



Award Winning Model Designs™

Cessna L-19 Bird Dog



Herr Engineering Corp. HRR110



ASSEMBLY INSTRUCTIONS

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	Decal Sheet	2	Gray Tissue
1	1/16" x 12" Landing Gear Wire	4	6" x 3 1/4" Window Material	2	1/16" sq. x 18" Balsa Strip
26	3/32" sq. x 18" Balsa Strip	5	3/32" x 1/4" x 18" Balsa Strip	1	3/16" x 1 3/4" Birch Dowel
1	Tail wheel Assy.	1	Instruction Manual	1	9" Plastic Propeller
1	Propeller Shaft	2	Brass Washer	1	Nylon Propeller Bearing
2	1.375" Plastic Wheels	2	1/16" Plastic Wheel Retainers	1	3/16" x 60" Rubber Strip
6	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, Siment or Ambroid all work well.

-Cutting Tools

A hobby knife with a #11 blade is used for general cutting. A single edge razor blade is also a useful cutting tool.

-Clear Dope, Thinner & paint brush

-320 and 400 grit sandpaper

-Straight Pins

-Wax Paper

-Needle nose pliers

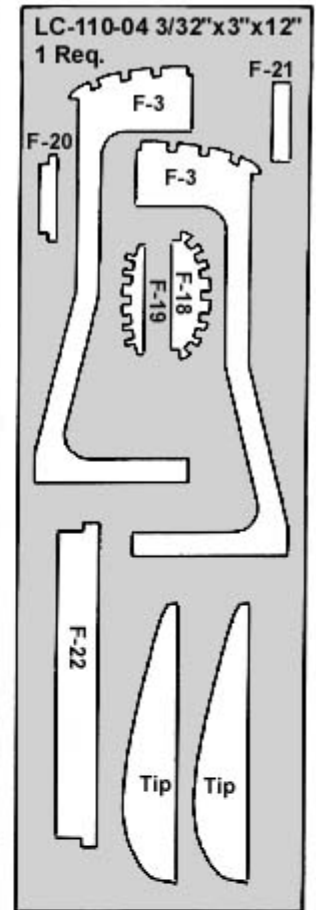
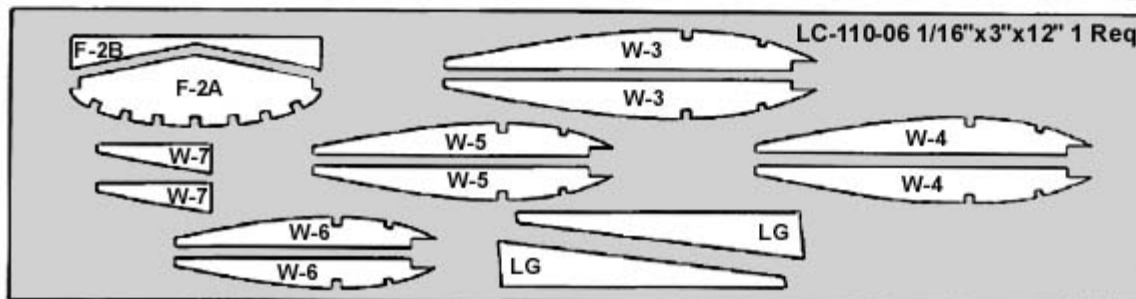
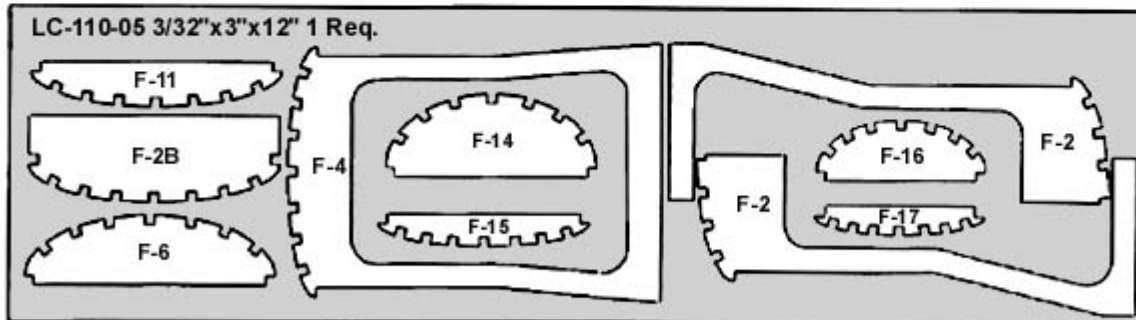
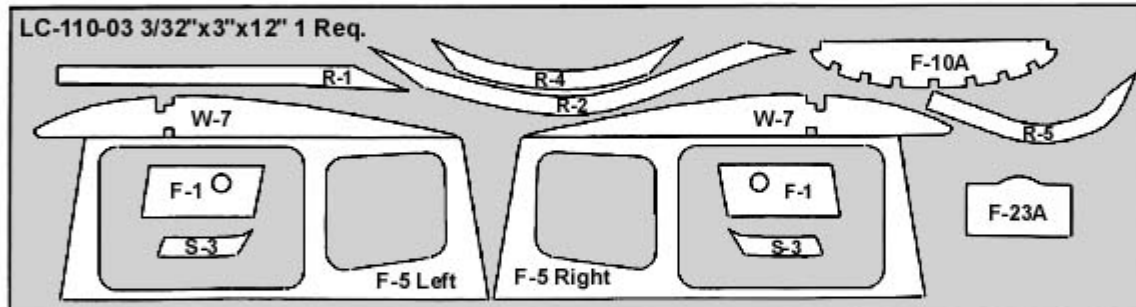
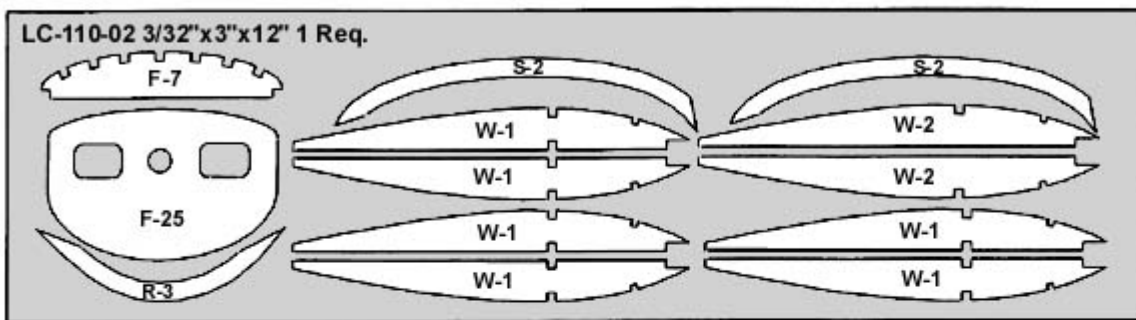
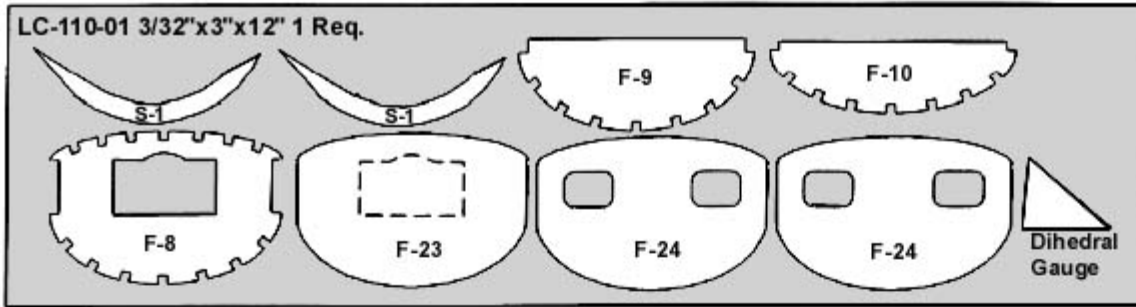
-1/4" Drill Bit

