

STEPHEN JOHNSON MODELS
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BBP - 35' 0" BOGIE PLOUGH VAN

Assembly instructions

This model is based on BBP W1045: one of a group of ten BBP plough vans numbered 1041 - 1050, the last of which entered service in 1970. There were minor differences in the appearance of vans within this group.

In addition to shaping ballast and providing accommodation for a guard, BBPs contained living quarters for the ballasting crew. Facilities included a kitchen and dining area, two berths, a shower and a toilet.

Some vans were condemned in the mid 1980s while others continued operating as ballast ploughs after the bodies had been removed.

Recommended adhesives:

Superglue eg. Green Zap a Gap for gluing polyurethane parts together or gluing brass castings or wire to polyurethane.

Acrylic contact adhesive eg. Selley's Kwik Grip for clear window material.

Assembly procedure:

1. Remove any flash from the window openings with a sharp knife. Take care to avoid damaging the window frames. A knife with a narrow pointed blade (such as a No 11 scalpel blade) is recommended for removing the flash from the round window holes.
2. Cut the clear glazing material into pieces which will fit in the cast window openings. Put these aside until the car has been painted. Don't remove the protective plastic coating until you are ready to glue the glazing in place.
3. Assemble sides and ends. The end with the water pipes fits on the guards compartment end of the van while the end with the steps goes on the end of the side closest to the doors for the gas cylinders.
4. It is best to trial fit each joint to ensure the parts fit neatly together before applying any glue. Use the gutter line as a guide to locate the ends at the correct height. Make sure the resulting assembly is square and is not twisted.
5. Glue a piece of 8mm angle to the inside of each end to provide a flat surface on which to mount the floor (Diagram 1). There has to be a 2.8mm gap between the bottom of the angle casting and the top of the coupler opening in the end. The coupler mounting pads on the floor should sit level with the top of the coupler opening in the ends. Make sure you don't accidentally glue the floor to the angle or it won't be able to be removed from the body as required later.
6. Fit the roof into the side-end assembly and glue it in place. The top of the roof should be as level as possible with the curved tops of the sides and ends. Note that the roof is directional with the chimney-like vent going above the doors in the side for the gas cylinders.
7. Fill the join between the roof, sides and ends with body filler. Taking care not to damage the roof vents, remove any excess filler with wet and dry sandpaper wrapped over a small flat block. Because the filler will shrink, this step may have to be repeated several times.
8. Fit the 0.45mm wire main pipe to the roof. Start by deepening the pre-marked holes in the two boxes on the roof with a 0.5mm drill. Cut and bend the wire so that one end fits into the side of Box 1 and the other fits onto the filler pipe cast onto the end (Image 1). Cut a short length of wire to fit between the main pipe and Box 2. Solder this short piece to the main pipe. Remove any flux residue then glue this wire assembly to the roof.
9. Refer to Image 2 and bend two short pieces of wire to form the overflow pipes. Glue these into the relevant holes in the boxes on the roof and onto the gutter strip.
10. Assemble the couplers. Kadee #156 (scale head, metal whisker couplers with long centreset shank) and #242 gear boxes are recommended. The long shank coupler allows the gear box to sit inside the end of the van giving a much neater appearance while still being operational. Because the whisker

on the coupler protrudes beyond the gear box and fouls on the end of the van you need to snip a fraction of a millimetre off the end of each whisker so that it clears the end.

