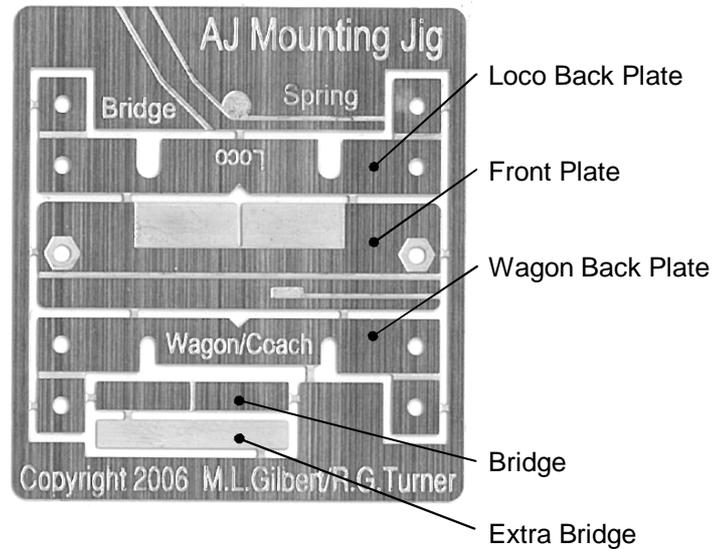


Kit contents

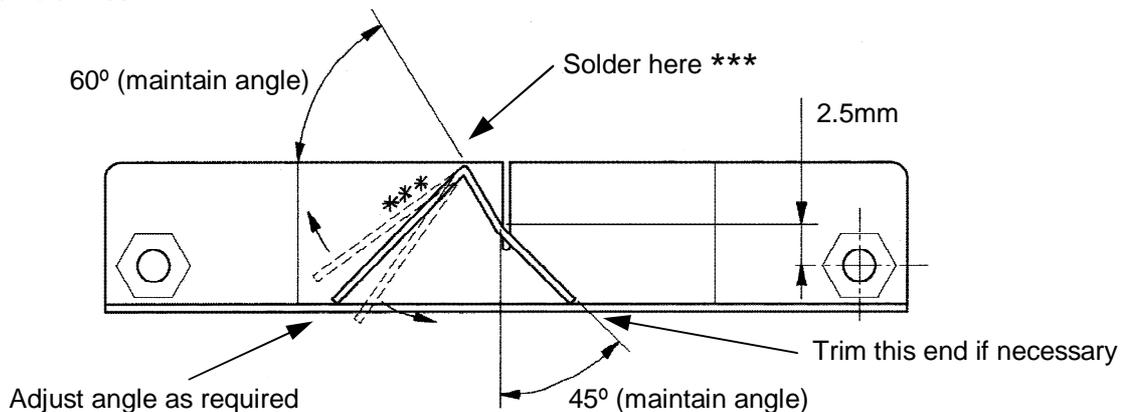
- "AJ Mounting Jig" etch 1 off
- 8BA x 1/4" cheese head screws 2 off
- 8BA brass nuts 2 off
- Torsion spring 1 off

The sketch on the right identifies the parts



Assembly procedure

1. Cut out all parts from the fret and clean up the ragged edges of the tabs with a file. Further clean up of the etching cusp should not be required.
2. With the half etched fold line on the inside, bend the Front Plate along the full width to 90°. It is best to do this with the part mounted in bending bars and clamped in a vice. Seam solder at each end to reinforce the fold. It is important to use 188 or similar solder to minimise any fillet radii at the joins.
3. Form the Bridge, with the two fold lines on the outside. Set the first bend to correspond to the 15° difference between nose and tail angles of the AJ hook. This angle can be checked by offering up to the half-etched slot on the waste fret marked "Bridge". Then an approximate right angle bend should be set in the other fold line to form a near triangle when sitting on the Front Plate ledge.
4. A small amount of adjustment and trimming of the bridge may be necessary. Adjust the near 90 deg bend and trim the end of the 45/60 deg face so that, when the bridge is slid into place, the first 15 deg bend is just to the left of the slot and about 2.5mm above the centre line of the fixing holes. Tack solder it in place with a minimum of 188 and plenty of flux on the left angle only, as later it may need to be moved a little. Some trial and error with an AJ coupling and the sketch below should allow the builder to assess correct positioning of the Bridge. If you fail completely to get the Bridge right an extra one is included on the etch. However, it is necessary to mark the positions and make the bends without the aid of fold lines.



