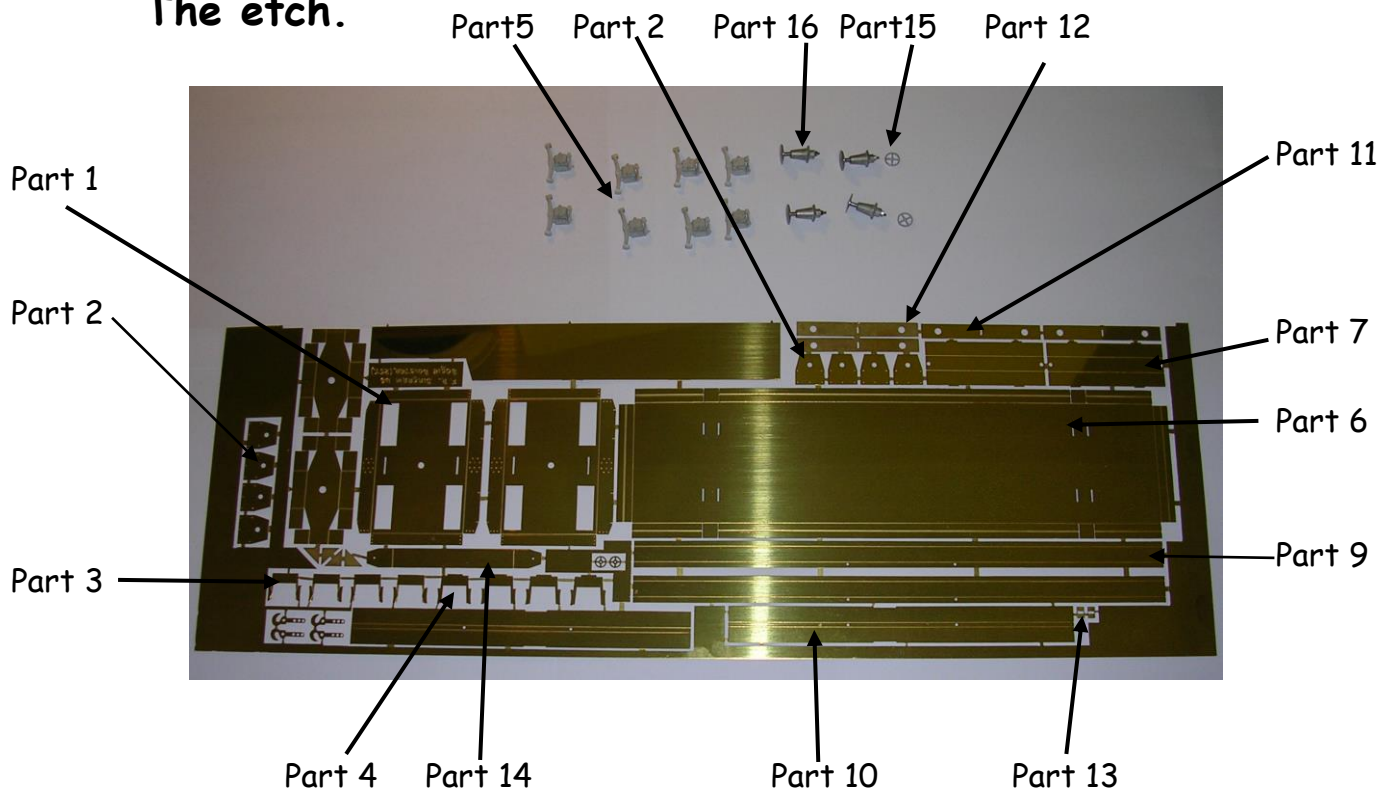


Furness Railway Wagon Co.

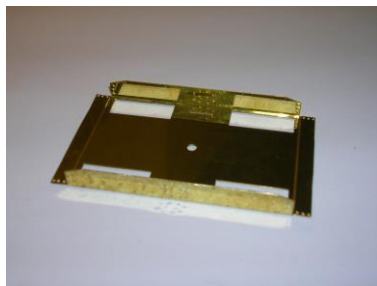
**Furness Railway/LMS/BR 25ton
All Steel Bogie Bolster/Rail Wagon**
Wheels, paint and transfers required to complete.

Please note that to aid the folding of the various parts score all the halfetched fold lines.

