



H-8 Allegheny

2-6-6-6

The Chesapeake and Ohio (C&O) Railroad's 2-6-6-6 Class H-8 Allegheny locomotives were the most powerful reciprocating steam locomotives to be built anywhere in the world. Designed by the Lima Locomotive Works, sixty Allegheny locomotives were delivered to the C&O between December 1941 and December 1948.

With a weight of more than 775,000 lbs and a boiler pressure of 260 psi, they could develop a tractive effort of 110,200 lbs and generate 7500 horsepower at 40 miles per hour. Their boilers were capable of delivering 8000 horsepower. This, coupled with their 67-inch diameter drivers, gave them a wonderful turn of speed, although they were rarely used in high-speed operations.

While most of American industry was in a terrible economic slump during the 1930's, the C&O was busy constructing new tunnels, laying double track, rebuilding bridges and generally upgrading their system. This fortuitous situation was because of the main product that they transported – coal. Some of the finest bituminous coal deposits in America were adjacent to the C&O routes and coal was needed even during a poor economic climate.

In the late 1930's, it became evident that the C&O would need additional motive power for the 80 mile coal run between Hinton, West Virginia and Clifton Forge, Virginia. This route crossed the Allegheny Mountains and included a 0.58% 13 mile grade up to a 2,072 foot summit and a descent of 1.14% into Clifton Forge. The C&O was currently operating Texas class 2-10-4s and planned to procure additional locomotives of this class until Lima approached them with their new and somewhat novel 2-6-6-6 design.

The new locomotive was to weigh over 775,000 lbs and would use four 22.5-inch diameter cylinders with a 33-inch stroke. The articulated chassis would carry a huge boiler with a 9 ft x 15 ft firebox containing 135 square foot grate. The resulting rear weight required a six-wheel trailer truck to support it. The tender would be the largest ever designed for the C&O, weighing over 430,000 lbs, and would contain a 25,000-gallon water tank and a 25-ton coal bunker.

The overall length of the locomotive and tender was limited by the length of existing turntables so the tender was designed to be short and its rear section was designed "high" to carry a lot of weight. This configuration

required an eight-wheel rear tender truck to distribute the load to the rails. The leading tender truck had six wheels.

The final length of the locomotive and tender was slightly over 125 feet. The increased power and improved economics of the new design over the Texas class was the deciding factor. The C&O selected it and never regretted their decision, as it would prove to be one of the finest locomotive designs in American railroad history. The name Allegheny' was given to the new giants in honor of the mountain range over which they would be operated.

Standard operating procedure for the coal run was to use two Allegheny class locomotives, one pulling and one pushing, to haul a 140-car train. Starting at Hinton, the train would climb the steep grade up the mountain to the summit when the pushing locomotive would be uncoupled and turned for its descent back to Hinton. The lead locomotive would then proceed down grade with the train into Clifton Forge. There it was turned and sent back to Hinton hauling a string of empties.

The first ten locomotives were delivered in December 1941 and were immediately pressed into service to meet the demands of World War II. The performance of the Allegheny was so impressive that the C&O ordered an additional ten locomotives, Numbers 1610 through 1619, which were delivered in 1943 and another 25, Numbers 1620 through 1644, which were delivered in 1944.

During the war, the C&O had twenty-three its Allegheny-class locomotives modified to include steam heating and signal lines for passenger service but used them only rarely to haul a troop train or heavy mail train. Their more normal assignment was to haul a 10,000-ton freight train at 15 miles per hour. This is in stark contrast to their design goal of hauling a 5000-ton train at 45 miles per hour. Thus the Allegheny locomotives were never given the opportunity to demonstrate their full potential.

A final fifteen locomotives, Numbers 1645 through 1659, were delivered in 1948 making a total of sixty Alleghenies on the C&O roster. They continued to give faithful service over the post-war years but they were eventually replaced by diesels, a process that began in 1952. The last Allegheny was taken off the operating roster in 1956.

