

## Rumney Models – LNER/LMS/BR 22T Plate Wagon Body

This set of instructions covers the plate wagon body kits C.21 and C.22. These are designed to build into a fully detailed and accurate plate wagon body to suit the Rumney Models chassis kits B.08, B.09 & B.27.



### Prototype Information

The familiar steam era 20/22T plate wagon had its origins in late 1930s as an uprated version of the LNER 12T plate wagon. As the name suggests they were designed for carrying steel plate but saw frequent use transporting all manner of other items. Some were latterly converted to carry steel coils. Essentially the overall design remained the same from the first batch built by the LNER to the final built by BR. Given the length of time over which they were built, some 24 years, it is unsurprising that there were minor variations that occurred. These can be summarised as follows:

- 1) Riveted sides and riveted ends – 3 hinges per door (C.22)  
Early LNER and LMS
- 2) Welded sides and welded ends – 3 hinges per door (C.21c)  
Later LNER and LMS, early BR
- 3) Welded sides and riveted ends – 3 hinges per door (C.21b & C.21c)  
Later BR unfitted and retrofitted
- 4) Welded sides and riveted ends – 4 hinges per door (C.21d – Chassis not yet available)  
BR fitted built with the LNER clasp brake
- 5) Welded sides and welded ends – 4 hinges per door (C.21a)  
BR fitted built new with the BR clasp brake

Rumney Models chassis B.27 covers all the unfitted plate wagons, B.08 covers the BR builds fitted with the BR clasp brake from new and B.09 covers those BR built unfitted wagons that were retrofitted with the BR clasp brake. A kit is in preparation for the LNER clasp brake chassis.

Appendix A, which can be found at the end of these instructions, gives details of the plate wagons built including variations in construction methods and the number of hinges used per door.

Note that the rivets that ran along the inside of the angle on the top of the sides and ends (where appropriate) were flush riveted which is why there are no press out rivets along the inside of the body etches.

## 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.

**Important: 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.

Kit C.21c is also entirely suitable for use as a double bolster wagon. These were simply plate wagons with two bolsters fitted and pockets on the solebar above the axleguards. Everything you will need for a double bolster is included apart from the bolsters themselves. Parkside Dundas do a kit for these (PA05). Their contact details are as follows:

Parkside Dundas  
Millie Street  
Kirkcaldy  
Fife  
Scotland  
KY1 2NL  
[www.parksidedundas.co.uk](http://www.parksidedundas.co.uk)

## Materials list

0.5mm wire will be required and if using the door cleats on chassis B.08 then you will also need 0.31mm wire. Eileen's Emporium are good source for these and they do a mixed sizes pack if you don't want to buy large quantities. Their contact details are as follows:

Unit 19.12 Highnam Business Centre  
Newent Road  
Gloucester  
GL2 8DN  
[www.eileensemporium.com](http://www.eileensemporium.com)

0.020" x 0.060" (0.5mm x 1.5mm) rectangular plastic section will be needed to add the battens which were fixed to the floor for the steel plates to rest on. Evergreen Scale Models produce this. The item number is 123. Again Eileen's Emporium stock this as do good models shops.

## **Component List**

1a - Welded end outer overlays  
1b - Riveted end outer overlays  
2a - Welded end stanchion overlays  
2b - Riveted end stanchions overlays  
3 - End stanchions

4 - Main assembly

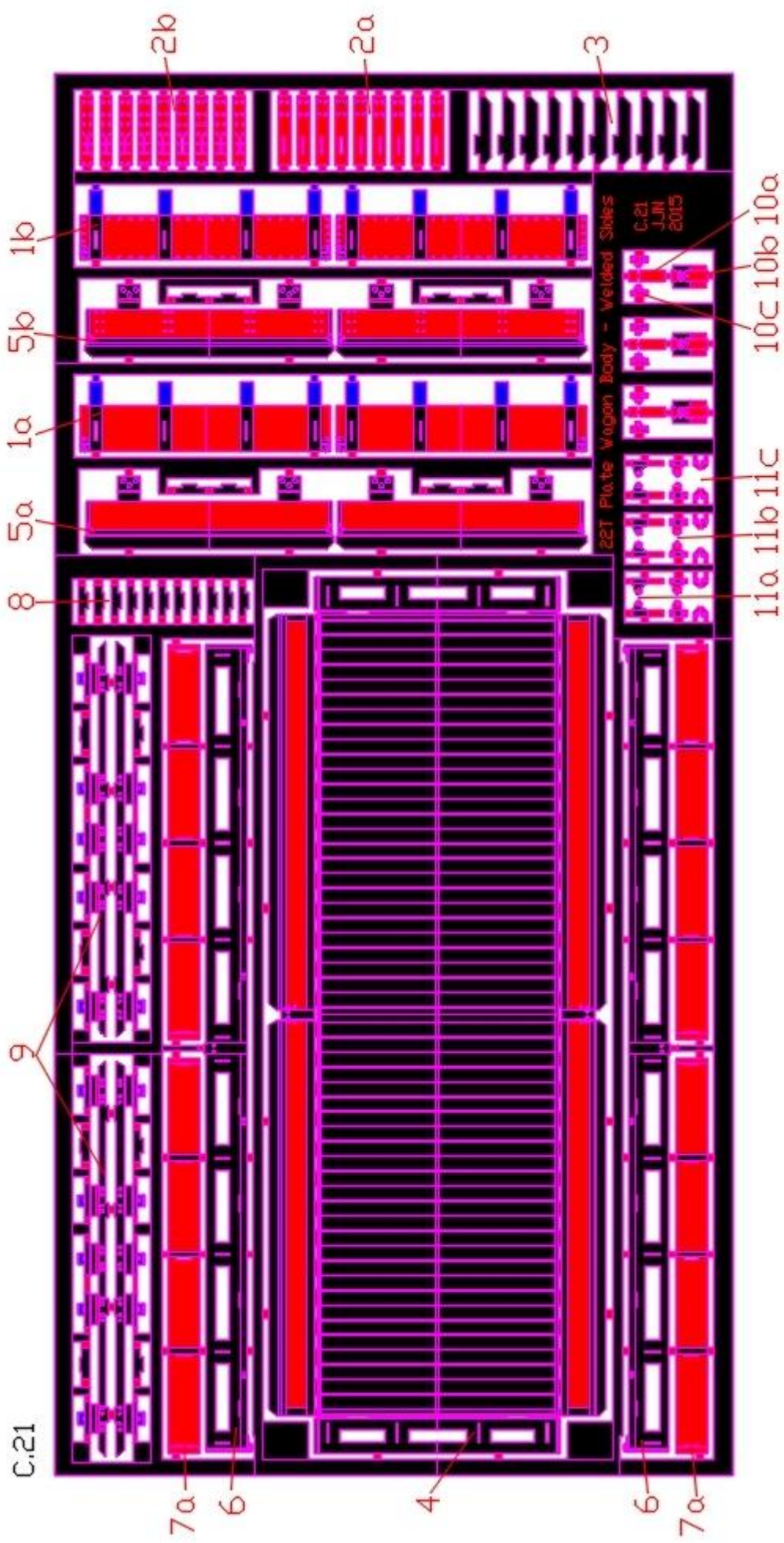
5a - Welded end inner overlays  
5b - Riveted end inner overlays

