



Rockwell
MANUFACTURING COMPANY

400 N. Lexington Ave. • Pittsburgh, Pa. 15208

SAN 8

PM-406-04-651-0001

DATED IM 10-15-71

ROCKWELL—DELTA SANDER/GRINDER

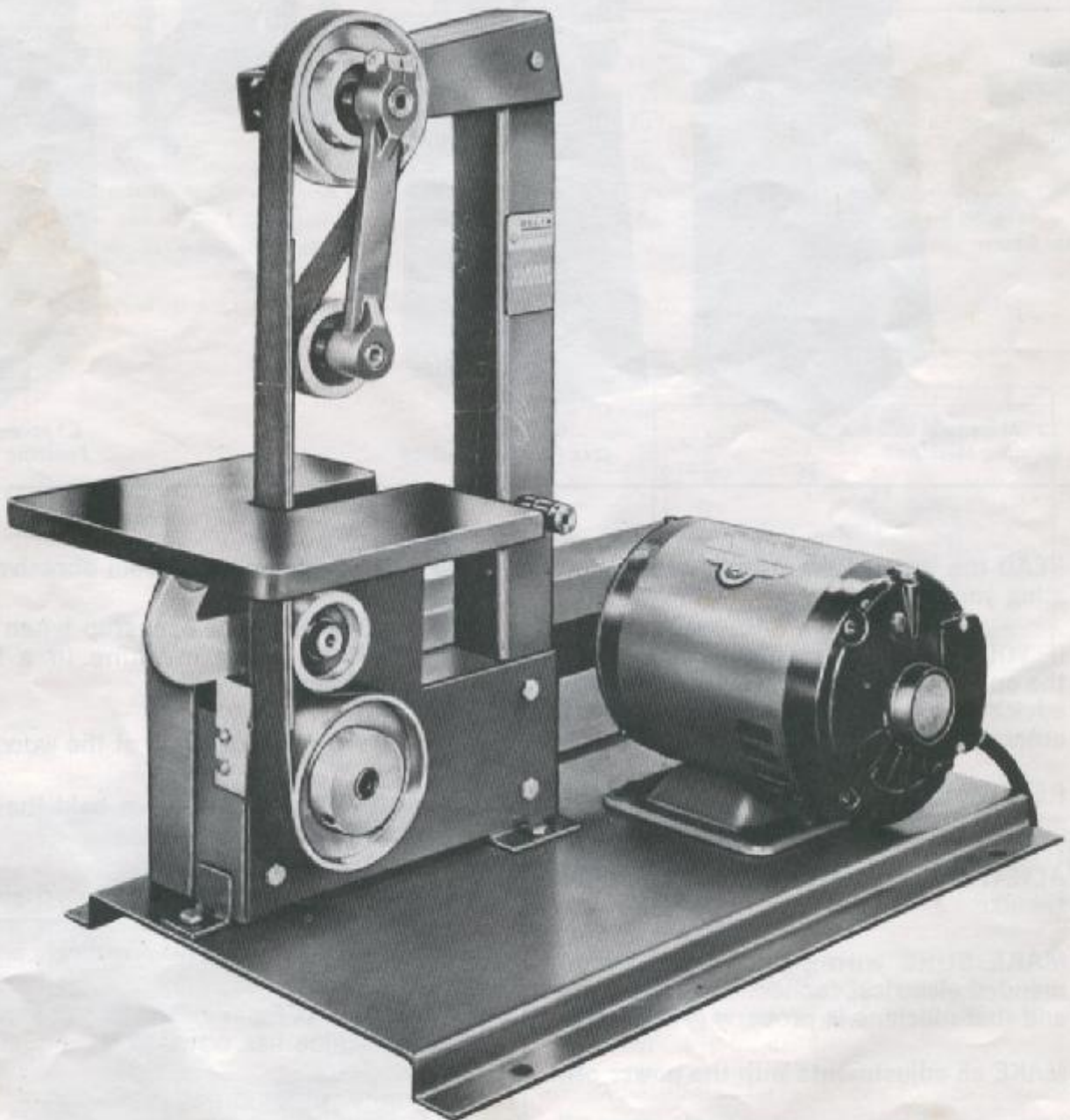


Fig. 1.

INTRODUCTION

Your new Sander/Grinder is an important machine in the industrial, commercial, school, or home shop. It can be used for practically any material, providing the proper abrasive belt is used. (SEE ABRASIVE BELTS - THEIR SELECTION AND USE.)

