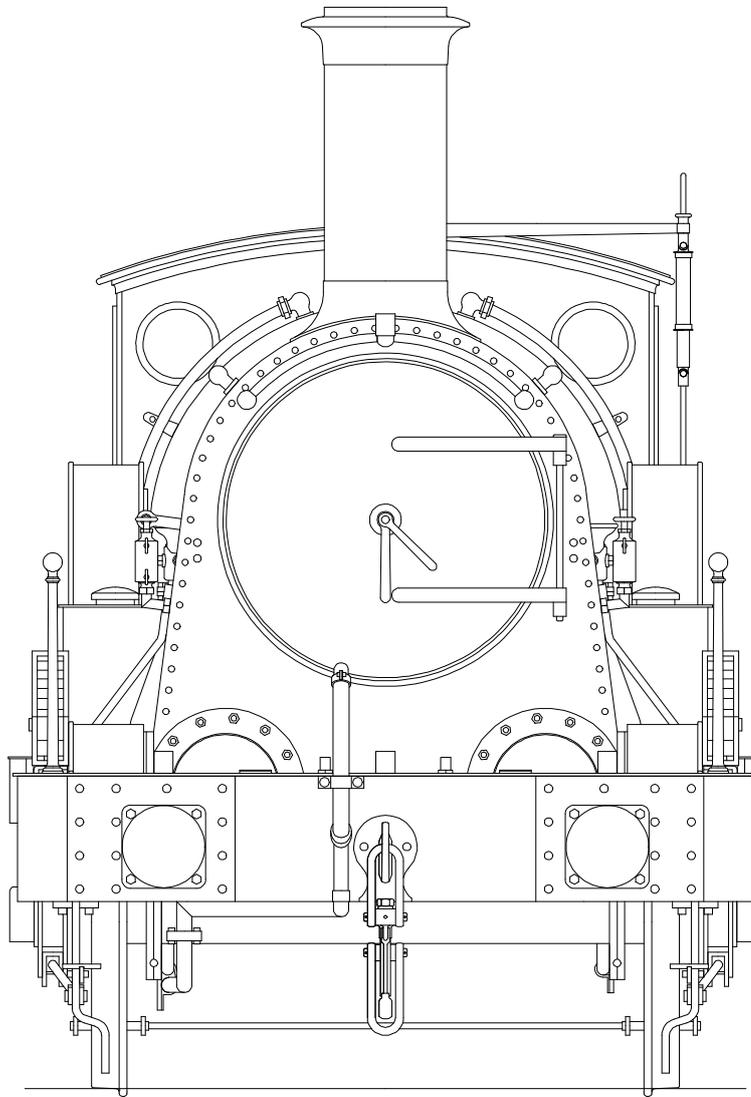


## GWR ROVER & TENDER



### **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.

## LOCOMOTIVE

### BRIEF HISTORICAL DETAILS

The subjects of this kit are the iconic broad gauge Rover 4-2-2's of the Great Western Railway. They were replacements for the earlier 'Iron Duke' class and although known officially as rebuilds or renewals, they were essentially completely new containing very little of the earlier engines.

Unfortunately the twenty four engines which make up the Rover class exhibit many significant differences being built in four different sub-classes. The kit represents the 1880 built engines as that was the only GWR works drawing that was available during design.

The six engines were all built at Swindon

|               |         |
|---------------|---------|
| Bulkeley      | 7/1880  |
| Dragon        | 8/1800  |
| Great Britain | 9/1800  |
| Emperor       | 9/1880  |
| Sebastapol    | 10/1880 |
| Alma          | 11/1880 |

All survived until the end of the broad gauge on 20th May 1892. With a life of less than twelve years few changes to their appearance took place. Notably the whistles were moved from their original position on the firebox to the cab roof from c1890.

The most significant change concerns the tenders. The Locomotives of the Great Western Railway states that the tenders originally paired with these engines are variously described as of 3000 gallon or 3192 gallon capacity; these tenders will be described as 3000 gallon tenders. Photographs show the engines running with the earlier 2700 gallon tenders. These tenders had the same design of underframe, but with lower shorter tanks. From photographs dated from 6th July 1886, the pairings were:

|               |  |
|---------------|--|
| Bulkeley      | Always shown with a 3000 gallon tender |
| Dragon        | Always shown with a 2700 gallon tender |
| Great Britain | Both types of tender                   |
| Emperor       | Both types of tender                   |
| Sebastopol    | Always shown with a 2700 gallon tender |
| Alma          | Always shown with a 3000 gallon tender |

There is provision for both types of tender to be built.