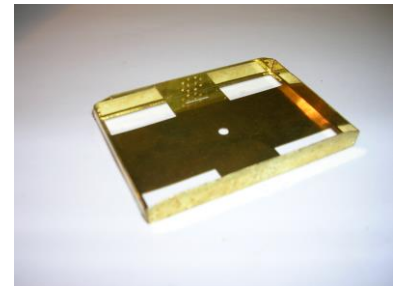
The etch.



Bogie construction

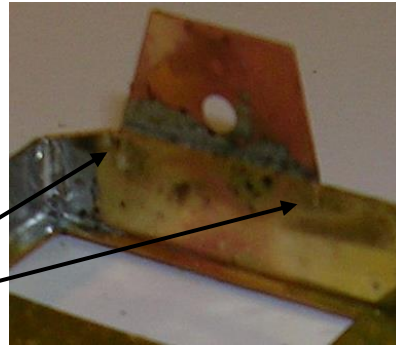


1. Remove parts 1 (bogie bodies) from the etch and punch out the half etched rivets then fold up as shown.

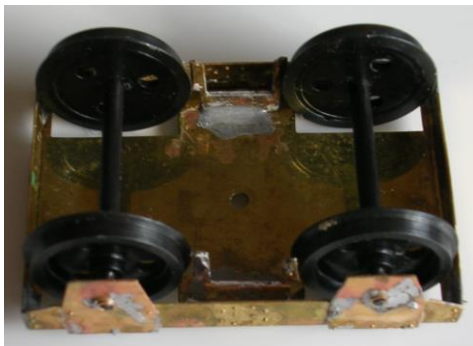
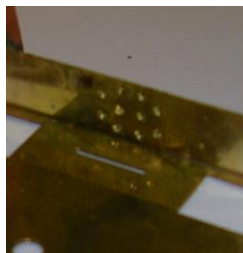


2. Remove parts 2 and punch out the half etched rivets. Solder to the folded up parts 1's so that they line up with the etched lines on the inside of the part 1's as shown.

Etched lines



3. Next remove parts 3 (brake detail) and 4 (brake blank) off the etch and punch out the half etched rivets. Sweat each part 3 to a part 4. Then solder them into the slot in bogie assembly as shown.



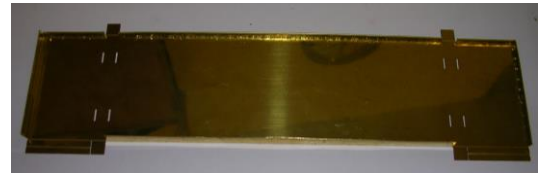
4. Next fit the wheels. It is a good idea to solder the top hat bearing into position after ensuring that you have the required amount of movement.

5. Attach axle box castings (Part 5) over the top of the bearings as shown.

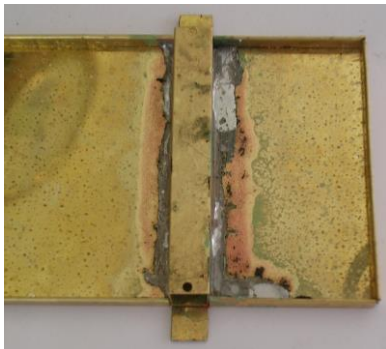


Wagon Construction.

1. Brake off part 6 (floor) from the etch and fold up to form a shallow tray as shown. Only fold up the side leave the sections which form the edges of the bolsters unfolded.



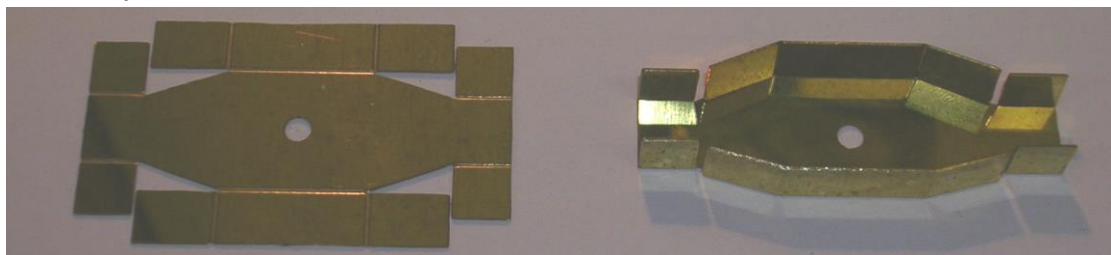
2. Remove part 7 (Bolsters) from the etch and fold up as shown.



