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Technical Support and E-Warranty Certificate www.vevor.com/support

LATHE

USER MANUAL

We continue to be committed to provide you tools with competitive price.
"Save Half", "Half Price" or any other similar expressions used by us only represents an estimate of savings you might benefit from buying certain tools with us compared to the major top brands and doses not necessarily mean to cover all categories of tools offered by us. You are kindly reminded to verify carefully when you are placing an order with us if you are actually saving half in comparison with the top major brands.

VEVOR®

TOUGH TOOLS, HALF PRICE

LATHE

MODEL:MX-S716G

NEED HELP? CONTACT US!

Have product questions? Need technical support? Please feel free to contact us:

CustomerService@vevor.com

This is the original instruction, please read all manual instructions carefully before operating. VEVOR reserves a clear interpretation of our user manual. The appearance of the product shall be subject to the product you received. Please forgive us that we won't inform you again if there are any technology or software updates on our product.

Matters needing attention：

The information contained in this handbook is intended as a guide to the operation of these machines and does not form part of any contract. The data it contains has been obtained from the machine manufacturer and from other sources. Whilst every effort has been made to ensure the accuracy of these transcriptions it would be impracticable to verify each and every item. Furthermore, development of the machine may mean that the equipment supplied may differ in detail from the descriptions herein. The responsibility therefore lies with the user to satisfy himself that the equipment or process described is suitable for the purpose intended.

Quality assurance：

We will make every effort to ensure the quality of our products, and we promise to consumers that we will guarantee our products for one year, except for machine damage caused by improper operation of customers, and accidents resulting therefrom, or abnormal wear and damage caused by lack of maintenance.

In order to fulfill the warranty commitment, the product or part with quality problems, please return to us for verification, postage prepaid. Goods sent back should be accompanied by a note of the date of purchase and a written explanation of the quality of the product. After our inspection and confirmation, we will repair or replace their products, or refund the payment; If we fail to provide repair or replacement in a timely manner, we shall bear the costs arising from the repair or replacement of the products; If the damage is not due to the quality of the product, but due to the user's improper operation or other reasons, the cost shall be borne by the customer .

Our company reserves the right to make changes to this specification and product specifications. We will make continuous efforts to improve the quality of our products.

SYMBOL GUIDE

Symbol	Symbol Description
	Warning - To reduce the risk of injury, user must read instructions manual carefully.
	This symbol, placed before a safety comment, indicates a kind of precaution, warning, or danger. Ignoring this warning may lead to an accident. To reduce the risk of injury, fire, or electrocution, please always follow the recommendation shown below.
	**Danger!** Risk of personal injury or environmental damage! Risk of electric shock! Risk of personal injury by electric shock!
	Alternating current
	Beware of clamping
	Warning- Be sure to wear ear protectors when using this product.
	Warning- Be sure to wear eye protectors when using this product.

	Do not put hands into safety guard when machine is working
	To signify that the mains plug must be disconnected from electrical outlet for the purposes of maintenance of electrical equipment, in the case of malfunction or when left unattended
	To signify that safety footwear must be worn
	To signify that protective gloves must be worn
	To signify that head protection must be worn
	This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:(1)This device may not cause harmful interference, and (2)this device must accept any interference received, including interference that may cause undesired operation.
	This product is subject to the provision of European Directive 2012/19/EC. The symbol showing a wheelie bin crossed through indicates that the product requires separate refuse collection in the European Union. This applies to the product and all accessories marked with this symbol. Products marked as such may not be discarded with normal domestic waste, but must be taken to a collection point for recycling electrical and electronic devices

SAFETY INFORMATION

Warning!Read all safety warnings, instructions, illustrations and specifications provided with this machine. Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury.

Save all warnings and instructions for future reference.

Workspace Safety

- Keep the work area clean and well-lit. Cluttered or dark areas invite accidents.
- DO NOT allow individuals unfamiliar with this product to use it. Keep children and bystanders away while using this product.
- Ensure that this machine is anchored on a stable, level, and hefty surface before beginning operation.
- DO NOT operate this device in the presence of any explosive, flammable, or caustic liquids, gases, or dust.

