



# Korber Models

Scale Model Railroad Structures

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## Model 306 O Scale 2 Stall Diesel Shed

### Instructions

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### Introduction

Congratulations, you have purchased the Korber Models #306 2 Stall Diesel Shed. The 2 Stall Diesel Shed is one of the classic Korber O Scale kits. This structure represents thousands of engine service areas seen along the tracks all across the nation featuring cement construction.

You can follow the simple, step by step instructions outlined in this document to easily assemble this great looking addition to your layout.

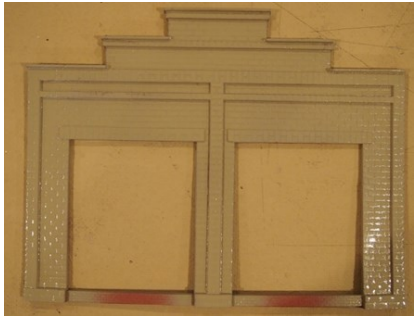
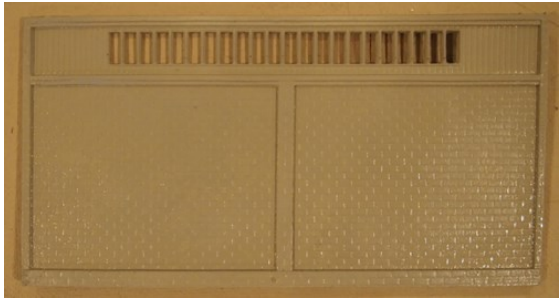



We have covered not only the required key steps to build the building so you can get it on your layout the quickest, but have also included several optional steps to enhance the appearance. These enhancements are based on submissions from modelers just like you who have taken the Korber structures to 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 – (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 to make it easy to find each 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	Qty	Description
2	End wall with two large door openings 	4	Side wall sections with windows at top 
4	Skylights 	4	Roof material 12 1/4" x 4 1/4" 
2	Roof material 12 1/4" x 2 1/2" 	2	Sheet Clear Window Glass

Qty	Description	Qty	Description
9	6-1/8" 1/4x1/4 posts—(B) 	3	10-1/2" 1/4x1/4 roof support—(A) 
12	1-1/4" 1/4x1/4 w/ 45 degree ends—(C) 	12	1-1/2" 1/4x1/4 wood for roof support—(D) 

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

The Korber #306 2 Stall Diesel 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 walls, skylights, and windows/skylights at the top of the side walls.—RustOleum camouflage flat spray paints work well
  - Light grey (automotive grey primer) or cement color paint (Camouflage Khaki) for cement building walls
  - Option: "Red" automotive primer spray paint to cover all molded brick surfaces such as Krylon Ruddy Brown
  - Antique white craft paint for cement lines
  - Flat Green (Camouflage Green) for skylights, and windows/skylights at the top of the side walls
  - Flat Brown (Camouflage Brown) for exposed timbers in the shed
- Paper towels or soft cloth rags
- Cyanoacrylate (CA) glue. Also known as Super Glue, Gorilla™ super glue works well
  - We really like the new Gorilla brand super glue because it is thicker than most super glues, and allows you to put in on a seam while holding the part in your hand, and will not run when you turn the seam on the side to put two pieces together. This glue is available in most retailers, including the larger home improvements stores
- CA glue accelerator (optional) turns any CA glue into quick set glue
- Medium grit sandpaper or emery board
- Testor's Dull-cote™ (optional)
- Small clamps (optional)

## 1 - Parts preparation & painting

Look over all the molded parts and remove any flashing that might be left on them. Flashing 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.

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 assembly. All the wall sections are colored in a cement color and are ready to use if you like a cement look. Optionally, the Camouflage Khaki provides a nice aged concrete look. However some modelers find a light coat of flat red auto primer spray paint gives not only a great brick 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.

If you elect to paint the window frames at the top of the walls and skylights a different color from the rest of the walls, you will use a similar process as the walls for the window frames if you spray paint them. You may want to paint these same color to create a theme for your 2 Stall Diesel Shed. Once the paint is dry, we suggest masking off the rest of the wall section so you can spray paint the top windows area of the side walls.

### Option

If you choose to use the cement color, we suggest skipping most of the mortaring option and only use the black wash in the final step to deposit dark highlights in the mortar joints. If you choose to use the brick colors 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 (Antique White or 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 removing 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
- Optional: 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



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.

