KING CANADA

6” BENCH GRINDER WITH LED LIGHTS

MODEL: KC-690LN

INSTRUCTION MANUAL

WARRANTY INFORMATION

2-YEAR LIMITED WARRANTY FOR THIS 6” BENCH GRINDER	**KING CANADA TOOLS** OFFERS A 2-YEAR LIMITED WARANTY FOR NON-COMMERCIAL USE.

PROOF OF PURCHASE

Please keep your dated proof of purchase for warranty and servicing purposes.

REPLACEMENT PARTS

Replacement parts for this product are available at our authorized King Canada service centers across Canada. Please use the 10 digit part numbers listed in this manual for all part orders where applicable.

LIMITED TOOL WARRANTY

King Canada makes every effort to ensure that this product meets high quality and durability standards. King Canada warrants to the original retail consumer a 2-year limited warranty as of the date the product was purchased at retail and that each product is free from defects in materials. Warranty does not apply to defects due directly or indirectly to misuse, abuse, normal wear and tear, negligence or accidents, repairs done by an unauthorized service center, alterations and lack of maintenance. King Canada shall in no event be liable for death, injuries to persons or property or for incidental, special or consequential damages arising from the use of our products.

To take advantage of this limited warranty, return the product at your expense together with your dated proof of purchase to an authorized King Canada service center. Contact your retailer or visit our web site at www.kingcanada.com for an updated listing of our authorized service centers. In cooperation with our authorized serviced center, King Canada will either repair or replace the product if any part or parts covered under this warranty which examination proves to be defective in workmanship or material during the warranty period.

NOTE TO USER

This instruction manual is meant to serve as a guide only. Specifications and references are subject to change without prior notice.

KING CANADA INC. DORVAL, QUÉBEC, CANADA H9P 2Y4

www.kingcanada.com

GENERAL SAFETY INSTRUCTIONS FOR POWER TOOLS

1. KNOW YOUR TOOL
Read and understand the owners manual and labels affixed to the tool. Learn its application and limitations as well as its specific potential hazards.

2. GROUND THE TOOL.
This tool 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.

3. KEEP GUARDS IN PLACE.
Keep in good working order, properly adjusted and aligned.

4. REMOVE ADJUSTING KEYS AND WRENCHES.
Form habit of checking to see that keys and adjusting wrenches are removed from tool before turning it on.

5. KEEP WORK AREA CLEAN.
Cluttered areas and benches invite accidents. Make sure the floor is clean and not slippery due to wax and sawdust build-up.

6. AVOID DANGEROUS ENVIRONMENT.
Don't use power tools in damp or wet locations or expose them to rain. Keep work area well lit and provide adequate surrounding work space.

7. KEEP CHILDREN AWAY.
All visitors should be kept a safe distance from work area.

8. MAKE WORKSHOP CHILD-PROOF.
-with padlocks, master switches or by removing starter keys.

9. USE PROPER SPEED.
A tool will do a better and safer job when operated at the proper speed.

10. USE RIGHT TOOL.
Don't force the tool or the attachment to do a job for which it was not designed.

11. WEAR PROPER APPAREL.
Do not wear loose clothing, gloves, neckties or jewelry (rings, watch) because they could get caught in moving parts. Non-slip footwear is recommended. Wear protective hair covering to contain long hair. Roll up long sleeves above the elbows.

12. ALWAYS WEAR SAFETY GLASSES.
Always wear safety glasses (ANSI Z87.1). Everyday eyeglasses only have impact resistant lenses, they are **NOT** safety glasses. Also use a face or dust mask if operation is dusty.

13. DON'T OVERREACH.
Keep proper footing and balance at all times.

14. MAINTAIN TOOL WITH CARE.
Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.

15. DISCONNECT TOOLS.
Before servicing, when changing accessories or attachments.

16. AVOID ACCIDENTAL STARTING.
Make sure the switch is "OFF" before plugging in.

17. USE RECOMMENDED ACCESSORIES.
Consult the manual for recommended accessories. Follow the instructions that accompany the accessories. The use of improper accessories may cause hazards.

