Before commencing assembly, please read these instructions thoroughly.

LITTLE TONI EP

Specifications

Wing Span: 40 in / 1020 mm
Wing Area: 310 sq in / 20 sq dm
Flying Weight: 28.6 oz / 810 g
Fuselage Length: 36 in / 910 mm
Requires: 4-channel radio w/ 4 micro servos, 20A Brushless ESC and 3 cells 11.1V 2100 mAh LiPo 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

GE030
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:

- **AB**: Apply epoxy glue.
- **C.A.**: Apply instant glue (C.A.glue, super glue.)
- **N.I.**: Must be purchased separately!
- **L/R**: Assemble left and right sides the same way.
- **3mm**: Drill holes with the specified diameter (here: 3mm)
- **!**: Pay close attention here!
- **! Warning!**: Do not overlook this symbol!
Parts List

1. MAIN WING -- 1 pair
   - SCREW PB2x12mm -- 4 pcs
   - SCREW PA1.7x8mm -- 8 pcs
   - STRAPER -- 2 pcs
   - CLEVIS -- 2 pcs
   - FUEL TUBE d2xD4x4mm -- 4 pcs
   - PUSHROD Ø1.4x93mm w/ Threads (For Aileron) -- 2 pcs

2. SERVO MOUNTING PANEL -- 1 pair
   - SCREW PB2x12mm -- 4 pcs
   - SCREW PA1.7x8mm -- 8 pcs
   - STRAPER -- 2 pcs
   - CLEVIS -- 2 pcs
   - HORN -- 2 sets
   - FUEL TUBE d2xD4x4mm -- 4 pcs
   - PUSHROD Ø1.4x427mm w/ Threads (For Rudder) -- 1 pc.

3. MAIN LANDING GEAR -- 1 pair
   - SCREW PWA2x10mm -- 6 pcs
   - MAIN WHEEL Ø40mm -- 2 pcs
   - WHEEL PANTS -- 1 pair
   - COLLAR Ø3.1mm w/ set screw -- 2 sets
   - SCREW PM3x25mm -- 2 pcs
   - SCREW PWA2x6mm -- 4 pcs
   - M3 NUT -- 2 pcs
   - WASHER d3xD7mm -- 4 pcs
   - COPPER TUBE d3.1xD4x4mm -- 2 pcs
   - PLATE 0.5mm -- 1 pair

4. STABILIZER & ELEVATOR -- 1 set
   - FUSELAGE -- 1 pc.
   - ELEVATOR LINK PL4510010 -- 1 pc.
   - SCREW PB2x8mm -- 2 pcs

5. VERTICAL FIN & RUDDER -- 1 set
   - TAIL WHEEL Ø23mm -- 1 pc.
   - PLASTIC COLLAR d1xD5x2mm -- 2 pcs
   - SCREW PA2x8mm -- 2 pcs
   - SCREW PM2x8mm -- 1 pc.
   - M2 NUT -- 1 pc.
   - ALUMINUM PLATE 0.3mm -- 1 pc.

6. SCREW PB2x10mm -- 2 pcs
   - CLEVIS -- 1 pc.
   - FUEL TUBE d2xD4x4mm -- 1 pc.
   - HORN -- 1 set
   - PUSHROD Ø1.4x427mm w/ Threads (For Rudder) -- 1 pc.

7. CLEVIS -- 1 pc.
   - FUEL TUBE d2xD4x4mm -- 1 pc.
   - PUSHROD Ø1.4x418mm w/ Threads (For Elevator) -- 1 pc.

8. SCREW PM3x6mm -- 4 pcs
   - WASHER d3xD7mm -- 4 pcs
   - FOLDING PROPELLER SET (PL6314020) -- 1 set
   - COWLING -- 1 pc.
   - SCREW PWA2x8mm -- 4 pcs
   - SPINNER Ø45mm -- 1 set

9. BATTERY TIE 200mm -- 1 pc.
   - FUEL TUBE d2xD4x4mm -- 2 pcs
   - STRAPER -- 2 pcs
   - SPONGE 10x50x150mm -- 1 pc.
   - DOUBLE-SIDED TAPE 30x35mm -- 1 pc.

10. SCREW PM2.5x20mm -- 2 pcs
    - WASHER d2.6xD8mm -- 2 pcs
    - PVC PLATE 1x20x68mm -- 1 pc.(For Wing Protection)

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

12. DECALS: GE030DEC -- 1 pc.

COVERING:
- LIGHTEX SGX 100 WHITE
- LIGHTEX SGX 312 BRIGHT RED
1. **Main Wing**

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

2. **Aileron Servos**

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

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

- PM3x25mm Screw: 2
- PWA2x6mm Screw: 4
- PWA2x10mm Screw: 6
- M3 Nut: 2
- d3x7mm Washer: 4
- 3.1mm Wheel Collar: 2

4 Stabilizer & Elevator

- PB2x8mm Screw: 2

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

- ø1mm pilot holes for The Wings Maker tri-horn are pre-drilled. Please look for pin-hole marks at under side of control surfaces.

Temporary install the main wing, adjust leveling of the stabilizer to make it as parallel to the main wing as possible.
5 Vertical Fin, Rudder & Tail Landing Gear

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

6 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.
7 Elevator Pushrod

- Bottom View

8 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
9 Radio Equipment

- Install and arrange the servos as shown in the diagram.

- Bottom View

- Top View

- Completed

10 Main Wing

- Bottom View

- PM2.5x20mm Screw 2
- d2.6xD8mm Washer 2
- PVC Plate 1x20x68mm
- PM2.5x20mm
- d2.5xD8mm Washer
Adjust the wing and fuselage configuration as shown in the diagrams.
# 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.

# LITTLE TONI EP is specially designed to be powered by 180W Motor System.

# 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.

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**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.

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**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.

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**14 C.G.**

The ideal C.G. position is 74mm (2.9 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.