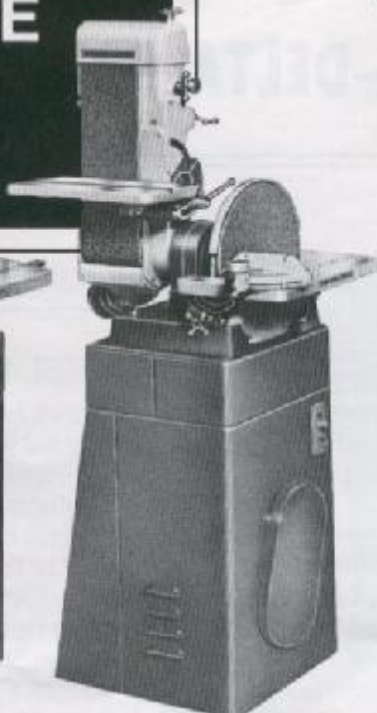
SAFETY SUGGESTIONS FOR ROCKWELL DELTA ABRASIVE FINISHING MACHINES



3½" Disc Sander



12" Abrasive Disc
Finishing Machine



6" Belt & 12"
Disc Finishing Machine



Sander/Grinder



6" Abrasive Belt
Finishing Machine

1. READ the instruction manual before operating your machine.
2. IF YOU ARE NOT thoroughly familiar with the operation of Finishing Machines, obtain advice from your supervisor, instructor or other qualified person.
3. REMOVE tie, rings, watch and other jewelry, and roll up sleeves.
4. ALWAYS wear safety glasses or a face shield.
5. MAKE SURE wiring codes and recommended electrical connections are followed and that machine is properly grounded.
6. MAKE all adjustments with the power off.
7. MAKE SURE belt is tracking correctly.
8. MAKE CERTAIN the disc or belt is not torn or loose.
9. KEEP hands away from abrasive surfaces.
10. ALWAYS use a backstop when using the belt finishing machine in a horizontal position.
11. SAND with the grain of the wood.
12. NEVER wear gloves or hold the work with a rag when sanding.
13. ALWAYS sand on downward side of disc when using the disc finishing machine, so that the work is held securely on the table.
14. SHUT OFF power and do not leave until the machine has come to a complete stop.
15. BEFORE LEAVING the machine, make sure the work area is clean.
16. DISCONNECT machine from power source when making repairs or adjustments.

INSTALLING ABRASIVE BELTS

To install or remove the Abrasive Belt, simply press down on the over-arm, as shown in Fig. 4, to release belt tension. Then remove and replace the belt. Install the belt so the arrow on the inside of the belt is pointing down at the front of the machine. Tension on the Abrasive Belt is automatically supplied by the use of a heavy spring located between the over-arm and the column.



Fig. 4.

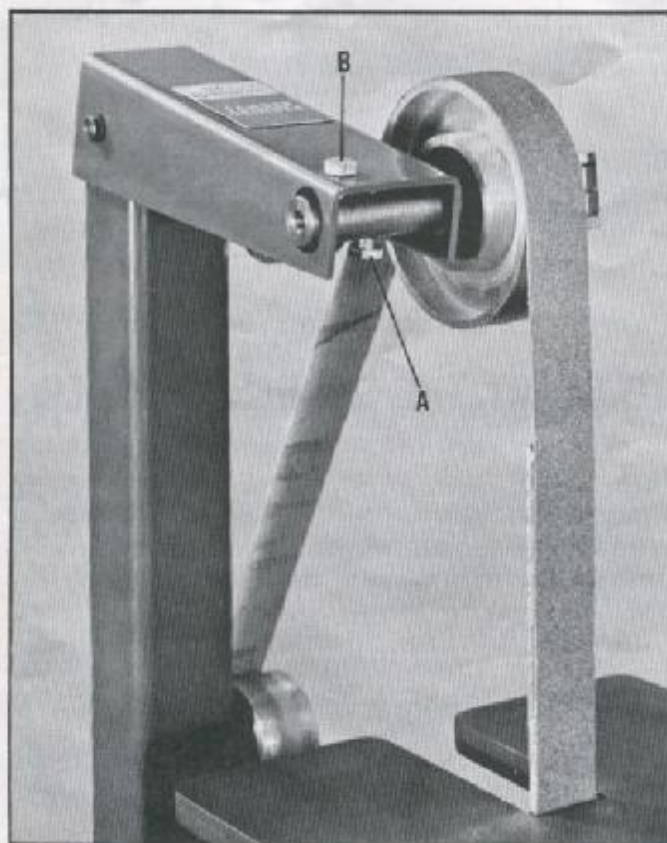


Fig. 5.

TRACKING THE BELT

The tracking adjustment is set at the factory so that the Abrasive Belt will run true on the pulleys. If, however, the belt should lead to one side or the other on the pulleys, an adjustment can be made as follows:

1. Disconnect the machine from the power source.
2. For a preliminary adjustment, turn the V-Belt by hand and check to see which way the Abrasive Belt will have to be tracked.
3. If the Abrasive Belt has to be tracked to the right, loosen cap screw (A) Fig. 5, and tighten cap screw (B). If the Abrasive Belt is to be tracked to the left, reverse this procedure. **CAUTION: THIS ADJUSTMENT IS USUALLY VERY SLIGHT.**
4. For a final check, turn the machine on and adjust further if necessary.

ADJUSTING TABLE

The table of your Sander/Grinder can be moved in or out, by loosening Lock Screw (A) Fig. 6, and sliding the table in or out until the desired position is obtained. Then tighten Lock Screw (A). To remove the table, loosen lock screw (A) Fig. 6, and pull the table straight out.

To tilt the table, loosen nut (B) Fig. 6, tilt the table to the desired angle, and tighten nut (B). The table will tilt from the usual horizontal position to a 10 degree back or 90 degree forward angle, permitting a wide range of beveling.

REMOVING PLATEN

When using your machine for "strapping" or other special operations, the platen should be removed in order to have the Abrasive Belt loose. To remove the platen, loosen the two screws (C) Fig. 6, and remove the platen from the machine.

Available as accessories for your Sander/Grinder are the 31-364 Flat Platen for 1/2" or narrower belts, and the 31-365 Convex Platen, 1/2" radius for 1" belts.

