

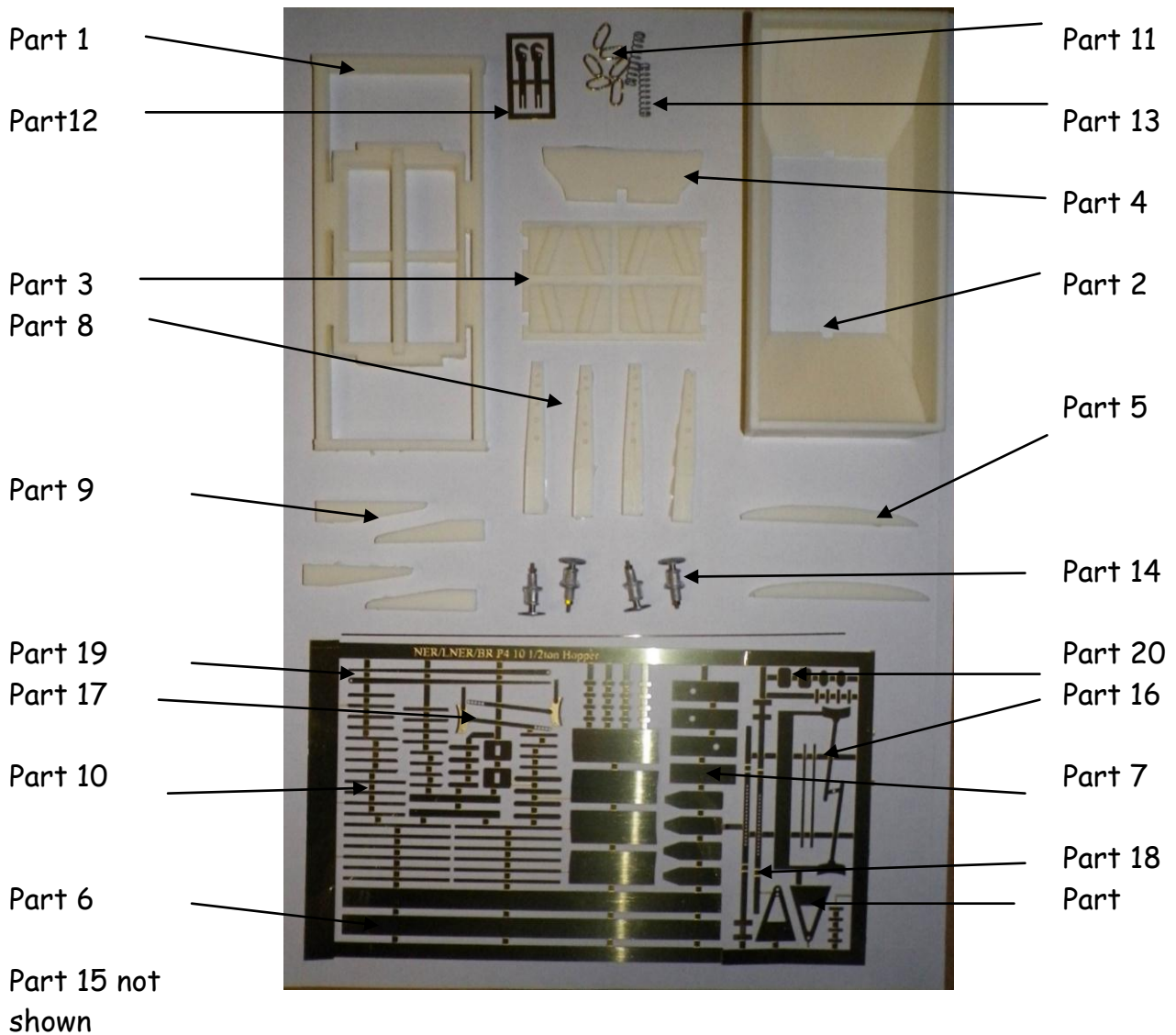
# *Furness Railway Wagon Co.*

## NER/LNER/BR/PO 10 1/2ton P4 Mineral Hopper

Wheels, paint and transfers required to complete.

