

Sonic J50 – 2FS Conversion Notes

This kit is designed to file the Sonic Models N Gauge LNER J50 Tank, produced from c 2023 onward. Before you embark on this conversion you are advised to check that the locomotive runs well in its N Gauge form, and it is also recommended by the manufacturers to run the loco in each direction for about an hour at medium speed.



In addition to this etch, you will need -

- 3 pairs 9.5mm driving wheels
- 3 pairs Conversion Bearings for Farish Locomotives
- 1 Geared Conversion Muff for Farish Locomotives
- 2 Plain Conversion Muffs for Farish Locomotives
- 6pcs Crankpins

Tools required

- Small “Phillips” screwdriver
- Tweezers
- Soldering iron and solder
- 2FS Back-to-back gauge
- Small drills and pin chuck
- Epoxy adhesive
- Paint etc.
- Association quartering jig (optional)
- Quartering Jig spacing shims (optional)

Preparation

Some preparation work is required on the wheels before assembly work can start; check that the 2FS wheels fit the axle bearings – the stub axles should enter the bearings easily and rotate freely. if not, check the size of the axle (they should be 1.5mm diameter) and the bore of the bearings.

Loco Disassembly

As a first step the Sonic J50 should be disassembled ready for fitting the replacement wheelset. The keeper plate moulding that retains the wheels in the chassis clips into the chassis block and can be removed by using a thin pair of tweezers to lever the keeper plate away, it will unclick from the chassis in three places as it does so – at the front, just after the driven axle and at the rear.

Once this is removed, the wheels can be lifted out. Retain the wheels as they can be used later to indicate the position of the balancing weights.

Finally, it is recommended the body can be removed during the installation process – it is retained by four screws, one in each corner of the footplate as detailed in the instruction sheet supplied with the loco. This also gives access to the PCB for installation of a DCC chip.

Coupling Rods

The association J50 coupling rods etch includes coupling rods and balance weights designed to fit the Sonic J50 Chassis. The sheet contains three sub-sheets, one for each coupling rod and one for the balance weights.

The balance weights are designed for 9.5mm wheels, however if 9mm wheels are preferred these can also be used, a half etch on the outside curve of each weight indicates what should be filed off for 9mm

wheels. The rods are built up from a layered etch held in a frame that folds in a 'zigzag' fashion to build up the coupling rod.

On each rod, firstly tin with solder the top side of the first layer – this will be the plain, non-fluted full-length rod nearer the edge of the frame, when heat is applied the rod may momentarily bend in the etch – it will return to the correct size as it cools down.

Next, at the other side of the etch tin the backs, the non-etched sides, of the axle bosses.

Fold up the etch frame, bending with the etched fold lines on the outside of the folds, as indicated on the etch. The holes in each layer of the coupling rod should match up.

