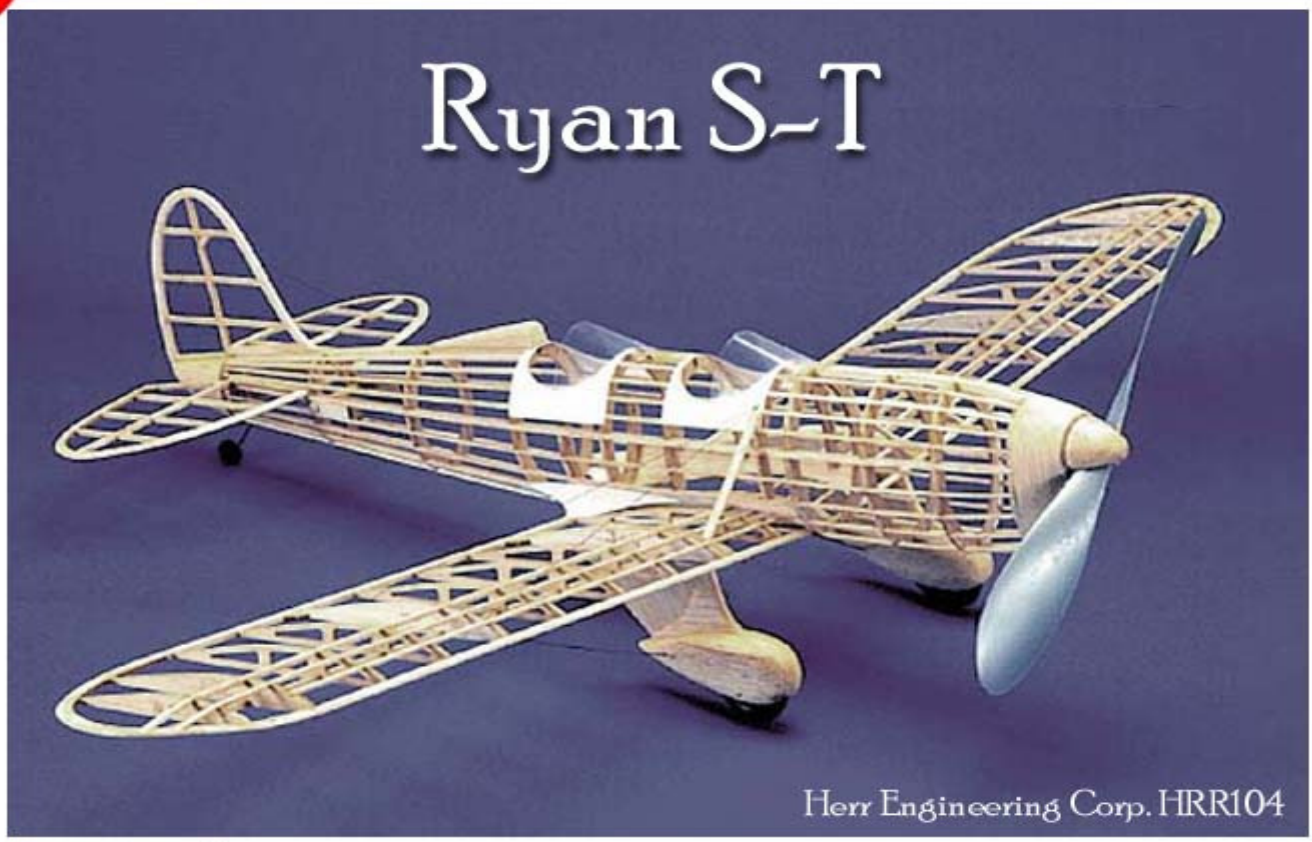
Award Winning Model Designs™



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ASSEMBLY INSTRUCTIONS

GENERAL INFORMATION

- All of the parts on the plan are identified by a number or a letter.
- Parts identified by a number are laser cut parts.
- Parts identified by a letter are stripwood pieces that you cut and fit on assembly.
- The slight discoloration of the edges of the laser cut parts may be removed by lightly sanding them with 400 grit sandpaper.

Your kit contains the following parts. Please check your kit for any missing or damaged parts before starting construction.

