MERIDIAN MODELS MM3
MORELAND AVENUE
BENFLEET, ESSEX, SS7 4HB
E-mail; - meridianmodels.rosa@talk21.com

RUSTON & HORNSBY LTD.
27 – 32HP 4WD LOCO

HISTORY

Ruston & Hornsby of Lincoln was formed in 1918 by the merger of two firms, one of whom, Richard Hornsby & Sons pioneered the British development heavy oil engines better known as the diesel engine. For more than 50 years Ruston built locomotives in a wide variety of sizes, narrow and standard gauge, engine power and designs for all forms of industry at home and abroad. It was estimated that at one period in the 1960's one in four of all industrial locos was a Ruston product. Enthusiasts have preserved a large number of the locos. Our model is based on one such that previously worked at the A.P.C.M. quarry situated at Rodmell, nr. Lewes in Sussex. The loco is now part of the large collection at the Leighton Buzzard Railway, Bedfordshire. This 2 foot ex-sand carrying tourist line also has a number of other Ruston products as well as other similar locos.

ABOUT THIS KIT.....

This loco superstructure has been designed around the chassis unit of a Minitrix 'N' scale 0-6-0 locomotive. Either the British outline 'LMS/BR' shunter or the German outline branchline loco, both have solid disc wheels and connecting rods only. Modifications are required to adapt the chassis to fit this to the body. Please ensure that the loco/chassis works well before commencing alterations, as these will compromise the manufacturers warranty.

BIBLOGRAPHY

Ruston & Hornsby Locomotives, Eric Tonks, Industrial Railway Society
Industrial Narrow Gauge Handbook, Roy C. Link, Narrow Gauge & Industrial.

BEFORE YOU BEGIN

Please read and study thoroughly the instructional 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 fibre-glass pen or scratch stick.

Use a filler, 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 long 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 of the cab really can only be built 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 cyanoacrylate '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.

The etched fret supplied with this kit is in 12 thou' brass. The brass etch provides parts for the cab, side frames and small details. 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

Ye black art of the alchemist used since times ancient to transform flat-packed kits into fine working models (as practiced in the northern Backwoods of England).

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 etc., and warm water applied with an old toothbrush is quite effective. Rinse well and leave to dry.

RECOMMENDED BUILDING SEQUENCE

Minitrix 0-6-0 chassis.

Carefully dismantle the loco by removing the die-cast body. The modifications to this unit are shown in detail on the exploded diagram. When disassembled keep the motor unit apart from fixing bolts and screws. As manufactured the outer wheels of axle 1 and 3 are of a larger diameter than the centre pair. If a second spare centre axle can be obtained remove and re-mount the smaller wheels on driven axle number 3. This gives a nearer to scale wheel size than the larger wheels used. Refer to building stage 5 for further details. The copper pickup wiper from axle 1 is bent back and sprung to the relocated wheel set.

Trial fit to part 'L' to check for level, test run and set aside.

BODY ASSEMBLY NOTES

The recommended method of assembly is shown in detail in the exploded diagrams. The following note will be of use; -

Stage 1. Affix the 10BA nut 'U' to the chassis part 'L' and check the fit of radiator tower 'H'. Relieve the cut out as necessary.

Stage 2. Assemble in order. Bonnet top 'M', air intake cover 'N' and fuel tank 'O' ease out the fuel tank mounting cut out as required, ensure tank filler cap is on top!

Stage 3. Cut out cab/frame 'A' from brass fret and bend to shape. Start with the small return on the driver's entrance side.

Stage 4. Trial fit cab unit to bonnet assembly, ensuring a square fit in both planes. Use a flat surface and a square to check.

Stage 5. Identify front buffer block 'R (the thin one!) and rear buffer block 'P' (the thick one!) and fix accordingly. Part 'Q' with the cast ledge aligns the rear of the chassis. Noting that the ledge is near the top edge. The axle-box details parts 'S' fit into the angle formed by the etched brass and cast frame members.

