The Trolleyville Times

October 2009

If you are in Northern California next month, don't mis

The new HO scale Bowser PCC!

[They're practically 'on the water' and are so close we can almost taste them!!]

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I - THE BEGINNINGS

The new Bowser San Francisco Municipal Railway [F-line] PCC is finally due at the end of this month. The project was born with a meeting between Lee English, Bowser CEO; Matt Herman, Bowser Project Engineer and George Huckaby, Bowser Product Consultant just prior to the East Penn Traction Club Meet in May 2007. Bowser had recognized for a long time that a ready-to-run trolley had to be produced. The long run of the pewter bodied PCC, Brill, IRR and Jewett were nearing their market lifetimes as ready-to-run items are now the norm and the pewter shells could not be effectively pad printed.

The concept to produce a model of the F-line PCC goes back to 1995 when the F-line opened. Trolleyville was on hand on September 1st when the line opened. Opening day was very impressive considering what Market street had become since the Muni PCCs stopped running 13 years previously. For more information on opening day, download that story here. Most of the cars were lined up on Market Street for the ceremonies with the conspicuous absence of 1061 (Pacific Electric) and the three torpedoes, which had not been formally accepted by Muni at that time. It was noted that these cars were essentially the Bowser/Pennsylvania Scale Models PCC, which had been available since the 1950s. The cars had been modified by Morrison-Knudsen so why couldn't that be done to the HO scale Bowser PCC. We went into the Geneva yards and photographed all of the cars. Rail Graphics was contacted for decals and the project was on. Between November 1995 and June 1998, Custom Traxx produced 68 of these custom painted cars for many customers, including Franciscan Hobbies of San Francisco. In the process they modeled every one of the 1050-1063 series PCCs. Unfortunately, the project was hampered by the existing Bowser 1966 traction drive, which was erratic and did not allow the cars bottom step to sit at the required 12" above the railhead. Powering the car from the front pole was very difficult as the motor was directly below the pole base. Shown in Figure 1 are ten of those cars produced by Custom Traxx.

Figure 1 - Custom Traxx F-line Cars

Models shown in the first row (l to r) are 1051 (San Francisco Muni 1960s), 1055 (Philadelphia Transportation Company), 1057 (Cincinnati Street Railway), 1059 (Boston Elevated Railway, and 1060 (New Jersey Public Service Coordinated Transport). In the second row are models of 1050 (San Francisco 1950s), 1056 (Kansas City Public Service), 1058 (Chicago Transit Authority), 1061 (Pacific Electric) and 1963 (Baltimore Transit. Sharp-eyed readers may note that 1063 used the Bachmann PCC shell. All of the other cars used the Bowser PCC shell. Most of the trolley poles were Bowser 1250 poles converted to use the SCTC1 pivot base as shown in our last issue. All of these cars saw extensive service on the SCTC modules from 1997 to 2000.

The desire to produce a traction vehicle running today, when combined with the popularity of the San Francisco F-line, made the choice a "slam-dunk" for Bowser to produce models of the ex-Philadelphia PCC cars that initialized service on the F-line in San Francisco in September 1995. In 1999, Bowser had dramatically upgraded their PCC drive and this drive had proven to be very smooth and durable. Repair records kept by both Bowser and Custom Traxx show little to no activity.

This was not to be an easy job. An extensive presentation was prepared by Custom Traxx and given to Lee English, CEO of

Car 916 Arrives in San Francisco!!

After a long trip across the Pacific Ocean, Melbourne class SW6 car 619 finally arrived in San Francisco on Monday, September 16th. the photos below show the car arriving on its trailer, being unloaded and finally on the rails!

The very next day, the car was taken out for a test run and moved to Geneva Car House where is will get all the necessary items for service, including some trolley catchers.

Bowser. The presentation covered marketing, demographics and specifics of the F-line cars along with F-line ridership numbers. Photos of the crowds both boarding and within the cars was documented. We had to get plans for the car, (which was the easy part) and convert them into a 3D Program. Just as Northrop Grumman found with the Boeing 747 airplane, It is no easy task to do this and it was even harder than we thought. Both the PCC car and the Boeing 747 were NOT created on computers. So this would be hardest part and we knew it.

Naturally, a supplier in China had to be selected as that is the only way at this time to produce a competitively priced model. But this was all the easy stuff. Now we had to get the supplier to produce a vehicle with compound curves that not one engineer or factory worker had ever seen. Compounding this is the language problem. After all the data was assembled and sent, the three principals visited China in April 2008 and that visit was reported in the May 2008 Trolleyville Times.