18. NEVER STAND ON TOOL.
Serious injury could occur if the tool tips over. Do not store materials such that it is necessary to stand on the tool to reach them.

19. CHECK DAMAGED PARTS.
Before further use of the tool, a guard or other parts that are damaged should be carefully checked to ensure that they will operate properly and perform their intended function. Check for alignment of moving parts, breakage of parts, mounting, and any other conditions that may affect its operation. A guard or other parts that are damaged should be properly repaired or replaced.

20. NEVER LEAVE MACHINE RUNNING UNATTENDED.
Turn power "OFF". Don't leave any tool running until it comes to a complete stop.

SPECIFIC SAFETY INSTRUCTIONS FOR YOUR BENCH GRINDER

1. EYE PROTECTION.
Grinding ejects small particles at a high rate of speed. ALWAYS wear safety glasses when using this machine.

2. MOUNTING TO BENCH/STAND.
An unsecured grinder may become dangerously out of control during operation. Make sure grinder is FIRMLY secured to a bench/stand before use.

3. WHEEL SPEED RATING.
Grinding wheels operated at a faster speed than rated may break or fly apart. Before mounting a new wheel, be sure the wheel RPM rating is equal or higher than the speed of the grinder.

4. WHEEL FLANGES.
Only use the flanges included with the grinder when mounting wheels. Other flanges may not properly secure the wheel and cause an accident.

5. RING TEST.
Perform a "ring test" or “resonate test” on grinding wheels before installation to ensure that they are safe to use. Tap the grinding wheel and listen for a “ringing tone”, if you hear a thud and no ringing tone the grinding wheel is not safe to use. A wheel that does not pass the ring test may break or fly apart during operation.

6. STARTING GRINDER.
If a wheel is damaged, it will usually fly apart shortly after start-up. To protect yourself, always stand to the side of the grinder when turning it ON and allow it to run a full minute before standing in front of it.

7. LUNG PROTECTION.
Grinding produces hazardous dust, which may cause long term respiratory problems. Always wear a NIOSH –approved dust mask or respirator when grinding.

8. SIDE GRINDING.
Do not grind on the side of the wheel. The wheels provided are not designed for side grinding. Grinding on the side greatly stresses the wheel and may cause it to shatter.

9. TOP GRINDING.
Grinding on the top of grinding wheels greatly increases the risk of workpiece kickback. Always grind on the downward part of the wheel.

10. HAND/WHEEL CONTACT.
Grinding wheels can remove a lot of skin fast. Keep a firm grip on the workpiece and position your hands a safe distance away when grinding. DO NOT wear gloves as they may get caught in the grinding wheel and cause even more serious injuries.

11. TOOL REST POSITION.
If the tool rest is too far away from the wheel, the workpiece may be pulled down, causing loss of control and pulling your hand into the grinding wheel. Keep the tool rest within 1⁄16” from the grinding wheel when operating.

12. CRACKED WHEEL.
Cracked wheels may break and fly apart during operation. Replace cracked wheels immediately!

13. WEAR THE PROPER PROTECTIVE CLOTHING.
Particles flying off of a grinding wheel will be traveling very fast, prepare yourself for this. Wear safety glasses/face shield, a dust mask, earplugs, a leather apron, and heavy leather boots.

14. GUARDS.
Make sure all guards are in place.

15. SPARKS.
Remember that grinding often produces sparks. Do not allow anyone to stand in the path of the sparks. DO NOT grind near flammable materials.

16. MAINTENANCE.
Maintain proper care of your wheels.

17. SUPPORT WORKPIECE.
Grasp the workpiece firmly and properly support it on the tool rest during grinding. Maintain even pressure and control of the workpiece when grinding.

18. CONCENTRATE.
Concentrate on the task at hand. STOP grinding if you are distracted.

19. GRINDING.
Do not grind workpieces that are heavier than the wheel itself. This stresses the wheel. In these cases use a handheld grinder instead.

