

RIKON

POWER TOOLS

Mini Lathe Model: 70-100



Record the serial number and date of purchase
in your manual for future reference.

Serial number: _____

Date of purchase: _____

For more information:

www.rikontools.com or info@rikontools.com

For Parts or Questions:

techsupport@rikontools.com or 877-884-5167

Safety Warning

IMPORTANT! Safety is the single most important consideration in the operation of this equipment. **The following instructions must be followed at all times.**

There are certain applications for which this tool was designed. We strongly recommend that this tool not be modified and/or used for any other application other than that for which it was designed. If you have any questions about its application, do not use the tool until you have contacted us and we have advised you.

General Safety Warnings

KNOW YOUR POWER TOOL. Read the owner's manual carefully. Learn the tool's applications, work capabilities, and its specific potential hazards.

⚠ DANGER

ALWAYS GROUND ALL TOOLS.



If your tool is equipped with a three-pronged plug, you must plug it into a three-hole electric receptacle. If you use an adapter to accommodate a two-pronged receptacle, you must attach the adapter plug to a known ground. Never remove the third prong of the plug.

ALWAYS AVOID DANGEROUS ENVIRONMENTS.

Never use power tools in damp or wet locations. Keep your work area well lighted and clear of clutter.

⚠ DANGER

ALWAYS REMOVE THE ADJUSTING KEYS AND WRENCHES FROM TOOLS AFTER USE.



Form the habit of checking to see that keys and adjusting wrenches are removed from the tool before turning it on.

ALWAYS KEEP YOUR WORK AREA CLEAN. Cluttered areas and benches invite accidents.

⚠ DANGER

ALWAYS KEEP VISITORS AWAY FROM RUNNING MACHINES.



All visitors should be kept a safe distance from the work area.

ALWAYS MAKE THE WORKSHOP CHILDPROOF.

Childproof with padlocks, master switches, or by removing starter keys.

⚠ DANGER



NEVER OPERATE A TOOL WHILE UNDER THE INFLUENCE OF DRUGS, MEDICATION, OR ALCOHOL.

⚠ DANGER



ALWAYS WEAR PROPER APPAREL.

Never wear loose clothing or jewelry that might get caught in moving parts. Rubber-soled footwear is recommended for the best footing.

⚠ DANGER



ALWAYS USE SAFETY GLASSES AND WEAR HEARING PROTECTION.

Also use a face or dust mask if the cutting operation is dusty.

⚠ DANGER



NEVER OVERREACH.

Keep your proper footing and balance at all times.

⚠ DANGER



NEVER STAND ON TOOLS.

Serious injury could occur if the tool is tipped or if the cutting tool is accidentally contacted.

⚠ DANGER**ALWAYS DISCONNECT TOOLS.**

Disconnect tools before servicing and when changing accessories such as blades, bits, and cutters.

**ALWAYS AVOID ACCIDENTAL STARTING.**

Make sure switch is in "OFF" position before plugging in cord.

NEVER LEAVE TOOLS RUNNING UNATTENDED.**⚠ DANGER****ALWAYS CHECK FOR DAMAGED PARTS.**

Before initial or continual use of the tool, a guard or other part that is damaged should be checked to assure that it will operate properly and perform its intended function. Check for alignment of moving parts, binding of moving parts, breakage of parts, mounting, and any other conditions that may affect its operation. A guard or other damaged parts should immediately be properly repaired or replaced.



Special Safety Rules For Lathes

1. Do not operate this machine until you have read all of the following instructions.
2. Do not attempt to operate this machine until it is completely assembled.
3. Do not turn ON this machine if any pieces are missing.
4. If you are not familiar with the operation of the machine, obtain assistance from a qualified person.
5. It is highly recommended that this machine be firmly mounted to a flat and secure work surface.
6. Always wear protective eyewear prior to operating this machine.
7. Do not operate this machine if you are under the influence of drugs and/or alcohol.
8. Remove all jewelry prior to operating this machine.
9. Do not wear any gloves while operating this machine.
10. Always make sure the power switch is in the OFF position prior to plugging in the machine.
11. Always make sure the power switch is in the OFF position when doing any assembly or setup operation.
12. Always turn the power switch to the OFF position and let the work piece come to a complete stop prior to removal.
13. Use only sharp lathe tools.
14. The use of any accessories or attachments not recommended may cause injury to you and damage your machine.
15. This machine must be properly grounded.
16. When turning between centers, make sure headstock and tailstock are snug against work piece.
17. When face plate turning, rough-cut work piece close to the finished shape before screwing to face plate.
18. Never jam tools into work piece or take too big a cut.
19. Do not operate this machine without following all these instructions.
20. Keep these instructions for future reference.

SAVE THESE INSTRUCTIONS.

Refer to them often.

