

FILE NAME: AMMCO (AMC)

DATE: 1985

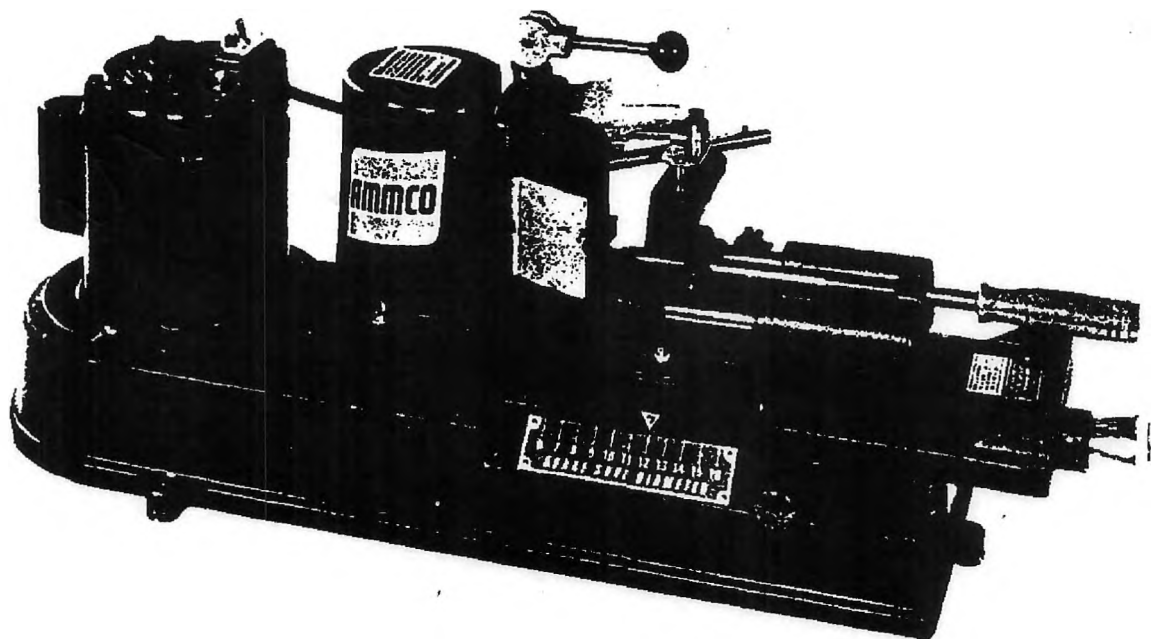
DOC#: AMC019

DOCUMENT DESCRIPTION: Operating and Service Instructions

OPERATING & SERVICE INSTRUCTIONS

8818

With Parts Identification



MODELS 8000, 880 & 890 BRAKE SHOE GRINDERS

AMMCO **AMMCO TOOLS, INC.**
WACKER PARK
NORTH CHICAGO, IL 60064 U.S.A.
(312) 689-1111 CABLE: AMMCO EXP TELEX: 254795

PROFESSIONAL BRAKE LATHES, WHEEL BALANCERS, TIRE CHANGERS, ALIGNMENT SYSTEMS,
HYDRAULIC PRESSES, ENGINE REPAIR TOOLS FOR AUTOMOTIVE AND TRUCK SERVICE.

②

TABLE OF CONTENTS

Page 2	Safety Instructions
3	Operating Instructions & Parts Identification
6	Electrical Safety Instructions
8	General Operating Instructions
10	Metric Operating Instructions
11	Calibration, English & Metric
12 - 17	Parts Lists & Assembly Drawings
18	Electrical Hook-up & Running Overload Protection
18	Motor Installation, Lubrication & Repair

WARRANTY

The AMMCO Warranty covers defective materials and workmanship, under normal usage, for a year from the date of purchase. Replacement parts may be routinely ordered through your AMMCO Jobber.

EMERGENCY PARTS ORDERS: AMMCO will cooperate fully on all emergency parts orders placed directly with the Jobber. These orders should be written separately and NOT included as an item on a standard part order.

Because of AMMCO's constant program of improvement, specifications are subject to change without notice.

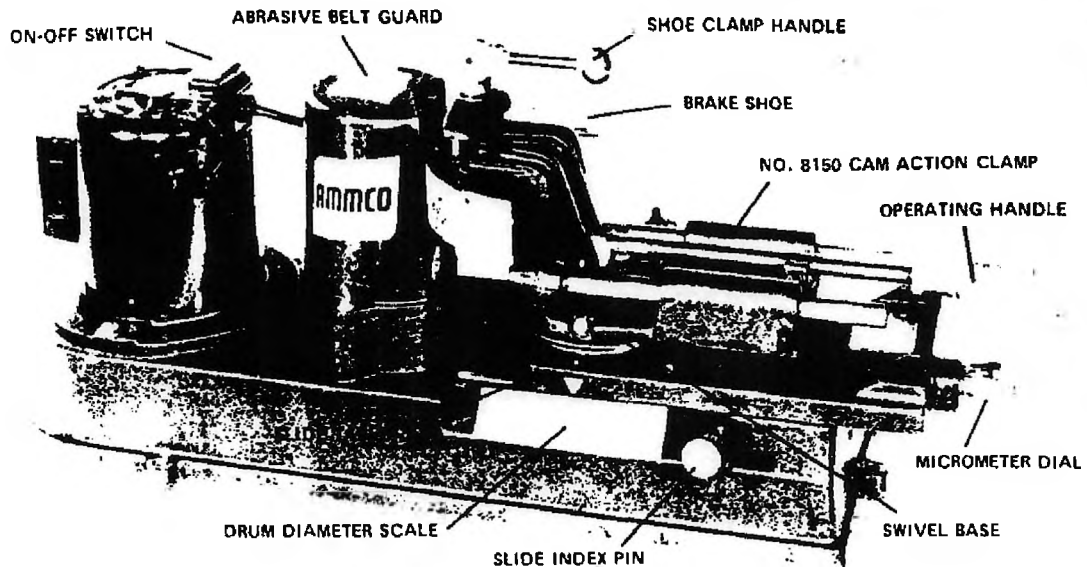
IMPORTANT SAFETY INSTRUCTIONS

FOR ALL TOOLS AS APPLICABLE:

1. **KEEP GUARDS IN PLACE** and in working order.
2. **REMOVE ADJUSTING KEYS AND WRENCHES.** Form the habit of checking to see that keys and adjusting wrenches are removed from the tool before turning it on.
3. **KEEP WORK AREA CLEAN.** Cluttered areas and benches invite accidents.
4. **AVOID DANGEROUS ENVIRONMENT.** Don't use power tools in damp or wet locations, or expose them to rain. Keep work area well lighted.
5. **KEEP CHILDREN AWAY.** All visitors should be kept a safe distance away from the work area.
6. **MAKE THE WORKSHOP KID PROOF** with padlocks, master switches, or by removing starter keys.
7. **DON'T FORCE A TOOL.** It will do the job better and safer at the rate for which it was designed.
8. **USE THE RIGHT TOOL.** Don't force a tool or an attachment to do a job for which it was not designed.
9. **WEAR PROPER APPAREL.** No loose clothing, gloves, neckties, or jewelry to get caught in moving parts. Non-slip footwear is recommended. Wear protective hair covering to contain long hair.
10. **USE SAFETY GLASSES.** Also use a face or dust mask if the cutting operation is dusty.
11. **SECURE THE WORK.** Use clamps or a vise to hold the work when practical. It's safer than using your hand and it frees both hands to operate the tool.
12. **DON'T OVERREACH.** Keep proper footing and balance at all times.
13. **MAINTAIN TOOLS WITH CARE.** Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.
14. **DISCONNECT TOOLS** before servicing; and when changing accessories such as blades, bits, cutters, etc.
15. **AVOID UNINTENTIONAL STARTING.** Make sure the switch is in the OFF position before plugging the tool in.
16. **USE RECOMMENDED ACCESSORIES.** Consult the manufacturer's catalogs for recommended accessories. The use of improper accessories make cause risk of injuries to persons.
17. **NEVER STAND ON A TOOL.** Serious injury could occur if the tool is tipped or if the cutting tool is unintentionally contacted.
18. **CHECK DAMAGED PARTS.** Before the further use of the tool, a guard or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function — check for alignment of moving parts, binding of moving parts, breakage of parts, mounting, and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced.
19. **DIRECTION OF FEED.** Feed work into a blade or cutter against the direction of rotation of the blade or cutter only.
20. **NEVER LEAVE TOOLS RUNNING UNATTENDED. TURN THE POWER OFF.** And don't leave the tool until it comes to a complete stop.
21. **BE SURE EQUIPMENT FOR ASBESTOS DUST CONTROL IS IN GOOD WORKING ORDER.** Breathing asbestos dust may cause serious bodily harm.

Each AMMCO Shoe Grinder has a common Main Base, Motor, Abrasive Drive and Clamp Swivel Base. The three types of Brake Shoe Clamp provide the necessary variety of shoe location, clamping and arc adjustment to properly grind virtually all brake shoes.

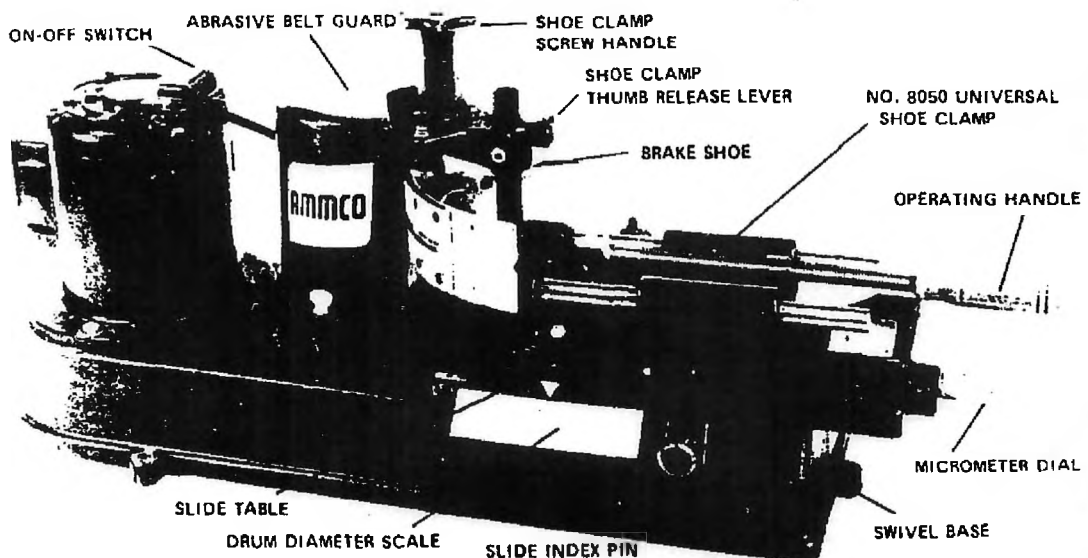
The Drive Motor is a ½ hp, 115/230 v AC, 60 Hz, 8 amp, 1 phase, 1725 rpm, capacitor start, ball bearing motor. It is guaranteed by the motor manufacturer. If warranty service is required on the motor, it should be done by an authorized service station of the motor manufacturer.



