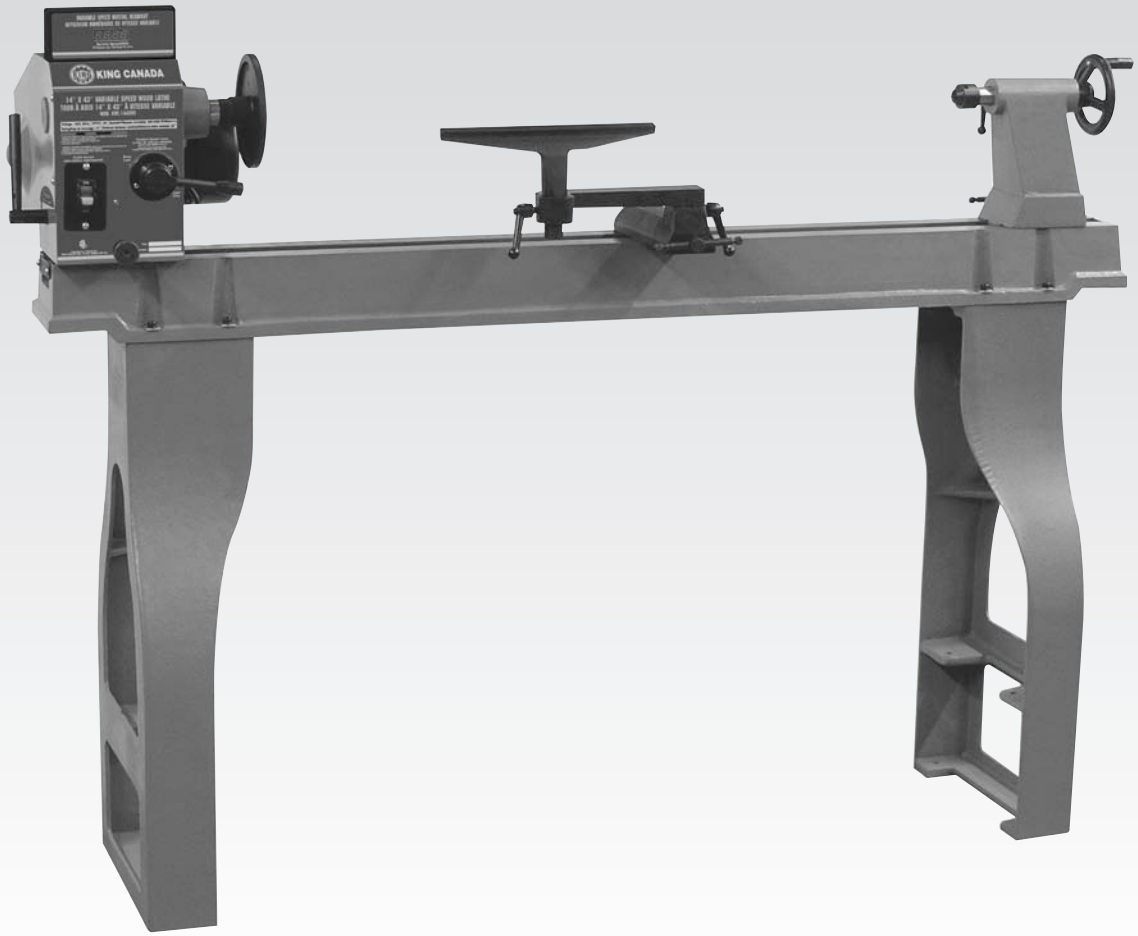
KING CANADA

14” X 43” VARIABLE SPEED WOOD LATHE WITH DIGITAL READOUT



MODEL: KWL-1443VS

INSTRUCTION MANUAL

WARRANTY INFORMATION

2-YEAR LIMITED WARRANTY FOR THIS 14” X 43” WOOD LATHE	**KING CANADA TOOLS OFFERS A 2-YEAR LIMITED WARRANTY INTENDED FOR 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.

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 purshase 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 & SPECIFIC SAFETY RULES

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.

