HAFCO WOODMASTER



Edition : 1
Date: (10/26)

Instruction Manual

VARIABLE SPEED WOOD LATHE
WL-457VS

Order Code: (W3884)

MACHINE DETAILS

MACHINE.	**Variable Speed Wood Lathe**
MODEL NO.	**WL-457VS**
SERIAL NO.	
DATE OF MANF.	

IMPORTED BY

AUSTRALIA

HARE&FORBES MACHINERYHOUSE

www.machineryhouse.com.au

NEW ZEALAND

MACHINERYHOUSE

www.machineryhouse.co.nz

NOTE:
This manual is only for your reference. At the time of the compiling of this manual every effort to be exact with the instructions, specifications, drawings, and photographs of the machine was taken. Owing to the continuous improvement of the HAFCO Woodmaster machine, changes may be made at any time without obligation or notice. Please ensure the local voltage is the same as listed on the specification plate before operating any electric machine.

SAFETY SYMBOLS:
The purpose of safety symbols is to attract your attention to possible hazardous conditions

⚠WARNING **Indicates a potentially hazardous situation causing injury or death**

⚠CAUTION **Indicates an alert against unsafe practices.**

Note: Used to alert the user to useful information

NOTE:
In order to see the type and model of the machine, please see the specification plate. Usually found on the back of the machine. See example (Fig.1)

FIG.1

HAFCO WOODMASTER

PRODUCT SPECIFICATIONS

Model: WL-475VS
Capacity: Ø457x610mm Voltage: 240V/50Hz
Nett Weight: 159kg Motor: 2.5HP/1.9kW
MFG Date: FLC: 14A

Serial No:

Imported by **www.machineryhouse.com.au**
Made in China **www.machineryhouse.co.nz**

CONTENTS:

1. GENERAL MACHINE INFORMATION
1.1 Specifications....4
1.2 Packing List....4
1.3 Identification....5

2. SAFETY
2.1 General Woodworking Machine Safety....6
2.2 Specific Safety for Wood Lathes....8

3. POWER SUPPLY
3.1 Electrical Requirements....9
3.2 Full Load Current....9

4. SETUP
4.1 Unpacking....10
4.2 Clean Up....10
4.3 Site Preparation....10
4.4 Lifting Instructions....10
4.5 Anchoring to the Floor....11
4.6 Assembly....11
Install the Legs Onto the Lathe....11
Installing the Tool Rest....12
Installing the Tailstock Handwheel....12
Installing the Tool Holder....12

5. OPERATION
5.1 Operational Overview....13
5.2 Headstock Controls....13
5.3 Tool Rest Controls....15
5.4 Tailstock Controls....15
5.5 Main ON/OFF Switch....15
5.6 Operating Switch Controls....16
5.7 Lathe Bed Extensions....17
5.8 Changing Speeds....18
5.9 Spindle Indexing....19
5.10 Aligning Spindle Centres....20
5.11 Adjusting the Locking Handles....20

6. MAINTENANCE
6.1 Schedule....21
6.2 Tailstock Maintenance....21
6.3 Changing the Belt....22
6.4 Changing the Spindle Bearings....23
6.5 Electronic Speed Control Error Codes....24
6.6 Troubleshooting....24

Spare Parts....26

1.1 SPECIFICATIONS

Order Code	W3884
MODEL	**WL-457VS**
Capacity Swing Over Bed (mm)	457
Swing Over Tool Rest Base (mm)	349
Distance Between Centers (mm)	610
Spindle Speeds (Type / Range rpm)	Variable /50 -3850
Speed Ranges (rpm)	50 - 900, 100 - 1850, 200 - 3850
Spindle Nose Thread	M30 x 3.5
Headstock Taper (MT)	2
Tailstock Taper (MT)	2
Hole Through Drive Spindle (mm)	10
Hole Through Tail-stock	10
Tail-stock RAM Travel (mm)	116
Number of Indexing Positions	24
Tool Rest Post Diameter (mm)	25.4
Spindle to Floor Distance (mm)	1100
Overall Length Size (mm)	1600
Overall Width & Depth Size (mm)	620 x 1205
Base / Stand Size (mm)	1200 x 620
Motor (kW)	1.9
Volts / Amps (V / A)	240 / 15
Weight (kg)	169

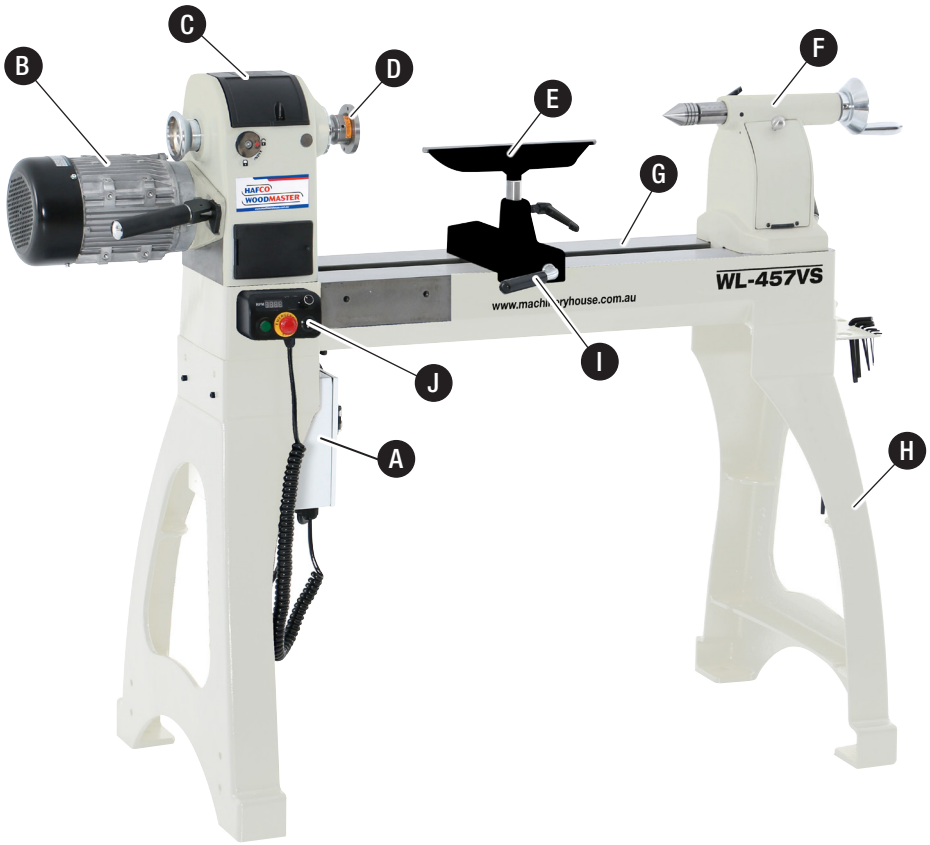
1.2 PACKING LIST

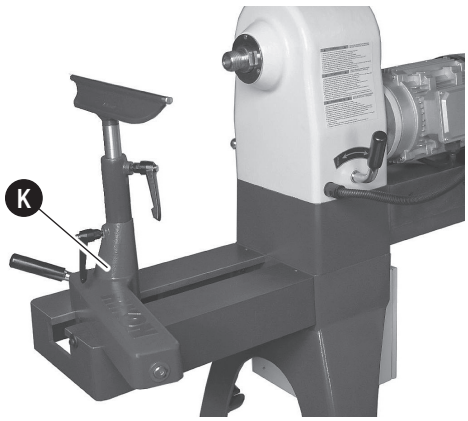
- Bowl Turning Attachment (Not shown)
- R/H 30 x 3.5mm Face Plate - 82mm Diameter
- Spur Drive Centre - 25mm x 2MT
- Revolving Cup Centre - 2MT
- 300mm Toolrest and 150mm Toolrest
- Cam-lock Toolrest Bracket
- Centre Knock-out Bar Headstock
- Centre Knock-out Bar Tailstock
- 2x Face Plate Spanners
- MT2 to MT2 Gauge
- Rubber Feet Pads
- Hex Keys - 2.5mm, 3mm, 4mm, 5mm. 8mm & 10mm
- WL-457VS Wood Lathe

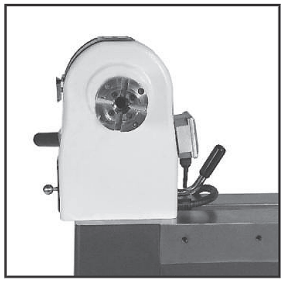


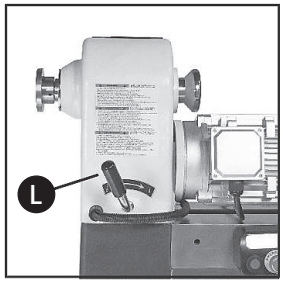
1.3 IDENTIFICATION

Become familiar with the names and locations of the controls and features shown below to better understand the instructions when mentioned later in this manual.









A	Inverter Box Assembly
B	Motor Assembly
C	Headstock Assembly
D	Spindle Nose
E	Tool Post
F	Tail-stock

G	Bed
H	Legs
I	Tool Rest Base Assembly
J	Electronic Controls
K	Bowl Turning Attachment
L	Headstock Locking Handle

2. SAFETY INFORMATION

2.1 GENERAL WOODWORKING MACHINE SAFETY

DO NOT use this machine unless you have read this manual or have been instructed in the use of this machine in its safe use and operation.

WARNING!

This manual provides safety instructions on the proper setup, operation, maintenance, and service of this machine. Save this manual, refer to it often, and use it to instruct other operators.

Failure to read, understand and follow the instructions in this manual may result in fire or serious personal injury—including amputation, electrocution or death.

The owner of this machine is solely responsible for its safe use. This responsibility includes, but is not limited to proper installation in a safe environment, personnel training and authorization to use, proper inspection and maintenance, manual availability and comprehension of the application of the safety devices, integrity, and the use of personal protective equipment.

The manufacturer will not be held liable for injury or property damage from negligence, improper training, machine modifications or misuse.



Exposure to the dust created by power sanding, sawing, grinding, drilling and other construction activities may cause serious and permanent respiratory or other injury, including silicosis (a serious lung disease), cancer and death. Avoid breathing the dust, and avoid prolonged contact with dust. 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 timber.

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



Safety glasses must be worn at all times in work areas. Earmuffs should be worn if the work area is noisy.



Sturdy footwear must be worn at all times in work areas.



Gloves should NOT be worn when operating machinery. Should only be worn when handling the material.



Long and loose hair must be contained with a net or under a hat.

2.1 GENERAL WOODWORKING MACHINE SAFETY Cont.

DISCONNECT POWER FIRST. If using power, always disconnect the machine from power supply before making adjustments, or servicing the machine. This prevents any risk of injury from unintended startup or contact with live wires.

HEARING PROTECTION. Always wear hearing protection when operating or observing loud machinery. Extended exposure to this noise without hearing protection can cause permanent hearing loss.

REMOVE ADJUSTING TOOLS. Tools left on machinery can become dangerous projectiles upon startup. Never leave hex keys, wrenches, or any other tools on machine. Always verify removal before starting!

USE CORRECT TOOL FOR THE JOB. Only use this tool for its intended purpose. Do not force the machine or its attachments to do a job for which they were not designed. Never make unapproved modifications. Modifying the machine or using it differently than intended may result in malfunction or mechanical failure that can lead to personal injury or death!

AWKWARD POSITIONS. Keep proper footing and balance at all times when operating machine. Do not overreach! Avoid awkward hand positions that make operating control difficult. This could increase the risk of accidental injury.

GUARDS & COVERS. Guards and covers reduce accidental contact with moving parts or flying debris. Make sure they are properly installed, undamaged and working correctly.

MENTAL ALERTNESS REQUIRED. Full mental alertness is required for safe operation of machinery. Never operate under the influence of drugs or alcohol, when tired, or when distracted.

TRAINED OPERATORS ONLY. Only allow trained or supervised people to use this machine. When the machine is not being used, disconnect the power to the machine to prevent unauthorized use—especially around children. Make the workshop safe.

FORCING MACHINERY. Do not force the machine. It will do the job safer and better at the rate for which it was designed.

NEVER STAND ON MACHINE. Serious injury may occur if the machine is tipped or if the cutting tool is unintentionally contacted.

STABLE MACHINE. Unexpected movement during operation greatly increases risk of injury or loss of control. Before starting, verify the machine is stable and if using a mobile base it is locked in position.

UNATTENDED OPERATION. To reduce the risk of accidental injury, turn the machine OFF and ensure all moving parts have completely stopped before walking away. Never leave the machine running while unattended.

MAINTAIN WITH CARE. Follow all the maintenance instructions and lubrication schedules to keep the machine in good working condition. A machine that is improperly maintained could malfunction, leading to serious personal injury or death.

CHECK DAMAGED PARTS. Regularly inspect the machine for any condition that may affect the safe operation. Immediately repair or replace damaged or parts that are incorrectly fitted before operating.

CHILDREN & BYSTANDERS. Keep children and bystanders at a safe distance from the work area. Stop using machine if they become a distraction.



WARNING!

People with pacemakers should consult their physician(s) before use. Electromagnetic fields in close proximity to heart pacemaker could cause pacemaker interference or pacemaker failure.

2.2 SPECIFIC SAFETY FOR WOOD LATHES

DO NOT use this machine unless you have been instructed in its safe use and operation and have read and understood this manual



Safety glasses must be worn at all times in work areas



Long and loose hair must be contained.