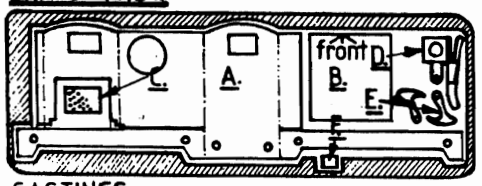
Stage 6. The 009 couplers 'V' – Trim mounting pegs and fix into buffer blocks.

PAINTING AND FINISHING DETAILS

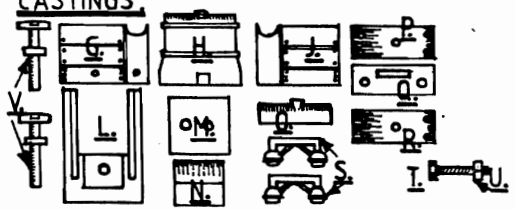
Carefully wash the body to remove grease, flux and metal residue and prime, we recommend Halfords grey acrylic car primer. Ruston painted locos in green, dark green lined in gold in the early years but later in a shade of light green, Humbrol 80 Grass Green approximates. Customer's liveries varied considerably and a study of preserved examples will show this. In industrial service colour became worn very quickly with use in often arduous conditions. A coat of dry-brushed dust and grime will highlight fine detail. The 'Dirt, Damage and Decay' section of Roy C. Link's Industrial Narrow Gauge Handbook is highly recommended.

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.

BRASS FRET.



CASTINGS.



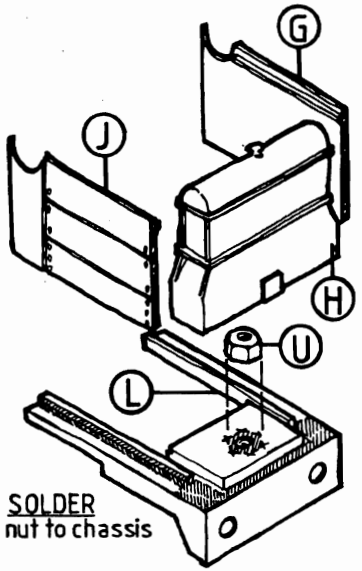
List of parts.

Brass fret.

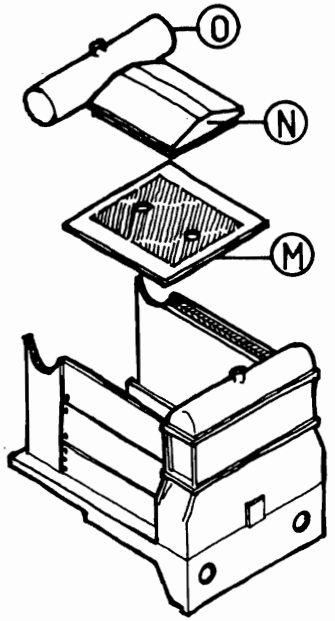
A- Cab & chassis sides.
B- Cab roof [mark front edge before cutting off]
C- Radiator grille.
D- Pick up.
E- Chopper hooks - 2
F- Ruston plate.

Whitemetal

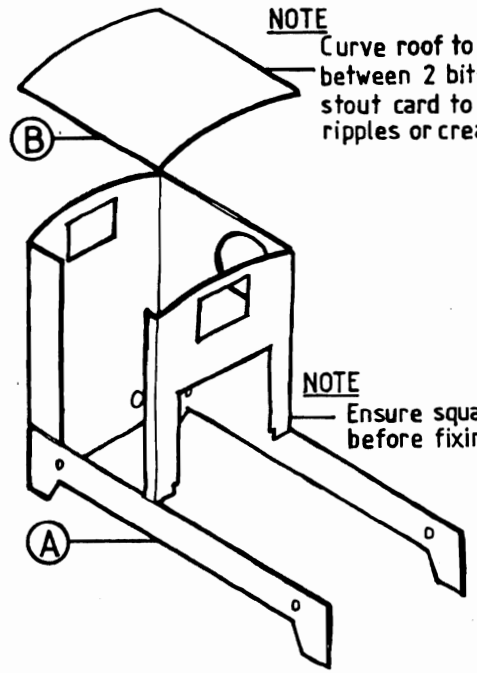
G- LH Bonnet side.
H- Radiator block.
J- RH Bonnet side.
L- Chassis.
M- Bonnet top
N- Air vent
O- Fuel tank.
P- Rear buffer
Q- Backplate.
R- Front buffer [thin]
S- Chassis sides [2]
T- 10 B.A. bolt.
U- 10 BA nut.
V- 009 coupling [2]



