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.
- **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

2. RETRACTABLE LANDING GEAR -- 1 pair
   - RETRACTABLE LANDING GEAR COVER -- 1 pair
   - SCREW PM2x6mm -- 8 pcs
   - WASHER d2xD5mm -- 16 pcs

3. SERVO MOUNTING PANEL 2x68x78mm PL5310000 -- 1 pair
   - SCREW PB2x18mm -- 2 pcs
   - SCREW PB2x20mm -- 4 pcs
   - SCREW PWA2x8mm -- 8 pcs
   - TRI-HORN M3x14mm (S) PL4111221 -- 2 sets
   - PUSHROD Ø1.8x85mm (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 -- 2 pcs
   - FUEL TUBE Ø6x5mm -- 3 pcs
   - RING Ø2.6mm PL4112026 -- 2 pcs
   - PLYWOOD 3x28x62mm -- 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 Ø1.8x610mm w/ Threads (For Elevator Servo) -- 2 pcs
   - TRI-HORN M3x14mm (S) PL4112211 -- 2 sets
   - CLEVIS PL4112103 -- 2 pcs
   - FUEL TUBE Ø6x5mm -- 2 pcs

9. SCREW PB2x12mm -- 3 pcs
   - PUSHROD Ø1.8x705mm w/ Threads (For Rudder Servo) -- 1 pc.
   - TRI-HORN M3x14 mm (S) PL4112211 -- 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 PL4112040 -- 1 set

11. SOCKET HEAD SCREW M4x30mm -- 4 pcs
    - WASHER d6xD9mm -- 4 pcs
    - ENGINE MOUNT PL5111070 -- 1 set
    - WOOD 7x16x76mm (For Engine Mount) -- 2 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 d2x2x3x300mm -- 1 pc.
    - SOCKET HEAD SCREW M4x30mm -- 4 pcs
    - WASHER d4xD9mm -- 8 pcs
    - M4 NUT -- 8 pcs

14. COWLING -- 1 pc.
    - EXHAUST -- 2 pcs
    - TRANSPARENT 3D TEMPLATE -- 1 pc.
    - SILICON GROMMET d1.5xD6.5mm -- 4 pcs
    - SPINNER Ø62mm PL2111062 -- 1 set

15. CANOPY -- 1 pc.
    - SCREW PWA2.6x10mm -- 4 pcs
    - SILICON GROMMET d1.5xD6.5mm -- 6 pcs
    - PILOT PC001063A/B -- 2 pcs
    - FRONT INSTRUMENT PANEL -- 1 pc.
    - SEAT -- 2 pcs
    - COCKPIT -- 1 pc.

16. LINKAGE CONNECTOR 2.1mm HW7111060 -- 3 sets

17. FUEL TUBE Ø6x5mm -- 2 pcs
    - STRAPER PL4112102 -- 2 pcs
    - SPONGE 10x80x200mm -- 2 pcs

18. SCREW HM4x40mm -- 2 pcs
    - PUSHROD Ø1.8x80mm (For Elevator) -- 1 pc.
    - PUSHROD CONNECTOR PL4110010 -- 1 set
    - PLYWOOD 2x58.9x132.6mm -- 1 pc.
    - Balsa 2x55x92mm -- 1 pc.
    - PLYWOOD 3x8x47.8mm -- 1 pc.
    - PLYWOOD 2x28x62mm -- 1 pc.

19. DECALS A274DEC -- 1 set

COVERING:
1) TUCANO AFA:
   - TOUGHON STL 322 DARK ORANGE
   - TOUGHON STL 100 WHITE
   - LIGHTEX SGX 322 DARK ORANGE
   - LIGHTEX SGX 201 BLACK

2) TUCANO SMOKE SQUADRON:
   - TOUGHON STL 250 BLUE
   - TOUGHON 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.

2. Retractable Landing Gear Cover

- 1mm 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

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

- Remove coverings for all surfaces in contact before applying A/B epoxy glue.

5 Flap and Retract Servo

- Flaps up
- Flaps down

- Peel off shaded portion covering film.

- Lead to flap & Aileron servo

- To L-side
  - To R-side
  - Wheels down position
  - Wheels up position

- Plywood 3x28x62mm
**6 Stabilizer & Elevator**

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

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

**7 Vertical Fin & Rudder**

- Remove coverings for all surfaces in contact before applying A/B epoxy glue.