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Specifications

Model Number	70-100
Swing Over Bed	12"
Swing Over Tool Rest Base	9-1/2"
Working Distance Between Centers	16"
Motor	1/2HP, 1Ph, 115V only
Speeds	6
Speed Ranges	430,810,1230,1810,2670,3900 RPM
Spindle Nose in x TPI	1"x 8
Headstock Taper	MT2
Tailstock Taper	MT2
Hole Through Spindle	3/8"
Ram Travel	2-1/2"
Overall Dimensions	31-3/4"(L)x18"(W)x11-1/2"(H)
Net Weight	88.5 lbs

Contents of Package

Unpacking and Checking Contents

Unpack your lathe from its carton and check to see that you have all of the following items. Do not turn your machine ON if any of these items are missing. You may cause injury to yourself or damage to your machine.

			Item	Description	Q'ty
			A	Lathe.....	1
			B	Knokout Bar.....	1
			C	Wrench.....	1
			D	Tool Rest.....	1
			E	Live Center.....	1
			F	Spur Center.....	1
			G	Spindle Lock Assembly.....	1
			H	Knokout Bar for Live Center pointer.....	1
			I	Tool Holder.....	1
			J	Pan head screw.....	2
			K	Manual/Warranty Card.....	1

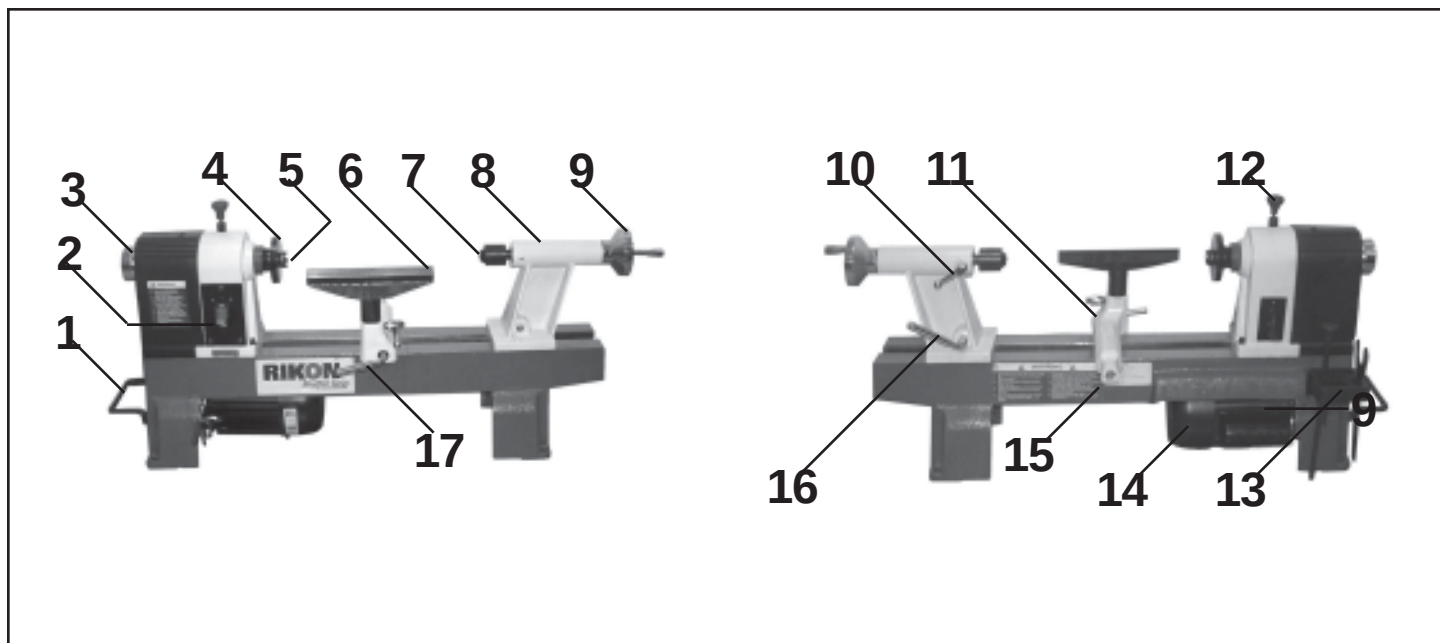
Tools Required for Assembly

Item	Description
	Phillips Screwdriver
	Adjustable Wrench

Unpacking and Clean-up

1. Carefully finish removing all contents from shipping cartons. Compare contents of the shipping cartons with the list of contents above. Place parts on a protected surface.
2. Report any shipping damage to your local distributor.
3. Clean all rust protected surfaces with kerosene or diesel oil. **Do not use**; gasoline, paint thinner, mineral spirits, etc. These may damage painted surfaces.
4. Set packing material and shipping cartons to the side. **Do not discard** until machine has been set up and is running properly.

Getting to Know Your Lathe



Item Description

1	Lifting handle
2	Switch
3	Handwheel
4	Face plate
5	Spur center
6	Tool rest
7	Live center
8	Tail stock
9	Tailstock handwheel

Item Description

10	Tailstock spindle locking arm
11	Tool rest base
12	Spindle lock
13	Tool holder
14	Motor
15	Lathe bed
16	Tailstock locking lever
17	Tool rest seat locking lever

Assembly

The machine must not be plugged in and the power switch must be in the OFF position until assembly is complete.

