



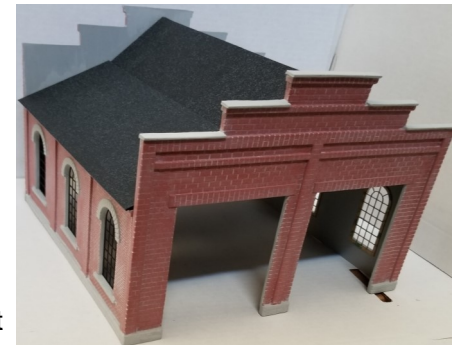
Korber Models

Scale Model Railroad Structures

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No. 203 Trolley Shed Instructions

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11 1/4" W x 11 1/2" L x 8 7/8" H

Introduction

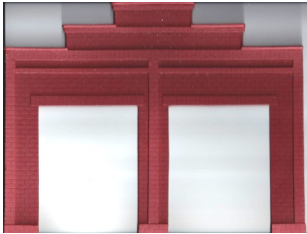




Congratulations, you have purchased the Korber Models #203 Trolley Shed, one of the most popular O Scale Trolley Shed on the market! This Trolley Shed is used in thousands of great layouts including yours, and is a great complement to a number of super turntables. Each door opening is 3 3/4" W x 4 7/8" H. 5" Center of rail to center of rail.

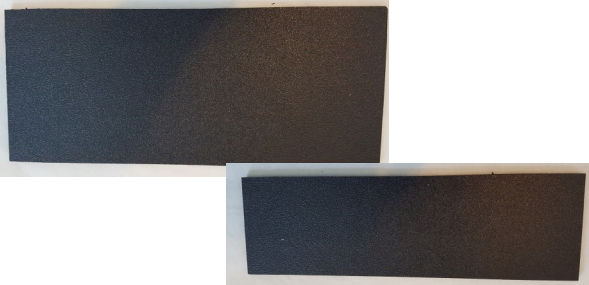
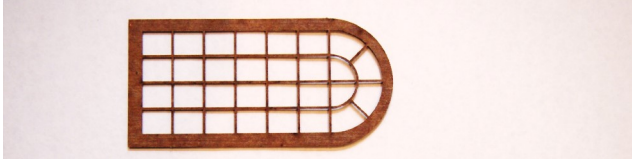

You can follow the simple, step by step instructions outlined in this document to easily assemble this great looking addition to your layout. We have covered not only the key required steps to build the trolley Shed so you can get it on your layout the quickest, but have also included several optional steps to enhance the appearance. These enhancements are based on submissions from modelers just like you who have taken the Korber trolley Shed to the next level, and now by following a few extra steps you can achieve the same results.

Before you start you may want to read through the instructions to get a feel for the things you will be doing, and the basic order in which they will be done. You are on your way to adding a centerpiece to your layout, so let's get started!

Parts list & Templates – (What's in the box)

Take a few minutes to locate all the parts in the box to make sure you have all the pieces you will need and that the quantities are right. You may also want to spread these parts out so that you have a small separate stack of each part so it will be easy to find each part as you start the assembly process. If you are missing anything, please contact us so we can get you any of the missing items.

Qty	Description	Photo
2	Walls with 2 stalls in them	
2	Short Side Walls (4 arched windows)	
4	1/4 wood stock Gable Pieces w/ angles ends 4 3/8" {Wood parts may be larger and need cut down}	
10	2- 1/4" x 10" 6- 1/4" x 4 7/8" {Wood parts may be larger and need cut down}	
4	3/8" x 4 11/16"	

Qty	Description	Photo
4	Roof Sections -2 upper roof sections 4 3/8" x 11" -2 lower roof sections 4" x 11" You may get pieces that are bigger, but a utility knife cuts them down to size easily.	
6	Short Laser Cut Arch Window & Laser Cut Glass	
1	Bag Roof Sand 1/2 full	

Materials needed – (What else might I need that is not included)

The Korber Trolley Shed, like any kit, requires a few additional items to complete the construction. We have included a list here, including some color and brand suggestions based on our experience; however you may use any product that fits the function. Please also note that some items are listed as options such that they either make assembly simpler, or are needed only for optional steps

Flat paint, choice of colors, for doors, windows, trim

“Red” automotive primer spray paint to cover all molded brick surfaces such as Krylon Ruddy Brown primer

Antique white craft paint for cement lines

Light grey or cement color paint for stone foundation portion of the walls

Brown color for interior wood pieces

RustOleum camouflage flat spray paints work well for painting window frames, skylights, interior wood and doors

