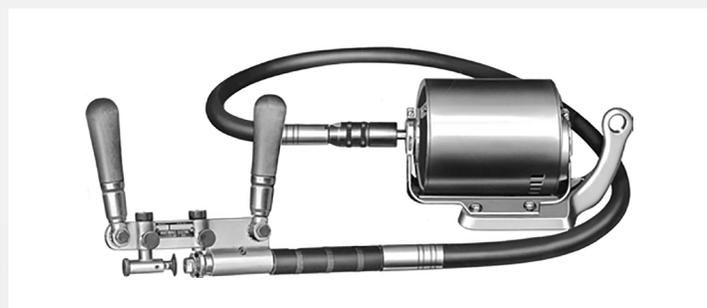
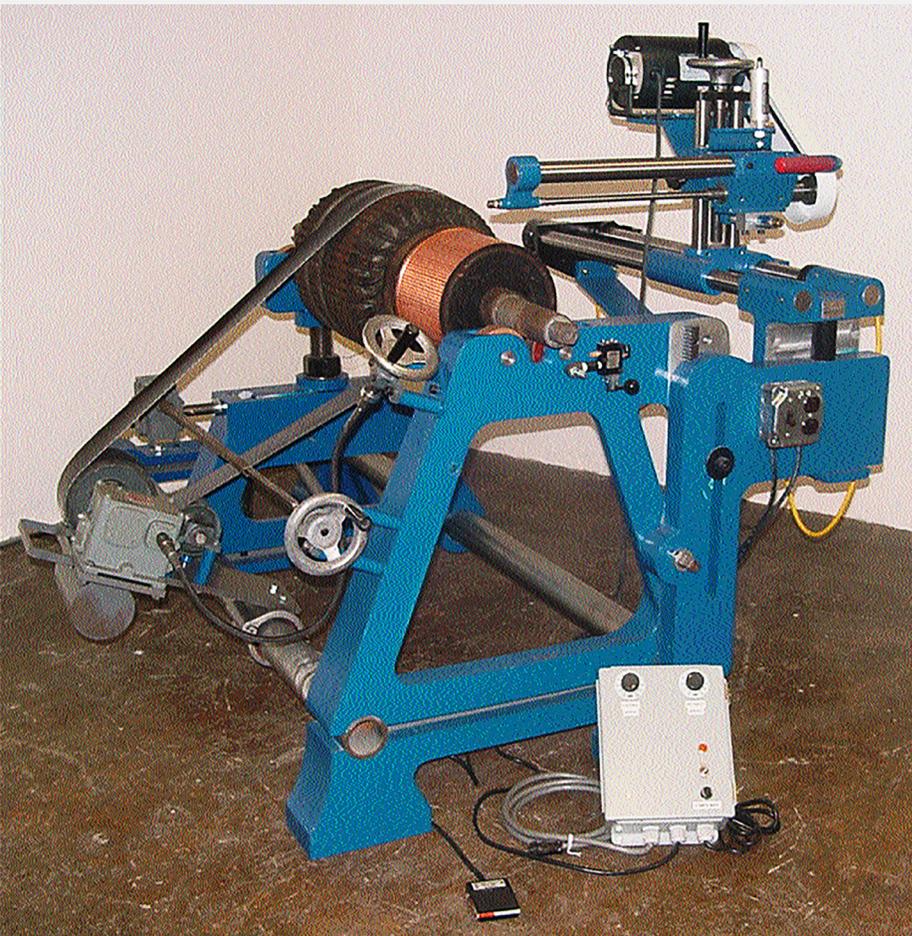




COMMUTATOR UNDERCUTTERS

Hand Held Models | Bench Models | Floor Models | Lathe Models





OVER 100 YEARS OF SERVICE.

Martindale Electric Co. started in the electric motor maintenance tool manufacturing business in 1913. From the start, we put emphasis on quality materials and workmanship — and on dedicated customer service.

Martindale specializes in the manufacture of equipment and supplies for the electric motor repairman. The products on the following pages are the result of continuous testing and research in an effort to help the motor maintenance industry minimize the costs of maintaining electric motors and generators.

The catalog following is devoted to our complete line of undercutters ranging from the Close-Cut, which is the smallest portable undercutter, to the industrial Model HA-2, which will handle commutators up to 44" diameter and 10,000 lbs. In between is the versatile "Mica-Miller" in three differently powered models, with three interchangeable heads; three bench models; and others. Three of these fifteen undercutters are flexible-shaft driven, five are air-driven, and the rest are electric motor driven either directly or by a belt. In this selection is an undercutter for every need. All are available for prompt shipment.



COMMUTATOR UNDERCUTTERS

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 USES 3/8" OR 7/16" O.D. SAWS WITH 1/8" ARBOR 6

IMPERIAL:

AIR OR ELECTRIC
 USES 7/8" OR 1" O.D. SAWS WITH 9/32" ARBOR 7

UNIVERSAL: FLEX-DRIVE, ELECTRIC

USES 1/2" O.D. SAWS WITH 3/16" ARBOR 8

MICA-MILLERS:

ALL THREE MODELS HAVE A CHOICE OF THREE INTERCHANGEABLE HEADS

SMALL HEAD USES 23/32" OR 3/4" O.D. SAWS WITH 5/16" ARBOR

STANDARD HEAD USES 7/8" OR 1" O.D. SAWS WITH 5/16" ARBOR OR

25MM. O.D. SAWS WITH 7MM. ARB OR.

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GENERAL TITLE

KUT-KWIK UNDERCUTTER

THREE MODELS — 3 SAW SPINDLE SPEEDS

Kut-Kwik is a very small light-duty air-driven undercutter designed for reaching into limited spaces where other undercutters cannot be used. It is not meant for the heavier duty and more continuous service of our other portable undercutters.

There are now 3 versions of the Kut-Kwik Undercutter available to accommodate the various needs of our customers.

Model KK32: 4,000 RPM version has gained increased popularity since it was introduced. It is still the most popular and practical unit for use with high speed steel saws and V-Cutters.

Model KK50: 5,300 RPM version is recommended for use with tungsten carbide saws. It should be noted that because of the brittle nature of carbide, these saws are more susceptible to breakage and should only be used by more skilled operators. The higher price of carbide can normally be justified by the shorter time required to complete a job because of the higher operating speeds and less down-time required to replace cutters.

Model KK180: 20,000 RPM version is intended for use with diamond coated undercutting wheels. Extremely fast undercutting is made possible by this high speed tool which will more than justify the higher priced diamond wheels. Again, this tool is only recommended for use by more skilled operators.

- ▶ Compact
- ▶ Light-Weight
- ▶ Minimum compressed air requirement for proper operation is 11 CFM @ 90 PSI.



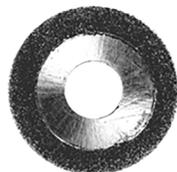
Three Models — 3 Saw Spindle Speeds

For Use With	Model	RPM	H.P.	Length	Wt.	Catalog Number
H.S.S. Saws	KK32	4,000	.3	9-1/2"	1-1/2#	KTKW032
Tungsten Saws	KK50	5,300	.3	9-1/2"	1-1/2#	KTKW050
Diamond Wheels	KK180	20,000	.9	11-1/2"	2-1/2#	KTKW180

Net Weight 2-1/2 lbs., Shipping Weight 4 lbs.

Diamond Coated Undercutting Wheels

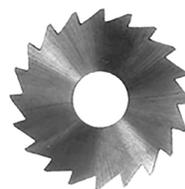
For use with KTKW180, KTKW180EA, & KTKW350



O.D.	I.D.	Thicknesses	Catalog Number
3/4"	5/16"	.020, .030, .040"	DIAW3 (add thickness)
7/8"	5/16"	.020, .025, .030, .035, .040, .045, .050, .055, .060, .065"	DIAW7 (add thickness)

Saws

For use with Model KK32 or KK50



High-Speed Steel	O.D.	I.D.	Catalog Number
65-HS Saws	3/4"	5/16"	HSMS65__
75-HS Saws	7/8"	5/16"	HSMS75__

Tungsten-Carbide	O.D.	I.D.	Catalog Number
65-TC Saws	3/4"	5/16"	TUNS65__
75-TC Saws	7/8"	5/16"	TUNS75__

For further specifications see pages 18 - 21.

MINI KUT-KWIK UNDERCUTTER

HIGH SPEED 35,000 RPM - FOR USE WITH DIAMOND WHEELS



Air Driven With Geared Head

The Mini Kut-Kwik is a compact, high speed (35,000 R.P.M.) air operated undercutter, ideal for use in confined spaces where a standard sized hand held undercutter would be too large. The high-speed allows use of diamond plated wheels for a smooth cutting action. Although this tool can be used continuously on an undercutting operation, it is not intended for heavy cutting.

Model	RPM	H.P.	Length	Wt.	Catalog Number
KK350	35,000	.3	6"	5.64 oz.	KTKW350

Net Weight 5.64 ozs., Shipping Weight 2 lbs.
(See Diamond Coated Undercutting Wheels Below)

PORTABLE, ELECTRIC, KUT-KWIK UNDERCUTTER

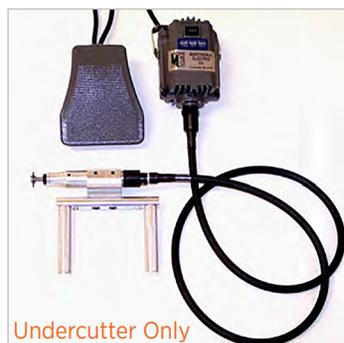
HIGH SPEED 18,000 RPM - FOR USE WITH DIAMOND WHEELS



Undercutter Head

Stand Sold Separately

Foot Switch



Undercutter Only

A perfect tool for our Diamond Undercutting Wheels for those locations where compressed air is not available.

