

# **SYSTEM PECHOT:**

## **9 TONNE BOGIE PLATFORM WAGON**

4mm Scale Narrow Gauge Wagon Kit for 009

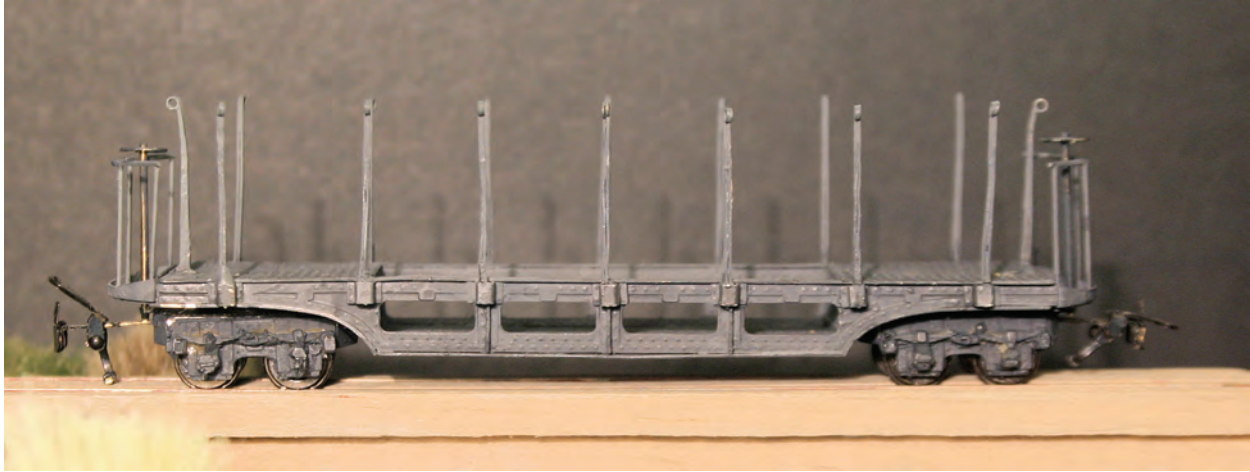
**COMPLETE KIT** includes – Etched nickel-silver body and details. Lost-wax brass bogie details and brass wire for handrails. Detailed instructions and photos.

Detailed scale model for adult collectors.

**NMM1** A kit designed by Neil Moss for  
MERIDIAN MODELS 40 MORELAND AVENUE BENFLEET ESSEX SS7 4HB

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## 9 TONNE BOGIE PLATFORM WAGON



### INTRODUCTION

This model was created in order to fill a gap in my collection of World War 1 60cm railway models. Although not intended as a beginner's kit it is straight forward and simple to assemble.

This model has been developed from drawings published by Dr Christian Cénac in his book "La Voie de 60 Militaire de la Guerre de 14 -18 en France" together with photos of real wagons that are preserved at Tacot du Lac and Le P'tit train de la haute Somme in France.