Small paint brushes

Paper towels or soft cloth rags

Cyanoacrylate (CA) glue. Also known as Super Glue, Gorilla™ super glue works well, Sinbad or Dap also work well

CA glue accelerator (optional) (turns any CA glue into quick set glue (optional))

White glue or carpenters wood glue for building wooden structure pieces and gluing sand to roof

Medium grit sandpaper or emery board

Wax paper

Testor's Dull-cote™ (optional)

Small clamps (optional)

Flat black or grimy black spray paint (optional)

1 - Parts preparation & painting

Look over all the molded parts and remove any flashing that might be left on them. Flash is the thin pieces of the molding material that may be left in widow openings and along edges in the molded parts. This can quickly be removed with a razor type knife, a small file, or an emery board. Some flashing maybe thicker and require a Dremel tool or utility knife and more through sanding of parts. [Then wash the parts in warm soupy water and dry completely.](#)

The parts in the kit will need to be painted to the final colors you select, and it is much easier to do this step before you assemble them. All the wall sections come colored in a brick red, however many modelers find a light coat of flat red auto primer spray paint gives not only a great look, but also makes it easier to add the mortar color lines to the walls later on. In a well ventilated area (outside is good) apply a coat to the inside (smooth side) of all the brick wall sections first; once dry, do the same to the other side. By painting the back side first you avoid any marks that might appear on the brick textured side.

Use a similar process for window frames. You may want to paint all three of these types of pieces the same color to create a theme for your trolley Shed.

The internal wooden pieces also will need to be painted or stained. Stain allows the adhesives to work better after the stain is applied and dries. Golden Oak or Walnut works well. However they are best painted once they are assembled and we will do that in a later step.

Option

An optional step that adds a great deal of realism to any model of a brick building is to add the mortar lines to contrast with the red brick color. The ability to lay the wall sections on a flat surface, when done prior to assembly, makes this detail step simpler.

There are several ways to do this, including use of water based paint (Light Grey latex well diluted with water until the consistency is as thin as milk), some commercially available products, and the use of light spackling compound to fill mortar joints, In all of these approaches the general concept is to spread the white product you are using over the brick walls, filling in the mortar line groves in the wall section, and then remove the excess from the top of the bricks. We will walk through the water based paint method.

One simple method we have used is to dilute some water based antique white or light grey craft paint to create a soupy like consistency



- Cover entire wall section with diluted white paint, letting it settle and collect in the mortar lines.
- Wait a few seconds and lightly wipe off excess paint using a slightly damp paper towel or soft cloth until paint is removed from the brick surface, but not the mortar joints.
- Keep flat and let dry before moving so the paint in the joints does not run.
- To remove haze from brick surface, apply a thin layer of Dull-Cote and wipe gently.
- It may require several applications to achieve the mortar line that you want
- A finish light coat of Polly Scale Grimy Black done with an air brush will tone down the grey wash and give it an aged look. (Apply lightly and highlight the area where you would expect dirt to collect flat black spray paint can also be used
- Applied Grimy black
- The good news with this option is that if you don't like it, the paint is water based, so you can get it wet, remove it, and start over.

The bottom of the brick walls has the impression of a stone foundation. This area should be painted a cement or light grey color to represent stone. There are other stone details that also can be highlighted with the cement/stone color you choose. Once dry, this area should be washed using a mix of either watered down black paint, or alcohol and India ink. The purpose of the wash is to settle the black color in the groves/joints around the rocks and give definition. The wash should not be so dark as to overpower the cement/light grey color.

The tops of the side walls also have a cement colors “tile” along the top edge next to the roof line. They should also be painted the cement/light grey color.

2 - Assembling wood frames

The Korber #203 Trolley Shed has internal, detailed scale wooden beams to provide both realism, and structural support. The provided 1/4' wood makes 2 separate roof supports

To aid in the assembly, we have included full size templates upon which you can build the frame.

You should use white glue or wood glue to assemble the frames.

- One optional suggestion is to build a template jig used to assemble the framing.
- You may want to use small clamps to hold the pieces together while the glue dries
- Next, allow glue to dry thoroughly and repeat two additional times to make a total of 3 frames.

Once all the parts are assembled and dry look over the joints for any excess glue, and remove prior to painting, sanding or the careful use of a sharp knife works well.

You can now paint and or detail these to your liking. You have several choices, a dark paint such as a dark brown works well, or you could use a wood stain to allow any wood grain to come through. You can also leave them the natural wood color they come in. You may also choose to add a light spray from a distance of flat black spray paint to give a grimy – sooty look.



