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Dancing Wings Hobby R0301

Dancing Wings Hobby 580mm Mini Stick Electric Training Sport Airplane R0301 User Manual

Model: R0301

1. Introduction

Welcome to the world of RC aviation with the Dancing Wings Hobby 580mm Mini Stick Electric Training Sport Airplane R0301. This balsa wood kit is designed for enthusiasts who enjoy the building process as much as the flying. The R0301 is a lightweight, electric-powered model suitable for training and sport flying. Please read this manual thoroughly before beginning assembly and operation to ensure a safe and enjoyable experience.

2. Safety Information

Operating remote-controlled aircraft requires caution and responsibility. Failure to operate this product safely and responsibly could result in injury or damage to the product or property. Always adhere to the following safety guidelines:

- **Adult Supervision:** This product is recommended for ages 16 and up. Adult supervision is advised for younger users.
- **Flying Area:** Always fly in open areas, away from people, buildings, trees, power lines, and other obstacles. Do not fly near airports or restricted airspace.
- **Weather Conditions:** Avoid flying in strong winds, rain, or other adverse weather conditions.
- **Battery Safety:** Use only recommended batteries. Handle LiPo batteries with extreme care. Do not overcharge, over-discharge, or puncture batteries. Store them in a fire-safe container.
- **Propeller Safety:** Keep hands, face, and loose clothing away from the propeller when the motor is connected to a power source. The propeller can cause serious injury.
- **Pre-Flight Check:** Before each flight, ensure all components are securely attached, control surfaces move freely and correctly, and batteries are fully charged.
- **Respect Others:** Be mindful of others in your flying area.

3. Package Contents

The R0301 kit includes precision laser-cut balsa wood parts and essential hardware for assembly. Please verify all

components are present before starting construction.