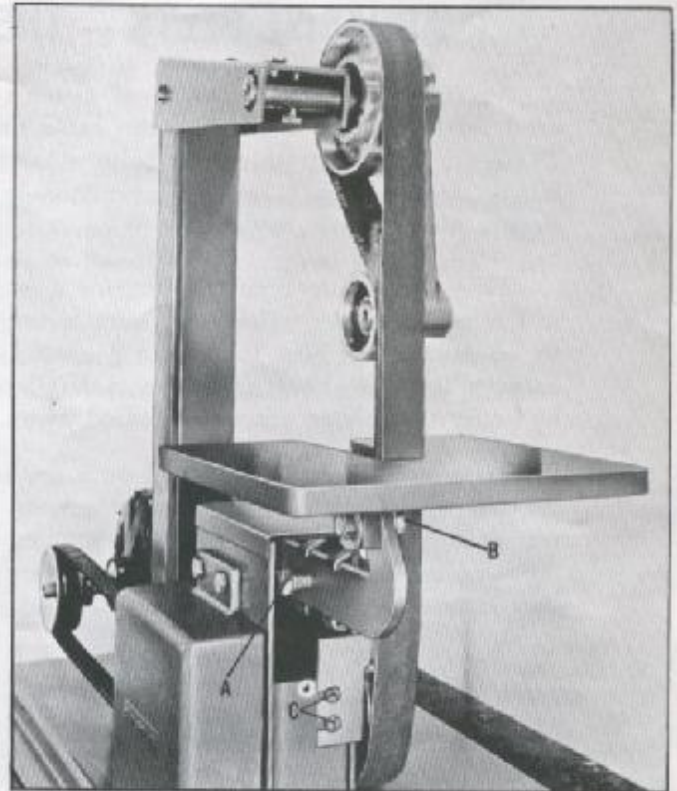


Fig. 6.

LUBRICATION

The Cat. Nos. 60-050 Standard Duty Single Phase and 66-060 Three Phase Motors used with your Sander/Grinder should be oiled occasionally with light machine oil in the two cups located on top of the motor end bells. DO NOT OVER LUBRICATE THE MOTOR.

The Cat. No. 62-660 Heavy Duty Ball Bearing Single Phase Motor does not require lubrication.

No lubrication is required on the Sander/Grinder.

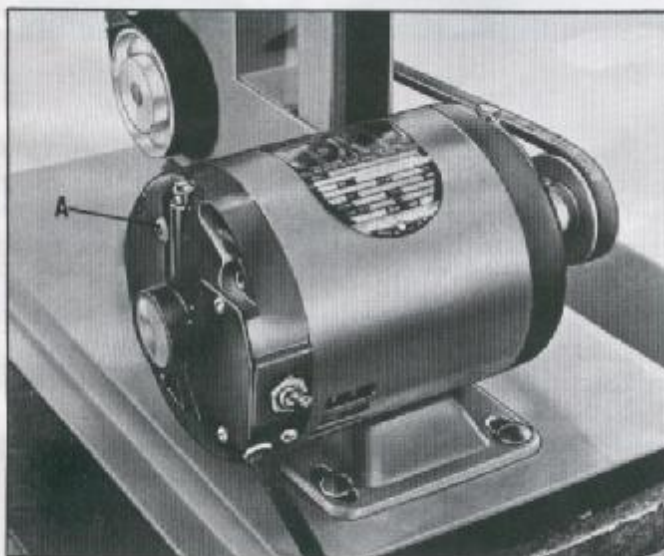


Fig. 7.

OVERLOAD PROTECTION

The Cat. No. 60-050 Single Phase Motor recommended for use on your Sander/Grinder has a red reset overload relay button in the end bell. If the motor shuts off due to overloading or low voltage, let the motor cool three to five minutes and push the reset button, (A) Fig. 7. If this trouble is repeated, investigate to determine and correct the cause of the trouble. Many times this type of failure indicates the use of an extension cord which is too long or the size is too small to carry the current required.

If overload protection is desired for the three phase motor recommended for your Sander/Grinder, the No. 1320 Manual Starter, No. 49-393 Magnetic Starter 208-220 V., and No. 49-394 Magnetic Starter 440V., are available as accessories.

ABRASIVE BELTS – THEIR SELECTION AND USE

We supply belts in a choice of seven (7) grits ranging from the coarse 40 grit belt used for fast stock removal to the extra fine 320 grit used for finishing or "coloring". These are top quality thin joint belts with cloth backing, selected bonding material and a single "closed coat" layer of aluminum oxide abrasive particles, applied by the most modern electrostatic methods.

These belts are recommended for a wide range of work on wood, metals, plastics and other materials. However, when a large amount of production work of one kind is to be done, it is best to call in a coated abrasive specialist for his specific belt recommendations. For certain specialized jobs a silicon carbide or a garnet belt may be better, and these are not supplied by us.

All materials may be worked on a dry belt. But for professional quality or for production work a low melting point grease should be used for cooler cutting, better finish, and for longer belt life. Even coarse belts will "load" when grinding aluminum dry, and so a lubricant should always be used for this material. To a varying degree, this is true of other non-ferrous metals like soft brass and zinc.

A grease stick, as shown in Fig. 8, is often applied to the belt to prevent "loading" of the belt on softer materials especially aluminum. When grinding steel or some kinds of plastic, the grease stick is often used to prevent over-heating of the work piece.

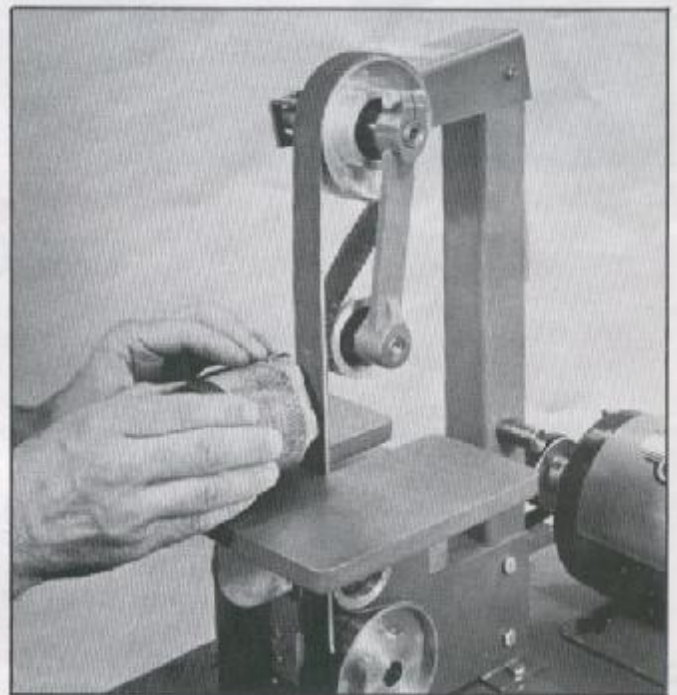


Fig. 8



For aggressive stock removal (foundry work, de-scaling, de-burring, etc.) a coarse grit may be used, and the work held directly on the contact wheel shown in Fig. 9, which we offer as an accessory.