3 - Sidewall construction

The sidewall consists of 2 pieces, which will need to be sanded to a 90degree angle to fit snugly against the front and back walls. It is important that the sides that touch must be sanded before gluing to make a tight seam.

4 - Assembly & Install windows

Brick Wall Windows

The windows are made from two different pieces, a piece of clear plastic “glass” material laser-cut to match the frame, and laser-cut frames, which have a peel-and- stick backing.

- Carefully remove any hanging pieces from the window frames.
- If the window frames have not been painted, and if you would like to do so, paint them now and let them dry before moving to the next step.
- Carefully peel away the protective coating on the adhesive backing.
- Press the window frame, sticky side down, on to the clear sheet of plastic, and repeat for the number of windows you have.
- Place the walls to which you want to add windows brick side down on a flat surface.
- Apply a small amount of glue around the edge of the frame and insert over the openings on the wall pieces. Be careful not to use too much glue or you can destroy the plastic windows panes by getting glue on them.
- The windows are designed to overlay the window opening from the back, or inside of the building, and will not fit inside the window opening.
- Let dry before moving the wall sections to a vertical position to avoid glue running or the windows falling out.

Now that you have the floor plan completed you have a few choices about how to proceed, including a few optional steps that some modelers have done to enhance the realism and structural integrity of their Trolley Sheds.

- A. Proceed using the template to build the Trolley Shed directly on your layout. This is often the most common approach, especially if you have good access all around the Trolley Shed.
- B. Proceed using the template and build the Trolley Shed on a flat surface near your layout, and move it to the final location once constructed. This again is a common approach; however, if you have to move it far to the final spot on your layout it can be difficult as there is no "floor" to the structure.
- C. Using the template, create a base or floor made from wood upon which to build the Trolley Shed. This method gives your Trolley Shed more stability, and makes moving it from the location where you build it to the final location on the layout easier. To use this option go to Option 1 - Base

If you plan to use method A or B go to 5 – Assembly of Main Structure.

5 - Assembly of Main Structure

The assembly of the main structure is based on placing the walls perpendicular to the front and back walls. **Placement of brick walls**

- Take one sidewall and one back wall and line them up to have 90° angle (make sure layout lines on inside of walls fit tightly)
- Some sanding may be necessary. Rough up edges only where you need to glue.
- Repeat on other sidewall.
- Glue in place once tight fit is achieved .
- Optionally use clamps as necessary to hold pieces together.

Note: If you plan to add the internal floor option, proceed to the option 2 section now. It is important to do this before you proceed to the placement of the wood supports.

Placement of wood support

- Assembled wooden beam frame supports for end walls are to be glued directly to the interior end walls
- Roof supports MUST butt up against front wall
- Glue in place remaining roof interior frame supports between front and back wall sections at the seam between side walls.
- Optionally use clamps as necessary to hold pieces together

6 - Install roof

The Trolley Shed has two levels of roofing that are covered with two different pieces of black plastic. The intent is to glue these plastic pieces to the wood structure and wall tops on the front and back to create two solid roofs, and then cover the roof with the provided gravel material.

- Black plastic roof material should fit on top of the support beams
- The roof sections go between the sidewall sections and rest on the wood frame
- Seams between stalls should be over the wood frames



- Glue in place the roof sections
- Roof gravel mixture may be applied for a gravel roof look. Use a spray adhesive or white glue diluted with water to attach the gravel to the roof. Duck Tape works to keep both roof parts together.

7 - Final detailing – weathering

Your Korber #203 Trolley Shed is now assembled and ready for placement on the layout. You may wish to provide some additional weathering before you install it as a Trolley Shed would be a heavily used structure in the engine service facility, and would rarely look brand new.

To add a weathered look, spray the entire model with flat black from a distance. This will give a sooty look. Over the doors should be darker black, in the center from the soot that rises from the locomotive smoke stacks that would have passed thru the doorway.

Option 1 – Base / Floor

The optional base can be built on any sort of rigid, material such as 1/4" or 1/2" plywood. This type of plywood is commonly available at most home improvement stores in 4'x8' sheets. They also have smaller 2'x2' and 2'x4' precut sheets which are ideal for smaller buildings and easy to get home in a car; however, the Trolley Shed footprint is larger than either of those smaller pieces. It is important to make the base from a single piece of stock to provide rigidity. For particularly large Trolley Shed you may need a 3/4" base. If you choose to do the optional interior floor, total stack up of the material used should be close to 3/4" with layers for the base, filler, and interior floor.