Neil Moss

### TOOLS

#### *Essential:*

Modelling Knife or Cutters

Small Files, flat and half round

Small nose pliers

Soldering iron

Solder - I used Carr's 179°C melting point lead-free solder

Flux - I recommend Fry's Powerflow Flux

Heat resistant surface

Cyanoacrylate/super glue

1.5 mm drill or cutting broach

Aluminium hairdresser's clips

#### *Optional:*

Carr's Hot Tape

Carr's Solder Mask

**INSTRUCTIONS**

*General*

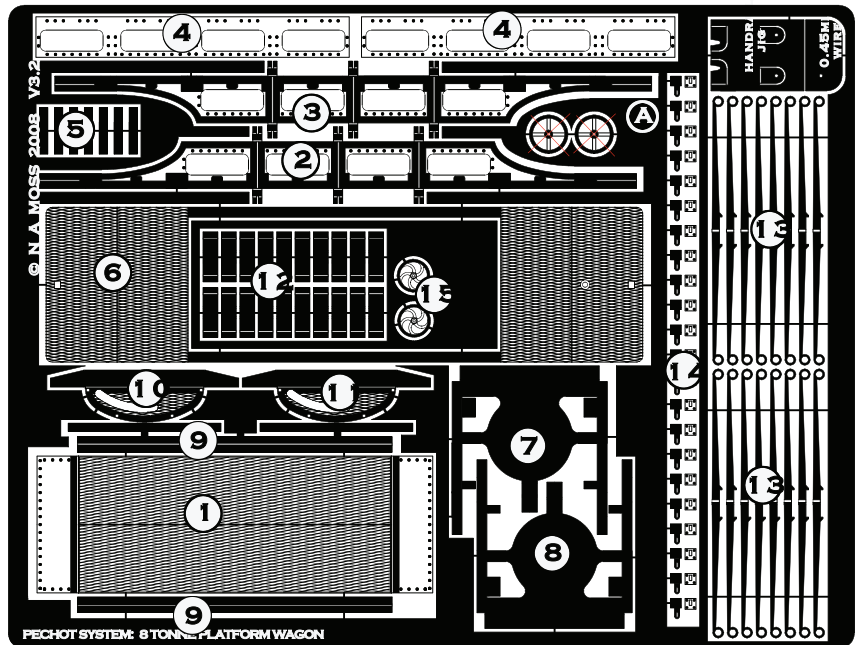
1. I use a modelling knife to remove the pieces from the fret. This must be carried out on a resilient surface such a cutting mat.
2. It is important to clean the model after soldering or when leaving the model overnight. I recommend using a cream cleaner, e.g. Cif, an old toothbrush and warm water.
3. Thin layers of excess solder can be removed using a fibre glass brush (2-4mm diameter)

**A - Platform wagon**

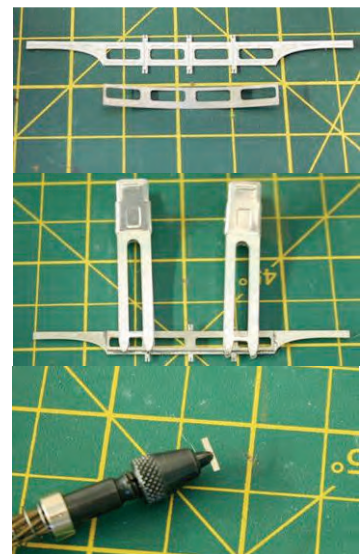
1. Before removing any pieces from the fret you must press out the rivets. This is carried out by placing the fret on a resilient surface (I use a cutting mat) and then pressing a sharp pointed instrument, such as a compass point, into each of the half-etch holes on the reverse side of the fret. Be careful not to apply too much pressure otherwise you will push the point right through. Don't worry if some of the pieces curl slightly. They can be carefully straightened when removed from the fret.

**Parts List:**

- 1 – Well
- 2 & 3 – Outer sides
- 4 – Inner sides
- 5 – Side stiffeners
- 6 - Top
- 7 & 8 – Pivot support
- 9 – Bottom flange
- 10 & 11 – Brake platform
- 12 – Stake boxes
- 13 – Stakes
- 14 - Eyebolts
- 15 – Brake wheels

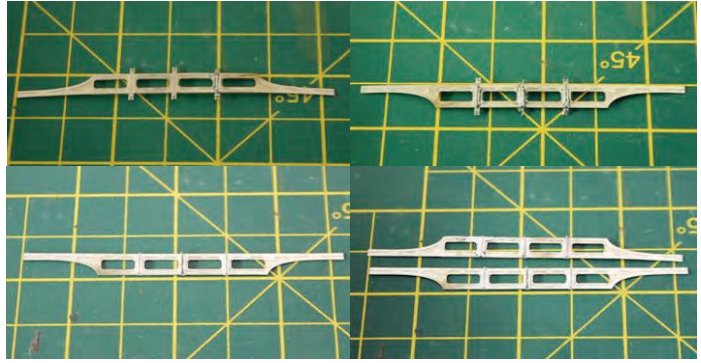


2. Remove the *inner (4)*, the *outer sides (2 & 3)* and the *stiffeners (5)* from the fret.
3. Sweat (solder) the *inner and outer sides* together. I use aluminium hair clips to hold the sides together.
4. Remove the stiffeners from the fret. Clean them up with a file. I use an Archimedes pin drill chuck to hold these small pieces.

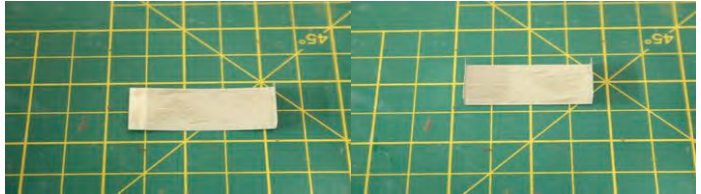


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5. Fold over the tabs to hold each *stiffener* in place and solder. It may still be necessary to hold the stiffeners down with a cocktail stick.
6. Remove the tabs with a file or knife once the stiffeners are fixed in place.



7. Remove the *well* (1) from the fret and fold ends up 90° to the well with the rivets on the inside. Clean up the edges with a flat file.