When using the contact wheel, remove the table and platen, install contact wheel on the arbor shaft in place of the 3 1/2" diameter pulley, and run the 1" belt between the contact wheel and the top 3 1/2" diameter pulley. The 2" idler pulleys should not be used with the contact wheel. The machine should be fastened to the extreme right hand side of a wooden work bench and the right mounting bracket should be bent down and bolted to the side of your work bench.

For producing a finish, a fine or extra fine grit is used, backed up by the platen for moderate cutting action, or with the belt not supported when very little stock is to be removed.

Many times a single belt is used for both stock removal and for finish, just by lubricating one half of the belt with light grease for stock removal and the other side or half of the belt with a heavy grease for polishing to bring out a good finish. This can be done only when the parts are very small and need not be moved across the face of the belt.

Otherwise a separate belt should be used for each stage from the first to the last operation. To save time in changing and tracking belts, two machines may be placed side by side and used by one operator.

When an abrasive belt smaller than 1" is desired, the 1" belt can be split. This can be done by turning the belt inside out and with a knife or other sharp instrument cut a slot in the belt at the desired width. Then proceed to tear the belt, as shown in Fig. 10. CAUTION: ONLY TEAR THE BELT A FEW INCHES AT A TIME ONE WAY THEN REVERSE THE TEARING ACTION. THIS METHOD WILL REDUCE THE TENDENCY OF THE BELT TO UNRAVEL.



Fig. 10.

For certain applications a mist coolant attachment (not supplied by us) will be found to be helpful. If the use of a mist coolant causes the Abrasive Belt to slip on the lower drive pulley, this can be corrected by using a "tire" which can be homemade by wrapping the pulley with a piece of coated abrasive belt. The grit is of course turned to the outside and cement should be used sparingly, to avoid lumps under the "tire".

INSIDE SANDING AND GRINDING

When doing inside sanding or grinding, both idler pulleys (A and B) Fig. 11 are used. Idler pulley (B) is moved from the shaft (C) and placed on shaft (D) and idler pulley (A) is moved to the front as shown in Fig. 11. CAUTION: BEFORE MOVING IDLER ARM (E) FIG. 11, LOOSEN SCREW (F). The belt is run on the outside of the two larger pulleys and to the inside of the two idler pulleys. The platen and table can be left on the machine or removed depending on the work you are doing. When doing inside sanding or grinding a 44" abrasive belt is recommended instead of the standard 42" belt, to provide more room between the table and idler pulley (A).

HEAVY WORK WITH PLATEN

When heavy pressure of the work piece against the belt is required, the platen can be supported by the pulley (A), as shown in Fig. 11. This can be done whether the belt is threaded over the pulley (A) as shown, or whether other belt arrangements are used.

