

BRITISH RAILWAYS 4-6-2 'DUKE OF GLOUCESTER'

HISTORICAL NOTES:

Turned out from Crewe works in 1954, as a theoretical replacement for the newly-rebuilt 'Princess Anne' destroyed in the Harrow disaster, Riddles solitary class 8 pacific was the last express steam locomotive designed for BR. Uniquely amongst the standard fleet, it was equipped with 3 cylinders, & following Ivatt's experiments on the LMS was fitted with British Caprotti rotary cam valve gear.

Regretfully, the locomotive never achieved it's full potential in BR service, gaining a reputation for being coal-hungry & shy of steam. For this reason, the BR1E tender originally provided was exchanged in 1957 for the 1-off BR1J pattern, which had a coal pusher to assist the fireman in feeding its 10-ton load to the firebox!

Laid aside at Crewe in 1962, the loco (minus its outside cylinders & valve gear) eventually found its way to Woodham's famed Barry scrapyard, from whence it was fortuitously rescued in 1974 for preservation. As the BR1J tender had been destroyed, a BR1C one from a 9F was obtained & converted to BR1E spec by removal of the coal space partition. In view of the large quantity of components requiring re-manufacture, the preservationists have also undertaken the development work which BR failed to carry out, improving the draughting, valve events & fuel economy to such an extent that today, 'Duke Of Gloucester' can be said to truly represent the Pinnacle of British steam locomotive design.

THE KIT:

Probably our most ambitious effort so far, this kit is designed to fit the Hornby BR 'Britannia' chassis & tender drive. You will need the high-sided BR1B/C tender body to represent the loco in original or preserved form. Also needed are your choice of handrail knobs & wire, nameplates (Obtainable from Modelmaster or 247 Developments), & 5-minute epoxy resin & cyanoacrilate adhesives. I used a China-made Hornby 'Brit' as my donor loco, but with a little ingenuity with regard to the bodywork mounting arrangements, any of the many versions of Hornby's 'Britannia' should prove suitable for this conversion. Should you seek a more 'finescale' mechanism, the Comet models etched chassis kit can also be used.

PREPARATION:

Firstly examine the mouldings, filling any air bubbles with a good quality filler, & removing any moulding pips or flash with a sharp blade & fine files. Familiarise yourself with the various components with reference to the exploded diagram, & have a 'dry run', testing the fit of the parts & adjusting as required. Strip the Hornby loco, recovering parts such as safety valves, whistle, boiler infill, & any cab glazing or interior detail present. Store these carefully for later....

CHASSIS:

Take the Hornby chassis block & remove the valve gear, cylinders, bogie & pony truck, unscrewing the drawbar from the latter. Take the cylinders & cut away the upper part each side as shown in the diagram, then re-fit them to the chassis, followed by the coupling & connecting rods, crosshead & slidebars after disconnecting the redundant valve gear parts as shown in the diagram. Glue the slidebar into the remaining slot in the cylinder, taking care not to glue any moving parts.

At this point, it is advisable to glue the cab interior (2) into the main superstructure, using the chassis as a guide to ensure correct positioning. I drilled the front mounting point & screwed the chassis in place, then engaged the rear 'tongue in its slot to make sure the cab interior was in the right place, then put a strong elastic band round the cab until the glue set. The front motion bracket (3) can now be glued in place behind the cylinders, & the cylinder tops (4,5) tried in place;- These should fill the space between the main cylinder section & the footplate, the outer face being flush with both at top & bottom, a little adjustment with a file will be needed to achieve the best fit. Glue in place when satisfied. The Caprotti valve gear (10,11) may now be tried in place with the bodywork fitted; (If you have a chassis with the later etched valve gear, you will need to glue some plasticard or similar to the outer edges of the Hornby motion bracket in order to mount these components) The diagram shows how the upper front part of the valve gear fits into the cut-out in the footplate, & a little adjustment may be needed to achieve this. when satisfied with the fit, & that nothing fouls the moving parts of your chassis, the valve gear can be fixed in place.

If your front bogie includes steps, these should be sawn off, leaving enough material to mount the front coupling if required. You can now also fit the cylinder cocks (12,13) if your curves allow space for them..Finally, having painted the new pony truck, (27) the Hornby wheelset can be popped in place, & the drawbar refitted using the original screw. This completes the work on the chassis, so you may now move on to.....

