



Instrument House

#05005

S Scale

History

Instrument houses can be seen along the railroad in many different locations and sizes. Used to house the various signaling components, they often became a storage spot for odds and ends including track components.

Warranty

All *B.T.S.* products are guaranteed against defects in manufacturing and will be replaced or repaired as determined by *B.T.S.* after inspection of the part. Contact *B.T.S.* for a return authorization prior to returning any damaged parts. *B.T.S.* will also replace parts that are damaged during assembly. This part of the warranty is voided if the kit has been modified in any way.

Drop Outs

The laser-cut sheets may look like pieces are missing, but these holes are intentional. The opening for windows, doors, etc., are removed by the laser to make building this kit easier. These waste pieces, called drop outs, may still be clinging

to the sheet and fall out when touched. Save them for use as clutter and scraps when doing the final detailing.

Remove the pieces from the carrier sheets with a sharp hobby knife as they are needed, and lightly sand off the remainder of the tabs.

Identify all the parts, checking them against the parts list. Most wood parts have a number either on them or nearby. Do not remove the parts from the carrier yet!

Dimensions and Directions

All dimensions specified in the text are actual feet and inches unless used with the word "scale" before or after them. Specific parts are referenced by front, back, and sides. The front of the building has the door in the center.

Atmospheric Conditions

Wood and paper products are effectively live materials on which humidity and temperature changes will change the size of parts slightly.

New River Yard Series

End User Information

This kit is not intended for use by novice modelers, or individuals under the age of 18 without the supervision of an adult. Additionally, the modeler assumes all liability regarding the proper use of this product or any product suggested. The user must become familiar with the kit instructions, and instructions on any product used to complete this kit. Please read and follow all safety procedures for all products used to finish this kit. Details may vary between scales and from the sample model shown.

Color Pallet

The basic colors are from the Floquil railroad colors line except as noted. You may follow our suggested pallet:

Paints:

Old Silver	Grimy Black	Earth
Caboose Red	Antique White	Old Silver
Concrete	Aged Concrete	Reefer Gray
Lt Gray	Rust	Engine Black
Rail Brown	Reefer White	Mud
Rail Tie Brown		

Woodland Scenics' Mini-Scene Paint Set

Stains: Honey Oak

Naturally, you may use any colors you wish. Just remember that flat, dull colors are preferable to loud bright colors for a realistically-finished model. Some colors apparent in the photos are mixtures of two or more of the basic colors. These mixtures are used only on detail items and are not critical.

On the model, Old Silver was used for the walls and roof, and the Aged Concrete was used on the pilings.

Most wood parts can be painted prior to assembly and most should be painted prior to removing from the carrier sheet. Since excess paint can cause warping, use small amounts and paint both sides. In addition, the wood parts should be airbrushed lightly with the base color rather than painted with a brush; this will reduce the opportunity for it to warp out of shape. A light base coat can be applied using a spray can if an airbrush is not available. Placing under a flat weight will also reduce warping.

Please, wear rubber gloves and a paint mask when dealing with model paints, and work in a well-vented area. Some of the solvents are not user-friendly!

Wood Grain and Color

Wood grain is just one of several items that is well worth the time necessary to apply it and gives a proper look and feel to a wood structure. It will look better if the wood grain goes on after the initial base color coat. The addition of wood grain will also make the nail holes on a given wall

less prominent. Please remember that wood grain should only be applied to parts representing wood on the finished model.

1. Use a sharp hobby knife to apply the wood grain.
2. Add two to three lines of wood grain per laser-cut board or laser-scored board. Do this by beginning at the end of a scale board and working to the other end in one continuous line. Do not try to make these lines straight, but rather just try to stay on that board. Slight waviness is exactly the result you will want.
3. Trim the ends of some boards shorter than others and carve away some of the material between boards.

A base coloration of thinned light gray, such as Aged Concrete, is used for all of the wooden components in this kit not specified to be a specific color. Some folks think it is necessary to sand the black edges off of all of the laser-cut parts. Not true. If you follow the suggested painting techniques, you will not have to spend time sanding all the edges of parts before assembly. Laser-cut edges can be base-colored with Antique White prior to applying a light color. This will easily hide any burned edges. Random additions of stains such as Oak, Maple, Rosewood, Natural Pine, etc., will add realistic variations to the coloration. Leaks and wet areas can be simulated by adding stains which are darker than the base color. A final wash of weathering stain will blend everything together.