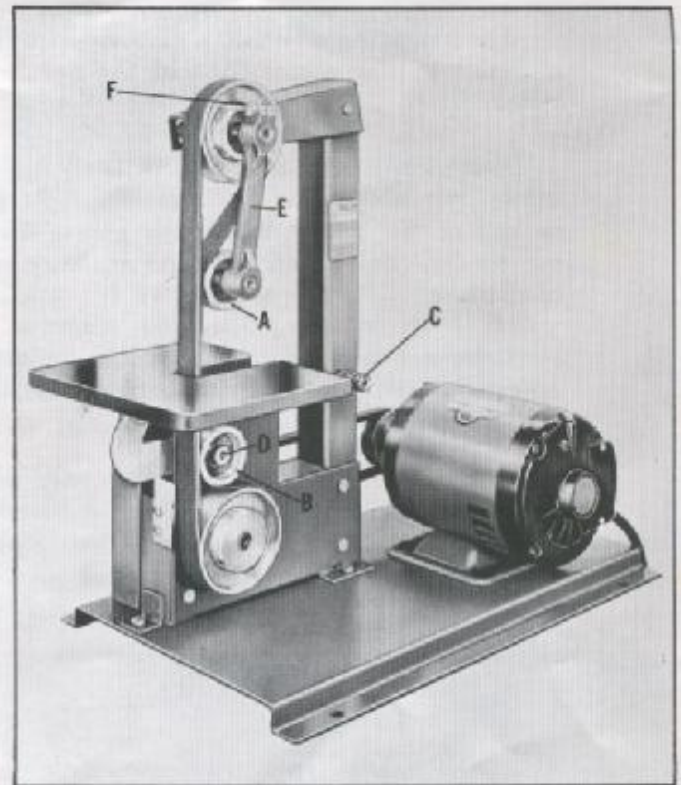

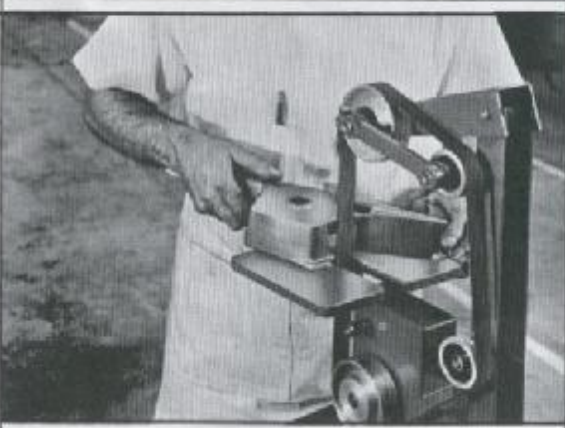
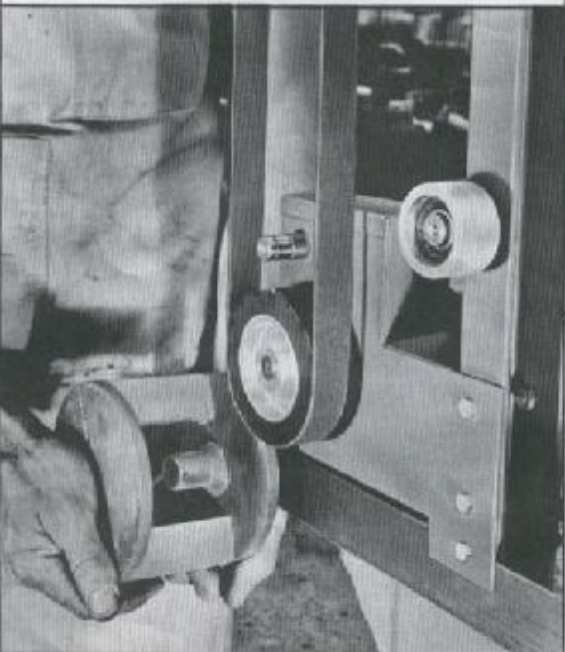

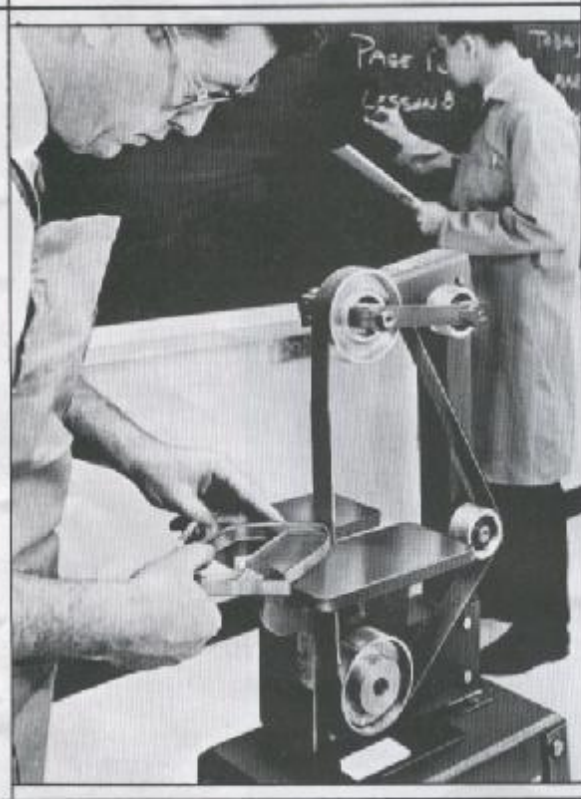






Fig. 11.

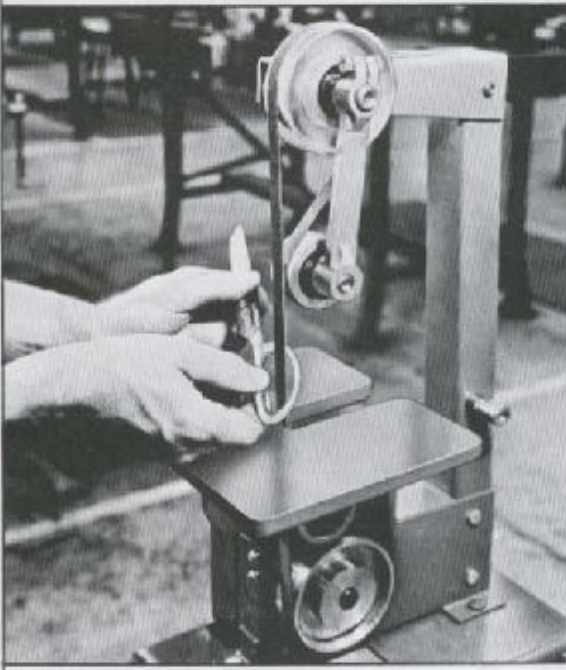
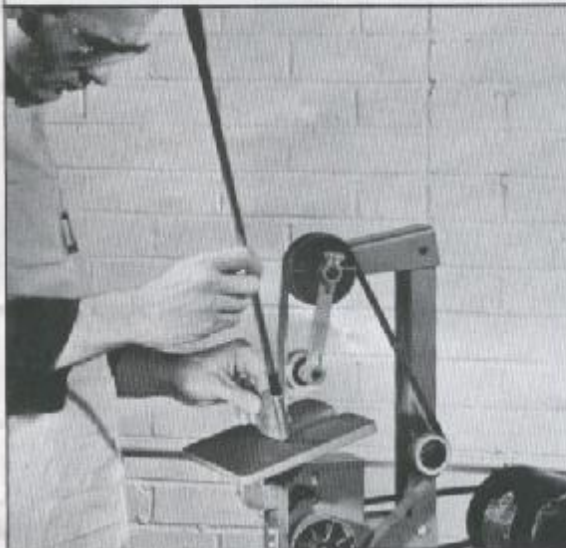

OPERATION

Your Sander/Grinder can be used for sanding, sharpening, contouring, deburring, grinding, finishing, and polishing. The following are just some of the many operations that can be performed on your machine.

