CONNOISSEUR MODELS

- 0 Gauge -

London and South Western Railway
24 Ton Brake Van

Prototype. 75 of these vans were built by the London and south western railways between 1915 and 1921. They were known to the staff as new vans, a description still being applied to them in the 1950s! These vans could still be seen on main line goods trains until the 1950s , whilst a few lasted on local services and branch line goods trans until about 1962.

Kit. A well detailed kit of a very attractive prototype .The fit of all parts is very good ,because of the number of separate detail parts construction is not that quick, a very enjoyable weekend project . Straight brass wire and preformed roof are included .

Wheels, 3'1", 3 hole disc(7122) are required to complete, Available from Slater's Plastikard, Old Road, Darley Dale, Matlock, Derbyshire, DE4 3PG, Telephone 01629 734053.

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 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 fiber 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.

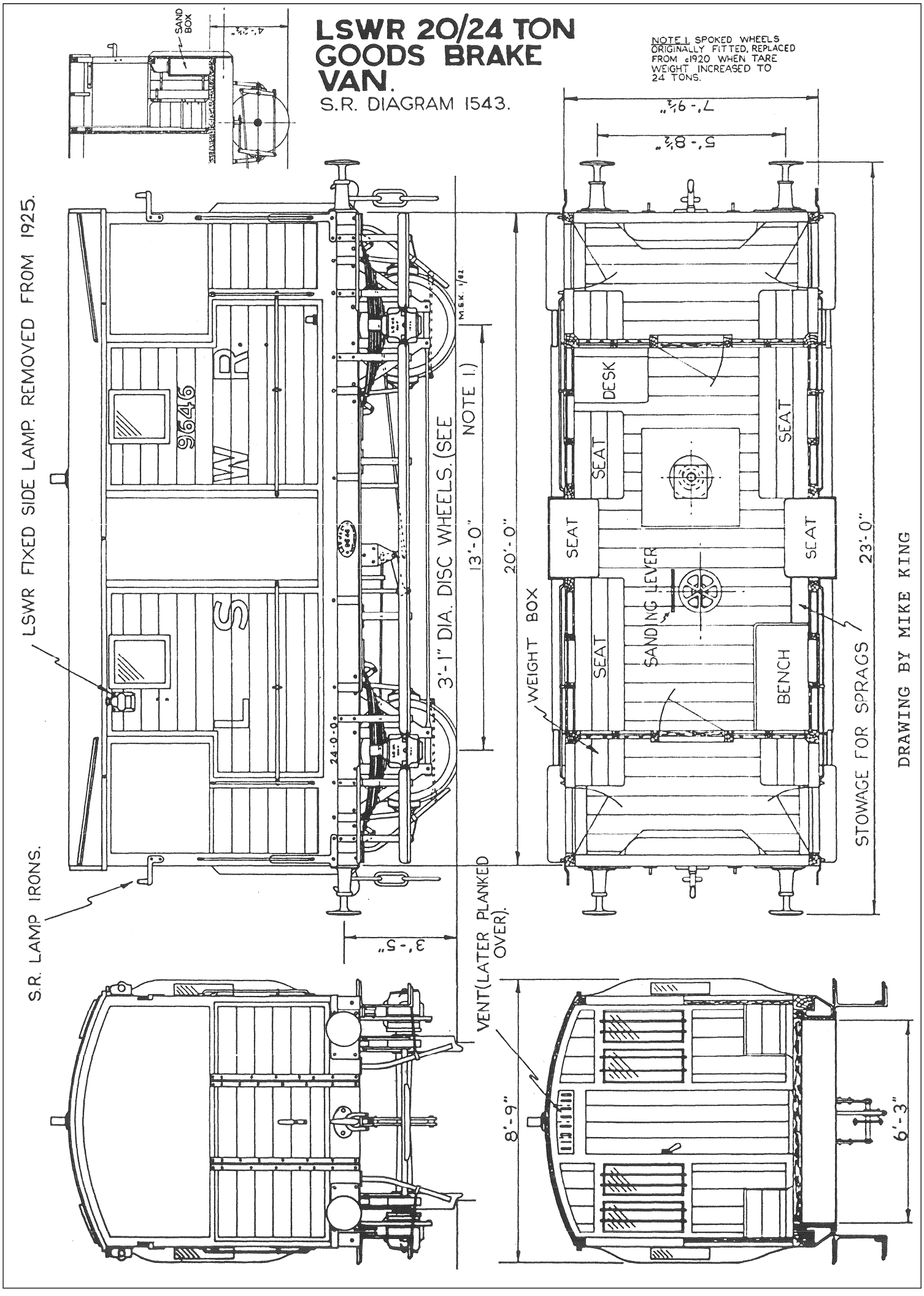
Three-dimensional parts are formed by folding. On an etched brass kit, the fold lines are normally half-etched on the inside of the fold. You'll be able to fold most parts using smooth-jawed pliers. For longer parts folding bars are desirable.

