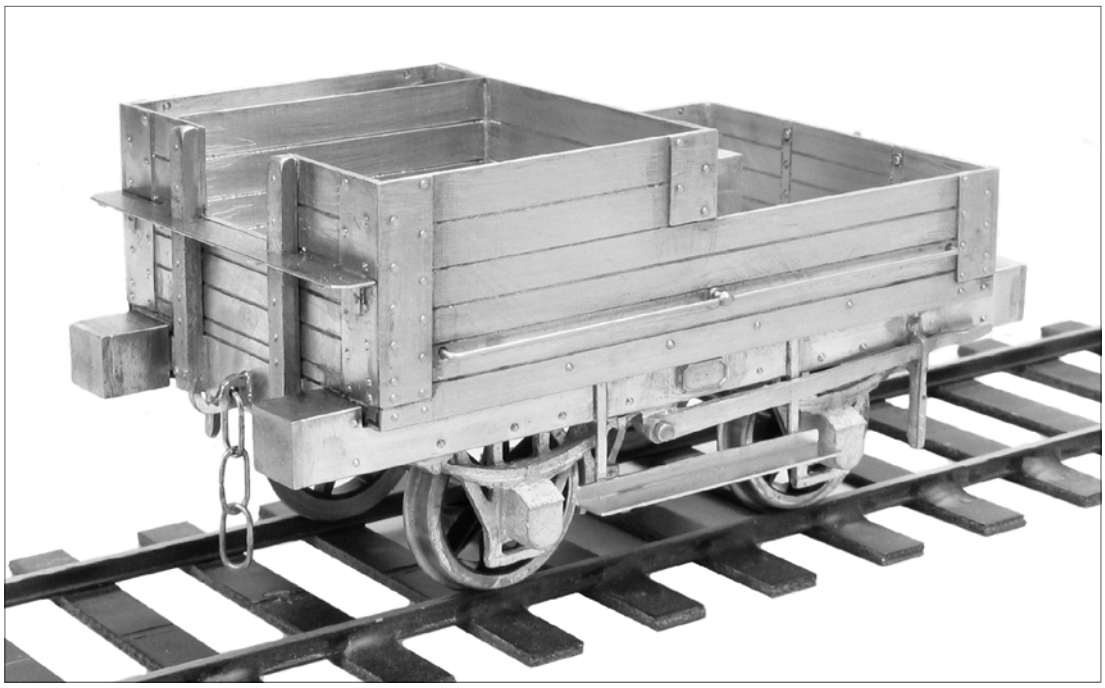
CONNOISSEUR MODELS

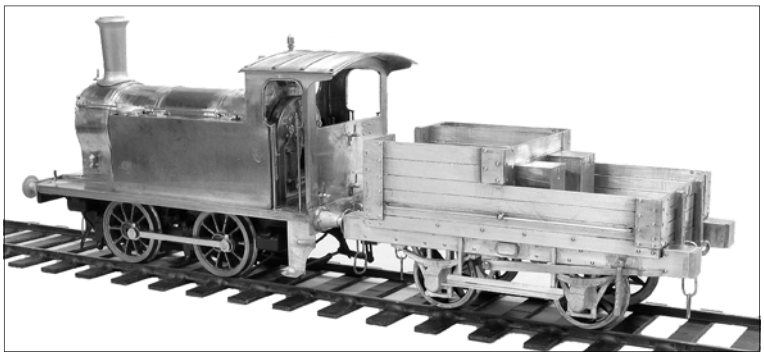
- 0 Gauge -

Loco Depot Tender Truck



Prototype. Tender trucks of this type were coupled to small tank locos to provide extra coal supplies and carry the tools and equipment required for a long days work in sidings remote from the main loco depot. They were fitted with footboards and handrails to allow staff to ride along safely between shunting movements

Tender trucks accompanied locos on industrial and light railways and were used extensively in Scotland on the LNER, North British lines. These tenders were not necessarily coupled to one engine only but were changed at the loco depot from one to another as operating duties required.



Wheels, 3'1", Open Spoke (7120) are required to complete, Available from Slater's, Old Road, Darley Dale, Matlock, Derbyshire, DE4 2ER, Telephone 01629 734053.

Jim McGeown, Connoisseur Models, 1 Newton Cottages,
Nr Weobley, Herefordshire, HR4 8QX, Telephone 01544 318263

GENERAL INSTRUCTIONS

Please read this section carefully, especially if this is your first etched brass kit. Many modellers fight shy of working in this medium, but the basic skills are relatively easy to acquire. Once you've learned how to form and solder brass, you'll find all kinds of modelling possibilities will open up for you.

Assembling an etched kit involves exactly the same skills that a scratchbuilder uses – the only difference is that the cutting out of the parts is already done for you. Some filing and trimming will, however, be necessary from time to time. Where this is the case, I have highlighted it in the instructions.

The main skill to master is soldering and I would recommend a Weller 40 Watt soldering iron. This has a 6mm diameter, removable copper bit. The bit is shaped like a screwdriver and has a bright coating of solder (tinned). This combination of iron and bit shape is ideal for running fillet joints and has a good reserve of heat, that is necessary for soldering small parts on to large components. Note the shape and condition of a new bit, as this won't last long and will need restoring back to this condition.

It is important to keep the bit clean and in good condition as you work. Get a soldering iron stand containing a damp sponge; old oxidized solder is wiped off on this before picking up fresh solder for each joint. If you haven't made a joint for some time you may find that a hard black crust has formed on the bit. Remove this with a brass wire brush (suede brush) and then feed some multicore solder onto each side of the bit to restore a bright surface (referred to as wetting or tinning the bit). After about 8 hours use you will find the bit is in poor condition, with holes and a ragged edge. File the bit back to its original shape using a hand bastard file and then polish the surfaces on emery cloth. Coat the bit with Fluxite Soldering Paste (traditionally used by plumbers) and this will prevent the bare copper oxidizing as the iron heats up. Then feed multicore solder onto the bit to form a generous coating and leave to bubble away for a couple of minutes before wiping excess off to give a bit almost as good as new.

A smaller Antex 25 Watt iron with a 3.2mm screwdriver bit is very useful for small assemblies and detail work such as handrails, but will have insufficient heat reserve for main assembly work. The Antex has a plated iron bit, after a little use with 145° solder a grey oxide appears on the bit that will prevent you from picking up the solder. Touch the bit to some multicore solder and it will flash over the bit, wetting it so that you can continue picking up 145° solder. I have found no problems with mixing the two solders in this way.

