

Additional Build Instructions

Building the model

I use low melt solder and liquid flux for the assembly of all white metal or pewter parts. But, the key if you are going to use low melt solder is to use a temperature controlled soldering iron. I use a Radio Spares 50W temperature controlled iron that I have used for years, but any soldering iron where you can control the temperature to well under 300 degrees will do. The metal used in the kits melts at around 250 degrees, and has a pouring temperature of 300 degrees. The low melt solder melts at approx. 70 degrees, so a temperature of around 150 to 200 degrees should work.

For brass pieces, tin the brass first with normal solder, then use low-melt solder for attaching to the model. I use a Maplins 40W soldering iron for the normal temperature work.

Some people prefer to use 2 part epoxy or UHU, and superglue gel can be used for small parts, but keep it away from the glazing as it causes fogging.

The advantage that I find with soldering is that it is very quick when you are used to it, and can be re-done in seconds.

Additional Tools

Like most of us, I only have 2 hands, so I end up using all sorts of clamps, tweezers, pliers vices etc to hold things.

For filing, I use a large assortment of flat and angled needle files, emery sticks, dental tools in a slow speed drill, and a few more unusual files including sanding sticks and a flexi file with different grades of sandpaper in them.

Most of the curved parts in the kits are produced flat. They are made using American Pewter. This has very different properties to normal white metal which is very crystalline and brittle when you try to bend it. American Pewter bends much more easily. The key to bending it is to use a rod of an appropriate size and bend it slowly. I have a couple of different pattern pairs of bending pliers which are meant for jewellery making, one pair has 2 round jaws, the other has one round and one concave.

I have a Photo Etch Rolling Set – which is made by The Small Shop in the USA. This consists of a series of metal and wooden rods varying from 2mm to 15mm in diameter and a metal plate for bending on, this is very good for etched brass parts, but I also use the wooden rods for bending dash panels etc. On the other hand, you can collect together a number of round rods of assorted sizes for much less than this set cost me !

Glazing

For glazing I normally use clear Plasticard, 5 thou for curved windows, and 10 or 20 thou for flat windows. Some people cut the glazing to fit the individual windows, but usually I fit the glazing in strips behind the window frames. I fix the glazing in place using Humbrol clear fix. Once in place, I put a little clear 5 minute epoxy on the edges & corners to hold it firmly in place. Finally a coat of Humbrol Clear gives a good finish.

Painting

After building the model, wash in warm soapy water to remove any excess flux. Fill using milliput super fine or Squadron white putty or equivalent, depending on just what you need. Milliput dries slowly (it needs overnight to dry hard enough to file down), but is then really hard. Squadron white putty dries much faster, and is softer, but doesn't grip to the metal quite as well. If necessary, I use Mr Surfacer 1000 to give a smooth finish.

Then spray with a white car primer – I use standard Halfords white primer.

I use Humbrol, Phoenix Precision or Cherry enamel paints, though a lot of people have switched to using acrylic paints.

For lining, I use pressfix lining, this can usually be found on Ebay by searching for HMRS lining (HMRS is the Historical Model Railway Society). It comes in multiple colours, and each sheet has lines of 2 widths.

Decals come from a variety of sources including Sunrise transfers, MABEX, ELMTS, ModelMaster and some I have made myself.

Additional Parts

The motors I use are generally the ex BEC mechanisms, which I now produce. Alternative motors are available from other suppliers, including East Lancs Model Tramway Supplies (ELMTS).

For seats, I use the garden seats from Alan Kirkman.

Sprung trolley pole kits are also available from Alan Kirkman.

Etched brass fittings

A number of the trams need additional etched brass fittings. The most common of these is diamond pattern brass mesh – this is available from a number of places – I find the 4D Model Shop to be one of the cheapest. They also sell thin brass wire – 0.45 or 0.5mm – which I use for handrails.

Mark Hughes produces a number of brass etches for under stair gates etc.

Contact Details

MABEX 1:76 Waterslide Transfers - Carlton House, Church Lane, Wyberton, Boston, Lincolnshire, PE21 7AF

Fox Transfers - fox-transfers.co.uk

Sunrise Transfers - <http://www.sunrisetransfers.com/>

Tramads - <http://www.tramads.co.uk/main.php>

ModelMaster - <http://www.modelmasterdecals.com/>

Pressfix lining – HMRS - <http://www.hmrs.org.uk/transfers/index.php>

Mark Hughes - http://www.modelbuszone.co.uk/tmb/kits/mark_hughes.htm#

Chris Cornell - <http://home.btconnect.com/cctramworks/>

Cherry & Phoenix paints - <http://www.phoenix-paints.co.uk/>

4D model shop - <http://modelshop.co.uk/>

Also refer to the UK manufacturer pages on the TLRS web site <http://www.tramwayinfo.com/Deftlrs.htm>