Electrical Safety

- ONLY use this machine with stable compatible power sources.
- ALWAYS make sure the power switch is off before plugging in this device.
- Do not use this device if the power switch does not steadily turn it on or off. Repair or replace the damaged component before further use.
- Avoid body contact with grounded surfaces such as pipes, radiators, ranges, and refrigerators while using this device.
- Do not expose the electrical components to water, including rain or excessive humidity.
- This device MUST be electrically grounded for safe use. DO NOT remove the grounding prong, modify the plug in any way, or use any adapter plugs.
- Keep the power cord away from heat, oil, sharp edges, or moving parts.

Personal Safety

- DO NOT use this device while you are tired or under the influence of drugs, alcohol, or medication.
- Always wear appropriate personal protective equipment, such as a dust mask, a hard hat, goggles, nonskid safety shoes, and earplugs when using this machine.
- DO NOT overreach. Keep proper footing and balance at all times.
- DO NOT wear jewellery or loose clothing and tie back long hair during operation. Keep your clothing, hair, and gloves away from moving parts.
- Remove any adjusting keys or spanners before turning the device on.
- People with pacemakers should consult their physician before using this device. Electromagnetic fields in close proximity to a pacemaker can cause interference and even failure.

Lathe Use and Care

- DO NOT change gears while the machine is in operation.
- DO NOT force this device. Clean and lubricate as needed if parts begin to move slowly.
- Disconnect the power cord plug from the power source before making any adjustments, changing accessories, or storing the device.
- Use only accessories that are recommended by the manufacturer for your model.
- Never leave the device unattended when it is plugged into an electrical outlet.
- Maintain all labels and nameplates on the device. If any come loose or become illegible, replace them before further use.

Maintenance Safety

- Always unplug the mini lathe from its electrical outlet before performing any inspection, maintenance, or cleaning procedures.
- Maintain this product. Check for misalignment or binding of parts, breakage of parts, or any other condition that may affect the device's operation. If damage is detected, have the part repaired or replaced

before further use.

- Maintain tools with care. Keep cutting tools sharp and clean.
- Service for this device must be performed only by qualified repair personnel.
- Store this device and its components out of reach of children and other untrained persons.

SPECIFICATIONS

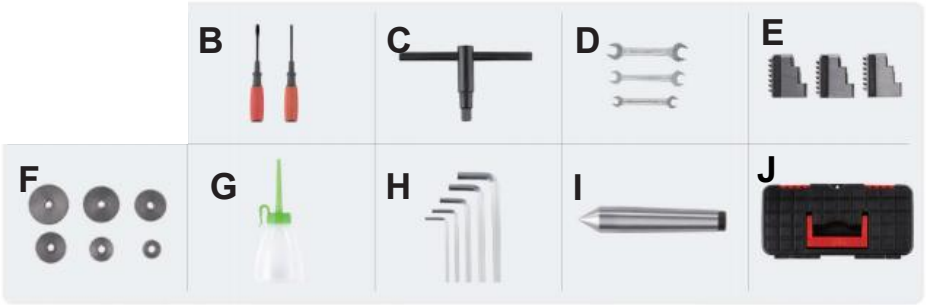
Technical parameter:

Model		MX-S716G
Drive Type		Direct drive motor, no belt drive, Metal gear
Input Power	EU	220V-240V/50 Hz
	AUS	220V-240V/50 Hz
	US	110V/60 Hz
Rated Power		800W
Material Compatibility		Wood, Plastics, Soft Metals (Brass, Copper, Aluminium, etc.)
Swing over Bed		200 mm
Swing over Cross Slide		110 mm
Bed Width		80 mm
Tool Post Type		4 Way
Max. Compound Slide Travel		80mm
Max. Cross Slide Travel		75 mm
Tailstock Spindle Travel		60 mm
Tailstock Taper		MT2
Spindle Taper		MT4
Range of Metric Threads		0.5–3 mm
Range of Imperial Threads		10–44 TPI
Range of Longitudinal Feed		0.1–0.2 mm
Centre Distance		400 mm
Chuck Diameter		100
Spindle Bore Diameter		32 mm
Max. Spindle Speed		150-2500 RPM ±10%
Product Dimensions		960 x 490 x 530 mm
Weight		N.W.:44 kg G.W.:56 kg

PACKAGE LIST

Unpacking

Carefully unpack the mini lathe and check all items. Do not discard any packing material until the machine is fully assembled and operational. If any parts are missing or broken, please contact us.