I use 145° solder for virtually all assembly work. I prefer it in wire form, available from Branchlines, but it is also produced in stick form by Carrs. I find that its lower working temperature helps to give a quick clean joint. Limiting the build up of heat in components, which may cause distortion. I find that I can hold parts together with my finger ends and make a joint before heat reaches my fingers or other etched parts drop off.

I use 60/40, tin/lead, fluxed multicore electrical solder (melting point about 190°) mainly to keep the iron bits in good condition. As it gives a slightly stronger joint than 145° I sometimes use it for small spot joints on handrail wire, lamp brackets etc, but still use extra liquid flux.

For all brass and nickel silver work I use Carrs green label liquid flux. You will soon get the feel for how much to use but more problems are caused by too little flux than too much.

Before soldering components together, thoroughly clean both surfaces along the join line with a glass fibre burnishing brush. Using your tweezers or a knife blade etc, hold the parts together in the correct position and, with an old paintbrush, run some flux along the area to be joined. Still keeping the parts correctly aligned, pick up a small quantity of solder on the tip of your iron and carry it to the joint (unlike electrical soldering, when you feed solder into the joint). Hold the iron against the joint just long enough for the solder to flash between the parts. Don't let go of the parts until the solder has cooled – this takes from five to ten seconds. To run a fillet of solder along a joint, wait until the solder flashes between the parts and then pull the molten solder along

the joint with the iron tip. Don't load the iron tip with a lot of extra solder, but work the joint in 1" lengths, bringing in small quantities of solder. Brass is a very forgiving material and if you get something out of alignment, use heat from the iron to desolder the joint before starting again. For complicated assemblies, it is a good idea to only tack solder parts together. You can then make adjustments by desoldering until you are happy with the location of parts and then solder solid.

When you need to laminate two or more layers of brass together, align the parts and carefully clamp them together, either in the vice or by holding them with miniature crocodile clips. Run flux around the edges, and then go around with the soldering iron. Clean up thoroughly afterwards.

To fit small parts and overlays on to a larger assembly, such as strapping to a wagon side, when you need to prevent finely detailed areas such as planking becoming clogged up with solder. Tin the back of the small component first, then hold in place on the model and apply flux. Carefully wipe the tip of your iron on a sponge to remove any solder from it (dry iron), and then touch it against the parts to be joined. After a few seconds you'll see molten solder bubbling from the edges. Remove the iron, still holding the parts in place, and allow the joint to cool. An alternative is to use solder paint (I would recommend Carrs 188 solder paste). As the name suggests, this is a flux and solder in one. Simply apply a thin coat of solder paint to the back of the component instead of tinning. Still apply a small amount of liquid flux before you solder the part into place.

Any surplus solder should be removed using a craft knife, I find No 10 curved scalpel blades ideal, then burnish clean with a glass fibre brush. With practice, you'll learn how to use the minimum amount of solder to do the job. Flux is corrosive so, after each soldering session, give your model a good scrub with washing up liquid or Jif. After a day or two, any remaining flux residues will show as a green film, which should be washed away.

To cut parts from the fret, use a sharp Stanley knife on a piece of hardboard or a pointed scalpel blade on a block of softwood. Remove tags and burrs with a fine file.

Three-dimensional parts are formed by folding. On an etched brass kit, the fold lines are normally half-etched on the inside of the fold. You'll be able to fold most parts using smooth-jawed pliers. For longer parts folding bars are desirable.

Other useful tools include a bench vice, a good pair of tweezers, a set of Swiss files (get a full set of cheap ones and then buy quality replacements for the three that you use the most), a pin vice with a selection of drills from 0.5mm to 2.1mm plus a few larger sizes that you use regularly (2.6mm for axle bearings etc), some square-nosed pliers and some very pointed-nosed ones, preferably with smooth jaws. Buy cheap tools first and duplicate the most used ones with quality.

Try to complete all high-temperature soldering before attaching any of the cast whitemetal parts. These can be attached with two-part epoxy resin such as Devcon or Araldite Rapid. Ensure the surfaces to be glued are clean and free of grease.

A better alternative is to solder your white metal castings using Carrs 70 degree low melt solder and Carrs red label white metal flux. The iron should be run at a much lower heat so that you do not melt the castings. I have a domestic light dimmer switch and plug socket fixed to a piece of wood, wired up with a lead and 3 amp mains plug to the input side of the dimmer switch and the output of the dimmer switch into the plug socket (remember to continue the earth). Plug your 40 Watt iron (25 Watt iron won't work) with a clean and freshly tinned bit into this and experiment with adjusting the switch until you find the range of temperature at which the solder melts, but a scrap casting does not. **Note** as the iron is running at a lower voltage it will take longer to heat up, so when you think the adjustment is correct do check a few minutes later on another scrap casting to see that it doesn't melt. Then scribe a mark on the switch knob to indicate this position.

When attaching white metal fittings to brass the surface of the brass must be tinned with 145° solder, to allow the solder to grip. The surface of the casting at the joint should be burnished bright. The casting can then be soldered into place with 70° solder and fillets of solder run into any gaps with no risk of melting the casting.

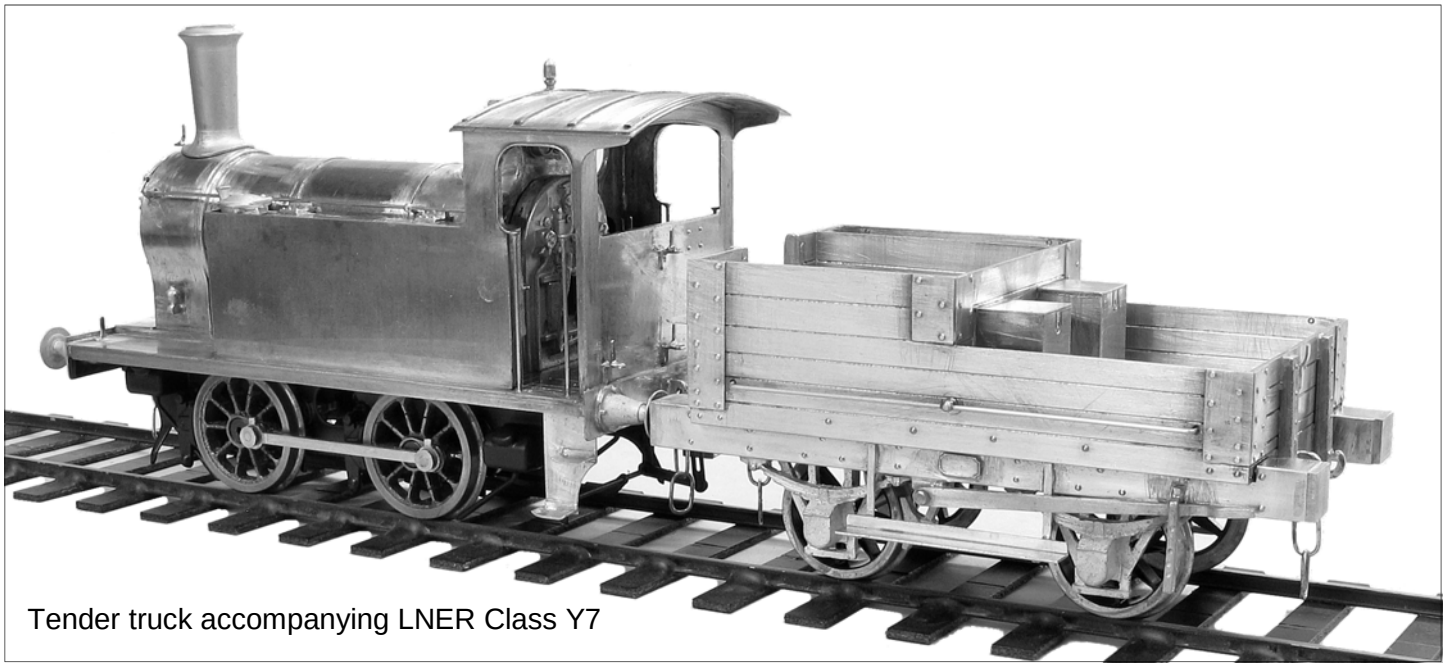
This kit was originally produced by my good friend George Dawson as part of his Majestic Models range. When I acquired Georges North British Locomotive kits the tooling for this tender truck was included. I have used this tooling and masters with little modification as I found that with a little work a very tidy model resulted.