COMPLETE KIT PARTS LIST					
1	Plan Sheet #1	1	Decal Sheet	2	Gray Tissue
2	Wire Axle	1	Tail Wheel Assembly	1	100" Thread
1	Windshield Material	25	1/16"sq.x18" Balsa Strip	10	3/32"sq.x18" Balsa Strip
2	1/8"sq.x18" Balsa Stripp	2	3/32"x1/4"x18" Balsa Strip	1	3/16"x1 3/4" Dowel
1	Instruction Manual	1	Plastic Propeller	1	Propeller Shaft
2	Brass Thrust Washers	1	Plastic Propeller Bearing	1	Balsa Block for Spinner
2	Plastic Wheels	1	3/16"x60" Rubber Strip	14	Laser Cut Sheets

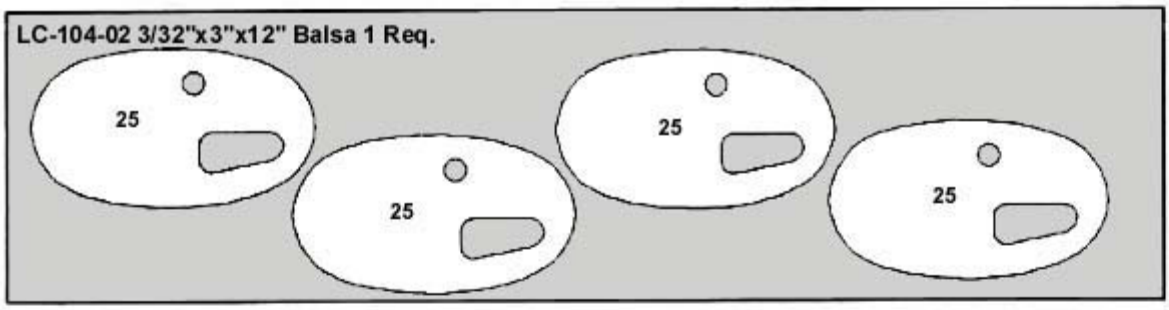
Tools and Building Supplies

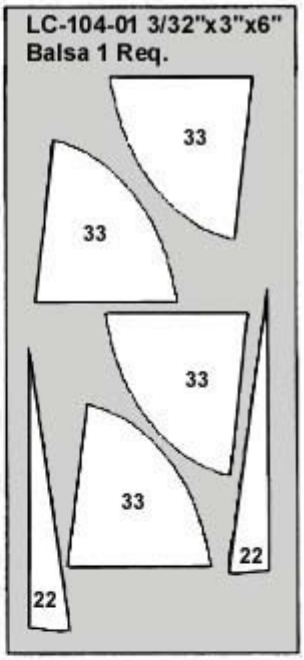
You will need the following items to assemble this model. You must read and follow all of the manufactures instructions provided with these items!

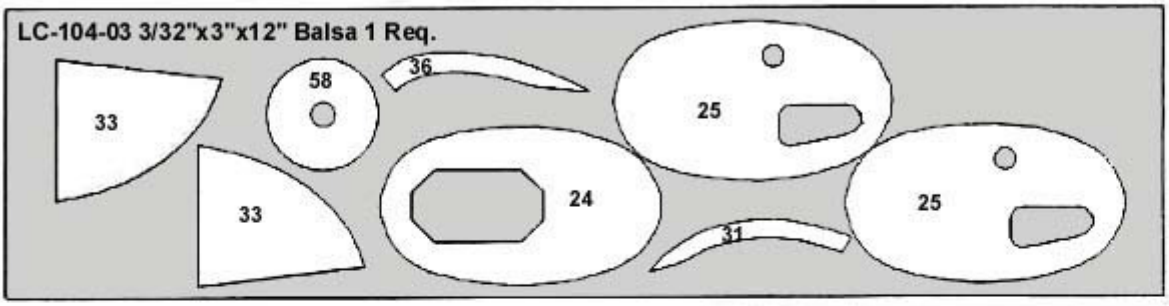
-Glue	CA, White Glue, Sigment or Ambroid all work well.
-Cutting Tools	A single edge razor blade or a hobby knife with a #11 blade can be used for all of the cutting.
-Clear Dope, Thinner & paint brush	**-200, 320 and 400 sandpaper**
-Straight Pins	**-Wax Paper**
-Needle nose pliers	**-Crayon or Candle**
-1/4", 1/16" and 1/32" Drill Bits	**-Building Board**