Once dry, this area should be washed using a mix of either watered down black paint, or alcohol and India ink, this is also where you should start the wash process if you selected the cement color. 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.

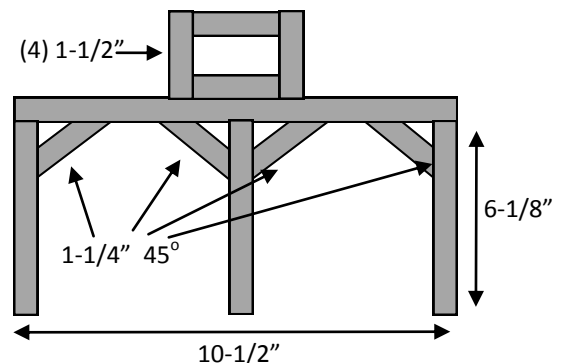
## 2 - Assembly of Support Frame

The Korber 306 2 Stall Diesel Shed has internal, detailed scale wooden beams to provide both realism, and structural support which, once assembled, will look like the drawing below. The provided 1/4" by 1/4" pre-cut wooden parts are used for this step. For a standard 2 Stall Diesel Shed you will build three support frames, optionally a fourth if you build the kit with the 306A extension.

To aid in the assembly, we have included a full size template, located on the last page of the instructions, upon which you can build the frame.

Support frames (you will need to repeat these steps three times).

- Remove the framing template from the last page of the instructions and cover with wax paper
- Begin on the lower portion of the structure and glue in place posts B and beam A – while making sure that the corners are square, add bracing pieces C and glue in place
- Next proceed to add the skylight bracing to the top of the support frame. Add four D parts to create a box centered on the top of the support frame being careful to align the 1-1/2" pieces to make a box that is 2" wide by 1-1/2" tall by placing the horizontal D parts between the vertical D parts. Glue in place
- 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 three, or optionally four support frames if you are building the kit with the 306A extension

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.

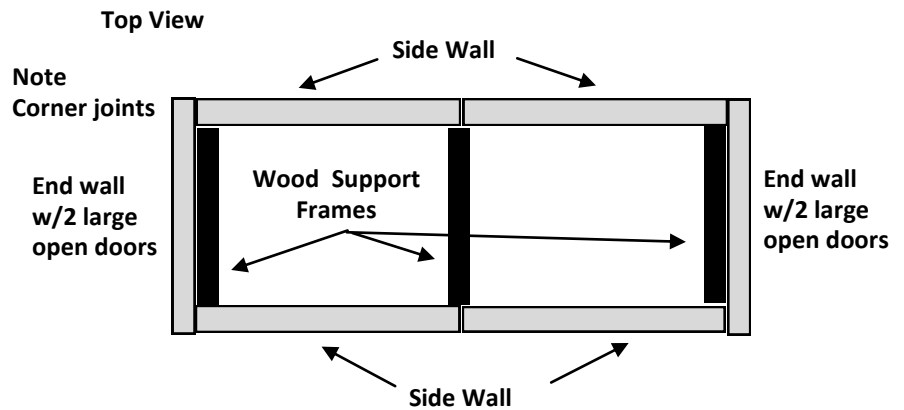
You can now paint and or detail these to your liking. You have several choices, a dark paint such as a dark brown works well, or you could use a wood stain to allow any wood grain to come through. You can also leave them the natural wood color they come in. You may also choose to add a light spray from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

### 3 - Assembly of Main Structure

The assembly of the main structure is based on making a simple “box” when viewed from the top. Each of the two, longer side walls is made up of two long wall sections, joined together. The end walls, front and back, are shorter and each has two large door openings. The 1/4” square wood support frames made in the prior step are used to add strength to the joints, and provide a lip or cleat for the roof section on the top. Below is a top-down view drawing of the relationship of the wall sections and the wood support frames. This kit is fairly long and therefore it is recommended that you construct the kit on a Masonite or 1/4” plywood base for added rigidity.

