

ACHIEVEMENT PROGRAM MASTER BUILDER CARS STATEMENT OF QUALIFICATIONS FORM May 2006

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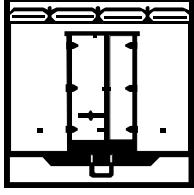
To qualify for this certificate you must:

1. Build eight operable scale models of railroad cars. There must be at least four different types of cars represented in the total of eight. One of these must be a passenger car and at least four must be scratch built. The remaining four cars, if not scratch built, must be super detailed either with scratch built parts or with commercial parts as defined in the "DEFINITIONS" section.

2. Earn a Merit Award with four of the above models either via an NMRA sponsored model contest or AP Merit Award Judging.

3. Submit a completed Statement of Qualifications (SOQ) which shall include the following:

- Attachment giving detailed descriptions of the models.
- Identification of the scratch built features.
- List of all the commercial components appearing on each model.
- Materials used in building the models.
- Verification of the Merit Awards.



**ACHIEVEMENT PROGRAM
 MASTER BUILDER CARS
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	Description of Model	Scratch Built	Merit Award	Verified By	Date	NMRA #
1	HO scale Hogshead Tobacco Car	Yes				
2						
3						
4						
5						
6						
7						
8						

Member's Statement and Agreement:

I certify that I have completed all of the requirements for this Certificate of Achievement as listed above and that I will agree to assist other members in this subject whenever possible, whether or not they are participants in the Achievement Program.

NAME: _____ SIGNATURE: _____ Date: _____

Certification of Regional Achievement Program Chair

As the NMRA Regional Achievement Program Chair of the _____, I certify that I have examined this SOQ and, having compared it to the stated requirements for this certificate, I am satisfied that the stated requirements have been met.

NAME: _____ SIGNATURE: _____ Date: _____

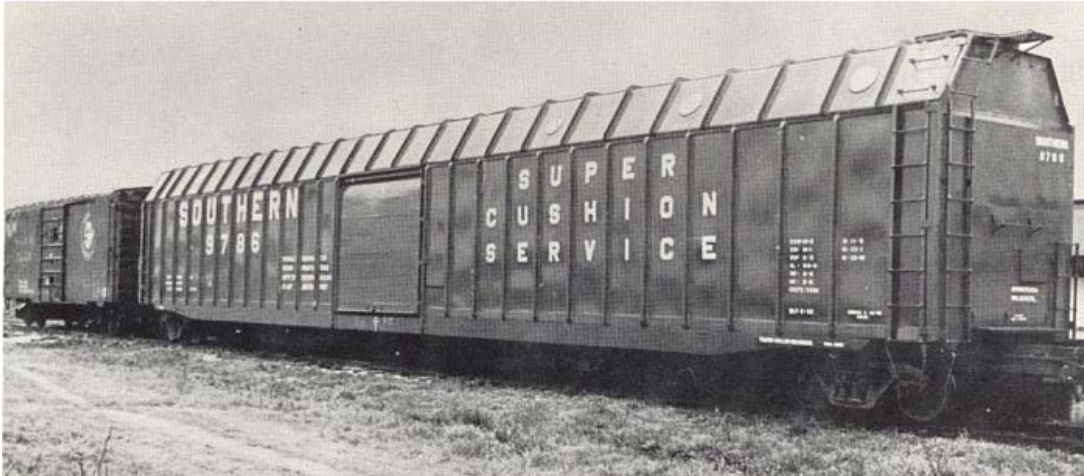
Region Cert #: _____

Approval by AP National Executive Vice Chair

NAME: _____ SIGNATURE: _____ Date: _____

Attachment 1

Car 6- HO scale Hogshead Tobacco Car



A picture of a prototype Tobacco Hogshead Car being modeled. Photo from Southern Railfan Collection

During research on various types of railroad cars I found an Ambroid car kit that for a Southern Hogshead Tobacco Car. The kit contained the original instructions and construction plans that were scaled to HO scale. I duplicated the wooden parts using various sized and shaped styrene plastic and following the instructions built the car in HO scale.

CAR COMPONENTS

General

Scalecoat II Boxcar Red paint.

Gorilla Super glue gel

Evergreen #9040 - .040 plastic styrene sheet (used as flooring and sides)

Evergreen 9015 - .015 plastic styrene sheet

Evergreen 127 - .020 x .156 plastic styrene sheet

Evergreen 253- .060 x .060 plastic styrene square shape

Evergreen 9060 - .060 plastic styrene sheet

Evergreen 255 – 5/16" square plastic styrene

Evergreen 253 – 3/16" square plastic styrene

Evergreen 9080 - .080 plastic styrene sheet

Evergreen 277 – ¼" I beam plastic styrene

Plastruct 90595 3/32" Z plastic styrene shape

Evergreen 179 - .100 x .250 strip plastic styrene

Evergreen 123 – 3/64" T shape plastic styrene.