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.

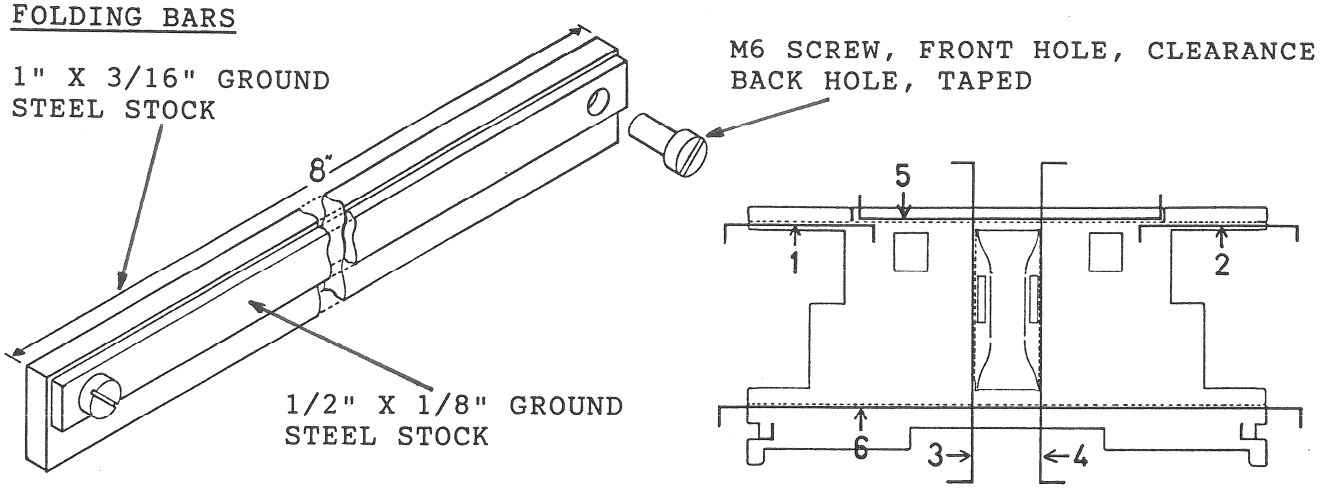
Try to complete all high-temperature soldering before attaching any of the cast whitemetal parts. These can be attached with two-part epoxy resin such as Araldite Rapid. Ensure the surfaces to be glued are clean and free of grease.

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.

