



# Stearman PT-17



Herr Engineering Corp. HRR116



## 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	1 Plan Sheet #2	1 Decal Sheet
1 Instruction Manual	3 Yellow Tissue	1 Small Black Tissue
1 6" x 3 1/4" Windshield Material	2 Molded Plastic Main Wheels	20 1/16" sq. x 18" Balsa Strip
7 3/16" sq. x 18" Balsa Strip	4 1/8" sq. x 18" Balsa Strip	4 3/16" x 1/4" x 18" Balsa Strip
1 1/16" x 12" Landing Gear Wire	1 Molded Plastic Propeller	1 Propeller Shaft
2 Brass Washer	1 Nylon Propeller Bearing	1 Tailwheel Assembly
1 3/16" x 1 1/2" Birch Dowel	1 16' Black Thread	2 Plastic Wheel Retainers
1 3/16" x 60" 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, 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**

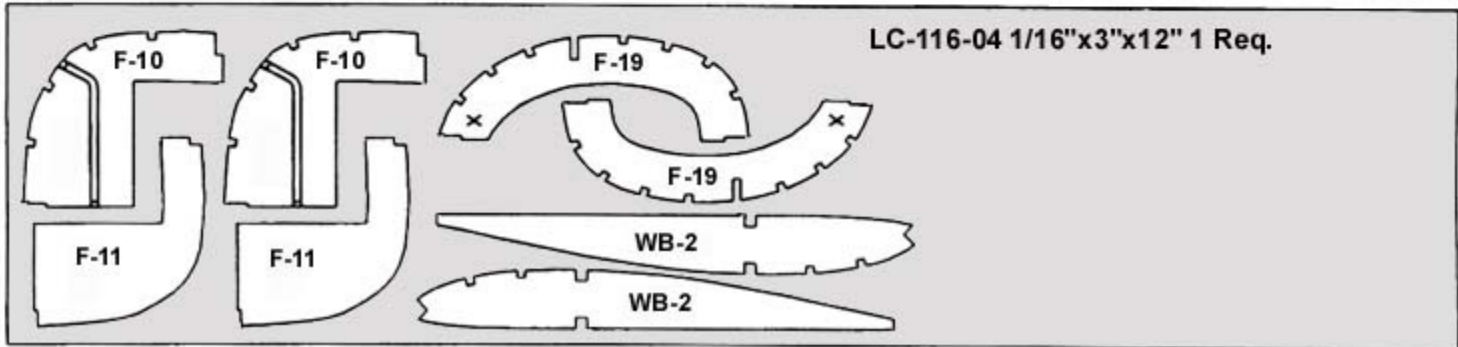
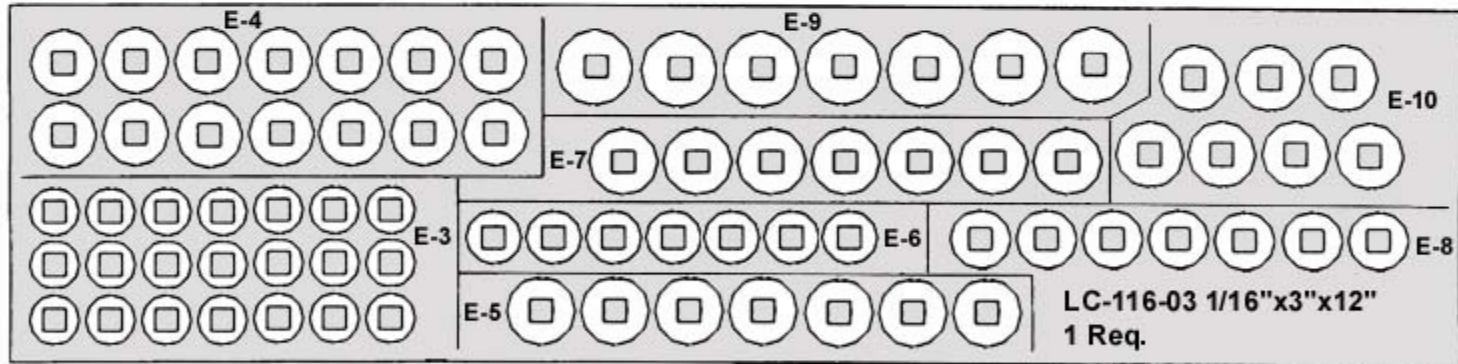
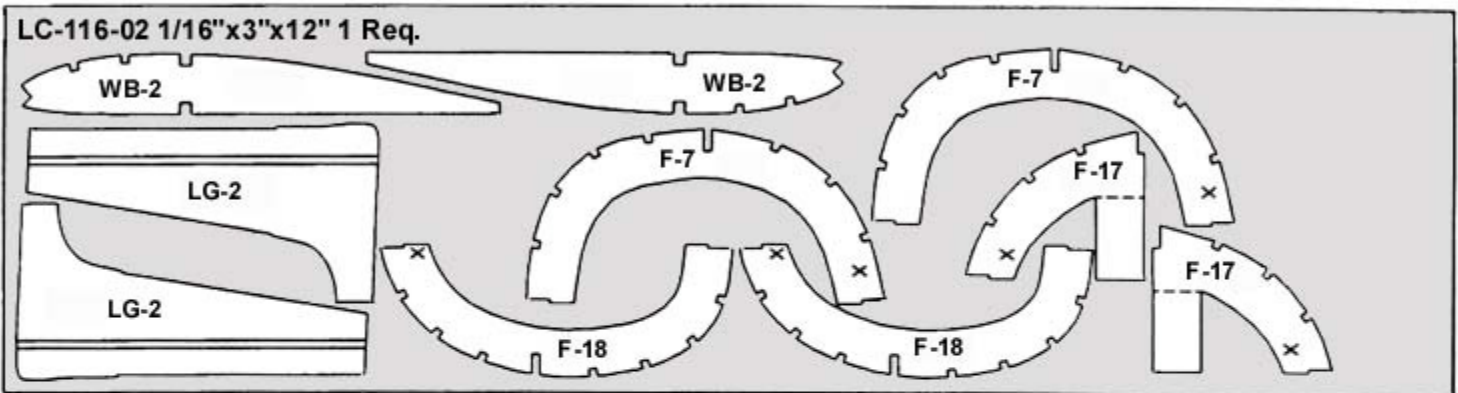
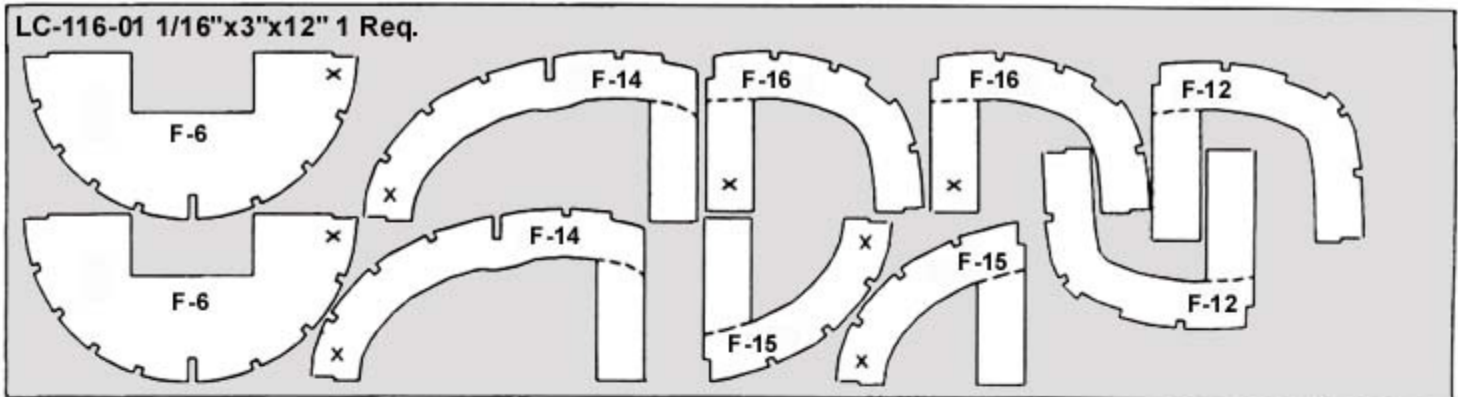
**-Wax Paper**

