



N Gauge Society Kit 35d Network Rail HQA Autoballaster



Complete kit contains injection-moulded plastic components, etched details, wheels and transfers

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

No Soldering Required

The Prototype

In 1996, a number of hoppers originally constructed to carry aggregates were fitted with experimental ballast discharge gear. Eventually, 104 Autoballaster conversions were completed.

Their success led Railtrack to order 190 new-build wagons to a similar design, and Network Rail followed this with an order for a further 50. The wagons run in fixed sets of five, with three inner (TOPS code HQA-E), a buffered non-generator outer (HQA-D) and a generator outer (HQA-F). Only the HQA-D and HQA-F wagons have buffers.



On the decal sheet TOPS panels for the different types are clearly marked, and each vertical column is a complete rake.

The etch also includes a small bonus item - a fold-up air-conditioning unit!

The cover photograph shows non-generator outer 230504 at Whitmoor Yard in April 2007.

Photo Adam Warr

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
- Clean off any flash/moulding pips
- Some or all of the wagon may be best painted before assembly
- Check fit with a dry run of each component before gluing
- Use a liquid cement for plastic parts, and cyano for etches
- Photographs will help you decide on some options
- Build in batches if possible or appropriate
- Try to keep modelling area as clean as possible

But above all....TAKE YOUR TIME!!

Getting Started

First, read the instructions thoroughly all the way through and be sure you are confident that you have identified all the parts. The kit includes parts for both generator and non-generator wagons; decide which you wish to build before starting.

Assembling the bogies

This wagon is supplied with one-piece injection moulded bogies. To assemble, place coupler spring in the pocket, then add the hook and compress in, before clipping the pocket to the underside of the coupler bar, locating the hooks at the recess points.

Now add the wheels to the bogies, and test run. If they bind try squeezing the bogie sides and turning the wheels; if the wheelsets feel a little loose then remove, squeeze the frames gently, and replace.

The bogies can be secured with the moulded pins provided. If loose, a little blu-tack on the end of the pin should secure in place.

Notes on Painting

Many a beautifully built model has been ruined by a bad day in the paint shop. Spraying usually gives better results than brushing so try car aerosols if you do not have an airbrush.

The kit has been moulded in a representation of Network Rail yellow, however for the etched components, or for those who prefer a painted finish, the appropriate colour is:

Enamel Phoenix P310 Network Rail Yellow

Haiford's Car Aerosol Fiat Broom Yellow or Rover Inca Yellow

Hand brakewheels, handrails and footsteps are white; axleboxes are yellow. For the interior and discharge chutes a matt buff/rust colour is recommended.

Transfers and Finishing

Waterslide transfers adhere best to a gloss surface. It is recommended that you either spray with gloss varnish, or use Johnson's "Klear" floor cleaner.

Cut transfer from sheet, dip for 10 secs in warm water, then slide off backing paper onto model. Reposition if necessary with paintbrush dipped in warm water.

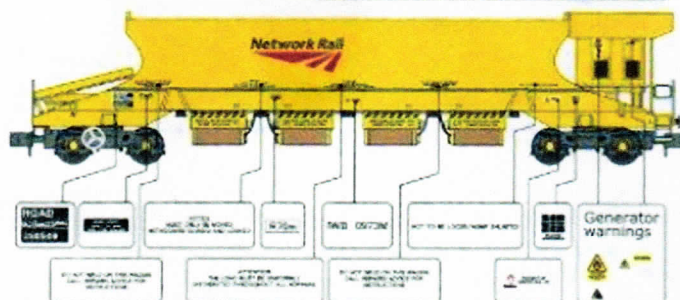
Once decals have been applied, the model can be varnished and weathered to choice. The interiors of the hoppers tend to be a dusty buff/grey colour, with "streaks" down towards the hopper floor.

Network Rail Livery

Generator Vehicles

Hopper Ends

Electrification flashes and wagon repeater numbers.



Guides for small markings

(Shown on generator, but in similar locations on non-generator wagons.)

