

30"x40" Heavy Duty 3HP VSR Lathe with Sliding Bed



Operator's Manual

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

The serial number can be found on the specification label on the rear of your machine.

Serial Number: _____ Date of purchase: _____

For technical support or parts questions, email techsupport@rikontools.com or call toll free at (877) 884-5167

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SPECIFICATIONS # 70-3040

Motor	3 HP, TEFC
Volts, Phase (Input)	220 V, 1 Ph
Amps, Hertz	14.8 A, 50/60 Hz
Motor Speed (no load).....	1,720 RPM
Sliding Bed Motor	DC 24V
Recommended Breaker Size	20 Amp
Spindle Rotation	Forward/Reverse
Swing Over Beds	23-7/32" & 31-1/4" (590 & 794 mm)
Swing Over Tool Rest Base.....	17-13/32" & 25-7/16" (442 & 646 mm)
Distance Between Centers.....	20" - 40" (508 - 1016 mm)
Speeds	Variable 20 - 3,850 RPM
Speed Ranges (3)	20 - 650; 50 - 1,750; 100 - 3,850 RPM
Spindle Nose Threading.....	1-1/4" x 8 TPI RH
Headstock Taper	MT-2
Tailstock Taper	MT-2
Hole Through Drive Spindle	3/8" (10 mm)
Hole Through Tailstock	3/8" (10 mm)
Tailstock RAM Travel	4-11/16" (120 mm)
Number of Indexing Positions.....	36 (10 degrees)
Tool Rest Post Diameter	1" (25.4 mm)
Spindle to Floor Distance	44" (1118 mm)
Overall Length Size	61-5/8" to 81-5/8" (1565 x 2073 mm)
Overall Width & Depth Size	30-1/8" x 50-3/8" (765 x 1286 mm)
Base / Stand Size	27" x 50-3/8" (685 x 1280 mm)
Net Weight	588 lbs (267 kg)

NOTE: The specifications, photographs, drawings and information in this manual represent the current model when the manual was prepared. Changes and improvements may be made at any time, with no obligation on the part of Rikon Power Tools, Inc. to modify previously delivered units. Reasonable care has been taken to ensure that the information in this manual is correct, to provide you with the guidelines for the proper safety, assembly and operation of this machine.

SAFETY INSTRUCTIONS

IMPORTANT! Safety is the single most important consideration in the operation of this equipment. **The following instructions must be followed at all times.** Failure to follow all instructions listed below may result in electric shock, fire, and/or serious personal injury.

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.

SAFETY SYMBOLS



SAFETY ALERT SYMBOL: Indicates DANGER, WARNING, or CAUTION. This symbol may be used in conjunction with other symbols or pictographs.



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



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



Indicates a potentially hazardous situation, which, if not avoided, could result in minor or moderate injury.


NOTICE: Shown without Safety Alert Symbol indicates a situation that may result in property damage.

GENERAL SAFETY

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

BEFORE USING YOUR MACHINE

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

1.  **WARNING** Some dust created by using power tools contains 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.Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: work in a well ventilated area and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles.
2. **READ** the entire Owner's Manual. **LEARN** how to use the tool for its intended applications.
3. **GROUND ALL TOOLS.** If the tool is supplied with a 3 prong plug, it must be plugged into a 3-contact electrical receptacle. The 3rd prong is used to ground the tool and provide protection against accidental electric shock. **DO NOT** remove the 3rd prong. See Grounding Instructions on the following pages.

4. **AVOID A DANGEROUS WORKING ENVIRONMENT.** **DO NOT** use electrical tools in a damp environment or expose them to rain.

5. **DO NOT** use electrical tools in the presence of flammable liquids or gases.

6. **ALWAYS** keep the work area clean, well lit, and organized. **DO NOT** work in an environment with floor surfaces that are slippery from debris, grease, and wax.

7. **KEEP VISITORS AND CHILDREN AWAY. DO NOT** permit people to be in the immediate work area, especially when the electrical tool is operating.

8. **DO NOT FORCE THE TOOL** 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 tool was intended.

9. **WEAR PROPER CLOTHING. DO NOT** wear loose clothing, gloves, neckties, or jewelry. These items can get caught in the machine during operations and pull the operator into the moving parts. The user must wear a protective cover on their hair, if the hair is long, to prevent it from contacting any moving parts.

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

11. **ALWAYS UNPLUG THE TOOL FROM THE ELECTRICAL RECEPTACLE** when making adjustments, changing parts or performing any maintenance.

SAFETY INSTRUCTIONS

12. KEEP PROTECTIVE GUARDS IN PLACE AND IN WORKING ORDER.

13. AVOID ACCIDENTAL STARTING. Make sure that the power switch is in the “OFF” position before plugging in the power cord to the electrical receptacle.

14. REMOVE ALL MAINTENANCE TOOLS from the immediate area prior to turning “ON” the machine.

15. USE ONLY RECOMMENDED ACCESSORIES. Use of incorrect or improper accessories could cause serious injury to the operator and cause damage to the tool. If in doubt, check the instruction manual that comes with that particular accessory.

16. NEVER LEAVE A RUNNING TOOL UNATTENDED. Turn the power switch to the “OFF” position. **DO NOT** leave the tool until it has come to a complete stop.

17. DO NOT STAND ON A TOOL. Serious injury could result if the tool tips over, or you accidentally contact the tool.

18. DO NOT store anything above or near the tool where anyone might try to stand on the tool to reach it.

19. MAINTAIN YOUR BALANCE. DO NOT extend yourself over the tool. Wear oil resistant rubber soled shoes. Keep floor clear of debris, grease, and wax.

20. MAINTAIN TOOLS WITH CARE. Always keep tools clean and in good working order. Keep all blades and tool bits sharp, dress grinding wheels and change other abrasive accessories when worn.

21. EACH AND EVERY TIME, CHECK FOR DAMAGED PARTS PRIOR TO USING THE TOOL. Carefully check all guards to see that they operate properly, are not damaged, and perform their intended functions. Check for alignment, binding or breaking of moving parts. A guard or other part that is damaged should be immediately repaired or replaced.

22. DO NOT OPERATE TOOL WHILE TIRED, OR UNDER THE INFLUENCE OF DRUGS, MEDICATION OR ALCOHOL.

23. SECURE ALL WORK. 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 A POWER TOOL.

A moment of inattention while operating power tools may result in serious personal injury.

25. ALWAYS WEAR A DUST MASK TO PREVENT INHALING DANGEROUS DUST OR AIRBORNE PARTICLES, including wood dust, crystalline silica dust and asbestos dust. Direct particles away from face and body. Always operate tool in well ventilated area and provide for proper dust removal. Use dust collection system wherever possible. Exposure to the dust 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. Allowing dust to get into your mouth or eyes, or lay on your skin may promote absorption of harmful material. Always use properly fitting NIOSH/OSHA approved respiratory protection appropriate for the dust exposure, and wash exposed areas with soap and water.

26. USE A PROPER EXTENSION CORD IN GOOD CONDITION. When using an extension cord, be sure to use one heavy enough to carry the current your product will draw. The table on the following page shows the correct size to use depending on cord length and nameplate amperage rating. If in doubt, use the next heavier gauge. The smaller the gauge number, the larger diameter of the extension cord. If in doubt of the proper size of an extension cord, use a shorter and thicker cord. An undersized cord will cause a drop in line voltage resulting in a loss of power and overheating.
USE ONLY A 3-WIRE EXTENSION CORD THAT HAS A 3-PRONG GROUNDING PLUG AND A 3-POLE RECEPTACLE THAT ACCEPTS THE TOOL’S PLUG.

27. ADDITIONAL INFORMATION regarding the safe and proper operation of this product is available from:

- Power Tool Institute
1300 Summer Avenue
Cleveland, OH 44115-2851
www.powertoolinstitute.org
- National Safety Council
1121 Spring Lake Drive
Itasca, IL 60143-3201
www.nsc.org
- American National Standards Institute
25 West 43rd Street, 4th Floor
New York, NY 10036
www.ansi.org
- ANSI 01.1 Safety Requirements for Woodworking Machines and the U.S. Department of Labor regulations
www.osha.gov

28. SAVE THESE INSTRUCTIONS. Refer to them frequently and use them to instruct others.

SAFETY INSTRUCTIONS

ELECTRICAL SAFETY

⚠ WARNING THIS TOOL REQUIRES THE USE OF A 220V PLUG (NOT INCLUDED), AND 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 tool is equipped with an electric cord that has an equipment grounding conductor and requires a grounding plug (not included). The plug **MUST** be plugged into a matching electrical receptacle that is properly installed and grounded in accordance with **ALL** local codes and ordinances.

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

REPLACE A DAMAGED OR WORN CORD OR PLUG IMMEDIATELY.

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 when installing or replacing a plug.

This tool is intended for use on a circuit that has a 220 volt electrical receptacle. **FIGURE A** shows the type of the 220v, 3-wire electrical plug and electrical receptacle that has a grounding conductor that is required.

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

** The use of an adapter in Canada is not acceptable.

Sample of 220 volt plug required for this machine.

FIG. A



NEMA 6-20P

Consult a qualified electrician if the distance of the machine from the electrical panel is greater than 30 feet.

EXTENSION CORDS

⚠ WARNING: USE OF AN EXTENSION CORD WITH THIS MACHINE IS NOT RECOMMENDED. FOR BEST POWER AND SAFETY, PLUG THE MACHINE DIRECTLY INTO A DEDICATED GROUNDED ELECTRICAL OUTLET THAT IS WITHIN THE SUPPLIED CORD LENGTH OF THE MACHINE.

IF AN EXTENSION CORD NEEDS TO BE USED, IT SHOULD ONLY BE FOR LIMITED OPERATION OF THE MACHINE. THE EXTENSION CORD SHOULD BE AS SHORT AS POSSIBLE IN LENGTH, AND HAVE A MINIMUM GAUGE SIZE OF 14AWG.

USE ONLY A 3-WIRE EXTENSION CORD THAT HAS THE PROPER TYPE OF A 3-PRONG GROUNDING PLUG THAT MATCHES THE MACHINE'S 3-PRONG PLUG AND ALSO THE 3-POLE RECEPTACLE THAT ACCEPTS THE TOOL'S PLUG.

⚠ WARNING: Check extension cords before each use. If damaged replace immediately. Never use a tool with a damaged cord, since touching the damaged area could cause electrical shock, resulting in serious injury.

Use a proper extension cord. Only use cords listed by Underwriters Laboratories (UL). Other extension cords can cause a drop in line voltage, resulting in a loss of power and overheating of tool. When operating a power tool outdoors, use an outdoor extension cord marked "W-A" or "W". These cords are rated for outdoor use and reduce the risk of electric shock.

⚠ WARNING: Keep the extension cord clear of the working area. Position the cord so that it will not get caught on lumber, tools or other obstructions while you are working with a power tool.

NOTE: The WIRING DIAGRAM for the #70-3040 Lathe is listed on Page 20.

The AC Inverter Control Box that is located on the rear of the headstock does not require any programming. It is pre-programmed from the factory. The buttons and knob on the face of inverter should not be changed. Only use the 5 electronic controls on the front of headstock to operate the lathe.



THIS SYMBOL DESIGNATES THAT THIS TOOL IS LISTED BY THE INTERTEK TESTING SERVICES, TO UNITED STATES AND CANADIAN STANDARDS.

SAFETY INSTRUCTIONS

SPECIFIC SAFETY INSTRUCTIONS FOR WOOD LATHES

This machine is intended for the shaping, smoothing and finishing of natural, solid woods. The permissible workpiece dimensions must be observed (see Technical Specification). Any other use not as specified, including modification of the machine or use of parts not tested and approved by the equipment manufacturer can cause unforeseen damage, and invalidate the warranty.

ATTENTION: Use of this lathe still presents risks that cannot be eliminated by the manufacturer. Therefore, the user must be aware that wood working machines are dangerous if not used with care and all safety precautions are adhered to.

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 damaged or missing.
4. This machine must be properly grounded.
5. If you are not familiar with the operation of the machine, obtain assistance from a qualified person.
6. Always wear approved, safety protective eye wear and hearing protection when operating this machine.
7. Always wear a dust mask and use adequate dust collection and proper ventilation.
8. Do not wear loose clothing or jewelry when operating this machine. Keep long hair tied back.
9. Always make sure the power switch is in the OFF position prior to plugging in the machine.
10. Always make sure the power switch is in the OFF position and the machine is unplugged when doing any cleaning, assembly, setup operation, or when not in use.
11. Use only sharp lathe tools. Dull tools can damage your work and are unsafe to use.
12. When turning between centers, make sure the headstock and tailstock are snug against the workpiece.
13. When face plate turning, rough-cut the workpiece close to the finished shape before screwing it to the face plate.
14. Never jam tools into the workpiece or take too big of a cut.
15. Make sure there are no loose knots, nails, staples, dirt or foreign objects in the workpiece to be turned.
16. Wood should not be warped, cracked or have improperly made or cured glue joints.
17. Test spin the workpiece to ensure that it does not hit the lathe bed or tool rest before turning on the lathe.
18. Start the lathe at slow speeds to check the settings, then increase the speed to your desired level for working.
19. Low speeds are best for roughing stock, and for long or large diameter work pieces.
20. If excessive vibration occurs, stop the lathe to check the workpiece settings between centers or on face plates.
21. For sanding or applying finishes, remove the tool rest from the machine. Use low speeds to avoid heat build-up.
22. Do not engage the spindle lock when the lathe is turning, and be sure to disengage the spindle lock when done working to avoid damage to the machine next time the lathe is turned on.
23. Never stop the machine by grabbing the workpiece, faceplate or hand wheel. Let the machine stop on its own.
24. The use of any accessories or attachments not recommended may cause injury to you and damage your machine.
25. Remove material or debris from the work area. Keep the floor and work area neat and clean.
26. Keep these instructions for future reference.

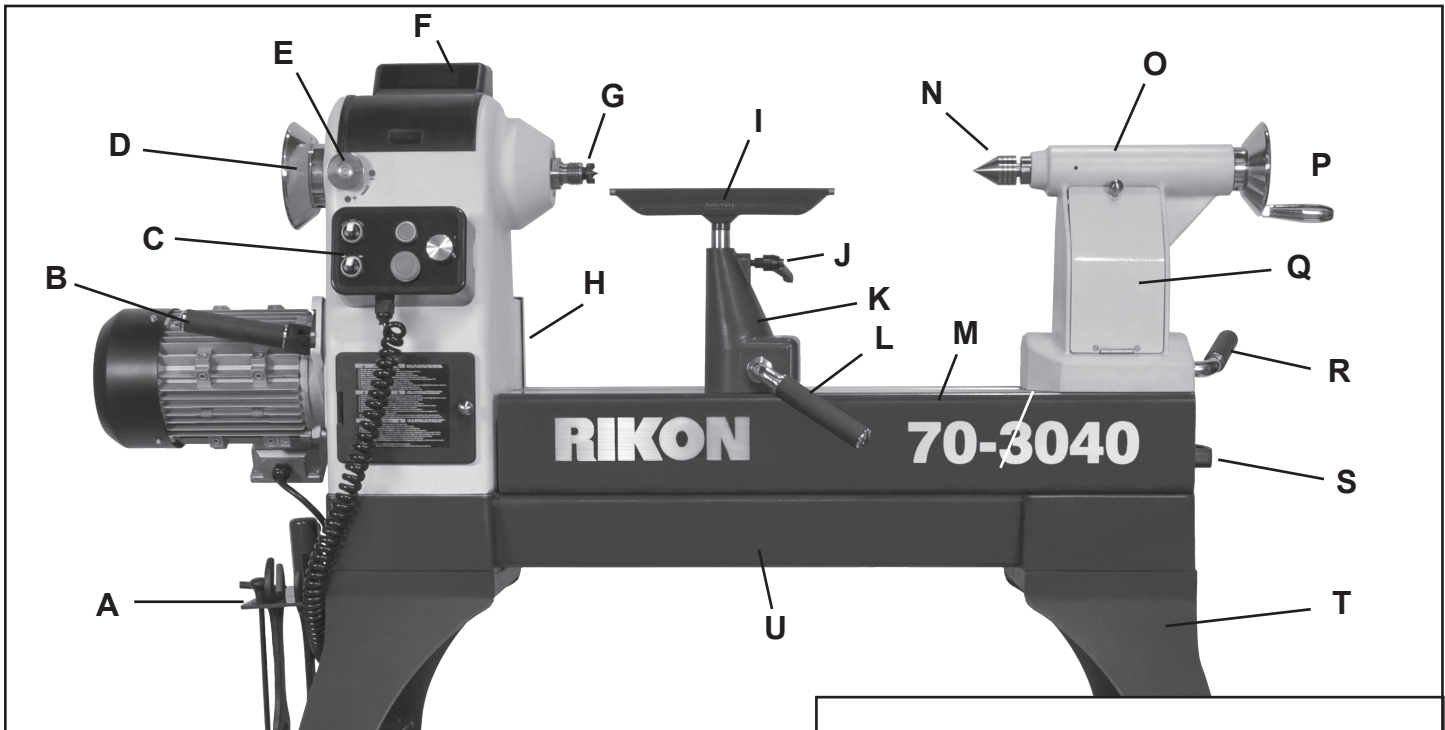
This owner's manual is not a teaching aid and is intended to show assembly, adjustments, and general use.