Model 880 Brake Shoe Grinder with No. 8150 Cam Action Clamp

For simplicity of operation and safety, all AMMCO Shoe Grinders have the same basic controls: On-Off Switch, Drum Diameter Scale, Slide Index Pin, Micrometer Dial and Abrasive Belt with Guard. Each Shoe Clamp has an Operating Handle to advance the work and to arc the shoe. The

photo above illustrates the high volume type Shoe Grinder, its Cam Action Clamp, and all controls. The photo below illustrates the Grinder recommended for the Brake Specialist that grinds a wide range of brake shoe types.



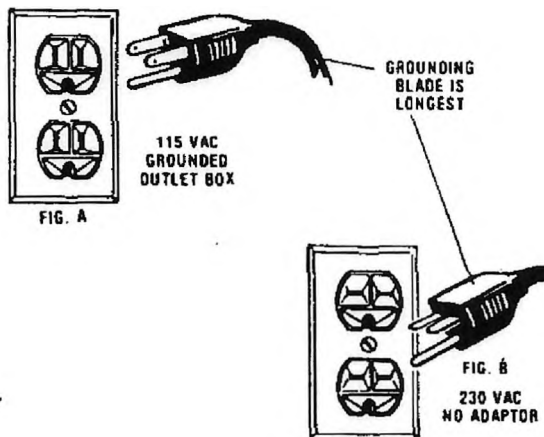
Model 8000 Brake Shoe Grinder with No. 8050 Universal Shoe Clamp

ELECTRICAL SAFETY INSTRUCTIONS

GROUNDING: The Brake Shoe Grinder should be electrically grounded to protect the operator from shock.

Cord-connected Grinders — The Grinder is equipped with an approved 3-conductor cord and a 3-prong grounding type plug to fit the proper grounding type receptacle. The green conductor in the cord is the grounding wire. Never connect the green wire to a live terminal. If your Grinder is for use on less than 150 volts, it has a plug and outlet as illustrated in Figure A.

There is no adaptor for Figure B plugs and outlets (230 volts).



Use only 3-wire extension cords which have 3-prong grounding type plugs and 3-pole receptacles which accept the Grinder's plug.

Replace or repair damaged or worn cords immediately.

Permanently connected Grinders — The Grinder may be connected to a grounded, metal-enclosed wiring system such as that installed by a licensed electrician. A separate grounding conductor (wire) should be connected to the equipment grounding terminal on the Grinder Motor.

See manufacturer's recommendations for electrical hook-up wire size, running overload protection, lubrication, repair parts, and installation on page 18.

GRINDER & DUST COLLECTOR SET-UP

The Grinder and Dust Collection System are mounted on the right hand end of a bench and, since the Dust Collector is attached to the bench end panel, the Shoe Grinder should not be bolted down until both units are properly positioned.

On an existing bench (other than an AMMCO Model 9890 Mobile Bench):

Set the Grinder on the bench top close to the right

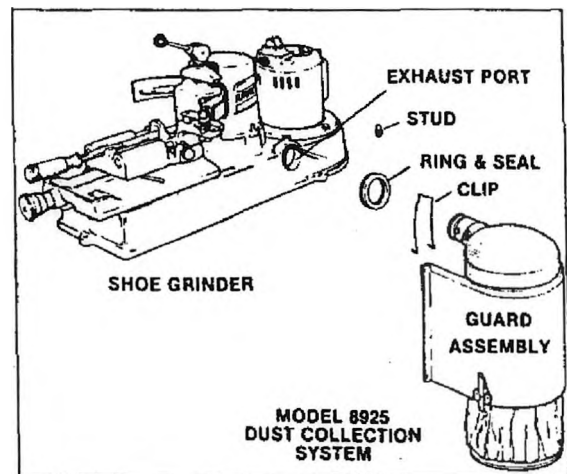
hand edge, in from the front edge so it is still comfortable to reach brake shoes in the Clamp.

Assemble the complete Dust Collection System and attach it to the Brake Shoe Grinder exhaust port temporarily, supporting it as necessary. Turn the Shoe Grinder ON to inflate the Dust Bag and position both units so there is no air restriction or unnecessary strain on the Dust Bag.

Center punch and drill the four mounting holes in the Guard Assembly and fasten the Dust Collector to the bench end.

On an AMMCO Model 9890 Bench:

Use the template and instructions supplied with the Dust Collection System.



ASSEMBLE THE DUST COLLECTOR

Refer to the illustrated parts list for proper parts positioning.

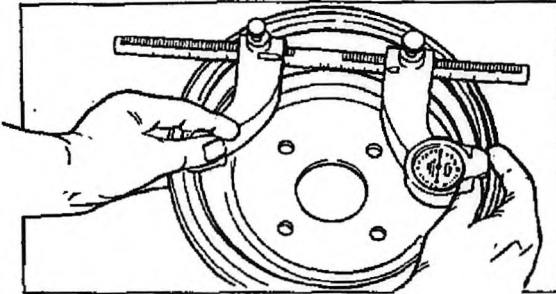
1. Slip the Ring and Seal onto the Collector Elbow and join the Dust Collector to the Grinder exhaust port.
2. The Clip, part number 11197, straddles the Elbow behind the two protruding lugs. The "feet" of the Clip hook under the Grinder Base to provide the necessary grip to seal the two units together when the Clip is snapped over the Stud.
3. The Dust Bag and rubber Seal are pushed down through the Guard to hang above the Pail.
4. Press a plastic Disposal Bag into the bottom of the Pail and fold the excess over the top edge. Lift the Pail up under the Guard Assembly and press it against the rubber Seal to seat it in the Ring. Clamp the Pail on.

