

CONVERTING AN IHP ILLINOIS TERMINAL 450-457 SERIES PCC TO A SAN FRANCISCO 1006-1015 SERIES "TORPEDO" PCC! (Updated!)

BACKGROUND & PURPOSE:

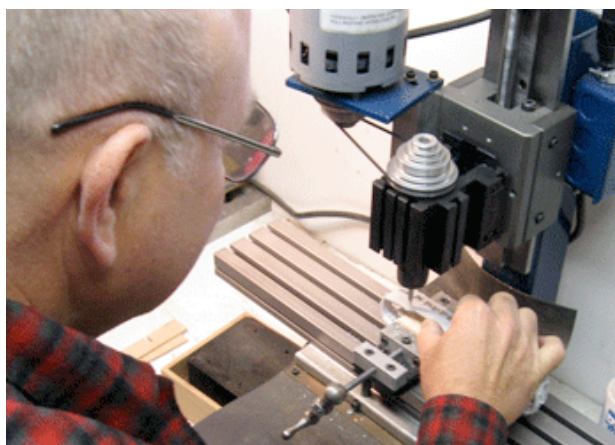
Double end PCC cars were relatively rare in the United States. Pullman-Standard produced 30 for the Pacific Electric and 25 for Dallas. Saint Louis Car Co produced 8 cars for Illinois Terminal and 10 for San Francisco. While there was little similarity between the Pacific Electric and Dallas cars, the Illinois Terminal and San Francisco Cars were virtually identical with major differences in doors, vents, trolley pole base placement and other minor details. It was with a possible conversion in mind that we purchased two Imperial Hobby Productions (IHP) HO scale Illinois Terminal (IT) PCC cars in May 2009. It was our intention to convert them to represent San Francisco 1006-1015 class PCCs. The Southern California Traction Club wished to have models of the three "Torpedoes" that opened the F-line in 1995 along with the fourteen ex-Philadelphia PCC cars.



In June 2010, we came upon another of the IHP IT PCC cars advertised on eBay. The club now had three IHP IT PCC shells in its possession. Two were taken to John McWhirter's workshop for modifications to convert them to San Francisco 1006-1015 class Torpedoes.

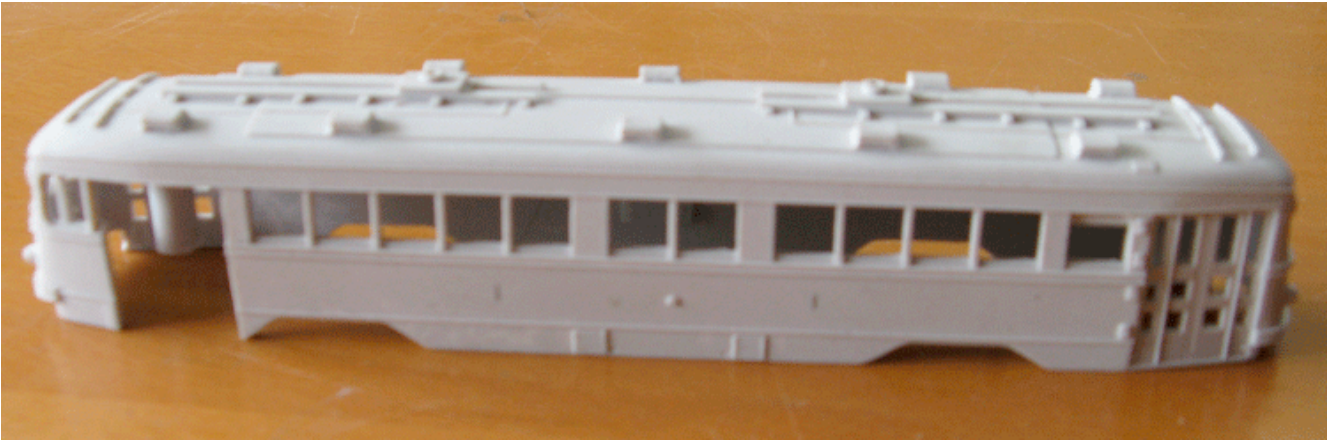
THE CONVERSION PROCESS:

We assembled the drive train for the first car, using the running gear from a Bowser F-line PCC and a Custom Traxx 125164 pewter floor. The Bowser motor and smaller flywheel fit into the body shell without modification, thus eliminating the first issue we had with the IHP Illinois Terminal (IT) shell last year. But the car still sat too high above the rails, which was our second issue. This car sat 24" above the rails rather than the specified 12". See the photo below right. So before we could start the modifications, we had to correct the same problem that we noted last year with the shell. So, we milled the area over the motor and flywheel by .080", just as we had to do with the previous IHP IT PCC shell that we have experienced. We removed the same amount from the two mounting posts. We also ground off the original side mounts with a Dremel tool, fashioned two new side mounts and mounted them toward the roof of the shell by the same amount.