**-Needle nose pliers**

**-1/4" & 1/16" 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.



**LC-116-05 1/16"x3"x12" 1 Req.**

WT-1, WT-1, WT-1, WT-3, WT-3, WB-1, WB-1, F-3, F-2, F-5, F-1, F-4, F-20, F-20

**LC-116-06 1/16"x3"x12" 1 Req.**

WB-2, WB-2, WT-3, WT-3, WB-2, WB-2, F-22, F-22, F-21, F-21, WT-3, WT-3, WB-2, WB-2

**LC-116-07 1/16"x3"x12" 1 Req.**

F-23B, F-23B, F-24, F-24, F-25, F-25, F-27, F-27, F-26, F-26, F-23A, F-23A, WB-2B

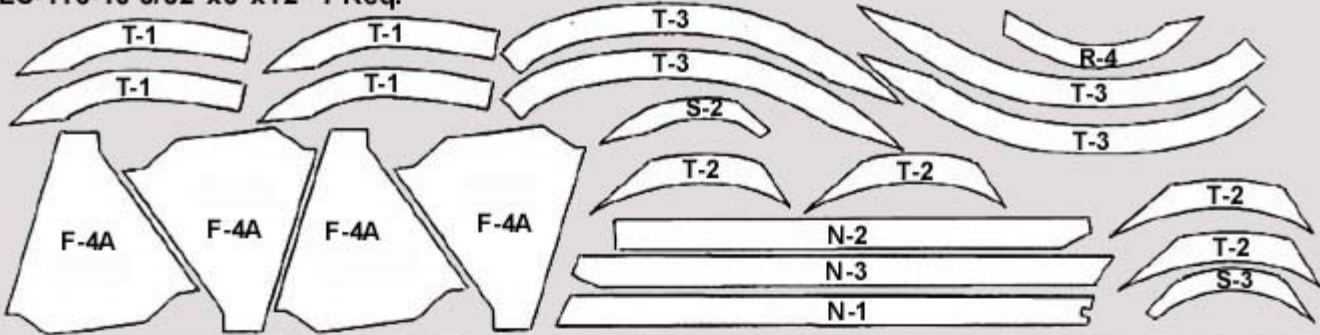
**LC-116-08 3/32"x3"x12" 1 Req.**

F-6A, F-6A, F-6A, F-6A, F-6A, F-6A, F-9, F-9, R-2

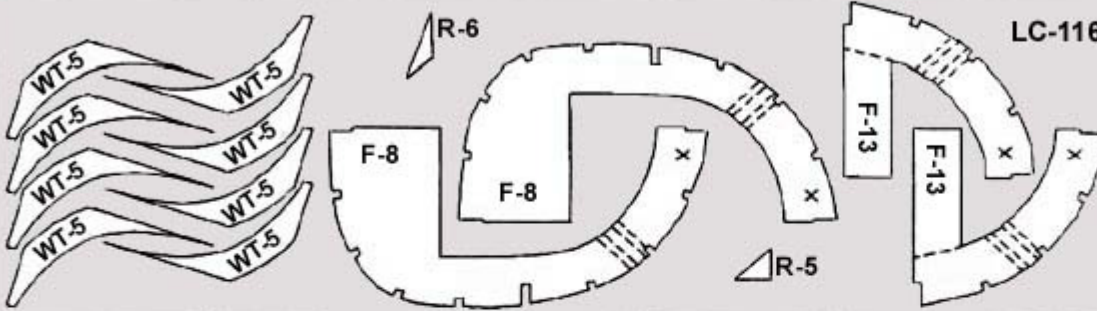
**LC-119-09 3/32"x3"x12" 1 Req.**

S-3, S-2, S-4, S-5, WT-2, WT-2A, WT-2, WT-2A, R-3, R-1, WT-4, WT-4, WT-4, WT-4, N-2, N-3, N-1, S-1

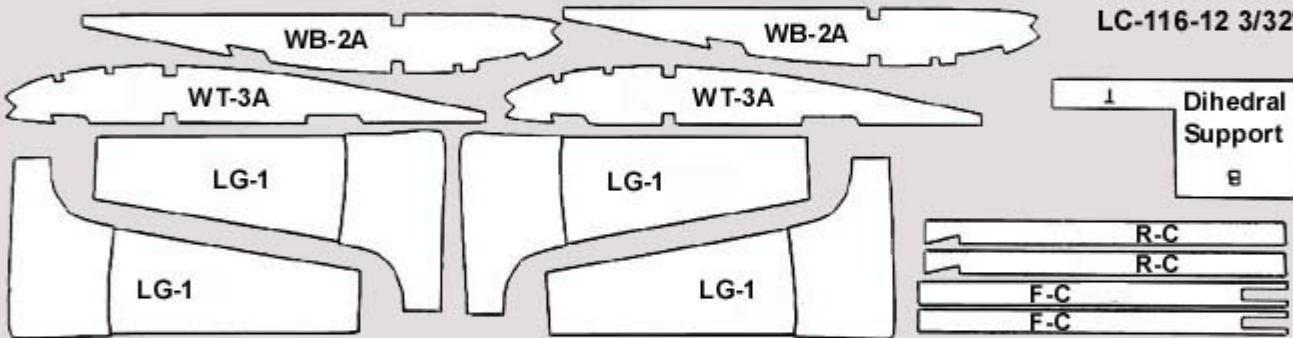
LC-116-10 3/32"x3"x12" 1 Req.



