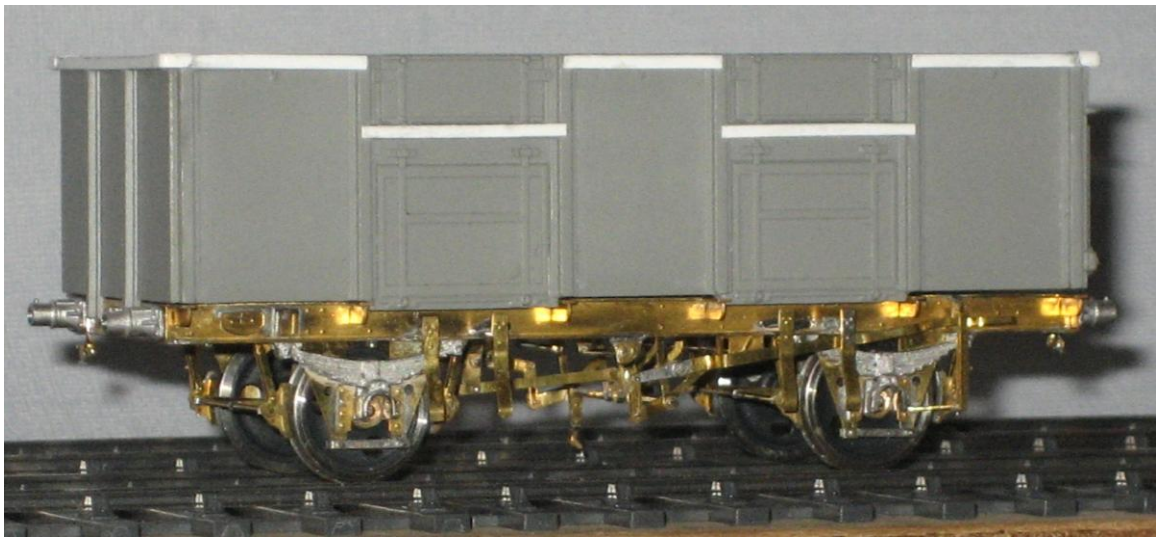
Rumney Models – BR 21T Mineral Wagon Chassis
Diagram 1/119 BR Clasp Brake

This set of instructions covers the BR clasp brake chassis kit B.06. This is designed to build into a fully detailed and accurate 4mm BR clasp brake wagon chassis to suit the Chivers Finelines MDV body (kit RC 473). These are available through Slimrails. Contact details are given at the end of these instructions.

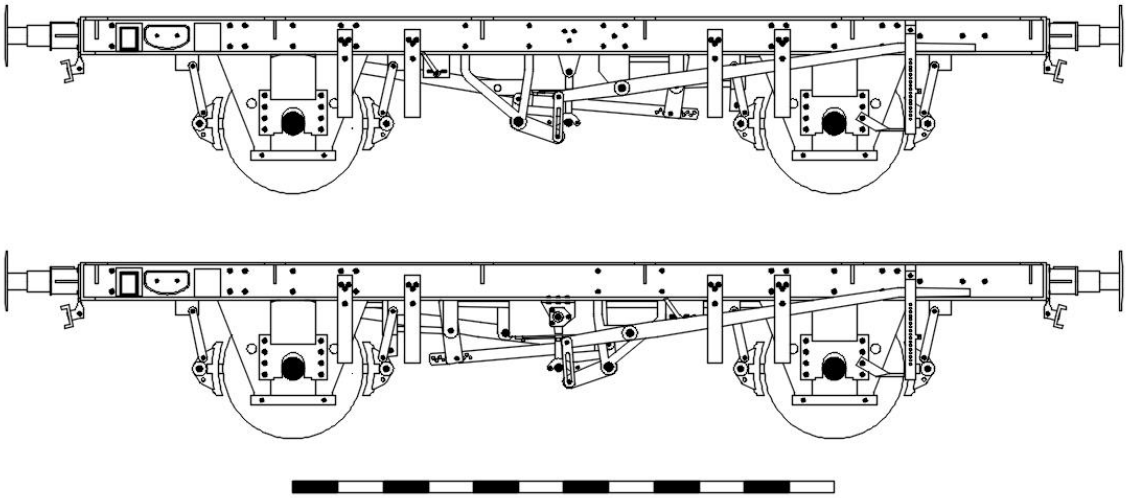


Prototype Information

Steel bodied 20/1T mineral wagons had been developed by the big four mainly for use in carrying loco coal. The GWR saw the advantage of these higher capacity wagons, which could utilise the same loading facilities as the traditional wooden bodied coal wagon, for moving coal around South Wales. It built a fleet of 'Felix Pole' mineral wagons which it hired out to various collieries in the South Wales coalfield. BR continued this theme and built 2500 unfitted 21T steel minerals between 1950 and 1952 with both riveted and welded bodywork (diagrams 1/107 and 1/110). There the story ends until the 1960s. In 1961 BR decided to return to the 21T mineral and build an updated vacuum braked version. In total some 4950 were constructed. Most of these had a design of self adjusting brakegear (SAB) which automatically adjusted the force of the braking depending on whether the wagon was full or empty (diagram 1/120) but the first 1000 that were built (diagram 1/119) had the conventional BR clasp brake with twin vacuum cylinders and changeover levers. This first batch is the subject of this chassis kit. Build and numbering details are as follows:

B310000 – 310999 Lot 3387 BR Shildon

All were initially allocated to South Wales and were branded 'TO WORK WITHIN SOUNTH WALES AND MONMOUTHSHIRE ONLY'.



Notes

Read through the instructions first and familiarise yourself with the components. Drawings and photographs taken during the construction of the test etches are included to attempt to make my waffle clearer. Note that not all the photo are from this particular clasp brake chassis but suitably illustrate the item in question.

All fold lines are through 90° with the fold line on the inside unless stated otherwise.

Everyone has their own soldering methods. I now use a temperature controlled soldering iron with predominantly 145° solder and La-Co paste flux. For a long time I used an Antex 18W soldering iron on virtually everything with few problems.

Check all holes before removing parts from the fret. The drawing process for etching, particularly if you use a CAD program as I do, is extremely accurate but the actual etching process itself is not an exact science. If the fret is slightly over etched then there is no problem but if they are under etched the holes will need enlarging. I find that this is easiest to do before removing parts from the fret. The hole sizes will be noted at the appropriate points as we go along.

Technical

The suspension is individual springs made from 0.008" steel guitar wire soldered to the etched spring/bearing carriers. For this you will need a suitable flux. I use Carr's Black label. If the finished vehicle is weighted to 50g with the weight evenly distributed then this will produce a spring deflection of 0.5mm. Don't be tempted to up the gauge of spring wire. Even moving up to 0.009" springs will have a significant effect on the spring deflection. Also don't over weight the wagon or the springs will not have enough upwards movement before they hit the W-Irons. Think of the 50g total as an ideal weight but also a maximum. There are notes on weighting the wagon at the end of the instructions.

The chassis is designed to produce a buffer centre height, when the kit is completed and weighted to 50g of 13.8mm when using Exactoscale wheels. The Exactoscale wheels are 13.4mm (3'1½") in diameter. Different makes of wheel may affect the ride height depending on their diameter.

Materials list

Several sizes of wire are needed to build the chassis. Eileen's Emporium are good source for these and they do a mixed sizes pack if you don't want to buy large quantities.

0.31mm - Some parts of the brakegear, axle guards
0.4mm - Some parts of the brakegear
0.5mm - Brake yokes
0.6mm - Brake levers
0.8mm - Main brake cross shaft
1.0mm - Alignment pins

You will also require items such as buffers, vacuum cylinders, vacuum pipes, axleboxes and springs as well as couplings to complete.

For buffers I would recommend those produced by Lanarkshire Model Supplies. The quality is excellent. Metal buffer heads and springs are available from Wizard Models. Most were fitted with 1' 8½" Oleos with 16" heads, code BP03. The Chivers kit does come with cast whitemetal Oleo buffers so those could conveniently be used but they aren't quite up to the quality of the Lanarkshire castings.

Lanarkshire Models also do cast swan neck vacuum pipes, code VP03. These look very good but being whitemetal I find them quite fragile. Homemade ones from brass rod and very thin wire would probably be better.

You will need two vacuum cylinders, one 18" and one 21". ABS do a casting for the 18" version and Lanarkshire Models have just released castings for both types. Something will also be coming in the not too distant future from Rumney Models as well.

Axleboxes are of the roller bearing type. Wizard models do hooded (BRC023) and non-hooded (BRC022) types. MJT also do a non-hooded roller bearing (2256A). Springs on the prototype were 9 leaf. Both MJT (2284) and Wizard Models (BRC042) do castings. The Wizard ones are better. You could of course recycle the plastic mouldings that are on the Chivers chassis as well.

For couplings I use Masokits coupling hooks. I find the hooks are a bit on the big side but if you aren't using auto couplings this is a help. For instanter couplings I use the Exactoscale products available through C&L Finescale.

Contact details for the above suppliers can be found at the end of these instructions.

Component List

1 - Chassis top plate
2 - Axleguard assembly
3 - Riveted axlebox guide overlays
4 - Solebars
5 - Solebar detailing overlays
6 - Solebar detailing
7 - Solebar/Headstock corner plates
8 - Side support brackets

9 - Spring Carriers
10 - Bearing washers
11 - Axle keeps

12 - Clasp brakes

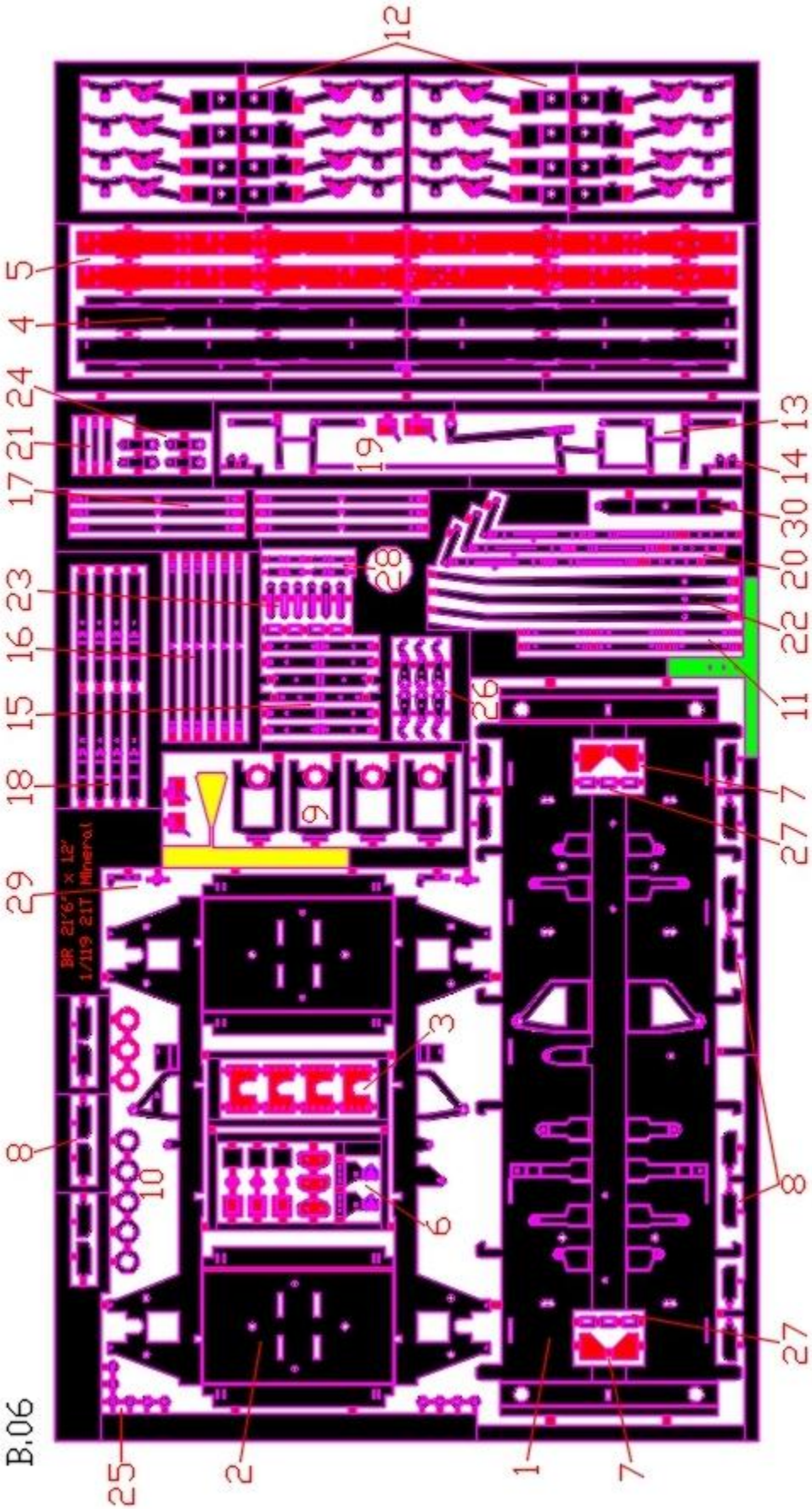
13 - Brakegear links
14 - Brake shaft crank overlays
15 - Brakegear overlays
16 - Brake yokes (EM/P4)
17 - Brake yolks (OO)

