Sky Eagle
User Guide

PITSCO EDUCATION

60089 V0613

Cautionary and Warning Statements

- This kit is designed and intended for educational purposes only.
- Use only under the direct supervision of an adult who has read and understood the instructions provided in this user guide.
- Read warnings on packaging and in manual carefully.
- Safety glasses required when flying.
- Do not aim the plane at people.

Materials Included

- Bundle of balsa sticks (9 short and 1 long – the long one is the motor stick)
- Plane plan
- Propeller
- Rubber motor
- Pin

Items Required (not included)

- Foam board or cardboard piece slightly bigger than the plane plan
- Transparent tape
- 4 to 6 pins
- Glue stick
- White glue or CA adhesive
- Hobby knife
- Sanding paper or sanding block (optional)
- Rubber band winder (optional but recommended)
- Card stock or index cards (optional)
- Pencil or pen

Building Tips

- Don't cut the wood pieces too short – it's better to cut them too long and trim or sand them to the length needed.
- After cutting sticks, don't throw away the scraps – some are used later in the construction.
- The glue stick is for gluing sticks to the paper plan. The white or CA glue is for gluing joints. Be careful not to use too much glue.

Building the Frame

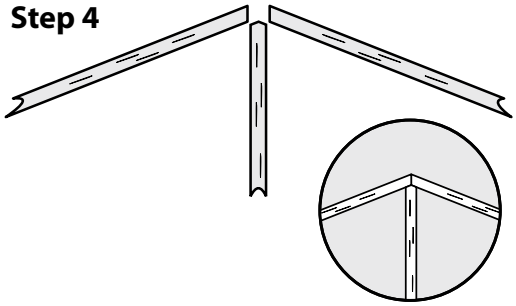
Note: If using white glue, put some glue on the ends of the pieces as you build the frame wherever the plan says "Glue Joint." (If using CA glue, you will place a drop of glue on top of each place marked "Joint" at Step 10.) Do NOT glue the joints on center wood piece on the wing.

1. Place the plan on top of the foam board or cardboard. Do this so you can read the writing on the plan. If you cannot, turn it over. Tape the corners of the plan down to your board.

2. Taking one of the short balsa sticks, line it up with the center line of the wing outline on the plan. Cut it to length and then either cut or sand the ends to match the precise angles on the plan.

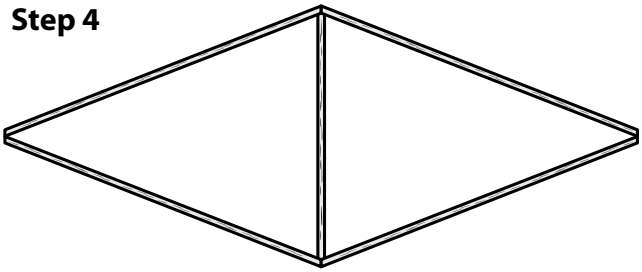
3. Apply the glue stick to a flat side of the balsa stick and press it into place on the plan.

Step 4

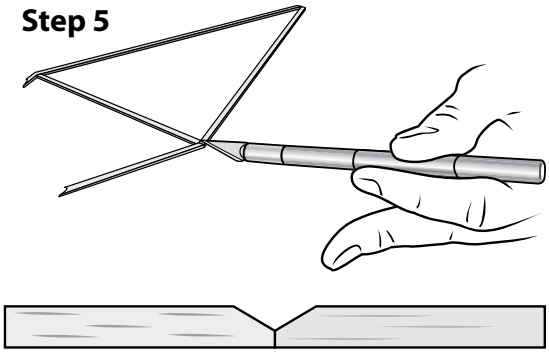


4. Now line up, mark, and cut or sand the end angles for the four outside pieces of the wing. Without gluing the joints (where the stick ends meet) together, glue each stick onto the plan.

Step 4

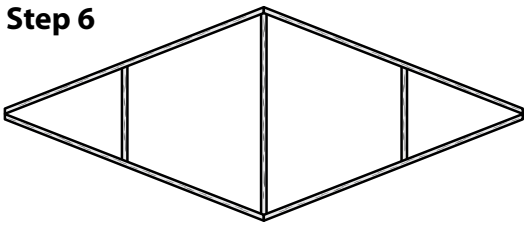


Step 5



5. On the joint of both the top and bottom of the wing's underside, carefully cut a notch in the sticks. The notch should create a small V shape where the sticks meet.

