

A concern has been expressed about the amount of available side play in the Class 8 'Fish Engines'. Since the three new kits, the Class 8B, 8C and 8F are designed on identical foundations any concerns will affect those new engines as well.

Although these concerns were not reported to the designer, the nub of the problem lies in two parts

- the outside measurement of the frames
- the supplied horn blocks

All the design drawings were drawn at full scale. The true scale measurement is 4' 1 1/2" between frames. The models are 3' 10 1/4" between frames which, plus the width of each side frame (1 1/8" equivalent for 15' NiSi) makes a total outside the frames of 4' 0 1/2" equivalent to 16.16 mm.

The supplied horn blocks are from Markits. They are asymmetrical. If using these they should be fitted so that the thin flange is on the outside.

The distance from the frame when these horn blocks are flush with the frame is therefore the thickness of the flange plus the thickness of the circular (fitted) washer.

This distance is 0.3 mm for the thin flange and 0.14 for the circular part, making a total width over the horn blocks of  $16.16 + (2 \times 0.37) + (2 \times .125) = 17.145$  mm total.

The minimum B-B is 17.67 (Digest 1.2.0 from Russ Elliot) so with one horn block pushed flat against one frame there should be  $17.67 - 17.145 = 0.525$  mm total side play.

A test on the B5 prototype allows a 0.8 mm feeler gauge to sit comfortably between the back of a Gibson wheel and the front of the horn block. This slightly exceeds the theoretical measurement.

Some builders may feel uncomfortable with this amount of side play, especially where very small curves are to be traversed. There are three options :-

- Remove the circular part from the front face of the horn blocks. This will increase the theoretical side play to 0.775 mm. This option has been recommended on the Scalefour Society Forum to resolve a similar problem on a kit from another designer.
- Use a different horn block. LRM and High Level have very suitable horn blocks which either sit flush with the front face of the frames or very slightly proud (about half the Markits version).
- Build the frames using the EM designated spacers (the P4 standards are for wheel and track only, not frame spacing) - all the parts are there on the etches. This will give an additional 0.7 mm side play each side making a total of 2 mm approximately. The spacer size in this case is the same as the basic P4 15 mm width spacer, which is available from a number of suppliers.

As always, purchasers of these kits are invited to contact the designer at [sales@greatcentralmodels.co.uk](mailto:sales@greatcentralmodels.co.uk) if they have any queries about the kits or issues with the way the kits should be assembled. It may not be possible to answer all queries - but it will certainly be tried!