Non-generator vehicles - inner and outer

Lettering largely positioned as on generators, but this wagon shown from other side (crew platform on left) to illustrate numbering of discharge chutes. Note handrails are white, but support frame for canopy is yellow.

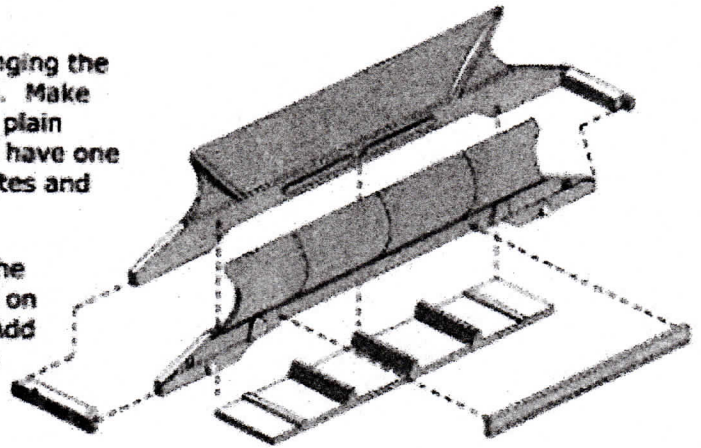


Main Body Assembly

The exploded diagram shows how the plastic parts go together; in each drawing the components are shown already fitted at one end. The body is best assembled in the order shown. Because of the variations in these vehicles, there are alternative parts included in the kit; be sure to use the right ones for your model!

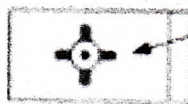
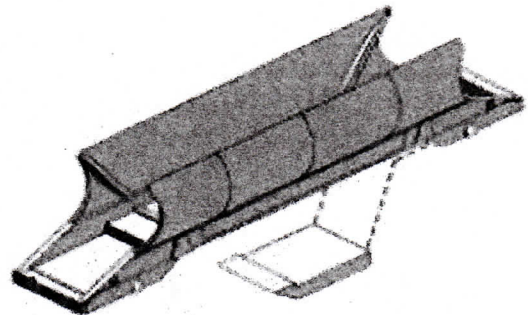
- 1 First, fit a buffer-beam to each side, before bringing the two parts together to complete the basic frame. Make sure all is square. HQA-E (inner) wagons have plain buffer-beams, while HQA-D and HQA-F wagons have one plain buffer-beam and one with buffer base-plates and lamp irons.

Then fit the floor, level with the lower edge of the solebar. You may need to file the raised guides on the inside of the solebar to ensure a flush fit. Add the solebar detail panel, using the plain version without moulded detail.



- 2 The chassis ends can be fitted now. Before fitting, see note below. When fitting to wagon, make sure the upper surface of the chassis ends is flush with the top of the buffer-beam. This will minimise the gap between the top of the bogie and the solebar, making the model look realistically "heavy."

Bogie pivots are designed to provide simple 3-point suspension system to improve running and reduce "wobble." Remove ribs as shown below.



