

Owner's Manual

CRAFTSMAN®

6-in. Wheel

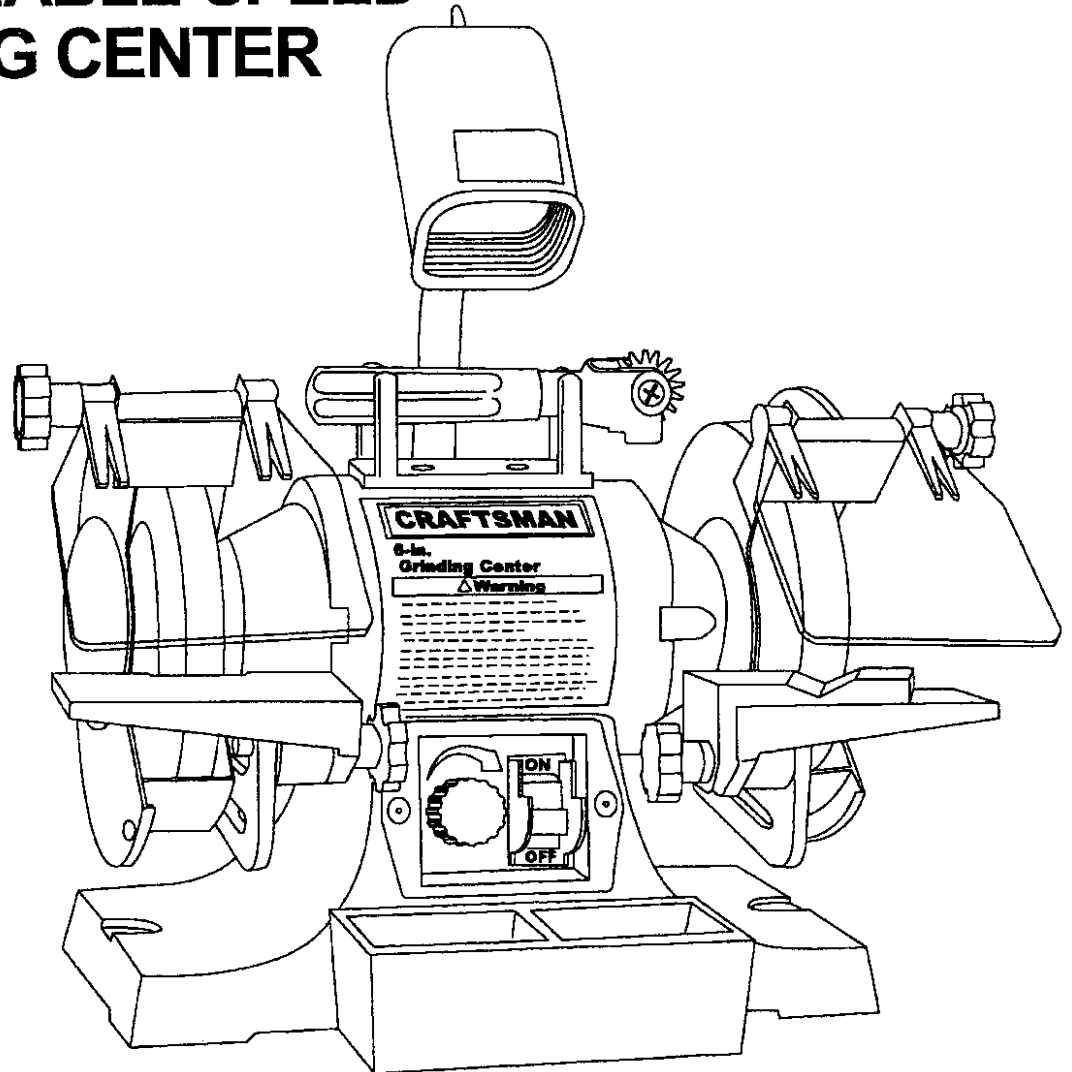
1/5 Horsepower (maximum developed)

2000 R.P.M. to 3450 R.P.M. (no load speed)

6-in. VARIABLE SPEED GRINDING CENTER

Model No.

152.211521



CAUTION:

FOR YOUR OWN SAFETY read and follow all of the Safety and Operating Instructions before operating this Bench Grinder.

Customer Helpline
1-800-897-7709

Please have your Model No.
and Serial No. available.

Sears, Roebuck and Co., Hoffman Estates, IL 60179 U.S.A.
Part No. OR90149

Español, pg. 17

TABLE OF CONTENTS

SECTION	PAGE
Warranty	2
Product Specifications	2
Safety Instructions	3
Grounding Instructions	4
Specific Safety Instructions for Bench Grinders	5
Accessories and Attachments	6
Carton Contents	6
Know your Bench Grinder	7
Assembly Instructions	8
Operating the Bench Grinder	11
Maintenance	13
Troubleshooting Guide	13
Part List	14
Spanish	17
Service Information	Back Cover

WARRANTY

FULL ONE YEAR WARRANTY

If this product fails due to a defect in material or workmanship within one year from the date of purchase, RETURN IT TO THE NEAREST SEARS STORE OR CRAFTSMAN OUTLET, and it will be replaced, free of charge.

This warranty gives you specific legal rights, and you may also have other rights, which vary, from state to state.

Sears, Roebuck and Co., Dept 817 WA, Hoffman Estates, IL 60179

PRODUCT SPECIFICATIONS

Motor	
Maximum HP developed	1/5
Volts	120
Hertz	60
RPM	2000 R.P.M. to 3450 R.P.M. (no load speed)
Grinding Wheel Size	6" x 3/4" x 1/2"
Grinding Wheel Grit	60
Wire Wheel Size	6" x 3/4" x 1/2"
Lamp	120V, 40 watt or less Track Light Bulb, Type R20, medium base, or equivalent (not included)
Tool Rests	Left and Right
Eye Shield Assemblies	Clear Lexan Left and Right
Spark Arrestors	Left and Right
Quench tray	6" x 2" x 2"

⚠ WARNING

To avoid electrical shock to yourself and damage to the Bench Grinder, use proper circuit protection.

The Bench Grinder is factory wired for 120V, 60 Hz, operation. Connect to a 120V, 15 amp branch circuit and use a 15 amp time delay fuse or circuit breaker. The electrical circuit cannot have any wire size less than #12. To avoid shock or fire, replace power cord immediately if it is damaged in any way.

SAFETY INSTRUCTIONS

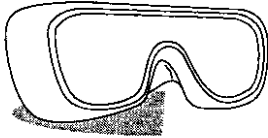
GENERAL SAFETY INSTRUCTIONS

Operating a Bench Grinder can be dangerous if safety and common sense are ignored. The operator must be familiar with the operation of the tool. Read this manual to understand this Bench Grinder. **DO NOT** operate this Bench Grinder if you do not fully understand the limitations of this tool. **DO NOT** modify this Bench Grinder in any way.

BEFORE USING THE BENCH GRINDER

⚠ WARNING

To avoid serious injury and damage to the tool, read and follow all of the Safety and Operating Instructions before operating the Bench Grinder.