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 eye-glasses only have impact resistant lenses, thet are **NOT** safety glasses. Also use a face or dust mask if cutting 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 swich is in the ''OFF'' position 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 RULES FOR WOOD LATHES

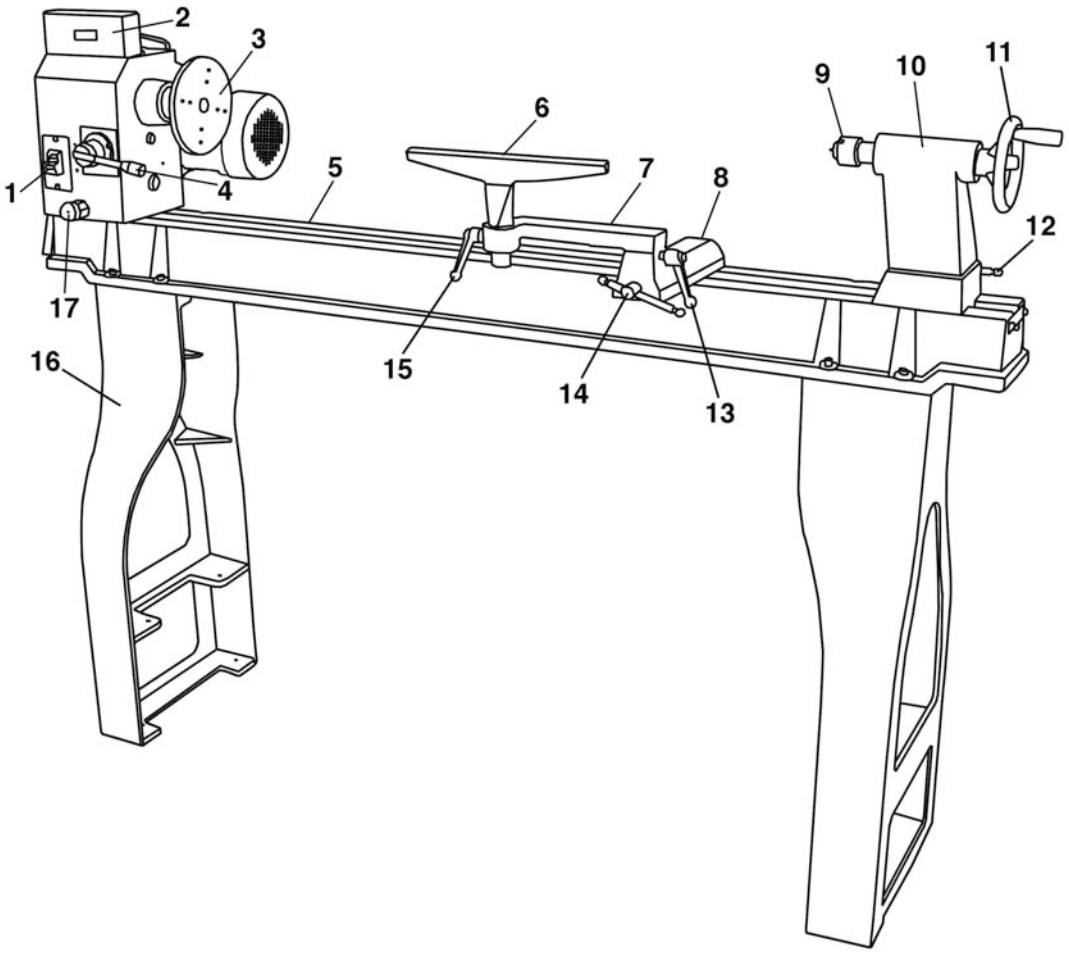
Safety is a combination of common sense, staying alert and knowing how your wood lathe works. Read and understand the following safety rules before operating.

1. For your own safety, read the entire instruction manual before operating the wood lathe.
2. Tighten all lock knobs or handles before operating.
3. Do not mount a split workpiece.
4. Use the lowest speed when starting a new workpiece.
5. Read the warning label attached to the wood lathe.
6. When turning a workpiece, always rough the wood to a round form, start wood lathe at slow speed. If the lathe is run so fast that it vibrates, there is a risk that the workpiece will be thrown or the tool jerked from your hands.
7. Always rotate the workplace by hand before turning on the lathe. If the workpiece strikes the tool rest, it could split and be thrown out of the lathe.
8. Do not allow the turning tools to bite into the wood. The wood could split or be thrown from the lathe.
9. Always position the tool rest above the centerline of the lathe when shaping a piece of stock.
10. Do not operate the lathe if it is rotating in the wrong direction. The workpiece must always be rotating toward you.
11. Before attaching a workpiece to the faceplate, always rough it out to make it as round as possible, this minimizes the vibrations while the piece is being turned. Always fasten the workpiece securely to the faceplate, failure to do this could result in the workpiece being thrown away from the lathe.
12. Position your hands so that they will not slip onto the workpiece.