For these instructions I have digitally cut and pasted sections from Georges original instructions again with little modification. Then I have added digital photos of a sample model that I have built.

MWB 32. NBR/LNER TENDER WAGON

About this kit.

The wagon depicted in this kit was actually designed to go behind the NBR/LNER locomotive, 0-4-0 Y9 which, unfortunately, I haven't yet got around to doing but, you never know.....! It is probable these wagons were produced because of a lack of space for enough coal in the 0-4-0 saddle tanks, this being a tiny area each side of the cab. Although it would appear a fair number were produced it is doubtful if any two are alike as they are old wagons altered to do the job, it is probably this fact that makes them popular with modellers as they readily fall into the "oddball" category. It should be noted that these were not developed in the main works but were altered in the individual shed where they were needed so, if a driver wanted something particular included, it would probably be done and not all "rebuilds" were recorded although they remained as wagon stock. Eastfield, Kipps, St. Margarets and South Leith in NBR territory and Yoker and Dawsholm on Caledonian areas were all free to carry out the modifications almost at will. The wagon given here probably had the higher section added rather than a 5 plank example being reduced, tool boxes were fitted into the rear with a shovel and rake trough on the right hand side, obviously, the extra coal required would be dropped into the "deep end" next to the engine. Footboards and handrail are also added. Two sets of brakes have been provided but the use of these is up to the individual modeller as some relied only on the engine for braking whilst it is probable some were braked on one side only. It should also be noted that these "tenders" were not necessarily coupled to one engine only but were changed from one to another as appropriate so, assuming you have a layout, they will not look amiss languishing in some out of the way siding. To date I haven't seen a photo of any of these in either NBR or CR livery nor even LNER or LMS but I would think them possibly available somewhere although it is likely early liveries do not exist as these modifications probably came after, or very close to, grouping. Three variants are given in John Hooper's book, "Wagons of the LNER, North British", one of which is a Caley 3-plank and all three are under BR jurisdiction. *(text by George Dawson)*



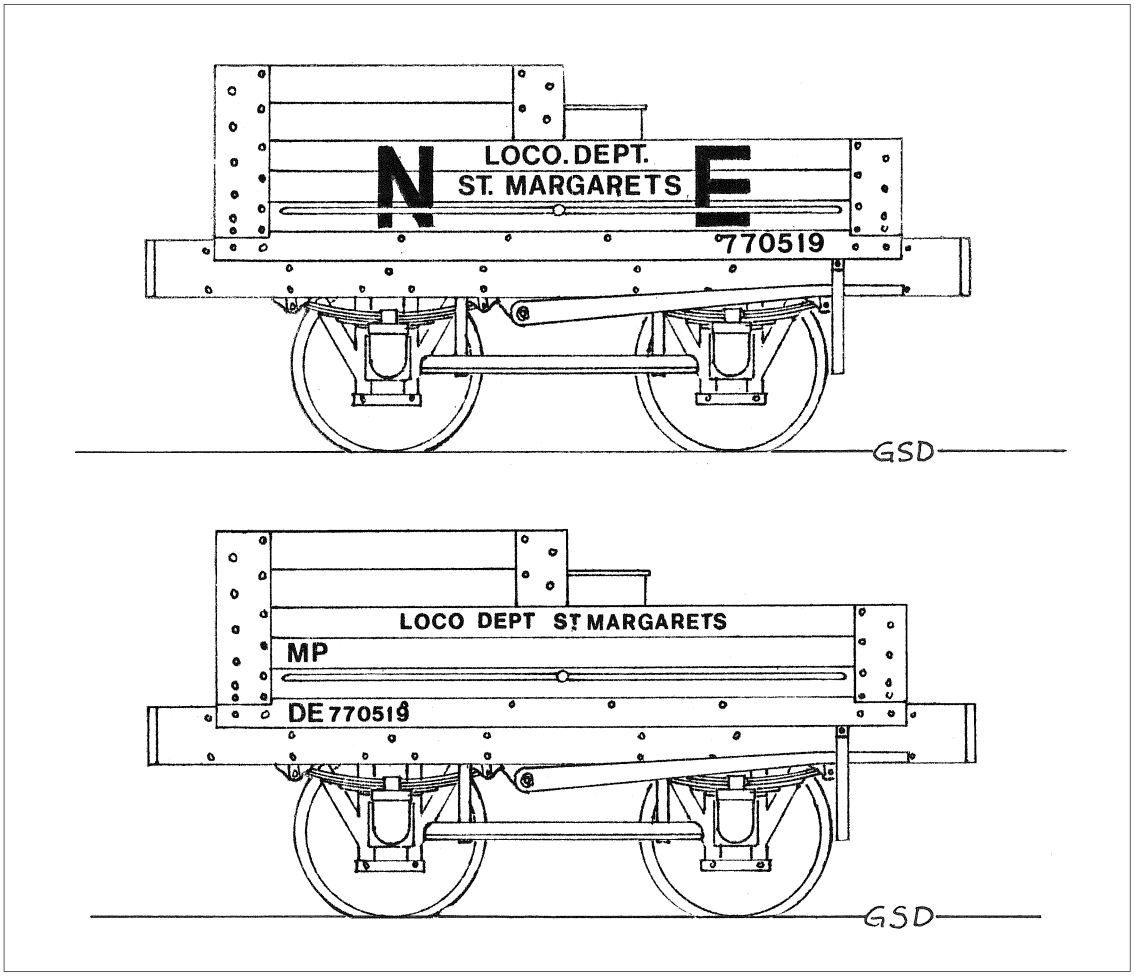
Tender truck accompanying LNER Class Y7

MWB 32. NBR/LNER TENDER WAGON

Livery.

