

## Profile 50

## MRA Side-Tipping Ballast Wagons

<b>Build Details:</b>	2000-2 Thrall Europa (prototype and batch 1), 2004 Trinity Rail (batch 2)
<b>Numbering:</b>	501001-501400
<b>Bogies / Suspension:</b>	Axle Motion III
<b>Dimensions:</b>	60ft Length
<b>Published Drawings:</b>	n/a
<b>Areas of operation:</b>	Main-lines
<b>Main liveries:</b>	Railtrack cream/blue, yellow

### Summary:

Each MRA bogie ballast wagon has two shallow boxes which can be tipped to either side, discharging ballast onto parallel trackbeds. They operate in fixed rakes of 5 wagons, one of which is fitted with a generator to provide power and air to the whole set. The first 300 were delivered in a cream livery for use by Railtrack while a second batch of 100 was in yellow and branded Network Rail. 25 of the second batch were later transferred to GB Railfreight for use on the Metronet contract.

### History:



MRA-A 501034 at Westbury,  
2nd September 2005.  
*Martyn Read*

The prototype for the MRA fleet was built at Thrall Europa's York works in summer 2000, being numbered in the private owner series as TCMC28200 with TOPS code JQA (JQA-H). This was the only use of the TCMC owner prefix, it standing for Thrall Car Manufacturing Company. The wagon was finished in an overall dark green livery with large Thrall Europa lettering in white on the sides. It was mounted on what appeared to be TF25 type bogies and had solebars that were much deeper for the middle half of their length, the transitions being angled. The two load-containing boxes, with a capacity of 29 tonnes each, were about 1 metre tall with substantial vertical ribbing and a full-height, transverse partition. The lower half of the side of each box was formed of a bottom-hinged flap attached to pistons mounted on the ends of the box. When the box was tipped (using rams hidden inside the underframe), these pistons would extend and the flap would fold down to form a chute for the load to discharge over. The top half of the sides appeared to be top-hinged but this is not confirmed. The design was clearly based on the PTA/JQA tippers built for Thompson Quarries and Boothferry Borough Council in the late 1980s, although the height of the boxes was reduced considerably. Indeed, prior to constructing the prototype, Thrall borrowed the former Boothferry wagons, these having been recently overhauled for new owner Caib. The new prototype was tested with various loads including ballast and coal and was deregistered some time before 2005.

An order for 200 production wagons was placed in early 2001, it being intended that these would be owned by First Procurement Associates and used by Railtrack. A pre-production vehicle, numbered in the air-braked series as 501061, appeared in April of that year and was sent to Derby for acceptance tests. The TOPS code for this vehicle was MRA-D, and interestingly the fourth digit (the AARKND) was actually displayed on the vehicle in brackets. Design code was MR001D and the livery was cream with a blue band across the lower side flaps.

The intention was for the wagons to run in fixed sets of five, intermediate wagons being close-coupled by means of a bar. One of the outer wagons would carry a generator to provide power and air to the whole set. Three new TOPS codes were created, all being AARKND sub-types. MRA-A was for outer wagons with a generator, MRA-B for outer wagons without a

generator and MRA-C for inner wagons. As mentioned, the pre-production wagon was coded MRA-D and it could be that this was fitted with conventional drawgear at each end to allow for testing. This has not been confirmed and 501061 was modified as an MRA-B to design code MR002A in 2003.

The remainder of the first batch were delivered later in 2001 and into 2002. They were built by Thrall Europa but sources differ as to whether this took place at York or in the Czech Republic. The 200 wagons comprised MRA-A 501001-501060, MRA-B 501061-501120 and MRA-C 501121-501300, formed into 60 sets of 5 wagons (A+C+C+C+B). As built the formations were 501001 + 501121 + 501122 + 501123 + 501061, 501002 + 501124 + 501125 + 501126 + 501062 and so on to 501060 + 501298 + 501299 + 501300 + 501120. It is likely that as wagons are maintained this pattern may become jumbled but, as of late 2007, observations suggest that most were still running in original formation.

Compared to the green prototype, the production batch differed in being mounted on ABC-NACO Axle Motion III 'track-friendly' bogies and in the transition between deep and shallow sections of the solebar being curved. The MRA-A wagons had a longer gap between the two box bodies (which were slightly shorter as a result), this being where the generator was fitted. This was slightly taller than the box bodies and had a curious angled 'roof' which stands out when the type is seen from a distance. The livery was as per the pre-production wagon being cream with a blue band. On this was Railtrack lettering and the 'Renewing Your Railway' slogan. Other lettering on the bodies comprised large blue code letters in the top corners of each box side. These read AL, AR, BL, BR and referred to the box (A or B) and the side (left or right). The last three digits of the wagon number were also carried on the boxes, appearing at the top corners of each lower side flap, and (behind these) at the bottom corners of the upper flap. The wagon number, or at least part of it, therefore appeared 10 times on each wagon! The TOPS codes applied included the AARKND in brackets.

In operation, these wagons would be positioned on a track parallel to one being worked on. The box bodies would then be tipped, one at a time, by staff using a radio control device. It is not known if any rail clamping (as featured on the older Mermaid type to prevent wagons tipping over) was required. The design codes were originally MR001A/B/C but were changed in 2003 with MR001A becoming MR004A, MR001B becoming MR005A and MR001C becoming MR006A. There were some modifications made to the door locks at about this time so the recoding could be in connection with this. With the changeover from Railtrack to Network Rail, labels with the new name were applied over the original lettering.

A second batch of 100 wagons was ordered and delivered in 2004, these being built in Romania at the Astro Vagoane works of Trinity Rail. Although described as Mk1Is, the only readily apparent differences were the lower body-side flaps (which were now smooth rather than partially ribbed) and the all-over yellow livery that was applied. The order was again divided between three types to make up 20 rakes of 5 wagons. 501301-501320 were outer wagons with generators, coded MRA-D and to design code MR004C. 501321-501340 were plain outer wagons (MRA-E, MR005C) and 501341-501400 were inner wagons (MRA-F, MR006C).



In 2006 GB Railfreight was receiving new wagons for use on its Metronet track renewal contract. Rather than buy more MRAs, an agreement was reached with Network Rail whereby 5 of the 20 MRA sets from the second batch would be transferred to GB Railfreight. In return, NR would receive 50 of the newly-built MLA low-sided bogie box wagons. The MRAs had their logos replaced by ones for Metronet, London Underground and GB Railfreight, while the bodyside slogan became 'Metronet. Renewing the Tube'. Wagons transferred were the first 5 sets (501301-501305, 501321-501325 and 501341-501355).

## Updates