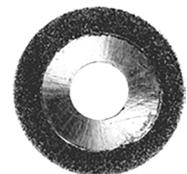
This high speed (18,000 RPM), high torque undercutter has a hanging motor with a flexible drive shaft making it easy to reach most applications.

Voltage	RPM	Description	Catalog Number
115 V.	18,000	Portable Electric, Kut-Kwik Undercutter Only, 115V.	KTKW180EA
230 V.	18,000	Portable Electric, Kut-Kwik Undercutter Only, 230V.	KTKW180EB
—	—	Stand, Portable	KTKWSTAND

Undercutter: Net Weight 13.2 lbs., Shipping Weight 16.2 lbs.
Stand: Net Weight 8.7 lbs., Shipping Weight 11.5 lbs.
(See Diamond Coated Undercutting Wheels Below)

Diamond Coated Undercutting Wheels

For use with KTKW180, KTKW180EA, & KTKW350



O.D.	I.D.	Thicknesses	Catalog Number
3/4"	5/16"	.020, .030, .040"	DIAW3 (add thickness)
7/8"	5/16"	.020, .025, .030, .035, .040, .045, .050, .055, .060, .065"	DIAW7 (add thickness)

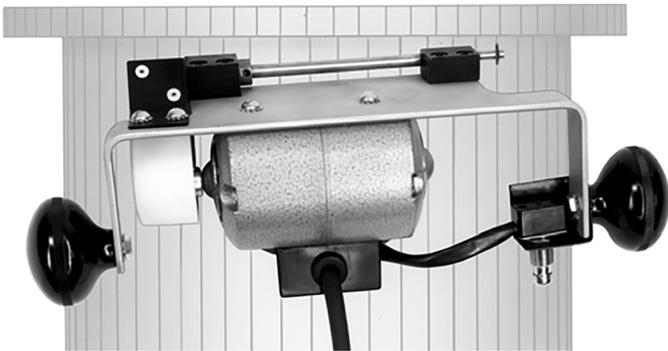
GENERAL TITLE

MARTINDALE CLOSE-CUT UNDERCUTTER

FOR UNDERCUTTING RIGHT UP TO THE RISER



Design of the Close-Cut allows ample clearance between the undercutter and the commutator surface on even the largest commutators.



This view (looking down on the commutator) shows plenty of clearance is also available between the undercutter and the riser.

The Close-Cut Undercutter was specially designed to finish off a mica slot when it is necessary to cut within 1/8" of a riser.

This unit has a straight solid shaft and needle bearings, both front and rear, for smoother operation.

While this small machine can be used for undercutting the full length of smaller commutator slots, one of the more substantial Martindale Undercutters should be used on larger commutators for most of the cut and the Close-Cut used for the remaining end against the riser.

Though we hesitate to recommend carbide saws in any hand-held undercutter, we have had success with them in this smaller unit.

- ▶ Cuts 1/16" deep with 3/8" diameter saw.
- ▶ Cuts 3/32" deep with 7/16" diameter saw.
- ▶ Cuts full depth to within 1/8" of riser.
- ▶ Saw spindle speed 6,000 r.p.m.
- ▶ Weighs only 3-3/4 lbs.
- ▶ 1/15 h.p. A.C.-D.C. ball bearing motor.

Description	Catalog Number
Close-Cut Undercutter, 115 V., 50/60 Hz. complete with Carrying Case	CCUCA
Close-Cut Undercutter, 230 V., 50/60 Hz. complete with Carrying Case	CCUCB

Net wt. 4-1/2 lbs., Shipping wt. 11 lbs., with case.

Saws are available in High-Speed Steel or Carbide as shown in table below:

High-Speed Steel Saws	O.D.	I.D.	Catalog Number
32-HS Saws	3/8"	1/8"	HSMS32__
12-HS Saws	7/16"	1/8"	HSMS12__
Tungsten-Carbide Saws	O.D.	I.D.	Catalog Number
32-TC Saws	3/8"	1/8"	TUNS32__
12-TC Saws	7/16"	1/8"	TUNS12__

For further specifications see pages 18 - 21.

Stocked in the following thicknesses: .010", .015", .018", .020", .023", .025", .028", .030", .032", .035", .038", .040", .043", .045".

GENERAL TITLE

IMPERIAL UNDERCUTTER

The Imperial Undercutter is an efficient machine where a good, sturdy undercutter is desired for portable and shop use. Its cast-bronze head is heavy enough to keep the saw from “bouncing”. Available in electric or air-powered models.

- ▶ Undercuts small, medium, or large commutators.
- ▶ Undercuts rapidly and without vibration. Ball bearing spindle.
- ▶ Has either flexible shaft or air motor drive.
- ▶ Direct drive:
Flexible Shaft Model = 2850/3450 r.p.m.
Air Motor Model = 2000 r.p.m.
- ▶ Uses either “V” Cutters for “V” slots or Saws for “U” slots.
- ▶ Cuts full depth to within 7/16” of riser.
- ▶ Simple easy adjustments. Slot guide and depth gauge adjusted by sensitive screws, then locked in position.

FLEXIBLE SHAFT MODEL



The Flexible Shaft Model is powered by a 1/3 h.p., 2,850/3,450 r.p.m. motor and a 3/8” diam., 5 ft. long flexible shaft (No. 16), as pictured above. It can also be furnished with a ball-

bearing swivel connection for attaching to any motor with 1/2”, 5/8”, 10mm. or 14mm. armature shaft.

We recommend, however, that it be purchased complete with motor. The motor is mounted on a special base which enables it to be suspended to permit the shaft to take its natural curve. This also takes some of the weight off the operator’s hands.

Description		Catalog Number
Imperial Undercutter with motor as pictured above;	115 V., 50/60 Hz.	IMPU100A
	230 V., 50/60 Hz.	IMPU100B
Imperial Undercutter with flexible shaft and Ball Bearing Swivel Connection for use with your motor;	with 1/2” motor connection	IMPU10112
	with 5/8” motor connection	IMPU10158
	with 10 mm. motor connection	IMPU10110MM
	with 14 mm. motor connection	IMPU10114MM
No. 16 Core (Replacement for flexible shaft)		MFLXD90
No. 16 Sheath (Replacement for flexible shaft)		MFLXD61
No. 2 Steel Carrying Case for electric Imperial		CASE102

Net Wt. with motor, 27 lbs.; without motor, 7 lbs.

AIR MOTOR MODEL

The Air Motor Model is powerful, compact, and lightweight. It is operated with one hand on the left handle and the other hand around the air motor on the air control valve. This



air model operates on 90 to 120 lbs. air pressure and develops .6 h.p. at 90 lbs. The saw spindle speed (full load) is 2,000 r.p.m.

A ten-foot air hose complete with end connections, including a quickconnector at the motor end, is available at extra cost.

Also available and highly recommended is the Automatic Air Filter-Lubricator listed in the Price List below. It keeps the air motor adequately lubricated at all times.

Description	Catalog Number
Imperial Undercutter with Air Motor	IMPU102
Automatic Air Filter-Lubricator	FILL01
Air Hose, 10 ft. long complete with quick connector	AIRH10
No. 1 Steel Carrying Case for air motor Imperial	CASE101

Net Wt. 4 lbs., Shipping Wt. 6 lbs.

High Speed Steel Saws and V-Cutters

For Small and Medium:

Commutators	O.D.	I.D.	Catalog Number
No. 3-HS Saws	7/8”	9/32”	HSMS3___
No. 3-VHS Cutters	7/8”	9/32”	HSMSV3___

For Large Commutators:

Commutators	O.D.	I.D.	Catalog Number
No. 4-HS Saws	1”	9/32”	HSMS4___
No. 4-VHS Cutters	1”	9/32”	HSMSV4___

(See page 18-19 for Saw and Cutter specifications)

GENERAL TITLE

MARTINDALE UNIVERSAL UNDERCUTTER



- ▶ Undercuts any size commutator. Excellent for small commutators.
- ▶ Uses either V-Cutters for “V” slots or Saws for “U” slots.
- ▶ Direct drive: Flexible Shaft = 1/3 h.p. motor; 2850/3450 r.p.m.
- ▶ Drive Shaft is extremely flexible and light, though sturdy (No. 14 Core and Sheath; 1/4” diam. x 3 ft. long)

The Universal Undercutter is similar to the Imperial Undercutter shown above. This unit uses only a 1/2” diameter saw and comes with two slot guides.

Equipped with Depth Gauge and 2 slot Guides. The angled slot guide is for use on commutators up to 7” diameter. The 1/2” diameter saws allow cutting to within 1/4” of riser.