CALIFORNIA PROPOSITION 65 WARNING:

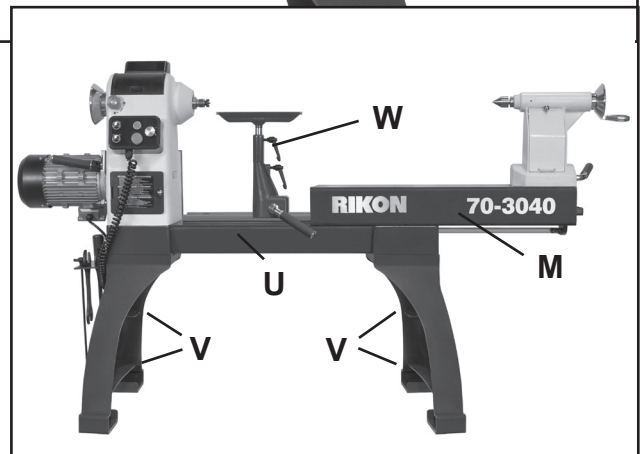


WARNING: Drilling, sawing, sanding or machining wood products can expose you to wood dust, a substance known to the State of California to cause cancer. Avoid inhaling wood dust or use a dust mask or other safeguards for personal protection. For more information go to www.P65Warnings.ca.gov/wood.

GETTING TO KNOW YOUR MACHINE



- | | |
|----------------------------------|-------------------------------|
| A. Tool Holder | M. Upper Sliding Bed |
| B. Motor & Locking Handle | N. 60° Live Center |
| C. Electronic Controls | O. Tailstock Assembly |
| D. Outboard Hand Wheel | P. Tailstock Hand Wheel |
| E. Spindle Lock | Q. Tailstock Storage |
| F. Digital Speed Readout | R. Tailstock Locking Handle |
| G. Spindle with Spur Center | S. Sliding Bed Handle |
| H. Inverter Control Box (rear) | T. Legs (2) |
| I. PRO Tool Rest 12" | U. Lower Lathe Bed |
| J. Tool Rest Locking Handle | V. Shelf Brackets (4) |
| K. Tool Rest Base Assembly | W. Tool Rest Height Extension |
| L. Tool Rest Base Locking Handle | |



CONTENTS OF PACKAGE

Model #70-3040 Heavy Duty VSR Wood Lathe is shipped complete in one box.

Unpacking and Clean-up

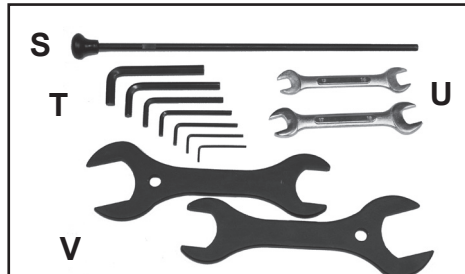
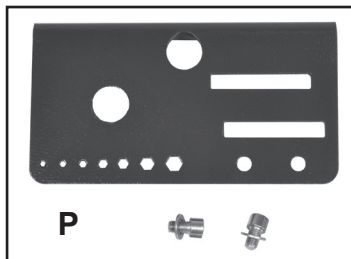
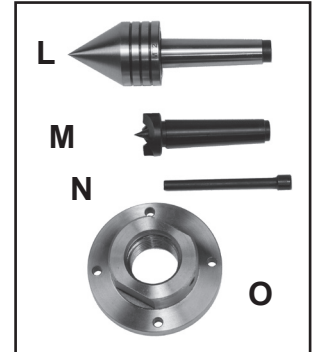
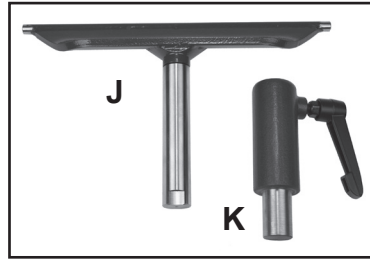
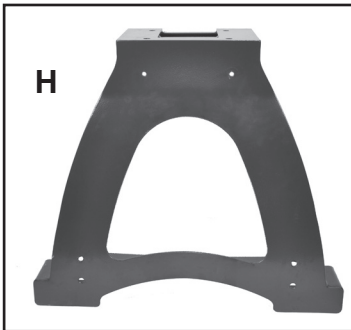
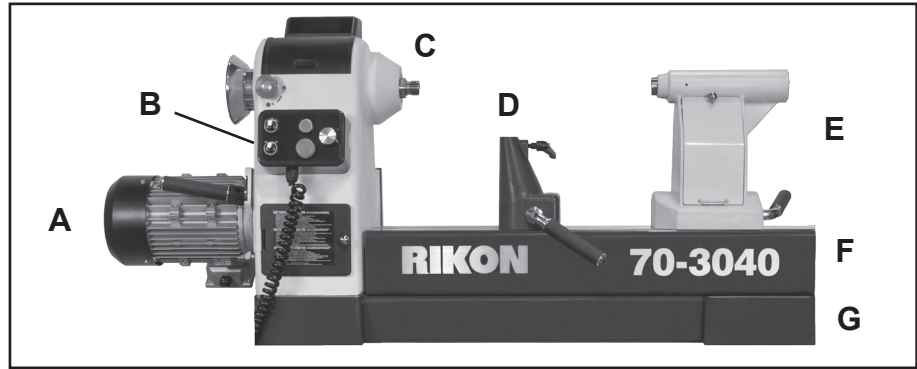
1. Carefully remove all contents from the shipping carton. Compare the contents with the list of contents to make sure that all of the items are accounted for, before discarding any packing material. Place parts on a protected surface for easy identification and assembly. If any parts are missing or broken, please call RIKON Customer Service (877-884-5167) as soon as possible for replacements. DO NOT turn your machine ON if any of these items are missing. You may cause injury to yourself or damage to the machine.
2. Report any shipping damage to your local distributor. Take photographs for any possible insurance claims.
3. Clean all rust protected surfaces with ordinary house hold type grease or spot remover. Do not use; gasoline, paint thinner, mineral spirits, etc. These may damage painted surfaces. Clean thoroughly under the headstock, tailstock and tool rest body.
4. Apply a coat of paste wax to any machined surfaces to prevent rust. Wipe all parts thoroughly with a clean dry cloth.
5. Set packing material and shipping carton aside. Do not discard until the machine has been set up and is running properly.

CONTENTS OF PACKAGE

CONTENTS OF PACKAGE

Lathe Bed Assembly

- A. Motor Assembly
- B. Electronic Controls
- C. Headstock Assembly
- D. Tool Rest Base Assembly
- E. Tailstock Assembly
- F. Lathe's Upper Sliding Bed
- G. Lathe Bed



- H. Legs (2)
- I. Bolts (8) & Washers (16)
- J. 12" Tool Rest
- K. Tool Rest Height Extension
- L. 60° Live Center
- M. Spur Center
- N. Small Knockout Bar for Spur center point
- O. Faceplate 3-3/8"
- P. Tool Holder & Bolts (2)
- Q. Tailstock Hand Wheel
- R. Handle with Bolts (2)
- S. Long Knockout Bar
- T. Hex Wrenches (7) - 2.5,3,4,5, 6, 8 & 10mm
- U. Wrenches (2) 13/16 & 17/19mm
- V. Wrenches (2) 38/46mm
- W. Rubber Foot Pads (4)
- X. Manual (not shown)

INSTALLATION

MOVING & INSTALLING THE LATHE

CAUTION The lathe is VERY heavy- over 470 lbs! A fork lift, hoist, pallet jack or additional help will be required to assemble the machine. It is best to assemble the machine in an open, well lit area near where it will eventually reside.

When moving an assembled lathe, DO NOT use the headstock assembly, motor, tool rest or tailstock as this may damage the machine. Use a forklift, or pallet jack under the lathe's bed or legs to lift and move the machine. Straps or battens placed under the lathe bed can also be used to lift and move the machine.

1. Carefully remove the machine from the shipping pallet. Do not push or lift the lathe by the headstock, tailstock or tool rest assemblies as this may damage the machine. See pages 9 & 11 for Assembly instructions for the lathe.

2. Position the machine on a solid, level foundation that is located in an area that has ample space in front and in back of the lathe for working and moving around the lathe. For best power and safety, the lathe should be plugged directly into a dedicated grounded electrical outlet that is within the supplied cord length of the machine. The use of an extension cord is not recommended.

3. Align the machine so that during use, any turning debris or kickback will not face aisles, doorways, or other work areas that bystanders may be in. Do not locate or use the machine in damp or wet conditions.

4. Once in place in your shop, level the machine with shims or the optional adjustable feet. Or, if the floor is level, secure the machine to the floor with lag screws (not supplied). Remove the adjustable feet (if installed) and use the holes in the bottom of the leg's feet for this purpose.

ASSEMBLY

NOTE: The parts listed in the instructions refer to either the Contents of Package on page 8 (A, B, C..), and/or the Parts Diagram & Parts List on pages 23 & 29 (Sheet A part #4 is listed as #A4, etc.).

WARNING THE MACHINE MUST NOT BE PLUGGED IN AND THE POWER SWITCH MUST BE IN THE OFF POSITION UNTIL ASSEMBLY IS COMPLETE.

INSTALL THE PADS OR FEET ONTO THE LEGS

The 70-3040 Lathe has a floor-to-spindle height of 44".

If this working height is fine, then the lathe can be used as is.

1. Install the provided 4 Rubber Foot Pads (W, #F8) onto the bottoms of the lathe Legs (H, #F1) to reduce any possible vibration or lathe 'walking' during use. Figure 1.

2. Assemble the legs to the lathe body. See page 10.

For best stability, it is recommended that the lathe be bolted to the floor. The bottom of the lathe's feet have holes to allow the fasteners to bolt them to the floor. Fasteners (lag bolts, screws, washers, etc.) are not provided.

NOTE: If the lathe is to be permanently bolted to the floor, DO NOT install adjustable feet (see below) which also use the holes in the feet for installation. Riser blocks or shims will have to be made by the user to put under the legs to level the lathe and/or raise the lathe height before bolting the lathe to the floor.

If the 44" working height is too low, then a set of four Adjustable Feet (#70-972) are available to be installed onto the bottom of the legs. Figure 2. These feet can be installed onto the legs if the rubber pads are installed or not. See page 30 for information on these accessories.

1. Before attaching the legs to the lathe bed, install the optional four adjustable feet onto the bottom of the legs. These will raise the 44" spindle height approximately 1-3/4" to 2-1/2" more.

2. The Adjustable Feet have two hex nuts and washers assembled on their threaded shafts. Remove the top nut and washer (Fig. 3, A) and leave the bottom nut and washer on the shaft. The bottom nut will be used to adjust the level of the lathe later on. Figure 3.

3. Insert the threaded shaft through the hole in the bottom of the leg, and re-install the top washer and nut onto the shaft to secure the foot onto the leg. Do not fully tighten the nut at this time.

4. Install the other three adjustable feet on the other three legs following steps 2 and 3 above.

5. Assemble the legs to the lathe body. See page 10.

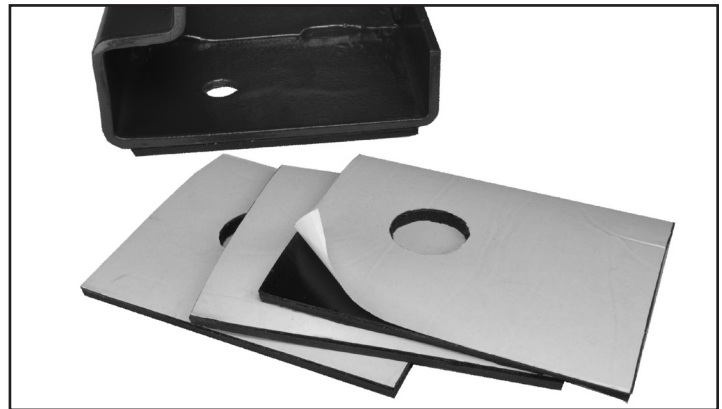
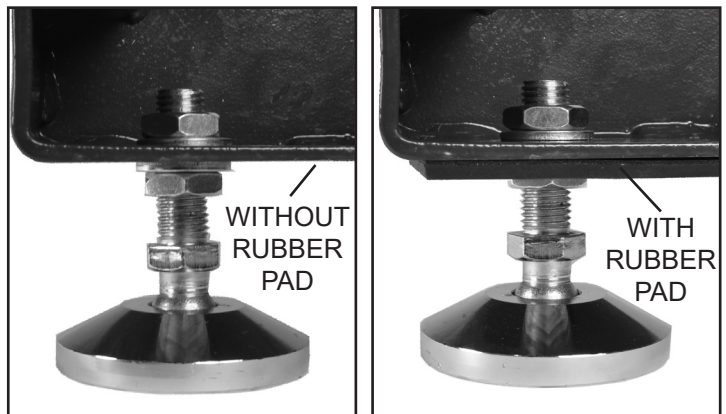


FIG. 1



A

FIG. 2

B

NOTE: For clarity, figures 2A & 3 are shown without the anti-vibration rubber foot pads attached on the bottom of the lathe legs.

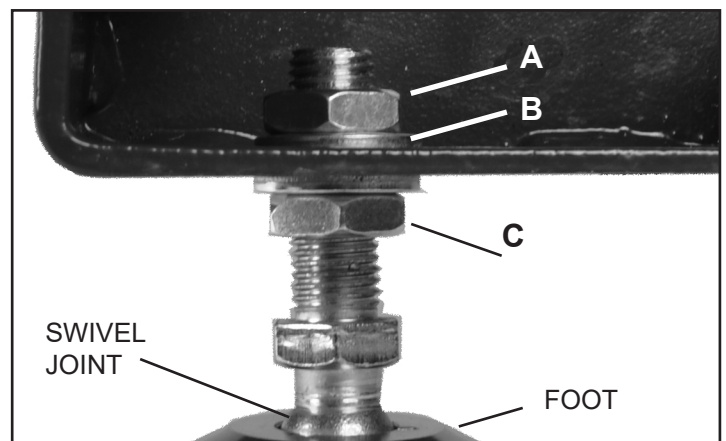


FIG. 3

NOTE: Once the lathe is assembled and in its final location, adjust the bottom nut(s) (Fig. 3, C) that are right under the bottom of the foot to set your desired spindle height and to level the lathe. Once set, then tighten the top nuts to secure the adjustable feet in position.

ASSEMBLY

INSTALL THE LATHE BED ONTO THE LEGS

1. Position the two Legs (H, #F1) approximately 45-1/4" apart measuring from the outside edges. Be sure that the shelf brackets on the legs are facing inward, towards each other. Figure 4.

2. Secure the Tailstock (E,#D3), and Tool Rest Base (D,#A10) assemblies to the Sliding Lathe Bed (F,#C8) by tightening their locking Lever Handles. See page 11 of this manual on how to make these adjustments.

NOTE: To lighten the weight of the bed assembly, the tailstock and tool rest base assembly can be removed from the lathe.

- At the right end of the Sliding Bed, with a 5mm hex wrench loosen the Bolt (#C25) so that the offset Stop Washer (#C7) swivels down below the bed surface. Fig. 5.
- Loosen the Tailstock Handle (#D12), and slide the tailstock assembly off of the lathe end.
- Loosen the Tool Rest Base Handle (#A3), and slide the tool rest base assembly off of the lathe end.