ABRASIVE BELTS. To replace an Abrasive Belt, remove the two thumb screws and lift off the Abrasive Belt Guard. Remove the two allen screws from the Retaining Clip, along with the Hold Down Clip. Pull the Retaining Clip up and away from the Belt, or slip the Belt and Clip off the Arbor together. Remove the Clip from the Belt.

GENERAL OPERATING INSTRUCTIONS

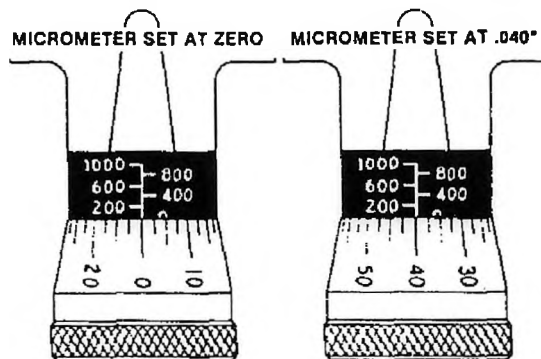
Inch measure, scales and dimensions

1. Measure the inside diameter of the finished brake drum in which the shoe is to fit with a Brake Drum Micrometer.



Refer to picture callouts for identification of operating parts.

2. Release the Slide Lock, the lever located beneath the Swivel Base and on top of the Slide Table on the right hand side.
3. Adjust the Micrometer Dial to zero.
4. Pull the Slide Index Pin outward and slide the Table to the proper drum diameter indicated on the Drum Diameter Scale: 6" to 16".



5. Set the Micrometer Dial to the exact drum diameter measurement needed: .000" to 1.000". The Dial has a range of 1" and thus can be set for any intermediate dimension. Each full revolution of the Dial changes the diameter .200".

NOTE

The Grinders are factory calibrated to grind .060" **SMALLER** than the actual drum diameter. This is done automatically—you set the Micrometer Dial to the **EXACT** drum diameter needed.

6. Tighten the Slide Lock before grinding by pulling the lever toward you.

CLAMPING THE SHOE: Refer to the illustration that shows the type of Clamp used in your Grinder. In general, the No. 8050 Universal Brake Shoe Clamp grips the shoe on the edges of the shoe backing plate while the No. 8150 and No. 8250 Clamps grip the shoe on its web.

- A. Place the lined shoe in the shoe Clamp:

No. 8050 and No. 8150 Clamps — visually center the lining in the Clamp — **NOT** the entire shoe.

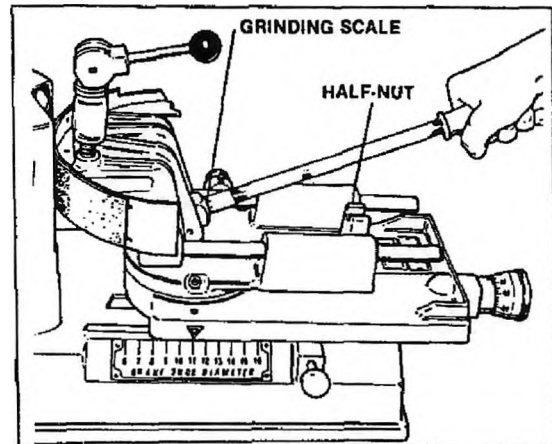
No. 8250 Clamp — the shoe anchor eye is set against the proper Anchor Sleeve. See page 9.

- B. When the shoe is fully seated, tighten the Clamp.

GRINDING THE SHOE: BEFORE STARTING THE MOTOR, be sure the Dust Collection System and Abrasive Belt are correctly installed and in proper working order. The Dust Collector works automatically each time the Shoe Grinder is turned on.

Lift the Operating Handle out of the half-nut and push the entire Clamp with the shoe toward the Abrasive Belt. Stop when the shoe is just barely clear of the Belt and lower the Operating Handle back into the half-nut. Swing the Handle away from you (toward the Dust Bag) and start the motor.

Twisting the Operating Handle clockwise advances the shoe into the Abrasive Belt. The Grinding Scale at the forward end of the Operating Handle is graduated in THOUSANDTHS and is read by the operator to set the amount of grind for each swing of the Handle. It is also read to keep the lining thickness of each set of brake shoes the same.



Advance the shoe no more than .005" at a time and do it **only when the Operating Handle is on the Dust Bag side of the Grinder.** This will provide a smooth cut. Move the Handle at an even rate across the entire shoe and try not to grind too fast.

Continue grinding until the shoe lining cleans up across its full arc — then stop. Additional grinding will only waste lining.

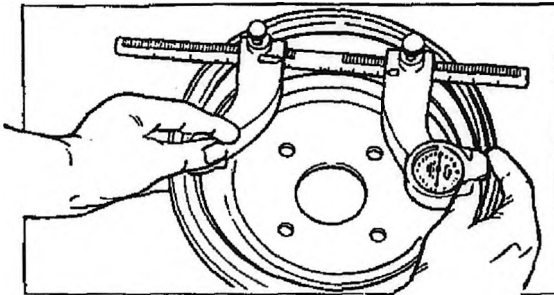
Read the total amount of lining removed from the shoe by checking the Grinding Scale. Use this as a reference when grinding the rest of the set of shoes.