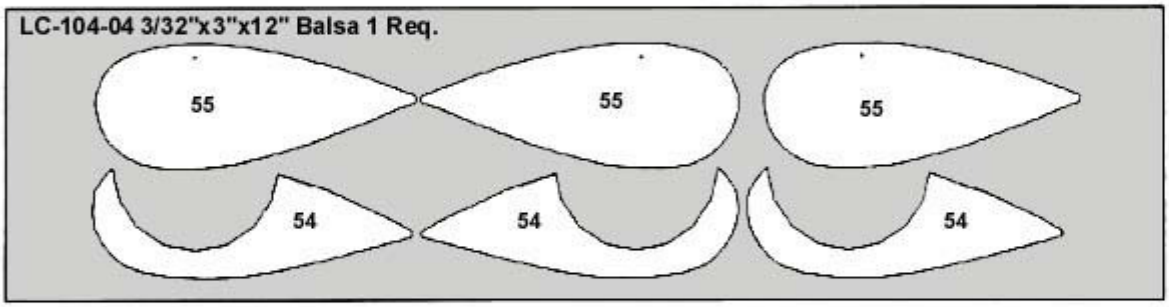
The first thing that you need to do is to identify and mark the part numbers on the laser cut parts using the drawings on the following pages as a guide.

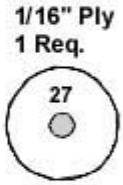
It is possible that several of the laser cut parts may not be completely cut through. If this is the case you can free the part from the sheet quickly using an X-acto knife.
NOTE: The slight discoloration on the edges of the laser cut parts may be removed by lightly sanding the edges with 400 grit sandpaper.