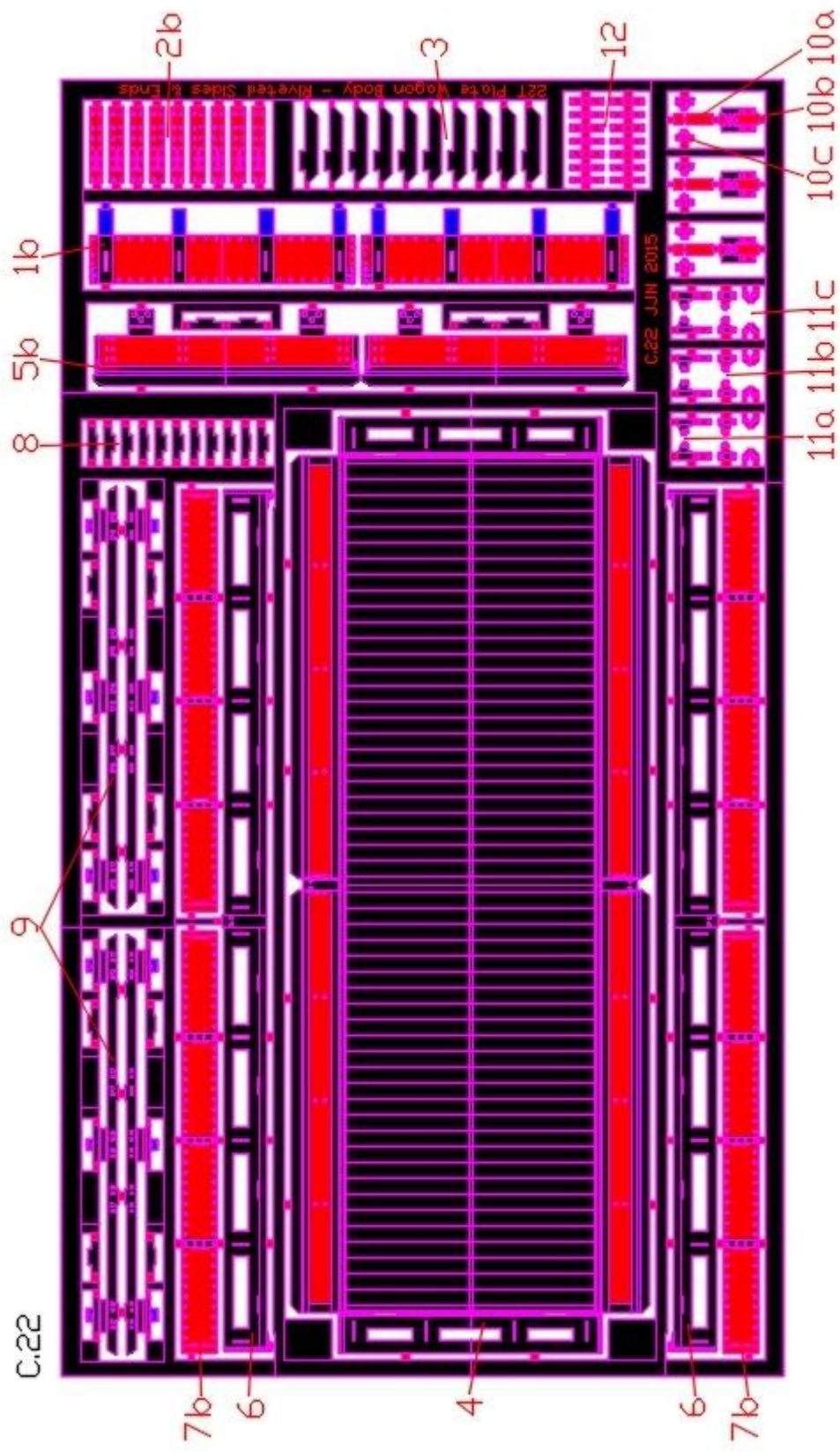
6 - Side overlays  
7a - Welded side door overlays  
7b - Riveted side door overlays  
8 - Vertical door angles  
9 - Horizontal door angle/Hinges

10a - Central door pillar spacer overlays  
10b - Central door pillar outer overlays  
10c - Central door latch detail  
11a - Outer door latch backing  
11b - Outer door latch detail  
11c – End latch detail

12 - Additional riveted side vertical door angle overlays

It's almost stating the obvious but not all of the above components are in both kits. If constructing C.21 then you must decide before commencing the build whether you want riveted or welded ends and use the appropriate parts.







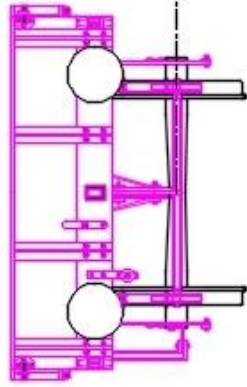


Fig. 1a (C.21a)

Welded sides  
Welded ends  
4 hinge doors

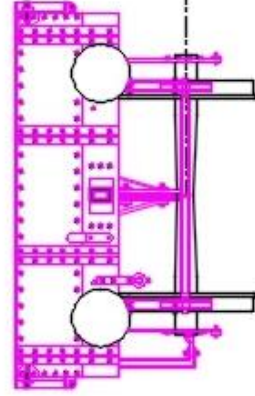
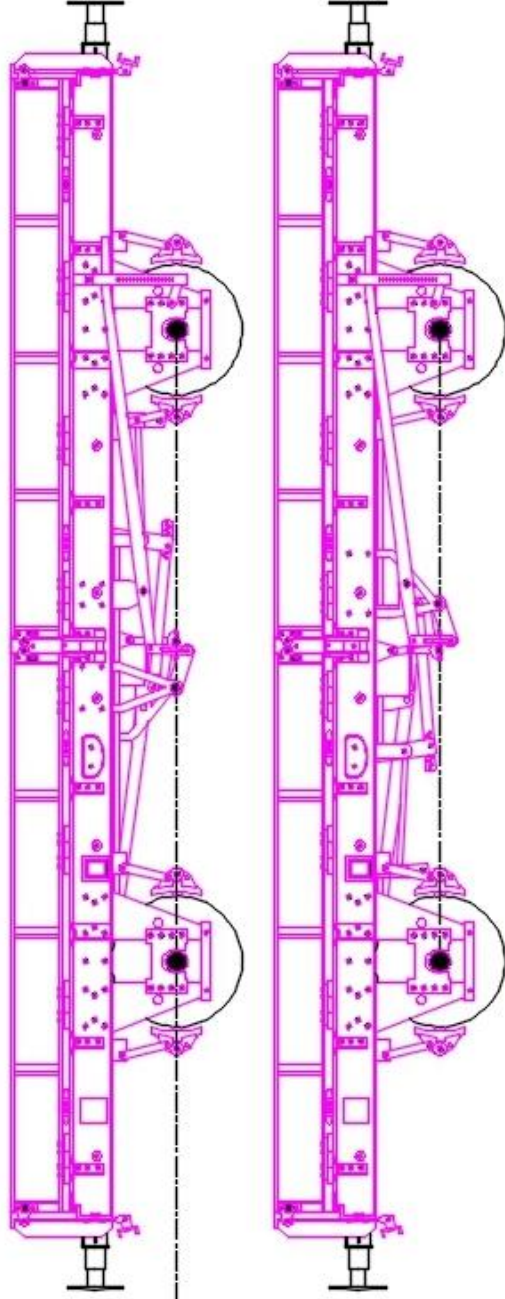
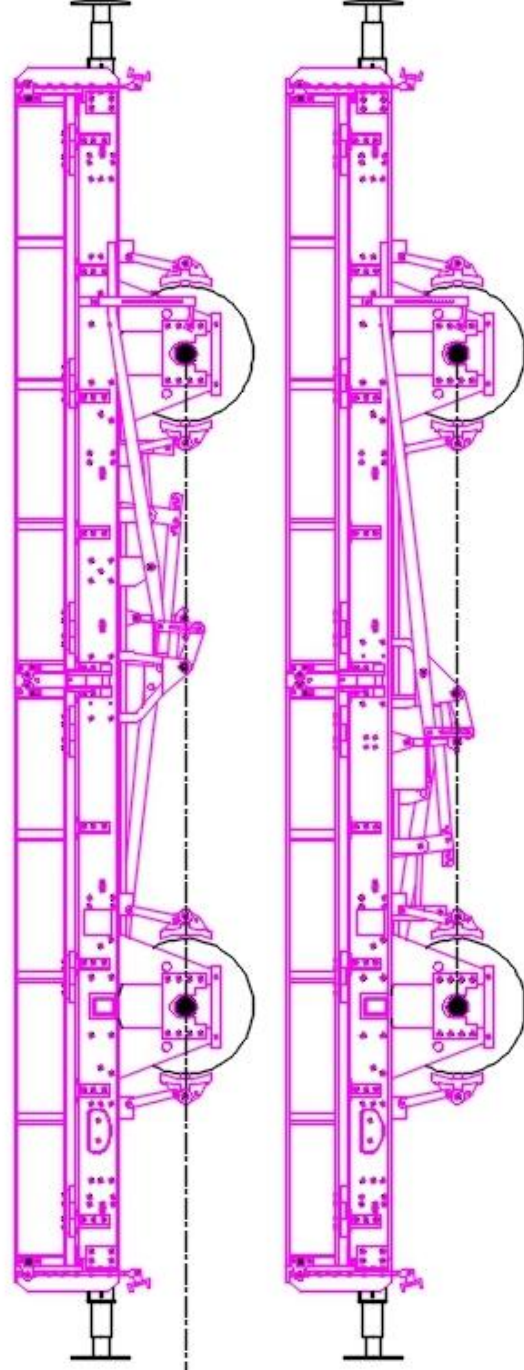


Fig. 1b (C.21b)