18 - Door springs
19 - Changeover lever detail

20 - Brake lever guards/brackets/stays
21 - Brake lever guard stays
22 - Brake levers
23 - Lifting links
24 - Brake lever cranks
25 - Brake lever washers
26 - Vacuum cylinder actuators

27 - Coupling pocket detail
28 - Lamp Irons
29 - BR swan neck vacuum pipe brackets
30 - 18" Vacuum cylinder bracket

The areas shaded yellow in the parts diagrams are the jig for forming the safety loops. This area should be removed from the fret when the time comes. Note that there were different types used and I've included the type which seems most common for the chassis concerned.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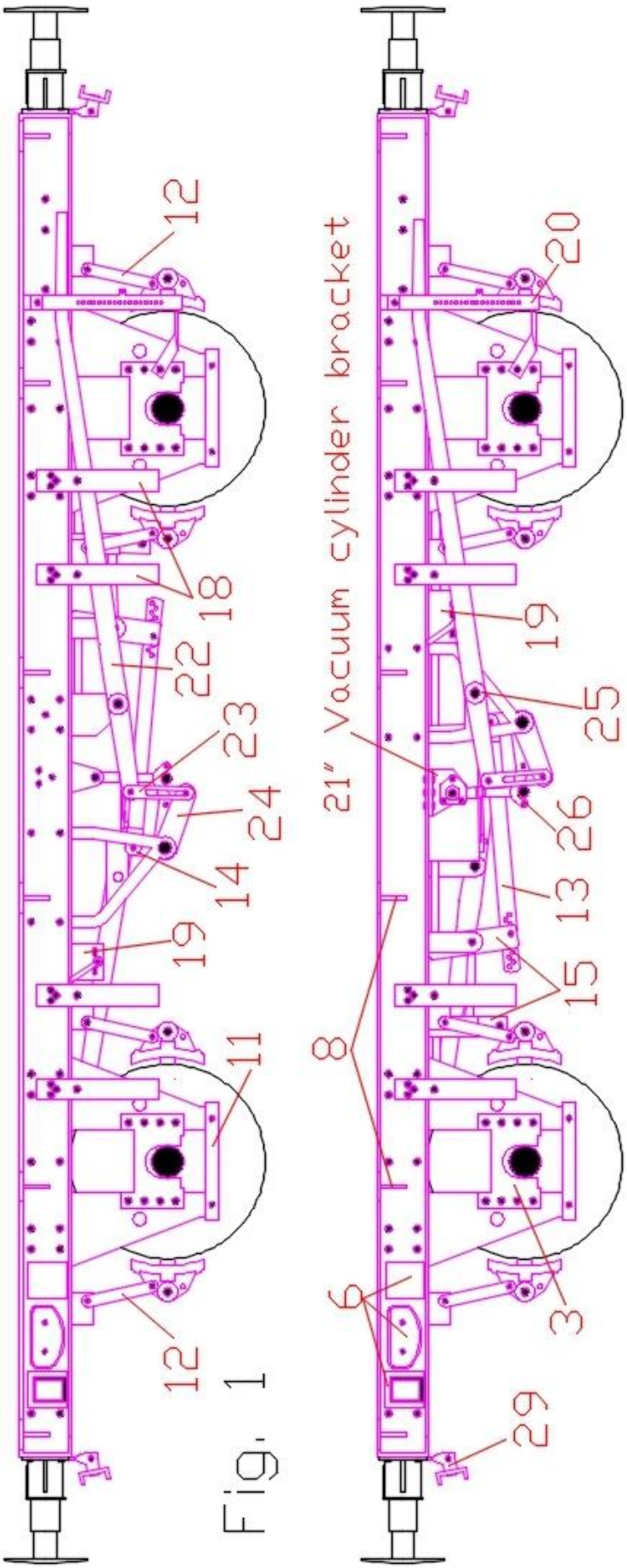
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21" Vacuum cylinder bracket
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Fig. 1

Construction

Main Chassis

Firstly check the fit of your buffers in their holes in the headstocks. It may sound a bit odd starting with something that usually goes on at the end but it will be much easier to open out the holes now rather than later.

Start with the chassis top plate (1). Whilst still in the fret check the diameter of the holes in the fold out clasp brakegear brackets. They should be 0.4mm. Also check that the holes in the inner vees will accept 0.8mm wire. Adjust if necessary. Remove from the fret.

The headstocks need to be folded up. This is best done with the chassis top plate clamped to something or held in a vice to avoid distortion. There are two sets of fold lines as the headstocks need to be folded into a channel. Starting with the outermost parts of the chassis top plate and fold through 90°. You can reinforce this fold line of you wish but I haven't found need to do this. Next fold the headstocks through 90° to form a channel. Do not reinforce with solder yet.

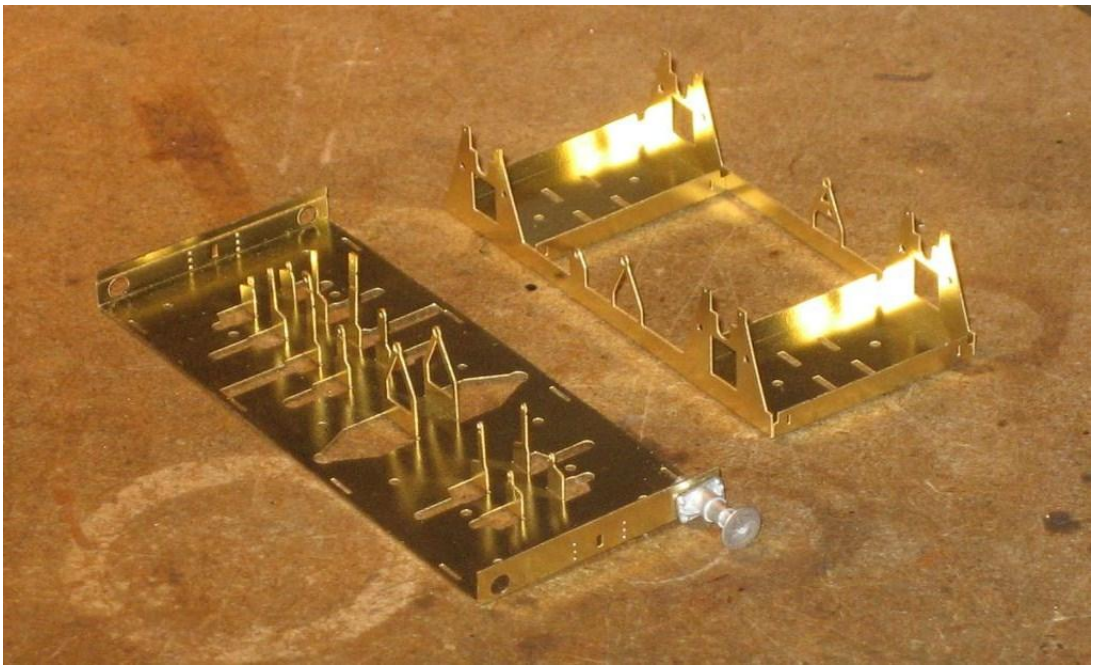
Fold out the clasp brakegear hanger brackets through 90°. These will be adjusted later but need to be at this angle for the moment. Fold out the inner vees.

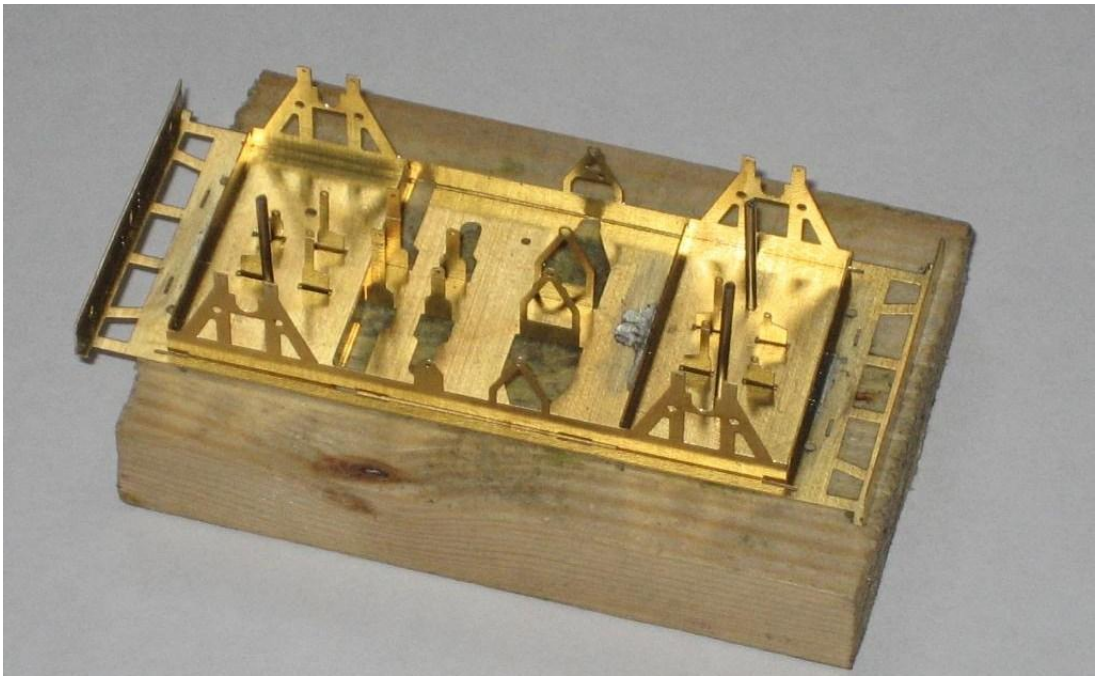
Check that the main brake shaft holes in the in the vees on the axleguard assembly (2) will accept 0.8mm wire and that the brake lever holes will accept 0.6mm wire. Remove the detailing from the middle of the axleguard assembly and clean up connecting tags.

If you wish to make use of the riveted axlebox guide overlays (3) included then now is by far the best time to fit them. Use the slot for the axle to align them on the axleguard assembly and solder in place. Make sure they will be on the outside of the axleguards when folded up.

Carefully fold up the sides and the four spring supports. Make sure that the sides are at 90° and adjust if necessary.

The chassis top plate and the axleguard assembly need to be solder together. There are 1mm diameter holes on both the top plate and axleguard assembly to aid location. Using short lengths of 1mm wire with the ends tapered slightly pin the two parts together. You may need to open out the holes slightly but make sure the wire is a tight fit. Solder the two parts together and then remove the locating pins. Make sure the vees align.





Next remove the solebars (4) from the fret and fold into an L shape. I find the best way to do this is in a vice. On one set of solebars press out the three rivets that are towards the centre. These are for the 21" vacuum cylinder bracket. I find the easiest way to do such things is with a drop head rivet press with the fret placed over one of those ubiquitous green cutting mats.

