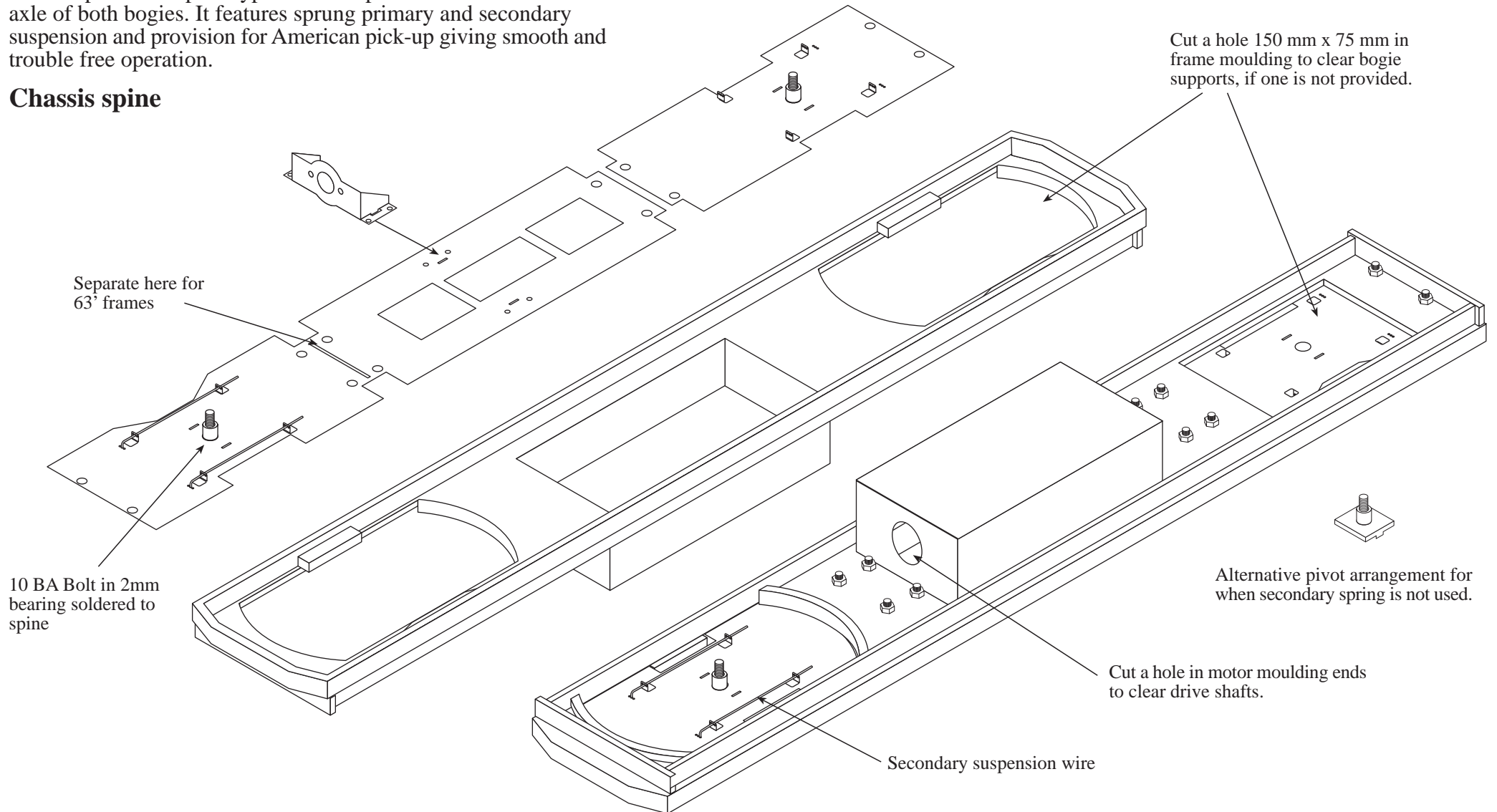


Bill Bedford Models

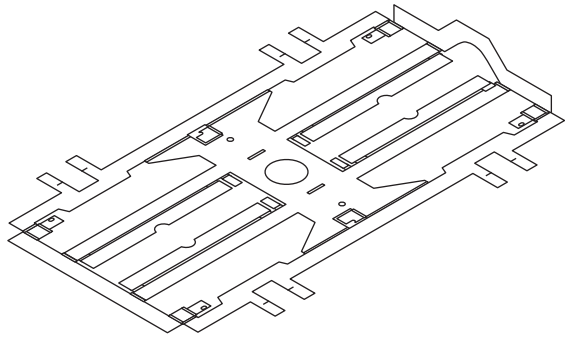
BUK850, motorising kit for Hornby and Lima DMUs Assembly Suggestions

This kit provides a prototypical telescopic shaft drive to the inner axle of both bogies. It features sprung primary and secondary suspension and provision for American pick-up giving smooth and trouble free operation.

