



Woodworking machinery at its best!

**HEAVY DUTY FLOORSTANDING ELECTRONIC
VARIABLE SPEED LATHE
MODEL: 1624V**



**Charnwood, Cedar Court, Walker Road,
Hilltop Industrial Estate, Bardon Hill, Leicestershire, LE67 1TU**

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GENERAL SAFETY RULES

WARNING: Do not attempt to operate the machine until you have read thoroughly and understood completely all instructions, rules, etc. contained in this manual. Failure to comply may result in accidents involving fire, electric shock, or serious personal injury. Keep this owner's manual and review frequently for continuous safe operation.

1. Know your machine. For your own safety, read the owner's manual carefully. Learn its application and limitations, as well as specific potential hazards pertinent to this machine.
2. Make sure all tools are properly earthed.
3. Keep guards in place and in working order. If a guard must be removed for maintenance or cleaning, make sure it is properly replaced before using the machine again.
4. Remove adjusting keys and spanners. Form a habit of checking to see that the keys and adjusting spanners are removed from the machine before switched it on.
5. Keep your work area clean. Cluttered areas and workbenches increase the chance of an accident.
6. Do not use in dangerous environments. Do not use power tools in damp or wet locations, or expose them to rain. Keep work areas well illuminated.
7. Keep children away. All visitors should be kept a safe distance from the work area.
8. Make workshop childproof. Use padlocks, master switches and remove starter keys.
9. Do not force the machine. It will do the job better and be safer at the rate for which it is designed.
10. Use the right tools. Do not force the machine or attachments to do a job for which they are not designed. Contact the manufacturer or distributor if there is any question about the machine's suitability for a particular job.
11. Wear proper apparel. Avoid loose clothing, gloves, ties, rings, bracelets, and jewellery which could get caught in moving parts. Non-slip footwear is recommended. Wear protective hair covering to contain long hair.
12. Always use safety glasses. Normal spectacles only have impact resistant lenses. They are not safety glasses.
13. Do not over-reach. Keep proper footing and balance at all times.
14. Maintain machine in good condition. Keep machine clean for best and safest performance. Follow instructions for lubrication and changing accessories.
15. Disconnect the machine from power source before servicing and when changing the drive belt.
16. To avoid accidental starting, make sure the switch is in the OFF position before plugging in the mains cable.
17. Never leave the machine running unattended. Turn the power off. Do not leave the machine until it comes to a complete stop.
18. Do not use any power tools while under the effects of drugs, alcohol or medication.
19. Always wear a face or dust mask if operation creates a lot of dust and/or chips. Always operate the tool in a well ventilated area and provide for proper dust removal. Use a suitable dust extractor.

ADDITIONAL RULES FOR LATHES

Never attempt to adjust any part of the workpiece whilst the lathe is still in motion. Wait until the workpiece has come to a complete stop.

1. Ensure that chuck keys, tommy bars and similar items are removed before the lathe is started.
2. Always stand to one side when you start the lathe so that if anything does fly off e.g. a loose piece of bark, you will be out of the line-of-fire.
3. When mounting a new piece of timber, rotate the wood through 360° by hand to ensure that it will not hit the tool rest or the bed of the lathe and then start the lathe at its slowest speed. When you are certain that that the work is secure and not too out of balance set the lathe to the normal turning speed.
4. Always check the rotation speed before switching the lathe on to avoid the risk of starting it whilst it is set to run at too high a speed.
5. The speed of the lathe must be adjusted to suit the size, balance, length and condition of the timber being turned. The greater the diameter of the work, the slower the rotation speed needs to be. If the piece you are turning is out of balance, then you must start turning at a low speed, until it is balanced.
6. The tool must rest firmly on the tool rest before it is brought into contact with the rotating wood and must never be lifted off the tool rest as long as it is in contact with the timber.
7. Before sanding, polishing or doing anything else that brings your fingers close to the work, remove the tool rest. Getting your fingers trapped between the tool rest and the work will at least be very painful and may cause serious injury.
8. Never wrap the sandpaper or polishing cloth round the work. If it tightens up it will pull your fingers into contact with the timber and may lead to serious injury.

Important



Risk of Injury!
Never reach into
Moving parts



Wear Eye
Protection



Wear Ear
Protection

Introduction

In order to get the most out of your lathe, please read through this manual and safety instructions before use.

