



## User Manual

Read and understand this manual before using machine.

# GRANITE MIDI LATHE



Model Number  
60100G&60155G  
(Variable Speed)

Model Number  
60170G&60150G  
(5-Speed)



STEEL CITY TOOL WORKS

VER. 04.11

Manual Part No. OR71666



**THANK YOU** for purchasing your new Steel City Midi Lathe. This midi lathe has been designed, tested, and inspected with you, the customer, in mind. When properly used and maintained, your midi lathe will provide you with years of trouble free service, which is why it is backed by one of the longest machinery warranties in the business.

This midi lathe is just one of many products in the Steel City's family of woodworking machinery and is proof of our commitment to total customer satisfaction.

At Steel City we continue to strive for excellence each and every day and value the opinion of you, our customer. For comments about your midi lathe or Steel City Tool Works, please visit our web site at [www.steelcitytoolworks.com](http://www.steelcitytoolworks.com) .

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## INTRODUCTION

This user manual is intended for use by anyone working with this machine. It should be kept available for immediate reference so that all operations can be performed with maximum efficiency and safety. Do not attempt to perform maintenance or operate this machine until you have read and understand the information contained in this manual.

The drawings, illustrations, photographs, and specifications in this user manual represent your machine at time of print. However, changes may be made to your machine or this manual at any time with no obligation to Steel City Tool Works.

# WARRANTY

## 2 YEAR LIMITED WARRANTY

Steel City Tool Works, LLC (SCTW) warrants this SCTW machinery to be free of defects in workmanship and materials for a period of 2 years from the date of the original retail purchase by the original owner for domestic use. Granite components are warranted for 2 years based on normal use and is void if non SCTW accessories are used that cause the break or chip. Customer must advise SCTW within 30 days for any damage or defect found upon receipt of the product to qualify for the warranty on granite.

The warranty does not cover any product used for professional or commercial production purpose nor for industrial or educational applications. Such cases are covered by our 1 year Limited Warranty with the Conditions and Exceptions listed below.

Conditions and exception:

Warranty applies to the original buyer only and may not be transferred. Original proof of purchase is required.

Warranty does not include failures, breakage or defects deemed after inspection by an Authorized Service Center, (ASC) or agent of, have been directly or indirectly caused by or resulting from improper use, lack of or improper maintenance, misuse or abuse, negligence, accidents, damage in handling or transport, or normal wear and tear of any part or component.

Additionally, warranty is void if repairs or alterations are made to the machine by an unauthorized service center without the direct consent of SCTW

Consumables such as blades, knives, bits and sandpaper are not covered.  
Wear items such as drive belt, bearings, switch, are covered for 1 year.

To file a claim of warranty or to find a service center, call toll free 877-724-8665 or email [customercare@steelcitytoolworks.net](mailto:customercare@steelcitytoolworks.net) and you must be able to present the original or photo copy of the sales receipt including the serial number from the machine and/or carton.

SCTW will inspect, repair or replace, at its expense and its option, any part that has proven to be defective in workmanship or material, provided that the customer returns the product prepaid to a designated ASC and provides SCTW with a reasonable opportunity to verify the alleged defect by inspection. SCTW will return the product or replacement at our expense unless it is determined by us that there is no defect or that the defect resulted from causes not within the scope of our *warranty in which case we will, at your direction, dispose of or return the product.* In the event you choose to have the product returned, you will be responsible for the handling and shipping costs of the return.

SCTW furnishes the above warranties in lieu of all other warranties, express or implied. SCTW shall not be liable for any special, indirect, incidental, punitive or consequential damages, including without limitation loss of profits arising from or related to the warranty, the breach of any agreement or warranty, or the operation or use of its machinery, including without limitation damages arising from damage to fixtures, tools, equipment, parts or materials, direct or indirect loss caused by and other part, loss of revenue or profits, financing or interest charges, and claims by and third person, whether or not notice of such possible damages has been given to SCTW. Damages or any kind for any delay by or failure of SCTW to perform its obligations under this agreement or claims made a subject of a legal proceeding against SCTW more than one (1) year after such cause of action first arose.

The validity, construction and performance of this Warranty and any sale of machinery by SCTW shall be governed by the law of the Commonwealth of Pennsylvania, without regard to conflicts of law's provisions of any jurisdiction. Any action related in any way to any alleged or actual offer, acceptance or sale by SCTW or any claim related to the performance of and agreement including without limitation this Warranty, shall take place in the federal or state courts in Allegheny County, Pennsylvania.

Warranty registration card must be submitted to SCTW for purpose of proof within 90 days of purchase with a copy of the sales receipt. Failure to do so will, revert the 2 year warranty to 1 year as in the terms stated above. This registration is also needed to facilitate contact in case of a safety recall.

This warranty gives you specific legal rights and you may have other rights which vary in certain States or Provinces.

### Note to user

This instruction manual is meant to serve as a guide only. Specification and references are subject to change without prior notice. Check the website [www.steelcitytoolworks.com](http://www.steelcitytoolworks.com) for updated manuals with reference to the VER# located on the front page.

### **LIMITED WARRANTY – ACCU-SHOP line of bench top tools**

Steel City Tool Works, LLC (SCTW) warrants this SCTW ACCU-SHOP machinery to be free of defects in workmanship and materials for a period of 2 years from the date of the original retail purchase by the original owner for domestic use.

Consumables such as blades, knives, bits and sandpaper are not covered.  
Wear items such as drive belt, bearings, switch, are covered for 1 year.

The warranty does not cover any product used for professional or commercial production purpose nor for industrial or educational applications. Such cases are covered by our 30 days Limited Warranty with the Conditions and Exceptions listed previously.

# WARRANTY CARD

Name \_\_\_\_\_  
 Street \_\_\_\_\_  
 Apt. No. \_\_\_\_\_  
 City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_  
 Phone Number \_\_\_\_\_  
 E-Mail \_\_\_\_\_

Product Description: \_\_\_\_\_  
 Model No.: \_\_\_\_\_  
 Serial No. \_\_\_\_\_

**The following information is given on a voluntary basis and is strictly confidential.**

1. Where did you purchase your STEEL CITY machine?  
 Store: \_\_\_\_\_  
 City: \_\_\_\_\_

2. How did you first learn of Steel City Tool Works?  
 Advertisement       Mail Order Catalog  
 Web Site               Friend  
 Local Store            Other \_\_\_\_\_

3. Which of the following magazines do you subscribe to?  
 American Woodworker       American How-To  
 Cabinetmaker                 Family Handyman  
 Fine Homebuilding          Fine Woodworking  
 Journal of Light Construction    Old House Journal  
 Popular Mechanics          Popular Science  
 Popular Woodworking        Today's Homeowner  
 WOOD                          Woodcraft  
 WOODEN Boat                Woodshop News  
 Woodsmith                   Woodwork  
 Woodworker                  Woodworker's Journal  
 Workbench                 Other \_\_\_\_\_

4. Which of the following woodworking / remodeling shows do you watch?  
 Backyard America       The American Woodworker  
 Home Time                 The New Yankee Workshop  
 This Old House          Woodwright's Shop  
 Other \_\_\_\_\_

5. What is your annual household income?  
 \$20,000 to \$29,999       \$30,000 to \$39,999  
 \$40,000 to \$49,999       \$50,000 to \$59,999  
 \$60,000 to \$69,999       70,000 to \$79,999  
 \$80,000 to \$89,999       \$90,000 +

6. What is your age group?  
 20 to 29 years             30 to 39 years  
 40 to 49 years             50 to 59 years  
 60 to 69 years             70 + years

7. How long have you been a woodworker?  
 0 to 2 years                 2 to 8 years  
 8 to 20 years               over 20 years

8. How would you rank your woodworking skills?  
 Simple                       Intermediate  
 Advance                     Master Craftsman

9. How many Steel City machines do you own? \_\_\_\_\_

10. What stationary woodworking tools do you own?  
*Check all that apply.*  
 Air Compressor             Band Saw  
 Drill Press                  Drum Sander  
 Dust Collection             Horizontal Boring Machine  
 Jointer                       Lathe  
 Mortiser                     Panel Saw  
 Planer                       Power Feeder  
 Radial Arm Saw             Shaper  
 Spindle Sander             Table Saw  
 Vacuum Veneer Press     Wide Belt Sander  
 Other \_\_\_\_\_

11. Which benchtop tools do you own? *Check all that apply.*  
 Belt Sander                 Belt / Disc Sander  
 Drill Press                  Band Saw  
 Grinder                     Mini Jointer  
 Mini Lathe                  Scroll Saw  
 Spindle / Belt Sander    Other \_\_\_\_\_

12. Which portable / hand held power tools do you own?  
*Check all that apply.*  
 Belt Sander                 Biscuit Jointer  
 Dust Collector             Circular Saw  
 Detail Sander              Drill / Driver  
 Miter Saw                  Orbital Sander  
 Palm Sander               Portable Thickness Planer  
 Saber Saw                 Reciprocating Saw  
 Router                      Other \_\_\_\_\_

