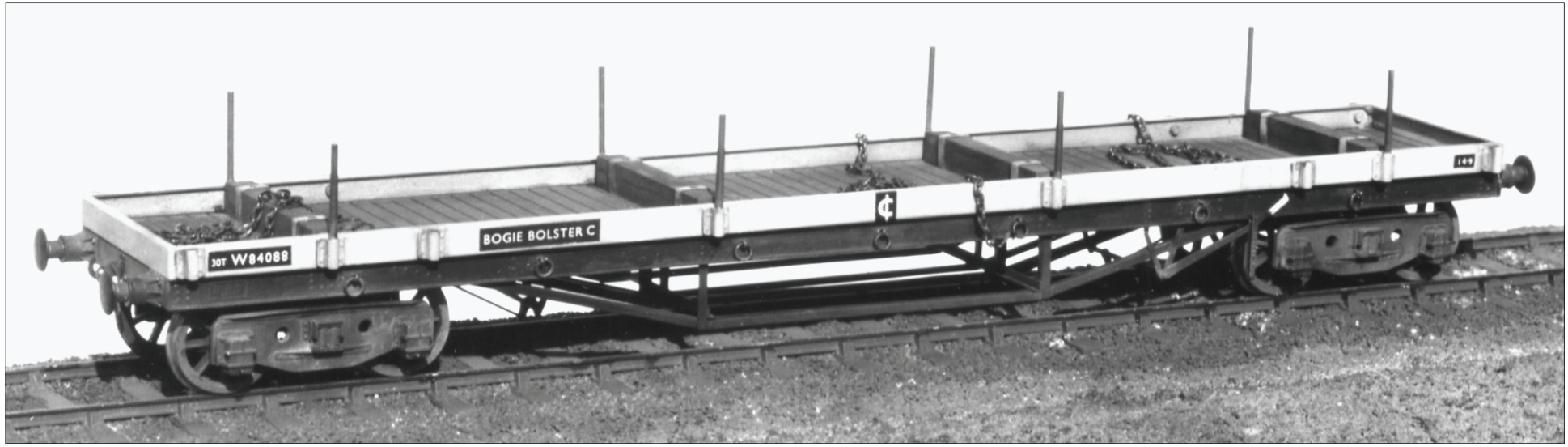
CONNOISSEUR MODELS

GWR MACAW B Bogie Bolster Diagram J28
British Railways Bogie Bolster C



These heavyweight 30 ton 48 foot long bogie bolsters were built in considerable numbers from 1907 until early BR days. Originally intended as rail carrying vehicles for the P.W. department, but once the usefulness of the design became apparent they were used for all manner of loads.

Large numbers of these wagons were built over this period with a number of detail differences as the design evolved. This kit represents the last design with lever brake gear. This final design was continued by British Railways as their standard bogie bolster C

The GWR built wagons continued in service until the early 1970's and the British Railways built wagons into the early 1980's.

Great Western wagon enthusiasts may wish to use this kit to kitbash into one of the earlier diagrams of Macaw and Dean Churchward brake components are included on the etch to aid this.

Wheels are required to complete the model. When first built 3'1" 8 spoke were fitted (Slater's No 7121) many wagons were later fitted with three hole disc wheels (Slater's No 7122)

Connoisseur Models, 33 Grampian Road, Penfields, Stourbridge, DY8 4UE, Tel 01384 371418

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.

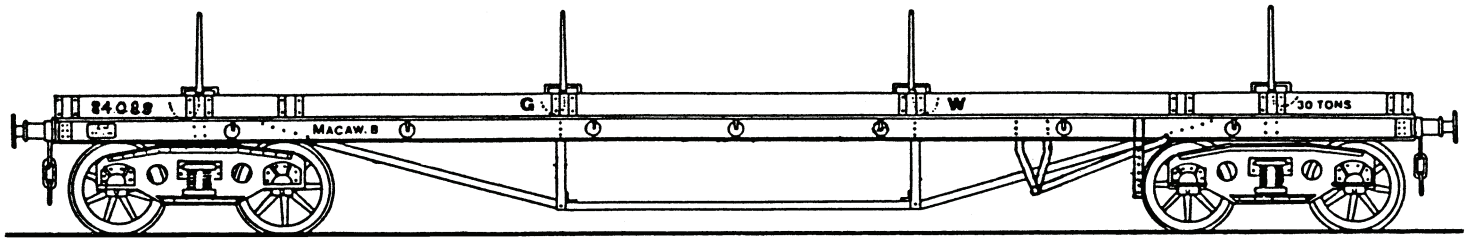
Other useful tools include a bench vice, a good pair of tweezers, a set of Swiss files (get a full set of cheap ones and then buy quality replacements for the three that you use the most), a pin vice with a selection of drills from 0.5mm to 2.1mm plus a few larger sizes that you use regularly (2.6mm 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.