The final designs were approved and the first shells were expected by the National Train Show in Anaheim in July 2008. The mold for the body shell would be created based on a 3D program, so it was a major effort to get the compound curves of a PCC car, not designed on a computer, into a 3D program correctly. We would create three different files before the first shells would be accepted in April 2009. Both the manufacturer in China and Bowser created 3D files during this period and initially none of them were correct. Meanwhile, work on the new floor and drive line proceeded with many different versions being tested on the test track of the Southern California Traction Club.

We realize that there have been many delays in this project but every time there is a major problem, it takes about three to four months to scope the problem, develop and implement a solution. Modelers need to understand that this process is not nearly as easy as you might think. On top of all this, Bowser was making a vehicle in service today and expected to be in service for a long time in the future. These models would be sold in the San Francisco Railway Museum, whose front door is less than twenty feet from the cars themselves. They would also be marketed to the general public so accuracy was an issue.

The car has operating headlights, taillights and dash lights, all using chassis mounted surface-mounted LEDs. The car is DCC-ready, equipped with an NMRA 8-pin plug. We worked with Train Control Systems (TCS), Blooming Glen, Pennsylvania to develop a suitable decoder. When an appropriate decoder is installed, or the 8-pin plug is modified, the interior lights and destination sign can be illuminated. When a decoder equipped car is operated on DC layouts, all lights operate. Initially, we started with a variation of their well-proven M4 decoder on our test vehicle.

The PCC car is powered by an improved version of the now proven Bowser 1999 traction mechanism. There is now a dynamically balanced flywheel and a quieter, reduced size drive train. Even the motor mounts have been cushioned in the frame. About the only complaint that we have is unique to overhead operation. The 5.8-5.9 ounce weight of the total car is a little too light for overhead wire operation. The drag of the trolley pole over the unpowered truck does bring some issues, especially grade operation into focus. There is sufficient space between the trucks to add weight and we have been adding at least 1 ounce in that location. For two-rail operation, modelers may find that this is unnecessary.

When the final drive train arrived, it was first sent to the East Penn Traction Club (EPTC) and the Southern California Traction Club (SCTC) for testing. Bob Dietrich, Rich Allman and Charlie Long all tested the car in the DC/analog mode one evening in July. Both clubs found the unit to run smoothly and quietly. Bob Dietrich told he Trolleyville Times: *."...This is an excellent model, well detailed and well made. We pulled it apart for inspection then ran it for about an hour. To take a car out of the box and have it operate this well is impressive..."* While they had some issues and recommendations, they concluded with *"...You guys did a great job on this car..."*

Charlie Long later evaluated the the car circuit board and advised us on some of the possibilities for enhancements that could be provided in the future under DCC operation. Stay tuned for some surprise developments in this area.

2 - NORMAL OPERATION

The car runs in a smooth, quiet manner. The car has blackened nickel-plated wheels and all eight wheels pick-up power. The power and trailing trucks are the same as those used for the last ten years in the Bowser traction mechanisms. The SCTC operated the car around radii as low at 9" in both two rail and overhead wire modes on level track without any difficulties other than a very small growl but as we have found in past Bowser drives, even this tends to disappear after some operation.

The car is shown along the Embarcadero and at the Ferry Building enroute to Geneva.

There will be a dedication ceremony early this month involving this car before it ever sees revenue service.

[From Column 1]

We have been adding 1.0 to 2.0 ounces of weight to PCC cars, especially to those very light kits from IHP. In this case of this PCC, the floor is metal and has had some seats added and the entire unit weights 5.8-5.9 ounces. The EPTC, when they evaluated the pre-production car, found that the car needed 1.0 ounce of weight added to negotiate a 4 percent grade. This is in consonance with our findings over the past ten years. Bowser provided plenty of flat space under the floor between the trucks for added weight. As of the end of August, we had two such production sample units at our disposal so we equipped both with using self-adhesive weights as shown below in Figure 5.

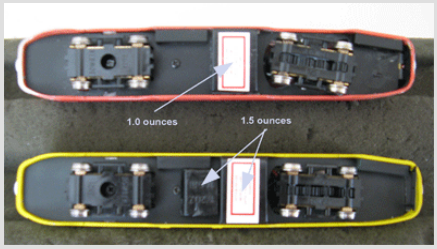

Figure 5 - Weights Applied to Chassis

We inserted the chassis back into their respective shells and tested the two cars with the added weight. The top car in the above photo is a model of MUNI Pacific Electric 1061 and the bottom car is a model of MUNI Cincinnati Street Railway 1057. We added 1.0 ounce to the 1061 and 1.5 ounces to the 1057. The 1057 was featured in a short video clip which was placed on You Tube after TCS folks added a test M4 decoder. You can view that clip on You Tube at your leisure. Both these cars have been under test since late August.

