**SKY RAIDER**

**Wing Span**
65.5 in / 1660 mm

**Wing Area**
725 sq in / 46.8 sq dm

**Flying Weight**
5.5 lb / 2450 g

**Fuselage Length**
53.0 in / 1350 mm

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**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.

*Specifications are subject to change without notice.*
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:

   - **A1** Apply epoxy glue.
   - **C.A** Apply instant glue (C.A.glue, super glue.)
   - **L/R** Assemble left and right sides the same way.
   - **Peel off shaded portion covering film.**
   - **Drill holes with the specified diameter (here:3mm).**
   - **Pay close attention here!**
   - **Must be purchased separately!**
   - **Warning!** Do not overlook this symbol!
# Parts List

1. MAIN WING -- 1 pair
2. WING JOINER 8x27x200mm -- 1 pc.
3. PLYWOOD 3x10x20mm (For Aileron Servo Stand) -- 2 pcs
   RING Ø2.3mm -- 2 pcs
4. PUSHROD Ø1.8x130mm w/ Threads (For Aileron Servo) -- 2 pcs
   FUEL TUBE Ø6x5mm -- 4 pcs
   STRAPER -- 2 pcs
   CLEVIS -- 2 pcs
5. FUSELAGE -- 1 pc.
   STABILIZER & ELEVATOR -- 1 set
6. VERTICAL FIN & RUDDER -- 1 set
   SCREW PM3x40mm -- 1 pc.
   SCREW PM3x50mm -- 1 pc.
   WASHER d3xD7mm -- 2 pcs
7. FUEL TANK 380cc -- 1 set
   Balsa 8x8x87mm (For Fuel Tank Position Fixing) -- 1 pc.
8. ENGINE MOUNT PL5111030 -- 1 set
   SOCKET HEAD SCREW M3x20mm -- 4 pcs
   WASHER d3xD7mm -- 4 pcs
9. NOSE GEAR -- 1 set
   COLLAR Ø4.1mm w/ set screw -- 4 sets
   FRONT WHEEL Ø62mm -- 1 pc.
   STEERING ARM Ø4.1mm -- 1 set
10. MAIN LANDING GEAR -- 1 set
    MOUNTING PLATE -- 2 pcs
    COLLAR Ø4.1mm w/ set screw -- 4 sets
    MAIN WHEEL Ø62mm -- 2 pcs
    SCREW PA3x12mm -- 4 pcs
11. ALUMINUM PLATE 1mm -- 1 pair
    SPINNER Ø57mm -- 1 set
    SCREW PM2x10mm -- 4 pcs
    WASHER d2xD5mm -- 4 pcs
    SOCKET HEAD SCREW M3x25mm -- 4 pcs
    WASHER d3xD7mm -- 8 pcs
    M2 NUT -- 4 pcs
    M3 NUT -- 8 pcs
    A177NPO31770704
12. PUSHROD Ø1.8x840mm w/ Threads (For Elevator Servo) -- 1 pc.
    PLYWOOD (Tail Skid) 3mm -- 1 pc.
    CLEVIS -- 1 pc.
    FUEL TUBE Ø6x5mm -- 1 pc.
    HORN -- 1 set
    SCREW PB2x12mm -- 2 pcs
13. PUSHROD Ø1.8x850mm w/ Threads (For Rudder Servo) -- 1 pc.
    CLEVIS -- 1 pc.
    FUEL TUBE Ø6x5mm -- 1 pc.
    HORN -- 1 set
    SCREW PB2x12mm -- 2 pcs
14. LINKAGE CONNECTOR Ø2.1mm -- 2 sets
15. STRAPER -- 2 pcs
    SPONGE 60x70x89mm -- 1 pc.
    FUEL TUBE Ø6x5mm -- 2 pcs
    FRONT WHEEL PUSHWIRE Ø1.2x358mm -- 1 pc.
    PLASTIC TUBE d2xD3x250mm -- 1 pc.
    THROTTLE PUSHWIRE Ø1.2x390mm -- 1 pc.
    PLASTIC TUBE d2xD3x200mm -- 1 pc.
16. PLASTIC PLATE 1x15x82mm (Wing Protection) -- 1 pc.
    SOCKET HEAD SCREW HM4x35mm -- 2 pcs
    WASHER d4xD15mm -- 2 pcs
17. DECALS A177NDEC -- 1 set

## COVERING:

### RED COLOR SCHEME
- TOUGHLON STLA177NRWIG
- TOUGHLON STLA177NRFUS
- TOUGHLON STL100 WHITE
- TOUGHLON STL201 BLACK
- TOUGHLON STL311 FERRARI RED
- TOUGHLON STL314 FUCHSIA

### GREEN COLOR SCHEME
- TOUGHLON STLA177NGWIG
- TOUGHLON STLA177NGFUS
- TOUGHLON STL100 WHITE
- TOUGHLON STL204 CREAM
- TOUGHLON STL240 GREEN
- TOUGHLON STL571 RICH GOLD
1 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.

