

USING THE WHEEL PULLER FOR 0-4-0/4-4-0 TRIX LOCOMOTIVES

Wheels fitted to TTR 14V a.c. locos fall into the following categories:

1. Solid, unspoked, secured to splined axle with hexagon nuts. Used only on 1935 German outline locos. These do not have a major fatigue problem and do not require the puller.
2. Spoked, heavy pattern wheels pressed onto 3mm axles using tubular bakelite bush and sometimes S.R.B.P. insulating washers between wheel and chassis, the axle ends were "staked", i.e. crudely roughened to give more grip for the bush. These were used pre-war, 1936 onwards.
3. Spoked, heavy pattern wheels as above but with four "splines" cast into the centre hole to give better grip. These were secured to 2.5mm axles using a brass bush with a thin, brittle plastic sleeve between wheel and bush. An S.R.B.P. washer provided insulation between wheel and chassis. This type is believed to be of German origin. They are often found swollen and cracked due to metal fatigue. Because the brass bush is very tight on the axle, this type is the most awkward to replace. It is often found on chassis from 1950-52 and invariably on the post war Diesel Flyer. **N.B.** Types 1-3 are only geared on the reduction gear side of the loco.
4. Spoked, light-pattern wheels, geared all round. Early post war, dull in colour but from about 1956 in common with Junior Train and Cadet wheels, were nickel plated to give a shiny appearance. These are pressed onto 3mm axles using a shouldered plastic bush, which obviates the need for the S.R.B.P. insulating washer. 12V d.c. chassis from around 1956 used 2.5mm axles.

It is now known that the original bushes were solid Bakelite and were drilled in-situ to suit the intended axle size and to ensure true running. Original bushes should therefore not be disturbed without good reason.

Worn gear teeth rarely occur with properly fitted wheels and lubricated reduction gears. If the wheels have been set to allow too much side play, the small gear on the reduction gear assembly wears rapidly and in turn wears the driving wheel gear teeth. With type 4 loco wheels it is a simple matter to interchange the worn and unworn sides and renew the reduction gear. The wheel puller may not be needed to remove type 4 wheels as twisting and pulling at the same time by hand usually does the trick.

Available replacements.

A Cadet loco in poor condition can provide a source of wheels, 2.5mm bushes and axles. The wheels will fit 3mm axles if 3mm TTRCA bushes are substituted. TTRCA Mazak reproduction wheels W1M and W2M are ideal and will fit any chassis from 1936 on, if the correct bushes are used.

Heavy pattern replica wheels in whitemetal are available to those wanting the closest match to that original design. They are best suited for display only as true running and hard wearing qualities are poorer than Mazak.

When to replace. The correct diameter of a Trix wheel is 18mm. Before running a newly acquired loco check for signs of swelling or hairline cracking due to metal fatigue. Wheels, that have swollen, can foul and break the fine wires connecting the armature windings to the commutator segments. These must be replaced immediately. Sometimes pre war wheels can be loose on the bushes with no sign of fatigue. In this case the wheel may be saved with a *trace* of Loctite or Superglue, allowed to be drawn in by

capillary action between the bush and the wheel. Alternatively use a 3mm TTRCA bush, with the flange trimmed down to the main 5mm diameter. Don't just saw the flange off or the remaining part of the bush will be too short for the thicker pre war wheels.

Trailer wheels on the Diesel Flyer will run for some time after the first signs of distortion, so provided the motor bogie runs freely, only replace other wheels when really necessary. Replacing all sixteen wheels is time consuming and expensive! Signal Red Humbrol enamel may be used for repainting spokes.

Removal of brass bushes (type 3 wheels only)

Do not attempt to remove type 3 wheels without good reason. They are virtually impossible to replace in the original manner on their brass bushes. Where a cracked type 3 wheel must be replaced it is best to break it up to remove it. Do this by prising it away from the chassis with a couple of screwdrivers or the wheel puller. This leaves the bush and its insulating sleeve pressed onto the axle. Break away the sleeve. The bush is usually very tightly pressed onto the axle. If you can get a grip on the bush with a small vice, it is sometimes feasible to punch the axle out through the bush with a hammer and pin punch. It is very easy to damage the chassis in this way and it is often better to file through the side of the bush using a flat needle file until you *just* break through to the axle. Take care not to file into the axle or it will be spoiled for the subsequent fitting of the 2.5mm nylon bush. Having weakened the bush in this way, it is easy to twist it off with a small pair of pliers. Do not discard the remains of the brass bush as it may be used with a wheel puller to drive out plastic bushes from wheel centres.