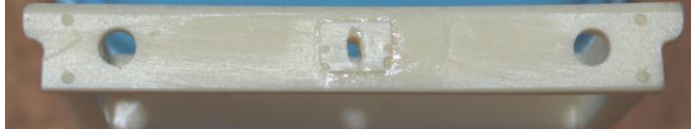
Please note that to aid the folding of the various parts score all the half-etched foldlines that are to be folded.

### The parts.

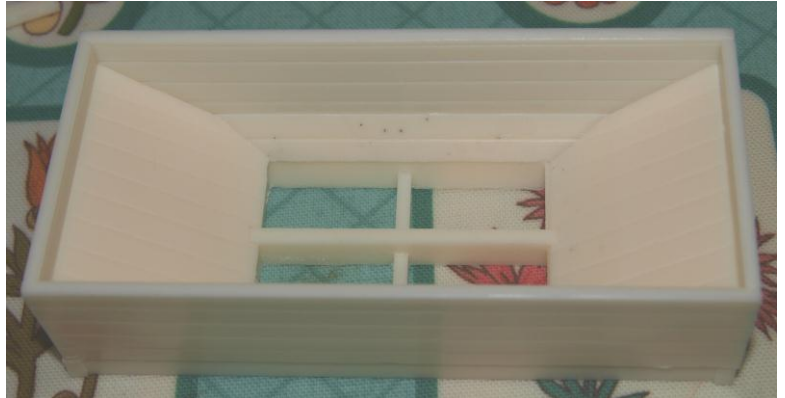


**Assembly.**

1. Clean up the wagon chassis (part 1) removing any excess material.  
Drill out the holes at both ends for the buffers and coupling hooks as shown.



2. Position the top of the wagon (part 2) in the middle of the chassis and glue together.



3. Fit (part 3) the hopper bottom doors inside the central holes in the chassis, then fit the central spacer (part 4).



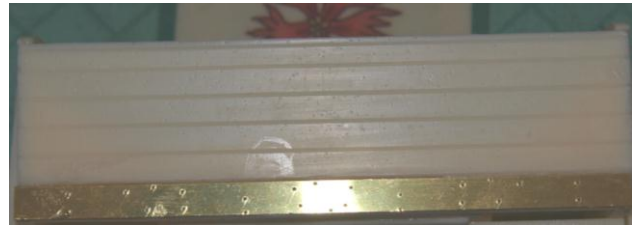
4. Next file the ends of the buffer beams so that they are flush with the sole bar.



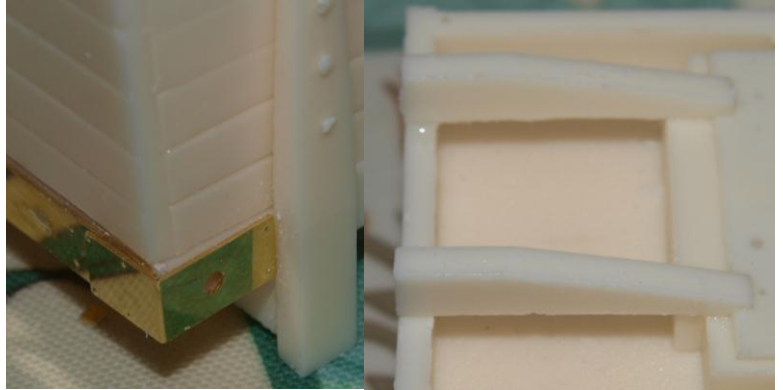
5. This kit can be built with either round or flat ends if you want to build the kit with round ends attach the

additional plank (part 5) as shown.

