



N Gauge Society Kit 77c BR Boplate (Air Braked) NGSK0773



Kit contains plastic parts to complete one wagon

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

This is not a toy. Only suitable for persons over the age of 14. May contain small parts and sharp edges. Keep away from small children.

Prototype Notes

The Boplate wagons carried steel plate for a very long period of time, the basic design going through a variety of modernising bogie, buffer and braking changes. In 1930, the LNER introduced a 52ft long over headstocks 40T capacity wagon with steel ends and two-plank drop sides divided into two parts per side. This basic configuration would last until the 1990s.

The LNER wagons had diamond frame bogies and three-hole disk wheels. The buffers were round and unusually there were four brake levers, two per side. The LMS also had very similar wagons, though they were not delivered until 1947 so they were effectively British Railways wagons.

Initially, British Railways built Boplate diagram 1/490 wagons with LMS pattern diamond frame bogies which had brake levers attached and used small wheels. From diagram 1/491 this was changed to standard diamond frame bogies, brake levers on the solebar as per LNER practice and normal sized three hole disk wheels (a few early wagons received old spoked wheels that were being reused but new spoked wheels were not made after the mid-1920s).

Later British Railways built wagons introduced a touch of modernity with plateback bogies having roller bearings, three-hole disk wheels and vacuum brakes. The handbrake levers gave way to brake wheels which were placed at each of the four corners of the wagon. The buffers were changed to oval-shaped.

Between 1979 and 1982, a number of vacuum braked wagons were converted to air-brakes whereupon the corner hand wheels, V-hangers and vacuum cylinders were removed. The bogies were swapped for Y25 fabricated with the handwheel located on both sides of each bogie. Buffers reverted to round although of more modern design. The TOPS code BPA was used. The steel plate traffic for which these wagons were intended was already declining by this time, so many found use hauling more general loads, or simply passed to the engineers department (TOPS code YNA).

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.

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!!

N Gauge Society Kit 77c BR Boplate (Air Braked)

Livery and Lettering

LNER wagons were painted grey all over.

As per much of British Railways' early wagon building practice, only the steel work (the upper end) was painted grey; the timber was left unpainted. The underframes and bogies were black while the sides were eventually painted freight grey. Vacuum braked wagons received bauxite paint for the ends and sides

The air-braked conversions received flame red sides and ends as part of the overhaul, though this tended to fade badly in service. At least one wagon is known to have received Loadhaul orange/black livery as part of privatisation.

Of those transferred to the engineers, many received repaints into "Dutch" livery with yellow sides and grey ends.

Early LNER wagons were lettered 40TONS N BOPLATE E E 163569 (wagon number).

British Railways wagons followed the usual evolution of marking styles (plain lettering, boxed, metric, TOPS). This was generally the wagon number and weight on the left, "BOPLATE E" in the middle and the tare on the right.

References

- *LNER Wagons, An Illustrated Overview* by Peter Tatlow P83 plates 173/4
- *An Illustrated History of BR Wagons Volume 1* by Bartlett, Larkin, Mann, Silsbury, Ward P134-137
- *Wagons Of The Early British Railways Era, A Pictorial Study Of The 1948-1954 Period* by David Larkin P75
- *Wagons Of The Middle British Railways Era, A Pictorial Study Of The 1955-1961 Period* by David Larkin P68/9
- *Wagons Of The Early British Rail Era, A Pictorial Study Of The 1969-1982 Period* by David Larkin P75
- *British Railways Wagons – The First Half Million* by Don Rowlands P92
- *British Railways Unfitted And Vacuum-Braked Wagons In Colour* by Trevor Mann P24
- *BR Air-Braked Wagons* by David Ratcliffe P82
- <http://paulbartlett.zenfolio.com/> 'Paul Bartlett wagon photographs' Paul Bartlett's useful web site

Parts

This kit contains three sprues, four brass buffers, two bogies, two coupler sprues, two bogie fixing pins and four wheelsets.

Part Number	Quantity	Description
1	1	Floor
2	2	Side
3	2	End
4	2	Inner Truss
5	2	Truss Angle
6	2	Bogie Pivot
7	2	Vacuum Cylinders (not required)
8	4	Brake Wheels (not required)
9	4	Buffers (not required)
10	4	Brake wheel for bogie

Construction

Only a few basic tools are required – a sharp craft knife, wet 'n' dry sandpaper, a selection of drill bits and tweezers (preferably fine point):

N Gauge Society Kit 77c BR Boplate (Air Braked)

A liquid polystyrene glue such as Mekpak is best, using a small paint brush to apply small amounts to joints. Some parts will need superglue to secure them.

This kit will make one of the unfitted Boplates with diamond frame bogies, three-hole disk wheels, round buffers and brake levers on the solebar.