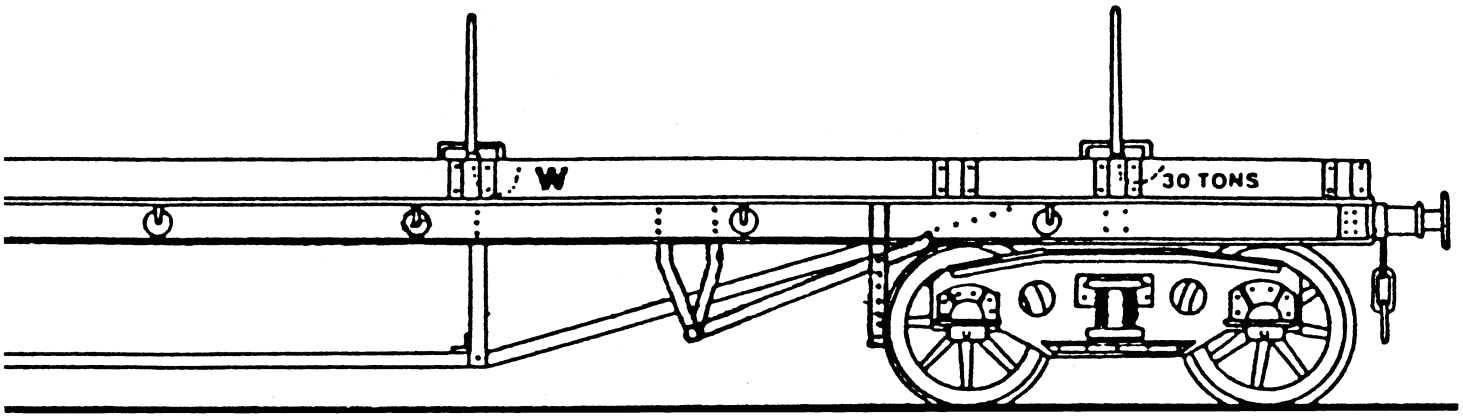
Try to complete all high-temperature soldering before attaching any of the cast whitemetal parts. These can be attached with two-part epoxy resin such as Devcon or Araldite Rapid. Ensure the surfaces to be glued are clean and free of grease.

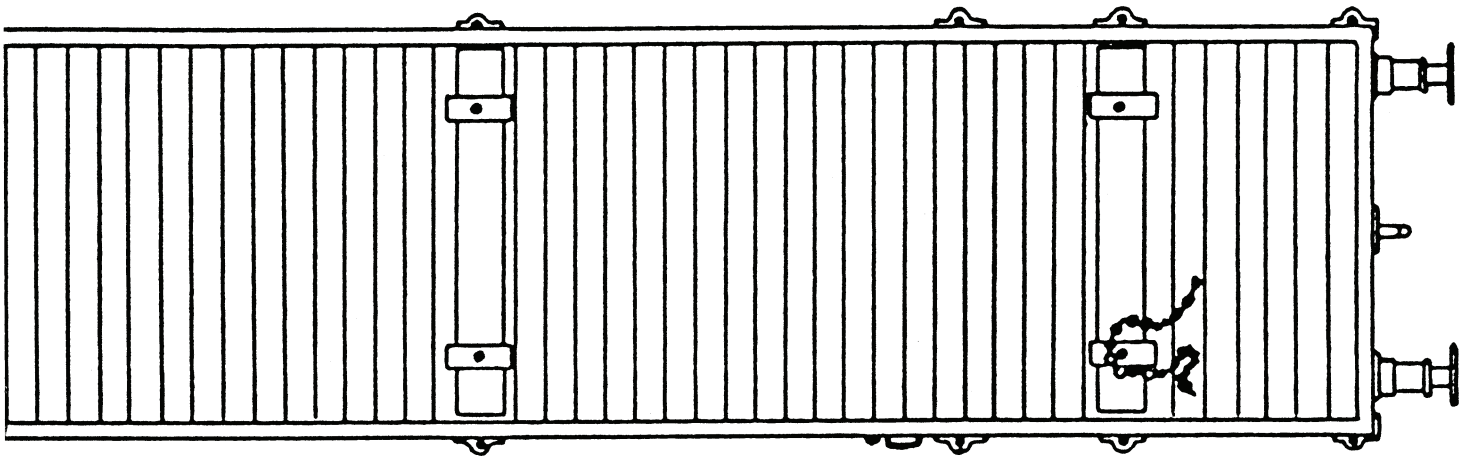
A better alternative is to solder your white metal castings using Carrs 70 degree low melt solder and Carrs red label white metal flux. The iron should be run at a much lower heat so that you do not melt the castings. I have a domestic light dimmer switch and plug socket fixed to a piece of wood, wired 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.