- 1. READ** the entire Owner's Manual. **LEARN** how to use the tool for its intended applications.
 - 2. GROUND ALL TOOLS.** If the tool is supplied with a 3-prong plug, it must be plugged into a 3-contact electrical receptacle. The 3rd prong is used to ground the tool and provide protection against accidental electric shock. **DO NOT** remove the 3rd prong. See Grounding Instructions on page 4.
 - 3. AVOID A DANGEROUS WORKING ENVIRONMENT.** **DO NOT** Use electrical tools in a damp environment or expose them to rain.
 - 4. DO NOT** use electrical tools in the presence of flammable liquids or gasses
 - 5. ALWAYS** keep the work area clean, well lit, and organized. **DO NOT** work in an environment with floor surfaces that are slippery from debris, grease, and wax.
 - 6. KEEP VISITORS AND CHILDREN AWAY.** **DO NOT** permit people to be in the immediate work area, especially when the electrical tool is operating.
 - 7. DO NOT FORCE THE TOOL** to perform an operation for which it was not designed for. It will do a safer and higher quality job by only performing operations for which the tool was intended.
 - 8. WEAR PROPER CLOTHING.** **DO NOT** wear loose clothing, gloves, neckties, or jewelry. These items can get caught in the machine during operations and pull the operator into the moving parts. The user must wear a protective cover on their hair, if the hair is long, to prevent it from contacting any moving parts.
 - 9. ALWAYS WEAR EYE PROTECTION.** Any power tool can throw debris into the eyes during operations, which could cause severe and permanent eye damage. **ALWAYS** Wear Safety Goggles (that comply with ANSI standard Z87.1) when operating power tools. Safety Goggles are available at Sears Retail Stores.
- 
- 10. WEAR A DUST MASK TO PREVENT INHALING DANGEROUS DUST OR PARTICLES.**
 - 11. ALWAYS UNPLUG THE TOOL FROM THE ELECTRICAL RECEPTACLE** when making adjustments, changing parts or performing any maintenance.
 - 12. KEEP PROTECTIVE GUARDS IN PLACE AND IN WORKING ORDER.**
 - 13. AVOID ACCIDENTAL STARTING.** Make sure that the power switch is in the "OFF" position before plugging in the power cord to the electrical receptacle.
 - 14. REMOVE ALL MAINTENANCE TOOLS** from the immediate area prior to turning "ON" the Bench Grinder.
 - 15. USE ONLY RECOMMENDED ACCESSORIES.** Use of incorrect or improper accessories could cause serious injury to the operator and cause damage to the tool. If in doubt, check the instruction manual that comes with that particular accessory.
 - 16. NEVER LEAVE A RUNNING TOOL UNATTENDED.** Turn the power switch to the "OFF" position. **DO NOT** leave the tool until it has come to a complete stop.
 - 17. DO NOT STAND ON A TOOL.** Serious injury could result if the tool tips over or you accidentally contact the tool.
 - 18. DO NOT** store anything above or near the tool where anyone might try to stand on the tool to reach it.
 - 19. MAINTAIN YOUR BALANCE. DO NOT** extend yourself over the tool. Wear oil resistant rubber-soled shoes. Keep floor clear of debris, grease, and wax.
 - 20. MAINTAIN TOOLS WITH CARE.** Always keep tools clean and in good working order. Keep all blades and tool bits sharp.

SAVE THESE INSTRUCTIONS.

21. EACH AND EVERY TIME, CHECK FOR DAMAGED PARTS PRIOR TO USING THE TOOL.

Carefully check all guards to see that they operate properly, are not damaged, and perform their intended functions. Check for alignment, binding or breaking of moving parts. A guard or other part that is damaged should be immediately repaired or replaced.

22. CHILDPROOF THE WORKSHOP AREA by removing switch keys, unplugging tools from the electrical receptacles, and using padlocks.

23. DO NOT OPERATE TOOL IF UNDER THE INFLUENCE OF DRUGS OR ALCOHOL.

24. SECURE ALL WORK. When it is possible, use clamps or jigs to secure the workpiece. This is safer than attempting to hold the workpiece with your hands.

25. USE A PROPER EXTENSION CORD IN GOOD CONDITION. When using an extension cord, be sure to use one heavy enough to carry the current your product will draw. The table below shows the correct size to use depending on cord length and nameplate amperage rating. If in doubt, use the next heavier gauge.

The smaller the gauge number, the larger diameter of the extension cord. If in doubt of the proper size of an extension cord, use a shorter and thicker cord. An undersized cord will cause a drop in line voltage result-

ing in a loss of power and overheating. **USE ONLY A 3-WIRE EXTENSION CORD THAT HAS A 3-PRONG GROUNDING PLUG AND A 3-POLE RECEPTACLE THAT ACCEPTS THE TOOL'S PLUG.**

GUIDELINES FOR EXTENSION CORDS

If you are using an extension cord outdoors, be sure it is marked with the suffix "W-A" ("W" in Canada) to indicate that it is acceptable for outdoor use.

Be sure your extension cord is properly sized, and in good electrical condition. Always replace a damaged extension cord or have it repaired by a qualified person before using it.

Protect your extension cords from sharp objects, excessive heat, and damp or wet areas.

MINIMUM RECOMMENDED GAUGE FOR EXTENSION CORDS (AWG)				
120 VOLT OPERATION ONLY				
	25' LONG	50' LONG	100' LONG	150' LONG
0 to 6 Amps	18 AWG	16 AWG	16 AWG	14 AWG
6 to 10 Amps	18 AWG	16 AWG	14 AWG	12 AWG
10 to 12 Amps	16 AWG	16 AWG	14 AWG	12 AWG

GROUNDING INSTRUCTIONS

IN THE EVENT OF A MALFUNCTION OR BREAK-DOWN, grounding provides the path of least resistance for electric current and reduces the risk of electric shock. This tool is equipped with an electric cord that has an equipment grounding conductor and a grounding plug. The plug **MUST** be plugged into a matching electrical receptacle that is properly installed and grounded in accordance with **ALL** local codes and ordinances.

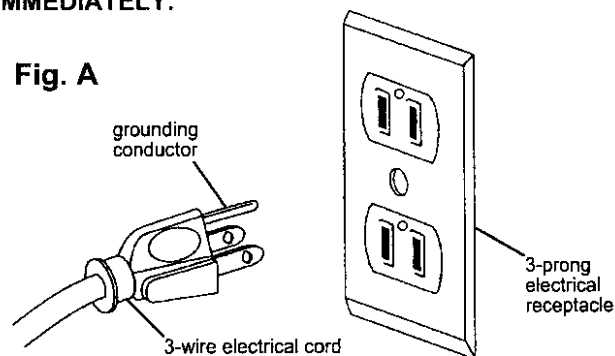
DO NOT MODIFY THE PLUG PROVIDED. If it will not fit the electrical receptacle, have the proper electrical receptacle installed by a qualified electrician.

IMPROPER ELECTRICAL CONNECTION of the equipment grounding conductor can result in risk of electric shock. The conductor with the green insulation (with or without yellow stripes) is the equipment grounding conductor. **DO NOT** connect the equipment grounding conductor to a live terminal if repair or replacement of the electric cord or plug is necessary.

CHECK with a qualified electrician or service personnel if you do not completely understand the grounding instructions, or if you are not sure the tool is properly grounded.

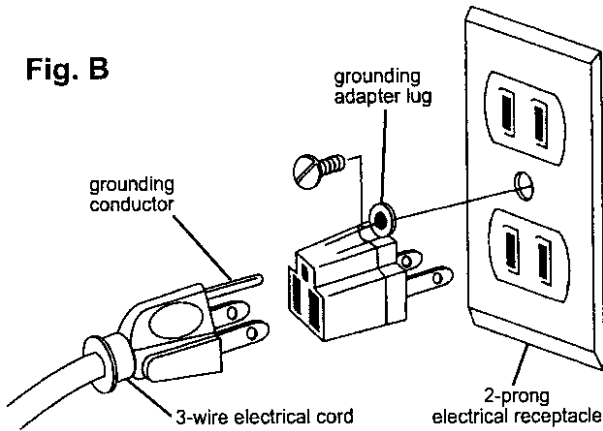
USE ONLY A 3-WIRE EXTENSION CORD THAT HAS A 3-PRONG GROUNDING PLUG AND A 3-POLE RECEPTACLE THAT ACCEPTS THE TOOL'S PLUG.

REPLACE A DAMAGED OR WORN CORD IMMEDIATELY.



SAVE THESE INSTRUCTIONS.