Hearing protection must be worn



Sturdy footwear must be worn at all times in work areas



Close fitting/ protective clothing must be worn



Respirators must be worn to protect from dust particles

PRE-OPERATIONAL SAFETY CHECKS

- Locate and ensure you are familiar with all machine operations and controls.
- Ensure all guards are fitted, secure and functional. Do not operate if guards are missing or faulty.
- Check workspaces and walkways to ensure no slip/trip hazards are present.
- Ensure the workpiece has been suitably prepared for the lathe operation.
- Work piece must be securely fastened to face plate, chuck or between centres.
- Adjust speed to suit the diameter of the work and turning operation.
- Rotate the workpiece by hand to check clearance between tool rest and bed.
- Ensure the cutting tools are sharp and in good condition.
- Start the dust extraction unit before using the machine.

OPERATIONAL SAFETY CHECKS

- Only one person may operate this machine at any one time.
- Before making adjustments, switch off and bring the machine to a complete standstill.
- Keep the tool rest adjusted close to the work and at the correct height.
- Adjust speed to suit the diameter of the work and turning operation.
- Stop the lathe and remove all tool rests before sanding.

ENDING OPERATIONS AND CLEANING UP

- Switch off the machine when work completed.
- Return all chisels and other tools to racks.
- Remove all tool-rests and place in rack.
- Leave the machine in a safe, clean and tidy state.

DON'T

- Do not use faulty equipment. Immediately report suspect equipment.
- Never leave the machine running unattended.

POTENTIAL HAZARDS AND INJURIES

- Eye injuries from flying debris or defective timber.
- Hair/clothing getting caught in moving machine parts.
- Airborne dust.

3. POWER SUPPLY

3.1 ELECTRICAL REQUIREMENTS

Place the machine near an existing power source. Make sure all power cords are protected from traffic, material handling, moisture, chemicals, or other hazards. Make sure there is access to a means of disconnecting the power source. The electrical circuit must meet the requirements for the power used by the machine.

NOTE: The use of an extension cord is not recommended as it may decrease the life of electrical components on your machine.

ELECTRICAL REQUIREMENTS

Nominal Voltage.....240V
Cycle.....50 Hz
Phase.....Single Phase
Power Supply Circuit.....15 Amps
Full Load Current.....14.0 Amps

(Full load current rating is also on the specification plate on the motor.)

3.2 FULL-LOAD CURRENT RATING

The full-load current rating is the amperage a machine draws when running at 100% of the output power. Where machines have more than one motor, the full load current is the amperage drawn by the largest motor or a total of all the motors and electrical devices that might operate at one time during normal operations.

Full-Load Current Rating for these machine is available on the motor plate.

It should be noted that the full-load current is not the maximum amount of amps that the machine will draw. If the machine is overloaded, it will draw additional amps beyond the full-load rating and if the machine is overloaded for a long period of time, damage, overheating, or fire may be caused to the motor and circuitry.

This is especially true if connected to an undersized circuit or a long extension lead. To reduce the risk of these hazards, avoid overloading the machine during operation and make sure it is connected to a power supply circuit that meets the requirements.





4 SET-UP

4.1 UNPACKING

This machine was carefully packaged for safe transport. When unpacking, separate all enclosed items from packaging materials and inspect them for shipping damage. If items are damaged, please contact your distributor.

NOTE: Save all the packaging materials until you are completely satisfied with the machine and have resolved any issues with the distributor, or the shipping agent.

When unpacking, check the packing list to make sure that all parts shown are included. If any parts are missing or broken, please contact your distributor.

4.2 CLEAN - UP

The unpainted surfaces of the machine have been coated with a waxy oil to protect them from corrosion during shipment. Remove the protective coating with a solvent cleaner or a citrus based degreaser.

Optimum performance from your machine will be achieved when you clean all moving parts or sliding contact surfaces that are coated with rust preventive products.

It is advised to avoid chlorine based solvents, such as acetone or brake parts cleaner, as they will damage painted surfaces and strip metal should they come in contact. Always follow the manufacturer's instructions when using any type of cleaning product.

4.3 SITE PREPARATION

When selecting the site for the machine, consider the largest size of work-piece that will be processed through the machine and provide enough space around the machine for operating the machine safely. Consideration should be given to the installation of auxiliary equipment. Leave enough space around the machine to open or remove doors/covers as required for the maintenance and service as described in this manual.

It is recommended that the machine is anchored to the floor to prevent tipping or shifting. It also reduces vibration that may occur during operation.

4.4 LIFTING INSTRUCTIONS

On the day that the machine arrives, make sure that a forklift or lifting device, with sufficient capacity is available to unload the machine from the vehicle. Ensure access to the chosen site is clear and that doors and ceilings are sufficiently high and wide enough to receive the machine.

⚠ WARNING ***This machine is extremely heavy. Serious personal injury may occur if safe moving methods are not followed. To be safe, you will need assistance and power equipment when moving the shipping crate and removing the machine from the crate.***





WARNING!

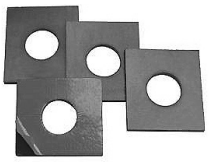
Make sure everyone is away from the load before hoisting. The load must be under control when lowering loads suspended. Rigging and crane operation must be carried out by persons with approved qualifications.

4.5 ANCHORING TO THE FLOOR

The machine is best mounted on a concrete slab.

Masonry anchors with bolts are the best way to anchor machinery, because the anchors sit flush with the floor surface, making it easy to unbolt and move the machine later if needed (Fig. 4.1).

Position the machine: Place the machine in its final location and lower the centre of gravity if applicable, Mark the holes**.** Use the machine's mounting feet as a template then Drill the holes**.**
Install the the anti-vibration
rubber foot pads to the bottom
of the lathe legs then bolt to the floor



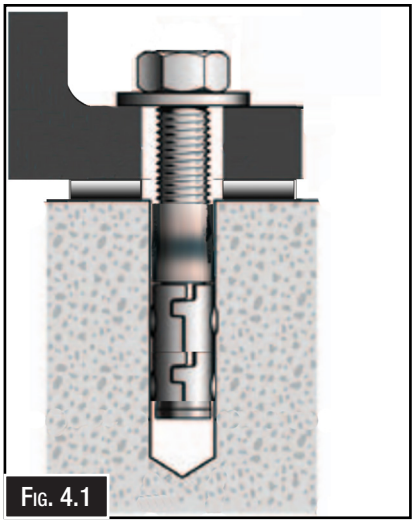


FIG. 4.1

4.6 ASSEMBLY

The machine must be fully assembled before it can be operated. First clean any parts that are coated in rust preventative to ensure the assembly process can proceed smoothly.

INSTALL THE LATHE BED ONTO THE LEGS

1. Position the two Legs approximately 1118mm apart measuring from the outside edges. Be sure that the shelf brackets on the legs are facing inward, towards each other. (Fig. 4.2)
2. Secure the Tailstock, and Tool Rest Base assemblies to the Lathe Bed by tightening their locking Lever Handles.

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 Bed, with a 5mm hex wrench loosen the Bolt so that the offset stop washer swivels down below the bed surface. (Fig. 4.3)
- Loosen the Tailstock Handle and slide the Tailstock off the the end of the lathe bed
- Loosen the Tool Rest Base Handle, and slide the Tool Rest Base off the end of the lathe bed.

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 6 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 head-stock end is extremely heavy.

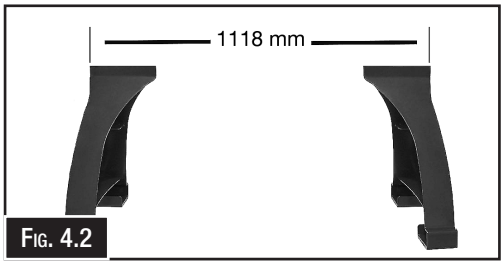


FIG. 4.2



FIG. 4.3

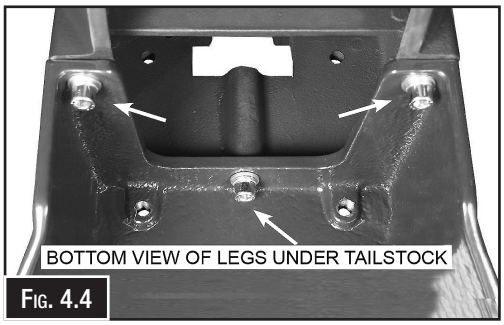


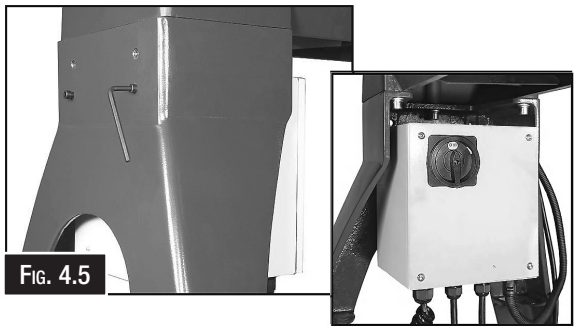
FIG. 4.4

4. Secure the lathe bed to the stand legs with the six Washers, Spring Lock Washers and Hex Head Bolts. Use the 8mm hex wrench provided. Fig. 4.4 shows 3 bolts securing the legs to the tailstock end of the lathe bed.

4.6 ASSEMBLY Cont.

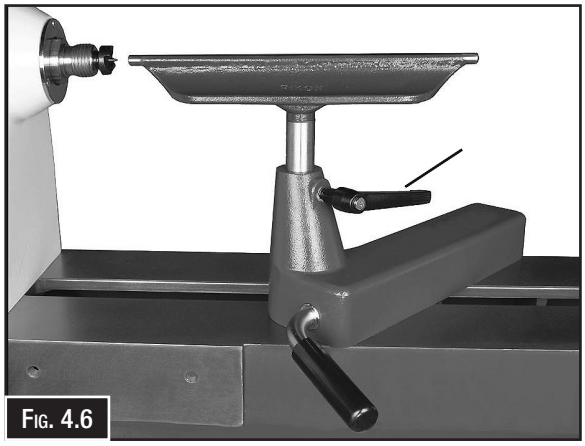
CAUTION The Inverter box and Switch Box are attached to the Headstock with wires, so extreme care must be taken to secure the inverter and Switch Box when handling the lathe bed assembly.

5. Attach the Inverter Box Assembly to the inside of the left leg under the headstock with the 2 bolts and 5mm hex wrench provided. (Fig. 4.5)
6. If the tool rest and tailstock have previously been removed, install them back onto the lathe bed. Reverse the process as described in the Step 2.


FIG. 4.5

INSTALLING THE TOOL REST

Install the 300mm long PRO Tool Rest into the Tool Rest Base (also called a Banjo). Secure the tool rest's 25.4mm diameter post into the base and secure with the Adjustable Locking Handle. (Fig. 4.6)


FIG. 4.6

NOTE: The handle can be adjusted to any position for loosening or tightening, or set it at a spot that will not interfere with the working operation. To adjust pull out the spring load handle and rotate it to the desired spot on its locking shaft, and then release it back onto the new position.

INSTALL THE TAILSTOCK HAND WHEEL

If not pre-assembled for shipping, install the Tailstock Hand Wheel onto the rear spindle of the Quill Assembly with the 3mm Hex Wrench provided. (Fig. 4.7)

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. (Fig 4.7)

On the back side of the tailstock, a post is provided to store the faceplate when not in use. (Fig. 4.8)

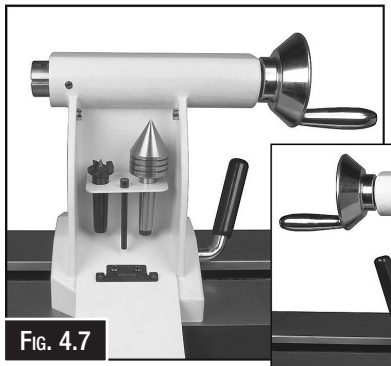

FIG. 4.7

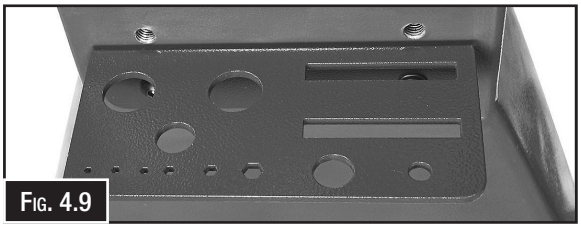

FIG. 4.8

NOTE: The Faceplate may be shipped pre-installed on the headstock spindle.

INSTALL THE TOOL HOLDER

Install the Tool Holder onto the outside of the right leg with the two hex head screws and washers provided. Use the 5mm hex wrench provided. (Fig. 4.9)

The Tool Holder has holes and slots for storing the wrenches, Long Knockout Bar and any other optional tool rests or centers obtained.


FIG. 4.9

5. OPERATION

This machine may perform many types of operations that are beyond the scope of this manual. Many of these operations may be dangerous or deadly if performed incorrectly.

The instructions in this section are written with the understanding that the operator has the necessary knowledge and skills to operate this machine. If at any time you are experiencing difficulties performing any operation, stop using the machine! **Above all, your safety should come first!**

5.1 OPERATION OVERVIEW

This overview purpose is to provide a novice machine operator with a basic understanding of how the machine is used during operation, and so that if the machine controls or components are mentioned later in this manual, it will be easy to understand. The overview is not intended to be an instructional guide and is only generic in nature. To learn more about the specific operation, read this entire manual and seek additional training from an experienced machine operator. Another source of information may be found in video's on websites or by reading trade magazines.

