



N Gauge Society Kit 36 BR Shock Open & Van Twin Pack



Kit contains plastic parts, one-piece plastic chassis, wheels and transfers to complete two wagons.

To complete this kit you will need: Liquid Plastic Cement, Paint & Varnish

No Soldering Required

The Prototype

Shock absorbing wagons were first built by the pre-nationalisation railway companies and British Railways continued to build them to its own designs, as represented by this kit. Certain fragile goods such as glass and bricks were susceptible to damage during shunting. The wagon body was connected to the chassis by means of springs on the outside of the solebars thus absorbing more of the 'shock' of rough shunting than just the buffers. The distinctive white stripes on the sides and ends were to indicate to shunters that the wagons were shock absorbing, presumably so that they were handled with greater care. Another spotting feature is that the wagon bodies were slightly shorter than normal wagons to allow it travel along the chassis.

British Railways used both plywood and planking for the van sides, so both these types are catered for when building the van, with alternate sides to make either one or the other – if you want one of each type of van, you'll have to buy two kits.

Other variations are possible. Some vans had tie bars, some did not. Some did not have the solebar mounted springs, as, despite the spring covers, there were still accidents with shunters, so the spring was mounted centrally under the solebar (although this made maintenance more expensive) – these wagons can be modelled by just omitting the spring cover part. The Shock opens generally had the sheet rail in the down position, though they could be left up, and you could of course add a tarpaulin.

Both the Shock Opens and Shock Vans lasted into the early 1970s, few receiving repaints, most getting patch painting from repairs, and the later lettering and 'striping' styles. Some would have languished in engineers service for a while, but the additional maintenance of the spring mechanisms would have slated these wagons for early withdrawal in the general decline in wagon load traffic during the late 1960s.

Getting Started

First, read the instructions thoroughly all the way through and be sure you are confident that you have identified all the parts. It is recommended that you adhere to the suggested order of assembly, though with experience, you may choose to deviate. The kit has been designed to cover two types of van; decide before you start which one you wish to build.

General Notes On Construction

Naturally, the N Gauge Society wants you to achieve the best results you can. These simple guidelines should help:

- Read the instructions through fully before you begin
- Use a sharp knife to separate the parts from the sprues
- Clean off any flash or moulding pips with sharp knife and wet 'n' dry sandpaper
- Check fit before gluing
- Use a small paint brush to sparingly apply liquid plastic cement when joining parts
- Photographs of the prototypes will help you

But above all TAKE YOUR TIME!!



References

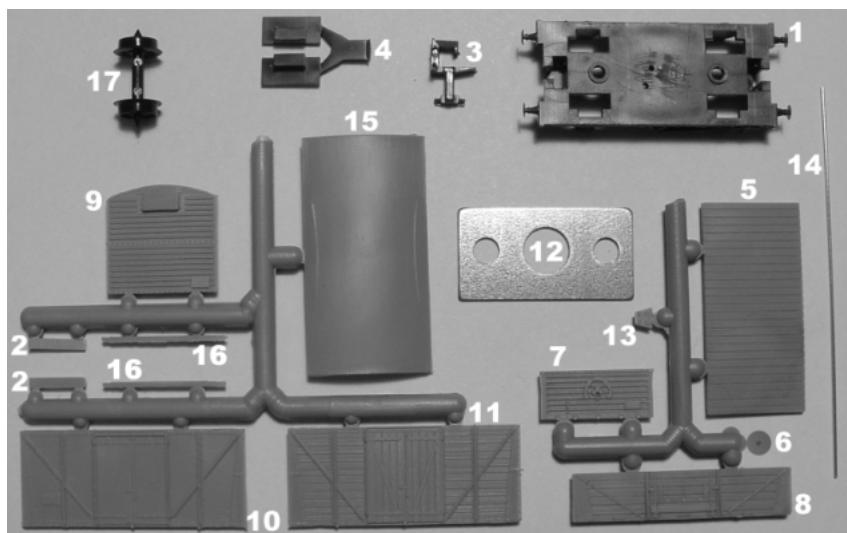
The following is not an exhaustive list, but gives typical examples of livery and condition. Key: P= Page; Pl = Plate; O=Open; V=Van:

- *British Railway Goods Wagons In Colour* by Robert Hendry: P44 (O); P51 (V)
- *British Railways Wagons (The First Half Million)* by Don Rowland: P32 (O); P63 (V)
- *Railways In Profile Series No 1 (British Railway Wagons – Opens & Hoppers)* by Geoff Gamble: P16 Plate 12 (O).
- *Railways In Profile Series No 3 (British Railway Wagons – Vans)* by Geoff Gamble: P47 Pl 84 (V – central spring version with no solebar cover); P47 Pl 85 (V); P48 Pl 86 (V); P49 Pl 87 (V); P49 Pl 88 (V)
- *Working Wagons Volume 1 1968 – 1973* by David Larkin P45 (O); P59 (V)
- *Wagons Of The Early British Railways Era (A Pictorial Study Of The 1948 – 1954 Period)* by David Larkin P55 (V)
- *Wagons Of The Middle British Railways Era (A Pictorial Study Of The 1955 – 1961 Period)* by David Larkin P19 (O); P58 (V).

Parts

Four sprues (two of each type), a piece of 0.33mm wire and a sheet of transfers are packaged with this kit. Unpack the separately packaged Peco chassis packs. Use the following photograph and table to identify all the parts. Keep all the parts in a container or re-sealable bag to avoid loss and only remove parts from the sprues as you need them.

Part Number	Quantity	Description
1	2	Chassis
2	4	Headstock
3	4	Coupler
4	2	Coupling Retainer (x2)
5	2	Floor
6	2	Vacuum Cylinder
7	2	End (Open)
8	2	Side (Open)
9	2	End (Van)
10	2	Side (Van – Plywood)
11	2	Side (Van – Planked)
12	2	Balance Weight
13	2	Tarpaulin Trapezium
14	1	0.33mm Wire
15	2	Roof
16	4	Spring Cover
17	4	Wheels



Construction

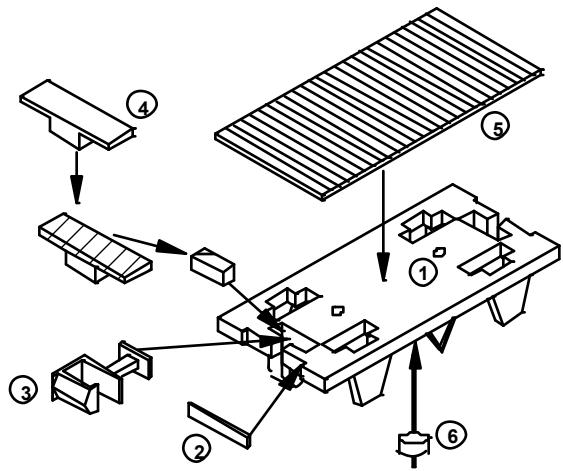
Only a few basic tools are required – a sharp craft knife, wet ‘n’ dry sandpaper, tweezers (preferably fine point), pliers, wire cutters and a small drill (with a selection of drill bits).

Chassis construction is the same for both the Shock Open and the Shock Van. The basic body construction (sides, ends and floor) is also the same, with some specific instructions to finish each type.

NOTE Some details are omitted from some diagrams for clarity.

Chassis

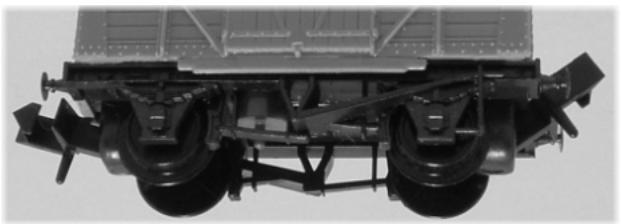
1. Remove the two round locating lugs on top of the Peco chassis (**Part 1**) and any trace of the injection point in the middle so that it is flat. Test fit the floor (**Part 5**) to make sure it sits flat on top of the chassis (but DO NOT GLUE!) - the dimples underneath locate into the two holes on top of the chassis left from the locating lugs.



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2. Put the couplings (**Part 3**) into the coupling pockets at each end of the chassis.
3. Cut the wide flat tops off the Peco coupling retainers (**Part 4**), then put them into the coupling pockets. Make sure that the couplings sit level and then apply a small amount of glue to the top of the coupling retainers. When dry, make sure that they are flush with the top of the chassis and if not, trim flat with a knife or wet 'n' dry sandpaper.
4. Fit the headstock pieces (**Part 2**) in front of the coupling pockets to fill the gap in the headstock. Make sure that they are flush with the top of the chassis.