Fig. B



This tool is intended for use on a circuit that has an electrical receptacle as shown in **FIGURE A**. **FIGURE A** shows a 3-wire electrical plug and electrical receptacle that has a grounding conductor. If a properly grounded electrical receptacle is not available, an adapter as shown in **FIGURE B** can be used to temporarily connect this plug to a 2-contact ungrounded receptacle. The adapter has a rigid lug extending from it that **MUST** be connected to a permanent earth ground, such as a properly grounded receptacle box. **THIS ADAPTER IS PROHIBITED IN CANADA.**

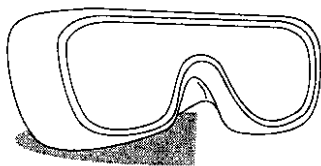
CAUTION: In all cases, make certain the electrical receptacle in question is properly grounded. If you are not sure have a certified electrician check the electrical receptacle.

⚠ WARNING

This Bench Grinder is for indoor use only. To avoid serious injury, do not expose to rain or use in damp locations.

SPECIFIC SAFETY INSTRUCTIONS FOR BENCH GRINDERS

The operation of any grinder can result in debris being thrown into your eyes, which can result in severe eye damage. **ALWAYS** Wear Safety Goggles (that comply with ANSI standard Z87.1) when operating the grinder. Safety Goggles are available at Sears Retail Stores. Keep your thumbs and fingers away from the grinding wheels.



SAVE THESE INSTRUCTIONS.

- 1. ALWAYS USE THE EYE SHIELDS AND WHEEL GUARDS** provided with the grinder.
- 2. REPLACE A CRACKED OR DAMAGED GRINDING WHEEL IMMEDIATELY.** A damaged wheel can discharge debris at a high velocity towards the operator. Carefully handle the grinding wheels since they are abrasive. Prior to replacing a grinding wheel, check it for cracks. **DO NOT** remove the blotter or label on the both sides of the grinding wheel. Tighten the spindle nut just enough to hold the grinding wheel firmly to the Bench Grinder. Do not over-tighten the nut. Excessive clamping force can damage the grinding wheel. Only use the wheel flanges provided with the grinder. When selecting a replacement grinding wheel, verify that the grinding wheel has a higher R.P.M. rating than the maximum R.P.M. of the Bench Grinder.
- 3. THE DIAMETER OF THE GRINDING WHEELS WILL DECREASE WITH USE.** Adjust the tool rests and spark arrestors to maintain a distance of 1/16" from the wheel.
- 4. DO NOT STAND IN FRONT OF THE BENCH GRINDER WHEN STARTING IT.** Stand to one side of the Bench Grinder and turn it "ON". Wait at the side for one minute until the grinder comes up to full speed. There is always a possibility that debris from a damaged grinding wheel may be discharged towards the operator.
- 5. THE BENCH GRINDER WILL PRODUCE SPARKS AND DEBRIS DURING GRINDING OPERATIONS.** Be sure that there are not any flammable materials in the vicinity. Frequently clean grinding dust from the back of the Bench Grinder.
- 6. NEVER FORCE THE WORKPIECE AGAINST A GRINDING WHEEL,** especially if the wheel is cold. Apply the workpiece slowly, allowing the grinding wheel an opportunity to warm up. This will minimize the chance of wheel breakage. **DO NOT** grind using the sides of the grinding wheels. **DO NOT** apply coolant directly to the grinding wheel.
- 7. KEEP ALL WHEEL GUARDS IN PLACE. DO NOT USE THE BENCH GRINDER WITH THE WHEEL GUARDS REMOVED.**
- 8. KEEP THE TOOL RESTS FIRMLY TIGHTENED.**
- 9. ALWAYS USE THE SUPPLIED WHEEL DRESSER TO RESURFACE THE FACE OF THE GRINDING WHEEL.**

ACCESSORIES AND ATTACHMENTS

AVAILABLE ACCESSORIES

Visit your Sears Hardware Department or see the Sears Power and Hand Tool Catalog for the following accessories.

ITEM	STOCK NUMBER
Replacement grinding wheels	See catalog or store
Wire and Buffing wheels	See catalog or store
Spacers	See catalog or store
Wheel dressers	See catalog or store
Universal stand	9-22250

Sears may recommend other accessories not listed in this manual.

See your nearest Sears Hardware Department or Sears Power and Hand Tool Catalog for other accessories.

Do not use any accessory unless you have completely read the Owner's Manual for that accessory.

⚠ WARNING

Use only accessories recommended for this Bench Grinder. Using other accessories may cause serious injury and cause damage to the Bench Grinder.

CARTON CONTENTS

UNPACKING AND CHECKING CONTENTS (Fig. C)

This Bench Grinder will require a minimal amount of assembly. A 12mm x 10mm open end wrench is provided for mounting the Tool Rest Assemblies and the Spark Arrestor Assemblies. A philips screwdriver is not provided to mount the Wheel Dresser Support

Remove all of the parts from the shipping box and lay them on a clean work surface. Compare the items to (Fig. C), verify that all items are accounted for before discarding the shipping box.

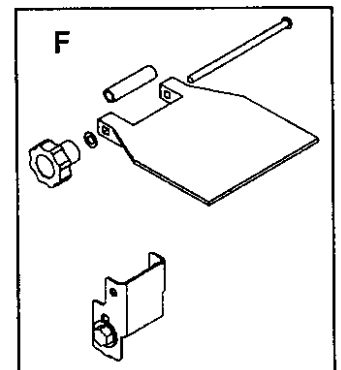
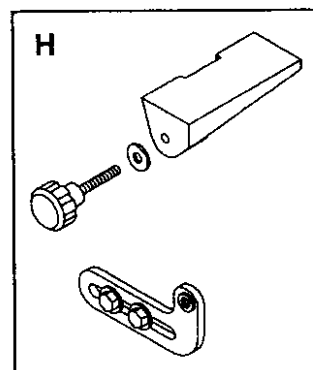
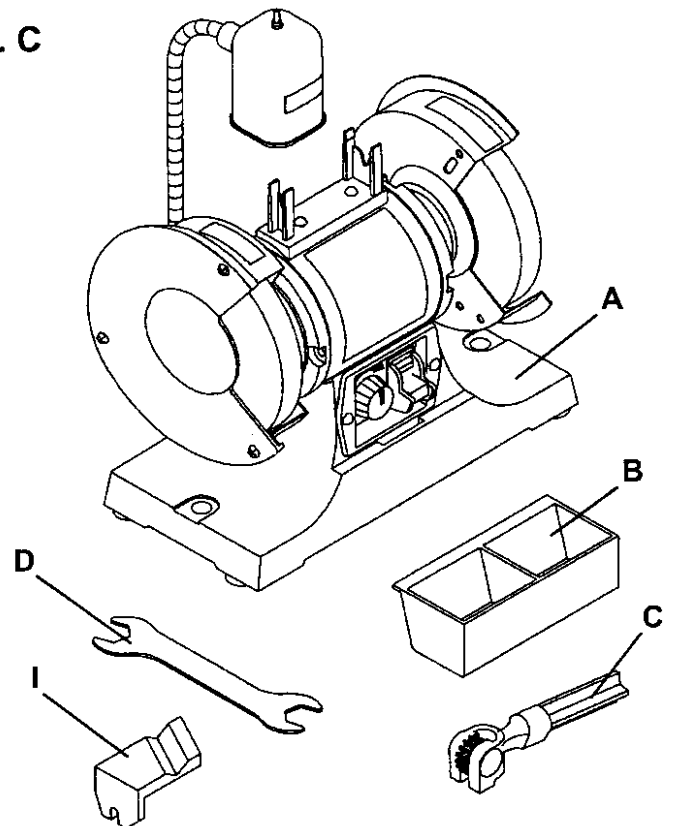
⚠ WARNING

If any parts are missing, do not attempt to plug in the power cord and turn "ON" the Bench Grinder. The Bench Grinder can only be turned "ON" after all the parts have been obtained and installed correctly.