GETTING TO KNOW YOUR WOOD LATHE

Getting to know your Wood lathe

1) On/Off switch
2) Digital readout
3) Faceplate
4) Variable speed selector lever
5) Bed
6) Tool rest
7) Tool rest support arm
8) Tool rest base
9) Live center
10) Tailstock
11) Tailstock quill adjusting handwheel
12) Tailstock locking lever
13) Supporting arm lock handle
14) Tool rest base locking lever
15) Tool rest locking handle
16) Wood lathe stand
17) Headstock swivel pin



14" X 43" Wood Lathe Specifications

MODEL	KWL-1443VS
Swing	14-1/2"
Distance between centres	43"
Spindle size	1" x 8 T.P.I
Spindle bore	3/8"
Spindle speeds	600-2400 RPM
Headstock and tailstock taper	MT # 2
Motor	6.6 Amp.
Voltage	110V, 1 phase, 60 Hz
Dimensions (LxWxH)	62" x 14-1/2" x 48"
Weight	310 lbs

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 WOOD LATHE MUST BE CONNECTED TO A 120V, 15-AMP, BRANCH CIRCUIT. FAILURE TO CONNECT IN THIS WAY CAN RESULT IN INJURY FROM SHOCK OR FIRE.

GROUNDING

This wood lathe must be grounded. If it should malfunction or breakdown, grounding provides a path of least resistance for electric current, reducing the risk of electric shock. This wood lathe 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. 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!: IF NOT PROPERLY GROUNDED, THIS WOOD LATHE 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.

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

120V OPERATION

As received from the factory, your wood lathe is ready to run for 120V operation. This wood lathe 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 Fig.2 to determine the minimum wire size (A.W.G-American Wire Gauge) extension cord needed. 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 motor. Refer to Fig. 2 for extension cord length and size (gauge).

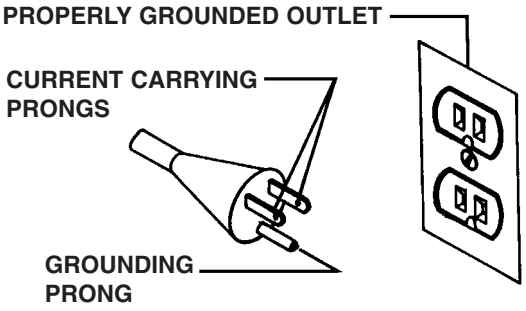


FIGURE 1

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

ASSEMBLY

WARNING! IF ANY PART IS MISSING OR DAMAGED, DO NOT PLUG THE WOOD LATHE IN UNTIL YOU HAVE REPLACED THE MISSING OR DAMAGED PART. For your safety, complete the assembly of the lathe before plugging it into the power supply.

INSTALLING WOOD LATHE BED ON STAND LEGS

1. Carefully remove the leg set and wood lathe bed from the cartons.

CAUTION! THE WOOD LATHE IS VERY HEAVY AND MUST BE LIFTED WITH THE HELP OF 2 PEOPLE OR MORE. THE ASSEMBLY PROCESS REQUIRES 2 PEOPLE OR MORE TO SAFELY ASSEMBLE THE LATHE TO THE LEG SET.

2. Position the stand legs (A) Fig.3 standing up approximately 41" apart and position the lathe bed assembly (B) over the stand legs.
3. Align the holes in the bed with the holes in the top of the stand legs and then carefully lower the wood lathe bed onto the stand legs.
4. Insert four cap screws and washers (C) into the mounting holes in each end of the bed and tighten them using a hex. key.