GWR MACAW B BRITISH RAILWAYS BOGIE BOLSTER C

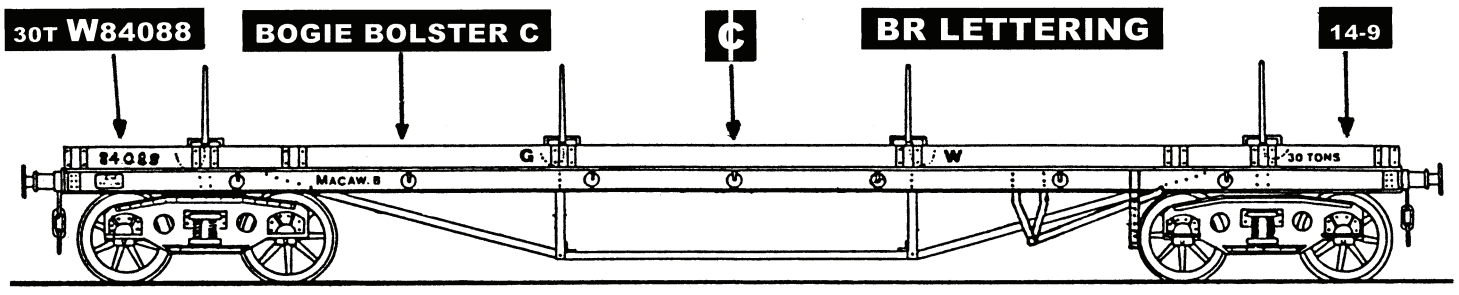




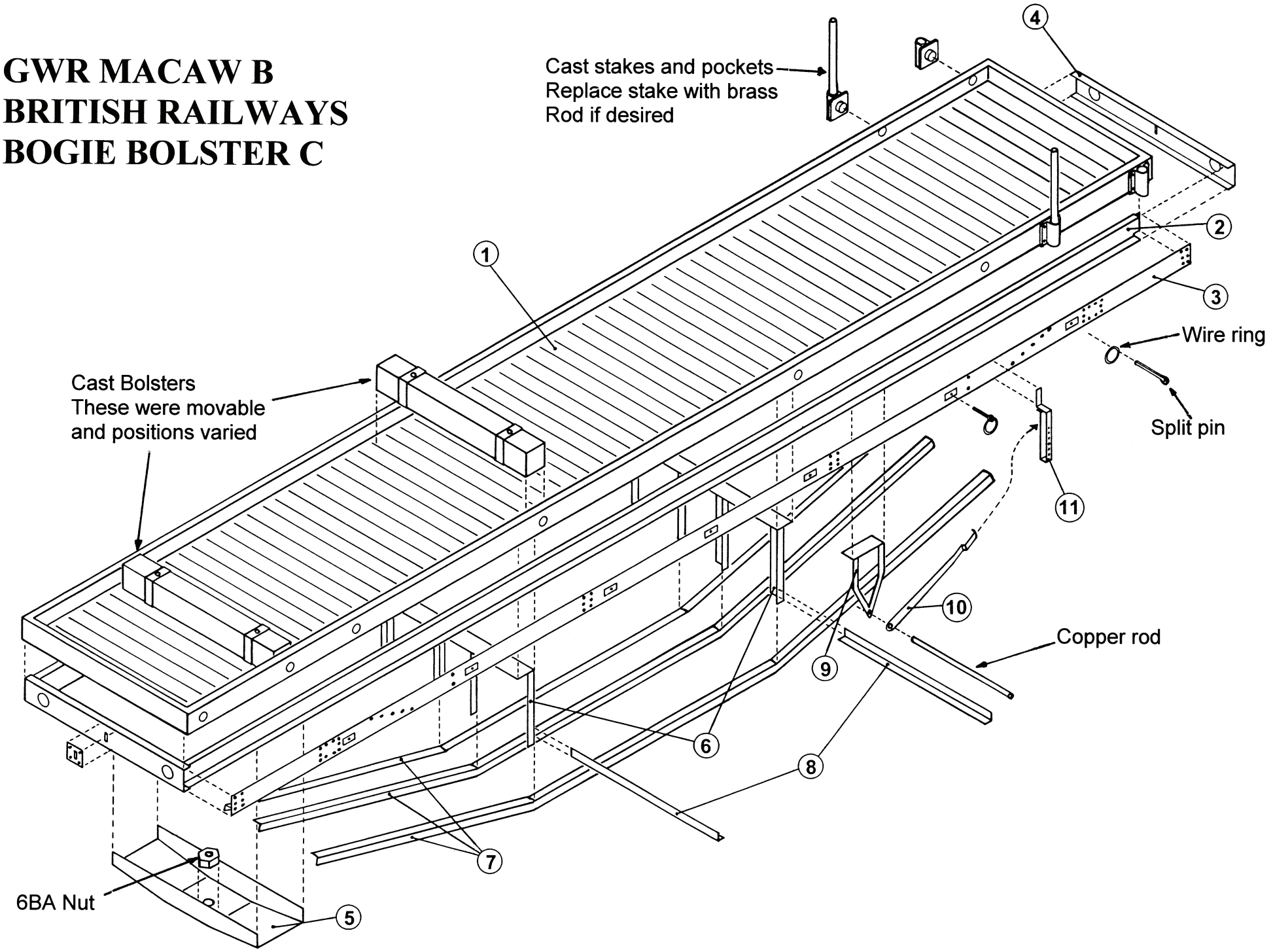


GWR Livery. All over GWR wagon grey (Railmatch enamel spray N0 1604). Planked Floor, dirty wood (Humbrol enamel N0 110). White end to brake lever. Lettering, White (note that lettering position varied between wagons). Transfers for lettering are available from :- HMRS, 8 Gilpin Green, Harpenden, Herts, AL5 5NR, sheet No 11 GWR goods insignia (they are also stocked by the specialist 0 gauge model shops) or dry rub