-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.



Building the Tail Surfaces

1. Cover the plan with wax paper.
2. Build the stabilizer using parts S-1, S-2 and S-3. The remaining structure is made from 3/32" sq. balsa and 3/32" x 1/3" balsa.
3. Build the rudder using parts R-1, R-2, R-3, R-4 and R-5. The remaining structure is made from 3/32" sq. balsa.
4. Sand the tail surfaces smooth and round the edges. Set the tail surfaces aside until needed later.

Building the Fuselage

5. Build the fuselage side frames over the plan using the laser cut part F-1. The remaining pieces of the side frames are made from 3/32" sq. balsa strip.
6. Join the left and right halves of F-2 over the plan. Glue the 3/32" sq. strip to the top as shown on the plan.
7. Join the left and right halves of F-3 over the plan. Glue the two 3/32" sq. strips into position as shown on the plan.
8. Glue the 3/32" sq. strips to F-4 in the position shown on the plan.
9. Glue F-2 to the right fuselage side. The 3/32" sq. strip on F-2 should face the rear and the former should be 90 degrees to the fuselage side.
10. Glue F-3 and F-4 into position on the right fuselage side. The 3/32" sq. braces on the formers should face forward and the formers should be 90 degrees to the fuselage side.
11. Glue the left fuselage side to formers F-2, F-3 and F-4. The formers should be 90 degrees to the fuselage side.
12. Glue F-8 into position on the front of the fuselage.
13. Glue formers F-6 and F-7 into position.
14. Glue F-9 and F-10 into position.
15. Glue F-10A into position.
16. Pull the rear of the fuselage together and glue F-21 into position. Make sure that the fuselage is not twisted and that F-21 is vertical and not leaning left or right.
17. Gently crack the fuselage longerons immediately behind F-4. Glue F-14 and F-15 into position and then apply glue to the cracked area of the longerons.
18. Glue F-16, F-17, F-18, F-19 and F-20 into position.
19. Glue F-5 Left and F-5 Right to formers F-2 and F-3. Crack the top at the horizontal score line and pull the tops into contact with the formers and glue into position. Crack the top rear at the vertical score line and bend the aft ends of the two cabin sides into contact with F-4 and glue into place.
20. Glue F-22 into position.
21. Glue the 3/32" sq. stringers into position on the top of the nose between F-5 and F-6.
22. Glue the 3/32" sq. stringers into position on the bottom of the nose between F-5 and F-10.
23. Glue the 3/32" sq. stringers into position on the top rear fuselage between F-14 and F-20.
24. Glue F-11 into position.
25. Bend the landing gear wire to the shape shown on the plan.