13. What machines / accessories would you like to see added to the STEEL CITY line?  
 \_\_\_\_\_  
 \_\_\_\_\_

14. What new accessories would you like to see added?  
 \_\_\_\_\_  
 \_\_\_\_\_

15. Do you think your purchase represents good value?  
 Yes                         No

16. Would you recommend STEEL CITY products to a friend?  
 Yes                         No

17. Comments:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

CUT HERE

FOLD ON DOTTED LINE

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PLACE  
STAMP  
HERE

**SteelCityToolWorks**  
**#4 Northpoint Court**  
**Bolingbrook, IL 60440**

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FOLD ON DOTTED LINE

# PRODUCT SPECIFICATIONS

## 60100G&60155G Mini Lathe Variable Speed

## 60170G&60150G Mini Lathe 5-Speed

### MOTOR

Continuous Duty HP	1/2 HP	1/2 HP
Amps	3	5.6
Voltage	115V DC	115VAC
Phase	Single	Single
Hertz	60 Hz	60 Hz
RPM	500-3800	1725

### SPECIFICATIONS

Swing Over Bed	12"	12"
Swing Over Tool Rest Base	9-1/4"	9-1/4"
Working Distance Between Centers	27"(15" for 60155G)	27" (15" for 60150G)
Range of Speeds (RPM)	500-1350, 1400-3800	500, 1300, 2100, 2750, 3600
Number of Speeds	N/A	5
Hole Through Spindle	3/8"	3/8"
Headstock Spindle Taper	#2 MT	#2 MT
Tailstock Spindle Taper	#2 MT	#2 MT
Hole Through Tailstock	3/8"	3/8"
Toolrest Length	6"	6"

### PRODUCT DIMENSIONS

Length	44"(32" for 60155G)	44" (32" for 60150G)
Width	10"	10"
Height	20-1/2"	20-1/2"
Net Weight	154 lbs.(121lbs for 60155G)	158 lbs.(127lbs for 60150G)

### SHIPPING DIMENSIONS

Carton Type	Wooden Crate	Wooden Crate
Length	45-1/2" (33-1/2" for 60155G)	45-1/2" (33-1/2" for 60150G)
Width	13"	13"
Height	24-1/2"	24-1/2"
Gross Weight	187 lbs.(158lbs for 60155G)	192 lbs.(161lbs for 60150G)

## ACCESSORIES AND ATTACHMENTS

There are a variety of accessories available for your Steel City Product. For more information on any accessories associated with this and other machines, please contact your nearest Steel City distributor, or visit our website at: [www.steelcitytoolworks.com](http://www.steelcitytoolworks.com).

## DEFINITION OF TERMS

**Banjo** - The part on the lathe which slides along the bed and supports the tool rest.

**Bed** - The horizontal part of the lathe which connects the headstock and tailstock.

**Chisel** - A woodturning tool which is ground with a bevel.

**Chuck** - A device which holds the workpiece on the lathe.

**Faceplate** - Fastens to the headstock and is used for face turning operations such as making a bowl.

**Headstock** - The assembly fixed on the left-hand end of the bed of the lathe which provides the drive for the workpiece.

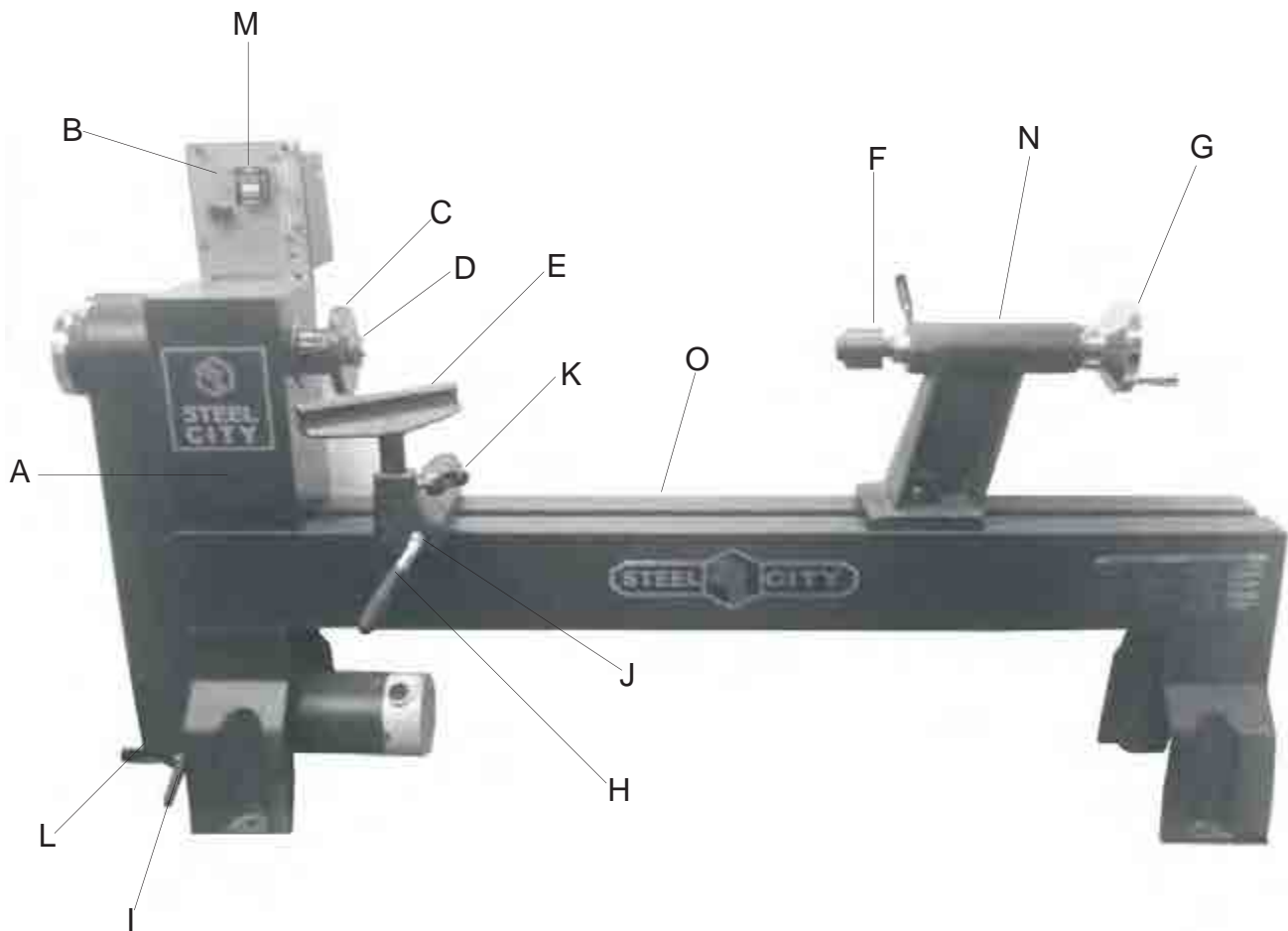
**Tailstock** - The movable assembly to the right of the headstock which slides along the bed.

**Tool rest** - Adjustable part of the lathe which fits into the banjo and supports the turning tool while the work is in progress.



# FEATURE IDENTIFICATION

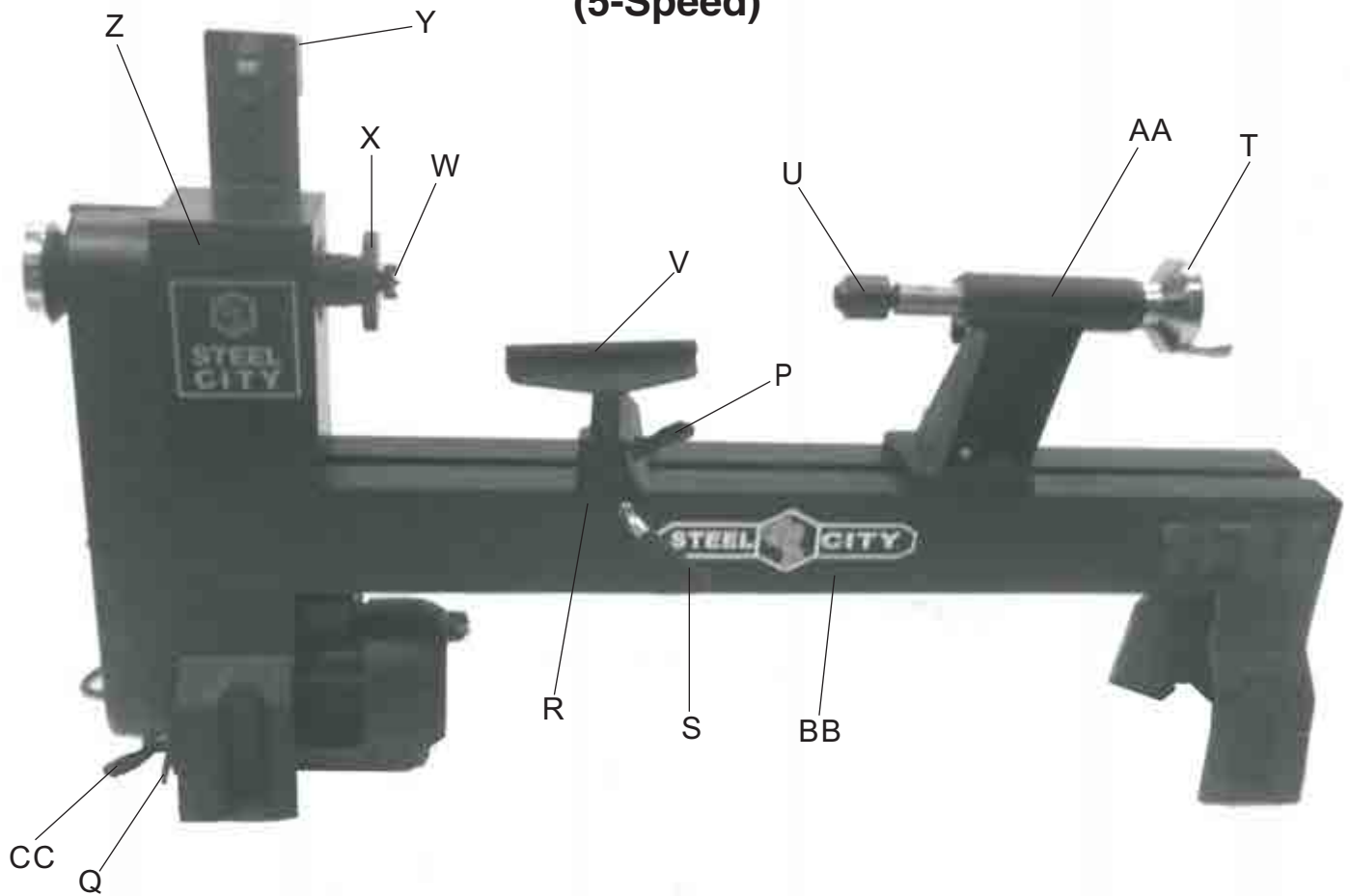
**Model Number  
60100G&60155G  
(Variable Speed)**



