

# MERIDIAN MODELS MM15

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## MOTOR RAIL & TRAMCAR Co. Ltd. 40HP PETROL TRACTOR

### HISTORY

These locos have become more commonly known today as 'Simplex'\* and were constructed for the British War office for use on the forward area trench supply railway networks during the First World War, 1914-1918. The requirement was for a larger and more powerful loco than the existing 20HP open locos. Using common engine and under frame, three versions were built: OPEN (O) - without doors and fitted with a light roof; PROTECTED (P) - with a heavier roof, doors and side and end visors; ARMoured (A) - with a fully enclosed body able to withstand small arms fire and shrapnel.

The protected variant was the most numerous type of this locomotive with over 200 examples built. Armoured locos as built numbered only 27 but a later conversion of open types increased this to an unknown total. After WW1 many, both in France and in storage in the UK, were sold off as surplus and used on industrial lines and in quarries, the most notable being the sand lines around Leighton Buzzard, Bedfordshire. Other users include the Festiniog Railway and Knostrop Sewage works in Leeds.

Currently (2007) a number of these preserved locos can be seen at: the Leighton Buzzard Narrow Gauge Railway, Beds (P) and (A), the latter under restoration; Duxford Museum, Cambridgeshire (P); Amberley Working Museum, West Sussex (O); the Festiniog Railway, Porthmadog, Gwynedd is home to 2 open Simplexes. A further protected loco is in the care of the Moseley Industrial Railway Trust and has visited several lines in the UK and France.

The name SIMPLEX is a trade name used by Motor Rail Ltd. for its loco series and later as part of its company name, Simplex Mechanical Handling Ltd. In 1987 the locomotive side of the business was taken over by Alan Keef Ltd., light railway engineers and loco builders who now supply new Simplex locos to the UK and export them for use around the world. We are grateful to Alan Keef Ltd. for their permission to allow us to use the Simplex logo on our kits.

### BIBLIOGRAPHY

Light Railways of the First World War, Davies WJK, David & Charles  
Narrow Gauge at War, Taylorson (Keith), Plateway Press  
The Leighton Buzzard Light Railway, Davies WJK, Oakwood Press

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### ABOUT THIS KIT

The castings and etched parts supplied in this kit will enable one loco of either 'armoured' or 'protected versions to be constructed are designed to fit on a chassis unit adapted from the JOUEF produced 'Decauville' steam locomotive. Either version of this HOe/009 loco as first produced in 1968 may be used, though the illustration in these instructions shows the 1980's version with a 'can' motor. These robust locos can only be obtained, fairly easily, on the 'previously owned' market. A much higher quality (and also much quieter!) drive unit can be used by substituting the Jouef chassis with an adapted chassis taken from an Arnold N Scale KOF III, for which instructions are also provided.

### BEFORE YOU BEGIN

Please read and study thoroughly the instruction notes, exploded diagrams and the recommended order of building. Try to become as familiar as possible with all the parts and components supplied and their purposes before commencing building. Check the assembly at each stage to ensure accuracy.

Apart from a few times when it is needed during construction keep the motor and chassis away from the work area. This avoids contamination from metal filings.

Work on a clear area under a good light source. Have all the recommended tools to hand before starting. Do not rush the assembly stages or attempt them out of order. Clean any 'flash' or moulding lines from castings only after checking that to do so will not interfere with the fit or appearance of the part. A sharp knife will remove most flash. Only use files on parts with care as the white metal is easily marked by careless or overzealous work with cutting tools. Use wet and dry paper wherever possible and a final polishing with a fibreglass pen or scratch stick.

Use filler, e.g., epoxy putty (Milliput) if any gaps are present, smoothing filler with wet and dry paper (400 grit or finer).

## TOOLS REQUIRED

We recommended that you have a good quality set of Swiss needle files, wet and dry abrasive paper of various grades. Sharp knife, pin chuck, small drills and fine nose pliers. A square of flat thick card or wood is a useful surface to work on.