1. **Mounting and Centering:** Secure the wood blank between a spur drive on the headstock and a live or cup center on the tailstock (or via a faceplate/chuck for bowls).
2. **Speed Selection:** Start the lathe at its lowest speed setting to safely check for balance and clearance before increasing the RPMs.
3. **Positioning the Tool Rest:** Adjust the tool rest so it sits close to the workpiece (about 1/4 inch away) and roughly on or slightly below the centerline of the wood.
4. **Roughing and Shaping:** Turn on the machine and gently brace a gouge or turning tool against the tool rest, feeding the cutting edge into the wood as it spins counter-clockwise.
5. **Finishing and Sanding:** Progress from roughing gouges to detail tools, and finish the symmetrical surface with sandpaper while the lathe runs at a moderate speed.

5.2 HEADSTOCK CONTROLS

A. SPINDLE LOCK BUTTON secures the headstock spindle when mounting or removal of the faceplate or chucks. To operate, simply push in the button which inserts a pin into one of the 4 holes in the Spindle Lock Disc (Fig. 5.1)

B. SPINDLE INDEXING CONTROLS: (Fig. 5.1). The Index Pin Assembly is used to hold and position the spindle for making accurate, spaced pattern work on projects such burning patterns and laying out designs.

C. HEADSTOCK DOORS:
Lift the upper door for access to the spindle drive & index pulley, RPM reader and spindle lock assembly. (Fig. 5.1).

D. FRONT DOOR: Open this door to access the motor drive pulley Fig. 5.1).

E. HEADSTOCK POSITIONS: The headstock can rotate 180° on the bed to allow for larger diameter bowls or platters using faceplates or chucks. (Fig. 5.2)

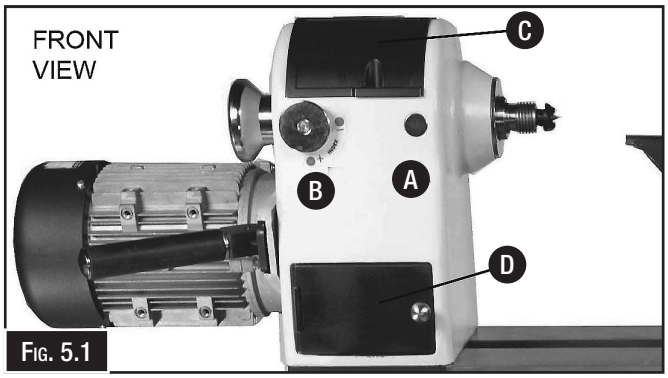


Fig. 5.1

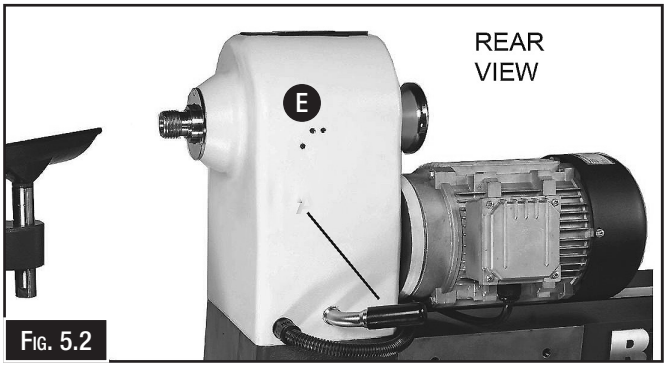


Fig. 5.2

5.2 HEADSTOCK CONTROLS Cont.

INSIDE VIEW OF HEADSTOCK SPINDLE

A. 3-Step Spindle Pulley with index notches on left side

B. Drive Belt

C. RPM Magnetic Reader Disc

D. RPM Speed Reader

E. Spindle Lock Disc

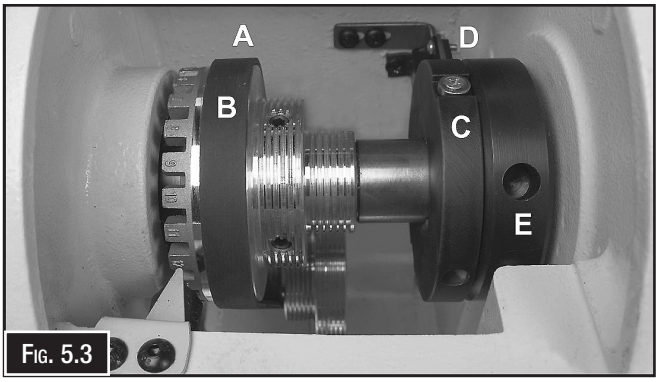
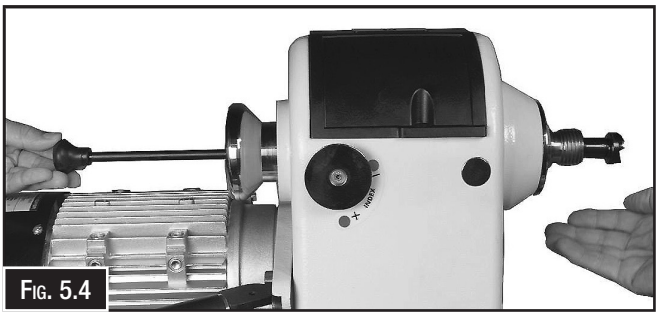


FIG. 5.3

HEADSTOCK SPUR CENTER (Fig. 5.4)

The Spur Center is used for turning between centers. The spur center can be removed from the spindle with the long Knockout Bar.

NOTE: Be careful and hold the spur center during this process to prevent damage.


FIG. 5.4

HEADSTOCK FACEPLATE (Fig. 5.5)

Face plates are used for turning bowls and plates. There are a number of screw holes on the plate for mounting the work-piece 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. (Fig. 5.5)

To REMOVE the faceplate first loosen the set screws. The spindle and rear hub of the faceplate each have flats that are used for spanners

Use one wrench while pushing in the Spindle Spindle Lock Button. (Fig. 5.6)

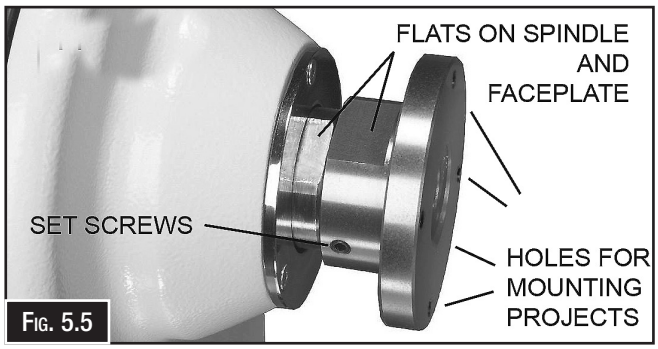
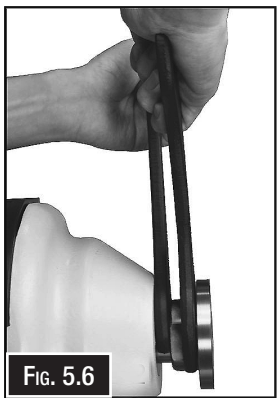


FIG. 5.5


FIG. 5.6

⚠ 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.

SAFETY FIRST

WARNING!

The machine must not be plugged in and the power switch must be in the Off position until ALL adjustments are made.

5.3 TOOL REST CONTROLS (Fig. 5.7)

A. Tool Rest Body Lock Handle: This cam action lever handle locks the tool rest body down in position on the lathe bed. Unlock the handle to position the tool rest in any location along the lathe bed. Tighten the handle when properly located for safe turning of the workpiece.

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.

NOTE: The handle is spring loaded on its internal bolt. To change the handle position, pull the handle out, rotate it to he position required.

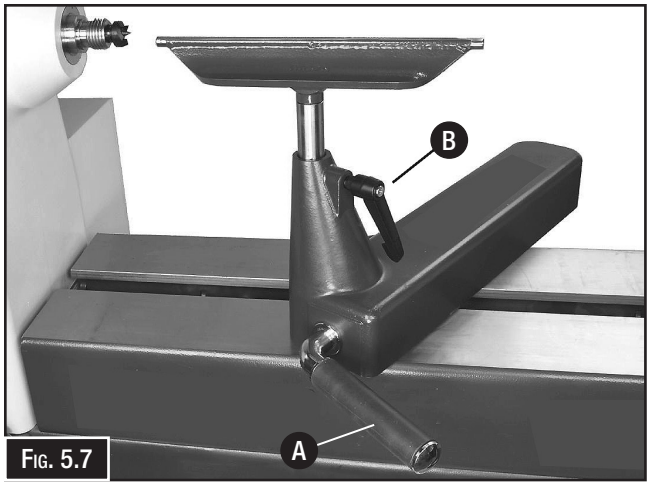


FIG. 5.7

5.4 TAILSTOCK CONTROLS (Fig. 5.8)

A. 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. .

B. Tailstock Quill Hand Wheel: The hand wheel advances or retracts the quill. The quill's locking handle (C) must be loose to move the quill.

C. 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 when the quill is finally positioned.

D. Tailstock Live Center: Used for turning between centers. The Live Center and the Quill have Morse #2.

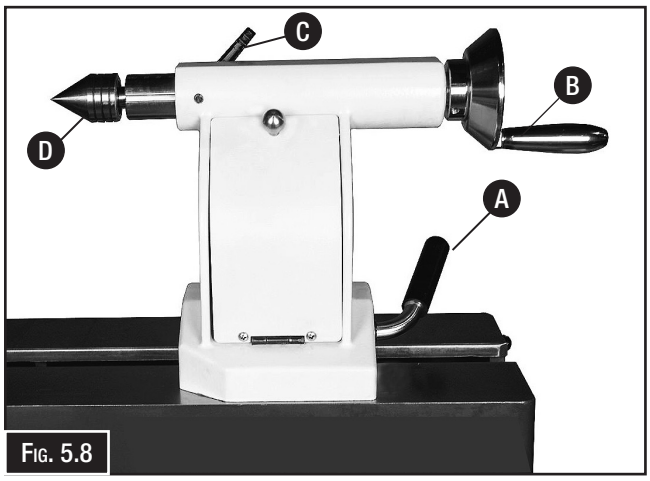


FIG. 5.8

5.5 MAIN ON/OFF SWITCH (Fig. 5.9)

The Lathe has a Main ON/OFF switch located on the inverter box which is under the head-stock end of the lathe bed. This switch MUST be operated before and after the lathe is used. When switched to OFF it also totally shuts down the lathe when not in use for any extended time. This switch protects the lathe's electrics, particularly the LCD display from burning out, and prevents unwanted access by children or bystanders.



AC INVERTER CONTROL BOX

Inverter Wires

a. To switch controls
b. To power wall plug
c. To motor
d. To headstock RPM reader.

FIG. 5.9

5.6 OPERATING SWITCH CONTROLS (Fig. 5.10)

The lathe features a corded Switch Box (G) 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, rotation direction or for stopping the lathe.



FIG. 5.10

A. Forward / Reverse Switch:
This selector switch will change the direction that the spindle turns - clockwise (forward) or counter-clockwise (reverse).

⚠ 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 and a "0000" will be displayed on the LCD Display screen (E). Press the green 'ON' button to resume work in the new rotation setting.***

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). Spindle speeds are shown on the LCD Display (E). See the Speed Chart below for the 3 speed range settings. (Fig. 5.10).

D. 'Off' Button:
Push in the extended red Button to stop the lathe. To restart the lathe, rotate the button clockwise and it will pop out to reset itself. Then press the green 'ON' button to restart the lathe.

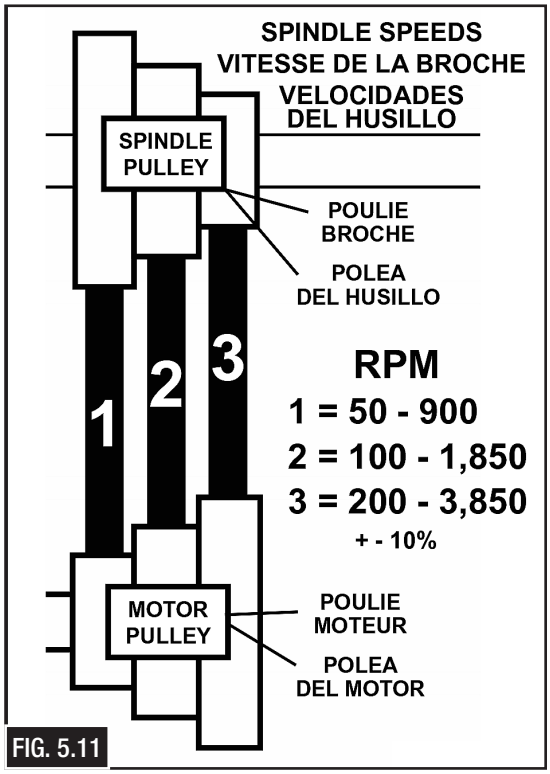


FIG. 5.11

General Lathe Speeds For Work Piece Diameters

DIAMETER OF WORK	ROUGHING RPM	GENERAL CUTTING RPM	FINISHING RPM
Under 2"	1529	3200	3200
2 - 4"	750	1600	2480
3 - 6"	510	1080	1650
6 - 8"	380	810	1240
8 - 10"	300	650	1000
10 - 12"	255	540	830
12 - 14"	220	460	710
14 - 16"	190	400	620
16 - 20"	170	350	500
30 - 24"	50	200	375

SAFETY FIRST

WARNING!

The machine must not be plugged in and the power switch must be in the Off position until ALL adjustments are made.

5.7 LATHE BED EXTENSIONS - (Optional)

The Lathe features a cast iron bed with three sides machined to add bed extensions which will expand the work capabilities for turning.

NOTE: This optional 400mm long Extension easily bolts onto the lathe for solid working support. See page 34 for the Extension.

NOTE: Only the 400mm extension can be used on this machine. Longer bed extensions cannot be used on the front connection as damage to the bed casting will result.