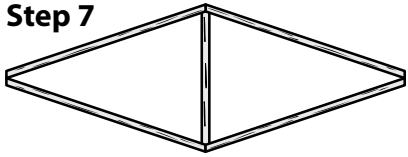
Step 6



6. Use two balsa scrap pieces to cut, angle, and glue the two small side pieces of the wing frame.

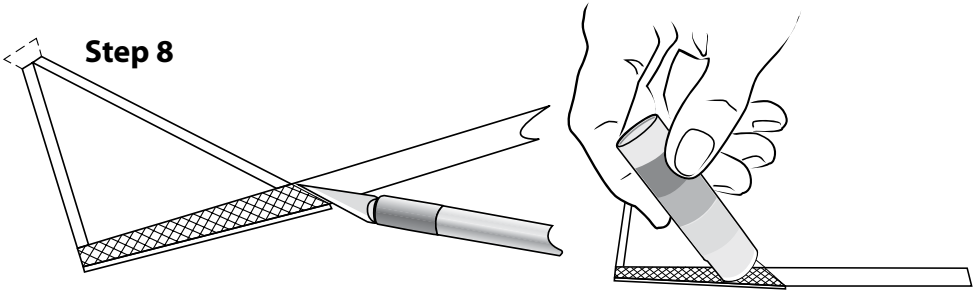
7. Repeat the process in Steps 2-4 with the tail on the plan. First do the center stick using a scrap. Then add the four side sticks.

Step 7



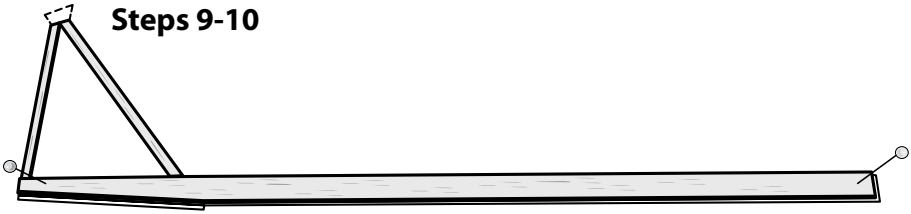
8. Using the hobby knife, cut the plan on the left edge of the gridded area on the motor stick outline. Apply glue stick on this gridded area.

Step 8



9. Line up the motor stick in place on top of its outline and pin it in place on the board.

Steps 9-10

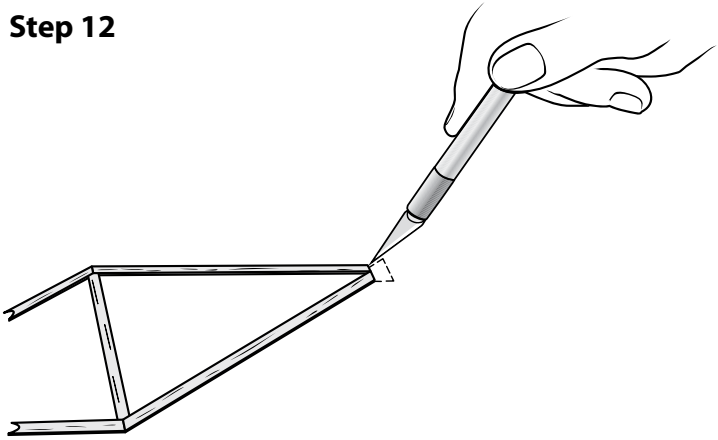


10. Cut, angle, and glue the vertical stick on the rudder and then add the angled rudder brace. **Tip:** If using white glue, glue the ends as you apply the sticks to create a stronger joint.

11. If using CA glue, you will place a drop of glue on top of each place marked "Glue Joint" on the plan.

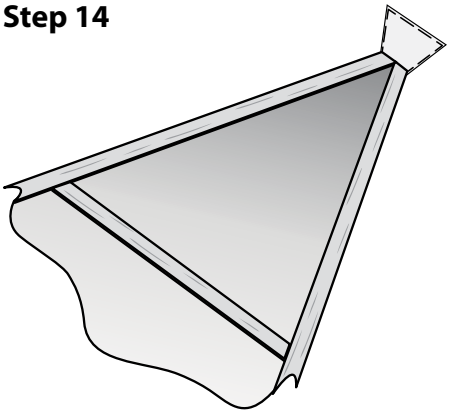
12. Using the hobby knife, carefully cut the thin paper around each piece – make sure you do not cut off the paper tabs at the ends of the wing, tail, and rudder (they will have a dotted line edge).

Step 12



13. Remove the pins from the motor stick. Apply glue stick to the tabs and fold them over the joints. Trim off excess paper, if you wish.