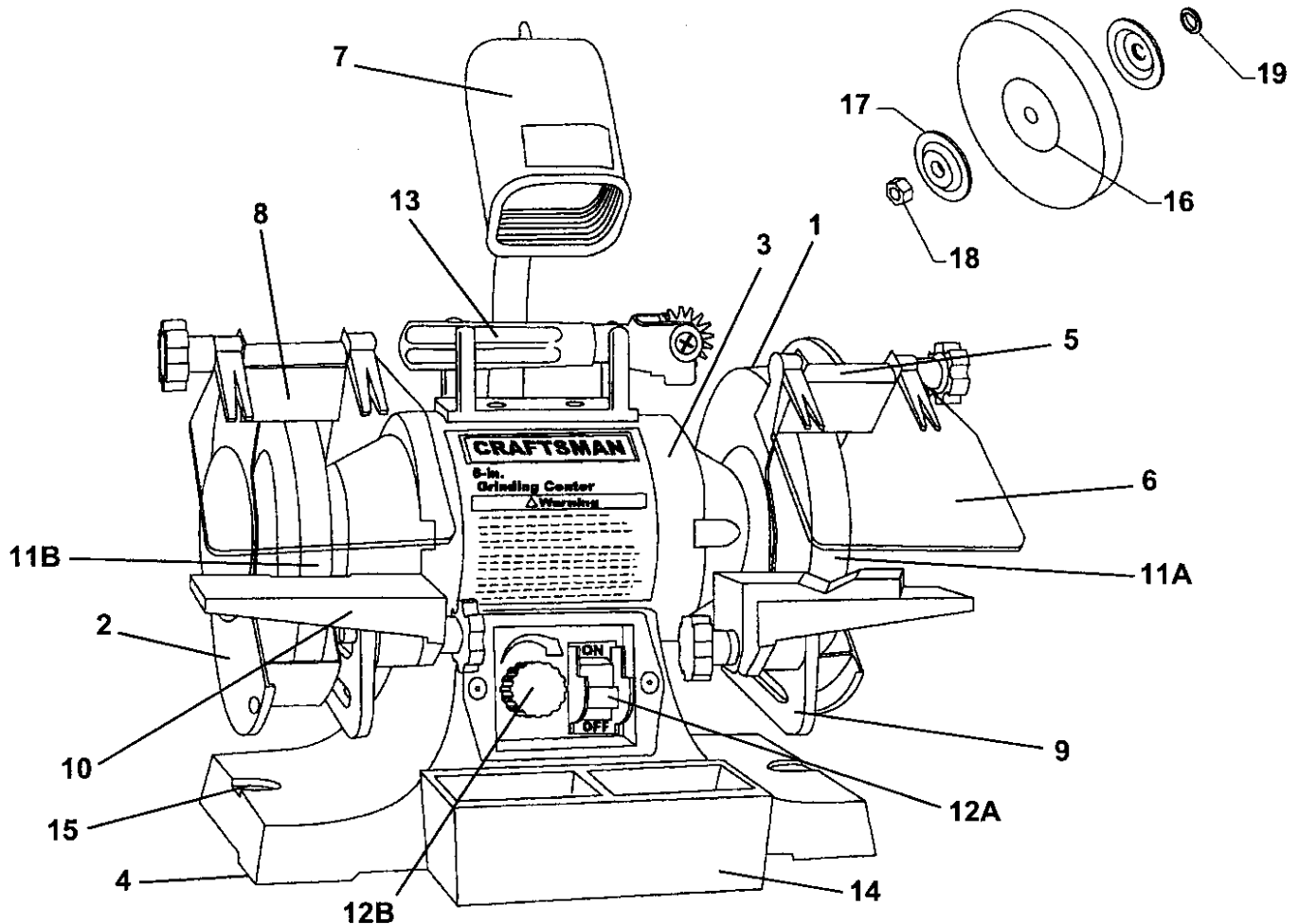
The following items are to be provided in the shipping box:

- A. Grinder
- B. Quench tray
- C. Wheel dresser
- D. Hex Wrench 12mm x 10mm open end
- E. Left Eyeshield assembly (not shown)
- F. Right Eyeshield assembly
- G. Left tool rest assembly (not shown)
- H. Right tool rest assembly
- I. Drill Bit Sharpening Plate

Fig. C



KNOW YOUR BENCH GRINDER



1. **WHEEL GUARD** - Covers the grinding wheels and protects against accidental contact.
2. **WHEEL COVER** - Covers the grinding wheels and provides access for routine maintenance.
3. **MOTOR HOUSING** - Contains the electrical motor.
4. **MOUNTING FEET** - Helps to minimize vibration of the grinder.
5. **EYE SHIELD MOUNTS** - Supports the eyeshields.
6. **EYE SHIELDS** - Protective Lexan see-thru shields to prevent any loose debris from contacting the operator.
7. **FLEXIBLE WORK LIGHT** - Provides assistance to the operator for grinding operations.
8. **SPARK ARRESTORS** - Prevents hot sparks and debris from contacting the operator.
9. **TOOL REST ADJUSTABLE SUPPORTS** - Lets the operator position the tool rest closer to the wheel as the wheel decreases in diameter due to wear.
10. **TOOL RESTS** - Used to support the workpiece that is being ground. Adjustable to provide angled surfaces.
11. **A) 6" GRINDING WHEEL 60 GRIT** - Used to remove heavy material from workpiece.
11. **B) 6" WIRE WHEEL** - Used to remove light material from workpiece.
12. **A) ON / OFF SWITCH** - Used to turn "ON" and turn "OFF" the grinder.
12. **B) VARIABLE SPEED SWITCH** - Permits adjusting rotational speed of grinding wheels.
13. **WHEEL DRESSER** - Used to clean and smooth surface of the 6" Grinding Wheel only. Not to be used with the 6" Wire Wheel.
14. **QUENCH TRAY** - Used to cool workpiece after grinding.
15. **MOUNTING PAD** - Used to secure the grinder to a workbench or suitable work surface.
16. **GRINDING WHEEL IDENTIFICATION LABEL** - Provides information on wheel size, grit and maximum rpm. Must be left on to distribute the load of tightening the Lock Nuts.
17. **FLANGES** - Used to secure the grinding wheels to the grinder and distribute the load of the Lock Nuts.
18. **LOCK NUT** - Used to secure the grinding wheels to the grinder.
19. **SPACER** - Used to align the wire wheel into the center of the Left Tool Rest.

ASSEMBLY INSTRUCTIONS

A 12mm x 10mm open end wrench is provided for mounting the Tool Rest Assemblies and the Spark Arrestor Assemblies. A philips screwdriver is not provided to mount the Wheel Dresser Support.

⚠ WARNING

1. **DO NOT** assemble the Bench Grinder until you are sure the tool **IS NOT** plugged in.
2. **DO NOT** assemble the Bench Grinder until you are sure the power switch is in the "OFF" position.
3. **DO NOT** assemble the Bench Grinder until you are sure the grinding wheels are firmly tightened to the Bench Grinder.

TOOL RESTS (Figs. D and E)

The Bench Grinder is provided with two different Tool Rests assemblies. The Left Side Tool Rest is entirely flat. The Right Side Tool Rest is also flat but it also has an accessory plate for sharpening drill bits.

1. Remove both Tool Rest Assemblies from the plastic bags and check to see that you have the following.
Left Side Tool Rest
Left Side Tool Rest Support
Right Side Tool Rest
Right Side Tool Rest Support
Drill Bit Sharpening Plate
5/16" Flat Washer
5/16-18 x 5/8" Hex head screw
Adjustment Knob (qty. 2)
2. Assemble the Tool Rest Supports (A) to the inside surface of the Wheel Covers (B) with the flat washers (C) and hex head screws (D) as shown. See Figure D.
3. Assemble the Tool Rests (E) to the Supports (F) with the flat washers (G) and Adjustment Knobs (H) as shown. See Figure E.
4. Adjust each Tool Rest until its inside edge (I) is 1/16" from the grinding wheel.