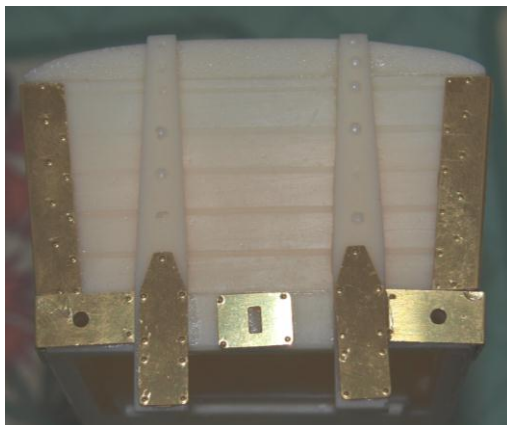
6. Punch out the half etched rivets and fit the sole bar detail plate (Part 6) and buffer beam rap rounds (part 7) as shown.



7. This will allow you to attach the end beams (part 8) and end beam supports (part 9) as shown. Also, it is a good idea to set the distance apart using a wheel set to get the correct clearance.



8. Next fit the strapping (part 10) these wagons were built over a long period of time and this kit has tried to give as many strapping combinations as possible so before starting this stage consult a photograph.

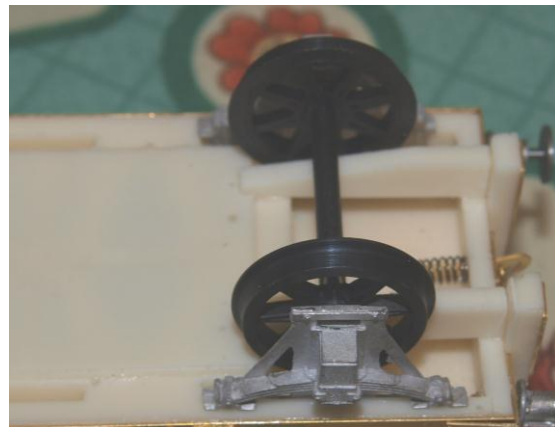


9. Assemble the links (part 11) on to the coupling hook (part 12) and push through the slot. Now, push the spring (part 13) over the back of the back of the



coupling hook and bend the tags over to secure the spring in place. Fix the four buffers (part 14) into the holes in the buffer beam using two part epoxy.

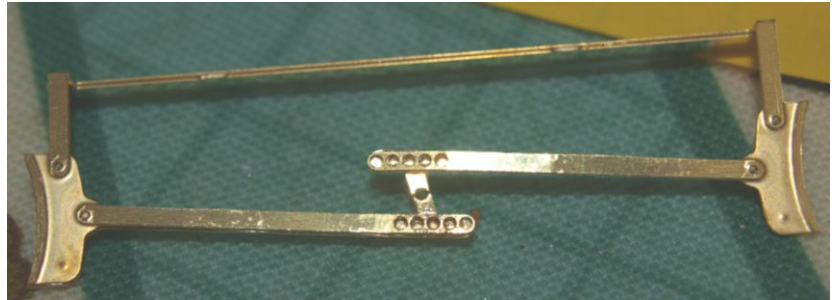
10. Drill out the w-iron castings to suit the bearings of your chosen wheels. Assemble a wheel set, 2 x W-iron's (part 15), 2 x bearings and 1 x wheel/axle unit. Using two