WHERE USED	OPERATION	DESCRIPTION
<p style="text-align: center;">TOOLROOM</p>		<p>Sharpens cutting tools to specifications. Table can be tilted 90 degrees forward and 10 degrees back.</p>
<p style="text-align: center;">PLATING DEPT.</p>		<p>Polishes die cast aluminum housing prior to plating. Idler pulley can be used to give more room for large pieces to fit between the belt.</p>
<p style="text-align: center;">FOUNDRY</p>		<p>Aggressively removes flash and excess stock using the 31-362 contact wheel.</p> <p>When using the contact wheel remove the table and platen, install contact wheel on the arbor shaft in place of the 3 1/2" diameter pulley, and run the 1" abrasive belt between the contact wheel and the top 3 1/2" diameter pulley. The 2" diameter idler pulleys should not be used with the contact wheel.</p> <p>The machine should be fastened to the extreme right hand side of a wooden work bench and the right mounting bracket should be bent down and bolted to the side of your work bench.</p>

WHERE USED	OPERATION	DESCRIPTION
<p>PATTERN SHOP</p>		<p>Narrow belt gets into small openings ... finishes patterns rapidly. Close tolerance finishing dimensions can be held when sanding up to a line in pattern work.</p>
<p>SCHOOL SHOP</p>		<p>Enables students to contour plastic parts perfectly.</p>
<p>HOME WORKSHOP</p>		<p>Home workshop items, such as this table leg, can be sanded in only minutes.</p>

WHERE USED	OPERATION	DESCRIPTION
<p>ELECTRONICS LAB.</p>		<p>Perfectly touches up parts for precision assembly.</p>
<p>ASSEMBLY DEPT.</p>		<p>Quickly removes sharp edges on metal stampings, even in small openings.</p>
<p>SIGN SHOP</p>		<p>After quickly threading belt, internal sanding becomes an easy operation.</p>

WHERE USED	OPERATION	DESCRIPTION
<p>SCISSORS MANUFACTURER</p>		<p>Using a narrow belt, internally grinds rounded edges with ease.</p>
<p>GOLF PRO SHOP</p>		<p>Quickly removes rust to make golf irons look like new.</p>
<p>INDUSTRIAL PLANT</p>		<p>Rapidly deburrs sharp edge following stock cut-off.</p>

AUTHORIZED DELTA PARTS DISTRIBUTORS

CALIFORNIA

LOS ANGELES, 90007
Rockwell Manufacturing Company
2400 South Grand Avenue
Phone: 213 749-0386

OAKLAND, 94601
Rockwell Manufacturing Company
4621 Malat Street
Post Office Box 7327
Phone: 415 535-2424

COLORADO

DENVER, 80207
Rockwell Manufacturing Company
4900 East 39th Avenue
Phone: 303 388-5803

GEORGIA

ATLANTA (Doraville), 30340
3500 McCall Place
Phone: 404 458-2263

HAWAII

HONOLULU, 96819
Rockwell Manufacturing Company
3209 Koapaka Street
Phone: 808 872-048

ILLINOIS

CHICAGO (Melrose Park), 60160
Rockwell Manufacturing Company
4533 North Avenue
Phone: 312 921-2650

MASSACHUSETTS

BOSTON (Allston), 02134
Rockwell Manufacturing Company
414 Cambridge Street
Phone: 617 782-1700

MICHIGAN

DETROIT (Southfield), 48075
Rockwell Manufacturing Company
18650 West Eight Mile Road
Phone: 313 358-1000

MISSOURI

N. KANSAS CITY, 64116
Rockwell Manufacturing Company
1141 Swift Avenue
Phone: 816 221-2070

NEW YORK

NEW YORK, 10013
Rudolf Bass, Incorporated
175 Lafayette Street, Cor. Grand Street
Phone: 212 CA 6-4000

BUFFALO, 14204
Karle Saw Company, Incorporated
138-150 Chicago Street, Cor. So. Park Avenue
Phone: 716 853-8053 or 853-8054

OHIO

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Rockwell Manufacturing Company
906 Dalton Street
Phone: 513 241-2737

