This pack is designed to aid the construction of etched chassis with separate frame spacers.

CONTENTS

- Length of Aluminium Channel with a milled V Groove cut at right angles to the channel;
- 3 twin legged stainless steel clips;
- 3 single legged aluminium clips;
- 3 springs 15 mm long, 4mm ID, made from 0.3mm stainless steel wire;
- 4 elastic bands;
- 3 taper ended stainless steel axles.

HOW TO USE

Rigid Chassis

Generally follow the kit manufacturer's instructions. Clean up the edges of the frames and the spacers and bend up the latter. Assemble the side frames and spacers and keep the assembly together using the twin legged clips. Make sure they bear on the centre of the frames not top or bottom edge. Put bearings in the front and rear axle holes, insert the tapered axles. Drop one axle in the V groove and secure it and therefore the chassis with an elastic band passed under the channel and over the axle ends. Just secure the other axle on top of the channel with another elastic band. The UNTAPERED part of the axle fits in the grooves and on top of the channel, the taper ends are for aligning hornblocks in a compensated chassis. Juggle the chassis side frames and clips until the chassis is aligned equidistant from the channel sides. You can pack the side frames against the channel with card or balsa wood if necessary. Solder up the chassis, it should solder up square. If it is easier to get solder where it is needed you can fit the chassis in the jig upside down.

Compensated Chassis

Usually one axle, usually the rear will be rigid, that goes in the groove. You will cut the front and middle axle holes away for hornblock guides before assembly. You need a 'dummy' front axle to sit on top of the channel. Often there will be an etched hole for a screw to secure the cylinders, you can use that. Otherwise before cutting out for the front hornblock guides put both side frames together with normal bearings to keep them aligned and drill a hole though both, say behind the buffer beam, to take a 2mm shaft. This shaft then becomes your 'dummy front axle'.

Setting up hornblock positions on a compensated chassis

Once the chassis is soldered up remove it from the jig. To align the hornblocks start with the fixed axle, insert bearings and the tapered axle. Fit the hornblocks in turn working from the rigid axle. Put the hornblocks in their guides, put the second tapered axle through one hornblock from what will be the outside, put on a spring and then the second hornblock/guide and put this into the frames using the pressure of the spring to keep the guides against the inside of the frames. Put the coupling rods for the pair of axles you are working on onto the tapered axle ends and use the aluminium clips to keep them in place. You will need to jiggle the hornblocks so the coupling rods slide as far down the taper as possible.

Get one guide vertical in its correct position. As you turn it the one on the opposite side usually turns as well, it doesn't matter as long as the positions relative to the fixed axle is correct. Solder up the one that is correctly aligned vertical. Now you can turn the second guide vertical without the first moving. Once this set of hornblock/guides are soldered in place use them as a reference to do the next axle hornblocks the same way. Learning to make compensated chassis is worth the effort, it aids track holding but in particular helps current pickup as all wheels are always in contact with the track. High Level Gears hornblocks and guides are recommended.

LOOKING AFTER YOUR JIG

The two legged clips and the springs are claimed to be stainless steel to resist flux. The channel and the single leg clips are aluminium. We cannot source stainless channel accurate enough and probably couldn't mill it anyway. Similarly we can source stainless single leg clips but it is difficult to drill. So when you've used the jig, wash the parts in hot water with a sprinkle of baking soda in the water to neutralise any flux, rinse and dry. If you work in a damp shed keep everything except the elastic bands in a plastic bag and spray the contents with WD40 before sealing the bag. The clips come ready bent, but we expect you will have to tweak them to suit your job.

SOLDERING

If you are fairly new to chassis assembly then we suggest you invest in 'GETTING STARTED ISSUE 5', there you will find an excellent article by Brian Cameron on soldering. A beginner might find it safer to assemble the chassis with 188 solder and to put hornblock guides in with 145 solder reducing the risk of unsoldering the chassis and frames. Remember, if the solder doesn't take the job either isn't clean enough, or not fluxed enough or not hot enough, it rarely wants more solder.