



UNIVERSAL UNDERCUTTER INSTRUCTIONS

OPERATION:

The simplicity of operation of the Universal Undercutter is such that we believe few instructions are necessary. The following discussion will enable the operator to obtain full efficiency and long life from the machine.

Approximately every 100 operating hours the inner flexible shaft should be removed and wiped lightly with a high grade of light ball-bearing grease.

A flexible shaft loses efficiency of power transmission very rapidly if it is bent into a small radius; therefore the flexible shaft should be kept as straight as practicable while undercutting. The best way to do this is to suspend the motor unit overhead and allow the flexible shaft to assume a natural gentle curve. This also takes some of the weight off the operator's hands.

When Martindale Universal Undercutter Heads are assembled, a light, high-grade grease is forced into them, giving thorough lubrication. These heads are fitted with Zerk grease connections and a non-fluid cup grease of good quality should be forced in frequently with a Zerk grease gun. **DO NOT USE A HEAVY GREASE.**

The slotting saw or V-cutter should revolve clockwise when viewed from the motor end — so that the teeth at the bottom of the saw revolve toward the operator.

Two guide wheel assemblies are included; an angle guide wheel assembly for small commutators, and a straight one for larger commutators.

The tapered guide wheel fits into a slot which has been cut and guides the saw through subsequent slots. The spacing between the guide wheel and the saw may be 1, 2 or 3 bars, depending on the width of the bars. The saw is centered accurately over the mica by adjusting the knurled knob on the end of the guide wheel block. The first slots must be cut carefully because any irregularities in these first guide slots will be transmitted to other slots through the guide wheel. They may be cut guiding the undercutter by hand, or may be started with a three-cornered file sufficiently to serve as a guide.

The guide wheel is adjusted vertically by loosening the thumb screw and lowering the guide wheel block until the saw is perpendicular to the commutator.

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The depth of cut is set by raising or lowering the spring-wire “shoe” around the cutter spindle. Before adjusting the “shoe”, loosen the knurled set screw which locks it in position.

The handles may be set at the most comfortable angle.

Cutting is started at the back of the commutator and the undercutter is pulled towards the operator. It is well to go slow at first until the operator gets the “feel” of the machine.

The Universal Undercutter uses a saw or V-cutter with a 3/16" hole diameter, and 1/2" outside diameter. Saws cut a “U” shaped slot. V-cutters are bevelled and cut a “V” shaped slot which stays clean longer under unfavorable conditions. Saws are stocked in 14 thicknesses from .015" to .045". V-Cutters are .045" thick and are stocked with 40°, 50°, or 60° between cutting edges.

It is recommended that a dust mask and eye protection be worn to insure safety and comfort.



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Quantity	Description	Part No.
1	Frame	D-351
1	Drive Shaft	D-352
1	Shaft Thrust Cone	D-353
1	Shaft Thrust Washer	D-354
2	Shaft Lock Nut	D-355
1	Sheath Adaptor	D-356
1	Cutter Arbor	D-357
1	Saw Retaining Nut	D-358
1	Straight Guide Wheel Screw	D-362
1	Angle Guide Wheel Screw	D-363
2	Guide Wheel	D-364
2	Stud Jam Nut	D-365
2	Locking Screw	D-374
4	Nut	40-9
1	Angle Guide Wheel Block	40-10
1	Straight Guide Wheel Block	40-11
1	Depth Gauge	40-12
2	1/4-20 x 1 Hex Hd. Cap Screw	No. 1
2	1/4-20 Jam Nut	No. 2
1	Grease Fitting	No. 3
2	1/4" End Wrench	No. 4
2	Handle	D-858