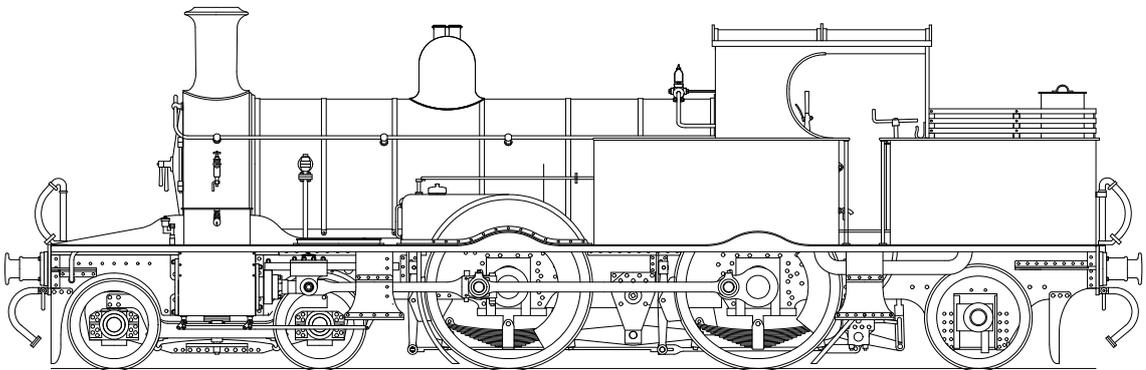


DRUMMOND BOILER ADAMS O415 RADIAL TANK LOCOMOTIVE



Caution.

This product contains etched parts with very sharp edges and castings that may contain lead. Neither the Manufacturer, Distributor or Retailer can accept any liability for illness, injury or consequential damage caused when handling or building this product.

Read any instructions before assembly. Do not eat or drink whilst handling.

BRIEF HISTORICAL DETAILS

The locomotives which form the subject of this kit were to the design of William Adams for the LSWR and fitted with one of the two Drummond boilers built in 1907 with dome-mounted lock-up safety valves. A total of 71 locomotives were built by four outside builders; four of these locomotives carried the Drummond boilers. It is these locomotives that are the subject of this kit:

Loco	Original Builder Detail	Alternative details with Drummond Boiler	Drummond Boiler Dates
3125 (30582)	R. Stephenson & Co. 1885 Long tanks with high front 3'6" trailing wheels	Double slidebars New frames	6/1936-11/1938 11/1941-10/1944 5/1954-7/1961
486	Neilson & Co. 1885 Long tanks with low front 3'0" trailing wheels		9/1907-1/1928
3488/30583	Neilson & Co. 1885 Long tanks with low front 3'0" trailing wheels		12/1946-2/1959
520 (3520)	Dubs & Co. 1885 Long tanks with high front 3'6" trailing wheels	Double slidebars New frames	8/1907-3/1948

For a detailed history of this numerous class we suggest you refer to the following definitive books by the late D.L.Bradley:

Part two of The Locomotives of the LSWR published by the RCTS.
LSWR Locomotives - The Adams Classes published by Wild Swan.

Other valuable sources of information and photographs are:

A Pictorial Record of Southern Locomotives - J.H.Russell - OPC
Locomotives Illustrated No. 59 - LSWR Outside-cylinder Tank Locomotives - Ian Allan
Southern Steam Locomotive Survey - The Adams Classes - Bradford Barton
From Devon to Dorset: the Story of the Lyme Regis Branch by George Reeve

Due to the large number of locomotives, built by four different builders, and lasting in service for over seventy five years, there are considerable variations between individual engines even amongst the small number that had Drummond boilers. Martin has covered many of these by including alternative components in the kit which can be combined with the Drummond boiler parts recently developed by Finney7. It is therefore recommended to have a photograph of the individual locomotive you propose to construct to enable an authentic model to be built.

VARIATIONS POSSIBLE WITH THE KIT

Blower Valve. The original position of the blower valve varied depending on the builder. The locos with Drummond boilers had the blower valve positioned on the side of the smokebox, as typical for most Drummond locos.

Dome. The Drummond boilers had distinctive domes incorporating lock-up safety valves.

Trailing Wheels. The variation in trailing wheel diameter is catalogued in the table above.

Tank Front. On some engines the top edge of the tank front was flush with the tank top. On others the front was extended to the same height as the tank sides with the beading carried round over the tank front.

Chimney. When built the locomotives had Adams stove pipe chimneys. These were replaced by Drummond from February 1901 with his distinctive design. It is possible that an Adams chimney may have been used with a Drummond boiler, however all the photographic evidence currently available to us shows the locos to have the Drummond chimney.