Welded sides  
Riveted ends  
3 hinge doors



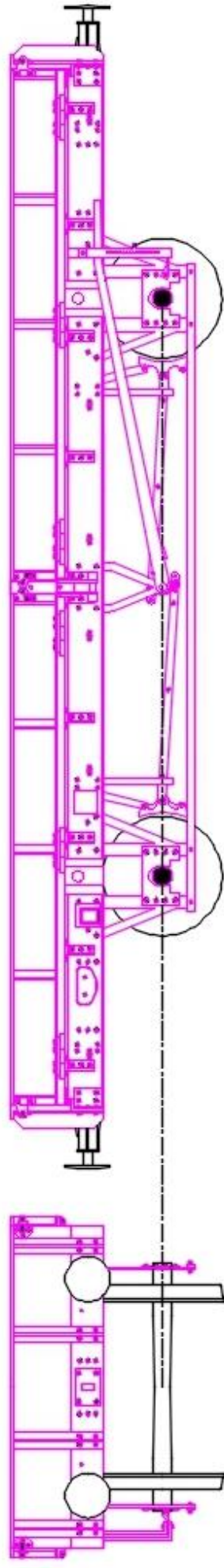


Fig. 1c (C.21c)

Welded sides  
Welded ends  
3 hinge doors

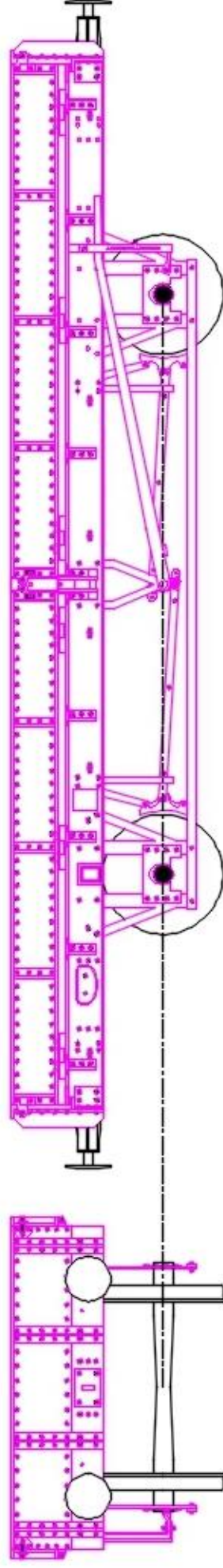


Fig. 1d (C.22)

Riveted sides  
Riveted ends  
3 hinge doors

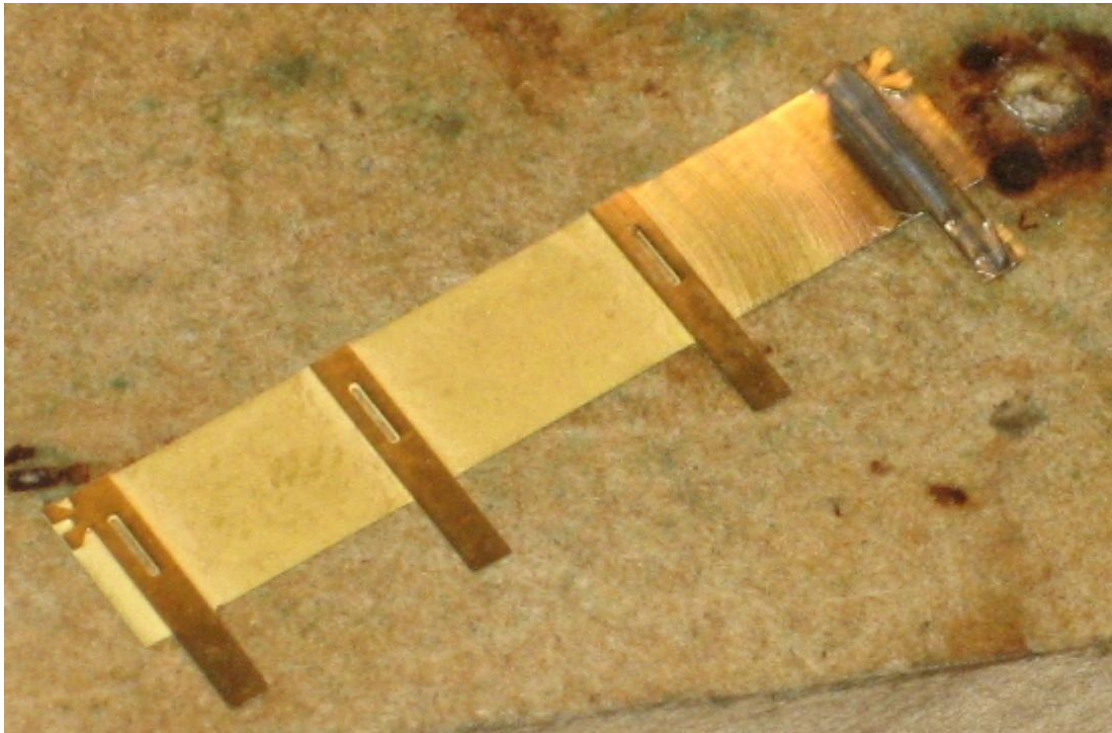


## Construction

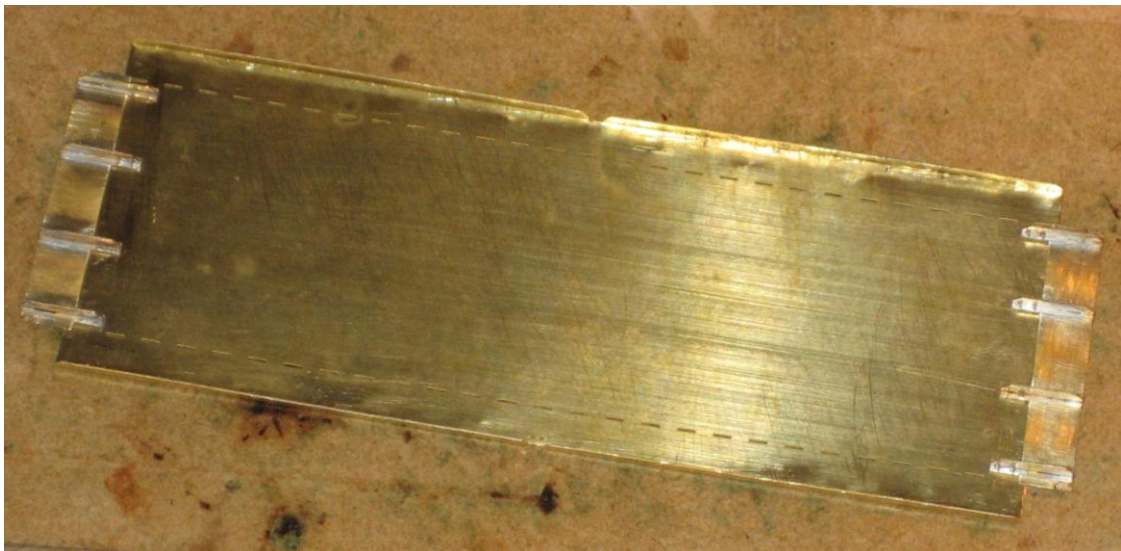
### Ends & Main Assembly

The ends need to be tackled first. Note that the welded ends still had rivets connecting the body to the chassis. Drill a hole 2.5-3mm in diameter into a spare piece of wood or MDF whatever is to hand. This will be used to help solder the stanchions in place. Remove the end outer overlays of your choice (1a or 1b), the end stanchion overlays of your choice (2a or 2b) and the end stanchions (3) from the fret and again clean up any tags.

Insert a stanchion through an end stanchion overlay and into the end outer overlay locating the tab on the stanchion into the hole drilled earlier. When you are happy with how everything is aligned solder everything in place. Repeat for the other seven.

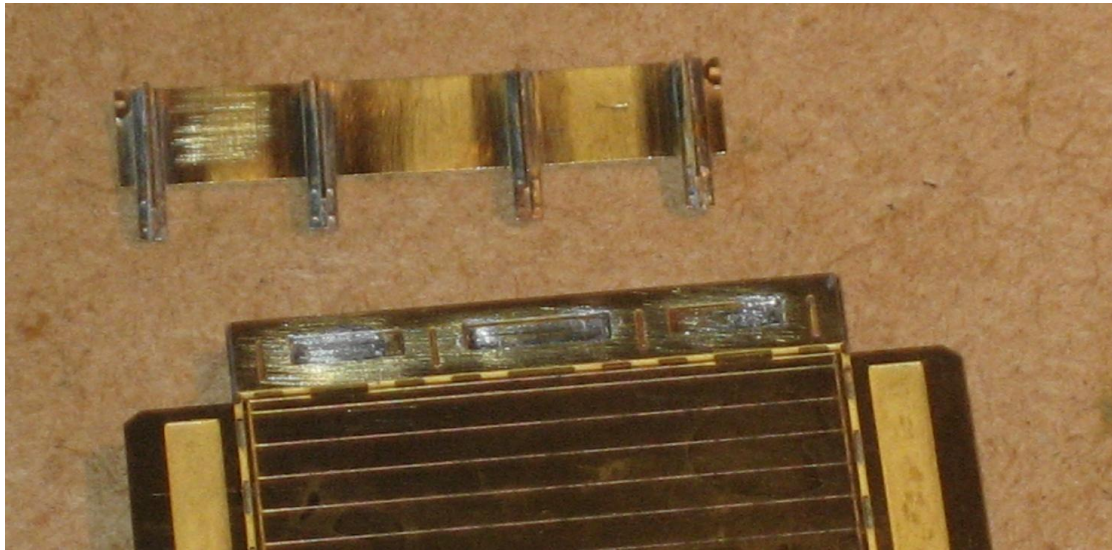


Remove the main assembly (4) from the fret and clean up any tags. Carefully fold the very ends of the sides. These will form the top of the door and it's easiest done at this point. Make sure that the sides are adequately supported or you may end up with bends where you don't want them.