3. Solder up the bolsters onto the folded up wagon body using the tags and slots to locate them. Then fold up the last four parts of the body to form the ends of the bolsters and solder into positions



4. Next brake off part 8 (bogie supports) and fold up as shown then solder joints to give extra strength.



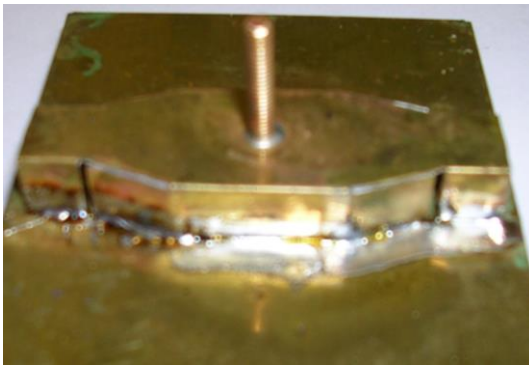
5. Position the 6BA screw in the bogie supports and solder in position as shown. To make the wagon run better fill the first 1.5 to 2mm of threads with solder. This stops the bogies binding when being pushed.



6. Brake of part 9 (sole bars) and punch out the half-etched rivets and fold up into a U shape. You may need to use folding bars or parallels for this job.



7. Remove part 10 (Support bars) fold up into a 'U' shape. You may need to use a steel rule for this job.



8. Solder the bogie supports to the bottom of the wagon body as shown. Make sure that the supports line up with the half etched lines and are evenly spaced to allow the sole bars to be fitted.

9. Next solder the sole bars into position as shown. They should fit flush with the edge of the body and each of the bogie supports and should be approximately 0.75mm to allow the buffer plates to be fitted. Make sure that the holes in the sole bars are on the top.



10. Once the sole bars have been fitted, attach the two support bars to the body. These should be fitted between the sole bars as shown. The outside of the bars should line up with half etched lines on the bottom of the body and the end of the flat line on the bogie supports.

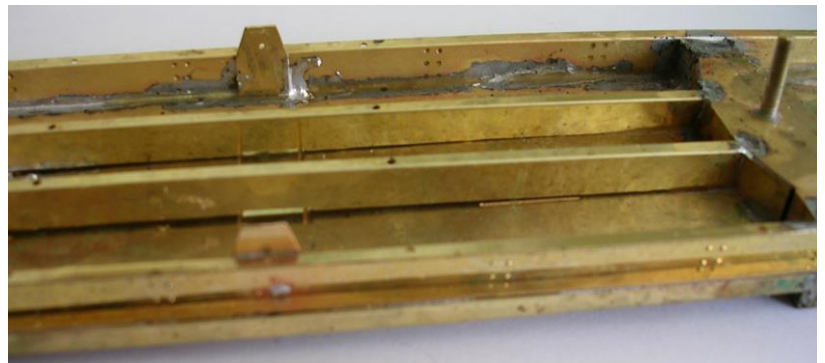


11. Brake off parts 11 (buffer beam plate), 12 (Buffer beam detail) and 13 (coupling hook plate) from the etch and sweat them together.



12. Solder the buffer beam assembly to the end of the wagon as shown.

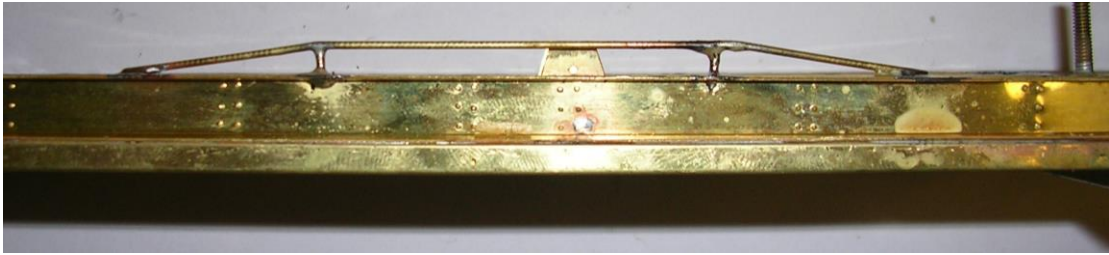
13. Next remove part 14 (brake wheel support) off the etch and brake off the two ends. Solder the two supports plates to the sole bars as shown. They should be lined up with the half etched lines on the bottom of the body.