Right Bed End: To extend the spindle length between centers, the addition of the bed extension extends the lathe's maximum spindle length from 600 to 1000mm. (Fig. 5.12)

Front Of Bed: Mounting the extension onto the lathe front allows the tool rest for improved access to turning and finishing the side and backs of bowls and platters. (Fig. 5.13)

Left Bed End: To extend the swing for larger diameter turning of bowls and platters with face plates or chucks, the addition of the bed extension on the left, headstock end of the lathe is provided for outboard turning. This will expand the lathe's swing from 450mm over the lathe bed to 690mm over this outboard extension bed. (Fig. 5.14)

NOTE: for outboard turning, the use of the 100mm Tool Rest Height Extension is required. For outboard turning, remove the tool rest assembly from the lathe bed, and mount it on the bed extension. For this:

- Loosen the lathe bed's end Screw (#11C) with the 5mm Hex Wrench then rotate the safety Washer (#10C) downward so the tailstock and tool rest can be removed.
- Release the tailstock's locking handle and slide the tailstock off the lathe bed.
- Release the tool rest base's locking handle and slide the tool rest base assembly off the lathe bed.
- Remount the tool rest base assembly with tool rest onto the outboard extension.
- Remount the tailstock onto the lathe bed and reset the safety end washer in place for security.

Rotate the headstock 180° to the outboard position and secure it in place for turning. (See page 13)

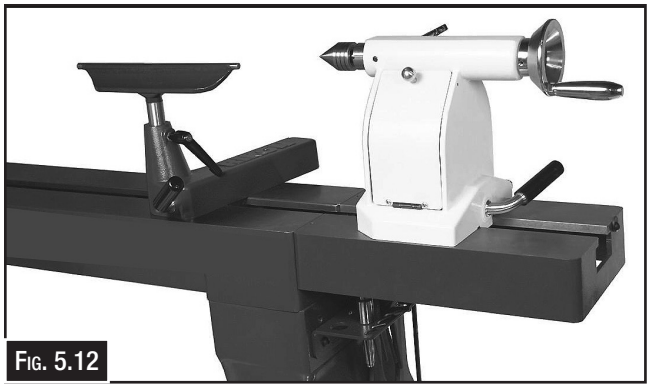


Fig. 5.12

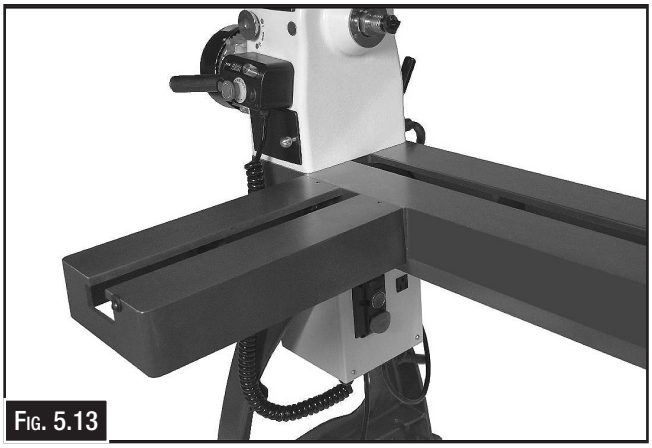
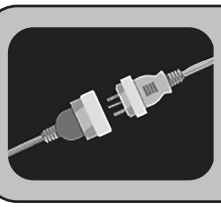


Fig. 5.13



WARNING!

DO NOT connect the power to the machine until fully assembled



Fig. 5.14

5.8 CHANGING SPEEDS

To change between the 3 speed ranges, 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 (A, B) to gain access to the belt and pulleys that are inside of the headstock. (Fig 5.15)
3. Pull the Belt Tensioning Handle forward, away from the motor. (Fig 5.16)
4. Push the Tensioning Handle down to loosen the tension on the Poly-V-Belt . (Fig. 5.17) The belt can now be positioned on the pulleys for the desired speed range. Fig. 5.11 shows the belt positions for the three speed ranges.

NOTE: The 'High' speed range #3 (200-3850) provides maximum speed. The 'Low' speed range #1 (50-900 RPM) will provide maximum torque.

5. 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. (Fig. 5.16)
6. Close the two front Belt Doors on the headstock to protect the belt, pulleys and internal working from dust.
7. Plug the lathe back into the power source.

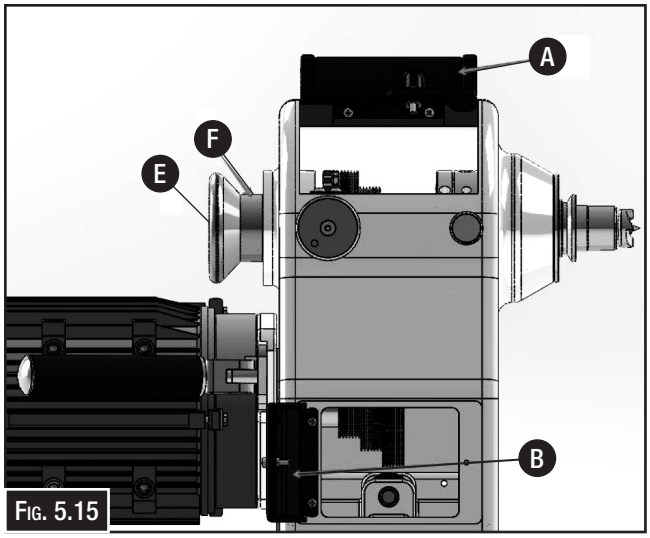


FIG. 5.15

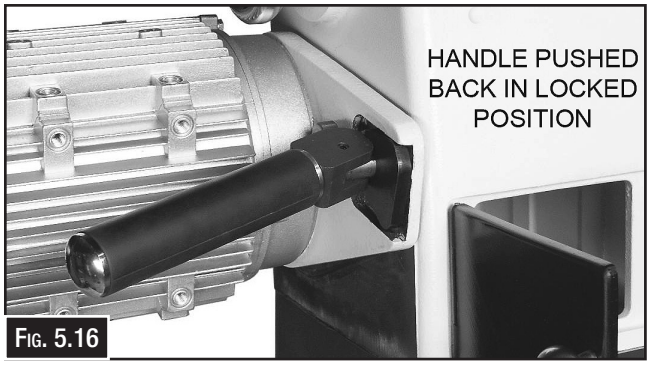


FIG. 5.16

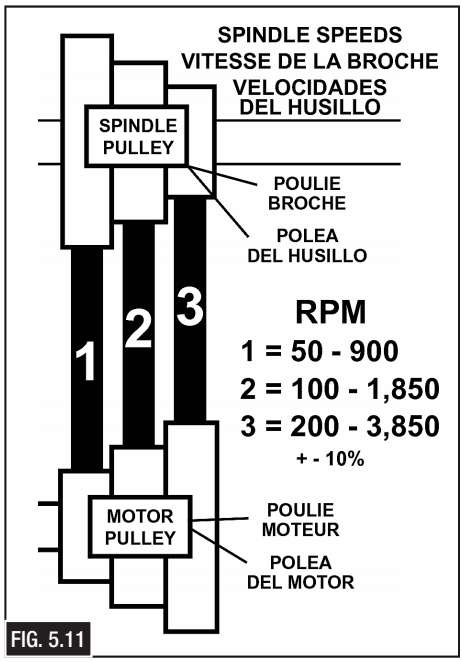


FIG. 5.11



FIG. 5.17

5.9 SPINDLE INDEXING

The Index Pin Assembly (Fig. 5.18) is used to hold and position the spindle for making accurate, spaced pattern work on projects such as straight fluting, grooving drilling detail carving, and more.

The Headstock Spindle has 24 indexing holes, each 15° apart. The Indexing Chart, Fig. 5.19 shows the 24 indexing holes. The 8 primary settings are listed below, however, other indexing/design settings are possible. Vary the index combinations to make non-equal, spaced patterns. 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.

The Index Pin is spring loaded. To operate:

- Rotate the Index Knob (Fig. 5.18) 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.

The pointer lets you select the specific numbered index hole when creating patterns on the work piece.

Insert the Indexing Pin into one of the 24 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.

With the indexing pin in the first spindle hole setting, 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 positions and complete the remaining markings, on your workpiece.

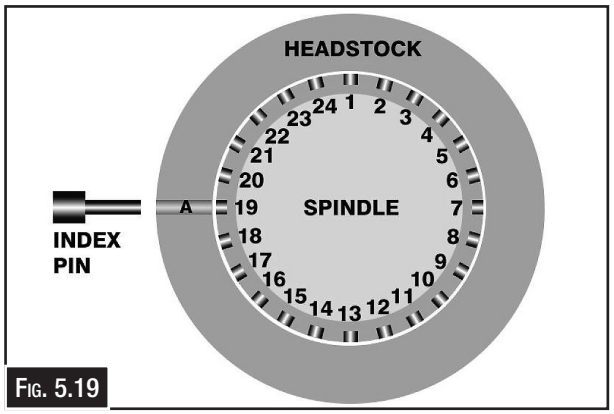


FIG. 5.19

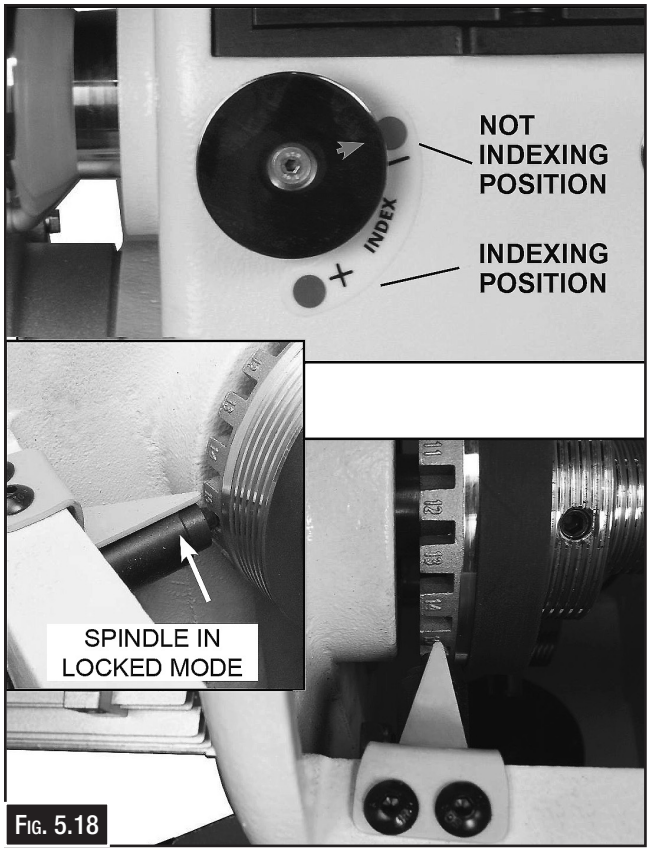


FIG. 5.18

WARNING!

Never use the index pin to hold the spindle to remove accessories from the lathe, or start the lathe with the index pin engaged in the spindle.

NUMBER OF INDEX POSITIONS	ANGLE BETWEEN POSITIONS	HEADSTOCK INDEX LETTER	SPINDLE INDEX NUMBER
1	360°	A	1
2	180°	A	1,13
3	120°	A	1,9,17
4	90°	A	1,7,13,19
6	60°	A	1,5,9,13,17,21
8	45°	A	1,4,7,10,13, 16,19,22
12	30°	A	1,3,5,7,9,11,13, 15,17,19,21,23
24	15°	A	1 to 24

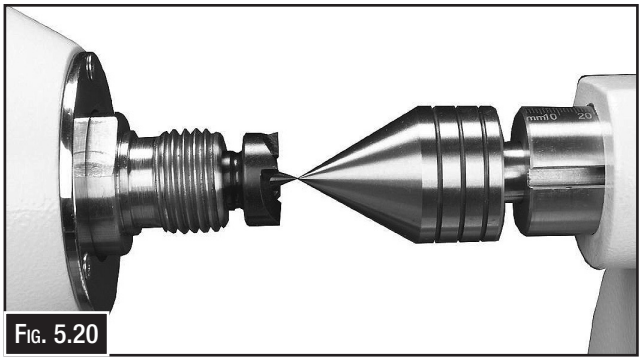
5.10 ALIGNING SPINDLE CENTERS

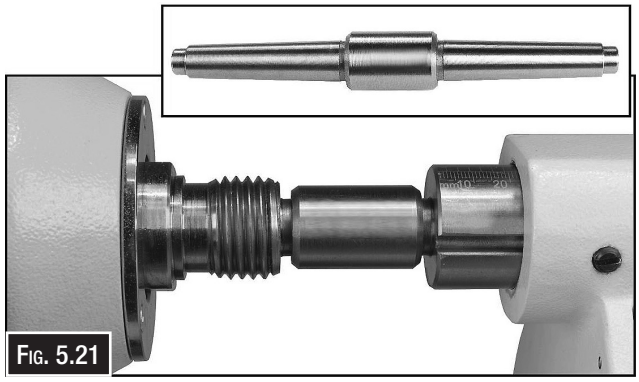
The alignment of the headstock spur center and the tail-stock live center are set at the factory, but this should be checked once the lathe is assembled and ready for use.

1. Slide the tail-stock towards the headstock until the center point of the live center almost touches the headstock's spur center. Fig. 5.20)
2. Check the alignment of the center points by viewing from the top and side, and also by rotating the spur center.
3. If the centers do not align, use the provided MT2-MT2 Alignment Gauge (Fig. 5.21) to align the headstock to the tail-stock.