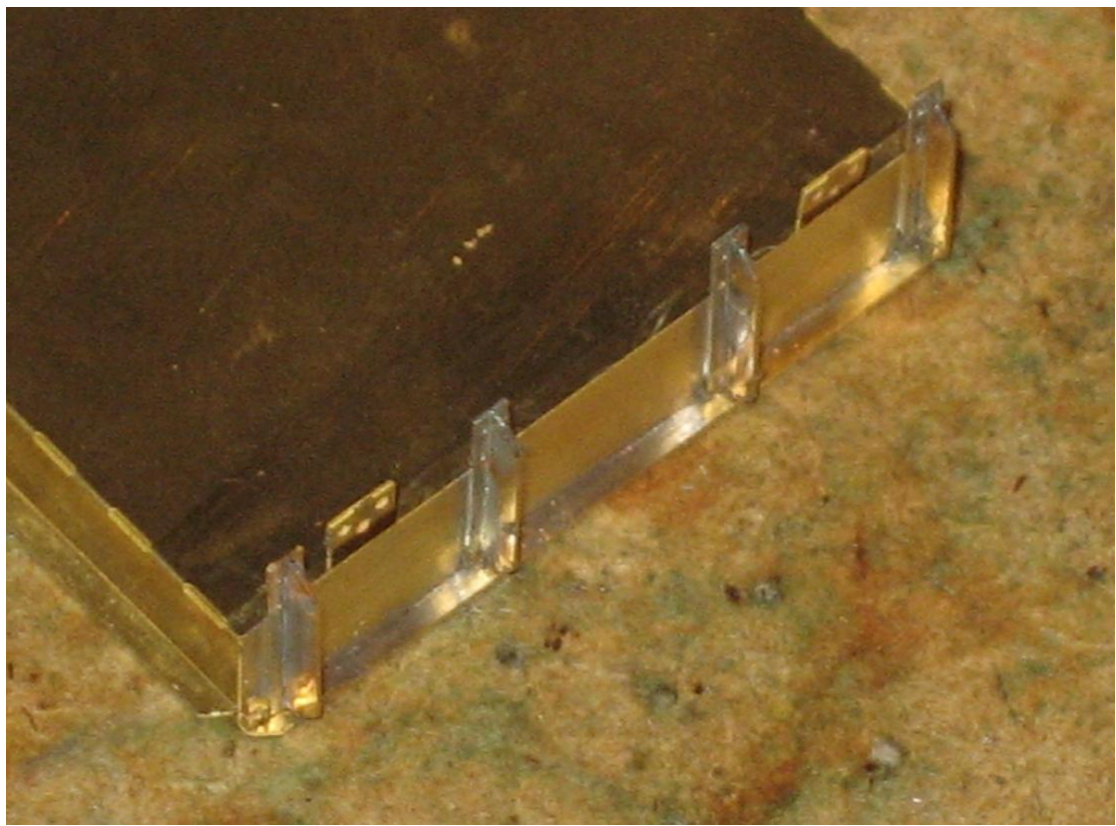
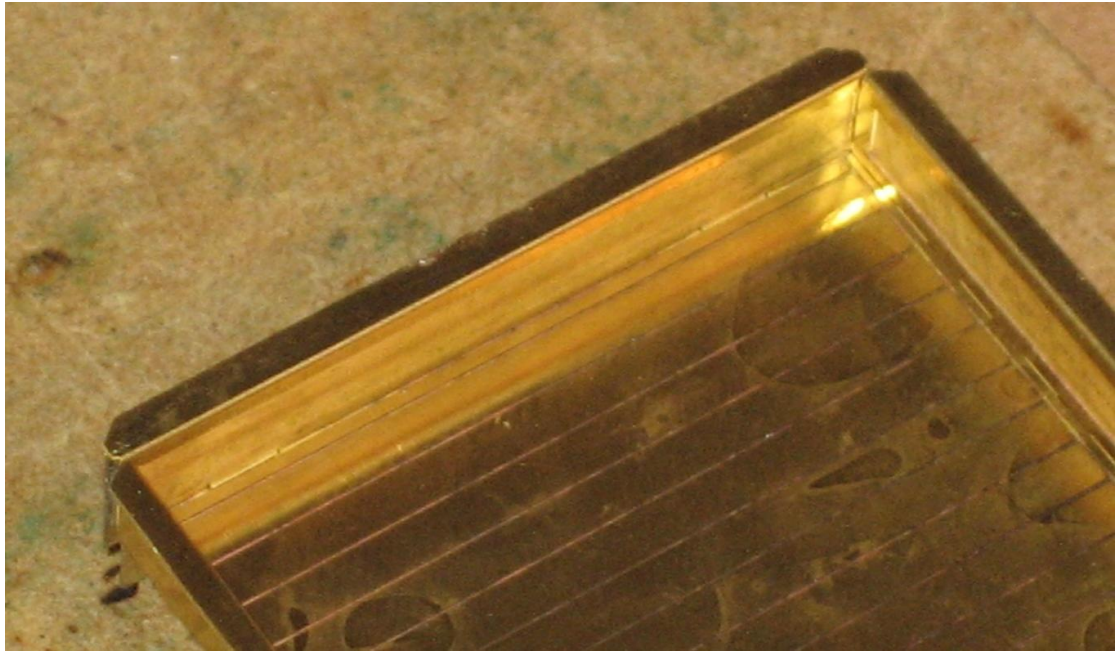
The two ends need to be soldered in place. Use the tags on the stanchions to locate the ends into the main assembly and solder in place. There are rectangles etched into the main assembly to help with this. Make sure that they are the correct way around with the part of the stanchion that will locate on the headstocks facing inwards. Be careful not to solder these bits in place!



Once the ends are in place the sides and the ends can both be folded up. Note that there will be a gap between the sides and ends.



Remove the inner end overlays of your choice (5a or 5b) from the fret and clean up any tags. Fold up the lip on the top of the part. As with the sides make sure the part is well supported or you may end up with bends where you don't want them. Fit the overlays and solder in place along the top of the end, there are two 'feet' on the end inner overlays that will act as locating points.





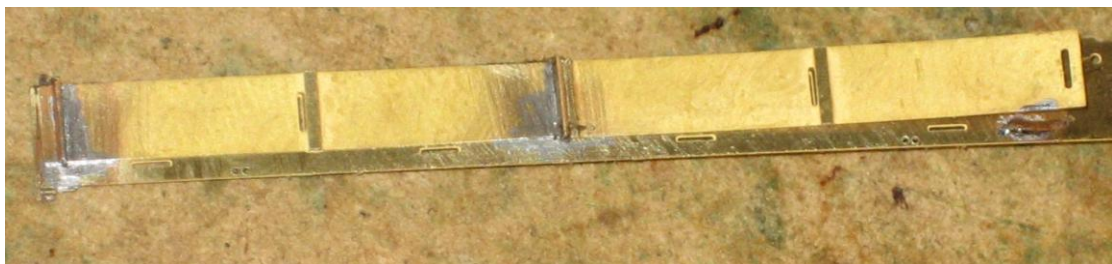
## Sides & Doors

Next remove the side overlays (6), the side door overlays of your choice (7a or 7b) and the vertical door angles (8) from the fret and clean up any tags.

If you are constructing a diagram 1/434 wagon and want to make use of the cleats that are included with chassis kit B.08 then you will need to drill out the four sets of two half etched holes located towards the bottom edge of the side overlays. Use a 0.3mm drill.

If constructing C.22 decide if you want to make use of the additional riveted side vertical door angle overlays (12) or want to press out the rivets that can be found on the side door overlays. If you want to press them out now is the time.