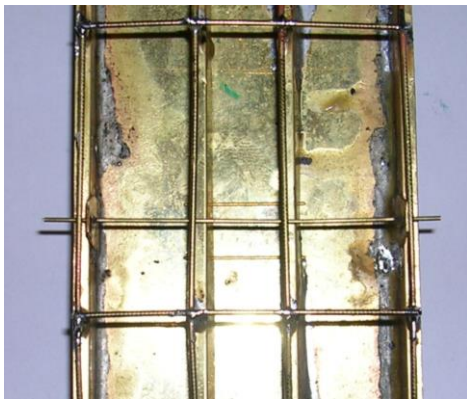
14. Using the 40thou brass wire bend up four wire supports using the template. Then solder two down struts to match the holes in the chassis assembly as shown.



15. Solder the four wire supports into the holes in the chassis assembly. Also solder where they touch the chassis at an angle as shown.

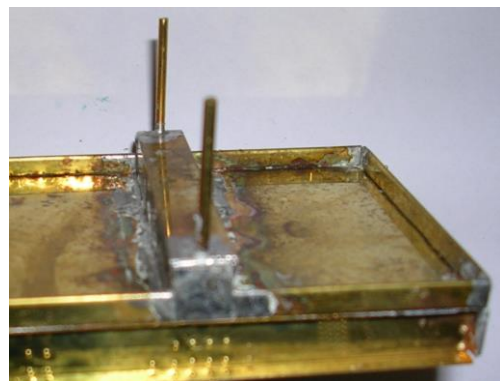


16. Once you have soldered the wire strengtheners solder two cross wires onto the four supports at the point that they bend down to the sole bars as shown.

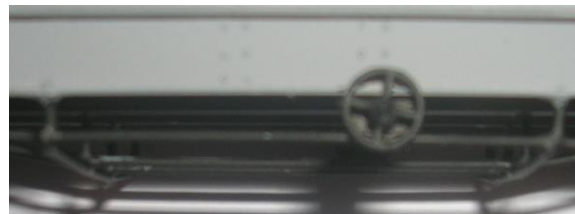


17. Then solder the 20thou brass wire into the holes in the brake-wheel support brackets, as shown. Make sure that there is enough wire sticking out to allow the hand wheel castings to be attached.

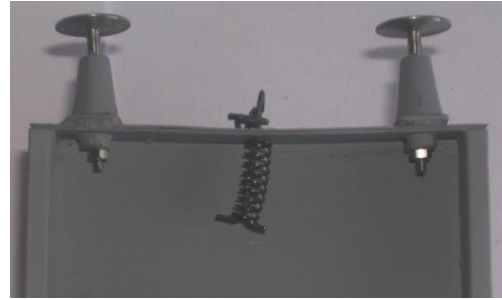
18. Now cut four equal lengths, approximately $1\frac{1}{2}$ inches long, of the 60thou wire and solder them in to the holes on the top of the bolsters as shown.



19. Next attach the brake wheel castings onto the wire. Make sure that they are tight up against the sole bars and snip off any excess wire.



20. Now fit the buffers and couplings as shown.



21. You are now ready to fit the bogies to the wagon. This is done by pushing the 6BA bolt through the bogie and fix with one of the nuts supplied.

22. You are now ready to paint the wagon in the livery of your choice.



History of the Wagon

In 1917 the Furness Railway company ordered a short 25ton all steel bogie rail wagons from their companies own workshop in Barrow-in-Furness. These wagons were to replace its ageing fleet of smaller wooden wagons. The cost savings of the larger wagon was found to be so successful that the railway company ordered another two wagons to the same design in 1919. In 1924, the LMS ordered three more wagons to the same diagram bring the total to six. Until very recently, no one could work out why the wagons were so short, as the standard rail length used was 45ft were the wagons were only 30ft. The answer to the problem was not found with the railway company but with the ships of the time. As the standard ships hatch could only accommodate 30ft, no rail for export could be longer than this length. Equally, there was a need to have a wagon to carry small lengths of rail.

