

# **Rumney Models - 7mm Scale 21T VB Hopper Detailing**

## **Notes**

This set of instructions covers Rumney Models kit OB.111. This set of etches is designed to provide new brakegear links, vacuum cylinder brackets and detailing for the Parkside Dundas BR 21T welded hopper kit.

The time to fit the vacuum brake linkage parts is after the brakegear has been fitted and before you fix the main brake cross shaft in place. The Vacuum cylinder brackets, along with the vacuum cylinder, will need to be fitted before the body and chassis are joined together. You do not necessarily need to do the brakegear linkages before the vacuum cylinder brackets if you'd prefer to fit the body and chassis together before the brakegear. The vacuum pipe brackets and lamp irons (if required) can be fitted at the end. These parts nicely compliment the Rumney Models 7mm Scale 21T Lifting Link Underframe Detailing kit OB.110 which will provide etched brakegear to fit the Parkside BR hopper along with replacement end steps and handrail brackets.

## **Construction Notes**

Read through the instructions first and familiarise yourself with the components. Drawings and photographs are included to attempt to make my waffle clearer.

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

Check all holes before removing parts from the fret. The drawing process for etching if you use a CAD program as I do is extremely accurate but the actual etching process itself 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.

## **Materials list**

A couple of different sizes of wire are needed to build the items on the fret. Eileen's Emporium are good source for these and they do a mixed sizes pack if you don't want to buy large quantities. Contact details can be found below.

0.5mm - Vacuum shaft link, vacuum shaft brackets, vacuum cylinder brackets, lamp irons  
0.7mm - Vacuum cylinder crank  
1.2mm - Vacuum cylinder brake shaft

