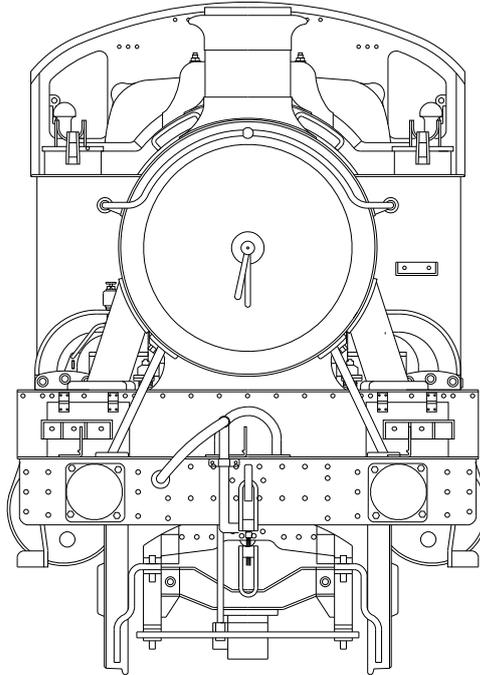


## GWR 51XX CLASS LOCOMOTIVE



### **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. Wash hands after use.

## BRIEF HISTORICAL DETAILS

The engines which form the basis of this kit were an up-to-date version of the Churchward engines introduced in 1903. They are divided into two classes the 5101 class (5101-5110, 5150-99, 4100-79) introduced in 1929, for general use, with 200 lb. pressure boilers followed by the 6100 class (6100-69), specifically to work accelerated London suburban services, with 225 lb. pressure boilers.

For a detailed history of this numerous class Part Nine of 'The Locomotives of the Great Western Railway' published by the RCTS is essential reading.

Other valuable sources of information and photographs are:

A Pictorial Record of Great Western Engines Vol. Two, J.H.Russell, OPC

Churchward Locomotives, Brian Haresnape & Alec Swain, Ian Allan

Locomotives Illustrated No. 33, Ian Allan

Great Western Railway Journal No.5 (Winter 1993), Wild Swan, this includes some of the drawings listed below.

The following Swindon Drawings were used to design the kit:

98682	2/1934	Lot 284	Frame plan
87341	2/1934	Lot 257,259	Cross sections
102535	2/1934	Lot 284	Erecting Plan
100729	4/1933		Arrangement of Boiler Mountings
59048	9/1938		Arrangement of Motion

The engines were built under 12 Lots as follows:

Lot	Numbers	Built	Lot	Numbers	Built
257	5101-10	11/29-12/29	292	4100-19	8/35-11/36
	5150-59	2/30-3/30	313	4120-29	12/37-5/38
259	5160-89	10/30-4/31	323	4130-39	10/39-12/39
269	6100-29	4/31-11/31	335	4140-49	8/46-10/46
278	6130-59	9/32-4/33	361	4150-59	6/47-9/47
284	5190-99	10/34-11/34	369	4160-79	9/48-12/49
291	6160-69	10/35-11/35			

## VARIATIONS POSSIBLE WITH THE KIT

**Water Fillers.** Numbers 5101-10, 5150-89, 6100-6109 were fitted with a screw down lid whereas the remaining engines were fitted with a lever type.

**Cab shutters.** Numbers 5190-99, 6110-69 & 4100-79 were fitted with shutters from new. The earlier engines received shutters from 1933.

**ATC equipment.** Fitted when new to 5160-99, 6130-69 & 4100-79 and applied to the earlier engines between 1930 and 1933. The earlier engines had the ATC conduit pipe clipped midway up the valence on the left hand side whilst the later engines had the pipe clipped under the lower edge of the valence. The earlier engines were fitted with the standard ATC shoe bolted to the front buffer beam and clearly visible in photographs. Later engines, including all the 61XX series, had a less visible shoe mounted beneath the pony truck.

**Journal lubricators mounted on the tank top.** The majority of the 51XX & 61XX series were so fitted when built. The 41XX series did not have these lubricators and some of the earlier engines subsequently had them removed.

**Step on tank front.** Numbers 5101-10, 5150-89, 6100-6109 were fitted with a step of traditional appearance. The later engines had a step of the same design as fitted to the rear of the bunker.

**Upper front lamp bracket.** Moved to the smokebox door on a few engines.

**Spare lamp brackets.** On early engines these were mounted towards the footplate edge along side the splasher whilst later they were placed further forward and in front of the splasher.

**Whistle shields.** Fitted to 4160-79 when new and later to a few of the earlier engines.

**Handrails on tank strap.** Two extra handrails were added on the strap over the boiler from circa 1945 onwards.

**Bunker steps.** The welding of three steps to the left side of the bunker began in 1952. This necessitated shortening the handrail on the bunker side whilst at the same time two extra handrails were added one to the rear of the cab cut-out and one on the cab roof.

## VARIATIONS NOT POSSIBLE WITH THE KIT

**Safety valve bonnets.** Numbers 5101-5110 & 5150-59 were fitted with tall safety valve bonnets. The safety valve bonnet supplied is of the short type fitted to the remaining engines.

**Bunkers.** Numbers 5101-5110 came out with a recessed fender above the flat bunker top, whilst Nos. 5150 onwards had the upper half of the bunker extension recessed to match the fender. The kit only caters for the recessed bunker and fender. Several of the earlier engines were subsequently retro fitted with the recessed bunker and fender.

**Trip gear.** The 61XX series worked over the electrified lines in the London area and all were fitted with trip gear for automatic brake application in case of over-running an adverse signal. The ATC apparatus on these engines is arranged to clip up automatically on entering an electrified section.

## 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" dia. 18 spokes, 3/16" axle, early version	Slater Ref. 7868GW
Driving wheels 5' 8" dia. 18 spokes, 3/16" axle, later Collet wheel	Slater Ref. 7868GW51
Pony truck wheels 3' 2" dia. 10 spokes, 5/32" axle	Slater Ref. 7837MF
Rear truck wheels 3' 8" dia. 10 spokes, 5/32" axle	Slater Ref. 7843MF

Available from Slaters' (Plastikard) Ltd'

### MOTOR/GEARBOX

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

### CRANKPINS

Heavy duty crankpins are available from Finney7.