Weathering Stains

The gray weathering stain formula used is based on experience with laser-cut components and castings. Too dark a formula of weathering stain against a relatively-light finish coat will tend to overemphasize laser-engraved nail holes. You may wish to try this weathering stain formula:

- Obtain a one ounce empty bottle.
- Fill your bottle about 3/4 full with denatured alcohol.
- Add about 30 drops of India ink and mix well.

This **Alcohol & India Ink (A&I)** stain will be used throughout the weathering of this kit. If it needs to be slightly darkened, just add more ink. However, it is a good practice to re-stain an object rather than use a stain which might be too dark. This stain should be used on all of the castings and buildings after painting them, and after final placement to mute the colors realistically. When first applied, it will look terrible, but let it dry before passing final judgement.

The second stain is a reddish-brown mixture. Using the same procedure listed above, simply substitute brown shoe

dye for the India ink to create an **Alcohol & Dye (A&D)** stain. It can be used on all castings also.

An alternate method for final weathering, rather than using the weathering stain, is to use powdered charcoal found at an art supply store. One can will last a lifetime! You will also need a 1" wide soft brush. Never use this brush for anything other than charcoal work. And never wash this brush! Use your brush to dust all exterior surfaces of the model. Brush and blow off excess charcoal. Practice on scraps prior to dusting the model. The proper effect will darken the model slightly and will darken the wood grain lines added to the model.

Castings

The body castings are made from a urethane material very similar in workability to styrene plastic. Urethane parts may be sanded and filed easily, but the dust should not be inhaled! They will drill, file, and sand like styrene, so a tender touch is needed during the cleanup. Remove any flash with a sharp hobby knife and modeling files. It is also very important to thoroughly rinse them after washing them. Urethane parts may be directly painted with Floquil paints.

Several alloys are used to produce metal parts for our kits. All the metal parts should be handled with care as denting and breakage may occur if they are dropped.

WARNING: *The metal castings in this kit may contain very minute levels of lead. Most of the castings in this kit are now 99.5% or more lead free. But to be on the safe side, keep all parts away from pets and small children, don't lick your fingers while building this kit, and always wash your hands after handling the castings!.*

Cleaning the metal castings is quite easy. Several jewelers' files and a sharp hobby knife work well for this procedure. After you have completed the initial cleanup of parting lines, sprues and flash, wash all the castings in lacquer thinner, or denatured alcohol, and allow them to dry. Handle these after washing by wearing gloves to avoid getting them contaminated with the oils from your hands.

Sometimes the metal castings in the scene were treated with Blacken-It according to the product instructions. The chemical reaction between the Blacken-It and the metal creates a very realistic weathered-metal finish. Additionally, all metal castings can be treated in this manner to provide greater paint adhesion.

Painting the metal castings is quite easy and can be accomplished with a brush or airbrush. A good base coat will be created by airbrushing your castings with Floquil Earth or light gray paint. Krylon gray primer in a spray can

works well as an alternative to an airbrush. Choose relatively dull colors for your castings. Models tend to look more realistic using shades such as Mud, Grimy Black, etc. by Floquil, or similar dull shades. Rarely should you consider using bright colors in model scenes. The Woodland Scenics water-base colors work well for this.

Tools Required for Assembly

Tools required for this kit: Hobby knife and sharp blades (we buy surgical blades from the pharmacy - very sharp and extremely thin), sanding block/emery boards, metal straight edge/hobby scale, glues (ACC, Titebond wood cement, Elmers White Glue, JB Weld Epoxy), paints/stains, assorted twist drills and pin vise.

Sanding

It has been said that sanding is not necessary on a laser-cut kit. This is not true! Proper sanding makes the difference between a kit simply assembled and one that shows the touch of a true master craftsman. While the laser can cut precisely, the amount and types of glue used in assembly can alter the fit. Dressing the edges with a quick pass of the sandpaper will greatly improve the appearance of the finished model. Always keep an assortment of sand papers and emery boards in your tool box. Grits ranging from 200 to 600 will be helpful. Just about all exposed joints need to be dressed with fine sandpaper like 600-grit. This will greatly improve the appearance of the model.

Gluing

Titebond, a brand name of strong wood glue, is used to assemble the large components in this kit. The residue from this glue will have a yellow tint, so be sure to clean up any excess. White glue is used to attach the smaller parts as this glue will dry clear. When applying glue to the smaller parts, it is best to use a toothpick to apply a thin layer of glue to the back of the parts and then press them in place on the structure. Any excess glue can be wiped off with a damp cotton swab.