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

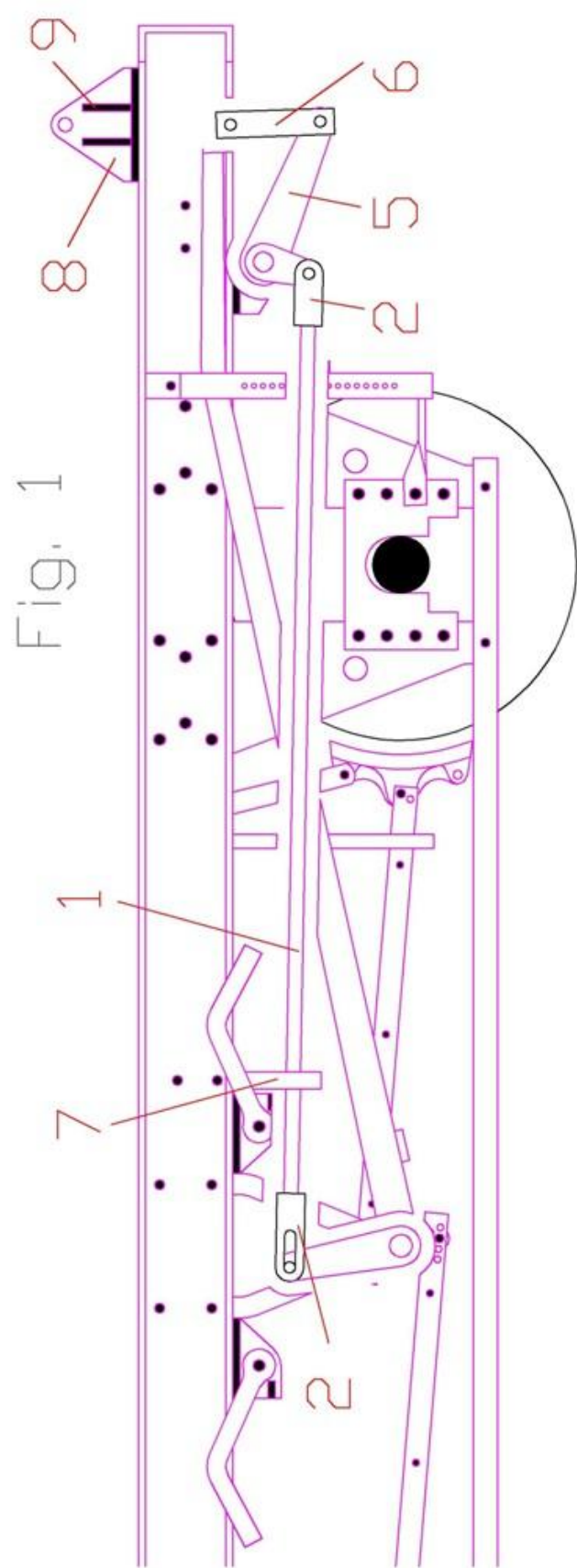
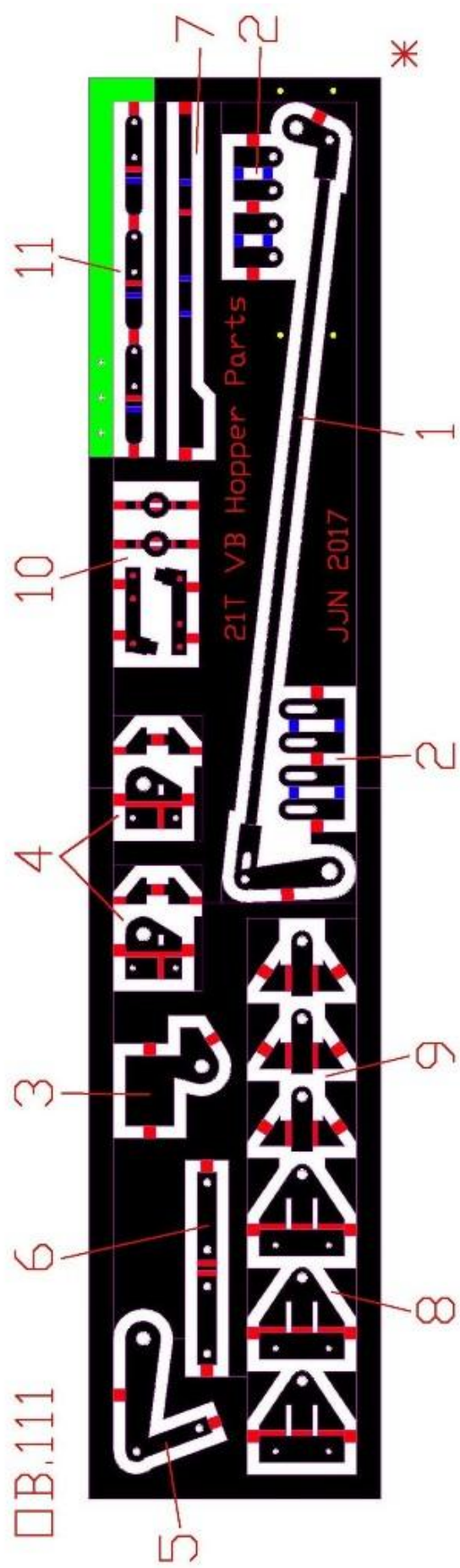


