
RAGSTONE MODELS

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LBSCR Horsebox Kit

Diagrams 142/274 and 143/275



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West Midlands
B65 9SH

LBSCR Horsebox

History

The LBSCR constructed these two horseboxes in 1907. They were used for general horse traffic as well as farm removal specials, and in this role travelled far and wide. One of the few photographs of them is in a farm special north of York on the ECML!

Originally air braked, vacuum brake/through pipes were fitted later. Provision is made to fit full vacuum braking if required.

Withdrawal occurred in the mid 1930's in line with most Brighton stock, both were then transferred to service stock and painted grey. Final scrapping was 1948 or later.

Numbers

Dia 142/274 (Two grooms' compartments)

LBSC 141, SR 3316, 1759S Tare 10-15

Dia 143/275 (One grooms' compartment)

LBSC 142, SR 3317, 1762S Tare 12-13

Livery

1907-1923 (and later)

Body LBSC umber with gold lining to panelling on sides. Black underframe.

1923 – mid 1930's

Body SR olive green. Black underframe.

1930's – withdrawal

Body Grey, Black underframe

References

Drawings – available from the Brighton Circle

Photos

Brighton Circular V20 no4 P119 - 3316 mid 30's

Lens of Sutton collection DC/58 – 1762S in 1947

Introduction to kit building

Etchings

Cut the brass parts from the fret using a *sharp* craft knife (or similar) on a firm surface rather than using tin snips as these can distort the delicate etchings. The etching process leaves a small 'cusp' on the edge of the parts which should be gently filed to remove, along with any remains of the tab. This is essential to enable the parts to locate accurately as well as providing a smooth edge, which as well as looking better, provides a better surface for the paint to stick to.

Castings

These are supplied either attached to sprues or loose, if the former carefully cut from the sprue and (in both instances) clean up the remaining feed and any area you intend to solder to. If the casting forms a moving part, the relevant surfaces will need smoothing to ensure free running. Using fine files and emery cloth or other fine abrasive sheet to give a polished finish will pay dividends in reliable operation.

Folds

Generally all fold lines are on the inside of the bend, if not this is stated in the instructions. Folding can be performed in a number of ways, such as using smooth jawed pliers up elaborate folding bars. Clamping the part to a flat surface with a steel rule and using a second one to perform the folding action can be very effective. Long folds are ok as they are, but any shorter than about 10mm, and especially very small ones (less than 3mm), will benefit from a reinforcing fillet of solder.

Solder

This kit is designed for solder assembly using either 188 degree solder (brass to brass), 145 degree (brass to whitemetal) or 'lowmelt' 70 degree for whitemetal only joints. Where the term 'solder' is used in these instructions it will refer to any of these methods. It is up to you to decide the appropriate type and use the correct flux and iron for the job.

Glue

Some small parts can be added with glue. Use a good quality product and follow the manufacturers' instructions.

Cleaning

Keeping the model clean is a vital part of a good final finish. Flux residues and metal filings build up so always wash this off at regular intervals, especially at the end of a modelling session when you are not going to resume for a day or two. Occasionally I will wash the model during a session if it gets particularly bad. Several products such as lime scale remover or scouring cleaners can be used, but some, such as most washing up liquids do contain chemicals to give added shine which then need to be removed before painting.

Paint

Before painting the model should be thoroughly cleaned to remove any remaining flux, dirt or other construction debris. Allow to dry completely before painting. It is best to use some sort of etch primer, but providing the model is completely grease free, acrylic grey primer (car paint in spray cans) will provide a good base for the final livery.

Photographs

These instructions are a guide to assembling the kit, but in order to get an accurate model, reference photographs are essential - see references section on page 2