3. With assistance from 4 or more friends, a hoist or fork lift, lift up the lathe bed assembly and carefully position it onto the stand legs to align the 8 bolt holes.

CAUTION Lift the lathe body by the underside of the bed only, not by the motor, headstock, tailstock, or tool rest assemblies. Prevent the lathe from tipping, as the headstock end is extremely heavy.

4. Secure the lathe bed to the stand legs with the eight Washers (I, #F2), Spring Lock Washers (#F3) and Hex Head Bolts (#F4). Figure 6 shows 4 bolts securing the legs to the headstock end of the lathe.

5. The lathe can now be moved into its final location for turning. If previously removed (step 2 NOTE above), install the tool rest and tailstock back onto the lathe bed.

6. If the legs were assembled with the optional Adjustable Feet (see page 9), the feet can now be set. Adjust the bottom nut(s), Fig. 3C, that are right under the bottom of the foot to set your desired spindle height and to level the lathe. Once set, then tighten the top nuts, Fig. 3A, to secure the feet in position.

INSTALL STORAGE SHELVES (OPTIONAL)

One or two shelves can be added between the legs for storage of tools, turning supplies or to add extra lathe hold-down weight with sand bags or cement blocks.

Each leg has 2 sets of brackets, one low and one high, to mount and secure your self-made shelves onto.

Use 2x4s and thick plywood to construct these shelves to your specific design or storage needs. (Plans not provided).

NOTE: Installing a full size shelf between the assembled legs is not possible. So, construct your shelves in pieces that can be secured together in place on the brackets. Fig. 7.

WARNING THE MACHINE MUST NOT BE PLUGGED IN AND THE POWER SWITCH MUST BE IN THE OFF POSITION UNTIL ASSEMBLY IS COMPLETE.

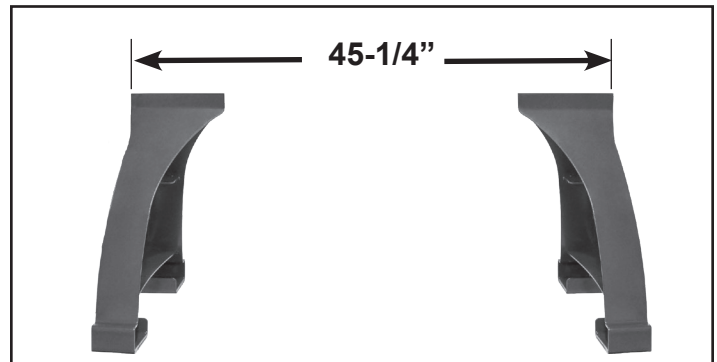


FIG. 4

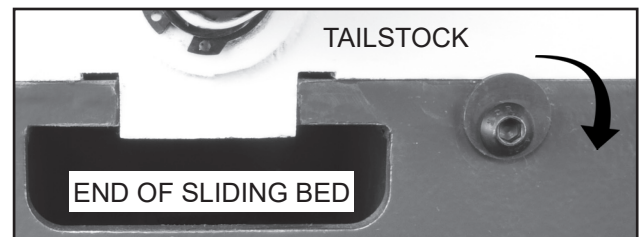


FIG. 5

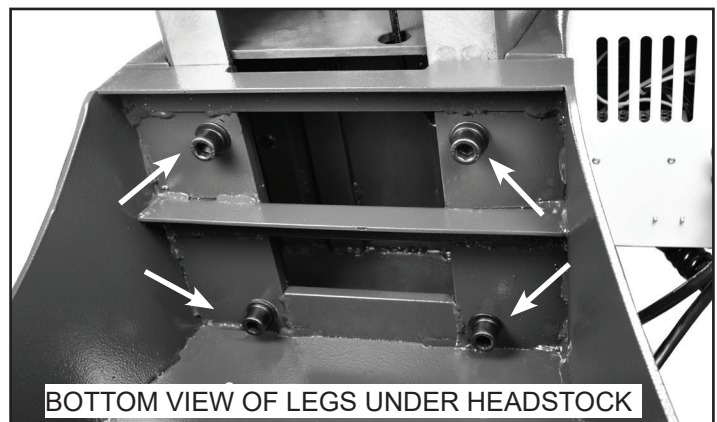


FIG. 6



FIG. 7

ASSEMBLY

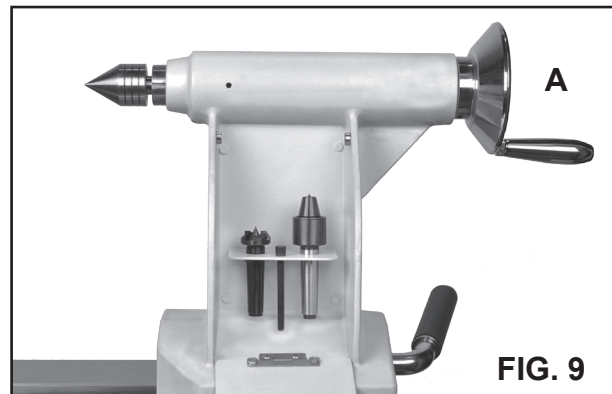
INSTALL THE TOOL HOLDER

Install the Tool Holder (P, #F5) onto the outside surface of either the left or right Leg (H, #F1) with the two Washers and hex head mounting Screws (P,#F6,7) provided. This holder includes multiple holes for convenient storage of wrenches, centers, tool rests and other lathe accessories. Figure 8.



INSTALL THE TAILSTOCK HAND WHEEL

Install the Tailstock Hand Wheel (Q, #D8) onto the rear spindle of the Shaft Assembly (Quill) (#D6). Secure with the 2 set screws onto the 2 flat spindle areas with the 3mm Hex Wrench provided. Figure 9 A.



TAILSTOCK STORAGE

For additional storage of spur and live centers, the tailstock features a small tool holder behind the front hinged door. It will also hold the short knockout bar used to remove the spur center's removable point. Figure 9.

INSTALL THE SLIDING BED HANDLE

Install the Handle (R, #C9) onto the right end of the sliding bed with the two Hex Screws (#C10) provided. Figure 10.

NOTE: INSTALLING THIS HANDLE IS OPTIONAL. This handle is NOT to be used for moving or lifting the lathe. If ever the sliding bed fails to work due to a motor or mechanical issue, the motorized screw mechanism (#E17) can be disengaged by removing the two end Cotter Pins (#E12). Then the sliding bed will be free to be moved by pulling or pushing with the end handle. See page 15.



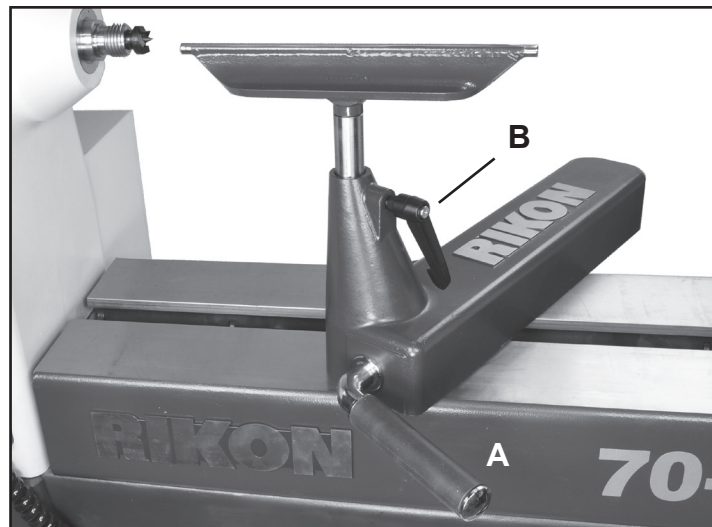
OPERATION

TOOL REST CONTROLS - Figure 11

A. TOOL REST BODY LOCK HANDLE: This cam action lever handle locks the tool rest body down in position on the lathe bed. Unlock handle to position the tool rest in any location along the lathe bed. Tighten the handle when the tool rest is properly located for safe turning of the work-piece. See page 17 for instructions on how to adjust the locking tension.

B. TOOL REST LOCK HANDLE: Locks the tool rest in position for supporting your tools during turning. Unlock the handle to adjust the tool rest at a specific angle, or height. Tighten handle when properly positioned.

NOTE: The handle is spring loaded on its internal bolt. To change the handle position, pull the handle out, rotate it to the position you desire, then release the handle and it will align itself back onto the bolt.



OPERATION

TAILSTOCK CONTROLS - Figure 12

C. TAILSTOCK LOCK HANDLE: Locks the tailstock in position along the length of the lathe bed. Unlock handle to position the tool rest to move the tailstock. Tighten handle when properly positioned. See page 17 for instructions on how to adjust the locking tension.

D. TAILSTOCK QUILL LOCK HANDLE: Secures the tailstock quill in position. Unlock the handle to move the quill, with live center, forward or backwards. Tighten the locking handle when the quill is finally positioned.

E. TAILSTOCK QUILL HAND WHEEL: The hand wheel advances or retracts the quill. The quill's locking handle (D) must be loose to move the quill.

F. TAILSTOCK LIVE CENTER: Used for turning between centers. The Live Center (L, #D1) and the Quill (#D6) have MT-2 tapers. Remove the live center by retracting the quill until the center loosens, or use the long knockout bar.

NOTE: Be careful and hold the live center during this process so it does not fly out onto the floor. Same process as shown in figure 13 for the spur center.

HEADSTOCK SPUR CENTER

The Spur Center (M, #B27) is used for turning between centers. It fits into the spindle. Both spindle and the spur center have matching MT-2 tapers. The spur center can be removed from the spindle with the long Knockout Bar (S). Insert the knockout bar through the opposite, outboard left end of the spindle, and then hit the spur center's back end to knock it out of the spindle.

NOTE: Be careful and hold the spur center during this process so it does not fly out onto the floor. Figure 13.

HEADSTOCK FACEPLATE

Faceplates (O, #B26) are used for turning bowls and plates. There are a number of screw holes on the plate for mounting the workpiece for turning.

To INSTALL the faceplate, thread the faceplate onto the spindle in a clockwise direction, and tighten it in place with the set screws that are located on the back hub of the faceplate. **NOTE:** there may be more than one set of set screws on the faceplate hub. Figure 14.

To REMOVE the faceplate, first loosen the set screws. The spindle and rear hub of the faceplate each have flats that are for use with open end wrenches. FIG. 14. Next, use the 2 extra large, double ended wrenches (V) (38mm/46mm) for holding the spindle and also to hold the back hub of the faceplate for removal of the faceplate. Use the same process for removing a chuck. Figure 15.

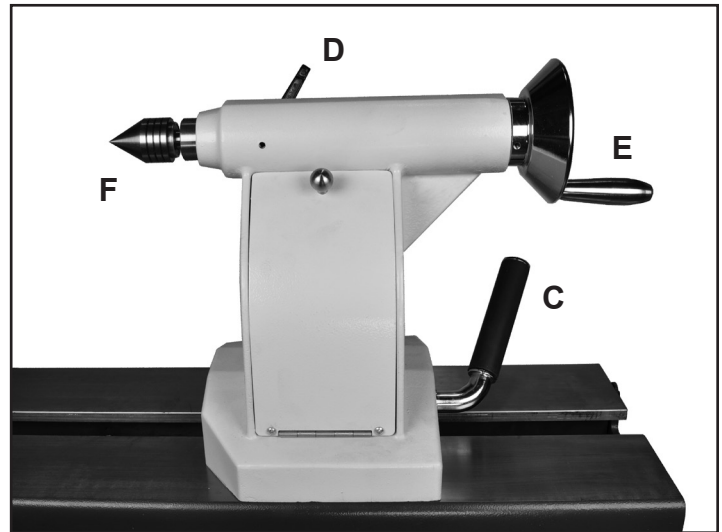


FIG. 12



FIG. 13

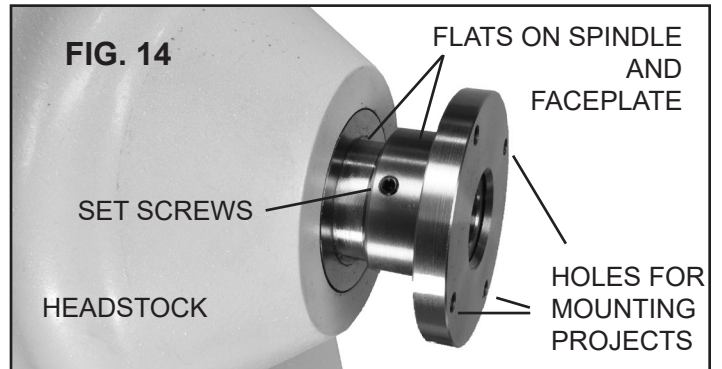


FIG. 15

⚠ WARNING

NEVER USE THE INDEX PIN TO HOLD THE SPINDLE TO REMOVE ACCESSORIES FROM THE LATHE, OR DAMAGE TO THE PIN OR THE SPINDLE PULLEY WILL RESULT.

OPERATION

MAIN ON / OFF SWITCH

The #70-3040 Lathe has a main on/off switch located behind the headstock on the side of the metal Inverter Box. FIG. 16. This switch **MUST** be operated before and after the lathe is used. It allows electrical access to the control box for using the lathe. It also totally shuts down the lathe when not in use for an extended time. The switch protects the lathe's electricals, particularly the LCD display from burning out, and prevents unwanted access by children or bystanders. The switch will also hold a lock to further secure the lathe from being activated.

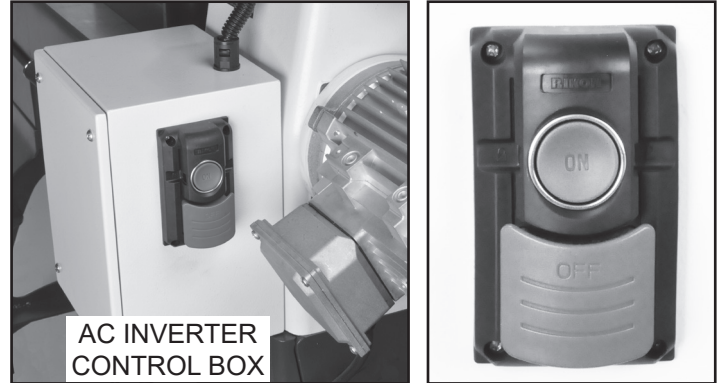


FIG. 16

HEADSTOCK ELECTRONIC CONTROLS - FIG. 17

The lathe features a corded Control Box (FIG. 17, #B37) with magnets on its back that allow it to be positioned anywhere on the face of the headstock or anywhere along the lathe's bed! Wherever it is most comfortable for the turner to quickly access the controls to regulate turning speeds, stopping the lathe, or even to move the sliding bed.

A. FORWARD / OFF / REVERSE SWITCH: This selector switch will change the direction that the spindle turns - clockwise (forward) or counter-clockwise (reverse), as well as a non-rotating 'off' position.

⚠ CAUTION Only change rotation direction when the spindle has completely stopped. Should the switch be changed while the lathe is operating, the machine will automatically turn off in 'protection' mode, then restart in the new rotation direction.

B. 'ON' BUTTON: Push the green Button so that it turns the lathe ON. Push the red Button (D) to turn the lathe OFF.

C. RPM KNOB: This knob controls the desired spindle revolutions per minute (RPM). See the Speed Charts for the 3 speed range settings on page 16. Spindle speeds are shown on the LCD Display FIG. 18.

D. 'STOP' BUTTON: Push in the extended red Button to stop the lathe. To reset the button for restarting the lathe with the 'ON' button, push in the 'STOP' button a second time to pop it back out into the reset position.

E. SLIDING BED DIRECTION: This selector switch controls the direction of movement for the lathe's upper bed.

To *EXTEND* the sliding bed out to the right, away from the headstock, first loosen the bed's rear locking handle, FIG. 19, and then turn the control switch (FIG. 17, E) to the right. The motorized bed will stop at any point you wish, until it reaches its maximum travel. Lock the sliding bed in position with the rear locking handle before resuming work.

To *RETURN* the sliding bed to its original position next to the headstock, reverse the steps above. See page 15 for additional information on the sliding bed.