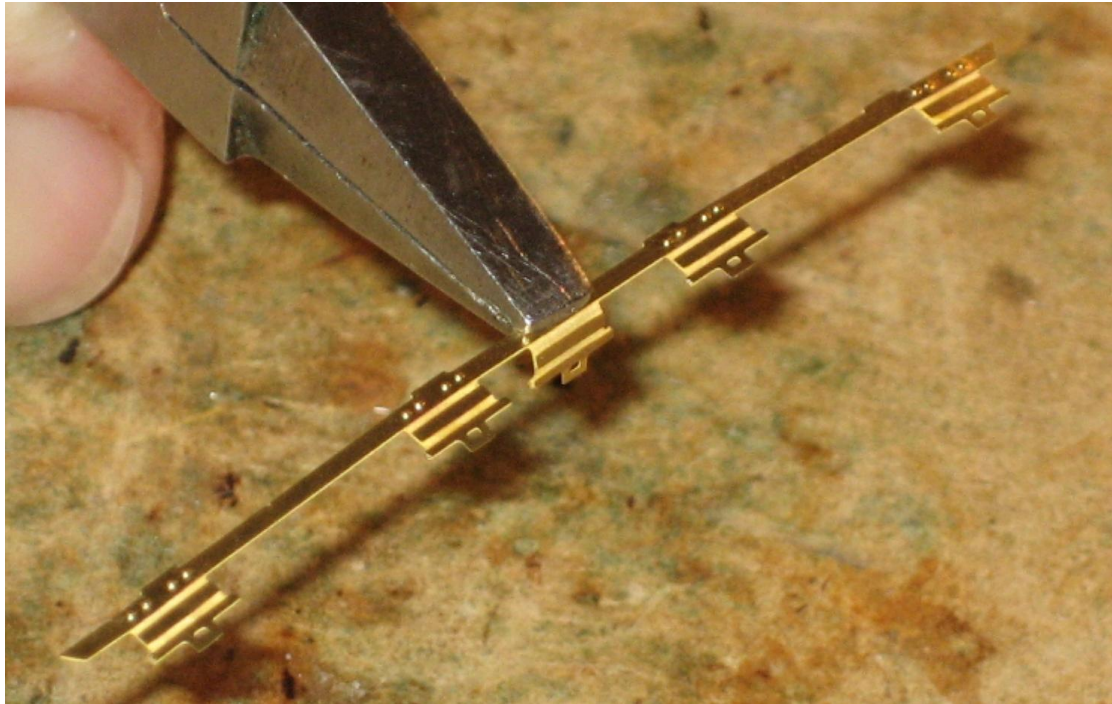
Locating the door overlays accurately onto the sides needs a little care. Here's how I did it. Use one of the vertical door angles to pin the door overlay onto the side at one end using the tabs and slots provided and tack solder the side in place. Remove the vertical door angle and place at the other end. Solder this firmly in place. Solder another vertical door angle in the centre and then unsolder the tacked joint you made first. All this messing around will ensure that the door overlay and the sides are straight. Solder the rest of the vertical door angles in place and repeat for the other three doors.





If constructing C.21 then there is a choice of how many hinges you want per door. Some will need to be removed. If you want four hinges per door the centre hinge backing needs removing, if you want three then the two either side of the centre hinge backing needs to be removed. If constructing C.22 then there is no choice.

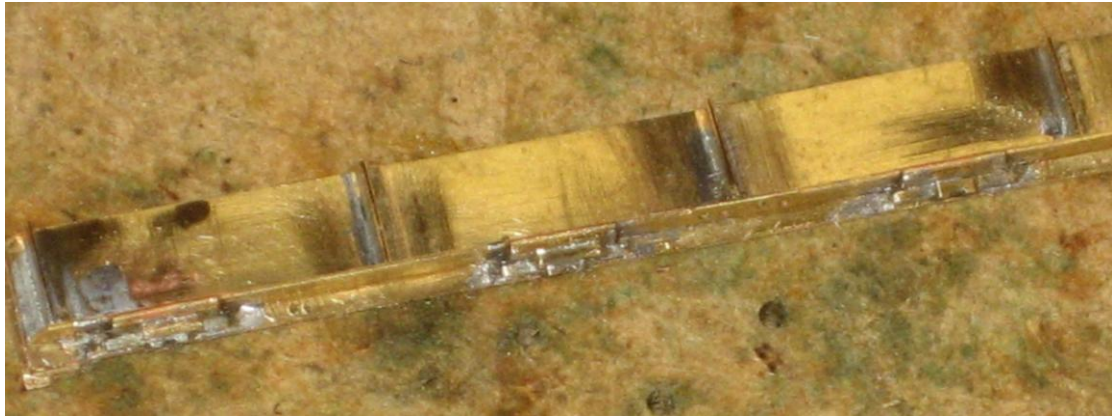
Before removing the horizontal door angle/hinges (9) from the fret press out the sets of four rivets above the appropriate hinge bracket pieces. I use a drop head rivet press with the part held against a green cutting mat. Remove from the fret and clean up the connecting tags. You may need to straighten things out where the rivets have been pressed out. Next remove the hinge(s) you don't require if constructing C.21. Hold the horizontal door angle/hinges firmly using a pair of pliers and wiggle the door hinge part until the brass breaks at the fold line. See the first picture below. Don't worry about cleaning up the remaining cusp for the moment.



The backing for the hinges needs to be folded up. These will end up basically as an L section under the main length of angle so that the rivets are on the other side to the hinge backing. There are two half etched fold lines. Fold the one closest to the main length of the angle through  $90^\circ$  but with the fold line on the outside. Fold the other half etched fold line through  $90^\circ$  with the fold line on the inside. Go back to the first fold line and complete the bend through  $180^\circ$ . There is a small piece on the outside of the hinge part that will act as a backing for the wire representing the hinge. Fold it through  $180^\circ$  so that it is on the inside of the L.



Using the tabs and slots provided locate the horizontal door angle/hinges in place on the body side and solder in place. Make sure all of the hinge brackets are securely soldered in place.

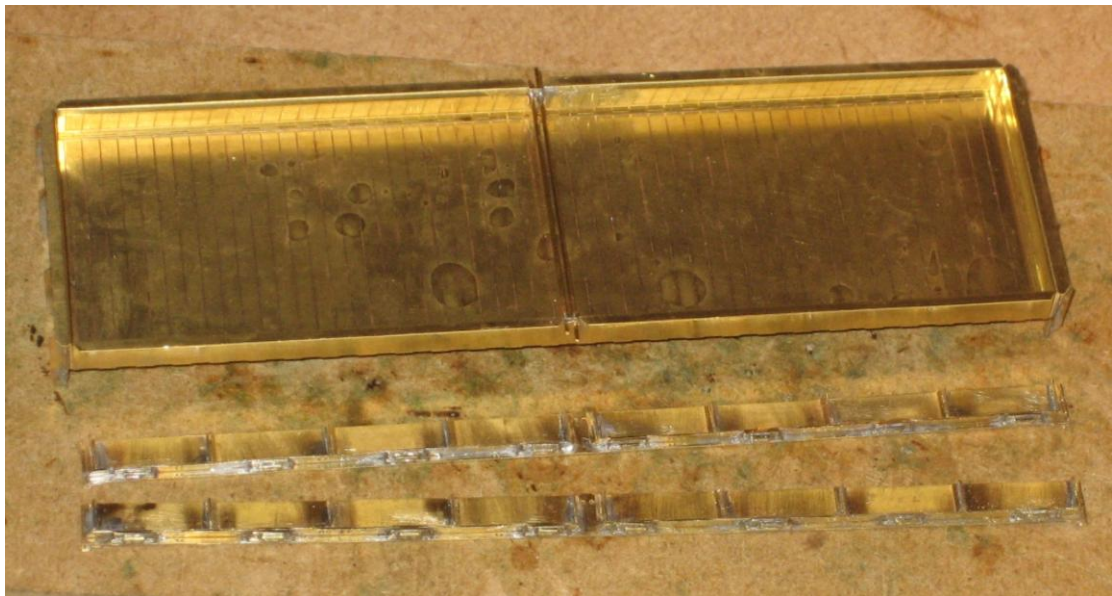


You will need to add the 0.5mm wire that will represent the hinges. Cut the wire into lengths approximately 1.5mm long and solder in place centrally on the hinge backing. This is a bit of a fiddle. Clamping the side assemblies in place so that they don't move helps.

Clean up the cusp where the bracket has been folded back on the main length of angle (and where the unwanted hinge has been removed on C.21) and also where the small backing piece has been folded back on the bracket.