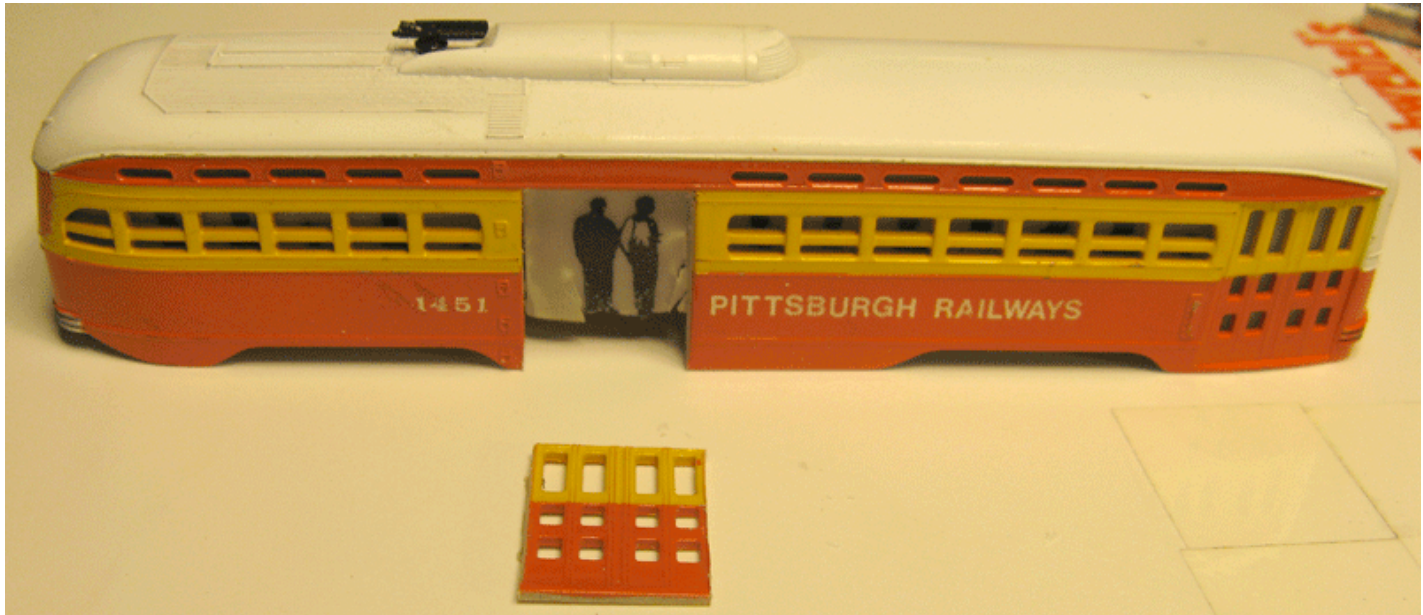


Then we did the following:

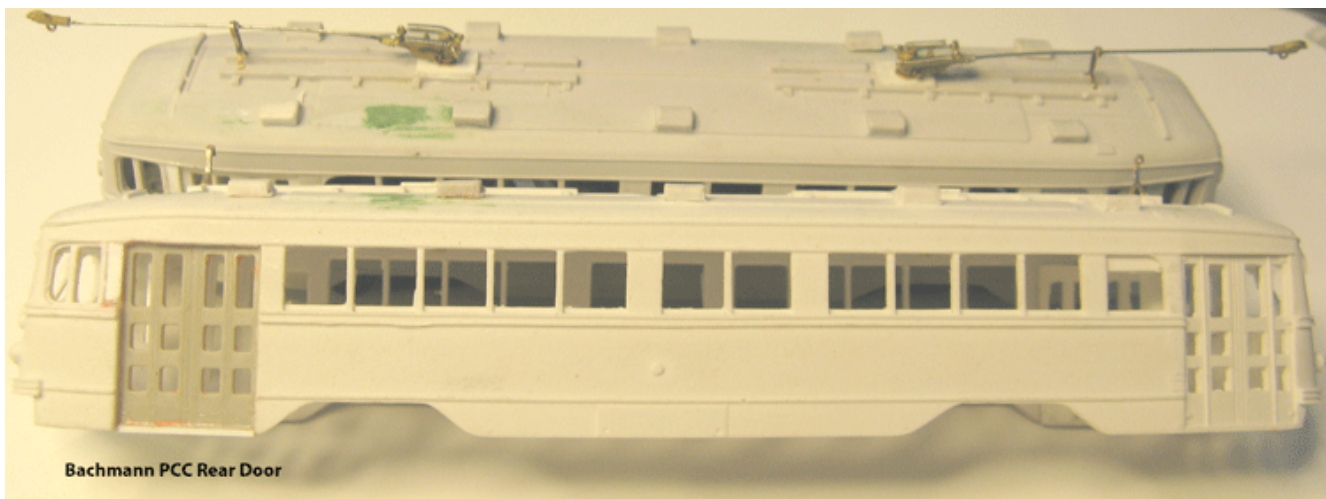
1. We cut the rear of each side to allow installation of the double rear doors. John McWhirter is pictured in the above left photo using his milling machine. We did this to both shells during the same work session. The next photo shows the shell cut for installation of the rear door.



a. We had some excess doors from another resin PCC kit. They were the right size for our first car so they were installed into the opening with ACC. We ensured that the windows lined up with the front door. Note that a small area between the motorman's window and the door had to be filled with styrene. The bottom step was simulated with strips of .010" x .030" styrene. For our second car we used doors from a Bachmann PCC shell. using a sharp X-Acto knife and a razor saw, we removed the door from the shell in one piece.



b. After stripping the paint from the door and a little filing, it fit perfectly. We actually preferred the Bachmann doors to those we used on the first car. We added the same .010" x .030" styrene to the base of the door for the bottom step.

