

PARKSIDE DUNDAS

Instruction Sheet

PS105 GREAT WESTERN RAILWAY HORSE BOX N13

Preparation

Basic items required are craft knife, tweezers, light flat file, round rat tail file, pliers, 0.5mm, 1.5mm, 1/32" 3/64" drills, liquid plastic cement, 'super glue' and paints. The parts on the black sprues are moulded in ABS material. This is a very tough plastic and will not stick with ordinary polystyrene cement. A strong cement such as MEK or Plastic Weld or superglue is recommended. Always check the fit of parts before fixing into position.

Construction

Body. Cut two each glazing pieces 16 x 10 mm and 18.5 x 9 mm and fit into place in the grooms' compartment door and window spaces respectively. You will have noticed that the sides are 'handed'. For reference the side with the grooms' compartment to the left is side **(V)** and the other is **(W)**. These letters are marked on the inside of the respective sides and will be used as identifiers during construction. The ends are also different. The end with the extra detail **(X)** goes nearest the compartment. *(Tip, at this stage check that the solebars **(8)** fit cleanly into the slots on the underside of the floor.)* Smooth down any round moulding marks on the inside of the sides in the area of the compartment. Attach one side to its adjacent end and then add the remaining side and end. Add the floor **(2)** from underneath. Note that the floor is marked with the particular sides and ends which it should locate with. The floor sits under the locating ledge on the sides **(V)** and **(W)**. Add the compartment dividers **(3)**. The face with the seat back fits at the window end of the compartment and the plain face at the door end. Both dividers fit on the compartment side of the two vertical locators on the sides. Take the seat **(7)** and fix above the two horizontal locators on the compartment sides. You can add the roof at this stage or later as suits. Place the roof with the two small handrail holes at the compartment end **(X)**.

Chassis. Remove the small vacuum cylinder hanger **(D)** from one solebar **(8)** only. This will be the **(W)** side solebar. Fix the Vee hanger **(24)** to the other solebar, which will be the V side. Assemble the axle boxes by cementing the axle box body **(21)** to its base plate **(20)**. Use a brass bearing cup to line them up. Push bearing cups into the axle box backs **(19)** and insert into 'W' irons **(18)** from the back. Put a drop of 'super glue' on the end of each bearing cup and add the axle box assembly. Alternatively cement the axle box assembly onto the back **(19)** 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. Add the spring dampers **(22)** to the foot of the rods underneath the ends of the springs. Fit the axlebox/ 'W' iron assemblies to the pockets in the backs of both sole bars **(8)**.

Make up the coupling hooks and chains. Slide each assembly through the hole in the headstock **(9)**, slip on the spring and bend over the tails to hold in the spring. The prototypes were fitted with screw link couplings. We have supplied only this simpler version because as many of our customers use different coupling systems screw couplings are an avoidable cost.

Fit one solebar **(8)** into the slot under the floor on its appropriate side. Attach an adjacent headstock **(9)** and the remaining solebar and headstock. Slip in the wheels and check that they turn freely. Check the solebars and W irons are vertical and leave to set. Once this is ready, add the sub chassis **(4)** to the underside of the floor - side with flats downwards. On the sub chassis there is a wider area piece on one longitudinal member, this should be nearer the **(W)** side of the vehicle. Add the inner Vee hanger **(24)** against this piece. The Vee hanger will not reach the underside of the floor, but make sure the holes in both Vee hangers line up.

Attach the brake shoes **(23)** to the cross members **(4)** under the floor with the brake shoes in line with the wheels. Take the vacuum cylinder **(3)** and fix the support **(6)** into it. Attach underneath the floor **(2)** with the support located between the two parallel locators on the **(V)** side of the floor. Fit both halves of the gas cylinder **(10)** together and add the end caps **(11)**. Fix the two gas cylinder support pieces **(16)** into the two locators on the **(W)** side of the floor and locate the gas cylinder in their slots.

Brake rigging. These assemblies are shown in the diagram. Clean out the holes in parts **(30, 31 & 34)** with a 1/32" drill. Cement the two parts of the double levers together at the spacer on **(30)** and the corresponding hole on **(31)**. Take the short yokes **(33)** and fit their lugs into the set of holes second from the top in the double levers **(30 & 31)**. The long yokes **(32)** should be fitted with their lugs in the holes at the top in the double levers. Make up the hanger **(34)** by cementing the two

blocks together. Now add the double lever assembly to the hanger. Note that one side of the hanger is sloping; this side should be facing the shorter yoke. The double lever has two lugs between the sets of holes for the yokes. These lugs fit through the holes in the hanger (34). The long yoke (32) goes above the axle, so remove the wheels temporarily at this stage. It is suggested that the short yokes (33) should be fitted to the outer brake shoes (23) first, then the inner shoes connected to the long yokes (32) and finally the hangers (34) fixed to the locating pockets under the floor.

Refer to the diagrams for the correct alignment of the brake gear. Take one of the pieces of plastic rod (if necessary may be sanded down to fit the holes) - slide on the brake cylinder crank (49) and the cross shaft lever (35). Fit this assembly through the two Vee hangers (24). Cement the brake cylinder lever (49) onto the piston of the vacuum cylinder (5).

Take an 80 mm section of the 1/32" brass rod and make a hook around one end. Hook this onto the bottom of the double lever (30 & 31) at the (X) end of the chassis and bend the other end into the upper hole of the cross shaft lever (35). For the other end of the vehicle cut a piece 50 mm long and similarly run it from the double lever there to the lower hole on the cross shaft lever. When finished cement the cranks into place on the cross shaft.