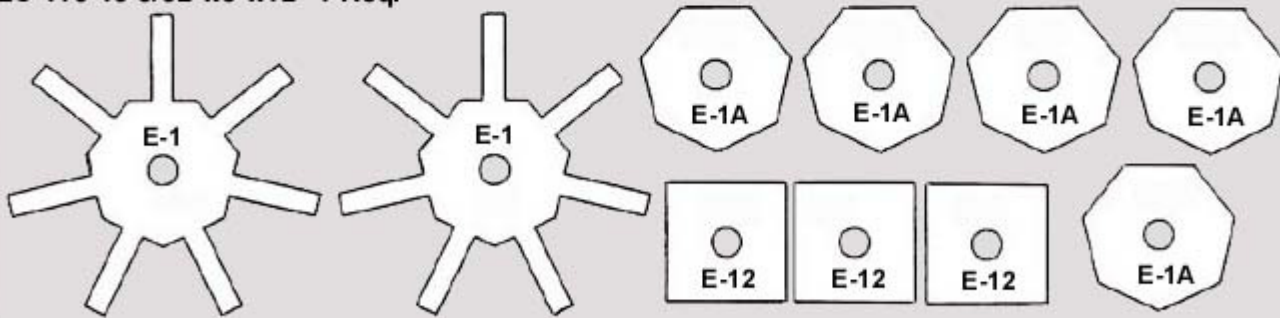
LC-116-11 3/32"x3"x12" 1 Req.



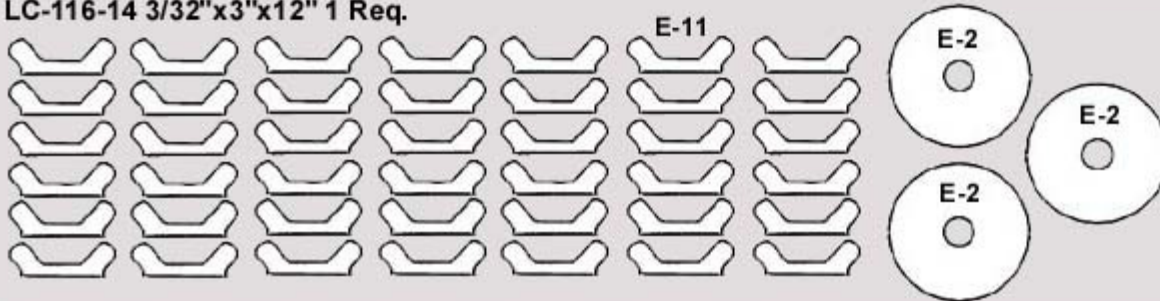
LC-116-12 3/32"x3"x12" 1 Req.



LC-116-13 3/32"x3"x12" 1 Req.



LC-116-14 3/32"x3"x12" 1 Req.



## Beginners Note

These instructions were written assuming that the builder has previous building experience. If this is your first 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 Tail Surfaces

---

1. Always cover the plan with wax paper before building any parts over the plan. This will prevent the parts from sticking to the plan.
2. Build the rudder over the plan using parts R-1, R-2, R-3, R-4, R-5 and R-6. The remainder of the structure is made from 3/32" sq. balsa strip as shown on the plan. Remove the rudder from the plan.
3. Build the stabilizer over the plan using parts S-1, S-2, S-3, S-4 and S-5. The remainder of the structure is made from 1/32" sq. balsa strip as shown on the plan. Remove the stabilizer from the plan.
4. Sand the tail surfaces smooth and round the edges. Now set these parts aside until needed later.

## Building the Bottom Wing

---

NOTE: The bottom right hand wing panel is built first and the left hand bottom wing panel is built onto the right.