down transfers from, POW SIDES, Poplars Farm, Aythorpe Roding, Dunmow, Essex, CM6 1RY.

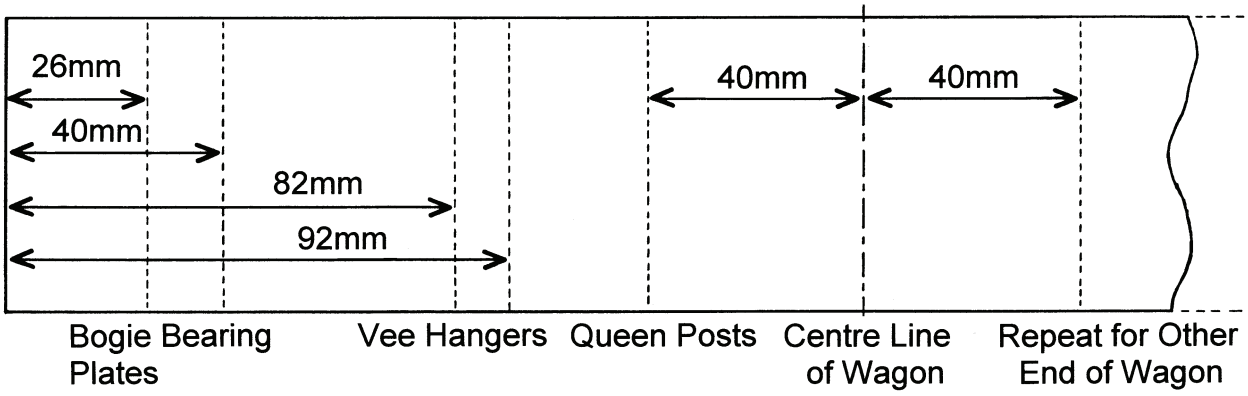
BR Livery. Bodywork, BR early freight stock grey (Railmatch No 322). Solebars and bogies, Black. White lettering on black background patches. Fox Transfers, 138 Main Street, Markfield, Leicestershire, LE67 9UX, Tel 01530 242801. Produce Waterslide type transfers including black patches onto which the lettering can be built up.



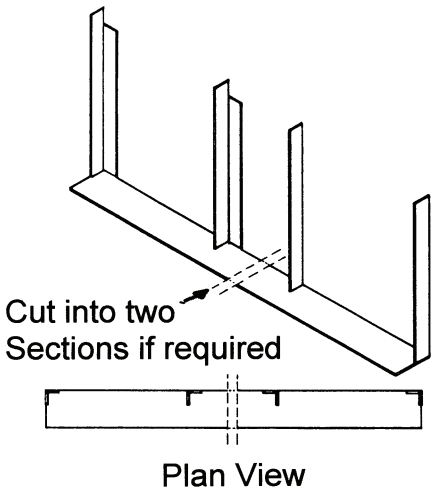
GWR MACAW B
BRITISH RAILWAYS
BOGIE BOLSTER C