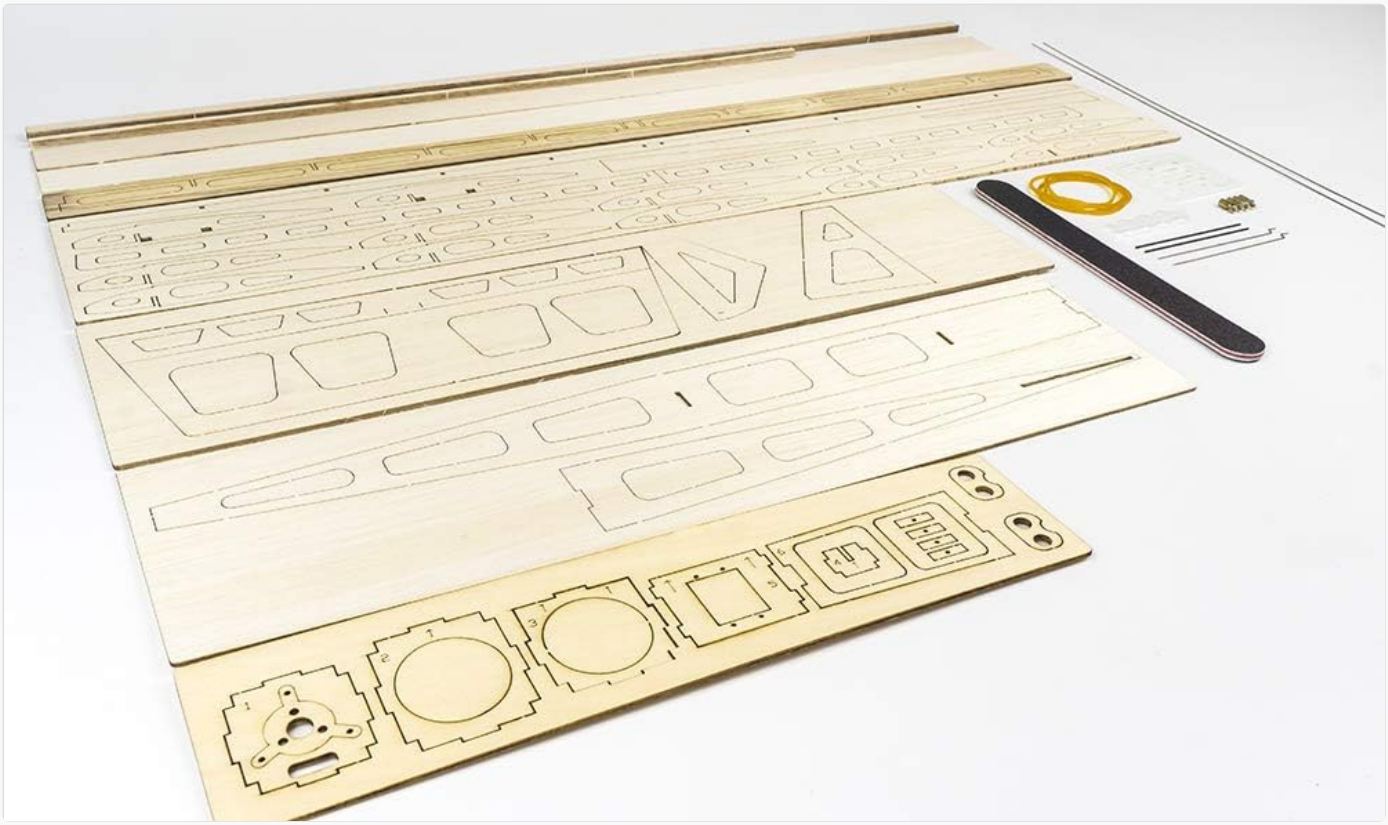


Image: All balsa wood kit components, including laser-cut sheets, small hardware, and rubber bands, laid out on a flat surface.



Image: A closer view of the kit contents, showing detailed balsa wood sheets, a sanding stick, pushrods, and other small accessories.

Standard R0301 Kit Contents:

- Laser-cut Balsa Wood Sheets for Wings, Fuselage, and Tail
- Small Hardware (e.g., control horns, pushrods, clevises)
- Rubber Bands for Wing Attachment
- Sanding Stick
- Assembly Manual (printed instructions)

Note: This R0301 version is a KIT only. Electronic components (motor, ESC, servos, propeller, battery, radio receiver) and

covering film are not included and must be purchased separately.

4. Setup (Assembly Instructions)

The R0301 is a build-it-yourself kit. Detailed assembly instructions are provided in the included printed manual. The following is a general overview of the assembly process. Refer to your specific manual for step-by-step guidance and diagrams.

Required Tools and Materials (Not Included):

- Hobby Knife or Razor Blade
- Wood Glue (e.g., CA glue, Titebond)
- Sandpaper (various grits)
- Small Pliers and Screwdrivers
- Covering Film and Heat Iron (if desired for finishing)
- Electronic Components (Motor, ESC, Servos, Receiver, Battery, Radio Transmitter)

Assembly Steps Overview:

1. **Unpack and Identify Parts:** Carefully remove all balsa parts from the sheets. Organize them according to the assembly manual.
2. **Wing Assembly:** Construct the wing panels by gluing ribs to spars. Ensure proper dihedral (upward angle of the wings) if specified.
3. **Fuselage Assembly:** Build the fuselage structure, ensuring it is straight and true.
4. **Tail Section Assembly:** Assemble the horizontal stabilizer and vertical stabilizer (fin and rudder).
5. **Join Sections:** Attach the wing to the fuselage (typically with rubber bands for this model), and the tail section to the rear of the fuselage.
6. **Install Electronics:** Mount the motor, Electronic Speed Controller (ESC), servos, and receiver in their designated locations within the fuselage. Connect wiring as per the ESC and receiver manuals.
7. **Control Surface Linkage:** Connect the servos to the elevator and rudder control horns using the provided pushrods and clevises. Ensure smooth, free movement of all control surfaces.
8. **Covering (Optional):** If using covering film, apply it carefully to the wing, fuselage, and tail sections according to the film manufacturer's instructions.
9. **Center of Gravity (CG) Check:** This is critical for stable flight. Locate the recommended CG point in your assembly manual and balance the aircraft by adjusting battery placement or adding small weights if necessary.



Image: Top view of the fully assembled balsa wood airframe, showing the wing attached to the fuselage with yellow rubber bands.



Image: Side view of the assembled balsa wood airframe, highlighting the fuselage and tail structure.

5. Operating Instructions

Once assembled and all electronics are installed and tested, you are ready for flight. Always perform pre-flight checks before each session.