BODYWORK:

Having previously fitted the cab interior, begin by drilling holes (indicated by dimples) for the various fittings; then add the clack valves, (16,17) regulator rodding, (0.5mm wire) firebox pipework, (18,19) reversing rod, (20) brake ejector, (21). You may now fit

your choice of handrail knobs & wire;(you need 12 medium knobs for the boiler sides, & 10 short ones for the smoke deflectors & smokebox door)

If you feel our moulded smoke deflectors (8,9) are too thick, an alternative is to fit '9F' ones from Hornby (plastic) or Jackson-Evans (etched);

Both will require a little trimming for a good fit...Otherwise fit these after adding handrails. Now add the ashpan sides (6,7) together with their associated pipework,(14,15), followed by the front steps (22,23) noting that these are handed , & that they fit at an oblique angle rather than parallel to the footplate. The remaining parts may be fitted in any order, reserving any which should remain bright metal (such as the smokebox dart, & the whistle & safety valves recovered from the donor loco) until after painting.. If you wish to add any extra detailing such as lamp-irons, grab rails etc., this is best done now....

TENDER:

The only thing you need to do to the Hornby tender is to scrape away the moulded representation of the internal partition; You can get creative & make this match the moulded coal, or just glue some real coal in place to hide the scar. I don't know of a BR1J tender body being available in any form if you wish to represent the loco as running between 1957-62, you could try 'cutting & shutting' a couple of Hornby tenders, or I might be persuaded to produce one if enough of you ask me.....

PAINTING:

First degrease the model in some warm soapy water, using an old soft toothbrush to gently scrub into the nooks & crannies...rinse thoroughly & set aside to dry in a warm, dust-free atmosphere. Once dry, prime with a good quality grey primer;- I use & recommend Halfords plastic primer from my local car accessory store, sprayed in light coats. This product gives a superb basis for your chosen top-coat & doesn't attack most plastics. Livery is BR passenger green, with black & orange lining laid out in the same scheme as the last 10 Britannias. You can obtain suitable transfers from Fox , Modelmaster, or HMRS, all of whom should also be able to help with suitable numbering & insignia.

We hope you find this kit enjoyable to build; if you would like to have a copy of our latest monthly bulletin, giving details of our ever-growing range of kits, accessories, & of our professional building & painting services, please send 4 1st class stamps + s.a.e to:-

GOLDEN ARROW, 392 HAROLD RD, HASTINGS, SUSSEX TN35 5HG TEL: 01424 445334

PARTS LIST:

(RESIN)

- 1) Main body
- 2) Cab interior
- 3) Front motion bracket
- 4) Cylinder top R
- 5) Cylinder top L
- 6) Ashpan R
- 7) Ashpan L
- 8) Smoke deflector R
- 9) Smoke deflector L

(WHITEMETAL)

- 10) Valve gear R
- 11) Valve gear L
- 12,13) Cylinder cocks
- 14) Injector pipes R
- 15) Injector pipes L
- 16)Clack valve R
- 17) Clack valve L
- 18) Firebox pipes R
- 19) Firebox pipes L
- 20) Reversing rod
- 21) Brake ejector
- 22) Step R
- 23) Step L
- 24) Smokebox dart
- 25,26) Buffers
- 27) Pony truck (not illus.)
- 28) AWS box (not illus.)
- 29) Vac pipe (not illus.)

Parts required to complete

10 short & 12 medium handrail knobs; 0.5 & 1mm dia. wire; Hornby 'Brit' whistle, safety valves & underboiler.(from donor loco) Paint, glue & transfers