INSTALLING TOOL REST ON WOOD LATHE BED

1. Install the tool rest base (A) Fig.4 to the lathe bed using the provided slotted clamp and large hex. nut, to allow for adjustment, do not fully tighten hex. nut.
2. Secure the tool rest base by turning the tool rest base lock lever (B). If the lock lever will not lock the tool rest base down onto the bed, loosen or tighten the hex. nut (located on the underside of the tool rest base) in small increments to achieve proper clamping pressure.
3. Insert the tool rest arm (C) into the tool rest base and fix it in place using the lock handle (D).
4. Insert the tool rest (E) into the tool rest arm and fix it in place using the lock handle (F).

Note: The tool rest (E) can be installed with or without the tool rest arm (C). Make sure there is adaquate clearance between the workpiece and the tool rest assembly before turning on the wood lathe. Turn your workpiece by hand to check clearance. Normally the tool rest is positioned as close as possible to the workpiece in between the headstock and the tailstock. For outboard turning operations, it can also be positioned on the left side of the headstock. See Fig.15.

INSTALLING DIGITAL READOUT

1. Install the digital readout (A) Fig.5 to the top of the headstock. Line up the mounting holes in the fixing plate (B) with the ones in the headstock. Secure the digital readout assembly using two pan head screws, spring washers and washers (C).

INSTALLING/REMOVING LIVE CENTER

Before installing live center, make sure it is thoroughly cleaned.

1. The live center (A) Fig.6 gets installed inside the tailstock quill (B), simply push the live center quickly and firmly into the quill. A properly installed live center will not pull out by hand.
2. To remove the live center from the tailstock quill, insert the push rod (C) into the opposite end of the tailstock quill (through the center of the handwheel) and knock the live center out of the quill or turn the handwheel (D) counterclockwise until the tailstock quill bottoms out causing the live center to be forced out of the quill.