Pre-Flight Checks:

- **Battery:** Ensure the flight battery is fully charged and securely installed.
- **Transmitter:** Turn on your radio transmitter first, then connect the aircraft's battery.
- **Control Surfaces:** Verify that all control surfaces (elevator, rudder) move freely and in the correct direction relative to your transmitter inputs.
- **Motor:** Briefly test the motor at low throttle, ensuring the propeller spins correctly and is securely attached.
- **CG:** Re-check the Center of Gravity.

Takeoff:

For hand-launch models like the Mini Stick, hold the aircraft firmly, apply about 70-80% throttle, and gently push it forward into the wind. Do not throw it upwards aggressively. Allow it to gain speed and climb gradually.

Flying:

The Mini Stick is a training and sport model. Use small, smooth control inputs. Practice gentle turns and altitude control. Avoid aggressive maneuvers until you are comfortable with the aircraft's response.

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Video: A demonstration of the 580mm Balsa Airplane Mini Stick in flight, showcasing its stability and maneuverability in an open field.

Landing:

Reduce throttle and approach the landing area into the wind. Maintain enough speed for control, then gently flare (pull back on the elevator) just before touching down to slow the descent.

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Video: Footage of the R03 0.6M Balsa Mini-stick flying, demonstrating its performance and ease of handling in the air.

Post-Flight:

Disconnect the aircraft's battery first, then turn off your transmitter. Inspect the aircraft for any damage or loose components.

6. Maintenance

Regular maintenance will extend the life of your Mini Stick airplane.

- **Inspection:** After each flight, check for loose glue joints, cracks in the balsa wood, or damage to the covering film.
- **Electronics:** Ensure all wires are secure and free from damage. Check motor and servo functionality.
- **Control Linkages:** Verify that pushrods and clevises are secure and control surfaces move smoothly without excessive play.
- **Propeller:** Inspect the propeller for nicks or cracks. Replace damaged propellers immediately.
- **Cleaning:** Keep the aircraft clean from dirt, grass, and debris.
- **Storage:** Store the aircraft in a cool, dry place, away from direct sunlight and extreme temperatures, to prevent warping of the balsa wood.

7. Troubleshooting

Here are some common issues and their potential solutions:

Problem	Possible Cause	Solution
Aircraft does not fly straight.	Incorrect CG, warped wing/tail, misaligned control surfaces.	Re-check CG. Inspect for warps and correct. Adjust control surface trims or linkages.
Loss of control during flight.	Radio interference, low receiver battery (if applicable), range issue, loose connections.	Fly in an interference-free area. Ensure all batteries are charged. Perform a range check. Secure all connections.
Motor not spinning or weak power.	Low flight battery, ESC not armed, motor/ESC/battery connection issue, damaged motor/ESC.	Charge flight battery. Ensure ESC is properly calibrated and armed. Check all wiring. Inspect components for damage.

Problem	Possible Cause	Solution
Short flight times.	Battery not fully charged, old/damaged battery, inefficient propeller, excessive weight.	Ensure battery is fully charged. Replace old batteries. Use recommended propeller. Reduce unnecessary weight.

8. Specifications

Key technical specifications for the Dancing Wings Hobby 580mm Mini Stick Electric Training Sport Airplane R0301:

- **Wingspan:** 580mm
- **Fuselage Length:** 460mm
- **Flying Weight:** Approximately 110g (without battery)
- **Material:** Balsa Wood
- **Power Source:** Electric (Battery Powered)
- **Operation Mode:** Remote Control
- **Recommended Age:** 16 years and up
- **Suggested Motor:** MM1404 2900KV
- **Suggested ESC:** 10A (2S compatible)
- **Suggested Servos:** 2.5g * 3pcs
- **Suggested Propeller:** 5 inch
- **Suggested Battery:** 2S 250-400mAh LiPo
- **Suggested Radio:** 4-channel or more