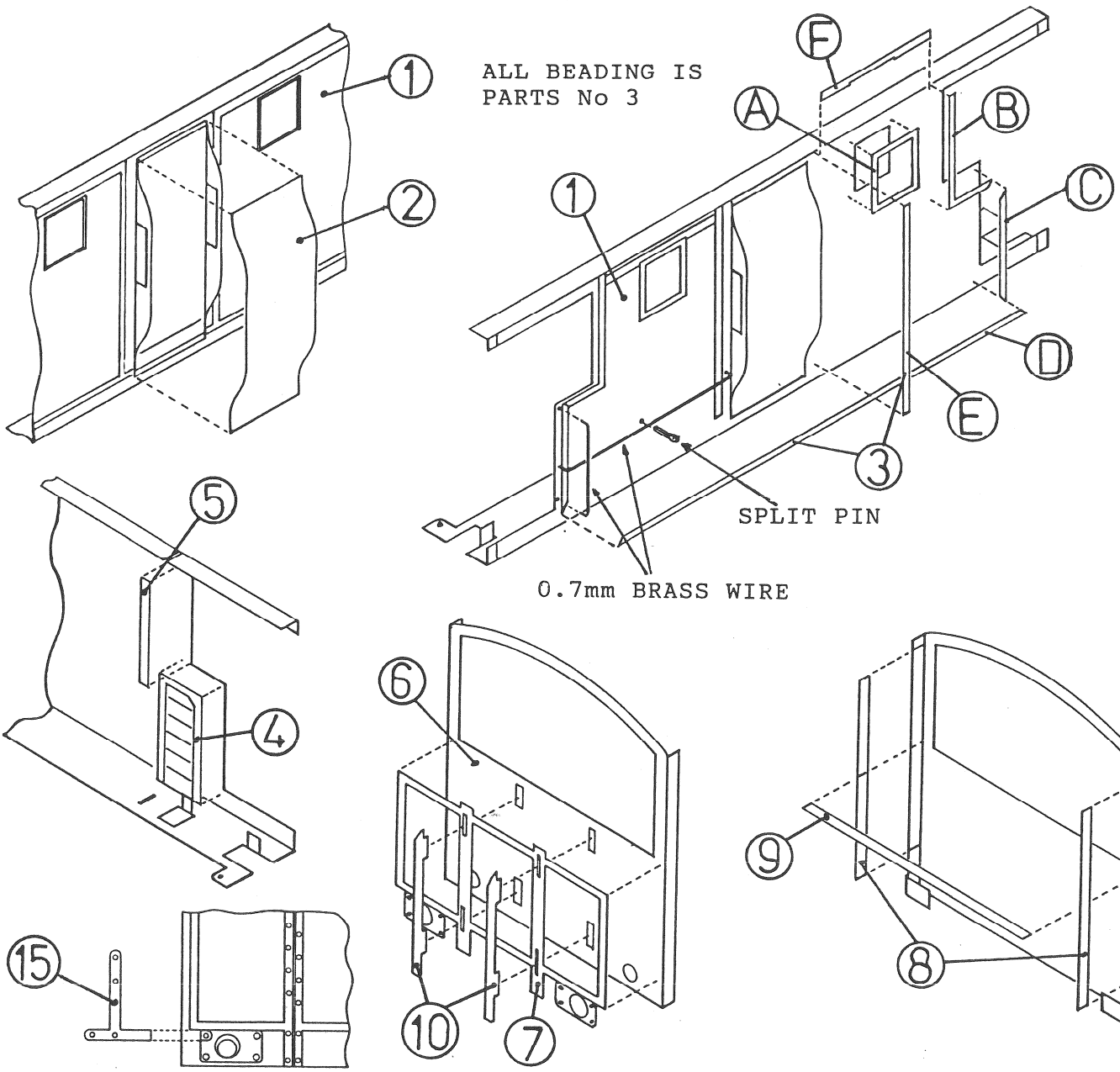

LSWR 20/24 TON GOODS BRAKE VAN.
S.R. DIAGRAM 1543.
NOTE 1. SPOKED WHEELS ORIGINALLY FITTED, REPLACED FROM c1920 WHEN TARE WEIGHT INCREASED TO 24 TONS.
SAND BOX
LSWR FIXED SIDE LAMP. REMOVED FROM 1925.
S.R. LAMP IRONS.
9646
L S W R
24'-0"
3'-1" DIA. DISC WHEELS. (SEE NOTE 1)
13'-0"
20'-0"
23'-0"
3'-5"
DESK
SEAT
SEAT
SEAT
SEAT
SEAT
SEAT
SANDING LEVER
WEIGHT BOX
BENCH
STOWAGE FOR SPRAGS
VENT (LATER PLANKED OVER).
8'-9"
6'-3"
DRAWING BY MIKE KING

