



AML-001 Cape Government Railways

0-4-0T C Type 'Midget'

4mm Scale – Gauge 009

Designed for the Minitrains Fiddletown & Copperopolis
Locomotive Chassis

Tools required:

- Sharp craft knife or scalpel
- Tweezers
- Needle file
- Emery paper or boards
- Superglue
- Wirecutters
- Razor Saw or a Junior Hacksaw
- Wet and Dry paper (320 and 640 grade)
- White Spirit
- Sharp Fret Snips

Parts Required:

- 0.7mm Brass Rod
- Your choice of Couplings

Please read instructions in full before starting.



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Prototype Info:

The prototype engine was built by Manning Wardle for the Cape Government Railway in 1902 with the work's number '1583'. The engine was used in construction work of the Avontuur Branch Line remaining on the line after construction was complete. The engine was assimilated into South African Railways in 1912 being renumbered as NG20. It was sold into industrial service to the West Rand Consolidated Mines near Krugersdorp in 1921. With withdrawal in the 1950s, the engine was stored, and later Preserved at Gold Reef City south of Johannesburg where the engine remains to this day. The kit represents the engine when operating on the Avontuur Branchline in the 1910s.

About the Kit:

The kit is comprised of a 3D printed plastic body shell and a fret of etched nickel silver detail parts. For the majority of the parts, no folding is required, and they can all be glued in place. We recommend sparing use of liquid superglue for assembly, ideally using a bottle with a thin applicator nozzle.

Due to the nature of the 3D printing process, some support material may still be present on the bottom facing edge of the body shell, particularly inside the cab windows. Check the coupling slots in the buffer beams as these often have a support strut inside. The plastic used has similar properties to the ABS commonly used in injection-moulded kits and may be easily cleaned up with a sharp knife and fine wet and dry paper or emery boards.

Please note this is a scale model for adult collectors and not intended for children under 14 years of age

Chassis fixing:

The kit is designed to fit a Minitrains F&C 0-4-0 chassis. The mechanism is well known for its good running qualities. Please read assembly notes for details of how to fit the chassis.

Couplings:

The kit is supplied without couplings, we recommend you select your preference from the RT Models range (for a UK outline model).

Alternatively, if you wish to add automated couplings, the Greenwich coupling can be used with a small slot left in the bufferbeam to fit a assembled coupling though both the etched buffer beam overlay and bufferbeam itself. It can be glued in place by bending the tail 90 degrees downwards behind the rear surface of the buffer beam to provide a suitable area to attach the coupling. These are available from the Greenwich and District Narrow Gauge Railway Society and several other suppliers.

Assembly Notes:

1. Clean up the 3D printed body

Use a fine wet and dry paper (320 then 640 grade if possible) in water to achieve a smooth finish to the cab sides and tanks. Rinse the model in a white spirit to remove any traces of printing residue or grease from handling.

2. Check the donor chassis

Before removing the body from your donor locomotive, we suggest you run the model in following the manufacturer's instructions. The body can be removed by unscrewing the funnel and gently pulling the body from the chassis, being careful to not damage the valve gear. The cab can be a tight fit around the motor so care should be exercised. Note once the body is removed the cylinders are no longer held in place so handle the chassis carefully.

3. Modifying the Chassis

As designed, the donor chassis will not fit the 3D print. It is necessary to cut the section forward of the cylinders off using a razor saw or junior hacksaw. This should then be filed to give a flush clean edge parallel with the cylinder moulding.

4. Test fit the body

Offer up the body to the chassis to check for alignment and fitting. No adjustment should be necessary, but if required remove a small amount of material with a sharp craft knife. Alternatively, a small amount can be filed off the chassis to give a snug interference fit with the chassis.

5. Priming

Remove the body from the chassis. It is suggested that a coat of primer is applied to the body at this stage. The model is printed in a material that should be safe to use with most model primers, we recommend Halfords 'plastic' primer. Once dry, any imperfections in surface finish can be addressed with more 640 grade wet and dry paper and a further coat of primer.

6. Detailing

The etched components can now be removed carefully from the fret using a sharp knife against a piece of glass, solid surface or using sharp snips. Once removed from the fret the edges can be smoothed down using a needle file to remove traces of tabs. It is recommended that all parts are fitted with superglue.

First of all, the front cab sheet can be cut out and applied to the front of the cab area. Then, you can look to attach the two cab side overlays. With both of these, it is recommended that you apply the etch from the cab end leaving the end which folds around the front of the side tanks projecting out from the front of the model. Once the glue has dried, you can then curve the etch around the front of the tank gluing it into place. Repeat for the other side. The cab roof can then be precurved and glued onto the cab shell. There should then be two bufferbeam etches on the sheet. There is a smaller one which is intended for the rear bufferbeam and the larger one being for the front bufferbeam. It is recommended that the builders plate and nameplates are applied after painting by the modeller.

7. Weight

To improve the performance of the model it is suggested that fluid lead or liquid gravity is added within the boiler and side tanks. These are accessed through the cab. This is available from Eileen's Emporium or any plumbing supplier. It is recommended that this is secured with superglue.

8. Painting and finishing

The actual colour for 'Midget' is unknown although it is suspected to have been delivered in the standard Manning Wardle 'Holly Green' livery lined in Yellow. The smokebox and cab roof should be painted matt black. Crew can be added, a number of figures from the Dapol range will fit each side of the motor and go some way to hiding this in the cab. The works plates should be painted black whilst attached to the fret, once the paint goes tacky (about 5 minutes if using Humbrol enamel) then flip the plate over onto a piece of white card and using gentle finger pressure rub the plate in a circular motion. You will remove all traces of paint from the raised surfaces without scratching the metal. These can be cut out carefully and removed. There are a pair of cab side plates and a pair of nameplates. Your choice of couplings can be fitted. Fit the body to the chassis.



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Acknowledgements

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About Avontuur Models

Avontuur Models was founded in 2020 and offers a growing range of SAR prototypes both on Shapeways and through the Bowaters Models Webstore.

This kit is the start of a new range of South African prototypes and was designed by Jon Reeves and James Hilton. If you have any queries about the model or instructions, please get in touch.

Contact Details

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Useful Links

- RT Models - <http://rtmodels.co.uk/>
- Greenwich Couplings - <https://shop.narrowplanet.co.uk/collections/gdngrs>