

PRELIMINARY SPOKE MACHINE INFORMATION

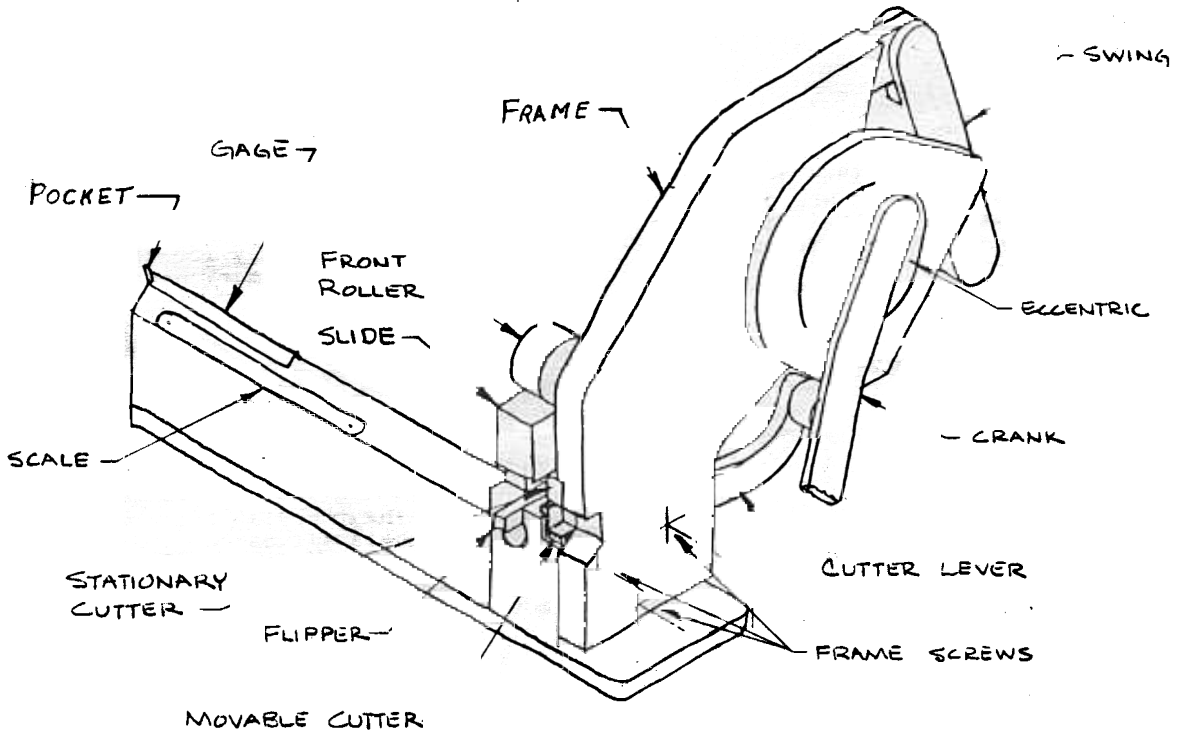
This machine is designed to cut and rethread bicycle spokes. It is for 2.0 and 1.8 mm spokes only. Butted spokes may be cut and rethreaded as long as the threading is confined to the large diameter end. The smaller part of a butted spoke is neither round enough nor accurate enough to roll threads on. When changing between 1.8 and 2mm diameters the machine must be readjusted. This is a 1-2 minute operation.

