



WESTERN RAILWAY MUSEUM SACRAMENTO NORTHERN

1005



Eighteen years ago in the winter of 1998 and spring of 1999, BAERA embarked upon the largest, longest and most important restoration project in our 70 year history. With the purchase of the railroad behind us and re-electrification well under way, fundraising began for our dream project, the restoration of the Sacramento Northern wooden combine 1005. The combination of the railroad, the overhead wire, and the 1005 would allow us to create the ultimate museum experience – a journey 100 years back in time.

Beginning with a planned three year effort, the quest to restore the 1005 ultimately ballooned to ten years of painstaking dedication. The 1005 took its inaugural trip in 2010. There is still more work to be done.



When built by the Holman Car Company in 1912, the 1005 had beautiful pressed glass panels above the side windows. The shimmering gothic arches, set against a background of tiny glass pyramids, provided the ultimate touch of stylish elegance to the window design. This glass, made the Pressed Prism Plate Glass Company in Morgantown, West Virginia, was used on virtually all of the Sacramento Northern passenger equipment. Today, the Museum has a total of seven interurban cars that use Pressed Prism glass in both Gothic and Art Deco patterns.

Unfortunately, much of this signature glass is missing on the 1005. In place of once sparkling gothic arches is pebbled shower door material. The Pressed Prism Company was liquidated for

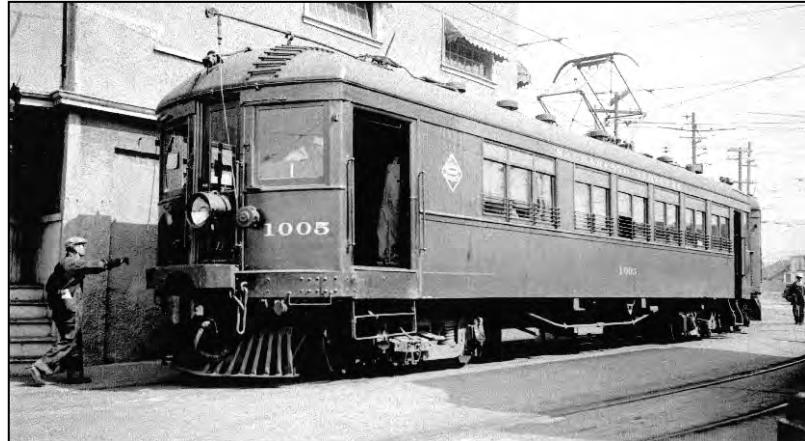
scrap in 1955, and for the following sixty years, replacing their beautiful product has been a hopeless quest. Until 2015, when Al Stangenberger, manager of our restoration shop, made contact with Catherine Lottes of Lucid Glass Works, a glass craftswoman who was willing and able to work with us to develop a process to reproduce the prismatic glass. After three years of experimentation and development work, we are finally ready to go. We can now finish our dream with the crowning touch of beautiful prismatic glass just as the Holman Car Company did 106 years ago.

But there is more to the 1005 saga.

When the Sacramento Northern began life as the Oakland, Antioch and Eastern Railroad in 1912, the railroad decided to go with the most modern electrical equipment and designs. In 1912, that meant using 1200 volts instead of the common 600 volts that had been used since the 1890's on city trolley cars. Higher voltage meant the electric wires could be smaller and the substations that were required to boost the voltage as the train crossed the countryside could be further apart.

The use of higher voltage significantly lowered the cost of building the railroad between Oakland and Sacramento. This was very important to the thinly capitalized interurban line. The only problem was that in the city of Oakland, the Sacramento Northern trains ran through the streets on rails shared with the Key system and the Key used older 600 volt cars. Therefore, the SN was one of a handful of interurban railroads in America that used dual voltage 600/1200 volt electrical gear.

The Oakland, Antioch and Eastern was a Westinghouse customer. This was very important as electric trolley lines and interurbans had to make the choice between General Electric and Westinghouse and very few changed allegiance over the years. If you were a General Electric customer with 600/1200 volt equipment, you needed an electric air compressor for the air



1005 and train awaits to depart from 40th and Shafter in Oakland.



1005 at Gum Grove in 2010 shortly after restoration.

brakes that could operate on either 600 or 1200 volts and you needed a motor/generator called a dynamotor that would take the 1200 volts and convert it to 600 for the electrical accessories and interior lights that could not be made to operate at 1200. This meant two very heavy pieces of equipment needed to be installed under the car. However, if you were a Westinghouse customer, you could choose the revolutionary new Westinghouse dynamotor-compressor. With the dynamotor-compressor, you converted 1200 volts to 600 volts and pumped compressed air for the air brakes all in one machine. This saved thousands

of pounds of weight under the car compared to two separate units. Only Westinghouse offered the combined unit and the Oakland, Antioch and Eastern proudly installed the Westinghouse dynamotor-compressor on all of their passenger equipment.

If we fast forward 106 years to 2018, there are exactly seven surviving Westinghouse dynamotor-compressors in the world. Five of them are on equipment at the Orange Empire Museum in Perris, California and two of them are on the Sacramento Northern 1005. There are no spares. We are extremely lucky that the 1005 has two units because it allows operation of the car with one unit removed. When the 1005 was released for service 8 years ago, one area of the car that was not worked on or restored were the Westinghouse dynamotor-compressors. Money and time ran out and, while the dynamotor compressors should have been serviced, the work was postponed. Two years ago, one of the irreplaceable units began making an ominous noise. It was immediately removed and sent to Swiger Coil, our go-to machine repair providers, for service. The 1005 has soldiered on with one dynamotor for the last two years.

We are now facing a repair bill of \$8000 for the dynamotor compressor we sent out for repair. We are lucky the problem was not more serious. In addition, we need to send the second unit out for preventative maintenance just as soon as the repaired unit is returned and installed back on the car.



Westinghouse dynamotor compressor

Now, at age 106, the 1005 needs your help. Our signature interurban car has done yeoman work during the last eight years carrying thousands of visitors on a trip back in time. It is time to celebrate that faithful service by finishing the job we started 18 years ago. To accomplish both the replacement of the prismatic glass and repair of the dynamotor we need to raise \$20,000. We are counting on your generosity to preserve and enhance our priceless time machine for future generations.



Western Railway Museum
5848 State Highway 12
Suisun City, CA 94585



Sacramento Northern interurban train 1940.



Sacramento Northern interurban today.
1005 - The Time Machine!