FOLDING BARS

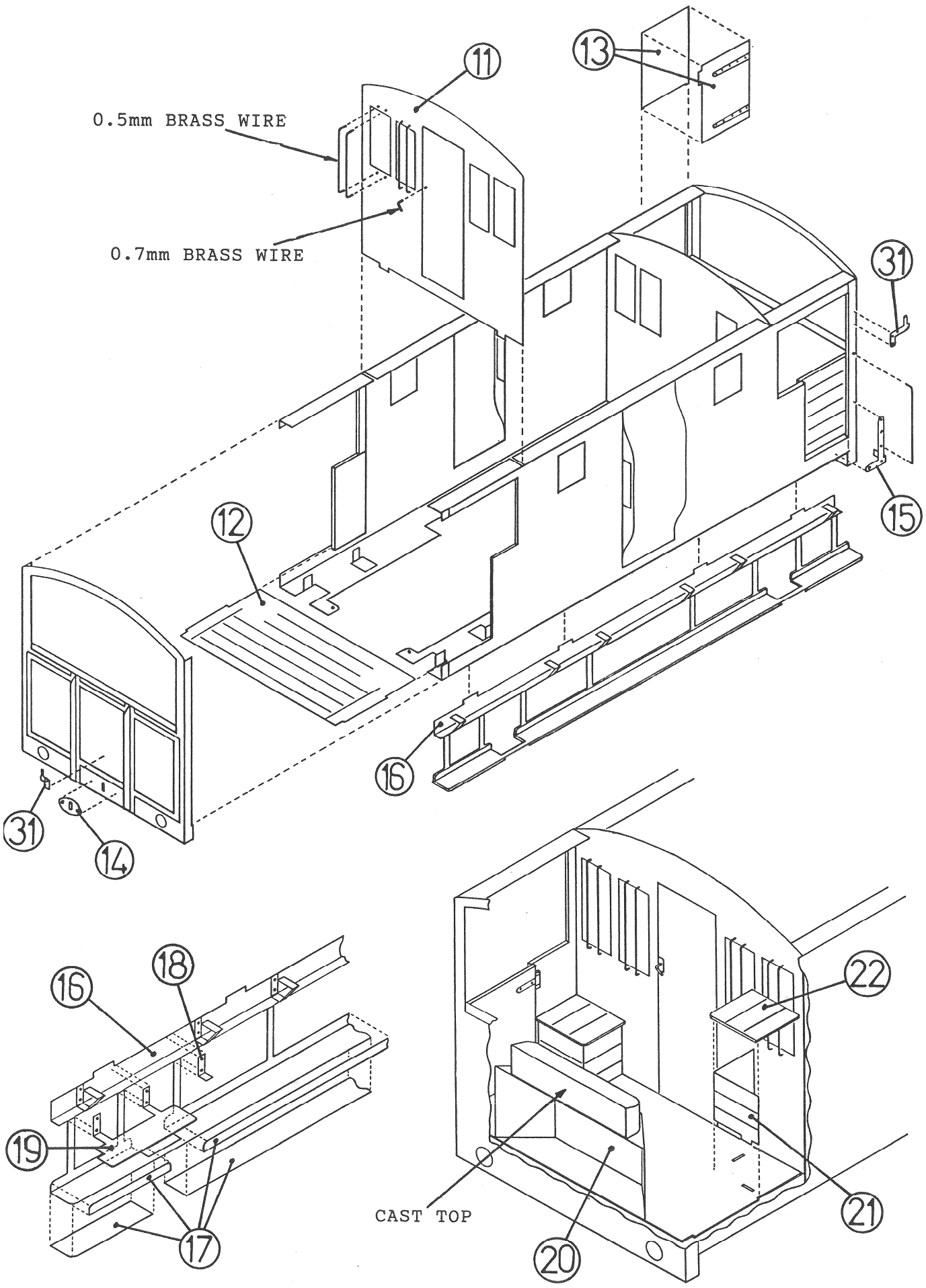


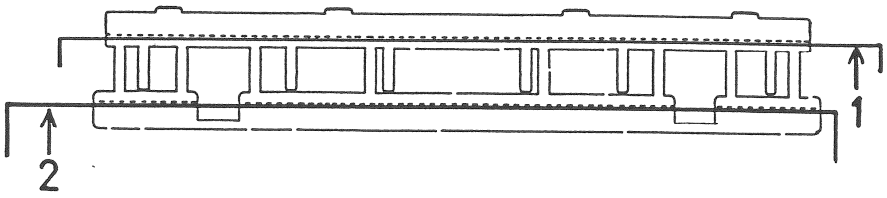
FOLDING OF SIDES

Make folds 1 & 2 to reinforce vulnerable ends. Then folds 3 & 4, reinforce fold line with a fillet of solder and then fit ducket front. Then make fold 5, by clamping the top of the side in the jaws of a vice. Then make fold 6.



