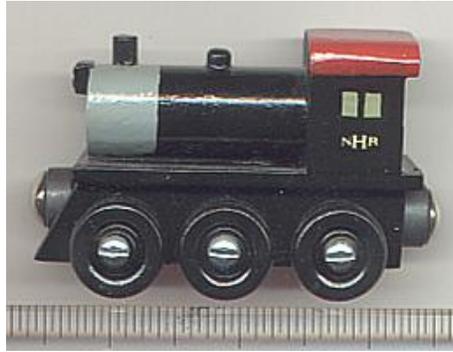
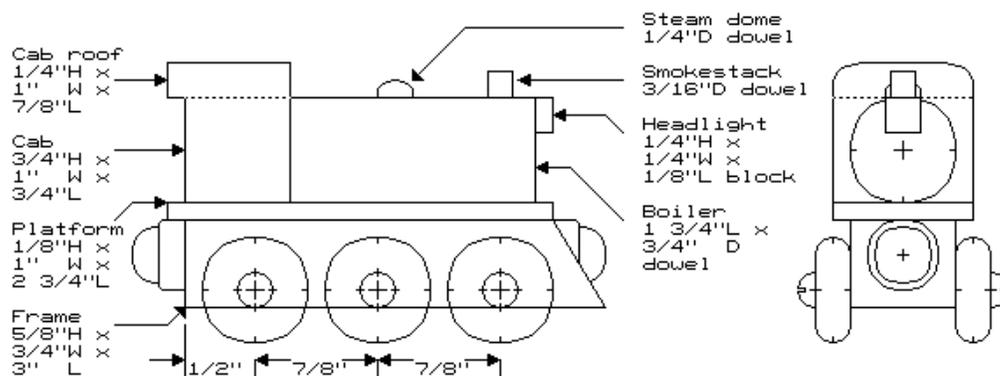


The S1 0-6-0 Steam locomotive



The S1 is essentially four blocks of wood, a section of 3/4" dowel, six wheels, couplers, and some detail parts. The S1 is small enough that with the addition of a tiny screw eye, located just behind the steam dome, it can be used as a Christmas tree ornament.



Parts list:

- 1/8", 1/4", and 3/8" wood sheet stock
- 3/4" dowel
- 1/4" dowel (for details and pinning parts together)
- 3/16" dowel
- 1/8" dowel (optional - for pinning parts together)
- Six 3/4" wheels
- Six 3/4" x #6 round-head wood screws (I shorten the screws to 5/8")
- Two 1/2" ceramic button magnets
- Two round-head upholstery nails (cut the nails off)
- One small wire nail (for headlight)

Carpenters yellow glue

Medium-grit sandpaper and/or files

Small saw

Drill and bits.

Description:

The frame is a block 5/8" high, 3/4" wide, and 3" long. It can be built up from 1/4" and 3/8" stock, or solid if you can buy or cut stock in the right size. It is cut at an angle (about 60 degrees) at the front to simulate a pilot or cow-catcher. The optional front coupler is installed in a pocket cut into the cow-catcher. It can be left off, but play-testing with a two-year-old shows that the locomotive doesn't always come first in a train, and some trains may have five or six locomotives and only one car.

The platform is a piece of 1/8" sheet-stock, 1" wide and 2 3/4" long. It rests on top of the frame.

The cab is simply a block, 3/4" high, 1" wide, and 3/4" long. It can be solid or built up from two pieces of 3/8" or three pieces of 1/4" stock.

The roof of the cab is a piece of 1/4" sheet-stock, 1" wide and 7/8" long. I round off the outside edges with a file, knife, block plane, or sanding drum.

The boiler is a 1 3/4" long section of 3/4" diameter hardwood dowel.

The details are just small pieces of wood. The smokestack is a short section of 3/16" dowel, about 3/8" long, inserted into a hole in the top of the boiler. The steam dome is a section of 1/4" dowel, rounded off with a file and sandpaper. The headlight is a tiny block of 1/8" stock, cut into a 1/4" by 1/4" square. The head of a small nail acts as the lamp, and the nail itself holds the block on the boiler.

Assembly:

My usual assembly order is:

- 1) Drill a 1/4" hole in the center of the front of the cab block. This will allow the boiler to be "pinned" to the cab.
- 2) Glue the cab roof to the cab block. Sand the assembly.
- 3) Drill a 1/4" hole in the center of the rear of the boiler.
- 4) Insert one end of a 1/4" dowel in the hole in the boiler and the other end in the hole on the cab assembly and glue together.
- 5) Glue the cab-and-boiler assembly to the platform.
- 6) Once the cab, boiler, and platform are glued together, you can drill holes in the top of the boiler to add the smokestack and steam dome. This way, the boiler won't wobble around when you are drilling.
- 7) Drill three 5/16" holes in either side of the frame to accept #6 screws for the wheels.

Glue the frame onto the platform.

- 8) (Optional) Drill two 1/8" holes up through the platform into the cab and boiler and insert sections of 1/8" dowel to pin the whole thing together.
 - 8) Add the smokestack and steam dome.
 - 9) Add the headlight.
 - 10) Sand and paint.
 - 11) Add wheels and couplers.
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Painting suggestions:

I think steam locomotives look best in dark colors. One of my favorite paint schemes is a black body with black wheels and a dark red ("oxide red") cab roof, and the first half inch of the boiler painted dark gray to simulate a smokebox. Other schemes that have worked well are dark red, dark green, and dark blue (with or without the gray nose). Another fun variation is to use brass screws and brass-plated couplers. Of course, there is always the classic black-all-over with red wheels, frequently seen on toys and German National Railways steam engines. I usually paint the frame black and the cab windows medium gray.



[Back to the Hoogerland National Railways Page](#)

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