

# WHAT IS A PCC CAR?

The article below is the first of a featured series written especially for **TRACTION AND MODELS**. This series has several objectives, as follows:

1. It will deal with discussions of rolling stock, to include car types, car builders and specific features of cars such as trucks.

2. It will attempt to bring about an interchange of information on rolling stock of various properties. Extensive research in Birney cars and PCC's has indicated to the writer that most misinformation and guesswork involving rosters is due to the difficulty of assembling data from all sources. Many local historians do not have access to builder's records. Many of those with builder's records do not have records of local operations to compare. Recently, for example, an effort has been made to match the American Car Company builder's records against their photograph file. The results have been most gratifying, and these two files, both of which exist separately and incompletely, have complemented one another quite nicely. All contributions of rosters and information will be welcomed.

3. In recognition of the likelihood that almost any roster problem has an answer somewhere, a question and answer section will be run monthly in which specific queries on cars, car builders, rosters, etc., will be published, together with any answers received.

The objectives outlined above can be achieved only through the fullest co-operation among all railfans. Correspondence on items that this feature should cover, or perhaps that it should not cover because of insufficient interest, will be welcomed. Address correspondence to the author, Dr. Harold E. Cox, 80 Virginia Terrace, Forty Fort, Pennsylvania 18704.

One of the most difficult problems involved in the study of street railway rolling stock is that of categorizing cars according to types and names. Sometimes the cars are one of a kind propositions which have no names, except for some popular name, usually uncomplimentary and sometimes unprintable, awarded it by passengers or operators. Often, however, it is a representative of a type manufactured in large quantities, often with subtle variations and on occasion gradually evolving through several designs during the period of its manufacture.

Some types are easily recognized. It is rather difficult to generate arguments about Nearsides or other unique designs such as the Hedley-Doyle stepless cars since it would be difficult to imagine other cars which looked like these. Often, however, there are a few cars which are "just a little bit different" which defy classification. For example, is a car built from Birney car plans in a company shop which does not have standard safety car equipment, a Birney car or something else? Again, what about cars which undergo radical conversions. Is a Nearsides car which has a center door installed and on which royalties are paid to Peter Witt for the use of the Peter Witt method of fare collection still a Nearsides or has it suddenly become a Peter Witt?

Questions of this type, we have discovered, can generate a considerable amount of argument. This is nowhere more evident than in the case of the PCC car. At first glance it would appear that possibilities of disagreement over what is a PCC and what is not would be rather slim. The first inclination is to say that PCC cars were streamline



One of San Francisco's true PCC cars is the 1014, shown here at Judah and LaPlaya. Operator Guido S. Aschero. Photo from Robert L. DuFresne, San Francisco.

cars built by St. Louis Car Company and Pullman-Standard after 1935 and that was that. Cars with this general appearance were PCC's and if Brill built them, they were Brilliners.

Unfortunately, things appear to be somewhat more complicated than this. The PCC car was the development of the so-called Presidents' Conference Committee, later the basis upon which the Transit Research Corp. was established. Specifications for these cars were set forth in a manual issued by the Transit Research Corporation covering almost every detail of design from the general dimensions to the trucks and motors. Presumably, therefore, any car which followed these specifications would be a PCC.

The catch is that all of the specifications must be followed. There was considerable room for innovation in some areas of the specifications but one area is decidedly limited. This was in the area of trucks and wheels. Of all the areas in which the PCC Committee did research, patents were held only on truck and wheel design. Trucks built under the patents of the Transit Research Corporation were known as type "B" trucks, the most widely used being the B-2 truck which was constructed under franchise from the TRC by the Clark Equipment Company. Subsequent to the discontinuance of manufacture by the Clark Company, the B-3 truck was introduced by the St. Louis Car Company and various higher numbered varieties were introduced for use on rapid transit cars, considerable experimentation being done along these lines by the Chicago Transit Authority over the years. These patents are now held by the Institute for Rapid Transit but have little application as far as street cars are concerned except for franchised construction in Europe, where active construction of cars has been carried on in recent years by La Brugeoise et Nivelles S. A. Much of this has been carried out using salvaged electrical equipment and trucks from American cars which have been scrapped, notably from the former systems in Kansas City and Johnstown, Pennsylvania, the Johnstown cars providing the trucks for the first articulated PCC car ever built, car 7501 of the S.T.I.B. system of Brussels, Belgium, built in 1962.

There has also been some unauthorized use of these patents in street car construction, particularly in Communist Europe, large numbers having been built in Czechoslovakia without royalties on the use of the patents having been paid.

The payment of royalties on the use of trucks and wheels has become the criteria by which modern cars must be measured. It is felt by this writer that the Transit Research Corporation may have been a trifle too inflexible in its definition since it not only excluded cars which varied only in so far as the trucks went but also cars with Type "B" trucks on which no royalties were paid.

