# THREADED CRANKPIN BUSHES

On a Slater's wheel the crankpin hole may be tapped 10BA without opening the hole to 1.4mm dia if you use a first tap.
Their latest wheels have no recess in the back of the wheel. In this case use a countersunk screw. A ¼" drill in the fingers will cut a suitable countersink in the plastic.

To set the length of the bush it can be inserted in the rod and filed down. Allow for the thickness of an 8BA washer over the bush. See later.

An alternative method of shortening a bush is to put a 10 BA bolt into a pin vice. Set the length protruding to that required on the bush.

Screw the bush onto the bolt and file down until the file just cuts the bolt. Being able to file square to the bolt is important.

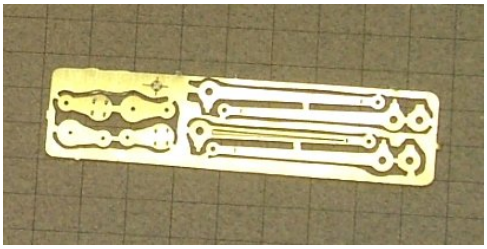
Check assembly of the bush onto the screw. Note the 8BA washer that keeps the rod clear of the wheel face. This washer fits over the bush. Some washers will fit without any adjustment, others will need the hole opening up. I use a round Swiss file as a broach sticks a tries to rotate the washer in whatever you hold it in.

Trial fit the rod to check clearance. The bush can be screwed tightly home by driving it with a sharp scriber point.
Trim the screw after all the wheels and rods are fitted to the chassis.
Some locos had a prominent nut on the crankpin. 10 BA is too large. If the screw has its diameter reduced where it protrudes through the bush then a 12 or 14 BA nut stripped of thread can be soldered to the end.

To improve clearance behind a crosshead the rod can be counterbored to accept the head of the bush.
Illustrated here in a pillar drill but it can be done with care with the tool in the modelling hand drill
It is easiest in a milled rod (shown) but can be done with extreme care in a laminated one. DO NOT ALLOW it to heat and melt the solder.

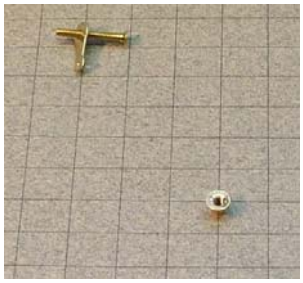
The recess holds the bush head flush in the rod.
It may be beneficial to open out the hole. I use a 2.55mm diameter reamer.

## Return cranks



Do all the initial work on the return crank in the fret. It is easier to hold.
Illustrated are the inner and overlay

Open up the hole if necessary to 10BA clearance – 1.8mm - in the inner crank
Take a larger e.g. 4mm SHARP drill and countersink to accept the countersink of a 10BA screw. The head should protrude slightly above the surface.



With the same drill countersink the head of the bush. This will allow the bush to screw tightly onto the inner crank.

Solder the parts together around the screw head and bush heads avoiding solder on the bush body diameter.

File the screw head flush.

Tin and solder on overlay crank.
Holding the parts as illustrated allows the use of both hands. The overlay will often float into position.

All that remains is to clean up the edges and drill a hole to receive the eccentric rod pivot.
If this is tapped 14BA then a bush over a 14BA bolt in the rod will allow the screw to be tightened without trapping the rod.

The return crank usually ends up in the wrong position when screwed into the wheel. By leaving the bush full length on this part and filing back a second bush the position to which it tightens can change. Fit the second bush with the head against the wheel. The plastic in a Slater's wheel is quite compliant s so the crank can be "over tightened" into position.
Providing the motion is free running then there is no significant load on the return crank so it will not require any locking.

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