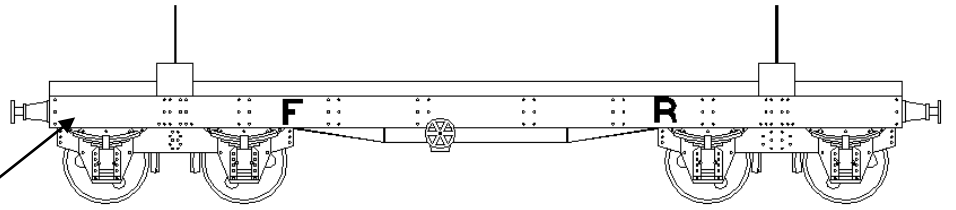
The original Furness Railway wagon numbers are not known. However, all six wagons were numbered within the Furness Railway sequence of the LMS. These numbers were 293151 to 293157. Some these wagons managed to last into British Railways; one in departmental stock at Derby works, one owned by Royal Ordnance Factory Bichester. One of the wagons avoiding the scrap merchants cutting torch and being preserved at the Midland Railway centre. This is without its bolsters but with Furness Railway oil axle boxes.

In Furness Railway days, the wagons would have been painted grey above the sole bars. There is no specific shade of grey mentioned by the Furness Railway Company but, as its headquarters were at Barrow-in-Furness, home to Vickers, Son & Maxim's, Naval Shipyard, battleship grey would be a good guess. The wagons would have also been painted grey

from 1923 to 1935 and then painted bauxite from 1936 to 1948. In British Railways days, the wagons would have reverted to a shade of grey. In all cases everything below the sole bars was painted black.

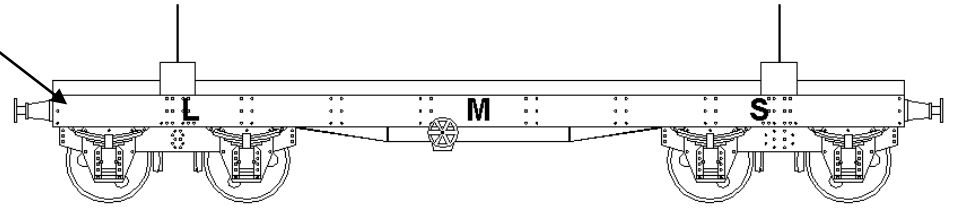
Liveries

Furness Railway
Livery Circ 1917

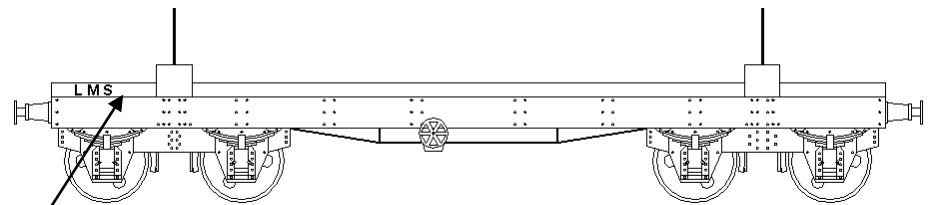


Numbers

LMS early Livery
Circ 1923-36

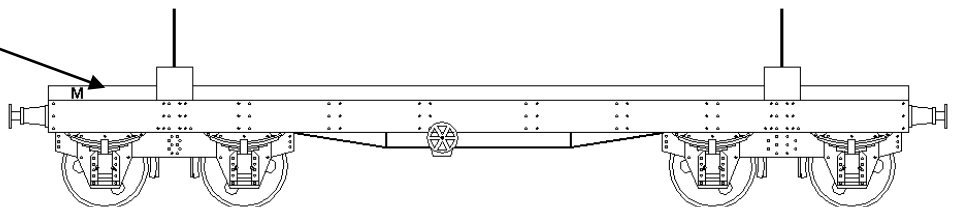


LMS Late Livery
Circ 1936-47



Numbers

BR early Livery
Circ 1947-57



Furness Railway Wagon Co.

Check list for Furness Railway/LMS/BR 25ton All Steel Bogie Bolster/Rail Wagon

1. Construction Manual,
2. One etch,
3. Eight Axle box castings,
4. Two brake wheel castings,
5. Four buffer assemblies,
6. Two coupling hook springs,
7. Two lengths of 1mm brass wire,
8. One length of 1.5mm brass wire,
9. Two 6BA cheese head screws,
10. Two 6BA brass nuts.
11. Six coupling hook links.

We recommend Haywood Railway's 3'1" three hole disc wheels.

Transfers LMS/BR are available from HMRS,
POWSides and SlatersPlastikard.