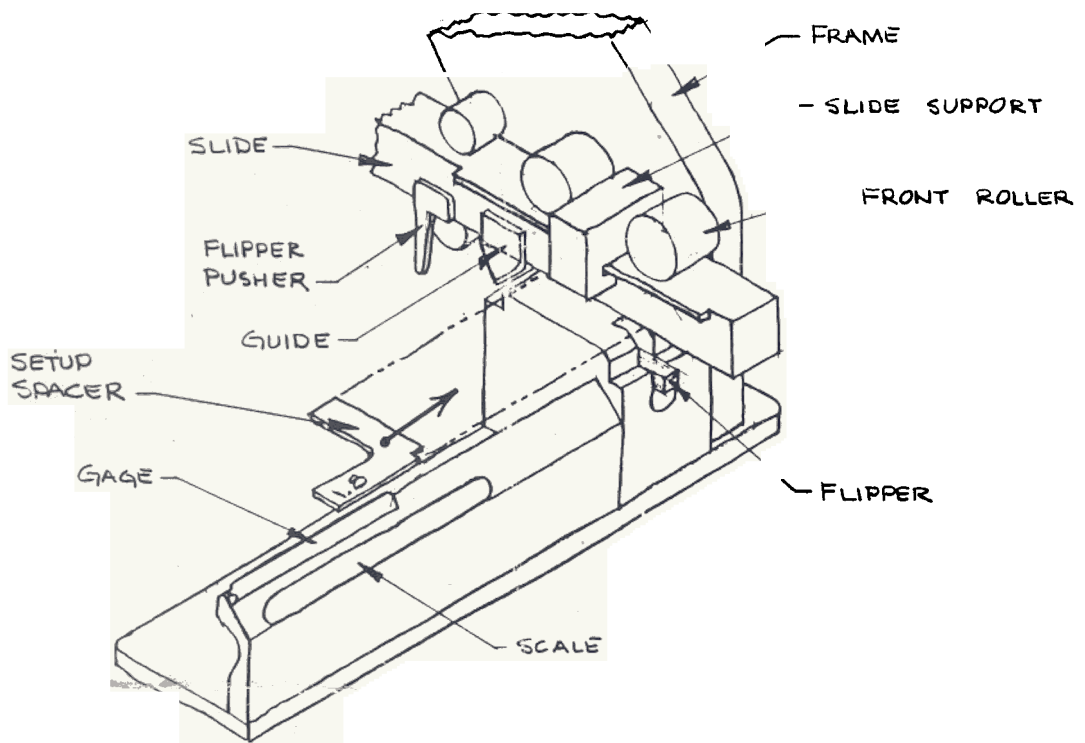
Setting up the Machine:

First the crank should be fastened to the eccentric. The screws and wrench for this are in the little package and it will only go on the right way. The machine should next be bolted to a sturdy bench. It must be far enough from the right end of the bench so the crank will turn freely. It is good to mount it back 4-5 inches onto the bench to leave enough room for a box of spokes in front. Now the machine is ready to use.

Operation:

The machine is shipped ready to thread 2 mm spokes. Spoke length is set by sliding the gage until its right hand edge is in line with the desired length on the scale. With the crank at the bottom of its stroke, the spoke bend is cradled in the pocket of the gage and the end to be cut is inserted in the cutter. As the handle is rotated the spoke is first cut. Further rotation causes the flipper to transfer it up to the threading section of the machine. Next the guide on the slide contacts the spoke. Until this time you should be holding the left end of the spoke in the gage pocket. When the spoke has been contacted by the guide release it so that it can follow its own path through the machine. The spoke will then roll to the back of the machine and





drop out. It will take some practice before you can do this smoothly. If the spokes being cut are oily no further lubrication will be needed. If they are dry a little Tenacious oil should be put on a spoke and the spoke rolled through the machine. This will lubricate the dies sufficiently for threading 75-100 spokes. To cut spokes shorter than 200 mm there is a mark near the left end of the gage that will subtract 100 mm from the scale reading.

Spoke Diameter Change:

To change between 2 and 1.8 mm spokes the machine must be readjusted. The L-shaped setup spacer is placed in the spoke space under the slide, with the marking for the desired size on the left. The three frame screws are then loosened and the slide moved forward by turning the handle in either direction. It may be necessary to lift the frame to do this but when the spacer is in the correct position the crank will be horizontal, the guide will be against the rear of the spacer and the spacer will be touching the stationary cutter and in line with the slide edge. When this position is all correct, firm thumb pressure down on the slide support will hold the dies in contact with the spacer while the frame screws are tightened. When these screws are quite tight the setup spacer may be removed by moving the slide back. The spacer must not be allowed to move back with the slide because it is tapered and would wedge tightly. The machine is now ready to thread the new diameter of spokes.