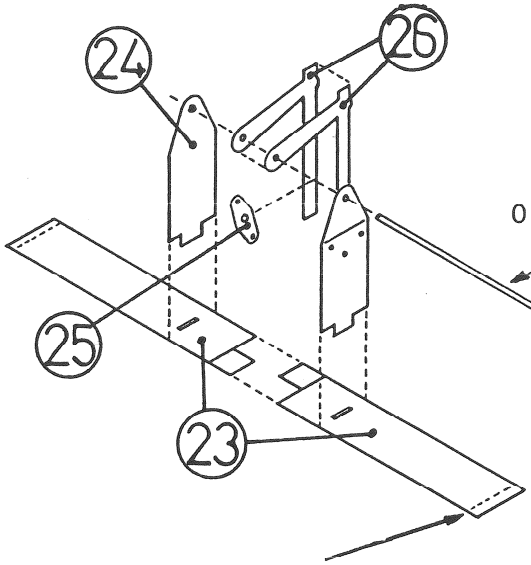
Fit end beading so that corner strapping will fit correctly


0.5mm BRASS WIRE
0.7mm BRASS WIRE
11
13
31
15
12
16
31
14
16
18
19
17
22
CAST TOP
21
20



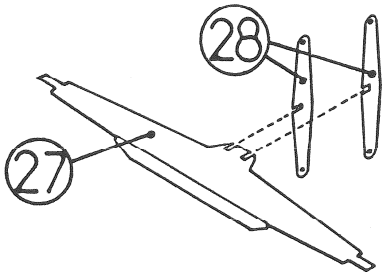
SOLEBARS & FOOTBOARDS

Fold solebar first and then footboards. Solder parts 17 to footboards and then fold down footboard supports.

