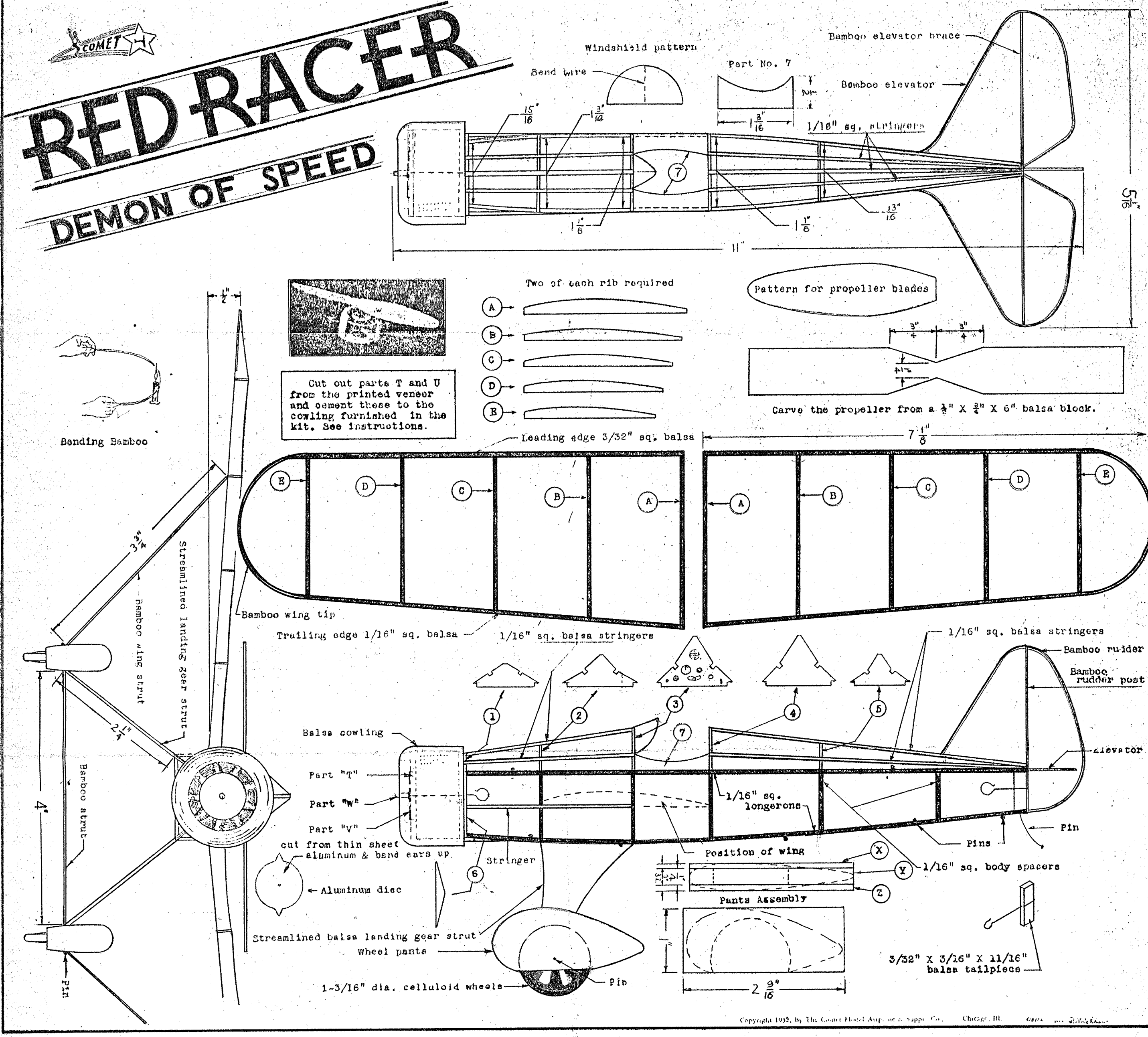
RED RACER

DEMON OF SPEED



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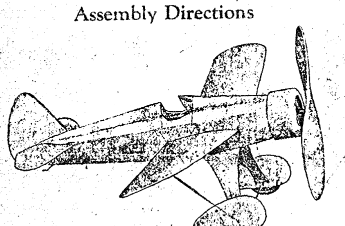
Assembly Directions



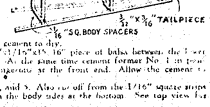
Streamlined in all details this flying fury can be depended upon for fast steady flights. Yet this Comet crafted ship is easy to build and fly. The kit comes to you in a beautiful package and as complete as can be.