New River Yard Series

Instrument House

On the front of the body, there are two half-round shapes near the top on the left side of the door. Use a #76 drill and carefully drill a hole directly under each at an upward angle.

Using ACC or epoxy, glue the tops of the six footers to the bottom of the body - the bottom is flat - with one footer on each corner and the remaining two centered on the sides.

Glue the roof to the body keeping it centered. The two roof vents glue into the holes in the roof.

Assemble the steps by gluing the lower treads (B.1) onto the carriages (A.1). When these are dry, glue the upper treads (B.2) to the top of the carriages with the front edge of the tread flush with the front edge of the carriage. Glue these completed steps to the body centered under the doors.

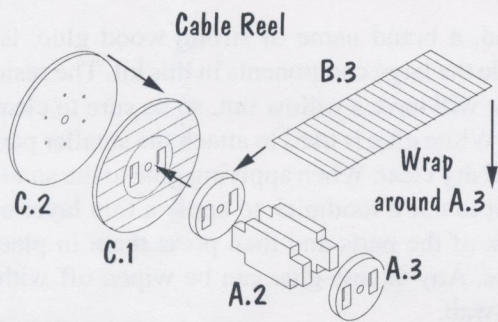
Cable Reel

Glue the inner side (C.1) to the outer side (C.2) with the scribed boards on the outside and perpendicular to each other. Keep under weights until dry. Glue two braces (A.2) into the slots of two center formers (A.3) to form the reel center.

Soak the plywood center wrapper (B.3) in water for about ten minutes. With the scribed side on the outside, wrap this around a pen or dowel about 3/8" in diameter. Hold in place with rubber bands until dry. When dry, glue the wrapper around the reel center.

Glue the two sides to the reel center with the exposed tabs on the reel center fitting into the slots on the inside of the sides. Paint a weathered gray.

Stain the line with thinned black paint and when dry, wrap around the center of the reel and glue the ends in place with white glue.



Pallet Assembly

Please note that the deck boards (B.4) are attached to the carrier sheet only on one side. Leave them this way for now! Glue the skids (C.3) to the deck boards where the marks indicate. After the glue is dry, carefully cut the other edge of the deck boards with sharp scissors to release them from the carrier sheet.

Power Pole

Trim the top of the pole at an angle. Use a razer saw to rough up the pole by scraping it along the side of the pole. Paint the pole a dark brown color, and then drybrush light brown and gray over it to highlight the detail.

Drill two #74 holes near the top of the pole and glue the two insulators into these holes. Plant the pole about 1/4" deep near the front of the instrument house.

Twist two lengths - the distance from the front of the house to the top of the pole - of the magnet wire together and glue one end into one of the holes on the front of the instrument house and the other end to the middle of one of the insulators. Do the same thing with two more lengths of wire. Paint the wires black.

Details

The drums can be painted black or gray with center stripes in blue, yellow or red. The barrel should be painted dark brown with bands highlighted with a black or rust color. Stain the ties dark brown and drybrush with black to duplicate the new creasote color. Stack all these details along side the instrument house.

Tie plates (D.1) should be painted dark rusty brown and can be stacked on the pallet. Place the cable reel near the instrument house.

Paint the pigeons brown or gray and glue to the instrument house roof and power pole.

Parts List

Number	Description	Qty	Material
	Pigeon	3	
	55-Gal Drum	2	
	35-Gal Drum	2	
	Small Barrel	1	
	Insulator	2	
	Tie, 8'	5	
	Line	1	
	Magnet Wire	1	
	Pole	1	
05005-1	Body	1	Urethane
05005-2	Roof	1	Urethane
05005-3	Roof Vent	2	Urethane
05005-4	Piling	6	Urethane
A.1	Step Carriage	4	1/16" Bass
A.2	Reel Brace	2	1/16" Bass
A.3	Reel Center Former	2	1/16" Bass
B.1	Step Tread, Lower	4	1/64" Ply
B.2	Step Tread, Upper	2	1/64" Ply
B.3	Reel Center Wrapper	1	1/64" Ply
B.4	Pallet Deck	1	1/64" Ply
C.1	Reel Inner Side	2	1/32" Bass
C.2	Reel Outer Side	2	1/32" Bass
C.3	Pallet Skid	3	1/32" Bass
D.1	Tie Plate	20	White Card
		71 Total	

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