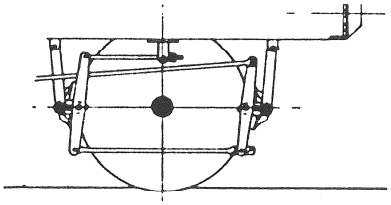


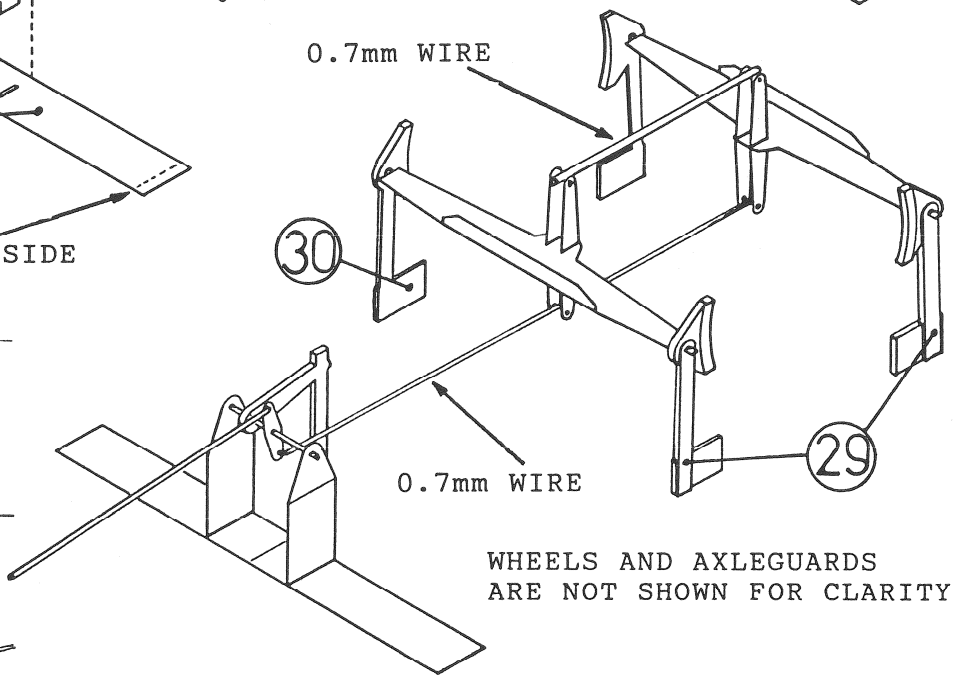
BRAKEGEAR

0.9mm BRASS WIRE

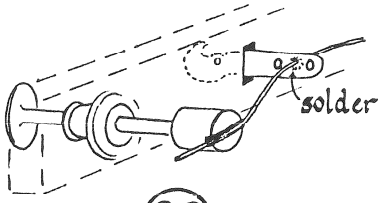


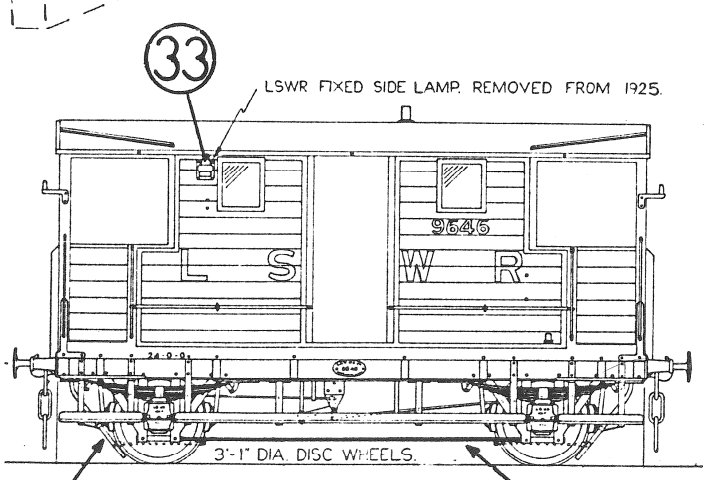
HALF ETCH ON UNDERSIDE





WHEELS AND AXLEGUARDS ARE NOT SHOWN FOR CLARITY

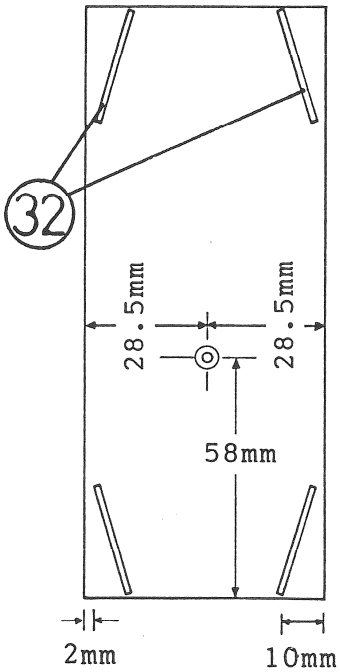


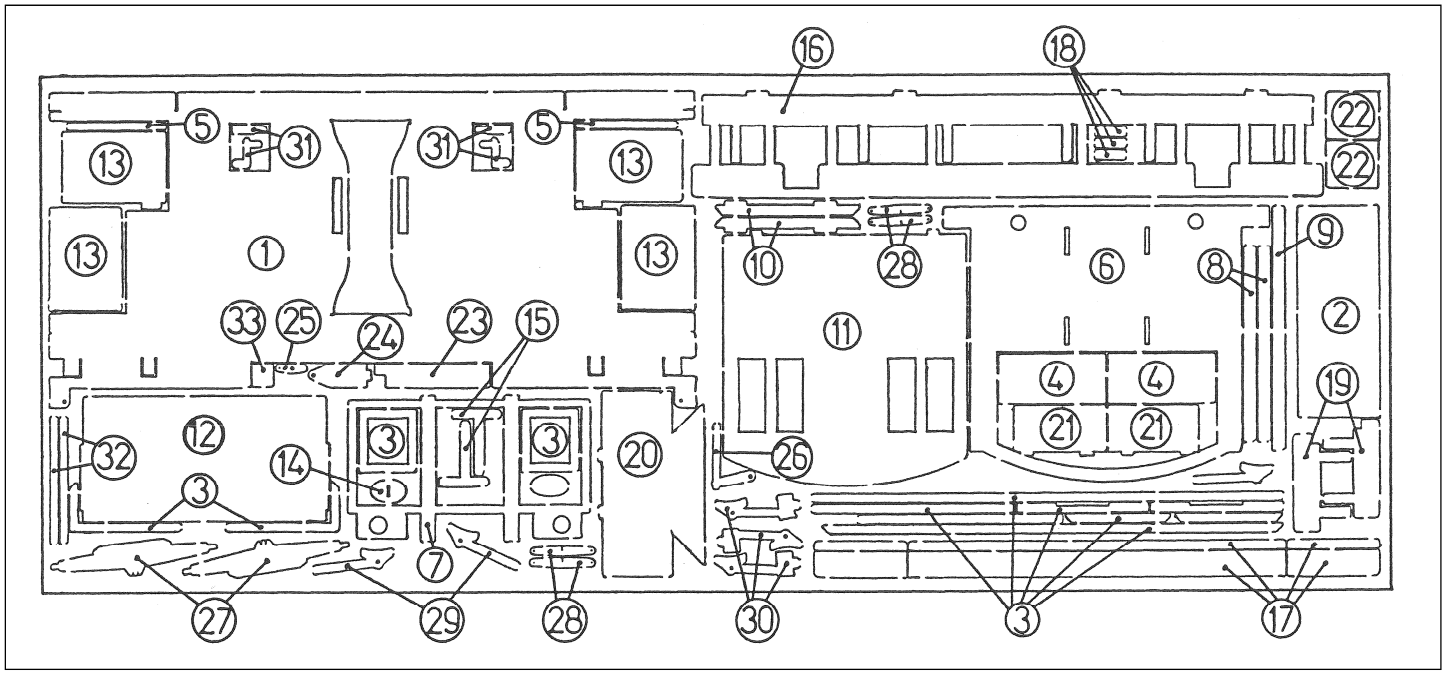


SAND PIPES FROM 0.9mm BRASS WIRE

TIE ROD MADE FROM 0.9mm BRASS WIRE

ROOF DETAIL





Suggested assembly order

I found it best to detail the sides , cabin ends and van ends before assembly .I found it best to fold the sides in the order shown . I have given details of my folding bars . I clamp the etch in place with the half etch fold line just above the front bar .I then clamp the bars in the vice and use a block of wood or a steel rule . To apply a even pressure when I make the bend .

1, Push out the bolt head detail on the sides, parts 1 ,and then make folds 1,2,3,4. Form ducket fronts ,parts 2 , by using pieces of tube or drill shanks to form the curves .Try to get it formed correctly before soldering in place . Start soldering at the top and work your to the bottom .

Blend the top and bottom of the ducket front into the van sides with a little solder . Dress with a file the ducket side/ front to give a clean sharp edge .Then make folds 5 and 6 .

Fit side beading ,parts 3 ,in the order shown . This will allow each part to be trimmed back slightly if necessary to keep everything square. There is a spare length of beading to cover any accidents .

Fit the beading on top of the etched guide lines .I found that each piece of beading only required two or three small tacks of solder with a hot iron to secure them .I worked from the outside edges and this reduced the risk of filling in the plank detail with unwanted solder

Fit parts 4 and 5 to thicken up the veranda sides. Offer up a cabin end , part 11 , just to be sure that it still fits into the slots