- Insert one tapered end of the MT2-MT2 Gauge into the headstock spindle's tapered hole.
- Unlock the headstock and keep it facing the tail-stock.
- Unlock the tail-stock and slide it towards the headstock so the right, free end of the MT2-MT2 gauge held in the headstock enters the tapered hole in the tail-stock.
- With both headstock and tail-stock unlocked, move the tail-stock further left so that the MT2-MT2 gauge is fully inserted in the two tapered holes. The headstock and tail-stock are now aligned. Lock the headstock in place.
- The tail-stock can now be moved right, away from the tail-stock and the MT2-MT2 gauge removed.

NOTE: The alignment of the headstock to tail-stock should always be done if the headstock is rotated.


FIG. 5.20


FIG. 5.21

WARNING!

SAFETY FIRST

The machine must not be plugged in and the power switch must be in the Off position until ALL adjustments are made.

5.11 ADJUSTING LOCKING HANDLES

The locking handles on the Tool Rest Base and Tail-stock 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 (A in Fig. 5.22) that are located under the lathe bed below the assemblies.

Test the clamping pressure with the locking handle, (B in Fig. 5.22) and adjust the nut again, if needed.

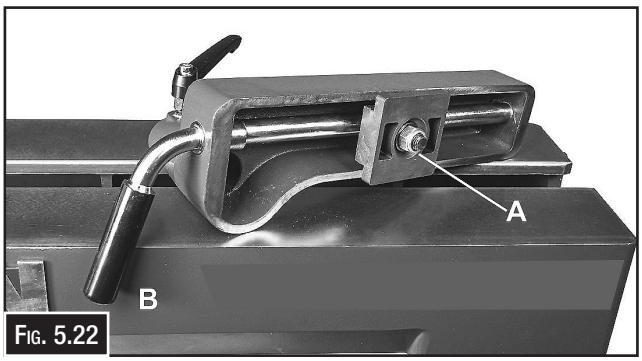


FIG. 5.22

1. Loosen the locking Handle, (B) so that there is no clamping pressure being exerted on the lathe assembly.

2. With the wrench, slightly turn the Hex Nut (A) to loosen or tighten it on its threaded Draw-bar Bolt.

3. Test the clamping pressure with the locking handle, and adjust the nut again, if needed, to set the right pressure

6. MAINTENANCE

It is very important that regular maintenance of the equipment is carried out. The operators need to follow the daily maintenance procedures.

For optimum performance from this machine, the maintenance schedule listed below and in this section must be followed.



WARNING!

Always disconnect the power to the machine before servicing or doing maintenance to the machine.

It is very important that regular maintenance of the equipment is carried out. The operators need to follow the daily maintenance procedures.

For optimum performance from this machine, the maintenance schedule listed below and in this section must be followed.

6.1 SCHEDULE

Avoid a build-up of wood shavings and dust. Regularly clean all parts of the machine using a soft cloth, brush or compressed air.

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.

Daily Check

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.

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.

NOTE: When not in use, make sure that the WL-475VS 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.



WARNING!

If using compressed air to remove the sawdust, wear proper eye and face protection to prevent debris from blowing into eyes, and prevent fine dust particles produced by the woodworking machine going inside your lungs and cause serious respiratory problems.

6.2 TAIL-STOCK MAINTENANCE

Regular maintenance of the Tail-stock requires the occasional disassembly, cleaning and lubricating of the lathe's quill and screw. One of the common issues with lathe quills is that the 2 grooves in the quill sides get damaged by the quills positioning set screws from the rotational pressure from normal use, and especially by drilling.

Lastly, the overall cleaning of the screw and other surfaces of any debris and old oil/grease should also be done, then reapply new grease or oil to lubricate the parts.

6.3 CHANGING THE BELT

Changing the belt requires that the headstock spindle to be half removed, from the headstock casting.

1. Unplug the lathe from the power source and remove the faceplate from the spindle.
2. Open the 2 Belt Doors to gain access to the belt and pulleys that are inside the headstock. (A & B in Fig. 6.1)
3. Pull the Belt Tensioning Handle forward, away from the motor. (Fig. 6.2)
4. Push the Tensioning Handle down, to loosen the tension on the belt, and then secure the handle in place by pushing the handle back towards the motor. The belt can now be removed.
5. Unscrew the Spindle Lock Nut clockwise with the supplied 10mm Hex Wrench, while holding the spindle steady at the opposite end with the large 38mm Wrench.
6. Unscrew the Spindle Hand Wheel (#64B) counterclockwise from the spindle.
7. Unscrew the large Locking Nut counter clockwise from the spindle with the large 38mm Wrench. (Fig. 6.4)
8. Loosen the Set Screws that attach the Spindle Pulley to the spindle. There are 2 set screws in each hole, one stacked upon the other. Remove the top set screw then loosen the bottom set screw. (A in Fig. 6.5)
9. Remove the Plastic RPM Reader Disc from the spindle. (B in Fig. 6.5)
10. Unscrew the 2 Set Screws that attach the Spindle Lock Disc to the spindle. (C in Fig. 6.5)
11. Unscrew the 3 hex head bolts from the Spindle Ring and remove the Ring from the headstock casting. (Fig. 6.7)

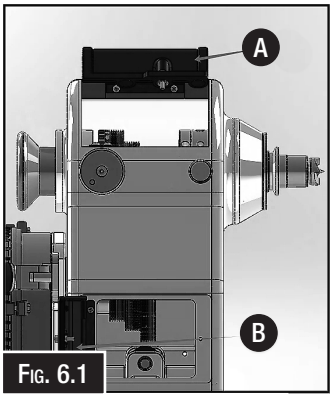


Fig. 6.1

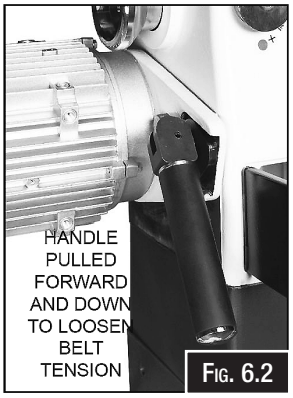
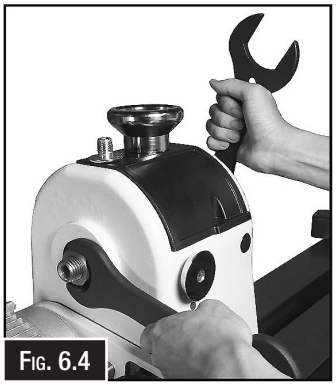


Fig. 6.2


Fig. 6.3


Fig. 6.4

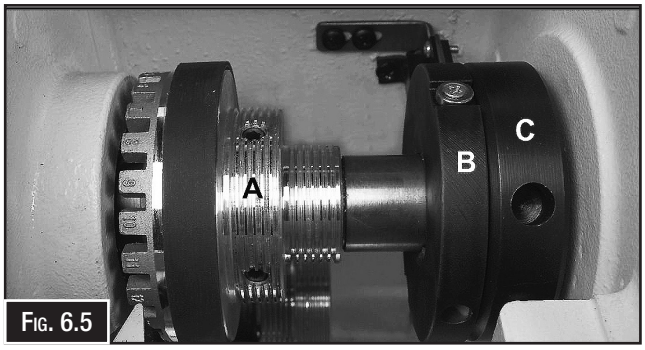
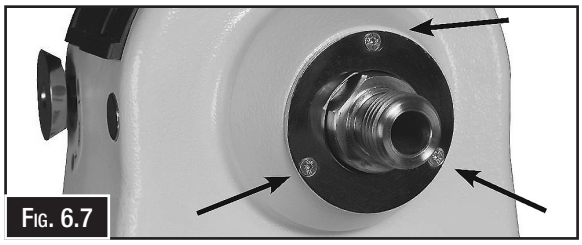
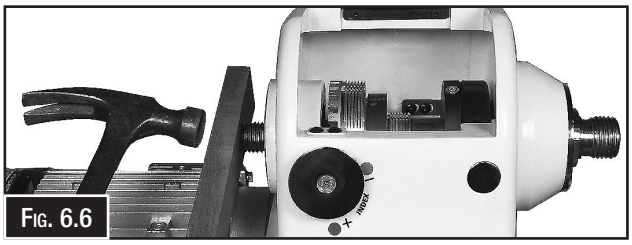


Fig. 6.5


Fig. 6.7


Fig. 6.6

6.3 CHANGING THE BELT Cont.

12. 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. (Fig. 6.6, page 22)

NOTE: Care must be taken when moving the spindle to prevent the sliding Spindle Pulley and plastic RPM Reader Disc from hitting the mounting plate and RPM Reader Assembly.

13. 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.
14. Reassemble the lathe parts by also reversing the procedure described in steps 1 - 11. Make sure that the Spindle Pulley and RPM Reader Disc are secured in their original positions on the spindle - the spindle pulley aligns with the lower motor pulley, and the RPM reader disc aligns to the RPM Reader.

6.4 CHANGING SPINDLE BEARINGS

NOTE: CHANGING THE SPINDLE BEARINGS follow the same spindle removal process as described on pages 22 '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 2-11 on page 22 for 'Changing the Belt'.
3. Once the Spindle Pulley, Plastic RPM Reader Disc and Spindle Lock Disc set screws are loose, and the Spindle Ring has been removed, 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.

NOTE: Care must be taken when moving the spindle to prevent the sliding Spindle Pulley, plastic RPM Reader Disc and spindle lock disc from hitting the fixed mounting plate and RPM Reader Assembly

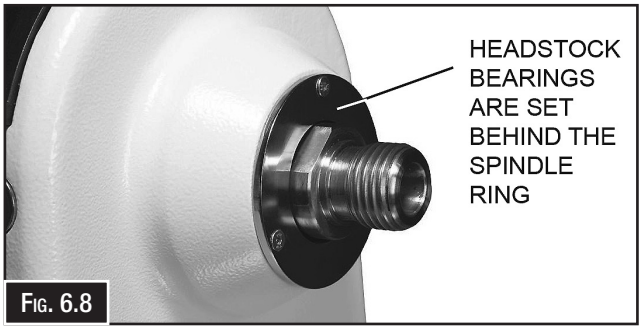


FIG. 6.8

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.
5. Replace the four Bearings (#19B & 69B) 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 11 on page 22.

CAUTION!

Before attempting this feature, disconnect the machine from the power supply to avoid injury to the operator from accidental startup, injury or death to the operator.

6.5 ELECTRONIC SPEED CONTROL ERROR CODES

When the electronic speed control has a problem the display will throw up an error code. Below are the codes and the correct response to them.

LED CODE	INV CODE	CONDITION	SOLUTION
E04	OC	Over current	1. Power OFF and wait 5 minutes before restarting 2. Check the load on the motor 3. Check if Index Pin or turnings are preventing spindle rotation 4. If you cannot return to normal contact Customer Service
E06	OE	Over voltage	1. Check if the voltage of the power source is valid. 2. Power OFF and wait 1 minute before restarting. If you cannot return to normal contact Customer Service
E0b	OL1	VFD Drive overload	1. Check the load on the motor 2. Check if Index Pin or turnings are preventing spindle rotation
E0d	LF	Lead fault	1. Check if the motor wires are firmly connected 2. Check if the inverter is connected to the motor
E23	LE	Low voltage	1. Check if the voltage of power source is valid 2. Check and conform all wires and plugs are firmly connected.
E09	OH	VFD Drive overheating	1. Improve the system ventilation. Clean dust & debris from the machine and inside of the Inverter box 2. Rest lathe for 30 minutes and turn on main power switch only to run the inverter's cooling fan 3. If you cannot return to normal contact Customer Service
E08	GF	Ground Fault	1. Power OFF and wait 1 minute before restarting 2. Check and confirm all wires and plugs are firmly connected. 3. Check the load on the motor 4. Check if Index Pin or turnings are preventing spindle rotation 5. If you cannot return to normal contact Customer Service
E0A	OL	Motor overload	1. Check the load of motor 2. Check if Index Pin or turnings are preventing spindle rotation
E0E	dbuP	Dynamic brake	1. Power OFF and wait 2 minutes before restarting 2. If you cannot return to normal contact Customer Service
E21	PrEr	Flash program	1. Power OFF and wait 2 minutes before restarting 2. If you cannot return to normal contact Customer Service
E22	EER	Flash error	1. Power OFF and wait 2 minutes before restarting 2. If you cannot return to normal contact Customer Service
E25	ESP	Emergency stop	1. The emergency switch is loose or disconnected 2. The display to the inverter connection line is loose

6.6 TROUBLESHOOTING

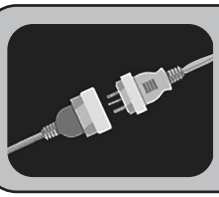
Review the troubleshooting and procedures in this section if a problem develops with your machine. If you need replacement parts then follow the procedure in the beginning of the spare parts section or if additional help with a procedure is required, then contact your distributor.

Note: Make sure you have the model of the machine, serial number,and manufacture date before calling.

