Before commencing assembly, please read these instructions thoroughly.

50CC PAULISTINHA (GA065)

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

Specifications

Wing Span: 118 in / 3000 mm
Wing Area: 1990 sq in / 128 sq dm
Flying Weight: 18.5 lbs / 8450 g
Fuselage Length: 75 in / 1900 mm
Requires: 50cc gasoline engine, 4-channel radio w/ 6 high torque servos.
Read through the manual before you begin, so you will have an overall idea of what to do.

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.

Symbols used throughout this instruction manual comprise of the following :-

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

1. MAIN WING -- 1 pair
   - HEAVY DUTY CLEVIS PL412200 -- 2 sets
   - SOCKET HEAD SCREW M4x60mm -- 2 pcs
   - SCREW PW2.3x8mm -- 8 pcs
   - M4 NYLON INSERT LOCK NUT -- 2 pcs
   - HEAVY DUTY SERVO HORN PL4120250 -- 2 sets
   - PUSHROD M3xD5x13mm w/ Threads (For Aileron) -- 2 pcs
   - HEAVY DUTY HORN BRACKET PL4121240 -- 2 sets
   - HEAVY DUTY CLEVIS HORN FAIRING PL4610010 -- 2 sets

2. SERVO MOUNTING PANEL (For Aileron) PL5310010 -- 1 pair
   - HEAVY DUTY CLEVIS PL4112200 -- 4 sets
   - SOCKET HEAD SCREW M4x50mm -- 2 pcs
   - SCREW PWA2.3x8mm -- 8 pcs
   - M4 NYLON INSERT LOCK NUT -- 2 pcs
   - HEAVY DUTY SERVO HORN PL4120250 -- 2 sets
   - HEAVY DUTY CLEVIS PL4112200 -- 2 sets

3. SOCKET HEAD SCREW M3x18mm -- 6 pcs
   - SOCKET HEAD SCREW M4x18mm -- 4 pcs
   - WIRE BRACKET PL3330030W -- 8 pcs
   - MAIN WING STRUTS -- 1 pair
   - WING STRUT WIRE D3mm -- 2 pcs
   - M3 NYLON INSERT LOCK NUT -- 4 pcs
   - WASHER d3xD7mm -- 12 pcs
   - WASHER d4.5xD9mm -- 4 pcs
   - SOCKET HEAD SCREW M3x18mm -- 8 pcs
   - SOCKET HEAD SCREW M4x18mm -- 4 pcs
   - WIRE BRACKET PL5330030W -- 8 pcs

4. FUSELAGE -- 1 pc.
   - COVERING 30x530mm -- 1 pc.
   - COVERING 47x50mm -- 2 pcs
   - MAIN WING STRUTS -- 1 pair

5. STABILIZER & ELEVATOR -- 1 set
   - SCREW PWM2.5x12mm -- 2 pcs
   - STABILIZER WIRE Ø4x170mm -- 2 pcs

6. VERTICAL FIN & RUDDER -- 1 set
   - SCREW PM2x16mm -- 6 pcs
   - WASHER d2xD5mm -- 12 pcs
   - M2 NUT -- 6 pcs
   - SPRING Ø5x50mm -- 2 pcs
   - FLYING WIRE CLEVIS -- 6 pcs
   - COCKPIT BASE PANEL 3x161x373mm -- 1 set

7. TAIL GEAR ASSEMBLY (PL3100033) -- 1 set
   - COPPER PLATE (For Stays on Tail Fueslage Bottom) 1.5x12x60mm -- 1 pc.
   - SCREW PA3x18mm -- 12 pcs
   - SCREW PA4x20mm -- 2 pcs
   - MOUNTING PLATE 12x20mm PL4114020 -- 6 pcs
   - ALUMINUM PLATE 3mm -- 2 pcs

8. LARGE SCALE TREADED INFLATABLE WHEELS Ø118mm -- 2 sets
   - SCREW PA1.7x8mm -- 6 pcs
   - SCREW PM2x8mm -- 6 pcs
   - SPRING Ø1x170mm -- 2 pcs
   - WASHER d2xD5mm -- 12 pcs
   - M2 NUT -- 6 pcs
   - COPPER TUBE d2.5xD3.2x8mm (For Rudder) -- 8 pcs