FIG. 17



FIG. 18

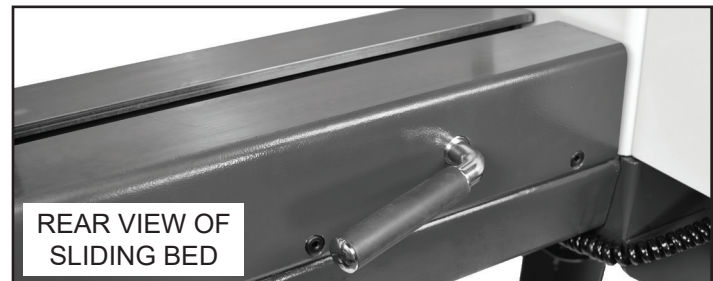


FIG. 19

NOTE: The AC Inverter Control Box (FIG. 16, #B23) that is located on the rear of the headstock does not require any programming. It is pre-programmed from the factory. The buttons and knob on the face of inverter should not be changed. Only use the 5 electronic controls on the front of headstock (Figure 17) to operate the lathe.

OPERATION

HEADSTOCK SPINDLE LOCK

Conveniently located on the front of the headstock, the Index Pin Assembly (FIG. 20 & 21) is used to hold and position the spindle for making accurate, spaced pattern work on projects such as straight fluting, grooving, drilling, detail carving, wood burning patterns and laying out designs. See page 17 for more information.

The Index Pin is spring loaded. To operate:

- Rotate the Index Knob (FIG. 20) from the 'not-indexing' position (red dot -) down to the 'indexing position' (green dot +). This will insert the Index Pin's shaft into one of the Spindle Pulley's holes, locking the spindle in place.
- To unlock and free the spindle, reverse the process.

The Pointer (FIG. 21, #B1) lets you select a specific, numbered index hole when creating patterns on your work. See page 17 for an index chart for 9 different spindle settings.

⚠ WARNING NEVER START THE LATHE WITH THE INDEX PIN ENGAGED IN THE SPINDLE, OR DAMAGE TO THE MACHINE WILL RESULT.

⚠ WARNING NEVER USE THE INDEX PIN TO HOLD THE SPINDLE TO REMOVE ACCESSORIES FROM THE LATHE, OR DAMAGE TO THE PIN OR THE SPINDLE PULLEY WILL RESULT.

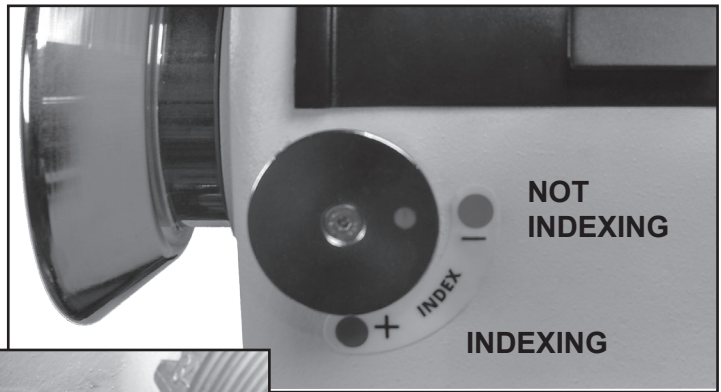


FIG. 20

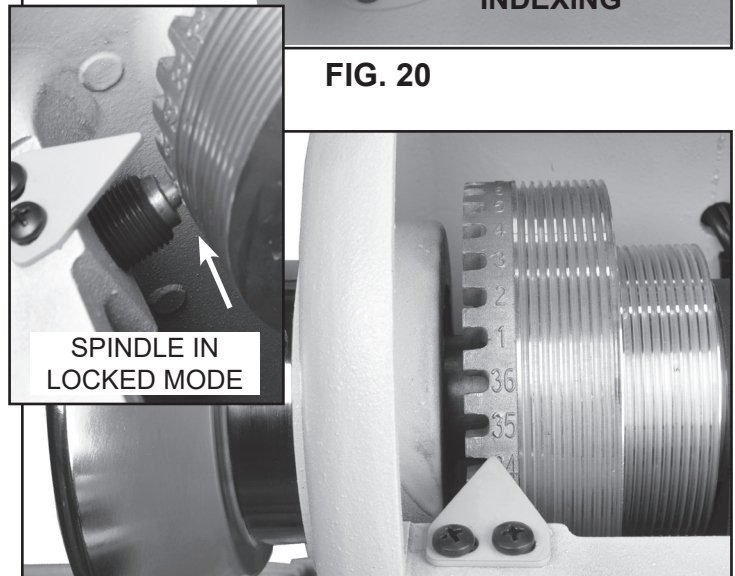


FIG. 21

THE UPPER SLIDING and LOWER BEDS

See page 13 & 14 for instructions on operating the electronic controls for moving the upper motorized sliding bed.

The unique Sliding Bed feature of RIKON's #70-3040 lathe expands the working capacities of the lathe with a twist of a dial. Spindle turning between centers increases from 20" up to 40". Turning diameters/swing increase from 23-7/32" to 31-1/4" for bowl and platter work.

When the upper bed is slid away from the headstock, a 'GAP' in the bed occurs, revealing the lower bed. FIG. 22. For spindle turning, there are 2 options on how to use your tool rests when dealing with this gap.

Option 1: Included with the lathe is the Tool Rest Height Extension (K, #A12, #70-959). When the tool rest base is moved down onto the lower bed, install the tool rest height extension to raise the base 4" for holding your tool rest at the proper level for turning. Figure 23.

NOTE: The Tool Rest Base Assembly #70-958 is sold separately (see page 31) so #70-3040 lathe owners can use 2 tool rest bases on long turnings. This eliminates moving the single tool rest base between the upper and lower lathe beds.

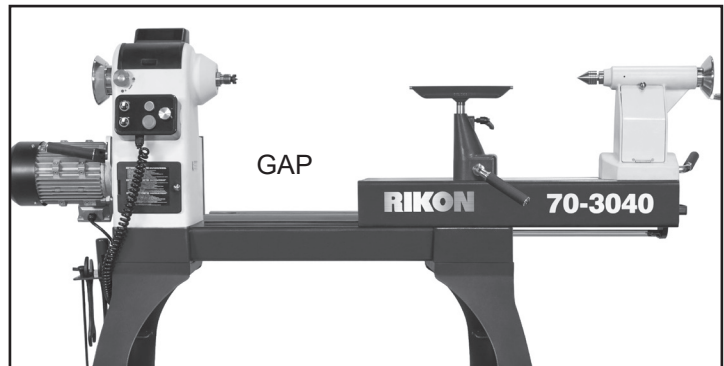


FIG. 22

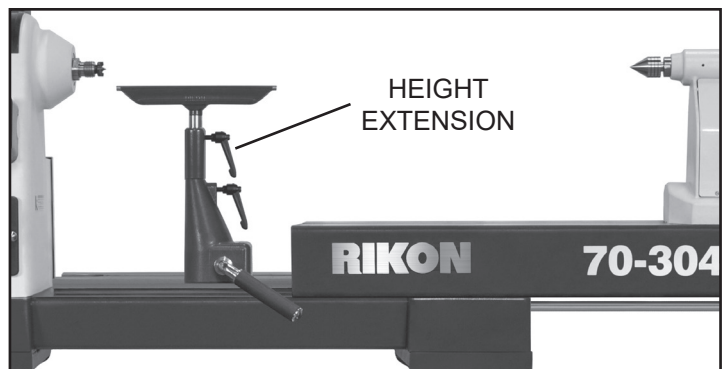


FIG. 23

CONTINUED ON PAGE 15

OPERATION

Option 2: The 'Gap' on the lathe bed (FIG. 22) can be filled with RIKON's Gap Bed Insert accessory (FIG. 24). This short, duplication of the lathe's upper lathe bed installs over the exposed lower bed and continues the upper bed track at the same height as the sliding bed. This means that your tool rest base can be now positioned anywhere on the lathe for turning, sliding from end-to-end, between center-to-center. A second tool rest base is not needed.

NOTE: The Gap Bed Insert #70-907 is sold separately. See page 30.

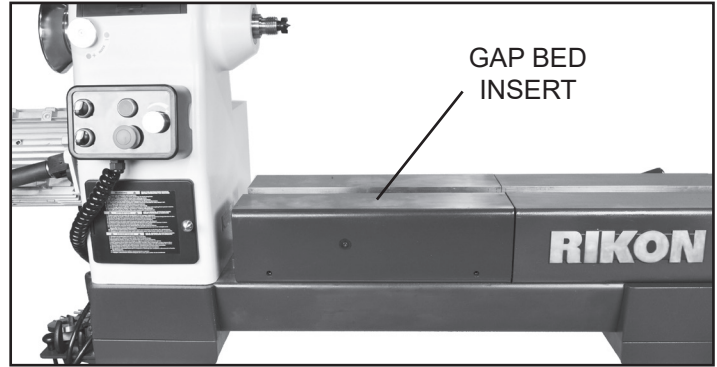


FIG. 24

THE SLIDING BED MOTOR ASSEMBLY

As instructed on page 13, the sliding bed's position on the lathe is set with a selector switch on the lathe's control box. This switch activates the lathe's second DC 24V motor and screw drive that is located under the sliding bed. Figure 25.

⚠ WARNING It is important that the sliding bed's rear locking handle (FIG. 19, page 13, #C4) is released before the bed is moved, or excess stress to the DC motor assembly and electrical circuitry will result. Once the sliding bed is positioned where you want it for turning, secure the rear locking handle to prevent the bed from moving during work.

If the sliding bed's DC motor assembly ever fails, it can be disconnected from the lathe. Simply disconnect the electrical wires at the Molex® connector, and remove the 2 cotter pins that hold the assembly ends in place under the sliding bed's frame. FIG. 25 & 26. The DC motor assembly can then be removed from the lathe for replacement or repair.

Reverse the process to install the new/repaired DC motor assembly.

NOTE: With the DC Motor Assembly off of the lathe, the sliding bed can be moved manually. The Sliding Bed Handle (#C9), FIG. 27, can now be used to pull/extend the sliding bed away from the headstock. Just push the end of the sliding bed to move it back towards the headstock. Make sure that the sliding bed's locking handle is released before moving the bed, and secured once the bed is positioned.

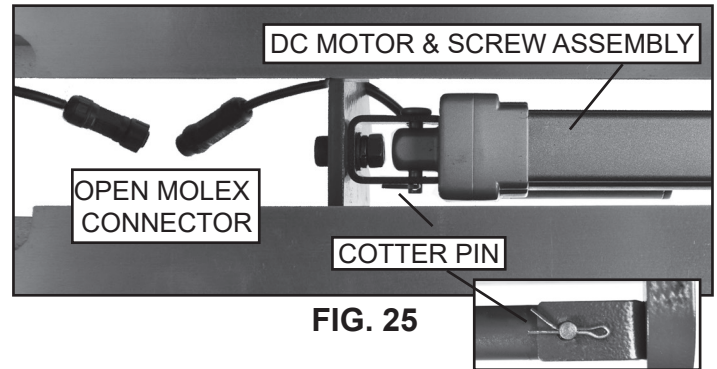


FIG. 25

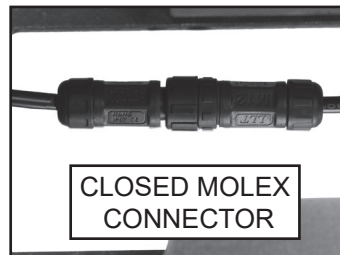


FIG. 26



FIG. 27

Remember, the end handle is to be used ONLY when the DC motor assembly is disconnected from the sliding bed to move the sliding bed manually. It is not designed for lifting.

ADJUSTMENTS

ALIGNING SPINDLE CENTERS

The alignment of the headstock spur center and the tailstock live center are set at the factory, but, this should be checked once the lathe is assembled and ready for use.

1. Slide the tailstock towards the headstock until the center point of the live center almost touches the headstock's spur center. Figure 28.
2. Check the alignment of the center points by viewing from the top and side.
3. If the centers do not align, slightly loosen the 4 bolts that secure the headstock to the bed. Carefully nudge the headstock to align the centers. Then fasten the 4 bolts to secure the headstock in place.



FIG. 28

ADJUSTMENTS

CHANGING SPEEDS

To change between the 3 speed ranges, Figure 32, the position of the drive belt on the motor and spindle pulleys must be changed. To do this:

1. Unplug the lathe from the power source.
2. Open the 2 Belt Doors to gain access to the belt and pulleys that are inside of the headstock. FIG. 29, A & B.
3. Pull the Belt Tensioning Handle (#B52) forward, away from the motor. Figure 30.
4. Push the Tensioning Handle down to loosen the tension on the Poly-V-Belt (#B56). FIG. 31. The belt can now be positioned on the pulleys for the desired speed range. FIG. 32 shows the belt positions for the three speed ranges.

NOTE: The 'High' speed range #3 (100-3,850 RPM) provides maximum speed. The 'Low' speed range #1 (20-650 RPM) will provide maximum torque.

4. With the Poly-V-Belt positioned on the pulleys, raise the tensioning handle so that the weight of the motor provides the needed tension on the belt. Then secure the tensioning handle in place by pushing the handle back towards the motor. Figure 30.

5. Close the two front Belt Doors on the headstock to protect the belt, pulleys and internal working from dust.

6. Plug the lathe back into the power source.

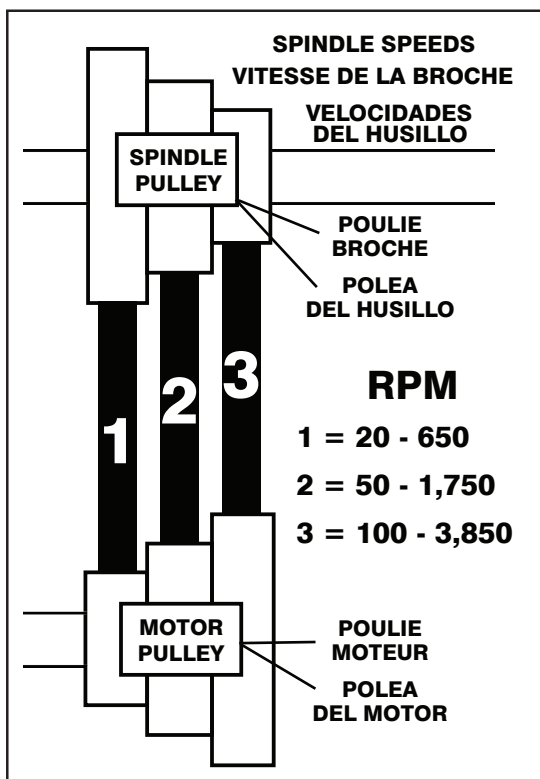


FIG. 32

⚠ WARNING THE MACHINE MUST NOT BE PLUGGED IN AND THE POWER SWITCH MUST BE IN THE OFF POSITION UNTIL ALL ADJUSTMENTS ARE COMPLETE.

