

## 12-1 PULLMAN CAR/S SCALE

From Scenery Unlimited, 310 Lathrop Ave., River Forest, IL 60305

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### OVERVIEW

Passenger cars have always held a place of honor on the model railroad. The fancy-name, crack passenger trains that used to run across our country have given rise to this interest in passenger equipment.

One name was more revered than others in the passenger business after the turn of the century and that name was Pullman. Pullman dominated the passenger car market, and in the late 1920's and early 1930's, there were nearly 10,000 Pullman cars assigned to various railroads in parlor, club, dining and sleeping services. Pullman cars were even used in Mexico and Canada.

With the introduction of steel sheathed cars, the stage was set for standardization of design of Pullman equipment. Between 1910 and 1930, Pullman's Calumet Shops built more than 8,000 steel sleeping, parlor and club/lounge cars, almost half of which were the famous 12-section, 1-drawing room (thus the term 12-1) sleeping cars. Pullman had about eight other basic designs.

From 1910 to 1925, the NYC, SP and Pennsy used more Pullman cars than any other road. On the north-south trade routes, the C&E, L&N, Southern and Atlantic Coast Line used numerous 12-1 cars.

### REFERENCE MATERIALS

If you want the best prototype information on Pullmans, obtain a copy of Mainline Modeler, starting with the January/February, 1981 issue. That issue begins a five-part series on Pullmans, and includes background material, numerous photographs and a very helpful S scale plan (pages 46-47, Jan/Feb, 1981 issue) of the 12-1 sleeper drawn by Robert L. Hundman, editor. Individual copies of Mainline Modeler are \$2.75; yearly subscriptions are \$28.00, and are available from 5115 Monticello Dr., Edmonds, WA 98020.

Walters' Passenger Car Plans (\$3.00) includes a 12-section Pullman car in drawings on page 40-41; there are no dimensions given. Write 5601 W. Florist Ave., Milw., Wis. 53218.

### THE MODEL

Our S scale 12-1 Pullman model uses urethane sides and ends to keep the costs of production within reason. Injection molding would require thousands of dollars to produce this same effect. Roof and floors are of Northeastern wood. Cast metal detail parts make up the remainder of the kit.

The pilot model shown was built by S scaler Leonard Normand, who worked for the Pullman Company between 1944-1946, servicing Pullman cars on New York Central property. Leonard's pilot model utilizes a scratchbuilt brass fish-belly centersill and some brass underbody detail castings he fashioned himself. A Northeastern wood centersill has been provided in the kit should you not wish to construct your own. Additional underbody details may be added if you desire, other than those provided.

Leonard used Elmer's Epoxy for most of the gluing requirements. While epoxy requires setting time, it produces a very strong bond that veteran modelers will tell you is worth the wait. ACC-type glues such as Hot Stuff can also be used, but caution should be exercised and material surfaces tested before they are glued. Cracking may result. Another caution: urethane in the long side length provided in this kit is brittle; it can snap fairly easily if not handled with care. We have no replacement sides for this kit, so exercise extreme care in gluing the sides and ends together. Also, knife/razor marks readily show up on urethane; avoid stray knife marks. Urethane can also warp, and you will probably notice small imperfections and even some warping on the urethane sides already. This is normal on urethane castings, but do not aggravate the problem by leaving the sides or ends out in the hot sun or in a hot attic. It is also best to brace the sides with  $\frac{1}{4}$ " plastic angle stock (Plastruct is good) below the windows to help prevent warping, and you can do this as soon as you receive the kit.

### PARTS LIST

- 1 Wood roof, uncut to length
  - 1 Wood floor, uncut to length
  - 1 Wood centersill, uncut to length
  - 2 Urethane sides, 2 urethane ends
- Detail parts: 11 fans, 14 vents, 1 air reservoir, 1 water tank, 1 steam trap, 2 brake cylinders, 2 bolsters, 1 battery box, 1 tool box, 1 air conditioner, 4 steps, 1 UC valve, grabirons.