Remove the solebar detailing overlays (5) from the fret.

As a result of the etching process there should be a curve through them with the ends closer to you if looking at the rivet detail side. Carefully bend them so that the curve is reversed slightly and that the ends are further away when looking at the rivet detail. This can easily be done between thumb and forefinger but take care not to put any folds into it.

The solebar overlays are designed to fit into the slots in the solebars. The completed solebar then locates into the slots in the chassis top plate. Note which of the solebar detailing overlays is intended for the side where the 21" vacuum cylinder is (see Fig.1) and mate it with the solebar that you pressed the three rivets out of. Locate the solebar detailing overlay in the solebar and tack solder in pace. Note that there is a right way up for all the overlays (if in doubt note that the notches for the brake lever guard should match those in the solebar).

Now is probably the easiest time to attach the solebar detailing to the solebars so I shall cover this now before returning to the business of assembling the chassis.

Solebar detailing

The solebar detailing (6) comes contained in its own little fret. See Fig.2 below. On it you will find number plates, label clips, a rectangle that is actually a block of wood on the real thing, some repair plates and two 21" vacuum cylinder brackets. I have no idea what the purpose of the rectangular block is but it was made of wood was quite common. See Fig.1 or a picture of your prototype for the position of these details. They can be soldered on or glued. If you wish to glue the detail on its best left until the chassis is assembled.

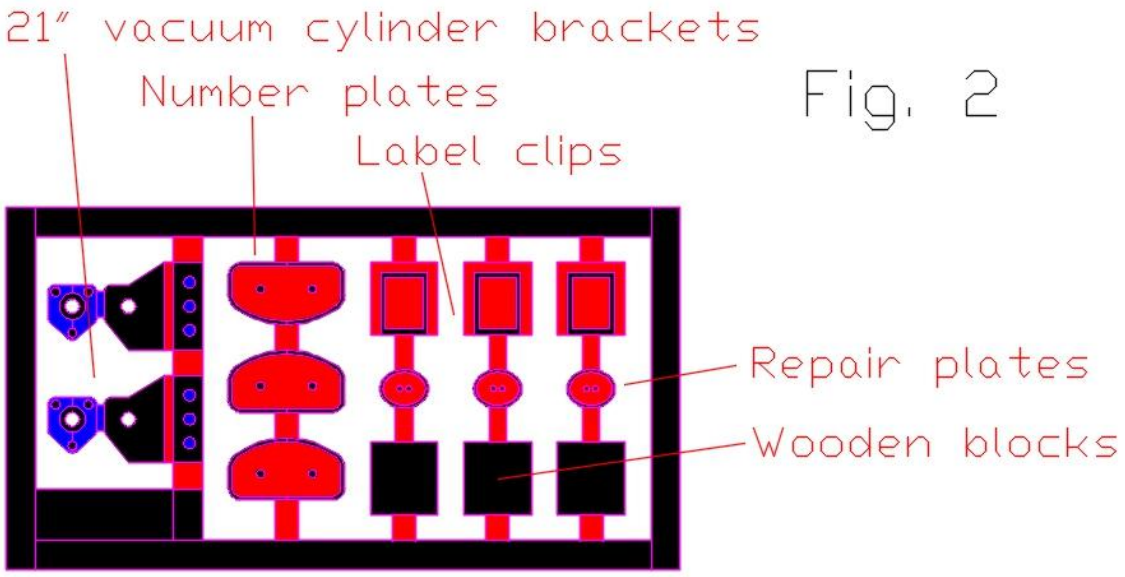
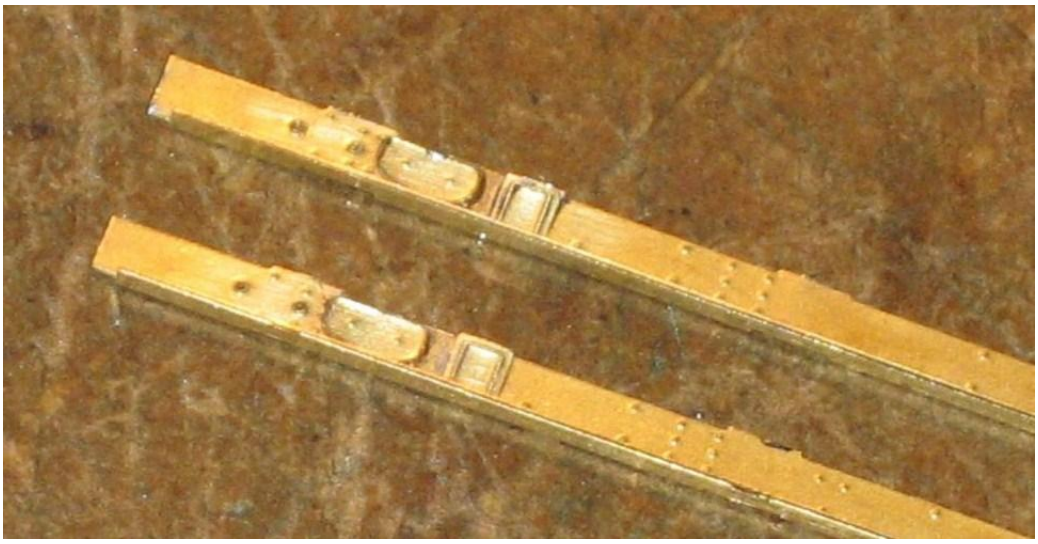


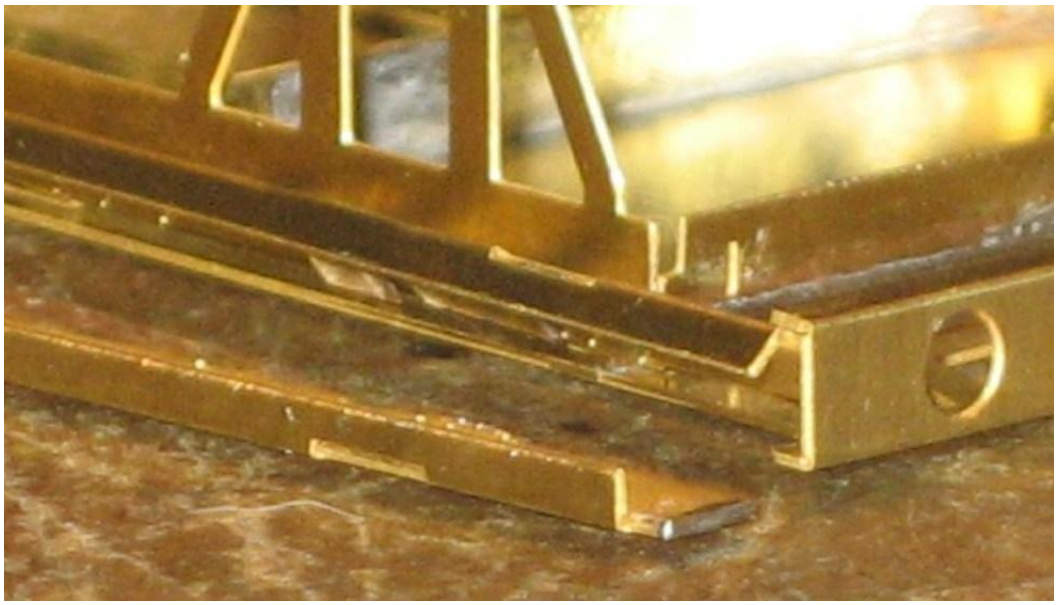
Fig. 2



Main Chassis Continued…

The solebars can now be fitted to the chassis. Note the correct sides for the two solebars (again see Fig.1). There are slots and tabs to aid location and the ends go into the channel that is the headstock. Fit the solebars at an angle and then straighten locating the slots and tabs at the same time. Once in place then the solebar can be soldered in place. The accessible fold line on the headstock can now be reinforced with solder if you wish.

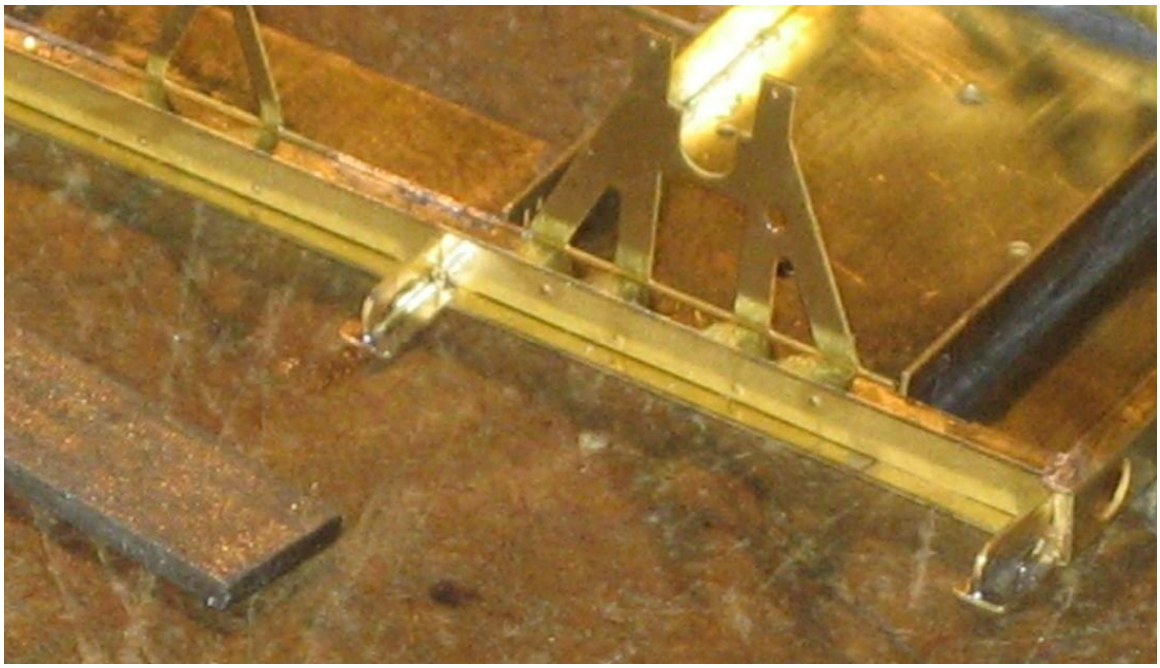
I have noticed a tendency for the top plate to lift in the centre after the solebars are fitted. There is a tab on the axleguard assembly beneath the vees that butts up against the top plate. If you solder this tab and the top plate together then this will prevent the top plate from lifting.



Now is a good time to fit the solebar/headstock corner plates (7). These locate in the four corners on the underside of the chassis. The straight edges run alongside the outside of the solebars and headstocks. Solder in place.

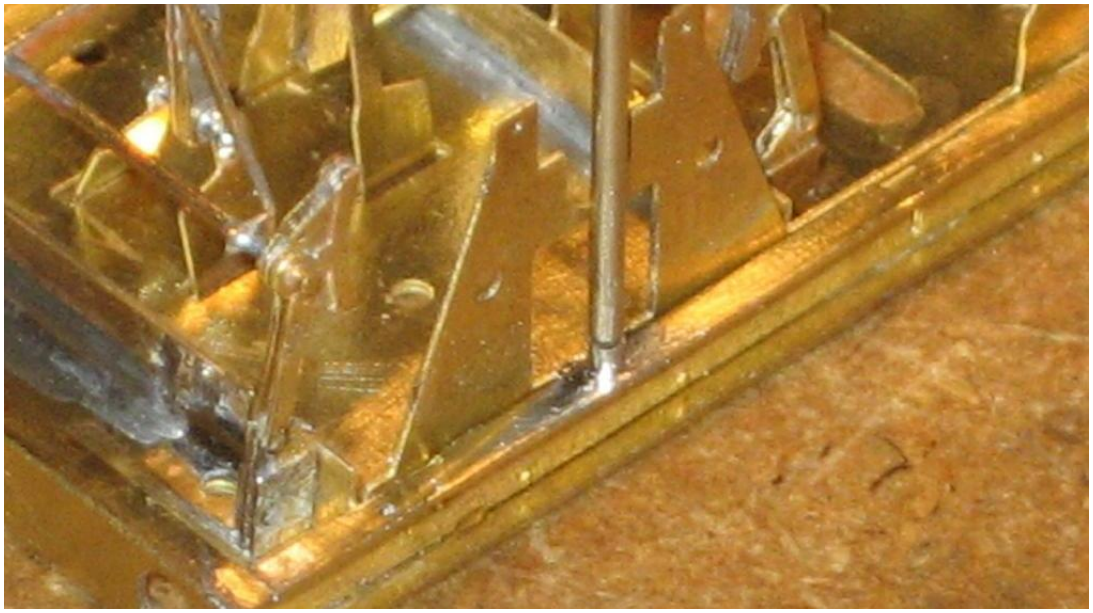
Side support brackets

Now is a good time to add the side support brackets (8) as there is less likely hood of bending the top of the bracket which is etched as part of the top plate. The connecting tags should be removed and then they can be located in the slots through the solebars and solebar detailing and soldered to the top plate.



