

Extension Cords

Tools that have 3-wire cords requiring grounding must only be used with extension cords that have 3-prong grounding type plugs and 3-pole receptacles. Only round sketched extension cords should be used, and we recommend that they be listed by Underwriters Laboratories (U.L.). If the extension will be used outside, the cord must be suitable for outdoor use. Any cord marked as outdoor can also be used for indoor work. The letters "WA" on the cord jacket indicate that the cord is suitable for outdoor work.

An extension cord must have adequate wire size (AWG or American Wire Gauge) safety, and to prevent loss of power and overheating. The smaller the gauge number the wire, the greater the capacity of the cable, that is 16 gauge has more capacity than 18 gauge. When using more than one extension cord to make up the total length, ensure each individual extension contains at least the minimum wire size.

To determine the minimum wire size required, refer to the chart below:

CHART FOR MINIMUM WIRE SIZE (AWG) OF EXTENSION CORDS									
NAMEPLATE RATING - AMPS	25	50	75	100	125	150	175	200	
0 - 10.0	18	18	16	16	14	14	12	12	
10.1 - 13.0	16	16	14	14	14	12	12	12	
13.1 - 15.0	14	14	12	12	12	12	12	12	--

Before using an extension cord, inspect it for loose or exposed wires, damaged insulation, and defective fittings. Make any needed repairs or replace the cord if necessary. Black & Decker has extension cords available that are U.L. listed for outdoor use.

Commercial/Industrial Use Warranty

Black & Decker (U.S.) Inc. warrants this product for one year from date of purchase. We will repair without charge, any defects due to faulty material or workmanship. Please return the complete unit, transportation prepaid, to any Black & Decker Service Center or Authorized Service Station listed under "Tools Electric" in the yellow pages. This warranty does not apply to accessories or damage caused where repairs have been made or attempted by others.

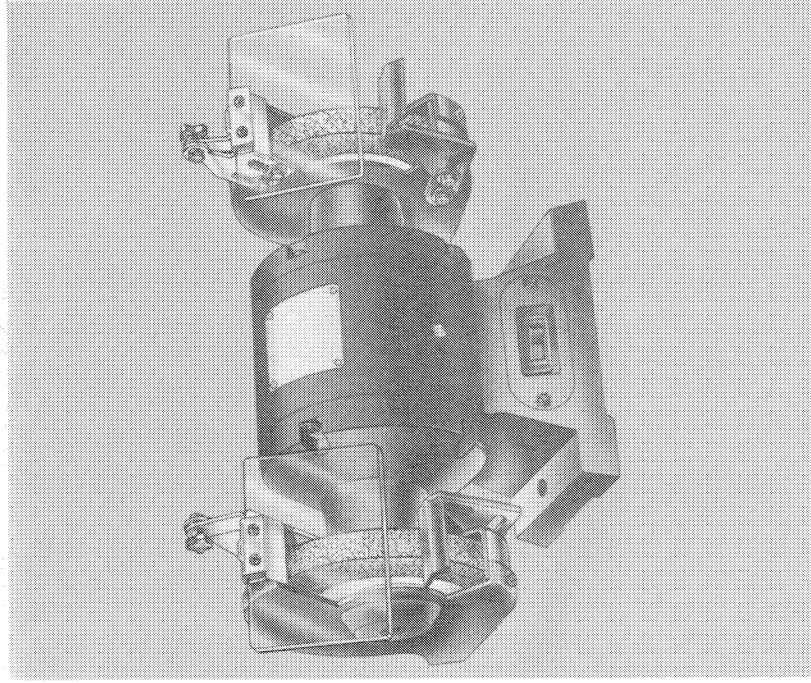
Like most Black & Decker tools, your Bench Grinder is listed by Underwriters Laboratories to ensure that it meets stringent safety requirements.



This symbol on the nameplate means the product is Listed by Underwriters' Laboratories, Inc.



