Dancing Wings Hobby S2301B

Dancing Wings Hobby S2301B 1.2M Piper Cub J3 Balsa Wood Electric Airplane Kit Instruction Manual

Model: S2301B | Brand: Dancing Wings Hobby

1. Introduction

This instruction manual provides comprehensive guidance for the assembly, operation, and maintenance of your Dancing Wings Hobby S2301B 1.2M Piper Cub J3 Balsa Wood Electric Airplane Kit. This model is an upgraded version of the S08 J3, featuring enhanced design elements for improved performance and user experience. Please read this manual thoroughly before beginning assembly or operation to ensure safe and correct usage.
The S2301B kit includes the balsa wood airframe and 4M yellow covering film. Additional components such as motor, ESC, servos, battery, and radio system are required and sold separately, unless specified in a different kit variant.

2. Safety Information

Operating remote control aircraft requires caution and adherence to safety guidelines. Failure to follow these instructions may result in injury or damage to property.

- **Adult Supervision:** This product is recommended for individuals 18 years and older. Adult supervision is advised for younger users.
- **Flying Area:** Always operate the aircraft in open, clear areas, away from people, buildings, power lines, and other obstacles. Avoid flying near airports or restricted airspace.
- **Weather Conditions:** Do not fly in strong winds, rain, or other adverse weather conditions.
- **Battery Safety:** Use only recommended batteries and chargers. Follow all battery charging and handling instructions to prevent fire or explosion. Disconnect the battery when not in use.
- **Propeller Safety:** Keep hands, face, and loose clothing away from the propeller when the motor is powered. 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 the battery is fully charged.
- **Respect Others:** Be mindful of others in your flying area. Do not operate the aircraft in a manner that could

disturb or endanger people or animals.

3. Package Contents

The S2301B kit includes the following components:

- Laser-cut Balsa Wood Airframe Parts
- Molded Plastic Cowling
- Windscreen
- Functional Landing Gear (wheels, struts)
- Metal Rods for control linkages
- Comprehensive Hardware Pack (screws, hinges, etc.)
- 4M Yellow Covering Film
- Instruction Manual (this document)

Image 3.1: Contents of the S23 1.2M Piper Cub Balsawood Airplane Kit. The image displays the kit box opened, revealing various laser-cut balsa wood parts, a plastic cowling, landing gear components, and a bag of small hardware. A roll of yellow covering film is

also visible.

4. Setup & Assembly

Assembly of this balsa wood kit requires patience and attention to detail. It is recommended for experienced modelers or beginners with adult guidance. Tools and adhesives are not included and must be acquired separately.

4.1 Required Tools and Materials (Not Included)

- Modeling Knife or Razor Blade
- Sanding Blocks and Sandpaper (various grits)
- CA Glue (Cyanoacrylate) and/or Wood Glue
- Activator for CA Glue (optional)
- Covering Iron or Heat Gun
- Small Screwdrivers (Phillips and Flathead)
- Pliers
- Ruler and Pencil
- Drill and Small Drill Bits
- Heat Shrink Tubing (for electronics)
- Soldering Iron and Solder (for electronics)

4.2 General Assembly Steps

1. **Review Instructions:** Carefully read through the entire manual and examine all parts before beginning assembly.
2. **Wing Assembly:** Assemble the balsa wood wing sections according to the provided diagrams. Ensure the wing is straight and true. The S2301B features a removable wing for convenience.
3. **Fuselage Assembly:** Construct the fuselage frame. Pay close attention to alignment for proper flight characteristics. The cabin is designed with magnetic absorption for easy access to the power system.
4. **Tail Section:** Assemble and attach the horizontal and vertical stabilizers.
5. **Landing Gear Installation:** Install the functional landing gear and aluminum structural bracing.
6. **Covering:** Apply the yellow covering film to the airframe using a covering iron or heat gun. Ensure a smooth, wrinkle-free finish.
7. **Power System Installation (Sold Separately):**
    - Install the recommended electric motor (e.g., 2216 980KV) into the motor mount.
    - Mount the Electronic Speed Controller (ESC) and connect it to the motor and battery connector.
    - Install four 9g servos for control surfaces (ailerons, elevator, rudder).
    - Connect servos to the receiver (4+ channel radio system required).
    - Install the propeller (9-10 inch recommended) onto the motor shaft.
    - Secure the flight battery (3S 2200-2800mAh recommended) within the fuselage, ensuring proper Center of Gravity (CG).
8. **Final Checks:** Verify all connections, control surface movements, and CG before the first flight.

Image 4.1: Side view of the assembled Piper Cub J3 balsa wood airplane, showcasing its classic design and landing gear.