#### Sources of information and photographs are:

- Parts two and twelve of 'The Locomotives of the Great Western Railway' RCTS Broad Gauge Finale, Rev.A.H.Malan, Wild Swan 1985
- British Railway Journal - Special GWR Edition, Andrew Wiles, Wild Swan 1985
- G.W.Engines Vol 1, J.H.Russell, OPC 1975
- Great Western Broad Gauge Album, A.K.Steele, OPC 1972
- The Great Western Broad Gauge, Laurence Waters, Ian Allan 1999
- A Broad Gauge Album, Newton Abbot Museum & Broad Gauge Society

### CONSIDERATIONS BEFORE YOU START.

The model is designed to Scaleseven Standards running on 49.2mm gauge track.

**Gauge.** The model is designed to Scaleseven standards running on 49.2mm gauge track.

**Wheels.** Because the prototype engine had such limited clearances between wheels, brake hangers and splashers the model is designed with slightly undersized wheels. The specifications are:

|   |                       |
|---|-----------------------|
| Driving wheel - 7'11" diameter, 26 spokes.                  | Slaters's ref S7895R  |
| Carrying wheels - 4'5", 14 spokes, 5/32" axles              | Slater's ref S7853RMF |
| Tender wheel - 4' 0" diameter, 12 or 13 spokes, 5/32" axles | Slater's Ref S7848RMF |

If you are turning your own wheels you should use these dimensions.

**Motor.** We recommend the Special ABC Gears ROVER gearbox with a Canon motor.

**Pick Ups.** No pickup material is provided. The options are:

**Scrapers** attached to the frame stretchers using printed circuit board.

**Plunger.** Open out the marked holes and fit according to the manufacturers' instructions.

**American System.** The wheels on the engine shorted out on one side and the tender on the other. The drawbar provided will have to be modified to provide insulation between the engine and tender.

**Split axle/frame.** We leave this to you.

**Inside Motion.** A separate kit is available to construct the working inside motion.

Where possible extras of some of the etched components are provided. This means that for some of the trickier forming, you will have the opportunity to make a second attempt if you are not happy first time.

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. All bends are made with the fold line on the inside of the bend **unless specifically stated otherwise.**

It is also sensible to open up all holes to fit the appropriate component/wire, and to emboss all appropriate rivets before the component is fitted.

Particular consideration has been made in the design of the kit for the final finishing and painting. To this end the model is broken into separate assemblies most of which are screwed together. They are:

Chassis

Inside motion

Outside frames, running plate and splashers

Smokebox, boiler and firebox

Cab, cab floor, cab roof and backplate

We have also provided most of the components that represent a polished metal finish on the prototype in appropriately plated pewter and designed the kit in such a way that most of these components can be removed for painting or easily attached after painting is complete.

## **GREAT WESTERN RAILWAY - DEAN LIVERY 1882 1892**

**Green.** Boiler, firebox, cab front & sides (inside and out), rear sandbox on left hand side, wheels before 1886. Tender tank sides, back and front, tender toolboxes.

**Indian Red.** Outside frames of both engine and tender, wheels from 1886.

**Purple brown.** Brake hangers and pull rods, front sand boxes, curved plate at lower edge of splashers opening, faces of springs and shackles and guards irons.

**Black.** Footplating, top of splashers and sandboxes, main handrail stanchions, springs (apart from front face), smokebox and chimney, wheel tyres, steps, cab roof and mouldings, sand pipes and other under gear, injectors, cab back plate. Tender footplating, tank top, division plate and coal space.

**China red.** Bufferbeams and buffers, inside faces of inside frames,

**Vermilion.** Motion bracket and weigh shaft, reversing lever in cab.

**Polished brass.** Casing between smokebox and boiler, casing between boiler and firebox, casing around

cab back plate, splashers fronts and beading, safety valve bonnet, safety valve bonnet base, whistles, cab side vertical beading, axleboxes, valve tail rod glands, lubricators, clack boxes, nameplate letters and works plate.

