Before commencing assembly, please read these instructions thoroughly.

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

* Specifications are subject to change without notice.*

CLIPPED WING CUB - 48

Specifications

Wing Span: 63.0 in / 1600 mm
Wing Area: 620 sq in / 40 sq dm
Flying Weight: 5.5 lbs / 2500 g
Fuselage Length: 47.0 in / 1200 mm
Required: 2-stroke 0.40 or 4-stroke 0.52 engine 4-channel radio w/ 5 servos

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 engine 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.

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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 instant glue (C.A. glue, super glue.)**
- **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).**
- **Must be purchased separately!**
- **Pay close attention here!**
- **Warning! Do not overlook this symbol!**
- **Pierce the shaded portion covering film.**
- **Apply thread locker.**
Parts List

1. MAIN WING -- 1 pair
2. SCREW PWA2x12mm -- 8 pcs
   PLYWOOD 2x52x80mm (For Aileron Servo) -- 1 pair
   BALSA 8x18x21mm (For Aileron Servo) -- 4 pcs
3. SCREW PM2x20mm -- 4 pcs
   FUEL TUBE Ø6x5mm -- 4 pcs
   CLEVIS (L) -- 2 pcs
   STRAPER (L) -- 2 pcs
   HORN (L) -- 2 sets
   PUSHROD Ø1.8x90mm w/ Threads (For Aileron) -- 2 pcs
4. PLYWOOD 2x30x120mm (Wing Protection) -- 1 pc.
   WING TUBE Ø9.6x246mm -- 1 pc.
5. SCREW PM3x18mm -- 4 pcs
   MAIN WING STRUTS -- 1 pair
6. FUSELAGE -- 1 pc.
   VERTICAL FIN & RUDDER -- 1 set
   STABILIZER & ELEVATOR -- 1 set
7. SCREW PA3x12mm -- 2 pcs
   TAIL LANDING GEAR -- 1 set
   TAIL WHEEL Ø25mm -- 1 pc.
   COLLAR Ø2.1mm w/ set screw -- 1 set
   SCREW PM2x12mm -- 1 pc.
   M2 NUT -- 1 pc.
   ALUMINUM PLATE 0.5mm -- 1 pc.
8. ENGINE MOUNT PL5111050 -- 1 set
   SOCKET HEAD SCREW M4x25mm -- 4 pcs
   WASHER d4xD9mm -- 4 pcs
9. SCREW PM3x25mm -- 4 pcs
   WASHER d3xD7mm -- 8 pcs
   M3 NUT -- 8 pcs
   THROTTLE PUSH WIRE Ø1.2x340mm -- 1 pc.
   w/ Plastic Tube d2xD3x250mm -- 1 pc.
10. FUEL TANK 260cc -- 1 set
    BALSA 10x10x112mm (For Fixing Fuel Tank) -- 1 pc.
11. SCREW PM3x20mm -- 2 pcs
    SCREW PA3x8mm -- 6 pcs
    WASHER d3xD7mm -- 2 pcs
    M3 NUT -- 2 pcs
    ALUMINUM PLATE 1.5mm -- 2 pcs
    MAIN LANDING GEAR -- 1 set
    MOUNTING PLATE 12x20mm -- 4 pcs
12. SCREW PA1.7x8mm -- 6 pcs
    MAIN WHEEL PL3112080 -- 2 sets
    COLLAR Ø3.3mm w/ set screw -- 4 sets
    SCREW PM2x8mm -- 6 pcs
    WASHER d2xD5mm -- 6 pcs
    M2 NUT -- 6 pcs
    COPPER PLATE 0.5mm -- 6 pcs
    BALSA 2x102x113mm (Main Landing Gear Cover) -- 1 pair
13. SCREW PWA2.3x8mm -- 4 pcs
    WIND SHIELD -- 1 pc.
    SILICON GROMMET d1.5x6.5mm -- 4 pcs
    SIDE WINDOWS -- 1 pair
14. COWLING -- 1 pc.
    TRANSPARENT DUMMY COWLING -- 1 pc.
    SCREW PWA2.6x12mm -- 4 pcs
    SILICON GROMMET d1.5x6.5mm -- 4 pcs
    DUMMY ENGINE COVER -- 1 pair
15. LINKAGE CONNECTOR Ø2.1mm -- 1 set
16. SCREW PM2x16mm -- 7 pcs
    FUEL TUBE Ø6x5mm -- 3 pcs
    CLEVIS (L) -- 3 pcs
    HORN (L) -- 2 sets
    TRI-HORN M3x14mm (S) -- 1 set
    PUSH ROD Ø1.8x725mm w/ Threads (For Rudder) -- 1 pc.
    PUSH ROD Ø1.8x610mm w/ Threads (For Elevator) -- 2 pc.
17. PUSH ROD Ø1.8x115mm (For Elevator) -- 1 pc.
    PUSH ROD CONNECTOR 4x9x20mm -- 1 set
    SPONGE 70x90x105mm -- 1 pc.
    PLYWOOD 3x57x115mm (For Fuselage Servos) -- 2 pcs
    BALSA 6x8x106mm (For Fuselage Servos Stand) -- 2 pcs
    STRAPER -- 2 pcs
    FUEL TUBE Ø6x5mm -- 2 pcs
18. BALSA 3x45x108mm (For Pilot) -- 1 pc.
    BALSA 6x8x45mm (For Pilot Stand) -- 2 pcs
    SCREW PWA2x8mm -- 4 pcs
19. SCREW PM3x30mm -- 2 pcs
    WASHER d4xD15mm -- 2 pcs
    SCREW PM3x9mm -- 2 pcs
    M3 NYLON INSERT LOCK NUT -- 2 pcs
20. DECALS -- 1 set