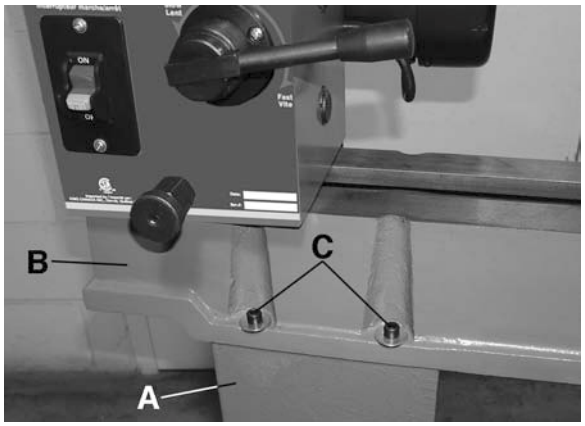


FIGURE 3

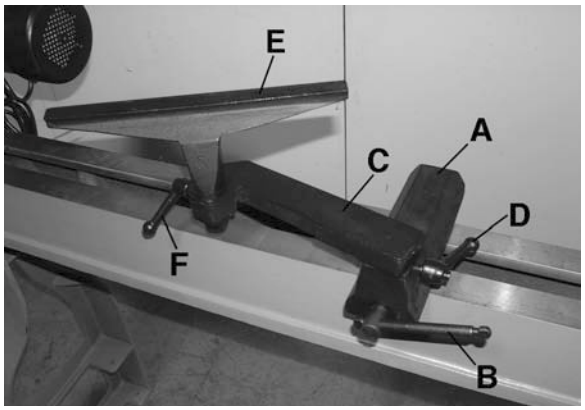


FIGURE 4

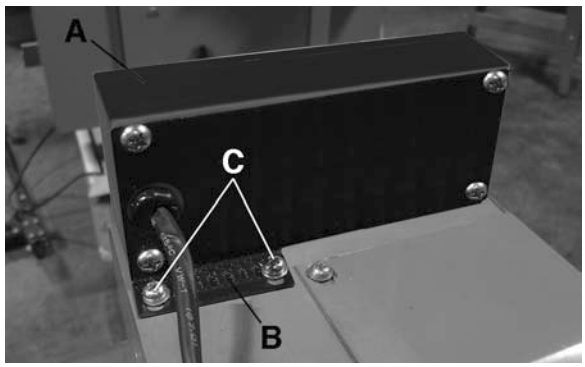


FIGURE 5

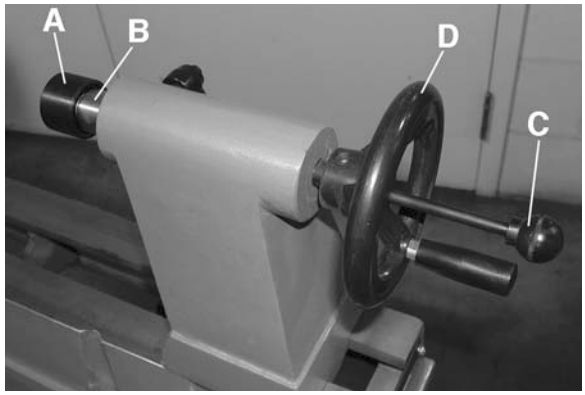


FIGURE 6

ASSEMBLY & ADJUSTMENTS

ADJUSTING TAILSTOCK

1. The tailstock (A) Fig.7 can be moved to any position on the wood lathe bed by loosening the tailstock lock lever (B) and pushing the tailstock to the desired position on the bed. Tighten tailstock lock lever (B) once the adjustment is made.

2. The tailstock quill (C) can extend up to 2-1/2" from the tailstock housing. To move the tailstock quill, loosen the lock handle (D) and turn the tailstock handwheel (E). Retighten lock handle once the adjustment is made.

3. Before using the wood lathe, make sure the lock handle (D) firmly locks the quill in position, the lock handle must be aligned and must engage the quill keyway or else the quill will just spin.

WARNING: The tailstock quill (C) Fig.7 must always be locked with lock handle (D) before and during operation of the wood lathe. If this warning is not respected, the workpiece can be thrown from the wood lathe. Also, the tailstock quill should not protrude past the tailstock housing by more than 2" or the quill will not be supported adequately.

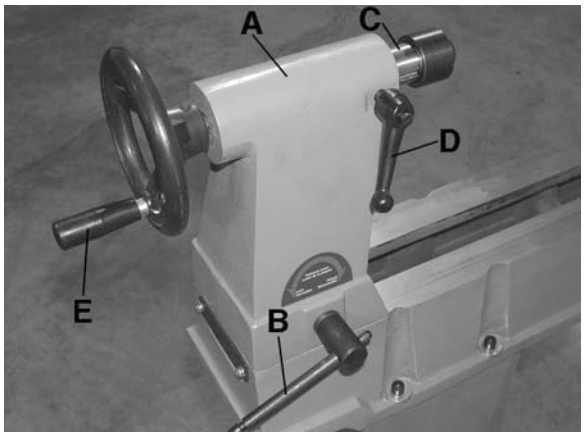


FIGURE 7

INSTALLING/REMOVING SPUR CENTER

Before installing spur center, make sure it is thoroughly cleaned.

1. The spur center (A) Fig.8 gets installed inside the headstock spindle (B), simply push the spur center quickly and firmly into the spindle. A properly installed spur center will not pull out by hand.

2. To remove the spur center from the headstock spindle, insert the push rod (C) into the opposite end of the headstock spindle and knock the spur center out of the spindle.

FIGURE 8

INSTALLING/REMOVING FACEPLATE

1. The faceplate (A) Fig.9 gets installed to the outside thread of the headstock spindle, remove the spur center from the headstock spindle before installing the faceplate.

2. Screw the faceplate onto the headstock spindle. Using both 32mm adjustment keys (B), one key positioned on the faceplate collar and the other on the headstock spindle collar as shown, tighten the faceplate to the spindle.

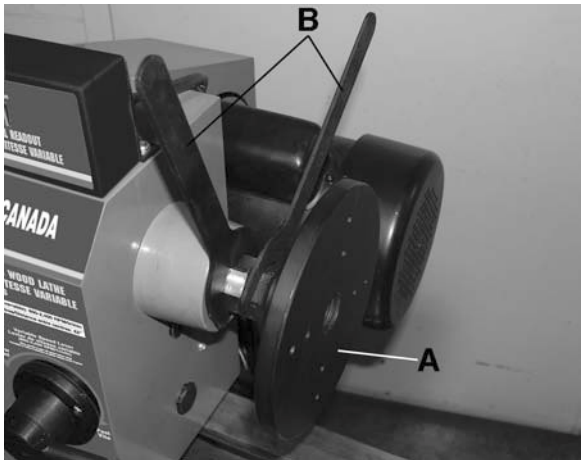


FIGURE 9

TO SWIVEL HEADSTOCK FOR OUTBOARD OPERATIONS

The headstock has 5 preset positions, 0° setting for all spindle turning operations. 60°/90°/120°/180° for outboard turning operations using the faceplate.