Description	Catalog Number	Catalog Number
Universal Undercutter with motor as pictured at left;	115 V., 50/60 Hz.	UNVU100A
	230 V., 50/60 Hz.	UNVU100B
Universal Undercutter with flexible shaft and Ball Bearing Swivel Connection for use with your motor;	with 1/2” motor connection	UNVU10112
	with 5/8” motor connection	UNVU10158
	with 10 mm. motor connection	UNVU10110MM
	with 14 mm. motor connection	UNVU10114MM
No. 14 Core (Replacement for flexible shaft)		MFLXD75
No. 14 Sheath (Replacement for flexible shaft)		MFLXD54
No. D-363 Reducer		MFLXD363
No. 2 Steel Carrying Case for electric Imperial		CASE102

Net Wt. with motor, 24 lbs.; without motor, 3-1/2 lbs.

High Speed Steel Saws and V-Cutters

Description	O.D.	I.D.	Catalog Number
No. 16-HS Saws	1/2”	3/16”	HSMS16__
No. 17-VHS Cutters	1/2”	3/16”	HSMSV17__

(See page 18-19 for Saw and Cutter specifications)

AIR-DRIVEN MICA-MILLER



If you do not already have an automatic oiler in your air-line, be sure to include one in your order (see “Other Products” Catalog pg. 15 for description) as oil is essential in the operation of an air motor.

The Air-Driven Mica-Miller is lightweight, rugged, and powerful tool that is very popular. This undercutter is available in two models for use with High-Speed Steel or Tungsten-Carbide saw blades.

The 5,800 R.P.M. model, for use with solid carbide saw blades, is great for prolonged use on larger commutators. Less stopping to change blades saves you time and money.

Uses the three interchangeable heads described below.

Full load saw spindle speeds at 90 lbs. air pressure are as follows:

- ▶ At 90 lbs. air pressure, Air Motor, for H.S.S. Saws develops .6 h.p. and for Tungsten-Carbide Saws develops 1.0 h.p.
- ▶ Overall length 14-1/4”.

Description		For Use with H.S.S. Saws		For Use with Tungsten-Carbide Saws		Description	Catalog Number	
		RPM	Catalog Number	RPM	Catalog Number			
Air-Driven Mica-Miller:	With "Small" Head, 5/16" arbor	2,500	M-MU201	*** See Note	*** See Note	Extra Interchangeable Heads:	Small, 5/16" arbor	M-MU01
	With "Standard" Head, 5/16" or 7mm. arbor	2,000	M-MU202 or (7M)	6,000	M-MU202C or (7M)		Standard, 5/16" arbor	M-MU02
	With "Heavy-Duty" Head, 3/8" arbor	1,350	M-MU203	5,350	M-MU203C		Standard, 7mm. arbor	M-MU027M
					Heavy-Duty, 3/8" arbor		M-MU03	
						Air Hose, 10 ft. long; complete with quick connector	AIRH10	
						Automatic Air Filter-Lubricator	FILL01	
						Steel Carrying Case, No. 1; for Air-Driven Mica-Miller	CASE101	

Net Weight: 3-1/2 lbs. ; Shipping Weight: 6 lbs.
 *** Not recommended for use with small head at this speed.

High Speed Steel Saws and V-Cutters

The table at right lists at least 2 diameters of saws and cutters for each of the three interchangeable Mica-Miller heads.

H.S.S. Saws ("U" slot) are stocked in the following thicknesses (thousandths of an inch): 15, 18, 20, 23, 25, 26, 28, 30, 32, 35, 38, 40, 43, 45, 50, 53, 55, 58, 60, 63, and 65, and can be supplied in other thicknesses at a slight additional charge. (Standard metric thicknesses available.)

Tungsten-Carbide Saws ("U" slot) are available from .010" to .065" thickness.

H.S.S. V-cutters ("V" slots) are all .045" thick and are stocked with 40°, 50°, and 60°, angles between cutting edges.

Tungsten-Carbide V-Cutters ("V" slots) are available from .030" to .065" thickness and are available with 40°, 50°, and 60°, angles between cutting edges.

40°, cutters are generally used for thin mica, 50° for medium mica, and 60° for thick mica.

Description	Type	O.D.	Hole	Catalog Number	
				H.S.S.	Carbide
For "Small" Head	Saws	23/32"	5/16"	HSMS14__	*** See Note
	Cutters	23/32"	5/16"	HSMSV15__	*** See Note
	Saws	3/4"	5/16"	HSMS65__	*** See Note
	Cutters	3/4"	5/16"	HSMSV65__	*** See Note
For "Standard" Head	Saws	7/8"	5/16"	HSMS75__	TUNS75__
	Cutters	7/8"	5/16"	HSMSV75__	TUNSV75__
	Saws	1"	5/16"	HSMS85__	TUNS85__
	Cutters	1"	5/16"	HSMSV85__	TUNSV85__
	Saws	25 mm	7 mm	HSMM25__	
	Cutters	25 mm	7 mm	HSMMV25__	
For "Heavy-Duty" Head	Saws	1-1/8"	3/8"	HSMS96__	TUNS96__
	Cutters	1-1/8"	3/8"	HSMSV96__	TUNSV96__
	Saws	1-1/4"	3/8"	HSMS106__	TUNS106__
	Cutters	1-1/4"	3/8"	HSMSV106__	TUNSV106__

*** Not recommended for use with small head at this speed.

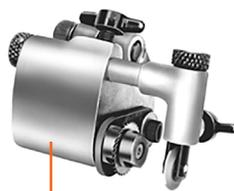


Steel Carrying Cases

Heavy gauge steel carrying cases to protect your Model K, Air-Driven or Flex-Drive Mica-Miller, extra heads, saws and cutters, accessories, etc., are available.

Three Interchangeable Heads

For all Air & Electric Mica-Millers



"SMALL" HEAD
 Only 1-7/8" wide (less Slot-Guide). Uses 23/32" or 3/4" diameter x 5/16" hole Saws or "V" cutters.



"STANDARD" HEAD
 2-1/4" wide (less Slot-Guide). Available for use with 7/8" or 1" diameter x 5/16" hole, or 25 mm. diameter x 7 mm. hole Saws or "V" cutters.



"HEAVY-DUTY" HEAD
 4-1/4" wide overall. Uses 1-1/8" or 1-1/4" diameter x 3/8" hole Saws or "V" cutters.

MODEL K MICA-MILLER

POWERFUL, LIGHT-WEIGHT, EASY TO USE



The model K Mica-Miller is an excellent all-around Undercutter for industrial plants or repair shops, as it can be used in the shop or taken to the job, and can be operated on A.C. from any lighting circuit.

Three interchangeable heads (see bottom of page 6) make the Model K most versatile. Saws or "V" cutters from 23/32" to 1-1/4" diameter can be used to undercut commutators of virtually any size.

Full load saw spindle speeds are as follows:

With "Small" Head	3500 r.p.m.
With "Standard" Head	2800 r.p.m.
With "Heavy-Duty" Head	1850 r.p.m.

The slot guide provided on the two smaller heads is positioned by two sensitive screw adjustments. It may be swung out of the way when changing saws. Many operators find the model K so easy to use they remove the guide entirely.

- ▶ Cuts either "U" or "V" slots.
- ▶ 1/5 h.p. Universal Motor.
- ▶ Control switch in handle.
- ▶ Overall length 16-1/2".
- ▶ Weighs only 8-1/4 lbs.
- ▶ Used on all sizes of commutators.
- ▶ Well balanced.
- ▶ Easy to guide.

Description		Catalog Number	
		115 V., 50/60 Hz.	230 V. 50/60 Hz.
Model K Mica-Miller:	With "Small" Head, 5/16" arbor	M-MU101A	M-MU101B
	With "Standard" Head, 5/16" arbor	M-MU102A	M-MU102B
	With "Standard" Head, 7 mm. arbor	M-MU1027MA	M-MU1027MB
	With "Heavy-Duty" Head, 3/8" arbor	M-MU103A	M-MU103B

Description		Catalog Number
Extra Interchangeable Heads only	"Small", 5/16" arbor	M-MU01
	"Standard", 5/16" arbor	M-MU02
	"Standard", 7 mm. arbor	M-MU027M
	"Heavy-Duty", 3/8" arbor	M-MU03
Steel Carrying Case, No. 1; for Model K Mica-Miller		CASE101

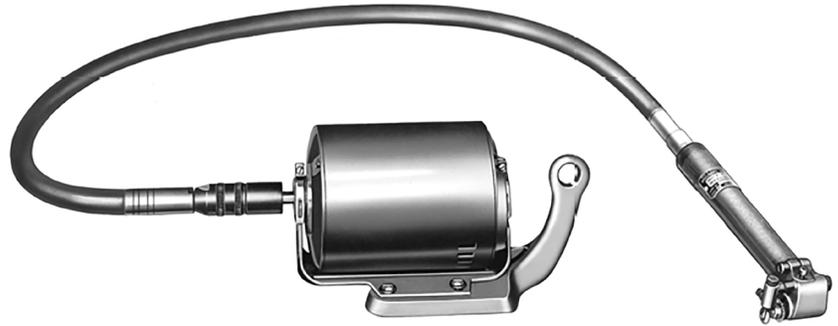
Net Weight 8 lbs., Shipping Weight 11 lbs.
For Saws and Cutters, See pages 9 or 18-19.

FLEX-DRIVE MICA-MILLER

Flex-Drive Mica-Miller should be hung overhead by means of its suspension ring, thus lessening operator fatigue and flexible shaft strain.

The flexible shaft (No. 16; 3/8" diam., 5 ft. long) of the Flex-Drive Mica-Miller is strong yet very flexible and transmits full power smoothly, without chatter or vibration.