Fig. D

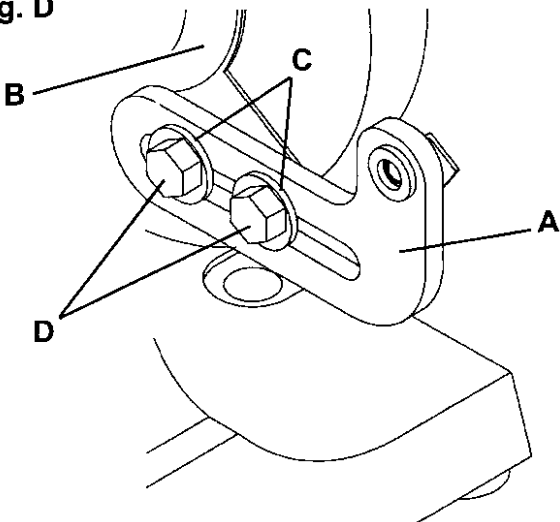
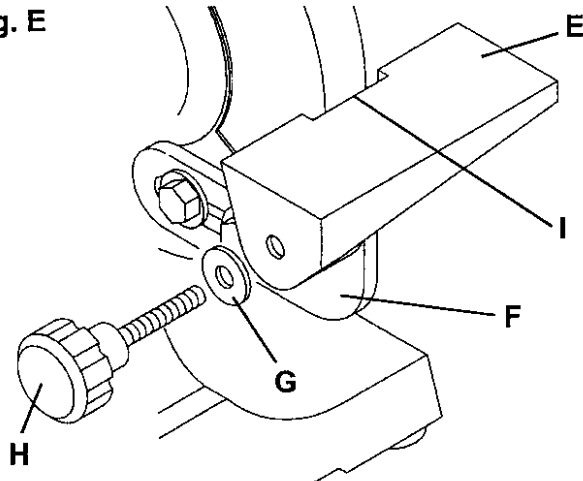


Fig. E

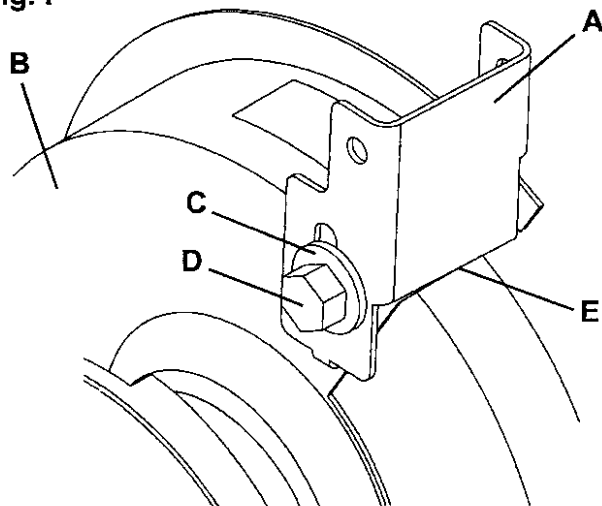


5. Install the Drill Bit Sharpening Plate, by loosening the Right Side Adjustment Knob until there is approximately a 1/4" of threads visible. Place the Plate onto the Right Side Tool Rest and over the visible threads. The Flat Washer must be placed between the Plate and the Adjustment Knob. Tighten the Adjustment Knob.

SPARK ARRESTORS (Fig. F)

1. Remove both Spark Arrestor Assemblies from the plastic bags and check to see that you have the following.
Left Side Spark Arrestor
Right Side Spark Arrestor
1/4" Flat Washer (qty. 2)
1/4-20 x 1/4" Hex head screw (qty. 2)
2. Assemble the Spark Arrestors (A) to the inside surface of the Wheel Covers (B) with the flat washers (C) and hex head screws (D) as shown. See Figure E.
3. Adjust each Spark Arrestor until the lower edge (E) is 1/16" from the grinding wheel.

Fig. F



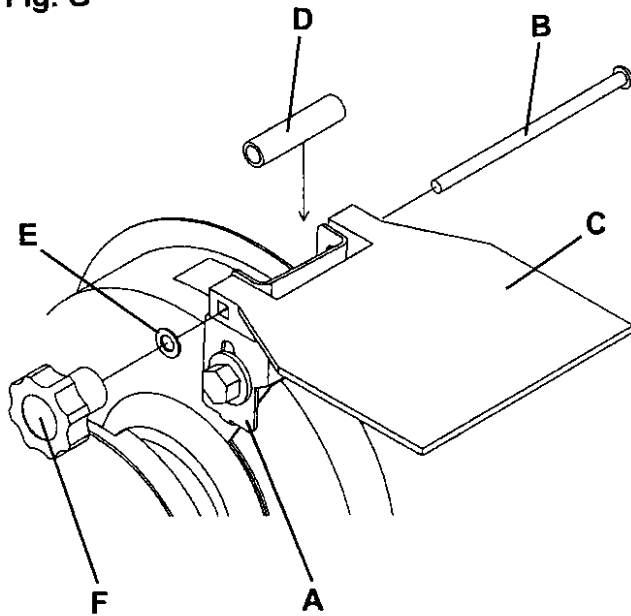
EYE SHIELDS (Fig. G)

1. Remove both Eye Shield Assemblies from the plastic bags and check to see that you have the following.

Eyeshield (qty. 2)
Lock Knob (qty. 2)
Spacer (qty. 2)
M6 Flat washer (qty. 2)
M6 x 80mm carriage head screw (qty. 2)

2. Assemble the Eyeshield (C) to the Spark Arrestor (A) by inserting the carriage head screw (B) through the Eyeshield, Spark Arrestor and the spacer (D). See Figure G.
3. Assemble the flat washer (E) and Lock Knob (F) to the carriage head screw and tighten until the Eyeshield remains in the desired position. See Figure G.

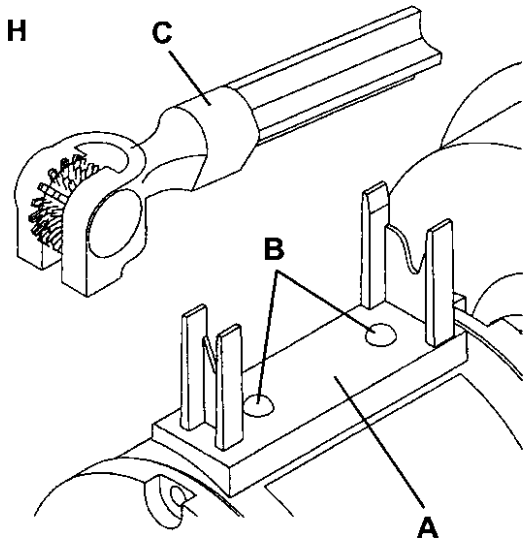
Fig. G



WHEEL DRESSER (Fig. H)

1. Remove the Wheel Dresser, the plastic Support, and the two #10-24 x 3/8" screws from the plastic bag.
2. Attach the plastic Support (A) to the top of the motor housing with the two screws (B). See Figure H.
3. Assemble the Wheel Dresser (C) to the Support as shown. See Figure H.

Fig. H

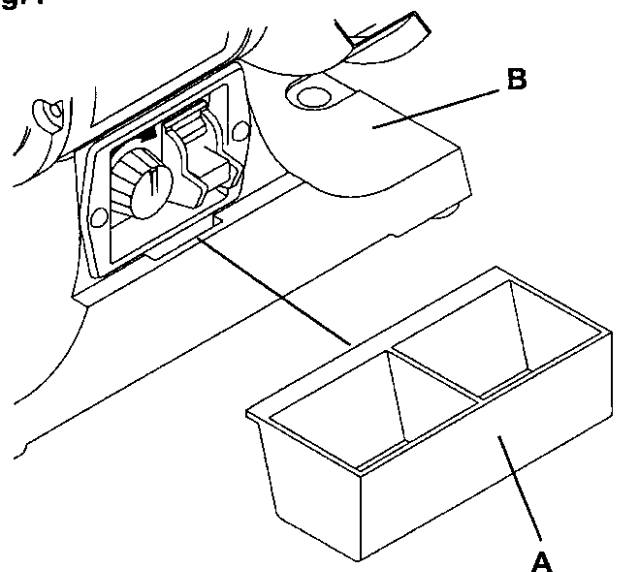


QUENCH TRAY (Fig. I)

The Quench Tray is provided to cool the workpiece during and after grinding operations.