Step 14



Putting Together the Plane

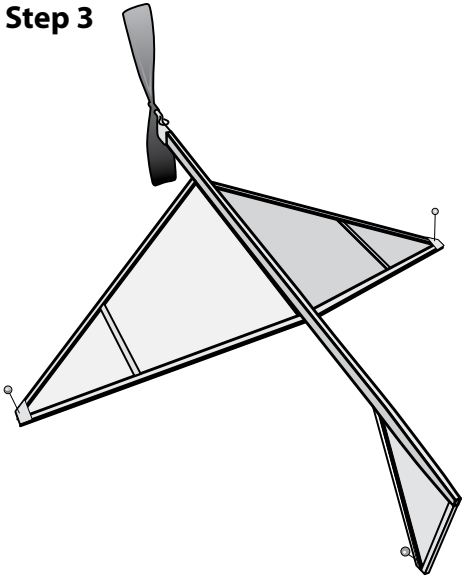
1. Mark the leading edge – the 2-1/2" spot marked on the plan – on your motor stick.

2. Apply glue to the center stick of the wing and line up the wing on top of a narrow side of the motor stick. The front of the wing should line up with the leading edge mark you made earlier. Pin in place.

3. Place the propeller on the front of the motor stick with the hook eye on the underside of the plane.

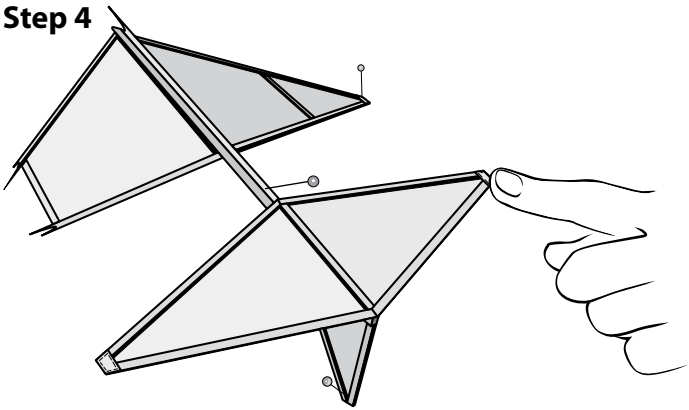
3. Turn over the plane and pin the outside corner of one wing into the foam board or cardboard. Gently push in the other wing so that the center of the plane moves upward – do this so the top of the rudder and a propeller end is just touching the board and the motor stick and tail are straight vertically. Then pin the other wing corner into the board. Place a pin to keep the rudder straight.

Step 3



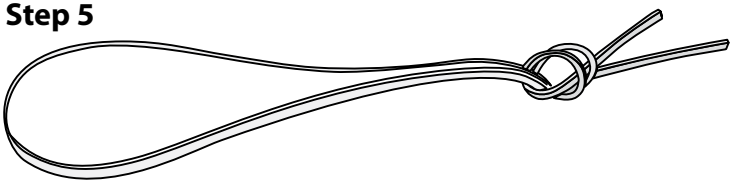
4. Glue the tail on the end of the motor stick as shown. Let the plane dry and remove the pins. Take the pin that came with the kit and insert it at an angle under the motor stick as shown. The pin should be almost all the way through the stick.

Step 4



5. Take the rubber motor and fold it in half. Take the side with the two free ends and tie a knot. Hook the unknotted end of the motor on the hook eye below the propeller. Hook the other end over the pin.

Step 5

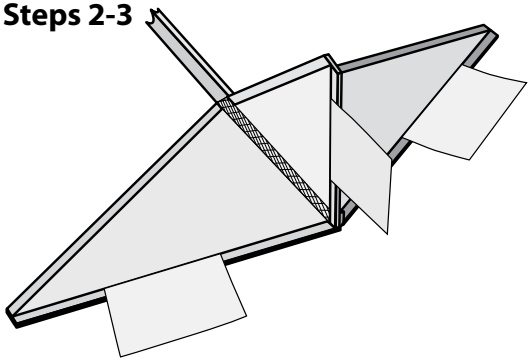


Adding Trim Tabs

1. The plane will fly better and be more maneuverable if you add trim tabs. To do this, cut out small tabs from the card stock or index cards. They should be approximately 1" x 5/8".