The three interchangeable heads described above are available for this undercutter. The head mounts on a long slender drive shaft housing making the machine particularly valuable in close quarters as the head is the widest part of the undercutter.



Full load saw spindle speeds are as follows:

With "Small" Head	3700/4300 r.p.m.
With "Standard" Head	2850/3450 r.p.m.
With "Heavy-Duty" Head	1700/2300 r.p.m.

Description		Catalog Number	
		115 V., 60 Hz.	230 V., 60 Hz.
Flex-Drive Mica-Miller:	With "Small" Head and 5/16" arbor	M-MU301A	M-MU301B
	With "Standard" Head and 5/16" or (7mm.) arbor	M-MU302A or (7M)	M-MU302B or (7M)
	With "Heavy-Duty" Head and 3/8" arbor	M-MU303A	M-MU303B

Description			Catalog Number
Flex-Drive Mica-Miller with Flexible Shaft and Swivel Connection for use with your motor:	With "Small" Head and 5/16" arbor	and 1/2" diam. Motor Connection	M-MU40112
		and 5/8" diam. Motor Connection	M-MU40158
		and 10mm. diam. Motor Connection	M-MU40110MM
		and 14mm. diam. Motor Connection	M-MU40114MM
	With "Standard" Head and 5/16" or (7mm. arbor)	and 1/2" diam. Motor Connection	M-MU40212 or (7M)
		and 5/8" diam. Motor Connection	M-MU40258 or (7M)
		and 10mm. diam. Motor Connection	M-MU40210MM or (7M)
		and 14mm. diam. Motor Connection	M-MU40214MM or (7M)
	With "Heavy-Duty" Head and 3/8" arbor	and 1/2" diam. Motor Connection	M-MU40312
		and 5/8" diam. Motor Connection	M-MU40358
		and 10mm. diam. Motor Connection	M-MU40310MM
		and 14mm. diam. Motor Connection	M-MU40314MM
Extra Interchangeable Heads			See pg. 6
No. 16 Core (5 ft.) (replacement for flexible shaft)			MFLXD90
No. 16 Sheath (replacement for flexible shaft)			MFLXD61
Steel Carrying Case, No. 2; for Flex-Drive Mica-Miller			CASE102

*Net Weight with motor 25 lbs., without motor 7 lbs.
Shipping Weight with motor 27 lbs., without motor 9 lbs.*

GENERAL TITLE

MARTINDALE LATHE-TYPE UNDERCUTTER

The Lathe-Type Undercutter can be quickly attached in place of the tool post on any lathe. It can be mounted directly on the cross slide, or on the slide carriage which is then mounted on the cross slide.

The Slide Carriage is easily operated and is much faster than using the lathe carriage. Travel is 11" on the Model 110, 15-1/2" on the Model 110L15 and 21" on the Model 110L21, with adjustable stops at both ends. A skewed bar adjustment is provided at the right end.

Both horizontal and vertical commutators can be undercut. As undercutting is done from the side of the commutator the saw or Vcutter is set level with the lathe centers.

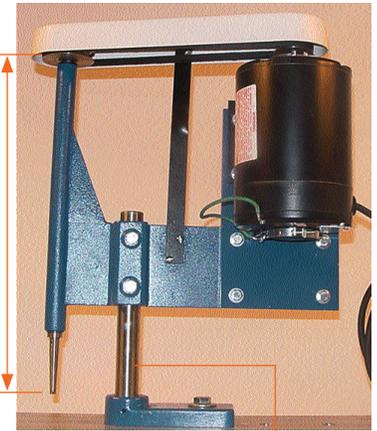
Undercutter is powered by a 1/3 h.p. motor and uses high-speed steel or tungsten-carbide Saws or V-cutters.

A spring between hardened washers under the pulley allows the spindle to move ("float") up or down and follow an existing slot that is being re-cut. If a fixed spindle is desired, the spring can be removed and the pulley turned over.

There are two versions of the Lathe-Type Undercutter available, depending on the amount of clearance needed to clear larger diameter risers.

***Working Clearance**, measured from the saw / cutter up to the lower edge of the belt guard is shown in the chart on bottom page 19.

***Working Clearance -**
See Chart on the following page



Vertical adjustment on support post 4-5/8"

TWO SPINDLES ARE FURNISHED:
one for 7/8" x 5/16" saws and one for 1/2" x 3/16" saws. To change spindles remove both pulleys — slide out one spindle and slide in the other.

Description		Motor Pulley	Spindle Pulley	Spindle RPM
Pulley	H.S.S. Saws	1-3/4" Diam.	2-1/2" Diam.	2,400
Mounting for:	Tungsten Carbide Saws	2-1/2" Diam.	1-3/4" Diam.	4,900

Saws & V-Cutters

O.D.	I.D.	Type	High-Speed Steel		Tungsten Carbide	
			Part No.	Catalog Number	Part No.	Catalog Number
1/2"	3/16"	Saw	16-HS	HSMS16__	16-TC	TUNS16__
1/2"	3/16"	V-Cutter	17-VHS	HSMSV17__	17-VTC	TUNSV17__
7/8"	5/16"	Saw	75-HS	HSMS75__	75-TC	TUNS75__
7/8"	5/16"	V-Cutter	75-VHS	HSMSV75__	75-VTC	TUNSV75__

For further specifications see pages 18 - 21.

Undercutters

Description	Spindle Size	*Working Clearance	Catalog Number
Lathe-Type Undercutter only with Both Spindles, for attaching directly to lathe; (A)=115V., (B)=230V.; 60 Hz.	3/16"	10-1/2"	LTHU101 (A) or (B)
	5/16"	8-1/2"	
Lathe-Type Undercutter only with Both Extended Spindles, for attaching directly to lathe; (A)=115V., (B)=230V.; 60 Hz.	3/16"	17-3/4"	LTHU105 (A) or (B)
	5/16"	15-3/4"	

Model 101 Net Weight 28 lbs., Shipping Weight 36 lbs.

Model 105 Net Weight 30 lbs., Shipping Weight 39 lbs.

MARTINDALE LATHE-TYPE UNDERCUTTER SLIDE CARRIAGE

- ▶ Speeds up production
- ▶ Faster and easier to operate than any lathe traverse controls



Description	Slide Carriage Stroke Length	Slide O.A.L.	Net Weight	Shipping Weight	Catalog Number
Slide Carriage, 11" Max. Slide Travel	11"	23"	27 lbs.	28 lbs.	LTHU110
Slide Carriage, 15-1/2" Max. Slide Travel	15-1/2"	28"	32 lbs.	33 lbs.	LTHU110L15
Slide Carriage, 21" Max. Slide Travel	21"	33"	37 lbs.	39 lbs.	LTHU110L21

Model 110 Net Weight 27 lbs., Shipping Weight 28 lbs.

Model 110L15 Net Weight 32 lbs., Shipping Weight 33 lbs.

Model 110L21 Net Weight 37 lbs., Shipping Weight 39 lbs.

MARTINDALE SUPER LATHE-TYPE UNDERCUTTER

Undercutter for attachment to slide carriage, which is shown below, or direct to lathe



Saw Spindle length 12-3/4"
Vertical adjustment on support posts 4-5/8"

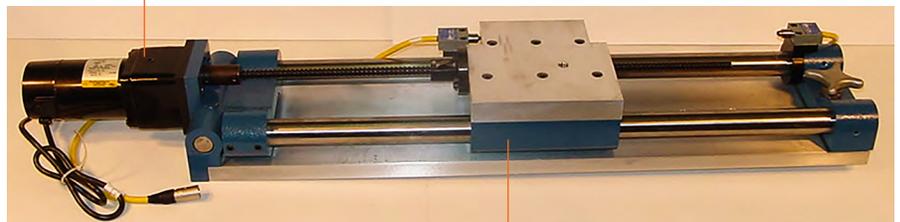
This undercutter is for handling large armatures in a lathe. It can be mounted directly on the lathe or on the Slide Carriage which bolts to the lathe cross-slide.

The motor is 3/4 h.p. With gear-belt drive it has enough power and rigidity to use 7/8" O.D. x 5/16" I.D. Tungsten-Carbide Saws at 4600 r.p.m. By interchanging pulleys it will also use 7/8" O.D. x 5/16" I.D. High-Speed Steel Saws at 2600 r.p.m.

An alternate spindle assembly is available with a 3/8" arbor to use 1-1/8 O.D. x 3/8" I.D. Saws in either Tungsten Carbide or High Speed Steel. It is longer and can be used with two saws to cut two slots at each pass with commutator bars up to 1/2" wide (User furnishes spacers to fit commutators being undercut). Both spindle assemblies include the heavy and rigid spindle housing which bolts to the motor mount.

The heavy-duty Slide Carriage runs on a variable speed, electric motor-driven screw drive complete with foot switch. Speeds are adjustable in both directions. The stroke is adjustable at both ends up to 21-3/4". It slides on "oilite" bushings on 1-1/2" hardened steel rods. A skewed bar adjustment is provided at the left end of the slide.