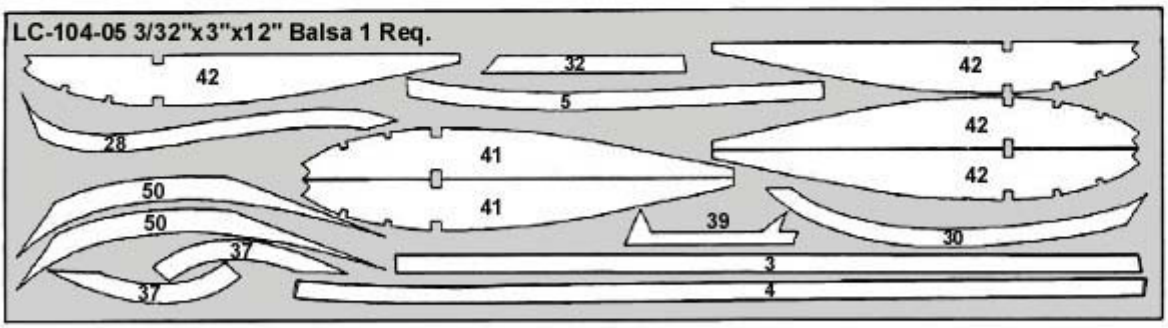


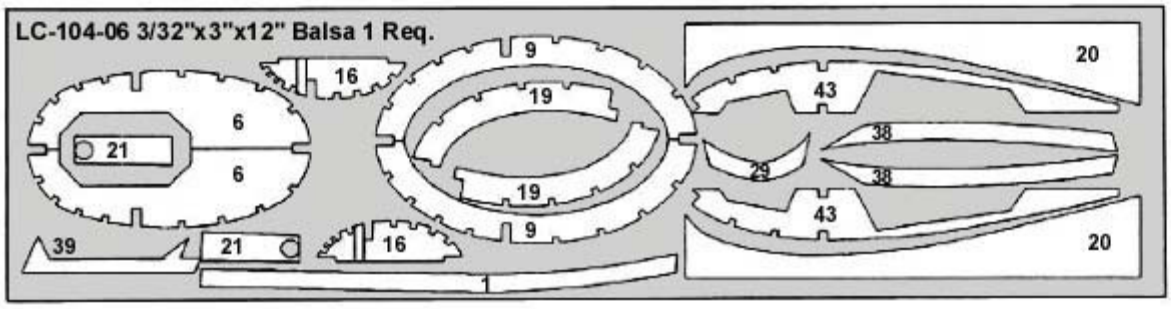




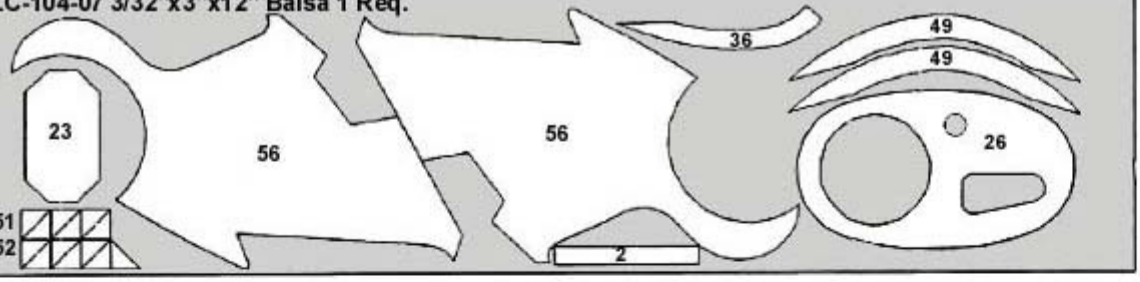




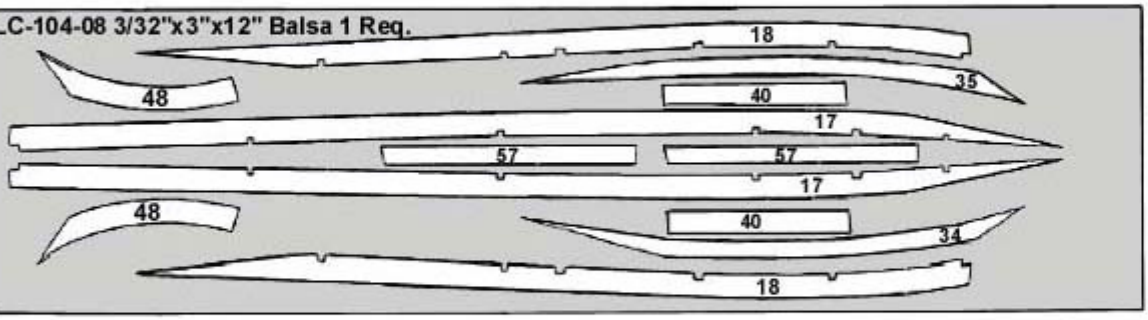




LC-104-07 3/32"x3"x12" Balsa 1 Req.



LC-104-08 3/32"x3"x12" Balsa 1 Req.



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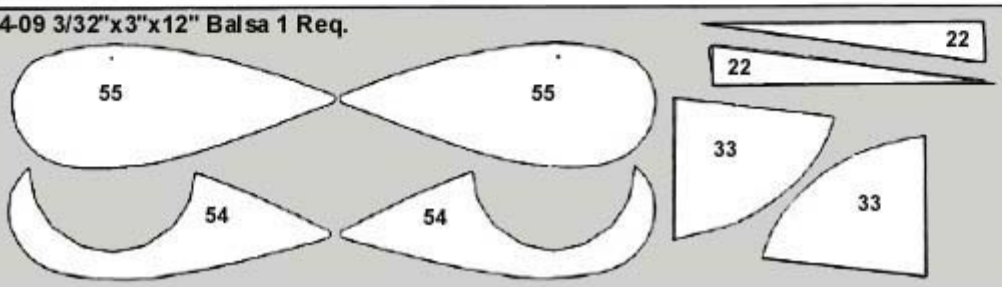
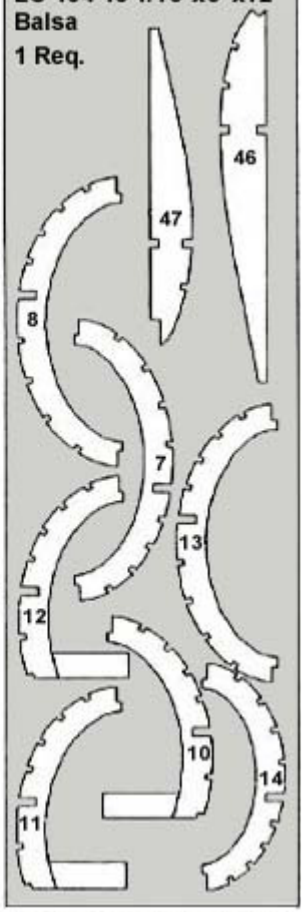
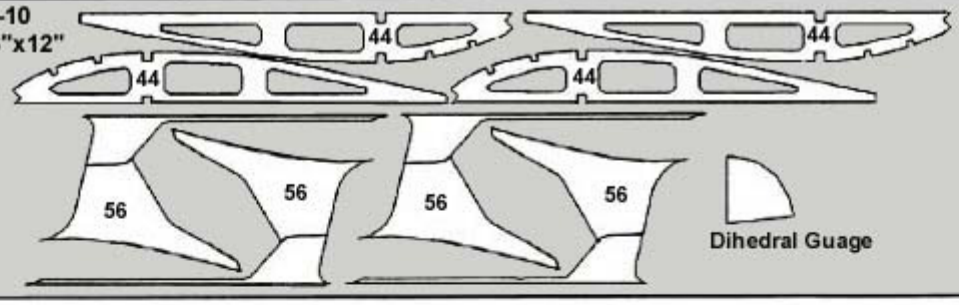