6 - VERSIONS AVAILABLE

The car is available in the powered (125XX series) or souvenir (127XX series) versions. The powered version currently retails at $124.95. In either case the shell is exactly the same, only the

3 - OPERATION ON SMALL RADIUS CURVES

The car will normally operate on left curves of down to 6" without modification. There is a small problem on right turns on radii less than 6". In the next photo, the red arrow points to a seat that is next to the front door.

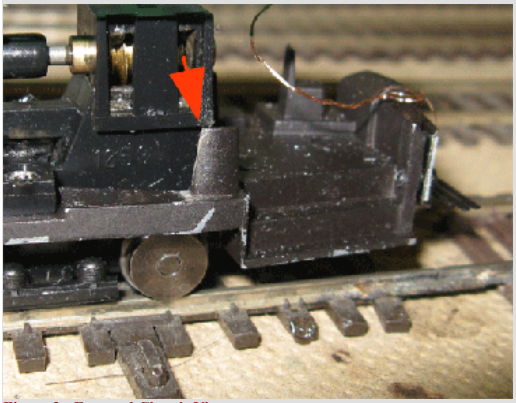

Figure 2 - Forward Chassis View

To allow the car to operate on those smaller radius curves, a little of the left side of the seat back adjacent to the front door should be removed as the power truck worm cover, part #1255, contacts it on hard right turns. This will allow complete rotation of the power truck. The red arrow shows this modification clearly.

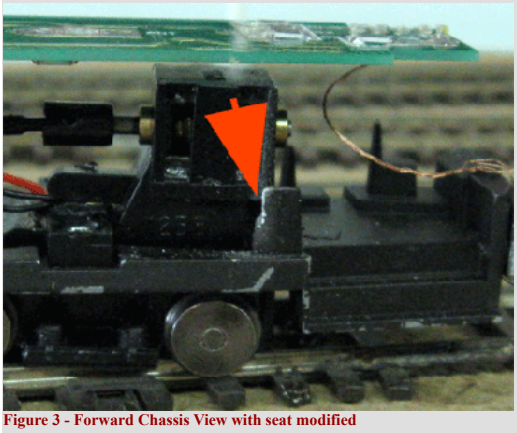

Figure 3 - Forward Chassis View with seat modified

Filing the inside of the shell where the wheels might contact on turns will allow even smaller radii to be traversed. Remember to do file the inside of the shells opposite both the power and trailing truck wheels to prevent the trailing truck wheels from striking the shell on turns, binding and causing the car to stall. We had our car negotiate 5.75" radius curves with no problems.

4 - OVERHEAD WIRE OPERATION

Those modelers who power their cars from live overhead wire, including the East Penn Traction Club operators will love this one. There is an easily accessible switch on the top of the circuit board that allows the modeler to change operation from two-rail [RAIL] to overhead wire [ANT] and when this happens, **all eight wheels** are grounded. The green arrow in the next photo points to the switch. For a larger view of this circuit board, click here.

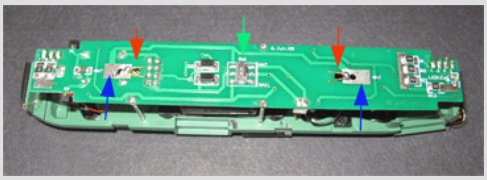

Figure 4 - Bowser/AFFA Circuit Board

The dummy plastic poles are easily removable. The red arrows point to holes in the circuit board for trolley poles to clear. Because there are have been so many different trolley poles available over the years and since modelers tend to standardize on poles for their fleets, Bowser attempted to allow for any type of pole. The blue arrows point to the electrical contact plates for electrical connection for overhead wire. We fashioned "U" shaped clips from .019" brass wire and soldered it to these plates, positioning them over the holes for the poles so that either the Bowser trolley pole with the 3/32" (2.1mm) base or the SCTC1 with the 1.92mm O. D. could be

floor is different. Both versions have flush fitting windows. In the souvenir versions, the floor and wheels are plastic and there is no motor. These units will be able to be powered by just removing the plastic floor and substituting the power chassis which should be available eventually from both Bowser and Custom Traxx. For those who like to collect these cars, the $39.95 for the souvenir version may be just right for their budget.