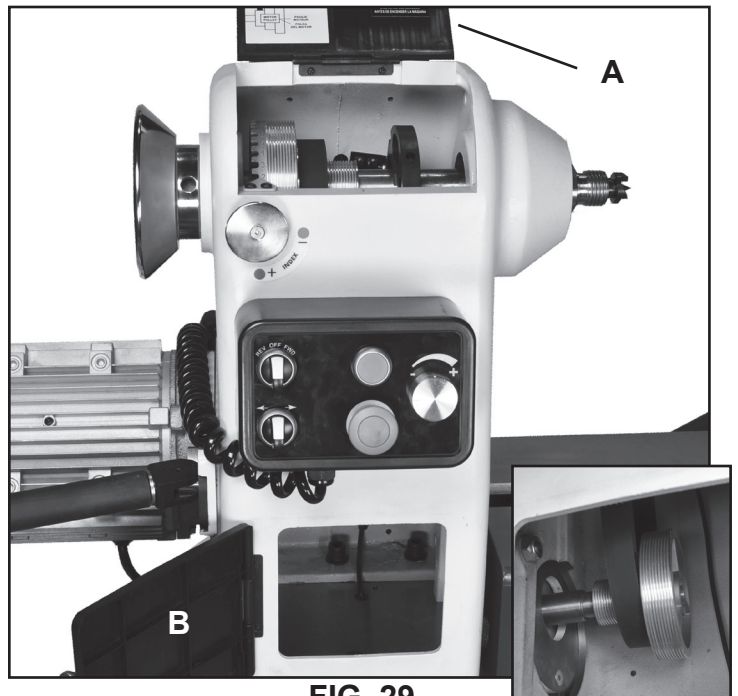


FIG. 29

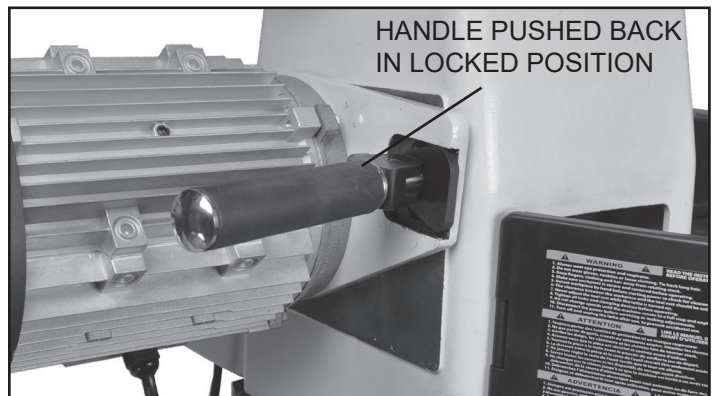


FIG. 30

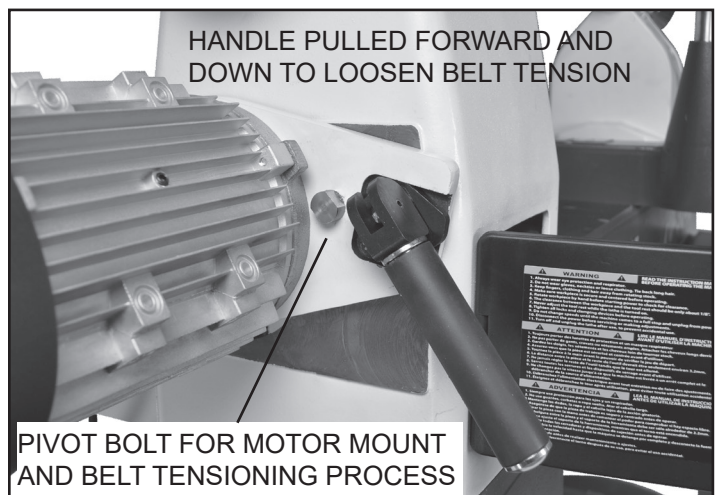


FIG. 31

ADJUSTMENTS

SPINDLE INDEXING ADJUSTMENTS

The Headstock Spindle has 36 indexing holes, each 10° apart, which allows accurate pattern work on projects such as straight fluting, grooving, drilling, detail carving, wood burning patterns, laying out designs and more.

The Indexing Chart, FIG. 33, shows how to rotate the spindle to access any of the 36 indexing holes. The 9 primary settings are listed below, however, other indexing/design settings are possible. Vary the index combinations to make non-equal, spaced patterns (EX: 10° & 20° series (1,2,4,5,7,8,10,11,13 etc.)). Also, by rotating/repositioning your work while it is being held between centers, in a chuck or on a faceplate, new orientation points for the index holes will be set for your work.

To Use: Insert the Indexing Pin into one of the 36 spindle's positioning holes according to the chart, and the number of setting you need for your workpiece. Make sure that the pin locates and securely enters into one of the indexing holes so that there is no accidental slipping. See page 14.

With the Indexing Pin in the first spindle hole setting, do your work (drilling /marking/etc.), then rotate the spindle to the next index setting noted on the chart. Work through all of the designated index setting numbered positions and complete the remaining markings, or work, on your workpiece.

See page 14 for additional information on the lathe's headstock and indexing.

⚠ WARNING NEVER USE THE INDEX PIN TO HOLD THE SPINDLE TO REMOVE ACCESSORIES FROM THE LATHE, OR DAMAGE TO THE PIN OR THE SPINDLE PULLEY WILL RESULT.

ADJUSTING THE LOCKING HANDLES

The locking handles on the Tool Rest Base and Tailstock are pre-set at the factory to give ample holding pressure against the lathe bed to keep these lathe assemblies positioned, so that they will not move during use.

If adjustments are needed, the clamping pressure can be changed by turning the large Hex Nuts (#A6, D15) that are located under the lathe bed and below the assemblies. This can be done with an 19mm (3/4") or adjustable wrench (not included). See Figure 34, A.

1. Loosen the locking Handle, B, (#A3, D12)) so that there is no clamping pressure being exerted on the lathe assembly.
2. With the wrench, slightly turn the Hex Nut to loosen or tighten it on its threaded Drawbar Bolt (#A9, D17).
3. Test the clamping pressure with the locking handle, and adjust the nut again, if needed, to set the right pressure.

⚠ WARNING NEVER START THE LATHE WITH THE INDEX PIN ENGAGED IN THE SPINDLE, OR DAMAGE TO THE MACHINE WILL RESULT.

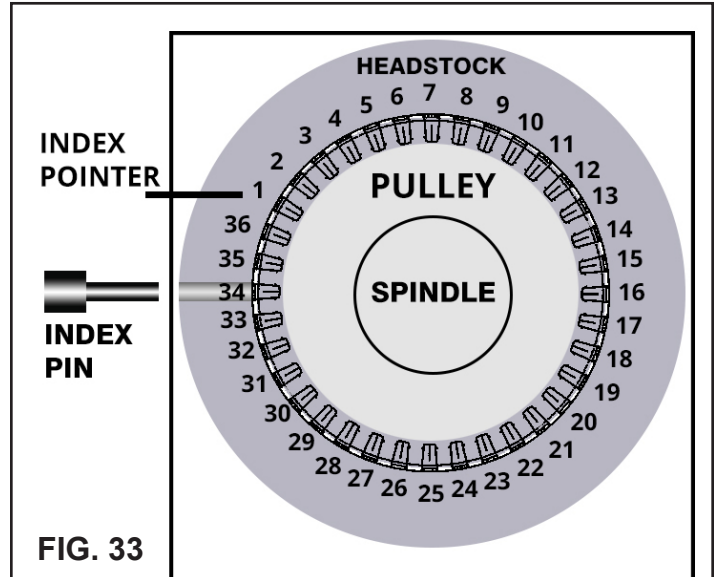


FIG. 33

NUMBER OF INDEX POSITIONS	ANGLE BETWEEN POSITIONS	SPINDLE INDEX NUMBER
1	360°	ANY SINGLE HOLE
2	180°	1, 19
3	120°	1, 13, 25
4	90°	1, 10, 19, 28
6	60°	1, 7, 13, 19, 25, 31
9	40°	1, 5, 9, 13, 17, 21, 25, 29, 33
12	30°	1, 4, 7, 10, 13, 16, 19, 22, 25, 28, 31, 34
18	20°	1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35
36	10°	EVERY HOLE 1 to 36

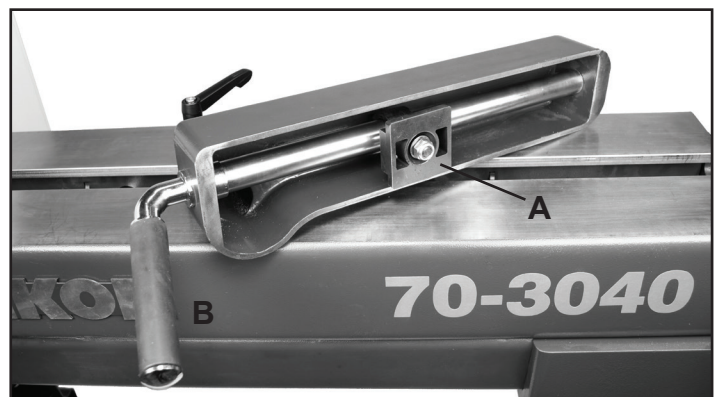


FIG. 34

ADJUSTMENTS

CHANGING THE BELT

Changing the belt requires that the headstock spindle be removed, or half removed, from the headstock casting. Then the new belt can be slipped over the spindle and down inside of the headstock to the motor pulley.

1. Unplug the lathe from the power source and remove any installed spur center or faceplate from the spindle.
2. Open the 2 Belt Doors to gain access to the belt and pulleys that are inside of the headstock. Figure 35, A & B.
3. Pull the Belt Tensioning Handle (#B52) forward, away from the motor. FIG. 36. (See Page 16, Figure 30 & 31).
4. Push the Tensioning Handle down to loosen the tension on the Poly-V-Belt (#B56), and then secure the handle in place by pushing the handle back towards the motor. The belt can now be moved off of the 2 pulleys. **NOTE:** If the belt is not to be saved, the old belt can be cut off at this time.
5. Unscrew the Spindle Lock Nut (#B7) clockwise with the supplied 10mm Hex Wrench, while holding the spindle steady at the opposite end with the large 38mm Wrench. Figure 37.
6. Unscrew the Spindle Hand Wheel (#B8) counterclockwise from the spindle.
7. Unscrew the large Locking Nut (#B9) counterclockwise from the spindle with the large 46mm Wrench. Figure 38.
8. Unscrew / Loosen the Set Screws (#B6) that attach the Spindle Pulley (#B2) to the spindle. Screws are on the middle step of the pulley. **NOTE:** There are 2 sets screws in each hole, one stacked upon the other. Remove the top set screw then loosen the bottom set screw. Figure 39, A.
9. Unscrew the Set Screws (#B20) that attach the Plastic RPM Reader Disc (#B18) to the spindle. Figure 39, B.

The spindle can now be removed, or half removed, from the headstock in order to install the new belt.

10. Place a block of wood against the left spindle end and strike it with a mallet/hammer to move the spindle towards the tailstock. The wood will prevent any damage when the spindle is hit. Once there is enough space, the old drive belt can be removed around the spindle end, and replaced with the new belt. Figure 40.

11. Reposition the Spindle. Place a block of wood against the right spindle end and strike it with a mallet to move the spindle left, away from the tailstock and back into operating position. Also carefully tap the bearings back into position if they happen to move during this process.

12. Reassemble the lathe parts by also reversing the procedure described in steps 1 - 9 above.



FIG. 35

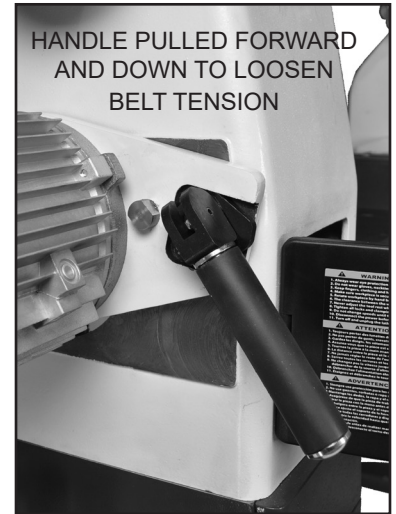


FIG. 36



FIG. 37



FIG. 38

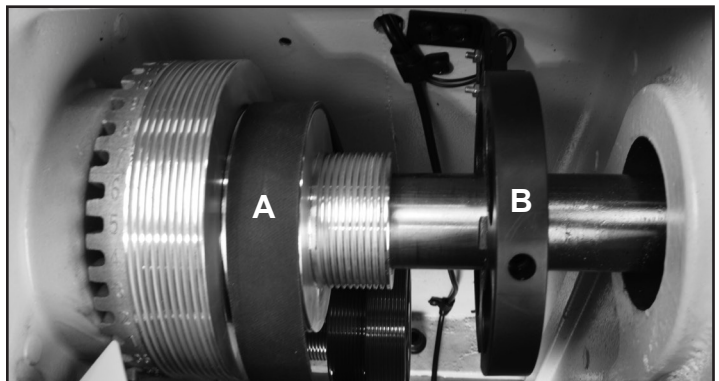


FIG. 39

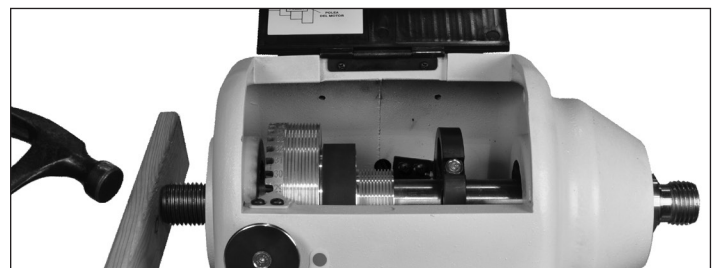


FIG. 40

ADJUSTMENTS

CHANGING THE SPINDLE BEARINGS

NOTE: CHANGING THE SPINDLE BEARINGS follows the same spindle removal process as described on page 18 for 'CHANGING THE BELT'.

1. Unplug the lathe from the power source, and remove any installed spur center or faceplate from the spindle.
2. Follow the steps 2-9 on page 18 for 'Changing the Belt'.
3. Once the Spindle Pulley and Plastic RPM Reader Disc set screws are loose, place a block of wood against the left spindle end and strike it with a mallet/hammer to move the spindle towards the tailstock. The wood will prevent any damage when the spindle is hit. Carefully knock out the spindle.
4. Carefully remove the bearings from the spindle and/or headstock casting by tapping them loose. Bearings on the spindle can be removed with a gear pulley, if available.

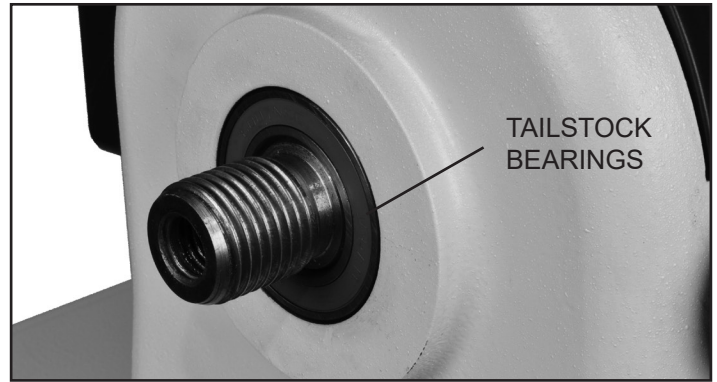


FIG. 41

5. Replace the four Bearings (#B25) on the spindle or in the headstock casting as applicable.
6. Reassemble the lathe parts by reversing the procedure described in steps 3 - 1 above, and 9-1 on page 18.



WARNING THE MACHINE MUST NOT BE PLUGGED IN AND THE POWER SWITCH MUST BE IN THE OFF POSITION UNTIL ALL ADJUSTMENTS ARE COMPLETE.

MAINTENANCE

WARNING: Turn the power switch "OFF" and disconnect the plug from the outlet prior to adjusting or maintaining the machine. DO NOT attempt to repair or maintain the electrical components of the motor. Contact a qualified service technician for this type of maintenance.

1. Before each use:
 - Review the Safety Instructions listed on pages 3 to 6.
 - Check the power cord and plug for any wear or damage.
 - Check for any loose screws, hardware, locking handles, jigs or various lathe accessories.
 - Check the area to make sure it is clear of any misplaced tools, lumber, cleaning supplies, etc. that could hamper the safe operation of the machine.
2. Avoid a build-up of wood shavings and dust. Regularly clean all parts of the machine using a soft cloth, brush or compressed air. A general cleaning should be done after every use to avoid future problems and ensure that the machine is in ready condition for its next use.