ELECTRICAL INFORMATION

WARNING!

ALL ELECTRICAL CONNECTIONS MUST BE DONE BY A QUALIFIED ELECTRICIAN. FAILURE TO COMPLY MAY RESULT IN SERIOUS INJURY! ALL ADJUSTMENTS OR REPAIRS MUST BE DONE WITH THE MACHINE DISCONNECTED FROM THE POWER SOURCE. FAILURE TO COMPLY MAY RESULT IN SERIOUS INJURY!

POWER SUPPLY

WARNING: YOUR BENCH GRINDER MUST BE CONNECTED TO A 110V-120V, 15-AMP CIRCUIT BREAKER. FAILURE TO CONNECT IN THIS WAY CAN RESULT IN INJURY FROM SHOCK OR FIRE.

GROUNDING

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

Your Bench Grinder must be properly grounded. Not all outlets are properly grounded. If you are not sure if your outlet is properly grounded, have it checked by a qualified electrician.

WARNING: TO MAINTAIN PROPER GROUNDING OF YOUR BENCH GRINDER, DO NOT REMOVE OR ALTER THE GROUNDING PRONG IN ANY MANNER.

WARNING: IF NOT PROPERLY GROUNDED, THIS BENCH GRINDER CAN CAUSE ELECTRICAL SHOCK, PARTICULARLY WHEN USED IN DAMP LOCATIONS. TO AVOID SHOCK OR FIRE, IF THE POWER CORD IS WORN OR DAMAGED IN ANY WAY, HAVE IT REPLACED IMMEDIATELY.

110V-120V OPERATION

As received from the factory, your Bench Grinder is ready to run for 110V-120V operation. This Bench Grinder is intended for use on a circuit that has an outlet and a plug which looks like the one illustrated in Fig.1.

WARNING: DO NOT USE A TWO-PRONG ADAPTOR FOR THEY ARE NOT IN ACCORDANCE WITH LOCAL CODES AND ORDINANCES. NEVER USE IN CANADA.

EXTENSION CORDS

The use of any extension cord will cause some loss of power. Use the chart in Fig.2 to determine the minimum wire size (A.W.G-American Wire Gauge) extension cord. Use only 3-wire extension cords which have 3-prong grounding type plugs and 3-hole receptacles which accept the tool's plug.

For circuits that are further away from the electrical circuit box, the wire size must be increased proportionately in order to deliver ample voltage to the Bench Grinder motor. Refer to Fig.2 for wire length and size.

