

Harrisburg Chapter

## GG1 Locomotive #4859 Fact Sheet

**Built:** December, 1937 at the Pennsylvania Railroad Altoona Works using General Electric components.

**Retired:** February, 1980

**Ownership:**

- Pennsylvania Railroad
- Penn Central Railroad
- Conrail
- Pennsylvania Historical and Museum Commission
- Harrisburg Chapter - National Railway Historical Society

**Industrial Designer:** Raymond Loewy

**Livery:** PRR “Brunswick Green” with gold “Cat’s Whiskers” pin stripes and Futura lettering.

**Construction:** GG1s are articulated locomotives with two frames. Each frame has three driving axles and one guiding truck with two axels. This is classified as a “2-C+C-2” arrangement.  
(Two axle pilot truck - three driving axles + three driving axles - two axle pilot truck.)

The dual cabs are in the center of the locomotive. This was done for safety to protect the crew in the event of a collision. This arrangement also allows the locomotive to be operated in either direction without the need to turn it at a wye or turntable.

**Dimensions:**

- Length: 79 feet, 6 inches
- Width: 10 feet, 4 inches
- Height: 15 feet, 0 inches

**Weight:**

- 477,000 lbs. TOTAL
- 303,000 lbs. on six driving axles or 25,250 lbs. per wheel
- 174,000 lbs. on guide trucks

**Operating Voltage:** 11,000 volts, 25 cycles

**Total Horsepower:** 4,620 HP continuous, (8,000 HP at 90 mph or 9,500 at 49 mph for short periods)

**Driving Wheel Diameter:** 57 inches

**Drive Mechanism:** Twelve traction motors, two motors on each of six driving axles.  
Quill drive mechanism connects the twin traction motors to the drive axles. (See diagram.)

**Gear Ratio:** 24:79 for a maximum speed of 90 mph (freight service)

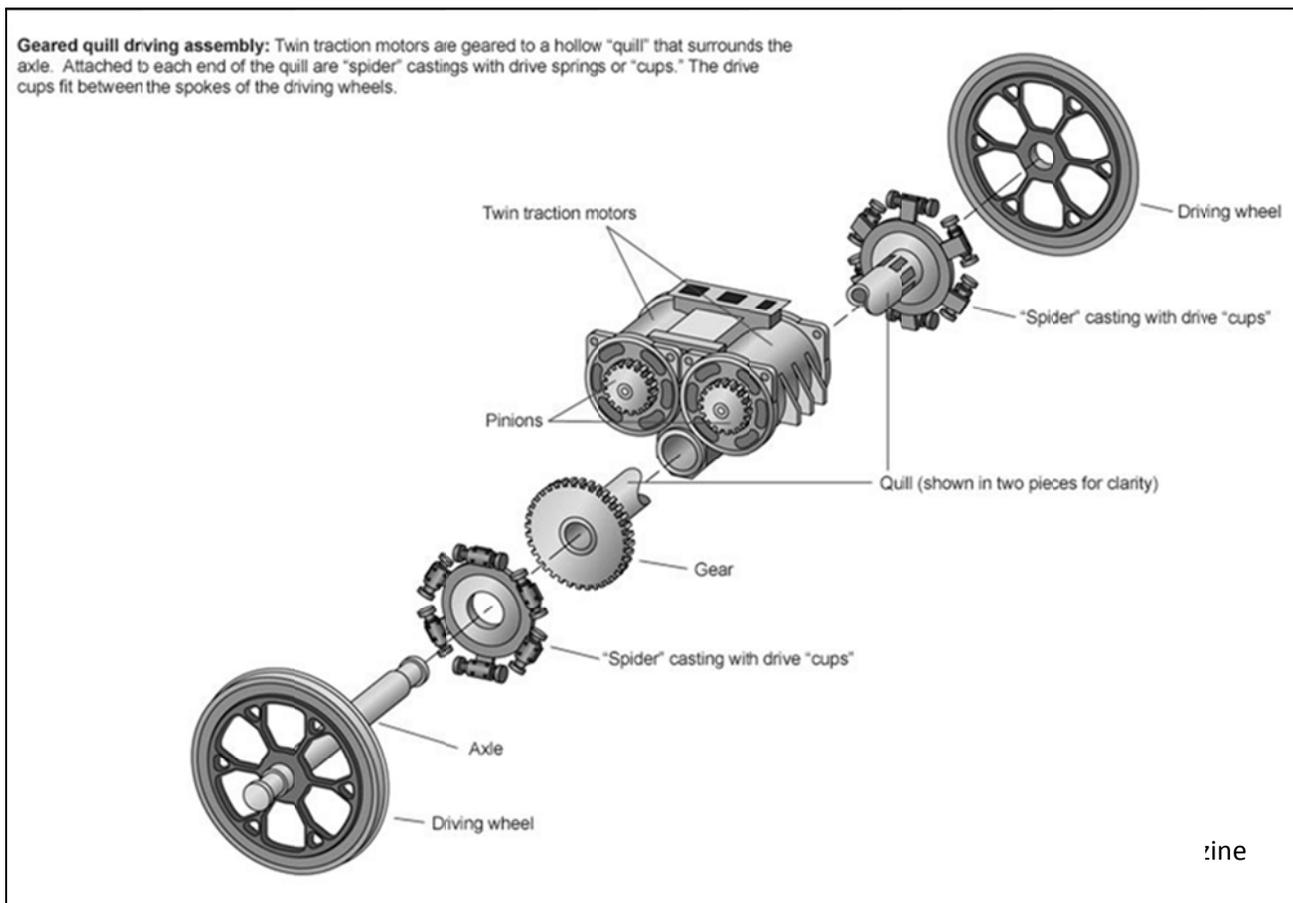
**Historical Significance:** On January 15, 1938 #4859 left Philadelphia at the head of “The Metropolitan” becoming the first electric locomotive to pull a passenger train to The City of Harrisburg in revenue service. For this reason, it has been designated by the state legislature as The Official Electric Locomotive of the Commonwealth of Pennsylvania.

**Phase Out:** After decades of service and millions of miles, class GG1 locomotives were showing signs of wear and tear, primarily cracks in the frames and wheel trucks. PRR #4859 has a number of these defects which were repaired over the years by welding.

**Preservation:** The locomotive was brought to Harrisburg at the request of the Harrisburg Redevelopment Authority for display in the Harrisburg Transportation Center. The Harrisburg NRHS acted as its custodian and raised funds for its preservation. These funds were used for the locomotive’s original restoration work that included repainting the exterior. Later, the Pennsylvania Historical and Museum Commission funded PCB and asbestos abatement.

**Today:** Eventually, the PHMC (which also owns GG1 #4800 and #4935) decided to divest themselves of the #4859 and in 2009 The Harrisburg NRHS assumed ownership. Through the courtesy of Amtrak, the locomotive remains on display under the protective cover of the train shed at the Harrisburg Transportation Center making it the only GG1 still under active catenary.

The #4859 is listed in The National Register of Historic Places.



View of the Quill Drive mechanism used in GG1 locomotives.  
This drawing is reproduced courtesy of Kalmbach Publishing and Classic Trains magazine