FUSELAGE

1. Spread the sheet of waxed tissue over the plan and tack it to your workbench.
2. Open the small envelope and remove the pins. Stick these into the dots along the longerons. See side view of model. The waxed paper prevents the framework from sticking to the plan.
3. Cut one of the 1/16" sq. strips to 9⅛" long. Place this strip between the pins for the lower longeron. Use more pins if necessary to keep the strip over the line.
4. Using a sharp razor blade cut the body spacers to their proper lengths as seen in the side view and cement them to the lower longeron. These must cover the lines they are over. Stick a pin in the end of the tube of cement to open and keep it in tube when not in use.
5. Cut another of the 1/16" sq. strips to 9⅛" long and cement it to the ends of the body spacers. This is the upper longeron.
6. Repeat steps 3, 4, and 5 to make other side of fuselage.
7. Assemble body as follows:

a. Cut out former No. 1 from the printed balsa sheet. Cut off from the 1/16" sq. material a length exactly 15/16" long.

b. Remove one of the hooks from the small envelope and bend the straight end of it to fit around the 3/32"x3/16"x11/16" tailpiece found in the envelope also. Cement this to the tailpiece as shown in the drawing at right.



c. Cement the tailpiece in place between the two fuselage sides and allow the cement to dry.

d. Now cement the 1/16"x1/16"x15/16" piece of balsa between the lower longerons at the front end. At the same time cement former No. 1 in position between the upper longerons at the front end. Allow the cement to harden.

e. Cut out former 2, 3, 4, and 5. Also cut off from the 1/16" square strips the spacers that go between the body sides at the bottom. See top view for lengths.

f. Cement the formers into position between the upper longerons and cement the spacers into position between the lower longerons.

g. Cut the 1/16" sq. stringers and cement them in place. See side view.

h. Cut out the two formers marked No. 6. Cement one to each side of fuselage at the nose. Now cement a stringer to each former running from the No. 6 formers to the 3rd body spacers as shown on side view. These stringers are cemented to the edges of the spacers and not on top.

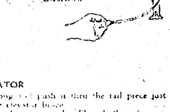
8. Cut out of the printed sheet of balsa the two pieces marked No. 7. These are for the cockpit. Cement these to formers 3 and 4.

COWLING

1. Almost all of the work is done on the cowling. All that remains to be done is to cement two circular balsa discs to it. Part "S" is already complete. Cut out parts T and U from the printed sheet balsa. Part T has the motor printed on it. Cement part T into position as shown in the photo on the plan.
2. Cut out part U and cement it into position.
3. Part V is printed on a small aluminum piece found in the envelope. Cut this out and then bend the extending ears upward. Push a pin through the center for the propeller shaft to slide in. Part W is a short length of tubing which keeps the propeller from coming into contact with the cowling when it revolves.

RUDDER

1. Cut off from one of the bamboo pieces a length 2 11/16" long. This is going to be the rudder post.
2. Cement this piece to the back of the tailpiece.
3. Bend the rudder to the shape given on the plan. This is done by the heat from a candle. Move the bamboo so that the heat is evenly distributed around the bend. The shiny side of the bamboo should always be on the outside of the bend. Some modelers have had good results with the aid of a hot soldering iron instead of the candle.
4. Sharpen the ends of the rudder and stick one end into the top stringer. Apply cement. Stick the other end into the tailpiece at the bottom. Apply cement.

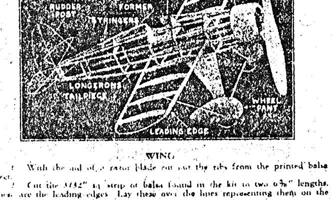


ELEVATOR

1. Cut off a piece of bamboo 5" long and push it thru the tail piece just beneath the upper longerons. This is the elevator brace.
2. Now bend the two halves of the elevator exactly alike. Follow the outline on the drawing.
3. Stick one end of the elevator into the tailpiece at the same height as the upper longerons. Stick the other end into the upper longerons and apply cement. See plan.

COVERING THE FUSELAGE

1. It is much easier to cover the fuselage while the wings and landing gear are not on the way. Cover one side at a time using a piece of tissue a little longer and wider than is actually needed so as to give trimming allowance. Do not attempt to cover the whole body at once. The banana is quick drying so you must cover the body a section at a time. Spread the red tissue to the longerons only—not to the spacers as the tissue will be drawn inward when you spray it later on.
2. The bed was the next side. From off the excess tissue with a razor blade. On one side of the fuselage at the rear leave one section uncovered. This will enable you to attach the rubber motor. Everything is covered with the red tissue except the raised portion on the top of the fuselage which is to be covered with white tissue.
3. The tissue on the fuselage is now ready to be shrunk. This is done by spraying a light mist of water on the tissue. Spray all parts at the same time so that it will shrink evenly. A handy little sprayer which is excellent for this type of work is listed in the Comet Catalog.
4. Cover the elevators on the top side only. Cover the rudder on one side also. It is best not to shrink the rudder or elevator covering as warping is likely to occur.
5. Bend a pin to the shape as on the drawing for the tailskid and stick it into the bottom of the tailpiece.