5. Make four wing tips by gluing parts T-1 and T-2 together over the plan. Set the tips aside until needed later.
6. Glue parts WB-2B to each side of rib WB-2A in the position shown on the plan. Glue the 1/16" sq. strips along the sides of the rear N-strut slots as shown on the plan.
7. Pin the 3/32" sq. spar to the plan. Leave the spar long so that it extends past the wing tip. Pin the 3/32" x 1/4" trailing edge to the plan.
8. Pin ribs WB-1, WB-2 and WB-2A into position. These ribs should be 90 degrees to the plan. When you are happy with their position, glue these ribs to the lower spar and the trailing edge.
9. Glue the 1/8" leading edge into position.
10. Pin the wing tip into position. The front of the wing tip is centered on the leading edge. The outer end of the tip should be raised 1/4" from the plan. When the tip is in the proper position glue it to the leading and trailing edges.
11. Glue the 3/32" sq. top spar into position. Taper the end to fit the wing tip and crack the spar at the last WB-2 rib to allow it to angle down to the tip.
12. Glue the 1/16" sq. spars into position. Taper the ends to fit the wing tip.
13. Remove the wing panel from the plan. Taper, crack and glue the bottom spar to the tip as you did the top spars.
14. Place the wing panel back on the plan and place end "B" of the dihedral gauge under the last WB-2 rib. Now pin the wing and the gauge to the plan.
15. Build the left bottom wing panel onto the right panel using the same steps you used to build the right wing.
16. Remove the wing from the plan and glue the two 3/32" sq. spar joiners into position at ribs WB-1.
17. Sand the leading edge and the tips round and taper the trailing edge.

## Building the Top Wing

---

NOTE: The top wing is built in three pieces, The center section, the left outer panel and the right outer panel. These pieces are then joined with the proper dihedral.

18. Build the center section first. Pin the 3/32" sq. spar to the plan. This spar ends between ribs WT-2 and WT-2A.
19. Stack, glue and pin parts WT-4 and WT-5 to the plan (4 deep) to make the center section trailing edge.
20. Pin ribs WT-1 and WT-2A into position on the plan. These ribs should be 90 degrees to the plan. When satisfied with their position glue these ribs to the spar and trailing edge.
21. Glue the 1/8" sq. leading edge, the 3/32" sq. spar and the 1/16" sq. spars into position on the top of the center section.
22. Build the right outboard wing panel. Pin the 3/32" sq. spar to the plan. One end should butt against the center section spar and the other end should extend past the wing tip. Do not glue the spar to the center section at this time.
23. Pin the 3/32" x 1/4" trailing edge to the plan. Do not glue it to the center section at this time.
24. Place rib WT-2 into position and glue it only to rib WT-2A on the center section. Do not glue this rib to the spar or the trailing edge at this time.
25. Glue the 1/16" sq. strips to both sides of rib WT-3A as shown on the plan. Now pin ribs WT-3 and WT-3A into position. These ribs should be 90 degrees to the building board. When these ribs are properly positioned glue them to the spar and the trailing edge.
26. Glue the 1/8" sq. leading edge into position. Do not glue the leading edge to rib WT-2 at this time.
27. Pin the wing tip into position. The front of the wing tip is centered on the leading edge. The outer end of the tip should be raised 1/4" from the plan. When the tip is in the proper position glue it to the leading and trailing edges.
28. Remove the pins from the outboard panel and raise the end from the plan and place end "T" of the dihedral gauge under the last WT-3 rib. Pin the wing and the gauge to the plan.
29. Glue the outboard spar, leading edge and the trailing edge to the center section.
30. Glue the top 3/32" sq and 1/16" sq. spars into position on the outboard panel. The spars should be tapered to fit the tip and cracked at the last WT-3 rib.
31. Repeat these procedures to assemble the left outboard wing panel and join it to the center section.
32. Remove the top wing from the plan and glue the 3/32" sq. spar joiners into position at the top and bottom of ribs WT-2 & WT-2A. Taper and crack the lower spars and glue them to the wing tips.
33. Sand the leading edges and the tips round. Taper the trailing edges and sand the center section trailing edge to shape.

## Building the Fuselage

---

34. Assemble the two F-23 master stringers over the plan using parts F-23A and F-23B. Set them aside until needed later.
35. Pin parts F-1, F-2, F-3, F-4 and F-5 into position on the plan.
36. Glue the 1/16" sq. strips to the front face of formers F-8 and F-13.
37. Glue formers F-9 and F-10 to the rear of F-8. Trim the small connecting strips from the ends of the landing gear slot in former F-10.
38. Pin formers F-6, F-7, F-8, F-12, F-13, F-14, F-15, F-16, F-17, F-18, F-19, F-20 and F-21 into position. These formers should be 90 degrees to the building board. Glue these formers into position when they are properly positioned.  
NOTE: The small "x" on each former marks the top.