- A) Headstock
- B) Variable Speed Switch
- C) Faceplate
- D) Drive center spindle
- E) Tool rest
- F) Tailstock spindle with ball bearing live center
- G) Handwheel
- H) Banjo lock handle
- I) Motor plate lever
- J) Banjo
- K) Tool rest lock handle
- L) Motor plate locking handle
- M) ON/OFF Switch
- N) Tailstock
- O) Bed

# FEATURE IDENTIFICATION

**Model Number  
60170G&60150G  
(5-Speed)**



- Z) Headstock
- Y) ON/OFF switch
- X) Faceplate
- W) Drive center spindle
- V) Tool rest
- U) Tailstock spindle with ball bearing live center
- T) Handwheel
- S) Banjo lock handle
- R) Banjo
- Q) Motor plate lever
- P) Tool rest lock handle
- AA) Tailstock
- BB) Bed
- CC) Motor plate locking handle

# GENERAL SAFETY

## **⚠ WARNING**

**TO AVOID** serious injury and damage to the machine, read and follow all Safety and Operating Instructions before assembling and operating this machine.

This manual is not totally comprehensive. It does not and can not convey every possible safety and operational problem which may arise while using this machine. The manual will cover many of the basic and specific safety procedures needed in an industrial environment.

All federal and state laws and any regulations having jurisdiction covering the safety requirements for use of this machine take precedence over the statements in this manual. Users of this machine must adhere to all such regulations.

Below is a list of symbols that are used to attract your attention to possible dangerous conditions.



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

## **⚠ DANGER**

Indicates an imminently hazardous situation which, if not avoided, **WILL** result in death or serious injury.

## **⚠ WARNING**

Indicates a potentially hazardous situation which, if not avoided, **COULD** result in death or serious injury.

## **⚠ CAUTION**

Indicates a potentially hazardous situation, if not avoided, **MAY** result in minor or moderate injury. It may also be used to alert against unsafe practices.

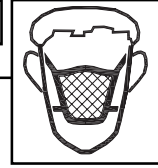
## **CAUTION**

**CAUTION** used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.

## **NOTICE**

This symbol is used to alert the user to useful information about proper operation of the machine.

## **⚠ WARNING**



Exposure to the dust created by power sanding, sawing, grinding, drilling and other construction activities may cause serious and permanent respiratory or other injury, including silicosis (a serious lung disease), cancer, and death. Avoid breathing the dust, and avoid prolonged contact with dust. The dust may contain chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

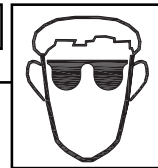
Some examples of these chemicals are:

- Lead from lead-based paints.
- Crystalline silica from bricks, cement and other masonry products.
- Arsenic and chromium from chemically-treated lumber.

Always operate tool in well ventilated area and provide for proper dust removal. Use a dust collection system along with an air filtration system whenever possible. Always use properly fitting NIOSH/OSHA approved respiratory protection appropriate for the dust exposure, and wash exposed areas with soap and water.

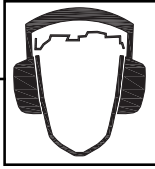
1. To avoid serious injury and damage to the machine, read the entire User Manual before assembly and operation of this machine.

## **⚠ WARNING**



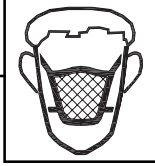
2. **ALWAYS** wear eye protection. Any machine can throw debris into the eyes during operations, which could cause severe and permanent eye damage. Everyday eyeglasses are **NOT** safety glasses. **ALWAYS** wear Safety Goggles (that comply with ANSI standard Z87.1) when operating power tools.

**▲ WARNING**



3. **ALWAYS** wear hearing protection. Plain cotton is not an acceptable protective device. Hearing equipment should comply with ANSI S3.19 Standards.

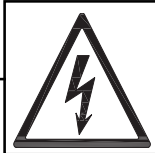
**▲ WARNING**



4. **ALWAYS** wear a NIOSH/OSHA approved dust mask to prevent inhaling dangerous dust or airborne particles.

5. **ALWAYS** keep the work area clean, well lit, and organized. **DO NOT** work in an area that has slippery floor surfaces from debris, grease, and wax.
6. **ALWAYS** unplug the machine from the electrical receptacle when making adjustments, changing parts or performing any maintenance.
7. **AVOID ACCIDENTAL STARTING.** Make sure that the power switch is in the "OFF" position before plugging in the power cord to the electrical receptacle.

**▲ WARNING**



8. **AVOID** a dangerous working environment. **DO NOT** use electrical tools in a damp environment or expose them to rain or moisture.

**▲ WARNING**



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

10. **DO NOT** use electrical tools in the presence of flammable liquids or gasses.

11. **DO NOT FORCE** the machine to perform an operation for which it was not designed. It will do a safer and higher quality job by only performing operations for which the machine was intended.
12. **DO NOT** stand on a machine. Serious injury could result if it tips over or you accidentally contact any moving part.
13. **DO NOT** store anything above or near the machine.
14. **DO NOT** operate any machine or tool if under the influence of drugs, alcohol, or medication.
15. **EACH AND EVERY** time, check for damaged parts prior to using any machine. Carefully check all guards to see that they operate properly, are not damaged, and perform their intended functions. Check for alignment, binding or breakage of all moving parts. Any guard or other part that is damaged should be immediately repaired or replaced.
16. Ground all machines. If any machine is supplied with a 3-prong plug, it must be plugged into a 3-contact electrical receptacle. The third prong is used to ground the tool and provide protection against accidental electric shock. **DO NOT** remove the third prong.
17. Keep visitors and children away from any machine. **DO NOT** permit people to be in the immediate work area, especially when the machine is operating.
18. **KEEP** protective guards in place and in working order.
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** all machines with care. **ALWAYS KEEP** machine clean and in good working order. **KEEP** all blades and tool bits sharp.
21. **NEVER** leave a machine running, unattended. Turn the power switch to the OFF position. **DO NOT** leave the machine until it has come to a complete stop.
22. **REMOVE ALL MAINTENANCE TOOLS** from the immediate area prior to turning the machine ON.
23. **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.
24. **STAY ALERT**, watch what you are doing, and use common sense when operating any machine. **DO NOT** operate any machine tool while tired or under the influence of drugs, alcohol, or medication. A moment of inattention while operating power tools may result in serious personal injury.

25. **USE ONLY** recommended accessories. Use of incorrect or improper accessories could cause serious injury to the operator and cause damage to the machine. If in doubt, **DO NOT** use it.
26. 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. Users must wear a protective cover on their hair, if the hair is long, to prevent it from contacting any moving parts.
27. **SAVE** these instructions and refer to them frequently and use them to instruct other users.
28. Information regarding the safe and proper operation of this tool is also available from the following sources:

Power Tool Institute  
 1300 Summer Avenue  
 Cleveland, OH 44115-2851  
[www.powertoolinstitute.org](http://www.powertoolinstitute.org)

National Safety Council  
 1121 Spring Lake Drive  
 Itasca, IL 60143-3201

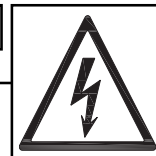
American National Standards Institute  
 25 West 43rd Street, 4th floor  
 New York, NY 10036  
[www.ansi.org](http://www.ansi.org)

ANSI 01.1 Safety Requirements for  
 Woodworking Machines, and the U.S. Department  
 of Labor regulations  
[www.osha.gov](http://www.osha.gov)

## PRODUCT SAFETY

1. Serious personal injury may occur if normal safety precautions are overlooked or ignored. Accidents are frequently caused by lack of familiarity or failure to pay attention. Obtain advice from supervisor, instructor, or another qualified individual who is familiar with this machine and its operations.
2. Every work area is different. Always consider safety first, as it applies to your work area. Use this machine with respect and caution. Failure to do so could result in serious personal injury and damage to the machine.
3. Prevent electrical shock. Follow all electrical and safety codes, including the National Electrical Code (NEC) and the Occupational Safety and Health Regulations (OSHA). All electrical connections and wiring should be made by qualified personnel only.