No.	Name	Qty.
A	Mini lathe	1
B	Screwdrivers	2
C	Chuck Key	1
D	Spanners	3
E	Chuck Jaws	3
F	Metal Gears	6
G	Oil Can	1
H	Allen Keys	5
I	Dead Centre	1
J	Tool Box	1
*	Instruction Manual	1

UNPACKING AND CLEANING

1. Finish removing the wooden crate from around the lathe
2. Check all the accessories of the machine tool according to the packing list.
3. Unbolt the lathe from the shipping crate bottom.
4. Choose a location for the lathe that is dray, has good lighting and has enough room to be able to service the lathe on all four sides.
5. With adequate lifting equipment, slowly raise the lathe off the shipping crate bottom. Do not lift by spindle. Make sure lathe is balanced before moving to sturdy bench or stand.
6. To avoid twisting the bed, the lathe's location must be absolutely flat and level. Bolt the lathe to the stand (if used). 1f using a bench, through bolt for best performance.
7. Clean all rust protected surfaces using a mild commercial solvent, kerosene or diesel fuel. Do not use paint thinner, gasoline or lacquer thinner. These will damage painted surfaces. Cover all cleaned surfaces with a light film of 20W machine oil.
8. Remove the end gear cover. Clean all components of the end gear assembly and coat all gears with heavy, non-slinging grease.

LATHE ADJUSTMENTS

MAKE SURE THE POWER SWITCH IS IN THE OFF POSITION AND THE SPEED IS TURNED DOWN TO ZERO BEFORE MAKING ANY ADJUSTMENTS TO THIS DEVICE.

- Chuck Replacement: Turn the lathe off and unplug it from its power source. Place the tailstock as far away from the chuck as possible and place a piece of wood or a cloth underneath the chuck to protect the machine. Remove the three bolts holding the chuck in place by

removing their nuts and subsequently removing the chuck. Tapping the chuck with a soft mallet might be required. To place a new chuck onto the spindle, follow the above steps in reverse order.

- Jaw Replacement: Place the chuck key into the chuck hole and rotate anti-clockwise until the jaws are at their maximum open distance. The jaws can now be manually pulled out. To place new jaws into the chuck, choose the #1 jaw and place it into the desired chuck slot. Ensure that the top groove of that slot is not visible when inserting the jaw. Once the jaw is seated into the slot, rotate the chuck clockwise to drag down and secure the jaw. Repeat this with jaws #2 and #3.
- Tailstock Adjustment: To adjust the placement of the tailstock rest, loosen the nut on its base, change its position, and retighten the nut. Offset the tailstock in order to cut bevels or tapers.
- Tailstock Locking: Turn the clamping lever clockwise to lock the tailstock in place, or anti-clockwise to unlock.
- Tool Post Adjustment: To adjust the tool post, simply loosen both bolts holding it in place, move it to the desired position, and retighten the bolts. Loosen the bolts on top of the tool post to replace work cutters.
- Carriage Adjustment: Rotate the carriage handwheel clockwise to move the carriage towards the tailstock. Rotate the handwheel anti-clockwise to move the carriage towards the chuck.
- Carriage Locking: Turn the toolpost control handle clockwise to tighten and anti-clockwise to loosen. This handle must be loosened before automatic feeds are used.
- Cross Slide Adjustment: Turning the cross slide handwheel will slide the tool post perpendicular to the ways. Turn the handwheel clockwise to move it back, and anti-clockwise to move forward.
- Carriage Feed Control: Move the half nut lever down to engage the half nut and move the carriage under power. Make sure to disengage the half nut before making any adjustments to avoid unexpected carriage movement.
- Compound Control: Turn the compound control wheel anti-clockwise to move the compound outwards and clockwise to move it inwards, changing the cutting angle.