The Virginian Railway also operated eight 2-6-6-6 Lima built locomotives during World War II, which were essentially identical to those of the C&O however they were known as the Class AG Blue Ridge. Delivered in 1945, they too were used mainly on coal-hauling operations. They operated well into the 1950s but were all scrapped by 1960.

Fortunately for railroad enthusiasts, two Allegheny locomotives have survived and are currently on public display in the United States. Number 1601 is at the Henry Ford Museum in Dearborn, Michigan. Number 1604 is at the B&O Museum in Baltimore, Maryland.

After Number 1601 was retired, she ran to Detroit and was stored inside the Ford Museum, where, it is said, she is the most photographed item of all exhibits there. Number 1604 also dodged the scrapper's torch and was donated to the Roanoke Transportation Museum in the late 1960's. In the late 1980's, she was moved to Baltimore as the centerpiece for the newly constructed Mt. Clair Shopping Center. In 1990, she was moved to on the property of the B&O Railroad Museum where she resides to this day.

Aster chose to model Allegheny Number 1625. Delivered in 1944, this locomotive has long- since vanished from the rails after a career of hard, unglamorous, but vital work. This fine locomotive represented the pinnacle of the locomotive builders' art and is the embodiment of brute strength.

The recreation of the H-8 Allegheny is one of Aster's grandest and greatest achievements both in detail and quality. With a Baker Valve

Gear, the model is a fully functioning museum quality piece. The boiler accommodates both alcohol and coal firing.

It is Aster Hobby's sincere hope that through the medium of Gauge 1, the spirit of Allegheny 1625 will live again. Locomotive enthusiasts through the world will have the opportunity of seeing a miniature giant in action.

Specifications

Scale / Gauge: 1/32, 45 mm (Gauge One)

Dimensions:

Length OB: 1,290 mm

Width: 104 mm

Height: 165 mm

Weight: 18.9 kg (Engine 14.2 kg. + Tender 4.7 kg.)

Wheel Arrangement:

Engine: 2-6-6-6

Tender: 6 - 8

all wheels are equalized spring action.

Minimum Radius Required: 2.8 meters

Boiler Type: Locomotive Type Boiler consisting of eleven fire tubes: one dia. 18 mm, two dia. 10.4 mm and eight dia. 8.6 mm.

Water Capacity: 800 cc at 80-% full

Pressure Level: 0.4 Mpa. 4 kgf/cm²G

Fittings: 2 x Safety Valves, 1 x Gauge Glass, 1 x Pressure Gauge, 1 x Whistle, 1 x Regulator, 1 x Blower Valve, 1 x By-Pass Valve, 1 x Super Heater and two wash-out plugs.

Engine Cylinders: 4 Cylinders of bore 13 mm x stroke 26 mm

Valve Gear: Baker Valve Gear

Valve Travel 7 mm, Steam Port 2 mm, Cut-off 81.6%

Reverse: Screw Reverse

Axle Driven Pump: Pump Ram 6 mm x stroke 7 mm mounted

Lubricator: Roscoe Displacement Type

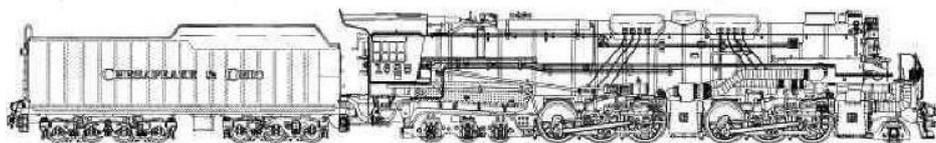
Tender:

Alcohol Tank: 450 cc at 80% full + one spare fuel tank

Coal Box: 1

Water Tank: 700 cc at 80% full

Feed Water Pump: Ram 11 mm x stroke 15 mm



[Click Here for additional pictures of the Aster Allegheny](#)