SYMPTOMS	POSSIBLE CAUSE	POSSIBLE SOLUTION
Motor fails to develop full power.	1. Power line is overloaded 2. Under size wires in supply system 3. Low voltage 4. Worn motor	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

6.6 TROUBLESHOOTING

Symptoms	Possible Cause	Possible Solution
Motor will not start	1. Machine is not plugged in 2. Main ON/OFF switch is in the OFF position 3. Low voltage or loose connection	1. Plug in machine 2. Turn main ON/OFF switch ON. 3. Check plug, connections and fuse
Motor or Spindle Stalls or will not start	1. Excessive depth of cut 2. Loose or broken belt 3. Worn spindle bearings 4. Improper cooling of motor 5. Worn motor	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.	1. Workpiece is warped, out of round, has major flaws 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	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	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.	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 degreaser
Tailstock Handwheel is hard to turn	1. Tailstock quill locking lever is still tight 2. Build up of dirt, resin on inside quill thread	1. Loosen tailstock quill 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	1. Incorrect adjustment on locking lever mechanism	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	1. MT2 tapers are damaged, or have buildup of dirt or excessive grease. 2. Insufficient pressure when loading	1. File or polish away any damage and clean tapers, inside and out. Apply light coating of oil on tapers to prevent rusting 2. Install centres with firm hand pressure. Do not knock in with solid object
Spur and live centres do not align.	1. Headstock is not aligned with the tailstock	1. Loosen bolts securing the headstock to the bed, align centres, then re-tighten the headstock bolts
Digital readout does not work	1. Dust buildup on RPM reader 2. Digital readout sensor out of position	1. Blow off the dust from the RPM reader 2. Adjust the sensor with the RPM reader 3. Contact Customer Service
Magnet Control Box will not stick to lathe frame	1. Control box is positioned on labels 2. Control box is positioned on a curved surface 3. Magnets are loose or are missing	1. Move controls to alternate location. 2. Move the control box to a flat surface so the magnets get full holding power 3. Secure the nuts holding the magnets to the control box back plate
Machine bogs down during cutting	1. Excessive depth of cut is taken 2. Turning tools are dull 3. Drive belt is loose	1. Decrease the depth of cut 2. Sharpen the turning tools 3. Increase tension of drive belt
Tools tend to grab or dig in.	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	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



WARNING!

Always disconnect the power to the machine before doing any adjusting or maintenance to the machine.

VARIABLE SPEED WOOD LATHE
MODEL WL-457VS

Order Code: (W3884)

The following section covers the spare parts diagrams and lists that were current at the time this manual was originally printed. Due to continuous improvements of the machine, changes may be made at anytime without notification.

HOW TO ORDER SPARE PARTS

1. Have your machines model number, serial number & date of manufacture on hand, these can be found on the specification plate mounted on the machine.

2. A scanned copy of your parts list/diagram with required spare part/s identified.

NOTE: SOME PARTS MAY ONLY BE AVAILABLE AS AN ASSEMBLY

3. Go to www.machineryhouse.com.au/contactus and fill out the inquiry form attaching a copy of scanned parts list.



WARNING!

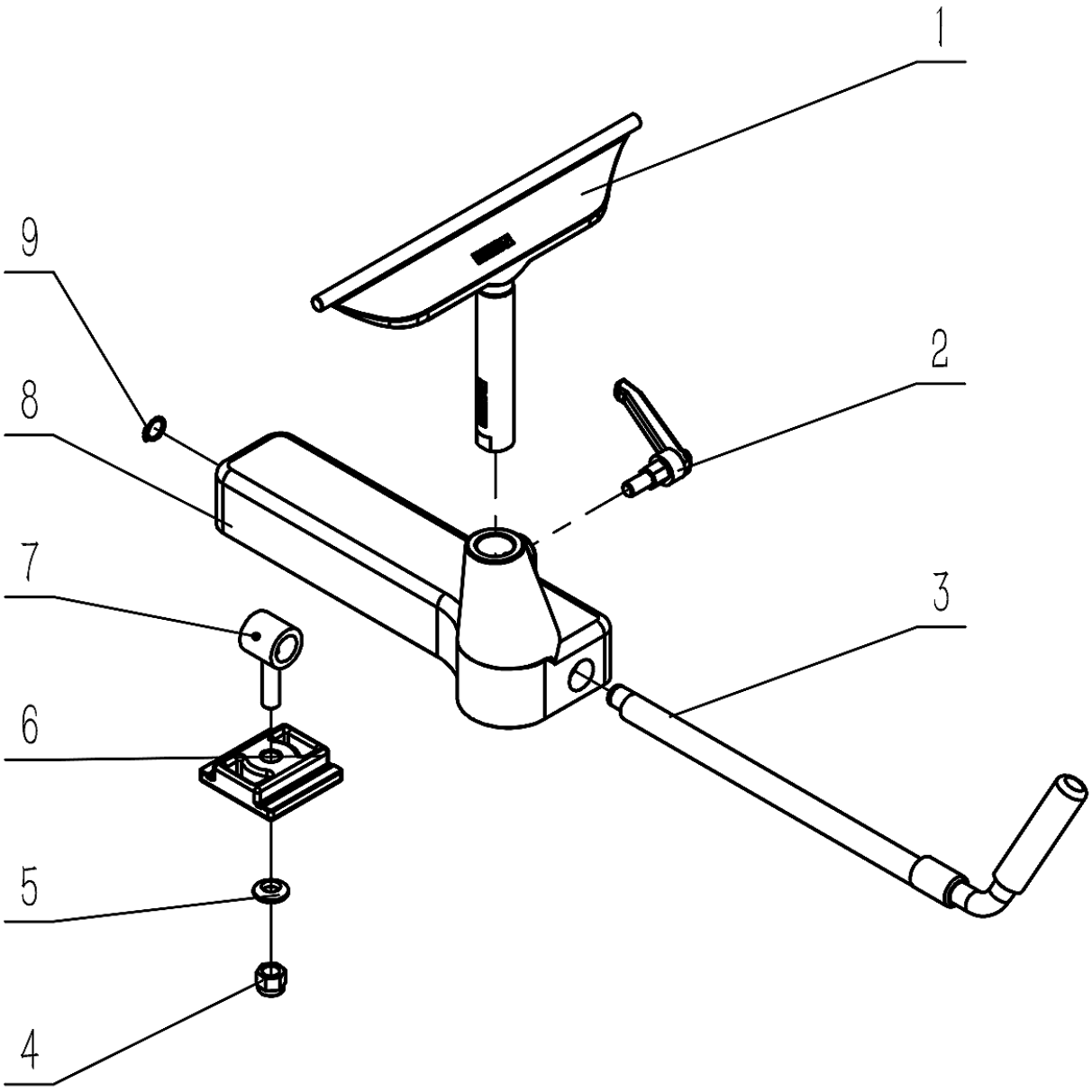
Electricity is dangerous and could cause death.
All electrical work must be carried out by a qualified electrician.



CAUTION!

It is impossible to cover all possible hazards Every workshop environment is different. These are designed as a guide to be used to compliment training and as a reminder to users prior to equipment use. Always consider safety first, as it applies to the individual working conditions.

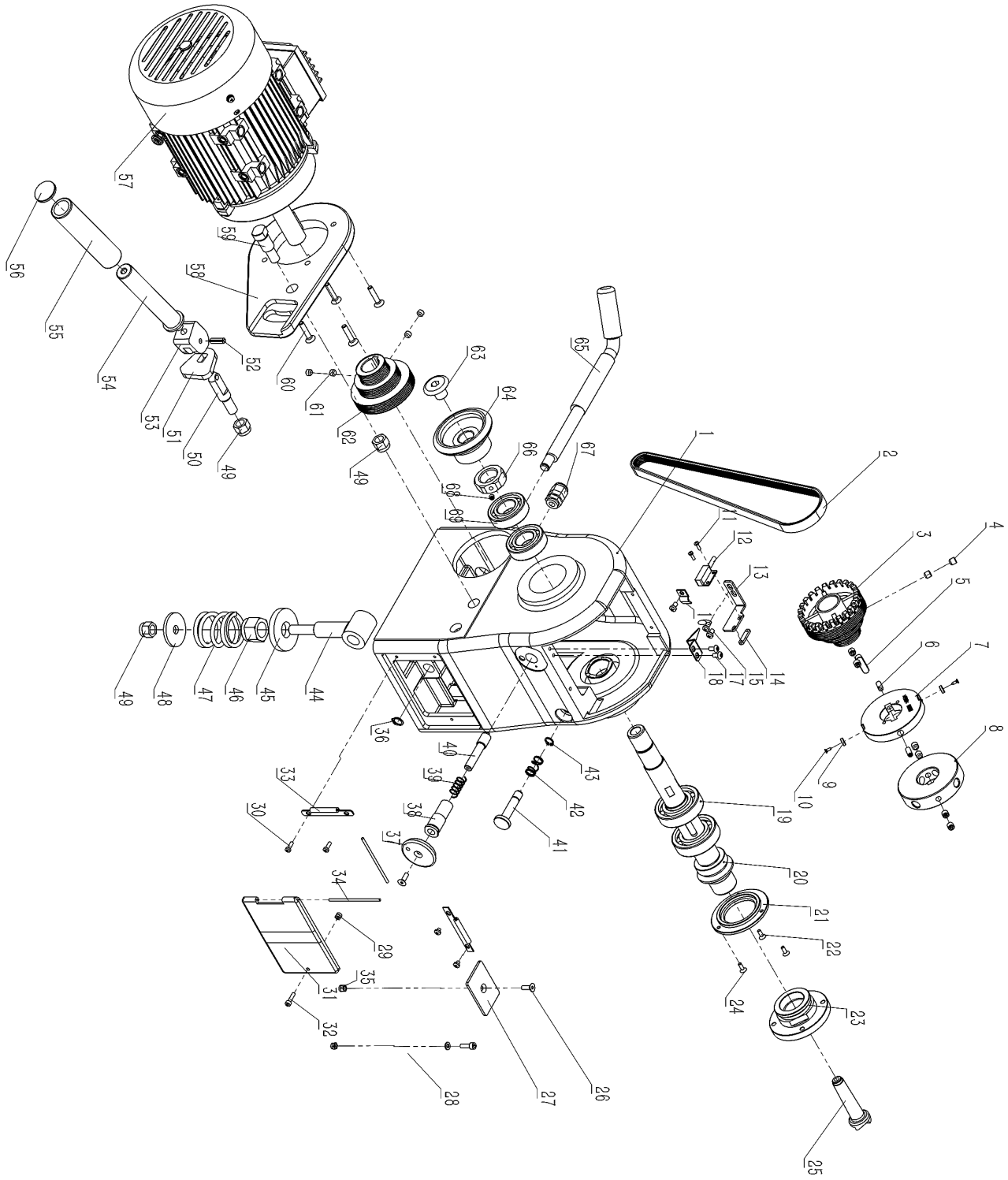
TOOL REST SPARE PARTS



ITEM	DESCRIPTION	DRAWING NO.
1	12” TOOL REST	WL1220A054000/A/B/C
2	LOCKING HANDLE	KTSB-1-B-M10X80X20
3	HANDLE	WL1824A050002
4	HEX LOCK NUT M12	M12GB889D1ZF
5	WASHER 12	WSH12GB849B
6	POSITION PLATE	WL3040A040005
7	DRAWBAR	WL1824A050003
8	TOOL REST BASE	WL1824A050001
9	RETAINING RING 15	CLP15GB894D1B