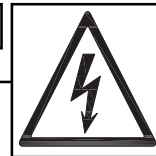
### **WARNING**



4. **TO REDUCE** the risk of electrical shock. **DO NOT** use this machine outdoors. **DO NOT** expose to rain or moisture. Store indoors in a dry area.

5. **STOP** using this machine, if at any time you experience difficulties in performing any operation. Contact your supervisor, instructor or machine service center immediately.
6. Safety decals are on this machine to warn and direct you to how to protect yourself or visitors from personal injury. These decals **MUST** be maintained so that they are legible. **REPLACE** decals that are not legible.
7. **DO NOT** leave the unit plugged into the electrical outlet. Unplug the unit from the outlet when not in use and before servicing, performing maintenance tasks, or cleaning.
8. **ALWAYS** turn the power switch "OFF" before unplugging the midi lathe.

### **WARNING**



9. **DO NOT** handle the plug or midi lathe with wet hands.

10. **USE** accessories only recommended by Steel City.
11. **DO NOT** pull the midi lathe by the power cord. **NEVER** allow the power cord to come in contact with sharp edges, hot surfaces, oil or grease.
12. **DO NOT** unplug the midi lathe by pulling on the power cord. **ALWAYS** grasp the plug, not the cord.
13. **REPLACE** a damaged cord immediately. **DO NOT** use a damaged cord or plug. If the midi lathe is not operating properly, or has been damaged, left outdoors or has been in contact with water.
14. **DO NOT** use the midi lathe as a toy. **DO NOT** use near or around children.

15. **ALWAYS** rotate the workpiece by hand after installing on the faceplate.
16. **DO NOT** mount a split workpiece or one containing a knot.
17. **ALWAYS** use the lowest speed when starting a new workpiece.
18. **KEEP** guards in place and in working order.
19. **REMOVE** adjusting keys and wrenches. Form the habit of checking to see that keys and adjusting wrenches are removed from the tool before turning it on.
20. **KEEP** the work area clean. Cluttered areas and benches invite accidents.
21. **DO NOT** use in a dangerous environment. Don't use power tools in damp or wet locations, or expose them to rain. Keep work area well lighted.
22. **KEEP** children away. All visitors should be kept a safe distance from the work area.
23. **MAKE** the workshop childproof with padlocks, master switches, or by removing starter keys.
24. **DO NOT** force the tool. It will do the job better and safer at the rate for which it was designed.
25. **WEAR** proper apparel. Do not wear loose clothing, gloves, neckties, rings, bracelets, or other jewelry which may get caught in moving parts. Non-slip footwear is recommended. Wear protective hair covering to contain long hair.
26. **DO NOT** overreach. Keep proper footing and balance at all times.
27. **USE** the proper extension cord. Make sure your extension cord is in good condition. When using an extension cord, be sure to use one heavy enough to carry the current your product will draw. An undersized cord will cause a drop in the line voltage resulting in loss of power and overheating.
28. **ALWAYS** use safety glasses. Also use face or dust masks if the cutting operation is dusty. Everyday eyeglasses only have impact resistant lenses, they are **NOT** safety glasses.
29. **MAINTAIN** tools with care. Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.
30. **REDUCE** the risk of unintentional starting. Make sure the switch is in the OFF position before plugging in the machine.
31. **USE** recommended accessories. Consult the owner's manual for recommended accessories. The use of improper accessories may cause a risk of injury.
32. **CHECK** damaged parts. Before further use of the tool, a guard or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment of moving parts, binding of moving parts, breakage of parts, mounting, and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced.
33. **DIRECTION OF FEED.** Feed work into a blade or cutter only against the direction of rotation of the blade or cutter.
34. **GIVE** your work undivided attention. Looking around, carrying on a conversation and "horse-play" are careless acts that can result in serious injury.
35. **TURN OFF** the tool and disconnect from power before cleaning. Use a brush or compressed air to remove chips or debris - do not use your hands.
36. **NEVER** leave the tool running unattended. Turn the power off and do not leave the tool until it comes to a complete stop.

# ELECTRICAL REQUIREMENTS

## **⚠ WARNING**

**TO PREVENT** electrical shock, follow all electrical and safety codes, including the National Electrical Code (NEC) and the Occupational Safety and Health Regulations (OSHA). All electrical connections and wiring should be made by qualified personnel only.

**TO REDUCE** the risk of electrical shock, **DO NOT** use machine outdoors. **DO NOT** expose to rain. Store indoors in a dry area.

**DO NOT** connect the machine to the power source before you have completed the set up process. **DO NOT** connect the machine to the power source until instructed to do so.

The motor in this machine is designed to run at 115V.

# GROUNDING INSTRUCTIONS

## **⚠ WARNING**



This machine **MUST BE GROUNDED** while in use to protect the operator from electric shock.

In the event of a malfunction or breakdown, **GROUNDING** provides the path of least resistance for electric current and reduces the risk of electric shock. This machine 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.

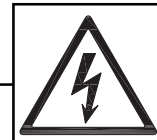
If a plug is provided with your machine **DO NOT** modify the plug. If it will not fit your electrical receptacle, have a qualified electrician install the proper connections to meet all electrical codes local and state. All connections must also adhere to all of OSHA mandates.

**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.

## PLUGS/RECEPTACLES

### **⚠ WARNING**



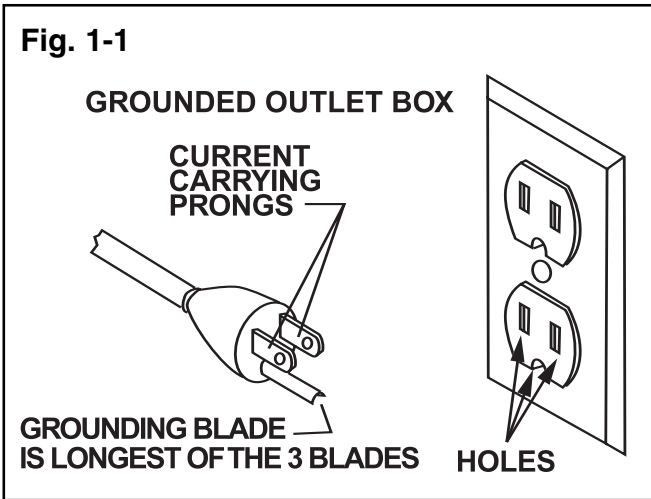
- Electrocutation or fire could result if this machine is not grounded properly or if the electrical configuration does not comply with local and state electrical codes.
- **MAKE CERTAIN** the machine is disconnected from power source before starting any electrical work.
- **MAKE SURE** the circuit breaker does not exceed the rating of the plug and receptacle.

The motor supplied with your machine is a 115 volt motor. It is shipped wired for 115 volt application. Never connect the green or ground wire to a live terminal.

This tool is intended for use on a circuit that has an electrical receptacle as shown in Figure 1-1. Figure 1-1 shows a NEMA approved 3-wire, 15 amp electrical plug and receptacle that have a grounding conductor. If a properly grounded electrical receptacle is not available, an adapter as shown in Figure 1-2 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.**

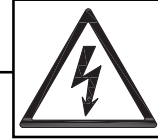


**Fig. 1-1**



## EXTENSION CORDS

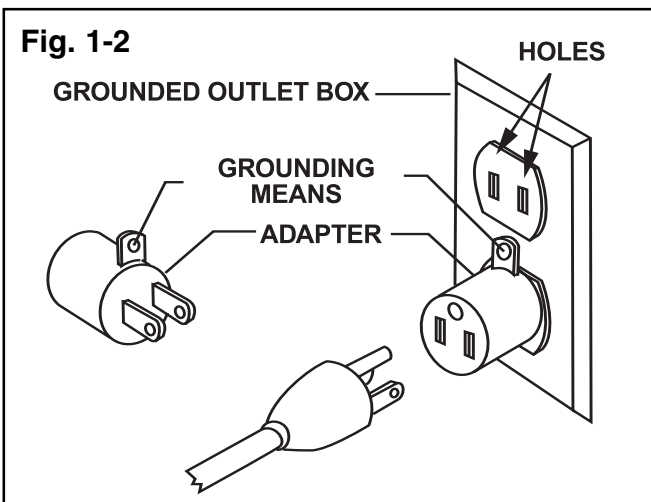
### **⚠ WARNING**



To reduce the risk of fire or electrical shock, use the proper gauge of extension cord. When using an extension cord, be sure to use one heavy enough to carry the current your machine will draw.

The smaller the gauge-number, the larger the diameter of the extension cord is. 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 resulting in a loss of power and overheating.

**Fig. 1-2**



### **⚠ CAUTION**

**USE ONLY** a 3-wire extension cord that has a 3-prong grounding plug and a 3-pole receptacle that accepts the machine's plug.

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.

Make certain the extension cord is properly sized, and in good electrical condition. Always replace a worn or damaged extension cord immediately 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)

115 VOLT OPERATION ONLY			
	25' LONG	50' LONG	100' LONG
0 to 6 Amps	18 AWG	16 AWG	16 AWG
6 to 10 Amps	18 AWG	16 AWG	Not recommended
10 to 12 Amps	16 AWG	16 AWG	Not recommended



# UNPACKING & INVENTORY

Check shipping carton and machine for damage before unpacking. Carefully remove packaging materials, parts and machine from shipping carton. Always check for and remove protective shipping materials around motors and moving parts. Lay out all parts on a clean work surface.