SCRIBE GUIDE LINES ON UNDERSIDE OF FLOOR

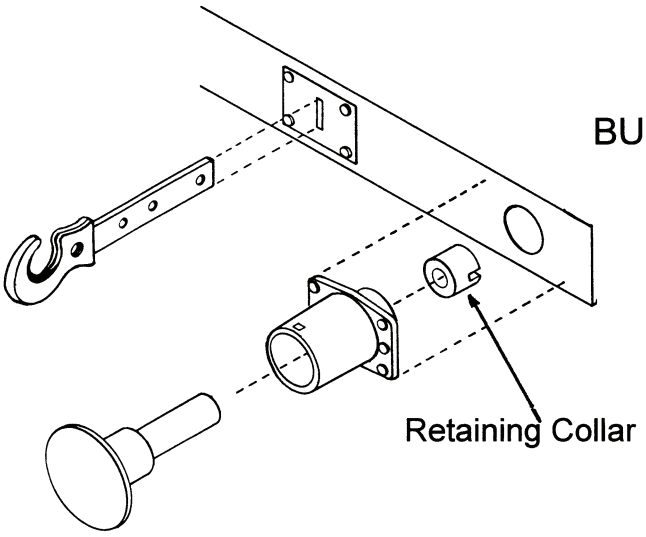


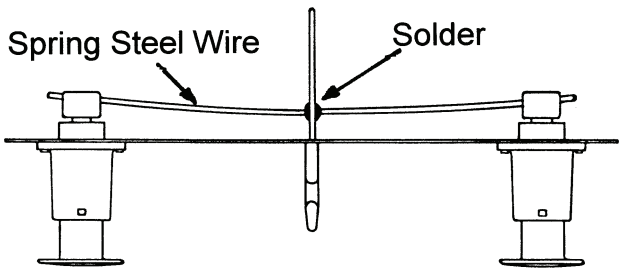
QUEEN POST ASSEMBLY



TRUSS RODS AND VEE HANGER ASSEMBLY

BUFFER ASSEMBLY AND SPRINGING





GWR MACAW B BOGIE BOLSTER
Parts Identification and Suggested Assembly Order

1. Using bending bars fold up the main body (part 1). The suggested order of folding being the top lips of the sides first, then the main sides, then the top lip of the ends and finally the ends. For the last fold of the ends you will not be able to use the bending bars so place the main body on a flat surface and place a piece of square off cut of 2”X1” wood, hard down inside the floor. The ends can then be folded up using finger pressure, the wood ensuring a 90° fold. Ensure that all is square and then run a fillet of solder into each corner.

Even with bending bars the long folds can be a little tricky. Clamp the etch into the bending bars as tightly as you can and then clamp one end of the bending bars in the jaws of your vice. Make a bend through about 30° for $^1/_4$ of the length of the side (about the length that is supported by the vice jaws). Then move the bending bars along and re-clamp in the vice jaws to bend the next $^1/_4$ of the side through 30°. Work along to the other end and then work back forming the bend through 60° and then 90°. Stroking along the bend with a block of wood or gently tapping the wood block with a hammer can correct any slight distortion.

My vice is a record No3 and is deep enough to take the floor as I make the second bend on the side. But if you are not able to use your vice for this bend you may find it helpful to deepen the fold line by pushing a triangular file up it until a faint witness mark appears on the other side of the brass. This should reduce the amount of pressure required to make the bend and you should manage without the bending bars being supported in the vice. If you have done this you may wish to reinforce the fold by running a small fillet of solder between the plank ends and the side. Solder all four corners and dress with a file to give a crisp square corner.

2. Fold the top and bottom of the solebars (parts 2) through 90°. Again us bending bars and work the bend in sections.

3. Take the solebar overlays (parts 3) and check that they will be a snug fit into the solebar channel. If a little filing of the edges is required it may be helpful to clamp the overlay into the bending bars to support it as you dress the edge with a file. Emboss the bolt heads on the securing ring plates and then solder the overlay into the channel.

Fitting the solebar overlay is probably a good job for solder paint or even resistance soldering units. Alternatively tin the back of the overlay and the front face of the solebar. Solder the overlay to the solebar at one end and check that the holes for the lashing rings line up. Flood plenty of flux underneath the overlay and invert it onto a piece of scrap strip wood 5mm wide (lengths of this hardwood are sold as beading in DIY shops and it has hundreds of modelling uses). Start from the end that is all ready soldered and pressing the back of the solebar firmly onto the strip wood with the end of an old file. Work slowly along the back of the solebar with the tip of your soldering iron. Keep the tip of the iron lightly coated with solder to help the heat transfer. Work in short sections as you will be getting a lot of heat into the solebar and you want the solder to cool and hold the overlay flat before removing the pressure of the file end and moving on to the next section. Once completed and cooled clean up the front face of the solebar with a fibreglass brush to remove scorched splinters of wood etc.

The lashing rings that fit into the holes in the plates on the solebars are represented by soft wire rings and split pins. Wind the soft tinned copper wire around a 2.7mm (size for Slater’s axle bearings) drill shank to form a tight coil (like a spring). Using flush cutting side cutters snip into the coil to make the individual rings. Straighten up each ring with long nosed pliers and then close each ring with a spot of 60/40 solder. Thread each ring onto a split pin and then gently squeeze each head closed again. Thread each split pin through the hole in the solebar and then splay out each leg of the split pin through 90°. This should hold the split pin firmly and allow you to set all the split pin heads vertical in the solebar. Turn the solebar upside down so that the rings hang down freely and spot solder from the back of the solebar the split pins into the holes. Snip off the legs of the split pins and with a file dress the remainder

flush with the solebar back. You should now have separate moving lashing rings to secure a wagon load too and impress your friends.

4. Fold up the headstocks (parts 4). Fold up and solder the bogie bearing plates (parts 5) and then solder a nut over the hole on the inside of each. This is best done by first polishing the six sides of each nut with a flat file. Then lock each nut into place with a screw that has a washer between the screw head and the outside face of the bearing plate. If you put a spot of light oil onto the screw thread this will prevent solder creeping in and locking everything solid. Now solder the nut into place using a generous amount of solder so that the solder flows all around the nut and part way up each of the six sides.