The brake shoe has now been "cam ground" and its radius is .060" smaller than the inside radius of the finished drum. This grind provides a slight toe and heel clearance at the very ends of the shoe lining segment of about .005" to .008".

METRIC OPERATING INSTRUCTIONS

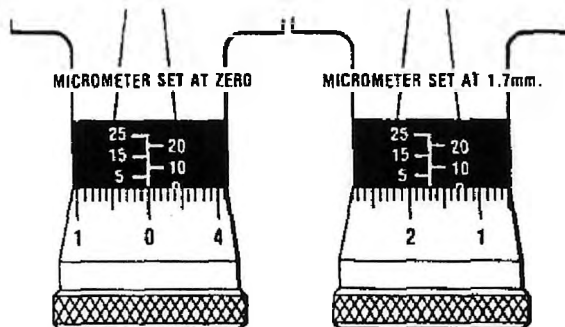
Metric measure, scales and dimensions

1. Measure the inside diameter of the finished brake drum in which the shoe is to fit with a Brake Drum Micrometer.



Refer to picture callouts for identification of operating parts.

2. Release the Slide Lock, the lever located beneath the Swivel Base and on top of the Slide Table on the right hand side.
3. Adjust the Micrometer Dial to zero.
4. Pull the Slide Index Pin outward and slide the Table to the proper drum diameter indicated on the Drum Diameter Scale: 150mm to 400mm.



5. Set the Micrometer Dial to the exact drum diameter measurement needed: .000 to 25.000mm. The Dial has a range of 25mm and thus can be set for any intermediate dimension. Each full revolution of the Dial changes the diameter 5mm.

NOTE

The Grinders are factory calibrated to grind 1.5mm SMALLER than the actual drum diameter. This is done automatically—you set the Micrometer Dial to the EXACT drum diameter needed.

6. Tighten the Slide Lock before grinding by pulling the lever toward you.

CLAMPING THE SHOE: Refer to the illustration that shows the type of Clamp used in your Grinder. In general, the No. 8050 Universal Brake Shoe Clamp grips the shoe on the edges of the shoe backing plate while the No. 8150 and No. 8250 Clamps grip the shoe on its web.

- A. Place the lined shoe in the shoe Clamp:

No. 8050 and No. 8150 Clamps — visually center the lining in the Clamp — NOT the entire shoe.

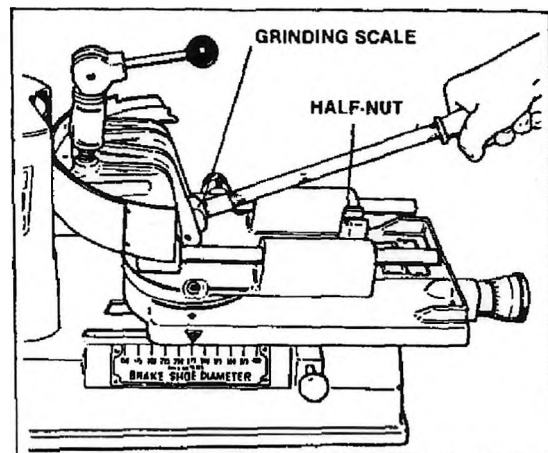
No. 8250 Clamp — the shoe anchor eye is set against the proper Anchor Sleeve. See page 9.

- B. When the shoe is fully seated, tighten the Clamp.

GRINDING THE SHOE: BEFORE STARTING THE MOTOR, be sure the Dust Collection System and Abrasive Belt are correctly installed and in proper working order. The Dust Collector works automatically each time the Shoe Grinder is turned on.

Lift the Operating Handle out of the half-nut and push the entire Clamp with the shoe toward the Abrasive Belt. Stop when the shoe is just barely clear of the Belt and lower the Operating Handle back into the half-nut. Swing the Handle away from you (toward the Dust Bag) and start the motor.

Twisting the Operating Handle clockwise advances the shoe into the Abrasive Belt. The Grinding Scale at the forward end of the Operating Handle is graduated for operator convenience and is read to set the amount of grind for each swing of the Handle. It is also read to keep the lining thickness of each set of brake shoes the same.