This last mentioned category includes one group of five cars. Cars 1001-1005 of the Municipal Railway of San Francisco were built in 1939 by the St. Louis Car Company. The body lines and general appearance was that of a PCC but the trucks represented a variety of manufacturers and were used as an experiment, presumably to set the standards for a new fleet of street cars in San Francisco. Cars 1001, 1002 and 1004 were equipped with standard Clark B-2 trucks. Cars 1003 and 1005, however, were equipped with Brill trucks of a special design. The motors were set horizontal to the axles and drove through single reduction gears like conventional street cars of the pre-PCC era. The casing provided an oil bath for the gears to run in. The pinion was on the motor and the gear on the axle.

The body design was modified somewhat from the normal PCC since the cars were double ended and no true PCC car had been built for double end operation up to that time. The cars used master hand controllers of the cinestron type unlike any PCC car ever built.

While most railfans have assigned the 1001-1005 series cars to the PCC category, the Transit Research Corporation did not. Because of the experimental nature of the operation, the normal royalties were not paid on the three trucks used and thus, as far as the TRC was concerned, the cars were not PCC's. There does not seem to be any illusions to the contrary within the industry. General Electric's 1942 catalogue tactfully described them as three "modern" street cars, although it called all PCC cars by that name. Westinghouse used virtually the same description in their literature. In keeping with the experimental nature of the cars, Westinghouse equipped one each of the Clark and Brill equipped cars, while General Electric equipped the remainder. Since "modern street car" hardly appears an adequate title, the cars eventually came to be known as "Magic Carpet" cars. All later San Francisco cars followed conventional PCC design.

The second group of cars built which fell outside of the PCC grouping although having many PCC characteristics were the group of 14 cars built by the St. Louis Car Company for the Philadelphia Suburban Transportation Company (Red Arrow) in 1949. These cars were numbered 11 to 24 consecutively, an arrangement which required some reshuffling of car numbers on the part of the company since they already had cars numbered 20, 21 and 22. These cars, old second-hand cars of the so-called Hog Island type from Philadelphia Transportation Company, were renumbered 25, 26 and 27.

These cars were equipped for MU operation on the now defunct West Chester line and were mounted on St. Louis trucks of non-PCC design. Again, official references to the cars never called

them PCC cars but usually "MU streamliners."

The habit of classifying PCC cars by the trucks and resilient wheels have led to some complications. Not the least of these is the wild variety of body designs which have developed. In the United States, the original basic design was generally followed, except in the case of the freakish Clark Equipment Company product, Brooklyn car 1000. Changes were made in the windshield and in the introduction of standee windows but the general lines remained the same. In Europe, however, radical changes have been made in the design. So unrecognizable have they become that the European version has come to be known as the "Eurotram". Within the rules of the game, however, it is still a PCC, even when it is articulated.

Another problem in definition can be found in later modifications. The trend in Boston has been towards the use of solid wheels rather than the resilient wheels of the true PCC cars. Other properties have used the wheels only, such as the Pier Railway, Southend Pier, England, which installed the resilient PCC wheels under 7 car MU trains in 1949. This writer, however, hardly considers car wheels to be an adequate basis for a car type.

As mentioned, the PCC car is not confined to the surface and has found wide application in rapid transit. Forty cars of the Boston M.T.A., mounted on Clark B-10 trucks and numbered 0548-0577 as well as about 770 cars of the Chicago Transit Authority mounted on a wide assortment of type "B" trucks, some salvaged from former surface street cars. The oddest PCC, however, is probably the Mack railcar No. 10, built for the New York, New Haven and Hartford Railroad about 1948 and mounted on Clark B-2 trucks. Its body design is not remotely like any other PCC built and it is a self-propelled vehicle, but according to the rules it must be included.

As can be seen, the assignment of a car to a particular group can be a ticklish business. Certain types of cars have been designated by window arrangements, some by door arrangements, some by the method of fare collection, some by the type of control and braking equipment. Doubtless, the reader, with a little reflection, can think of still others.

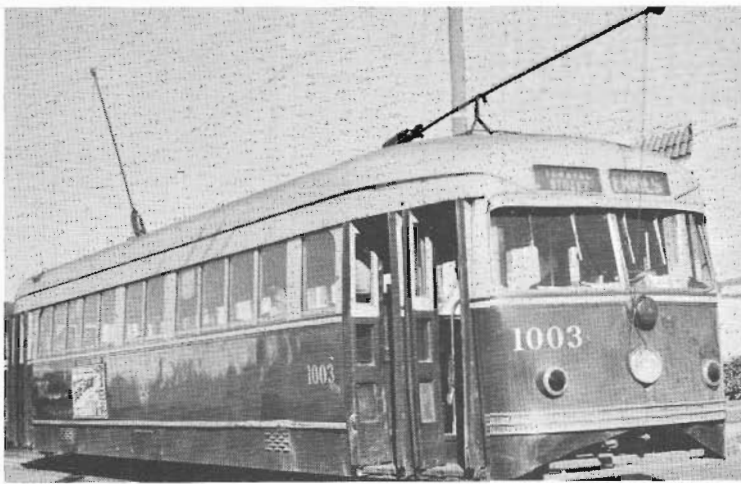
## *Answers to Queries*

This feature is being provided as an exchange of data on rolling stock. Questions should be forwarded to Dr. Harold E. Cox, 80 Virginia Terrace, Forty Fort, Pennsylvania. Questions and answers received will be published in *Traction & Models*. It is requested that letters of this nature to which direct reply by mail is desired, be accompanied by a stamped self-addressed envelope.