Getting the wood home. Most home improvement stores, including the big box stores will cut down the 4'x8' piece to a smaller dimension for you, often at no charge. Simply provide them the smallest square or rectangle dimension that your Trolley Shed will fit in. 11 1/4"W x 11 1/2"L x 8 7/8" H

You will need to make the base a larger to accommodate the walls, simply add 1/2" to 1" to each side of the template to provide some leeway in the final placement of the walls. This exposed "lip" can be easily covered with ballast or other ground cover once you install the Trolley Shed on the layout.

Note if you use a sound absorbing /insulating material to top your layout. If you use a covering for your layout like Homasote or other material, you can use a base that is the same thickness of you material such as 1/2" and make a cutout in the Homasote the same size as your base. This will provide a level transition for the track from the layout to the floor of the Trolley Shed. In addition, you can keep your base square if you have the room, and not cut it to the shape of the template.

Once you have your base complete, you can proceed to the next step

Option 2 – Interior Floor

An interior floor adds to the detail, and also increases the structure's stability. It is an important part of a good solid base. This is a 3-layer system that brings the finish floor to the top of the rail. There are two layers pictured in the close up photo that can be seen at the bottom of the side walls, 1/4" Luan on the layout deck, and 1/4" masonite (brown) under the side walls. The third layer inside brings the floor to top-of-rail height.

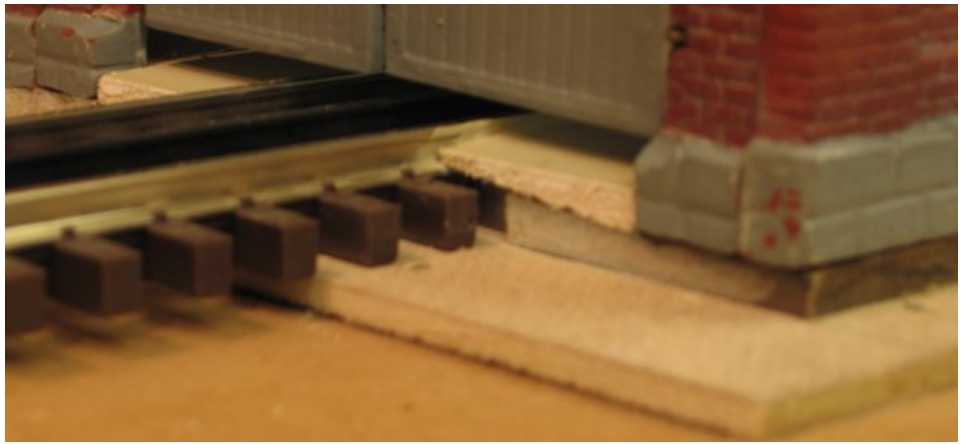
(1) The floor build up detail.

Completed three layers.

- a)The bottom layer of luan board matches cork thickness to be installed under the track
- b)The masonite layer compensates for the tie thickness.
- c)The top layer is the finished floor.

(2) The top layer also provides a building template and ledge to assemble the walls. Pieces are cut and fit between the rails as needed to complete the floor.

(3) The tracks are taped with masking tape and wood fillers/ drywall spackling is used to smooth the surface. More than one application may be required, sanding between application much like a drywall installation. The base in this picture used Sherwin Williams PreRite ProBlock primer sealer (141-1669) in cans, before the finish paint. It is then spray painted with Krylon Camouflage ultra-flat (4291) Khaki that is a good substitute for aged concrete.



(4) Once the ledge is established, assembly of the wall panels can be done.

(5) Interior detail work with a floor installed should be easier to add

(6) The additional 1/4" X 1/4" basswood framing detail shown has been added; it is not part of the kit. This detail also adds to the model's structural integrity.

Option 3 – Lighting

Interior lights add more realism to this great structure that serves as a busy hub of activity on your layout. Following a few simple steps outlined here you will be able to add this improvement to your Trolley Shed model. While we will be discussing using LED's for the lights, one can also use incandescent bulbs in the same manner.

The model in these photos had a couple of bare copper bus wires run down the middle of the Trolley Shed and the LEDs and their resistors were connected to them. Those wires carry 12 volts DC and have been painted black in the photos. The two legs of the LED were glued to the Trolley Shed frame using "ACC gel" or other similar "superglue gel" type adhesive. The photo shows the bus wires and how the harnesses were soldered to them. You need to be careful to keep the polarity correct on the LEDs. Once all the wires were soldered together and tested, the bare wires were painted over in black to help them blend into the structure.

You should test each harness prior to installation. Note that the harnesses were made so that the wire lengths determined that they be soldered to the correct bus wire (couldn't get the "+" and "-" wires mixed up).