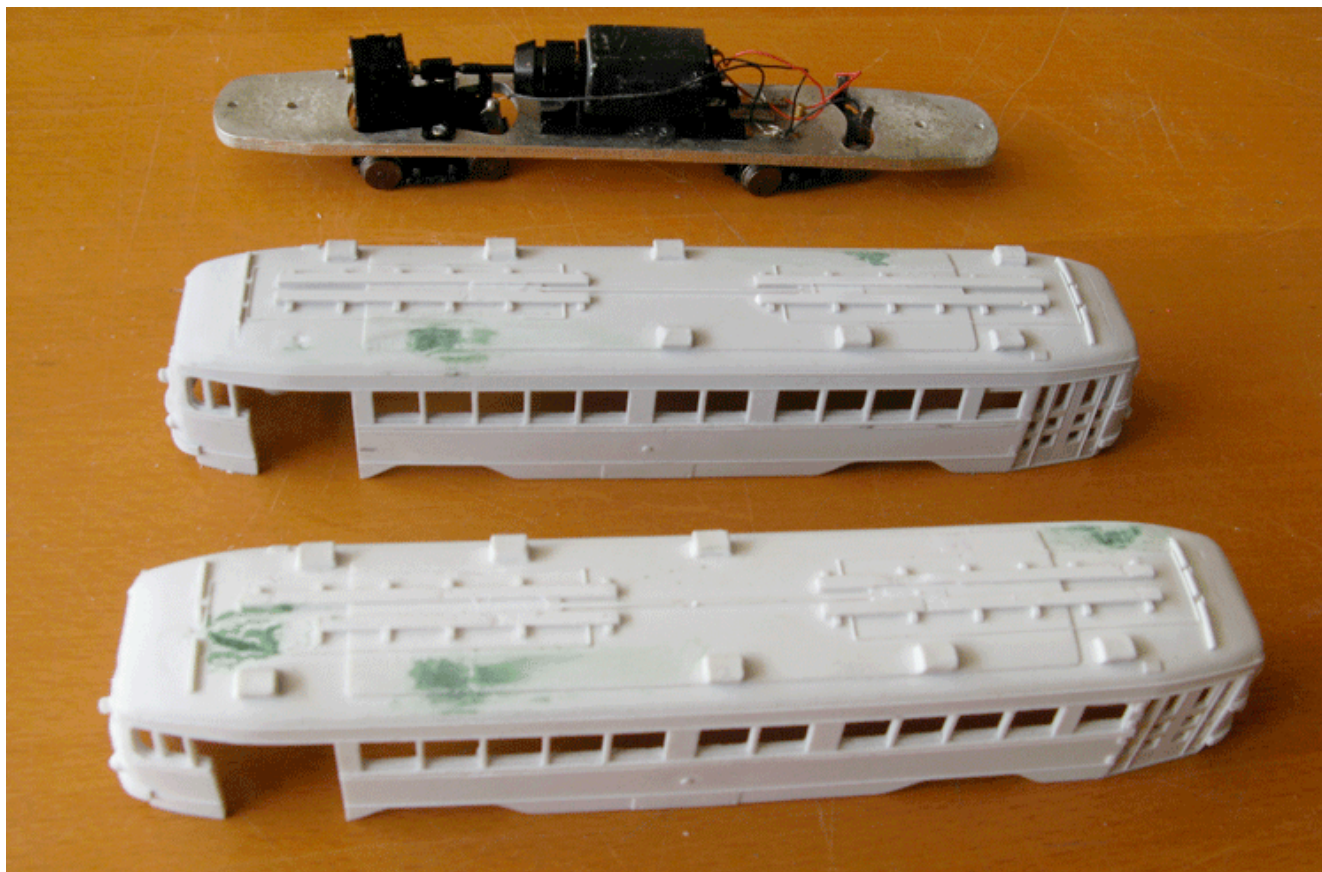


2. We moved the trolley pole bases to the correct location. Using photos and plans for the car, we determined the correct pole base location. With slow and careful moves, we used the chisel type blade, X-Acto #217, to remove the original pole bases down to the roof board level and then we sanded the result smooth even with the roof boards. Then John McWhirter placed the shell back on his milling

machine to remove all traces of the former pole base between the roof boards.

3. We removed the roof access steps that are adjacent to the front door, again carefully using a same sharp #217 knife and a sanding stick.

4. We relocated the fourth and fifth roof vents in the area of the rear doors (counting from the front of the car). The same knife was used to carefully remove both vents. Cut as close to the roof line as possible. With care, this can be done and also save the vent for repositioning. This worked for us except for one vent, which we lost during the cutting process.



In the previous photo, at the top is the Bowser F-line mechanism mounted on the Custom Traxx 125164 pewter floor. In the middle and bottom are the two shells that have had three of the four vents removed along with the removal of both original trolley pole bases.

There are a few additional minor modifications that were also made:

1. We removed the outer trolley pole roof protection bar on each end using with a small chisel blade.

2. The marker lights on each side of the front destination signs were removed with a small chisel blade.

3. We fabricated and installed skirts under the anti-climber on both ends. The material used was Evergreen StripStyrene #156, .060" x .125". The thicker material was used to ensure a good "bite" when attached to the resin shell with ACC. The material was curved to the front shape of the car using a hair dryer;

4. The characteristic curved corner was added to the upper left corner of the window just next to the rear door on both sides. Two small pieces of styrene was attached to each window with ACC and filed to shape.

5. Using Detail Associates #2524 Brass Flat Bar, .010" x .030", we fashioned two PCC type trolley pole hooks, fashioned a trolley pole base from styrene, installed the SCTC-1 trolley pole pivots and two Miniatures by Eric HT-P2 trolley poles. At the end of the day, our first conversion looked as shown in the next photo, being prepared for operational testing. One good thing...our car weighs 6.0 ounces before any weight was added.

6. Add full length roof boards present on the Torpedoes which were not on the Illinois Terminal cars. We used styrene to fashion two supports and two lengths of roof boards.

7. These cars were equipped with run number signs in the upper right corner of the left side windshield. We simulated these with styrene also. The eight prototype IT PCC cars were equipped with these same number boards but they were omitted on the IT PCC shell.

8. Carefully remove the dash lights in the belt rail on both ends.

9. *Optional 1: Remove or reduce the size of the door latches for skirt hatches located at the center of the lower side of each side of the car. These are larger than the ones used on these cars.*

10. *Optional 2: Remove and relocate the oversize trolley retrievers on both ends of the car and replace with replicas of Ohio Form C trolley catchers, with which the original cars were equipped. These catchers only protrude 3 to 4 inches from the car body per specifications.*

11. *Optional 3*: If modeling an original (1948-1960) Torpedo, remove and relocate the side destination sign located next to the front doors. The Torpedoes' were initially two-man cars so all entry was at the rear. The side destination sign should be located in the second window to the right of the rear doors. The signs were relocated to the left of the front door when the cars were single-ended in the 1960s.