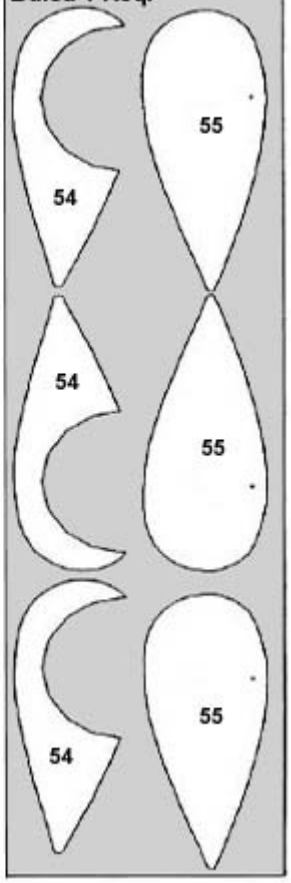
LC-104-13 1/16"x3"x12" Balsa 1 Req.



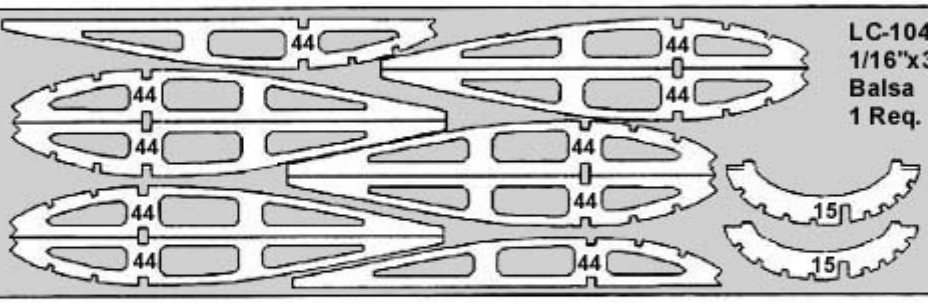
LC-104-10 1/16"x3"x12" Balsa 1 Req.

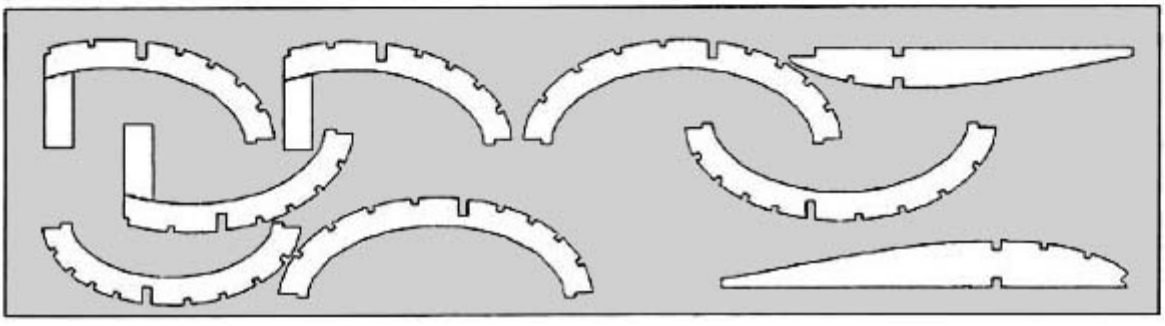


LC-104-14 3/21"x3"x12" Balsa 1 Req.



