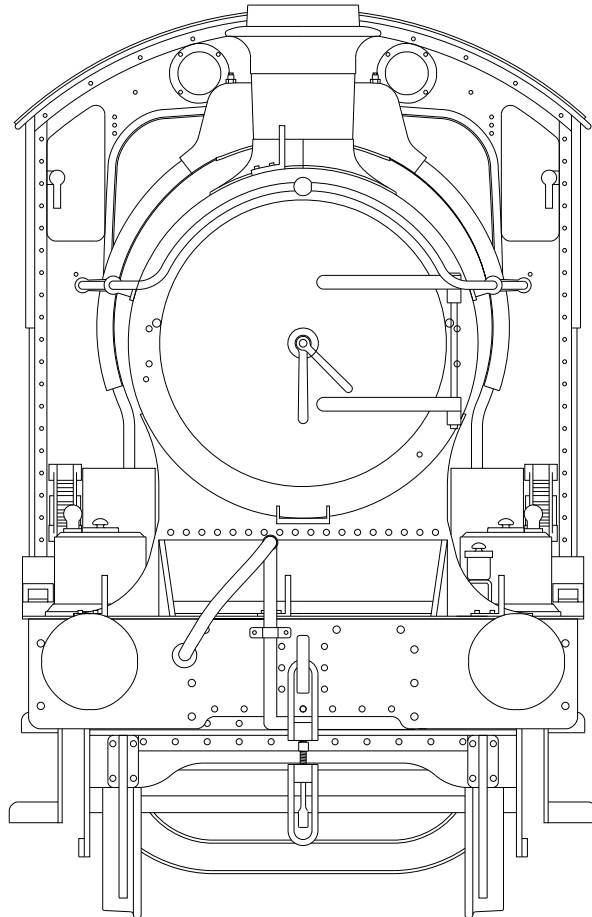


## GWR CURVED FRAME BULLDOG LOCOMOTIVE



### **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. Wash hands after use.

## BRIEF HISTORICAL DETAILS

This kit covers the Bulldog class locomotives built with curved frames Nos. 3300-3340. The boilers in the kit are the D2 and D3, so the Lot 118 and 120 locomotives cannot be modelled as built with the D0 boiler. Nos 3300-3320 were rebuilt from former Duke class locomotives and have differences from the new build curved frame Bulldogs, Nos. 3320-3340. From this kit any of the curved framed engines can be built from circa 1904 to 1948.

For a detailed history of this long-lived class of forty one engines, Part Seven of 'The Locomotives of the Great Western Railway' published by the RCTS is essential reading. Small Wheeled Double-Framed 4-4-0 Tender Locomotives by David Maidment is very useful. Other references are G.W.Engines Vol 2 by JH Russell, Standard Gauge G.W. 4-4-O's by OS Nock & Locomotives Illustrated 50, GWR double-framed 4-4-O's.

The curved framed engines were built as follows:

Lot	Old Numbers	1912 Numbers	Built/rebuilt	Original boiler	Nameplates
118	3332-51	3320-39	11/99-3/00	D0	Oval
120	3352	3340	10/99	D0	Oval
N/A	<sup>1</sup> Various from 3253-3331	3300-19	3/06-12/08	<sup>2</sup> D3	Standard

Notes

<sup>1</sup> Rebuilds of Duke class engines built under Lots 97,101/2/5/13.

<sup>2</sup> Except 3273 'Armored' rebuilt in 2/02 with a D0 boiler.

## VARIATIONS POSSIBLE WITH THE KIT

**Outside Frames.** Because the outside frames of the kit have the snap head rivets half etched, Lots 118 & 120 cannot be built in their original condition with flush frame rivets. The early Lots can of course be built in slightly later condition as they appear to have acquired frame strengthening plates and snap head rivets surprisingly quickly, probably during their first major shopping.

**Boilers.** Two boilers are provided in the kit the D2 half coned and the D3 three-quarter coned. This means that Lots 118 and 120 cannot be built in their original condition with the D0 parallel boiler. All D0 boilers were gone by 1913.

**Beading.** Much of the decorative beading from the splashers and bogies was removed during the Great War.

**Cab cut-out.** The two sizes of cut-outs are provided.

**Chimneys.** Three different types are provided.

**Bogies.** Originally of the swing hanger type with shallow frames, splashers and the small lower splashers. Many were replaced with deeper frames. Some were rebuilt to 'De Glehn' type without swing hangers and fitted with strengthening patches.

**Coupling rods.** Originally fluted. Replacement rods from c.1908 onward were of plain section.

**Reverser.** Originally steam reverse operated by a lever attached to the right hand cab side. Most were later rebuilt with screw reverse disclosed by the small casing at the front of the cab on the right side.

**Superheating.** Began in 1909. Disclosed by the lengthening of the smokebox by 9".

**Top feed.** In most cases top feed was fitted at the same time as superheating.

**Smokebox saddle.** Early flush rivets, later snap head rivets.

**Cab roof.** Early canvas covered wood, later two types of steel roof.

**Cab spectacle windows.** Plated over from 1926 onward.

**ATC Equipment.** Put on all but 3302/9/20/34 between 1928 and 1931.

**Vacuum pipe.** Originally tall, later a shorter pattern was introduced.

## TENDERS

When built the locomotives were fitted with standard Dean 2500 gallon or 3000 gallon tenders. Later many of the class acquired standard Churchward 3500 gallon tenders.

## 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 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.

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. If the leading axle is 5/32" diameter then reduce the bearing diameter accordingly by fitting a sleeve from short lengths of the 3/16" tubing provided.

**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. 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>.

## COMPONENTS NOT SUPPLIED

### WHEELS

Driving wheels - 5' 8", 18 spoke, 3/16" diameter axle (2). Slater's Ref. 78680/C

Until the Finney7 cranks are available we recommend fitting the MOK outside cranks.

Bogie wheels - 3'7", 10 spoke, general pattern. Specify 2mm outside journals when ordering. Slater's Ref. 7843MF

### MOTOR/GEARBOX

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

### CRANKPINS

Steel crankpins are available from Finney7.

### INSIDE MOTION

A separate kit is available from Finney7 to construct the working inside motion.

### NAMEPLATES

We can supply some of the oval name and works plates fitted to some of the locomotives.

Laira	3338	3326
Orion		3330
Pegasus	3343	3331
Titan		3336
The Wolf		3337
Sedgemoor	3351	3339