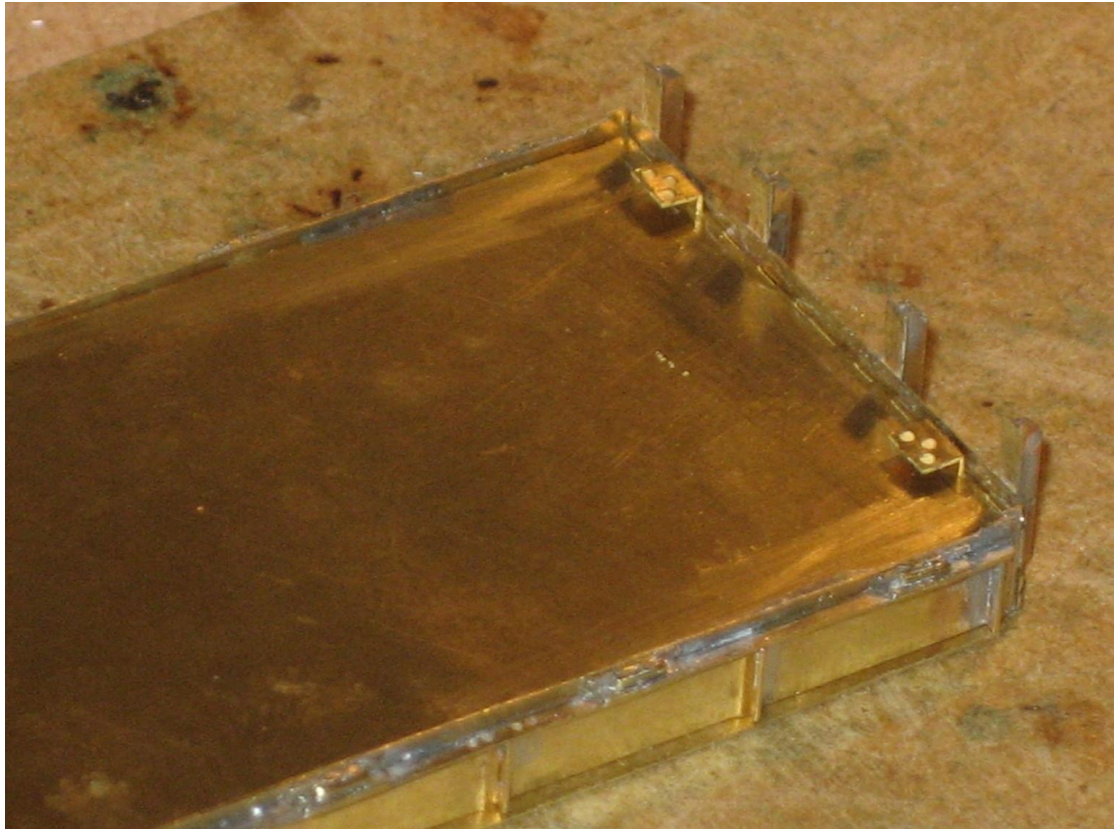
If you decided to make use of the additional riveted side vertical door angle overlays (12) when constructing C.22 then now is the time to solder them in place.

The two sides now need to be soldered to the main assembly. Take two lengths of 0.5mm wire approximately 45mm long and thread them through the two sets of holes in the middle of the sides on the main assembly. Solder in place so that the wire projects equally out of each side.



Using the wire to help locate the side assemblies position them on the main assembly and solder in place. The best places to do this are at each end, underneath and along the top edge of the side assembly.

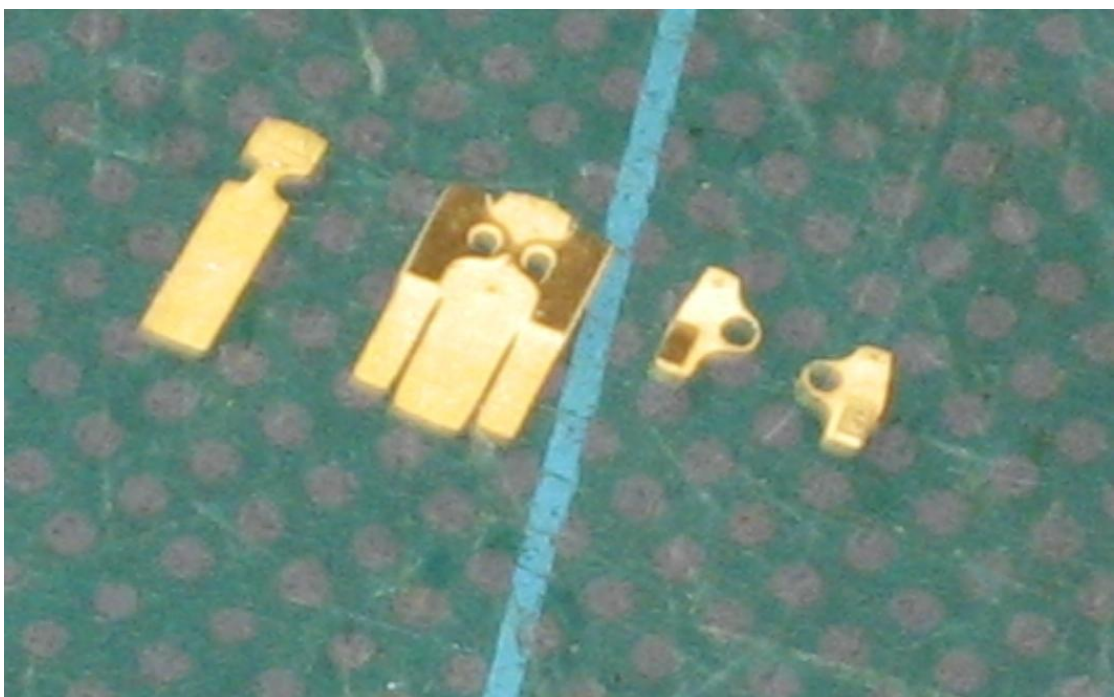




The four little feet that are part of the end inner overlays can be folded through 90°. See the photograph above. These are provided to enable the body to be glued to the chassis if you wish to paint them separately.

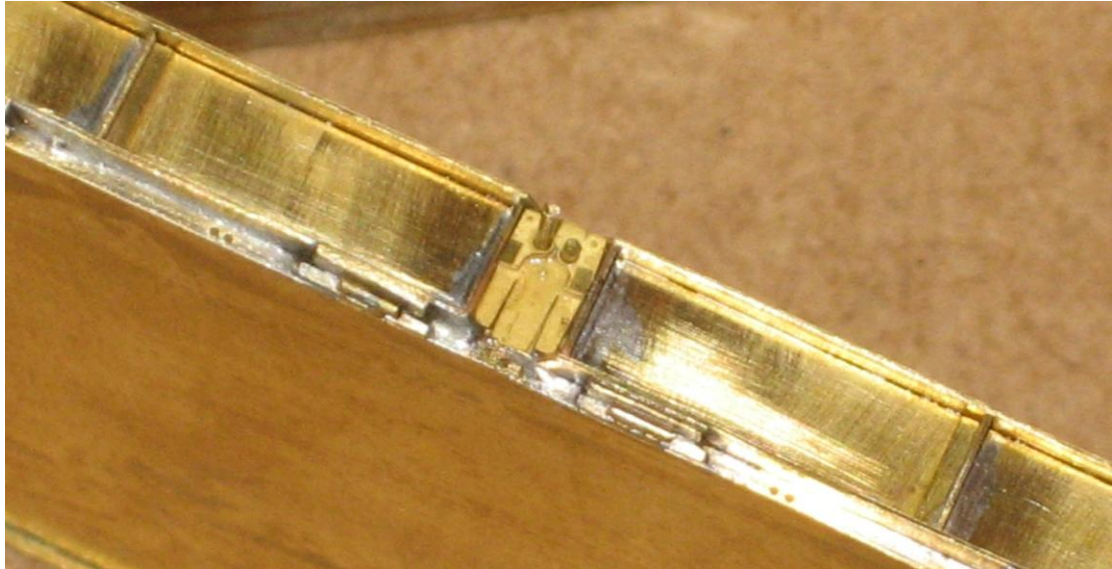
### **Door latch brackets**

The centre ones are probably best done first. Refer to the photo below. There are four pieces that make this up: A central door pillar spacer overlay (10a – far left), a central door pillar outer overlay (10b – second from left) and two central door latch detailing parts (10c – right). Remove from the fret and make sure any connecting tags are fully removed.

