main Landing Gear

- PA2.6x8mm Screw (1)
- PWA2x6mm Screw (4)
- 2.6mm Collar w/ Set Screw (2)
- Plywood 26x20.4x2.5mm
- PA2.6x8mm
- Landing Gear
- Bottom View
- Completed
- Bottom View
- Landing Gear Covers
- Mounting Plate 12x20mm
- PWA2x6mm
- Wheel Pants Ø40mm
- Wheel Ø40mm
- Plywood Collar Ø8x2mm
- M3x3mm Set Screw

7 Elevator Pushrod

- Pushrod Ø1.4x73mm
- Fuel Tube d2xD4x4mm
- Clevis
- Horn
- Straper
- Bottom View

GM052XMPO28951303 P.5
8 Rudder Pushrod

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

9 Outrunner Motor / Spinner

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

**Optional Parts**

- M3x6mm Socket Head Screw 4
- PM2x12mm Screw 2
- PA1.7x8mm Screw 1
- d3xD7mm Washer 2

**Completed**

- Pushrod Ø1.4x133mm
- Fuel Tube d2xD4x4mm
- Clevis
- Horn
- Straper
- 90° Horn
- Fuel Tube d2xD4x4mm
- PM2x12mm
- PM2x12mm
- PA1.7x8mm
- Ø36mm Spinner
10 Canopy

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

11 Wing Setting

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

- Horn
- Clevis
- Fuel Tube d2xD4x4mm
- Pushrod Ø1.4x125mm
- Horn

13 Radio Equipment

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

- Battery Tie
- Battery
- Receiver
- Battery Mat

- Battery Cover

- Completed
14 Decals
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.

# **Ultimate EP** is specially designed to be powered by KM0283011 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.

---

**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.

---

**C.G.**

The ideal C.G. position is 77mm (3 in.) behind the leading edge center apex of the upper wing. 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!**

---