Drill out the handrail holes that you have just blocked up by fitting parts 4 .I then found it best to fit the side handrails at this stage .This allowed me to file flush the ends of the wire on the inside of the veranda .

2, Push out the four rivet heads in the ends, parts 6, and then make the side folds .You may find it useful to deepen the fold lines by running a triangular file up them .This will reduce the amount of pressure required to make the fold and this helps prevent any distortion at the narrower side pillars .

Push out bolt head detail on the end beading ,part 7,and then solder to the ends .Fit this beading as high as you can and this should give the correct clearance for the corner strapping, parts 15 .If you get the buffer holes to line up at the bottom this should be about right .

Fit parts 8,to thicken up the inside of the corner pillars .Drill out the blocked handrail holes .Offer up a side to the ends just to make sure it will still fit and if ok then fit part 9.Fit end stanchions, parts 10. File flush the tabs on the inside face.

3, Fit window bars to cabin ends ,parts 11. Make these from 0.5 brass wire. You may find that a strip of thin card slipped behind the bars ,helps to space them evenly away from the windows. As you solder the bars in place from the rear .

File the inside flush so that the glazing will fit flush .Fit the door handle made from 0.7 mm brass wire .

Fit cabin ends and sides together .Check that the assembly is not twisted and that the ends will be square .Then fit the veranda floors ,parts 12 and van ends .

4, Make up and fit veranda doors ,parts 13. Fit coupling plates ,parts 14 .Fit corner strapping ,parts 15 .Solder to sides first and then bend around the ends .Snip end so that it sits against the buffer plate .Fit end handrails.

5, Push out rivet head detail on the sole bars /footboards ,parts 16 .Then make sole bar fold and then foot board fold . Fit parts 17,these represent the thick wood of the floorboards . Dress the edges with a file to blend the two parts together . Fold down foot board supports and then fit parts 18 and number plates .