### GENERAL

Study all the drawings and instructions carefully before you proceed with construction. During assembly, try each

piece in its intended location before applying cement to insure proper fit. Wipe off any excess cement around joints before it dries. Drill holes for grabirons, etc., to avoid splitting wood or urethane. When drilling truck kingpin holes, be sure they are perpendicular to the floor, otherwise car will lean to one side and present operating problems.

### SEQUENCE OF CONSTRUCTION

It's best to build the frame first, then add the underbody details, couplers, etc., then proceed with the sides, ends and roof. Since the frame is what everything else must conform to, the frame must be built first--and correctly.

### FLOOR/FRAME

Use the urethane sides supplied to determine the length of the floor. Cut the centersill to length and bevel it at the ends and cement it in place. Add the bolsters to the floor (see bolster below). The middle truck center is 11 S scale feet from the end of the car (minus diaphragms), as according to the Mainline Modeler diagram. Place the trucks in position to insure proper spacing before attaching. If necessary, review prototype photos and information before attaching trucks. Be sure trucks will clear steps. Add two centersill braces the width of the car, as shown in the model photos in instructions. Make these of wood, styrene or brass; they must be shaped to conform to the underside of the car.

All holes should be drilled now while the floor can be laid out flat on the work surface. This includes mounting holes for brake parts, steam traps, trucks, etc. Use the drawing provided to locate underbody detail. Note that Leonard used different style bolsters on his pilot model than what is supplied; other construction materials used may vary slightly from what is supplied, and what is shown on the pilot model. Some minor parts such as wire, chain and coupler hangers are not supplied. These can come from your scrap box. Additional steam traps can be made from small finishing nails cut to length.

### ROOF

To construct a removeable roof, extend a very long wood screw through the truck into a block of wood glued to the underside of the roof interior. Or, drill a hole in the center of the frame under the trucks so that a rod can be placed through the hole and attached with small wood blocks on the bottom of the interior of the roof (see drawing). Secure rod with a bicycle spoke nut at the truck end. The wood blocks can be glued and/or screwed to the roof.

Couplers on the pilot model are Kadee No. 14 (have a long shank). A washer is first placed over the coupler hole (for stability), then the coupler, then a second washer, then the screw. The coupler hangers are of  $\frac{3}{32}$ " thick brass stock, but they can be made from wood or styrene. Steps are attached with small flathead  $\frac{1}{8}$ " long screws into the floor.

As mentioned, Leonard made his own bolsters. He made them from  $\frac{1}{8}$ x  $\frac{3}{16}$ " brass bar stock, but should you wish to make your own, you could make them from wood (see drawing).

### PLACEMENT OF UNDERBODY DETAILS

Refer to the drawing for location of underbody details; as you will note, details varied according to the air conditioning system. These underbody plans are courtesy Mainline Modeler.

### SIDES/ENDS

Using epoxy, rough the inside of the urethane ends lightly with sandpaper and epoxy the sides to the ends, making sure everything is in alignment. Take your time to line up the sides and ends square. Glue the ends and sides to the frame using  $\frac{1}{4}$ " plastic angle stock to support the corners. If corners do not mate completely, use body filler. Paint interior of walls now if you are going to light the car. Paint walls black.

### ROOF/ROOF DETAILS

You will have to cut the roof to length and shape the roof ends. See templates provided for shaping the roof ends. Take your time!

Bevel ends of roof as per template "A"; roof templates can be cemented to a thin cardstock backing, then cut out carefully. Form lower deck curve to match template "B". Build up curved end beading, let dry, then shape upper deck (clearestory) curves. Work carefully here, as it is easy to remove too much wood. Curves should be whittled with a knife or razor blade, followed with coarse, fine and extra fine sandpaper.

Expect to sand and seal the roof as many as five times for a really smooth surface. Leonard used Testor's Hot Fuel sanding sealer. He put a coat on, let it dry completely and soak in, and then sanded it with 2-80 sandpaper. Be sure to dust roof off between sanding.