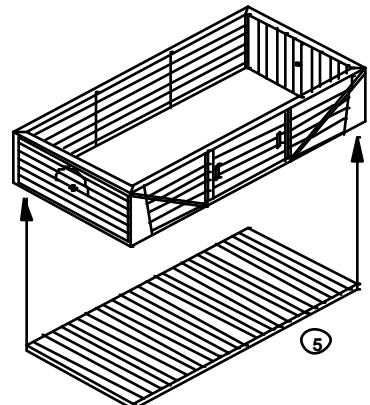
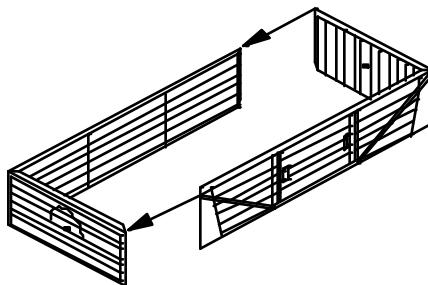
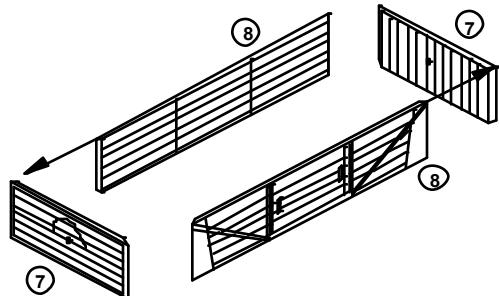
NOTE If you use an uncoupling system such as the Peco magnetic uncoupling lifter arms, you may need to omit the headstock pieces in order to ensure that the couplings lift far enough. The example in the photograph shows - on the left, the extent of the lift of the coupler with the headstock in place; on the right, the extent of the lift of the coupler without the headstock piece.



5. Glue the vacuum cylinder (**Part 6**) under the chassis over the 'Pe' of Peco.

Shock Open and Shock Van Body

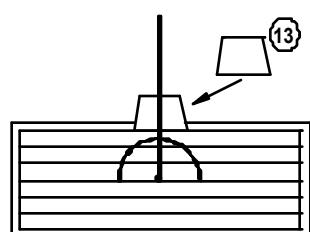
6. Glue an end (**Part 7**) to a side (**Part 8**) for the Shock Open body to form an L-shape. The corners of each part have a 45 degree mitre to make a clean corner, and make sure that the corner is square. Also make sure that the parts are the right way up! Repeat for the other side and end to make another L-shape.



7. Glue the two L-shapes together to make a box, checking that all the corners are square.
8. Glue the floor (**Part 5**) inside the body. If it will not fit first time, use wet 'n' dry sandpaper to gently sand the edges until it fits. The bottom of the floor should be flush with the bottom of the body.
9. Repeat steps 6 to 8 for the van body using the end (**Part 9**) and either the plywood side (**Part 10**) or planked side (**Part 11**).
10. The basic body of both wagons is now complete and can be glued to the chassis.
The dimples under the floor locate into the two holes on top of the chassis.

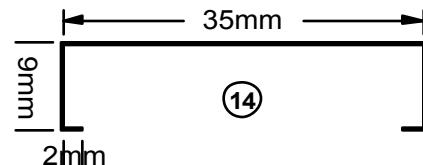
Shock Open Sheet Rail

11. The Peco balance weight cannot be fitted to the Shock Open, unless it is fixed inside the wagon and disguised with a load. An alternative would be to use one of the plaster cast loads manufactured by Ten Commandments.
12. Decide whether you will model the sheet rail up or down. Glue the trapezium shape (**Part 13**), which covered the gap left at the end when a wagon sheet was folded, to the end in the required position.
13. Drill out the holes in the ends for the sheet rail using a 0.33mm drill.



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14. Use pliers to bend the brass wire to make the sheet rail – 35mm long, 9mm high with 2mm to go in the holes in the ends. Don't worry if the sheet rail is not perfect – photographic evidence suggests that they were quite battered in use!
15. Carefully push one end of the sheet rail into one end of the wagon and then repeat at the other end. Although the wire will flex a little it may still be necessary to trim a bit off the second end in order to get it in. Once both ends are in, trim off any excess that protrudes inside the wagon. If necessary (particularly if the sheet rail is modelled in the raised position) it may be necessary to add a little superglue to the wire to hold it in place.

