Zen 30

0.25-0.35 cu.in. displacement 2-stroke
0.40-0.56 cu.in. displacement 4-stroke
Requires: 4 - channel radio w/ 5 standard servos

Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wing Span</td>
<td>46 in / 1170mm</td>
</tr>
<tr>
<td>Wing Area</td>
<td>463 sq in / 29.9 sq dm</td>
</tr>
<tr>
<td>Flying Weight</td>
<td>4 lbs / 1850g</td>
</tr>
<tr>
<td>Fuselage Length</td>
<td>45 in / 1150mm</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:

- **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

2. **SCREW PWA2x8mm** -- 8 pcs
   **SERVO MOUNTING PANEL** -- 2 pairs

3. **SCREW PB2x22mm** -- 4 pcs
   **FUEL TUBE Ø6x5mm** -- 4 pcs
   **STRAPER** -- 2 pcs
   **CLEVIS** -- 2 pcs
   **HORN** -- 2 sets
   **PUSHROD Ø1.8x100mm w/ Threads (For Aileron Servo)** -- 2 pcs

4. **STABILIZER & ELEVATOR** -- 1 set
   **FUSELAGE** -- 1 pc.

5. **VERTICAL FIN & RUDDER** -- 1 set

6. **TAIL LANDING GEAR** -- 1 set
   **TAIL WHEEL Ø23mm** -- 1 pc.
   **COLLAR Ø2.1mm w/ set screw** -- 1 set
   **SCREW PAx12mm** -- 2 pcs

7. **SCREW PB2x14mm** -- 4 pcs
   **CLEVIS** -- 2 pcs
   **HORN** -- 2 sets
   **FUEL TUBE Ø6x5mm** -- 2 pcs
   **PUSHROD Ø1.8x545mm w/ Threads (For Elevator)** -- 2 pcs

8. **SCREW PB2x20mm** -- 2 pcs
   **CLEVIS** -- 1 pc.
   **HORN** -- 1 set
   **FUEL TUBE Ø6x5mm** -- 1 pc.
   **PUSHROD Ø1.8x565mm w/ Threads (For Rudder)** -- 1 pc.

9. **MAIN LANDING GEAR** -- 1 set
   **SOCKET HEAD SCREW M3x12mm** -- 3 pcs
   **WASHER d3xD7mm** -- 3 pcs

10. **WHEEL PANTS** -- 1 pair
    **WHEEL Ø50mm** -- 2 pcs
    **COLLAR Ø3.6mm w/ set screw** -- 4 sets
    **SCREW PM3.5x35mm** -- 2 pcs
    **WASHER d3.5xD8mm** -- 4 pcs
    **M3.5 NUT** -- 2 pcs
    **SCREW KA2.3x8mm** -- 4 pcs
    **QUICK RELEASE NYLON RIVET PL1208042 d2xD8mm** -- 4 pcs
    **PLATE 1mm** -- 1 pair

11. **ENGINE MOUNT PL5111030** -- 1 set
    **SOCKET HEAD SCREW M3x20mm** -- 4 pcs
    **WASHER d3xD7mm** -- 4 pcs

12. **FUEL TANK 260cc** -- 1 set
    **BALSAP 8x8x76mm (For Fuel Tank Position Fixing)** -- 1 pc.

13. **SOCKET HEAD SCREW M3x25mm** -- 4 pcs
    **WASHER d3xD7mm** -- 8 pcs
    **M3 NUT** -- 8 pcs
    **THROTTLE PUSHWIRE Ø1.2x400mm** -- 1 pc.
    **PLASTIC TUBE d2xD3x240mm** -- 1 pc.

14. **COWLNG** -- 1 pc.
    **TRANSPARENT 3D TEMPLATE** -- 1 pc.
    **SCREW PWA2.6x12mm** -- 4 pcs
    **SILICON GROMMET d1.5xD6.5mm** -- 4 pcs
    **SPINNER Ø52mm** -- 1 pc.

15. **LINKAGE CONNECTOR Ø2.1mm** -- 1 set

16. **SPONGE 60x70x75mm (For Radio Equipment)** -- 1 pc.
    **FUEL TUBE Ø6x5mm** -- 1 pc.
    **STRAPER** -- 1 pc.
    **PLYWOOD 6x65x72mm (For Elevator Servo)** -- 1 pc.
    **PLYWOOD 6x61x66mm (For Rudder Servo)** -- 1 pc.
    **PUSHROD Ø1.8x110mm (For Elevator)** -- 1 pc.
    **PUSHROD CONNECTOR 4x5x20mm (For Elevator)** -- 1 set

17. **SOCKET HEAD SCREW M3x30mm** -- 2 pcs
    **WASHER d3xD12mm** -- 2 pcs

18. **CANOPY** -- 1 pc.
    **SCREW PWA2.3x8mm** -- 6 pcs
    **SILICON GROMMET d1.5xD6.5mm** -- 6 pcs