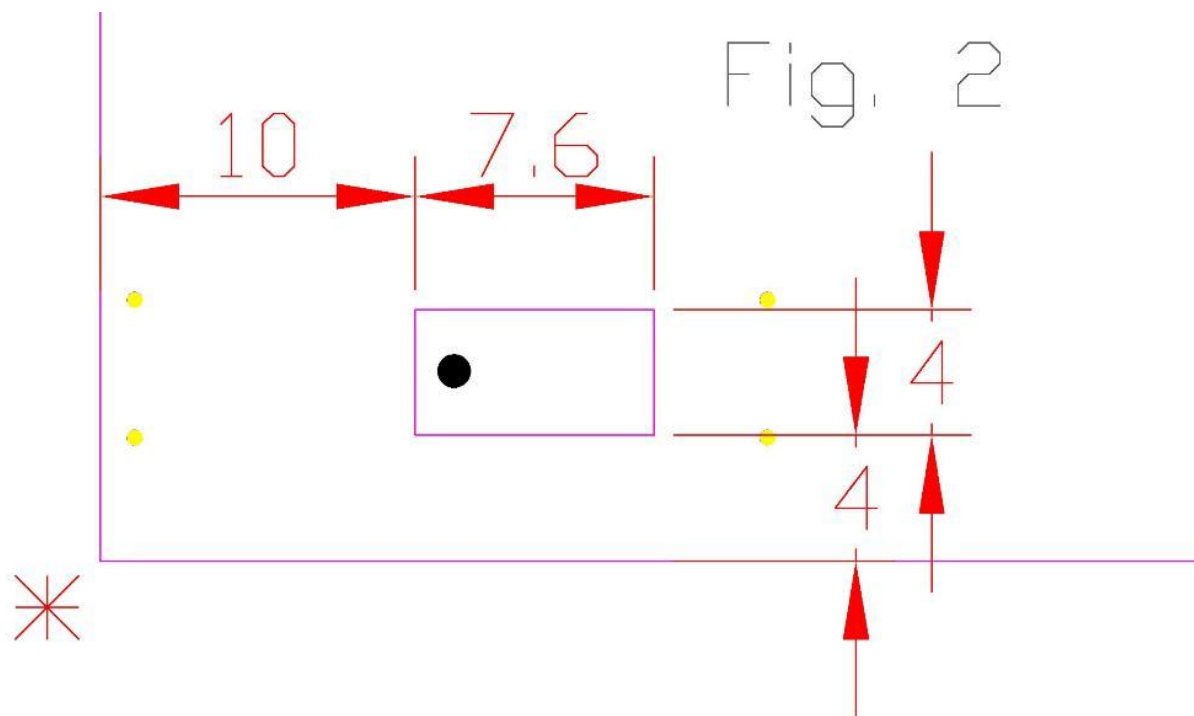
Fig. 1

## Parts List

- 1 - Vacuum shaft link
- 2 - Vacuum shaft link overlays
- 3 - Inner vacuum shaft bracket
- 4 - Outer vacuum shaft bracket
- 5 - Vacuum cylinder crank
- 6 - Vacuum cylinder crank overlay
- 7 - Vacuum shaft link safety loop
- 8 - Vacuum cylinder bracket (outside)
- 9 - Vacuum cylinder bracket (inside)
- 10 - BR swan neck vacuum pipe brackets
- 11 - Lamp irons

## Vacuum brakegear

In order to fit the vacuum cylinder and associated brackets the plastic end cover that is included in the Parkside kit will need to be modified. The vacuum cylinder connected to the brakegear through a rectangular hole cut in the cover over the end of the underframe. You can replicate this using the dimensions in Fig. 2 below. Not that the opening was not symmetrical about the centre line of the vacuum cylinder (the black circle). The \* indicates the outer corner of the end cover.



You will also note the four yellow circles on Fig. 2. These are the points for locating the vacuum cylinder brackets onto the ends of the underframe. There is a drilling jig included on the fret to aid drilling these holes and this is again indicated by four yellow holes on the parts diagram above. Place the fret on the end of the wagon so the corner marked \* is aligned with the outer corner of the end cover and use it as a guide to drill out the four 0.5mm holes.

Depending on how you want to put the Parkside kit together you may wish to do the vacuum brake linkages first if you are putting the underframe together separate from the body or the vacuum cylinder brackets if you want mate underframe and hopper together before tackling the brakegear.

## Vacuum cylinder brakegear linkage

Make sure that the holes in the following items can accept the correct size of wire then remove from the fret.