- Quill Locking: Rotate the lever clockwise to lock the spindle and anti-clockwise to unlock.
- Tail Feed Adjustment: Rotate the tail feed handwheel clockwise to advance the tailstock towards the chuck. Rotate the handwheel anti-clockwise to move the tailstock away from the chuck

OPERATION

1. Emergency Button: 0N/0FF Switch
2. The machine is switched on and off with ON/OFF button. Depress to stop all machine functions. To restart, lift the cover and press ON button.

3. Change-over Switch

After the machine is switched on, turn the switch to "F" position for counter-clockwise spindle rotation(forward). Turn the switch to"R" position for clockwise spindle rotation(reverse) ."O"position is OFF and the spindle remains idle.

4. Variable Speed Control Switch

Turn the switch clockwise to increase the spindle speed. Turn the switch counter-clockwise to decrease the spindle speed. The possible speed range is dependent on the position of the drive belt.

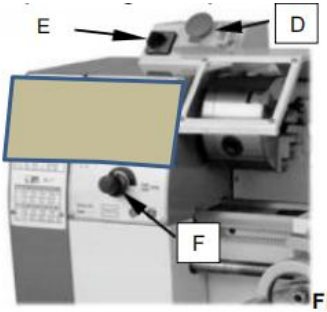


Fig.9

5. Carriage Lock

Turn hex socket cap screw clockwise and tighten to lock. Turn counter-clockwise and loosen to unlock.

Caution: carriage lock screw must be UN locked before engaging automatic feeds or damage to lathe may occur.

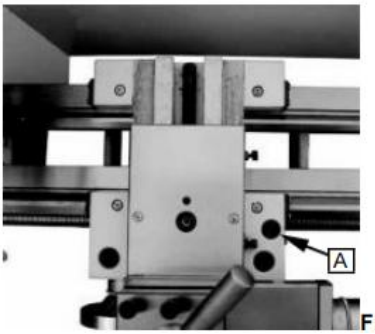


Fig.10

6. Longitudinal Traverse Handwheel

Rotate handwheel clockwise to move the apron assembly toward the tailstock (right). Rotate the hand wheel counter-clockwise to move the apron assembly to ward the Headstock(left).

7. Cross Traverse Lever

Clockwise rotation moves the cross slide toward the rear of the machine.

8. Half Nut Engage Lever

Move the lever down to engage. Move the lever up to disengage.

9. Compound Rest Traverse Lever

Rotate clockwise or counter-clockwise to move or position.

10. Tool Post Clamping Lever

Rotate counter-clockwise to loosen and clockwise to tighten. Rotate the tool post when the lever is unlocked.

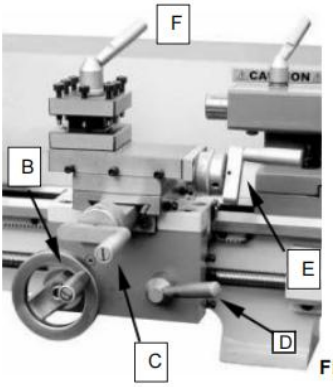
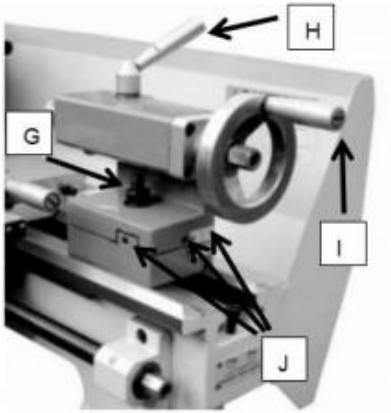


Fig.11

11. tailstock Clamping screw
Turn hex nut clockwise to lock and counter-clockwise to unlock.
12. tailstock Quill Clamping Lever
Rotate the lever clockwise to lock the spindle and counter-clockwise to unlock.
13. tailstock Quill Traverse Handwheel
Rotate clockwise to advance the quill. Rotate counter-clockwise to retract the quill.



14. tailstock off-set Adjustment
Three sets screws located on the tails stock base are used to off-set the tailstock for cutting tapers. Loosen lock screw on tailstock end. Loosen one side set screw while tightening the other until the amount of off-set is indicated on scale. Tighten lock screw.