Spring Stops

The 1/119 minerals had round pattern spring stops. I use 1mm wire for these. I cut almost all the way through the wire with a piercing saw and then solder in place. The cut can then be completed without the joint breaking. There are hour half etched circles on the bottom of the solebars marking the locating points.



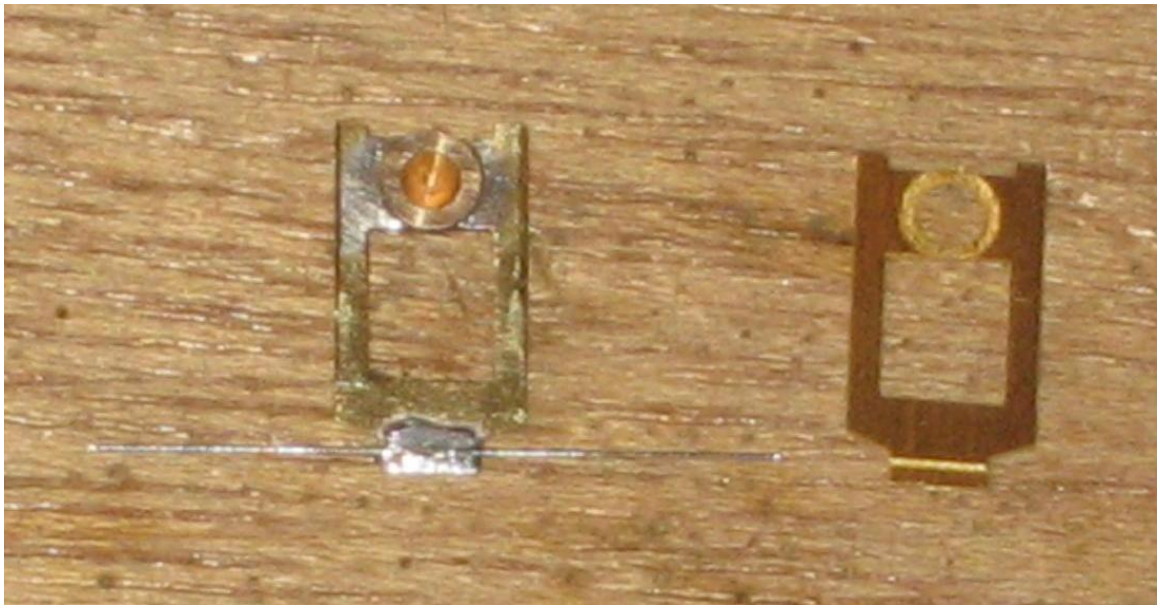
Spring Carriers

The spring carriers (9) can now be assembled. They are designed so that the springing wire is soldered to the carrier using the half etched slot as a guide.

The distance between the backs of the axleguards is a little bit larger when compared with other systems and is 24.5mm. The advantage of this measurement is that if using pin point axles you don't have to hunt around for bearings that are deep enough but you may find that the carriers need packing out a little to take up any slop. Bearing washers (10) are included for this purpose. There should be a good fit between the axles and the bearings with ideally no sideways movement at all. If using pinpoint axles use a waisted type of bearing to avoid having to remove any more material form the cast axleboxes than is necessary. I have used Exactoscale waisted pin point bearings which are just about perfect for the job with only occasional ones that require packing out.

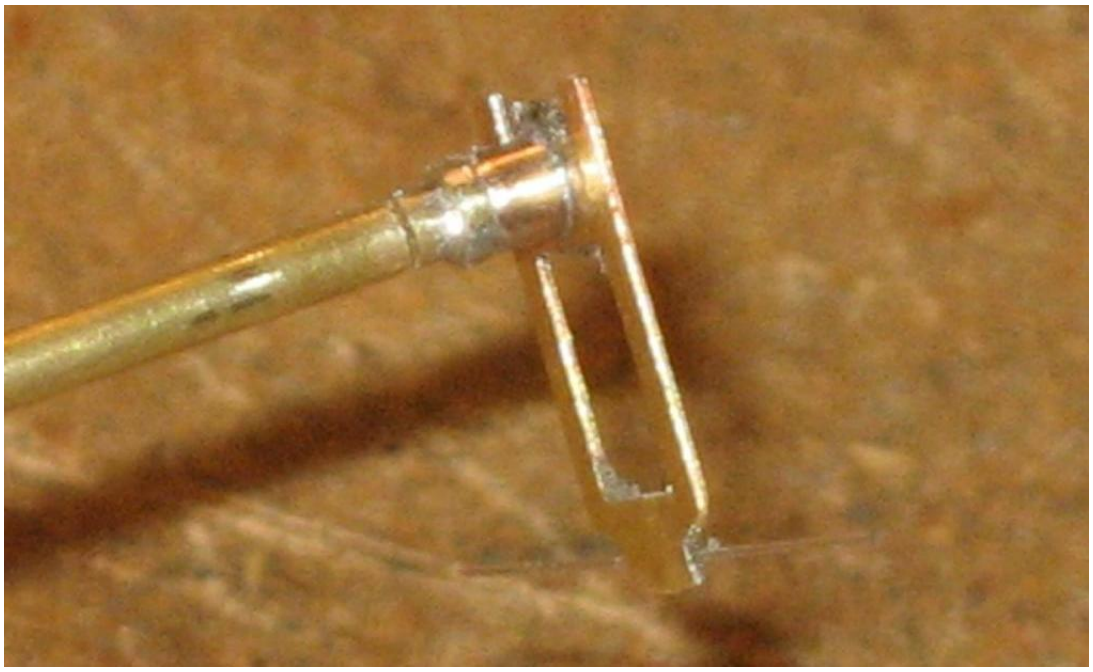
Due to the removable nature of the axle guards you can easily use Exactoscale parallel axles and bearings if you wish. If doing so then you will need to pack the bearings out on the back of the spring carriers before soldering them in place due to the length of the axle. Use the bearing washers provided.

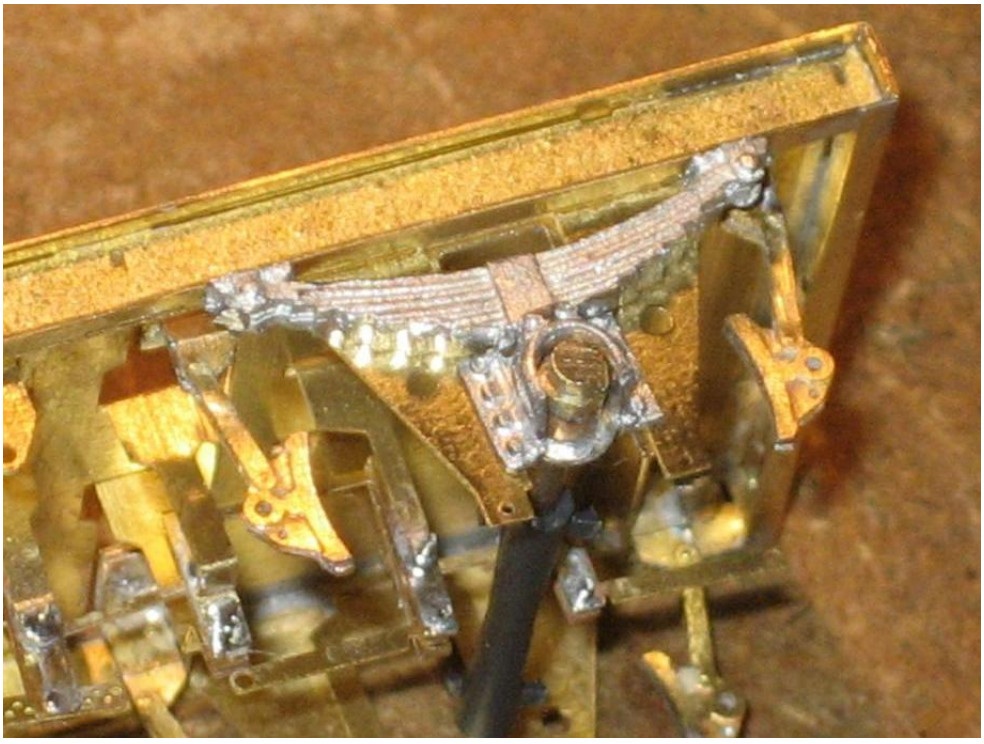
I find the easiest way to assemble the spring carriers is to make a small jig consisting of an off cut of wood with a 2mm hole drilled into it. The spring carrier can then be placed so the half etched guide slot for the spring is facing towards you and the bearing locates through the hole in the carrier and the wood. The bearing can then can be soldered in place. The spring wire can then be located in its half etched guide slot and soldered in place using a suitable flux. I use Carr's black label. The spring wire needs to extend at least 7mm either side of the point where it is attached to the carrier.



A note on roller bearings:

These were fitted to the 21T vacuum braked minerals. My current preferred method of doing this is to extend a non-waisted pinpoint bearing using 1.5mm brass rod and a small sleeve of 2 x 1.5mm brass tube. The actual bearing part of the axlebox casting is then removed with the bearing moving up and down with the springing. Wizard Models make a suitable hooded type roller bearing axlebox casting (BRC023) as well a non-hooded type (BRC022). Extending the bearings is a bit of a fiddle and I'd like to try and get a batch of custom bearings made to make the job easier at some point.