**Polished steel.** Inside motion, frame tie rods, handrails, cab and tender stanchions, cab cut-out beading, smokebox door fittings and ring, spring damper cups, cylinder covers, reach rod, fire box stay frame plate, buffer heads, couplings and hooks, handles in cab. Nameplate.

**Polished copper.** Chimney cap and pipe work.

All Indian red areas were edged with a 'A' black line separated by a 1/8" red line. The wheel tyres were black separated from the wheels by a 1/8" red line.

Bufferbeams were similar to the frames with a 1/8" orange chrome line separating a /2" back edging from vermilion.

Lining to green areas was a 1 1/8" black band with a 1/8" orange chrome line inside each edge

Boiler bands were 1 %" wide and painted black with a 1/8" orange chrome line inside each edge.

This is a synthesis of the information in:

Great Western Way by J.N.Slinn published by the Historical Model Railway Society in 1978. I am grateful for

further input from Brian Arman and Alan Garner.

Great Western Locomotive Livery before 1882 is described in this book but as no photograph of a Rover in this period is known it is unclear what livery would have been applied to the 1880 engines when they were built.

## TENDER

### BRIEF HISTORICAL DETAILS

Parts two and twelve of 'The Locomotives of the Great Western Railway', state that the tenders originally paired with these engines are variously described as of 3000 gallon or 3192 gallon capacity; these will be described as 3000 gallon tenders in these instructions. Photographs indicate that several were at some time paired with earlier 2700 gallon tenders which had the same design of under frame but lower, shorter tanks. The interpretation from the limited number of photographs available, and bearing in mind that no photograph is dated before 6/7/1886, is:

|               |  |
|---------------|--|
| Bulkeley      | Always shown with a 3000 gallon tender |
| Dragon        | Always shown with a 2700 gallon tender |
| Great Britain | Both types of tender                   |
| Emperor       | Both types of tender                   |
| Sebastopol    | Always shown with a 2700 gallon tender |
| Alma          | Always shown with a 3000 gallon tender |

There is provision for both types of tender to be built.

Sources of information and photographs are:

- Parts two and twelve of 'The Locomotives of the Great Western Railway', RCTS
- Broad Gauge Finale, Rev AH Malan, Wild Swan 1985
- British Railway Journal – Special GWR Edition, Andrew Wiles, Wild Swan 1985
- GW Engines Vol 1, JH Russell, OPC 1975
- Great Western Broad Gauge Album, AK Steele, OPC 1972
- The Great Western Broad Gauge, Laurence Waters, Ian Allan 1999
- A Broad Gauge Album, Newton Abbot Museum & Broad Gauge Society

### CONSIDERATIONS BEFORE YOU START.

**Gauge.** The model is designed to Scaleseven standards running on 49.2 mm gauge track.

#### **Wheels.**

Tender wheel – 4' 0" diameter, 12 or 13 spokes. Slater Ref S78478RMF

**Pick Ups.** No pickup material is provided. The options are:

**Scrapers** attached to the frame stretchers using printed circuit board.

**Plunger.** Open out the marked holes and fit according to the manufacturers' instructions.

**American System.** The wheels on the engine shorted out on one side and the tender on the other. The drawbar provided will have to be modified to provide insulation between the engine and tender.

**Split axle/frame.** We leave this to you.

For your convenience, where possible, extras of some of the etched components are provided. This means that for some of the trickier forming, you will have the opportunity to make a second attempt if you are not happy first time. Don't be concerned if you have components unused at the end!

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. All bends are made with the fold line on the inside of the bend **unless specifically stated otherwise.**

It is also sensible to open up all holes to fit the appropriate component/wire, and to emboss all appropriate rivets before that component is fitted.

Particular consideration has been made in the design of the kit for the final finishing and painting. To this end the model is broken into separate assemblies most of which are screwed together. They are:

Tender chassis

Tender brake gear

Tender frames

Tender running plate and tank

We have also provided most of the components that represent a polished metal finish on the prototype in appropriately plated pewter and designed the kit in such a way that most of these components can be removed for painting or easily attached after painting is complete.