LC-104-11 1/16"x3"x12" Balsa 1 Req.





Beginners Note

These instructions were written assuming that the builder has previous building experience. If this is your frrst model then we recommend that you purchase a copy of the following book:

Rubber Powered Model Airplanes By: Don Ross

This excellent book covers basic building and flying procedures and provides valuable information about all aspects of building and flying rubber powered model airplanes.

Building the Fuselage

1. Pin the plan to the building board and cover it with wax paper.
2. Pin the fuselage keel pieces #1 through #5 into position on the plan.
3. Position #6 on the front of #1 and #5. The top and bottom of the formers may be determined by the location of the slot for the master stringers #17 and #18. Use a small square to hold up #6 at a 90 degree angle to the building board. Glue #6 into position.
4. Carefully glue formers #7 through #16 into position on the fuselage keel making sure that they are 90 degrees to the building board.
5. Assemble the master stringer over the top view on the plan using #17 and #18. When the glue is dry, position the master stringer onto the fuselage assembly and make sure that it is pressed completely. Now glue the master stringer into position.
6. Glue former #19 into position.
7. Glue the fuselage stringers ("A") into position. Splice two pieces together if required to get the correct length. The top two stringers stop at the front and rear of the cockpit areas.
8. Remove the fuselage from the plan. Add the formers to the oppositie side of the keel and glue the master stringer into position. Now glue the remaining stringers into position.
9. Wet the outside only of one #20. Allow it to sit for several minutes and then fit to the fuselage. Glue it into place when you are satisfied with the fit. Now repeat installing the other #20 to the opposite side of the fuselage.
10. Glue the two #21's into position. The basic fuselage structure is now finished. Now sand the fuselage smooth all over.
11. Glue the four #22's together to make the headrest. Sand to shape and test fit onto the fuselage. Do not glue into position until after the parts are covered.
12. Laminate parts #23 through #26. Now glue #58 to the front of #26. Sand the front of #58 to establish the proper amount of right and down thrust. Now glue #27 into position and sand the nose block to shape.
13. Cut a horizontal slot in the #16 immediately above the master stringer to allow the stabliizer to be inserted into the fuselage.
14. Cut the cockpit paper patterns from the plan and fit them to the fuselage and then glue them into position.

Building the Tail Surfaces

15. Cover the plan with wax paper. Build the stabilizer over the plan using laser cut parts #34 through #40, two #52's and stripwood "B".
16. Remove the stabilizer from the plan and sand the edges round and smooth the entire assembly.
17. Build the rudder framework from laser cut parts #28 through #32 and one #52 gusset.
18. Remove the rudder from the plan and add four #33 pieces to the bottom of each side of the rudder. Sand the edges of the rudder round and sand the #33's to match the rear of the fuselage and blend them into the trailing edge of the rudder.

19. Test fit the stablilizer and the rudder to the fuselage. Now set the tail surfaces aside until needed for covering.

Building the Wings

20. Cover the wing plan with wax paper. Pin one lower wing spar ("B") into position over the plan.

21. Pin one trailing edge "C" into position. Place rib #41 into position and glue it to the lower spar and trailing edge while using the dihedral guage to maintain the proper angle.

22. Place rib #42 into position and glue it to the lower spar and trailing edge while using the dihedral guage to maintain the proper angle. Now glue rib #43 and another rib #42 against the first #42 rib.

23. Glue ribs #44 into position. Use a small square to position these ribs 90 degress to the building board.

24. Glue four small doublers made from "C" to rib #45 as shown on the plan. Trim these doublers flush with the top and bottom surface of the rib. Drill a 1/32" dia. hole between the doublers to accept the rigging thread during the final assembly. Now glue rib #45 into position.

    NOTE: Rib #45 is made from a #44 wing rib and four 3/32" doublers. That is to say that you start with #44 and after you glue the doublers to it it becomes the #45 rib.

25. Glue the leading edge "D" into position. Assemble the wing tip from parts #48, #49 and #50. Glue the wing tip to the wing with #49 resting on top of the lower spar.

26. Glue the top spar "B" into position. Now glue the two leading edge spars "A" into position. Add gussets #51 into position.