#### Placement of walls

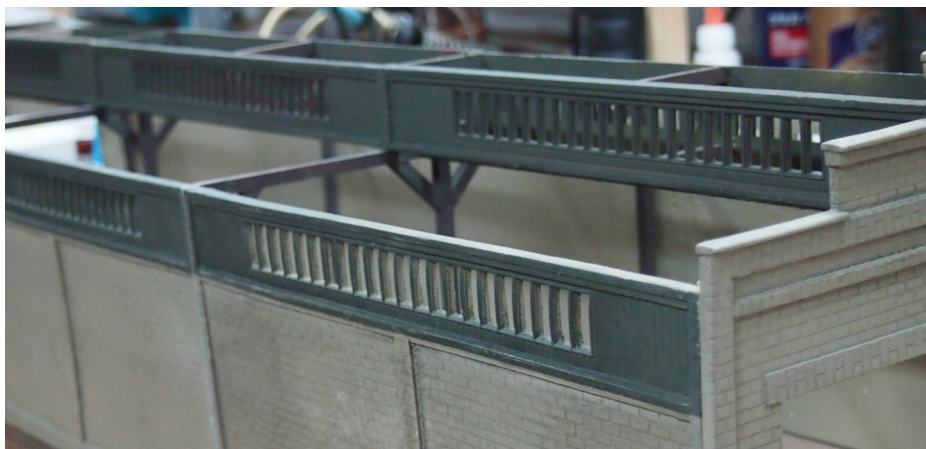
- Lay out two (2) side wall sections (Note: in building with the 306A extension make the assembly with three side walls) on a flat surface and dry fit them together to verify that the bottom edges are straight and that there are no gaps along the contact edge between the two walls. If gaps are present, sand the edges to make a flush fit. When ready, glue the two pieces together and let dry. Repeat this step to assemble the opposite side wall
- Take one sidewall assembly and an end wall and line them up to make a right angle. The use of a small square is helpful. The end wall should overlay the edge of the side wall. Some sanding may be necessary. Rough up edges only where you need to glue. Glue the two wall sections together and let dry
- Repeat the last step but using the other end wall, and finally repeat using the other side wall assembly to complete the “box”
- Optionally use clamps as necessary to hold pieces together
- Next insert and glue in place the three (3) wooden frames. Locate (1) at each end wall (frame will act as roof support and corner brace) and the other in the center over the seam between the side wall sections (dry fit the center support and verify that it is centered so that it will support both skylights)
- Clamp the frames to the walls and let the glue dry. The purpose of these frames is to create a cleat or lip to attach the skylights rest the roof material on in a later step



## 4 - Assembly of Skylights

The 2 Stall Diesel Shed includes a small narrow step up in the roof line that features skylights and a flat roof.

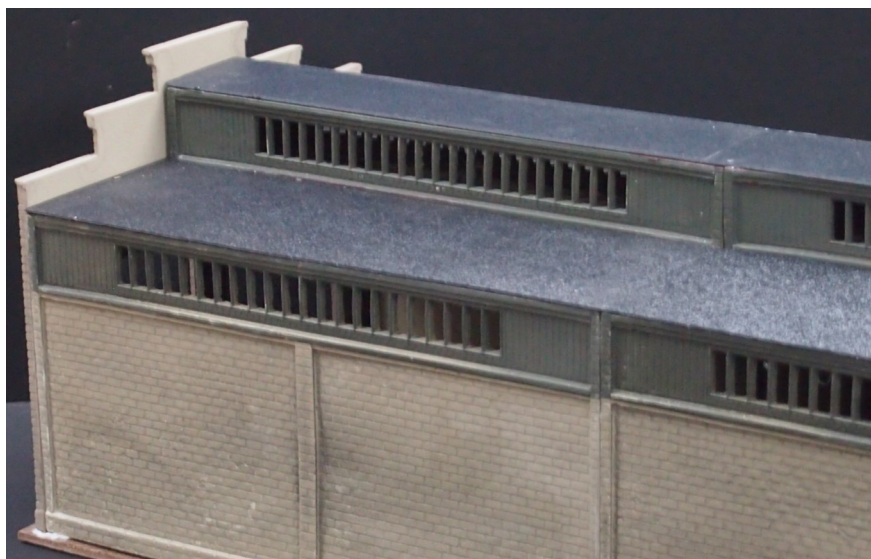
- The standard kit uses two skylights on each side (three if kit 306A extension is used). Dry fit the skylights by resting them on top of the lower roof supports, with the back edges up against the vertical “cube” at the center of the support frames
- Some sanding may be necessary. Rough up edges only where you need to glue and glue in to place. Repeat this step for the other side and let dry
- Optionally use clamps as necessary to hold pieces together
- Prepare to cut pieces of window clear plastic material to cover the back of the window openings both at the top of the side walls and the skylights. Glue these into place and let dry
- If you want the window panes to have a hazed affect, lightly sand the window material until you’ve achieved desired haze effect prior to cutting into window pieces