1. Loosen the headstock quick release lever (A) Fig.10.

2. Pull the swivel pin (B) out and swivel the headstock clockwise to the desired preset angle position. If the swivel pin is released, the headstock will be fixed in position once it clicks into the next nearest preset position.

3. Once in position, release the swivel pin. Make sure the swivel pin has engaged in its detent by trying to rotate the headstock side-to-side.

4. Retighten the headstock quick release lever.

NOTE: Do not attempt to swivel the headstock more than 180°.

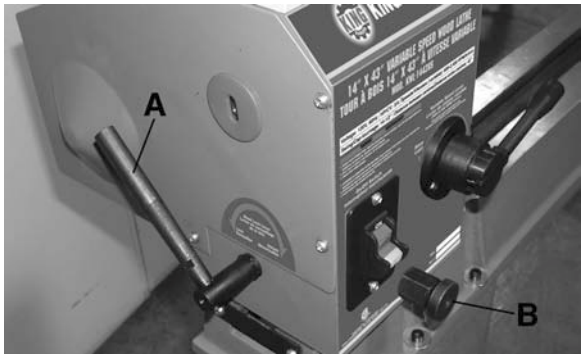


FIGURE 10

OPERATION

TURNING WOOD LATHE ON/OFF

1. Your wood lathe is equipped with a safety toggle switch (A) Fig.11. To turn the machine on, push the switch up to the “On” position, to turn it off, push the switch down to the “Off” position. To prevent unauthorized use, this switch has a safety key (B) which, when removed, allows the switch to be locked in the “off” position. To lock the switch in the “off” position, place switch to “off” position and pull out the switch key.

2. It is always recommended to keep your hand close to the switch when starting an operation, just in case you need to turn the wood lathe off quickly. If you hear abnormal noises or feel excessive vibrations, turn the wood lathe Off, unplug the power cord from the power source and investigate the problem. Do not use the wood lathe until the problem has been found and corrected. The lathe should run smoothly with little or no vibration.

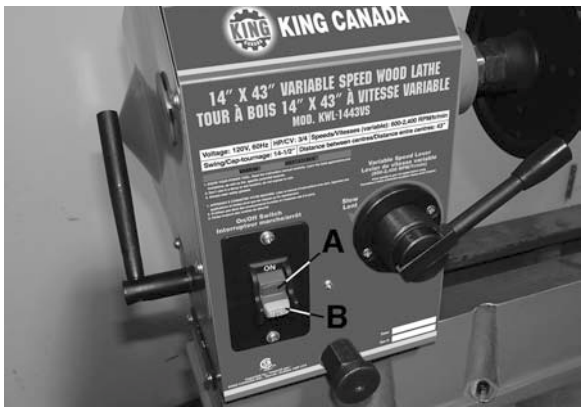


FIGURE 11

VARIABLE SPEED AND DIGITAL READOUT

WARNING! The wood lathe motor must be running before you can adjust the spindle speed. Never attempt to move the spindle speed lever when the wood lathe is Off.

1. The speed control lever (A) Fig.12 controls the spindle speed. To increase or decrease the spindle speed, pull out the speed lever and gently move the speed lever clockwise to increase speed or counterclockwise to decrease speed.

Note: It is recommended to move the speed lever to the lowest speed setting before turning the switch to the Off position, otherwise the motor may not start.

2. When adjusting the spindle speed, observe the digital readout (B), it will indicate the actual spindle speed in RPM’s. Once you have obtained the desired speed, push then release the speed lever.