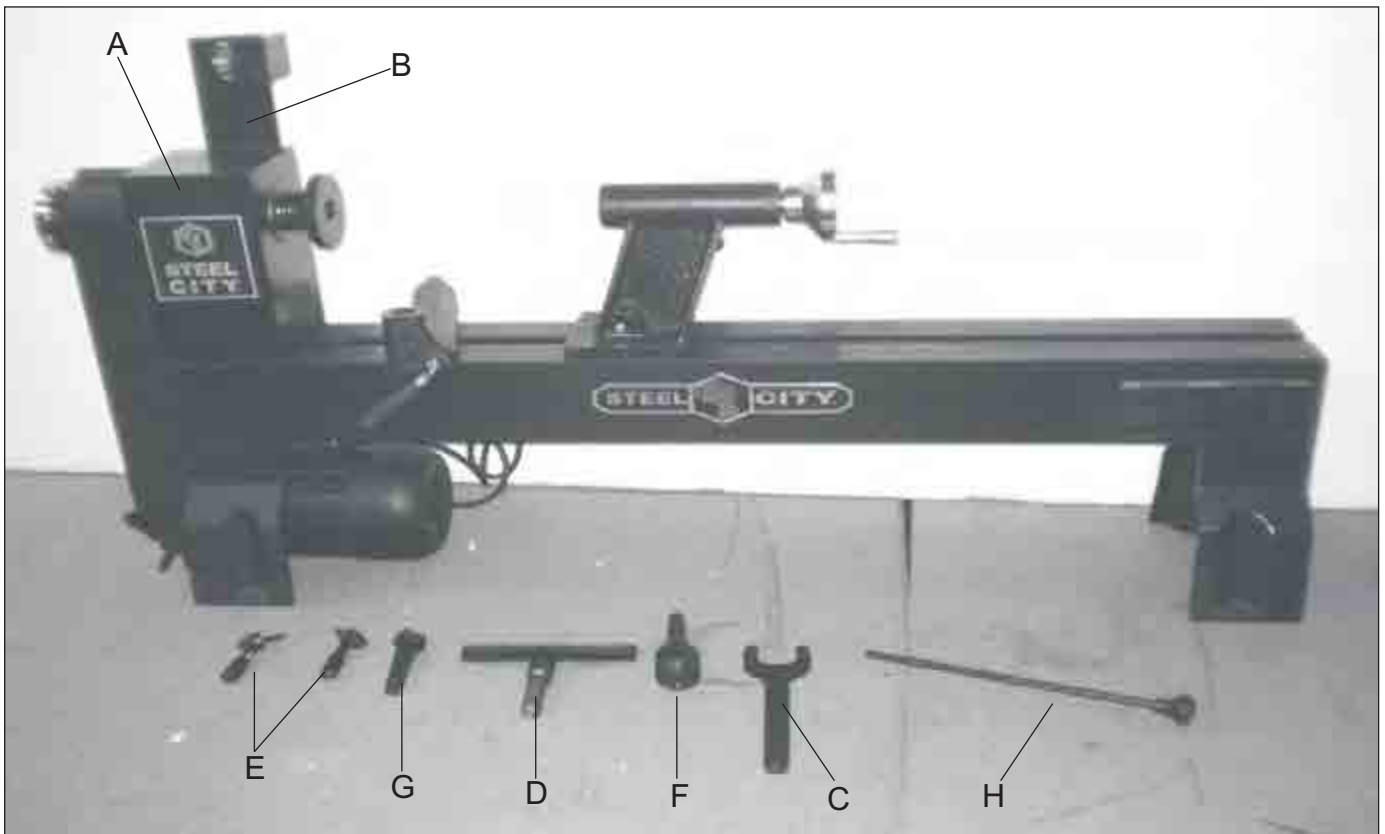
Remove any protective materials and coatings from all of the parts and the mini lathe. The protective coatings can be removed by spraying WD-40 on them and wiping it off with a soft cloth. This may need to be redone several times before all of the protective coatings are removed completely.

Compare the items to inventory figures; verify that all items are accounted for before discarding the shipping box.

## **⚠ WARNING**

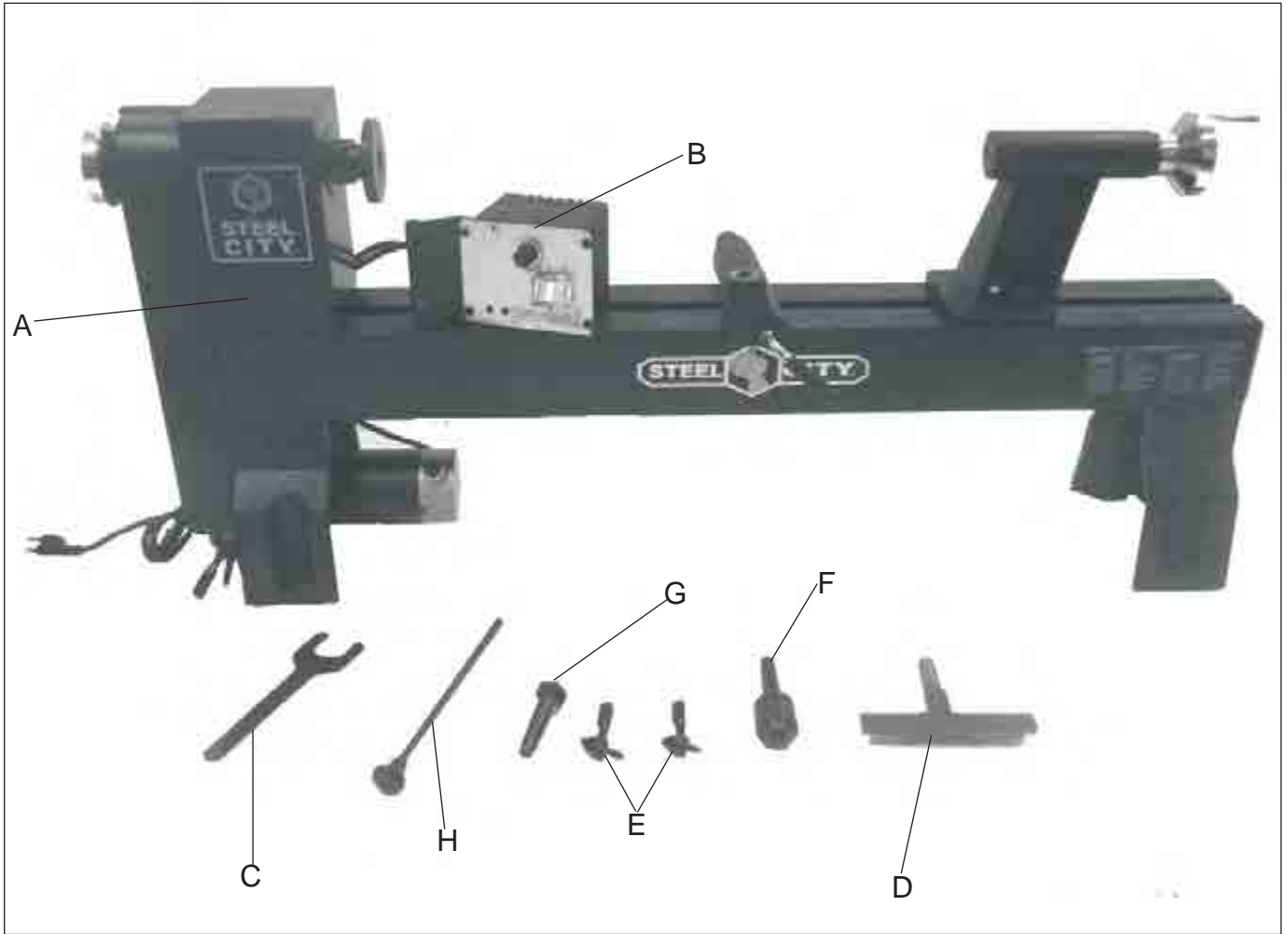
If any parts are missing, do not attempt to plug in the power cord and turn "ON" the machine. The machine should only be turned "ON" after all the parts have been obtained and installed correctly. For missing parts, contact Steel City at **1-877-SC4-TOOL**.