See 'Tools-Electric'
—Yellow Pages—
for Service & Sales



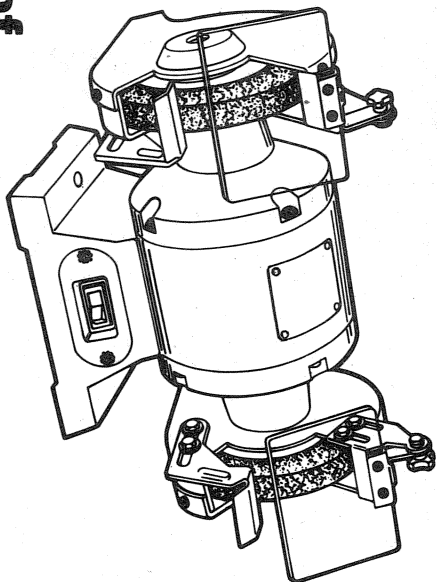
Instruction Manual

8" Bench Grinder
5/8" Arbor, 3600 RPM
6820

Form No. 741271
(AUG87) ©1986 Printed in Taiwan
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Product Made in Taiwan



Distributed by
BLACK & DECKER (U.S.) INC., Consumer Power Tools Group,
10 North Park Drive, P.O. 798, Hunt Valley, MD 21030-0798 U.S.A.



Welcome to the world of Black & Decker Power Tools.

If you have ever owned a Black & Decker Power Tool, you know the pleasures a quality, high performance tool can deliver.

Your new 8" Bench Grinder is a power tool of exceptional quality and performance... the kind you'd expect from Black & Decker. Designed with plenty of power to take on the toughest grinding jobs, it can sharpen all kinds of blades, grind the heaviest steel and even buff with the proper accessories. A big 12-1/2" wheel spread allows grinding on extra big projects and the optional

accessories make the 6820 a versatile tool that will perform for years to come.

We want you to enjoy your Black & Decker tools and the more you know about them and their capabilities, the happier you will be. Please take the time to read this informative instruction manual and pay particular attention to the safety rules we have provided for your protection. Don't forget to send in your owner's registration card.

Thank you for selecting Black & Decker!



Operating Instructions

As you face your bench grinder, the wheel on the left is a medium (60 grit) wheel for medium material removal and general purpose grinding.

The wheel on your right is a coarse (36 grit) wheel for fast material removal.

To operate the bench grinder, put on safety glasses and turn the tool on. Allow it to reach full speed (3600 R.P.M.) before grinding. Hold the workpiece firmly and against the tool rest. Hold very small pieces with pliers or other suitable clamps. Feed the work smoothly and evenly into the grinding wheel. Move the work slowly and avoid jamming the work against the wheel. As the wheel tends to slow down you should occasionally release the pressure to let the wheel return to full speed.

Grind only on the face of the grinding wheel and never the side of it. (Some few wheels are designed for side grinding and will say so on their blotters.)

CAUTION: Prolonged grinding will cause most materials to become hot. Use care when handling them.

Accessories

The accessories listed in this manual are available at extra cost from your local dealer or Black & Decker Service Center. A complete listing of service centers is included on the owner's registration card packed with your tool.

If you need assistance in locating any accessory, please contact:

Black & Decker (U.S.) Inc.
User Services Department
10 North Park Drive
P.O. Box 857
Hunt Valley, MD 21030-0857
Recommended accessories for your grinder are shown in this manual. The use of any other accessory or attachment might be hazardous.

DESCRIPTION	MAXIMUM SAFE SPEED
GRINDING WHEELS	
7/8" & 1" Face, 8" dia. 60 Grit Medium Grinding Wheel	3600 RPM
7/8" & 1" Face, 8" dia. 36 Grit Coarse Grinding Wheel	3600 RPM
BUFFING WHEELS	
5/8" arbor, 8" dia. Cotton Buffing Wheel	3600 RPM
WIRE WHEEL BRUSHES	
5/8" arbor, 5/8"-1 1/4" Face, 8" Dia.	3600 RPM
DRESSING ACCESSORIES	
Cutter Type Wheel Dresser	----
Replacement Cutter For Dresser Set	----

SAFETY INSTRUCTIONS

WARNING: When using Electric Tools, basic safety precautions should always be followed to reduce the risk of fire, electric shock, and personal injury, including the following:

READ ALL INSTRUCTIONS

1. **KEEP GUARDS IN PLACE** and in working order.
2. **REMOVE ADJUSTING KEYS AND WRENCHES.** Form habit of checking to see that keys and adjusting wrenches are removed from tool before turning it on.
3. **KEEP WORK AREA CLEAN.** Cluttered areas and benches invite injuries.
4. **DON'T USE IN DANGEROUS ENVIRONMENT.** Don't use power tools in damp or wet location, or expose them to rain. Keep work area well lighted.
5. **KEEP CHILDREN AWAY.** All visitors should be kept a safe distance from work area.
6. **MAKE WORKSHOP KID PROOF** with padlocks, master switches, or by removing start keys.
7. **DON'T FORCE TOOL.** It will do the job better and safer at the rate for which it was designed.
8. **USE RIGHT TOOL.** Don't force tool or attachment to do a job for which it was not designed.
9. **WEAR PROPER APPAREL.** Don't wear loose clothing, neckties, rings, bracelets, or other jewelry that could get caught in moving parts. Nonslip footwear is recommended. Wear protective hair covering to contain long hair.
10. **ALWAYS WEAR SAFETY GLASSES.** Also use face or dustmask if cutting operation is dusty. Everyday eyeglasses have only impact resistant lenses, they are **NOT** safety glasses.
11. **NEVER STAND ON TOOL.** Serious injury could occur if the tool is tipped or if the cutting tool is unintentionally contacted.
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 when changing accessories.
14. **DISCONNECT TOOLS** before servicing, and when changing accessories.
15. **USE RECOMMENDED ACCESSORIES.** Consult the instruction manual for recommended accessories. The use of improper accessories may cause risk of injury to persons.
16. **AVOID ACCIDENTAL STARTING.** Make sure switch is off before plugging in cord.
17. **NEVER LEAVE TOOL RUNNING UNATTENDED. TURN POWER OFF.** Don't leave tool until it comes to a complete stop.

SAVE THESE SAFETY RULES FOR FUTURE USE.

Additional Grinder Safety Rules

1. Always use guards and eye shields. Always wear safety glasses or other eye protection when operating this tool and keep the eye shields mounted in their proper position on the wheel guard.
2. Replace a cracked wheel immediately. Handle grinding wheels carefully to avoid bumping or dropping. **DO NOT** use a grinding wheel that has been dropped. Before using, inspect each grinding wheel for cracks or flaws and if these are evident, discard the wheel.
3. Before mounting a new wheel, be sure that it is marked with an R.P.M. that is the same as, or higher than, the no-load speed of the grinder as marked on the nameplate. Keep tool rests and spark shields adjusted.
4. Never start a grinder with anyone, including the operator, standing in line with the wheel. After installing a replacement wheel, stand to one side and allow it to revolve freely for about one minute.
5. Do not grind on the sides of grinding wheels unless they are the special wheels designed specifically for this purpose.
6. Do not overtighten wheel nut.
7. Use only clamp washer furnished with this grinder.
8. Bolt bench grinder to a bench or pedestal to prevent movement.
9. Use accessories only in the proper and intended manner.
10. **CHECK DAMAGED PARTS.** Before further use of the tool, a guard or other part that is damaged should be carefully checked to assure 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 other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced.

Grounding Instructions

ALL GROUNDED, CORD-CONNECTED TOOLS:

In the event of a malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This tool is equipped with an electric cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged into a matching outlet that is properly installed and grounded in accordance with all local codes and ordinances.

Do not modify the plug provided - if it will not fit the outlet, have the proper outlet installed by a qualified electrician.

Improper connection of the equipment-grounding conductor can result in a risk of electric shock. The green wire (with or without yellow stripes) is the equipment-grounding conductor. If repair or replacement of the electric cord or plug is necessary, do not connect the equipment-grounding conductor to a live terminal.

Check with a qualified electrician or serviceman if the grounding instructions are not completely understood, or if in doubt as to whether the tool is properly grounded.

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

Repair or replace damaged or worn cords immediately.

GROUNDED, CORD-CONNECTED TOOLS INTENDED FOR USE ON A SUPPLY CIRCUIT HAVING A NOMINAL RATING LESS THAN 150 VOLTS:

This tool is intended for use on a circuit that has an outlet that looks like the one illustrated in Sketch A. The tool has a grounding plug that looks like the plug illustrated in Sketch A. A temporary adapter, which looks like the adapter illustrated in Sketches B and C, may be used to connect this plug to a 2-pole receptacle as shown in Sketch B if a properly grounded outlet (Sketch A) is not available. The green-colored rigid ear, lug, etc. extending from the adapter must be connected to a permanent ground



Bench Mounting

TURN OFF AND UNPLUG THE BENCH GRINDER

Mounting the grinder securely to a bench is strongly recommended in order to prevent movement of the grinder when pressure is applied against a grinding wheel. To mount your bench grinder, follow the steps below:

1. Cut out the template on the dotted line and tape it down to your workbench where you want to mount the tool. Don't forget about the availability of an electric socket. The word "FRONT" indicates the position of the front of the grinder.
2. Using a centerpunch, mark the centers of the two holes shown in the template.
3. Remove the template and drill the appropriate size holes in the places you marked.
 - a. If fastening to a metal surface drill 1/4" holes and use 1/4" hex head machine screws and nuts.
 - b. If fastening to a wood surface drill pilot holes and use 1/4" hex head wood screws. (Hardware not included.)
4. Be sure to use screws with heads large enough so that they don't go completely through the base of the grinder. If needed, flat washers can be used to correct such a problem.
5. When tightening down on the screws, be careful to avoid compressing the rubber feet too much. If they are over compressed they will not be able to do their job of absorbing vibration.

NEVER ATTEMPT TO USE YOUR BENCH GRINDER UNLESS IT IS FIRMLY BOLTED TO A WORKBENCH OR OTHER RIGID FRAME.



Changing Accessories

TURN OFF AND UNPLUG THE BENCH GRINDER.

CHANGE ACCESSORIES WHEN THE SPARK GUARD CAN NO LONGER BE ADJUSTED TO 1/16" FROM THE WHEEL.

USE ONLY WHEELS THAT MEASURE 8 INCHES IN DIAMETER. THIS TOOL HAS 5/8 INCH ARBORS ON BOTH SIDES.

Follow the steps presented below to remove and replace an accessory.

1. Raise the eye shield up, out of the way.
2. Loosen and pull the tool rest out as far as possible. Do not remove it.
3. Loosen and pull the spark guard out as far as possible. Do not remove it.
4. Remove the screws from the wheel cover and remove cover.
5. Using hex or adjustable wrenches of the appropriate sizes, grasp the two hex nuts holding the wheels to the arbor shaft at each end of the tool. To remove the wheel from the right side of the tool, turn the right side hex nut counterclockwise while holding the left side hex nut stationary. To remove the wheel from the left, turn the left side hex nut clockwise while holding the right side hex nut stationary.
6. Remove the wheel washer and the wheel.

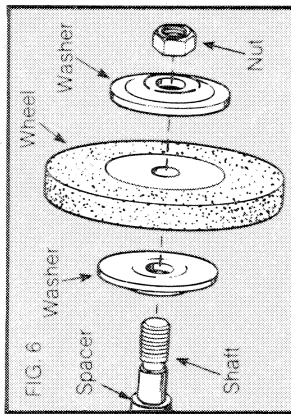
Inspect the wheel for cracks, chips or any other visible damage (other than normal wear) and discard if such damage is found. Inspect the blotter for damage. If the blotter is missing or severely damaged, replace it with a piece of thin cardboard or blotter paper cut in the same shape.

NEVER USE A WHEEL WITHOUT A BLOTTER.

8. Install the new wheel or other accessory. Be sure that both wheel washers are in place (concave sides toward wheel). See Figure 6.
9. Hold as before and tighten the nut firmly but do not overtighten.

OVERTIGHTENING CAN CRACK A GRINDING WHEEL.

10. Replace the wheel cover and its screws.
11. Adjust the spark guard to 1/16" from the wheel and tighten it securely.
12. Adjust the tool rest to 1/8" from the wheel and tighten securely.
13. Adjust the eye shield to a point between your eyes and the wheel. The bench grinder is now ready to use.



14. Follow the above steps to install buffing wheels and wire wheel brushes as well as grinding wheels.

Motor

Be sure your power supply agrees with the nameplate marking. 120 Volts 60 Hz means alternating current (normal 120 volts, 60 cycle house current). Voltage decrease of more than 10% will cause loss of power and overheating. All B&D tools are factory tested: if this tool does not operate, check the supply line for blown fuses: plug and receptacle for contact.

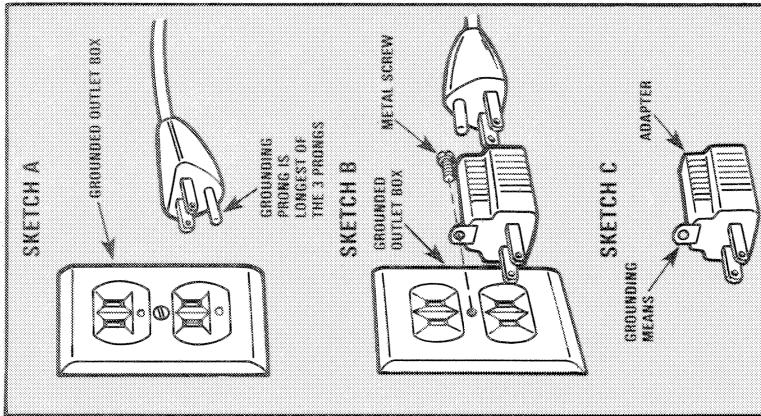
Lubrication

Bench grinder spindles are mounted on ball bearings. No periodic lubrication is required.