Vacuum shaft link (1)	- 0.7mm, 1.2mm & 1.4mm (or whatever your brake shaft is)
Vacuum shaft link overlay (2)	- 0.7mm
Inner vacuum shaft bracket (3)	- 1.2mm
Outer vacuum shaft bracket (4)	- 1.2mm, 0.5mm
Vacuum cylinder crank (5)	- 0.7mm & 1.2mm
Vacuum cylinder crank overlay (6)	- 0.7mm

The vacuum cylinder crank overlay (6) needs to be folded around and then soldered in place on the vacuum cylinder crank (5). Use two lengths of 0.7mm wire to aid this alignment, solder together and then trim the wire to represent bolt heads.

A similar procedure needs to be carried out with the vacuum shaft link (1) and the vacuum shaft link overlays (2). There are two different overlays which need to be wrapped around the link and then soldered in place using 0.7mm wire to locate them. Fig. 1 above shows the whole arrangement.

The inner vacuum shaft bracket (3) bracket needs to be located at the end where the vacuum shaft is along the opening for the hopper and up against the transverse cross beam a little like the etched 4mm version below. Note that the vacuum brakegear was always on the non-lifting link side of the underframe.

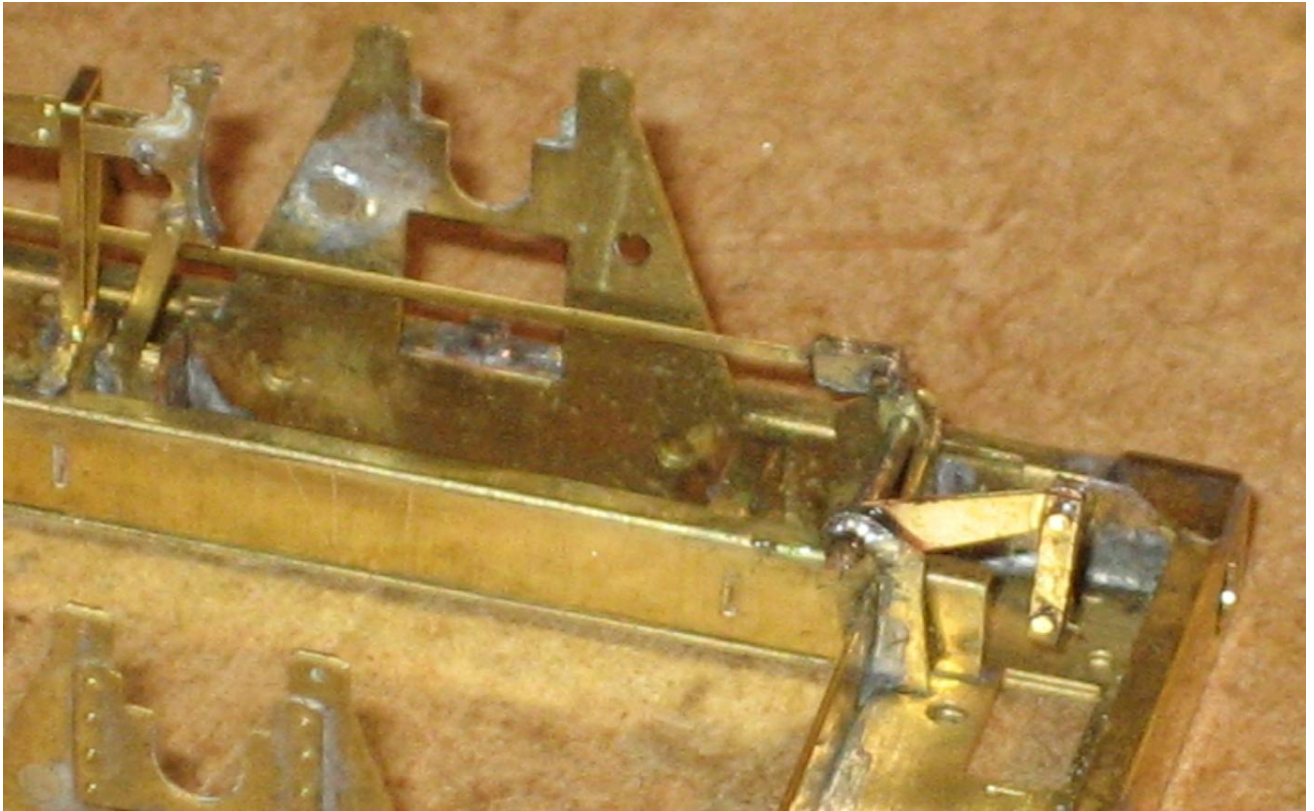




The next job is to attach the outer vacuum shaft bracket (4) to the underframe. The main part of the bracket simply folds into an L then one of the small triangular gussets can be soldered into the small slot and half etched line. The bracket will need to be pinned to the bottom of the solebar using short lengths of 0.5mm wire. Use the bracket as a jig to drill the two holes and then fix the wire in place passing through the bracket and solebar. You can use the inner vacuum shaft bracket as an aid to positioning it. The arrangement of the bracket can be seen below. Note the length of the bolts.



The two vacuum brakegear assemblies can now be fitted to the chassis. Refer again to Fig. 1 for the arrangement. You will need to fit them with a short length of 1.2mm wire for the vacuum cylinder shaft as shown below. Solder the wire to the inner bracket and the vacuum cylinder crank to the shaft at approximately the same position and angle as below. Leave the link free for the moment. Note that the link goes outside of the brakegear and safety loops and inside the axleguard.



The safety loops for the vacuum link can be added now. They fold up in a similar manner as the safety loops for the brake pushrods with all the fold lines through 90°. They need to be wrapped around the vacuum shaft link and then glued or if you're brave soldered to the back of the solebar hard up against the vee/hopper door handle part. They should look something like the photo below.



Once the vacuum shaft link and safety loop are in place the main brake cross shaft can be fitted and the rest of the brakegear fitted.