The primary, and strongest method, of assembly for this kit is by soldering - the white-metal parts using low-melting solders and matching fluxes - the etched brass parts really can only be assembled successfully by soldering - preferably applied using a temperature controlled electric soldering iron or a 12 volt iron with the temperature regulated via a power controller. Soldering gives an uncompromisingly quick and robust result and is a technique well worth mastering and is not such a daunting method as is imagined by some. With the white-metal parts an additional bonus is that the searching action of properly applied solders acts as filler. Some components will still need to be glued in place particularly the small details etched and cast detail parts, thus preventing possible damage through excessive heat.

If you insist on a wholly glue assembly of the white-metal structure quick setting epoxy resins, five or ten minute, may be used or a cyano-acrylate 'superglue' variant but not of the instant stick type. A gap filling variety such as Zap - a - Gap with a slower grab time gives some adjustment during setting - oh! and make certain to get some of the de-bonder at the same time as it may come in useful - make certain that all parts are clean and free of dust and grease before fixing.

## ETCHINGS

The etched fret supplied with this kit is in 12 thou' brass. The brass etch provides parts MM1 and if you are building MM5, the upper parts of the loco roof and detail parts. The etching process leaves a fine raised lip or cusp on the edge of parts, which can be removed with gentle strokes of a fine cut CLEAN file. But do this before bending up of any parts.

Remove parts from frets only as and when required. This not only keeps them flat but also helps to prevent part loss. Parts should be cut out using a SHARP craft knife cutting onto a wood board (plywood or chipboard) Hold gently with hand pressure and cut away from fingers! We can replace kit parts but not digits.

NOTE: - When cutting out etches your eyes should be protected, use safety glasses or eye shields.

Bending up of etched parts requires hand and finger pressure only. Holding parts with tools if needed with packing, card to protect raised detail.

## SOLDERING

### Etched brass parts: -

Carr's 145 C melting point solder with Green Label flux.  
15 - 18 Watt electric soldering iron 1/8th inch bit max.

### White-metal parts:-

Carr's 70 C melting point solder with Red Label flux  
12 volt or temperature controlled electric soldering iron

Remember to thoroughly clean the finished soldering work up as you go as the mildly corrosive action of fluxes can tarnish the metalwork in short time. A solution of domestic scouring powder, Ajax, Cif etc., and warm water applied with an old toothbrush is quite effective. Rinse well and leave to dry.

## RECOMMENDED BUILDING SEQUENCE

The 'exploded' drawings show the assembly sequence for the body in detail, also the adaptation of the chosen drive unit. For MM5 only the brass rod supplied for the roof staunchions is a tight fit by design into the etched holes, some GENTLE easing out to achieve a good fit will be required. Do this BEFORE cutting out the parts from the fret. The brass tube exhaust pipe extension is fitted last of all.

## PAINTING AND FINISHING

Carefully wash the body to remove grease, flux and metal residue and prime, we recommend Halfords grey acrylic car primer.

WDLR: - The paint scheme applied to locos in France was certainly green from evidence seen in paint samples taken from existing I/C engined locos. A shade that can be used is available as Southern Railway 'Maunsell' Light Olive (we paint our own works locos with this colour with just a touch of white added for a weathered effect) - the raised lettering on the works plate and on the WDLR number is white on some locos. A study of photographs in the recommended bibliography is useful for determining finer details of weathering, etc.

We highly advise the use of an air-brush for painting, even the most basic of which will give a much better finish than hand brushing and will avoid that 'just dipped in a tin' look. Thinly airbrushed coats of acrylic paint will also not obscure the fine surface detail on castings and etched parts.