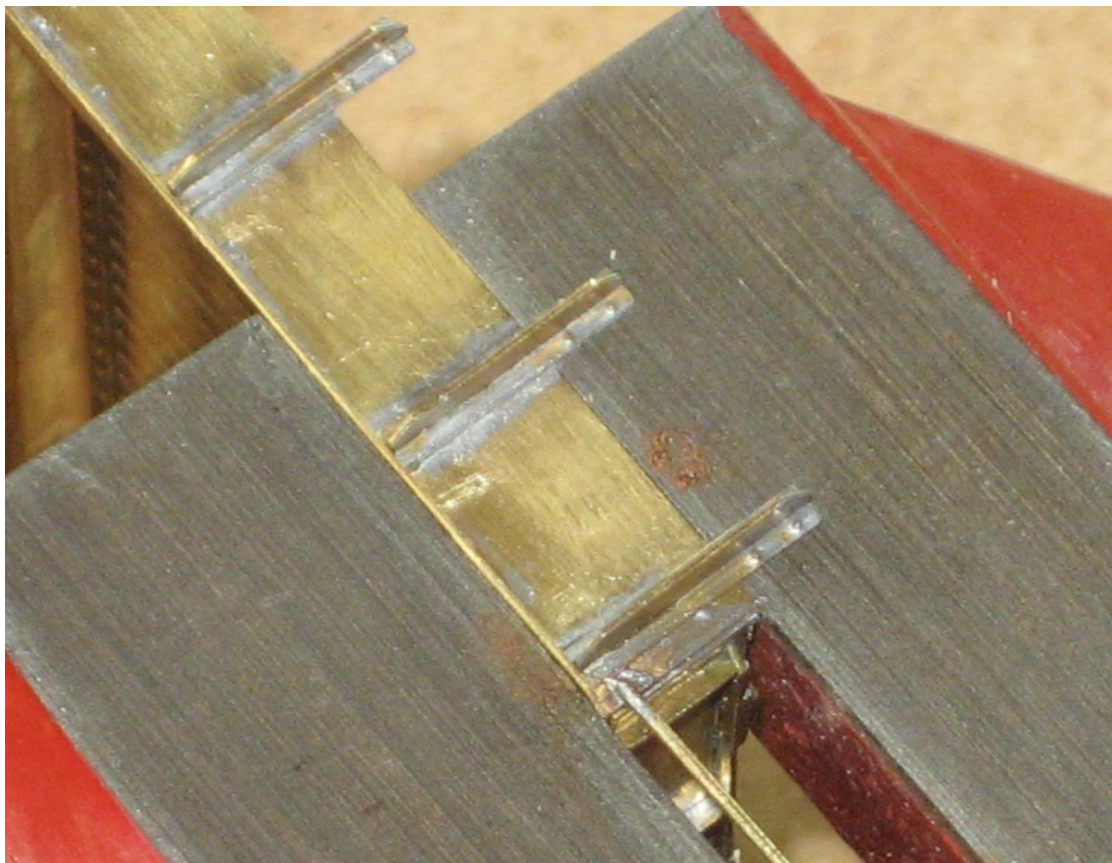




Thread the central door pillar spacer overlay onto the two pieces of 0.5mm wire that were used to locate the sides in place. On top of this thread the central door pillar outer overlays followed by the two central door latch detailing parts. Note the correct way up for these last two items. Solder everything in place and repeat on the other side. Trim the wire so that it is level with the outside of the body.



Next do the end door latch brackets. Do them one at a time. You need to solder a length of 0.5mm wire in place on the end of the body. See the photograph below. There is a small slot into which the end of the wire can be located. As you can see I used a vice to support the body whilst soldering the wire in place.



Make sure the holes in the outer door latch backing (11a) and the outer door latch detail (11b) can accept 0.5mm wire, remove from the fret and clean up any connecting tags. Thread the outer door latch backing onto the length of 0.5mm wire soldered to the end and then thread the outer door latch backing on top of this. Once in position against the end of the side solder in place. You will need to make sure that you pin the detailing parts against the side so that the wire doesn't become unsoldered and move. Trim the wire so that it is level with the outside of the body. Repeat for the other three latches.

Included on the fret is the end latch detail (11c). This is supposed to go around the wire on the ends. To be honest I left this off of my test builds as it was a bit too fiddly. You are more than welcome to try soldering this in place though. If using it might be an idea to solder it in place before fitting the wire to the ends.



That should complete any soldering work on the body.

If constructing a diagram 1/434 wagon and using the cleats found on chassis B.08 (part 32) then make sure that the holes drilled earlier in the sides can accept 0.31mm wire. The chassis instructions cover their assembly and the picture below shows one of the cleats before soldering together and tidying up. I found the easiest way to attach the cleats to the body is to superglue them in place.





Fig. 2a Early arrangement  
LMS/LNER/BR Unfitted &  
BR Retrofitted

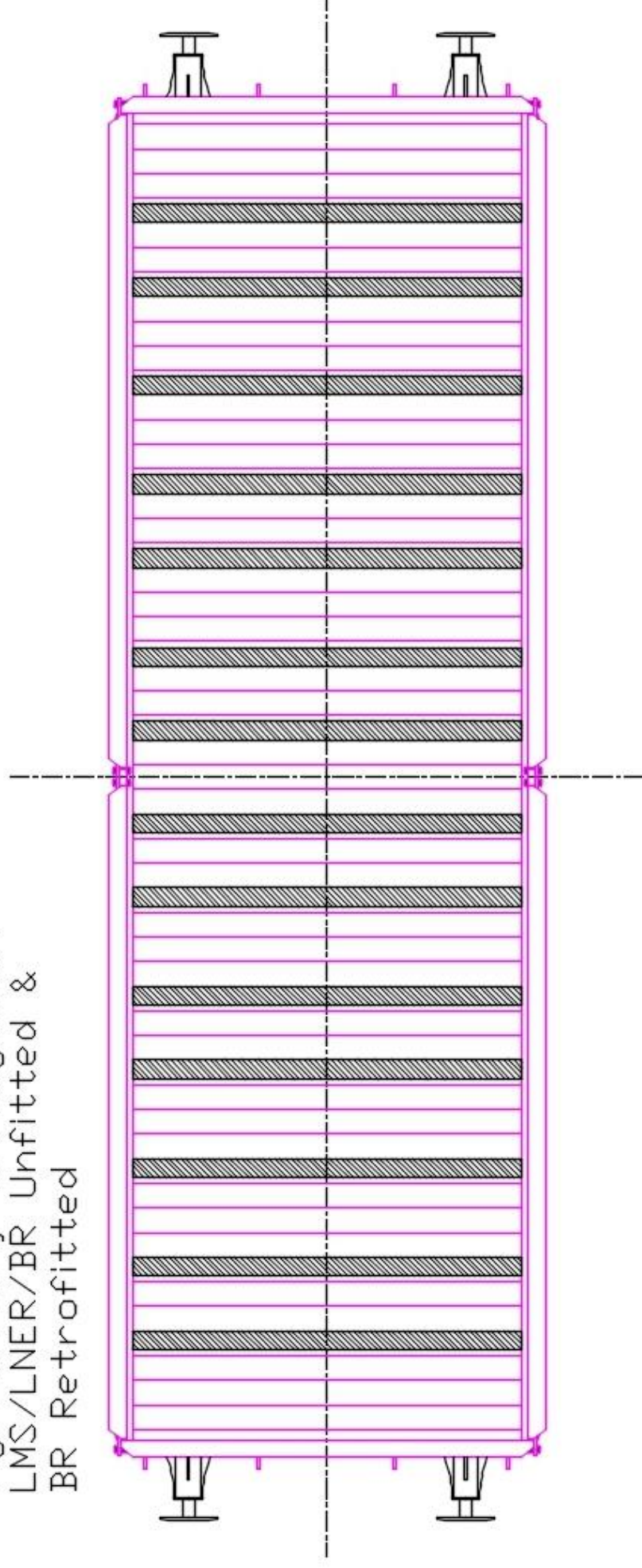
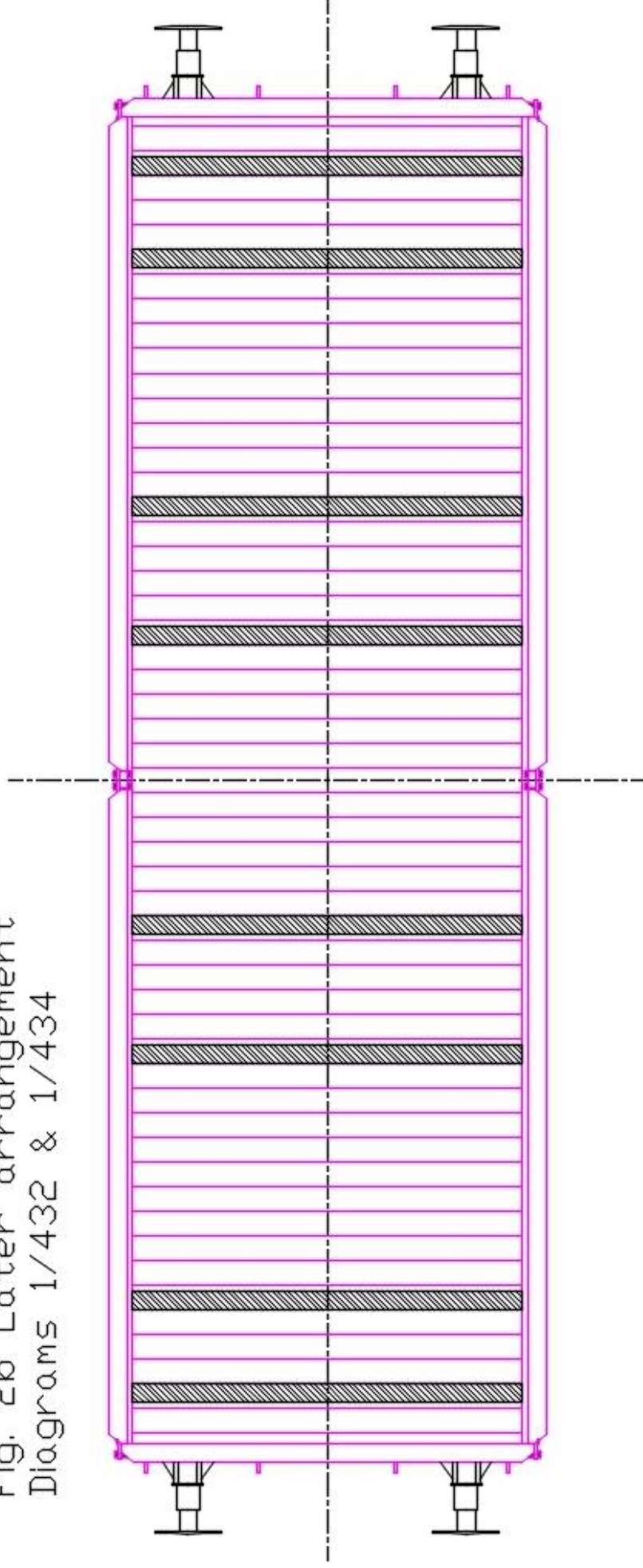