Installing Tool Rest On To Lathe Bed

Loosen locking arm and insert tool rest into tool rest base, adjust height up or down and tighten locking arm. (See Fig.01)

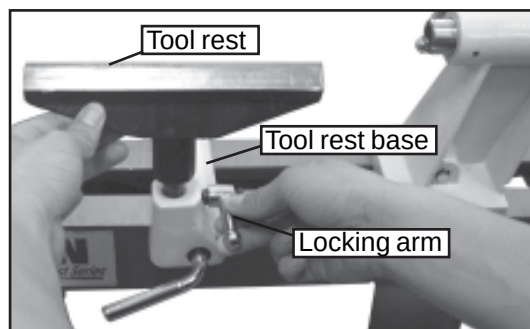


Fig.01

Installing Spindle Lock

Locate the spindle lock assembly from the carton, and install it onto the head with an adjustable wrench. (See Fig.02)

Warning: Disengage spindle lock before turning the machine on.

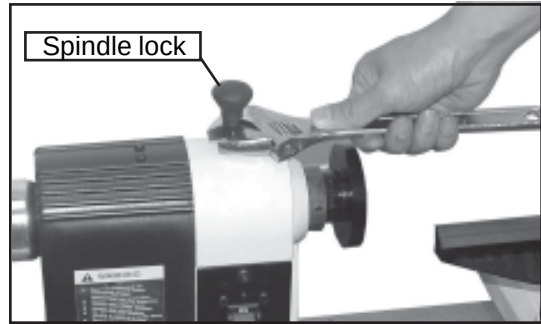


Fig.02

Attaching Spur Center On The Headstock

Insert spur center, with a No. 2 Morse Taper shank, into the headstock spindle. (See Fig.03)

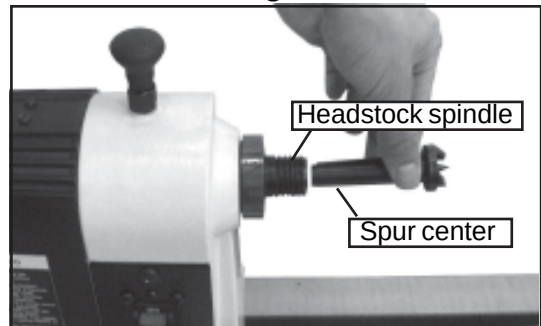


Fig.03

Knockout Bar

The knockout bar is used to remove the spur center from the headstock spindle. Insert knockout bar into hole at opposite side from spur center. (See Fig.04)

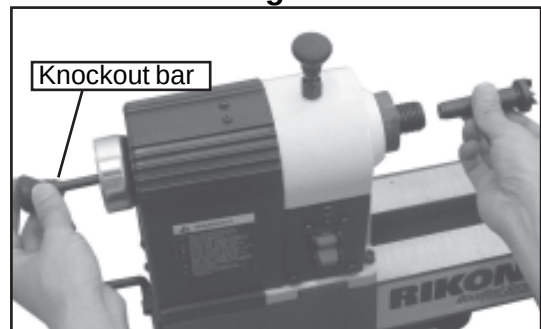


Fig.04

Attaching Live Center On the Tailstock

Insert the live center, with a No. 2 Morse Taper shank into the tailstock spindle. (See Fig.05)

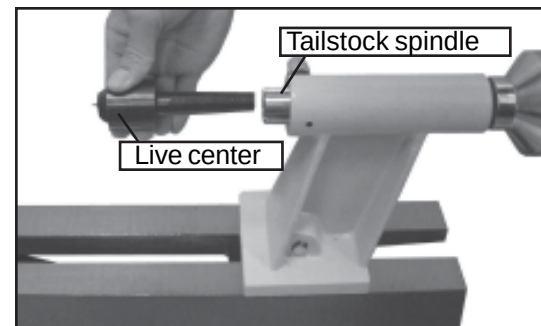


Fig.05

To remove live center from the tailstock spindle, loosen locking arm and rotate the hand wheel counter clockwise to retract spindle into the body of the tailstock. The live center will be pushed out of the spindle.

(See Fig.06)

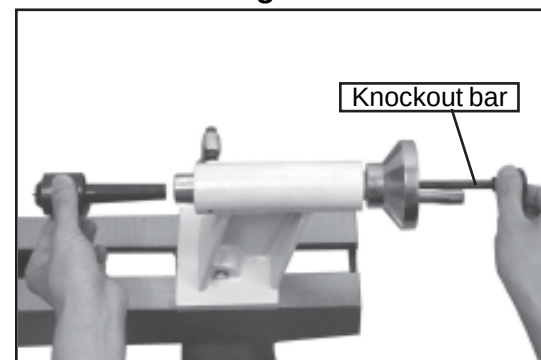


Fig.06

Installing The Faceplate to the Headstock

Thread the faceplate clockwise on to the headstock spindle. Next, engage the spindle lock and stop the spindle from turning, and tighten faceplate with supplied wrench. (See Fig.07)

Warning: Disengage spindle lock before turning the machine on.

