

GWR/BR Mermaid Ballast Tipper

2mm: ft Scale, shop code 2-700.

The following items are required to complete the model but are not included in the kit: top hat bearings 2-041, couplings, wheels 2-005 or narrow profile N gauge wheels 2-027, buffers, wire for brak shaft and other details, vacuum cylinder 2-346 (BR version only) and additional weight (sheet metal maximum 1mm thick or lead shot available from Eileen's Emporium). Soldered construction is recommended for the chassis; all holes for wire details (e.g. brak shafts) should be drilled or pricked out before the component is removed from the etch. Note that painting and finishing is most easily done before final assembly of the body and chassis.

Ribs in Sides of Cast Resin Body.

The vertical ribs in the body sides are very thin and delicate, and some have been damaged during removal from the mould. Etched replacements are to be found in the frames of the etched axleboxes and springs LAYER 1 and LAYER 2. Scrape out from the resin body any ribs requiring replacement (or all of them if you wish to avoid damage to the ribs during future handling). The etched replacement ribs should be fitted with the 'tabbed' edge to the back, and note that these etched ribs are slightly tapered so that they can be wedged into place prior to application of Superglue. The etched ribs on LAYER 2 are very slightly taller than those on LAYER 1 – choose the size which wedges into place most easily without being loose.

Assembly of Axleboxes and Springs.

Remove the brake levers from LAYER 1 of the axleboxes and springs. Pre-tin all contact surfaces of the axlebox and springs components within the three frames denoted LAYER 1 to LAYER 3. Assemble the three layers in a stack, LAYER 3 on top, and align the three layers by means of top hat bearings temporarily fitted through the holes in two diagonally opposite corners of the frames. Tack solder the three layers together in several spots around the perimeter and then remove the top hat bearings.

Now sweat together the three layers of the axleboxes and springs, ensuring that all parts are flat and the three layers are compressed tightly together, see photo 1. This photo also shows the subsequent steps necessary to complete the axleboxes and springs as follows:

Top left, the three base layers of the axlebox and springs have been sweated together as described above. Cut the tab as shown, fold and attach the fourth layer of the axlebox into place as shown top right. Now release and fold over the 'window' containing the fifth layer of axlebox, and attach this outer layer of axlebox as shown bottom left. Finally cut the tabs which hold this fifth layer of axlebox in the 'window' and break off the 'window' at its hinges to leave the completed axlebox and springs as shown at bottom right.

Assembly of Inner Chassis.

Refer to photo 2, which shows the BR vacuum fitted chassis only; the GWR unfitted version is simpler and the variations in the assembly process for the GWR version are described here. The 2-hole brake linkages parts 19 are not used in either version.

BR Version.

Remove from the etch the chassis part 17 (marked 'BR'), and fold the W-irons/solebars into place. Fit top hat bearings 2-041 for the wheels. Now fit the two longitudinal ribs parts 13 and 14, followed by the three cross ribs parts 2 and the four diagonal ribs parts 4 (N-gauge modellers using the 2-220 wheelsets please note that the clearances of the diagonal ribs from the backs of the wheel flanges are very tight and some filing, grinding or deliberate bending of the diagonal ribs may be necessary to achieve adequate clearance). Next locate the brake units parts 12 and 24; part 24 must be fitted so that the segment marked 'vac' is where the vacuum cylinder is later to be located, and after fitting this part 24 the 'vac' segment should be cut out. Now fit the clasp brake yokes parts 6 (these are within the frames marked TOP LAYER and BOTTOM LAYER; do not release or disturb any other components within these frames), the brake linkage part 11, the vacuum cylinder and its connector part 18, and all of the wire brak shafts (leaving sufficient wire projecting from the main brak shaft for attaching the brake levers later on); the chassis should now look as shown in photo 2.

GWR Version.