The early LNER livery would be Grey with everything below the solebar being Black and no doubt, carried plain white "NE". The running numbers get a little more complicated and I must confess that at this time I cannot guarantee any except the one given! Peter Tatlow, in his book, "A Pictorial Record of LNER Wagons",tells us that several constituent companies numbered their service stock in separate series and this practice was followed for a few years after grouping but by the early 30's some vehicles were being numbered into a new scheme, depending upon the area they originally belonged i.e. Southern Scottish Area wagons were given 77xxxx whilst the Northern Scottish Area were designated 88xxxx. However, by 1938 a new scheme was devised and the Southern Scottish Area wagons were numbered in the 97xxxx series and Northern Scottish Area wagons in 98xxxx. Unfortunately, a further complication comes in here, as previously stated not all alterations were recorded and not all the modified wagons looked like this. The LNER version given below is a number I know to be correct and on a very similar wagon and usually went behind Loco No.9546.

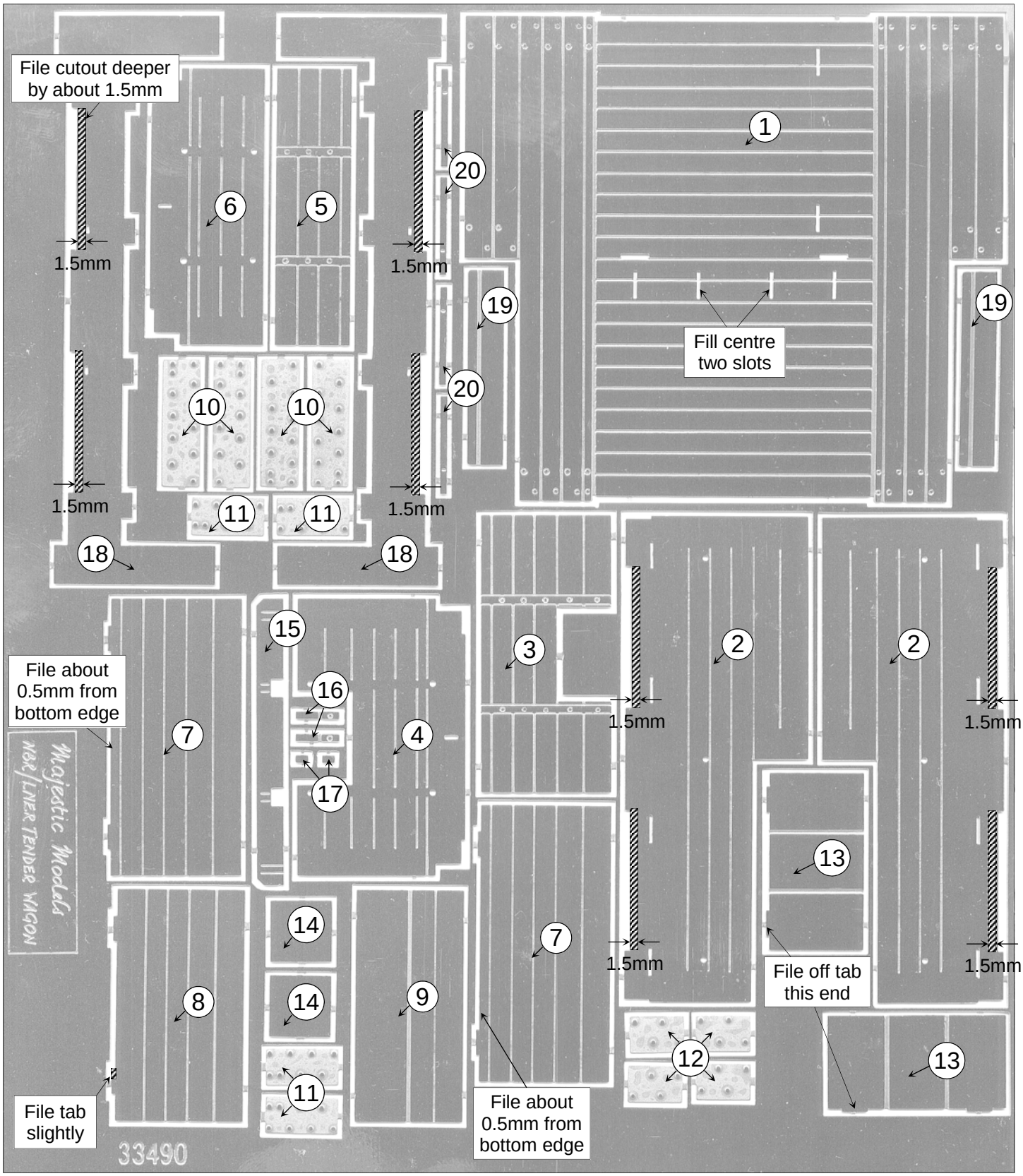
(text by George Dawson)



LNER transfers for lettering are available from the Historical Model Railway Society (HMRS), Voluntary sales officer, 8 Gilpin Green, Harpenden, Herts, AL5 5NR. They are also stocked by some specialist 0 gauge retailers. You will require sheet 12, LNER goods vehicle insignia.

As these wagons were modified and maintained at their loco depots livery was probably very flexible. I think a black livery with red buffer beams would look very smart and match a LNER tank loco nicely or how about departmental oxford blue similar to the livery carried by the sand wagons.

When building my tender I found that a few small modifications were required to Georges etch.