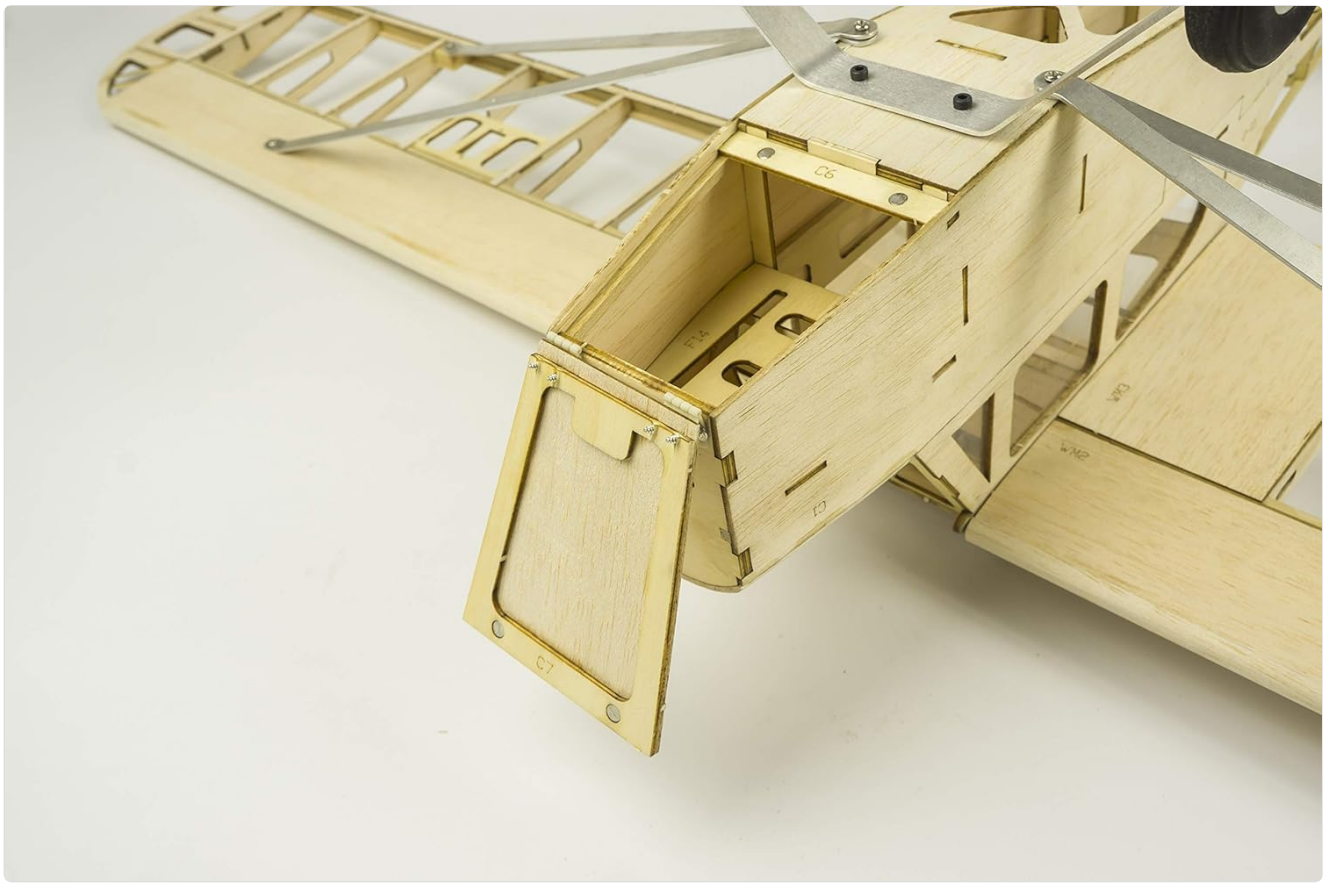

Image 4.2: Close-up view of the open cabin, demonstrating the magnetic absorption design for convenient access to internal components like the battery and electronics.

5. Operating Instructions

Before operating your Piper Cub J3, ensure you are familiar with the controls of your radio transmitter and have performed all pre-flight checks.

5.1 Pre-Flight Checklist

- Verify all control surfaces (ailerons, elevator, rudder) move freely and in the correct direction relative to stick input.
- Ensure the flight battery is fully charged and securely installed.
- Check that the propeller is securely attached and free from damage.
- Confirm the Center of Gravity (CG) is within the recommended range.
- Perform a range check of your radio system.
- Inspect the flying area for any potential hazards.

