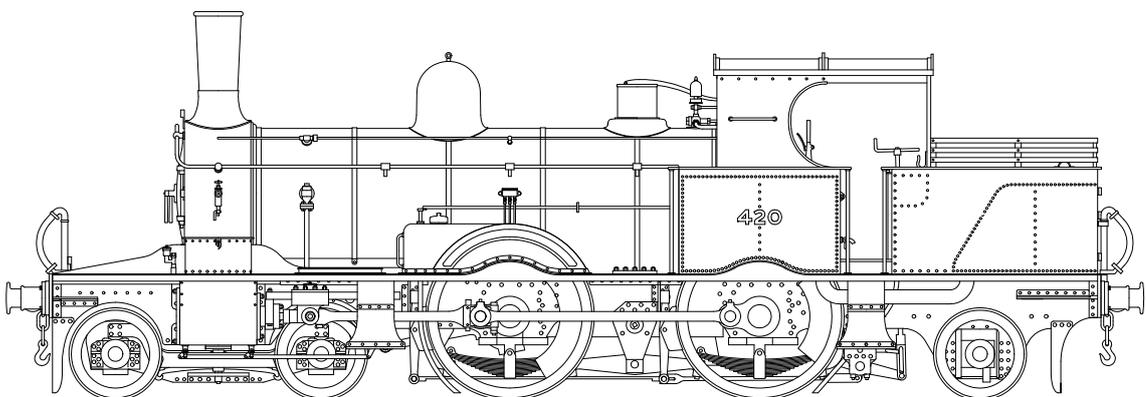


ADAMS O415 RADIAL TANK LOCOMOTIVE



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. They were a development of his '46' class of 1878. A total of 71 locomotives were built by four outside builders as follows:

Numbers	Delivered	Maker	Tanks	Blower	Valve	Dome	Trailing	Wheels	Tank	Front
415-426	8-10/1882	Beyer, Peacock	Short	Left	Small	3'0"			Low	
45/7-57, 427-3	10-12/1883	R. Stephenson	Short	Left	Small	3'0"			Low	
169-71/73, 490-5	11-12/1884	Dubs & Co.	Short	Left	Small	3'0"			Low	
479-489	2-3/1885	Neilson & Co.	Long	Right	Large	3'0"			High	
516-525	11-12/1885	Dubs & Co.	Long	Right	Large	3'6"			High	
68,77/8,82										
104/6/7/25/6/9	6-10/1885	R. Stephenson	Long	Right	Small	3'6"			High	

Note: 68,77/8 were renumbered 58-60 in 3/1889,6/1890 and 8/1890.

Note: 125 and 520 became Southern Railway 3125 and 3520 in 11/1933 and 12/1934.

Note: After a chequered career 488 was renumbered Southern Railway 3488 in 11/1946.

Note: At Nationalisation these three were renumbered again as follows:

SR No.	BR No.	Date
3125	30582	3/1949
3488	30583	10/1949
3520	30584	4/1948

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

The Locomotives of the LSWR, Part II 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

There is a review of building this kit by Chris Wesson in MRJ 126 and 127.

With such a 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. Many of these have been covered by including alternative components in the kit, however it is essential to have a photograph of the individual locomotive you propose to construct to enable an authentic model to be built. We have drawn up GAs to represent the form of the locomotives from each builder; the construction drawings are rather more generic to represent for example a steel roof or a wooden roof.

VARIATIONS POSSIBLE WITH THE KIT

Rivets. In traditional Beyer, Peacock style the first ten engines were built using snap head rivets. The remaining engines were all built using mainly flush rivets on the running plate and upper works.

Tank length. The first 28 locomotives had very short side tanks. Subsequent locomotives had longer tanks of increased capacity.

Blower valve. The position of the blower valve, as shown in the table, varied depending on the builder. Late survivors had the blower valve moved, in Drummond style, to the side of the smokebox with the operating rod inside the handrail, which was lengthened for the purpose.

Dome. Domes were of two sizes as shown in the table.

Trailing wheels. The last twenty engines had the trailing wheel diameter increased to 3' 6".

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.

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

Splashers. The splashers of the Beyer, Peacock engines were adorned with that makers builders plates. The splashers of the other engines had a wide beading in a circular arc.

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.

Boiler handrail. The position of the boiler handrail knobs depended on the builder. The boiler handrail on the Beyer, Peacock engines was attached with distinctive brackets.

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.

Cab roof. The original cab roofs were wooden. From circa 1900 they were replaced, by Drummond, with steel roofs.

Safety chains. When built the engines were fitted with safety chains. These were gradually removed during Drummond's time.

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.

Couplings. The engines in their early years ran with a single, long coupling link often with a separate screw coupling hanging from the draw hook. Later the locomotives were equipped with screw couplings together with a hook to carry the coupling when it was not required.

VARIATIONS NOT POSSIBLE WITH THE KIT.

New Adams boilers. From 1895 seven new boilers were built and fitted to Nos. 57,170,483, 486,490,492 and 517. With these new boilers came new cabs with round lookout windows.

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 an 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:

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

Scaleseven. 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. 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. A Canon motor with a SDMP 40L/15 gearbox, from Finney7, or Canon motor with an ABC Mini7 gearbox are both recommended.

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 separate kit is available to construct the working inside motion.