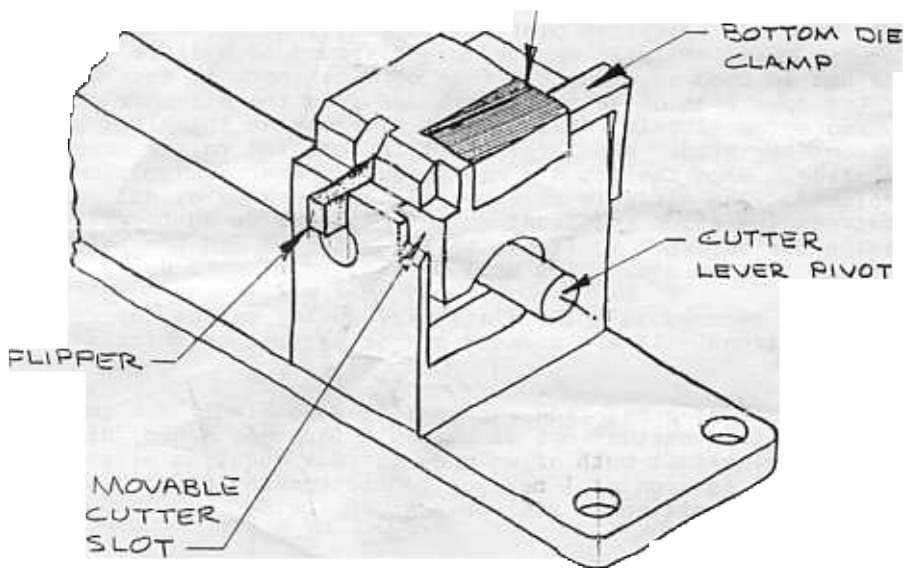
Lubrication:

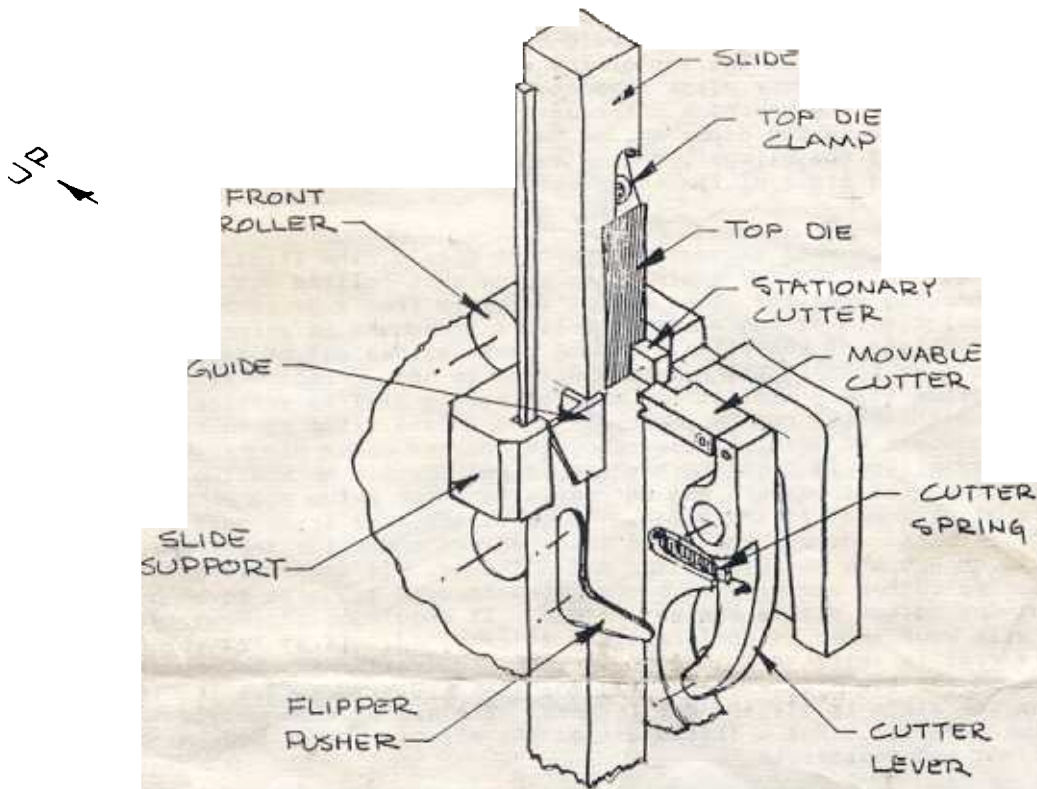
Once a week the slide and cutter should be lubricated with Tenacious oil. This should be applied at the top of the slide where it touches the frame and on the left side where the slide support reaches under the lip of the slide. With the slide all the way back put a drop of oil at the back of the movable cutter. Once a month the other moving parts should be oiled. A drop of oil at the back end of the flipper, on the swing hinge, in the swing slot, and on the outside and pivot of the eccentric.