## **Vacuum cylinder bracket**

Make sure that the hole on the inner bracket (9) can take 0.9mm wire remove from the fret and fold into a channel shape. Make sure that the small holes in the outer bracket (8) can accept 0.5mm wire and the larger holes 0.9mm wire then remove from the fret. There are two slots on the outer bracket and the triangular 'wings' on the inner bracket pass through these slots. Once in place the outer bracket then folds into an L shape so that it looks like the bracket in the picture below. Solder together.

Use short lengths of 0.5mm wire to locate the brackets into the holes drilled earlier into the end cover. Note that if you are using a cylinder as per the prototype and pivoting it on the brackets you will need to locate one bracket in place and then the cylinder before the finally fitting the second bracket. In other words once they are both fixed to the chassis there's no chance of prising the brackets apart to fit the cylinder in place!



## **BR swan neck vacuum pipe brackets**

BR swan neck vacuum pipe brackets (10) are included for adding to the headstock. 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.

You can press out the rivets on the bracket and glue the part in place or use short lengths of 0.5mm wire to pin them in place and create a more robust fixing. If you are intending on pinning them in place the pair of holes at the one end of the bracket need to be drilled out 0.5mm. If not, push out the rivets and then in either case 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 glued in place on the headstock. If you are pinning them in place then use one of the brackets to drill pairs of holes into the headstock and into a piece of scrap wood or mdf. Short lengths of 0.5mm wire can then be inserted into the holes in the wood and soldered to the bracket and then tidied up. These wire 'pins' can be inserted into the corresponding holes drill into the body to make everything secure when it's glued in place.



## Lamp Irons

The vacuum braked 21T hoppers were not XP rated when built and were therefore not fitted with lamp irons from new. 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.

The lamp irons (11) will need to be pinned to the body using short lengths of 0.5mm wire. Remove the lamp irons from the fret, fold up and solder two short length of 0.5mm wire in place to act as pins. A drilling jig is included on the fret to aid location of the holes for these wire pins on the body and to drill a pair of holes into a scrap piece of wood or mdf to create an assembly jig as per the vacuum pipe brackets. This is the area shaded green on the parts diagram. The lamp irons can then be located onto the holes on the body to create a really robust fixing once the wire pins have been soldered in place.

Justin Newitt - February 2017