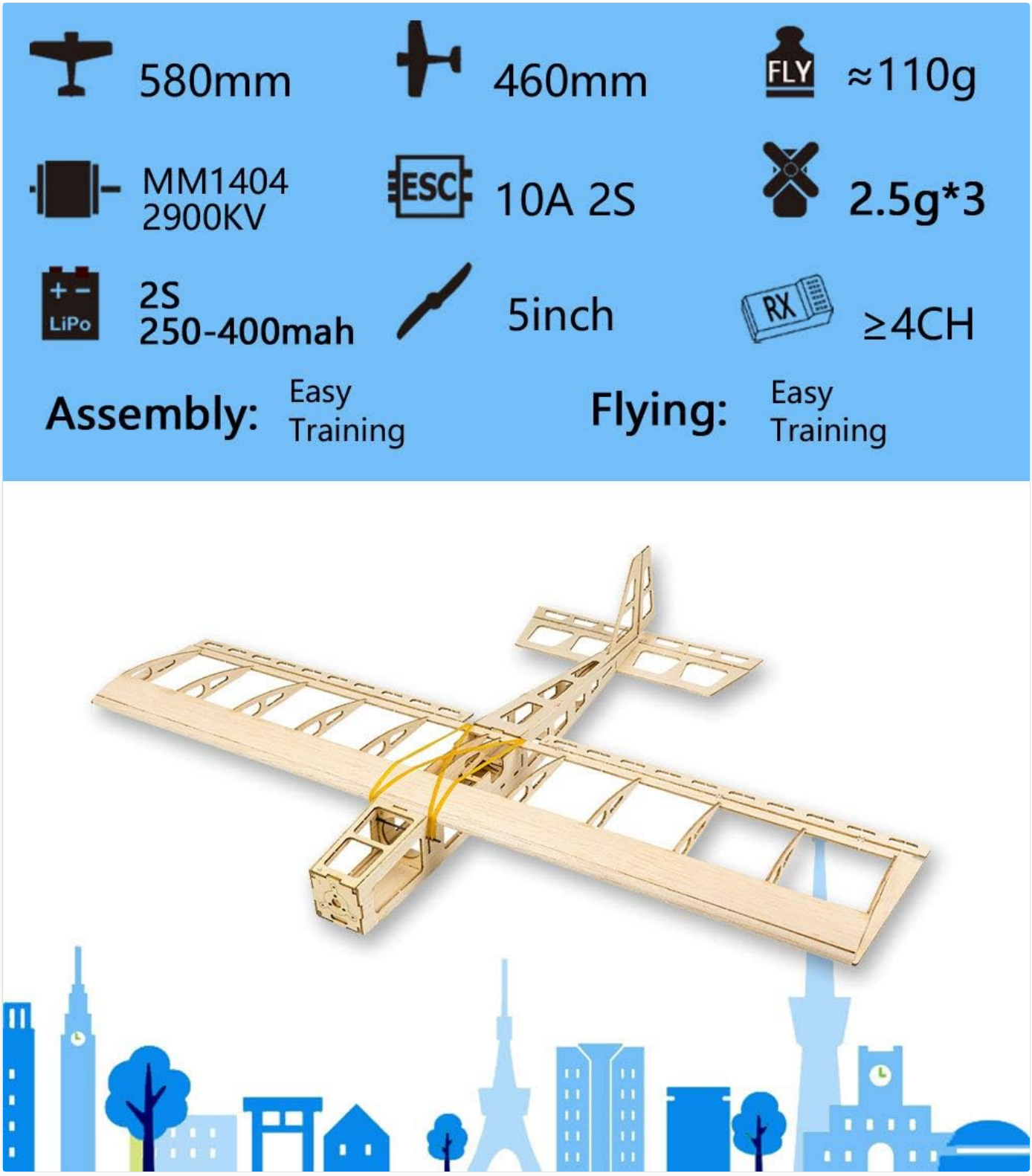


Image: An infographic displaying the wingspan (580mm), fuselage length (460mm), flying weight (approx. 110g), and suggested electronic components for the R0301 model.



Image: The product packaging box, indicating its dimensions (590x110x50mm) and weight (350g).

9. Warranty & Support

Dancing Wings Hobby is committed to providing quality products. For any questions regarding assembly, operation, or if you encounter any issues with your R0301 kit, please refer to the detailed assembly manual included in your package. If further assistance is needed, please contact the seller or manufacturer directly through their official support channels. Please retain your proof of purchase for any warranty claims.

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