Electric Motor-Driven Screw Drive Slide Carriage



Maximum Slide Travel: 21-3/4"
Base Length: 37"
Overall Length: 47-1/2"

Description	Catalog Number	
Super Lathe Type Undercutter	complete with Slide Carriage	for attaching directly to lathe (less slide carriage)
115 V., 50/60 Hz., with 5/16" Spindle	LTHU200A5	LTHU201A5
115 V., 50/60 Hz., with 3/8" Spindle	LTHU200A3	LTHU201A3
230 V., 50/60 Hz., with 5/16" Spindle	LTHU200B5	LTHU201B5
230 V., 50/60 Hz., with 3/8" Spindle	LTHU200B3	LTHU201B3

Extra 5/16" Spindle Assembly	LTHU445
Extra 3/8" Spindle Assembly	LTHU443
Carriage, Slide Only, (A) = 115V., (B) = 230V	LTHU210(A) or (B)

Net Weight complete unit 189 lbs., without Slide Carriage 62 lbs.,
Shipping Weight complete unit 303 lbs., without Slide Carriage 83 lbs.

Saws and V-Cutters

High-Speed Steel	O.D.	I.D.	Catalog No.
75-HS Saws	7/8"	5/16"	HSMS75__
75-VHS Cutters	7/8"	5/16"	HSMSV75__
96-HS Saws	1-1/8"	3/8"	HSMS96__
96-VHS Cutters	1-1/8"	3/8"	HSMSV96__

Tungsten-Carbide	O.D.	I.D.	Catalog No.
75-TC Saws	7/8"	5/16"	TUNS75__
75-VTC Cutters	7/8"	5/16"	TUNSV75__
96-TC Saws	1-1/8"	3/8"	TUNS96__
96-VTC Cutters	1-1/8"	3/8"	TUNSV96__

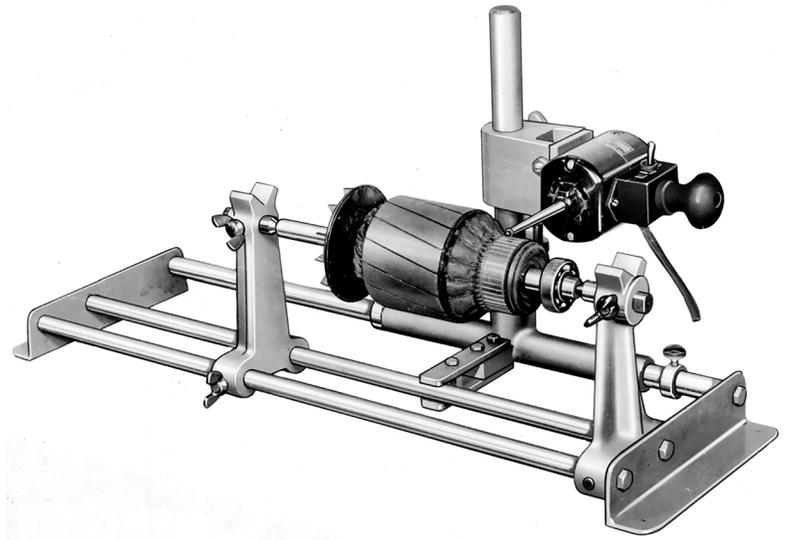
For further specifications see pages 18 - 21.

UTILITY UNDERCUTTER

The Utility Undercutter, as its name implies, is a low-cost machine designed for the repair shop that handles a wide variety of armatures — from the smallest up to 9" diameter. Bearings, fans, etc., need not be removed from the armature.

Its frame and spindle are built sufficiently rigid to permit use of Tungsten-Carbide as well as High-Speed Steel saws. Saws used (listed below) all have 1/8" hole. The smallest, No. 10-HS or 10-TC, (1/4" O.D.) cuts .025" deep.

The sturdy 1/12 h.p. motor is "universal" (A.C.-D.C.) with full-load speed of 5,000 r.p.m. The motor mount is spring-loaded to lift the saw from the slot at the end of the cut; a fine screw adjustment allows accurate setting for depth of cut. Centers are adjustable and can be removed if desired. Saw travel is controlled in both directions by adjustable stops.



- ▶ Undercuts Commutators 1" to 6" diameter.
- ▶ Handles Armatures up to 9" diameter.
- ▶ Max. Distance between V-Blocks 22"
- ▶ Max. Distance between Centers 20"

Description		Catalog Number
Utility Undercutter	115 V., 50/60 Hz.	UTLUA
	230 V., 50/60 Hz.	UTLUB

Net Weight 21 lbs., Shipping Weight 23 lbs.

Saws

High-Speed Steel	O.D.	I.D.	Catalog Number
10-HS Saws	1/4"	1/8"	HSMS10__
9-HS Saws	9/32"	1/8"	HSMS9__
9-1/2-HS Saws	5/16"	1/8"	HSMS9.5__
32-HS Saws	3/8"	1/8"	HSMS32__

Tungsten-Carbide	O.D.	I.D.	Catalog Number
10-TC Saws	1/4"	1/8"	TUNS10__
9-1/2-TC Saws	5/16"	1/8"	TUNS9.5__
32-TC Saws	3/8"	1/8"	TUNS32__

For further specifications see pages 18 - 21

BENCH-TYPE UNDERCUTTER MODEL HV-3

Uses either High-Speed Steel or Tungsten-Carbide Saws and V-Cutters. To change operation from High-Speed Steel to Carbide, or vice-versa, it is necessary only to reverse pulleys (to change spindle speed).

Handles a wider variety of armature sizes and shaft lengths than any similar machine being manufactured.

This outstanding undercutter is designed to handle the large volume production undercutting of the motor manufacturer, as well as the wide variety of undercutting requirements encountered in the service shop.

Model HV-3 is precision built, rugged, fast, and accurate. Depth of cut is governed by a fine screw adjustment. When the saw is being returned to the riser for the next cut, it is lifted clear of the slot for indexing.

Two ball bearing spindles are available, with 1/8" or 3/16" arbors. The machine is equipped with one spindle only; the additional spindle is available at extra cost. For undercutting horizontal commutators only, the 1/8" spindle is recommended; with it the 1/8" hole saws listed below are used. When both horizontal and vertical commutators are to be undercut, the 3/16" spindle is used; with the 3/16" hole saws or V-cutters.

Description	Catalog Number	
Model HV-3 Undercutter	115 V., 50/60 Hz. with 1/8" spindle	HV3UA1
	115 V., 50/60 Hz. with 3/16" spindle	HV3UA3
	230 V., 50/60 Hz. with 1/8" spindle	HV3UB1
	230 V., 50/60 Hz. with 3/16" spindle	HV3UB3
Extra 1/8" Spindle Assembly	HV3U30918	
Extra 3/16" Spindle Assembly	HV3U309316	

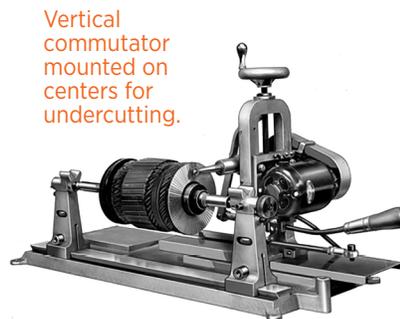
Net Weight 50 lbs., Shipping Weight 90 lbs.

Saws and V-Cutters

High-Speed Steel	O.D.	I.D.	Catalog Number
9-1/2-HS Saws	5/16"	1/8"	HSMS9.5
32-HS Saws	3/8"	1/8"	HSMS32
16-HS Saws	1/2"	3/16"	HSMS16
17-VHS Cutters	1/2"	3/16"	HSMSV17
13-HS Saws	11/16"	3/16"	HSMS13
13-VHS Cutters	11/16"	3/16"	HSMSV13

Tungsten-Carbide	O.D.	I.D.	Catalog Number
9-1/2-TC Saws	5/16"	1/8"	TUNS9.5
32-TC Saws	3/8"	1/8"	TUNS32
16-TC Saws	1/2"	3/16"	TUNS16
17-VTC Cutters	1/2"	3/16"	TUNSV17

For further specifications see pages 18 - 21.



Vertical commutator mounted on centers for undercutting.



Horizontal commutator ready for undercutting. Note V-support at right raised to compensate for smaller shaft diameter.

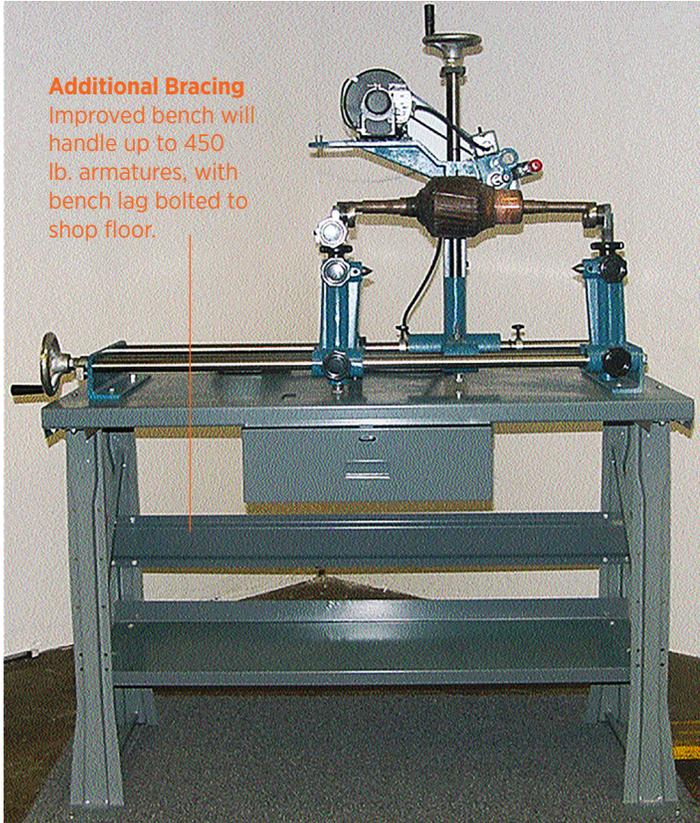
Specifications:

- ▶ 20" between centers.
- ▶ Longer armatures on V-supports, which can be spread to 23" between inside edges, and have 1" vertical adjustment.
- ▶ Takes armatures 10-1/2" diam. on centers or 12" on V-supports.
- ▶ Handles commutators: Vertical — 5-1/4" diam.; Horizontal — 6-1/2" diam. x 6-1/2" long.
- ▶ Saw lifts out of slot on return stroke.