26. Glue F-2A and F-2B to F-2C.
27. Glue the landing gear wire into the slot between F-2A and F-2B. Now glue this assembly securely to the rear face of F-2.
28. Glue the 3/32" sq. strips to the bottom of the fuselage between F-10A and the tail.
29. Sand the fuselage smooth all over and sand F-2, F-3 and F-4 flush with the tops of the cabin sides.
30. Glue parts F-23, F-23A, F-24 and F-25 together.
31. Place the nose block (do not glue) on the front of the fuselage and sand to the shape shown on the plan.
32. Drill the 1/4" hole in the nose block for the propeller bearing. Be sure to add the proper right and down thrust while drilling this hole.
33. Cut P-1 from the plan and glue into position on the fuselage.
34. Cut P-2 from the plan and glue into position on the fuselage. The forward ends should overlap parts F-5 by about 1/16".

Building the Wings

35. Cut the two 3/32" x 1/4" trailing edge pieces and pin to the left wing plan and glue them together.
36. Cut the two 3/32" x 1/4" leading edge pieces and pin to the left wing plan and glue them together.
37. Cut the bottom 3/32" sq. spar to length and pin into position on the plan.
38. Hold the first rib W-1 in position. Pin the dihedral gauge to the plan and rest the rib against it so that the top edge of the rib angles toward the wing tip. Glue the rib to the leading edge, the trailing edge and the bottom spar. When dry, remove the dihedral brace and save it for use on the right wing.
39. Glue the remaining ribs, W-1 through W-6 into position. These ribs should be 90 degrees to the building board.
40. Glue the wing tip into position at the angle shown on the plan.
41. Glue the 1/16" sq. and the 3/32" sq. spars to the top of the wing. Trim the ends to match the angle of the wing tip.
42. Trim, fit and glue W-7 into position.
43. Remove the wing from the plan and sand smooth all over. Sand the leading edge and the tip round and taper the trailing edge.
44. Now build the right wing over the right wing plan using the same steps that you used for the left wing.

Cover the Model

45. Sand the entire model smooth with 400 grit sandpaper.
46. Coat the outside edges with two coats of clear dope.
47. Attach the tissue to the model with clear dope mixed 50/50 with thinner. Do Not cover the top of the fuselage at this time. This will be done after the wing is attached in step #58.
48. Lightly mist the model with water to shrink the tissue.
49. Apply two coats of thinned dope to the entire model.
50. Carefully apply the waterslide decal's to the model.
51. Draw additional details on the model with a waterproof marker.

Final Assembly

52. Cut the side windows to shape and glue them to the fuselage.
53. Apply tissue to the paper cabin top on the plan.
54. Cut the cabin top from the plan and glue the individual windows to the bottom side.
55. Glue the cabin top to the top of the fuselage.
56. Cut the windshield to shape using the pattern on the plan. Now glue into position on the fuselage.
57. Cut the rear window to shape using the pattern on the plan. Now glue into position.
58. Glue the stabilizer into position on the rear fuselage.
59. Glue the rudder into position onto the fuselage.
60. Glue the left and right wings to the fuselage. There should be approximately 1 1/8" dihedral on each side.
61. Cut the wing struts to length from a piece of 3/32" x 1/4" balsa. Sand the corners round and cover them with tissue and glue them into position.
62. Glue parts LG to the landing gear wire.
63. Assemble, paint and install the wheels. Glue the plastic wheel retainers into place.
64. Assemble the propeller assembly using the hardware provided.
65. Glue the propeller assembly into the removable nose block. Be sure to use the correct amount of down and right thrust.
66. Tie and install the rubber motor using the 3/16" dowel at the rear end to retain the rubber motor.
67. Balance the model at the point shown on the plan. Add weight to the nose or tail as required to achieve the proper balance.
68. Your model is now complete. You **MUST READ AND FOLLOW** all of the safety rules. We hope that you have enjoyed assembling your model and hope that you enjoy many fine flights.

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 onto the street to retrieve your 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

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