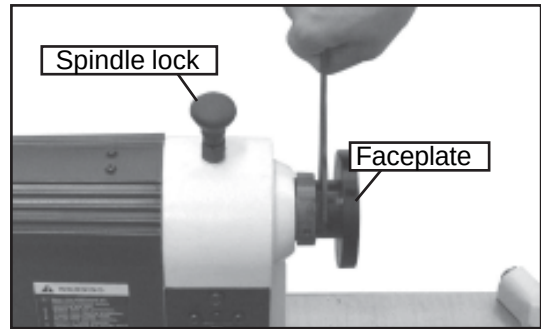


Fig.07

Installing Tool Holder On the Lathe Bed

Located the tool holder from the carton, and install it onto the lathe bed with two pan head screws. (See Fig.08)

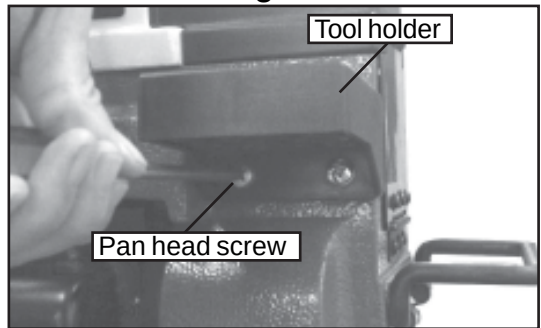


Fig.08

Secure Lathe to a Solid Work Surface

The lathe must be attached to a solid work surface or stand. Four mounting holes are easily accessible at the base of the lathe. (See Fig.09)

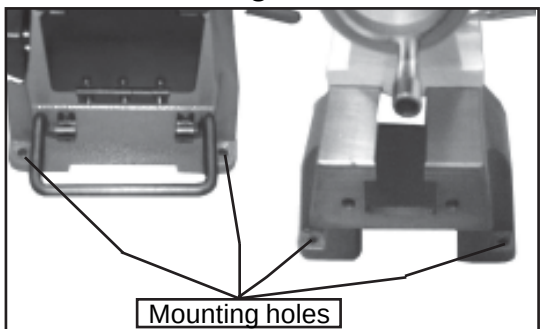


Fig.09

Adjustments and Operations

Adjusting the Tool Rest

The tool rest base can be easily moved along the lathe bed. Loosen locking lever counter clockwise, slide tool rest base to new position, and tighten locking lever clockwise.

To adjust the height of the tool rest, loosen locking arm, raise or lower tool rest, tighten locking arm. (See Fig.10)

Note: Position the tool rest as close to the work piece as possible. It should be 1/8" above the centerline of the workpiece.

To adjust clamping action of the tool rest base, remove base and adjust nut clockwise to tighten and counterclockwise to loosen. (See Fig.11)

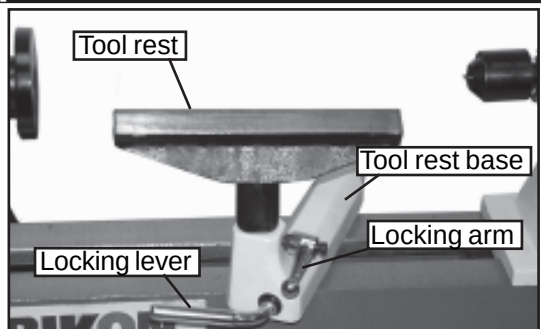


Fig.10

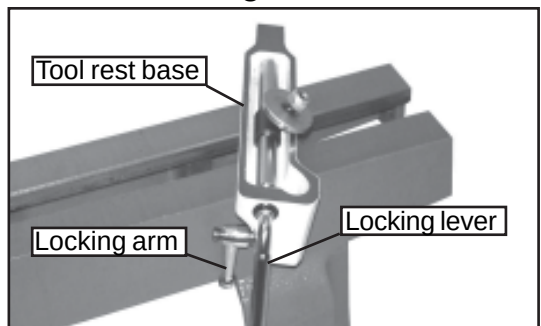


Fig.11

Adjusting Tailstock

Loosen locking lever to move the tailstock along the lathe bed to desired position. Tighten lever.

To adjust clamping action of the tailstock, remove it from lathe bed and adjust nut clockwise to tighten and counterclockwise to loosen. (See Fig.12)

To adjust tailstock arm in or out, loosen locking arm and turn handwheel. When the tailstock arm is in a desired position, tighten locking arm. (See Fig.13)

The tailstock arm will travel from 0" to 2-1/2"

Changing Spindle Speeds

The lathe features a six step motor and spindle pulleys to provide different spindle speeds. Open access cover to change spindle speeds. (See Fig.14)

With access cover open, loosen locking arm. Raise lever to release tension on motor pulley and tighten locking arm. Check speed and belt position chart inside access cover to determine spindle speed required.