Body

1. Under the Floor (**Part 1**) where the bogies locate, use a knife to remove the raised lip around the hole. Finish with a file or sandpaper and ensure that the top of the hole is flush (this kit was originally designed to use American-made or Graham Farish bogies, so the Bogie Pivots would locate into the hole under the floor).
2. Use a knife to remove the V-hangers from the Sides (**Part 2**). Use a sharp knife and files to remove all of the handbrake lever detail on the right-hand side of the solebar on the Sides.
3. Use a knife to remove the triangular brackets with a small spigot from each lower corner of the Sides (**Part 2**). These are for the hand wheels on the vacuum braked version of the wagon.
4. Use a knife to remove the small spigots on the ends of the buffer shanks on the ends (**Part 3**) that would take the oval buffer heads.
5. The brass buffer heads have a shank diameter of 0.7mm. By drilling holes in the end of the buffer shanks slightly less than this (for example, 0.6mm) then the brass buffer heads can be an interference fit to the ends by very carefully pushing them on. Do not force! If they are too tight a fit, then enlarge the holes in the buffers. If the brass buffer heads are a loose fit, then secure them with a very small drop of superglue.
6. Glue the Sides (**Part 2**) to the Floor (**Part 1**). The ends of the solebars should be flush with the ends of the floor while the sides above the solebar overhang slightly.
7. Glue the Ends (**Part 3**) to the Floor and Sides.
8. Use a knife to remove move the V-hanger from each of the Inner Trusses (**Part 4**).
9. Glue the Inner Trusses (**Part 4**) under the Floor. These fit against small pips moulded under the floor and should be located such that the pips are in the middle (all four trusses, the separate ones and the ones on the sides, will then be equally spaced). Ensure that the queen posts of the inner trusses are aligned with those on the outer trusses.
10. Cut a section of sprue 6mm long to represent the air reservoir tank and glue this under the floor between the inner truss and the outer truss on the left-hand side of the wagon (when viewing it side on).
11. Glue the Truss Angles (**Part 5**) next to the queen posts (one Truss Angle at each end of the trussing), resting on the bottom flat piece of all four trusses.
12. The Bogie Pivot (**Part 6**) has a slightly domed head. Use a file or sandpaper to reduce this to a flatter profile.
13. Use a knife to remove the small spigot on the Bogie Pivot (opposite end to the domed part) that would have originally fitted into the small hole under the Floor.
14. Drill a 1.6mm hole into the Bogie Pivot where the top part was removed in the previous step.
15. Glue the Bogie Pivots under the Floor over the small hole in the floor which was originally designed to take the spigot on the Bogie Pivot.

Bogies

16. This wagon is supplied with the N Gauge Society's own one-piece injection moulded bogies (thus enabling a smooth running and stable model) which only require couplings and wheels to be fitted.

N Gauge Society Kit 77c BR Boplate (Air Braked)

17. Each coupler sprue contains one of the following (see photo, left to right, top to bottom): Short NEM coupler; NEM coupler box; Long NEM coupler; Short sprung coupler; Extra long sprung coupler; Coupler box for sprung coupler.

18. Note that coupler springs are not included. The N Gauge Society is standardising on NEM fittings (where possible) for all its kits that have bogies. The sprung coupler parts are on the sprue anyway, but it is envisaged that NEM coupling will be the modern choice for most modellers. However, springs can be obtained from spare parts sellers such as BR Lines.

19. Cut off the end of the bogie coupler bar as shown.

20. Clip on the NEM pocket as shown and reinforce with a small amount of superglue.

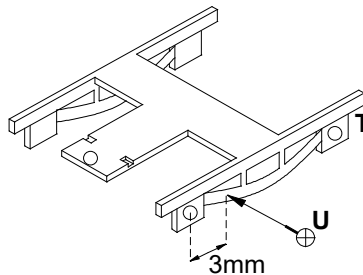
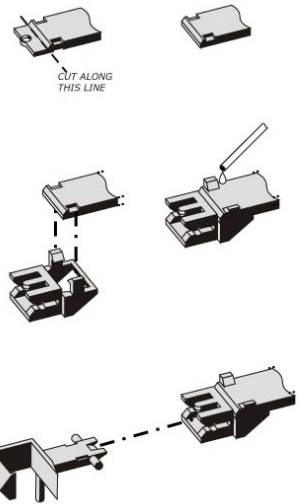
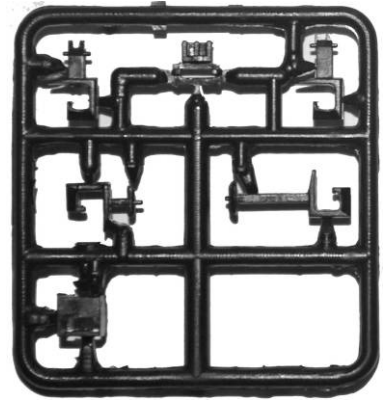
21. Clip in the chosen coupler (short/long NEM as supplied, or other NEM couplers).

22. Add the wheels to the bogies. 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 bogie side away from the wheel until it drops into the axle cup.

23. Test run the bogie. If the wheels bind try squeezing the bogie side frames and rotating the wheels; alternatively if the wheel sets feel a little loose then remove, squeeze the frames gently, and replace.

24. The bogies are held in place with the Bogie Retaining Pins. Try to fit the pins but do not force! If they will not fit then use a drill bit slightly larger than 1.6mm to further open up the hole. If the hole ends up too being large and the pin falls out, use only the smallest amount of glue to attach the pin to avoid gluing the bogie itself to the wagon. Note that you may find it easier to complete this step after painting.

25. Fit the Brake Wheels (**Part 10**) on each side of both bogies. Drill a 1mm hole in the lower curved part of the bogie frame 3mm from the centre of the forward axle box to accept the spigot on the back of the Brake Wheel. Use superglue or an ABS suitable glue to secure the Brake Wheels to the bogies as the latter are made from 'slippery' ABS plastic (for strength and to help the axles rotate) on which normal liquid polystyrene glue will not work.



Weight

26. Plastic kits can be light, and some modellers find that a little weight improves running qualities.

27. One option is to fit a load to represent steel plate, and a suitable piece of actual steel or brass sheet will do the job, though remember that it should be as thin as possible to be realistic (though often several sheets of varying sizes were carried).

28. Alternatively, to represent an unloaded wagon, there is room under the floor between the trusses to fit some weight, such as lead shot or a couple of nails (with the heads cut off).

Congratulations! Your model is now complete.