5. Using a scriber and engineers square mark lines across the underside of the floor using the dimensions shown on the diagram. These are to help with the positioning of under floor components.

Now solder the headstocks to the ends of the underside of the floor. Then solder the solebars to the floor. You may have to dress the ends to fit snugly between the headstocks and ensure that the solebar is the correct way up (use the number plate for reference). The edges of the solebar lips are virtually flush with the ends of the headstocks. The solebar is best tacked into place first at about 2" intervals. Then solder solid using 1" tacks rather than trying to solder a continuous fillet as this will avoid excess heat and the risk of distortion. The bogie bearing plates (parts 5) are useful as spacers to ensure that the solebars are square and at the correct distance apart. Then solder the bearing plates to the floor using the scribed lines as a guide.

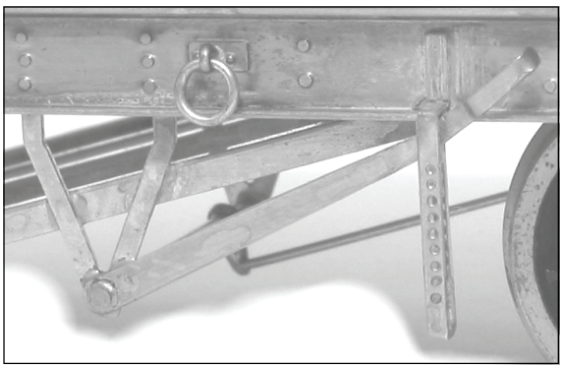
6. Fold up the truss rod queen post assembly (parts 6). If your bending bars are more than 6mm wide you may experience difficulty with the centre two bends so file a rebate in the bars or cut the plate in the centre to separate them into two sections of two queen posts.

Fold up the truss rods (parts 7) to form an L shaped section. You may find it helpful to run a triangular file up the fold line until a faint witness mark appears on the front face. This will reduce the amount of pressure required to make the fold and give a crisper more square bend. Then fold the transverse angles (parts 8). I have tried to make all these components to scale. Because of this they are a little tricky to fold but if you form most of the fold by pressing forward with a block of steel (I use the base of my engineers square) and then gently tap flat onto the bending bars with hammer and block of wood. You should get a sharp and even bend.

7. Solder the bottom plate of the queen post assembly to the wagon floor using the scribed lines as a guide. If you find that the queen posts are a tight fit between the solebars you may wish to cut the bottom plate into two and file each section back slightly. Then solder the four outer queen posts to the backs of the solebars. Check that they are square and at 90° to the floor/solebars.

Build up the truss rod assembly by soldering the two outside truss rods to the queen posts, and then fit the transverse angles. Solder the inside queen posts to these, followed by the two inside truss rods. Check for squareness in all directions at each stage. Then solder the ends of the outside truss rods to the backs of the sole bars and the inside ones to the floor.

8. Drill out the holes in the vee hangers (parts 9) 1.4mm to take the copper rod cross shafts. Fold up the bases of the vee hangers and fit to the floor using the scribed lines as a guide but ensure that the outer vee hanger lines up with the etched bolt head detail on the solebars. The inside vee hanger is fitted against the third truss rod with the copper rod spanning three truss rods. Leave a length of copper rod projecting out of the solebar vee hanger onto which the brake handle is fitted. There is a couple of etched cross shaft cranks that you can use if you wish to represent the pull rods going into the bogies. Thread one of these onto each cross shaft before soldering the rod.



9. Fold up the brake pin guides and brake handles (parts 9 and 10) as shown in the diagram. Put a blob of flux into the bottom fold of the pin guide and touch the edge with the iron tip loaded with a spot of 60/40 solder. The flux should draw the solder into the fold lines to reinforce the bottom of the pin guide. Solder the pin guide to the solebar 21mm from the centre line of the vee hanger. Fit brake lever and solder at vee hanger and from the rear of the pin guide. Fit coupling plate detail etches over the coupling slots on the headstocks.

10. Open out with a tapered reamer the location holes in the sides to take the cast stake pockets and stakes. Fit four empty pockets and four with stakes in to each side. These stakes were movable and would be fitted into different pockets depending upon the requirements of the load being carried. The main drawing shows a typical arrangement.

If your wagon is to receive rough handling you may wish to replace the cast stakes with brass rod. If this is the case fit eight empty pockets to each side. Drill out four pockets 1.6mm and fit 25mm long lengths of brass rod.