Plastruct 90563 – 3/32" T shape plastic styrene.

Plastruct 90501 - 3/64" angle plastic styrene

Plastruct 90582 – 3/32" T shape plastic styrene

Tichy 3013 – AB brake set

26 gauge metal music wire used for grab rails and hand rails.

Ambroid #6 Second Series, special 1 Of 5000, second series, Southern Railway "Big Boy" Tobacco Hogshead Car Kit instructions and scaled drawing.

Microscale decal sets for Southern sets, 87-13 and 87-14.

Coupling assembly- (parts purchased)

2- Kaydee 256 Nylon insulated screws

KD 451 Extended swing gear box and metal whisker coupler kit

KD 2011 HO 50' Boxcar Red Apex running boards

KD 2011 HO 40' Boxcar Red Apex running boards

Kaydee #442 Brake pads

Trucks- (parts purchased)

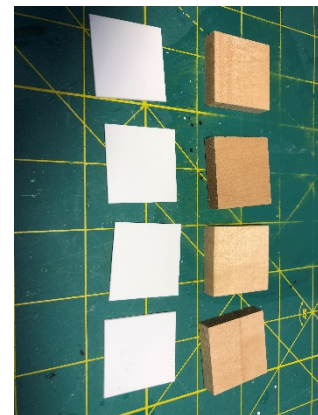
KD 513 – 100 ton ASSF Roller Bearing metal trucks with 36" smooth black code 110 metal wheels

HOW THE CAR WAS CONSTRUCTED

The project started with fabrication of the floor, endwalls, and intermediate interior supports. The kit supplied parts were copied to comparable sized styrene plastic.



The floor (shown above) was constructed from .060 styrene plastic and was cut to size according to the plan. An edge was added to the two sides of the floor using .015 styrene plastic.

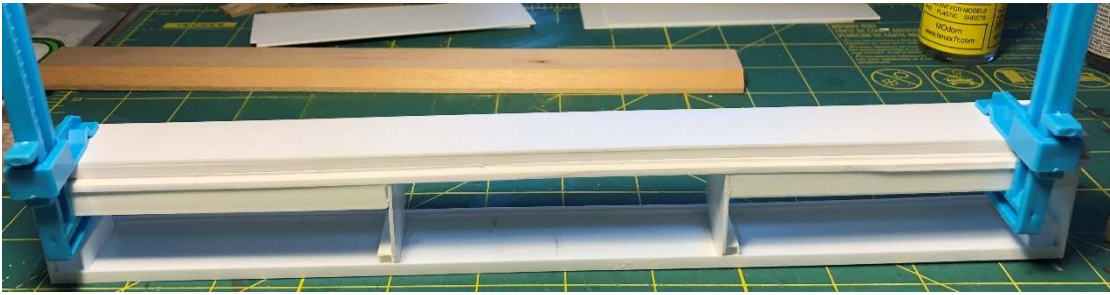


The ends and intermediate interior supports (shown to the right) were constructed from .040 styrene plastic. Additional support was added using 3/16" square styrene shaped mater to keep the ends and interior supports square and true.

Glued up these pieces made up the base from which the car was constructed. (Shown below)



The sub roof assembly was next constructed using 3/16" square styrene material for support of the side walls and roof and .040 sheet styrene plastic for the flat roof. It should be noted that

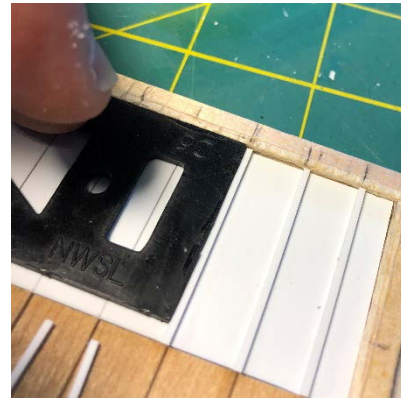


the center of the sub roof was narrower than the car width to allow for the 45 degree sloped roof that would be added. In the background of this picture you can see the kit provided roof assembly that was being duplicated. At this point this assembly was set aside and construction of the wall panels was started.

The four wall panels were fabricated from .040 styrene plastic using the kit supplied wooden panels as reference. Below a kit supplied wood wall panel has had double sided tape applied to it and adhered to a jig I constructed in another car project to hold it in place. A duplicate sized piece of .040 styrene plastic was placed in the jig, mounted with double sided tape, and the location of the walls supports were transferred to the plastic. The construction lines for the wall supports are shown in the picture below



Using the plastic wall section, .040 square styrene plastic was cut to length and mounted as wall supports and a square was used to confirm that the supports were square to the bottom of the wall panel. This process is shown in the picture to the right.



The completed wall panels are shown below.



The four wall panels were then mounted onto the assembly that had been set aside. See the picture below. The car is resting on wooded support blocks as the undercarriage is not in place yet.