Remove from the etch the chassis part 16 (marked 'GWR'), and fold the W-irons/solebars into place. Fit top hat bearings 2-041 for the wheels. Now fit the two longitudinal ribs parts 13 and 14 (remove the V-hanger from part 14 first as it is not required), followed by the three cross ribs parts 2 and the four diagonal ribs parts 4. Next locate the brake unit part 1; it must be located on the 'cam' side of the chassis, i.e. the side with the two-hole V-hanger; there is no equivalent brake unit for the other side of the chassis. Add the wire brakeshaft leaving sufficient wire projecting from the ends for attaching the brake levers later on.

Assembly of Outer Chassis part 3.

Fold the bottom flanges and solebars into place as shown in photo 3, followed by the buffer beams (note that the overall width of the projecting bottom flanges should exactly match the length of the buffer beam). Form the step irons at the right hand end of each solebar, using the fold lines in the surrounding 'U' shaped template as a guide, and then cut away or break off this template. Fold over the very tip end of the rail clamp (the half etched detail to the outside of the fold), but leave the whole rail clamp flat (i.e. in the same plane as the bottom flange of the solebar) as shown in photo 3.

Assembly of Inner and Outer Chassis.

The inner chassis should now be fitted into the outer chassis, either way around as the outer chassis is symmetric. Solder the two together around their perimeters with the bottom edges level along the solebars and buffer beams. Now is the time to fit the axleboxes and springs, followed by completion of the brake gear (brake hangers parts 15 followed by the brake levers; note that the BR version brake levers are parts 22 and 23 which were on LAYER 1 of the axleboxes and springs, whereas the GWR brake levers are parts 9 and 10 on the main etch). The rails clamps can now be folded down from the solebars. Rectangular buffer backplates are provided on the etch (not numbered) which may be useful at this stage if turned brass buffers are to be used.

Body Roller Tracks and Associated Gear.

Extract from the etch the complete frames of these components (marked 'TOP LAYER' and 'BOTTOM LAYER'), and remove parts 5 and 7 only from each frame (parts 6 will have already been removed if building the BR version). Using a similar process as for the axleboxes and springs, pre-tin the remaining components marked A,B,C,D, align the two layers by means of top hat bearings temporarily located through the holes provided and tack solder the layers together, then sweat the components together (avoid soldering the perimeter frame to the perforated plate of the parts marked A). Cut the assembled parts out, and they should be as shown at the bottom of photo 4. Bend into a 'U' shape parts 7 and fit them onto the chassis as noted on photo 5 (these parts are to ensure the roller track components A to D are held vertical and at the correct spacing). Now attach the parts A to D as shown in photos 5 and 6 to form the roller tracks; side 'A' of the taller track should face towards the centre of the wagon whereas side 'D' of the shorter track should face outwards towards the buffer beams. All of these roller track components should sit firmly onto the bottom flanges of the solebars, and once they have been correctly positioned, the top perforated flap of part A/B can be folded over to engage onto the top of part C/D.

Parts 5 are representative of the mechanism to restore the body following tipping. Fold as shown in photo 5 and thread a piece of wire through the upstanding brackets, leaving a small amount projecting each side. Fit these parts against the side face of the taller roller tracks, using the fold-down 'tail' to centralise them on the chassis. The chassis should now be nearly complete as shown in photo 6.

Levers and Chains for Bodyside Doors.

See photo 7 (which also shows how the recesses on the underside of the body casting can be filled with lead shot in order to increase the total weight of the finished wagon). Remove parts 8 from the etch and fold them as shown top left of photo 4 (fold lines on outside of fold so that the marking 'OUTSIDE' is visible). Tack solder the chains together where they cross, and then cut out the whole levers and chains assembly as shown top right of photo 4 (parts 21 and 20 are spare loose levers and 'chain tails' for anyone wishing to replace the etched chains with 'real'

chain or twisted wire). Drill out the holes in the resin body for the lever pivots and glue the levers and chains onto the body using short cuttings of wire for the pivots as shown in photo 7. The 'chain tails' should be bent 90 degrees at the first fold line from the chain end so that the tails are pointing backwards ready to fit through the slots in the buffer beam when the body and chassis are finally assembled.

Final Assembly of Body and Chassis.