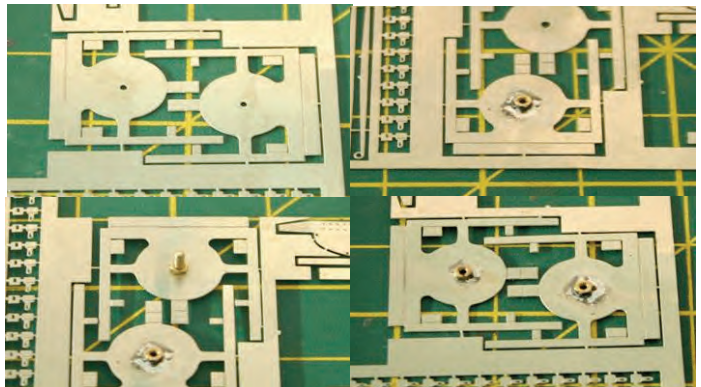


8. Tack solder each *Side* sub-assembly to the *Well*. When happy with the alignment carefully finish soldering.

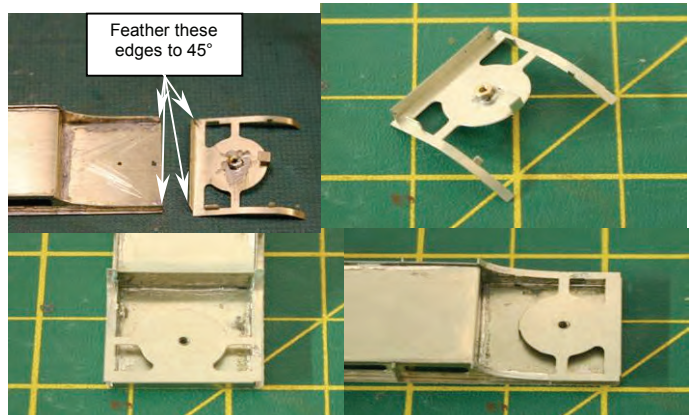


9. Remove the *top* (6) from the fret and then remove the *stake boxes* (12) from inside and put them carefully to one side. Clean up the edges of the top with a file.
10. Place the *top* with the etch detail facing down onto the heat resistant surface and arrange the *well* and *sides* so that the ends are above the *top* but tight to the edge. Solder each *side* and end of the *well* in turn.

11. Remove the *pivots* (3) & (4) from the fret. Enlarge the centre hole to 1.5mm using a drill or cutting broach. Fold up end and guides. Solder a 12BA nut to the *pivot* (see photo). I do this by holding the nut in place using a 12BA bolt dipped in Carr's Solder Mask to avoid soldering the nut and the bolt together.



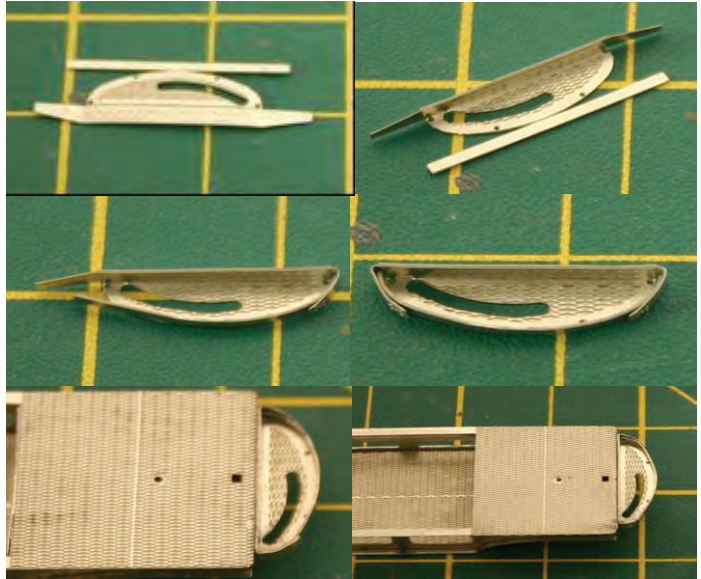
12. Feather the edges (file to 45°) on the inside of the sides and pivot ends so that they are good fit. Then solder each of the *pivots* to the platform. The guides will assist in correctly locating the *pivots*. The curved plates can be held in place by a cocktail stick during soldering.