2 Main Wing

- Bottom View

- Make sure to glue securely. If not properly glued, a failure in flight may occur.

3 Aileron Servo

- Bottom View
4 Aileron Servo

- Fuel Tube Ø6 x 5mm
- Straper
- Clevis
- Ring
- Pushrod Ø1.8x130mm

5 Stabilizer & Elevator

- Pre-glued
- Completed
Completed

Use thread locker when tightening screws. Don't use excessive force as you are dealing with balsa.
7 Fuel Tank

- Fuel Tank 380cc
- Install Balsa 8 x 8 x 87 (For Fuel Tank Position Fixing)

8 Engine Mount

- M3 x 20mm Socket Head Screw
- d3 x D7mm Washer
- Apply thread locker to screws.
- Blind nuts are off-centered to keep the spinner at the fuselage axis.

9 Nose Gear

- 4.1mm Collar
- Bottom View
- Front View
- Completed

- 3mm Set Screw
- Wheel Ø62mm
- 4.1mm Collar
10 Main Landing Gear

PA3 x 12mm Screw
4
4.1 mm Collar
4

Plate

4.1mm Collar
3mm Set Screw

Front

PA3 x 12mm

Completed

Bottom View

11 Engine

PM2x10mm Screw
4
d2 x D5mm Washer
4
M3x25mm Socket Head Screw
4
d3 x D7mm Washer
4
M2 Nut
4
M3 Nut
8

Throttle Pushwire Plastic Tube
d3xD7mm Washer

Installed Engine Position

116mm
4.57 in.

Aluminum Plate 1mm
M2 Nut

PM2x10mm

d2xD5mm Washer

Completed

N.I. Fuel Filler
PL8110030

Ø57mm Spinner
12 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.

13 Rudder Pushrod

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

- 3 x 3mm Set Screw: 2
- Linkage Connector: 2
- 2mm Nut: 2
- 2mm Washer: 2

Please refer to the attached sheet for linkage connector installation.

15 Servos

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

16 Main Wing

- HM4x35mm Socket Head Screw: 2
- d4 x D15mm Washer: 2

Wing Protection

- HM4x35mm Socket Head Screw: 2
- D4xD15mm Washer: 2
- Wing Protection 1x15x82mm
Wing Setting

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

1. Adjust the wing and fuselage configuration as shown in the diagrams.
2. Ensure that:
   - $A = A'$
   - $B = B'$
   - $C = C'$
18 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

Aileron

19 C.G.

The ideal C.G. position is 80mm (3.15 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.

# Sky Raider is specially designed to be powered by 2C 0.40-0.46 engine, using a more powerful engine does not mean better performance. In fact, overpowered 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.

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.

After fastening the round nut, make sure that the linkage connector can rotate freely.
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

### 180mm Extension

<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>

![180mm Extension Image]

### 180mm Y-Cord

<table>
<thead>
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<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>

![180mm Y-Cord Image]

### Charge Receptacles

<table>
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<th>Package</th>
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</thead>
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<tr>
<td>KP0041300</td>
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</table>

![Charge Receptacles Image]

### Field Stand

<table>
<thead>
<tr>
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<th>Size</th>
<th>Package</th>
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</thead>
<tbody>
<tr>
<td>MS9111430</td>
<td>600 x 240 x 310mm</td>
<td>1 pc</td>
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</tbody>
</table>

![Field Stand Image]

### 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>

![Fuel Filler Image]

### Clevis Wrench

<table>
<thead>
<tr>
<th>Code No.</th>
<th>Size</th>
<th>Package</th>
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</thead>
<tbody>
<tr>
<td>PL8210010</td>
<td></td>
<td>1 set</td>
</tr>
</tbody>
</table>

![Clevis Wrench Image]

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

### Standard Servo

<table>
<thead>
<tr>
<th>Code No.</th>
<th>Size</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>SV4031</td>
<td></td>
<td></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

![Standard Servo Image]
Ducted Fan Pattern

Warbirds Funfly

Scale Electric

Sports Glider

Trainer Boat

Accessories

Covering
(Lightex / Toughlon)

The World Models Manufacturing Co., LTD.
www.theworldmodels.com