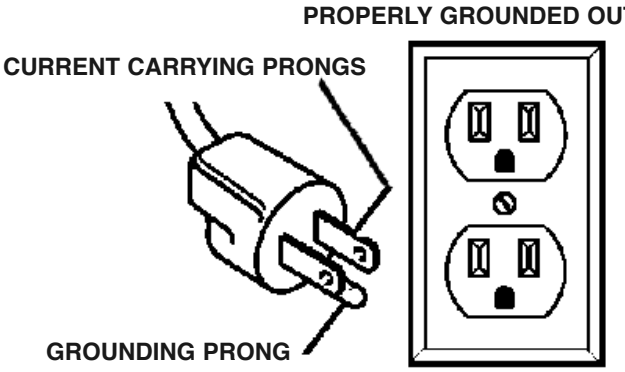
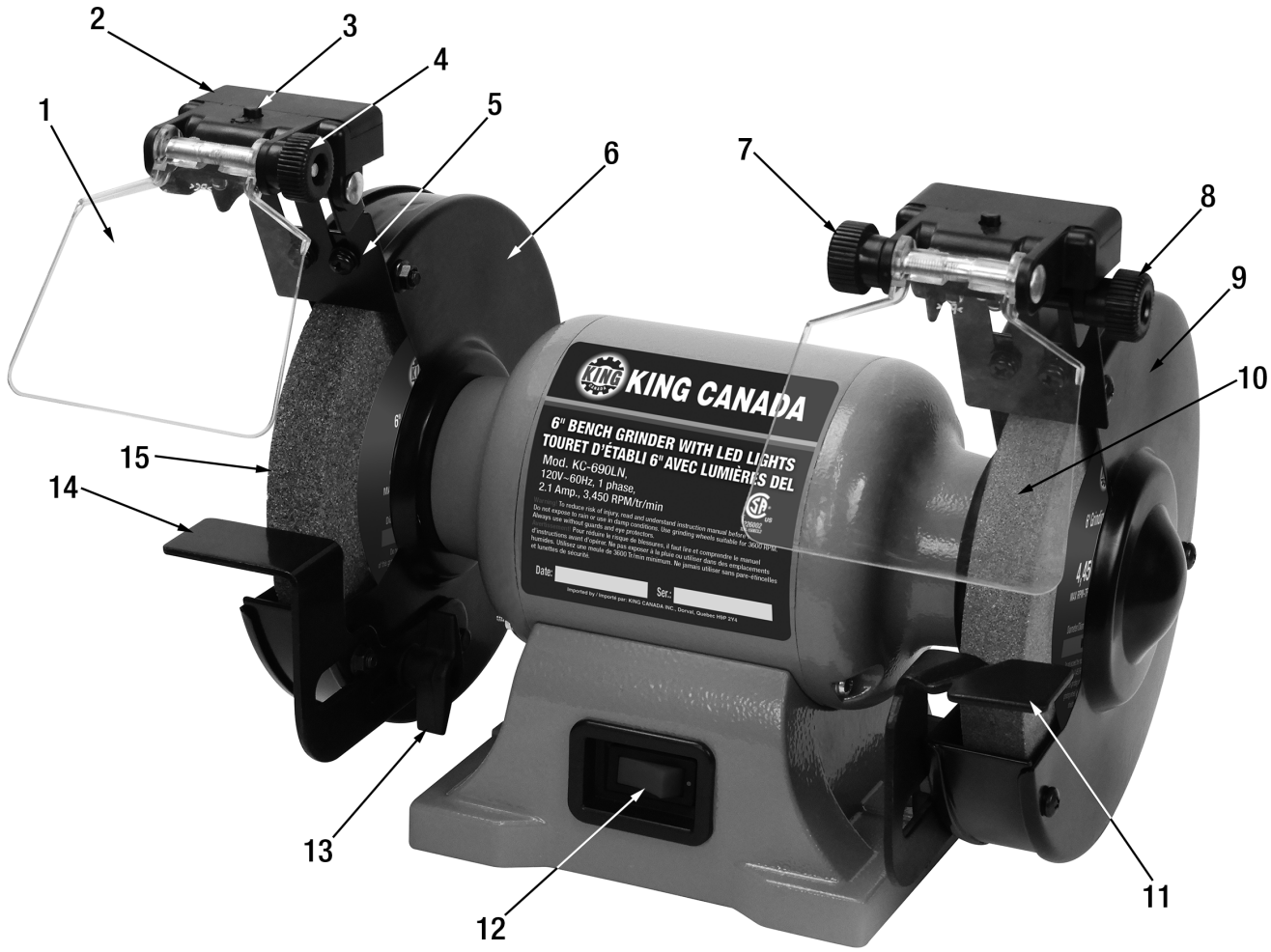


FIGURE 1

Tool's Amperage Rating	Cord Size in A.W.G.			
	Cord Length in Feet			
	25	50	100	150
3-6	18	16	16	14
6-8	18	16	14	12
8-10	18	16	14	12
10-12	18	16	14	12
12-16	14	12	-	-

FIGURE 2

GETTING TO KNOW YOUR 6” BENCH GRINDER



Getting to know your 6” Bench Grinder

1) Adjustable eye shield
2) LED battery compartment
3) LED light on/off button
4) Eye shield lock knob (left)
5) Spark deflector
6) Grinding wheel guard
7) Eye shield lock knob (right)
8) LED light lock knob
9) Grinding wheel guard cover
10) Grinding wheel (60 Grit)
11) Notched tool rest
12) On/Off switch
13) Tool rest lock knob
14) Tool rest
15) Grinding wheel (36 Grit)