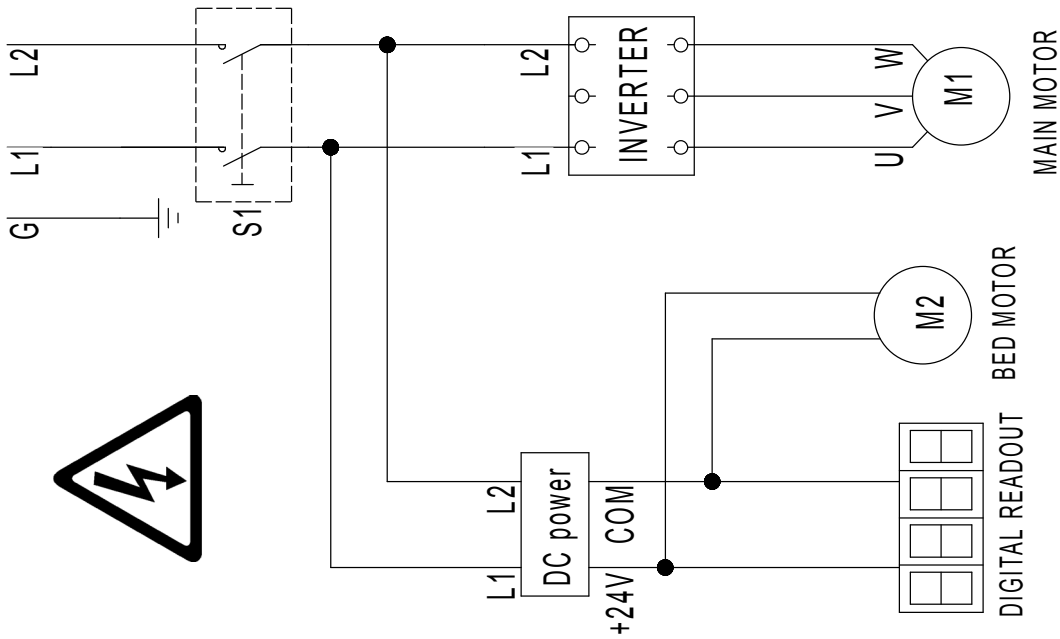
WARNING: If blowing sawdust, wear proper eye protection to prevent debris from blowing into eyes.

3. Keep the lathe beds free of resin and rust. Clean them regularly with a non-flammable solvent, then coat with a light film of dry lubricant spray, or wax, to enhance passage of the tool rest base, tailstock and upper sliding bed on/over the lathe bed.

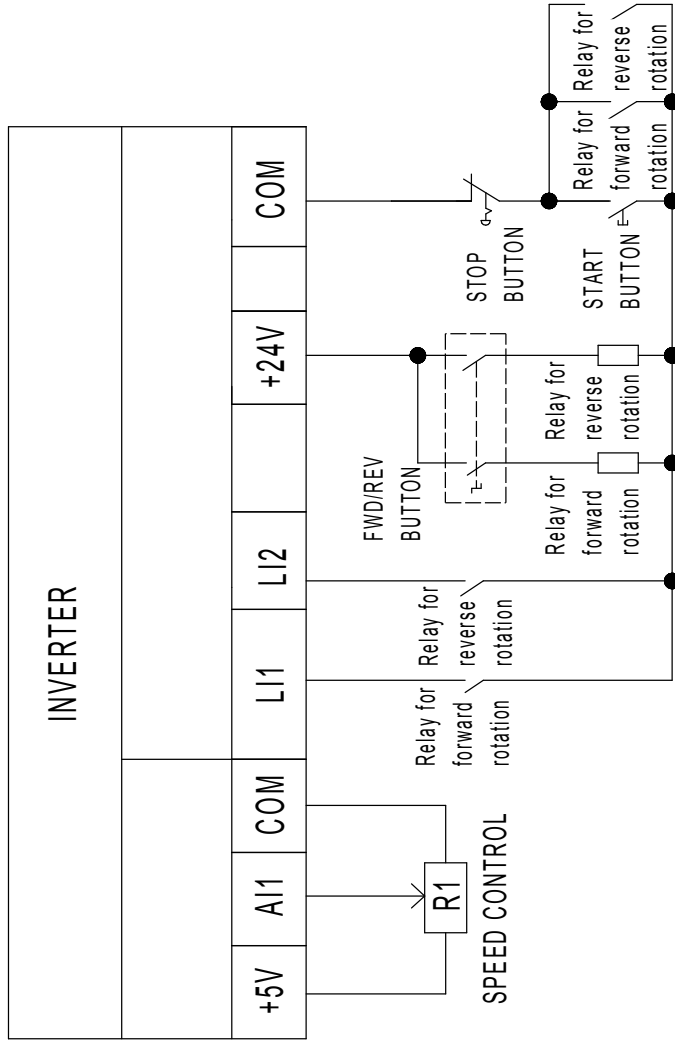
4. Keep the lathe tools sharp and make sure the steel is not loose in the handle so that no accidents might occur. Making sure that they are in proper operating condition will ensure that the quality of your turning will be the best possible.
5. Check all lathe accessories (spur centers, live centers, chucks, tool rests, etc) to ensure that they are in perfect working condition.
6. The lathe's ball bearings are lifetime lubricated, sealed, and do not need any further care. To prevent slipping, keep the drive belt free of oil and grease.
7. Position the upper sliding bed against the headstock if the lathe is not to be used for an extended time. This will help protect the lathe from accidents if left in its extended position, and reduce pressure on the upper bed supports.
8. When not in use, make sure that the #70-3040's Main ON/OFF Switch that is located on the lathe's inverter box is turned off. This will prevent any damage to the lathe's electrical system and prevent any unauthorized use. See page 13 for details.



This machine must be grounded. Replacement of the power supply cable should only be done by a qualified electrician. See page 5 for additional electrical information.



70-3040 Wiring Diagram



Sample of 220 volt plug required for this machine.



This tool is intended for use on a circuit that has a 220 volt electrical receptacle. The illustration shows the type of the 220v, 3-wire electrical plug and electrical receptacle that has a grounding conductor that is required.

NEMA 6-20P

Consult a qualified electrician if the distance of the machine from the electrical panel is greater than 30 feet.

NOTE: The AC Inverter Control Box (Page 13, Figure 16, #B23) that is located on the rear of the headstock does not require any programming. It is pre-programmed from the factory. The buttons and knob on the face of inverter should not be changed. Only use the 5 electronic controls on the front of headstock (Figure 17) to operate the lathe.

TROUBLESHOOTING

PROBLEM	PROBABLE CAUSE	REMEDY
Motor will not start	<ol style="list-style-type: none"> 1. Machine is not plugged in 2. Main on/off switch is in 'off' position 3. Low voltage or loose connection 	<ol style="list-style-type: none"> 1. Plug in machine 2. Turn main on/off switch to 'on' 3. Check plug, connections and fuse
Motor fails to develop full power.	<ol style="list-style-type: none"> 1. Power line is overloaded 2. Undersize wires in supply system 3. Low voltage 4. Worn motor 	<ol style="list-style-type: none"> 1. Correct the overload condition 2. Increase supply wire size or eliminate extension cord if one is used 3. Request voltage check from power company and correct low voltage condition 4. Replace the motor
Motor or Spindle Stalls or will not start	<ol style="list-style-type: none"> 1. Excessive depth of cut 2. Loose or broken belt 3. Worn spindle bearings 4. Improper cooling of motor 5. Worn motor 	<ol style="list-style-type: none"> 1. Reduce cutting depth 2. Check tension or replace drive belt 3. Replace bearings 4. Clean motor to increase air flow, or reduce motor running time 5. Replace Motor
Excessive Vibration.	<ol style="list-style-type: none"> 1. Workpiece is warped, out of round, has major flaw, or was improperly prepared or centered for turning 2. Lathe is on an uneven surface 3. Motor mount bolt or handles are loose 4. Worn belt 5. Worn spindle bearings 	<ol style="list-style-type: none"> 1. Correct problem by planing, band sawing, or discard the workpiece 2. Shim the lathe stand, or adjust the feet on the stand for stability 3. Tighten all bolts or handles 4. Replace the belt 5. Replace the bearings
Tailstock Moves when applying pressure	<ol style="list-style-type: none"> 1. Tailstock is not secured in place 2. Excessive pressure being applied by the tailstock onto the workpiece 3. Lathe bed and tailstock mating surfaces are greasy or oily. 	<ol style="list-style-type: none"> 1. Tighten tailstock locking lever 2. Apply only sufficient force with the tailstock to hold the workpiece securely between centers. 3. Remove tailstock and clean bed surfaces with a cleaner de greaser
Tailstock Handwheel is hard to turn	<ol style="list-style-type: none"> 1. Tailstock quill's locking lever is still tight 2. Build up of dirt, resin on inside quill thread 	<ol style="list-style-type: none"> 1. Loosen tailstock quill's locking lever 2. Remove quill, clean all parts, oil and grease parts, then re-assemble
Tailstock or Tool Rest Base do not lock in place	<ol style="list-style-type: none"> 1. Incorrect adjustment on locking lever mechanism 	<ol style="list-style-type: none"> 1. Adjust the nut under the clamping plate to increase (or decrease) the clamping pressure of the lock levers
Spur or Live Centers slip when turning	<ol style="list-style-type: none"> 1. MT2 tapers are damaged, or have buildup of dirt or excessive grease 2. Insufficient pressure when loading 	<ol style="list-style-type: none"> 1. File or polish away any damage and clean tapers, inside and out. 2. Apply light coating of oil on tapers to prevent rusting 3. Install centers with firm hand pressure. Do not knock in with solid object
Spur and Live Centers do not align	<ol style="list-style-type: none"> 1. Headstock is not aligned with tailstock 	<ol style="list-style-type: none"> 1. Loosen bolts securing headstock to the bed, align centers, then re-tighten headstock bolts.

CONTINUED ON PAGE 22

For parts or technical questions contact: techsupport@rikontools.com or 877-884-5167.

TROUBLESHOOTING

CONTINUED FROM PAGE 21

PROBLEM	PROBABLE CAUSE	REMEDY
Digital readout does not work	<ol style="list-style-type: none"> 1. Dust buildup on RPM reader 2. Digital readout sensor out of position 	<ol style="list-style-type: none"> 1. Blow off dust from RPM reader 2. Adjust the sensor with the RPM reader 3. Contact Technical Support at 877-884-5167 or email
Sliding Bed will not move	<ol style="list-style-type: none"> 1. Bed is still locked in place 2. No electrical power 3. Spindle rotation is still working 4. DC motor assembly is disconnected from the sliding bed frame 	<ol style="list-style-type: none"> 1. Release the bed's locking handle 2. Turn main power switch 'on' 3. Stop the spindle rotation then move the sliding bed as needed 4. Replace cotter pins if missing from holding the motor assembly in place.
Magnet Control Box will not stick to lathe frame	<ol style="list-style-type: none"> 1. Control box is positioned on labels 2. Control box is positioned on a curved surface 3. Magnets are loose or are missing 	<ol style="list-style-type: none"> 1. Move controls to alternate location 2. Move control box to flat surface so magnets get full holding power 3. Secure the nuts holding the magnets to the control box back plate
Machine bogs down during cutting	<ol style="list-style-type: none"> 1. Excessive depth of cut is taken 2. Turning tools are dull 3. Drive belt is loose 	<ol style="list-style-type: none"> 1. Decrease the depth of cut 2. Sharpen the turning tools 3. Increase tension of drive belt
Tools tend to grab or dig in.	<ol style="list-style-type: none"> 1. Dull turning tools 2. Tool rest is set too low 3. Tool rest is set too far from the workpiece 4. Improper turning tool is being used 	<ol style="list-style-type: none"> 1. Sharpen the tools 2. Reposition the tool rest height 3. Set the tool rest closer to the workpiece 4. Use the correct tool for operation

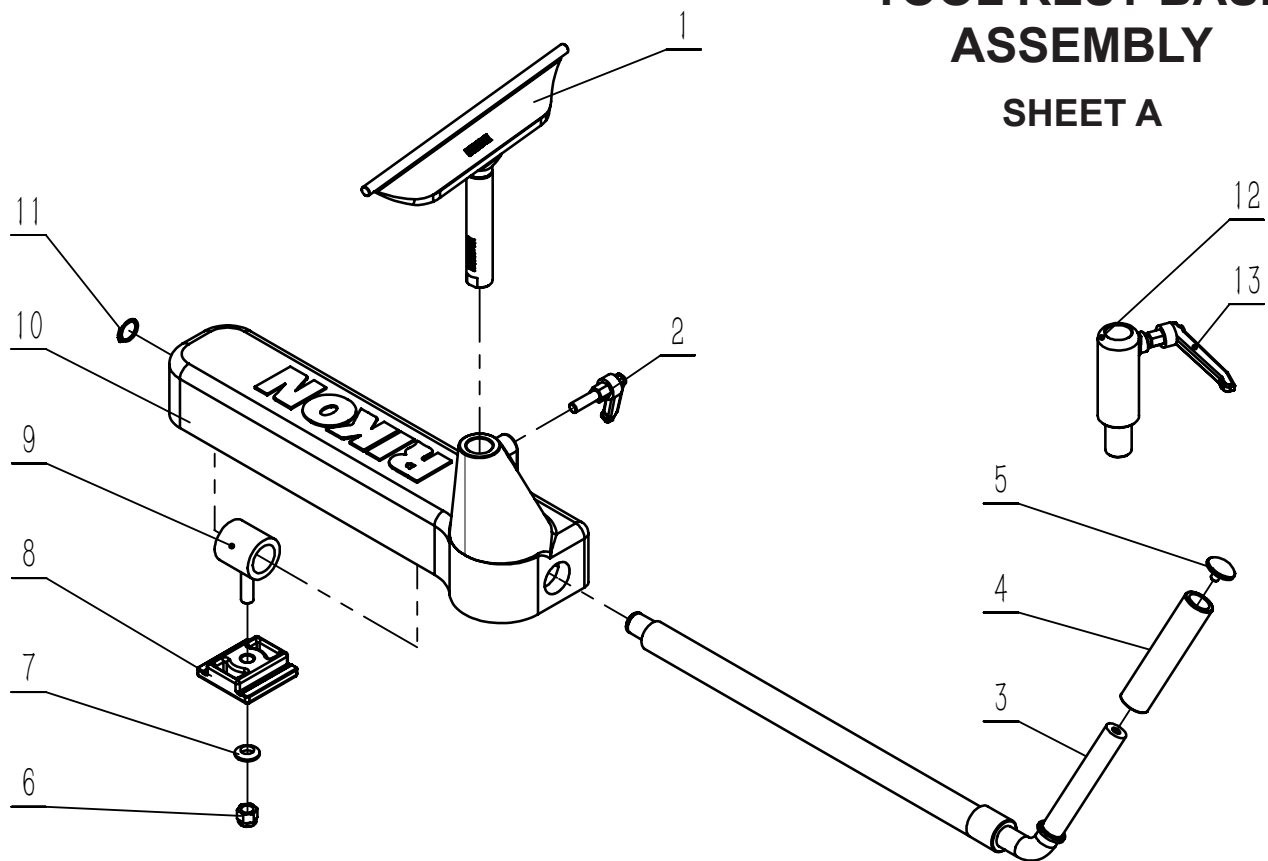
NOTES

Use this section to record maintenance, service and any calls to Technical Support:

PARTS DIAGRAM & PARTS LIST

TOOL REST BASE ASSEMBLY

SHEET A

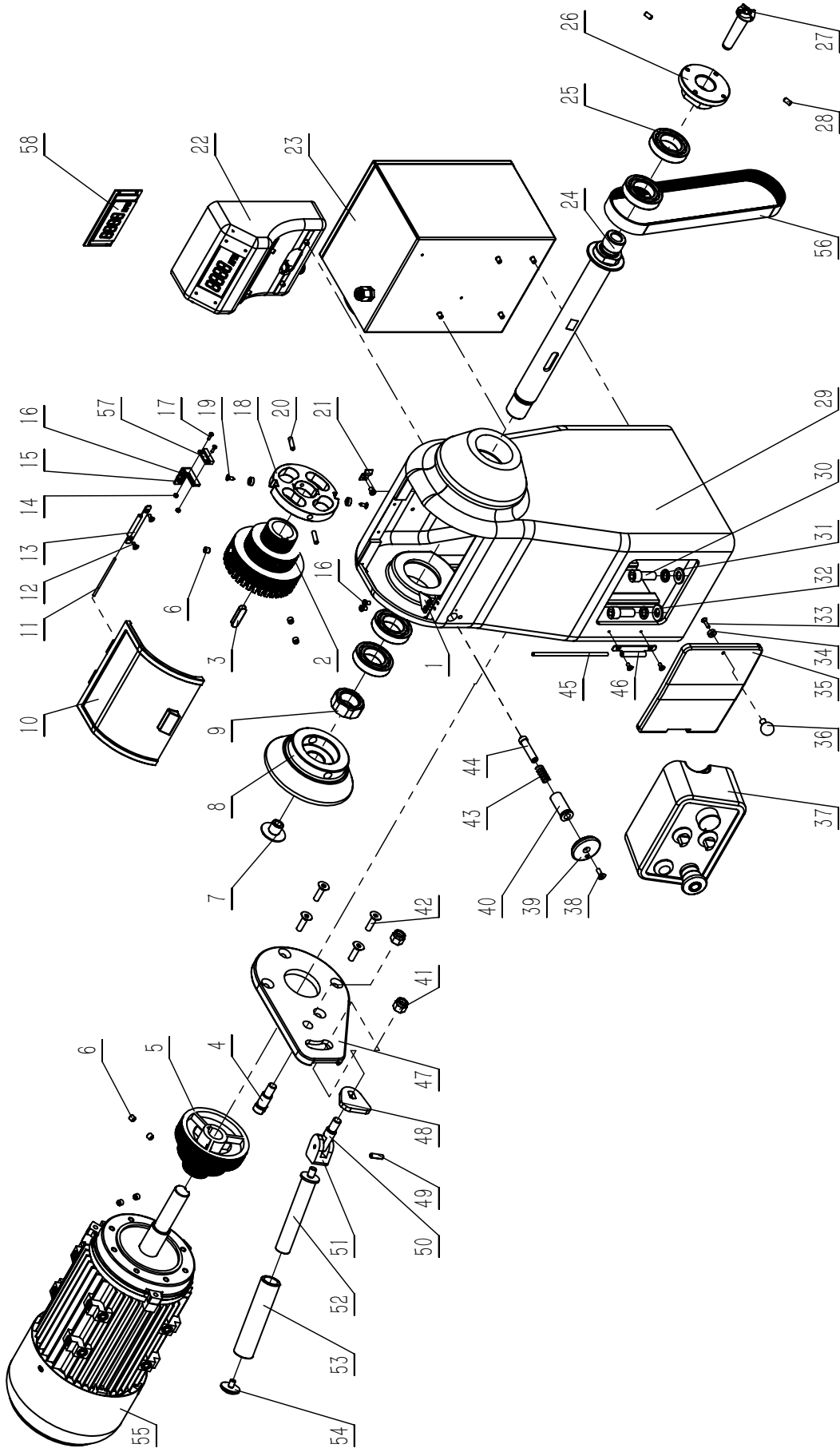


KEY NO.	DESCRIPTION	PART NO.	QUANTITY
1A	12" Tool rest	P70-3040-1A	1
2A	Locking handle	P70-3040-2A	1
3A	Handle	P70-3040-3A	1
4A	Sleeve	P70-3040-4A	1
5A	End cap	P70-3040-5A	1
6A	Hexagon lock nut M12	P70-3040-6A	1
7A	Washer 12	P70-3040-7A	1
8A	Position plate	P70-3040-8A	1
9A	Drawbar	P70-3040-9A	1
10A	Tool rest base	P70-3040-10A	1
11A	Retaining ring	P70-3040-11A	1
12A	Tool Rest Height Extension	P70-3040-12A	1
13A	Handle	P70-3040-13A	1

NOTE: Please reference the Manufacturer's Part Number when calling for Replacement Parts.
For Parts under Warranty, the Serial Number of your machine is required.

HEADSTOCK ASSEMBLY - SHEET B

PARTS DIAGRAM



NOTE: Please reference the Manufacturer's Part Number when calling for Replacement Parts.
For Parts under Warranty, the Serial Number of your machine is required.

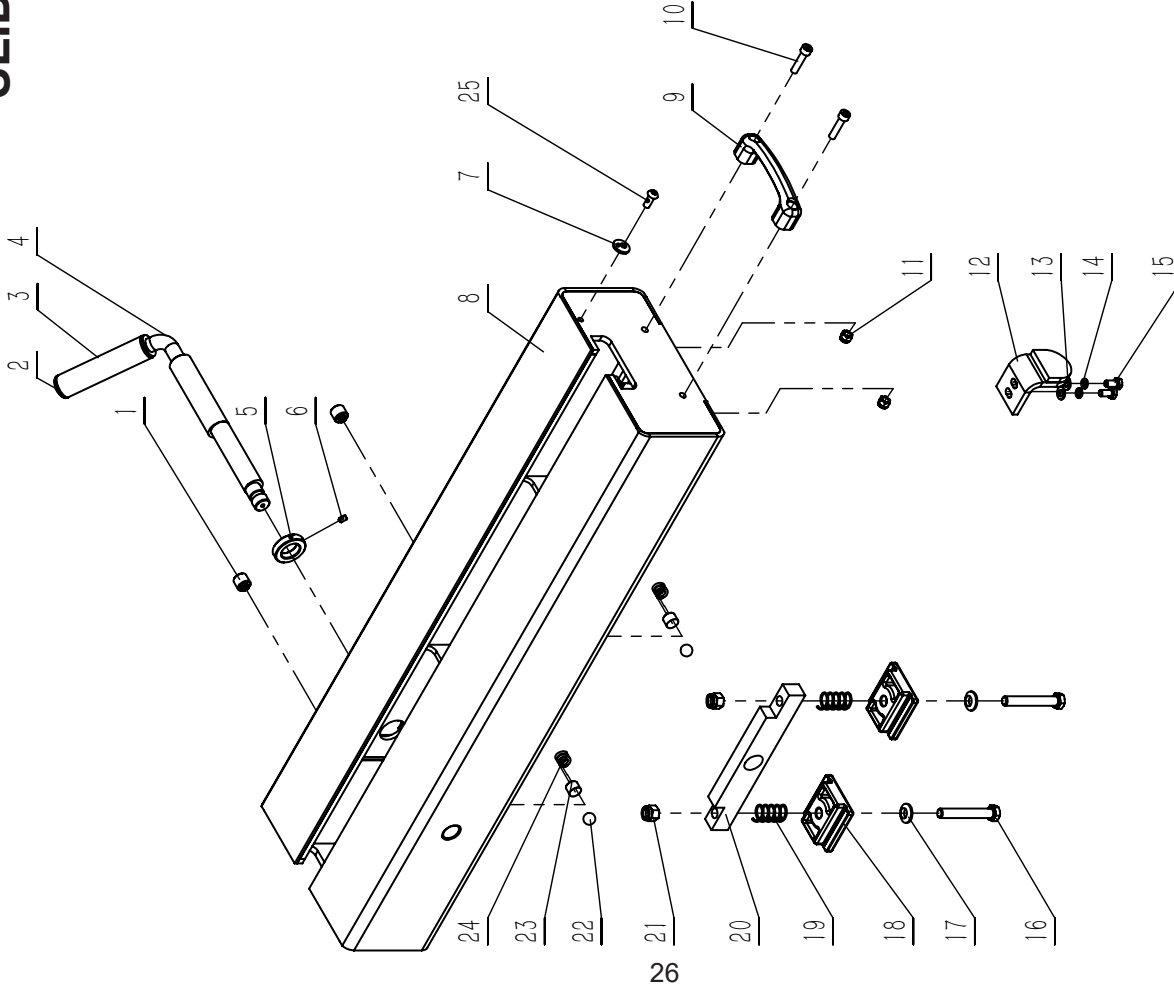
PARTS LIST

HEADSTOCK ASSEMBLY - SHEET B

KEY NO.	DESCRIPTION	PART NO.	QTY.	KEY NO.	DESCRIPTION	PART NO.	QTY.
1B	Pointer	P70-3040-1B	1	30B	Hex socket cap screw M12x30	P70-3040-30B	6
2B	Spindle pulley	P70-3040-2B	1	31B	Spring washer 12	P70-3040-31B	6
3B	Flat key (type A)	P70-3040-3B	1	32B	Washer 12	P70-3040-32B	6
4B	Shoulder screw	P70-3040-4B	1	33B	Countersunk head screw M4x16	P70-3040-33B	1
5B	Motor pulley	P70-3040-5B	1	34B	Magnet	P70-3040-34B	3
6B	Hex set screw M8x8	P70-3040-6B	4	35B	Plate	P70-3040-35B	1
7B	Spindle lock nut	P70-3040-7B	1	36B	Small handle	P70-3040-36B	1
8B	Spindle hand wheel	P70-3040-8B	1	37B	Switch box	P70-3040-37B	1
9B	Locking nut	P70-3040-9B	1	38B	Hex screw M5x16	P70-3040-38B	1
10B	Cover	P70-3040-10B	1	39B	Knob	P70-3040-39B	1
11B	Hinge shaft	P70-3040-11B	1	40B	Locating sleeve	P70-3040-40B	1
12B	Countersunk head screw M4x10	P70-3040-12B	4	41B	Hex nut M12	P70-3040-41B	2
13B	Hinge	P70-3040-13B	1	42B	Hex screw M8x30	P70-3040-42B	4
14B	Hex nut M3	P70-3040-14B	2	43B	Spring	P70-3040-43B	1
15B	Mounting plate & RPM reader	P70-3040-15B	1	44B	Locating pin	P70-3040-44B	1
16B	Countersunk head screw M5x8	P70-3040-16B	6	45B	Hinge shaft	P70-3040-45B	1
17B	Countersunk head screw M3x10	P70-3040-17B	2	46B	Hinge	P70-3040-46B	1
18B	Plastic RPM reader disc	P70-3040-18B	1	47B	Motor adjusting plate	P70-3040-47B	1
19B	Self tapping screw ST4D2x13	P70-3040-19B	2	48B	Adjusting cam	P70-3040-48B	1
20B	Set screw M6x25	P70-3040-20B	2	49B	Elastic cylindrical pin	P70-3040-49B	1
21B	Cable clamp	P70-3040-21B	2	50B	Locating shaft	P70-3040-50B	1
22B	Display unit	P70-3040-22B	1	51B	Positioning cam	P70-3040-51B	1
23B	Inverter control box	P70-3040-23B	1	52B	Handle	P70-3040-52B	1
24B	Spindle	P70-3040-24B	1	53B	Sleeve	P70-3040-53B	1
25B	Bearing 6007	P70-3040-25B	4	54B	End cap	P70-3040-54B	1
26B	Face plate 3-3/8" (82mm)	70-934	1	55B	Motor	P70-3040-55B	1
27B	Spur center	70-943	1	56B	Poly-v-belt	P70-3040-56B	1
28B	Set screw M6x12	P70-3040-28B	2	57B	Speed measuring head	70-987	1
29B	Headstock	P70-3040-29B	1	58B	RPM reader	P70-3040-58B	1

SLIDING LATHE BED ASSEMBLY - SHEET C

PARTS DIAGRAM & PARTS LIST

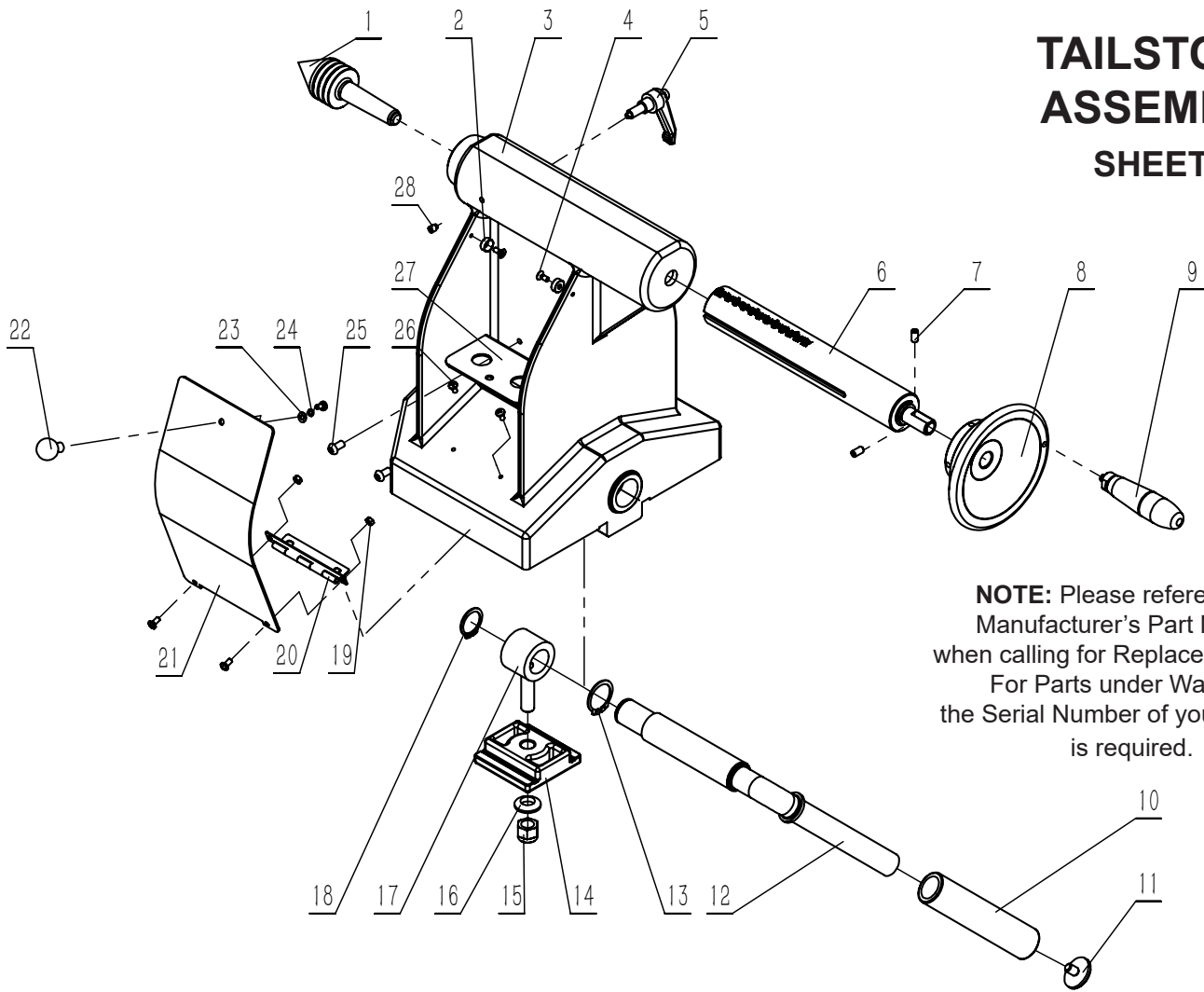


KEY NO.	DESCRIPTION	PART NO.	QTY.
1C	Compression spring screw	P70-3040-1C	2
2C	End cap	P70-3040-2C	1
3C	Sleeve	P70-3040-3C	1
4C	Handle	P70-3040-4C	1
5C	Locking sleeve	P70-3040-5C	1
6C	Set screw M6x10	P70-3040-6C	1
7C	Eccentric washer	P70-3040-7C	1
8C	Upper sliding bed	P70-3040-8C	1
9C	Handle	P70-3040-9C	1
10C	Hex socket cap screw M8x35	P70-3040-10C	2
11C	Hexagon lock nut M8	P70-3040-11C	2
12C	Junction plate	P70-3040-12C	1
13C	Washer 8	P70-3040-13C	2
14C	Spring washer 8	P70-3040-14C	2
15C	Hex bolt (full thread) M8x16	P70-3040-15C	2
16C	Hex bolt (full thread) M12x80	P70-3040-16C	2
17C	Washer 12	P70-3040-17C	2
18C	Clamping plate	P70-3040-18C	2
19C	Spring	P70-3040-19C	2
20C	Locking block	P70-3040-20C	1
21C	Hexagon lock nut M12	P70-3040-21C	2
22C	Steel ball (15mm)	P70-3040-22C	2
23C	Copper billet	P70-3040-23C	2
24C	Spring	P70-3040-24C	2
25C	Screw M8x12	P70-3040-25C	1

NOTE: Please reference the Manufacturer's Part Number when calling for Replacement Parts.
For Parts under Warranty, the Serial Number of your machine is required.