Truck bolsters were made from .080 styrene plastic by duplicating the kit supplied bolsters and sanding the plastic to the appropriate shape. The center beams were also added using .020" x 156" styrene plastic. The beams were cut to shape and sanded. Underside main supports were also added using 3/32" Z shaped styrene plastic.



The purlins supports were then constructed and put in place between the main supports. The outer side beams were constructed using .015 styrene plastic and put in place. The triple valve, air reservoir, and associated brake piping were added. The piping was cut and bent as needed to create the appropriate pipe. It should be noted that couplings are shown in place however this was done only to assure appropriate clearance would be in place for the future trucks. The couplings and pockets shown here are not the final ones.



With the undercarriage completed to this stage, work on the roof assembly was started. The first step was to determine the width of the sloped roofs and .015 styrene plastic was cut to that width. Due to the length of the car Southern Railroad determined that there was a need for skylights to provide light inside of the car.

Using a 3/16" leather punch the skylights were punched into the plastic at the appropriate locations. There are ten skylights on each side of the car.

After making the skylights, the sloped roof sections were fit tested and after determining that the skylights were in the correct location and there would be no conflicts with installation of the roof supports clear styrene plastic was cut to size and glued to the backside of the roof sections. The picture below was taken during the test fitting. The sloped roof sections were then glued in

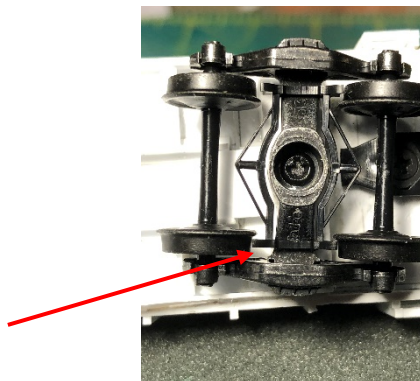


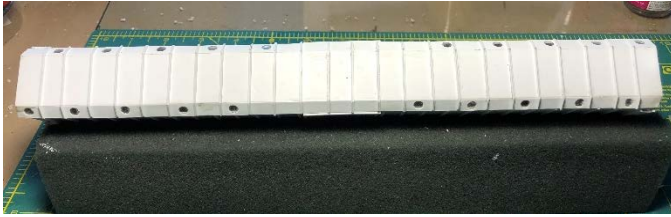
place and after the glue set sanding was done to the joints between the flat and sloped roofs. Squadron putty was used to fill in any cracks in the joints. After the putty was set, the joints were again sanded with 300 grit sandpaper for final fit. Door assemblies were constructed of 3/32" channel shaped styrene plastic for the door opening sides and .040 styrene plastic was cut to the door shape provided by the kit provided doors. The doors on this car were roll up overhead doors although some of these doors were changed by Southern Railway to sliding doors due to maintenance problems. A piece of 3/32" angle was installed above and under each door to complete the door opening.



The ends of the car had a layer of .040 styrene plastic added to provide the correct profile of the ends as on the prototype car. The additional plastic was sanded to shape after being added. The manual brake assembly, ladders, and step were added to the "B" end of the car. The ladders were constructed of .040 square styrene plastic material.

The correct extended couplers were installed on the car and ladders, constructed as stated before, were added to the sides. The correct trucks were also installed and brake pads were added. (See the photo below for the brake pads.) The trucks are of the Timken Roller Bearing type.





Roof supports were added to the flat and sloped roof sections using 3/32" angle styrene plastic. In addition walk way supports were also added using the same material where needed along the centerline of at the ends of the flat roof.



A fit test of the walkway was done and the walkway was revised in length as needed.

Ladder rungs were added to side roof and grab rails were added to both ends using small diameter piano wire.



Lock handles were added to each side door using .039 music wire.

The undercarriage of the car was painted with Scalecoat II Boxcar Red using a small brush.



The remainder of the car was painted using an air brush and Scalecoat II Boxcar Red paint.



The walkway was installed on the flat roof after the necessary modifications were made to the length and width, by cleaning the attachment supports and gluing the walkway to the supports. The walkway was then painted to match the paint color of the car roof.



Decals were applied to the car using Microscale Decals sets. This required the decals to be cut out individually and applied for the "Southern", "Super Cushion Service" and car number on the sides and the car number on the ends. The other decals were cut from the sheet, sized, and applied.



At the same time the skylights were finished by punching 3/16" holes into clear styrene plastic with a leather punch. This size was just smaller than the previous holes punched in the sloped roof sections. The punched pieces were painted flat black on one side then glued into place using a drop of gorilla glue. The picture to the left shows the first skylight after installation. The skylight to the right shows the condition of the skylight opening prior to installing the punched clear plastic.

plastic.

Cut levers were also added to each end of the car using small diameter piano wire bent to the correct shape using needle nose pliers.



Air hoses and cocks were installed on each end.

And grab rails were installed on the roof using small piano wire bent to shape.



The finished car...



The prototype car....