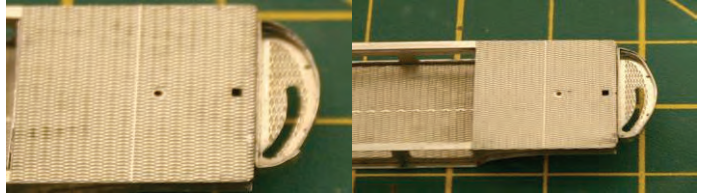
13. Separate the *bottom flanges* (12). They can then be soldered onto the bottom of the *sides*. The half-etch groove should assist in ensuring that they are fixed in the correct location.

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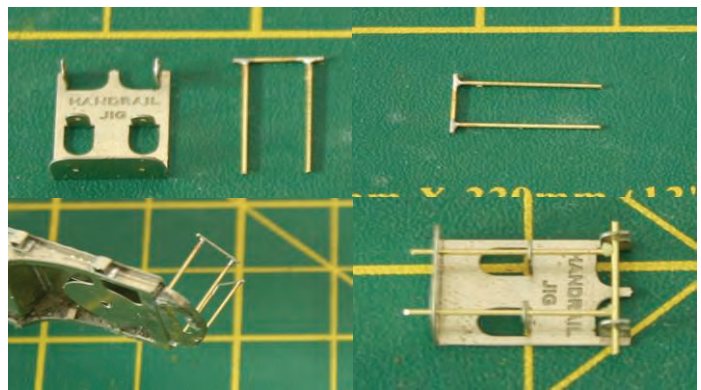
14. Separate the *brake platforms* (7) & (8) from the fret, Fold up the back and front. Curve the front sides and fold the sides into place and solder.



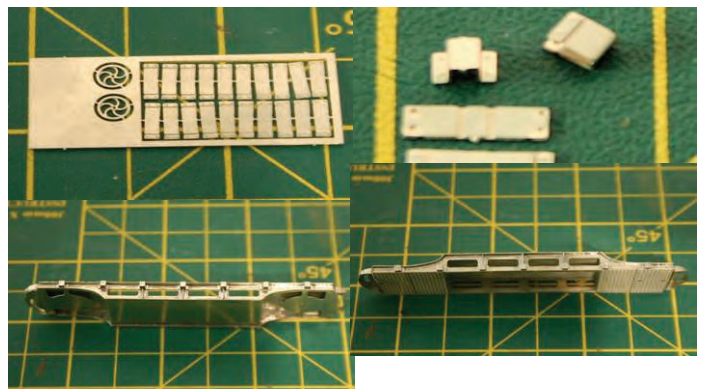
15. Solder the *brake platforms* to the platform wagon.



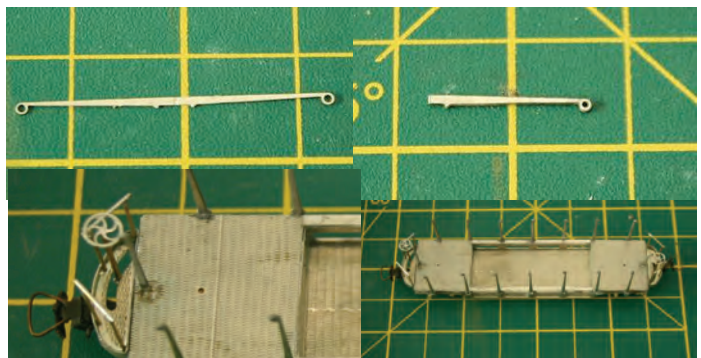
16. Make up the handrails from 0.45mm wire using the jig provided and solder to the *brake platforms*. On the prototype at Froissy the handrails were 31in (10.3mm in 4mm scale) above the platform.



17. Separate the *stake boxes* (11) and fold them into shape. The half-etch groove is on the inside of the folds. Solder each box into place; there are seven on each side.



18. Detach stakes. Trim each stake and fold and solder two halves together. Repeat for the remaining stakes.



19. Solder one stake into each square hole at the end of the platform. Solder a stake into each stakeholder. Hold the stake with pliers and twist through 90° so that the eye is perpendicular to the side.