### Model 60170G&60150G



- |                   |  |
|-------------------|--|
| A) Lathe          | E) Lock handles                                    |
| B) Switch         | F) Tailstock spindle with ball bearing live center |
| C) Special wrench | G) Drive center spindle                            |
| D) Tool rest      | H) Knock-out rod                                   |

# Model 60100G&60155G

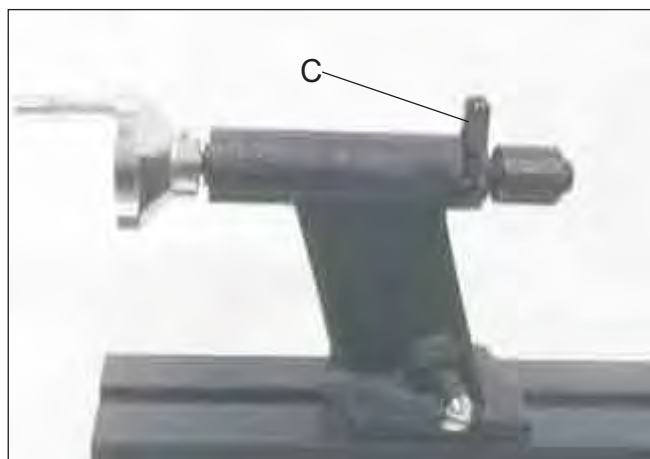


- A) Lathe
- B) Switch
- C) Special wrench
- D) Tool rest
- E) Lock handles (2)
- F) Tailstock spindle with ball bearing live center
- G) Drive center spindle
- H) Knock-out rod



- Using a hammer and a block of wood, tap the tailstock spindle to set it in the tailstock.
- Thread lock handle (C) into the tailstock and tighten. **SEE FIG 4.**

**Fig. 4**



## ADJUSTMENTS

### ADJUSTING THE TOOL REST

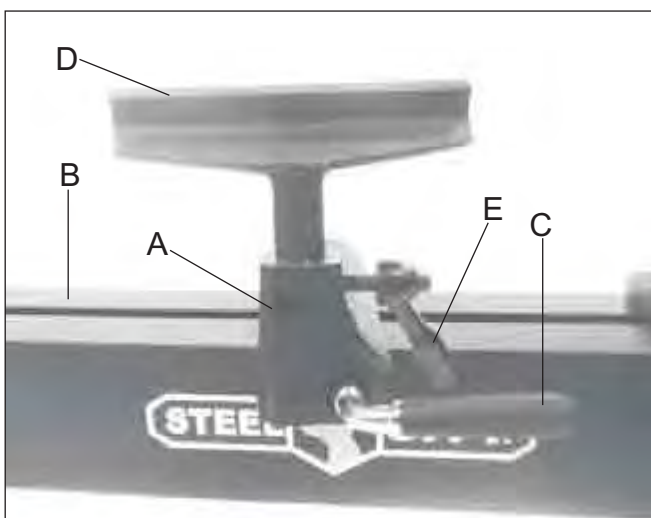
The tool rest should be positioned as close as possible to the workpiece. It should be 1/8" below the centerline of the workpiece. Rotate the workpiece by hand to make certain you have proper clearance.

#### **⚠ WARNING**

**MAKE CERTAIN THAT THE MACHINE IS DISCONNECTED FROM THE POWER SOURCE.**

- Position the banjo (A) on the bed (B) by loosening the banjo lock handle (C) and sliding the banjo to the desired position. Tighten handle to lock. **SEE FIG 5.**
- Adjust the height of the tool rest (D) by loosening the tool rest lock handle (E) and raising or lowering the tool rest.

**Fig. 5**



- If the banjo will not tighten securely using the banjo lock handle, see **ADJUSTING CLAMPING PRESSURE.**

### ADJUSTING CLAMPING PRESSURE

The clamping device on the banjo and tailstock are set at the factory and should not need adjustment; however, if further adjustment should be needed:

#### **⚠ WARNING**

**MAKE CERTAIN THAT THE MACHINE IS DISCONNECTED FROM THE POWER SOURCE.**

- Slide the tailstock and/or banjo off the end of the bed.
- Tighten or loosen nut (A) beneath the tailstock and/or banjo. **SEE FIG 6.**

**Fig. 6**



3. Replace tailstock and/or banjo and recheck clamping pressure. If further adjustment is necessary, repeat steps 1 and 2.

## REMOVING SPINDLES

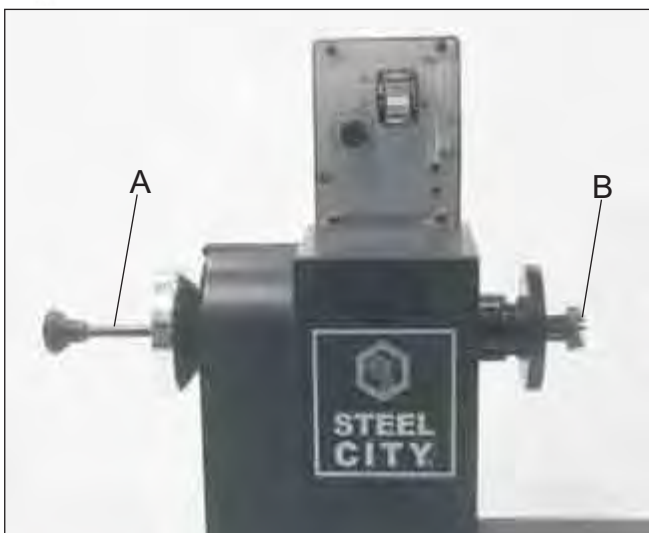
A knockout rod is provided to remove either the drive center spindle from the headstock or the tailstock spindle from the tailstock.

### **▲ WARNING**

**MAKE CERTAIN THAT THE MACHINE IS DISCONNECTED FROM THE POWER SOURCE.**

1. To remove spindle from the headstock, slide the knockout rod (A) into the hole in the headstock. **SEE FIG 7.**

**Fig. 7**



2. Put your right hand on the drive center spindle (B) and prepare to catch it as it comes out of the headstock.
3. Using your left hand, tap the knockout rod, and catch the spindle with your right hand as it comes out of the headstock. Take care not to let the spindle hit the ground to help prevent damage to the tip.
4. To remove the spindle from the tailstock, slide the knockout rod (C) into the hole in the tailstock. **SEE FIG 8.**
5. Place your left hand on the tailstock spindle (D) and prepare to catch it as it comes out of the tailstock.
6. Using your right hand, tap the knockout rod and catch the spindle with your left hand as it comes out of the tailstock. Take care not to let the spindle hit the floor to help prevent damage to the spindle.



## FACE PLATE

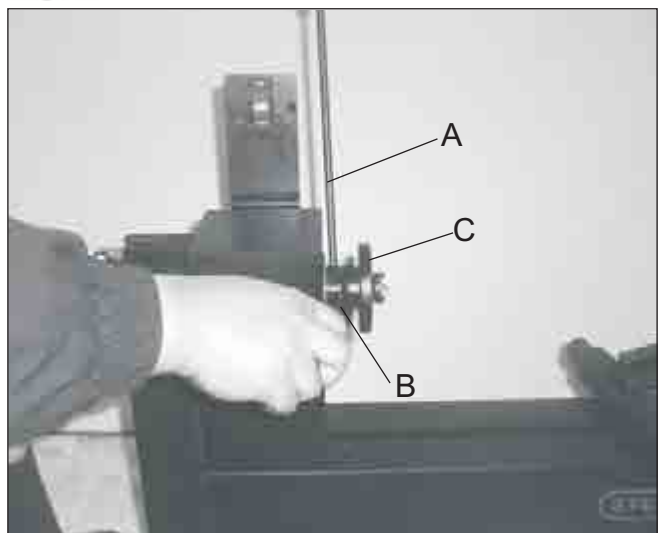
The face plate screws to the headstock and is used in face turning operations. To remove the faceplate:

### **▲ WARNING**

**MAKE CERTAIN THAT THE MACHINE IS DISCONNECTED FROM THE POWER SOURCE.**

1. Place Knockout rod (A) in one of the holes provided in the headstock. **SEE FIG 9.**

**Fig. 9**



2. Place wrench (B) on the flats of the inside of the faceplate (C).
3. Turn wrench counterclockwise to loosen the faceplate and remove.



## CHANGING SPINDLE SPEEDS (MODEL 60170G&60150G)

THIS SECTION ONLY APPLIES TO THE 5 SPEED MINI LATHE, MODEL 60170G&60150G. FOR INFORMATION ON CHANGING SPEEDS ON THE VARIABLE SPEED MINI LATHE, MODEL 60100G&60155G, REFER TO THE CHANGING SPINDLE SPEEDS SECTION THAT FOLLOWS THIS SECTION.

### **⚠ WARNING**

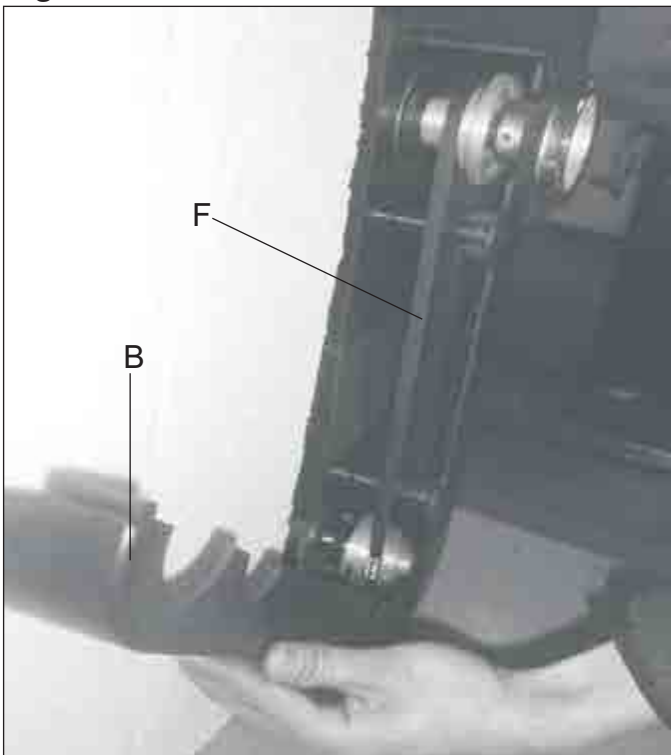
**MAKE CERTAIN THAT THE MACHINE IS DISCONNECTED FROM THE POWER SOURCE.**

1. Loosen the screw (A) and open the left pulley cover (B) to expose the pulleys. **SEE FIG. 10 and 11.**

**Fig. 10**



**Fig. 11**



2. Loosen the motor plate lock handle (E) and lift upon the motor plate lever (D) to take the tension off of the belt. **SEE FIGS. 12**

**Fig. 12**



3. Move the belt (F) to the desired pulley groove according to the speed chart (G) on the inside of the upper access door. Be sure that the belt is aligned with the spindle pulley and the motor pulley. **SEE FIG. 11 and 12 and 13**

4. Tension the belt by pushing down on the motor plate lever (D) and retightening the motor plate lock handle (E).

**Fig. 13**



## CHANGING SPINDLE SPEEDS (MODEL 60100G & 60155G ONLY)

THIS SECTION ONLY APPLIES TO THE VARIABLE SPEED MINI LATHE, MODEL 60100G & 60155G. FOR INFORMATION ON CHANGING SPEEDS ON THE 5 SPEED MINI LATHE, MODEL 60170G & 60150G, REFER TO THE CHANGING SPINDLE SPEEDS SECTION THAT PRECEDES

The variable speeds of the lathe are controlled by the speed knob on the variable speed control switch, as well as the position of the belt on the pulleys. The speed ranges for the pulley are marked on the control switch. Determine which speed range you wish to work in before adjusting the spindle speed.