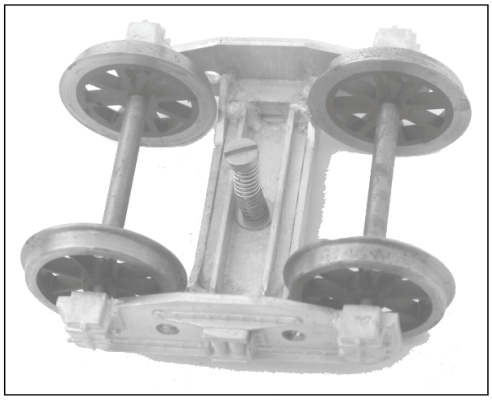
11. With a large course file dress the sides and ends of the cast wooden bolsters to remove any part lines and imperfections. You may also wish to distress the castings with the file, as these wooden bolsters got very battered on the prototype wagon. Fit the bolsters to the floor of the wagon. Again these bolsters were movable to different positions but the drawing shows a typical arrangement.

12. Drill out the back of the buffer bodies 2.1mm to take the shank and 4.2mm from the front to take the wide part of the shank/head. Fit buffer heads/shanks into the bodies and check that they will depress fully and turn within the body freely. You may have to open the holes to 2.2mm and 4.3mm to achieve full depression. If the heads are tight to turn, give them a few twists and then look for shiny high spots on the shank. Dress these off with a file. Once happy fit a retaining collar onto the back of the shank so that the slot is level with the end of the shank. Open out the holes in the headstocks and fit the buffers.

Make up the coupling links and fit them into the coupling hooks. I close up the links by holding the curved end in the jaws of a pair of round-nosed pliers in one hand and squeeze the flat parts of the link parallel with long-nosed pliers (angled long-nosed pliers with serrated jaws are even better) held in the other hand. When I have six even-shaped closed links, I open each one slightly with long-nosed pliers and thread three together. The last link passes through the hole in the coupling hook. I reinforce the joint of each link with a spot of 60/40 solder.

Pass a coupling hook through the slot in the headstocks and retain it with a length of spring wire (make sure that the ends of this wire don't jamb on the solebars). Polish the centre of this wire with emery cloth first so that you can solder it to the coupling hook shank once you are happy that the buffers spring freely.

13. Assemble the bogies. Drill out the holes in the side frames 2.6mm to accept the brass bearing cups. You may find that the holes are slightly out of square so put a little sideways pressure on the drill to square them up. Place a pair of wheels onto a flat surface with the bearings on the axle ends and fit the sideframes over the bearings. Drop the bogie stretcher into place between the sideframes. With Slater's wheels you will probably find that the stretcher is slightly short. So file a little from the raised rings on the back of the bogie sideframes so that the bearings will sit slightly deeper allowing the sideframes to come closer together.



Once you are happy that the stretcher is a good fit and the sideframes are square to the wheels. Disassemble, fit bearings into the holes with a blob of Evo-Stick, re assemble on a flat surface and solder stretcher to sideframes. Check that all is square. It is important to get the joint between stretcher and sideframes as strong as possible so solder at both the top and underside. It may be a good idea to make the underside joint with 145° solder and the iron on full heat, but be quick!

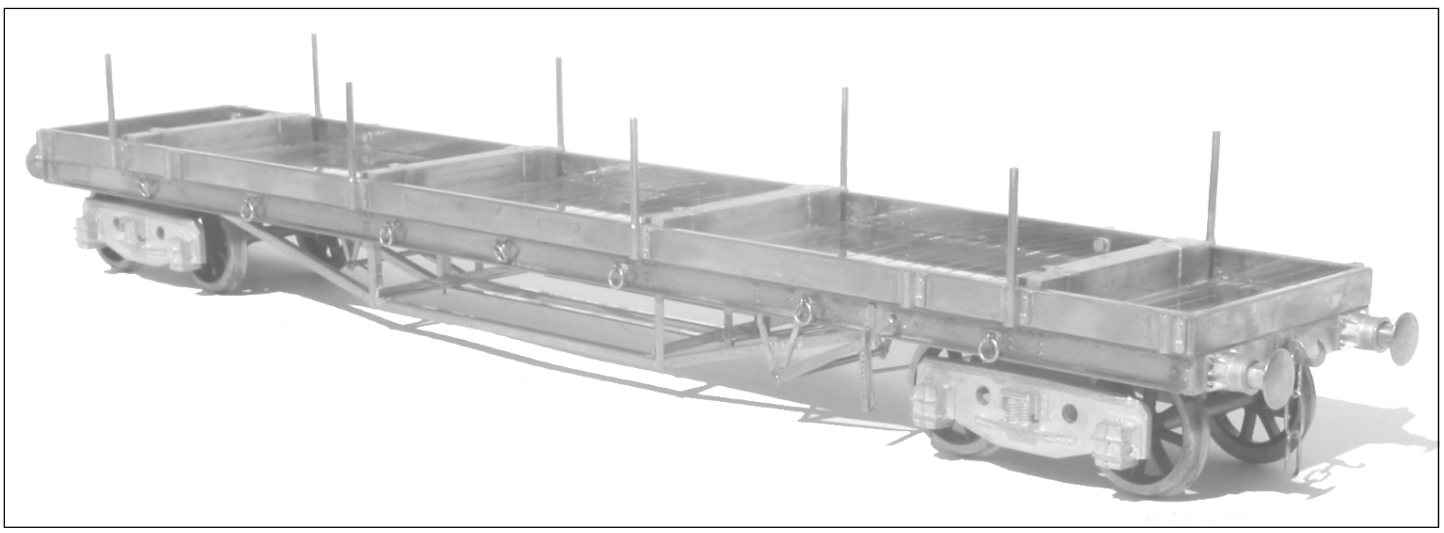
Cut down the bogie pivot screws so that there is 18mm of thread between head and end. Fit coil spring and then a brass washer onto screw thread and then screw the bogie into place. Try the wagon on your layout and if you find that the buffer height is low. I have included steel packing washers to fit between the top of the bogie stretcher and the underside of the wagon. After painting smear a blob of Evo-Stick around the inside of the nut thread before reassembly and this will prevent the screw working lose during running. You should still be able to crack the glue joint and remove the screw if you need to remove the bogies.