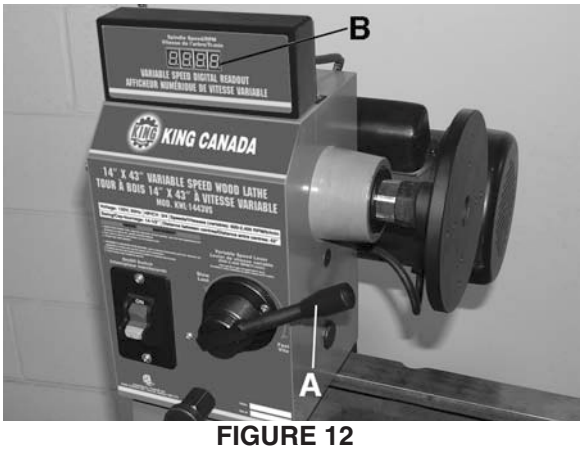


FIGURE 12

SPINDLE TURNING

Spindle turning operations are performed when a workpiece is mounted between the headstock (spur center) and the tailstock (live center).

1. Mark the center of both ends of your workpiece, this is easily done by drawing diagonal lines from corner to corner. The intersection of these two lines will indicate the center point of your workpiece.

2. Drive the spur center approximately 1/4” into the center of your workpiece, then install the spur center into the headstock spindle (with workpiece still attached).

3. Install the live center into the tailstock quill, reposition the tailstock towards the other end of the workpiece until the live center touches the center point of the workpiece, lock the tailstock.

4. Unlock the tailstock quill, using the handwheel, push the live center approximately 1/4” into the center of your workpiece.

5. Position the tool rest approximately 1/4” away from your workpiece and 1/8” above the center line. Make sure there is sufficient clearance before starting the wood lathe motor.

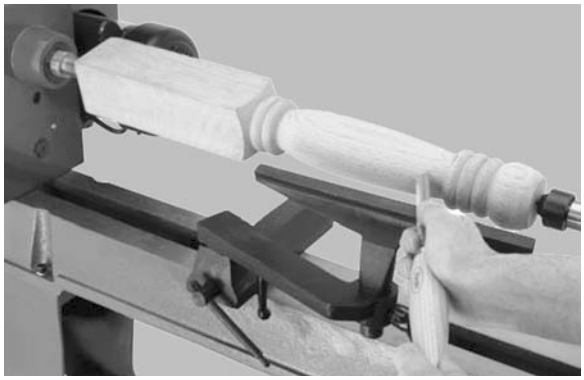


FIGURE 13

OPERATION

FACEPLATE TURNING

Faceplate turning operations are performed when a workpiece is mounted to the faceplate, which is mounted to the headstock spindle. This type of turning is ideal for open-faced workpieces such as bowls. If your workpiece diameter is greater than 12", proceed to the Outboard Turning section. If your workpiece diameter is smaller than 12", follow these instructions;

1. Mark the center point at the back of your workpiece, this is easily done by drawing diagonal lines from corner to corner. The intersection of these two lines will indicate the center point of your workpiece.

2. Center the faceplate on the workpiece and fix the workpiece to the faceplate by drilling wood screws through the mounting holes, see Fig.14 illustration. Make note of the lenght of the screws used as to not hit them when gouging out the center of the workpiece. If screws can't be drilled into your workpiece, glue a backing block to your workpiece, make sure the glue has completely cured before attempting to mount it to the faceplate and turning wood lathe On.

3. Install the faceplate and workpiece onto the headstock spindle, secure it in place using the adjustment keys.

4. Position the tool rest on the outside or inside of your workpiece depending on the operation, again 1/8" above the center line of your workpiece. Make sure there is sufficient clearance before starting the wood lathe motor.

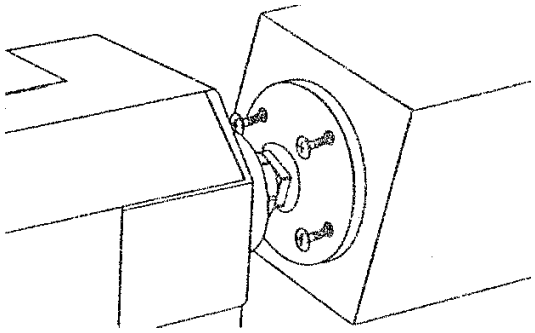


FIGURE 14

OUTBOARD TURNING

Outboard turning operations are very similar to faceplate turning operations. This operation is performed when a workpiece diameter is larger than 12", in this case the headstock must be swiveled to clear the wood lathe bed. The workpiece is mounted to the faceplate, which is mounted to the headstock spindle. This type of turning is ideal for large open-faced workpieces such as bowls.

