Masterclass Models

BR Diagram 751 Horsebox

Historical Notes

BR constructed 115 horseboxes using many Mk1 coach components to replace aging vehicles inherited at nationalisation. Unfortunately, if unsurprisingly, the traffic they were designed to carry was rapidly lost to rail, and all were withdrawn by 1971. They were allocated mostly to the Eastern and Southern regions, and carried maroon and green liveries, as those who have the old Hornby-Dublo model will recall. I'm afraid I don't model the opening doors or the plastic horse!

Assembly instructions

Parts required

1 x	Horsebox etch
4 x 2-041	Rolling stock axle bearing cups
2 x 2-004	7mm Coach wheels
4 x 2-160	Coach Buffers
1 x	dynamo. The horsebox dynamo is smaller than the standard BR one.
1 x 2-346	Turned brass vacuum cylinders
12 x	roof vents. The horsebox has unique hexagonal roof vents

Perspex or glass (microscope cover slides) for glazing
0.3mm brass or nickel silver rod
paints and transfers.
solder and tools

General

This kit is designed for adults. It should not be given to children under 16.

Certain parts of the etch are very delicate, and therefore care is needed when cutting both them and adjacent parts out. Spares are provided of certain small or delicate items.

Although I suppose it would in theory be possible to assemble the kit using superglue, for these instructions soldered construction is assumed.

Unless otherwise indicated, fold lines for 90 degree folds are on the inside of the fold, for 180 degree lines on the outside of the fold.

Parts on the etch are numbered. An enlarged picture of the etched fret is provided for clarification. Study this and the instructions carefully before beginning assembly.

Body

1. It is best to fit the cosmetic ends to the body carcass (part 1) before folding up the sides and ends. Fold out the lamp irons and on one end the alarm carriers. Ensure that all parts are absolutely square with the end, as the fit with the cosmetic end is very precise.
2. Cut out the cosmetic ends (parts 2 and 3) required. For the alarm ends, two choices are provided, (parts 3a and 3b) one for providing your own alarm gear with wire, the other with the alarm gear etched on. Ensure that all slots are sufficiently wide to fit over the steps etc on the end. If necessary, open them out gently with a scalpel, small broach, or drill.
3. Insert the two lamp irons into the cosmetic end. Then gently ease the end over the alarm carriers. This is a delicate operation, proceed carefully and make sure you are in a calm frame of mind.
4. Ensure the cosmetic end is fully seated against the inner end – this is important as the total length will only match the side if it is, solder it in place.

5. Repeat Steps 3-4 for the other end.
6. Fold up the body carcass, first the ends followed by the sides. As the inner sides will provide support for the cosmetic sides, it's important the fold is even along its length, so use bending bars or a Hold-and-Fold if available, and score the fold line to make the fold easier. Solder up the corners between sides and ends, making sure the ends are square to the floor.
7. Cut out, fold up and solder in place the end steps (parts 4 and 5).
8. Cut out and fit the interior dividers (parts 6 and 7). These fit into slots in the body carcass.
9. Cut out the door strapping (parts 8) together with its surround. The surround has locating holes which match those in the surround to the cosmetic sides (parts 9). Using axle bearing cups or 1mm rod as location guides, solder the strapping to the side and cut away the surround.
10. Fit the door stop etches (parts 10) into the slots provided in the sides.
11. Cut out the cosmetic sides. These have supplied preformed to the curved profile.
12. If fitting door handles and grab rails, either with the provided etched parts or brass wire, open out the holes provided using a small drill and/or broach. There are two additional marks per door on the rear side, these represent the positions of the door stops and can be pressed out with a riveting tool or drawing pin. Be careful in doing this.
13. Cut out the toilet ventilators (parts 11), and solder in palace. There should be one in each toilet window.
14. Fit the cosmetic sides to the body carcass. Hold in place with clips whilst checking precise location both horizontally and vertically. Tack solder the bottom corners in place and recheck location. Finally solder the top corners, and along the coach length.
15. Check the fit of the roof (part 12) to the coach and adjust if necessary.
16. You may now fix the door handles and grab rails, or if you prefer leave them until after painting and lining.
17. Solder in place nuts (10BA or M1.6 recommended) for body-underframe location. Alternative locations are included, choose those that suit you.
18. Make up the groom's seat from moulded coach seating strip.

Underframe

1. Fold up the main underframe unit (part 13), solebar supports first then bufferbeam supports. Solder axle bearing cups into place
2. If you will be using DG or similar couplings fold up the mounting box at each end of the underframe.
3. Solder on the two solebar overlays (part 14) by aligning over the axle bearing cups. Check with the body that these slide between the triangular strengthening pieces.
4. Fold up the four axleguard/spring etchings (part 15) into a Z shape and solder the three layers together. Now solder in place, again by aligning over the axle bearing cups, ensuring they are square.
5. Cut out the six upper footboards (parts 16 and 17). Note that the central two (part 17) are slightly shorter than the out ones. Fold the profiled section over 180 degrees and solder to the lower section – or simply cut it off if you don't wish to include it. Solder each footboard in place in the slots provided.
6. Similarly fold up the two central lower footboards and solder in place. For strengthening reasons, no fold lines are included on this part, but it is simply folded 90 degrees directly at the rear of the footboard, making sure you have the profiled surface facing upwards.
7. Fold up the small lower footboards from the solebar overlays.
8. Fold up the battery box (part 18). Add the cosmetic front cover (part 19) When this has been done, locate the battery box in the slot on the underframe and solder in place.
9. Fold the brake blocks into a U (part 20), and fold up the locating tag. Fold the brake stretchers (part 21) into a channel shape, and locate in place between the brake blocks, and supported by the locating tag. Solder the completed assemblies in place on the underframe.

10. Locate the vacuum cylinder in place in the hole provided in the underframe, and solder in place. Thread 0.3mm brass wire through the three V hangers, the brake rodding (part 22) and the vacuum cylinder levers (part 23, spares provided). Leave rod protruding from the V hangers for the brake levers.
11. Fold up the two brake levers (parts 24 and 25), noting that they are not identical. A template is provided on the etch for the horizontal shape, then the rachet section is folded. The brake levers are attached to the underframe at the V Hanger, in the slot in the solebar, and at the bottom of the axleguard.
12. Cut out the bufferbeams (part 26). If desired, solder on the etched overlays for buffer and coupling mounting plates (parts 27 and 28, spares provided). These are probably best done whilst still attached to the etch. Solder the bufferbeam to the underframe ends, ensuring by use of a flat surface the top surface is flush with that of the underframe. Test fit to body to ensure a snug fit.

References

1. British Railways Mark 1 Coaches, p189-192, Keith Parkin, Pendragon/HMRS
2. British Railways Coaching Stock in Colour p44, Robert Hendry, Midland Publishing
3. British Railway Non-Passenger Coaching Stock, pp50-52, Goeff Gamble, Cheona Publications
4. BR General Parcels Rolling Stock pp12-13, David Larkin, Blandford Barton