Note: We did only one of the optional items, #3, on our first car, SFMRy 1006.

The car easily negotiated the 9" radius loops on the club (SCTC) test track and preparations for painting and finishing began. We feel that with some adjustments we will eventually get the car to negotiate the 6" loop. Our car is shown below after being airbrushed with Floquil Antique White. If you examine both photos closely, you can see most of our modifications, specifically the relocated vents, the front skirt, the full roof walks and added rear doors, etc.



We gathered up portions of the Custom Traxx CN-1040 and CN-178 decals. Using portions of both of these, we could complete the finishing of our first car. We will also match the green and cream with the Bowser F-line PCC #1050 and we should be in great shape. As we found out, Floquil 183, Reading Green was a close enough match for the Muni green and of course Floquil 85, Antique White is our standard cream color.

Now we went back and started to work on our second car, Muni 1012. But before we got too deeply into our second car, we began to wire our first car, which will be Muni 1006, the first of the Torpedoes, for eventual DCC. We installed some of our single-sided printed circuit strips in critical locations as we intend to have operable LED headlights and taillights in this car. We will eventually be installing an M1 decoder into the car with headlights and taillights at both ends.

As previously stated, we used portions of Custom Traxx decal sets CN-1040 (Muni PCC), and CN-178 (Muni Class K/L Streetcar). We also used the cream stripes in the Custom Traxx CN-178 set with some Microscale TF-9 Green Trim Film. The "Wings" from the CN-178 set are not totally correct style for this car but they were close enough to get the "look and feel" of the car. We make no claim to be expert painters and / or finishers but at the time of this writing, our car looked as shown below:



We eventually installed our Train Control Systems M1 decoder along with Miniaturics 1.2mm diameter 1.5 volt lamps on both ends of the car. There are two red taillights and one headlight on each end of the car and they are reversible and controlled by F0. The two taillights were installed in parallel but in series with a 220 ohm resistor while each headlight was installed in series with a 560 ohm resistor.



As we have discovered, this shell can be used as a beginning to get a good model of San Francisco series 1016-1015 "Torpedo" PCC. If the modeler is knowledgeable about the prototype, can use a milling machine and is willing to put in a little effort, he or she can eventually get a superior model.

UPDATED CONCLUSION (JUNE 2011):

This article was originally published in the August 2010 Trolleyville Times. It is being reprinted due to the original May 2, 2011 announcement, post 11312, of a "Torpedo" model in HO scale by Imperial Hobby Productions (IHP) on the yahoo group 'hotractionmodeling'. This announcement was subsequently nullified by another announcement, post 11453 on June 13, 2011 which stated "...IHP is discontinuing sales of the HO scale SF Muni Torpedo double-end PCC, effective immediately..." No reason, either rational or irrational was given for this sudden turnaround in six weeks.

Shown below is the completed Custom Traxx "Torpedo", car 1006, made from the Illinois Terminal PCC shell. It is shown along with two Bowser F-line PCC cars and will be available for review at the National Train Show in Sacramento during July 2011. Sharp-eyed readers will notice that the side destination sign has been correctly relocated to the second window to the right of the rear doors as was the case with the prototype cars when operated as two-man. This was one of many errors on the IHP shell discontinued after only 42 days on the market. The car was decorated with sections of decal sets from many manufacturers.



This "Torpedo" model is equipped with the Bowser drive used as a test bed for the Bowser F-line PCC cars. In addition to the Bowser 79 motor, the unit is equipped with a Stewart flywheel and drive line, wheels with the super resilient wheel faces now used on the 12600 series of Bowser PCC cars and the Bowser 12600 PCC Form 11 Trolley pole and pivot. Concluding this updated article are some recent photos taken on the Southern California Traction Club test track.



Incidentally, San Francisco 1183, shown above behind the 1006, is a model of one of the eleven ex-Toronto, ex-Kansas City PCC cars obtained in 1974 during the construction of the Bay Area Rapid Transit (BART). The model was built from a Custom Traxx Kansas City PCC shell along with a Bowser 125141 mechanism with floor. It is also equipped with a TCS M1 decoder. The prototype car, ex TTC 4763, ex KCPS 767, was originally built by Saint Louis Car Company in 1946, but it was scrapped along with the other ten in 1979.