NOTE: SOME INDIVIDUAL PARTS MAY ONLY BE AVAILABLE AS AN ASSEMBLY

HEADSTOCK SPARE PARTS



HEADSTOCK PARTS LIST

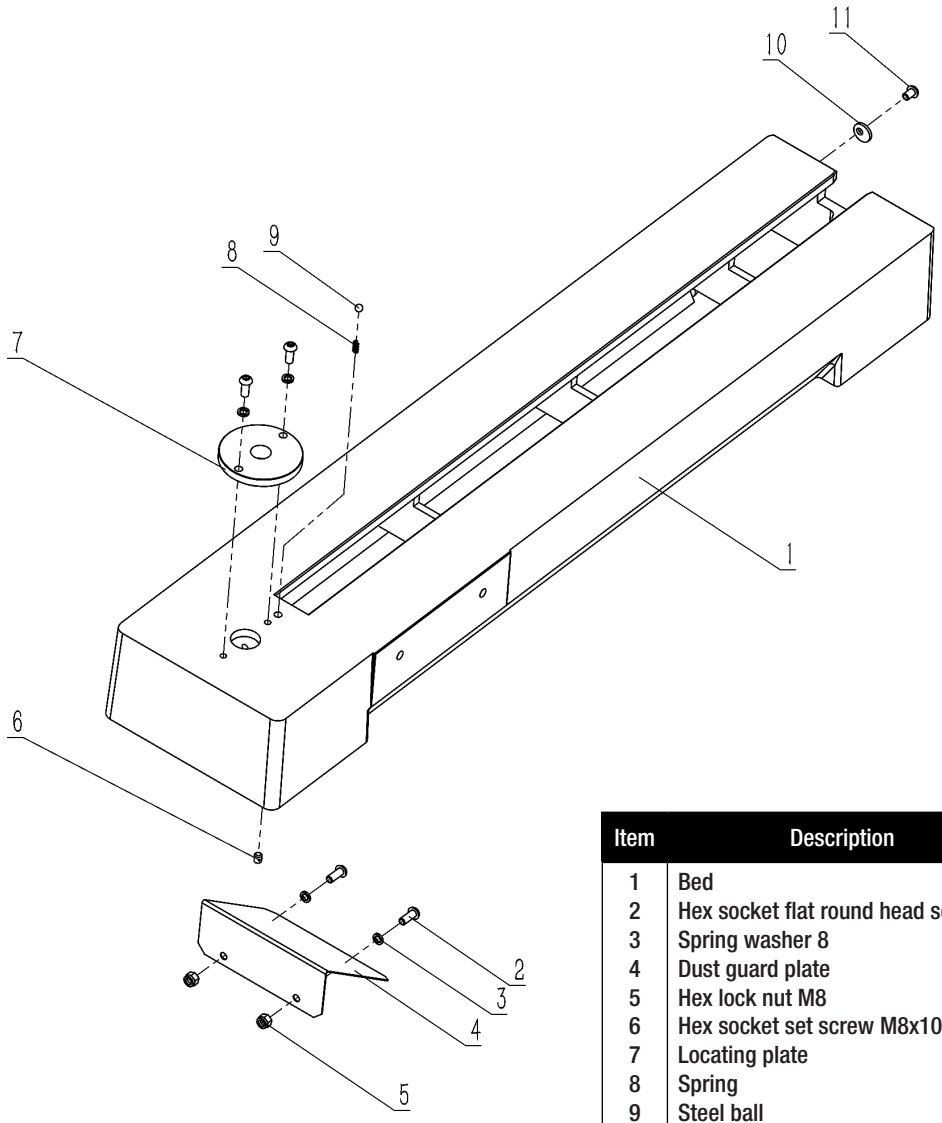
Item	Description	Drawing No.
1	Headstock	WL1824A020001/A/B/D/E
2	Poly V-Belt	6PJ470GB16588
3	Spindle pulley	RCWL1624A020003
4	Hex socket set screw M8x8	M8X8GB80B
5	Flat key 8x7x28	PLN8X7X28GB1096
6	Hex socket set screw M6x16	M6X16GB80B
7	Magnetic steel sleeve	WL1824A020012
8	Spindle lock disc	WL1824A020011
9	Magnetic steel	WL1216B020014
10	Tapping screw ST2D9x9D5	ST2D9X9D5GB846Z
11	Cross recess pan head screw M3x10	M3X10GB818Z
12	RPM reader	WL1824A091003
13	Mounting plate	WL1824A020014
14	Threaded plate	WL1824A020023
15	Cross recess pan head screw M5x8	M5X8GB818B
16	Cable pressing plate	1502014-02
17	Hex socket flat rnd head screw M5x10	M5X10GB70D2B
18	Pointer	WL1824A020010
19	Bearing 6206	BRG6206-2RSGB276
20	Spindle	WL1824A020004/A/B/C/D
21	Bearing end cap	WL1824A020018
22	Hex socket cntrsk head screw M4x12	M4X12GB70D3B
23	Faceplate	WL2036A01001/C/D/F
24	Hex socket cntrsk head screw	M4X12
25	Spur center	WL1216A011100
26	Hex socket cntrsk head screw M5x16	M5X16GB70D3Z10D9
27	Panel	WL1420A020009
28	Headstock cover	WL1824A020002/A
29	Cross recess cntrsk hd screw M4x12	M4X12GB819D1B
30	Cross recess pan head screw	M4x12
31	Plate	WL1824A020005
32	Small handle	WL3040A040003
33	Hinge	WL1220A020002
34	Hinge shaft	WL1220A020003
35	Hex lock nut M5	M5GB889D1Z
36	Retaining ring 12	CLP12GB894D1B
37	Knob	WL1824A020021
38	Locating sleeve	WL1824A020022
39	Spring	WL3040A020204
40	Locating pin	WL1824A020007
41	Pin shaft	WL1824A020013
42	Spring	BS350C014008
43	Retaining ring 10	CLP10GB894D1B
44	Bushing	WL1824A020016
45	Washer 5x55x8	YDP-20D5X55X8
46	Hex lock nut M20	M20GB889D2ZF
47	Spring	WL1824A020017
48	Big washer 12	WSH12GB5287Z
49	Hex lock nut M12	M12GB889D1ZF
50	Position shaft	WL2036B010117
51	Adjusting cam	WL2036B010302A
52	Elastic cylindrical pin 6x22	PIN6X22GB879D2B
53	Positioning cam	WL2036B010116
54	Handle	WL3040A020011
55	Handle sleeve	WL3040A050003

NOTE: SOME INDIVIDUAL PARTS MAY ONLY BE AVAILABLE AS AN ASSEMBLY

HEADSTOCK PARTS LIST

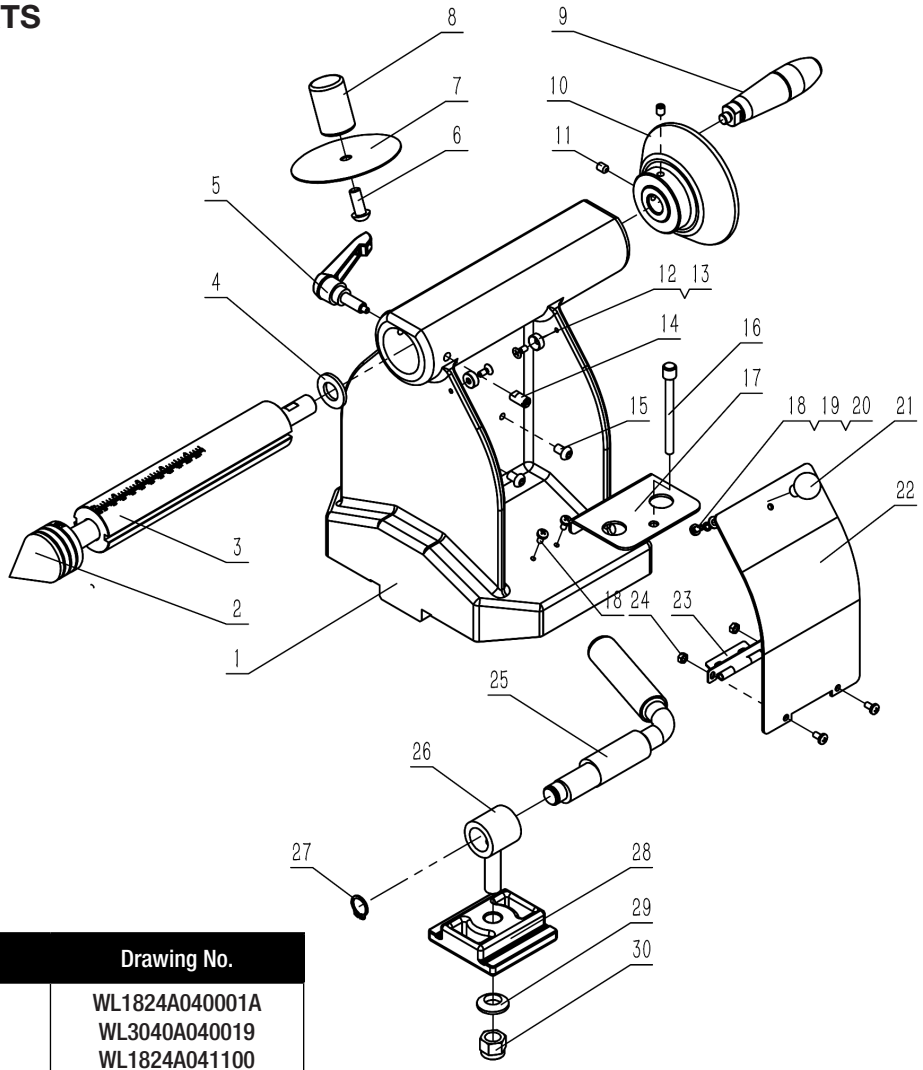
Item	Description	Drawing No.
56	Threaded cap	WL3040A010306
57	Motor 1.75HP, 115V (VSR)	YSH900154A
	Motor 2.5HP, 230V (VSR2)	YSH900194A
58	Motor adjusting plate	WL1824A020009
	Shoulder screw	WL2036B010115
60	Hex head countersunk screw M6x25	M6X25GB70D3B10D9
61	Hex socket set screw M8x6	M8X6GB80B
62	Motor pulley	RCWL1824B020002
63	Locking nut	WL1824A020019
64	Spindle hand wheel	WL1824A020003
65	Locking handle	WL1824A020006
66	Spindle lock nut	WL1824A020020
67	Bellows joint (M16)	ADD15D8
68	Hex socket set screw M6x5	M6X5GB77B12D9
69	Bearing 6205	BRG6205-2RSGB276

BED PARTS LIST



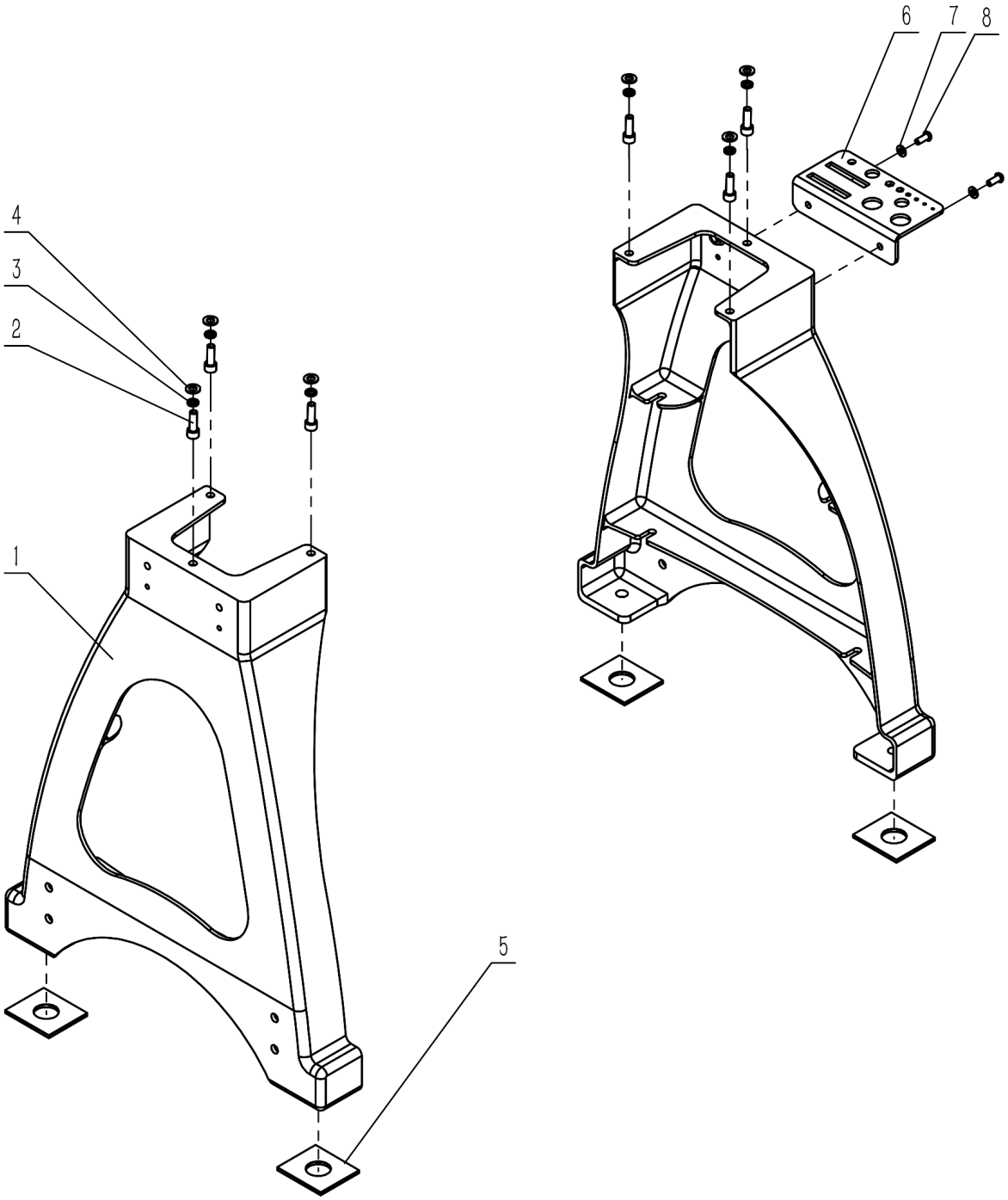
Item	Description	Drawing No.
1	Bed	WL1824A010001
2	Hex socket flat round head screw	M8X20GB70D2B
3	Spring washer 8	WSH8GB93B
4	Dust guard plate	WL1824A010004
5	Hex lock nut M8	M8GB889D1B
6	Hex socket set screw M8x10	M8X10GB77B
7	Locating plate	WL1824A010002
8	Spring	JXPS1203023009
9	Steel ball	JXCM2501021012
10	Eccentric washer	WL3040A010009
11	Hex socket flat round head screw	M8X12GB70D2B