Move drive belt to desired pulley combination. Loosen locking arm, lower lever, and the motor will provide proper tension on the drive belt. Tighten locking arm and close access cover. (See Fig.14)

Typical Operations

The lathe is set up for a typical spindle turning operation. (See Fig.15)

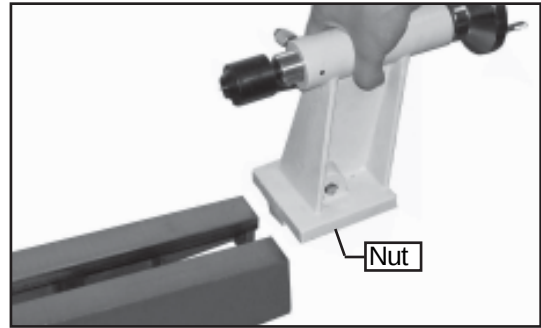


Fig.12

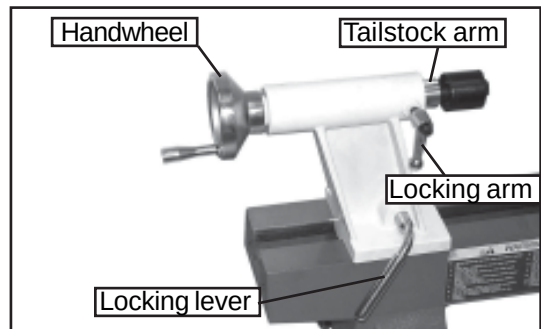


Fig.13

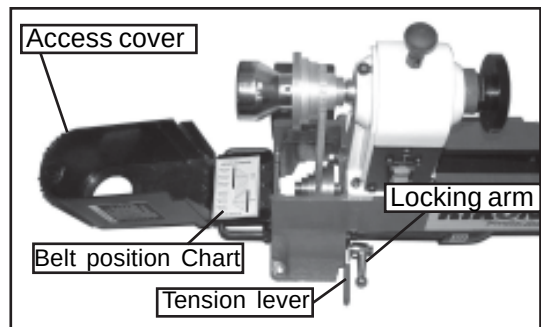


Fig.14



Fig.15

The lathe can be set up for a faceplate turning operation. The work piece should be “rough cut” as close as possible to finished shape before mounting. (See Fig.16)

Indexing/Spindle Lock

The dual purpose indexing/spindle lock is positioned on the top of the headstock for ease of use. The headstock indexing feature has 12 equally spaced positions. The spring loaded locking pin assembly is engaged by turning the knob a half turn allowing it to drop into the desired position. To disengage, lift the lock knob up and turn a half turn either direction. (See Fig.17 & Fig.18)

The 12 position indexing feature allows accurate pattern work on projects such as straight fluting, grooving, drilling, lay out and more. This feature also allows the user to lock the spindle for removing face plates, chucks and other accessories without needing two tools.

To use the spindle lock, disengage the locking pin by lifting up and rotating a half turn. The pin will engage in the closest pin available. Once locked an accessory such as a face plate can be removed with the wrench supplied.

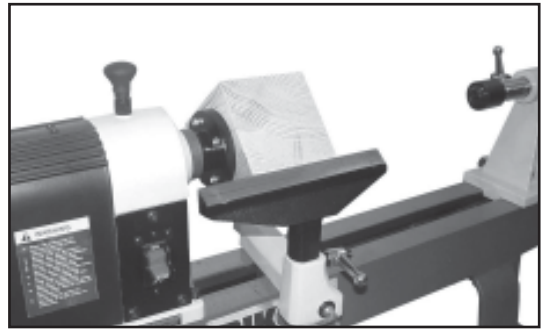


Fig.16

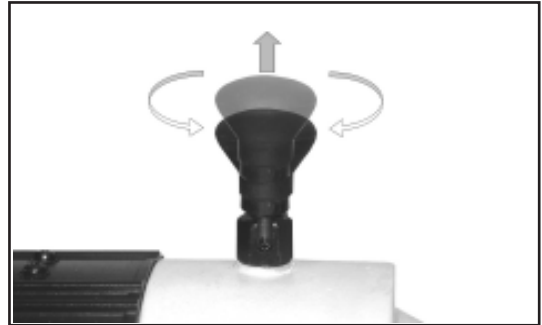


Fig.17

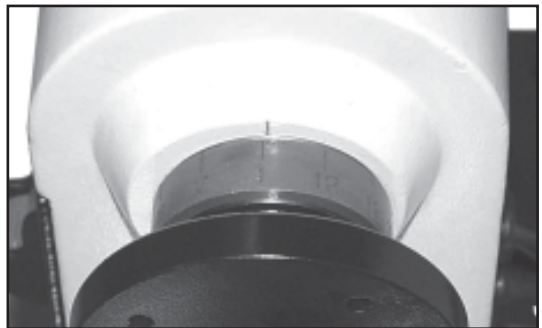


Fig.18

Maintenance

CAUTION! BEFORE CLEANING OR CARRYING OUT MAINTENANCE WORK, DISCONNECT THE MACHINE FROM THE POWER SOURCE (WALL SOCKET). NEVER USE WATER OR OTHER LIQUIDS TO CLEAN THE MACHINE. USE A BRUSH. REGULAR MAINTENANCE OF THE MACHINE WILL PREVENT UNNECESSARY PROBLEMS.

Keep the lathe bed casting clean and lubricated.

Keep the outside of the machine clean to ensure accurate operation of all moving parts and prevent excessive wear.

Keep the ventilation slots of the motor clean to prevent it from overheating.

Remove all saw dust and chips from the lathe after each use.

Electrical Requirements

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

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

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

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

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

Repair or replace a damaged or worn cord immediately.