## 5 - Install Roof

The #306 2 Stall Diesel Shed has a two level flat roof made from black plastic. The intent is to glue these pieces to the wood support frame located at the ends and center of the building.

- The black roof material measuring 12-1/4" x 4-1/4" is designed so two pieces fit end to end resting on the side walls and rest on the three (four if 306A is used) wood roof support frames. Dry fit in place, and note that some trimming may be needed for a flush fit. Align the center seam above the center wood support frame, leaving a small overhang of roof material over the side wall
- Use a small piece of tape (black is good) to tape the two lower roof sections together end to end on the underside of the roof material (smooth side) to prevent light shining thru the seam. Place back on the lower roof level and glue it in this place. Repeat this step for the other side lower roof
- The black roof material measuring 12-1/4" x 2-1/2" also is designed so two pieces fit end to end and rest on the top of the three (four if 306A is used) wood roof support frames and the upper level skylight windows.
- Use a small piece of tape (black is good) to tape the two top roof sections together end to end on the underside of the roof material (smooth side) to prevent light shining thru the seam. Place back on the top roof level and glue it in this place.
- Optionally you could use a fine ballast similar to N Scale in a dark grey or black to simulate a gravel roof. Spread the ballast on the roof, wet using a “Wet Water” and apply a diluted white glue in a 50/50 mix. Let dry before moving to the weathering step



## 6 - Final Detailing – Weathering

Your Korber #306 2 Stall Diesel 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 building next to the tracks would be a heavily used structure with a layer of soot, 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 to the building.

Once done you can spray the completed structure with Dullcote to remove any gloss or shine.

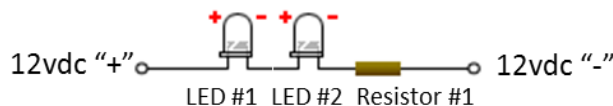


## Option – Lighting

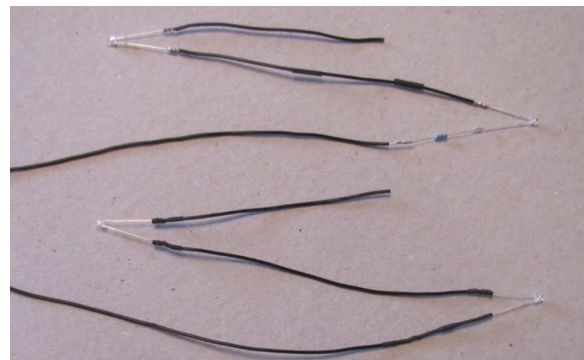
Interior lights add more realism to this great structure. Following the few simple steps outlined here you will be able to add this improvement to your model. Although we outline using individual LED's for the lights, many use incandescent bulbs, or the LED's that come pre-wired on a roll work well too. Remember that LED's need 12VDC and are not designed to work directly from track power or another AC source.

