

BR 8-Shoe Clasp Brake Vacuum Fitted 10' w/b Underframe Etch

This kit represents a British Railways 10 foot wheelbase, eight shoe clasp brake, vacuum fitted underframe and was common under many BR wagons constructed during the 1950's. The etch was designed to suit the Association BR Palbrick B & C Wagon (part 2-564) project and has been made available as a separate item. There are alternative solebars provided; those originally intended for the Palbrick B with standard axleboxes and those for the Palbrick C with roller-bearing axleboxes and centre line support bracket mountings. The brake gear is quite complex and can be simplified if required by omitting the yokes and pull rod.

To complete this kit you will also require:

4 No	2-041	Brass Top Hat Bearings	<i>(only sold in packs of 50)</i>
1 No	2-346	Turned Brass Vacuum Cylinder	<i>(only sold in packs of 5)</i>
2 axles	2-2XX	6mm Wheels on 12.25mm Axles	<i>(pattern to choice- most commonly 3-hole disc)</i>
1 Set	2-4XX	Brass or Whitemetal Buffers	<i>(pattern to choice)</i>
1 Length		0.3mm Dia Straight Nickel Silver or Brass Wire	

- Carefully remove the main underframe unit from the etch.
- Using a suitable broach ream out the axle holes until turned brass top-hat bearings (2-041) are a push fit. Ream out the small holes in the vee-hangers to suit 0.3mm wire.
- Bend down to 90° the axleguard/solebar sides using a pair of bending bars or a small vice. As usual the half-etched fold lines go on the inside of the bend. Bend down the buffer beams using a small pair of smooth flat pliers. If you wish to make use of the integral coupling mounts these should now be folded down out of the baseplate, formed to shape and soldered in place.
- Carefully solder in the top-hat bearings ensuring that they are fully seated into the half-etched recesses. Test fit a pair of wheels (on 12.25mm axles) and check for free running. Carefully adjust the axleguards if required. The wheelsets should spin freely for 10 or 15 seconds when flicked, but should not be so loose as to fall out easily.
- The cosmetic solebars fold over to form a double thickness piece. Pre-tin with solder the two inner mating surfaces before removing from the etch. Remove from the etch but be careful not cut the two 'hinge' tabs connecting the two halves. Fold over and then sweat together, ensuring the two halves are accurately aligned. Carefully file off the two 'hinge' tabs from each solebar. On the roller-bearing type solebar the centre line support bracket mounts need folding back on them selves and sweating to the solebars, or cutting off and discarding if your wagon prototype does not require them. The solebars include etched spring detail. You may prefer to use separate cast whitemetal springs and axleboxes in which case the etched ones may be cut off prior to fixing.
- Solder the solebars to the main underframe unit ensuring that the top edges are parallel and that the springs fit neatly over the top hat bearings. Be careful not to disturb the top-hat bearings!
- The etch includes axlebox covers. You can use these or separate cast whitemetal ones. The etched ones are formed by folding together three layers (four on the roller-bearing type) using the etched tabs as hinges. Again pre-tin the mating surfaces before sweating together. A pair of fine point tweezers are useful for manipulating the layers into alignment before soldering. Carefully file off the hinge tabs after soldering. Solder to the spring units.
- If your chosen body does not include integral buffer-beam detail you will need to use the separate ones supplied on the etch. These can be aligned onto the main u/frame using dressmakers pins as temporary aids or fit turned brass buffers (2-443) at the same time (on Palbrick wagons leave fitting buffers until later). Etched draw-hooks and plates are supplied for detailing these buffer beams, but be aware that these hooks may foul your coupling latches if using DG's or BB's.
- On the main brake unit ream the vacuum cylinder mount point to clear the mounting spigot on the turned brass cylinder (2-346). Remove the brake unit from the etch and fold down each side to 90°, then fold down the brake yoke supports to 90° also. Locate the brake unit into the main u/frame base unit using the tabs and slots provided. There are long and short tabs to ensure assembly the correct way round.
- Ream out the two additional centre vee hangers to suit 0.3mm wire then locate tabs into slots on main brake unit base and solder up. You may wish to align these with a length of wire through the outside vee hangers, but do not solder the wire in yet.
- Ream out the vacuum cylinder linkage arm (the small strap with a hole at one end on the etch next to the central brake pull rod, a spare is provided) and the central brake pull rod to take 0.3mm wire.
- Thread a length of 0.3mm wire through the cylinder side outside vee hanger, then thread the vac cyl arm onto the wire, keeping the half-etched side facing inwards. Take the wire through the first central vee hanger and then thread the central brake pull rod onto the wire, taking care to get it right way up (see diagram). Take the wire through the next central vee hanger and onto the other outside vee hanger and tack solder on the inside of each end, but keep the vac cylinder linkage arm and pull rod free to move for now. Leave 4 - 5mm of wire projecting from each side for the time being.
- Cut out the two brake yokes. Do NOT trim back the pimples on the 'pointed' ends – these are there to locate into the brake shoes. The holes in the yokes which take the pull rod ends may need reaming out slightly to accept them. Fold yokes to shape and locate onto the support points, at the same time locating the brake pull rod ends into the relevant holes. Solder up square. Locate the pointed yoke ends into the brake shoe holes and solder up. Test fit wheels again and check brake clearances.
- Solder (or glue) the turned brass vac cylinder onto the bracket on the brake unit. This bracket can be bent down a few degrees to put the vac cylinder on an angle. Refer to a photograph of your chosen prototype to get this right. The etched vac cylinder arm linkage which you previously threaded onto the cross-shaft wire can now be aligned with the

- centre line of the cylinder. The end of the arm bends around the piston rod on the cylinder and needs to be soldered back on its self.
15. Ream the holes in the brake levers to 0.3mm and remove from the etch. Fold up as per the illustration. There are profile guides etched into the fret to assist you with this task. Be aware that there is a plain lever and a reverse link lever and a vee hanger to suit each! Thread the lever over the cross-shaft wire stumps and locate the lever guide bracket on the other end into the hole on the sole bar. This bracket can then be soldered from the rear of the solebar. The solebar hole may need opening out slightly first. The non-prototypical strengthening strap on the bottom of the brake lever guide can be bent back and soldered to the axleguard (w-iron), or cut off and discarded, as you wish. The reverse-link lever needs a further short piece of 0.3mm wire for it's pivot. Trim the wires back flush with the levers once they have been soldered in place.
 16. If using whitmetal buffers, springs & axleboxes these can now be fixed in place (Not on wagons like Palbrick – do this after fitting the body)
 17. The etch includes u-shaped safety cradles which on the prototype prevented failed brake gear from falling to the track. These can be fitted after the wheels have been inserted, but will make subsequent wheel removal impossible unless the cradles are first removed. Locating holes for these rods are provided on the main baseplate. Most modellers will elect to leave these off.

THE 2MM SCALE ASSOCIATION

INSTRUCTIONS

10" WHEELBASE 8 SHOE VAC FITTED CHASSIS - PART - 2-357