Important

To assure product SAFETY and RELIABILITY repairs, maintenance and adjustment should be performed by Black & Decker Service Centers or other qualified service organizations, always using Black & Decker replacement parts.

such as a properly grounded outlet box. The temporary adapter should be used only until a properly grounded outlet (Sketch A) can be installed by a qualified electrician.



We recommend that you **NEVER** disassemble the tool or try to do any rewiring in the electrical system. Any such repairs should be performed only by B&D Service Centers or any other qualified service organizations. Should you be determined to make a repair yourself, remember that the green colored wire is the "grounding" wire. **NEVER** connect this green wire to a "live" terminal.

Switch

The switch is located on the front of the grinder near the bottom. To turn the tool "ON" depress the rocker switch at the left side near the word "ON". To turn the tool "OFF" depress the right side portion of the rocker switch, near the word "OFF".

Installing Tool Rests

TURN OFF AND UNPLUG THE BENCH GRINDER.

Remove the tool rests from the top portion of the poly-foam carton liner and install them to the wheel guards as shown in the figure. Use the bolts and washers from the plastic bag to secure them in place, as shown in Figure 1.

NOTE: There is a left and a right tool rest. Refer to Figure 1 to ensure that you install them correctly.

When in actual use, the tool rests should be adjusted to within 1/8" of the grinding wheel or other accessory being used.

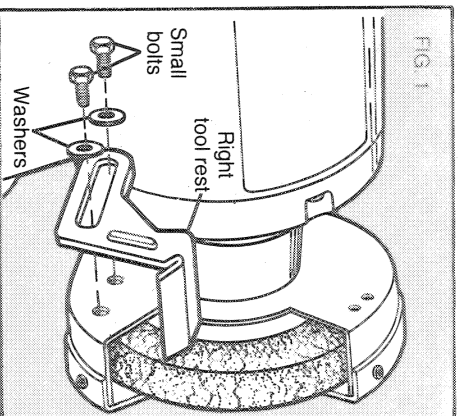
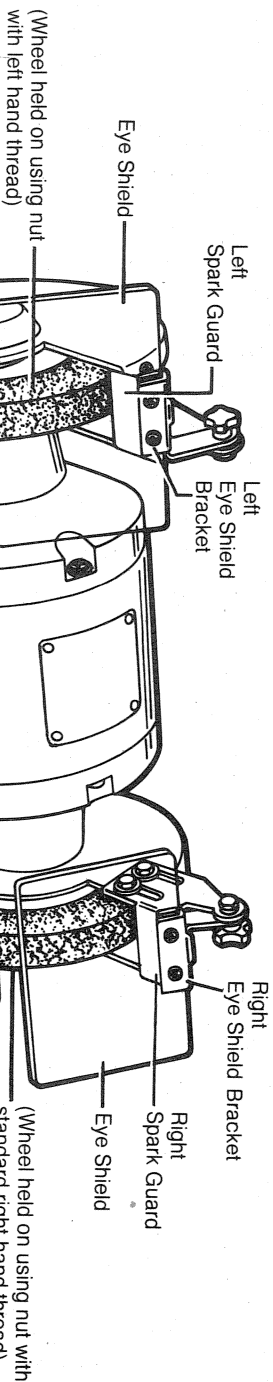


FIG. 1



Installing the Spark Guards and Eye Shield Brackets

TURN OFF AND UNPLUG BENCH GRINDER.

The combination Spark Guard and Eye Shield Brackets are assembled and in a plastic bag. They are identified L - for left and R - for right.

Refer to Figure 2 to install them to the Bench Grinder using the two screws in the wheel guard (in some cases these screws will be in the plastic bag). Adjust the edge of the spark guard to within 1/16" of the grinding wheel or other accessory as shown in the figure. Tighten the two screws securely.