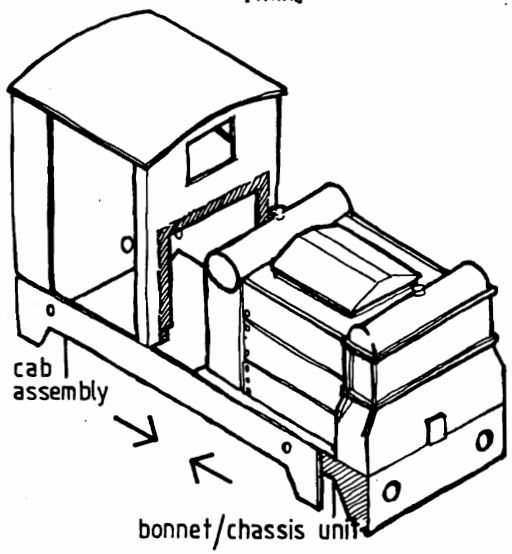
stage 1



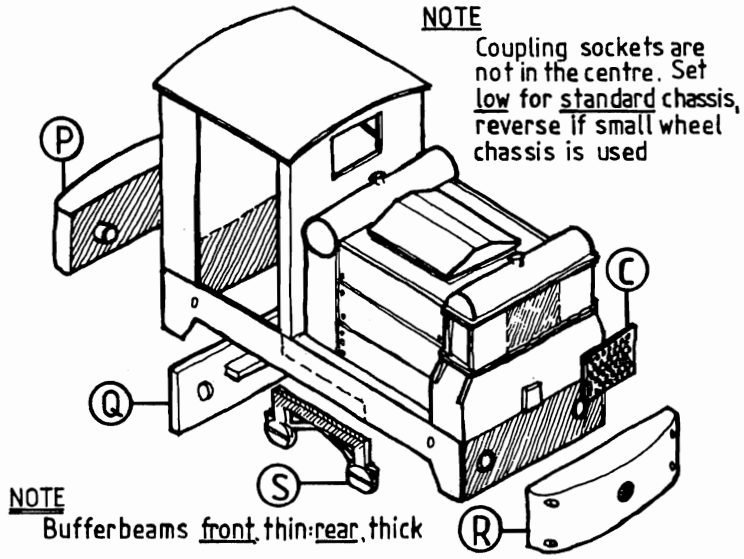
stage 2



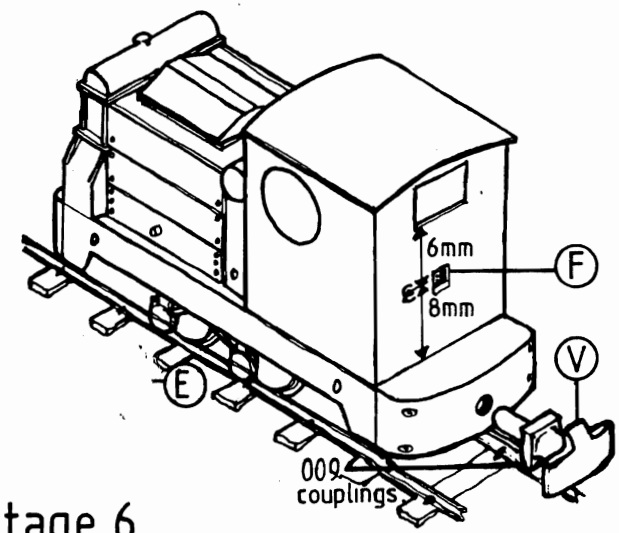
stage 3