Specifications

MODEL	KC-690LN
Wheel size	6” x 3/4”
Arbor size	1/2”
Motor	2.1 Amp.
RPM	3,450
Voltage	120V, 1 phase, 60 Hz
Assembled dimensions (LxWxH) / weight	11-3/4” x 9” x 10” / 15.2 lbs
Packaging dimensions (LxWxH) / weight	14” x 9-5/8” x 9-1/4”/ 16.4 lbs

ASSEMBLY

Installing spark deflectors to wheel guards

1. Install a spark deflector (A) Fig.3 to the front surface of the wheel guard (B) using two pan head screws, spring washer and washer (C). Repeat for the other side.

2. Adjust both spark deflectors (A) Fig.3 until they are 1/16" away from the grinding wheel (D). Firmly tighten the pan head screws. As the grinding wheels are worn down, re-adjust the spark deflectors to maintain the 1/16" distance from the wheel.

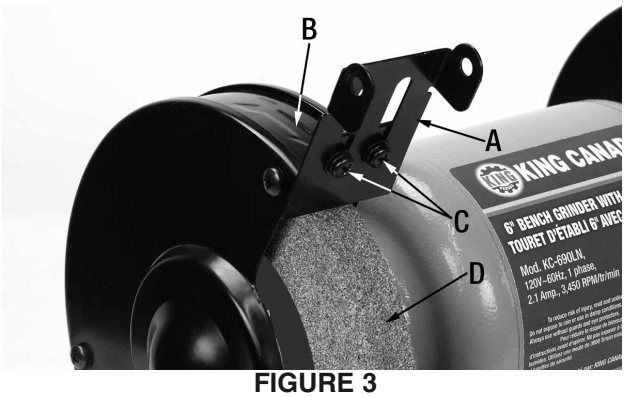


FIGURE 3

Installing LED light assemblies to spark deflectors

1. Slide bolt sleeve (A) Fig.4 between the spark deflector mounting holes (B), position LED light assembly (C) over the spark deflector mounting holes as shown.

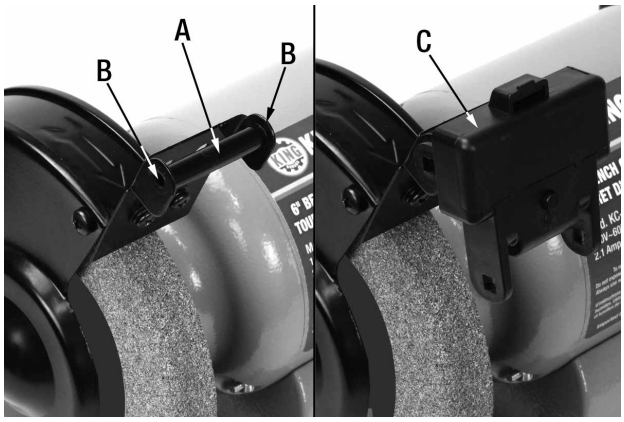


FIGURE 4

2. Insert a carriage bolt (A) Fig.5 through the spark deflector mounting holes and the bolt sleeve, secure the LED light assembly using lock knob (B). Repeat for the other side.