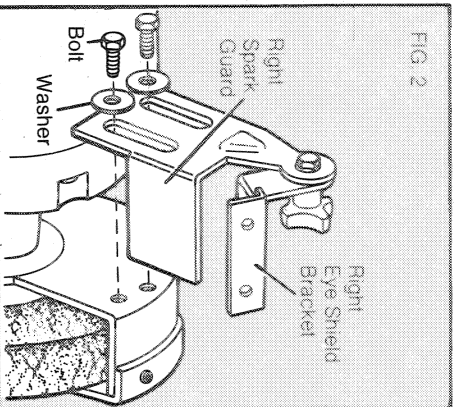
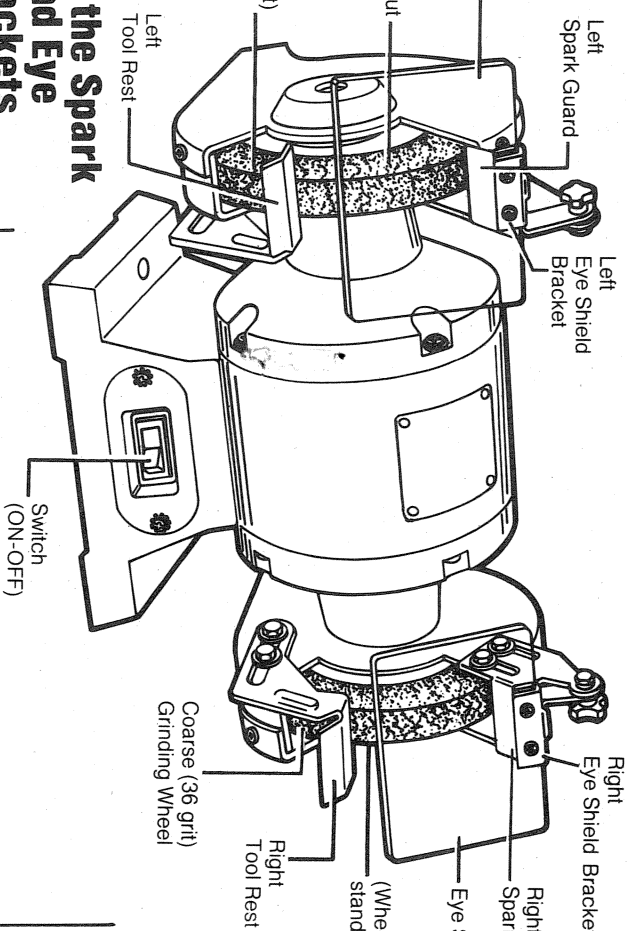


FIG. 2



Installing the Eye Shields

TURN OFF AND UNPLUG BENCH GRINDER.

Remove the steel strip from the top surface of each Eye Shield by removing the two screws. Install the shields, (they are identical and will fit either side) to the brackets, as shown in Figure 3. Tighten the screws securely.

Adjust the eye shields so they are between the wheels and your eyes.

THE EYE SHIELDS ARE NOT DESIGNED TO REPLACE SAFETY GLASSES.

Tighten the shields in place by tightening the plastic knob in the bracket assembly. Remove protective paper covering.

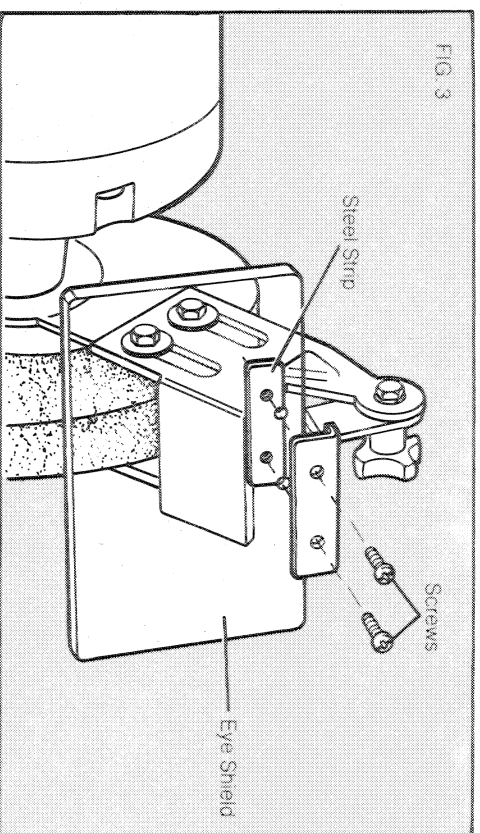


FIG. 3