27. Remove the wing panel from the plan and sand smooth all over. Now repeat the proceeding section to build the opposite wing panel.

28. Test fit and glue the two wing halves together mainting 1 1/2" dihedral under each tip.

29. Laminate the two landing gear assemblies using parts #53 through #56. Sand the leading and trailing edge of the leg round. Sand the wheel faring to a tear drop shape.

Covering the Model

30. Sand all of the parts smooth. Test fit the wings to the fuselage. Test fit the tail surfaces with the fuselage. Make any adjustments necessary to achieve the proper fit. Cut the windshield using the pattern on the plan and check the fit With the fuselage.

31. Cover the model, applying the tissue With clear dope. When the parts are covered, shrink the tissue by lightly misting it with water or rubbing alcohol.

32. Apply two coats of clear dope thinned 50-50 to the entire model.

33. Apply the decals using the 3-view as a guide for placement. Draw the control surface outlines and other detail with a fine point permanent marking pen. The color scheme is silver all over. All markings and details are black.

Final Assembly

34. Test fit the wing to the fuselage. Glue the wing into position when satisfied with the fit.

35. Using "A", add three stringers to blend the fuselage to the bottom of the wing. Now cover this area with tissue.

36. Cut the paper wing fillets from the plan and glue them into position, one on top of the wing and one on the bottom on each side. Cover the fillets with tissue.

37. Install the wheels and axles into the landing legs. Remove the tissue from the slots in the bottom of the wing and glue the landing gear legs into position.

38. Glue the stabilizer into the slot in the fuselage making sure that it is aligned properly.

39. Glue the rudder to the fuselage being careful to maintain proper alignment.

40. Sand parts #57 to an oval cross section and then test fit them to the fuselage. Cover these parts with tissue and then glue them into position on the model.

41. Carefully glue the windshields into position on the model.

42. Drill a small hole into #4 in the proper location and glue the tail wheel assembly into position.

43. Attach the thread rigging to the model on the wing and the tail.

44. Carve and sand the spinner from the balsa block. Test fit on the propeller. When satisfied with the fit cover with tissue.

45. Assemble the propeller, shaft and bearing. Glue the spinner to the propeller assembly. Tie the rubber motor. Install the prop and motor, using the 3/32" dowel to retain the motor at the aft end of the model.

46. Do a final balance of your model and add weight (modeling clay) to the nose or tail as required to balance the model at the position shown on the plan.