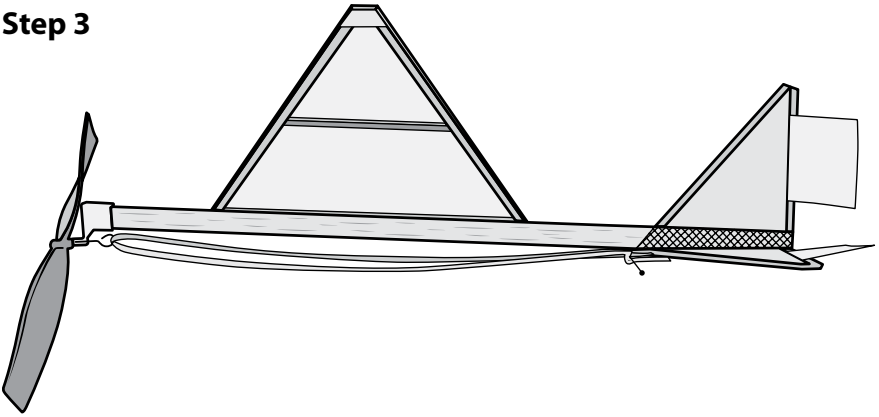
2. Apply glue stick to the edge of each tab. Place a tab each on the back edge of the tail as shown. Bending these up will help to correct a plane that dives. Bending these down will help to correct a plane that stalls.

Steps 2-3



3. Then apply one to the vertical rudder. This can be bent slightly to make the plane turn in a circle. Your Sky Eagle is complete.

Step 3

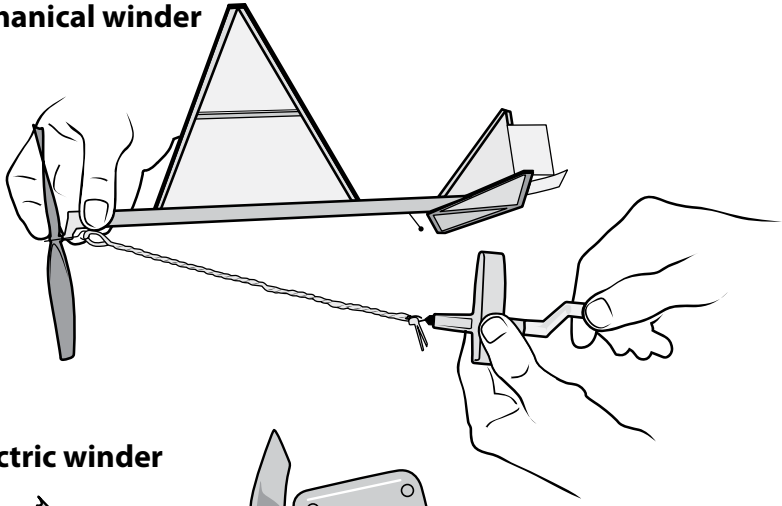


Flying the Plane

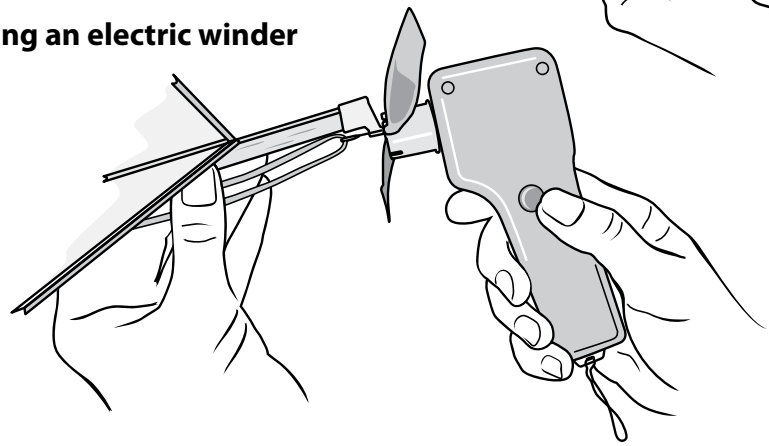
Caution: Before flying your plane, make sure you have a large, open area to fly it in. Make sure no one is in the way of your flight path.

1. Holding the motor stick with one hand, wind the rubber band clockwise. If you have a winder, use that and follow its directions (see illustrations on next page). We recommend 100 to 400 winds – do not wind it more than 400 turns. For the first flight, only wind it 100 times and test the plane.

Using a mechanical winder



Using an electric winder



2. Holding the propeller so it doesn't unwind, tilt the nose of the plane up a bit. Releasing the propeller, gently toss the plane in the direction of your chosen flight path. Make any changes to the trim tabs that you think are necessary and test it again. Ideally, the plane will fly in a gentle upward spiral.

3. When the plane flies as you like, you can wind it for a longer flight.

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