5.2 Takeoff

Place the aircraft on a smooth, level surface facing into the wind. Gradually increase throttle while applying slight up-elevator to lift the tail. Once sufficient speed is gained, gently apply more up-elevator to lift off. Maintain a steady climb rate.

5.3 Flight Controls

- **Throttle:** Controls motor speed and altitude.
- **Elevator:** Controls pitch (nose up/down).
- **Ailerons:** Controls roll (wing tilt) for turns.

- **Rudder:** Controls yaw (nose left/right) for coordinated turns and ground steering.

5.4 Landing

Approach the landing strip into the wind. Reduce throttle gradually to control descent rate. Maintain sufficient airspeed to avoid stalling. As the aircraft nears the ground, gently apply up-elevator to flare and touch down smoothly on the main landing gear, then allow the tail wheel to settle.

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Video 5.1: This video demonstrates the S23 1.2M Piper Cub J3 balsa wood airplane taking off and performing a flight. It shows the aircraft's stable flight characteristics and maneuverability in an open field setting.

6. Maintenance

Regular maintenance ensures the longevity and safe operation of your model aircraft.

- **Post-Flight Inspection:** After each flight, inspect the airframe for any damage, loose connections, or wear. Check control surfaces, linkages, and landing gear.
- **Cleaning:** Keep the aircraft clean from dirt, grass, and debris. Use a soft cloth to wipe down surfaces.
- **Battery Care:** Store batteries in a cool, dry place at storage voltage. Do not leave batteries fully charged or fully discharged for extended periods.
- **Propeller Check:** Regularly inspect the propeller for cracks, nicks, or bends. Replace damaged propellers immediately.
- **Motor and ESC:** Ensure the motor spins freely and the ESC connections are secure. Monitor for any unusual heat or noise during operation.
- **Covering Film:** Periodically check the covering film for wrinkles or tears. Re-tighten with a covering iron on low heat if necessary.

7. Troubleshooting

Problem	Possible Cause	Solution
Aircraft does not respond to controls.	Battery discharged. Receiver not bound to transmitter. Loose wiring connection.	Charge flight battery and transmitter battery. Re-bind receiver to transmitter. Check all wiring connections between receiver, servos, ESC, and battery.
Motor not spinning.	ESC not armed. Motor or ESC connection issue. Damaged motor or ESC.	Ensure throttle trim is at lowest setting and throttle stick is at zero. Check all motor-to-ESC and ESC-to-battery connections. Test components individually if possible; replace if damaged.

Problem	Possible Cause	Solution
Aircraft flies erratically or is difficult to control.	Incorrect Center of Gravity (CG). Control surfaces reversed. Damaged control surface or linkage. Windy conditions.	Adjust battery position to correct CG. Check transmitter settings for correct control surface direction. Inspect and repair any damaged parts. Fly in calmer weather.

8. Specifications

Feature	Detail
Model	S2301B (S23 EP J3 CUB 1.2M Kit with 4M Film Yellow)
Wingspan	1200mm
Fuselage Length	725mm
Flying Weight	Approximately 750g
Recommended Motor	2216 980KV (or similar)
Recommended ESC	20A (or similar)
Recommended Servos	9g * 4pcs
Recommended Propeller	9-10 inch
Recommended Battery	3S 2200-2800mAh LiPo
Recommended Radio	4+ Channel
Assembly Difficulty	Beginner (with experience) / Intermediate
Item Weight (Kit)	2.86 pounds
Manufacturer Recommended Age	18 years and up

Image 8.1: An infographic displaying key specifications such as wingspan (1200mm), fuselage length (725mm), flying weight (approx. 0.75kg), recommended motor (MM2212-2216 900-1200KV), ESC (20A), servos (9g*4), battery (3S LiPo 2200-2800mAh), propeller (9-10 inch), and radio (4CH).

9. Warranty & Support

9.1 Warranty Information

Dancing Wings Hobby products are manufactured to high standards. Due to the nature of remote control model kits, which require user assembly and involve various electronic components (sold separately), specific warranty terms may vary. Please retain your proof of purchase.
For issues related to manufacturing defects in the kit components, please contact the seller or manufacturer directly within the return policy period (e.g., 30 days from purchase). Damage resulting from improper assembly, operation, crashes, or modification is not covered under warranty.

9.2 Customer Support

For technical assistance, missing parts, or other inquiries, please contact your retailer or the manufacturer, Dancing Wings Hobby. You may find additional resources and contact information on the official Dancing Wings Hobby

website or through the seller's support channels.

Seller: HOBBYACC

Amazon Store: Visit the Dancing Wings Hobby Store on Amazon