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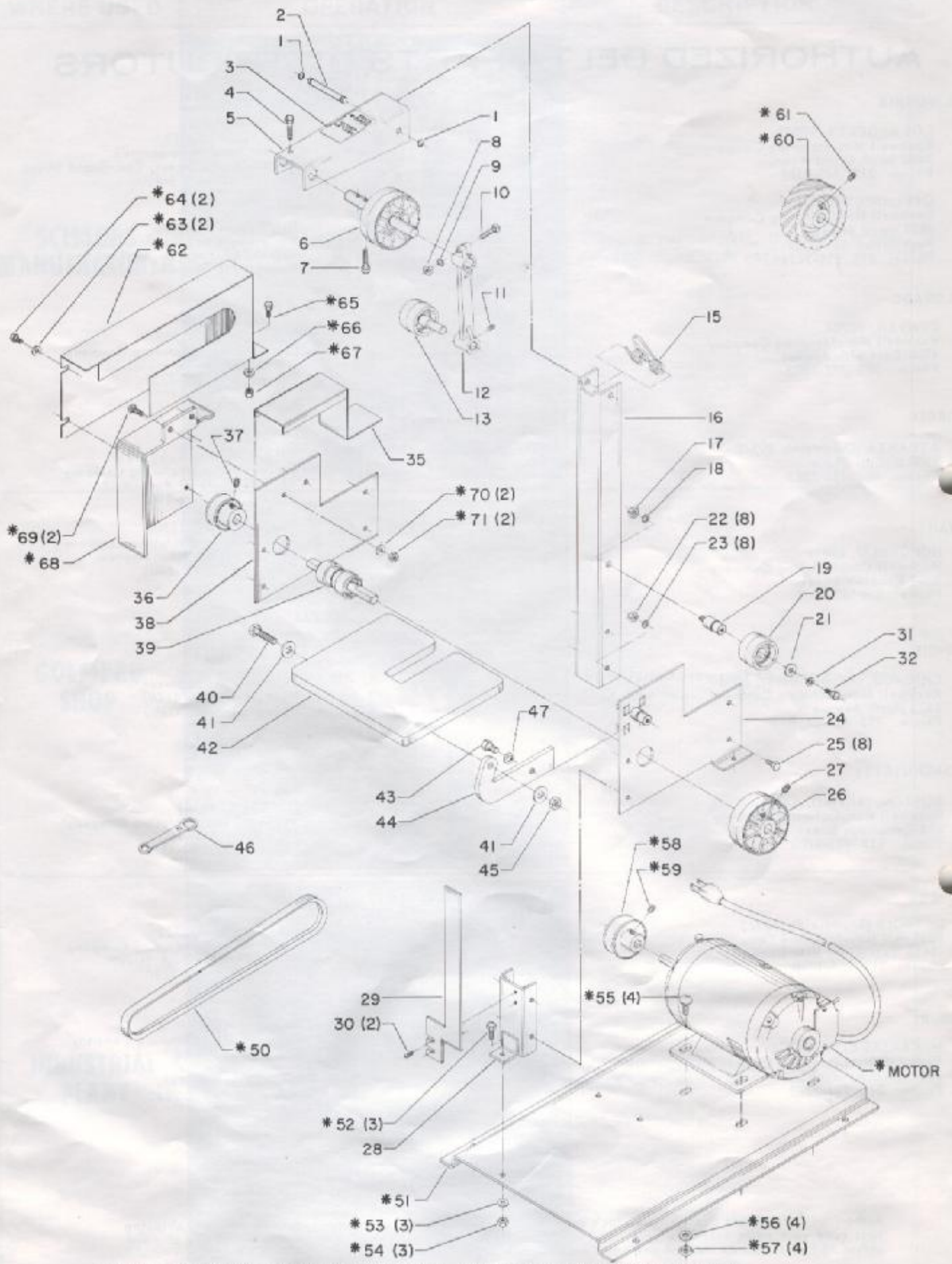
WISCONSIN

MILWAUKEE, 53222
Rockwell Manufacturing Company
10700 West Burleigh Street
Phone: 414 774-3650

CANADA

GUELPH, ONTARIO
Rockwell Manufacturing Company
of Canada Limited
40 Wellington Street
Post Office Box 84R
Phone: 807 822-2840

Authorized Delta Parts Distributors stock a complete line of replacement parts. To save time and shipping cost send your parts orders to your nearest distributor and in most cases they will be filled and shipped within 48 hours. We do not fill any parts orders direct from the factory.



* THESE PARTS ARE NOT FURNISHED WITH CAT. No. 31-350, BASIC MACHINE.

Replacement Parts

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
1	SP-7423	Retaining Ring	40	SP-648	3/8-16 x 1 1/4" Hex. Hd. Screw
2	406-04-406-0004	Shaft	41	SP-1603	7/16 x 1 x 5/64" Steel Washer
3	960-03-012-0406	Name Plate	42	406-04-391-0001	Table
4	901-09-180-2316	1/4-28 x 1" Hex. Hd. Screw	43	SP-677	3/8-24 x 1 1/2" Hex. Hd. Screw
5	406-04-304-0001	Overarm	44	BG-144	Table Bracket
6	406-04-406-0002	Pulley with Bearing & Shaft	45	SP-5900	3/8"-16 Hex. Nut
7	901-02-180-2316	1/4-28 x 1" Hex. Hd. Screw	46	Cat. #1626	7/16" Hex. & 9/16" Hex. Box Wrench
8	SP-1034	1/4-20 Hex. Nut	47	SP-1780	3/8" Int. Tooth Lockwasher
9	SP-1777	1/4" Ext. Tooth Lockwasher	* 50	Cat. #453	V-Belt (Used with Cat. #50-106 Stand)
10	901-11-010-2377	1/4-20 x 1" Sq. Hd. Bolt	* 50	Cat. #49-106	V-Belt (Used with Cat. #31-360 Base)
11	SP-208	1/4-20 x 1/4" Soc. Set Screw	* 51	Cat. #31-360	Base Plate, including:
12	406-04-814-0001	Idler Arm	* 52	SP-612	1/4-20 x 5/8 Hex. Hd. Cap Scr.
13	406-04-406-0001	Idler Pulley W/Bearing & Shaft	* 53	SP-1614	9/32 x 5/8 x 1/16 Steel Washer
15	926-02-251-8875	Double Tension Spring	* 54	SP-1034	1/4-20 Hex. Nut
16	406-04-836-0001	Column	* 55	SP-834	5/16-18 x 3/4 Carriage Bolt
17	SP-6435	5/16"-18 Hex. Jam Nut	* 56	SP-1804	5/16 x 3/4 x 1/16 Steel Washer
18	SP-1750	5/16" Int. Tooth Lockwasher	* 57	SP-1303	5/16-18 Square Nut
19	406-04-404-0307	Idler Pulley Shaft	* 58	Cat. #3250	2 1/2" Dia. Motor Pulley (Specify 1/2, 5/8, 3/4 Bore), including:
20	926-11-991-9440	Idler Pulley	* 59	SP-206	5/16-18 x 5/16 Soc. Hd. Set Scr.
21	904-01-031-7712	17/64 x 13/16 x 1/16" Steel Washer	* 60	Cat. #31-362	4" Dia. Rubber Contact Wheel, including:
22	SP-1034	1/4"-20 Hex. Nut	* 61	SP-206	5/16-18 x 5/16 Soc. Hd. Set Scr.
23	SP-1757	1/4" Ext. Tooth Lockwasher	* 62	Cat. #31-366	3elt Guard, including:
24	406-04-372-0001	Right Plate Assembly	* 63	SP-1614	9/32 x 5/8 x 1/16 Steel Washer
25	SP-611	1/4-20 x 1/2" Hex. Hd. Screw	* 64	SP-601	1/4-20 x 3/8" Hex. Hd. Screw
26	926-11-991-9441	Drive Pulley, including:	* 65	SP-611	1/4-20 x 1/2" Hex. Hd. Screw
27	SP-206	5/16-18 x 5/16" Soc. Set Screw	* 66	SP-1614	9/32 x 5/8 x 1/16 Steel Washer
28	406-04-330-0002	Front Cover Plate	* 67	SP-1034	1/4-20 Hex. Nut
29	Cat. #31-363	Flat Platen for 1" Belts	* 68	Cat. #31-361	Guard for Arbor Pulley, including:
30	SP-561	#10-32 x 3/8" Rd. Hd. Screw	* 69	SP-612	1/4-20 x 5/8" Hex. Hd. Screw
31	SP-1757	1/4" Ext. Tooth Lockwasher	* 70	SP-1614	9/32 x 5/8 x 1/16 Steel Washer
32	SP-611	1/4-20 x 1/2" Hex. Hd. Screw	* 71	SP-1034	1/4"-20 Hex. Nut
33	406-04-331-0001	Gover			
36	Cat. #3200	2" Dia. Arbor Pulley (5/8" Bore) including:			
37	SP-201	5/16-18 x 5/16" Soc. Set Screw			
38	406-04-372-0002	Left Plate			
39	926-10-991-8615	Arbor with Bearing			