Roughly fold up the sole bar to body brackets and then fit sole bars to body. You can now neaten up and solder to the body ,each sole bar to body bracket .Also reinforce each footboard support fold with a spot of solder . Now fit top footsteps ,parts 19.

6, Fit veranda inside detail .Room is a bit tight but I found that I could just get in with my small antex soldering iron and built everything up from the floor . You may wish to build up the boxes separately and then glue them into place . If doing this keep offering the weight boxes in place ,as the tops may need to be filed a little to clear the doors .

Make up the sandbox, part 20 ,dress top corners with a file and then fit to floor . Fit cast sandbox top .Fit weight box sides ,parts 21 , to floor and then fit tops parts 22.

7, Drill axle bearing hole in the axle guard , with a 2.7mm drill. This hole is formed by a small rubber peg in the mould . This tends to flex as the metal flows into the mould cavity and you will probably find that the hole is not quite square to the back of the axlegaurd . By putting sideways pressure on as you drill out the hole you will be able to square it up . Use the drill in a hand held pin chuck .Clean out the casting flash between the w irons with a sharp scalpel .The axlegaurds are a good but snug fit , so offer them in place just in case you need to dress them with a file .

Fit wheel sets into axlegaurds and then tack solder axlegaurds to sole bars. Check that axles are parallel . Place on a flat surface and adjust axlegaurds until the wagon sits without rocking . When happy solder solid .Fit the axle bearing into the hole with a blob of evostick . As it takes a little time to set ,you can make adjustments and leave the wagon on a flat surface for the glue to harden . Make axlegaurd tie rod from 0.9mm wire. Flatten ends and solder behind axlegaurd .

8, Brake gear assembly .fit the two parts of 23 together and then fit across the body (slightly off centre). Locating the ends into the half etch rebates .Push out the rivet detail and then fit parts 24. Laminate parts 26 together and then fit with part 25 onto a cross shaft of 0.9 wire .

I found it best to fit the rockers ,parts 28 to the cross shafts, Parts 27 ,before fitting between the brakes . I folded up and then clamped part 27 to a block of wood using drawing pins . I then held parts 28 with tweezers and soldered them in place one at a time . Fitting the second one is a bit tricky but can be done .

Laminate the two parts of the brake blocks/hangers together ,parts 29 and 30 .Then fit into slots so that they just clear the wheels . Spring cross shafts , parts 27 between brake blocks and then fit linkage made from 0.7 brass wire . Spot solder linkage between the ends of the rockers .

9, Open out holes in buffer beam to take buffer body .Then drill out buffer body to take head and spindle . Hold the buffer body between finger and thumb and drill out from each end with the drill mounted in a hand held pin chuck . Put a bit of spit on the end of the drill , this will help it to stop wondering and breaking through the side of the buffer .

Pass spindle through buffer body and then fit collar to end of spindle . Fit buffer into buffer beam , file a flat on the back to clear the beading . Clearances are a bit tight but you should get 2mm compression .

Fit sand pipes by spot soldering into the holes behind the buffer beam . Solder two coupling hooks together . Drill a hole between the first two holes (I got the etched holes in the wrong place) and then fit coupling links. Pass hook through buffer beams and then fit spring wire.

10, Push out the rivet head detail and then fit lamp irons , parts 31. (Note etched location marks). Drill roof for chimney and fit rain strips ,parts 32 . I leave the roof of until after painting and then glue it on with Evostick . If not fitting cast side lamps , fit blanking plate , part 33.

Livery

LSWR ,dark brown body ,vermilion ends and cabin ends ,black running gear and sole bars ,white roof (dirty grey in service) with black chimney ,white lettering .

SR ,as LSWR but 4 inch lettering post 1936.

BR ,wagon grey body ,black sole bars and running gear ,dark grey roof .

Sample running numbers

LSWR ,1499 , 9646 , 1728 , 3094 , 10108

SR 55001 to 55017 , 55019 to 55074

Transfers for lettering are available from **Historical model railway society , Volunteer Transfers sales officer ,Brian Webb ,8 Gilpin Green ,Harpenden ,Herts.AL5 5NR.** Visit **www.hmrs.org.uk** for print of order form .

References

An Illustrated History of southern wagons ,volume one ,OPC ,ISBN 0-86093-207-9
Thanks to Mike King for supplying information, lettering details and letting me make use of his drawings .

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