Leonard used a 5" diameter saw or mill to cut the roof ends and to notch the inside ends of the roof so they would fit over the urethane car ends. Drip lines over the doors are of 1/32" wood stock; they go over all doors and both ends of the car.

While the number of fans and vents on the roof varied, we put 7 vents on one side, 7 on the other; 5 fans on one side, 6 on the other (see drawing).

Railings are of .025 steel wire, formed with a pair of pliers. Holes were hand-drilled. Clear styrene was used for the windows (not supplied) and individually cemented in with Ambroid cement. Floquil Gun Metal No. 108 was painted over the styrene to represent curtains. Bathroom windows were not painted, but roughed up with sandpaper to make frosted windows.

**PAINTING/LETTERING**

Floquil Pullman green was air-brushed on the car. Insert windows after painting. Once dried, paint Floquil Gloss over the paint before lettering above the windows. This makes a smooth surface for the decals. The word "Pullman" came from Champion alphabet lettering (L-131 Express Deluxe Gold Alphabet and Numeral Set). Or, you can use Extended Roman. The car name "Alamo" was made from regular 3/32" Roman letters (Champ or Walthers).

After lettering is applied, Leonard "dusted" on Floquil "Grime" (RR 86) to weather the car. Apply Grime by letting it lightly dust the car. Do not spray directly on the car. This technique will make your Pullman look as if it has been plying the rails for years! It will give it an outstanding appearance. Test the dusting technique on something first to insure you are satisfied with the results. Thinning the Grime will also help.

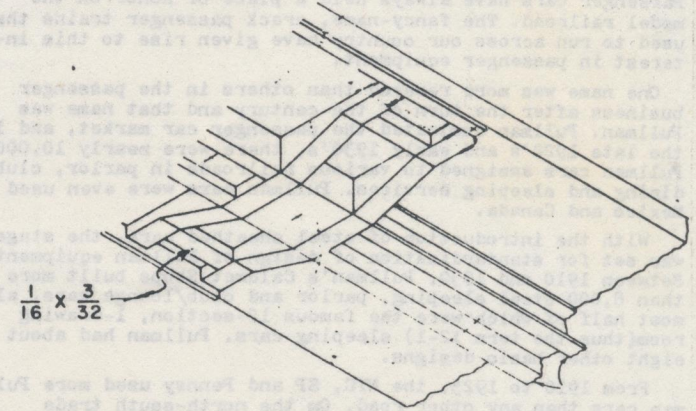
**RESULTS**

If you have followed the instructions carefully and taken your time, the results, especially for the veteran modeler, will be breathtaking. We'd like to see a black and white photo of your finished car if it turned out exceptionally well. If you send us a photo (at least 5x7") of your model, we'll send you a small gift to show our appreciation, with the understanding that we'll use the photo for advertising/promotion purposes. And since we can only use a few photos, we reserve the right to limit this offer.

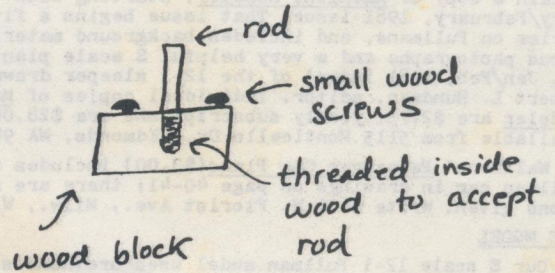
**SUMMARY**

We're very hopeful that this kit has provided you with many hours of enjoyment and satisfaction. It's certainly the kind of kit and model that you'll be proud to show off once it's finished. Naturally, operating it will require at least 36" radius curves to look right, larger radius curves if possible.