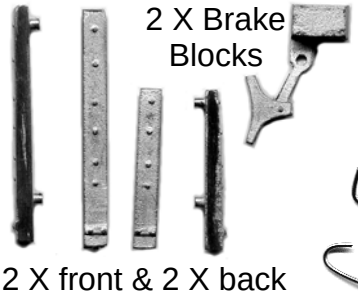
4 X Dumb buffer ends

2 X Solebar Wagon Plates

4 X Axleguards

2 X Handrail supports

2 X 10” length 0.7mm brass wire (handrails & to reinforce footboards).



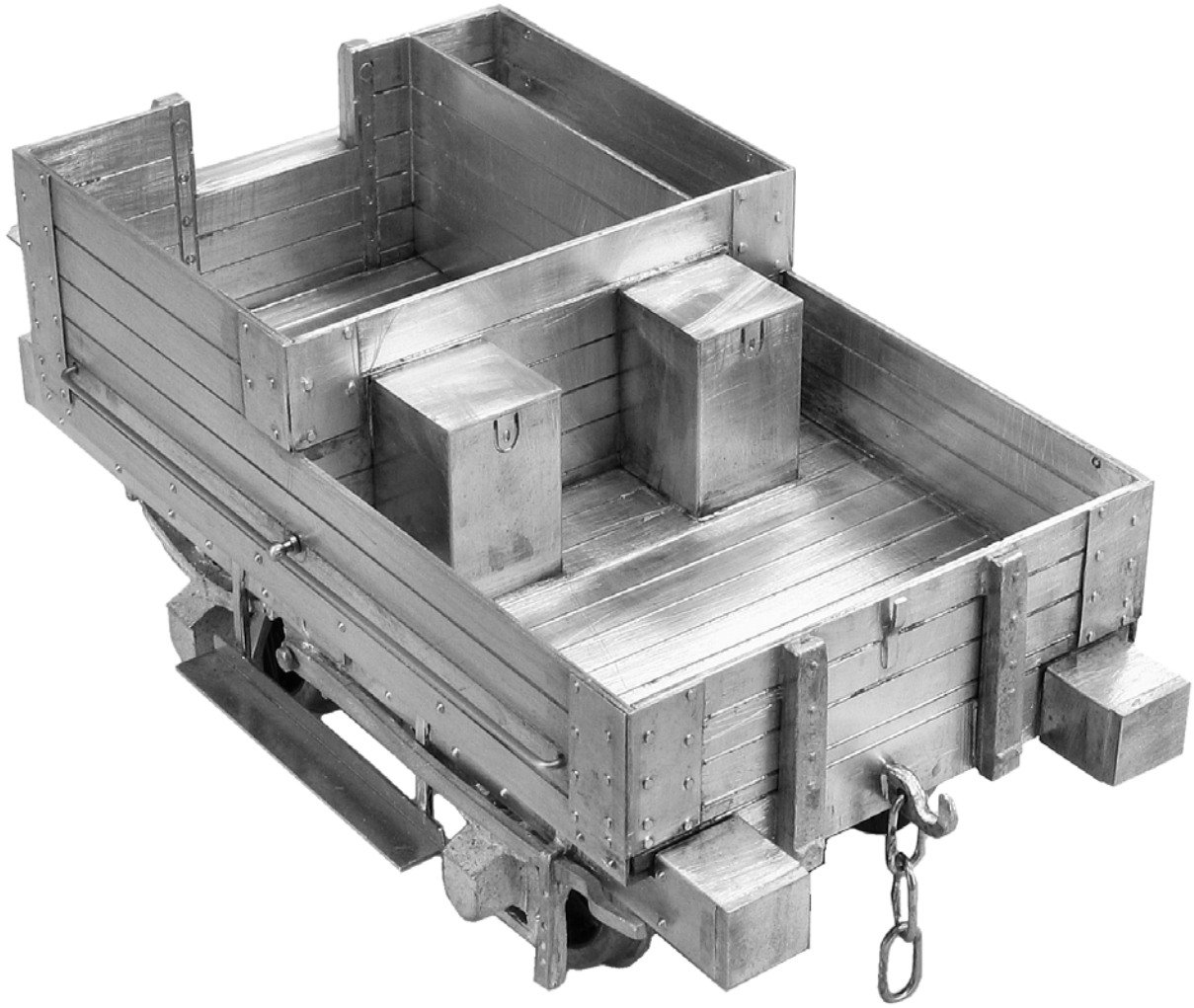
2 X front & 2 X back stanchions

2 X Brake Blocks

2 X Brake Levers

6 X Coupling links

6 X Coupling Hooks



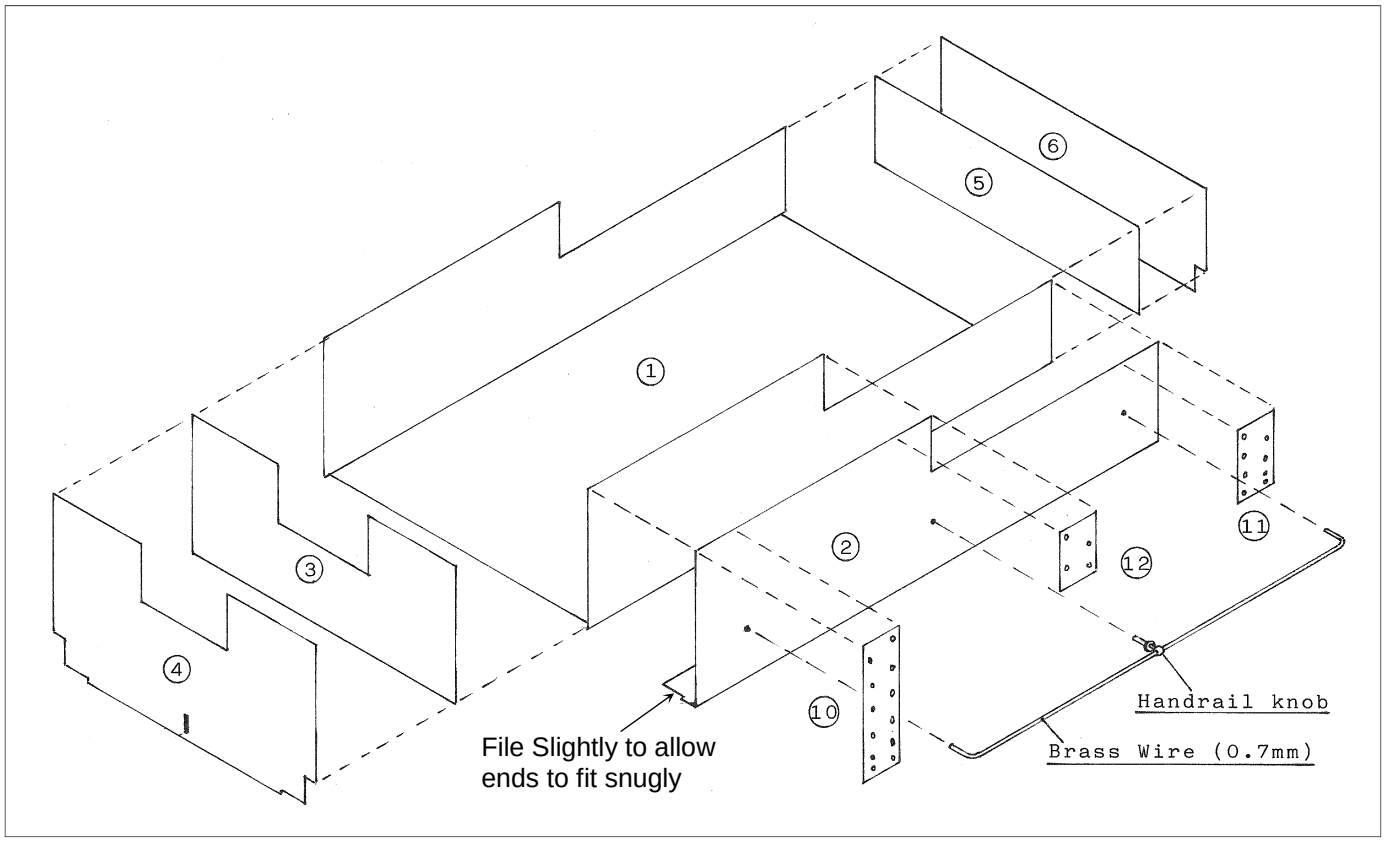
MWB 32. NBR/LNER TENDER WAGON

Assembly.

1. Main Body. This gives the floor and inside walls. Bend to right angles at lengthwise line nearest the floor planking.
2. Body Sides. Push out the rivets from the back. Bend to right angles at line on reverse side then carefully line up with top edges of the main body (1) and laminate together. Drill the holes through but note that the centre hole will need to take a handrail knob.
3. Inside Front End.
4. Outside Front End. Laminate to inside end (3). Drill the holes through.
5. Inside Rear End. Note the base is at the narrowest plank (as inside body).
6. Outside Rear End. Laminate to inside (5) at top edge.