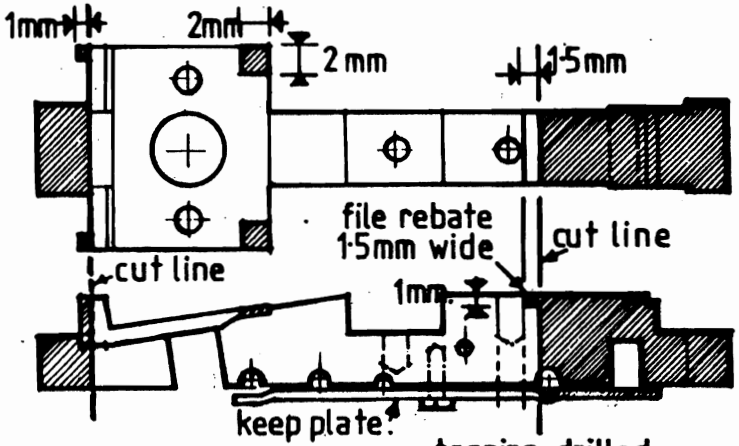
stage 4



stage 5

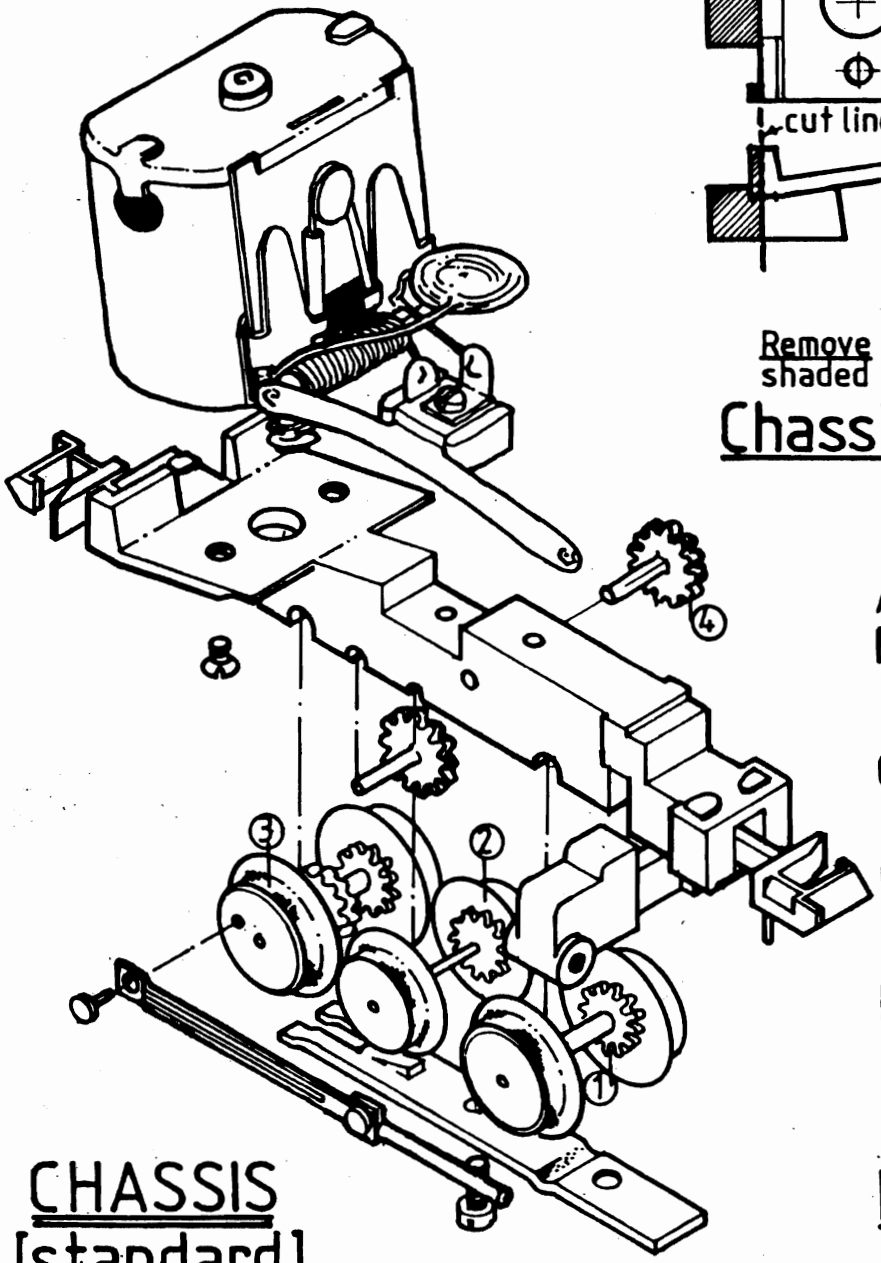


stage 6



Remove all shaded areas

Chassis details.