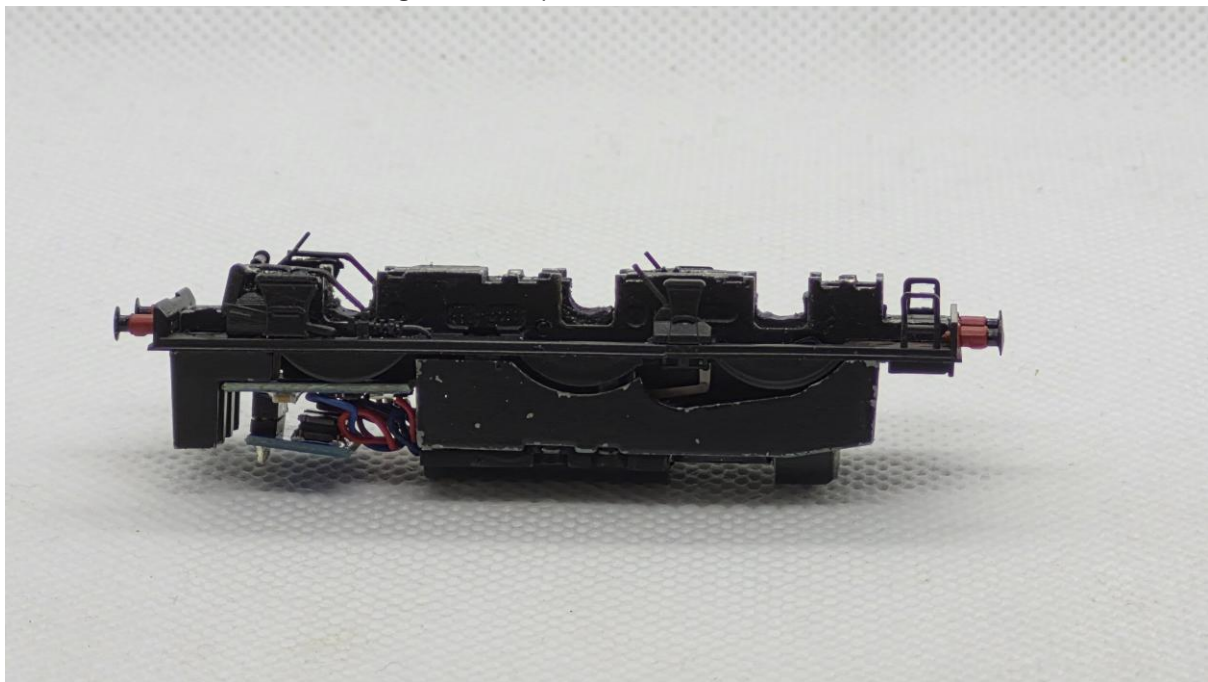
To join the three layers together, apply a hot soldering iron to the back, the non-etched side, of the coupling rod. The heat should 'sweat' the three layers together; however, it is advised to apply extra heat with the iron around the three coupling rod bosses to ensure they are fixed to the main rod.

Once it has been checked that all three layers of the etch are joined together, the rods can be removed from the supporting part of the etch by cutting through the tabs that join the rods to the rest of the etch. The washers, which are also mounted on the coupling rod etches, do not need to be removed at this point.

Assembly

The Sonic chassis uses the same design of bearings as locos such as the Farish Jinty and 4F, however, the spacers between the two halves of the chassis need filing down as otherwise they'd rub against the muffs. On the centre geared axle, I used a round file, being careful not to damage any of the gears in the chassis block. The pinion driving the driven axle is sufficiently clear of the edge of the spacer for it not to be too difficult.

This is how it should look after filing down the spacers -



The chassis block is narrower for the outer wheelsets than the Jinty/3F chassis for which the plain muffs were originally designed. These need to be reduced in length by 0.5 mm, this can be done with a sharp knife, holding the muffs in a pair of pliers to ensure that the ends remain flat and perpendicular to the axle after the cut is made.

Next, fit the crank pins using Epoxy Resin, or Loctite retaining compound can be fix the crankpins into the wheels, ensuring any excess is removed before the adhesive sets. The balance weights should then be fitted, using the original N Gauge wheelset for reference on positioning, noting that the centre axle

balance weights are larger than the outer axle weights. Once the crankpins and balance weights are fitted, the wheels can be painted.

To assemble the wheelsets, an association quartering jig can be used, this will ensure that the crankpins are at the correct 90 degrees to each other.

When assembling each axle, firstly insert each wheel into the conversion bearing, then insert the wheels and bearings into the muff. It may be necessary to use an appropriately sized drill or jeweller's broach to lightly ream the muff.

If using a quartering jig, the wheelset should now be placed into the jig, with a shim inserted between the back of the wheel and the bearing. Use the jig to ensure the wheels are correctly oriented and use the jib to press the wheels in, ensuring that the muff stays as central as possible without the stub axle of one wheel being inserted further into the muff than the other. A 2FS back-to-back gauge should be used to ensure that the correct back-to-back measurement for each wheelset is attained.

Before fitting the rear wheelset, the crankpins should be trimmed down to not foul the steps or piping beneath the cab, leaving enough length to allow both the coupling rod and a crankpin washer to be fitted. The coupling rods can then be fitted, initially securing them with a piece of wire insulation to check fit, before soldering on the crankpin washers and trimming the pins down to size.

When fitting the crankpin washers, which are included on the coupling rods etc, the washers on the leading axles can be fitted in situ with the wheels in the chassis. However, due to lack of clearances on the rear wheelset it is recommended to fit the crankpin washers for this wheelset with the full wheelset removed from the loco.

Once complete, this is how the loco should look – if not already done, the wheelset should be painted at this stage.