The ends can now be inserted between the sides, up to the floor. Keep top edges level and square. *Before going further, now is the time to fit the handrail.* Form from a piece of 0.7mm wire, 90mm long but remember to add one handrail knob before bending both ends. Secure into sides.

(trim off and file flush to inside planks any projecting handrail wire or support)



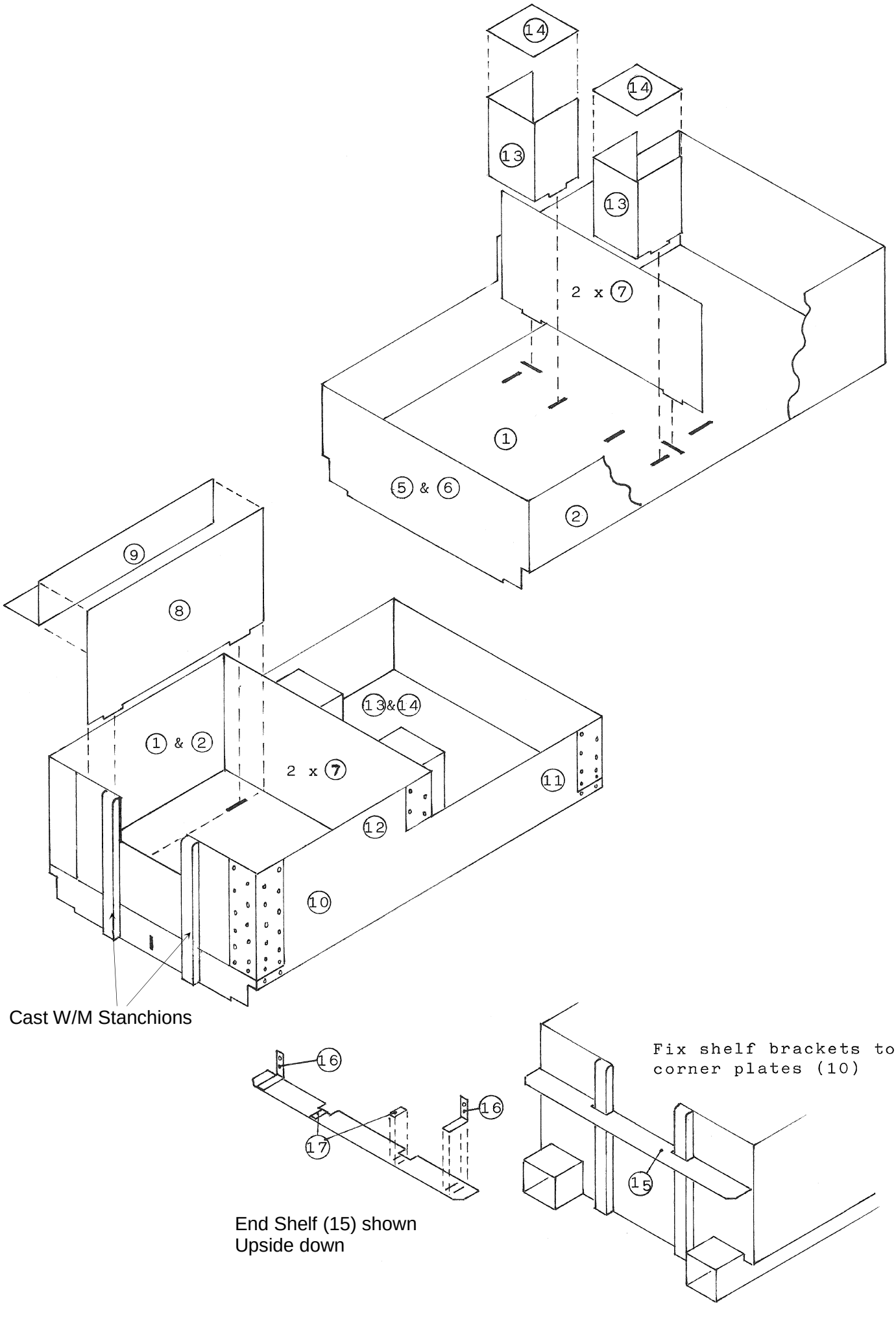
7. Central Partition (2 off). Laminate the two together and secure into the floor, between the sides.
8. Shovel Trough Wall.
9. Trough Floor. Bend to right angle at wider line. Laminate the planked section to the inside of the wall (8) at the top edge. Secure into the floor between the partition and the front end.
10. Long Corner Plates. Note from the sketch how the rivets are aligned. Secure at the end first, covering the end edges of the body sides. Now secure the side plates, again noting the rivets.
11. Short Corner Plates. Fit as (10) but at rear end.
12. Central Corner Plates. Fit at joint of partition and side. Note the rivets.
13. Tool Boxes. Bend to form a "U" and secure into floor, up to partition.