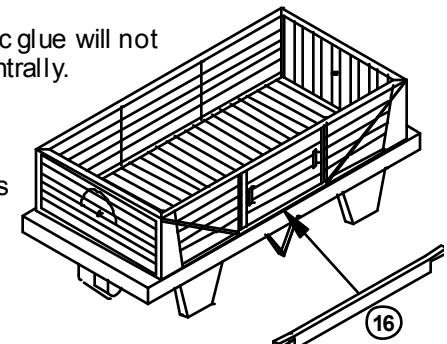


Shock Van Roof

16. The Peco balance weight is easily fixed inside the Shock Van although liquid plastic glue will not work (use epoxy resin or superglue instead). Fit the roof making sure that it sits centrally.

Spring Covers

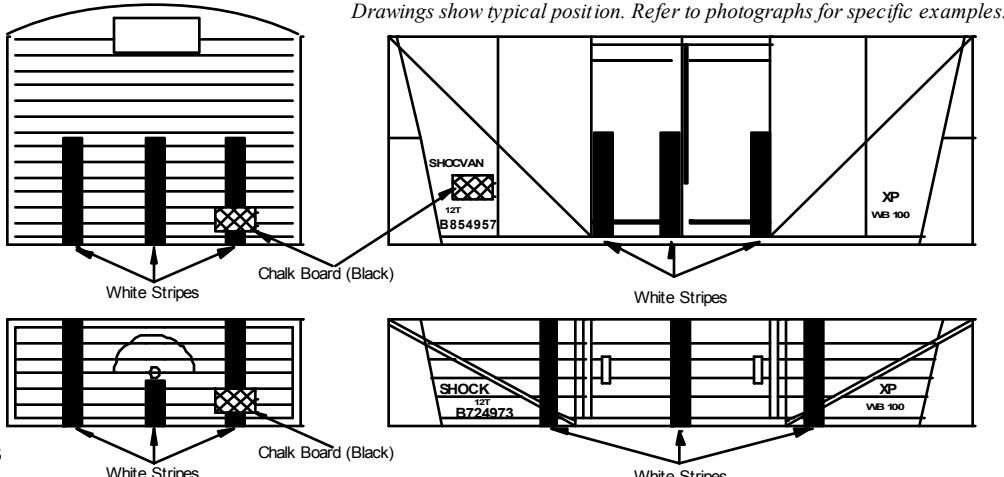
17. The wagon body overhangs the chassis slightly at the sides. Glue the spring covers (**Part 16**) to the underside of the wagon body so that it covers the top portion of the solebar. The spring covers should be in the centre of the wagon side. Make sure that these parts are the right way up!



Painting And Transfers

18. The secret to a good finish is in preparation and planning ahead. Paint the wagon body and spring cover British Railways bauxite; the inside of the Shock Open a light brown to represent unpainted wood; the roof of the Shock Van grey; chalk boards black. While the chassis is already black, it will benefit from a coat of matt black to remove the plastic finish. Give the wagon body a coat of gloss varnish as this will help the transfers to adhere.

19. To apply the transfers, soak them in a dish of warm water for a few seconds, drain off the water, lay on a flat surface and then use the tip of a cocktail stick to check that the transfers will move free of the backing paper – if not, return to the water and repeat this step. Once the transfer moves, place it on the model and use the tip of the cocktail stick to hold one end to the model while pulling the backing sheet away with tweezers. There should be time to make a few adjustments as necessary.



20. Leave all the transfers to dry for half an hour and then apply a 'decal setting solution' (such as Micro-Sol) if required which will help the transfers to lie and form over detail such as planking and the corrugated ends. Then leave overnight before applying a coat of matt varnish to seal the transfers to the model.
21. Finally, fit the wheels – place the end of one axle in an axle cup on one side, then place the other end over the axle cup on the opposite side. Use a small screwdriver to gently ease the chassis away from the wheel until it drops into the axle cup. Check for free running – sometimes, the axles can be a bit stiff, but swapping the axles or reversing them seems to cure this.

NOTE The Peco chassis packs are often supplied with spoked wheels which are incorrect for these wagons although it's not really noticeable, however, the correct solid wheels are available separately.

Congratulations! Your model is now complete.