Features:

- ▶ Model HV-3 undercuts horizontal and vertical commutators.
- ▶ Uses either High-Speed Steel or Carbide Saws and VCutters.
- ▶ Carriage travels on ball bearings both horizontally and vertically.
- ▶ Saw spindle is powered by a 1/5 h.p., 5000 r.p.m. motor.
- ▶ Stops and adjustments are provided that allow for safe and fast undercutting.
- ▶ One-piece solid aluminum base plate yields smooth operation.
- ▶ The base "dovetail" slide section is removable for replacement in the event of damage.
- ▶ Improved spring loaded spindle damper keeps saw in slot.

HEAVY-DUTY BENCH-TYPE UNDERCUTTER MODEL H-9



Additional Bracing
Improved bench will handle up to 450 lb. armatures, with bench lag bolted to shop floor.

Model H-9 uses either High-Speed Steel or Carbide Saws and V-cutters.

This undercutter handles armatures from the small sizes up to 17" diameter and 450 lbs. This includes a range of sizes too large for Model HV-3 and not large enough to necessitate an undercutter as large as the HA-2.

Features:

- ▶ Spindle speed easily changed for H.S. Steel or Carbide Saws.
- ▶ Cutting Head Carriage travels freely on ball-bushings on hardened steel rods; entire Carriage tips to the side to facilitate lowering armatures onto the V-supports.
- ▶ Adjustment provided for aligning to skewed commutator bars.
- ▶ Rear Armature Support adjusted horizontally by a lead screw.
- ▶ Two spindles available (with 3/16" arbor for 1/2" diameter saws, or with 5/16" arbor for saws 7/8" diameter or larger). Machine comes equipped with one spindle; other at extra cost.
- ▶ Saw lifts out of slot on return stroke.
- ▶ "Stops" limit saw travel.

Specifications:

- ▶ Maximum between centers: 32", V-supports 35".
- ▶ Takes armatures 12" diameter on centers or 17" on V-supports.
- ▶ Handles commutators up to same diameters as armatures.
- ▶ Dimensions with bench: 4' L., 2' W., 5' H.
- ▶ V-supports vertically adjustable.
- ▶ Motor: 1/2 h.p., 3450 r.p.m.

Description		Catalog Number
Model H-9 Undercutter, with bench and light	115 V., 50/60 Hz. with 3/16" spindle	H-9UA3
	115 V., 50/60 Hz. with 5/16" spindle	H-9UA5
	230 V., 50/60 Hz. with 3/16" spindle	H-9UB3
	230 V., 50/60 Hz. with 5/16" spindle	H-9UB5
Extra 3/16" Spindle Assembly		H-9U42316
Extra 5/16" Spindle Assembly		H-9U42516
Dust Collector with 2 hoods, 115 V., 1 Ph., 60 Hz.		DSCLCMB A
Dust Collector with 2 hoods, 220 V., 3 Ph., 50 Hz.		DSCLCMB B

Net Weight 270 lbs., Shipping Weight 420 lbs.

Saws and V-Cutters

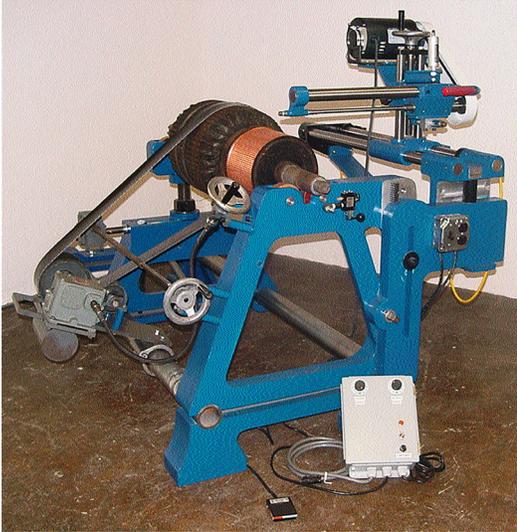
High-Speed Steel	O.D.	I.D.	Catalog Number
16-HS Saws	1/2"	3/16"	HSMS16__
17-VHS Cutters	1/2"	3/16"	HSMSV17__
75-HS Saws	7/8"	5/16"	HSMS75__
75-VHS Cutters	7/8"	5/16"	HSMSV75__
85-HS Saws	1"	5/16"	HSMS85__
85-VHS Cutters	1"	5/16"	HSMSV85__

Tungsten-Carbide	O.D.	I.D.	Catalog Number
16-TC Saws	1/2"	3/16"	TUNS16__
17-VTC Cutters	1/2"	3/16"	TUNSV17__
75-TC Saws	7/8"	5/16"	TUNS75__
75-VTC Cutters	7/8"	5/16"	TUNSV75__
85-TC Saws	1"	5/16"	TUNS85__
85-VTC Cutters	1"	5/16"	TUNSV85__

For further specifications see pages 18 - 21.

MARTINDALE INDUSTRIAL UNDERCUTTER MODEL HA-2

Has "Power" Down-Feed and Improved Power Traverse Controls. Makes Undercutting Faster and Easier than Ever!



Power-Operated: Makes Undercutting Faster and Easier • Uses Tungsten-Carbide or High Speed Steel Saws • Heavy, Rigid Construction for Industrial Use.

Specifications:

- ▶ **Handles Armatures:**
 - Up to 44" diameter (this will depend upon relative diameters of armature and commutators. Send us your requirement).
 - From 150 to 10,000 lbs.
- ▶ **Handles Commutators:**
 - 10" to 44" diameter.
 - Up to 21" length.
- ▶ **Base Length:**

Up to 58" between roller supports. Additional length available at slightly higher cost.
- ▶ **Motor:**
 - 3/4 h.p.; 3450 r.p.m.
 - Extra pulley and belt are supplied to give spindle speeds of 3450 r.p.m. for High-Speed Steel Saws or V-Cutters, or 6900 r.p.m. for Tungsten-Carbide Saws or V-Cutters.
- ▶ **Air Supply:**

About 90 lbs., controlled by pressure regulator with oiler and filter.
- ▶ **Saws and V-Cutters:**

1/2", 7/8", or 1" O.D. Saws or V-Cutters. (See table on page 29.)

Features:

- ▶ **Power Traverse — With Improved Electric Motor Variable Speed-Drive Control**

An improved traverse system powered by an electric motor driven ball screw-drive, actuated by a foot pedal connected to a variable speed drive control. This system provides enhanced smooth vibration free undercutting with minimal maintenance requirements.
- ▶ **Power Down Feed — Hand-Valve Actuated**

Holds the saw in the slot while cutting, lifts it from the slot while returning and indexing.
- ▶ **Magnifier Lamp —**

Illuminates and magnifies work area for accurate and easy saw alignment.
- ▶ **Simple Indexing —**

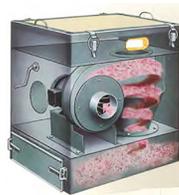
A hand wheel, connected by a flexible shaft to 100 to 1 speed reducer with a flat belt around the armature, combine to give quick positive indexing with no override or inertia problems. Belt segments of various lengths are furnished to fit any armature. Belt drive may be positioned anywhere along base.
- ▶ **Depth of Cut —**

Fine adjustment is made with hand wheel on top of carriage. Rack and gear on frame are for major adjustments.
- ▶ **Supports —**

Armatures shafts rest and rotate on 4 large phenolic rollers; assures no marking of shafts.
- ▶ **Adjustable Rear Support —**
 - Vertically (on thrust bearing) for unequal shaft-sizes or tapered commutators. Sideways (on "Teflon" ways) from front of machine - for skewed bars.
 - Length - rear support slides and locks into place to accommodate various armature lengths.
- ▶ **Carriage —**

Slides on "Oilite" bushings over hardened steel rods. Adjustable stops at each end of stroke.
- ▶ **Saw Spindle —**

1-1/2" hardened over-arm supports outer end of spindle. Two spindles available; one for 1/2" diameter saws (3/16" arbor hole) and the other for 7/8" and 1" diameter saws (5/16" arbor hole). Specify which one desired when ordering. An optional 2-position saw spindle block is available (at extra cost) which allows cutting up close to the riser in one position, and up close to a shoulder at the front of the commutator when in the other position.