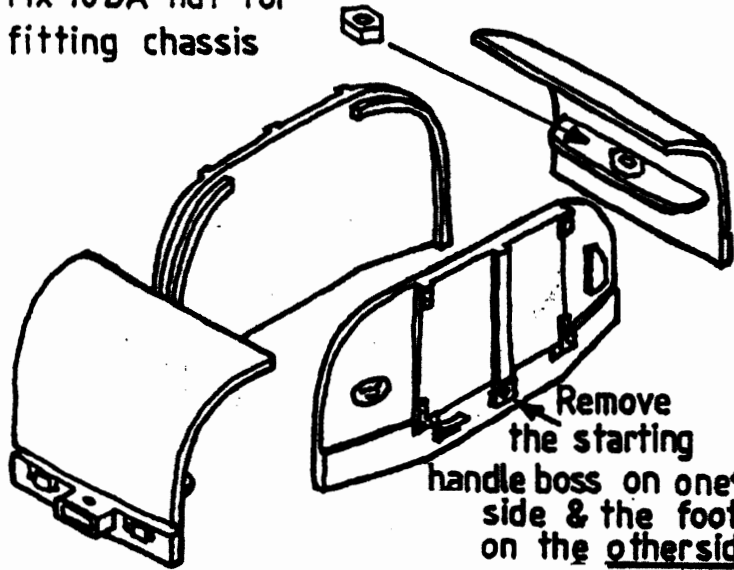
# PROTECTED 40hp SIMPLEX

## Basic body (Decauville chassis)

### Stage 1.

### Stage 2. (Note fold lines do not follow normal practice)

Fix 10BA nut for fitting chassis

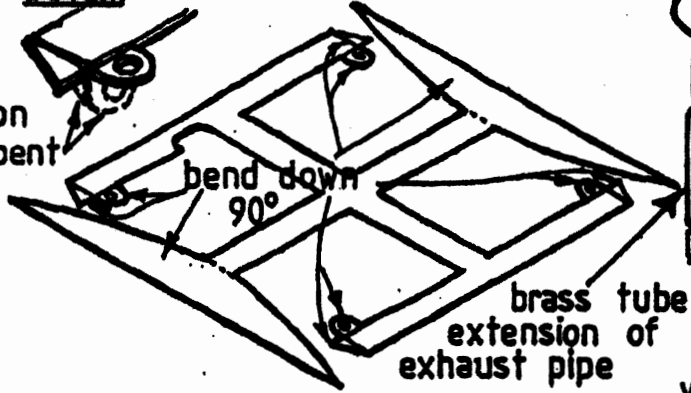


For fitting MPD18 please see instructions enclosed with the chassis kit

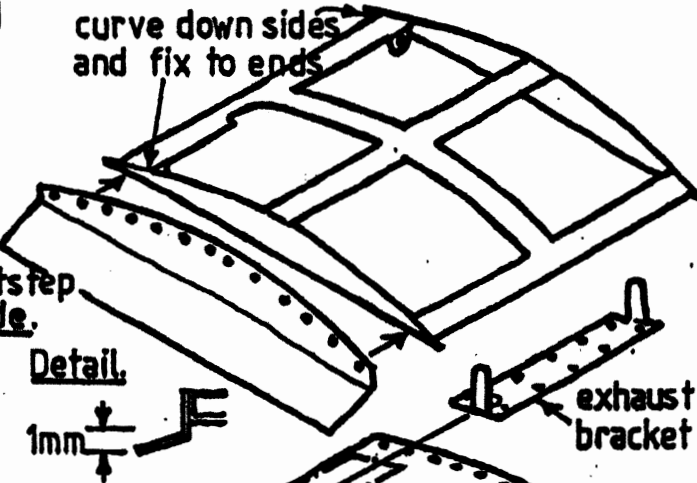


Detail.