Replacement of Chuck

The head spindle holding fixture is cylindrical. Loose three set screws and nuts (A, Fig. 13 only two are shown)on the la the chuck flange to remove the chuck. Position the new chuck and fix it using the same set screws and nuts.

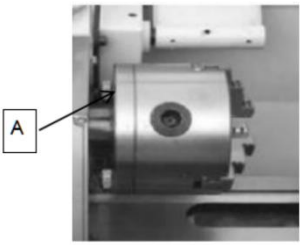


Fig. 13

TOOL SET UP

Clamp the turning tool into the tool holder.

The tool must be clamped firmly. When turning, the tool has a tendency to bend under the cutting force generated during the chip formation.

For best results, tool overhang should be kept to a minimum of 3/8" or less.

The cutting angle is correct when the cutting edge is in line with the center axis of the workpiece. The correct height of the tool can be achieved by comparing the tool point with the point of the center-mounted in the tailstock. If necessary, use steel spacer shims under the tool to get the required height. (Fig. 14)

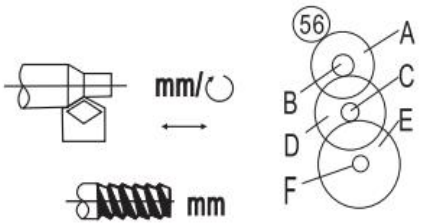
Fig. 14

- **Longitudinal Turning with Auto Feed:**

Use the table(A,Fig.18) on the lathe for selecting the feed speed or the thread pitch. Adjust the change gear if there quired feed or thread pitch that can not be obtained with the installed gear set.

- **Workpiece Holding and Drilling**: Use the chuck to hold a workpiece firmly in place. Use the tailstock to press a drill into the rotating workpiece.
- **Face Cutting:** Use the chuck to hold a workpiece firmly in place. Use the tool post to press a cutter into the face of the workpiece. The edge of the cutter must be the same height as the centre.
- **Internal Cutting:** Use the chuck to hold a workpiece firmly in place. Rotate the tool post such that the cutter is placed in the middle of the front face of the workpiece.

(Thread cutting table)



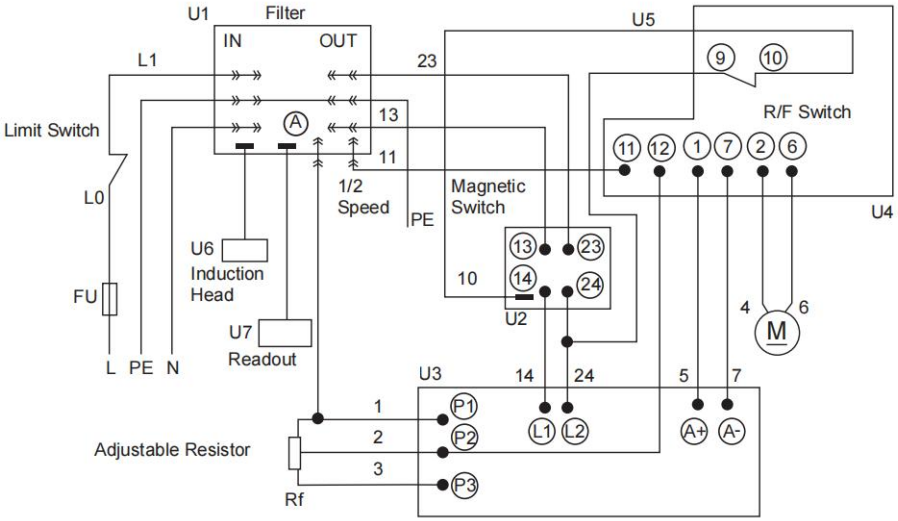
		0.50	0.75	1.00	1.25
A B C D E F		84 30 H 60 H 80	80 40 H 52 H 72	84 40 H 50 H 52	84 50 H 40 H 52
	1.50	1.75	2.00	2.50	3.00
A B C D E F	84 60 H 40 H 52	80 66 H 33 H 60	72 66 H 40 H 50	72 66 H 50 H 40	72 66 H 50 H 33

(When machining metric thread,It can be changed according to actual demand.)

