

Preparation

Basic items required are craft knife, tweezers, light flat file, round rat tail file, pliers, liquid plastic cement, 'super glue' and paints.

Construction

Note This kit can make one of several variations. Please check the Historical section to make your choice.

Assemble body. Choose either the original GWR all planked or BR with channel insert ends (2) and if you are not using the tarpaulin rail fill in the locating holes on both ends with modelling putty or fine 'Polyfilla'. Attach one end (2) to floor (3). Note that floor rests immediately above buffer beam. Then attach both sides (1) and remaining end (2).

Assemble chassis. For O32 only, cut the tiebars (34) off the solebar mouldings (11). Add solebars (11) to slots on underside of floor (3). They will require to be flexed in. Make sure that they fit snugly. Attach chassis members moulding (4) between ends (2) and solebar backs (11) with angled edges downwards. Assemble axle boxes by cementing the front (9) to its base plate (10). Use a bearing cup (7) to line both up. Push bearing cups (7) into axle box backs (8), insert into 'W' irons (6) and fit wheels in, checking that they turn freely. Note that for both parts (8) and (9) the correct way up is with the axle hole in the bottom half of the moulding.

Put a drop of 'super glue' on the end of each bearing cup (7) and add the axle box front assembly (9/10). Alternatively cement the axle box front assembly (9/10) onto the back (8). In any case ensure that the assembly moves freely on the 'W' iron. This will give an element of compensation. The axle box can also of course be cemented rigid onto the 'W' iron. Make sure that the axle boxes sit evenly under the springs.

Brake Gear. Add the Vee hangers (12 & 13) to the back of the solebars (11) at their centre points. Note that the two Vee hangers are marked 'X' and 'Y'. For simplicity the two sides of the wagon will be called either 'X' or 'Y' corresponding to their Vee hangers. For O32 slip the safety loops (15) onto one set of brake shoes (14) and attach the assembly to the cross members under the floor with the brake shoes in line with the wheels on the 'X' side of the wagon. Only one set of brake shoes is used for this wagon. For O33 add a second set of brake gear on the 'Y' side of the wagon. Use the diagram for the correct alignment of the brake gear. Cement the brake lever guides (16) and brake levers (17) and (18) into place. The 'cam' brake lever (17) should be on the same side of the wagon (the X side) as the 'cam' Vee hanger (12).

For O32, cut a piece of the thick plastic rod for the cross shaft (19) to fit as indicated between the brake shoe assemblies / 'Y' Vee hanger.

Assemble buffers. Choose the four buffer castings (27) from the middle of the sprue and with a spot of 'super glue' attach the buffer ring (26) to the end of each casting. These parts are moulded from ABS material which is not amenable to most plastic cements. Slide the spring (25) onto the shaft (24) and secure with the 12ba nut (28). The buffer castings make a tight push fit into the holes on the buffer beam. Note that the short web on the casting should be uppermost.

Assemble coupling chains (20) with either three links each for O32 wagons or using an Instantan link (35 GWR type/ 36 BR type) as the middle link for O33 vacuum fitted vehicles. Attach to eye hole of each coupling hook (21). Insert through buffer beam, slide on spring (22) and bend out ends to retain spring. Although the Instantan link is plastic it is designed to resist a force greater than needed to fully compress the coupling hook spring.

Remove the ejection pips from the ends of the door springs (38) and attach them to the solebars in line with the small plates on the doors. Note that these parts are also in ABS.

This completes O32, but for O33 the vacuum brake gear must be assembled. Take vacuum cylinder (29) and add trunnions (30) to either side. The thicker part of the trunnions should rest on the lip of the cylinder this will give the correct height for the cylinder. Attach underneath floor (3) with trunnions against longitudinal chassis member (4) and solebar (11), lined up with the circle engraved on underside of floor on 'Y' side of wagon. Slip the short lever (31) onto a length of the thick plastic rod for the cross shaft (19). Fit the plastic rod for the crossshaft (19) between the backs of the brake gear centres and cement the thin end of the lever against the shaft of the brake cylinder. Add the lamp irons (32) to the ends (2) as indicated. (Note that these are a BR addition). Attach the vacuum pipes (33) onto the buffer beams using super glue after first bending their tails up to 'disappear' behind the buffer beam.