This tool is intended for use on a circuit that has an outlet that looks the one illustrated in Figure A below. The tool has a grounding plug that looks like the grounding plug as illustrated in Figure A below. A temporary adapter, which looks like the adapter as illustrated in Figure B below, may be used to connect this plug to a two-pole receptacle, as shown in Figure B if a properly grounded outlet is not available.** The temporary adapter should only be used until a properly grounded outlet can be installed by a qualified electrician. The green colored rigid ear or tab, extending from the adapter, must be connected to a permanent ground such as a properly grounded outlet box.

* Canadian electrical codes require extension cords to be certified SJT type or better.

** Use of an adapter in Canada is not acceptable.

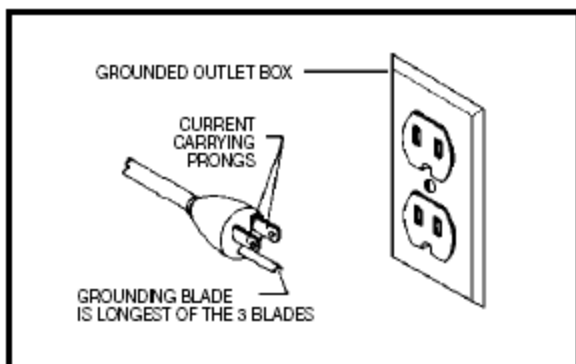


Fig. A

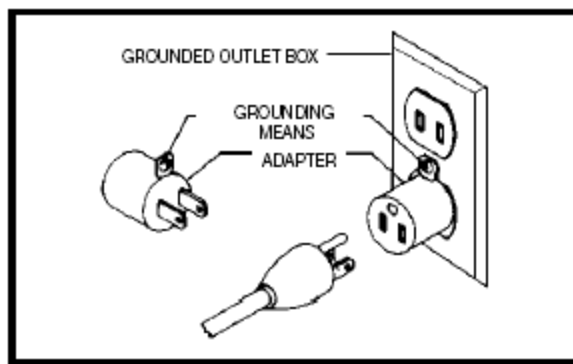
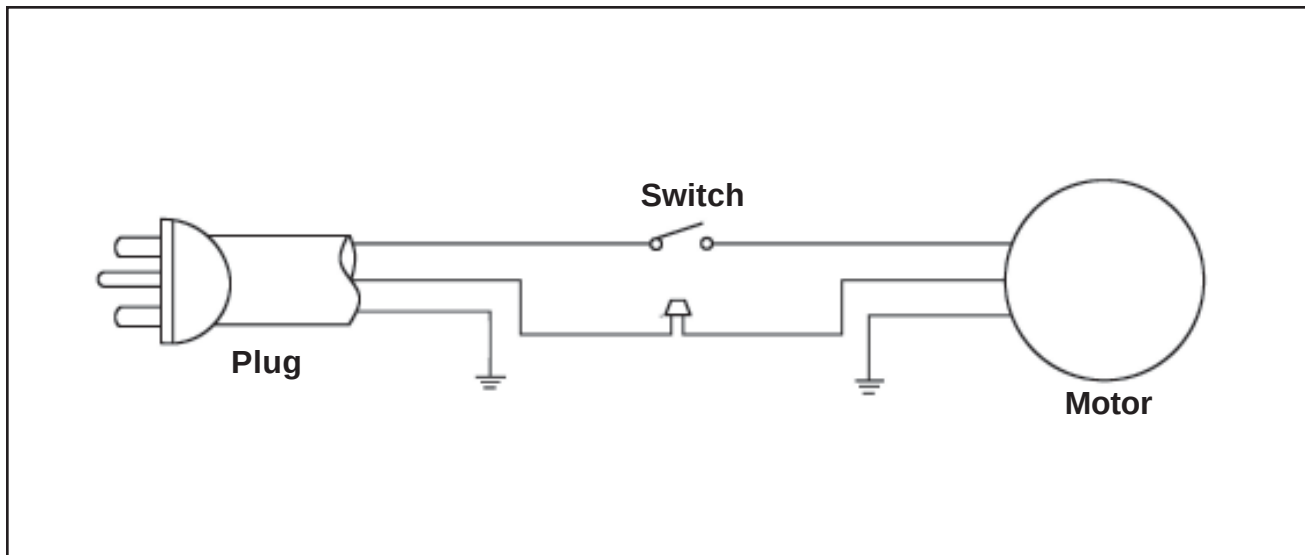


Fig. B

Wiring Diagram

WARNING: This machine must be grounded.

Replacement of the power supply cable should only be done by a qualified electrician.



Troubleshooting

Troubleshooting

WARNING !