39. Glue the F-23 master stringer into position. Trim the rear end to fit flush against the front of F-21.
40. Glue the lower three 1/16" sq. stringers into position between formers F-6 and F-12. The third stringer up from F-5 fits in the very top of the long notch in F-12.
41. Wet the outside of F-24 and glue it into position.
42. Glue part F-25 into position.
43. Glue the remaining 1/16" sq. stringers into position on the fuselage. The topmost stringer is not continuous and stops and starts at the front and rear of the cockpit openings.
44. Remove the fuselage from the plan and repeat previous steps to assemble the parts on the opposite side of the fuselage.
45. Glue parts F-27 to the sides of the front cockpit. Glue parts F-26 to the sides of the rear cockpit. These pieces rest on top of the 1/16" sq. stringer and you may wet the outside to allow them to bend easier.
46. Glue parts F-6A to the front of the fuselage.
47. Bend the tail wheel wire and glue it into position.
48. Glue two F-4A's into position on each side of the fuselage at the aft end.
49. Sand parts F-4A and F-6A to shape. Sand the entire fuselage smooth.
50. Glue the cabane struts C-1 and C-2 into position using the 1/16" sq. strips on the front of the formers as a positioning guide. Fill in between the stringers around the cabane struts with scrap 1/16" sheet balsa and sand flush with the stringers.
51. Bend the main landing gear wire to shape and glue it into the slot in former F-10. Glue parts F-11 into position.
52. Cut the support legs off of formers F-12, F-13, F-14, F-15, F-16 and F-17.
53. Test fit the wings, stabilizer and rudder to the fuselage. Temporarily pin these parts into position.
54. Assemble the two "N" struts using parts N-1, N-2 and N-3. Sand the edges round and test fit onto the model.
55. Assemble the dummy engine crankcase . using parts E-1, E-1A, E-2 and E-12. Sand parts E-12 to a taper towards the front of the engine.
56. Working one cylinder at a time stack the cylinder parts E-3 through E-10 onto one of the spokes on the crankcase and glue them into position.
57. Add parts E-11 to the top of the cylinder.
58. Assemble the remaining cylinders in the same manner as the first.
59. Sand the dummy engine parts smooth and test fit it to the model.

## **Covering the Model**

---

60. Sand the entire model with 320 grit sandpaper.
61. Coat the outside edges of all parts with 2 coats of clear dope.
62. Attach the tissue to the model with clear dope mixed 50/50 with thinner.
63. Lightly mist the model with water to shrink the tissue.
64. Apply 2 coats of thinned clear dope to the entire model.

- 65 Cut the wingwalks from black tissue and dope into position on the bottom wing.
- 66 Apply the decals to the model.
- 67 Draw additional detail onto the model with a waterproof marker.
- 68 Apply the decals to the model.
- 69 Draw additional detail onto the model with a waterproof marker.

## Final Assembly

---

- 70 Assemble the landing fairings over the landing gear wire using part LG-2 sandwiched between two LG-1's on each side. Sand the top of these parts to match the fuselage contour before gluing to the model. After gluing sand the front edges round and taper the aft ends to an airfoil shape. Sand them smooth and cover with tissue.
- 71 Assemble the wheels with plastic model cement. Paint them and attach them to the model, retaining them with the plastic wheel retainers and a small drop of glue.
- 72 Glue the tail wheel halves together. Sand and paint the tail wheel and install on the model.
- 73 Cut the windshields to shape using the patterns on the plans. Glue them to the model.
- 74 Glue the bottom wing onto the model. Add the 1/16" sq. stringers under the wing between F-12 and F-16 and then cover this area with tissue.
- 75 Glue the top wing to the cabane struts.
- 76 Glue the N struts into position.
- 77 Glue the stabilizer to the model.
- 78 Glue the rudder to the model.
- 79 Install the thread rigging to the model. Use the plan and the box photo as a guide.
- 80 Drill the dummy motor to accept the propeller bearing at the proper angle to establish the proper down and right thrust.
- 81 Paint and detail the dummy engine as desired.
- 82 Assemble the propeller. Glue this assembly into the removable dummy motor.
- 83 Tie the rubber motor and install it into the model.
- 84 Balance the model at the position shown on the plan.
- 85 Your Stearman PI-17 is now complete.

## 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 gradually 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 transitions into a right hand circling glide.

### **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 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**

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 by 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.

---

© Copyright SIG Mfg. Co., Inc.

**SIG MFG. CO., INC.....Montezuma, Iowa 50171-0520**

#### **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.