Fig. 2b Later arrangement  
Diagrams 1/432 & 1/434



## **Floor Battens**

There were battens located on the floor of plate wagons to prevent the plates from lying on the floor of the wagon. As far as I can make out there were two basic arrangements. These are covered in Fig. 2a and Fig. 2b. Fig. 2b was used on BR diagram 1/432 and 1/434 wagons and Fig. 2a on everything else. Now there is a caveat to this. The information comes from 'LNER Wagons' by Peter Tatlow and 'An Illustrated History of BR Wagons Volume 1' by Bartlett, Mann, etc and certainly appears to be correct as far as the diagrams are concerned but finding clear pictures of the inside of plate wagons is tricky at best and there may well have been other arrangements used.

Cut 0.020" x 0.060" (0.5mm x 1.5mm) plastic section (evergreen rectangular section number 123) into 31.5mm lengths. Use Fig.2a or Fig.2b to help you position the battens and glue in place. I found the easiest way to position then was to count the number of planks between battens and used superglue to fix them.

## **Assembling body and chassis**

There shouldn't be any mystery to this. You may need to file the top of the chassis down a little to get the body and chassis to sit properly but basically there is a simple choice between soldering the body and chassis together and then painting them or painting them first and then gluing the two parts together using the 'feet' provided. As was noted in the chassis instructions there is scope for placing ballast between the floor of the body and the chassis. Obviously this needs to be done before fixing the body and chassis together.

## **Painting**

I 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.

## **Finally**

Thanks must go to the staff of the Nene Valley Railway for letting me measure up and photograph at close quarters the Plate wagon in their care.

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

## Appendix A – Plate Wagon Diagram Details

### LMS

Numbers	Diagram	Lot	Build Dates	Axleguards	Brake	Sides	Ends
498625 – 498874	2083	1344	1944	RCH HD	Unfitted	Riveted	Riveted
496000 – 496049	2083	1355	1944	RCH HD	Unfitted	*	*
496050 – 496099	2083	1367	1944	RCH HD	Unfitted	Welded	Welded
496100 – 496199	2083	1385	1946	RCH HD	Unfitted	Welded	Welded
M496200– M496249	2083	1514	1949	RCH HD	Unfitted	Welded	Welded

### LNER

Numbers	Diagram	Lot	Build Dates	Axleguards	Brake	Sides	Ends
211763 – 212762	123		1937/8	RCH HD	Unfitted	Riveted	Riveted
239569 – 239818	123		1940	RCH HD	Unfitted	Welded	Welded
239819 – 240068	123		1940	RCH HD	Unfitted	Riveted	Riveted
242219 – 242462	123		1940	RCH HD	Unfitted	Welded	Welded
250898 – 251397	123		1942	RCH HD	Unfitted	Welded	Welded
263224 – 263273	123		1943	RCH HD	Unfitted	Welded	Welded
265900 – 266099	123		1944	RCH HD	Unfitted	Welded	Welded
286509 – 286608	123		1946	RCH HD	Unfitted	Welded	Welded
292095 – 292344	196		1947	RCH HD	LNER Clasp	Welded	Welded
E310481 – E310680	123		1948	RCH HD	Unfitted	Welded	Welded



## BR Wagons

Numbers	Diagram	Lot	Build Dates	Axleguards	Brake	Sides	Ends
B93000 – B930249	1/430	2037	6/49 to 8/49	RCH HD	Unfitted	Welded	Welded
B930250 – B930549	1/430	2132	10/50 to 12/50	RCH HD	Unfitted	Welded	Riveted
B930550 – B931049	1/430	2151	5/50 to 4/51	RCH HD	Unfitted	Welded	Welded
B931050 – B931589	1/431	2199	1/51 to 7/51	RCH HD **	Unfitted	Welded	Riveted
B931590 – B931749	1/431	2327	10/53 to 12/53	BR Plate	Unfitted	Welded	Riveted
B931750 B931974	1/431	2476	7/53 to 10/53	BR Plate	Unfitted	Welded	Riveted
B931975 – B932824	1/431	2604	5/54 to 12/54	BR Plate	Unfitted	Welded	Riveted
B932825 – B933374	1/432	2734	4/56 to 3/57	BR Plate	LNER Clasp	Welded	Riveted
B933375 – B933874	1/432	2862	3/57 to 6/57	BR Plate	LNER Clasp	Welded	Riveted
B933875 – B934024	1/432	3128	11/58 to 1/59	BR Plate	LNER Clasp	Welded	Riveted
B934025 – B935524	1/434	3223	9/59 to 11/60	BR Plate	BR Clasp	Welded	Welded
B935525 – B936524	1/434	3338	11/60 to 4/61	BR Plate	BR Clasp	Welded	Welded

Notes:

\* LMS lot 1355: I cannot find any photographs any of this lot and so cannot say whether the body was riveted or welded.

\*\* BR lot 2199: The axleguards seem to have changed to the BR Plate type somewhere in this lot.

Diagram 1/430 equated to LMS diagram 2083 and 1/431 equated to LNER diagram 123. The difference between the two diagrams was the small matter of 1/4" in height.

## Double Bolster Diagram Details

### LMS

Numbers	Diagram	Lot	Build Dates	Axleguards	Brake	Sides	Ends
726000 – 726199	2105	1384	1945	RCH HD	Unfitted	Welded	Welded
726200 – 726349	2105	1414	1946	RCH HD	Unfitted	Welded	Welded
726350 – 726399	2105	1258	1947	RCH HD	Unfitted	Welded	Welded
M726400 – M726499	2105	1525	1948	RCH HD	Unfitted	Welded	Welded
M726500 – M727049	2105	1536	1949	RCH HD	Unfitted	Welded	Welded

### LNER

Numbers	Diagram	Lot	Build Dates	Axleguards	Brake	Sides	Ends
250398 – 250897	168		1942	RCH HD	Unfitted	Welded	Welded
260148 – 260347	168		1943	RCH HD	Unfitted	Welded	Welded
265700 – 265899	168		1944	RCH HD	Unfitted	Welded	Welded
278279 – 278378	168		1945	RCH HD	Unfitted	Welded	Welded
286259 – 286508	168		1946	RCH HD	Unfitted	Welded	Welded
E310381 – E310480	209		1948	RCH HD	Unfitted	Welded	Welded

### BR

Numbers	Diagram	Lot	Build Dates	Axleguards	Brake	Sides	Ends
B920000 – B920199	1/416	2020	6/49 to 8/49	RCH HD	Unfitted	Welded	Welded
B920200 – B920399	1/415	2035	4/49 to 7/49	RCH HD	Unfitted	Welded	Welded

Diagram 1/416 equated to LMS diagram 2105 and 1/415 equated to LNER diagram 209. As with the plate wagons the differences between the diagrams was minimal.

The difference between LNER diagram 168 and 209 was again minimal. The new diagram came from the provision of more fixing points for the bolsters.