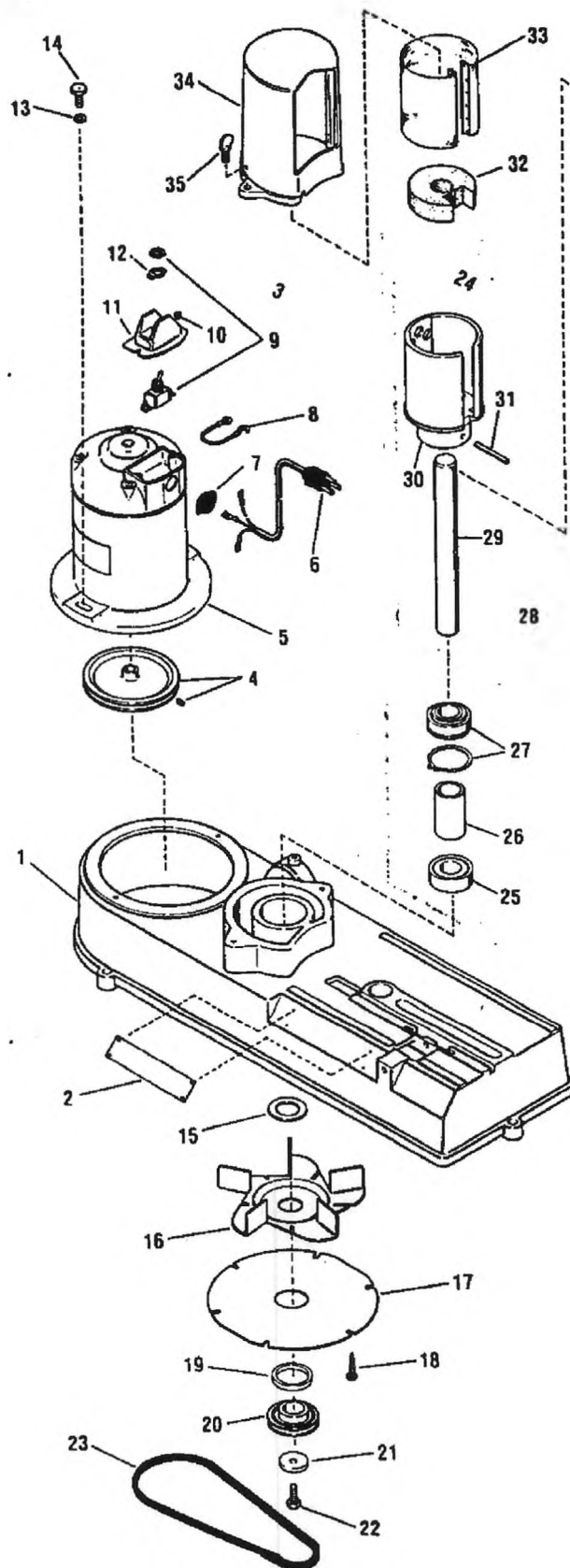


Advance the shoe no more than 1 graduation at a time and do it **only when the Operating Handle is on the Dust Bag side of the Grinder.** This will provide a smooth cut. Move the Handle at an even rate across the entire shoe and try not to grind too fast.

Continue grinding until the shoe lining cleans up across its full arc — then stop. Additional grinding will only waste lining.

Read the total amount of lining removed from the shoe by checking the Grinding Scale. Use this as a reference when grinding the rest of the set of shoes.

The brake shoe has now been "cam ground" and its radius is 1.5mm smaller than the inside radius of the finished drum. This grind provides a slight toe and heel clearance at the very ends of the shoe lining segment of about .001mm to .002mm.