**B – Bogies**

Parts List:

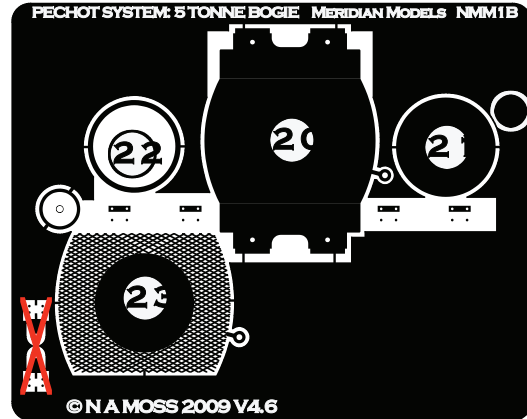
Etched:

- 20. Body
- 21. Lower turntable
- 22. Upper turntable

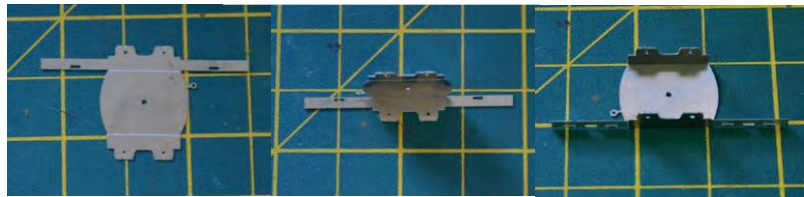
23. Floor

Castings:

- 24. Left bogie side
- 25. Right bogie side



- 20. Separate the *body* (13) from the fret.  
Bend up the side frames.



- 21. Separate the *lower turntable* from the fret.  
Sweat (solder) these to the *floor*. I use a cocktail stick inserted into the holes to hold all three pieces together.



- 22. Solder this sub-assembly to the *body*.
- 23. Enlarge the hole using a 1.5mm drill or cutting broach.

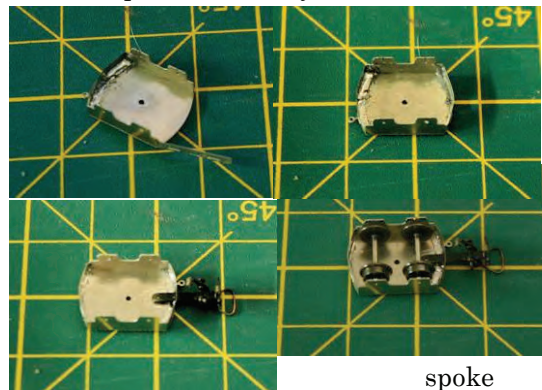
- 24. Gently curve the ends around and solder up. I used two nails pushed into my heat resistant surface to maintain the curve during soldering.

- 25. Attach the cast *bogies sides* to the *body* using glue or solder.

- 26. Attach the couplings. I designed the kit for *The Greenwich coupling* and these will pass easily through the slot at the correct height and can then be glued or soldered to the *sub-floor*.

- 27. Insert the wheels.

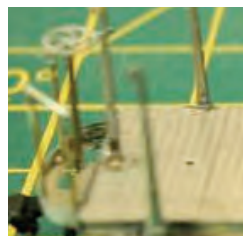
- 28. There are two two of brake wheel on the fret. The Prototypes at Froissy have the smaller “curley” version and the brake wheel post was 3ft (12mm scale) long. Solder the post to the bogie.



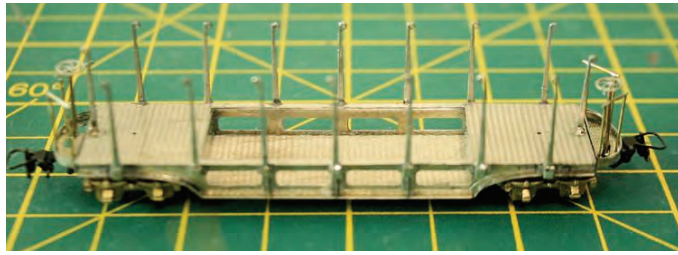
spoke in 4mm

- 29. Attach the bogie to the body using the 12BA screw that has been shortened to 2mm long (3.5mm including head). One way of determining the correct length is by putting the bolt through the completed bogie attaching a nut and then trimming the bolt.

- 30. Solder the brake wheel to the post.



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### PAINTING

31. Carefully remove the wheelsets and clean the entire model using CIF or similar. This will remove all traces of grease and flux leaving a good key for the paint.
32. The remaining examples of pechot wagons are mostly painted light grey. It is recommended that you spray the model. I have used Halfords Grey Primer, Humbrol 27 and Citadel Codex grey (Games Workshop).

### REFERENCES.

#### *Books:*

Cénac C. La Voie de 60 Militaire de la Guerre de 14 -18 en France. Autoédition. 2003.

#### *Internet:*

Les origines de la voie de 60 militaire <http://perso.orange.fr/ammann/html/texte/origine.html>

Le P'tit train de la haute Somme <http://appeva.club.fr/gal-wag.htm>



### ACKNOWLEDGEMENTS

I wish to thank the Greenwich & District Narrow Gauge Society and their late Chairman Dave Brewer for their encouragement to develop this my first attempts into this kit.