9. BLIND NUT MS -- 4 pcs
   - WASHER d5xD12mm -- 4 pcs
   - SOCKET HEAD SCREW M3x50mm -- 4 pcs
   - SCREW PA3x18mm -- 12 pcs
   - WASHER d3xD7mm -- 4 pcs
   - Collar Ø5.1mm w/ set screw -- 4 sets
   - WIRE BRACKET PL5330050W -- 8 pcs

10. BLIND NUT MS5 -- 4 pcs
    - WASHER d5xD12mm -- 4 pcs
    - SOCKET HEAD SCREW M5x50mm -- 4 pcs
    - THROTTLE PUSHROD Ø1.8x30mm -- 1 pc.
    - PLASTIC TUBE d2.5xD4x300mm -- 1 pc.
    - SEALING RUBBER d2.5xD8.5mm -- 4 pcs

11. COWL -- 1 pc.
    - TRANSPARENT 3D TEMPLATE -- 1 pc.
    - SCREW PA3x12mm -- 4 pcs
    - WASHER d3xD7mm -- 4 pcs
    - SILICON GROMMET d2.5xD8.5mm -- 4 pcs

12. FUEL TANK 800cc PL1111810G -- 1 set
    - CABLE TIE 1.5x8x500mm -- 1 pc.
    - DOUBLE-SIDED TAPE 40x160mm -- 1 pc.

13. PUSHROD M3xD5x170mm w/ Threads (For Elevator) -- 2 pcs
    - SOCKET HEAD SCREW M4x50mm -- 2 pcs
    - HEAVY DUTY CLEVIS HORN FAIRING PL4610010 -- 2 sets
    - HEAVY DUTY SERVO HORN PL4120250 -- 2 sets
    - HEAVY DUTY CLEVIS HORN FAIRING PL4112200 -- 2 sets

14. PUSHROD M3xD5x126mm w/ Threads (For Rudder) -- 1 pc.
    - SOCKET HEAD SCREW M4x50mm -- 1 pc.
    - M4 NYLON INSERT LOCK NUT -- 1 pc.
    - HEAVY DUTY SERVO HORN PL4120250 -- 1 set
    - HEAVY DUTY CLEVIS HORN FAIRING PL4112200 -- 2 set

15. SCREW PM2x16mm -- 6 pcs
    - WASHER d2xD5mm -- 12 pcs
    - FLYING WIRE CLEVIS -- 6 pcs
    - SCREW PM2x8mm -- 6 pcs
    - WIRE Ø1x170mm -- 2 pcs
    - FLYING WIRE BRACKET -- 6 pcs
    - EYE SCREW -- 6 pcs

16. WIND SHIELD & SIDE WINDOWS -- 1 set
    - BALSA ROD Ø6x190mm -- 2 pcs

17. LINKAGE CONNECTOR Ø2.1mm w/ set screw -- 1 set

18. WIND SHIELD & SIDE WINDOWS -- 1 set
    - BALSA ROD Ø6x190mm -- 2 pcs
    - BALSA ROD Ø6x252mm -- 2 pcs
    - BALSA ROD Ø6x252mm (For Fuselage Servos) -- 1 set
    - SPONGE 10x80x200mm -- 2 pcs

19. PILOT PC101110A -- 1 set
    - SCREW PWA2x12mm -- 4 pcs
    - COPPER BASE PANEL 3x161x373mm -- 1 set

20. M2 NYLON INSERT LOCK NUT -- 2 pcs
    - SCREW PM2x14mm -- 2 pcs
    - WASHER d2xD5mm -- 4 pcs
    - MOUNTING PLATE 5x15mm PL4114015 -- 2 pcs

21. WING TUBE Ø22x825mm -- 2 pcs
    - SELF-TIGHTENING LATCHING PIN PL9120010 -- 4 pcs
    - WIRE Ø0.8mm -- 2 pair
    - M3x8mm SET SCREW -- 4 pcs

22. SCREW HM4x12mm -- 2 pcs
    - WASHER d4xD12mm -- 2 pcs
    - M4 NYLON INSERT LOCK NUT -- 2 pcs

23. DECALS: GA065PO2798B1210

COVERING:
- TOUGHLON STL 204 CREAM
- LIGHTEX SGX 204 CREAM
- LIGHTEX SGX 201 BLACK
- LIGHTEX SGX 310 RED
1 Main Wing

- Aileron Servo Lead

2 Aileron Servos

- M4x60mm Socket Head Screw
- PWA2.3x8mm Screw
- M4 Nylon Insert Lock Nut

- M2 x 10mm Heavy Duty Clevis
- Pushrod
- M4 x 60mm
- PA1.7 x 8mm
- PWA2.3x8mm

- Heavy Duty Horn Bracket
- M2 Nylon Insert Lock Nut
- Heavy Duty Clevis
- Pushrod
- M4 Nylon Insert Lock Nut

