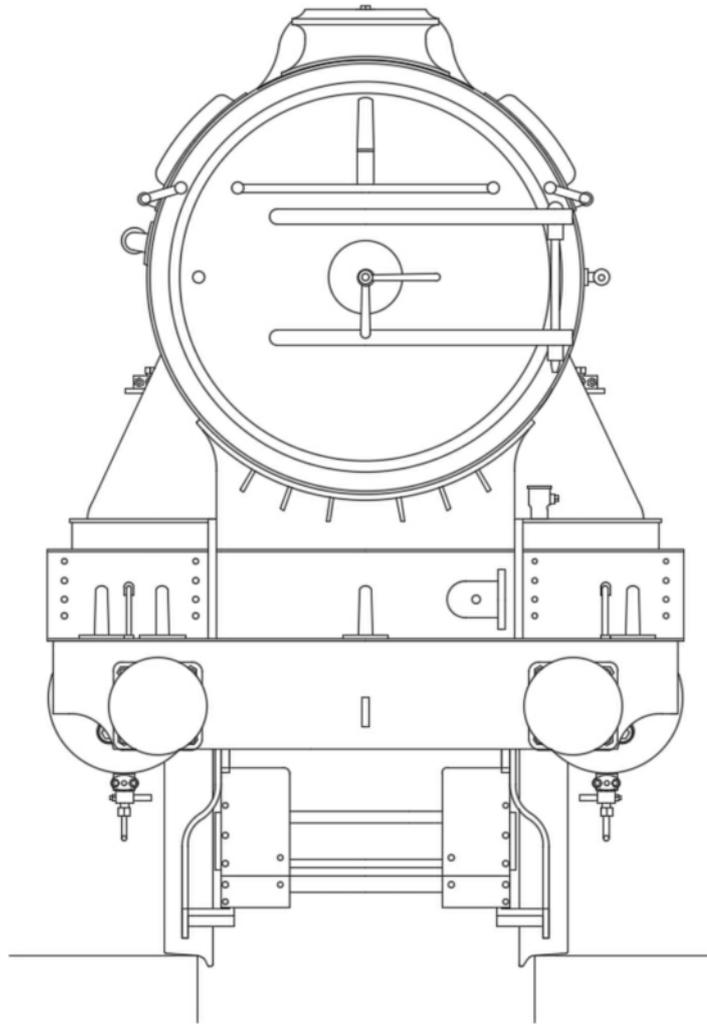


LNER GRESLEY A1 CLASS LOCOMOTIVE



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

Just before Grouping, Nigel Gresley introduced his prototype 4-6-2 design on the GNR. There were only two engines of this class in service at the end of 1922, but a further ten had been ordered by the GNR and these were completed in 1923, the LNER classification being A1. On Gresley's appointment as CME of the LNER this class was adopted as standard and a further forty (twenty by the North British Locomotive Company) were constructed in 1924-25. In 1927 two of the class were rebuilt with higher pressure boilers to become the first of class A3 and eventually, by 1948, all but the first engine were dealt with in this fashion. These engines were all built with the driving position on the right hand side.

E. O.	Original Numbers	Post 1924 Numbers	Built	Builder
293	1470/71	4470/71	4/1922-7/1922	Doncaster
	1472-9	4472-79	2/1923-7/1925	Doncaster
297	1480/81N	4480/81	2/1930-7/1930	Doncaster
301		2543-52	7/1934-2/1935	Doncaster
302		2553-62	12/1924-7/1925	Doncaster
L787		2563-82	8/1924-12/1924	NB Loco

From this kit, which is for right hand drive engines, you can build these engines in their original condition as class A1 or after their conversion to class A3. It does not cover the class after conversion to left hand drive, which occurred circa 1952-54.

For a detailed history of this long lived class Part 2A of Locomotives of the LNER published by the RCTS is essential reading. Other valuable sources of information and photographs are:

Locomotives Illustrated 25, Ian Allan

The Gresley Pacifics, O.S.Nock, David & Charles

Yeadon's Register of LNER Locomotives Volume One, Irwell Press

East Coast Pacifics at Work, P.N.Townend, Ian Allan

The Power of the A1's, A2's and A3's, J.S.Whiteley & G.W.Morrison, Oxford Publishing Co.

VARIATIONS/MODIFICATIONS INCORPORATED INTO THE KIT.