position when bent



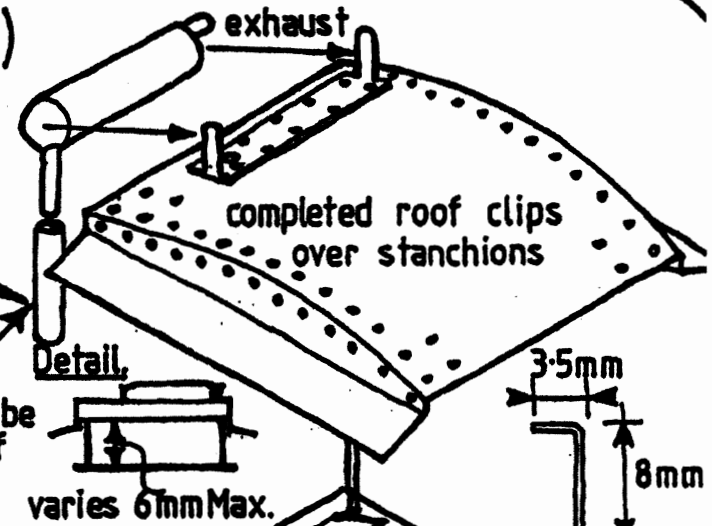
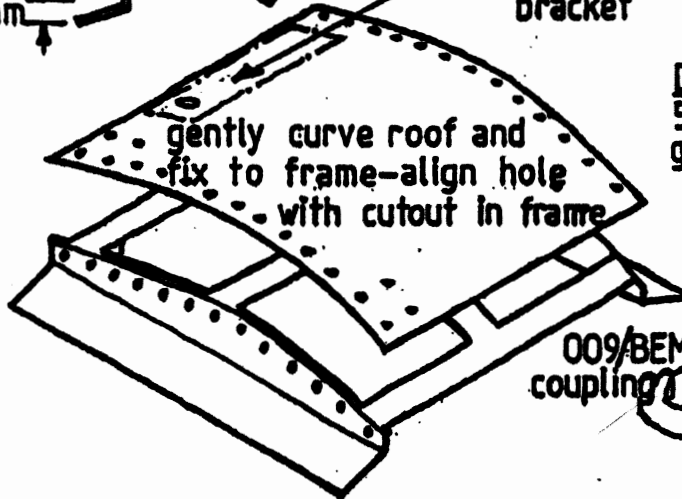
curve down sides and fix to ends



Detail.

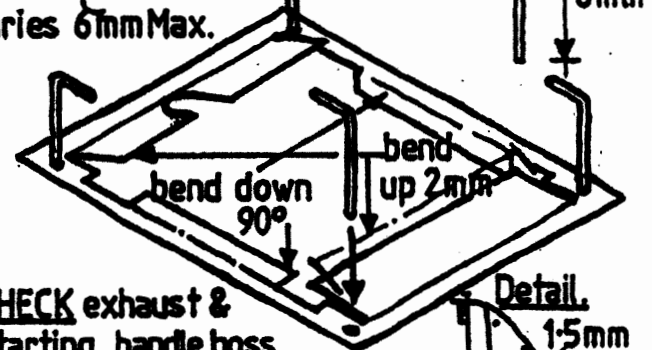
1mm

gently curve roof and fix to frame-align hole with cutout in frame



Detail.

varies 6mm Max.



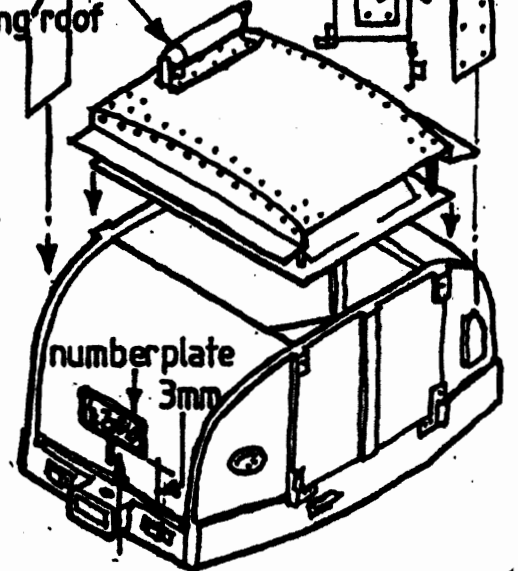
CHECK exhaust & starting handle boss are on same side before fixing roof

Detail.

1.5mm

Detail.