(slots don't match tabs, fill centre slots (sliver of waste etch) and file off corresponding tab on each toolbox)

14. Tool Box Lids. Fit over tool boxes.

Before proceeding, fit the stanchions at the front end.

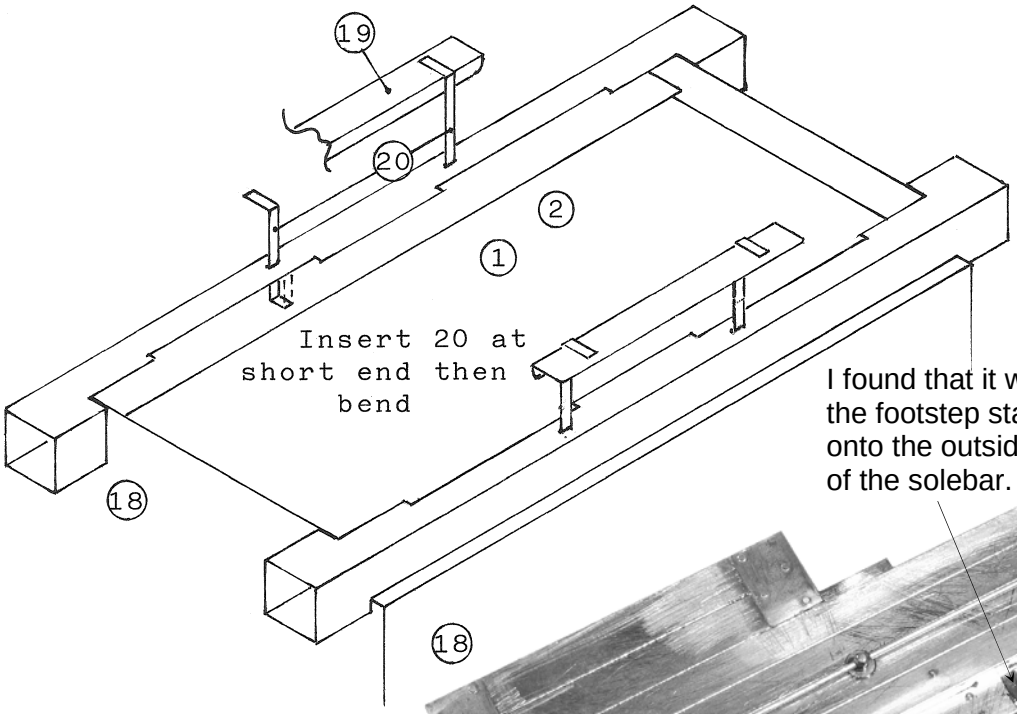
15. Shelf.
16. Shelf Brackets. Bend to right angle, note the "rivet", solder to the underside of the shelf (15) at the marks on the ends, make sure they are the correct way around.
17. False Brackets. Attach to the small marks between the other brackets (16). Fit the shelf to the front end, level with the coal hole lower edge, cut outs around the stanchions, brackets to front plates.


14
14
13
13
2 x 7
1
5 & 6
2
9
8
13&14
1 & 2
2 x 7
11
12
10
Cast W/M Stanchions
16
16
17
End Shelf (15) shown
Upside down
Fix shelf brackets to
corner plates (10)
15

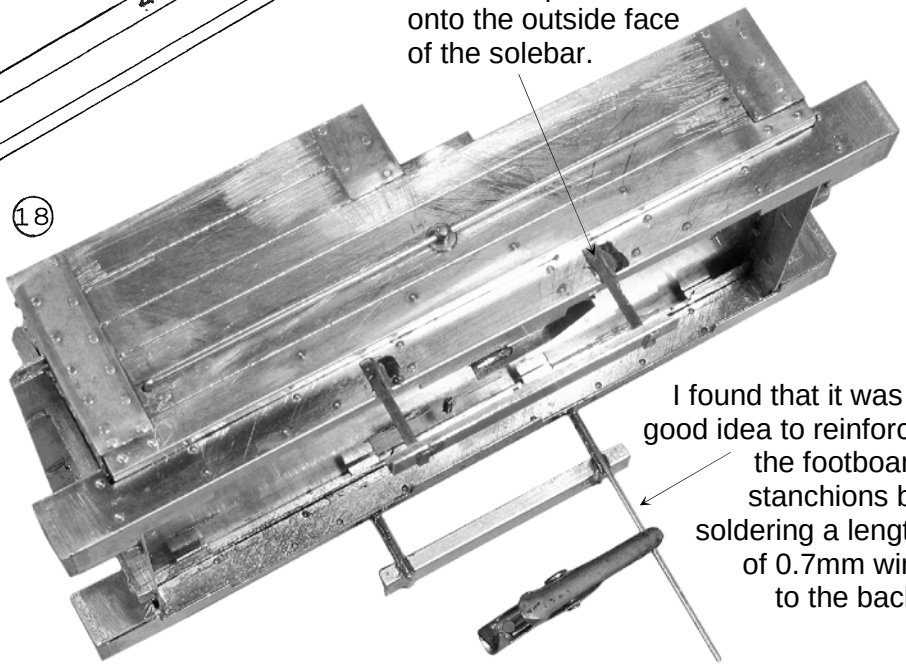
18. Solebars. Push out the rivets from the back then bend at the lines to make ends rectangular. Fit into slots under body sides. Make certain all is square.

19. Footsteps.

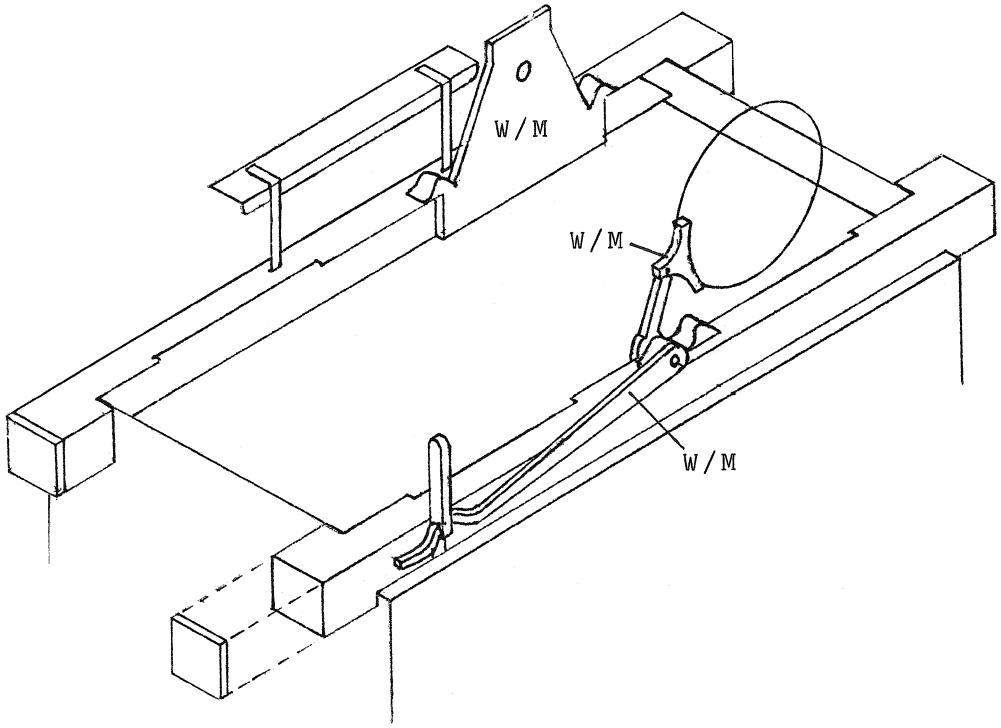
20. Footstep Stanchions.