Cabs. The first eleven engines were built to the generous GNR loading gauge with high cabs. The remaining engines, except for 1481N, were built to the reduced, composite LNER loading gauge with lower cabs. The first eleven had their cabs altered to conform between 1928 and 1933.

Cab sides. On the lower cabs the original cut-out was increased in height by 11" at the same time as bucket seats fitted.

Chimney. Original high type for GNR loading gauge and lower type for the LNER composite loading gauge.

Dome. The original high type for GNR loading gauge and lower type for the LNER composite loading gauge plus the two later types of enlarged domes, Banjo and streamlined fitted to the A3 class with the later 94A boiler from 1940 onwards.

Firebox. All the fireboxes fitted to A1 class boilers (Diagram 94) and to the first five A3 class conversions (Nos. 4480, 2544/73/78/80) designated diagram 94 HP were similar in appearance with four washout plugs on the left hand side, & three on the right. With the next batch of 94 HP boilers washout plugs were increased by one each side as shown in Fig 22.

Firebox crown washout plugs/door covers. Originally square ended plugs and from circa 1936 onwards circular covers.

Safety valves. Original large type for GNR loading gauge and smaller type for the LNER composite loading gauge.

Frames. Differing frame lightening hole arrangements. In their original condition these engines had four large oval holes together with a 12" circular hole ahead of the cylinders. However due to the surprising frequency with which frames were replaced or repaired the large holes either disappeared, were plated in from inside or were replaced by the 12" circular holes that were standard on the later new A3's.

Frame rivets. The original engines were built using countersunk rivets and so give a smooth appearance to the frames. Many photographs show a gradual change to rivets with a visible head as frames were repaired or replaced.

Valve gear. All the engines were originally built with short travel valve gear (STV) with narrow platforms and steampipes which extended down to the level of the footplate. Between March 1927 and May 1931 they were rebuilt with long travel valve gear (LTV) with wider platforms and shorter steampipes. This change alters the length of the crosshead arm and the arm below the radius link.

Bogie. Originally the engines were built with the swing link bogies which were converted to the helical spring type circa 1933-34.

Bufferbeam. The first twelve engines had a rectangular bufferbeam. The corners were subsequently cut away to clear the platforms at Newcastle, as shown in the diagrams, later engines being built with this modification.

Front footsteps. Nos. 1472 - 81 were originally equipped with a light bar iron type. These were all removed by 1927. From 1935 onwards all the engines were fitted with a plate type and at the same time small grab handles were fitted to the front drop plate.

Rear Steps. Nos. 1470 -80 were built with a width of 8' 8" over the steps. The remainder were built with narrower steps with an overall width of 8' 4".

Front end cover plates. Small cover fitted from 1933 onwards.

Rear spring retaining brackets. Fitted later.

Anti-vacuum valve plate. Two types provided.

Cab seats. Original type replaced with bucket seats from circa 1935 onwards.

Footplate Lamp irons. The second lamp iron on RHS removed from 1931.

Smokebox Lamp iron. Two different types.

Reversing rod. Different shape depending on whether Doncaster or North British built.

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.

For Finescale, where little side play 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 side play, 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 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. First decide which of the two possible compensation arrangements you prefer (Fig.1). Full compensation gives a much smoother ride to the chassis. Not provided are the horn guides and bearings for fully sprung units or compensation beams, which are available as an extra item and includes instructions for aligning the horn guides 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>.

COMPONENTS NOT SUPPLIED

WHEELS

Driving wheel - 6' 8" diameter, 20 Spoke, 3/16" axle (3)

Slater's Ref. 7880G

Bogie wheel - 3' 2" diameter, 10 spoke, 5/32" axle (2)

Slater's Ref. 7838GMF

Trailing wheel 3' 8" diameter, 12 spoke, 5/32" axle (1)

Slater's Ref. 7843NEMF

Available from Slaters' (Plastikard) Ltd, Old Road, Darley Dale, MATLOCK, DE4 2ER, England

Tel. (+44) (0)1629 734053 Web Site: slaters@slatersplastikard.com

MOTOR/GEARBOX

A Canon motor with either an ABC- VML2 gearbox or a SDMP 40L/15 gearbox (available from Finney7).

CRANKPINS

Steel crankpins are available from Finney7.