- Apply glue to top and bottom of stabilizer.

- Remove coverings for all surfaces in contact before applying A/B epoxy glue.
**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.

**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.

**10 Mechanical Nose Retract**

- KA3x14mm
- 4.1 Collar
- 4

- Pushrod Ø1.8x295mm
- Clevis
- Plastic Tube d3.5xD5.2x240mm Ø1.8x370mm
- Bottom View

- Bottom View

- Bottom View

- Bottom View
11 Engine Mount

- M4x30mm Socket Head Screw 4
- d4xD9mm Washer 4

- 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

- CABLE TIE 1.5x5x400mm

- Double-sided Tape 40x100mm

- Bottom View
**13 Engine**

- M4x30mm Socket Head Screw: 4
- d4xD9mm Washer: 8
- M4 Nut: 8

**Installed Engine Position**

- 145 - 148mm
- 5.7 - 5.83in

- Plastic Tube: d2x0.3x230mm
- Throttle Pushwire: Ø1.2x435mm
- M4x30mm Socket Head Screw
- d4xD9 Washer
- M4 Nut

**14 Cowling**

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

- Fuel Filler: 1mm

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

- Please refer to the attached sheet for usage of the transparent 3D template.
- First insert the grommet to the cowling then apply screw.
15 Canopy

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

Front Instrument Panel

Seat

16 Servo Set

- Please refer to the attached sheet for linkage connector installation.
Install and arrange the servo as shown in the diagram.

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

- **Nose Retract Pushrod**
  - Plastic Tube: d3.5xD5.2x240mm
- **Nose Wheel Steering Pushrod**
- **Throttle Servo**
- **Rudder Pushrod**
- **Rudder Pushrod**
- **Charge Receptacles**
  - KP0041300

**Bottom View**

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

- **Nose Retract Pushrod**
  - Plastic Tube: d3.5xD5.2x240mm
- **Nose Wheel Steering Pushrod**
- **Throttle Servo**
- **Rudder Servo**
- **Rudder Pushrod**
- **Battery**
- **Switch**
- **Charge Receptacles**
  - KP0041300

**Bottom View**

**Main Wing**

<table>
<thead>
<tr>
<th>Material</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>HM4x40mm Screw</td>
<td>2</td>
</tr>
<tr>
<td>PWA2x8mm Screw</td>
<td>2</td>
</tr>
<tr>
<td>d4x15mm Washer</td>
<td>4</td>
</tr>
<tr>
<td>Plywood 3x9x54mm</td>
<td>2</td>
</tr>
<tr>
<td>Plywood 3x20x60mm</td>
<td>2</td>
</tr>
<tr>
<td>Plywood 3x8x47.8mm</td>
<td>2</td>
</tr>
<tr>
<td>Plywood 3x28x62mm</td>
<td>2</td>
</tr>
<tr>
<td>Plywood 3x20x32mm</td>
<td>2</td>
</tr>
<tr>
<td>Plywood 2x58.9x132.6mm</td>
<td>2</td>
</tr>
<tr>
<td>Plywood 2x58.9x132.6mm</td>
<td>2</td>
</tr>
<tr>
<td>Balsa 2x55x92mm</td>
<td>2</td>
</tr>
<tr>
<td>Plate 1X40x110MM</td>
<td>2</td>
</tr>
<tr>
<td>Washer d4xD15mm</td>
<td>2</td>
</tr>
</tbody>
</table>

**17 Radio Equipment**

**18 Main Wing**

**Bottom View**
Wing Setting

- 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**
  - Measured at 17mm behind the leading edge.

- **Rudder**
  - Measured at 30mm behind the leading edge.

- **Flaps (near fuselage)**
  - Measured at 20mm.

- **Aileron**
  - Measured at 13mm.

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**
**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 airfield 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.

---

**LINKAGE CONNECTOR**

HW7111050 & HW7111060

1. Drill 2mm hole at servo horn.
2. Insert linkage connector into servo horn.
3. Make sure shoulder of screw is cleared from servo horn. Add washer to reduce play if necessary.
4. 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 2 3 4

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.