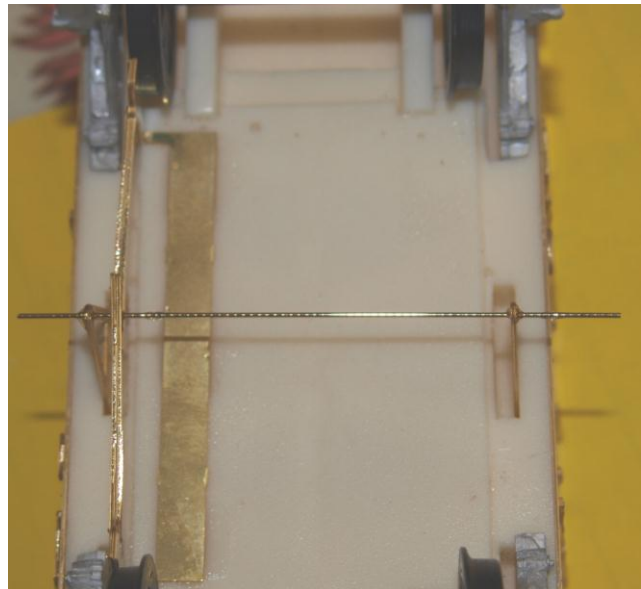
part epoxy resin, glue the assembled wheel set onto the sole-bars so that they are square and line up with the rivets as shown in the drawing.

11. Repeat for the other wheel set. Use a straight edge across the back of the wheels to aid getting these parallel and square to the chassis.

12. Next laminate the brake blocks together these are made up from one central blank (parts 16) and 2 brake shoe (part 17) parts.



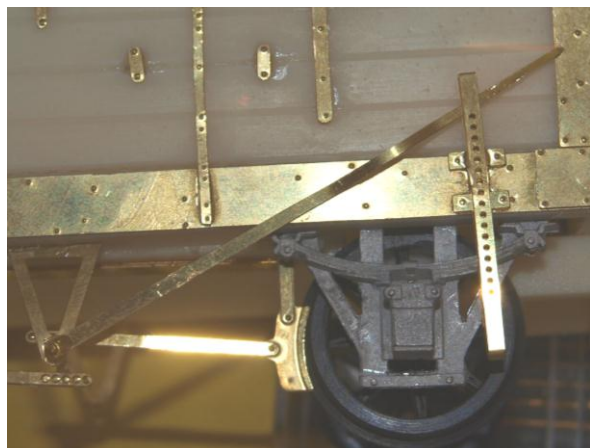
13. Fit the brakes, the 'V' hangers fit into the slots in the sole bar. Thread a piece of wire through the 'V' hangers and then through the brakes. Make sure both brake blocks are clear of the wheels and secure.



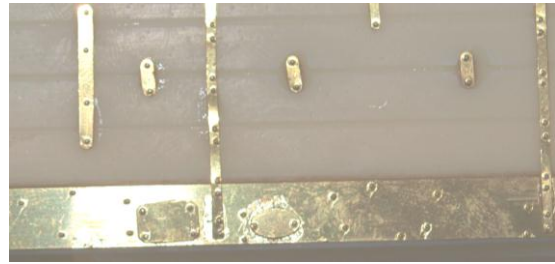
14. Next fold up the brake ratchet (part 18) as shown.



15. Fold up the brake lever (part 19) and fit along with the ratchet as shown.



16. Now you can fit the number plate and builder's plate to the sole bar.



17. Finally paint the model in the livery of your choice.



## History of the Wagon

This kit represents a P4 hopper wagon built for the North Eastern Railway's Northern and Southern Divisions between 1874 and 1922.

Between 1889 and 1922, over 28,000 of these wagons were built.

Originally these wagons were rated at 10 1/2 tons. In 1907 the axle boxes were changed again and they were up rated to 12 tons.

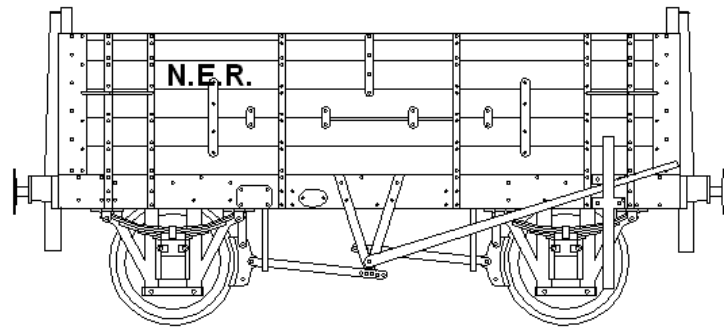
These wagons would have spent most of their working lives painted grey from the sole bar up, and black below.

