0.61 cubic inch displacement 2-stroke
0.91 cubic inch displacement 4-stroke
Requires: 7-channel radio w/ 6 standard servos and 2 low profile retract servos.

<table>
<thead>
<tr>
<th>Specifications</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Wing Span</td>
<td>63 in / 1600 mm</td>
</tr>
<tr>
<td>Wing Area</td>
<td>627.8 sq in / 40.5 sq dm</td>
</tr>
<tr>
<td>Flying Weight</td>
<td>7.2 ~ 7.6 lbs / 3290 ~ 3440 g</td>
</tr>
<tr>
<td>Fuselage Length</td>
<td>54 in / 1370 mm</td>
</tr>
</tbody>
</table>

*Specifications are subject to change without notice.*

**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.
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.
- **N.** Ensure smooth non-binding movement while assembling.
- **L** Peel off shaded portion covering film.
- **C** Cut off shaded portion.
- **L** Drill holes with the specified diameter (here: 3mm).
- **P** Pierce the shaded portion covering film.
- **A** Pay close attention here!
- **W** Warning! Do not overlook this symbol!
Parts List

1. MAIN WING -- 1 pair

2. RETRACTABLE LANDING GEAR -- 1 pair
   RETRACTABLE LANDING GEAR COVER -- 1 pair
   SCREW PM2x6mm -- 8 pcs
   M2 NUT -- 8 pcs
   WASHER d2x5mm -- 16 pcs

3. SERVO MOUNTING PANEL 2x68x78mm PL5310000 -- 1 pair
   SCREW PB2x18mm -- 2 pcs
   SCREW PB2x30mm -- 4 pcs
   SCREW PWA2x8mm -- 8 pcs
   TRI-HORN M3x14mm (S) PL4111221 -- 2 sets
   PUSHROD Ø1.8x8mm (For Aileron Servos) -- 2 pcs
   STRAPER PL4112102 -- 2 pcs
   CLEVIS PL4112103 -- 2 pcs
   FUEL TUBE Ø6x5mm -- 4 pcs

4. WING JOINER 8x23.6x280mm (Wood) -- 1 pc.

5. PUSHROD Ø1.8x77mm w/ Threads (For Flap Servo) -- 1 pc.
   LINKAGE CONNECTOR 2.1mm HW7111060 -- 2 sets
   CLEVIS PL4112103 -- 2 pcs
   STRAPER PL4112102 -- 1 pc.
   FUEL TUBE Ø6x5mm -- 3 pcs
   RING Ø2.6mm PL4112026 -- 2 pcs
   PLYWOOD 3x26x52mm -- 1 pc.

6. FUSELAGE -- 1 pc.
   STABILIZER & ELEVATOR -- 1 set
   BALSA 8x25x105.6mm (For Stabilizer) -- 2 pcs

7. VERTICAL FIN & RuddER -- 1 set
   VERTICAL WING'S FIN 3x40x60mm -- 1 pc.

8. SCREW PB2x14mm -- 6 pcs
   PUSHROD Ø1.8x10mm w/ Threads (For Elevator Servo) -- 2 pcs
   TRI-HORN M3x14mm (S) PL4111221 -- 2 sets
   CLEVIS PL4112103 -- 2 pcs
   FUEL TUBE Ø6x5mm -- 2 pcs

9. SCREW PB2x12mm -- 3 pcs
   PUSHROD Ø1.8x70mm w/ Threads (For Ruddor Servo) -- 1 pc.
   TRI-HORN M3x14mm (S) PL4111221 -- 1 set
   CLEVIS PL4112103 -- 1 pc.
   FUEL TUBE Ø6x5mm -- 1 pc.

10. MECHANICAL NOSE RETRACT -- 1 set
    PUSHROD Ø1.8x370mm w/ Threads -- 1 pc.
    PUSHROD Ø1.8x295mm w/ Threads -- 1 pc.
    PLASTIC TUBE d3.5xD5.2x240mm -- 1 pc.
    COLLAR Ø4.1mm w/ Set Screw -- 1 set
    SCREW KA3x14mm -- 4 pcs
    CLEVIS PL4112103 -- 2 pcs
    FUEL TUBE Ø6x5mm -- 2 pcs
    NOSE WHEEL Ø50mm -- 1 pc.
    RIGHT ANGLE WHEEL SPACER PL4121040 -- 1 set

11. SOCKET HEAD SCREW M4x30mm -- 4 pcs

12. FUEL TANK 380cc PL1111380 -- 1 set
    CABLE TIE (For Fuel Tank) 1.5x5x400mm -- 1 pc.
    DOUBLE-SIDED TAPE 40x100mm -- 1 pc.