TAILSTOCK SPARE PARTS



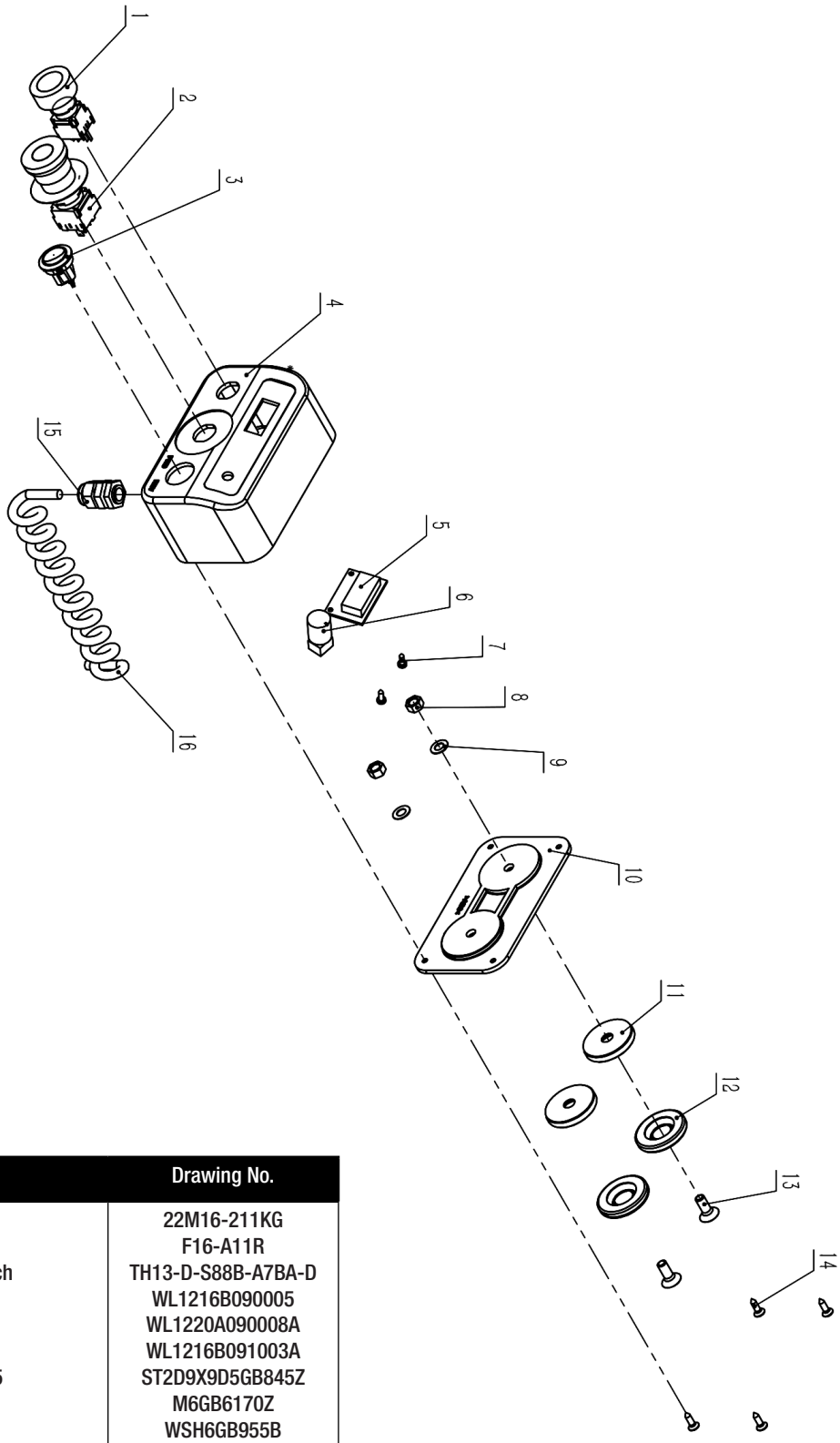
Item	Description	Drawing No.
1	Tailstock	WL1824A040001A
2	60° Live center	WL3040A040019
3	Shaft assembly (Quill)	WL1824A041100
4	Spacer	000061305L
5	Handle	KTSB-1-B-M8X63X25A
6	Hex socket rnd hd screw M8x20	M8X20GB70D2B
7	Rubber pad	WL1824A040007
8	Nylon round bar	WL1824A040006
9	Handle assembly	WL3040A040015A
10	Hand wheel	WL1824A040002
11	Hex socket set screw M6x8	M6X8GB80B
12	Magnet	WL1220A010006
13	Cross rec cntrsk hd screw M4x10	M4X10GB819D1B
14	Screw	WL3040A040008
15	Hex socket rnd hd screw M6x10	M6X10GB70D2Z
16	Short Knockout Bar	WL1216A070001
17	Tool holder	WL1824A040003
18	Cross rec pan hd screw M4x8	M4X8GB818Z
19	Spring washer 4	WSH4GB93Z
20	Flat washer 4	WSH4GB97D1Z
21	Small handle	WL3040A040003
22	Cover plate	WL1824A040004
23	Hinge	BS350B012300
24	Hex nut M4	M4GB6170Z
25	Tailstock locking lever	WL1824A040005
26	Drawbar	WL1824A050003
27	Retaining ring 15	CLP15GB894D1B
28	Position plate	WL3040A040005
29	Washer 12	WSH12GB849B
30	Hex lock nut M12	M12GB889D1ZF

LATHE STAND SPARE PARTS



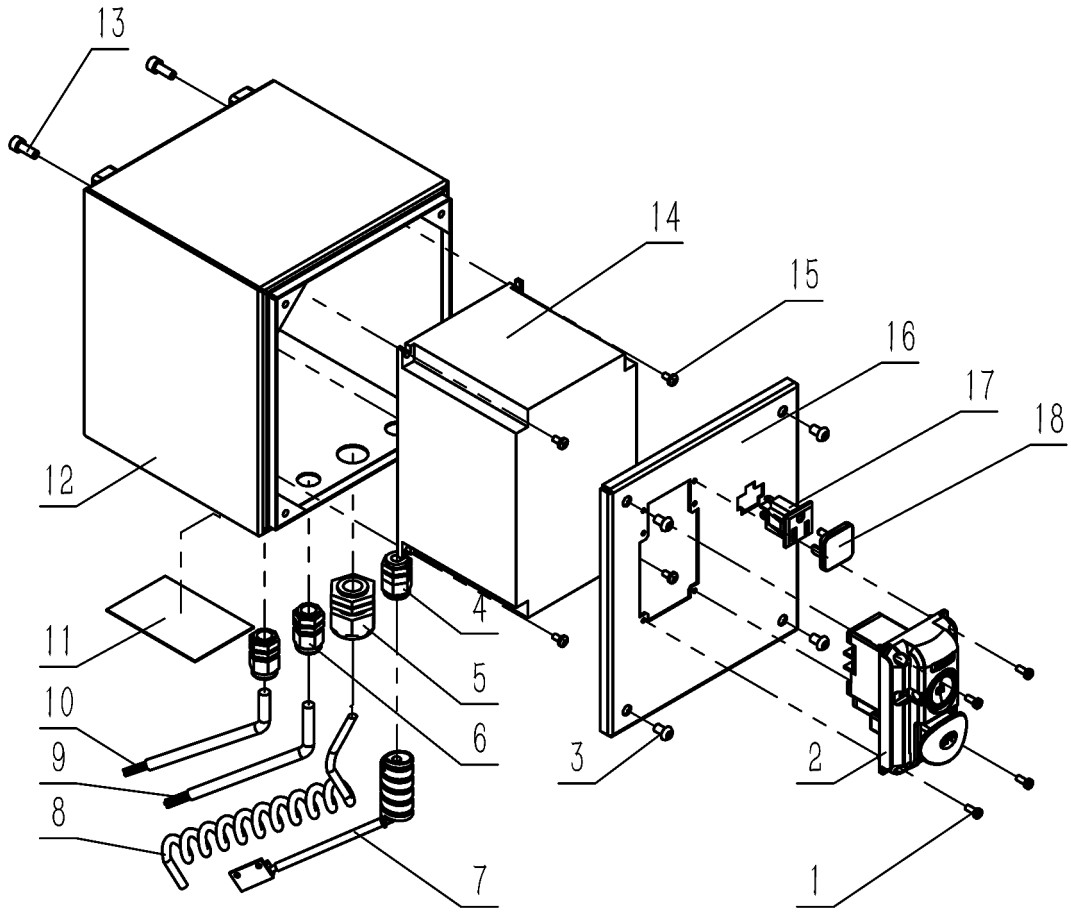
Item	Description	Drawing No.
1	Leg	WL1824A100001
2	Hex socket head cap screw M10x30	M10X30GB70D1Z
3	Spring washer 10	WSH10GB93Z
4	Flat washer 10	WSH10GB97D1Z
5	Rubber pads	WL1824A100003
6	Tool holder	WL1824A100002
7	Flat washer 8	WSH8GB97D1B
8	Hex socket flat round head screw	M8X20GB70D2B

CONTROL BOX SPARE PARTS



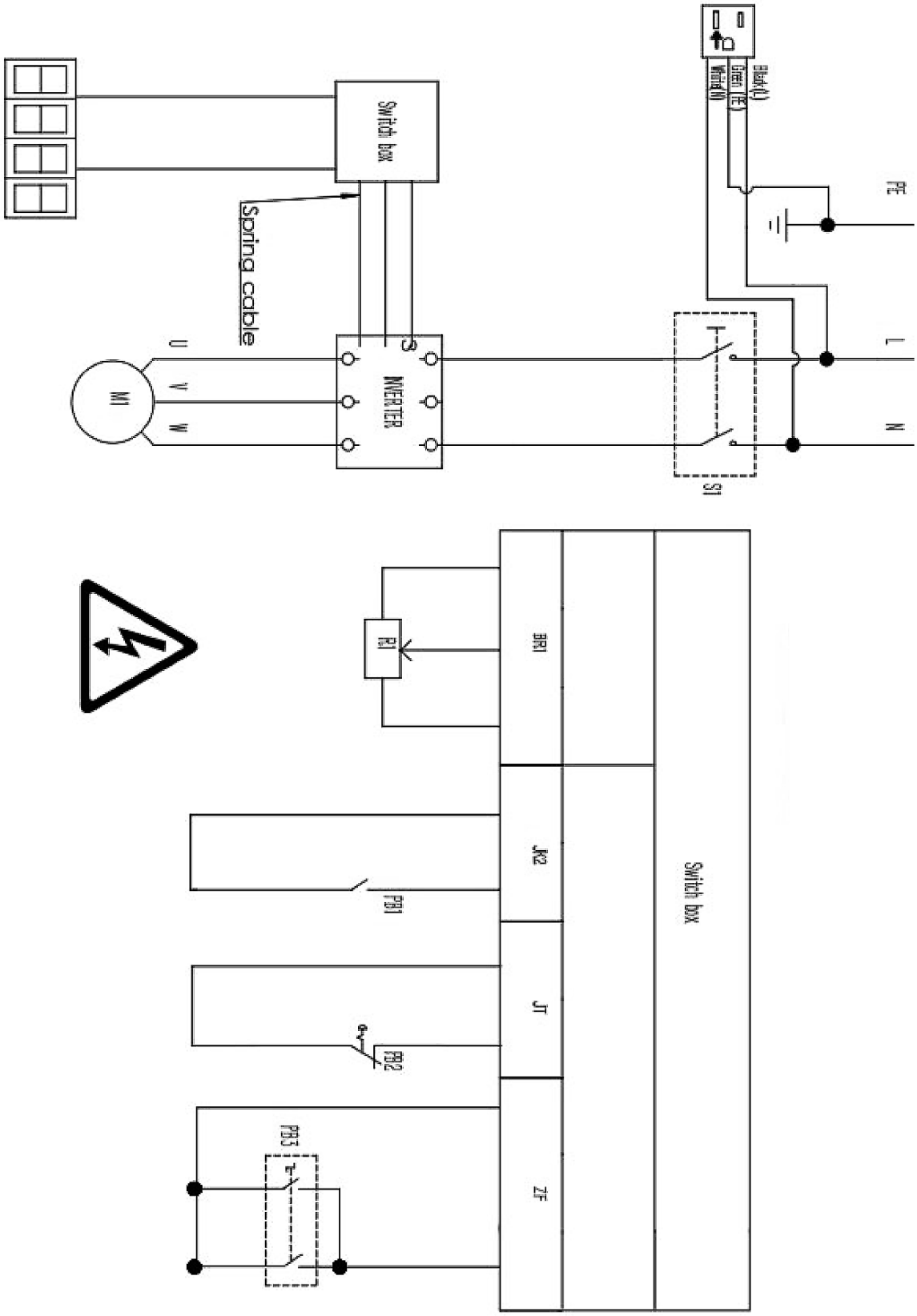
Item	Description	Drawing No.
1	Start button	22M16-211KG
2	Emergency stop button	F16-A11R
3	Forward and reverse switch	TH13-D-S88B-A7BA-D
4	Switch box	WL1216B090005
5	Digital display board	WL1220A090008A
6	Potentiometer knob	WL1216B091003A
7	Tapping screw ST2D9x9D5	ST2D9X9D5GB845Z
8	Hex nut M6	M6GB6170Z
9	Washer 6	WSH6GB955B
10	Switch box cover	WL1216B090006
11	Magnet steel	PS315A052010
12	Magnet steel sleeve	RCWL1624A090004
13	Hex sockt cntrsk hd screw M6x16	M6X16GB70D3Z
14	Tapping screw ST3D5x13	ST3D5X13GB846Z
15	Cable strain relief M12	WL2036A046200
16	Spring cable	THDL-9-2M

INVERTER BOX SPARE PARTS



Item	Description	Drawing No.
1	Crs recess pan hd screw M4x10	M4X10GB823B
2	Switch	HY56-6
3	Hex socket rnd hd screw M6x10	M6X10GB70D2Z
4	Bellows joint M16	ADD15D8
5	Cable strain relief M22	JMBS140209000
6	Cable strain relief M16x1.5	WL2036A046300
7	RPM reader	WL1824A091003
8	Switch Box Cable	THDL-9-2M
9	Motor Cable	U14141420-941
10	Plug cable 115V (VSR)	U23142600-551
	Plug cable 230V (VSR2)	U14142300-424g
11	Filter	WL3040A090009
12	Controller box	WL1824A091100
13	Hex socket hd cap screw M6x16	M6X16GB70D1B
14	Inverter 115V (for 1.75HP motor)	RM6T6-1002E1
	Inverter 230V (for 2.5HP motor)	RM6T6-2002E1
15	Crs recess pan hd screw M4x8	M4X8GB818Z
16	Cover plate	WL1824A091001
17	Socket (only for 115V lathe)	DB-F-M
18	Three pin safety plug(only for 115V lathe	WL1824A091002

WIRING DIAGRAM





ENVIRONMENT PROTECTION

Recycle unwanted materials instead of disposing of them as waste. All tools, accessories and packaging should be sorted, taken to a recycling centre and disposed of in a manner which is compatible with the environment. When the product becomes completely unserviceable and requires disposal, drain any fluids (if applicable) into approved containers and dispose of the product and fluids according to local regulations.

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