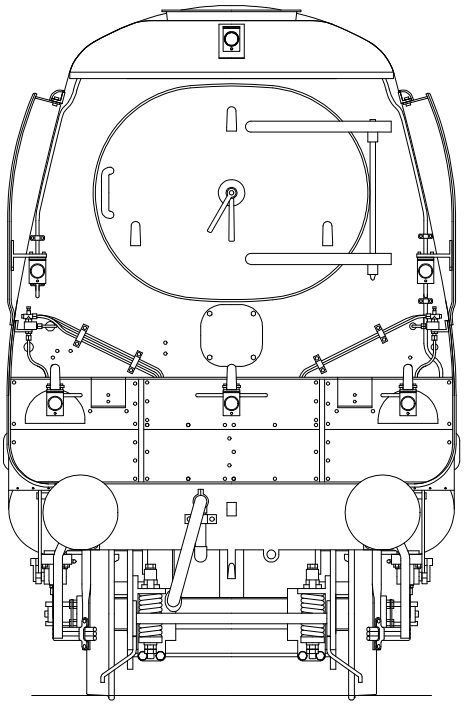
BULLEID LIGHT PACIFIC LOCOMOTIVE



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 subjects of this kit are the Bulleid West Country and Battle of Britain Light Pacifics of the Southern Railway in their original form. Between June 1957 and May 1961 sixty of the one hundred and ten locomotives were rebuilt into a more conventional form. The rebuilt locomotives we hope to cover in a future kit.

All were built at Brighton works, except numbers 34095/7/9/101/2/4 which were built at Eastleigh works,

as follows:

Order Number	Southern Railway Number	British Railways Number	Date Built
2421	21C101 - 21C120	34001 - 34020	5/1945-12/1945
2561	21C121 - 21C130	34021 - 34030	1/1946-5/1946
2885	21C131 - 21C145	34031 - 34045	9/1946-10/1946
3213	21C146 - 21C170	34046 - 34070	11/1946-11/1947
3383	34071 - 34090	4/1948-2/1949	
3486	34091 - 34110	9/1949-1/1951	

As with all modelling the only way to be confident of the details of your model is to refer to photographs. If there is a definitive reference for a detailed history of these locomotives it is the recently published The Book of the West Country and Battle of Britain Pacifics by Richard Derry and published by Irwell Press.

Other valuable sources of information and photographs are:

Locomotives of the Southern Railway Part 2 - D.L.Bradley - RCTS.

The Power of the Bulleid Pacifics - Stanley Creer and Brian Morrison - OPC

Bulleid Pacifics at work - Colonel H.C.B. Rogers OBE - Ian Allan

Locomotives Illustrated No. 28 - Bulleid Light Pacifics - Ian Allan

Locomotives Illustrated No. 89 - Bulleid West Country & Battle of Britain Pacifics - RAS

Southern Steam Locomotive Survey - Bulleid Light Pacifics - Bradford Barton

Modeller's Backtrack - Bulleid's Light Pacifics - April/May 1991 - Volume 1 No.1 - Atlantic

A Pictorial Record of Southern Locomotives -J.H.Russell - OPC

Bulleid Locomotives - Brian Haresnape - Ian Allan

VARIATIONS POSSIBLE WITH THE KIT.

Cabs. The original cabs were 8' 6" wide with a flat front, visors over the lookout windows and two sliding windows at the side.

Starting with 34064 the cab design was changed to that with angled front windows ('V' fronted) as built. From 34066 three sliding windows became the standard and they were eventually retrofitted to 34001 - 34065. The change to three side windows possibly enlarged the opening so that 34066-34070 8'-6" cabs may have enlarged side window openings matching the following 9'-0" cabs. Certainly 34067 in preservation has the extended side window opening. Engines 34001 - 34065 appear to have retained the original side window aperture but with the same three sliding windows.

Unless photographic evidence suggests otherwise, use part C5S for engines 34001-65 and C5E for 34066-70, however, C5E may also have been retrofitted to earlier engines (highly unlikely) and one of two of the later engines might have retained C5S (a distinct possibility).

From the records it is known that 34064-65 were rebuilt with V front cabs but retained the original two sliding windows, these were changed to three sliding windows in 6/48 and 3/49 respectively but within the standard sized aperture. These and possibly other earlier engines are not covered in the kit; to replicate these you will need to carefully cut out the windows frames from C4 and insert into C5E after removing the frames from there.

The last to receive the 'V' fronted cab was 34015 in 3/1957.

The last forty locomotives (34071-34110) were built with 9'0" wide 'V' fronted cabs and enlarged side window openings.

Cab light ventilators. The cab roof had two small ventilators, for the interior lights, behind the main ventilator. Photographs suggest they were later removed from some locomotives.

Plate on smoke box front. A cover plate was fitted to the front of the smoke box below the door. The original plate was replaced with a larger plate circa 1953-54.

Straps over cab roof ventilator. Two straps were fitted across the cab roof ventilator to some/all? of the locomotives from circa 1955.

Roof doors over whistle and manifold valves. The original hinged doors were subsequently replaced by new sliding doors.

Slide bar bracket. The original design of slide bar bracket had the lubricator mounted transversely. This was moved to a position on the outside face from 3/11/48. A new design of slide bar bracket was introduced from an unknown date.