13. THROTTLE PUSHWIRE Ø1.2x435mm -- 1 pc.
    PLASTIC TUBE d2x3x230mm -- 1 pc.
    SOCKET HEAD SCREW M4x30mm -- 4 pcs
    WASHER d4x9mm -- 8 pcs
    M4 NUT -- 8 pcs

14. COWLIMG -- 1 pc.
    EXHAUST -- 2 pcs
    TRANSPARENT 3D TEMPLATE -- 1 pc.
    SCREW PWA2.6x10mm -- 4 pcs
    SILICON GROMMET d1.5xD6.5mm -- 4 pcs
    SPINNER Ø62mm PL2111062 -- 1 set

15. CANOPY -- 1 pc.
    SCREW PWA2.3x8mm -- 6 pcs
    SILICON GROMMET d1.5xD6.5mm -- 6 pcs
    PILOT PCO1063/AB -- 2 pcs
    FRONT INSTRUMENT PANEL -- 1 pc.
    SEAT -- 2 pcs

16. LINKAGE CONNECTOR 2.1mm HW7111060 -- 3 sets

17. FUEL TUBE Ø6x5mm -- 2 pcs
    STRAPER PL4112102 -- 2 pcs
    SPONGE 10x80x200mm -- 2 pcs
    PUSHROD Ø1.8x80mm (For Elevator) -- 1 pc.
    PUSHROD CONNECTOR PL4110101 -- 1 set
    PLYWOOD 2x58.8x132.6mm -- 1 pc.
    BALSA 10x10x58.9mm -- 2 pcs
    PLYWOOD 3x20x32mm -- 1 pc.
    PLYWOOD 3x28x62mm -- 1 pc.

18. SCREW HM4x40mm -- 2 pcs
    SCREW PWA2.6x8mm -- 4 pcs
    WASHER d4xD15mm -- 2 pcs
    PLATE 1x40x110mm (Wing Protection) -- 1 pc.
    BALSA 2x55x92mm -- 1 pc.
    PLYWOOD 3x9x54mm -- 1 pc.
    PLYWOOD 3x8x47.8mm -- 1 pc.
    PLYWOOD 3x20x60mm -- 1 pc.

19. DECALS A274DEC -- 1 set

COVERING--
   1) TUCANO AFA:
      TOUGHLON STL 322 DARK ORANGE
      LIGHTEX SGX 322 DARK ORANGE
      LIGHTEX SGX 201 BLACK

   2) TUCANO SMOKE SQUADRONS:
      TOUGHLON STL 250 BLUE
      TOUGHLON STL 330 CADMIUM YELLOW
      LIGHTEX SGX 250 BLUE
      LIGHTEX SGX 330 CADMIUM YELLOW
      LIGHTEX SGX 240 GREEN
      LIGHTEX SGX 201 BLACK
      LIGHTEX SGX 100 WHITE
1. Main Wing

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

- Bottom View

2. Retractable Landing Gear Cover

- Ø1mm pilot holes for World Models tri-horn are pre-drilled. Please look for pin-hole marks at under side of control surfaces.

3. Aileron Servo

- Bottom View
4 Main Wing

- Please dry fit wing joiner into left and right wing to make sure they fit with the proper dihedral angle, mark the wing joiner if necessary. Apply epoxy glue to both sides of all surfaces in contact. Use a stick to apply the glue to inner side of wing joiner sleeve, and apply the glue to wing joiner before putting them together. Wing joiner not glued properly will lead to wing failure and plane crash.

5 Flap and Retract Servo

- Flaps up
- Flaps down
- Peel off shaded portion covering film.
- Lead to flap & Aileron servo
- plywood 3x28x62mm
- Wheels down Position
- Wheels up position
- Flap and Retract Servo
- Completed
- L/R
6 Stabilizer & Elevator

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

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

2. Balsa 8x25x105.6mm

7 Vertical Fin & Rudder

1. C=C'

2. Completed

3. 3x40x60mm Vertical Wing’s Fin

4. Completed
8 Elevator Pushrod

- Ø1mm pilot holes for World Models tri-horn are pre-drilled. Please look for pin-hole marks at under side of control surfaces.