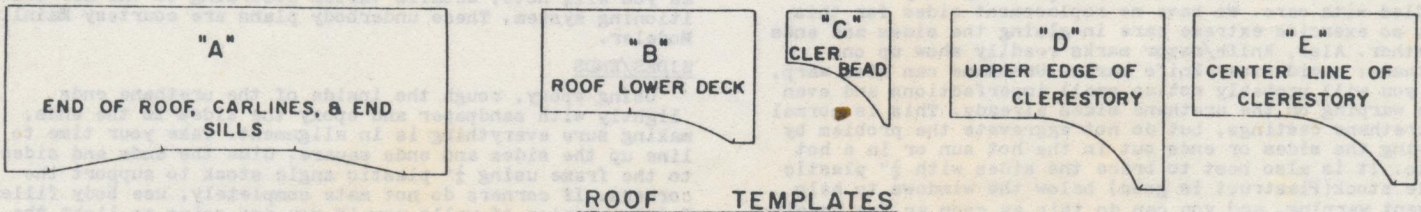
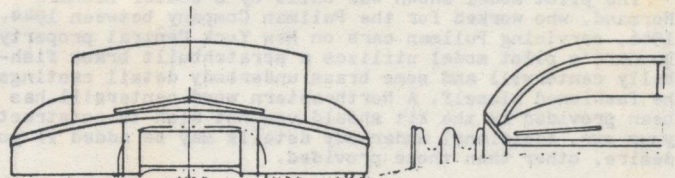
**Wood bolster construction if not using metal bolster supplied**