19. **DECALS:A109DEC** -- 1 set

**COVERING:**

- TOUGHON STL 100 WHITE
- TOUGHON STL 240 GREEN
- TOUGHON STL 241 TURQUOISE
- TOUGHON STL 251 SKY BLUE
- TOUGHON STL 311 FERRARI RED
- TOUGHON STL 313 PINK
- TOUGHON STL 331 CUB YELLOW
- TOUGHON STL 351 DARK BLUE
- TOUGHON STL 360 VIOLET
- TOUGHON STL 361 PURPLE
1 **Main Wing**

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

2 **Aileron Servos**

- PWA 2 x 8mm Screw 8
- 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**

- PB 2x22mm Screw 4
- TWM PL8210010 CLEVIS WRENCH
4 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.

5 Vertical Fin & Rudder

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

6 Tail Landing Gear

- PA3 x 12mm Screw: 2
- 3mm Set Screw: 1
- 2.1mm Collar: 1

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

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

8 Rudder Pushrod

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

9 Main Landing Gear

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

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

11 Engine Mount

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

12 Fuel Tank

- Install Balsa 8x8x76mm (For Fuel Tank Position Fixing)
13 Engine

- M3 x 25mm Socket Head Screw: 4
- 3 x D7mm Washer: 8
- M3 Nut: 8

Installed Engine Position:

- 110 mm 4.3 in.

14 Cowling

- PWA2.6 x 12mm Screw: 4
- d1.5xD6.5mm Silicon Grommet: 4

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

15 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.
16 Radio Equipment

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

17 Main Wing

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

18 Canopy
19 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.

21 C.G.

- The ideal C.G. position is 110mm (4.33 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.
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.

# Zen 30 is specially designed to be powered by 2C 0.25-0.35 or 4C 0.40-0.56 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.
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.
After fastening the round nut, make sure that the linkage connector can rotate freely.

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.

Add washer to reduce play if necessary.
Product Registration Form (US Customers)

We would like to share with you any relevant information regarding your model, including product news and free upgrade parts when applicable. Please fill in the following and send to AirBorne Models, 4749-K, Bennett Drive, Livermore, CA 94551 USA.

1. Name: ____________________________________________

2. Address: __________________________________________

3. Phone #: __________________________ E-mail: _________________

4. Model: ____________________________________________

Wing QC# __________ Fuselage QC# ____________________________
(QC numbers are stamped on wing and fuselage)

5. Date of Purchase: ________________________________

6. Store Name: _______________________________________

Please call AirBorne Models at 925 371 0922 for any assistance in filling this form. Thank you very much for purchasing our product.
Optional Parts

**ACCESSORIES**

### 180mm Extension For Park Flyer

<table>
<thead>
<tr>
<th>Code No.</th>
<th>Size</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>KW0011800</td>
<td>180mm</td>
<td>1 set</td>
</tr>
</tbody>
</table>

For park flyers of small electric models

### Fuel Filler

<table>
<thead>
<tr>
<th>Code No.</th>
<th>Size</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>PL8110030</td>
<td>15 x 22 x 49mm</td>
<td>1 x 1 pc</td>
</tr>
</tbody>
</table>

### 180mm Y-Cord For Park Flyer

<table>
<thead>
<tr>
<th>Code No.</th>
<th>Size</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>KW0021800</td>
<td>180mm</td>
<td>1 pc</td>
</tr>
</tbody>
</table>

### Clevis Wrench

<table>
<thead>
<tr>
<th>Code No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>PL8210010</td>
<td></td>
</tr>
</tbody>
</table>

Small Clevis
Large Clevis

Special tool for clevis installation.
Suitable for standard and small (EP) clevis.

### Charge Receptacles

<table>
<thead>
<tr>
<th>Code No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>KP0041300</td>
<td></td>
</tr>
</tbody>
</table>

### Field Stand

<table>
<thead>
<tr>
<th>Code No.</th>
<th>Size</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>MS9111430</td>
<td>600 x 240 x 310mm</td>
<td>1 pc</td>
</tr>
</tbody>
</table>

### Standard Servo

<table>
<thead>
<tr>
<th>Code No.</th>
<th>Size</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>SV4031</td>
<td></td>
<td>39.4 g / 1.39 oz</td>
</tr>
</tbody>
</table>

Speed : 0.17 sec / 60° @4.8V
0.14 sec / 60° @6.0V
Torque : 3.2kg.cm / 44.8 oz - in @4.8V
4.1kg.cm / 57.4 oz - in @6.0V
Size : 40.6 x 20 x 37mm / 1.60 x 0.79 x 1.46 in
Weight : 39.4 g / 1.39 oz
Ducted Fan Pattern

Warbirds Funfly

Scale Electric

Sports Glider

Trainer Boat

Accessories

Covering
(Lightex/Toughlon)