For O33 assemble the tarpaulin rail. Bend the piece of brass rod (39) to the profile on the template and add the swing arms (40) fixing on with super glue. Make sure that this brass rod is bent evenly and not kinked and that the swing arms are in line. File a little flat on the brass rod where it is in contact with the swing arm. Cement the pivots (42) onto the wagon ends at the locating holes provided. Spring the tarpaulin rail / swing arm assembly into the pivot holes. Note that these holes are elongated. The tarpaulin rail should sit at the bottom of these holes and is lifted up in the holes to change its position. Finally remove the ejection pips from the top of the arcs (41) and cement them into place on the wagon ends. Their vertical position can be fixed by letting the lug on the front of the swing arm sit in the cut-out at the top of the arc. To move the tarpaulin rail from the vertical, it should be lifted so that its ends rise to the top of the pivot holes and the lug on the swing arm comes clear of the cut out in the arc. Out of use it will rest on the ends of the wagon.

Painting and Lettering

GWR. Body including underframes, buffer castings and running gear; GWR wagon grey (Railmatch 604).
BR. For non vacuum fitted wagons Body; grey (309). Solebar, buffer beam and running gear; black. The lettering, see below, was painted onto black panels. For vacuum brake fitted wagons the body was brown (323) and lettering was applied straight onto this colour. From the early 1960's, when the body shade altered to 235, buffer beams began to take the body colour as well. By this time it is unlikely any non vacuum fitted wagons were in service.
Refer to drawings for GWR and BR lettering styles.
From 1936 the tare weight was in the italic figures used in the previous style. White stars were painted on the solebars to show the position of the vacuum brake release cord. Five pointed stars were used up to 1936, thereafter six pointed stars were in vogue.

This kit is supplied with self adhesive type transfers. Ensure that the painted model is free from dust and grease. Remove the protective tissue from the transfer sheet and with a sharp knife cut lightly round the transfer required, through the tissue only and not through the heavy backing paper. Lift of the transfer and lay it very gently on the model. Adjust as necessary and then press down firmly. Soak the tissue with water and leave for 20 -30 seconds before peeling of the tissue. Wash of surplus gum and dry. Varnish if wanted, but cellulose varnish should only be air brushed on. Some transfers are for use on other models.

Historical

Between 1934 and 1940 the GWR built 11755 unfitted open goods wagons to diagram O32. For express freight traffic a further 1048 wagons (diagram O33) were built with the vacuum brake and tarpaulin rails. The GWR was particularly keen on these devices, which when raised gave the tarpaulin (or in railway parlance 'sheet') the profile of a pitched roof and facilitated the run off of rain water. A recurrent problem with open goods wagons was damage to the end planks and indeed the GWR had built these wagons with thicker end planks. BR went a step further by replacing the bottom two end planks with a steel fabrication on many repaired wagons. From the middle 1950's most of the O32 wagons were given vacuum brakes to the same pattern as their O33 kin. These wagons would also use instanter couplings. BR started using a flatter version of the instanter (36) from the late 1950's and this might have replaced some of the earlier rounder GWR type (35). (See also note below). Apart from the O33 wagons which were 'non-pool' before the outbreak of the 1939 war these wagons were 'common user' and worked generally throughout Britain. From 1939 the capacity was increased from 12 to 13 tons. This design lasted in traffic until the early 1970's.

Instanter Couplings. These were adopted by the GWR to replace screw couplings on vacuum fitted goods stock. In the late 1950's they were taken up by BR, who used a flatter cross section coupling than the GWR style. The Instanter was cheaper, lighter and easier to use than the conventional screw coupling. The diagram below shows two positions of the coupling. The long position was used if the vacuum brake was not connected and the short position if the vacuum brake was in use. Note that for model railway purposes the 'short' position may draw the wagons too close together for running safely through tight track work.

Number series. O32 122996 - 3000; 124001 - 145; 127001 - 8886; 128987 - 133206; 134337 - 5896; 136345 - 494; 136697 - 7671; 137697 - 7671; 137697 - 8394; 138397 - 139196; 140069 - 141014, and various numbers from withdrawn wagons. O33 128887 - 986, 133207 - 706, 135897 - 6344. After Nationalisation in 1948, these numbers took a 'W' prefix.

Reference; A History of GWR Goods Wagons, Atkins, Beard, Hyde and Turret, David and Charles.