Maintenance:

If a spoke does not roll through the machine freely, the first thing to suspect is that it was not squarely against the guide when rolling was started. This sometimes happens when the spoke is not released freely or it gets bumped at this critical time. At the start of rolling the spoke is gripped between the dies by the weight of the slide. If the spoke slides out of square when the guide moves away from it the gripping action is not correct. If this occurs check the slide to see that it has a small amount of free vertical movement. Tightness of the slide can be caused by dirt on the slide or in the swing slot. Adjustment of vertical clearance is covered under die replacement. Another possibility is that the machine is set for 1.8 mm and the spoke is 2 mm. If repeated tries are not successful and the setup spacer fits correctly then die misalignment is indicated. To check this the frame must be removed from the machine. Remove the three frame screws and slide the frame, the cutter lever and the movable cutter off together. If these are not removed together the cutter spring will become disconnected and have to be hooked back on. The bottom die is easiest to see. It should be squeezed into its pocket with your thumb as the die clamp is loosened. If it is out of position you will feel it shift as the clamp is loosened. After the bottom die is retightened the top die is checked in the same way. To access it turn the crank so the slide is all the way forward. The die is then easily seen with the frame inverted. Put a little oil on the movable cutter and the cutter lever pivot and reassemble.

BOTTOM DIE





By the time 10-15,000 spokes have been threaded the dies will have worn enough to need attention. This will be evidenced by a rough feeling as threads are rolled and an enlarged root radius on the spoke threads. The dies are double sided so they may be turned over but in addition, since less than the full die face is used, the dies may be turned around to utilize the unused edge. This is not as good as a new die face because there is some overlap at the center but does give quite a bit more use from the die. To change the dies first remove the slide. This is done by removing the slide support and lifting out the slide. Be careful not to lose the roller connecting the swing to the slide. When the top die has been turned or changed the slide is oiled and replaced. The slide is given vertical clearance by putting a business card between the slide and front roller, lifting up on the slide support and tightening its screws. The frame is then removed and the bottom die changed the same as the top die. Dies must be kept in matched pairs.

If the cutter becomes dull the stationary cutter may be turned. It has eight possible positions. If the movable cutter is dull or chipped it should be replaced.

As an early user of a new product you will undoubtedly run into characteristics and questions that neither one of us could foresee. When this happens it will be something that both of us need to know about so please phone me right away, collect. As soon as I have collected enough information to get an instruction book written it will be sent to you.

Phil 30 Aug 84