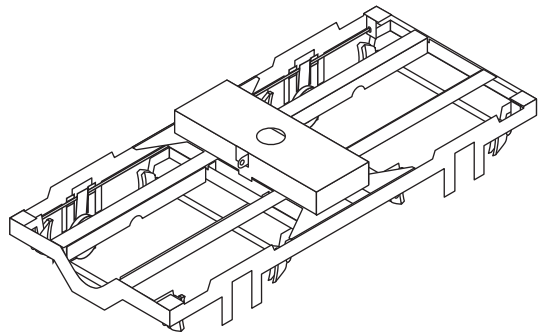
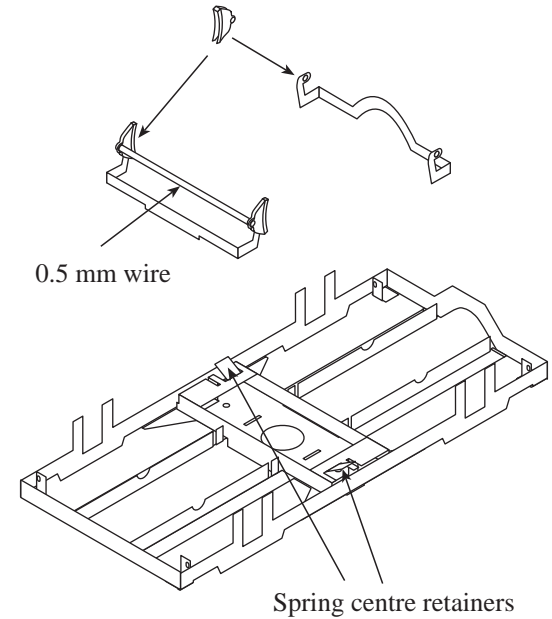
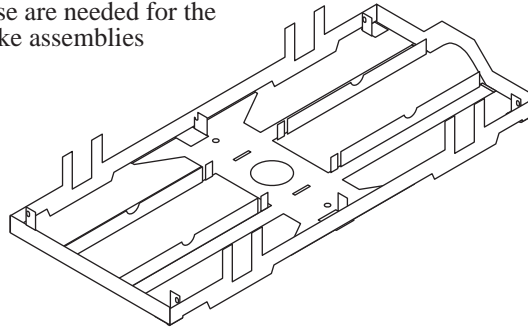
Chassis spine



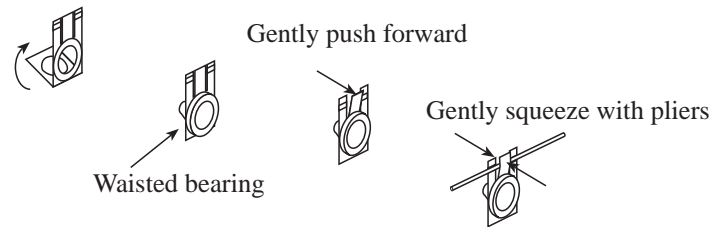
Bogies



Reinforce fold lines with fine fillet of solder. Do not fill the slots at the ends of the longitudinals, these are needed for the brake assemblies



Fixing the spring to the carriers.



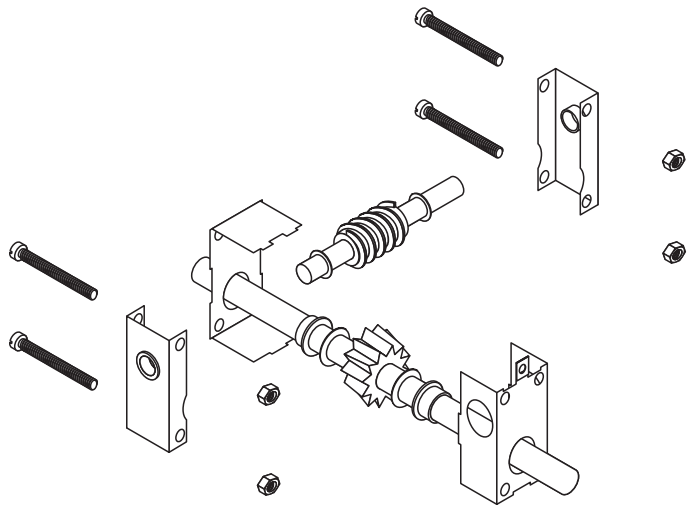
There is a manufacturing problem with axles and pinpoint bearings when used in bogie frames such as these. Because of the manufacturing tolerances of both the axles and bearings, there can be enough end float in the axles to affect the running. To overcome this a fret of thin washers are included. To use these the bearing **MUST NOT BE SOLDERED** into the carriers, instead they should be assembled with a low tack adhesive such as gum or paint. This way they can be easily disassembled and sufficient washers can be inserted to take up any end float.