Remove longitudinal ribs at one end, and lateral ribs at the other



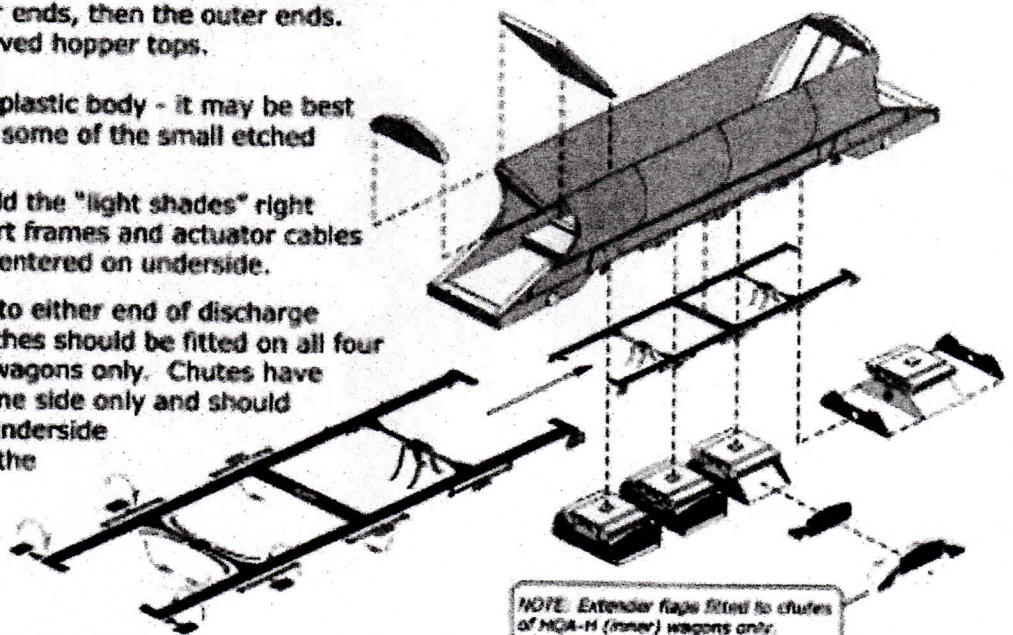
(UNDERSIDE OF WAGON)

- 3 Next, fit the hopper inner ends, then the outer ends. All HQA wagons have curved hopper tops.

This completes the main plastic body - it may be best to drill out pilot holes for some of the small etched details at this stage.

For wagon floor lights, fold the "light shades" right over, then fold the support frames and actuator cables down through 90°. Fit centered on underside.

Add etched detail panels to either end of discharge chutes. Extender flap etches should be fitted on all four chutes of HQA-E (inner) wagons only. Chutes have actuating arm detail on one side only and should be glued to recesses on underside ensuring the details face the etched discharge actuator cables.



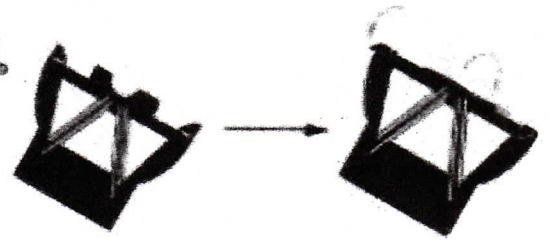
NOTE: Extender flaps fitted to chutes of HQA-H (inner) wagons only.

Fitting Etched Details

To fit etched components to plastic, tack glue with polystyrene cement and when position is finalised, reinforce bond with liquid cyano. For 90° folds, etch line should be on inside, for 180° folds it should be on outside.

1. End strengtheners

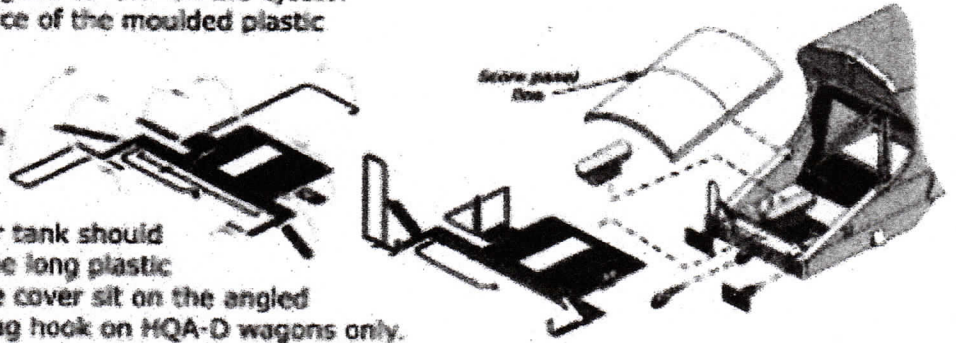
These are the same at each end and should be fitted first. Fold as shown. The semi-circular cutout is designed to "sit" on the ejector pin witness mark left on the lower surface of the moulded plastic inner end slope.