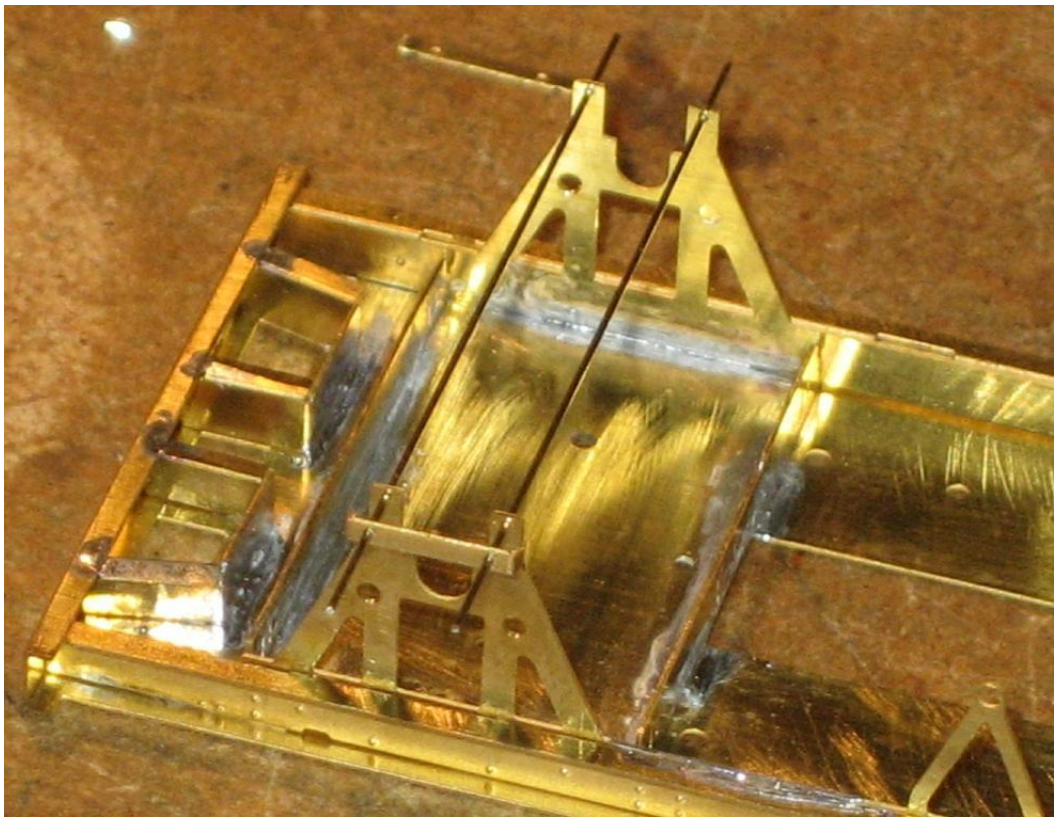




Axle keeps

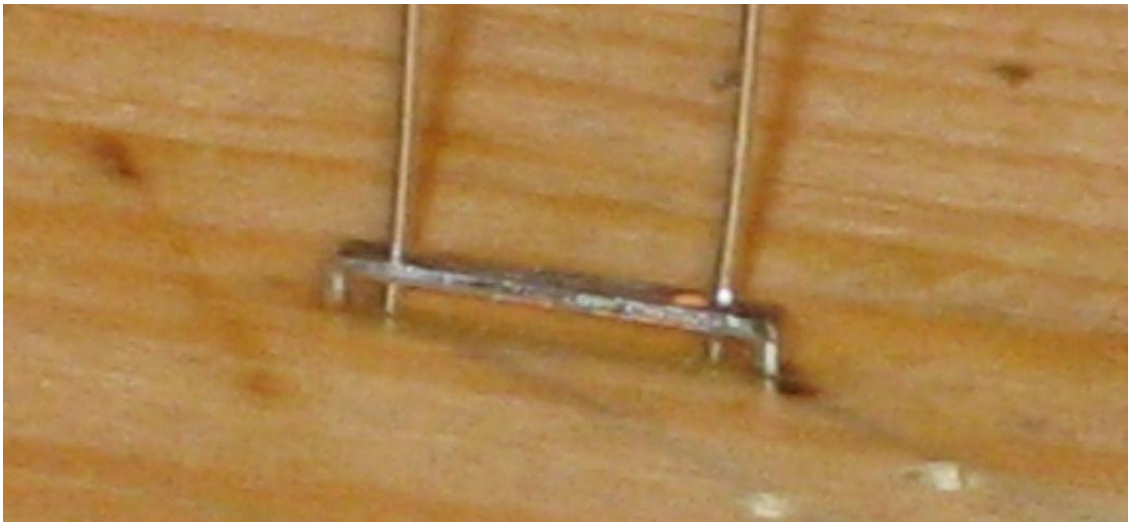
The axle keeps (11) are designed to be removable if you wish in order to allow the wheel sets to be easily dropped out. They can be soldered permanently in place but either way you will need to make sure the holes will accept 0.31mm wire before removing them from the fret.

If you are not planning on making them removable then they can be pinned and soldered to the axleguards. Remove from the fret and fold the ends up. Thread lengths of 0.31mm wire through the axle guard and holes in the axleguard and the corresponding holes on the opposite axleguard. Solder in place. Fit the other axle guard and solder in place. Trim the wire so that it represents bolt heads on the front of the axle guards but extends approximately 0.5mm from the back of the axleguard. These pins will prevent the springs from becoming disengaged form their slots.



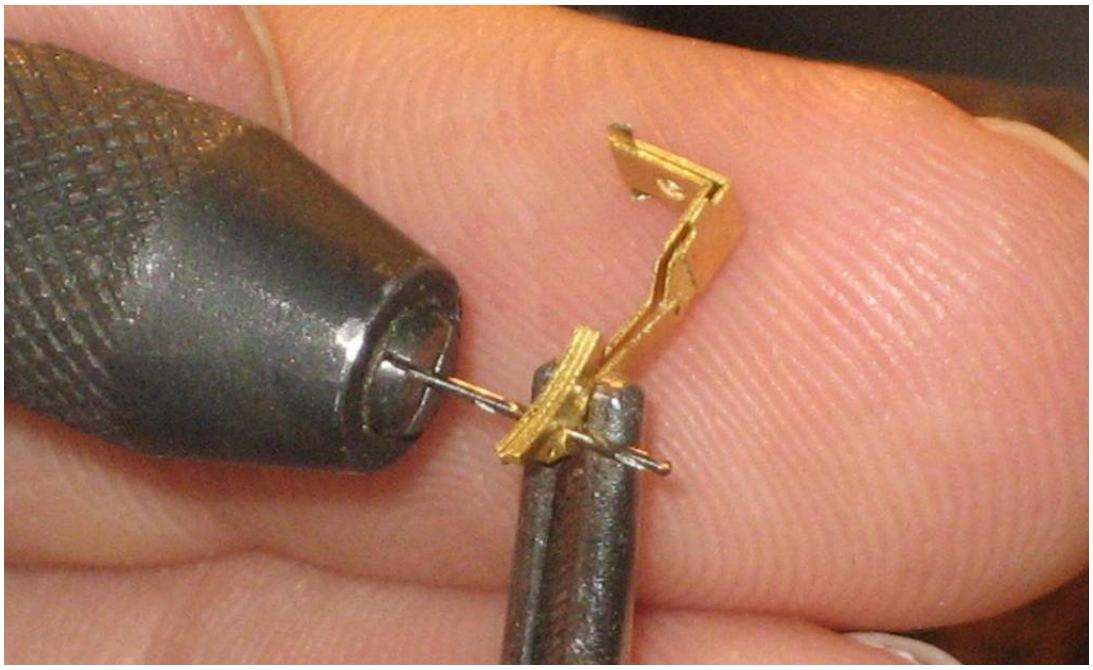
If you want to make them removable to allow the axles to be dropped out then you will need to solder 0.31mm wire 'pins' through the holes in the axle guards. I find the easiest way of doing this is to use one pair of holes as a jig and drill a pair of 0.3mm holes into a piece of scrap wood. Short lengths of 0.31mm wire can then be threaded through the axle guards locating into the holes in the wood. These can then be soldered in place and filled back to represent bolt heads before folding up the ends. I found it easiest to fold he ends in this order and then quickly reinforce the fold lines with solder before removing the axle guard completely. You will need to make sure there is at least 0.75mm of wire projecting from the back of the axleguards otherwise the spring carriers will be able to fall out of place when everything is assembled.

It is also a good idea to leave at least one of the pins in the axleguard as long as possible to give you somewhere to hold them when painting. Once the axleguards and the chassis are painted they can be tack glued together on final assembly. The glued joint can be broken and the tie bars removed if you find it necessary to remove the wheels at any point.



Brake Shoes

The clasp brakes (12) are designed to be folded up as one piece, soldered together and then tidied up afterwards. If you wish press out the half etched rivets at the top of the hanger bracket. I use a drop head rivet press for this with the parts held on one of those ubiquitous green cutting mats. Remove from the fret and fold up. All the fold lines are through 90° except for the one between the two plates with the holes in which is through 180° with the fold line on the outside. There are four parts to the brake shoes: Two outer detail parts and two inner shoes. The inner shoe parts needs to be folded through 180° with the fold line on the outside. The four parts of the brake shoes need to be aligned and soldered in place. I do this by putting a 0.5mm drill bit through the holes for the yolk and clamp the four etched layers together using a pair of self closing tweezers. If you hold the drill in one hand you can rest the base of the tweezers on the workbench leaving one hand free for the soldering iron. It's easier than it sounds, see attached photo. Solder together. You can now clean up the clasp brake assembly and the shoes in particular.

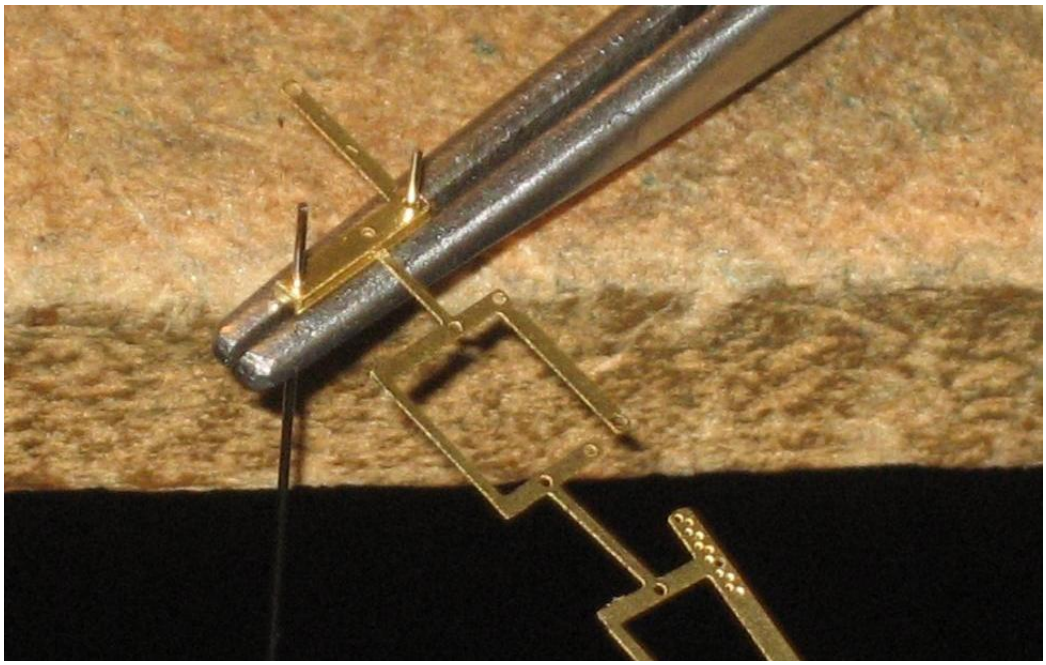


There are tabs on the clasp brakes that locate into slots in the axleguard assembly (2). There are two different sets of slots depending on which gauge you are building to. The outer ones are for EM/P4 and the inner ones for OO. The clasp brakes can now be soldered in place on the chassis. Make sure that the clasp brakes are hard up against the axleguard assembly. The holes can also be used to help pin the clasp brakes to the chassis top plate when soldering.

Brakegear

Next attention can turn to the brakegear. Check and open out where necessary the holes in the brakegear links (13), brake shaft crank overlays (14), brakegear overlays (15) and brake yolks (16 or 17 depending on gauge). Refer to the Fig. 3 below for the hole sizes.

Remove the brakegear links (13) from the fret. Fold up one of the brake shaft crank overlays (14) so that it will wrap around the brake shaft crank on the brake linkage. The other is a spare. Use 0.31mm wire to align and solder in place. The brakegear overlays (15) need to be done next. Do them one at a time only removing them from the fret when necessary. Refer to the Fig. 3 again for where each one goes. Fold them up so they will wrap around the top of the brakegear links. Use the appropriate size of wire to pin them together making sure there is at least 5mm of wire protruding either side of the assembly then solder in place.