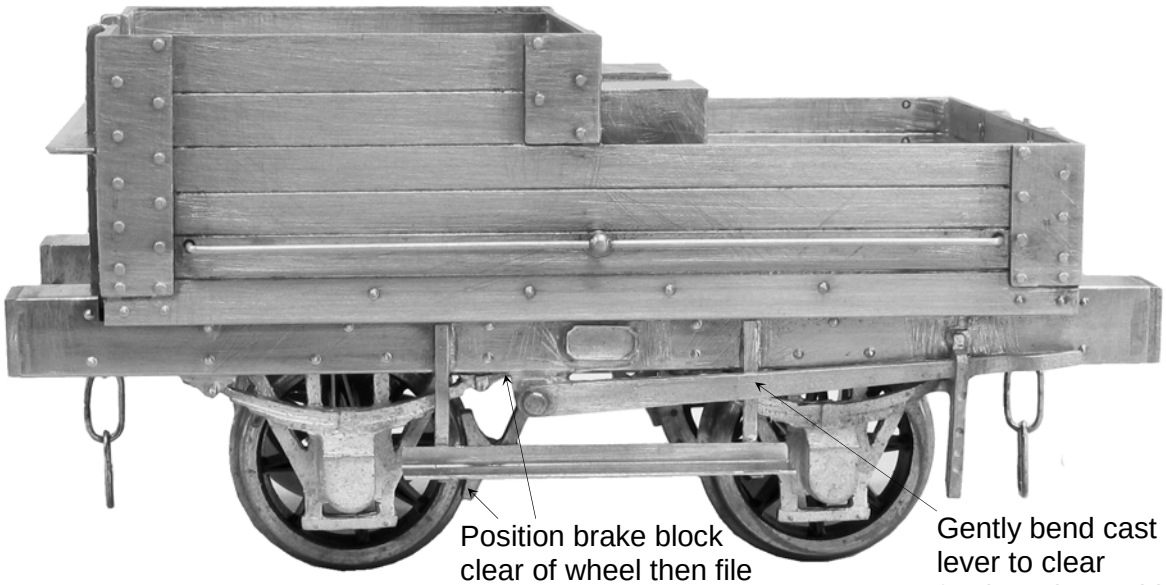
I found that it was better to fit the footstep stanchions flat onto the outside face of the solebar.



I found that it was a good idea to reinforce the footboard stanchions by soldering a length of 0.7mm wire to the back.



Check that the axleguards will take your chosen bearings, fit bearings and insert wheels then secure axleguards into the cut away sections in the solebars. Next fit the brake lever, it's bracket up to the inner spring hanger of the left hand axleguard and the brake lever guide where it falls on the solebar. Slide the brake over the lever pin and fix inside the solebar back. If you haven't already, fit the short end stanchions then the dumb buffer ends and your tender wagon should be ready for cleaning and the paint shop.



Position brake block clear of wheel then file lever bracket slightly to allow shaft to locate in hole.

Gently bend cast lever to clear footboard stanchions

A single thickness coupling hook will be very serviceable but I have proved some spare hooks and if you wish laminate three together and file to better represent the compound curved and shaped cross section of a prototype hook. Cut the tails off the extra hooks first as you will only get a single metal thickness through the slot. Solder solid into buffer beam slot

Painting is a vast subject that cannot be covered fully here. The important thing with a metal model is to get a good base coat of primer. Hopefully you have been cleaning up and washing the model at the end of each modelling session but it will still need thoroughly cleaning before painting. I give my models a good scrub with a stiff-bristled paint brush in a sink full of hot water, as hot as your hands can bear, and cheap washing up liquid (the expensive stuff that's kind to your hands has an oil in it that will stop the paint keying to the metal). If you know somebody who works in catering and can scrounge you some industrial-strength liquid this is better still. Then rinse the model a couple of times in clean warm water and place in a dust-free box to dry.

I use car aerosol primer and Halfords grey etch primer is one of the best. For the best results you want to spray at room temperature (25°C) on a dry day, avoid cold, damp or humid days. I find it helps to warm the model to about 30°C (put it in the airing cupboard overnight) and I warm up the paint tin by putting it onto a radiator (about 40°C, but use your common sense as I don't want anybody blowing themselves up). I find it best to prime the model in two light coats, about 15 minutes apart and then leave for 48 hours to harden off (in the airing cupboard in a dust-free box).

I brush-paint my models with Humbrol enamel. For years I just stirred it up and painted straight from the tin but I was never completely happy with the results. Recently two things have transformed my painting. The first was a copy of Martyn Welch's book, The Art of Weathering, Wild Swan Publications, ISBN 1 874103 11 9. Martyn's basic techniques are very useful and almost foolproof.

The second thing is to mix the paint in the tin and then transfer it to a palette (a sheet of clean plasticard) with blobs of lighter and darker shades of paint surrounding the main colour. Then work the paint with the brush on the palette, slightly varying the tones of the paint. This seems to totally change the texture of the paint and the way it goes on and covers on the model.

Can You Help Me?

If you have enjoyed building this kit and have been satisfied with the quality, I would be most grateful if you could recommend it to your friends and fellow modellers. Although my kits are not perfect, I try to put a lot of time and effort into producing them. If I can get extra sales of a kit through customer's personal recommendation and I find that word of mouth is the best form of advertising. This will help me to put extra time and money into developing the next kit. Hopefully this will give me more satisfied customer to recommend my kits to their friends.

If you are not happy with this kit then please tell me. Hopefully I will then be able to help and sort out any problem.

Best Regards And Happy Modelling

Jim McGeown