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# Mousa Models

## BRK0441/4 GNR D.277 45' Brake Third Assembly Notes

Please read and thoroughly digest before starting this kit.

### The Joys of Resin

There are a number of aspects of resin models that may be unfamiliar to some people. They can be summarised as:

- **Flash:** Due to the casting process there will always be more or less flash in internal spaces in the castings. Flash can be removed by scraping with the blade of a sharp knife or scalpel. It is important for the smooth running of this coach that any flash around the bogie central bolster is removed and the bolster is free to move.

- **Feeds:** There are both mould feeds, rough areas where the resin was poured in, and risers, holes through which air was allowed to escape. These should all be removed, especially on mating surfaces, i.e. between the body and underframe. Small ones can be be pared back with a sharp knife, larger ones may need the use of a rotary power tool such as a Dremel.

- **Holes:** The moulds used for casting can't cope with small deep holes. The positions of these are marked by a cast-in dimple. Unless otherwise stated the holes should be drilled 0.5 mm. As the resin is relatively soft using a drill in a pin vice will be sufficient.

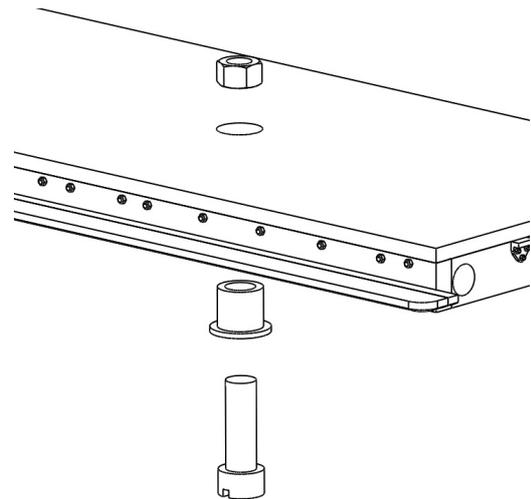
- **Distortion:** The resin can distort if it has been held out of position for some time. The ends of the roof are particularly susceptible. The distortion can be remove by heating the component in hot water and then holding it straight while it cools.

- **Fixing:** Cyanoacrylates (super glue) works well on resin. A toughened type such as Hafix, Loctite 435 or Permabond 735 works very well.

### Assembly

#### Underframes

- **Bogie Pivots:** When the underframe has been cleaned up the nuts for the bogie pivots can be fixed. Place the nut into the hole on the top face of the underframe. Then, after greasing the end of the bolt, assemble the pivot by threading the bolt through the top hat bearing and screwing it into the nut.



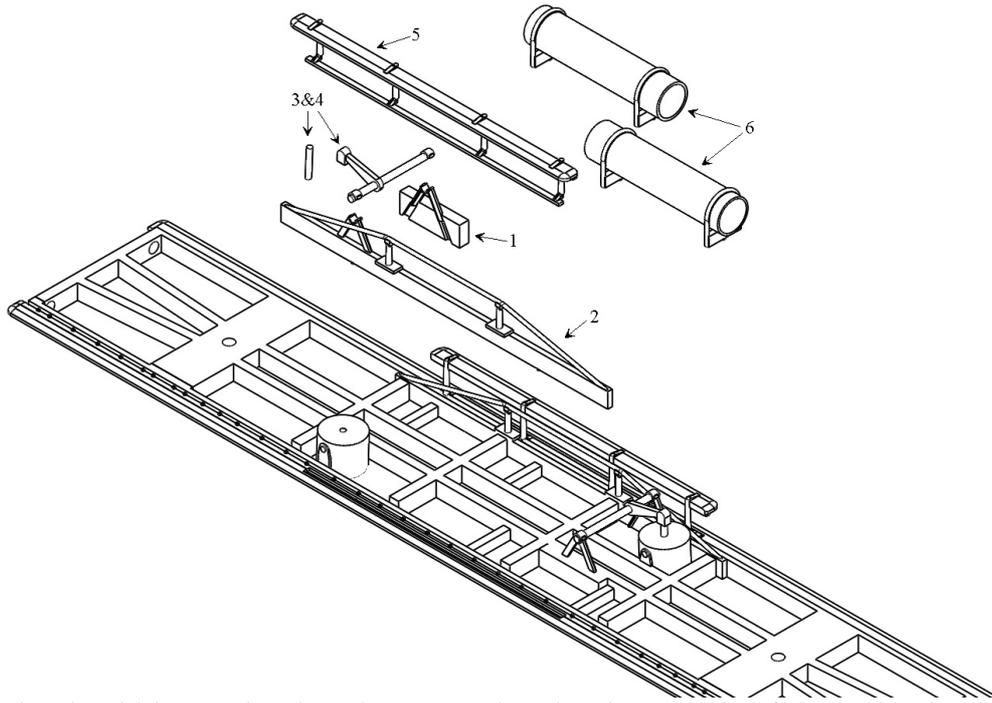
The nut can then be glued in place.

- **V-Hangers:** These may need trimming to fit into their space in the underframe.

- **Brake Cylinder:** The brake cylinder push rod is made from the supplied piece of 1 mm brass wire. It should be approximately 6 mm long.

