

The *Spirit of St. Louis*



Here's Norm Marshall's nifty, easy-to-build replica of Charles Lindbergh's famous trans-Atlantic airplane !

Having been a Naval Aviator for over 20 years gave Norm Marshall a real appreciation for airplanes. When he retired, he began building toys...and his fascination for airplanes continued. He particularly loved the stories surrounding the historic 1927 trans-Atlantic flight of *The Spirit of St. Louis*...and recounted how making those toys and remembering those stories gave him double pleasure – an escape into history and an adventure in woodworking.

So...get ready for **your** solo flight...but keep in mind that **you** don't have to do this one non-stop!

1: Prepare the stock. Use clear, straight stock (we used pine) and hardwood dowels. Glue-up or use your Bandsaw to resaw stock where required. When resawing stock for the wing (B), tilt the Bandsaw table 5-degrees and cut a 15" length of 1 x 4 stock. Next, rip the stock to a 2-3/4" width.

2: Drill the holes for the engine cylinders (K). Locate them 1/2" back from the front of the nose (See Fig. 1). Tilt the Drill Press table to 20-degrees and drill the holes in the fuselage (A) and the shock absorbers (F) for the wing struts (N).

3: Cut out the contours. Transfer the side and top profiles to the fuselage (A), and draw a 1" diameter circle on the nose of the fuselage. First, form the dado for the wing...then cut the tail slot. Cut out the remainder of the profiles on the Bandsaw (See Fig. 2).

Transfer the patterns for parts (B, C, D & E) to the stock. Cut out these parts with either your Bandsaw or Scroll Saw, making sure to stay slightly outside your cutting lines.

4: Sand parts A through E to finished shape using your Disc Sander with fine grit paper. Round the nose section of the fuselage so the corners meet the circle. Hand sand part F.

5: Drill holes for the propeller shaft, tail skag, shock absorbers, axles and lock pins.

6: Make the wheels (H). Use a 1-1/2" hole saw to score the wheel rim lines 1/8" deep...then a 1-7/8" hole saw to cut out the wheels.

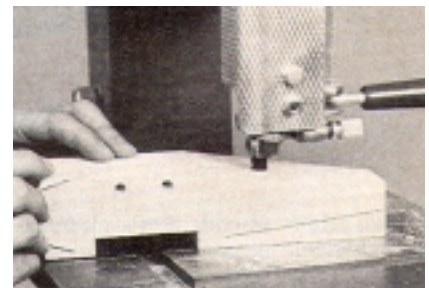


Fig. 1 Drilling the engine cylinder holes 1/2-in. back from the nose.

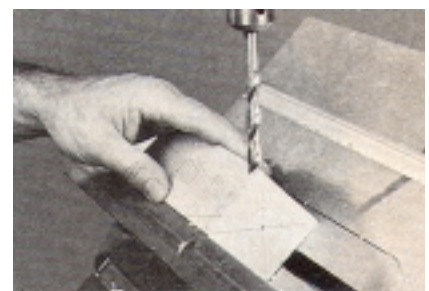


Fig. 2. Cutting out the fueslage profile on the bandsaw.

7: Make the propeller hub/shaft assembly by gluing the shaft (M) into the hub (L). Once the glue has dried, mount the hub/shaft assembly into your drill chuck and sand or rasp it to shape.

8: Assemble the plane. Start by gluing the cylinders (K) into place.

Next, place the wing struts (N) in the fuselage holes (but don't glue them yet). Place a straight edge in the wing slot and mark the outer ends of the struts. Cut the struts to length, then glue them into place.

Using 1/4" axle pins or #12 x 1-1/4" roundhead wood screws, attach the wheels to the wheel struts. If you use screws, be sure to file off any points that protrude through the struts. Glue the struts to the shock absorbers – remember that there are left and right wheels. Use the 1/8" hole in the shock absorbers as pilot holes and drill the struts for the lock pins (G). Glue pins (G) into place.

Glue and clamp the wing, rudder, stabilizer, propeller and tail skag into place.

9: Finishing touches. If you want to paint your plane, be sure to apply the proper filler first, then use silver or light grey on the fuselage and flat black on the cylinder heads and tires. Letters and numbers can be cut from adhesive-backed paper.

Bill of Materials

(finished dimensions in inches)

A	Fuselage	2-1/4 x 2-1/4 x 10
B	Wing	1/2 x 2-3/4 x 15
C	Stabilizer	1/4 x 2-1/4 x 6-1/4
D	Rudder	1/4 x 2-3/4 x 2-3/4
E	Propeller	1/4 x 1 x 7
F	Wheel shock absorbers (2)	3/4 x 1-1/4 x 1-3/4
G	Shock absorber lock pins (2)	1/8 dia. x 3/4
H	Wheels (2)	1-3/4 dia. x 1/2
J	Wheel struts (2)	7/16 dia. x 2-1/4
K	Engine cylinders (8)	3/8 dia. x 3/4
L	Propeller hub	1 dia. x 3/4
M	Propeller shaft	1/4 dia. x 1-3/4
N	Wing struts (4)	5/16 dia. x 5
P	Tail skag	5/16 dia. x 1-3/4
OPTIONAL: #12 x 1-1/4" roundhead wood screws (2)		