The first four releases were:

1. Muni 1052 (Los Angeles Railway), prototype car originally PTC 2110, built by Saint Louis Car Co 1948.

2. Muni 1055 (Philadelphia Transportation Company), prototype car originally PTC 2122, built by Saint Louis Car Co 1948.

3. Muni 1057 (Cincinnati Street Railway), prototype car originally PTC 2138, built by Saint Louis Car 1948.

4. Muni 1061 (Pacific Electric Railway), prototype car originally PTC 2116, built by Saint Louis Car 1948.

The next releases should be prior to the end of this year and should include:

1. Muni 1050 (San Francisco 1950's), prototype car originally PTC 2119, built by Saint Louis Car 1948.

2. Muni 1058 (Chicago Transit Authority), prototype car originally PTC 2124, built by Saint Louis Car 1948.

3. Muni 1059 (Boston Elevated Railway), prototype car originally PTC 2099, built by Saint Louis Car 1948.

4. Muni 1063 (Baltimore Transit Company), prototype car originally PTC 2096, built by Saint Louis Car 1948.

The remaining cars, 1051 (San Francisco 1960s), 1053 (Brooklyn), 1054 (Philadelphia 1938), 1056 (Kansas City), 1060 (Newark), and 1062 (Louisville) should appear during 2010. Consideration is being given to modeling the paint schemes on the ex-Newark cars but there has not been a final decision on whether this shell will be used or a new 108" wide shell will be developed.

The development of the Bowser F-line PCC had it's roots in the data collected for the Custom Traxx hand painted models. Each step of the development process was examined and evaluated prior to moving to the next. Some items were intentionally missed to get this product to the modeler at an affordable cost.

Figure 6 - The evolution of the Bowser F-line PCC

In the preceding photo taken on one of the SCTC modules, car 1057, Cincinnati Street Railway (yellow) is the latest pre-production sample, received during August and equipped with the production shell, drive and circuit board. Again this is the same car, converted to overhead wire operation featured in the You Tube video. Car 1061, Pacific Electric, (red and orange) contains the current drive and shell but not the circuit board. This shell did not have the roof mats so we added them. The green & cream car, San Francisco 1050, was one of the shells customized by Custom Traxx for the late Walter Rice in 1997 with the Bowser 66 drive. The car was reacquired earlier this year and upgraded with the 125141 mechanism and A-line 20040 flywheel. The Los Angeles Railway car, 1052 (yellow and orange) uses one of the first shell attempts, rejected in July 2008. It was mounted on the older Bowser PCC 125141 chassis with A-line 20040 flywheel. The shell used for this car had gross errors on both the front and rear ends and could not be approved for production. All four cars have Train Control Systems M2 or M4 decoders installed.

7 - DCC OPERATION

inserted through them after the shell was inserted. This has worked on every case and we were ready to run after that.

5 - WEIGHT FOR OPERATION

When the SCTC tested the cars, we tested on the level SCTC test track, we noted that it would be prudent to add weight. The SCTC in conjunction with Custom Traxx, has discovered that when using the Bowser 1999 traction drive with plastic or resin-bodied shells, it is necessary to add some weight, especially when operating on overhead wire.

[Continued in column 2

The Con-Cor HO Scale Ready-to-Run Electroliner! (Part 2)

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By now, several of you have purchased your HO scale Con-Cor Electroliner and have discovered how well it runs and looks. We had sent our first unit, 801-802, to Train Control Systems (TCS) on July 22nd for evaluation, selection and installation of the most suitable decoder. Our sterling USPS ripped off all the address labels and their insurance sticker so the unit ended up in Atlanta, Georgia until we filed our claim and they matched some items. The item was returned to our possession on August 21st and resent to TCS by UPS. As expected, it arrived when specified by UPS on Friday, August 28th. The evaluation resulted in the MP3-SH decoder being chosen for the car. For more information on installing the decoder in this car, TCS has a page on their web site devoted to the installation. Note that all four trolley poles are not the original equipment. They were replaced by Custom Traxx prior to the car being sent to TCS. All poles must be removable (without having to disassemble the car) prior to running on the Southern California Traction Club (SCTC) modules. Meanwhile, we obtained our second train 803-804. Because of our experiences with 801-802, disassembly was a breeze. Eric Bronsky also evaluated this car and had virtually the same experiences that we had with the 801-802. His review is provided with his permission. However, because Eric had the same initial difficulty in removing the trolley poles as we did with the 801-802, he stated on page 6 of this review that *"...The pole bases swivel in brass bushings inserted through the roof..."* The trolley pole and what should have been a bushing were made as one piece and actually swivel in the plastic roof. There is definitely a learning curve with these units as it was so much easier to work with the 803-804. We used round toothpicks this time and we got all four units in 803-804 apart in less than the time it took to get the first unit in 801-802 apart. We were even able to remove all four of the pins in the trolley poles and remove them intact so we could install the SCTC1 pivots and Miniatures by Eric trolley poles. Decoder equipped train 801-802 was back in Custom Traxx possession by September 11th and resumed testing along with 803-804 on the SCTC test track.