Fig. 15 shows the headstock positioned in the 90^0 position, to make this adjustment, follow the adjustment instructions in the "to swivel headstock for outboard operations" section. Position the tool rest on the left side of the headstock, the tool rest arm will be necessary to properly position the tool rest. Make sure there is sufficient clearance before starting the wood lathe motor.

FIGURE 15

TURNING TIPS

1. Start and stop the wood lathe in the lowest speed setting. Use the lowest speed when doing rough cutting.

2. Select the right speed for the size of workpiece you are turning. Use lower speeds for large diameter workpieces (over 4"), use mid range speeds for medium diameter workpieces (2-4") and use the higher speeds for small diameter workpieces (under 2").

3. When turning the lathe On, do not stand in front of the spinning workpiece, stand to the side until the wood lathe has reached full speed, this way if the workpiece is thrown from the wood lathe due to incorrect mounting, possible risk of injury is reduced.

4. The cutting tool must be in contact with the tool rest the entire time that it is in contact with the workpiece.

5. In order to produce quality work, good quality chisels designed for your specific turning operation are required.

MAINTENANCE & TROUBLESHOOTING

WARNING! FOR YOUR OWN SAFETY, TURN THE SWITCH OFF AND REMOVE THE PLUG FROM THE POWER SOURCE BEFORE PERFORMING MAINTENANCE, CLEANING OR LUBRICATION WORK ON THE LATHE.

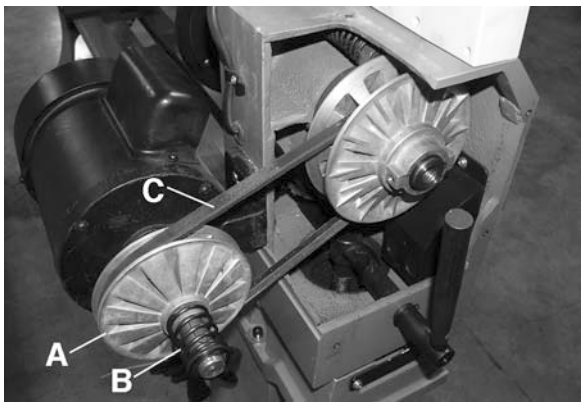


FIGURE 16

CHANGING V-BELT

1. Undo the pan head screws which fix the belt cover to the headstock and remove belt cover.

2. Pull the side pulley (A) Fig.16 towards the spring (B) with one hand and simply remove the V-belt (C) from the pulleys with the other hand.

3. Install the new V-belt using the same method in step 2 above.

CLEANING / LUBRICATING

1. Blow out dust accumulation and wood chips inside the motor, housing, and bed assembly frequently.
2. A coat of automotive wax applied to the bed will help keep the surface clean and keep the movement of the tool rest and tailstock smooth. It will also ensure that moisture from the wood does not remain on bare metal surfaces which can cause rust.
3. Periodic lubrication of the spring levers and other threaded parts will make these parts easier to operate.

TROUBLESHOOTING

PROBLEM	SOLUTION
The motor will not start or starts very slowly.	1. Always start the wood lathe with the speed lever in the lowest speed setting. 2. Disconnect power cord, inspect electrical circuit for shorts. Replace circuit breaker if it has tripped repeatedly. 3. Inspect motor fan and cover, replace or repair if damaged. 4. Faulty capacitor, replace. 5. Faulty motor, replace.
Vibration noise during operation.	1. Tighten the pulley cover screws. 2. Inspect the pulley cover for signs of rubbing, any dents should be repaired. 3. Spindle bearing(s) damaged, replace.
Unsatifactory surface finish.	1. Incorrect speed. Adjust speed depending on workpiece diameter. 2. Use sharper or different chisel.
Inaccurate turning results one end of the workpiece to the other.	1. Realign the tailstock to the headstock. Both centers must be aligned.
Tailstock quill will not move forward when handwheel is turned.	1. Align the quill keyway with the quill lock handle.

PARTS DIAGRAM & PARTS LISTS

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