The springs are pieces of straightened guitar string, obtainable at any music shop, or phosphor bronze wire to approximately the length of the side frame. The diameter required will vary according to the weight of the coach, for most, guitar strings of 11 or 12 thou will be about right.

The springs are threaded into the end carriers and must be long enough not to be able to withdraw from the end supports. Press the two centre spring retainers down against the side frames to finally retain the springs.

Finish in the normal way with wheels to suit and cosmetic sideframes of whitmetal, plastic or etched brass.

Worm Gearbox



Fold one of the two small etches into an 'L' shape and solder to the centre of the gearbox top plate. This will form the anchor for a torsion link.

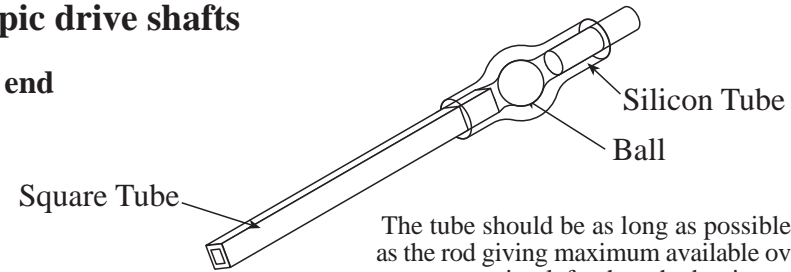
Pick ups

Four shorting wire are included to enable wheels to be made live to the rail. This has to be soldered on to the back of the wheel rims. If this is not to your taste then wheelsets with the a live axle can be obtained from the following suppliers:-

Alan Gibson -- to special order
Ultrascale
Branchlines
Intercity Models.

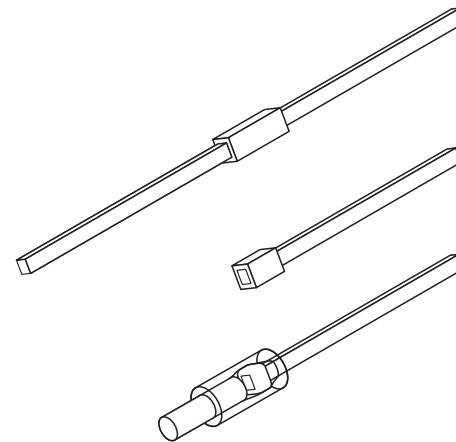
Telescopic drive shafts

Motor end



The tube should be as long as possible and the same length as the rod giving maximum available overlap, almost no more compression left when the bogies are on straight track. Otherwise terminal shaft whip sets in at a 'normal' speed.

Gearbox end



Solder a 4-5mm long piece of square tube in the centre of the square rod.

Cut the resulting rod at the mid point of the tube. All burrs and edges should be remove to produce a clean near ball like end.

Fit the thickened end of the shaft into a piece of silicon tube that has been fitted over the end of the gear box worm shaft.

Extra Notes

Inserting the ball

After cutting the tube to length, insert a length of rod or tube, roughly the same diameter as the ball, so that a little more than the diameter of the ball is left over the end. Trap the target ball, in the dimples of a piece of kitchen towel works for the small sizes, press the open end of the tube over , and keep pressing with a circling motion, for several seconds. Once the maximum diameter of the ball is past the end of the tube, this end can be squeezed to push it further. The rod can then be extracted and used to push the ball to its final position.

In service

Make sure that there are no turning pips on the shaft ends that are to contact the ball. A touch with a small spherical burr or a centring tool will help. Stretching the sleeve over the shaft so that it is hard against the ball will also help to ensure that the ball runs in the centre of the shaft in service

If there is any chance of the silicon tubing touching stationary motor or gearbox bearings, fit one, or preferably two, shim washers before the coupling, or the drag from such contact can be severe These will also function as oil throwers if there is excessive lubricant about

More information including building hints and tips can be found on the
CLAG website

<http://www.clag.org.uk>

Technical consultant: T. Scannell, FGW

4 Belgrave Court, George St, Pontypool, NP4 8NP, UK
Tel 01495 753931 e-mail - billb@mousa.uk.com