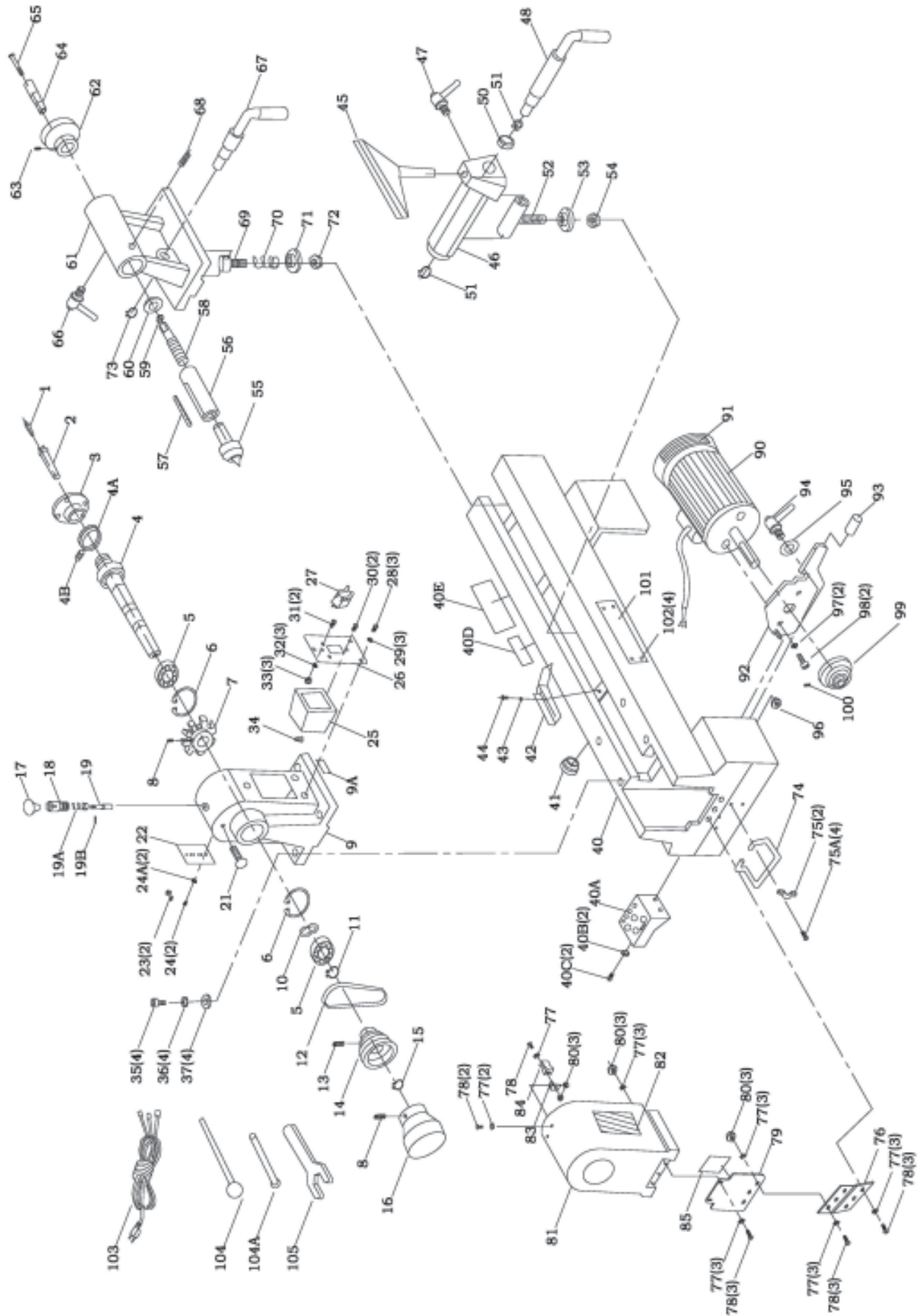
FOR YOUR OWN SAFETY, ALWAYS TURN OFF AND UNPLUG THE MACHINE BEFORE CARRYING OUT ANY TROUBLESHOOTING

Symptom	Possible Cause	Solution
Motor will not start	Machine not plugged in Low voltage Loose connection	Plug the machine in
Motor overheats	Motor overloaded Air flow restricted on motor	Reduce load on motor Clean out motor to obtain normal air flow
Excessive motor noise	Bad motor Pulley set screw loose	Have motor checked Tighten set screw
Motor will not develop full power or stalls	Circuit overloaded with lights or other tools Circuit too long or undersized wires Voltage too low Circuit breakers do not have sufficient capacity Drive belt tension too high Use of extension cord	Decrease the load on the circuit Reduce the length of the wire or increase the wire size Have the voltage checked by an electrician Have a licensed electrician install proper size breaker Adjust belt tension Use heavier gauge extension cord or no extension cord
Machine bogs down during cutting	Excessive depth of cut Turning tools are dull	Decrease depth of cut Sharpen turning tools

*****WARNING*****

Do not make adjustments while the lathe is running. Ensure the switch is off, power is disconnected and all moving parts have stopped before servicing. Failure to comply may result in serious injury.