5. Locate and solder (with 145 degree solder) the two 8BA nuts into the hexagonal half etched relief. It may be necessary to run an 8BA tap through the nuts to clean out any solder and ensure the screws run freely through the Front Plate.
6. Align the Torsion Spring to the bending guide marked "Spring" on the waste fret. The coils for the spring should sit in the half etched circular relief with one tail in the short slot. Grip the other tail with fine nose pliers at the apex of the bend (indicated by the half etched line) and bend carefully to shape. Check bend by offering up to the Bridge/Front Plate assembly and adjust if necessary. When satisfied shorten the straight tail of the spring by snipping off with cutters just short of the 90° bend at the end. If you get this wrong a replacement spring can be found inside a redundant 3.5" computer floppy disk or fashioned (without the coil) from a suitable length of .011" spring steel coupling wire.

7. Clip the straight tail of the spring into the half etched line on the right side of the Bridge/Front Plate assembly. Slide the spring to the left so that the bent tail nests properly with the Bridge without putting any preload into the spring. Attach the spring by soldering at the end of the straight tail. 145 degree solder and Brown label flux will ensure a strong bond but it is possible with milder flux. In positioning the spring it is important to ensure that the bent tail of the spring touches as close as possible to the knuckle of the AJ to avoid imparting any bias to the coupling tail wire when mounting to a vehicle.
8. Fold double (i.e. 180° with fold lines on outside) the two ears on the "Loco" back plate. Clamp tightly and reinforce with 188 solder. Clean up edges with a file if necessary.
9. Fold double (i.e. 180° with fold lines on outside) the two ears on the "Wagon/Coach" back plate. Clamp tightly and reinforce with 188 solder. Clean up edges with a file if necessary.
10. Ream out all four holes to on the Back Plates so that they are just a clearance fit on the 8BA screws. It is important to then deburr the edges of the holes with a larger drill or countersinking bit.
11. Assemble each Back Plate to the Bridge/Front Plate assembly in turn and check that they clamp together squarely.
12. Finally check the fit of each Back Plate over a piece of rolling stock with the largest diameter buffer shank that you can find in your collection. If it will not go to the full depth of the slot carefully file the edges of the slot until it will slide on smoothly.

The jig is now completed. Invert a piece of rolling stock and using the appropriate Back Plate attach the jig to the buffer heads. The securing screws do not need to be tight, but just enough to hold the jig snugly against the buffers. Insert/manipulate an AJ coupling under the clamping spring and adjust until the coupling position is just offset (approx 1mm) from the centreline axis of the vehicle at the shank end and pulled back so that the tail is just touching the vertical face of the front plate.

Solder the shank end of the AJ coupling to the mounting point of your vehicle and add the dropper wire. Carefully remove the jig, place the vehicle on the track and check the coupling against a height gauge. If everything has gone well the coupling should be at the correct height, central between and just offset from buffer faces and most importantly at the right angles. If the coupling sits too high or too low the Bridge should be adjusted by melting the tack solder and sliding it a little to the right or left respectively. Once you have it correct no further adjustment will be needed. Please remember however to add the dropper before checking the height and to use consistent droppers for all your stock.

Further reading on the original design of this jig, from which the kit was derived, can be found in Scalefour News No.147 (May 2006). I would like to express my thanks to Graham Turner for allowing me to develop his original idea into the etched kit and Robin Whittle for his patient support and feedback on test etchings. Also my thanks go to Dave Booth, another lifelong AJ devotee, for reviewing the first draft of this assembly procedure.

Morgan Gilbert.
May 2006. Revised October 2012

