

## Beyer Garratt AD 60 (2009 production)



The history of the Garratt locomotive goes back to 1907 when William Garratt patented his articulated locomotive design. After returning to England from working on railways located in Cuba, Peru and Australia, he devised a scheme for mounting heavy artillery on railway bogies. He discussed his idea with Beyer-Peacock & Company and this subsequently led to the development of the type of locomotive which now bears his name.

The first Garratt, called the K1 Class, was built in 1907 for operation on the 2 foot (600 mm) gauge N.E. Dundas Railway in Tasmania. It was a tiny 0-4-0 + 0-4-0 compound which weighed 33 tons, and one of the two locomotives is currently running on the Welsh Highland Railway in UK. Garratts were destined to expand in gauge, weight and power eventually culminating in a Russian 5 foot (1500 mm) gauge monster built in 1932, and the most powerful, a South African 3 foot 6 inch gauge (1067 mm) GL class 4-8-2 + 2-8-4 which developed 78650 lb tractive effort.

Over the years, more than 2000 Garratts of all types were built. The merit of the Beyer-Garratt design was in their free-steaming capability which was achieved by optimizing a boiler design which was uncompromised by the need to have driving wheels or trailing trucks beneath the boiler, firebox and ash pan.

The concept of two identical chassis, one positioned forward and one reversed with the boiler assembly slung between them, resulted in excellent riding characteristics and great stability on curves and uneven

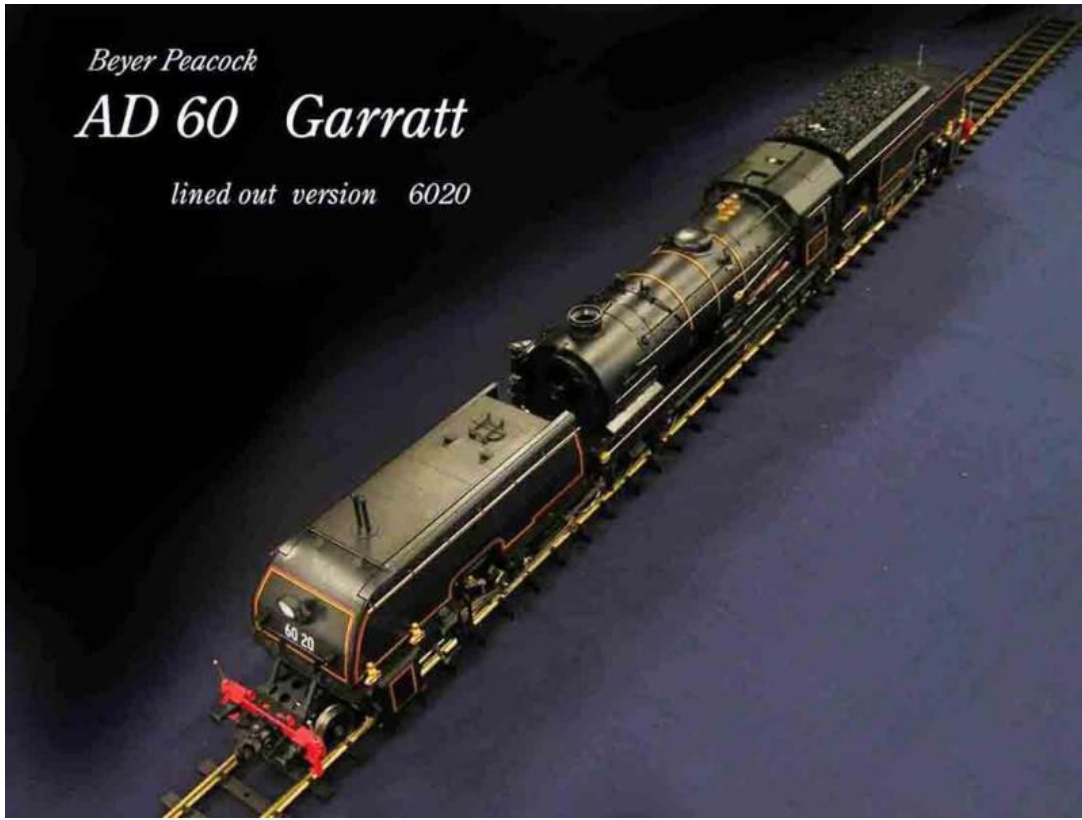
track. The 'flexible' Beyer-Garratt locomotive rode inside curves, with its boiler within the radius, unlike a conventional locomotive, whose boiler projected outside the curve.