5mm min. gap

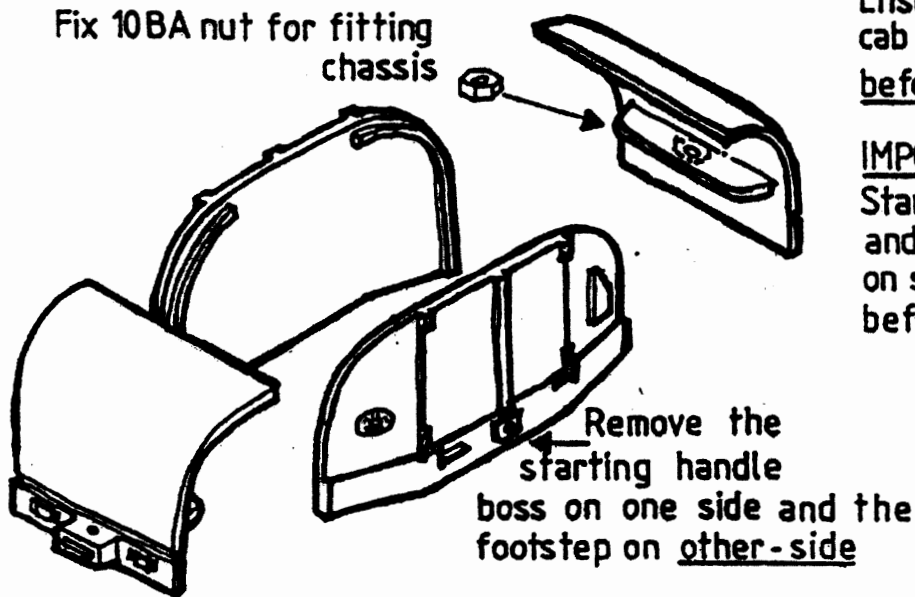


009/BEMO coupling

# ARMOURED 40hp SIMPLEX

Basic body (Decauville chassis)

## Stage 1.



For fitting MPD18 please see instructions enclosed with the chassis kit

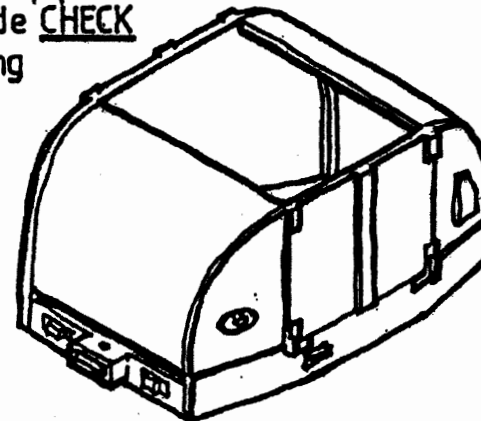
## Stage 2

Note position of hole for exhaust pipe

Ensure these parts give cab a level bottom before fixing

### IMPORTANT NOTE

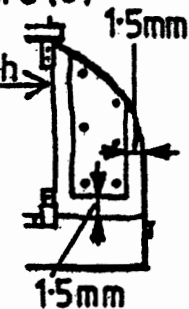
Starting handle boss and exhaust pipe are on same side CHECK before fixing



## Stage 3

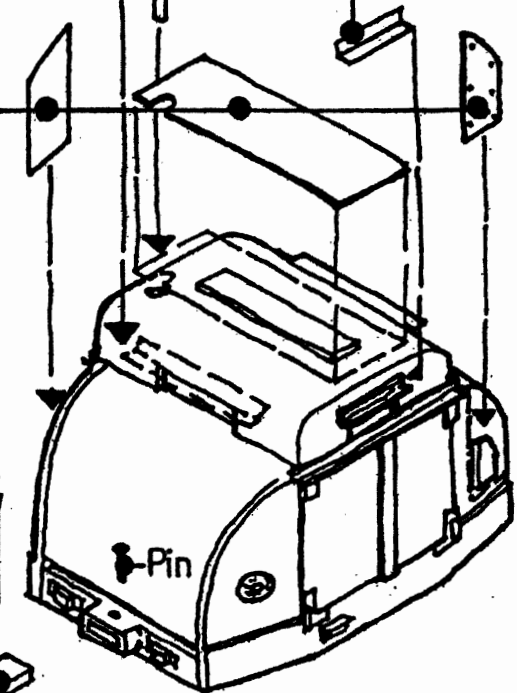
Etched brass vent covers (3) roof cover located by exhaust. Ends see sketch

Etched brass visors over lookout: fold as sketch → 135° Etch line



Exhaust

Replacement visors-note A



Gap note B

Pin

009/BEMO coupling

### GENERAL NOTES

- A. If it is wished to have visors of the thickness remove those on casting and fit etched brass ones supplied.
- B. If 009/BEMO coupling is used ensure the gap between body and back of hook is 5mm min.