WING

1. With the aid of a razor blade cut out the ribs from the printed balsa sheet.
2. Cut the 3/32" sq. strip of balsa found in the kit to two 6⅞" lengths. These are the leading edges. Lay these over the lines representing them on the plan.
3. Cement the ribs to the leading edges. Line up the ribs so that they cover the lines.
4. Cement the trailing edges to the ends of the ribs.
5. Bend two wing tips now. These should look alike. Cement these to the frame as shown on plan. The leading and trailing edges are notched for the wing tips to fit into.

COVERING THE WINGS

1. Cut out two pieces of tissue 6"x7¾".
2. Stick the long edge of one of the pieces of tissue to the upper side of the trailing edge.
3. Stick the tissue to the first and last rib of each wing. Do not apply banana oil to the inner ribs. Work forward and pull the tissue tight around the leading edge.
4. Stick the tissue to the bottom of the trailing edge and to the outer ribs. Smooth out all wrinkles. Trim off tissue. Apply banana liquid to the wing tips and stick the tissue to the tips.
5. Shrink the tissue as before but do not get too much water on the wings as they are likely to warp from excessive shrinkage.

LANDING GEAR

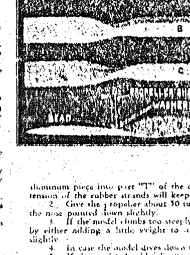
1. Cut out the streamlined landing gear struts from the printed sheet balsa.
2. Using the piece of sandpaper round off the front edges. Next sandpaper the struts so that the rear edges come to a thin edge.
3. Cement parts "X" and "Z" to each side of part "Y".
4. Cut away so that the parts conform to the outline.
5. Now streamline the pants and round off all corners.
6. Slip the wheel in place and push a pin through the pants where the point is.
7. Cement the landing gear struts to the body as shown on the side view of plan. Now cement a 4" length of bamboo between the lower ends of the struts.
8. Cement the wheel pants to the landing gear struts. Be sure the pants are in alignment. The pin which keeps the wheels in place should be cemented to the bottom of the bamboo strut.

ATTACHING WINGS TO FUSELAGE

1. Cement the wings to each side of the fuselage so that the first rib of each wing is in the position as shown by broken line on side view of plan. Note: The right hand wing, i.e. looking at the model from the front, should have a little more angle of incidence so as to counteract the torque of the propeller.
2. Cut off two lengths of bamboo each 3¾" long. These are the wing struts. Cement these into position between the wheel pants and the wing ribs as shown on plan in front view.

PROPELLER

1. Cut the propeller block to the shape as in step A. The plan have a pattern for this shape.
2. Find the exact center and push a pin through being sure to have the hole perpendicular to the face of the block.
3. Using a sharp jacknife or propeller carving knife cut away as in step B. With the aid of a piece of sandpaper give the prop blades a little camber.
4. Cut away back of block so that you have your blades about 1/16" thick as in step C. The blades are thicker at the hub and gradually thin out toward the tips.
5. Cut away from either side of the hub so that it is ⅛" thick.
6. Trim the blades down a little and smooth off with sandpaper.



7. Slip the aluminum piece onto the prop shaft with the projecting ears toward the hook. Now place the ¼" length of tubing on the shaft and then slip on the two washers with the bead in between.
8. Now push the shaft through the hole so that the cambered surfaces of the blades are toward the hook. Bend a square U and push it into the hub. Apply cement.

A silver prop with black tips is a suggestion. Silver paint is made by mixing aluminum powder with banana liquid.

FLYING THE MODEL

1. Tie the ends of the rubber strand together. Double this loop so you have four strands and with the aid of a piece of thread pull the rubber strands through the fuselage and attach to the rear hook. Slip the other end onto the prop shaft. Push the ears of the aluminum piece into part "T" of the cowling, so that the prop is centered. The tension of the rubber strands will keep the propeller in position.
2. Give the propeller about 50 turns to the right and launch the model with the nose pointed down slightly.
3. If the model climbs too steeply and falls back on its tail you can adjust it by either adding a little weight to its nose or by warping the elevators down slightly.
4. In case the model dives down to the ground warp the elevators up a trifle.
5. If the model should fall off to one side, the cause of it is that one of the elevators is warped up or down more than the other one, or that the wings are not cemented to the body properly. If you have followed instructions and the plans you will be rewarded by beautiful, speedy flights.

GUARANTEE

ALL COMET SETS AND MATERIALS ARE GUARANTEED AGAINST ANY DEFECTS

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