- **Lower Footboards:** These are fragile, as were the originals. They can be strengthened somewhat by ensuring that the top part of the supports are glued to the face of the solebar as well as the underside of the upper footboard.

## ▪ Underframe Build Sequence



Both gas tanks should be put in place last, note that the 'long' ends of the tanks should be placed toward the centre of the underframe

## Fixing the Body to the Underframe.

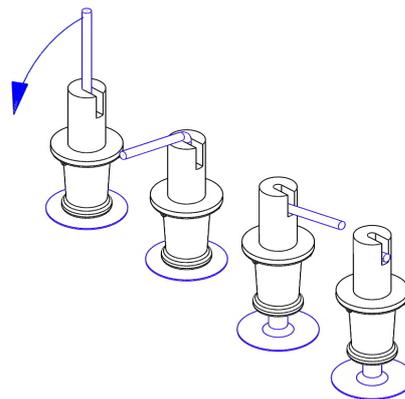
The body fixing catches really work as intended. If there are two catches then the underframe will be centred on the body, if not, the remaining catch should be removed and the underframe manually centred. The two parts can now be temporarily taped together. The final fixing utilising the enclosed self tapping screw:

- Drill a 1 mm hole in the centre of the combined underframe and body
- Separate the two parts
- Open out the hole in the underframe give clearance to the screw
- Re-assemble the body and underframe inserting the screw through the underframe and into the body

The space beneath the centre seats has been filled in and this is the only place in the body that is thick enough to take the screw.

## Buffers

These coaches had almost rectangular buffer faces. The faces have been cast, but will need sanding down to thin the edges. The guides have slots to prevent the heads turning.



The sequence of making the buffers should go something like this:

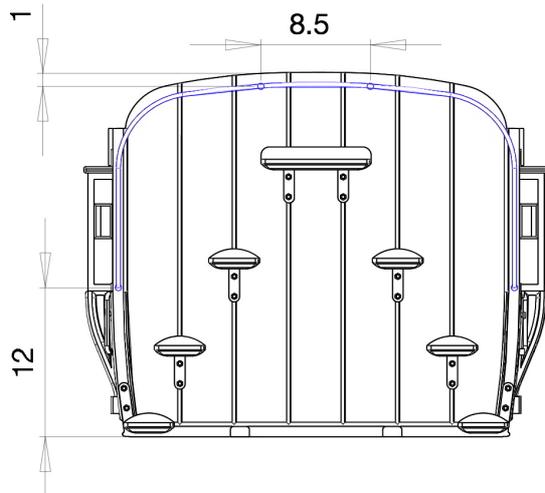
- Paint the Buffer guide
- Assemble the buffer, as above
- Locate and glue the assembled buffer in the headstock ensuring that one bolt head is at 9 o'clock
- Glue the oval overlay onto the buffer face, ensuring that the widest axis is horizontal.

## Weight

The finished coaches weigh in the region of 80 grams, more weight can be added but the construction of the bogies suggest that the all up weight should not exceed about 120 grams.

## End Handrails

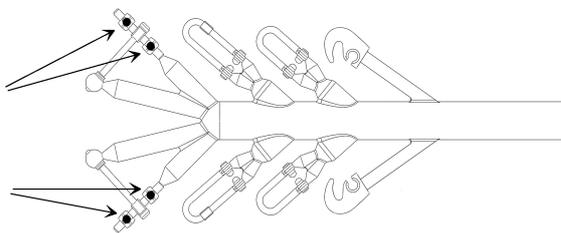
There are no dimples for locating the handrails on the end with the steps. The positions are indicated here



The end handrail wire should be 57 mm between returns.

## Screw Couplings

The central bar of the couplings need to be drilled through 0.5 mm.



The links are assembled by clipping the 'U' links into the holes in the central bar. Note that the inner 'U' link has a gedge to allow it to be inserted into the coupling hook.

## Windows

The windows are made from thin acrylic sheet. They are designed to be fitted from the outside so care must be taken when removing the flash from the reveals. They can be fixed by running thin varnish, superglue or Klear into a corner so that it wicks into the space between the window and the body.

The windows have a protection film on both sides. It has been suggested that if the film is retained on the outside face of the windows and the windows glued in, the films can be removed after the body has been painted. If anyone gets this to work I would be interested in hearing from them.

Three window strips have been included as some of the smaller ones became distorted when they were cut, and because they are transparent and easily missed if dropped.

## Liveries

### GNR

- **Sides, Ends and Wheel centres:** Varnished teak.
- **Lining:** 3/8in primrose lines flanked by 1/16in blue on all beading between windows and on the lower panel mouldings.
- **Solebars and headstocks:** Teak coloured paint.
- **Underframes, bogies and buffer guides:** Black.
- **Roof:** White, quickly oxidising to charcoal grey.
- **Lettering:** Block style letters in gold leaf shaded blue and white. Class designations spelt out. Monograms on passenger doors.

There are no correct commercially available transfers for these coaches.

- **LNER**

- **Sides:** Varnished teak.

- **Lining:** None.

- **Solebars headstocks and Wheel centres:**  
Teak coloured paint.

- **Underframes, bogies, Ends, Headstocks and buffer guides:** Black.

- **Roof:** White, quickly oxidising to charcoal grey

- **Lettering:** Standard LNER letters in primrose, shaded red and white. Class designation numerals.