11. The floor is directional. The side with the brake cylinder (Image 3) goes to the side of the van that has the gas cylinder doors.
12. The floor is supported by the angle castings glued inside the ends. Screws (either 8BA or 2-56) attach both coupler and floor to the angle casting (Diagram 1). Drill a suitable diameter clearance hole and tap a thread in the angle to accept these screws.
13. With the floor secured, glue the plough casting to the round pad in the centre of the floor. When not in use the plough is at 90° to the centreline of van. Taking care not to accidentally glue the floor to the sides, glue the grade control levers to the floor in the locations indicated in Image 3.
14. Drill the dimples in the brackets along the side of the floor (0.6mm for the brass wheel castings and 0.4mm for the release levers and handbrake spider wheels as per Image 3). Overfold the two halves of the phosphor bronze spider wheels to form a double thickness. Insert some 0.31 mm wire through the hole in the centre then solder it all together. Insert a piece of 0.31 mm wire through the hole in the release lever and solder it to the lever. Repeat for the second spider wheel. Bend two pieces of 0.31mm wire 3.0mm from the end to form the release levers for the large plough wheels. To make it easier to apply the decals to the solebar, these small parts are painted and then attached to the van in Step 22.
15. Assemble the 2AQ bogies according to the separate instructions. Drill 2.05mm holes for the bogie pivots and tap these with an M2.5 thread. Secure the bogies to the floor with the M2.5 screws supplied. Allow enough slack so they are able to rock from side to side.
16. Fit bogies and confirm the coupler height is correct.
17. Fit the steps (Image 4) to the outer edge of the step cast on the solebar. The rungs should align with the door above. On some vans the centre step has one rung and on others it has two. To model the single rung, simply cut off the bottom rung and file the bottom of the remaining rung smooth.
18. Fit airhoses to the headstock. Make sure the spigot is flush with the inside of the end so the floor can be removed.
19. Bend a piece of 0.31mm wire to a circle about 2mm in diameter. Cut off two quadrants and glue them to the ends of the vertical filler pipes cast on each side of the non-step end. On some vans these pipes were straight rather than curved and joined the vertical pipe at a right angle. On at least one van (W1048) the end of one filler pipe was straight and the other was curved.
20. Disassemble the the model then give all parts (including the plough control wheels, handbrake spider and release levers) a coat of etch primer. Paint the body of the van in the following colours:
Body: Way and works cream
Roof: Silver
Underframe and bogies: Black
Roof vents: Light grey
(Outlaw Paints make an acrylic laquer Way & Works cream and NSWGR roof silver)
21. Seal the finished paintwork with clear gloss. When thoroughly dry, apply decals as indicated in Images 5, 6, 7 and 8 then apply another layer of clear gloss.
22. Glue the plough control wheels, brake spiders and release levers into the holes in their relevant brackets (Image 9).
23. Give the van a final coat of flat clear and weather as desired.
24. Fit the clear glazing material to the inside of the windows.

Note: A pdf copy of these instructions (and those for the 2AQ bogies) with clearer photos than in the printed versions can be found at:
<https://stephenjohnsonmodels.com.au/instructions/>