Your First Flights

1. Make sure that all flying surfaces are straight and warp free.

2. Wind the motor about 100 turns.

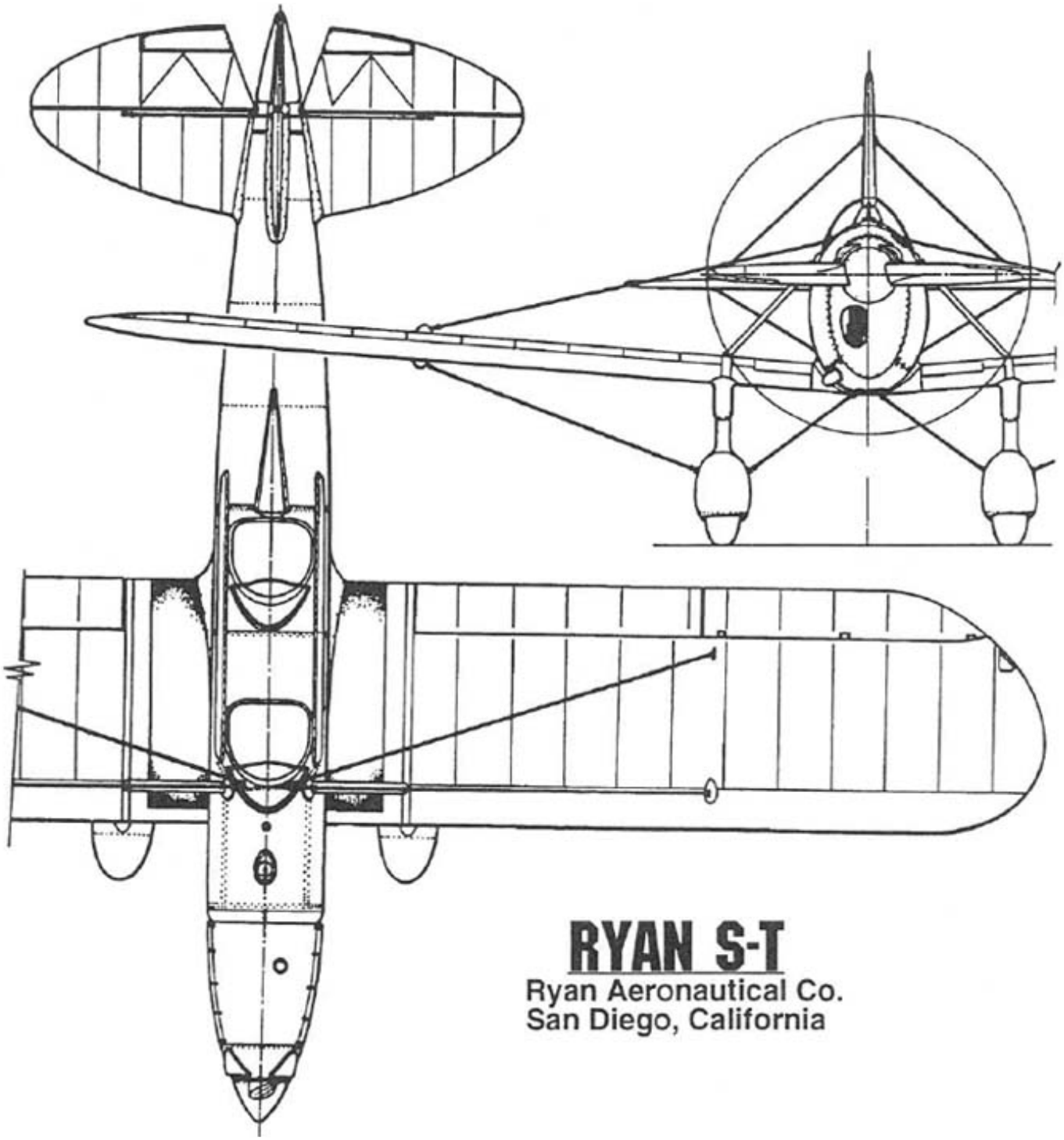
3. Point the nose of the model into any gentle breeze that may be blowing.

4. Release the propeller and after it starts turning gently toss the model aiming the nose at a point on the ground 100' in front of you. Adjust the model to circle while increasing the number of turns in the motor. Adjustments can be made by gently bending the tail surfaces and wing trailing edge.

5. A properly trimmed model will circle to the left while climbing under power, level out as the power runs down and transition into a right hand gliding circle.

Safety Rules

1. Fly your model in a large open area that is free of obstructions, people or their property.
2. Do not fly your model in the vicinity of power lines, trees, streets or buildings.
3. Never try to retrieve any model stuck in power lines, in trees or on a roof or other high place. Never run into a street to retrieve any model.
4. Position yourself at least 150' from spectators before launching model.
5. Never launch model directly at another person or other object.
6. Never stick your fingers into a spinning propeller. Do not try to stop a spinning propeller with your hand or fingers. Never stick any object into a spinning propeller.
7. Fly your model only on calm days. Do not fly when the wind is blowing.
8. Get proper permission before retrieving your model from private property.



WARRANTY: Herr Engineering Corp. guarantees this kit to be free from defects in both materials and workmanship at the time of purchase. This warranty does not cover any component damaged buy use or modification. In no case shall Herr Engineering Corporation's liability exceed the original cost of the purchased kit. Further Herr Engineering Corp. reserves the right to change or modify this warranty without notice.
In that Herr Engineering Corporation has no control over the assembly or use, no liability shall be assumed or accepted for any damage resulting from the use by the user during construction of the kit or the use of the final user assembled product. By the act of building this kit and/or using the final user assembled product, the user accepts all liability.
If the buyer and/or user is not prepared to accept all of the liability associated with this product, he is advised to immediately return this kit in new and unused condition to the place of purchase for a full refund.

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LIMIT OF LIABILITY:
In use of our products, Sig Mfg. Co.'s only obligation shall be to replace such quantity of the product proven to be defective. User shall determine the suitability of the product for his or her intended use and shall assume all risk and liability in connection therewith.