Assembly

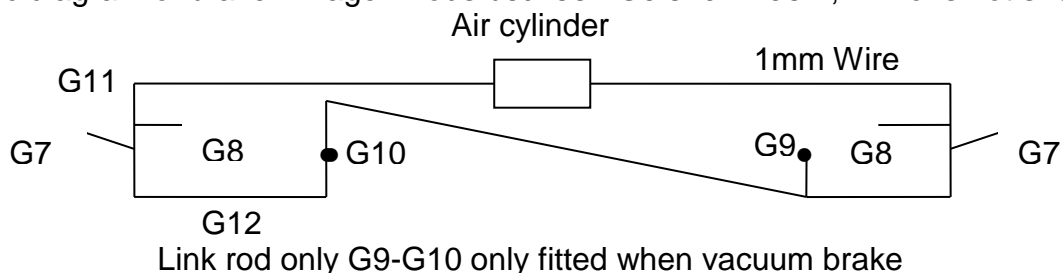
Body

1. Take Sides (H1), fold top flange to match the end profile, fold bottom flange almost to 90° and form tumblehome, using the end to check the shape of the curve as you go. Fit Droplights (H4), Vents (H5) and Hinges (H6).
2. Laminate the Ends/End overlays and fold back the bottom flaps. Fit 8ba nuts over holes.
3. Emboss rivet detail and fit horse door hinges – left (H11), middle (H9), right (H10) and top (H12). H10 & H11 fit so the small tab overlaps the edge of the door, H9 fits over the half etch lines.
4. Fit door catch (H13), label clip (H15) and door stops (H7). The half etch holes on the rear of H7 fit over the top two rivet heads of the hinges. Make up grab handles from 0.7 mm wire and fit to holes in body.
5. Fit steps (H8), lamp irons (H24), and tare disc (H17) to the ends. H17 is positioned next to the left lamp iron.
6. Assemble 1 side and one end. Repeat with other side and end, remembering to make both 'L' assemblies the same hand. Once happy that both are square, bring together to make a box. I use a piece of plate glass for this stage to ensure the body is flat and square in all axes.
7. Fit alarm gear castings to the non step end, using wire for pipework/rodding, linking to the top of the vac/air pipe at that end. Then solder butterfly indicators to (H16) to the ends of the horizontal rod.
8. Check roof for fit to body and trim if required. Mark and drill roof for lamp tops and handrails and then fit these. Fit rain strips using the thin plastic strips. The roof can be fitted now and a floor fitted to the underframe later, or the roof left until after painting and glazing is complete, enabling a detailed interior to be constructed on a floor fixed to the top of the lower side ledges – it's your preference!

Underframe

9. Form rivets and fold up solebars on floor (G1). Fit buffer beams and also solder the solebar/beam joint prior to folding the ends round. The gaps at the end should be filled when all soldering is complete. Fit footboards, leaving a small gap between them and the solebars – the handbrake fits in this gap later – see step 18.
10. Form rivets and fit buffer pads (G18) over buffer holes and coupling washer plate (G16) over coupling slot. Clean up and fit the buffer castings. Drill these 1.2mm right through & 1.8mm about 5mm deep from the front. The steel heads can be fitted later with the springs and nuts (to avoid damage from flux fumes!).
11. Take W-iron units (G2 & G3). Form rivet on axlebox retainers and fold over (fold line to the outside). Fold up main W-iron assembly and solder all corners. On G3 and one G2 fold flaps (fold line to the outside) to provide rubbing surfaces. On the second G2 remove completely and fit a short length of wire to provide rocking pivot point.
12. Fit one washer (G4) to top of G2 over the pivot hole and fit brake hangers (G6) to slots in the ends. Wheels/bearings can be fitted now to check clearances when fitting the brakes. The wheels can later removed for painting. Remove inner lug on top of the cast axleboxes and fit over your chosen bearings.
13. Fit 6ba nuts over pivot holes in the floor. The outer W-iron assemblies are fitted to these with 6ba screws, the two lengths of spring steel wire slid into the lugs and through the centre assembly. This provides a flexible underframe that can cope with curves and track irregularities. It is a good idea to check the chassis on your curves at this point and thin the remaining lug on the axlebox tops if further clearance is required.
14. Make up crank G9 x2 (or G10 at the vac end if fitting vac cylinder) double thickness and slide onto a piece of 1 mm wire (with cast vac crank, if fitting vacuum brakes). Fit this to the inner V hangers (G5) and locate to slots in floor. Check position, the crank (G9/10) should fit at the end of the slot in the pull rod closest to the centre of the vehicle. Trim the tab on G5 to achieve a correct fit. The outer V hanger will then slide on to the wire and can be secured to the solebar, ensuring the assembly is level and square.
15. Fit the cast springs to the inner faces of the solebars. You may find it necessary to pack them slightly to give more clearance for the axleboxes and W-iron assemblies to pivot on tighter curves.
16. Drill 1mm holes in each end of the air cylinder and attach a length of 1mm wire to both ends, this fits centrally to G3 with the wire resting between G11 at each end. Laminate the pull rod (G12), cranking the slotted ends to form yokes in the process, then fit to G9/G10. The other end fits between 2 x G11 – but do not fix permanently.

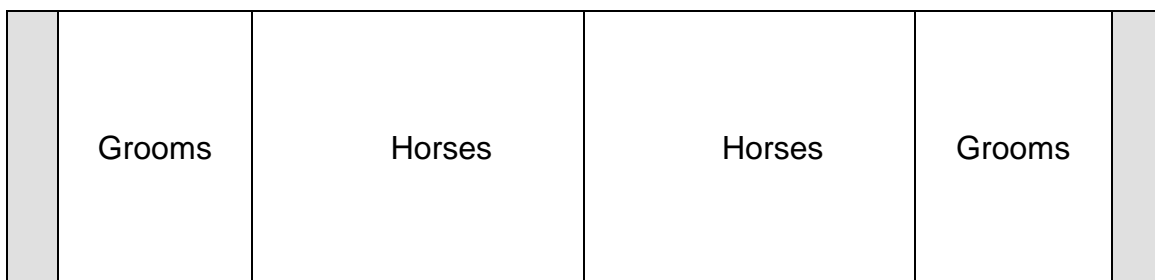
Schematic diagram of brake linkage – rods between G5 shown as ●, W-irons not shown.