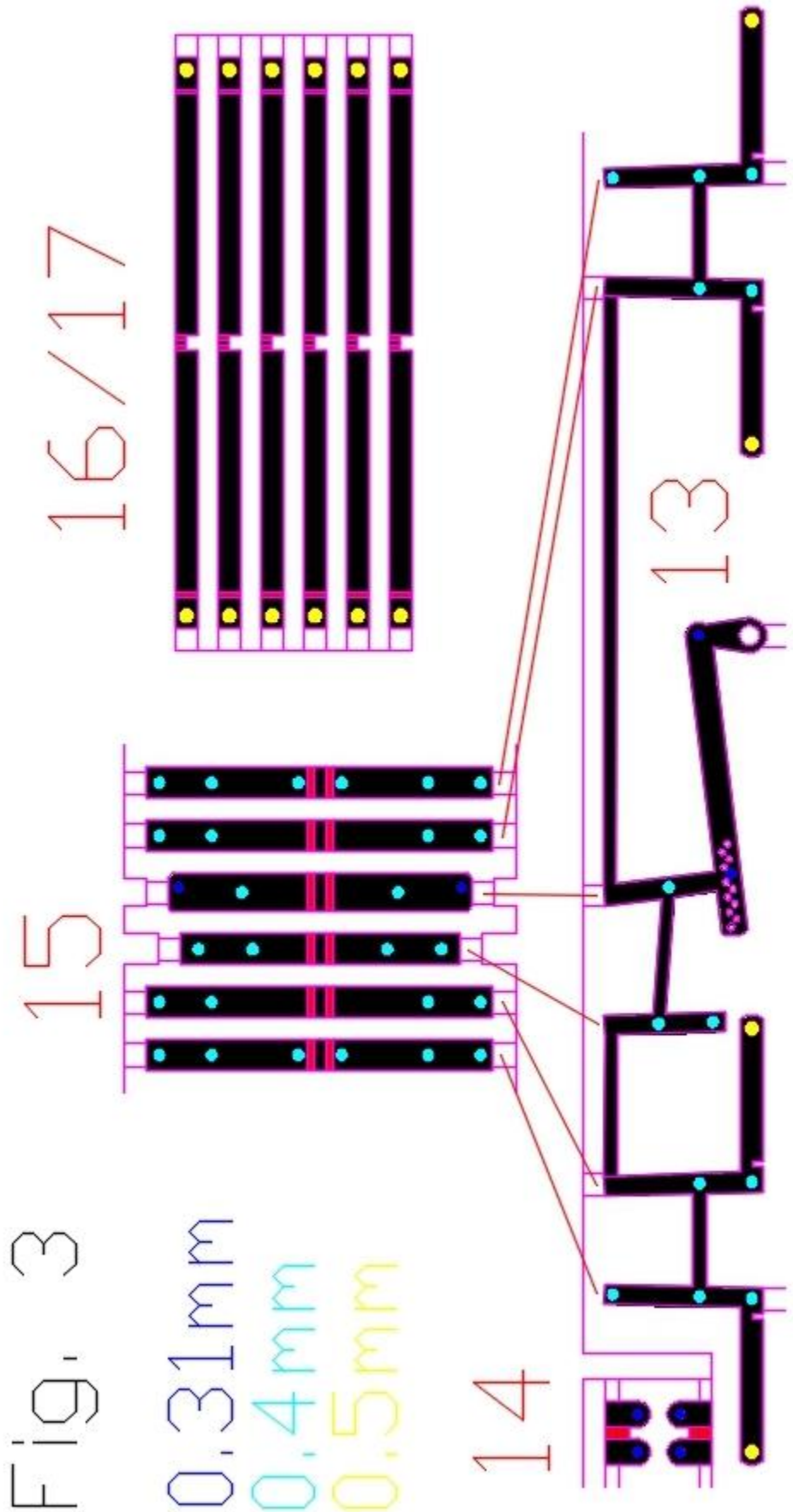
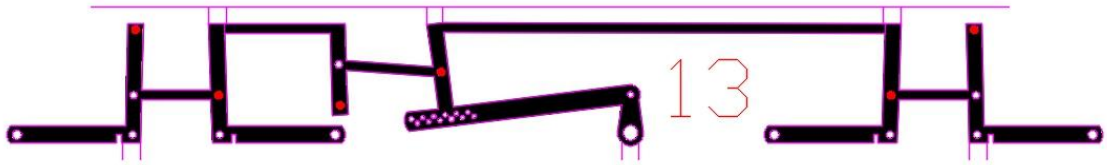


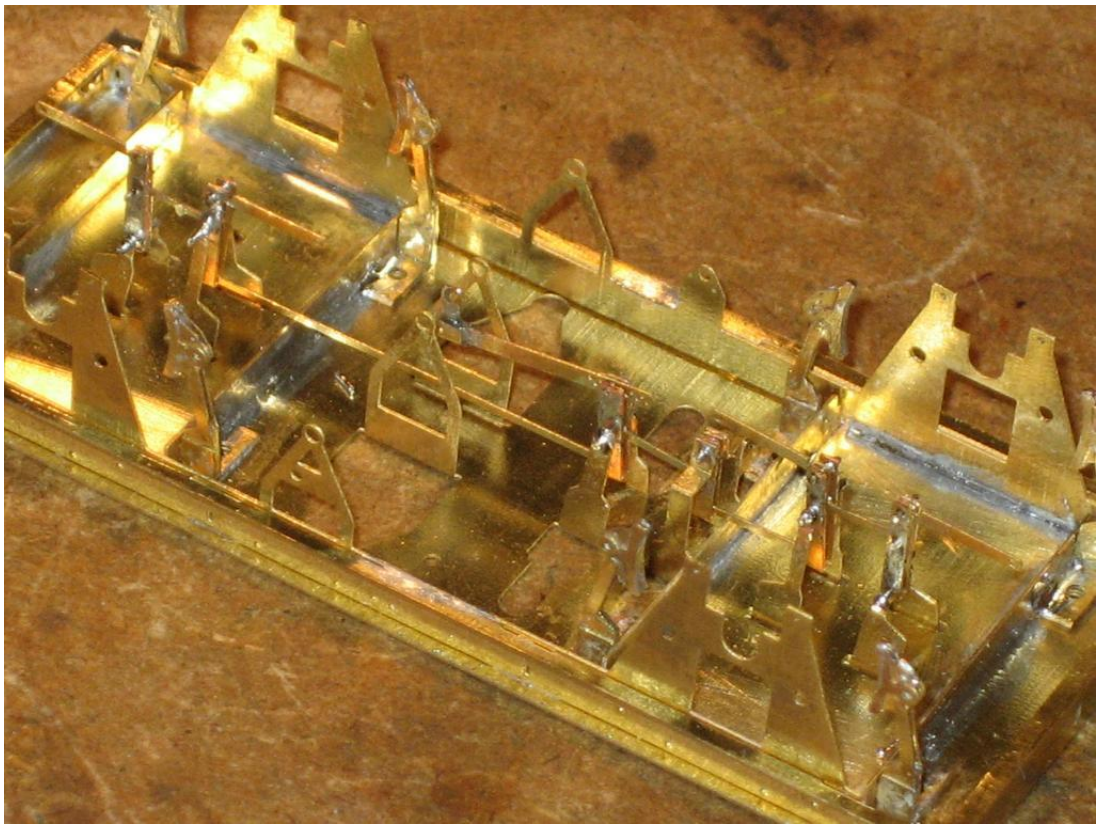
Fig. 3

Once all the overlays are all in place you can trim all the connecting wires to represent bolt heads except for those noted in Fig. 4 below. These will be used to pin the assembly in place on the chassis.

Fig. 4

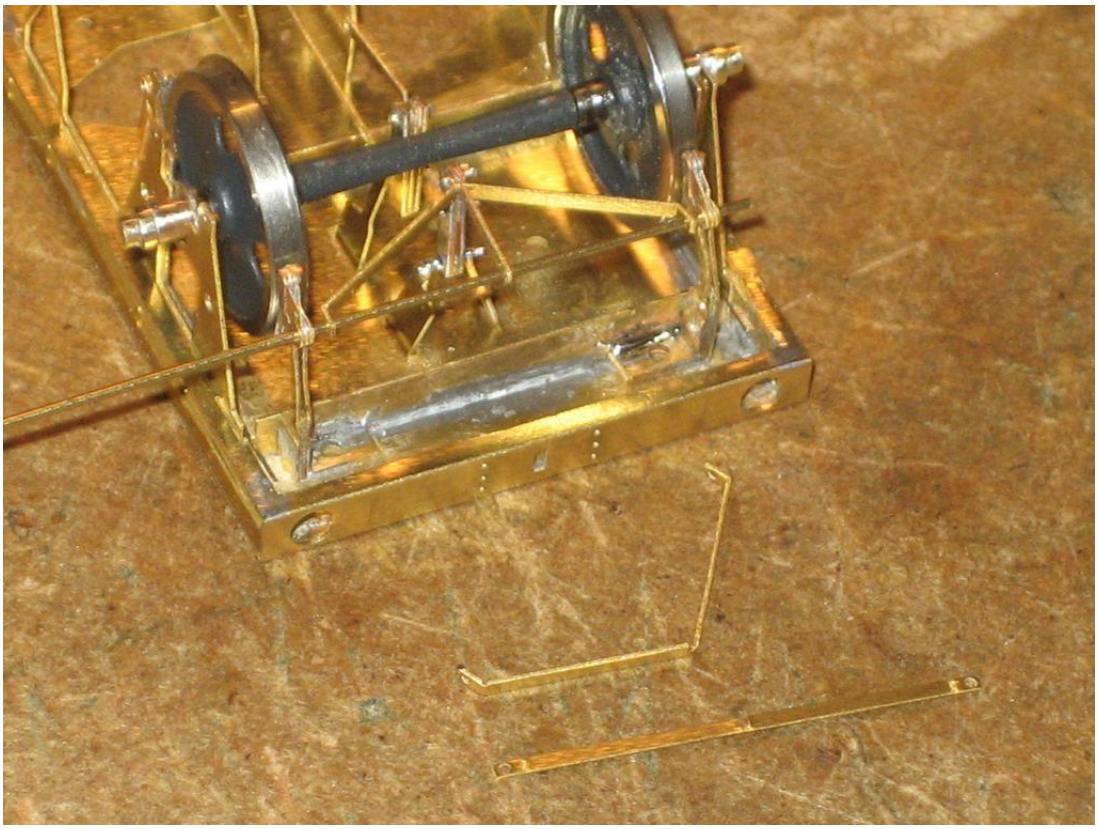


The brackets for the brake links on the chassis top plate need to be angled inwards with the ends at right angles to the chassis and parallel to brakegear links assembly. The exception to this is the bracket second out from the main brake shaft which is cranked. There is a pair of fold lines to allow this. See photos below. Starting at one end and working towards the other locate the brakegear links assembly with the brackets, once everything is in place solder together. This is a bit of a fiddle but just take your time. Things can easily be tweaked once in place if something gets bent.



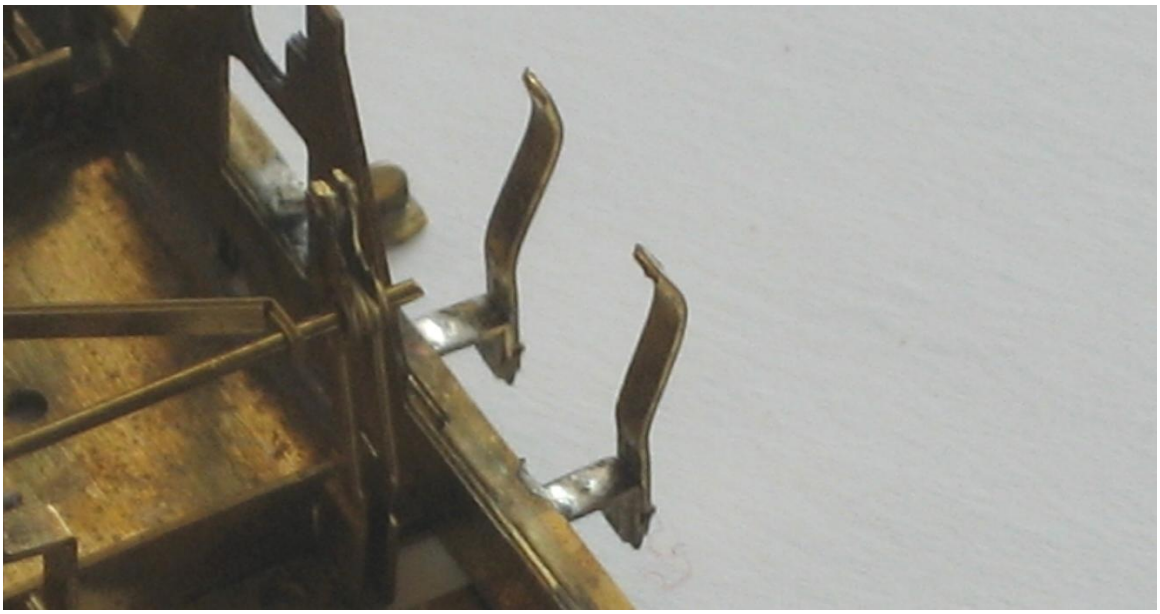
Yokes

The brake yokes, either (16) for EM/P4 or (17) for OO can be attached next. They follow the prototype in appearance. Ensure that the holes in them can accept 0.5mm wire and remove from the fret. The outer fold lines should be folded to approximately 30° and the inner fold lines to approximately 60°. Once they are folded they can be located to the chassis using 0.5mm wire. Note that there is a slot in the yoke which will locate in a similar slot in the brakegear links (13) so make sure they go on the correct way around. Pass a piece of 0.5mm wire through both the brake shoes and the yolk and then locate the yolk to the brakegear links. Solder everything in place and trim the wire.