	10	11	14	19	20
A B C D E F	60 H 66 50 H 30	60 H 60 44 H 30	60 H 72 50 H 40	66 H 60 40 H 52	66 H 60 30 H 40
	22	28	38	40	44
A B C D E F	60 H 72 40 H 50	50 H 80 35 H 50	60 H 70 30 H 66	66 H 72 24 H 50	66 H 72 24 H 60

- **Bevel Cutting:** Use the chuck to hold a workpiece firmly in place. Adjust the angle of the tool post to cut bevels into the workpiece.
- **Thread Cutting:** To cut threads, use the chuck to hold a workpiece firmly in place and engage the half nut. Use the tool post to press a cutter into the face of the workpiece.

WIRING DIAGRAM



Key

A	Ammeter	**PE**	Ground Line
M	Motor	**U**	Integrated Circuit
L	Load Wire	**P**	Connector
N	Neutral Wire	**FU**	Fuse

WARNING!

Connection of the lathe and all other electrical work may only be carried out by an authorized electrician!

Failure to comply may cause serious injury and damage to the machinery and property!

The MX-S716G Lathe is rated at 800W. Confirm power available at the lathe' s location is the same rating as the lathe. Using the wiring diagram for connecting the lathe to the mains supply. Make sure the lathe is properly grounded.

MAINTENANCE

Keep maintenance of the machine tool during the operation to guarantee the accuracy and service life of the machine tool.
1. In order to retain the machine's precision and functionality. It is essential to treat it with care. Keep it clean and grease and lubricate it regularly. Only through good care. You can be sure that the working quality of the machine will remain constant.

NOTES: Disconnect the machine plug from the mains supply whenever you carry out cleaning, maintenance or repair work!

Oil, grease and cleaning agents are pollutants and must not be disposed of through the drains or in normal refuse. Dispose of those agents in accordance with current legal requirements on the environment. Cleaning rags impregnated with oil, grease and cleaning agents are easily inflammable. Collect cleaning rags or cleaning wool in a suitable closed vessel and dispose of them in an environmentally sound way - do not put them with normal refuse!
2. Lubrication all slide ways lightly before every use. The change gears and the lead screw must also be lightly lubricated with grease.
3. During the operation, the chips which fall onto the sliding surface should be cleaned timely, and the inspection should be often made to prevent chips from falling into the position between the machine tool saddle and lathe bed guideway. Asphalt felt should be cleaned at a certain time.

NOTES: Do not remove the chips with your bare hands. There is a risk of

cuts due to sharp-edged chips. Never use flammable solvents or cleaning agents or agents that generate noxious fumes!
Protect electrical components, such as motors, switches, switch boxes, etc., against humidity when cleaning.

4. After the operation every day, eliminate all the chips and clean different parts of the machine tool and apply machine tool oil to prevent rusting.
5. In order to maintain machining accuracy, take care of the center. The surface of the machine tool for the chuck and the guideway and avoid mechanical damage and wear due to improper guide.
6. If the damage is found, maintenance should be done immediately.

NOTES: Repair work may only be carried out by qualified personnel with the corresponding mechanical and electrical knowledge.

TROUBLESHOOTING

Potential Problems	Common Solutions
The workpiece's surface is too rough.	Re-sharpen the cutting tool.
	Reduce the feed rate.
	Clamp the cutting tool with less overhang.
	Increase the tool tip's radius.
The cutting tool has a short lifespan.	Reduce the cutting speed.
	Lower the crossfeed distance.
	Add more lubricant to the workpiece.
The cutting edge breaks off.	Increase the wedge angle.
	Lubricate the workpiece uniformly.
	Tighten the spindle bearing.
The cutting thread is wrong.	Adjust the cutting tool's grinding angle.
	Adjust the cutting tool's pitch.

	Adjust the workpiece’s diameter.
The workpiece becomes conned.	Adjust the tailstock to the centre of the workpiece.
	Align the top slide properly.
The lathe is chattering.	Reduce the feed rate.
	Tighten the main bearing.
Flank wear is too high.	Increase the clearance angle.
	Properly centre the cutting tool onto the workpiece.
The centre runs hot.	Loosen the tailstock.
	Unlock the emergency stop switch.

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