Dust Collector

- Dust Collector removes mica dust quickly; comes with two hoods for use in a wide variety of dusty jobs.
- Has paddle-wheel type fan driven by 1/3 h.p., 3450 r.p.m. motor. Plugs into outlet box on undercutter.
- The Dust Collector is self-contained and easily portable to other locations where dust collection is desirable.

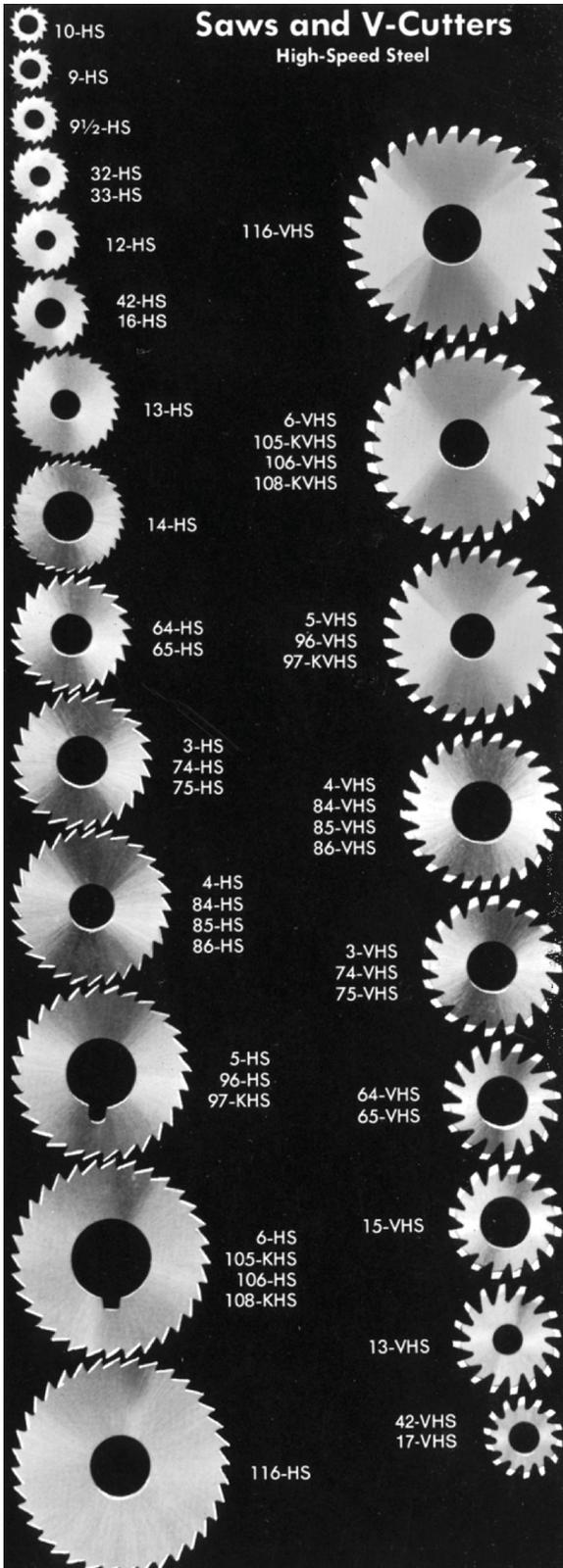
Description	Catalog Number
Model HA-2 Undercutter complete	HA2UA3
115 V., 50/60 Hz., with 3/16" spindle	HA2UA5
230 V., 50/60 Hz., with 5/16" spindle	HA2UB3
230 V., 50/60 Hz., with 3/16" spindle	HA2UB5
Extra 3/16" Saw Spindle Assembly	HA2U43316
Extra 5/16" Saw Spindle Assembly	HA2U43516

Net Weight 750 lbs., Shipping Weight 1,020 lbs.

Dust Collector with 2 hoods, 115 V., 1 Ph., 60 Hz	DSCLCA
Dust Collector with 2 hoods, 220 V., 3 Ph., 50 Hz	DSCLCB

Net Weight 58 lbs., Shipping Weight 65 lbs.

HIGH SPEED STEEL UNDERCUTTING SAWS



▶ High Speed Steel

▶ No Land

▶ Rake Angle On Center

▶ Hollow Grind

▶ Metric Available

▶ Tolerances: O.D. $\pm .005$

I.D. $+.001 / -.000$

Thickness $\pm .001$

• *Closer tolerances available upon request.*

GENERAL

Martindale Undercutting Saws and V-Cutters are available in High Speed Steel or Tungsten-Carbide. Both types are carefully designed as to tooth form, hollow grind, hardness, etc., and are manufactured to close tolerances in our own plant.

While used primarily for undercutting mica and slotting risers of commutators, Martindale Undercutting Saws and V-cutters are also used for cutting steel, aluminum, plastics, and other materials not requiring set teeth.

Undercutting differs from ordinary machining in that, instead of shearing, it is a combination of crushing, grinding, and conveying. Mica is very abrasive and varies in hardness, making necessary the very best design and production controls in the manufacture of undercutting saws.

HIGH SPEED STEEL SAWS and V-CUTTERS

These can be used on either portable or stationary equipment with spindle speeds of 1,500 to 3,500 r.p.m.

(See Martindale Mica Undercutter catalog section for appropriate machinery)

SAWS (“U”-Slot)

Saws available in these standard thicknesses:

.015”	.023”	.028”	.035”	.043”	.053”	.060”
.018”	.025”	.030”	.038”	.045”	.055”	.063”
.020”	.026”	.032”	.040”	.050”	.058”	.065”

Other thicknesses available upon request.

Be sure to specify thicknesses.

TYPE NUMBER	O.D.	HOLE	NO. TEETH	CATALOG NUMBER
10-HS	1/4”	1/8”	14	HSMS10_ _ _
9-HS	9/32”	1/8”	14	HSMS9_ _ _
9-1/2-HS	5/16”	1/8”	16	HSMS9.5_ _ _
32-HS	3/8”	1/8”	18	HSMS32_ _ _
33-HS	3/8”	3/16”	18	HSMS33_ _ _
12-HS	7/16”	1/8”	18	HSMS12_ _ _
42-HS	1/2”	1/8”	18	HSMS42_ _ _
16-HS	1/2”	3/16”	18	HSMS16_ _ _
13-HS	11/16”	3/16”	28	HSMS13_ _ _
14-HS	23/32”	5/16”	32	HSMS14_ _ _
64-HS	3/4”	1/4”	22	HSMS64_ _ _
65-HS	3/4”	5/16”	22	HSMS65_ _ _
74-HS	7/8”	1/4”	24	HSMS74_ _ _
3-HS	7/8”	9/32”	24	HSMS3_ _ _
75-HS	7/8”	5/16”	24	HSMS75_ _ _
25-MM	25mm	7mm	28	HSMM25_ _ _
84-HS	1”	1/4”	28	HSMS84_ _ _
4-HS	1”	9/32”	28	HSMS4_ _ _
85-HS	1”	5/16”	28	HSMS85_ _ _
86-HS	1”	3/8”	28	HSMS86_ _ _
5-HS	1-1/8”	9/32”	28	HSMS5_ _ _
96-HS	1-1/8”	3/8”	28	HSMS96_ _ _
97-KHS	1-1/8”	7/16”	28	HSMS97K_ _ _
6-HS	1-1/4”	9/32”	32	HSMS6_ _ _
105-KHS	1-1/4”	5/16”	32	HSMS105K_ _ _
106-HS	1-1/4”	3/8”	32	HSMS106_ _ _
108-KHS	1-1/4”	1/2”	32	HSMS108K_ _ _
116-HS	1-3/8”	3/8”	36	HSMS116_ _ _

• **Add thickness to catalog number** when ordering, e.g., 1/4” O.D. x .015” thick x 1/8” I.D., 14 tooth cutter HSMS10_ _ _ becomes HSMS10Q15.

V-CUTTERS (“V”-Slot)

These cutters are all .045” thick and stocked with 40°, 50°, and 60° angles between cutting edges. 40° V-cutters are for thin mica, 50° for medium mica, 60° for thick mica. See Commutator Undercutting section under Cutting Recommendations for Circular Saws for details.