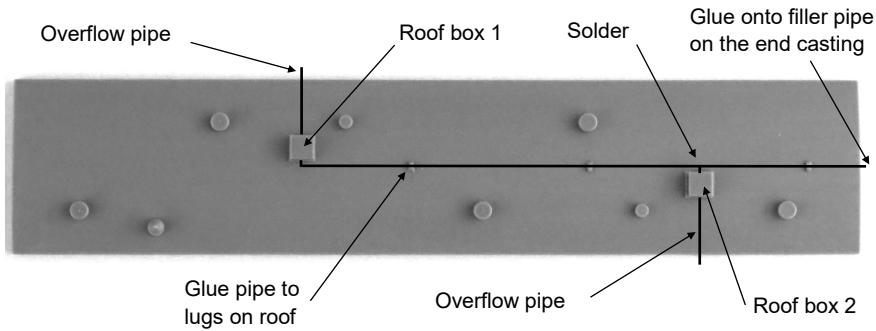


Image 1. Arrangement of pipework on the roof

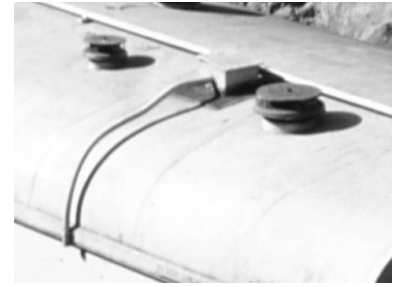


Image 2. Overflow pipe shape

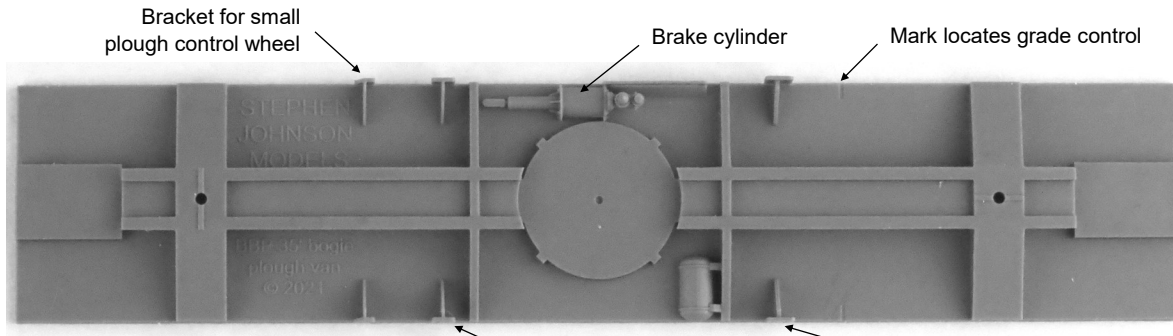


Image 3. Arrangement of floor detail

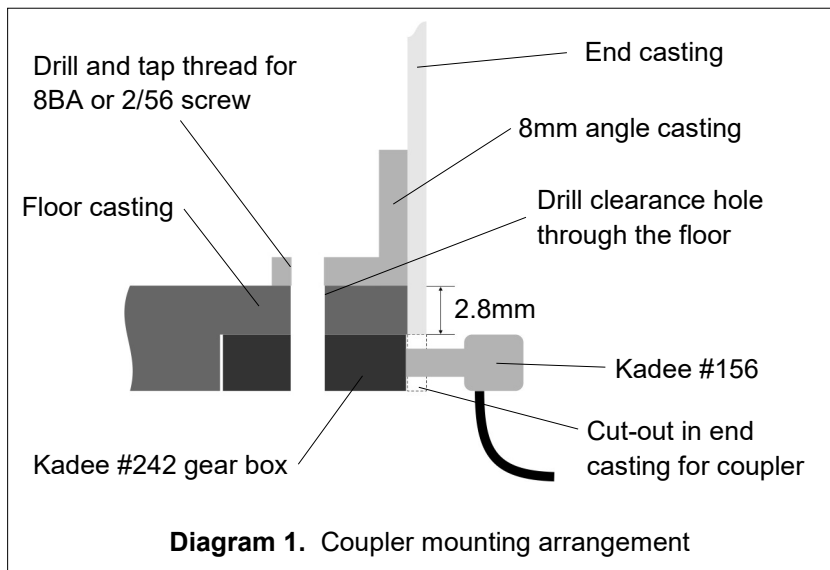


Diagram 1. Coupler mounting arrangement

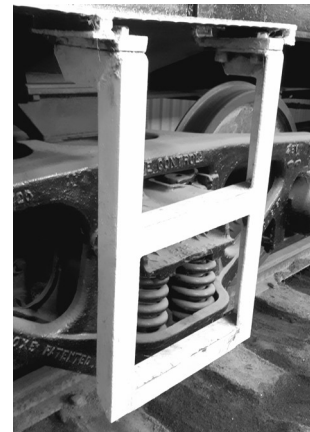
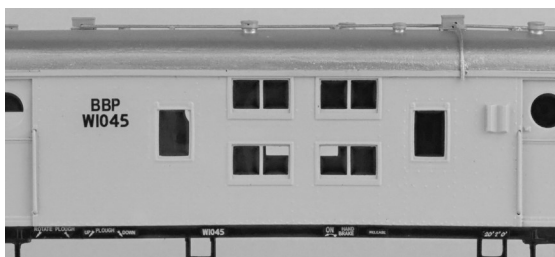


Image 4. Step arrangement



Images 5 & 6. Decal placement on the sides



Images 7 & 8. Decal positioning on ends

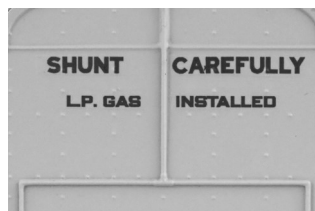


Image 9. Large plough wheel and release. Plough is to the left.