Beyer-Garretts proved to be splendid locomotives and, given the early association with Australia, the standard gauge AD-60 is perhaps the most significant of these locomotives to have operated in the Far East and Australasia. These 4-8-4 + 4-8-4s were built in 1952 and had a tractive effort of 63600 lb. They weighed 262 tons and were thoroughly modern, incorporating the latest state-of-the-art in locomotive design. Aster selected the AD-60 to serve as the Beyer-Garratt prototype to model. The AD-60 Garratts still in existence are:

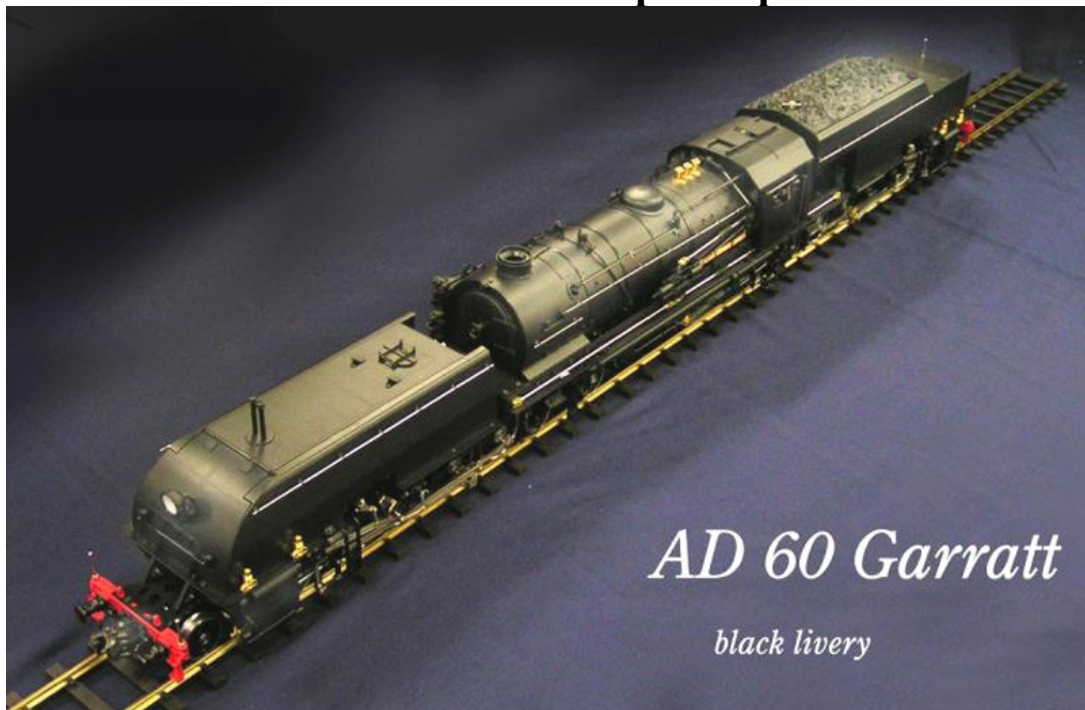
- No. 6029 at Canberra, Australia Railway Historical Society
- No. 6039 at Dorrigo, Hunter Valley Steam Railway and Society
- No. 6040 at Thirlmere, NSW Rail Transport Museum
- No. 6042 at Forbes, Purchase being negotiated by Hunter Valley Steam Railway and Society .

The AD-60 became known to overseas enthusiasts, especially those in the United States, as the "Big Boys" Down Under!





**Locomotive # 6020 pinstriped**



**Locomotive # 6040 black only**

## Specifications

Scale/Gauge:	1/32 Gauge One (45mm)
Weight:	10.83kg (23.9 lbs) (Front engine 3.04 kg + Boiler 4.3 kg + Rear Engine 3.49 kg)
Length:	1,044 mm (41.1 inches)
Width:	98 mm (3.85 inches)
Height:	136 mm (5.35 inches)
Wheel Arrangement:	4-8-4 + 4-8-4
Driving Wheels:	dia 43.0 mm
Pilot and Trailer Truck Wheel:	dia 29.0 mm
Axle Driven Pump:	2 pumps bore 5 mm × ram stroke 6 mm
Cylinder:	4 cylinders bore 12mm ×stroke 20mm
Valve Gear:	Walchaert
Boiler Type:	Locomotive type boiler with a super heater (10 × 9 mm tubes, 1 × 18mm tubes)
Boiler Capacity:	320cc ( at 80% full )
Normal Working Pressure:	4 kg / cm <sup>2</sup>
Burner:	Convertible type Coal or Alcohol Firing
Fire Grate Area:	43.8 cm <sup>2</sup>

Boiler Fittings: Regulator Valve, Blower Valve, Reverser Handle,  
By-pass Valve, Whistle Valve,  
Water Level Gauge, Pressure Gauge, 3 x Safety Valves,  
and Blow Down Valve

Lubricator: 2 Roscoe Displacement Type Lubricators

Tender: 2 Tenders

Water Tank Capacity: 350 cc ( front ) 250cc ( rear )  
(A hand pump is mounted in the front tender)

Fuel: Coal or Alcohol

Fuel Capacity: 260 cc. Alcohol

Minimum Radius: 2 m (6 ½ feet)