PARTS DIAGRAM & PARTS LIST

TAILSTOCK ASSEMBLY SHEET D

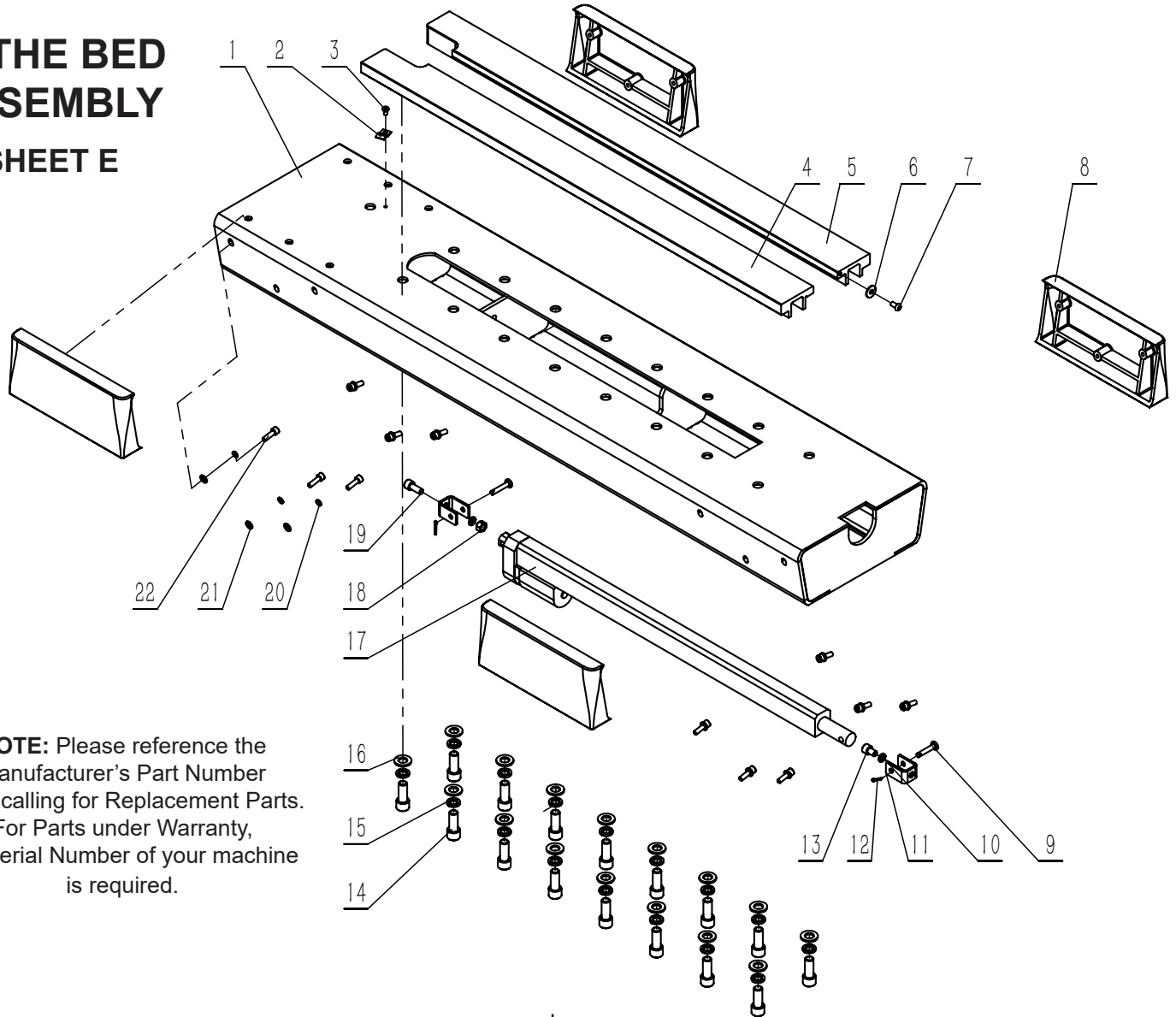


NOTE: Please reference the Manufacturer's Part Number when calling for Replacement Parts. For Parts under Warranty, the Serial Number of your machine is required.

KEY NO.	DESCRIPTION	PART NO.	QTY.	KEY NO.	DESCRIPTION	PART NO.	QTY.
1D	Live center	70-942	1	15D	Hexagon lock nut M12	P70-3040-15D	1
2D	Magnet	P70-3040-2D	2	16D	Washer	P70-3040-16D	1
3D	Tailstock	P70-3040-3D	1	17D	Drawbar	P70-3040-17D	1
4D	Countersunk screw M4x10	P70-3040-4D	2	18D	Retaining ring	P70-3040-18D	1
5D	Handle	P70-3040-5D	1	19D	Hex nut M4	P70-3040-19D	2
6D	Shaft assembly (Quill)	P70-3040-6D	1	20D	Hinge	P70-3040-20D	1
7D	Hex set screw M6x12	P70-3040-7D	2	21D	Cover plate	P70-3040-21D	1
8D	Hand wheel	P70-3040-8D	1	22D	Small handle	P70-3040-22D	1
9D	Handle assembly	P70-3040-9D	1	23D	Washer	P70-3040-23D	1
10D	Sleeve	P70-3040-10D	1	24D	Spring washer	P70-3040-24D	1
11D	End cap	P70-3040-11D	1	25D	Hex screw M6x12	P70-3040-25D	2
12D	Handle	P70-3040-12D	1	26D	Pan head screw M4x8	P70-3040-26D	5
13D	Retaining ring	P70-3040-13D	1	27D	Tool holder	P70-3040-27D	1
14D	Clamping plate	P70-3040-14D	1	28D	Hex set screw M6x8	P70-3040-28D	1

PARTS DIAGRAM & PARTS LIST

LATHE BED ASSEMBLY SHEET E

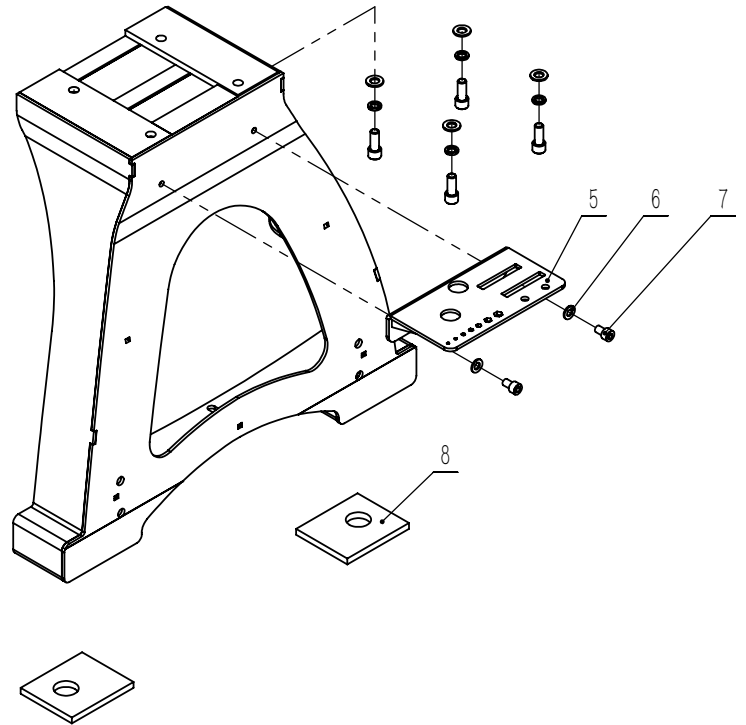
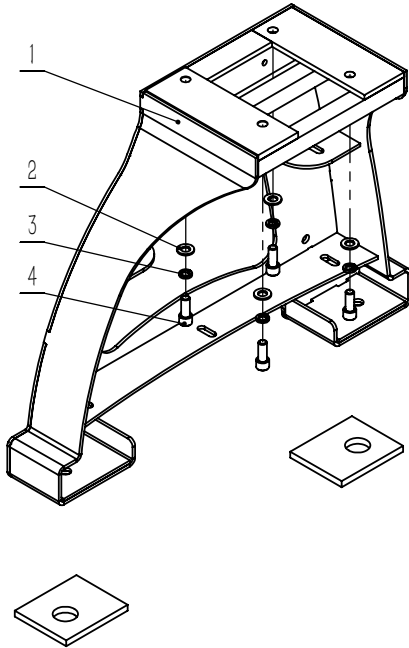


NOTE: Please reference the Manufacturer's Part Number when calling for Replacement Parts. For Parts under Warranty, the Serial Number of your machine is required.

KEY NO.	DESCRIPTION	PART NO.	QTY.	KEY NO.	DESCRIPTION	PART NO.	QTY.
1E	Lower bed	P70-3040-1E	1	12E	Cotter pin	P70-3040-12E	2
2E	Cable clamp	P70-3040-2E	1	13E	Hex screw M8x12	P70-3040-13E	1
3E	Pan head screw M5x8	P70-3040-3E	1	14E	Hex screw M12x30	P70-3040-14E	16
4E	Front rail	P70-3040-4E	1	15E	Spring washer	P70-3040-15E	16
5E	Rear rail	P70-3040-5E	1	16E	Washer	P70-3040-16E	16
6E	Washer	P70-3040-6E	1	17E	Electric cylinder assembly	P70-3040-17E	1
7E	Hex head screw M6x12	P70-3040-7E	1	18E	Hex nut M8	P70-3040-18E	1
8E	Trim cover	P70-3040-8E	4	19E	Hex screw M8x20	P70-3040-19E	1
9E	Clevis pin	P70-3040-9E	2	20E	Spring washer	P70-3040-20E	12
10E	Spring washer	P70-3040-10E	2	21E	Washer	P70-3040-21E	12
11E	Fixed plate	P70-3040-11E	2	22E	Hex screw M6x20	P70-3040-22E	12

PARTS DIAGRAM & PARTS LIST

LATHE BASE ASSEMBLY SHEET F



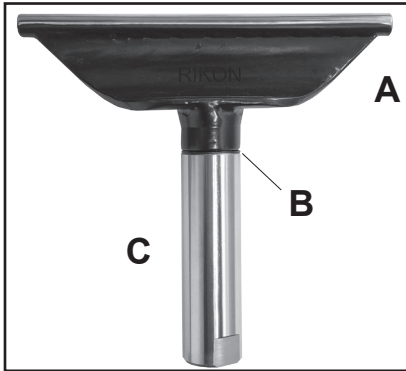
NOTE: Please reference the Manufacturer's Part Number when calling for Replacement Parts. For Parts under Warranty, the Serial Number of your machine is required.

KEY NO.	DESCRIPTION	PART NO.	QTY.
1F	Leg	P70-3040-1F	2
2F	Washer 12	P70-3040-2F	8
3F	Spring washer	P70-3040-3F	8
4F	Hex cap screw M12x35	P70-3040-4F	8
5F	Tool holder	P70-3040-5F	1
6F	Washer	P70-3040-6F	2
7F	Hex cap screw M10x16	P70-3040-7F	2
8F	Rubber pads	P70-3040-8F	4

TOOLS NOT SHOWN OR LISTED ON PREVIOUS PAGES

Hex Wrench - 2.5mm	P-HEX2.5	Wrench - 13mm/16mm	P-WRENCH 13/16mm
Hex Wrench - 3mm	P-HEX3	Wrench - 17mm/19mm	P-WRENCH 17/19mm
Hex Wrench - 4mm	P-HEX4	Wrench - 38mm/46mm	P-WRENCH 38/46mm
Hex Wrench - 5mm	P-HEX5		
Hex Wrench - 6mm	P-HEX6	Knockout Bar x-long	P70-3040-KOBAR
Hex Wrench - 8mm	P-HEX8	Knockout bar small for spur center point	P70-100-104A
Hex Wrench - 10mm	P-HEX10		

ACCESSORIES



RIKON PRO TOOL RESTS

Interchangeable turning Tool Rest Tops and Posts let you mix and match parts to meet the tool rest sizes that you need.

Posts have M12 x1.25 threaded ends that install into the base of the Tool Rest Tops.

The Spring Washer secures the post and top together.

A. PRO Tool Rest Tops only

70-975 4" (102mm) Long

70-976 6" (152mm) Long

70-977 8" (203mm) Long

70-978 12" (305mm) Long

B. Compression Spring Washer only

70-970 1" (25.4mm) diameter

C. PRO Tool Rest Posts only (includes Washer)

70-966 5-1/8" (130mm) Long x 1" (25.4mm) diameter

70-967 3-3/4" (95mm) Long x 1" (25.4mm) diameter

70-969 3-3/8" (85mm) Long x 1" (25.4mm) diameter

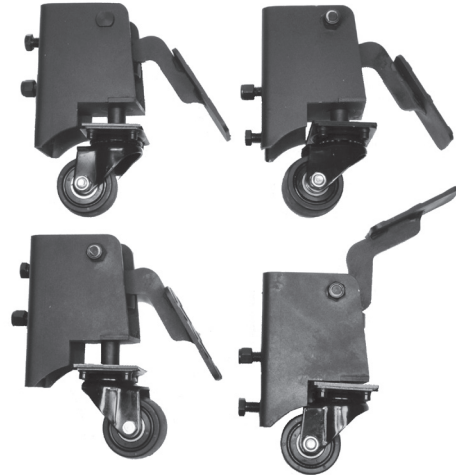
70-968 2-3/4" (70mm) Long x 5/8" (15.9mm) diameter

70-972 ADJUSTABLE FEET - SET OF 4

All-metal feet with 3-1/8" (80mm) swivel base pads. Set includes hardware to install on lathe legs with pre-bored mounting holes.



70-971 RETRACTABLE SWIVEL CASTERS SET OF 4



Includes brackets and hardware to install these 2-1/2" diameter casters on the 70-3040 Lathe legs. Foot activated pedals raise the lathe about 1", so the lathe can be easily moved when needed.

70-960 TOOL REST EXTENSION

Increases the reach of tool rests for turning surfaces not possible with standard tool rests. Has 1" post and hole, with 7-1/2" reach.



70-959 TOOL REST HEIGHT EXTENSION

Raises tool rests 4" higher when working on larger swing capacity lathes. Has 1" post and 1" receiving hole for securing your tool rests with its lever handle.

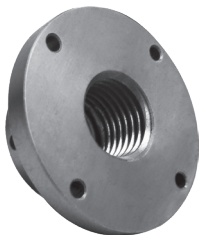


FACE PLATES

Have holes for screw mounting of projects. For lathes with 1-1/4" x 8 TPI spindle threading.

70-934 3-3/8" Diameter

70-937 6" Diameter



30-991 DRILL CHUCK & ARBOR SET

Set includes Keyed Chuck with 1/32" to 5/8" diameter holding capacity. Use on lathes with MT2 spindle holes.



70-907 GAP BED INSERT

This short, duplication of the 70-3040 lathe's upper lathe bed installs over the exposed lower bed and continues the upper bed track at the same height as the sliding bed. This means that your tool rest base can be now positioned anywhere on the lathe for turning, sliding from end-to-end, between center-to-center. A second tool rest base is not needed. See page 15.



ACCESSORIES



70-958 TOOL REST BASE ASSEMBLY

This is the same tool rest base that is supplied with the 70-3040 lathe. For use on the lower bed when the lathe's sliding bed is extended for turning spindles. This second tool rest (with height extender), along with the other supplied base on the sliding bed, permits turning along a full 40" long spindle by switching gouges between the two rests. Includes base assembly only, without tool rest or tool rest height extension. See pages 14 & 23.

70-942 60° LIVE CENTER

Great for centering stock with 1/8" to 1-3/8" pre-drilled end holes for turning. Features sealed double ball bearings for smooth operation, #2 Morse Taper and alloy steel construction.



70-987 DRIVE BELT

Rubber Multi-V drive belt for the 70-3040 lathe.



70-990 NYLON SPINDLE WASHER

Install on 1-1/4" x 8TPI lathe spindles for easier removal of faceplates and chucks. 1-3/8" ID x 1-3/4" OD.



WARRANTY

RIKON

POWER TOOLS®

5-Year Limited Warranty

RIKON Power Tools 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 five (5) 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 five-year warranty does not cover products used for commercial, industrial or educational purposes. The warranty term for these claims will be limited to a two-year period.

This limited warranty does not apply to accessory items such as blades, drill bits, sanding discs, grinding wheels, belts, guide bearings 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 must be provided which has the date of purchase and an explanation of the complaint.

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 register your machine online, visit RIKON at www.rikontools.com/warranty

To take advantage of this warranty, or if you have any questions, please contact us at 877-884-5167 or email warranty@rikontools.com



For more information:
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LINK TO RIKON WEBSITE