This is best left until all painting and finishing has been done. The perforated top plates of the roller track parts A/B locate in the relevant recesses on the underside of the cast body, however the body should sit firmly onto the horizontal shoulders of these parts A/B, leaving a gap of 1.5mm between the underside of the body and the general top of the chassis. The chain tails should pass through the slots in the buffer beams and be bent and glued against the back face of the buffer beams.

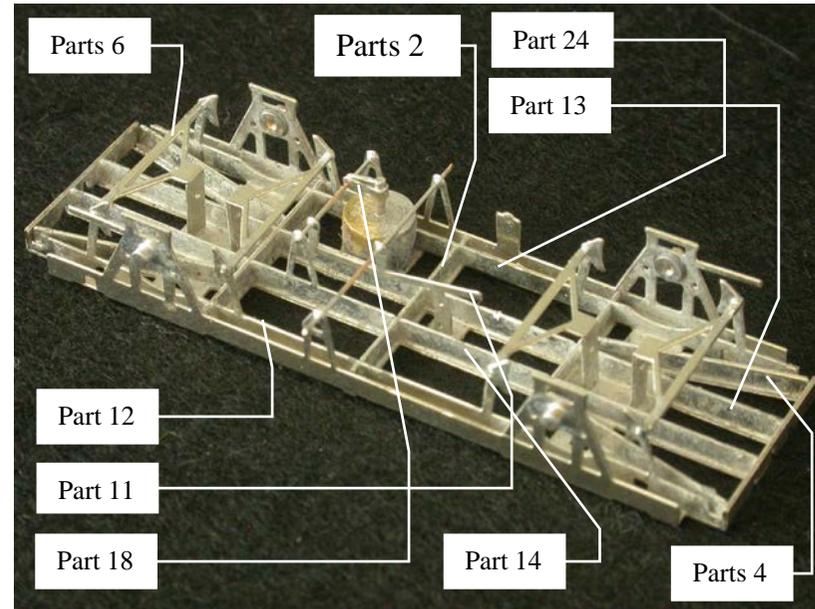


PHOTO 2

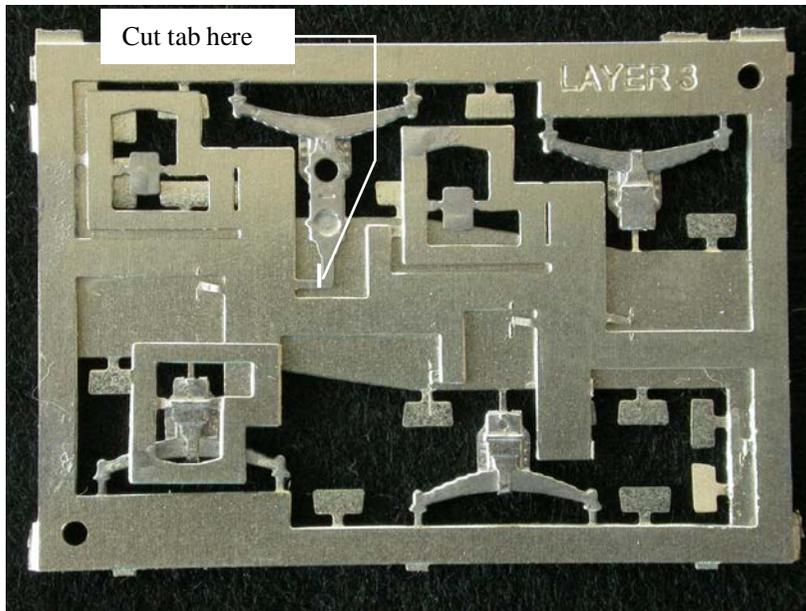