Door Springs

The door springs (18) fold up and locate into the solebar. There are slots in the solebar and solebar detailing overlays which facilitate this. Push out the half etched rivets and remove from the fret. Fold up noting that the fold nearest the rivet detail should be made through 180° with the half etched line on the outside. Bend to shape and solder into position. The best place to solder them is from beneath to the underside of the solebar.



Changeover levers

As the brake levers are going to go in front of the changeover levers on one side now is a good time to fit them. There are two sets of changeover levers supplied; one is for full wagons and one for empties. The photograph below taken of the changeover levers on a Presflo at Quainton will indicate which is which. Note that one of them is larger than the other. The two levers are connected by a 0.31mm wire that goes across the chassis.

Check that the holes in the changeover lever brackets on the axleguard assembly and the chosen changeover lever detail (19) will accept 0.31mm wire. Fold up the brackets and remove the detail from the fret. The ends of the actual levers on the changeover lever detail can be folded through 90° as per the prototype and then soldered onto the changeover lever brackets along with a piece of 0.31mm wire to help locate them and act as the shaft between the two sides. Only a small quantity of solder is required or you may cover the detail. Solder the rod in place at the same time and trim flush.

Brake levers, etc

Firstly make sure that the holes in the following items can accept the correct size of wire:

Brake lever guards, brackets and stays (20) 0.31mm
Brake levers (22) 0.6mm and 0.31mm
Lifting links (23) 0.31mm
Brake lever cranks (24) 0.8mm and 0.31mm
Brake lever washers (25) 0.6mm
Vacuum cylinder actuators (26) 0.8mm

Note that there are two types of brake lever cranks (24). These go behind the brake shaft vee and then are bent to align with the brake lever and lifting links. There is a solid pair to be bent up prototypically or a pair with half etched fold lines to make things easier.

Brake lever guards

The brake lever guard, brackets and stay (20) can be removed from the fret and folded up. The stay is etched as part of the lever guard to make life easier. Fitting it as a separate detail is a pain. Separate the lever guard/stay from the lever guard bracket.

Press out the half etched rivet on the end of brake lever guard stay. Fold the stay through 180° with the fold line on the outside. Fold the lever guard along with the lever guard bracket as per Fig. 5. Insert a piece of 0.31mm wire through the lever guard and stay and solder in place to represent a bolt. The end of the stay needs to be twisted so that it locates on the riveted axlebox guide overlay. See Fig.1 and the prototype photos below.

Solder the lever guard and bracket together using 0.31mm wire. Trim the wire on both the front and back to represent a bolt. The completed assembly can then be located in the solebar and soldered in place. There are slots in the solebar to receive the lever guard brackets. Solder the stay to the riveted axlebox guide overlay.

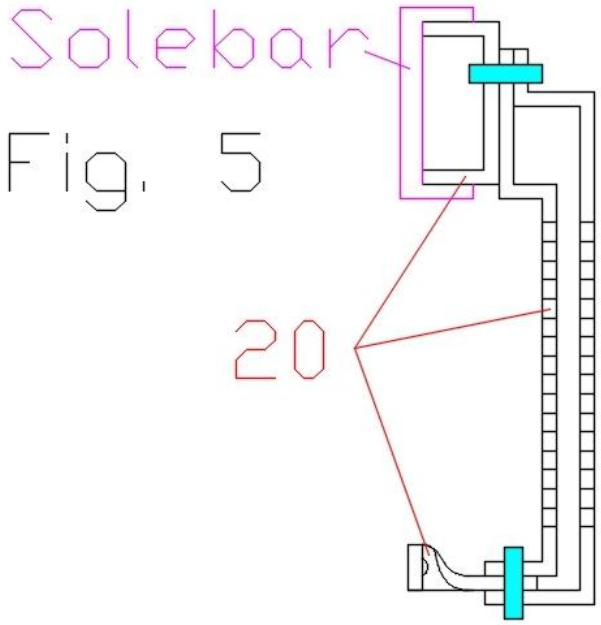


Fig. 5

Axleboxes and springs

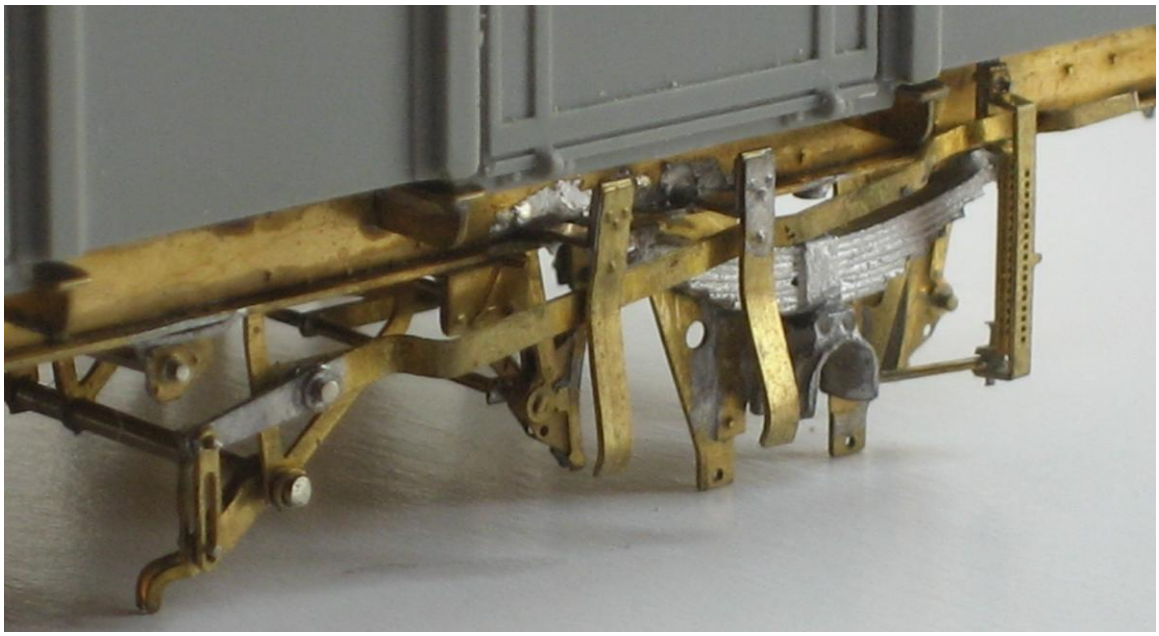
Now is a good time to fit the cast axle boxes and springs. It will make life easier when bending up the brake levers as they should be bent, like the prototype, to clear the axleboxes and springs. The back of the axleboxes will of course need slotting to allow the wheel bearings to move with the springs and drop out if making them removable. Some types come with the riveted reinforcing strips for the axlebox guides moulded on. These are for heavy duty types and should be removed before fitting if using the riveted axlebox guide overlays.

Brake levers

The general arrangement of the brake lever, lifting links and cranks can be found on Fig.1 and also on the photographs of the prototype.

A piece of 0.31mm wire needs to be soldered in place so that it projects at least 1mm on both sides at the end of the brake levers (22). A short length of 0.6mm wire can also be soldered in place through the brake lever with a brake lever washer (25) on either side. The easiest way of doing these pins is to follow a similar method to the pins in the axle guards by drilling holes in a piece of scrap soft wood to accept the appropriate size of wire and then soldering in place. The same thing needs to be done with the brake lever cranks (23).

The brake levers need to be bent up as per the prototype clearing the changeover lever (on the one side), door springs and axleboxes. They then need to be cranked for the handle. Check on the model and adjust until you are happy with the shape. Once you are happy with the shape the brake levers can be soldered in place.



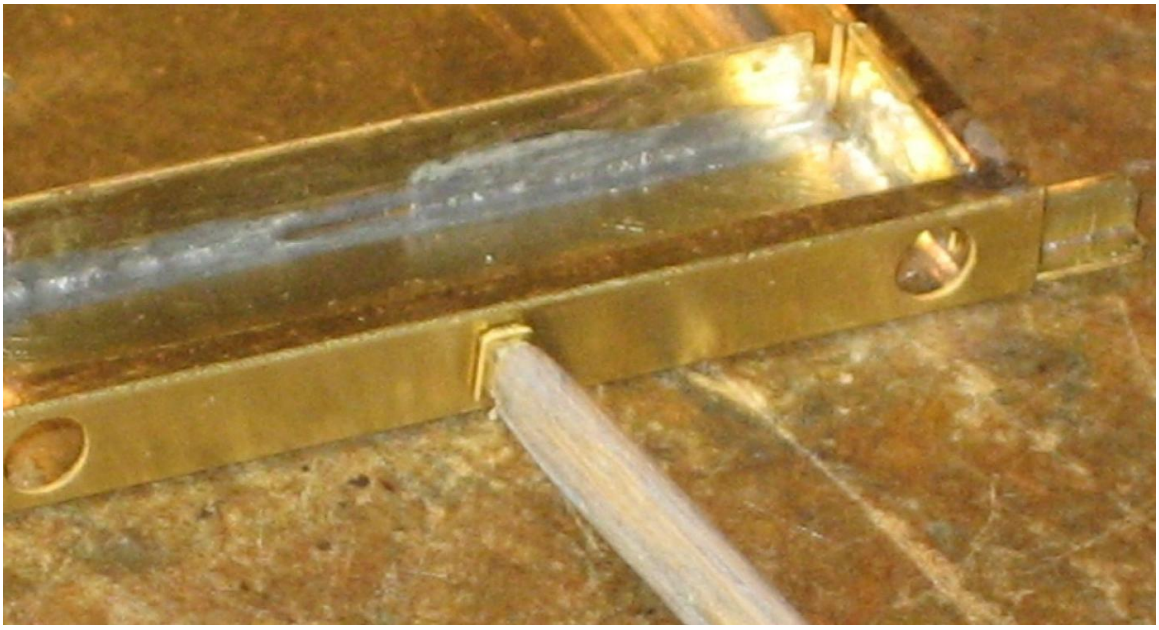
The brake lever crank can now be bent or folded to shape depending on type. These can be fitted along with the brake shaft (0.8mm wire) and vacuum cylinder actuators (26). The actuators need to have their half etched rivets pressed out and then folded over double. The hooks on the end need shaping so they can go around a piece of 0.6mm wire extending from the vacuum cylinder. See the photo below. Leave soldering of the actuator until the vacuum cylinder is in place.

Note that the brake lever crank goes behind the vee on both sides. Adjust if necessary so that it aligns with the brake lever. Fit the lifting links in place joining up the brake lever and the brake lever crank and solder in place. Note that there should be two lifting links on both sides, one on either side of the lever/crank. A washer can be added to the brake shaft and the brake lever cranks soldered in place. The vacuum cylinder can be added now and the two halves of the vacuum cylinder actuator soldered in together and to the brake shaft.

