

# Locomotive Coupling Rods

These etches are designed to produce scale coupling rods for RTR and kit built locomotives when using scale wheels, they can also be assembled with the correct articulated joint to allow use with compensated or sprung loco chassis. **Warning! Beware of the sharp edges.**

## LMS Class 5, 7'0" + 8'0" wheelbase, CR06

Early LMS Class 5's fitted with plain rods from new, a few with this wheelbase had fluted rods.

Start by carefully opening out the crankpin holes before removing the rods from the fret. Use a 1.5mm or 1/16<sup>th</sup> sharp drill, use light pressure to ensure you don't 'grab' the material and accidentally bend the half etched rods.

Drill the small holes for the rivets with a 0.7mm drill. Make sure the crankpin holes have no rag on them by twiddling a 1/8<sup>th</sup> drill over them. Alternative overlays are provided for plain or fluted rods but please remember when riveting the joint to make up left and right handed rods! Gently cut out a middle rod with the three bosses and the two front overlays with the two bosses either plain or fluted from the fret using a heavy craft knife on hardboard or using special etch scissors. Use the shank of the 1.5mm or 1/16<sup>th</sup> drill to align the bosses at one end and a cocktail stick at the other. Clamp the middle of the rod using sprung hairclips and ensure the overlays at the bosses are also clamped down tight. Prepare your soldering iron with a small tip and a small amount of solder, spread liquid flux along the edges, touch the iron tip to the edge and slowly move along till the solder runs out, recharge the tip, spread more flux and move iron further along. Move clamp to opposite side and solder along other edge. Do the same around bosses and ensure the bosses have sufficient solder around the outside. Now comes the delicate bit, using a fine flat needle file on the edges file the etch cusp and the solder down to a neat square edge and then draw file along the edge, this will remove any marks left when cross filing. Where the rod meets the boss use a round needle file to blend the rod to the boss. Finish lightly with a fine emery stick all round. If using the rods rigid attach the other rod overlays in the same way but use the 0.7mm drill to align the fork. An extra detailing piece is included to add to the fork on the fluted rod only, if required. After all the finishing is done fit the rivet in a similar way to the articulated rods. If you require an articulated rod, cut the middle rod where indicated and file round the tongue to tidy it. Make up the other half of the rod with the fork joint in the same way as the first half. You can use the 0.7mm drill to hold the fork in alignment. The small cut outs in the top of the bosses on the middle layer are to help you fit the oil corks. Once the soldering and filing are done, drill the solder filling the top of the bosses with a 0.45mm drill and fit a piece of 0.45 brass wire and sweat in place with flux and iron, you shouldn't need any more solder. File the 'cork' down to 0.5mm. Check that the fork is clear of solder, use a razor saw to clean it out if necessary. Try the fit of the fork on the tongue of the first rod and if tight use a piece of fine emery and pull it through the gap a few times, fold the emery over double if it is particularly thin. When satisfied with the fit, slightly counter-sink the rivet hole on the back of the fork and file round the fork to tidy the cusp. Push the rivet through all the rods, use a jewellers broach to open out the holes if necessary, lay them down on the rivet head, file the tail of the rivet till about 0.2mm is showing through the etches. Now put the joint in a small vice and squeeze the rivet gently whilst moving the front rod till you feel the joint starting to tighten up, and stop. Hold one end of the rod in your fingers and flick it, the rod should just swing across lightly, if too floppy then a further gentle squeeze may be required. The rods are now ready for fitting. The crankpin holes will need opening out slightly for a running fit on the standard 1.5mm scale crankpin bushes of your choice, use a jewellers broach for this.