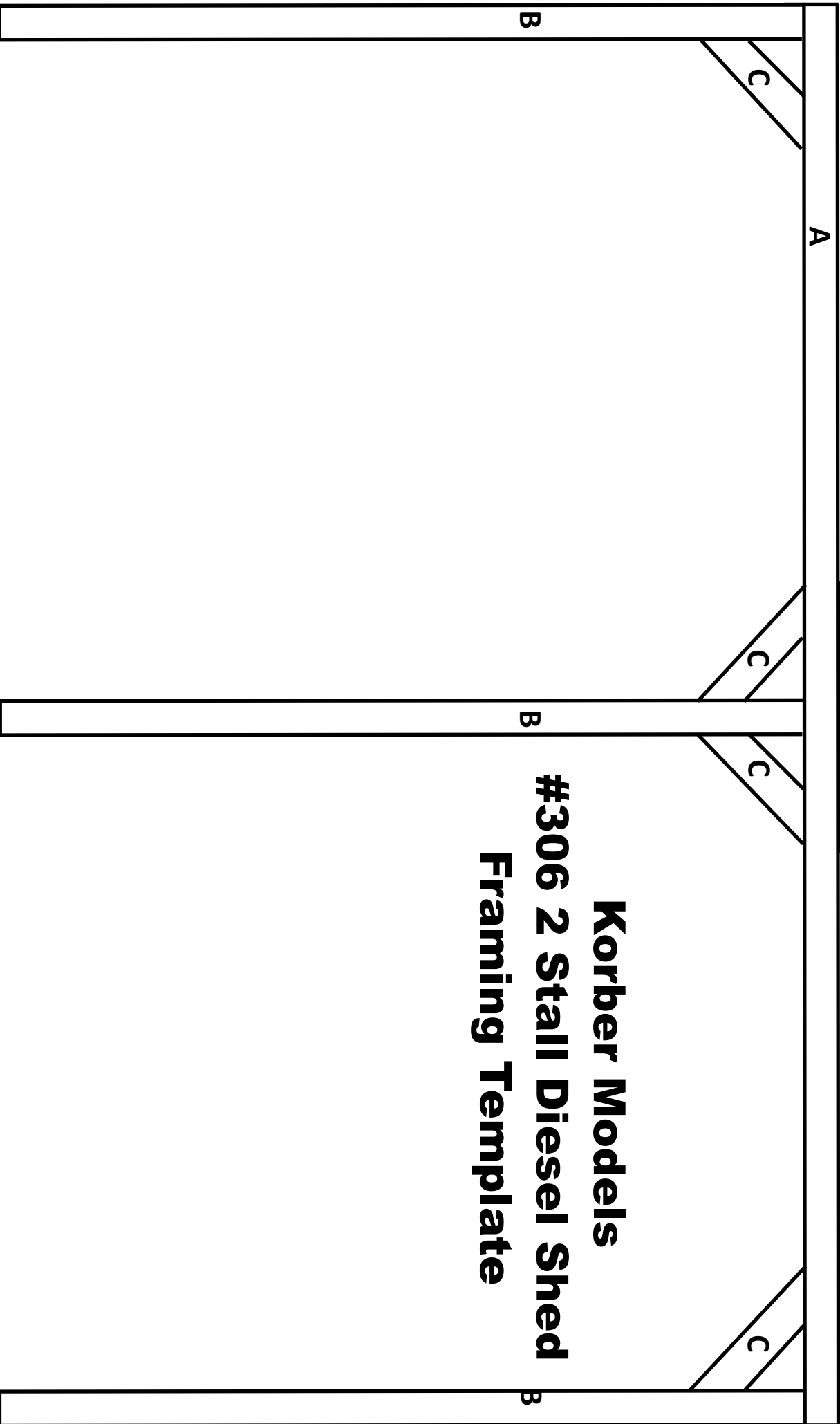
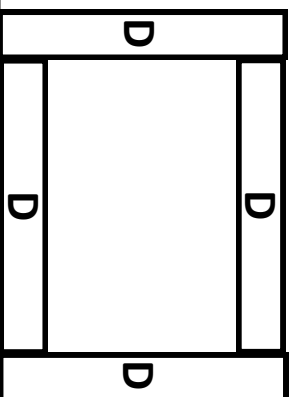
The 3mm flat-top white LED's work well as they spread light over a 120-150 degree angle as opposed to the 30 degrees or so that the dome-top LED's give providing an even light inside the building.

This simple diagram shows the basic electrical circuit. The value of Resistor #1 (R1) depends on the LED's used. You can find a good on line calculator and more information on LED's at <http://led.linear1.org/led.wiz/>.



The photo shows how a harness for 2 LED's was made. On top are the LED's and a current-limiting resistor (value depends on what LED's you're using) soldered to black wires. On the bottom, shrink tubing has been added to hide the resistor and the solder joints prior to assembly. You need to be careful to keep the polarity correct on the LED's (don't get the "+" and "-" wires mixed up). Make up and test each harness prior to installation. Once the harnesses are assembled (you may need several for the size of the building), glue them in place on the inside roof and wall of the structure.





**Korber Models  
#306 2 Stall Diesel Shed  
Framing Template**