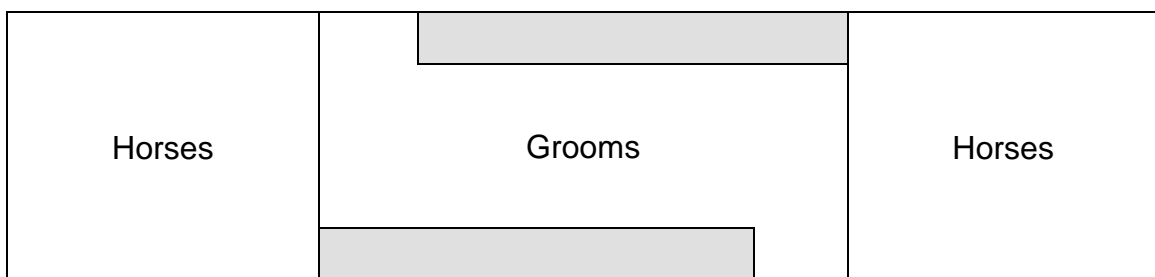
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17. Take two brake levers (G11), drill centre and one off-centre hole 1mm. Thread on to 1mm wire through the off centre hole, and solder with a gap between them equal to the thickness of G12. This is then secured to the pivots folded down from the top of G2 with 1mm wire via the centre hole. Fit outer brake linkage (G7) with cast brake blocks to the brake hangars G6, this fits to the brake levers G11 on the off centre pivot, but do not secure if you wish to remove the wheels for painting. Inner linkage (G8) is fitted in the same manner, and to lever G11 at the centre pivot point. To enable the W-iron assemblies to be removed do not permanently join G12 to G11.
18. Form handbrake lever (G14) and fit to the outer v hanger, with ratchet (G13) in position on the solebar – the tail slides under the footboard as per step 9.
19. Fit body retaining brackets (G17), 22mm apart (11mm from centre line) to the bufferbeams and crank slightly to allow the body to sit correctly on the underframe – it may help to fit the body to the underframe to do this.
20. Make up and fit couplings and vacuum/air pipes and add steam heat pipes if required (not supplied).
21. Thoroughly clean the model and once completely dry, paint in your chosen livery and apply lettering, then varnish if required.
22. Once the paint/varnish is completely dry, fit the door handles, glazing and interior (and roof if not fitted earlier). The Interior layout (with seating shown shaded) is as the diagram below. The version with the large central grooms' compartment had bench seats under the windows with a table/tack stand in the middle.

Dia 142/274 - Two grooms' compartments



Dia 143/275 - One grooms' compartment



23. The body is then secured to the chassis with 4 8ba screws.

Parts List

Etch

Body

H1	Body side
H2	Inner end
H3	End overlay
H4	Droplight
H5	Door vent
H6	Hinges
H7	Door stop
H8	End steps
H9	Centre hinges
H10	Right hand hinges
H11	Left hand hinges
H12	Top hinges
H13	Door catch
H14	Lamp irons
H15	Label clip
H16	Alarm butterfly
H17	Tare disc

Chassis

G1	Underframe
G2	Outer W iron
G3	Centre w iron
G4	Washer
G5	V hanger
G6	Brake hanger
G7	Brake yoke – Long
G8	Brake yoke – Short
G9	Brake crank - Westinghouse
G10	Brake crank - Vacuum
G11	Brake lever
G12	Pull rod
G13	Ratchet guide
G14	Brake lever
G15	Step boards
G16	Coupling washer plate
G17	Body retaining lug
G18	Buffer pad

Castings/Other

Whitemetal

1x	Westinghouse brake cylinder
1x	Vacuum cylinder
1x	Vacuum cylinder bracket
1x	Vacuum cylinder pipe
8x	Brake blocks
1x	Vacuum crank
2x	Alarm gear ears
1x	Alarm gear box
2x	Lamp tops
6x	Axlebox

Lost wax brass

1pr	Couplings
2x	Air pipe
2x	Vacuum pipe
2x	Steam heat pipe
4x	Buffer bodies
6x	Springs

Etched

4x	Door handles
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Other Parts

1x	Preformed brass roof	2x	Steel wire
2x	6ba screws/nuts	1x	1.0 mm wire – approx 100mm
4x	8ba screws/nuts	1x	0.7 mm wire – approx 200mm
4x	Turned buffer heads/springs/nuts	1x	Plasticard
2x	Coupling springs	1x	Glazing
2x	Split pins	2x	Rainstrip

Parts required

3x	3' 7" Mansell coach wheels (2 packs Slater's 7127)
2x	Seating strip

Paint
Transfers for your chosen livery