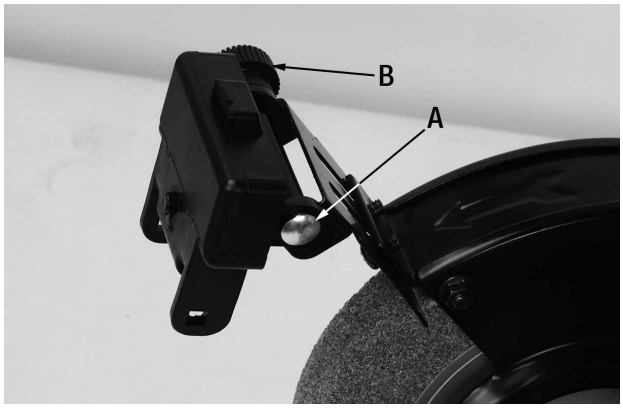


FIGURE 5

Installing eye shields to LED light assemblies

1. Attach the eye shield (A) Fig.6 to the LED light assembly (B) using a carriage bolt (C) and lock knob (D). Repeat for the other side.

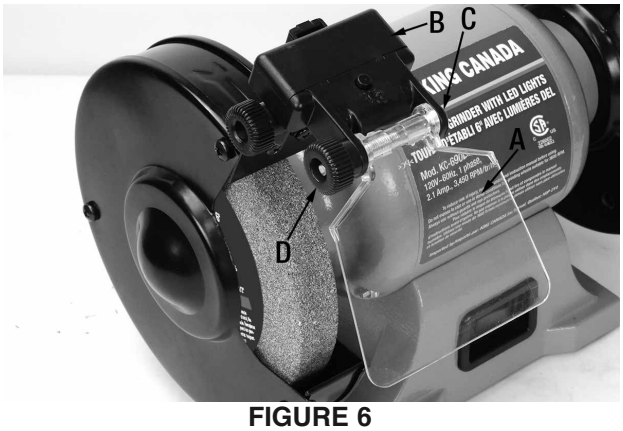


FIGURE 6

ASSEMBLY & OPERATION

Installing tool rests to wheel guards

The bench grinder comes with two tool rests. The right side tool rest has a groove to allow for sharpening drill bits, and the left tool rest is completely flat.

1. Position the right side tool rest (A) Fig.7 up against the right grinding wheel guard (B) as shown. Secure right side tool rest using lock knob (C). Repeat for the left side tool rest. As the grinding wheels are worn down, re-adjust the tool rests to maintain a 1/16” distance from the wheel.

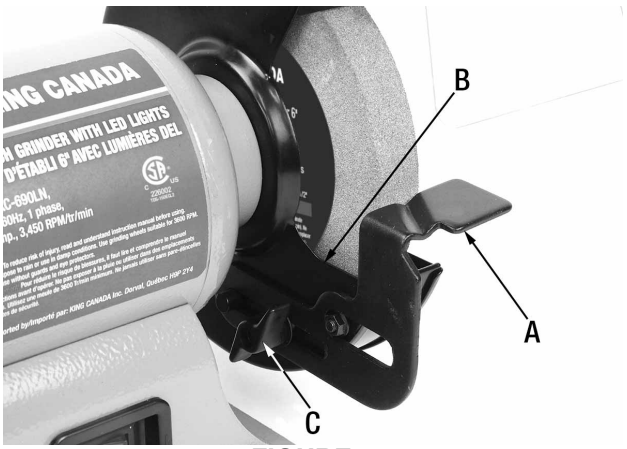


FIGURE 7

Mounting the bench grinder

This bench grinder comes with 2 mounting holes in its base. For safety reasons it is highly recommended to secure the bench grinder onto a solid work surface, or stand. (Mounting hardware and stand not included.)

OPERATION- Operating the bench grinder

The bench grinder is designed for hand held grinding, sharpening, and cleaning operations. **ALWAYS WEAR EYE PROTECTION!** Hot sparks are produced during grinding operations.

1. Make sure the switch is in the "OFF" position.
2. Make sure the spark deflectors and tool rests are set 1/16” from the grinding wheels. Before starting the grinder, turn the grinding wheel by hand one full turn to make certain the wheels to do not come into contact with the spark guards or tools rests.
3. Stand to the side of the bench grinder and plug in the power cord into the correct power source.
4. Remain to the side of the bench grinder and position the switch to the "ON" position.
5. Allow the grinding wheels to come up to a steady speed for at least one minute.
6. Adjust the eye shields as needed and place the workpiece on the appropriate tool rest for the desired operation. Turn of LED light(s) if needed.
7. Slowly 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. **NEVER GRIND ON THE SIDES OF THE GRINDING WHEELS**.
8. When finished grinding turn off the machine by positioning the switch in the "OFF" position. **CAUTION**: It will take a few minutes for the grinding wheels to come to a complete stop.