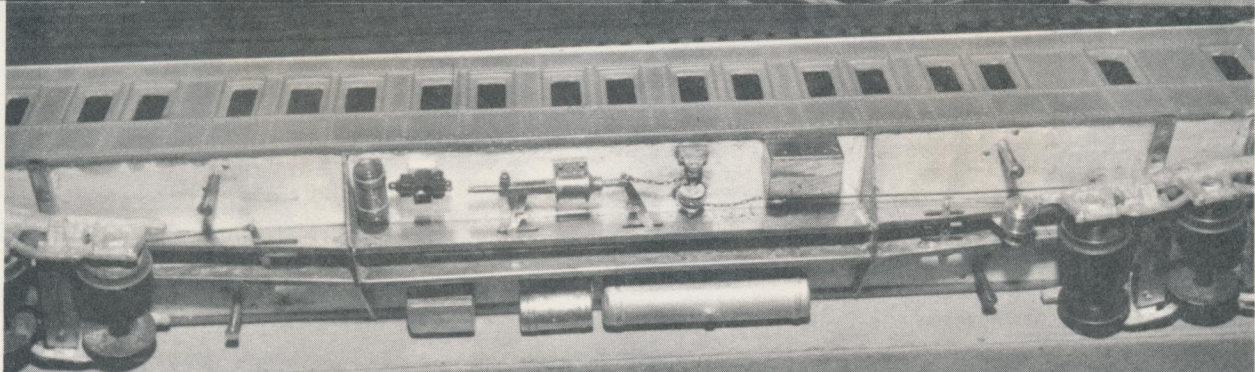
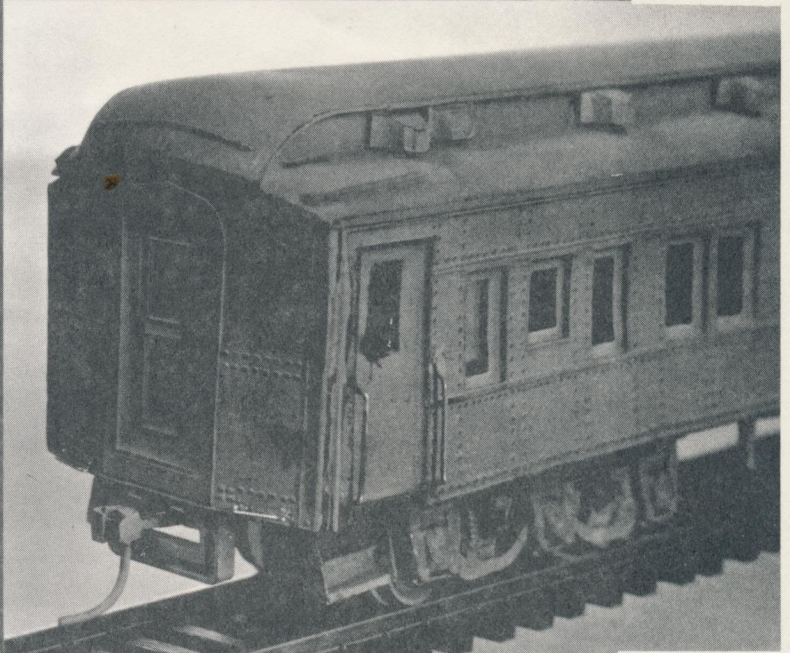
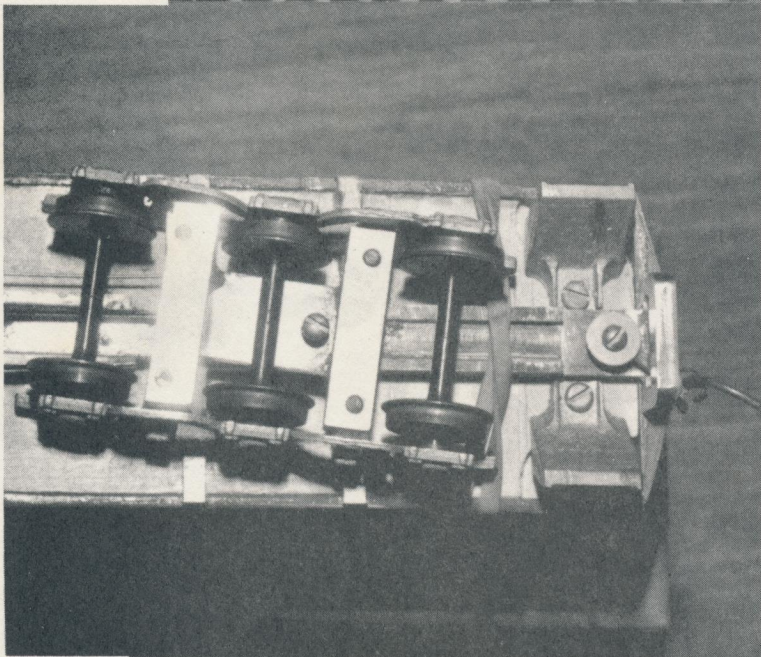
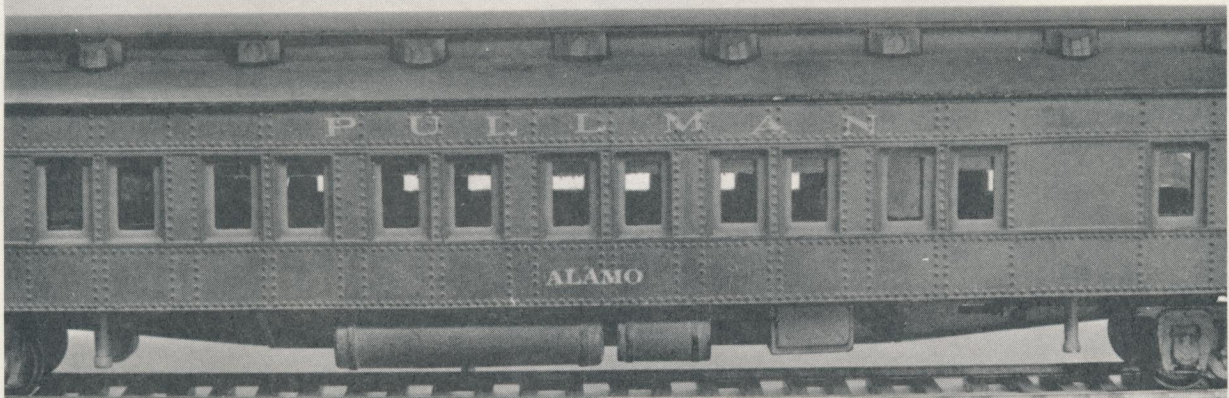
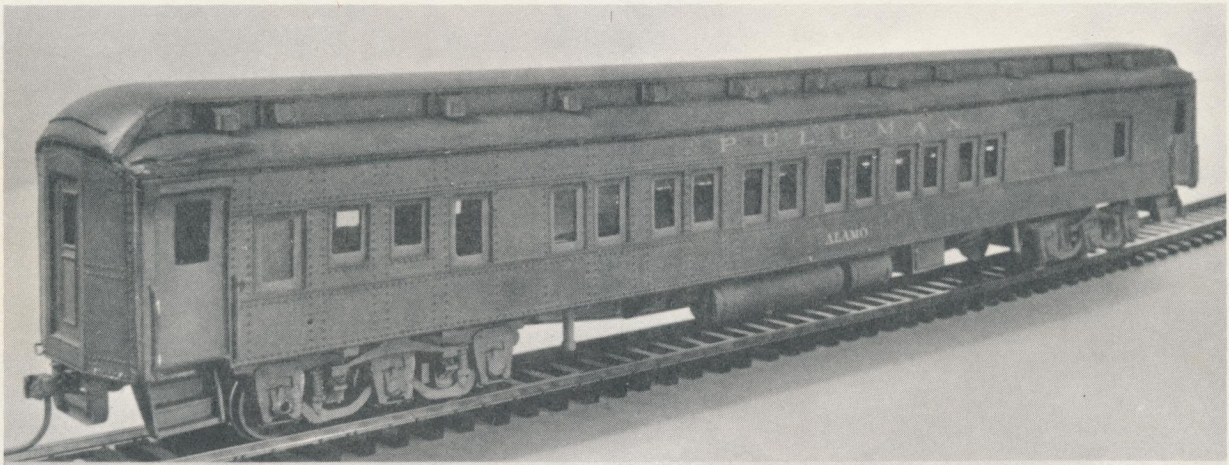
**Removeable roof anchor block with wood screws and rod**