Slide bar dust covers. Most locomotives were fitted with dust covers from June 1948. They were subsequently removed from mid 1950 onwards.

Coupling rods. Order number 2885 (34031 -34045) and 34065 - 68 had the coupling rod knuckle-pin joints ahead of the crankpins on the driving wheels. Photographs show that several other locomotives subsequently acquired this style of coupling rod.

Chimney fairing and lipped chimney. The first 30 engines were built with a fairing behind the chimney. Numbers 34031 - 34045 were built without the chimney fairing but with a lipped chimney. The fairing was removed from the first 30 engines around 1948. The remaining locomotives were also built without the fairing but, confusingly, the fairing seem to have reappeared on most or all of the locomotives by 1952 - 54.

Ash pans. The original design fitted to the first hundred locomotives (34001 - 34100), had no dampers. In 1952 three locomotives (34011,34043 and 34065) had their ash pans replaced with a design based upon those fitted to BR standard classes.

The last ten locomotives (34101 - 34110) had a modified version of the original design, with dampers, which the kit does not provide. The modified design proved unsatisfactory and from circa 1956, new ash pans of the BR type were fitted to 34101 - 34110.

Safety valves. All the locomotives were built with three safety valves sited forward of the dome. From 6-1-53 the safety valves were reduced to two and re-sited rear of the dome in a hexagonal tray.

Sanding. Order Number 3486 (34091 - 34110) were built without sanding to the leading coupled wheels. The leading sand pipes and the sliding covers over the fillers were removed from the first 90 engines circa. 1952-54.

Rail cleaner. All the locomotives were built with a steam rail cleaner that operated with the steam sanding. The locomotives fitted with the BR type ash pan had this removed and many of those fitted with the original design of ash pan also had the rail cleaner removed.

Steps to front platform. The first seventy locomotives (34001 - 34070) were built with two 'wide' steps to the front platform. From 34071 the locomotives were built with steps which were 1/4" narrower. Inexplicably the earlier locomotives appear to have then been rebuilt with the narrower steps.

Panel in front of cylinders. The panel in front of the cylinders was removed circa 1951-53.

Brake tie rods. From an unknown date the rear brake tie rod was removed. For a time the existing pull rods continued to be used but on some locomotives new pull rods without the tie rod hole were fitted.

Smoke deflectors. Numbers 34001 - 34057 were built with short smoke deflectors supported with three stays from the roof ladder. From 1/1947 they began to be replaced with new 'standard' length deflectors supported with five stays. Locomotives from 34058 were built with the standard length deflectors. From 3-11-1947 an extra stay was fitted at the top front corner of the deflector plates.

Sliding covers over forward washout plugs. From an unknown date some locomotives were fitted with sliding doors over the forward washout plugs.

Speedometers. A Smith-Stone speedometer was fitted in 1959/60 to all locomotives.

VARIATIONS/MODIFICATIONS NOT POSSIBLE WITH THE KIT.

ATC/AWS. From May 1959 Automatic Train Control (ATC) was fitted, later designated Advanced Warning System (AWS), evidence being displayed by the battery box below the smoke box door.

A separate kit for the AWS, including the battery box and shield, bogie modifications and cab fittings is available.

Cabs. For a short time 34064/65 ran with a 'V' fronted cab and two sliding windows at the side. Standard three window layouts were fitted to 34064 in 6/1948 and 34065 in 3/1949.

Smoke deflectors. 34005/6/7 were fitted with extra long smoke deflectors in April 1948. Over the years there were numerous other experimental smoke deflector variations. ***These are now available as extras from Finney7.***

Sandbox filler doors. The last 18 locomotives (34093 - 34110) had a different (circular) design of filler door when built. These proved unsatisfactory and were replaced, by late 1953, with the sliding type.

Bogie axles. The first thirty locomotives were built with hollow bogie axles.

Safety valves. For a short period from 3-12-52, some locomotives had the rear most of the three safety valves removed and the whistle moved forward to occupy the space and mounted transversely. The safety valves and whistle were exposed in a long tray some 6' 6" in length. This is shown in Bradford Barton - Bulleid Light Pacifics - 34059 Sir Archibald Sinclair 16-4-54 and Locomotives Illustrated 89 - Page 3 - 34051 Winston Churchill - 6-53.

Crossheads. From circa 1961, 34038/61/84/86/92/102 received new pattern crossheads to the same design as that fitted to the rebuilt locomotives.

TENDERS

The first seventy locomotives were built with 8' 6" wide tenders of 4500 gallon capacity. The remaining forty 9' 0" wide locomotives were paired with matching 9' 0" wide tenders of 5500 gallon capacity. Just as with the locomotives, tender modifications and changes were not uncommon. Further details will be found in the instructions of the tender kits.

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:

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. Not provided are the horn blocks and bearings which are available as an extra item which includes instructions for aligning the horn blocks 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' 2" Boxpok, 3/16" diameter axle (3)	Slater's	Ref.7874
Bogie wheel - 3' 1" Boxpok, 5/32" diameter axle (2)	Slater's	Ref.7838MF
Delta Truck trailing wheel - 3’ 1” Boxpox, 3/16” axle (1)	Slaters	Ref.7838

Available from Slaters' (Plastikard) Ltd

MOTOR/GEARBOX

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

CRANKPINS

Heavy duty crankpins are available from Finney7.