Slidebars. From circa 1907 numbers 47,52,57,125,129,415,419 and 520 were fitted with double slidebars.

Front Frames. The Neilson & Co. engines had front frames to a profile different from the remainder. The frames of numbers 125 and 520 were replaced by the Southern Railway during an extensive rebuilding at Eastleigh during 1930. The new frames were to a new profile at the front.

Cab Cut-out. The Neilson & Co. engines had a different cab side cut out to the remainder.

Tank Lifting Brackets. In SR days lifting brackets were fitted to the top of each tank.

Coal Rails. Three bunker coal rails were fitted from circa 1900. Later still the coal rails were backed by metal sheeting to stop the loss of small coal.

Cab Rear Windows. After the fitting of coal rails most engines were fitted with bars of either wood or metal over the rear cab windows. Some of the later survivors were subsequently fitted with smaller windows.

Water filler. As the coal rail and rear window changes took place so the height of the water filler increased to allow more coal to be carried.

Steam Heating. From circa 1901 carriage heating steam pipes were fitted.

Lamp Brackets. The locomotives were built with Adams' socket style brackets. Drummond added new brackets of his design over the buffers at the front and rear and above the coupling hook at the rear. The SR standardised on a design with the socket in the lamp and the later survivors were gradually fitted with new brackets of standard design.

Smokeboxes. When smokeboxes were renewed by the Southern Railway, the flush riveting was often replaced by visible snap head rivets.

Smokebox Rear. As built, the riveted ring joining the smokebox and boiler was covered with a dished metal strip. Towards the end of their lives some locos (including 30582, with Drummond boiler) lost the cover strip and the riveted ring became visible. Parts to model both the cover strip and exposed riveted ring are included in the kit

VARIATIONS NOT POSSIBLE WITH THE KIT.

New Adams Boilers. All 71 of the locomotives as built had boilers to Adams' design with detail differences between the four builders. Variations can be found in the handrails, blower controls and domes. This kit and these instructions do not facilitate the building of this variant.

Drummond Boilers. In 1907 two new boilers of Drummond pattern with dome top safety valves were built and fitted initially to 486 and 520, eventually seeing service on four locos. This variant is the subject of this alternative kit from Finney7.

CHASSIS OVERVIEW

Note that many of the components for both chassis and body are handed left/right and care must be taken to ensure the correct component is used. Components are not always identified left/right separately but with care and common sense no problems should arise.

Before construction can commence you have to decide which particular chassis you are going to construct. The options are:

Gauge - Finescale or Scaleseven

For Finescale, where little sideplay is required, the widest spacers can be used but they will need careful filing to make their width 26.0mm. If you require your engine to negotiate sharp curves then the middle width spacers should be used.

The widest frame spacers supplied are suitable for Scaleseven and care will be needed to allow sufficient sideplay, especially in the leading axle to enable the model to negotiate moderate curves.

Suspension - rigid, sprung or compensated

Rigid. The kit is supplied with top hat bearings to build a rigid chassis. Open out the main axle holes to accept top hat bushes and solder them in place.

Sprung. If you are going to fit sprung horn blocks, you should open out the frame slots by cutting up the half etched lines and then follow the manufacturers instructions.

Compensated. The simplest and most reliable suspension system is beam compensation and the necessary compensation beams are provided in the kit. Not provided are the hornblocks and bearings which are available as an extra item which includes instructions for aligning the hornblocks accurately.

Pickups - no pickup material is provided. The options are:

Scrapers attached to the middle frame spacer using printed circuit board.

Plunger. Open out holes P and fit according to the manufacturers instructions. It may not be possible to use plunger pickups if you wish to fit the inside motion because they may foul each other.

Split Axle/Frame. We leave this to you! Some useful information can be found at

<http://www.euram-online.co.uk/tips/splitaxle/splitaxle.htm>.

Motor/Gearbox - not provided - Finney7/SDMP Rford30:1 or 40:1 + Canon 1833 or ABC custom

Wheels -	Driving wheels	5'7" diameter, 18 Spokes (2)	Slater's Ref. 7867S
	Bogie Wheel	3'0" diameter, 9 spoke (2)	Slater's Ref. 7836ARMF
	Trailing wheel	3'0" diameter, 9 spokes (1)	Slater's Ref. 7836ARMF
		or 3'6" diameter, 10 spokes (1)	Slater's Ref. 7842ARMF

Bogie Pivot - there are alternatives for the position of the bogie pivot. The choice made will largely determine the radius of curve the locomotive will negotiate.

Inside Motion - A Finney 7 Adams Radial inside motion set that is available separately.