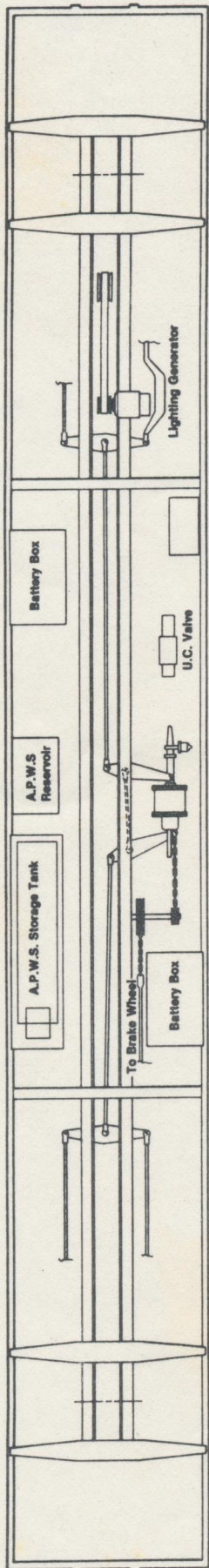
**Roof contour; follow templates**



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A FEW ADDITIONAL NOTES ON PULLMAN CARS



**Non Air Conditioned Pullman**

"The American Railroad Passenger Car", written by John H. White, Jr., and available from the Johns Hopkins University Press in Baltimore, is a very valuable and detailed book on passenger cars, including Pullman cars. There is a interior diagram of a 12-1 Pullman on page 275. The book is big--700 pages. Price is \$45.00. There are 800 photographs and drawings.

Stories of George M. Pullman appeared in the April, 1937 issue of Railroad magazine; and the August, 1941 issue of Trains.

Other stories of the Pullman Company appeared in Trains, October 1967 and also November 1969.

Below are some names of famous passenger trains on which Pullman cars were run:

- Alton Limited
- Broadway Limited
- Capitol Limited
- Chief
- Cincinnatian
- City of Denver
- Crescent Limited
- Daylight
- Dixie Flyer
- El Capitan
- Empire Builder
- Empire State Express
- Erie Limited
- Exposition Flyer
- Green Diamond
- Mountaineer
- North Coast Limited
- Orange Blossom Special
- Panama Limited
- Powhatan Arrow
- Southern Crescent
- Sunset Limited
- Twentieth Century Limited