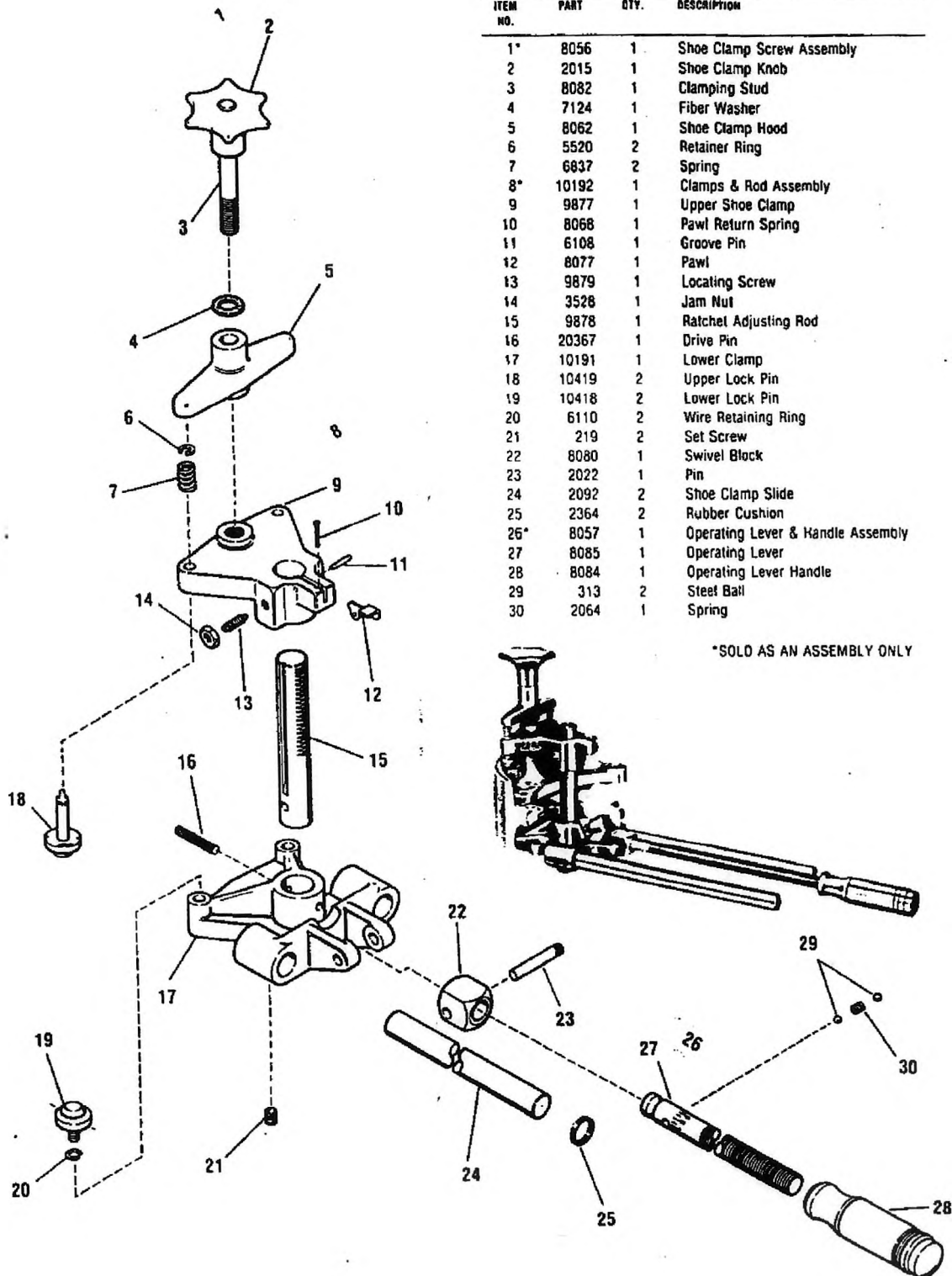


BRAKE SHOE GRINDER MAIN BASE, MOTOR and ABRASIVE DRIVE

ITEM	PART NO.	QTY.	DESCRIPTION
1	8125	1	Main Base
2	10171	1	Diameter Setting Plate - English
2	8224	1	Diameter Setting Plate - Metric
3	889	1	1/2 H.P. Motor Assembly
4	6118	1	"V" Pulley & Set Screw
5	3896	1	Motor
6	10749	1	Electric Cord Set
7	6077	1	Cord Grip
8	1251	1	Jumper Wire
9	2749	1	On-Off Switch & Nut
10	2947	2	Binding Head Machine Screw
11	2913	1	Switch Mounting Plate
12	1185	1	Switch Plate
13	278	2	Washer
14	237	2	Cap Screw
15	6697	1	Washer
16	8180	1	Exhaust Fan
17	8126	1	Exhaust Fan Cover
18	5549	6	Screw
19	2292	1	Dust Seal
20	8128	1	Spindle Pulley
21	2291	1	Washer
22	2294	1	Left Hand Bolt
23	6119	1	"V" Belt
24	8005	1	Arbor, Spindle & Bearing Assembly
25	6112	1	Ball Bearing
26	8038	1	Bearing Spacer
27	6107	1	Ball Bearing with Snap Ring
28*	8013	1	Arbor & Spindle Assembly
29	8036	1	Spindle
30	8037	1	Arbor
31	2068	1	Coll Pin
32	11181	1	Arbor Plug
33	---	1	Replacement Abrasive Belt- See Page 4.
34	9892	1	Abrasive Belt Guard
35	20307	2	Thumbscrew
36	8011	1	Abrasive Belt Retainer
37	8098	1	Hold Down Clip
38	6115	2	Nylock Socked Head Cap Screw