801-802 had an M4P-SH decoder installed by Arthur Gorniak, Technical Services, Train Control Systems. After the installation, Arthur found out that an M3P-SH would have been sufficient. The unit was placed on the SCTC/Custom Traxx programming track, before the switch was moved from the to-rail mode to the overhead mode, connected to our Digitrax MP3 and Decoder Pro, readdressed to 801 and had all CVs read and recorded.

Now we learned a very hard lesson. Be doubly sure that when you plug the wire to the trolley pole in the A-unit to the circuit board that you plug it into the receptacle marked OVERHEAD and not SPKR. Also make sure that you have the eight pin plugs between the units inserted correctly and not with only six pins connected and two outside of the plug. Our unit now has a brand new M3P-SH installed as a result of one of these mistakes. On September 19th, the car was taken to the SCTC test track and operated under DCC. The train runs nice and the interior and the interior lights look really great!

You can bet that we are trying to find a suitable storage container that will store the entire train without having to take it apart. No matter how many times you do it, hooking it up and getting those eight-pin plugs to line up and attached correctly is a real chore.

While the headlights, rear (brake) lights and dash lights operate on DC, one needs a decoder to get the interior lights to work along with the illuminated destination sign. The illumination of the destination signs is hard at best to see and the interior illumination is not as evenly spaced throughout the car as on the prototype but it is striking when activated. The decoder recommended by TCS was the M3P-SH. Charlie long of the East Penn Traction Club did get an opportunity to examine the same car previously examined in July in greater detail in the DCC mode. To download his impressions, click here.

8 - OVERALL IMPRESSION

Some of us at the Times are very familiar with these cars. The Trolleyville webmaster rode most of them to high school from 1956 to 1960 when they operated on Route 15, Girard Avenue, in Philadelphia in the scheme worn by San Francisco 1055 in San Francisco today. The model depicts the modifications to thee cars by Morris on-Knudsen. The most noticeable was the front trolley pole and trolley catcher. The exterior speaker for the public address system is clearly shown next to the front door along with the center door light. Especially well done are the front windshield and the rear windows. The illuminated dash lights and tail lights are a nice touch.

There is complete roof detail, which includes the GPS Antenna, the front trolley boards and trolley base pads and the conduit the carries the power from the front pole back to the rear trolley pole shroud.

The chassis is relatively easy to remove from the shell. Is a lot easier than the Con-Cor Electroliner. It is easier in successive shell removals. Only four tabs, which are part of the side window assemblies snugly hold the chassis in the shell. Gently prying these tabs and the chassis can be lifted from the shell. The circuit board is mounted on four stanchions. Very thin magnet wires attach the circuit board to the front and rear lights so some caution should be used in removing the shell. We found the use of surface mount LEDs for the lights to be consistent with today's technology and the use of the rubber isolators under the motor mounts made an already quiet drive even quieter. The eight-pin plug is on the under side of the board. This was necessary to keep the board out of sight though the standee windows. We are working with Train Control Systems to produce a plug-in version of their M4 decoder for this car.

We did find some errors. The rear trolley pole hook is facing right instead of left and there are no external mirrors. But these models represent the cars a they appeared when initially released for service in 1995.

We also noted that the light from the LED's behind the dash lights sometimes shows through the plastic. We feel that a coat of black paint on the inside of the dash should reduce this problem.

The Times was told by Bowser that there are potential improvements already being discussed for these cars so do not be surprised if they show up in future years.

We feel that you will not be disappointed if you acquired one! You will if you don't. These cars are being produced in limited numbers so do not procrastinate when you see the one you want. It may not be around long.

9 - PRODUCT IMPROVEMENTS

Bowser does NOT intend this to be a static product. Technology keeps advancing and things that we could only dream about a few years ago are now with us. There are several improvements in the discussion stage for this streetcar and we want to hear from any of you. George Huckaby of Custom Traxx has been serving as Product Consultant on this project since its inception and is the lead person to contact for suggestions involving these cars. Once these cars are available and they should be by the end of this month at the latest, after you get yours, we wish to hear from any of you. So if you have a suggestion, please email your ideas to George! Each suggestion will be evaluated as to feasibility and that includes producibility, cost and schedule considerations and each suggestor will receive a reply. However, since ready-to-run traction is a relatively new adventure for model railroad manufacturers, the first thing that must happen is sufficient sales to justify the expenditures. So you know what that means.