* Not furnished with Cat. #31-350 Basic Machine

MOTORS AND CONTROLS

- 60-050 Standard Duty Single Phase Motor, 1/2 HP, 115V, 60 cycle, AC, 3450 rpm, 1/2" single shaft. Includes on-and-off toggle switch and 115V 8-foot cord with 3-prong grounding type plug.
- 62-660 Heavy Duty Single Phase Motor, 1/2 HP, 115/230V, 60 cycle, 3450 rpm, 5/8" single shaft. Includes on-and-off toggle switch and 8-foot cord with 3-prong grounding type plug.
- 66-960 Three Phase Motor, 1/2 HP, 208-220/440V, 60 cycle AC, 3450 rpm, 1/2" single shaft. without switch or power cord.
- 1320 Manual Starter. Provides overload protection.
- 49-333 Magnetic Starter. Provides low voltage, no-voltage and overload protection (for 60 cycle, 208-230V, AC only).
- 49-334 Magnetic Starter. Provides low voltage, no-voltage and overload protection (for 60 cycle, 440 V, AC only.)
- 49-386 Switch Box and Cable. For use with 60-050 motor.
- 1330 Switch Rod. For use with 60-050 motor on steel stand.
- 49-318 Mounting Bracket. For mounting manual or magnetic starters on 50-106 Steel Stand.
- 49-315 Cable Kit. Three-wire type, 3-foot long, with clamp fittings. Used for wiring manual or magnetic starters to 66-060 motor.

ACCESSORIES

- 49-105 V-Belt, 30 1/8" o.c. Used with 31-360 Base.
- 453 V-Belt, 47 5/8" o.c. Used with 50-106 Steel Stand.
- 5250 Motor Pulley, 2 1/8" diameter (specify 1/2, 5/8 or 3/4" bore)
- 31-360 Metal Base Plate, 8-3/32 x 17". Drilled for mounting Sander/Grinder.
- 50-106 Open Steel Stand. With shelf for motor.
- 31-361 Guard for Arbor Pulley. For rear or underneath motor position.
- 31-362 Rubber contact wheel. 4" diameter, 1" Face.
- 31-363 Flat Platen for 1" Belts.
- 31-364 Flat Platen for 1/2" or narrower belts.
- 31-366 Convex Platen 1/2" radius, for 1" belts.
- 31-366 Belt Guard
- 31-370 Abrasive Belt, aluminum oxide, 1" x 42", 40 grit (coarse) (Package of 5).
- 31-371 Abrasive Belt, aluminum oxide, 1" x 42", 60 Grit (coarse) (Package of 5).
- 31-372 Abrasive Belt, aluminum oxide, 1" x 42", 80 grit (medium) (Package of 5).
- 31-373 Abrasive Belt, aluminum oxide, 1" x 42", 120 grit (medium) (Package of 5).
- 31-374 Abrasive Belt, aluminum oxide, 1" x 42", 150 grit (fine) (Package of 5).
- 31-375 Abrasive Belt, aluminum oxide, 1" x 42", 220 grit (fine) (Package of 5).
- 31-376 Abrasive Belt, aluminum oxide, 1" x 42", 320 grit (extra fine) (Package of 5).



YOUR ROCKWELL WARRANTY

Rockwell is proud of the quality of the power tools which it sells. The component parts of our tools are inspected at various stages of production, and each finished tool is subjected to a final inspection before it is placed in its specially designed carton to await shipment. Because of our confidence in our engineered quality, Rockwell agrees to repair or replace any part or parts of Rockwell Power Tools or Rockwell Power Tool Accessories which examination proves to be defective in workmanship or material. In order to take advantage of this guarantee, the complete portable power tool or accessory, or in the case of machinery, the part must be returned prepaid to the appropriate factory, Rockwell service center, or authorized service station for examination. This guarantee, of course, does not include repair or replacement required because of misuse, abuse, or normal wear and tear. Repairs made by other than our factory, service center, or authorized service station, relieves Rockwell of further liability under this guarantee. **THIS GUARANTEE IS MADE EXPRESSLY IN PLACE OF ALL OTHER GUARANTEES OR WARRANTIES, EXPRESS OR IMPLIED, WITH RESPECT TO QUALITY, MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE.**