2. Brake End

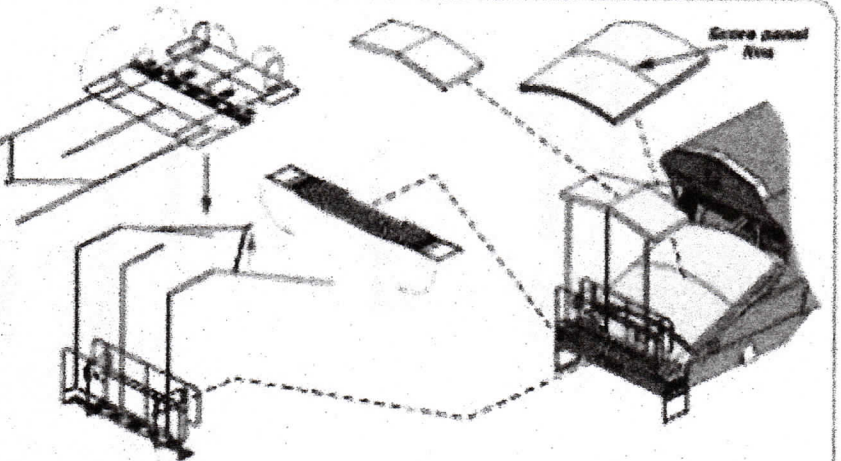
Fold and fit the brake gear etch with the upright lamp irons and handrail flush with the end of the buffer-beam.

Once positioned, the plastic moulded air tank should be glued in the positioning hole, then the long plastic end cover added. The lower ends of the cover sit on the angled etched supports. Fit buffers and coupling hook on HQA-D wagons only.



3a Canopy end - Non-generator

First, fold over the four platform support tabs, then fold up the handrails on either side. Using the half-etch marks, fold the canopy supports over and then angle the outer brackets down to fit as shown. The centre bracket bends up level to fit into a pilot hole drilled in the lower edge of the moulded end. Fit edge of platform base flush with buffer-beam, then add platform, which should sit slightly proud. Finally fit shorter curved end cover and angled plastic canopy. There are no buffers at the canopy ends of non-generator wagons.

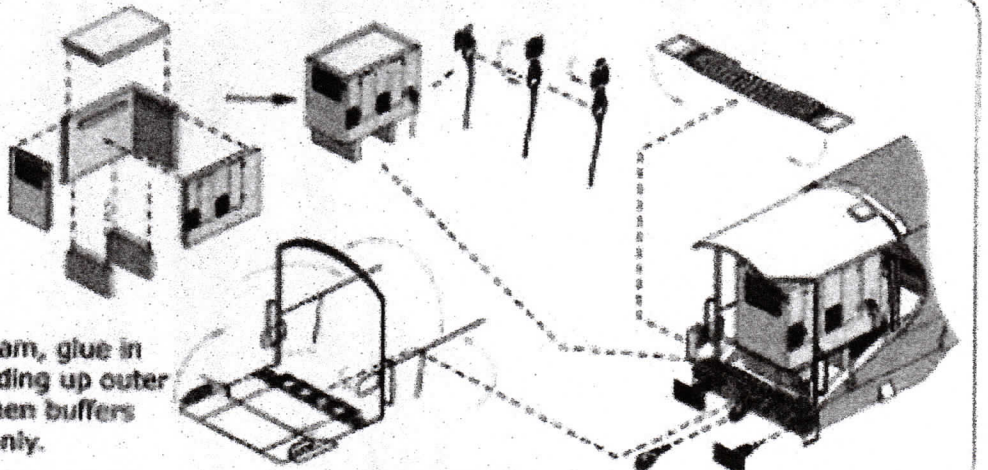


3b. Canopy end - Generator

Assemble the plastic moulded generator as shown. Fold and add the etched power cable. The small tabs fold over and inside, so the socket sits at an angle.

On handrail etch, fold over four platform base tabs, then fold up handrails and curved canopy roof support.

Fit edge of base flush with buffer-beam, glue in generator and fit platform before folding up outer handrails. Fit curved canopy roof, then buffers and coupler hook at generator end only.



4. Final detail parts

Add the etched lashing loops and footstep as shown.

The etched hand brake-wheels are fitted to the bogie at the non-platform end.