Both of the above photos taken by David Long.

Headstock detailing

Now is as good a time as any to fit the coupling pocket detail (27). The 1/119 minerals were fitted with 1'8½" buffers and instanter couplings which were designed for 1'6" buffers. The difference was made up in the coupling pocket. You should therefore need four layers of coupling pockets on each end. Solder them in place using the hole for the coupling as a guide. I find the easiest way of doing this is to shape the end of a cocktail stick to fit in the slot. This can be used to align the detail on the headstock and hold it in place while you solder them together



Lamp Irons

Lamp irons (28) are included for fitting to either the wagon body or the headstock if required. The 1/119 minerals were not XP rated when built and were therefore not fitted with lamp irons. Later on they had them fitted. I would imagine that this took place when the ban on guards riding in the rear cab of diesel locos on fully fitted trains was lifted around 1968. As always check your prototype.

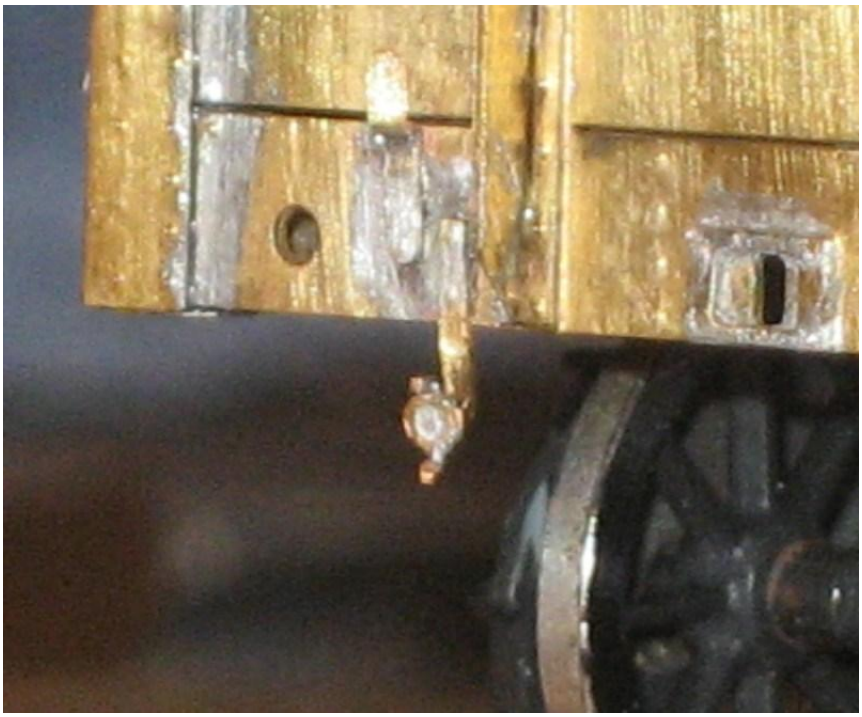
There are two pairs included, one with half etched holes for pressing out the bolt heads and one with the bolt holes etched out completely. I dislike relying on glued joints for these sorts of things on plastic bodies and so have included these for use with 0.31mm wire pins to provide a more positive location. I have also included a drilling jig which has the correct spacing for drilling holes in plastic bodies. This is the part shaded green in the parts diagram. Use a 0.3mm drill.

If you wish to use the half etched bolt type then press out the rivets whilst still in the fret and then remove and fold up and fix in place

If using the pinned type then check that the holes will accept 0.31mm wire and remove from the fret and fold up. Two short lengths of 0.31mm wire can be soldered in the holes and then the lamp iron glued in place on the body having drilled receiving holes for them. Alternatively simply glue the wire and lamp iron in place at the same time without the solder.

BR swan neck vacuum pipe brackets

There are two BR swan neck vacuum pipe brackets (29) included. These are quite distinctive and come in two parts. There is a bracket which attaches to the solebar and a round head that has ‘tails’ that fold up. Press out the rivets on the bracket and remove from the fret. Twist the base of the bracket through 90° so that the interface with the head faces away from the rivets. This bracket can then be soldered to the back of the head (the side with no half etched areas). It is easiest to do this while the head is still attached to the fret. There is a small slot to help provide a positive location. Once soldered in place the assembly can be removed from the fret and the ‘tails’ on the head folded out. If you’re brave these fold lines can be reinforced by the use of a very small quantity of solder and a very quick soldering iron. Some step soldering might be a good idea but I haven’t encountered many issues with just using 145° solder. These can then be soldered in place on the headstock.



Vacuum cylinder brackets

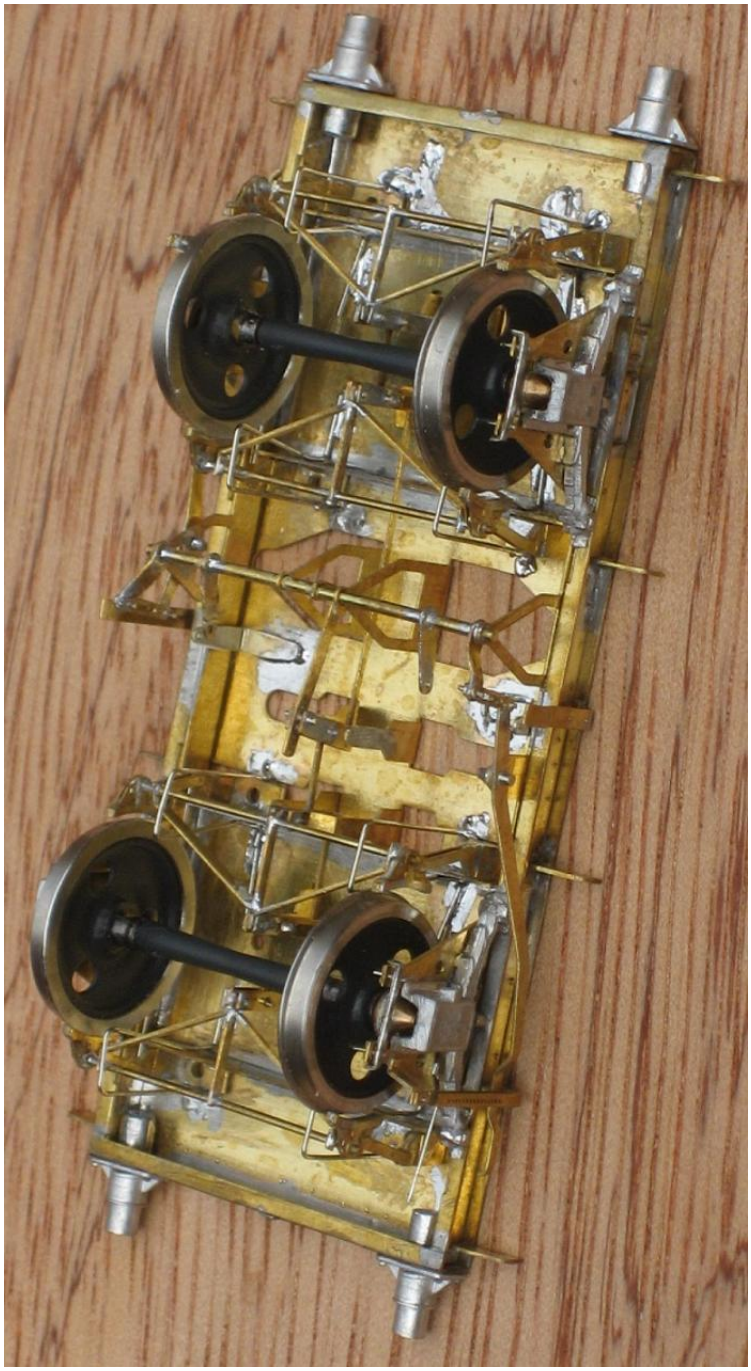
As the 1/119 minerals had two different vacuum cylinders fitted there are two types of vacuum cylinder bracket.

Firstly the 21" vacuum cylinder bracket which was part of the solebar detailing (6). This was a heavy duty affair that attached to the solebar. Press out the three rivet, make sure that the two holes can accept 0.5mm wire and remove from the fret. The bracket needs to be folded into an L shape and then the front face (which has the rivet detail on) needs to be folded back on itself and soldered to the main part of the bracket. The picture of the real thing below will probably be of more help as will Fig. 1. This can be soldered in place using the brackets that are etched on the axleguard assembly and the chassis top plate to help with alignment.

If it is required make sure that the holes in the 18" vacuum cylinder bracket (30) can accept 0.5mm wire and remove from the fret. Fold into a channel and, using the bracket etched on the axleguard assembly and the hole in the chassis top plate to align things, solder in place.

Safety loops

Formers are included on the fret for making safety loops form 0.31mm wire. These are marked in yellow on the parts diagram. There were different shapes used but I have included the shape I think is most appropriate. Once they are formed they can be soldered to the chassis.



Painting

One of the advantages of having the chassis as a complete unit with solebars and headstocks is that you can paint it separately from the body and then glue the two together afterwards. If using an airbrush or aerosol this means you can prime it and then paint it all black with no masking at all which makes life a little easier.

I now use Halfords grey primer in a tin through an airbrush with cellulose thinners to prime just about everything, including plastic bodies. The primer is synthetic and has no adverse effects on the types of plastics used on RTR railway models and kits. The cellulose thinners used evaporate so quickly that they don't have time to attack the plastic. You can then put your choice of paint over the top including cellulose. Don't use the red oxide in a tin on plastic though as it won't adhere and the paint will just come off.

Notes on wagon bodies and weighting

Some modifications will be necessary to the body to get it to fit the chassis. Principally this will revolve around removing the plastic headstocks from the ends of the body and the moulded side support brackets. Careful use of a piercing saw or scalpel and file will do the job.

The suspension on the underframe is designed to work optimally under a 50g load. As there is limited space on the underframe due to all that brakegear the best place for it is in the wagon body. As we are dealing with an open wagon then some work may be needed.

I make a new floor for open wagons and minerals and recess it from the bottom so that there is room for a piece of lead flashing to go between the new floor and the underframe. This does reduce the depth of the wagon but it isn't too noticeable on something as deep as a 21T mineral. If you intend to model loaded then simply glue the lead in the body under the load. The only other solution would be to try and get as much weight as possible into the underframe.

Finally

Thanks must go to the staff of The Buckinghamshire Railway Centre at Quainton for letting me measure up and photograph at close quarters the 1/120 in their care and Mr David Long who very kindly went and photographed the 1/120 on the east Lancashire Railway before I stumbled upon the one at Quainton. They have all greatly helped in the preparation of these kits.

Last but certainly not least if you haven't come across the wonderful resource for BR wagon photos that is Paul Bartlett's website then I would thoroughly recommend a visit to:
http://paulbartlett.zenfolio.com/

Justin Newitt 2015

Suppliers List

Slimrails (Chivers Finelines MDV kits)
51 Mendip Road
Leyland
Lancashire
PR25 5UJ
www.slimrails.co.uk

Masokits (Coupling hooks)
Michael Clark
c/o 27 Crotch Crescent
New Marston
Oxford
OX3 0JL
www.scalefour.org/masokits

Eileen's Emporium (Wire and sundries)
Unit 19.12 Highnam Business Centre
Newent Road
Gloucester
GL2 8DN
UK
www.eileensemporium.com

MJT (axleboxes and spring castings)
17 Hurst Close
Staplehurst
Tonbridge
Kent
TN12 0BX
www.dartcastings.co.uk

Lanarkshire Models and Supplies (buffers, vacuum cylinders and vacuum pipes)
9 Nairn Avenue
Blantyre
G72 9NF
www.lanarkshiremodels.com

Wizard Models (axleboxes and spring castings)
PO Box 70
Barton upon Humber
DN18 5XY
www.wizardmodels.co.uk

C&L Finescale (Exactoscale wheels, bearings and couplings)
Aran Lodge
Severn Road
Hallen
Bristol
BS10 7RZ
http://www.finescale.org.uk

ABS (18" vacuum cylinders)
39 Napier Road
Hamworthy
Poole
Dorset
BH15 4JX