Explosion Diagram



Parts List

Part No.	Description	Part No.	Description
70-100-1	Center point	70-100-50	Collar
70-100-2	Spur center	70-100-51	Ring retaining 12mm
70-100-3	Faceplate	70-100-52	Clamp bolt cover
70-100-4	Spindle shaft	70-100-53	Position plate
70-100-4A	Indexing plate	70-100-54	Lock nut M10
70-100-4B	Hex socket set screw M5x5	70-100-55	Live center
70-100-5	Bearing 6005-2Z	70-100-56	Axle sleeve
70-100-6	Ring retaining 47mm	70-100-57	Tailstock scale
70-100-7	Indexing gear	70-100-58	Bolt
70-100-8	Hex socket set screw M6x8	70-100-59	Ring retaining
70-100-9	Spindle shaft	70-100-60	Washer 14mm
70-100-9A	Warning label	70-100-61	Tailstock
70-100-10	Wave washer 47mm	70-100-62	Handwheel
70-100-11	Ring retaining 25mm	70-100-63	Hex. Socket set screw M6x12
70-100-12	Poly-v-belt	70-100-64	Handwheel handle
70-100-13	Hex socket set screw M6x10	70-100-65	Screw
70-100-14	Spindle pulley	70-100-66	Lock arm
70-100-15	Ring retaining 19mm	70-100-67	Lock lever
70-100-16	Handwheel	70-100-68	Hex. Socket set screw M5x8
70-100-17	Spindle lock knob	70-100-69	Screw shaft
70-100-18	Spindle lock tube	70-100-70	Spring
70-100-19	Spindle lock shaft	70-100-71	Clamp plate
70-100-19A	Spindle lock spring	70-100-72	Lock nut M10
70-100-19B	Pin roll 3x16	70-100-73	Ring retaining 10mm
70-100-21	Rounded insert	70-100-74	Lifting handle
70-100-22	Power cable plate	70-100-75	Lifting handle mounting bracket
70-100-23	Strain relief	70-100-75A	Pan head screw M5x10
70-100-24	Pan head screw M5x12	70-100-76	Hinge
70-100-24A	Locking washer M5	70-100-77	Lock washer M4
70-100-25	Box switch	70-100-78	Pan head screw M4x10
70-100-26	Switch plate	70-100-79	Motor pulley cover
70-100-27	Lock switch	70-100-80	Hex. Nut M4
70-100-28	Pan head screw M6x10	70-100-81	Access cover
70-100-29	Locking washer M6	70-100-82	Warning label
70-100-30	Pan head tapping screw ST4.2x22	70-100-83	Lock housing bracket
70-100-31	Pan head screw M5x12	70-100-84	Lock housing
70-100-32	Locking washer M5	70-100-85	Belt position chart
70-100-33	Hex. Nut M5	70-100-90	Motor
70-100-34	Close-end connector	70-100-91	Motor label
70-100-35	Hex. Socket head screw M6x35	70-100-92	Belt tension handle
70-100-36	Spring washer 6mm	70-100-93	Belt tension handle cover
70-100-37	Washer 6mm	70-100-94	Motor temsion lock
70-100-40	Bed	70-100-95	Special washer 8mm
70-100-40A	Tool holder	70-100-96	Lock nut M8
70-100-40B	Washer 6mm	70-100-97	Spring washer 6mm
70-100-40C	Pan head screw M6x15	70-100-98	Hex. Socket head screw M6x15
70-100-40D	Name label	70-100-99	Motor pulley
70-100-40E	Warning label	70-100-100	Hex. Socket set screw M6x12
70-100-41	Cable tube	70-100-101	RIKON label
70-100-42	Fence	70-100-102	Rivet M2.5x6
70-100-43	Special washer 5mm	70-100-103	Power cable
70-100-44	Pan head screw M5x10	70-100-104	Knockout bar
70-100-45	8" tool holder	70-100-104A	Live Center knockout bar
70-100-46	Tool holder seat	70-100-105	Wrench
70-100-47	Lock arm	70-100-M1	Manual
70-100-48	Lock lever		

Warranty



2-Year Limited Warranty

RIKON Power Tools/Richen Enterprise, Inc. ("Seller") warrants to only the original retail consumer/purchaser of our products that each product be free from defects in materials and workmanship for a period of two (2) years from the date the product was purchased at retail. This warranty may not be transferred.

This warranty does not apply to defects due directly or indirectly to misuse, abuse, negligence, accidents, repairs, alterations, lack of maintenance or normal wear and tear. Under no circumstances will Seller be liable for incidental or consequential damages resulting from defective products. All other warranties, expressed or implied, whether of merchantability, fitness for purpose, or otherwise are expressly disclaimed by Seller. This warranty does not cover products used for commercial, industrial or educational purposes.

This limited warranty does not apply to accessory items such as blades, drill bits, sanding discs or belts and other related items.

Seller shall in no event be liable for death, injuries to persons or property, or for incidental, contingent, special, or consequential damages arising from the use of our products.

To take advantage of this warranty proof of purchase documentation, which includes date of purchase and an explanation of the complaint, must be provided.

The Seller reserves the right to effect at any time, without prior notice, those alterations to parts, fittings, and accessory equipment which they may deem necessary for any reason whatsoever.

To take advantage of this warranty, please fill out the enclosed warranty card and send it to:
RIKON Warranty
400 West Cummings Park
Suite 1000
Woburn, MA 01801

The card must be entirely completed in order for it to be valid. If you have any questions please contact us at 877-884-5167 or warranty@rikontools.com.

Notes:



For more information:
400 West Cummings Park, Suite 1000
Woburn, MA 01801

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