### **⚠ WARNING**

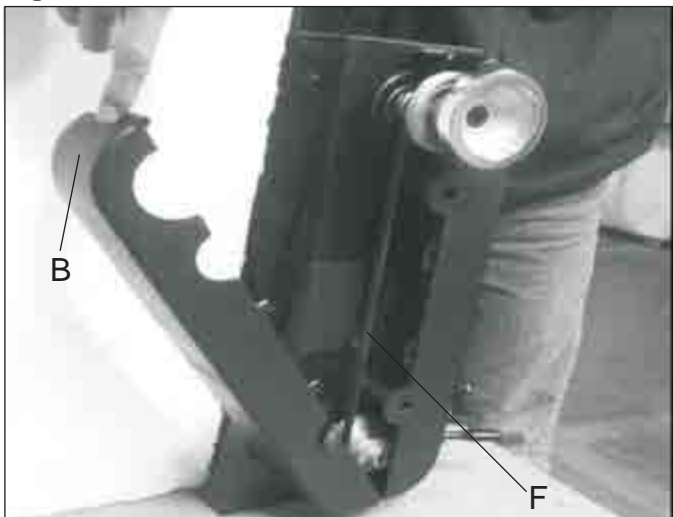
**MAKE CERTAIN THAT THE MACHINE IS DISCONNECTED FROM THE POWER SOURCE.**

1. Loosen the screw (A) and open the left pulley cover (B) to expose the pulleys. **SEE FIG. 14 and 15.**

**Fig. 14**



**Fig. 15**



2. Loosen the motor plate lock handle (E) and lift upon the motor plate lever (D) to take tension off of the Belt. **SEE FIG. 12, page 22.**
3. Refer to the chart on the variable speed Control switch and move the belt (F) to the desired Pulley groove. Make certain that the belt is aligned With the motor pulley and the spindle pulley. **SEE Fig. 15**
4. Tension the belt by pushing down on the motor plate lever and lock in place with the motor plate lock handle.

## VARIABLE SPEED CONTROL (MODEL 60100G & 60155G ONLY)

THIS SECTION APPLIES ONLY TO THE VARIABLE SPEED MINI LATHE, MODEL NUMBER 60100G & 60155G. IF THIS IS NOT YOUR MODEL, YOU MAY SKIP THIS SECTION.

### **⚠ WARNING**

**Always set the speed control knob to its lowest setting before starting the machine. NEVER start a workpiece at maximum speed**

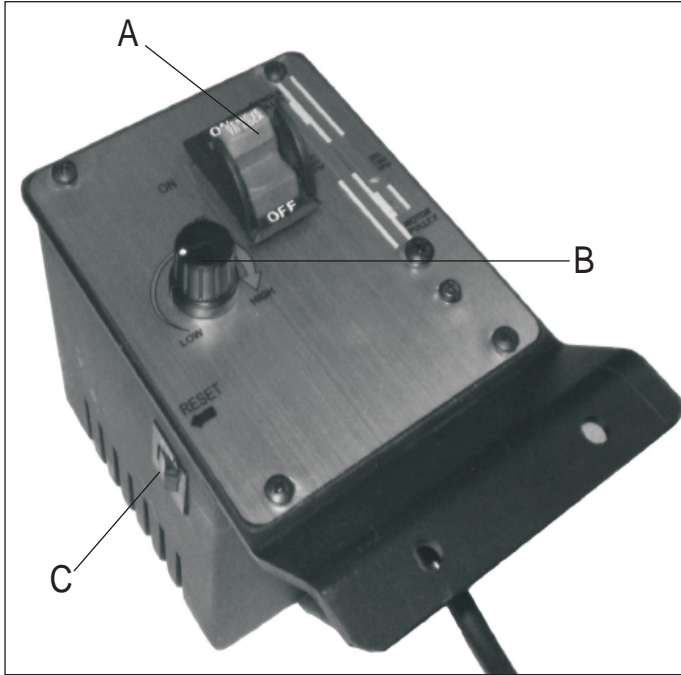
The variable speed control switch contains the electrical connections to the motor and has three external controls. They are as follows

1. ON/OFF Switch.
2. Speed Control Knob
3. Thermal Reset Button

The ON/OFF (A) switch controls electrical power to the lathe motor. The lathe will begin turning when the ON button is pressed. It will take up to 3 seconds before the lathe comes up to full speed. The time at which the lathe comes up to full speed is determined by the size and weight of the workpiece. To turn the motor off, push the OFF button and wait for the unit to come to a complete stop. **SEE FIG. 16, page 24.**

## 60100G&60155G SWITCH

Fig. 16-1



The Speed Control Knob(B) sets the speed of the lathe to suit the weight of the workpiece or the type of tool being used. After the lathe is started, turn the knob clockwise to increase the speed , turn counterclockwise to reduce the speed.

NOTE: The variable speed knob is not the only determinate of the speed of the spindle. The spindle speed also is determined by the setting of the pulleys. For more information on the pulley settings, refer to **CHANGING SPINDLE SPEEDS**

(MODEL60100G&60155G ONLY)in the **ADJUSTMENTS** section of this manual. The Thermal Reset Button (C) provides 8-amp overload protection. If the lathe stops suddenly during operation or does not start when the ON button is pushed, an overload condition may have occurred. In this case:

- 1.Press the OFF button.( Also for 60170G&60150G)
- 2.Press the Thermal Reset Button.
- 3.Restart the lathe by pressing the ON button.  
( Also for 60170G&60150G)

## 60170G&60150G SWITCH

Fig.16-2



## FASTENING LATHE TO SUPPORTING SURFACE

If during operation there is any tendency for the lathe to tip over, slide, or walk on the supporting surface, the base of the lathe must be secured to the supporting surface with fasteners (not supplied) through the four holes located in the feet of the lathe.



# OPERATIONS

## TRIAL RUN

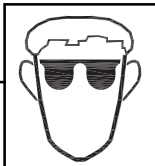
Once all of the lathe has been assembled and all of the adjustments have been made, its time for a trial run.

1. Turn variable Speed knob to it's lowest setting. (This applies to 60100G&60155G only. 60170G&60150G Owners can skip this step.)
2. Press the ON button. Keep your hand near the switch, ready to shut the machine down in case anything does not sound right or if there appears to be a problem.
3. The lathe should run smoothly with little to no vibration. If any strange noises or loose parts are noticed, shut the machine down and recheck all adjustments.
4. If everything seems to be in order, you are now ready to turn some wood.
4. Position the tool rest so that it sits 1/8" away from the edge of the workpiece. Rotate the workpiece by hand to make sure that it does not come in contact with the tool rest
5. Turn the lathe ON. When first starting out, make sure that lathe is set to run at its slowest speed. As you become more comfortable and gain experience with the lathe, you may increase the speed of the spindle.
6. When cutting, the object is to cut the outer layer of the workpiece to a designed depth then hold the cutting tool steady with the beveled edge parallel to the outer edge of the workpiece. The way to hold the cutting tool steady is to rest it on the tool rest. **NEVER** perform freehand operations without the tool rest as serious injury can occur.

**NOTICE:** The following section is designed to give instructions on the basic operations of this lathe. It is in no way comprehensive of every lathe operation. It is **STRONGLY** recommended that you read books, trade magazines, or get formal training to maximize the potential of your lathe and to minimize the risks.

## TURNING BETWEEN CENTERS

### **WARNING**



**ALWAYS** wear eye protection. Any machine can throw debris into the eyes during operations, which could cause severe and permanent eye damage. Everyday eyeglasses are **NOT** safety glasses. **ALWAYS** wear Safety Goggles (that comply with ANSI standard Z87.1) when operating power tools.

It is always a good idea to start with a small workpiece to get used to the feel of the lathe. Once you select your workpiece:

1. Using a straight edge, draw an X from corner to corner, where the center of your X is the center of the workpiece.
2. Place your workpiece between the Headstock Drive Center Spindle and the Tailstock Spindle, making sure that the centers that you marked in Step 1 go into the centers of their respective spindles.
3. Lock down the tailstock assembly using the lever, then crank the handwheel clockwise until the workpiece is held firmly in place.