Of the 28,000 wagons built 13,000 were taken over by the LNER in 1923 with 400 being nationalised in 1947. However, over the years a large number of these wagons were sold out of service to private owners across the north of England and southern Scotland making them a familiar sight in mines, quarries and general goods trains.

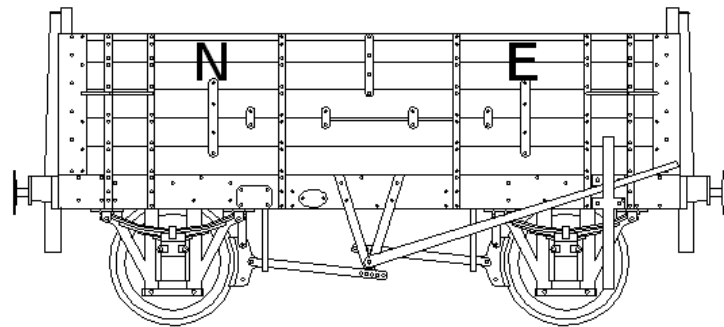
As there was so many of these wagons I have included only a sample of the numbers available. More information on wagon numbers is available in the book "LNER Wagons Vol.2: LNER North-Eastern Area"

**Liveries**

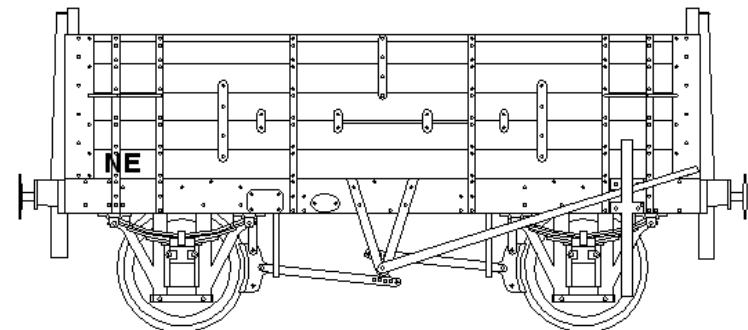
NER Livery pre 1906



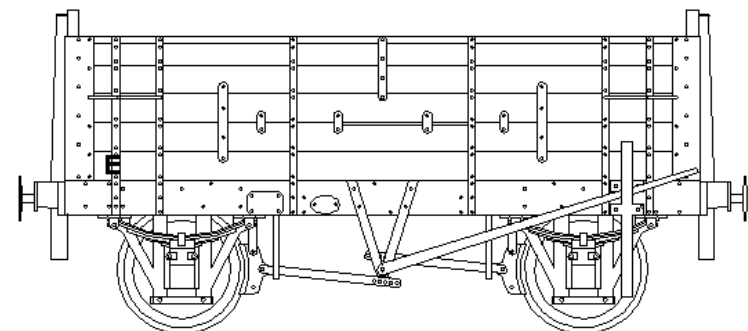
NER/LNER livery  
1906-1936



LNER livery 1936-47



BR livery 1947+





# *Furness Railway Wagon Co.*

## NER/LNER/BR/PO 10 1/2ton P5 Mineral Hopper

1. Construction Manual,
2. One parts etch,
3. One wagon body casting (Resin),
4. One Chassis (Resin),
5. Four End beams (Resin),
6. Four End beam supports (Resin),
7. One bottom door castings (Resin),
8. Four W-iron/axle box castings,
9. Four buffer assemblies,
10. Two coupling hook springs,
11. Six coupling hook links,
12. Two pins,
13. One coupling hook etch,
14. One piece of wire.

We recommend Haywood Railway 3'1" closed spoke wheels for the early wagons and their open spoke wheels for the later wagons.

Transfers are available from Slater's, POWSides and HMRS.