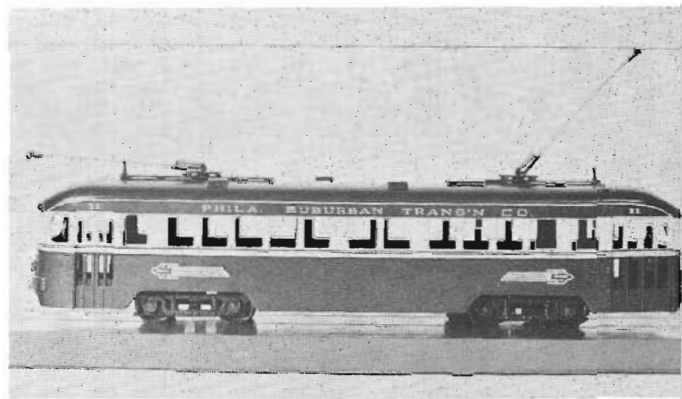
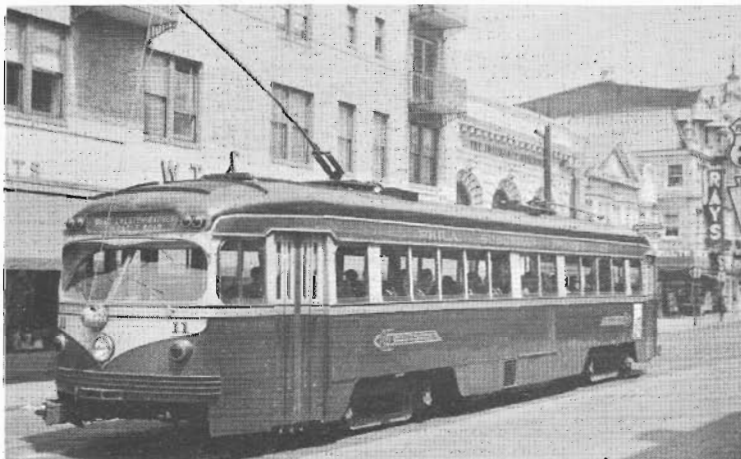
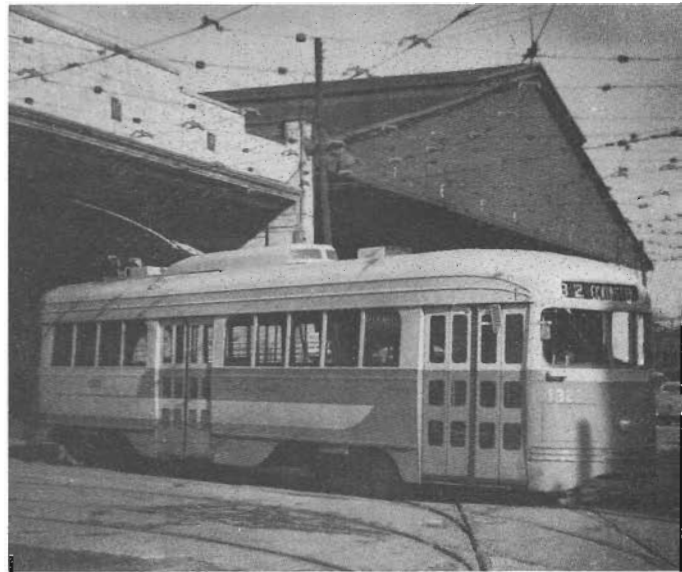
1. Information is desired concerning the whereabouts of the car building records of the Jackson & Sharp Company of Wilmington, Delaware. These were formerly deposited at the American Car and Foundry works at Berwick, Pennsylvania. Their present location or whether they still exist is unknown.

2. Roster data on the single truck safety cars of the Puget Sound Traction Light and Power Company is needed for a forthcoming book of single truck safety cars.

Answers will be keyed to question numbers in future issues of the magazine.



Above: San Francisco, Magic Carpet non-PCC #1003 as a two man car. This is the one saved by the Bay Area Electric RR Assn. Museum. Photo from Ed. L. Estacaille.  
 Right: Washington, D.C. PCC's were shorter than the usual ones, due to short transfer tables.



Left: Philadelphia Suburban Transportation non-PCC on the abandoned West Chester run. Photo from Donald Warner.  
 Above: An HO model of the same car. Note trucks.  
 Below: This is a PCC car. Melbourne, Australia PCC equipped, company built car #980. Only one of its kind. Photo from Donald Warner, Philadelphia.