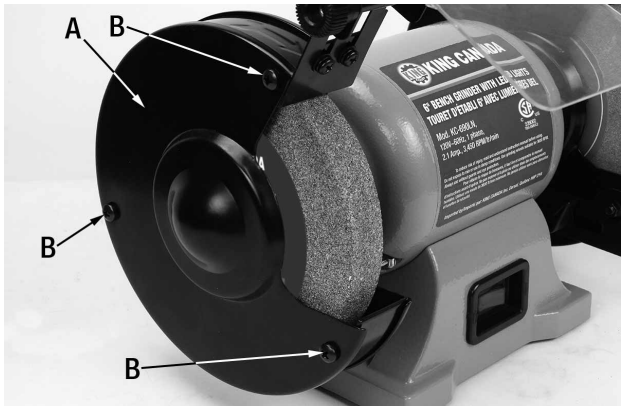


FIGURE 8

MAINTENANCE- Changing grinding wheels

WARNING: To avoid injury from accidental starting, always turn the switch off, and unplug the machine from the power source before changing grinding wheels.

NOTE: Inspect new grinding wheels for cracks or other visible signs of damage. Discard the grinding wheel immediately if any damage is found.

1. Remove the corresponding grinding wheel cover (A) Fig.8 by removing the long screws (B) and hex. nuts.
2. Use a piece of wood to wedge the grinding wheel (A) Fig.9 against the grinding wheel guard (B) to prevent the shaft (C) from rotating. Remove the arbor hex. nut (D) using a 19 mm wrench.

NOTE: The arbor hex. nut (D) Fig.9 on the left side of the bench grinder is left hand threaded (rotate clockwise to loosen). The arbor hex. nut on the right side of the bench grinder is right hand threaded (rotate counterclockwise to loosen).

3. Remove the outer flange (E) and slide off the old grinding wheel (A).
4. Make sure the inner flange is in position, then install the new grinding wheel. Secure it with the outer flange (E) and arbor hex. nut (D).

NOTE: Do not overtighten to avoid cracking the new grinding wheel. NEVER install a grinding wheel on the arbor without paper or fiber discs between the grinding wheel and flanges. Not using the discs can put stress on the grinding wheel, causing it to crack and possibly fall apart.

5. Reinstall the grinding wheel cover (A) Fig.8, and reposition the tool rest and spark shield assemblies if they were removed.

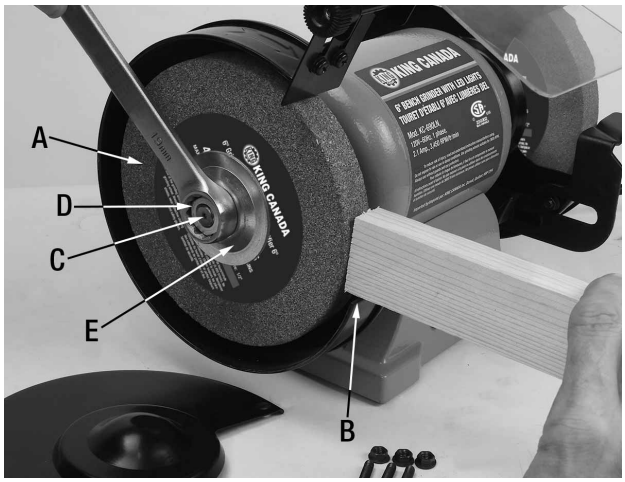


FIGURE 9

PARTS DIAGRAM & PARTS LISTS

Refer to the Parts section of the King Canada web site for the most updated parts diagram and parts list.