The Dean Churchward hand brake assembly is very awkward and we have taken the liberty of only representing a simplified version which will hopefully be cosmetically satisfactory. Add the brake hangers (25) at both right hand corners. The hanger on the solebar should be mounted on the back of the solebar with its right hand edge hard against the back of the headstock. The inner hanger should be mounted between the two locating bars again with its edge hard against the headstock. Looking at the hangers on the (V) side of the wagon. Take a length of the plastic rod and add the ratchet lever (50) to it through the large hole and fit this between the two hangers. Fold up the brake lever (38). Gently bend the lever downward at 45 degrees from the handle end and at the pivot end bend it upward at a similar angle and add it to the end of the plastic rod. Do not cement at this stage. Repeat this operation at the opposite corner, this time using the crank (48) instead of the ratchet lever. Take a length of 1/32" brass rod and run it between the hole in the crank (48) and the top hole in the ratchet lever (50). Align this rod 5mm from the centre line of the chassis on the (W) side.

Body details,

Fit the gusset plates (12) as indicated on the diagram between the five bases on the solebars (8) and the floor under side. Going from left to right the gusset plates sit the following sides of these bases left, right, left, left and right.

Make up the foot boards. Fix the assemblies into place on the solebars when they are fully set. The foot board supports fit into the locators on the under side of the foot boards. Foot board (15) goes with the short supports (46) under the double doors as in the drawing and footboards (13 & 14) under the compartment using the adjacent axle box as the centre line. Foot board (14) is the lower on this assembly. If necessary trim a little, if it interferes with free movement of the axlebox. Make up the four small end steps using supports (44) and steps (47). Fit at each corner. The vertical support (44) lines up with the vertical side of the DC brake hanger. Once the right hand step on each side is in place, you may finally fix the hand brake lever (38) into place in front of the step support.

Fix in door handles (51) – warning these are very small and liable to fly!

Assemble buffers. Add the rings (56) to the front of the buffer bodies (57). Slide a spring (58) onto the shaft (55). Slide into buffer body (56 & 57) and secure with the nut (59). The nut should also be secured with a drop of Loctite or similar. The buffer castings make a tight push fit into the holes on the buffer beam the curved portion of the buffer base should face upward. The buffers should be 11.5mm long overall measured from the base of the buffer.

End details. (V) end only. Cut two lengths of the brass rod 56 mm (62) and 55 mm (63) respectively. Bend (63) as in the end diagram. Fit these as shown. Add the communication rod covers (36 & 37) as indicated. Then add the foot steps (39, 40 & 41). The small locating pip on each fits into the appropriate hole in the end. Remove the locating pip on one pair of (39) for the lowest step on the headstock. Note some of these steps have their fixing bracket on top and the others below. Both ends. Add the side tail lamp brackets (42). Most vehicles are noted with ordinary tail lamp brackets (43) later in their careers. Another later modification was the addition of strengthening end stops (17). The location of these additions are shown in the diagram.

Roof. Make up seven gas lamps with body (26) and top (27) and position these on the discs one the roof (1).

Handrails. Using the thin brass rod, make up two each staple shapes 7 mm, 7 mm and 10 mm long with 2.5 mm ends. These go in positions **(A)**, **(B)** and **(C)** respectively. On the roof drill the two holes at the **(V)** end with a 0.5mm drill. Similarly drill out on end **(V)** the two holes at the end of the handrail. Make up the end handrails **(64)** as in the diagram.

Historical. 300 of these horse boxes were built by the GWR between 1922 and 1930. Some lasted well into BR times. They were part of a gradually evolving design which was still being used upto the Second World War. Horse boxes tended to be used for the more valuable examples of horse flesh such as race horses, hunters and horse ridden privately. As such the horse boxes would venture many miles from the GWR. Invariably when loaded they would form part of a passenger train or possibly a parcels working, although race and hunt specials were also once a feature of railway operations. The small door beside the grooms' compartment gave access to stowage for unused partitions from the horse compartment. Usually grooms travelled with the horses and their modestly upholstered compartment had a hatch through which to check on the horse. The box was designed to take three horses stabled facing the grooms' compartment. The double doors led to a store for fodder and tack.

Numbers Series. 303/5/7/10/13/17/21/22/25/30/33-36/42/44/46/49/57/58/63/67/70-73/75 /80-83/85/87/96-401(1922) 223/25/28/36/37/39/40/ (1922); 144/46/52/53/56-61/63/64/68/69/892-927 (1925); 147/48/76/80/81/83/86/89/90/99 (1926); 241/44/47-49/53/55/56/58/59 (1928); 263-67/71/74/76/83-85/88/91-95/98-300/306/29/37/61/86 (1928); 273/394/95/421/23/26/40-48/50/52/53/60/76 (1930) From 1948 numbers take a W prefix.

Painting and Lettering. GWR Body - sides only GWR Brown (Railmatch 602), ends black. (Russell states from at least 1927 ends were painted black.) Solebars, headstock and below black. Roof - white weathering quickly to grey. Handle end of brake lever white. Label clip board, black.

BR as for GWR except body sides are painted maroon (306).

Transfers: This kit is supplied with WATERSLIDE transfers. Ensure the surface is clean and free of grease. The best results can be achieved by painting the base colour in gloss or applying a coat of Microsol or Microset. Cut out the required decal complete with backing paper and soak for around 15 seconds in lukewarm water. Slide the decal off the backing paper into position, lining it up with a match stick or similar. When in position press gently down with a tissue soaking up the surplus water. If desired finish with a coat of matt varnish.

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