CHASSIS
[standard]

A. Take chassis apart.

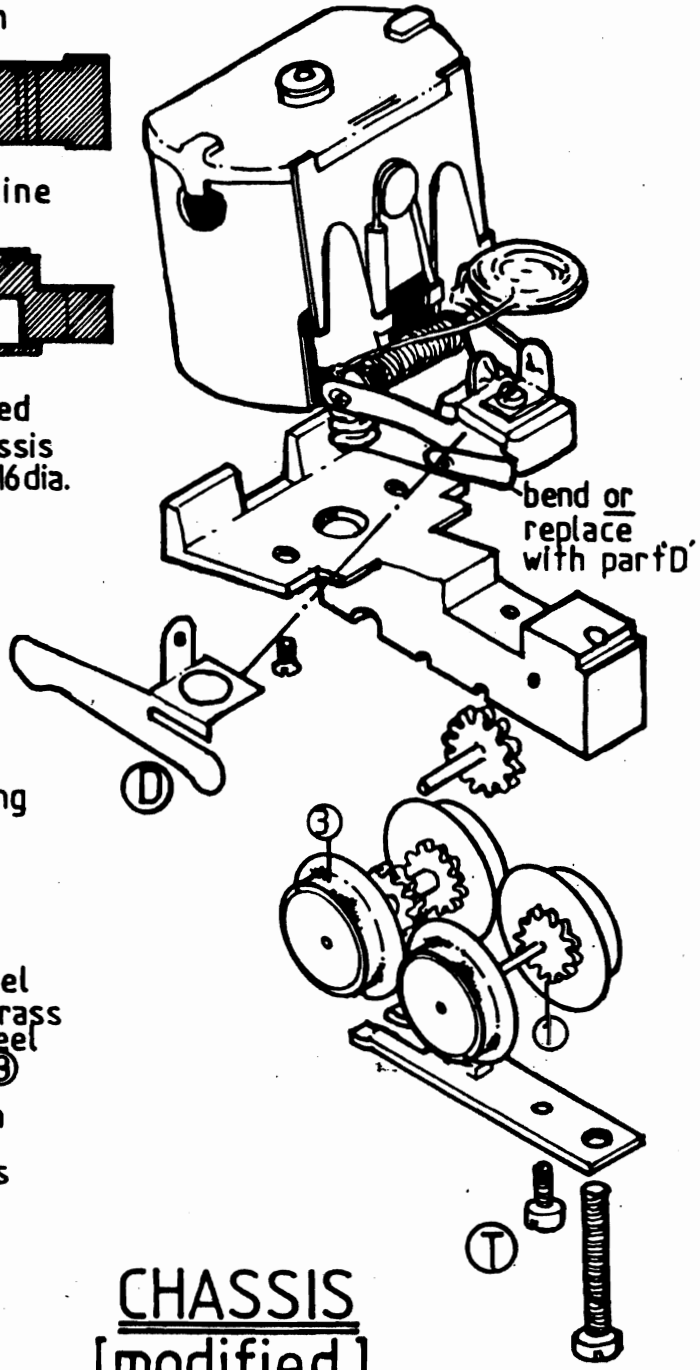
B. Refix keep and drill out tapped hole for body fixing bolt. [1/16 dia]

C. Alter chassis block as shown in detail above

D. Remove insulated wheel from axle ① take off brass sleeve and replace wheel match gauge to axle ③

E. Reassemble as shown do not use axle ② and gear ④ Bend pick up as shown or use part 'D'

Instructions.



CHASSIS
[modified.]