PHOTO 1

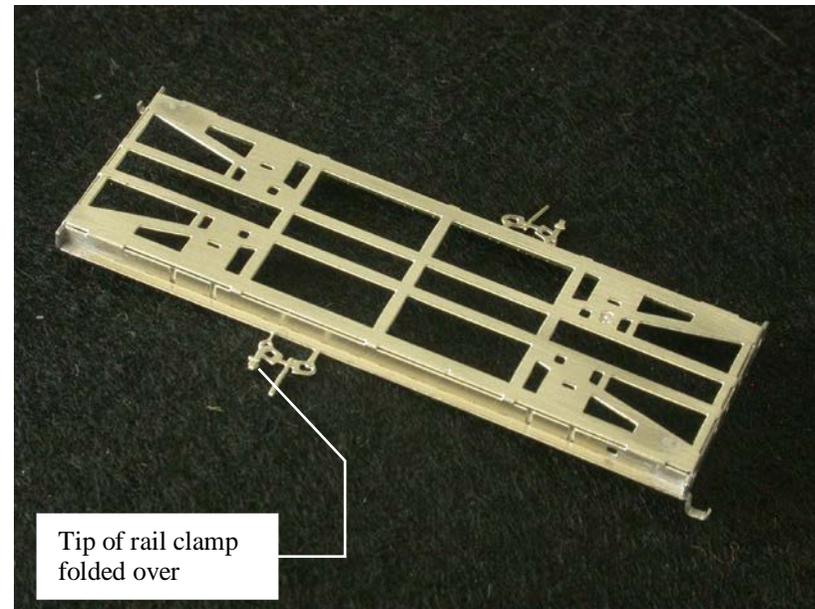


PHOTO 3

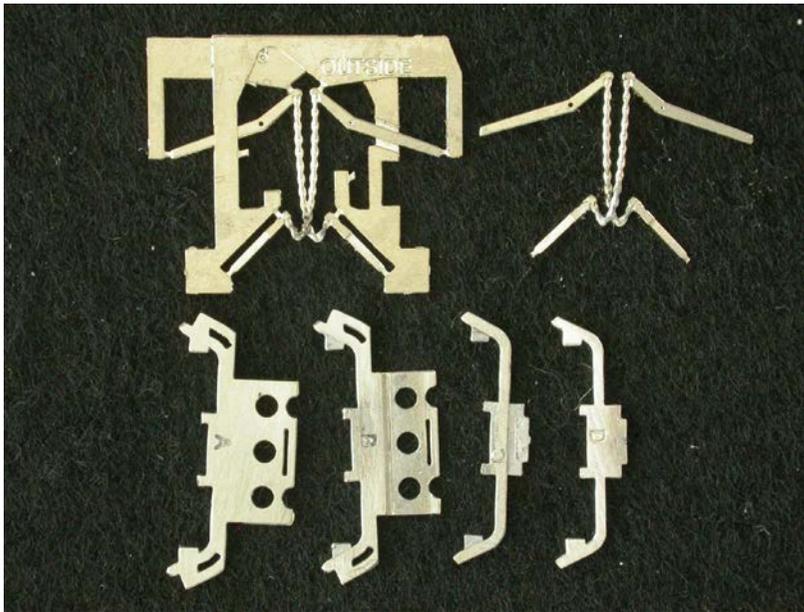


PHOTO 4

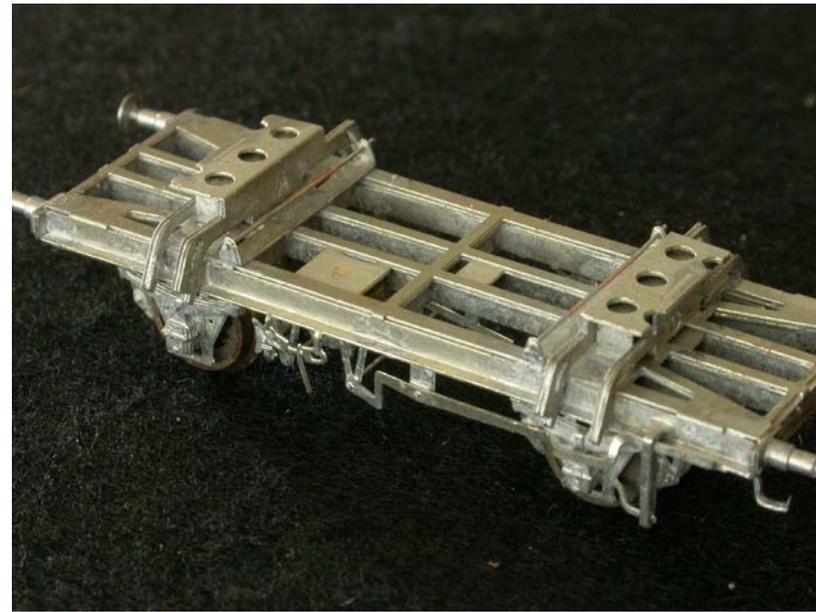


PHOTO 6

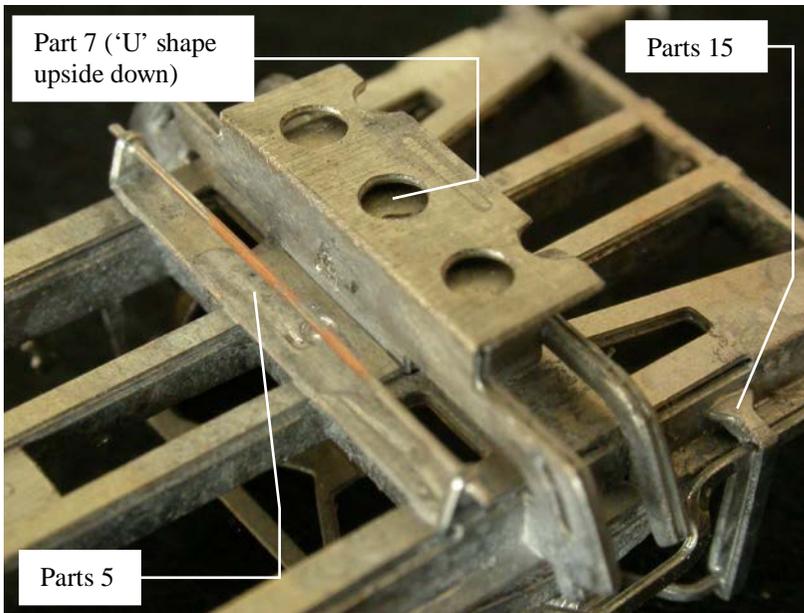


PHOTO 5

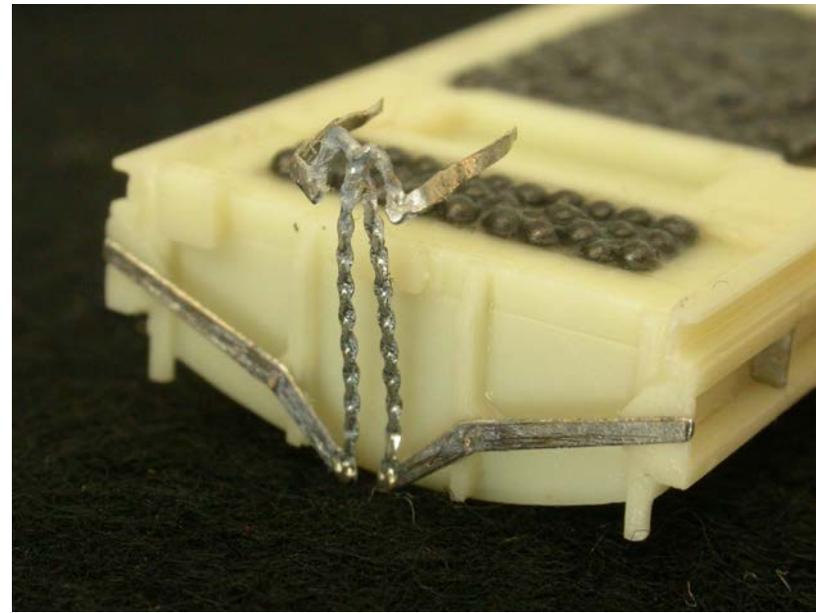


PHOTO 7 (end of instructions).