1. Attach the Quench Tray (A) to base of the Bench Grinder (B) as shown. See Figure I.
2. Partially fill the Quench Tray with water. **DO NOT** overfill! **DO NOT** use any other liquid in the Quench Tray other than water.
3. Place the workpiece into the water after performing the grinding operation to cool it.
4. **DO NOT** put any water directly onto the grinding wheels.

Fig. I



WORK LIGHT (Fig. J)

The Bench Grinder is provided with a Flexible Work Light to assist in visibility of the workpiece.

The Bench Grinder is **NOT** provided with a light bulb for the Flexible Work Light.

⚠ WARNING

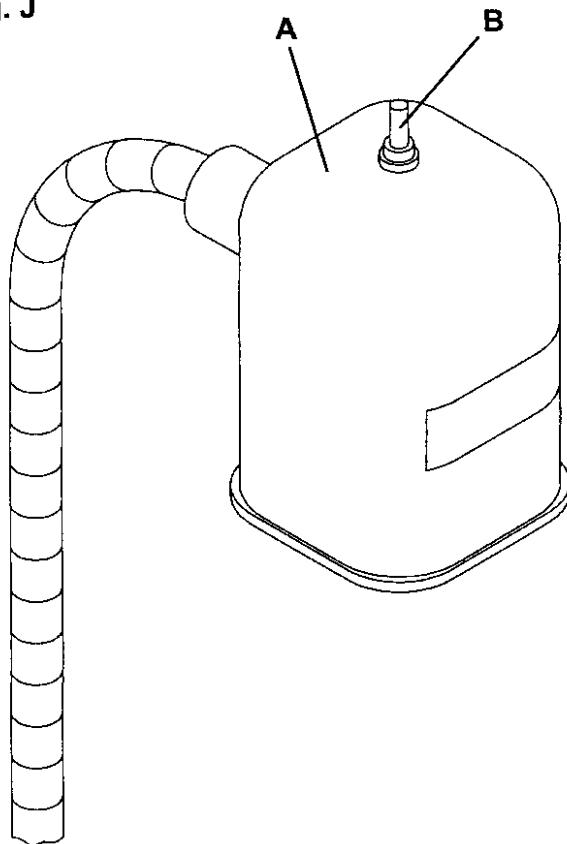
To reduce the risk of fire, use a 120V, 40 watt or less Track Light Bulb, Type R20, medium base or equivalent (not included). **DO NOT** use a light bulb that extends past the end of the light housing.

1. The Flexible Work Light (A) may be turned "ON" or "OFF" by using the rotary switch (B) on the top surface of the housing. The switch can be rotated in the clockwise direction only. See Figure J.

NOTE: The Flexible Work Light can be turned "ON" or "OFF" even if the Bench Grinder is turned "OFF".

CAUTION: The Flexible Work Light housing will remain hot for a few minutes after turning it "OFF". Avoid contact with housing until it is cool.

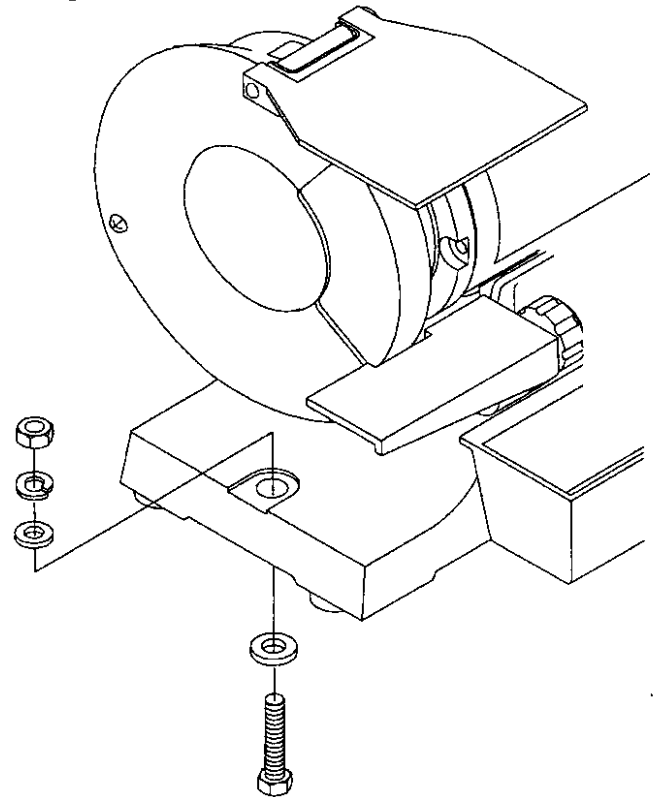
Fig. J



PERMANENT MOUNTING (Fig. K)

Use the mounting pads on the base of the grinder to firmly attach grinder to a solid work surface (hardware not included). See Figure K.

Fig. K

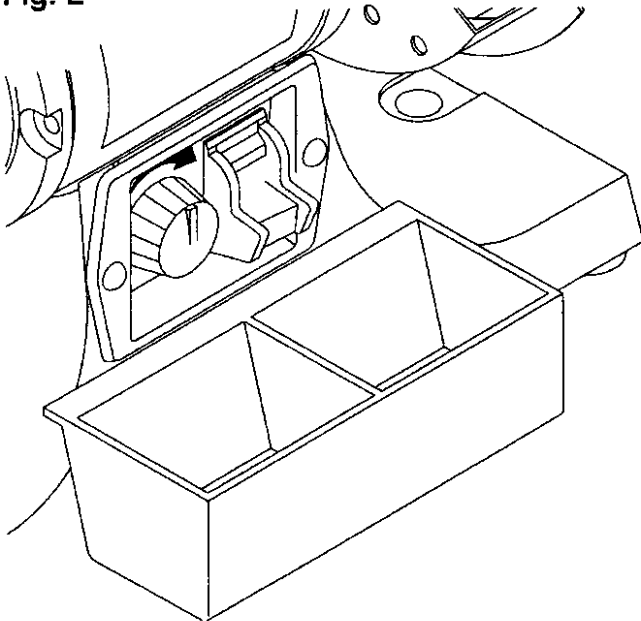


⚠ WARNING

To avoid serious injury, secure the Bench Grinder to a solid work surface. If the Bench Grinder is not securely mounted, it will have the ability to move or tip over during grinding operations and possibly cause the operators fingers to contact the grinding wheels.

OPERATING THE BENCH GRINDER

Fig. L



The Bench Grinder is designed for hand held grinding, sharpening, and cleaning operations.

ALWAYS WEAR EYE PROTECTION! Hot sparks are produced during grinding operations.

Sharpening and removal of metal can be done on the right side of the Bench Grinder using the grinding wheel. Cleaning of metal surfaces can be done using the wire wheel on the left side of the Bench Grinder.

GRINDING SPEED CHART

<i>Low Speed 2000 RPM Light Duty Operations</i>	<i>High Speed 3450 RPM Heavy Duty/Normal Operations</i>
Light grinding	Heavy grinding
Sharpening	Stock removal
Rust and paint removal	Deburring
Lowered grinding temperature	Buffing

1. The Power Switch must be in the "OFF" position (see Fig. L) and the Variable Speed Switch must be turned to its slowest setting by being turned all the way to the left until solid resistance is felt.
2. Stand to the side of the Bench Grinder and plug in the power cord to a suitable power source.
3. Remain to the side of the Bench Grinder and turn it "ON" by moving the power switch to the up position.

4. Allow the grinding wheels to come up to a steady speed for at least one minute. The R.P.M.'s of the Bench Grinder can be now increased to the desired speed for the particular grinding operation by rotating the Variable Speed Switch clockwise.
5. The Flexible Work Light may be turned "ON" if desired.
6. Adjust the eyeshields. Place the workpiece on the appropriate tool rest for the desired operation.
7. Move the workpiece towards the grinding wheel until it lightly touches. Move the workpiece back and forth across the front surface of the grinding wheel removing the amount of material desired.