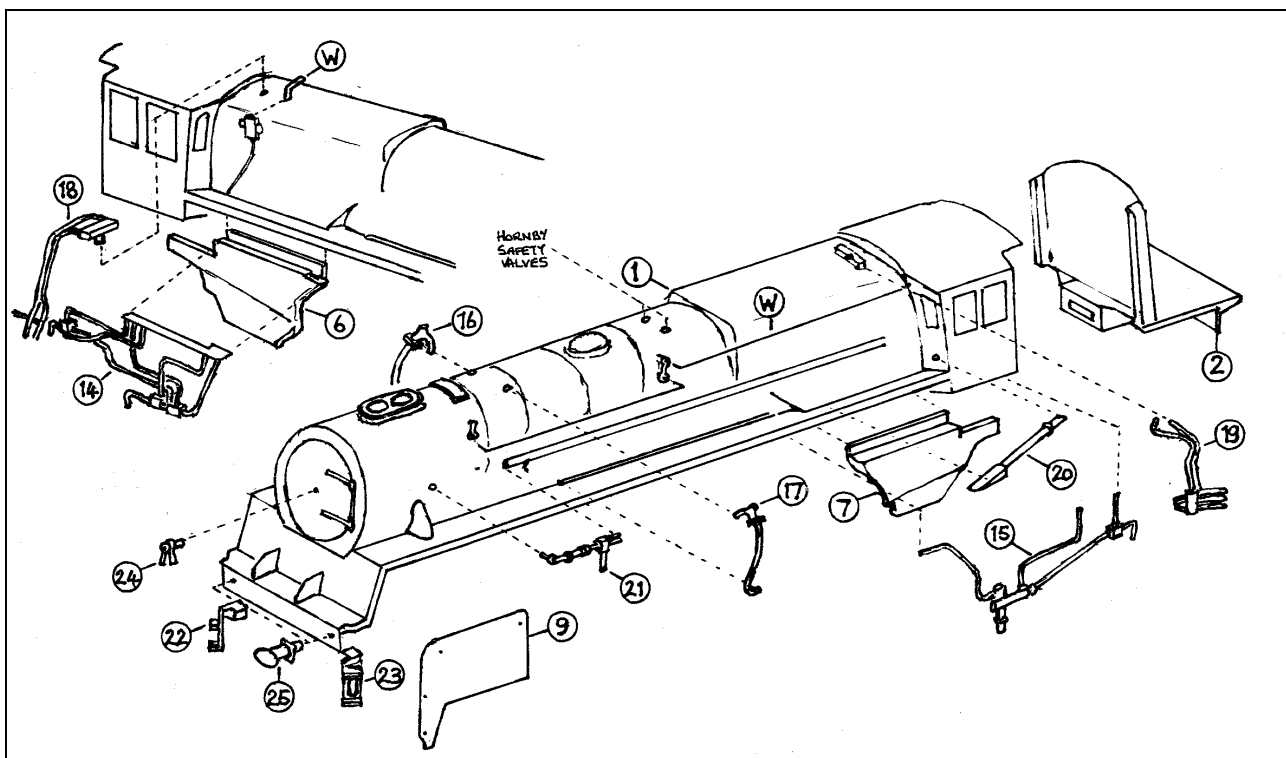
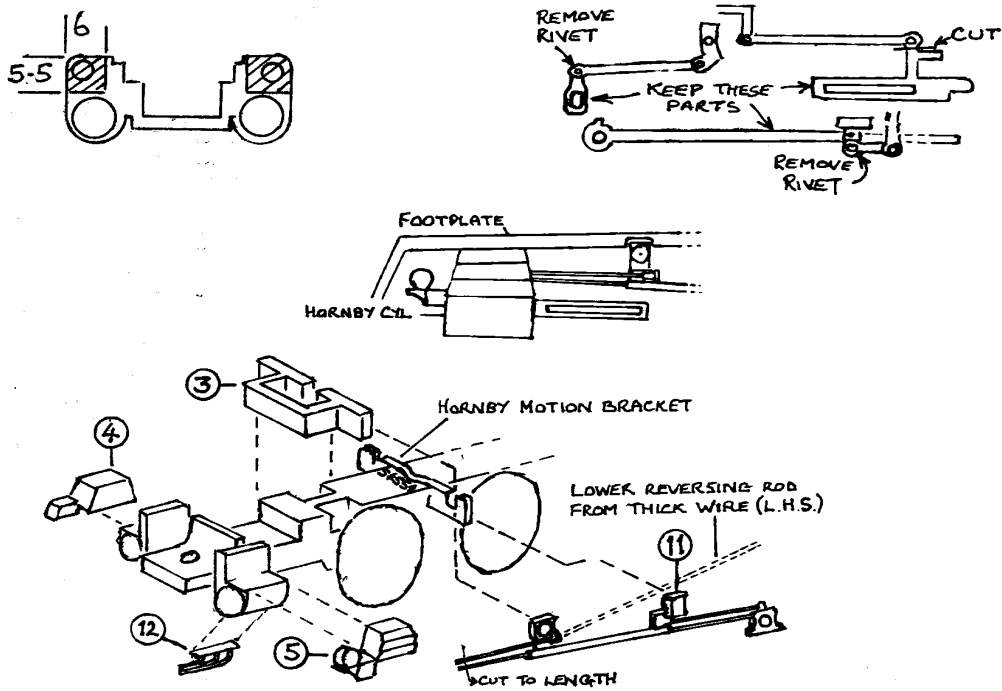


Diagram 1 (top) chassis modifications
 " 2 (above) Superstructure assembly