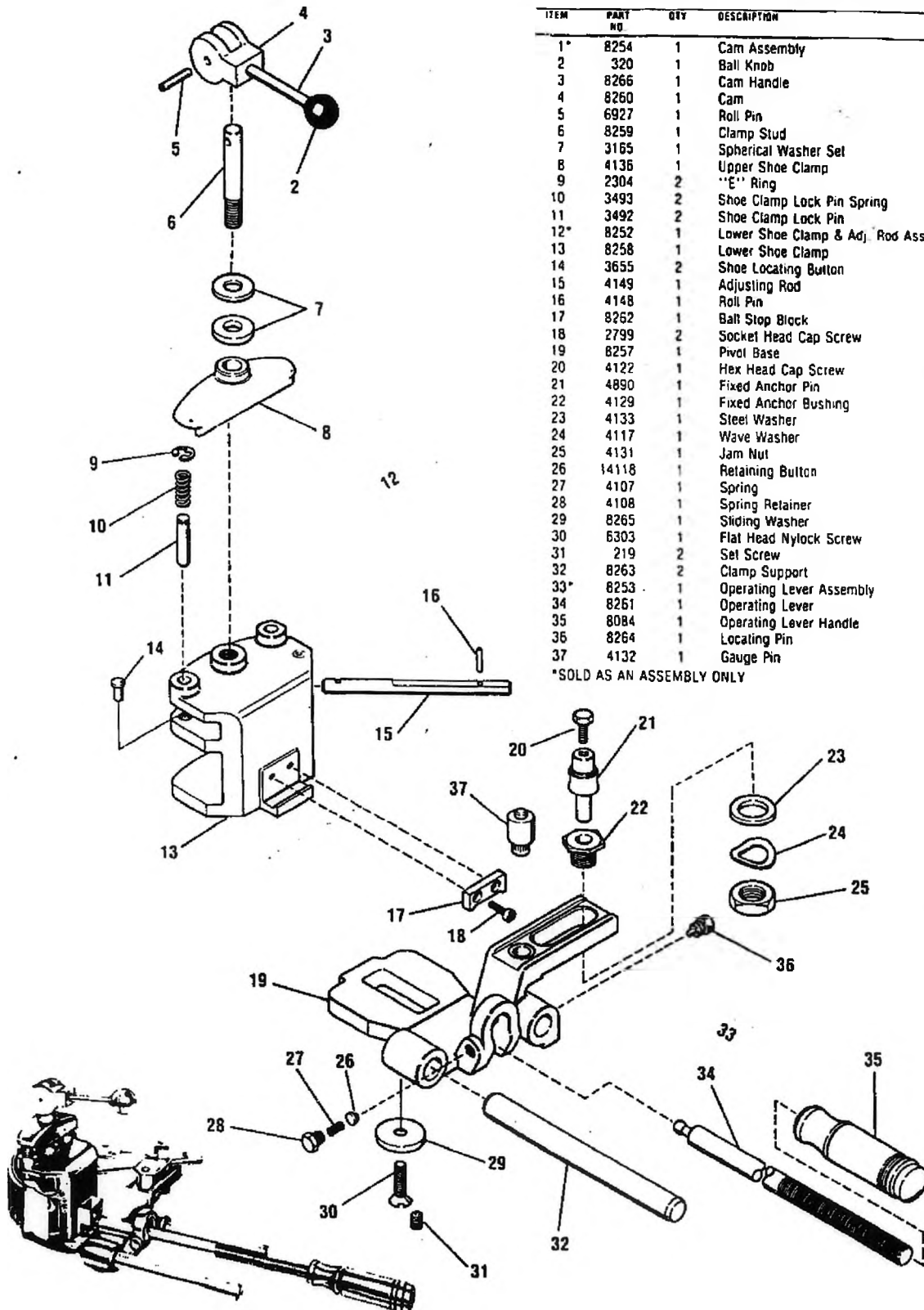
*SOLD AS AN ASSEMBLY ONLY

NO. 8050 UNIVERSAL BRAKE SHOE CLAMP



*SOLD AS AN ASSEMBLY ONLY

NO. 8250 FIXED ANCHOR CLAMP



ITEM	PART NO.	QTY	DESCRIPTION
1*	8254	1	Cam Assembly
2	320	1	Ball Knob
3	8266	1	Cam Handle
4	8260	1	Cam
5	6927	1	Roll Pin
6	8259	1	Clamp Stud
7	3165	1	Spherical Washer Set
8	4136	1	Upper Shoe Clamp
9	2304	2	"E" Ring
10	3493	2	Shoe Clamp Lock Pin Spring
11	3492	2	Shoe Clamp Lock Pin
12*	8252	1	Lower Shoe Clamp & Adj. Rod Assy
13	8258	1	Lower Shoe Clamp
14	3655	2	Shoe Locating Button
15	4149	1	Adjusting Rod
16	4148	1	Roll Pin
17	8262	1	Ball Stop Block
18	2799	2	Socket Head Cap Screw
19	8257	1	Pivot Base
20	4122	1	Hex Head Cap Screw
21	4890	1	Fixed Anchor Pin
22	4129	1	Fixed Anchor Bushing
23	4133	1	Steel Washer
24	4117	1	Wave Washer
25	4131	1	Jam Nut
26	14118	1	Retaining Button
27	4107	1	Spring
28	4108	1	Spring Retainer
29	8265	1	Sliding Washer
30	6303	1	Flat Head Nylock Screw
31	219	2	Set Screw
32	8263	2	Clamp Support
33*	8253	1	Operating Lever Assembly
34	8261	1	Operating Lever
35	8084	1	Operating Lever Handle
36	8264	1	Locating Pin
37	4132	1	Gauge Pin

*SOLD AS AN ASSEMBLY ONLY

**FOR MOTOR CONNECTIONS,
SEE MOTOR NAMEPLATE**

Wire Size For 115 & 230 Volt Single Phase Circuits
Distance of Motor to Fuse or Meter Box in Feet

Motor HP	100 ft.		200 ft.		300 ft.		500 ft.	
	115 V	230 V	115 V	230 V	115 V	230 V	115 V	230 V
1/2	#10	#12	#8	#10	#6	#8	#4	#6
1	#8	#10	#6	#8	#4	#6		#4

RUNNING OVERLOAD PROTECTION

TIME DELAY FUSES AND THERMAL CUTOFFS — Use 125% of full load amps, as shown on the nameplate, for motors with 40 degree C rise or service factor over 1.0. Use 115% of full load amps, shown on the nameplate, for all other motors.

THERMAL PROTECTOR — Motors equipped with built-in thermal protection have the words "Thermally Protected" on the nameplate. Thermal protectors open the motor circuit electrically when the motor becomes too hot or is overloaded. Motors with a red button (manual) may be restarted by pressing the button after the motor cools. Motors with internal protectors (automatic) will reset themselves after the motor cools.

WARNING: DISCONNECT POWER BEFORE WORKING ON MOTOR DRIVEN EQUIPMENT. MOTORS WITH AUTOMATIC THERMAL PROTECTORS WILL AUTOMATICALLY RESTART WHEN THE PROTECTOR TEMPERATURE DROPS SUFFICIENTLY. DO NOT USE MOTORS WITH AUTOMATIC THERMAL PROTECTORS IN APPLICATIONS WHERE AUTOMATIC RESTART WILL BE HAZARDOUS TO PERSONNEL OR EQUIPMENT.

INSTALLATION INSTRUCTIONS

WARNING: These instructions must be followed to ensure safe and proper operation of the motor or generator.

A. Before coupling a motor or generator to a load or applying power:

1. Check for shipping or handling damage.
2. Check for proper wiring. Line wiring must be of sufficient size to carry the current required in accordance with the NATIONAL ELECTRIC CODE and local codes.
3. Check for proper fuse size as required by the NATIONAL ELECTRIC CODE and local codes.
4. Shaft must be free to turn by hand.
5. Line voltage and frequency must match the motor or generator nameplate voltage and frequency.
6. Motor must be electrically grounded per NATIONAL ELECTRIC CODE and local codes.

B. Before coupling the motor to the load, apply power to determine whether:

1. Motor runs properly.
2. Rotation is correct.

C. After coupling the motor or generator to the load and applying power, make sure the motor comes up to speed and is not overloaded.

LUBRICATION

BALL BEARINGS — Sealed lubricated bearings require no attention during the life of the bearing. Motors with provisions for regreasing should have bearing grease added every 2000 hours of motor operation. Use Shell Oil Co. Alvania #2 or equivalent grease having a 200° safe operating temperature.

NOTE: If lubrication instructions are shown on the motor, they will supersede this general instruction.

REPAIR PARTS

Do not use unauthorized repair parts. These can affect the proper operation and safe operation if wrong. Use only authorized service stations and parts.