⚠ WARNING

To avoid serious injury, never grind on the sides of the grinding wheels.

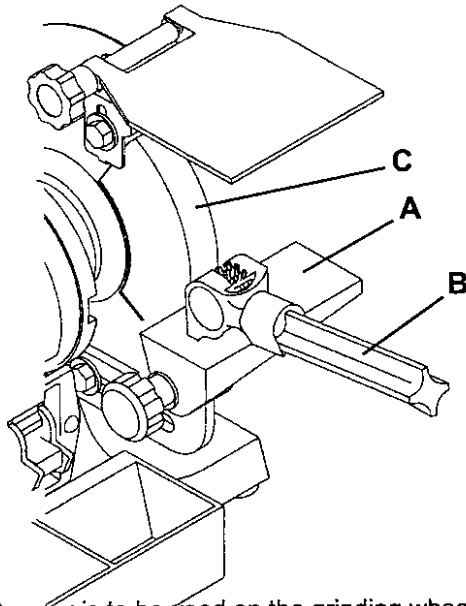
8. If the Drill Bit Sharpening Plate was installed earlier, lay the drill bit flat in the "V" groove. Firmly hold on to the drill bit shank. Slide the drill bit towards the grinding wheel until it lightly touches. Keep the drill bit flat to the plate and rotate the drill bit.
9. The operator may place the hot end of the workpiece into the water in the quench tray to cool it.
10. After completing the grinding operations, turn "OFF" the Bench Grinder by pushing down on the Power Switch. **CAUTION:** It will take a few minutes for the grinding wheels to come to a complete stop.
11. Turn the Variable Speed Switch counterclockwise to return it to its slowest setting.
12. Turn "OFF" the Flexible Work Light.

CAUTION: The Flexible Work Light housing will remain hot for a few minutes after turning it "OFF".
13. Avoid contact with housing until it is cool. Unplug the Bench Grinder from the power source.

NOTE: To prevent unauthorized use of the Bench Grinder, the power switch has a removable locking key. With the power switch in the "OFF" position, pull the locking key out. The Bench Grinder cannot be turned "ON" with the key removed. Insert the locking key to resume grinding operations.

USING THE WHEEL DRESSER (Fig. M)

Fig. M



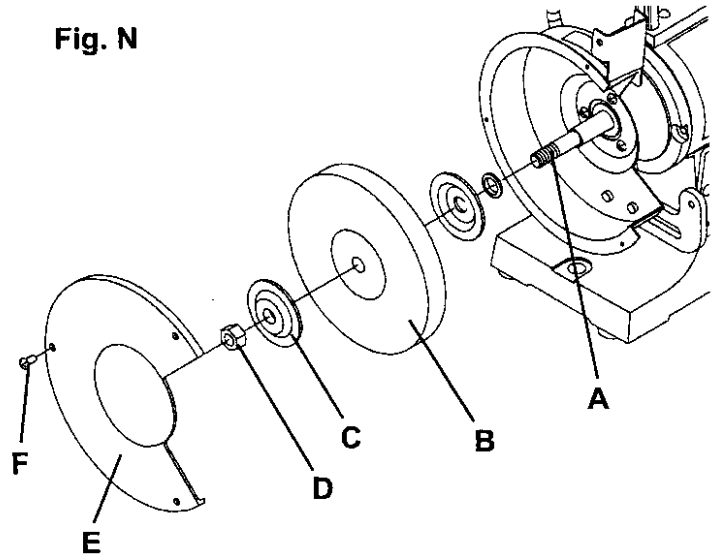
The Wheel Dresser is to be used on the grinding wheel only. It will remove buildup of material on the grinding wheel, remove imperfections and make the corners of the grinding wheel square. See Figure M.

DO NOT use the Wheel Dresser on the Wire Wheel.

1. If the optional Drill Bit Sharpening Accessory Plate was installed earlier, remove it and reassemble the right side tool rest (A) and adjust it until it is in the flat horizontal position as shown and 1/16" away from the grinding wheel.
2. Turn "ON" the Bench Grinder and then turn the Variable Speed Switch clockwise until solid resistance is felt. Let the grinding wheel come up to a steady speed for one minute.
3. After the grinding wheel has gotten to a steady speed, place the Wheel Dresser (B) flat on the Tool Rest with the serrated wheels facing the grinding wheel.
4. Firmly hold on to the handle of the Wheel Dresser.
5. Move the Wheel Dresser forward until the serrated wheels make light contact with the grinding wheel (C). After contact has been made, slide the Wheel Dresser side to side across the Tool Rest to dress the grinding wheel until the edge of the grinding wheel is square and the surface is clean.
6. After the operator has completed dressing the grinding wheel, turn "OFF" the Bench Grinder and let the grinding wheel come to a complete stop.
7. Inspect the grinding wheel for any damage!
8. The grinding wheel may now be slightly smaller in diameter after dressing. Readjust the tool rests and spark arrestors to maintain a 1/16" clearance to the grinding wheel.

CHANGING THE GRINDING WHEEL AND WIRE WHEEL (Fig. N)

Fig. N



Due to normal wear, both wheels will need to be replaced occasionally. See Figure N.

1. Turn the power switch "OFF" and unplug the power cord from its power source
2. Rotate the eyeshields to the "UP" position for access to the tool rests.
3. Remove the three screws (F) holding the Wheel Covers (E) to the Bench Grinder.
4. Remove the Wheel Covers.
5. Place a small wooden wedge between the Abrasive wheel and Tool Rest to prevent the wheels from rotating.
6. Remove the right side grinding wheel by turning the locknut (D) in the counterclockwise direction with a 13/16" hex wrench. The left side wire wheel can be removed by turning the locknut in the clockwise direction with a 13/16" hex wrench.
7. Remove the Outer Wheel Flange (C) and then remove the abrasive wheel (B) from the arbor shaft (A).
8. **CAUTION:** The new abrasive wheel to be put onto the Bench Grinder must have a higher R.P.M rating than the Bench Grinder. The abrasive wheel must have a 6" diameter with a 1/2" bore diameter for the arbor shaft. The label on the side of the abrasive wheels must stay on, **DO NOT** remove this label.
9. Replace the abrasive wheel, outer wheel flange, and the locknut in reverse order from removal.

CAUTION: DO NOT OVER-TIGHTEN the lock nut as this may damage the abrasive wheels and cause serious injury to the operator.

CAUTION: A 4mm thick spacer is provided between the Inner Wheel Flange and the motor on the Wire Wheel side of the Grinder. This spacer must be used when a Wire Wheel is to be mounted on the Grinder. The spacer locates the Wire Wheel in the center of the Tool Rest. Remove the spacer if you are using a Grinding Wheel.

MAINTENANCE OF THE BENCH GRINDER

⚠ WARNING

To avoid serious injury, turn the power switch "OFF" and unplug the power cord from its power source prior to any maintenance.

LUBRICATION

The Bench Grinder has sealed lubricated bearings in the motor housing that do not require any additional lubrication from the operator.

CLEANING

With the Bench Grinder unplugged, rotate the abrasive wheels slowly and inspect for any damage or trapped shavings.

⚠ WARNING

Replace the abrasive wheels if there is any damage at all. Failure to replace a damaged wheel can cause serious injury to the operator

CAUTION: DO NOT USE FLAMMABLE MATERIALS to clean the Bench Grinder. A clean dry rag or brush is all that is needed to remove dust and debris buildup.

⚠ WARNING

Repairs to the Bench Grinder should be performed by trained personnel only. Contact your nearest Sears Service Center for authorized service. Unauthorized repairs or replacement with non-factory parts could cause serious injury to the operator and damage to the Bench Grinder.

TROUBLESHOOTING GUIDE

TO PREVENT INJURY TO YOURSELF or damage to the Bench Grinder, turn the switch to the "OFF" position and unplug the power cord from the electrical receptacle before making any adjustments.