14. If fitted, solder the brake cranks to the cross shafts on the centre line of the wagon and then a length of 0.7mm wire running from the crank above the inboard axle and cut short of the bogie stretcher.

Also included within the etch are extra vee hangers and brake parts for Dean Churchward brakes. These are not intended to be part of the kit but are there to help modeller's kit bash the wagon into other diagrams of Macaws. If you are the sort of Great Western wagon enthusiast who wants to do this then you will probably instantly recognise all the parts and what to do with them.

15. 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 (as hot as your hands can bear) water 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 primer is one of the best. For the best results you want to spray at room temperature (25°C) on a dry (avoid cold, damp or humid) day. 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. Martyn's method of creating worn and weathered planking for wagon floors by blending brown and grey paints to form a base. Then dry brushing darker shades to represent the wood grain is particularly effective on this type of wagon. 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.

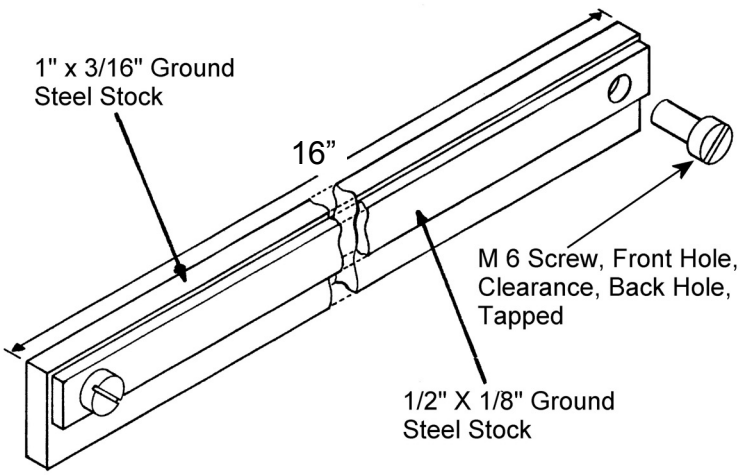


For more information and photographs of the prototype wagon I would recommend, GWR Goods Wagons, Atkins, Beard & Tourret, Tourret Publishing, ISBN 0-905878-07-8. Get it from your local library via their book order system.

Fibreglass Scratch Brush

The use of this tool is mentioned in the instructions. This is like a propelling pencil holder into which a fibreglass refill is fitted and which will give a vigorous abrasive action. I find this tool indispensable for cleaning up and removing solder. One very useful tip is to soak the refills in dilute PVA glue (Evostick resin W wood glue let down 50/50 with water and a spot of washing up liquid) and then drill holes in a block of wood and stick the ends of the refills in the holes while they harden off. This will make the refills much more abrasive and longer lasting, and also stops the fibres breaking off and ending up in your fingers. You will need to give the refill a good rub to get it started but if you use green label flux you will soon have plenty of rusty tools that need cleaning. These and most other general modelling tools can be obtained from Squires Model and Craft Tools, 100 London Rd, Bognor Regis, West Sussex, PO21 1DD, Tel 01243 842424. They do a free catalogue and a very good mail order service.

Folding Bars



You will find a set of these very useful and here are details of the set that I have made for myself, in fact I have made three sets of different sizes. The dimensions or materials are not critical so make yourself a set to suit the materials you can get hold of. The important thing is that you can clamp the part along its entire length, with the etched fold line just above the front bar. Then clamp the bars in the jaws of your vice, a couple of 1” G clamps are also useful for long folds, and laying a steel rule at the back of the part to help transfer the pressure from your fingers evenly, pull forward to make the fold. Once the fold is close to 90° you can finish by pressing down on it with a block of wood and moving the block along the fold with a stroking action or by giving gentle taps with a small hammer on the wood block. Occasionally it is necessary to emboss bolt heads onto a part before folding, by lining the face of one of the bars with two or three layers of masking tape, you can still clamp the part without crushing the bolt heads but you wont get such a tight fold, so deepen the fold line with a triangular file.

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

GWR MACAW B