### **WARNING**

Proper tool rest placement is **ESSENTIAL** to good results and **CRITICAL** for safety. A tool rest that is positioned too low will result in too much bite which will make the cutting tool very difficult to handle. A tool rest that is positioned too high can result in a dangerous kickback. If the tool rest is too far away from the workpiece, it will be difficult to hold the cutting tool because of reduced leverage. Remember as a general rule to **ALWAYS** keep the tool rest positioned 1/8" away from the outermost edge of the workpiece.

## FACEPLATE TURNING

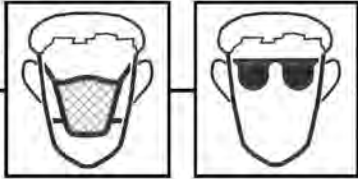
Faceplate turning is primarily used in the turning of bowls or bowl shaped items.

1. Remove as much excess material from the inside and outside of the workpiece before attaching to the lathe
2. The workpiece should be fastened to the faceplate using wood screws(not included). Make certain that the screws drive in about halfway through the bottom of the workpiece.
3. Position the tool rest so that you can shape the outside of the workpiece first.
4. Once outside work has been completed, disconnect the machine from the power source and reposition the tool rest so that is opposite the face of the workpiece.
5. Reconnect power supply, turn the machine on, and proceed to hollow out the workpiece.

# MAINTENANCE

## CLEANING

### ⚠ WARNING



With the machine unplugged, blow off motor with low pressure air to remove dust or dirt. Air pressure above 50 P.S.I. should not be used as high-pressured air may damage insulation. The operator should always wear a respirator and eye protection when using compressed air.

Do not allow chips and dust to accumulate under lathe. Keep area clean and in safe order.

### ⚠ WARNING



Turn the power switch "OFF" and unplug the power cord from its power source prior to any maintenance.

## LUBRICATION

Occasionally, moving parts should be lubricated with a good quality machine oil.

## BELT REPLACEMENT

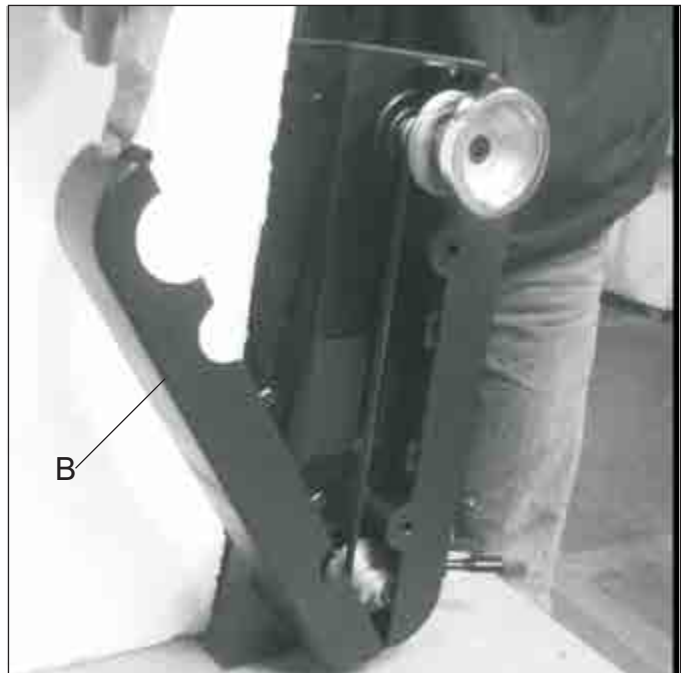
### ⚠ WARNING

**MAKE CERTAIN THAT THE MACHINE IS DISCONNECTED FROM THE POWER SOURCE.**

Fig.17



Fig. 18



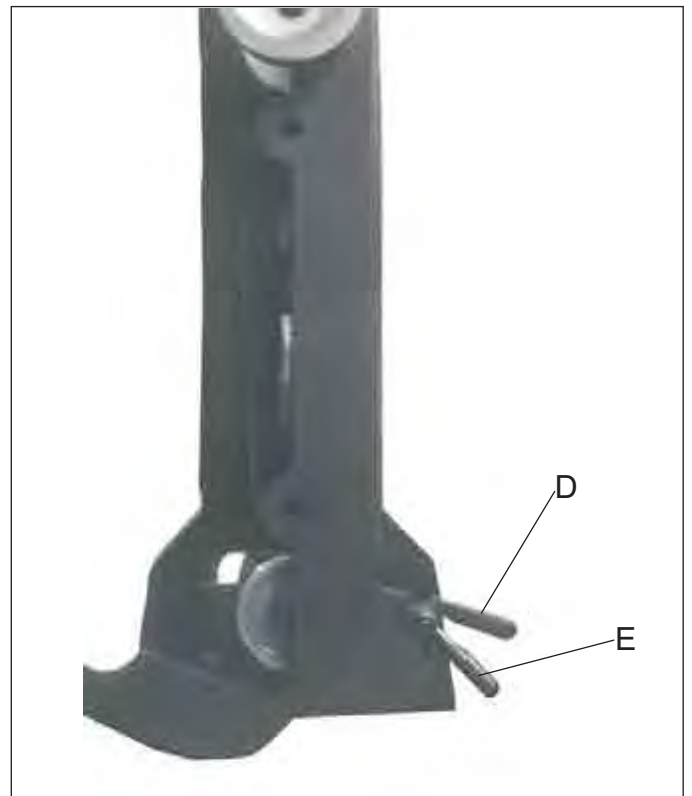
1. Loosen the screw (A) at the top of pulley cover and open the left pulley cover (B).  
**SEE FIG. 17 and 18.**

2. Loosen the HD screw (C) and open the right pulley cover and expose the pulleys. **SEE FIG. 19**
3. Loosen the motor plate lock handle (D) and lift upon the motor plate handle (E) to take tension off of the belt. **SEE FIG 20.**
4. Place the new belt on the spindle pulley. Make certain that the belt is aligned With the motor pulley and the spindle pulley.
5. Tension the belt using the motor plate handle and lock in place with the motor plate lock handle.
6. Thread the right pulley cover and left pulley cover and tighten the screws.

**Fig. 19**



**Fig. 20**



# TROUBLESHOOTING GUIDE

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

PROBLEM	LIKELY CAUSE(S)	SOLUTION
<b>Excessive vibration.</b>	<ol style="list-style-type: none"> <li>1. Workpiece warped, out of round, has major flaw, improperly prepared for turning, or RPM is set too high.</li> <li>2. Worn spindle bearings.</li> <li>3. Worn belt.</li> <li>4. Motor mount bolts loose.</li> <li>5. Lathe on uneven surface.</li> </ol>	<ol style="list-style-type: none"> <li>1. Correct problem by planing, bandsawing, reduce the RPM, or scrap workpiece all together.</li> <li>2. Replace bearings.</li> <li>3. Replace belt.</li> <li>4. Tighten bolts.</li> <li>5. Move to a different surface or bolt to a workbench or stand.</li> </ol>
<b>Motor or spindle stalls or will not start.</b>	<ol style="list-style-type: none"> <li>1. Excessive cut.</li> <li>2. Defective motor.</li> <li>3. Broken belt.</li> <li>4. Worn spindle bearings.</li> <li>5. Capacitor is bad (Model 60170G&amp;60150G only)</li> <li>6. Brushes are bad (Model 60100G&amp;60155G only)</li> </ol>	<ol style="list-style-type: none"> <li>1. Reduce cut depth.</li> <li>2. Replace motor.</li> <li>3. Replace belt.</li> <li>4. Replace bearings.</li> <li>5. Replace the capacitor (Model 60170G&amp;60150G only).</li> <li>6. Replace brushes (Model 60100G&amp;60155G only).</li> </ol>
<b>Motor fails to develop full power.</b>	<ol style="list-style-type: none"> <li>1. Power line overloaded.</li> <li>2. Undersize wires in supply system, or extension cord is too long.</li> <li>3. Low voltage.</li> <li>4. Capacitor is bad (Model 60170G&amp;60150G only)</li> <li>5. Defective motor.</li> </ol>	<ol style="list-style-type: none"> <li>1. Correct overload condition.</li> <li>2. Increase supply wire size.</li> <li>3. Request voltage check from power company and correct low voltage condition.</li> <li>4. Replace capacitor (Model 60170G&amp;60150G only).</li> <li>5. Replace motor.</li> </ol>
<b>Tools tend to grab or dig in.</b>	<ol style="list-style-type: none"> <li>1. Dull tools.</li> <li>2. Tool support set too low.</li> <li>3. Tool support set too far from workpiece.</li> <li>4. Improper tool being used.</li> </ol>	<ol style="list-style-type: none"> <li>1. Sharpen tools.</li> <li>2. Reposition tool support height.</li> <li>3. Reposition tool support closer to workpiece.</li> <li>4. Use correct tool for operation.</li> </ol>
<b>Tailstock moves when applying pressure.</b>	<ol style="list-style-type: none"> <li>1. Tailstock clamping device not adjusted properly.</li> <li>2. Lathe bed and tailstock mating surfaces are greasy or oily.</li> </ol>	<ol style="list-style-type: none"> <li>1. Tighten nut beneath the tailstock.</li> <li>2. Remove and clean surfaces with a cleaner degreaser.</li> </ol>

## ◆ NOTES ◆