PROBLEM	LIKELY CAUSE	SOLUTION
Motor does not run	<ol style="list-style-type: none"> 1. Machine not plugged in 2. Power switch in "OFF" position 3. Power cord is faulty 4. Fuse or circuit breaker are open 5. Damaged motor 	<ol style="list-style-type: none"> 1. Plug power cord into electrical receptacle 2. Lift switch to "ON" position 3. Return to Sears Service Center 4. Overloaded electrical circuit 5. Return to Sears Service Center
Motor does not have full power	<ol style="list-style-type: none"> 1. Incorrect line voltage 2. Damaged motor 	<ol style="list-style-type: none"> 1. Have a qualified electrician check line for proper voltage. 2. Return to Sears Service Center
Motor runs hot	<ol style="list-style-type: none"> 1. Motor is overloaded 2. Poor air circulation around motor 3. Motor is overloaded 	<ol style="list-style-type: none"> 1. Reduce pressure on workpiece 2. Remove any blockage around motor 3. Adjust variable speed to higher R.P.M.'s
Motor stalls or or runs slow	<ol style="list-style-type: none"> 1. Motor is overloaded 2. Motor is overloaded 3. Incorrect line voltage 4. Capacitor has failed 	<ol style="list-style-type: none"> 1. Reduce pressure on workpiece 2. Adjust variable speed to higher R.P.M.'s 3. Have a qualified electrician check line for proper voltage 4. Return to Sears Service Center
Fuse blows or circuit breaker trips	<ol style="list-style-type: none"> 1. Motor overloaded 2. Overloaded electrical circuit 3. Wrong fuse or circuit breaker 4. Undersized or excessive length of extension cord 5. Grinding wheels are blocked 	<ol style="list-style-type: none"> 1. Reduce pressure on workpiece 2. Reduce the amount of items on circuit 3. Replace with correct fuse or circuit breaker 4. Use correct size; see manual 5. Unplug machine and remove obstruction

PARTS

6-IN. GRINDING CENTER PARTS LIST

MODEL NO.152.211521

⚠ WARNING

When servicing, use only CRAFTSMAN replacement parts. Use of any other parts may create a HAZARD or cause product damage.

⚠ WARNING

Any attempt to repair or replace electrical parts on this Bench Grinder may create a HAZARD unless repair is done by a qualified service technician. Repair service is available at your nearest Sears Service Center.

Always order by PART NUMBER, not by key number.

Key No.	PART No.	Description	Qty.	Key No.	PART No.	Description	Qty.
1	OR90055	CARRIAGE HD SCR M6 x 80mm	1	54	OR90005	FLANGE	2
2	OR90152	EYESHIELD	1	55	OR90029	LEFT HAND HEX NUT 1/2-12	1
3	STD851006	FLAT WASHER M6	1	56	OR90004	COVER	1
4	OR90001	KNOB M6	1	57	STD511002	SCR #10-24 x 1/4"	3
5	OR90002	SPACER	1	58	STD364939	POWER CORD	1
6	OR90003	SPARK ARRESTOR (RIGHT)	1	59	STD511002	SCR #10-24 x 1/4"	1
7	STD551012	FLAT WASHER 1/4"	1	60	OR90053	EXT TOOTH WASHER #10	1
8	OR90150	HEX HD SCR 1/4-20 x 1/4"	1	62	OR90017	STRAIN RELIEF 6N3-4R	1
9	STD511002	SCR #10-24 x 1/4"	3	63	STD511003	SCR #10-24 x 3/8"	2
10	OR90004	COVER	1	64	OR90031	CORD MOUNTING PLATE	1
11	OR90030	HEX NUT 1/2-12	1	65	OR90032	BASE	1
12	OR90005	FLANGE	2	66	OR90210	LIGHT ASSY	1
13	9-64534	6" GRINDING WHEEL 60 GRIT (AVAILABLE AT MOST RETAIL STORES)	1	67	OR91453	WARNING LABEL	1
14	OR90006	WHEEL GUARD (RIGHT)	1	68	OR90037	SWITCH	1
15	OR90007	ROTATION LABEL	1	69	OR90038	SWITCH KEY	1
16	STD511003	SCR #10-24 x 3/8"	3	70	OR90056	HEX SOC SET SCR M4 x 6mm	1
17	OR90008	TOOL REST SUPPORT (RIGHT)	1	71	OR90039	KNOB	1
18	OR90153	TOOL REST (RIGHT)	1	72	STD511003	SCR #10-24 x 3/8"	2
19	OR90154	DRILL BIT SHARPENING PLATE	1	73	OR90038	VARIABLE SPEED LABEL	1
20	STD551031	FLAT WASHER 5/16"	1	74	OR90035	SWITCH PLATE	1
21	OR90155	KNOB 5/16-18	1	75	OR90040	QUENCH TRAY	1
22	STD551031	FLAT WASHER 5/16"	2	76	STD551125	LOCK WASHER 1/4"	2
23	STD523105	HEX HD SCR 5/16-18 x 1/2"	2	77	STD541025	HEX NUT 1/4-20	2
24	STD511007	SCR #10-24 x 5/8"	4	78	OR90041	CAPACITOR	1
25	OR90012	END BELL (RIGHT)	1	80	STD511002	SCR #10-24 x 1/4"	1
26	OR90056	HEX SOC SET SCR M4 x 6mm	1	81	OR90045	PAD	4
27	OR90013	PLATE	1	82	STD551010	FLAT WASHER #10	4
28	OR90014	SENSOR ASSY	1	83	STD511005	SCR #10-24 x 1/2"	4
29	OR90057	SCR M3 x 6mm	2	84	OR90042	CIRCUIT BOARD ASSY	1
30	OR90015	MOTOR ASSY (See KEY NO.'s 100-110 for individual parts)	1	85	STD851004	FLAT WASHER M4	2
31	OR90023	NAMEPLATE	1	86	OR90054	TAP SCR M4 x 6mm	2
33	OR90024	SPEC PLATE	1	87	OR90044	COVER PLATE	1
36	OR90001	KNOB M6	1	88	STD551110	LOCK WASHER #10	4
37	STD851006	FLAT WASHER M6	1	89	STD511005	SCR #10-24 x 1/2"	4
38	OR90152	EYESHIELD	1	90	STD511003	SCR #10-24 x 3/8"	2
39	OR90055	CARRIAGE HD SCR M6 x 80mm	1	91	OR90049	WHEEL DRESSER	1
40	OR90002	SPACER	1	92	OR90048	SUPPORT	1
41	OR90025	SPARK ARRESTOR (LEFT)	1	93	OR90050	10mm x 12mm OPEN END WRENCH	1
42	OR90150	HEX HD SCR 1/4-20 x 1/4"	1	94	OR90149	Owner's Manual (Not Illustrated)	1
43	STD551012	FLAT WASHER 1/4"	1	95	OR90058	120V, 40W, Mini Reflector Bulb TYPE R14, (Not Illustrated, Not Included)	1
44	OR90155	KNOB 5/16-18	1	100	OR90052	SCR M4 x 135mm	4
45	STD551031	FLAT WASHER 5/16"	1	101	OR90016	MOTOR BELL (LEFT)	1
46	OR90156	TOOL REST (LEFT)	1	102	STD315225	BEARING 6202ZZ	2
47	OR90026	TOOL REST SUPPORT (LEFT)	1	103	OR90018	FAN	1
48	STD523105	HEX HD SCR 5/16-18 x 1/2"	2	104	STD512510	SCR 1/4-20 x 1"	2
49	STD551031	FLAT WASHER 5/16"	2	105	OR90019	MOTOR BODY	1
50	OR90007	ROTATION LABEL	1	106	OR90020	ARMATURE	1
51	OR90028	WHEEL GUARD (LEFT)	1	107	OR90021	FIELD	1
52	STD511002	SCR #10-24 x 3/8"	3	108	OR90022	MOTOR BELL (RIGHT)	1
53	9-64129	6" WIRE WHEEL (AVAILABLE AT MOST RETAIL STORES)	1	109	STD852004	LOCK WASHER M4	4
				110	STD840407	HEX NUT M4	4
				111	OR90157	SPACER	1