COVERING:

TOUGHON STL251 SKY BLUE
TOUGHON STL312 BRIGHT RED
LIGHTEX SGX100 WHITE
1 Main Wing

Cut away covering for installing the servo as shown. Use the fishing line supplied inside the wing to lead the servo lead to the openings of wing center.

2 Main Wing

Make a slot into the hatch for the servo horn to come out.

3 Main Wing

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

Join the wing halves by using the aluminium tube supplied.
Strengthen both holes for the screws with a piece of plywood.

6 Vertical Fin / Horizontal Stabilizer

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

Make sure vertical fin and stabilizer are at right angles.
7 Tail Landing Gear

- PA3x12mm Screw: 2
- 3mm Set Screw: 1
- 2mm Collar: 1
- PM2x12mm Screw: 1
- M2 Nut: 1

8 Engine Mount

- M4x25mm Socket Head Screw: 4
- d4xD9mm Washer: 4

9 Engine

- PM3x25mm Screw: 4
- 3mm Washer: 8
- M3 Nut: 8

Lead the 1.2mm throttle rod through the plastic tube and attach the throttle rod to the throttle lever on the engine.
10 Fuel Tank

Fuel Tank 260cc

Install Balsa 110x10x10mm (For fuel tank Position fixing)

Bottom View

11 Main Landing Gear

PM3x20mm Screw

PA3x8mm Screw

3mm Washer

M3 Nut

12 Main Landing Gear

3mm Set Screw

PA1.7x8mm Screw

Collar

PM2x8mm Screw

2mm Washer

M2 Nut

L/R
13 Canopy

- Securely glue the windows to the fuselage.

14 Cowling

- Trim the cowling for the engine head to project.
- Please refer to the attached sheet for usage of the transparent 3D template.

15 Servo Set

- Please refer to attached sheet for linkage connector installation.
16 Rudder & Elevator Pushrod

Make both push rod set it as shown in the diagram.

- PM2 x 16mm Screw
- Ø1mm pilot holes for The Wings Maker tri-horn are pre-drilled. Please look for pin-hole marks at under side of control surfaces.

17 Radio Equipment

Install and arrange the servos as shown in the diagram.
18 Cockpit

- **PM4 x 30mm Screw**: 4
- **1.5mm**
- **Balsa**: 3 x 45 x 110mm
- **Balsa**: 45 x 110mm
- **C.A.**

19 Main Wing/Wing Struts

- **PM4 x 30mm Screw**: 2
- **4mm Washer**: 2
- **PM3 x 9mm Screw**: 2
- **M3 Nylon Insert Lock Nut**: 2
- **4mm Washer**: 2
- **M3 Nylon Insert Lock Nut**: 2

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20 Wing Setting

In order to obtain the wing and fuselage configuration as in the diagrams, insert reinforcement plates between the wing and fuselage if necessary.

- Securely attach the main wing

21 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.

- Rudder: 25mm, 25mm
- Elevator: 20mm, 20mm
- Aileron: 10mm, 10mm

22 C.G.

The ideal C.G. position is **70mm (2.76 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.
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.

#CLIPPED WING CUB - 48 is specially designed to be powered by 2C 40 or 4C 52 engine, using a more powerful engine does not mean better performance. In fact, over powered engine may cause severe damage and injuries.

#Make sure the air field is spacious, never fly the plane too close to people and never get too close to a running propeller.

#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.

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