PB2x14mm Screw

**Bottom View**

9 Rudder Pushrod

- Ø1mm pilot holes for World Models tri-horn are pre-drilled. Please look for pin-hole marks at under side of control surfaces.

PB2x12mm Screw

**Bottom View**

10 Mechanical Nose Retract

- Ø1mm pilot holes for World Models tri-horn are pre-drilled. Please look for pin-hole marks at under side of control surfaces.

KA3x14mm

- Bottom View
**11 Engine Mount**

- M4x30mm Socket Head Screw
- d4xD9mm Washer

Blind nuts are off-centered to keep the spinner at the fuselage axis.

- Apply thread locker to screws

**12 Fuel Tank**

- Fuel Tank Setup
- 380cc

- Fuel Tank 380cc
- CABLE TIE 1.5x5x400mm
- DOUBLE-SIDED TAPE 40x100mm

- Bottom View
**13 Engine**

- M4x30mm Socket Head Screw: 4
- M4x9mm Washer: 8
- M4 Nut: 8

**Installed Engine Position**

- 145 - 148mm
- 5.7 - 5.83in

**Bottom View**

- Plastic Tube: d2xD3x230mm
- Throttle Pushwire: Ø1.2x435mm
- M4 Nut

**Cowling**

- PWA2.6x10mm Screw: 4
- d1.5xD6.5mm Silicon Grommet: 4

**Fuel Filler**

- PWA2.6x10mm
- d1.5x6.5mm
- Silicon Grommet

**Exhaust**

- First insert the grommet to the cowling then apply screw.

- Please refer to the attached sheet for usage of the transparent 3D template.
**15 Canopy**

- **PWA2.3x8mm Screw**: 6
- **d1.5xD6.5mm Silicon Grommet**: 6

**Front Instrument Panel**

**Seat**

- **Decals**
- **Pilot**
- **Decals**

- First insert the grommet to the canopy then apply screw.

---

**16 Servo Set**

- **3x3mm Set Screw**: 3
- **Linkage Connector**: 3
- **M2 Nut**: 3
- **2mm Washer**: 6

- **Throttle Pushwire**: 3
- **2mm Washer**: 2

- **M2 Nut**: N.I.

Please refer to the attached sheet for linkage connector installation.
17 Radio Equipment

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

A. Servo and battery setup for 2C.0.55 light engine.

B. Servo and battery setup for 4C.0.91 heavy engine.

18 Main Wing

- HM4x40mm Screw 2
- PWA2x8mm Screw 4
- d4x15mm Washer 2

- Plywood 3x3x54mm
- Plywood 3x8x47.8mm
- Plywood 3x20x60mm
Adjust the wing and fuselage configuration as shown in the diagrams.
20 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.

Elevator

Rudder

Flaps (near fuselage)

Aileron

21 C.G.

The ideal C.G. position is 90mm (3.54 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.

Measure C.G. with the wheels in retracted position
**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.

# **TUCANO 60** is specially designed to be powered by 2C 0.61 or 4C 0.91 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. 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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**LINKAGE CONNECTOR**

**HW7111050 & HW7111060**

Drill 2mm hole at servo horn.

Insert linkage connector into servo horn.

Make sure shoulder of screw is cleared from servo horn. Add washer to reduce play if necessary.

Tighten up the round nut against the shoulder. Apply CA or permanent thread locker.

After fastening the round nut, make sure that the linkage connector can rotate freely.
Usage of the transparent 3D template

This transparent 3D template is used for position guidance of the actual cutting of the pre-painted cowling.

1. Cut the transparent 3D template to fit your engine and exhaust pipe.
2. Slide it onto the actual cowling.
3. Use it as a template to mark the openings required for final cutting.

Simply cut the transparent 3D template to fit your engine and exhaust pipe, then slide onto the actual cowling and use as template to mark the openings required for final cutting.
Ducted Fan  Pattern
Warbirds  Funfly
Scale  Electric
Sports  Glider
Trainer  Boat
Accessories
Covering
(Lightex/Toughlon)