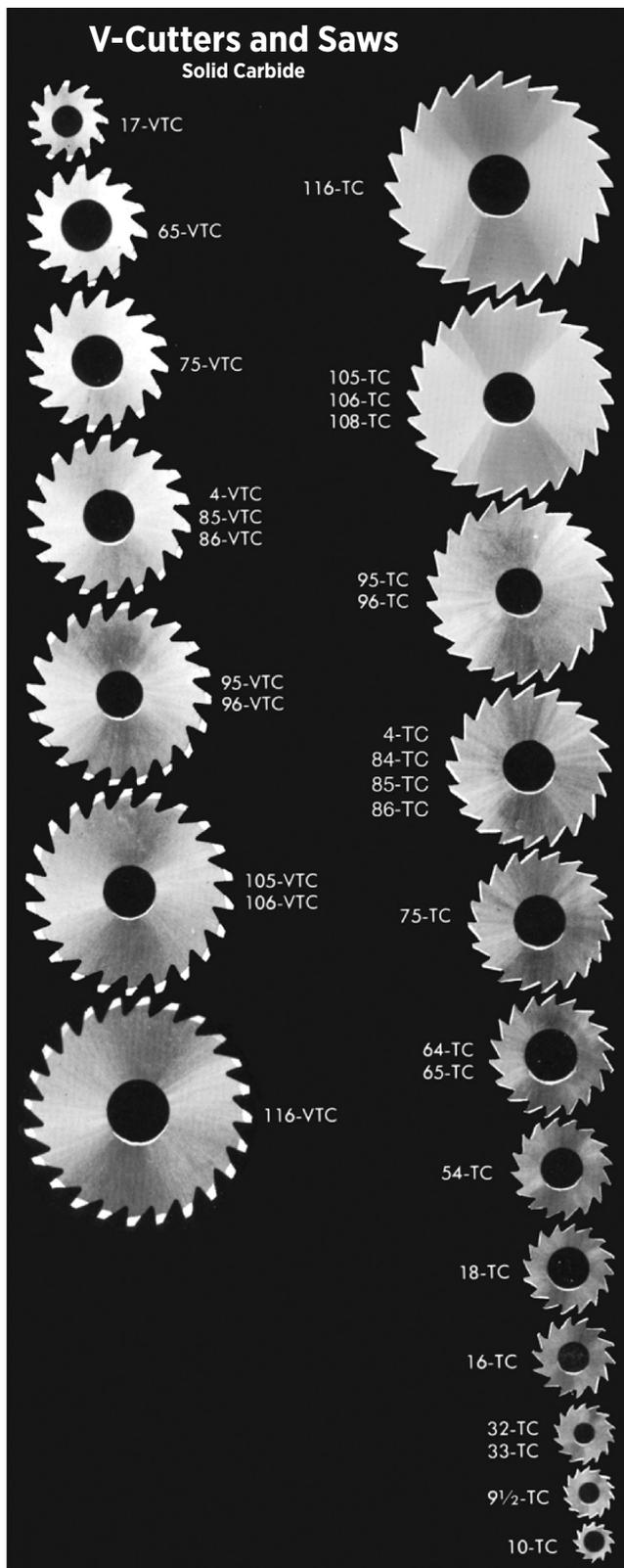
Be sure to specify included angle: 40°, 50°, or 60°.

Non-standard thicknesses and angles available upon request.

TYPE NUMBER	O.D.	HOLE	NO. TEETH	CATALOG NUMBER
42-VHS	1/2”	1/8”	12	HSMSV42_ _
17-VHS	1/2”	3/16”	12	HSMSV17_ _
13-VHS	11/16”	3/16”	14	HSMSV13_ _
15-VHS	23/32”	5/16”	14	HSMSV15_ _
64-VHS	3/4”	1/4”	14	HSMSV64_ _
65-VHS	3/4”	5/16”	14	HSMSV65_ _
74-VHS	7/8”	1/4”	18	HSMSV74_ _
3-VHS	7/8”	9/32”	18	HSMSV3_ _
75-VHS	7/8”	5/16”	18	HSMSV75_ _
25-VMM	25mm	7mm	22	HSMMV25_ _
84-VHS	1”	1/4”	22	HSMSV84_ _
4-VHS	1”	9/32”	22	HSMSV4_ _
85-VHS	1”	5/16”	22	HSMSV85_ _
86-VHS	1”	3/8”	22	HSMSV86_ _
5-VHS	1-1/8”	9/32”	24	HSMSV5_ _
96-VHS	1-1/8”	3/8”	24	HSMSV96_ _
97-KVHS	1-1/8”	7/16”	24	HSMSV97K_ _
6-VHS	1-1/4”	9/32”	24	HSMSV6_ _
105-KVHS	1-1/4”	5/16”	24	HSMSV105K_ _
106-VHS	1-1/4”	3/8”	24	HSMSV106_ _
108-KVHS	1-1/4”	1/2”	24	HSMSV108K_ _
116-VHS	1-3/8”	3/8”	26	HSMSV116_ _

• **Add included angle to catalog number** when ordering, e.g., 1/2” O.D. x .045” thick x 1/8” I.D., 12 tooth cutter with 40° included angle HSMSV42_ _ becomes HSMSV4240.

SOLID CARBIDE UNDERCUTTING SAWS



- ▶ Carbide, 10% Micro Grain
- ▶ Landed
- ▶ Rake Angle On Center
- ▶ Hollow Ground
- ▶ Metric Available
- ▶ Tolerances: O.D. $\pm .005$
I.D. $+0.001 / -.000$
Thickness $\pm .0005$

• *Closer tolerances available upon request.*

SOLID CARBIDE SAWS and V-CUTTERS

The teeth of solid carbide saws and V-cutters have a slight land to give strength to the cutting edge. Saws are hollow ground for clearance, V-cutters have ample radial relief. When carbide saws are used on non-Martindale equipment, steel supporting washers may be used to provide additional support and reduce breakage. Appropriate spindle speed depends on the application, see Cutting Recommendations section. Martindale carbide saw blades are harder and more brittle than high speed steel saws, and should not be subjected to applications where shock may shorten the service life. Best for use on rigid stationary equipment. Please refer to Martindale Undercutters catalog section for Undercutters recommended for use with these saws.

SAWS ("U"-Slot)

Standard thickness ranges:

O.D.	THICKNESS
1/4" - 9/16"	.010" to .045"
5/8" - 1-3/8"	.010" to .065"

Other thicknesses available on request.

Be sure to specify thicknesses.

TYPE NUMBER	O.D.	HOLE	NO. TEETH	CATALOG NUMBER
10-TC	1/4"	1/8"	12	TUNS10_ _ _
9-1/2-TC	5/16"	1/8"	14	TUNS9.5_ _ _
32-TC	3/8"	1/8"	14	TUNS32_ _ _
33-TC	3/8"	3/16"	14	TUNS33_ _ _
12-TC	7/16"	1/8"	14	TUNS12_ _ _
42-TC	1/2"	1/8"	14	TUNS42_ _ _
16-TC	1/2"	3/16"	14	TUNS16_ _ _
18-TC	9/16"	1/4"	16	TUNS18_ _ _
54-TC	5/8"	1/4"	16	TUNS54_ _ _
64-TC	3/4"	1/4"	18	TUNS64_ _ _
65-TC	3/4"	5/16"	18	TUNS65_ _ _
75-TC	7/8"	5/16"	20	TUNS75_ _ _
4-TC	1"	9/32"	20	TUNS4_ _ _
84-TC	1"	1/4"	20	TUNS84_ _ _
85-TC	1"	5/16"	20	TUNS85_ _ _
86-TC	1"	3/8"	20	TUNS86_ _ _
95-TC	1-1/8"	5/16"	22	TUNS95_ _ _
96-TC	1-1/8"	3/8"	22	TUNS96_ _ _
105-TC	1-1/4"	5/16"	24	TUNS105_ _ _
106-TC	1-1/4"	3/8"	24	TUNS106_ _ _
108-TC	1-1/4"	1/2"	24	TUNS108_ _ _
116-TC	1-3/8"	3/8"	24	TUNS116_ _ _

• **Add thickness to catalog number** when ordering, e.g., 1/4" O.D. x .015" thick x 1/8" I.D., 12 tooth cutter TUNS10_ _ _ becomes TUNS10015.

COMPOUND-LAND SAWS

The compound-land feature, sketched at right, is available on solid carbide "U"-slot saws 9/16" O.D. and up (#18-TC thru #116-TC). Because of this feature, each tooth cuts only 50% of full slot width, resulting in better chip clearance, cooler operation and production increases of up to 60% over the square-toothed Saw.

To order, **add thickness and "CL" to Catalog Number** shown above, i.e., TUNS75065CL.



V-CUTTERS ("V"-Slot)

Standard thickness ranges:

O.D.	THICKNESS
1/2"	.030" to .045"
3/4" - 1-3/8"	.030" to .065"

These cutters are provided with 40°, 50°, or 60° included angles as standards. 40° V-cutters are for thin mica, 50° for medium mica, and 60° for thick mica. See Commutator Undercutting section under Cutting Recommendations for Circular Saws for details.

Be sure to specify thickness and included angle: 40°, 50°, or 60°.
Non-standard thicknesses and angles available upon request.

TYPE NUMBER	O.D.	HOLE	NO. TEETH	CATALOG NUMBER
42-VTC	1/2"	1/8"	12	TUNSV42_ _ _ _ _
17-VTC	1/2"	3/16"	12	TUNSV17_ _ _ _ _
65-VTC	3/4"	5/16"	14	TUNSV65_ _ _ _ _
75-VTC	7/8"	5/16"	16	TUNSV75_ _ _ _ _
4-VTC	1"	9/32"	18	TUNSV4_ _ _ _ _
85-VTC	1"	5/16"	18	TUNSV85_ _ _ _ _
86-VTC	1"	3/8"	18	TUNSV86_ _ _ _ _
95-VTC	1-1/8"	5/16"	20	TUNSV95_ _ _ _ _
96-VTC	1-1/8"	3/8"	20	TUNSV96_ _ _ _ _
105-VTC	1-1/4"	5/16"	22	TUNSV105_ _ _ _ _
106-VTC	1-1/4"	3/8"	22	TUNSV106_ _ _ _ _
116-VTC	1-3/8"	3/8"	22	TUNSV116_ _ _ _ _

• **Add thickness and included angle to catalog number** when ordering, e.g., 1/2" O.D. x .045" thick x 1/8" I.D., 12 tooth cutter with 40° included angle TUNSV42_ _ _ _ _ becomes TUNSSV4204540.



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