- M4 x 60mm Socket Head Screw
- PL4120300

- M2 Nut

- M2 x 10mm
- Pushrod w/ Threads (for Aileron)
- M3x5x113mm

Completed
3 Wing Struts

- M3x18mm Socket Head Screw: 8
- M4x18mm Socket Head Screw: 4
- d4.5x9mm Washer: 4
- d3x7mm Washer: 12
- M3 Nylon Insert Lock Nut: 4

![Bottom View]

L/R

Completed

4 Fuselage

- Covering 30x550mm
- Covering 47x50mm

Completed
5 Stabilizer & Elevator

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

Stabilizer Tube Ø4x170mm

PWM2.5x12mm Screw

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

6 Vertical Fin & Rudder

Remove coverings for all surfaces in contact before applying A/B epoxy glue.
### 7 Tail Landing Gear

- PA3x18mm Screw
- PWA2.5x12mm Screw

![Bottom View]

### 8 Main Landing Gear

- PA4x20mm Screw
- PA3x18mm Screw
- HM4x20mm Screw
- d4x9mm Washer

![Bottom View]

### 9 Main Wheel

- PA1.7x8mm Screw
- D5.1mm Collar
- PM3x12mm Screw
- M3 Nut
- d3x7mm Washer

![Bottom View]

---

GA065PO2798B1210  P.6
**10 Engine**

- M5x50 SOCKET HEAD SCREW  
  - M5 Blind Nut  
  - d5xD12mm Washer  
  - 4

**11 Cowling**

- PA3x12mm Screw  
  - d2.5x8.5mm Silicon Grommet  
  - d3xD7mm Washer  
  - 4

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

- Completed
12 Fuel Tank

- Cable Tie 1.5x8x500mm
- Double-sided Tape 40x160mm

13 Elevator Pushrod

- M4x50 SOCKET HEAD SCREW 2
- M4 NYLON INSERT LOCK NUT 2

14 Rudder Pushrod

- M4x50 SOCKET HEAD SCREW 1
- M4 NYLON INSERT LOCK NUT 1
15 Flying Wire

- PM2x16mm Screw: 6
- PM2x8mm Screw: 6
- M2 Nut: 6
- d2xD5mm Washer: 12

Press down the center 1/3 portion M2 PM2x16mm PM2x16mm d2xD5mm Washer

16 Windows

Securely glue the windows to the fuselage.

Balsa Rod d6x190mm

17 Servo Set

- 3x3mm Set Screw: 1
- Linkage Connector: 1
- M2 Nut: 1
- 2mm Washer: 2

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

Install and arrange the servo as shown in the diagram.

Plywood 3x161.5x252mm
Balsa 10x10x240mm

Bottom View

19 Pilot

PWA 2x12mm Screw

PWA 2x12mm Screw

PC101110A

Instrument Panel

20 Wind Shield

PM2x14mm Screw

M2 Nylon Insert Lock Nut

d2 x D5mm Washer

Washer d2xD5mm Mounting Plate

P M2x14mm

Washer d2xD5mm

M2 Nylon Insert Lock Nut
## 21 Main Wing

- **Wing Tube**
  - Ø22x825mm
- **Lead to Aileron Servo**
- **Set Screw**
  - M3 x 8mm
  - quantity: 4

## 22 Wing Struts

- **PM4x12mm Screw**
  - quantity: 2
- **d4x D12mm Washer**
  - quantity: 2
- **M4 NYLON INSERT LOCK NUT**
  - quantity: 2
- **HM4x12mm**
- **Washer d4x D12mm**
- **M4 NYLON INSERT LOCK NUT**
23 Wing Setting

- Adjust the wing and fuselage configuration as shown in the diagrams.
24 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

Elevator

Aileron

25 C.G.

The ideal C.G. position is 124mm (4.9in.) 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.

If you are converting this model to electric, please move the C.G. forward 10% of current C.G. distance from leading edge to compensate for weight of fuel.

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.

# 50CC PAULISTINHA is specially designed to be powered by 50c.c. gasoline engine, using a more powerful engine does not mean better performance. In fact, over powered engine may cause structural 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.
Usage of the transparent 3D template

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

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.