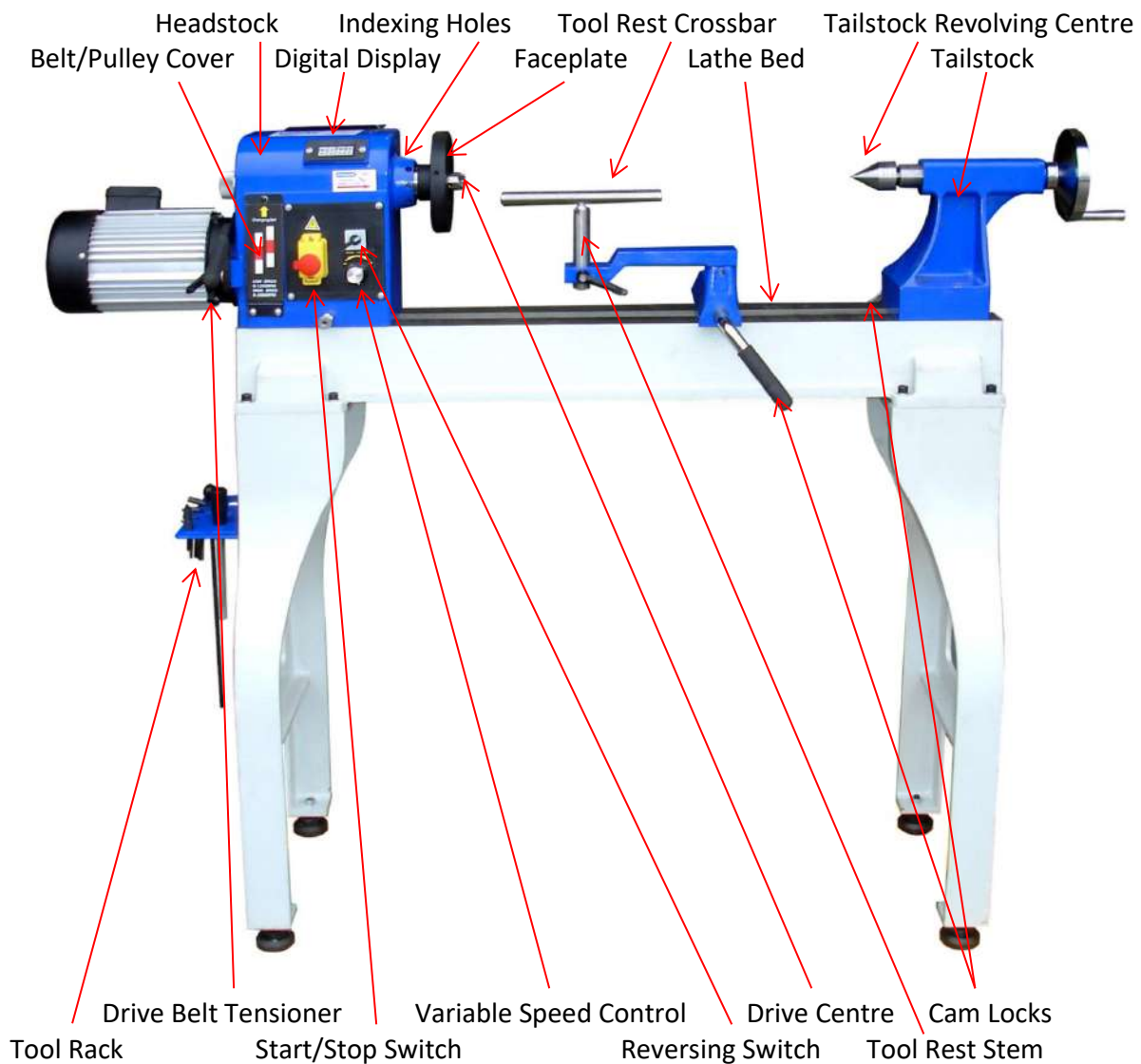
Please keep the manual in case you need it in the future.

Technical Data

N.B. The distance between centres will vary and be dependent on the type of centres or accessories used. Maximum distance is 500mm (20").

Distance between centres - Nominal		600mm (24")
- with supplied centres		580mm
- without centres		690mm
Distance over bed		408mm (16")
Distance over Banjo		310mm
Motor - 3 phase + Inverter		1500W
Speed Range (Forward & Reverse)	Low	100 - 1350rpm approx.
	High	200 - 3000rpm approx.
Spindle thread size		M33 x 3.5mm
Spindle tapers		2MT
Indexing Positions		36 (every 10 degrees)
Dimensions (WxDxH)		1550mm x 410mm x 1220mm
Weight – net/gross approx..		135kg/165kg
Rating		Light Trade
Warranty		1 Year

Main Components



Unpacking



All parts are contained in one crate.

Cut the retaining straps and prise off the lid of the crate. Care must be taken as it is secured with sharp pins.



Bolts securing legs to side of crate

Using a 13mm spanner, remove the two bolts securing the legs to the side of the crate.



Prise off the front of the crate and lift out the lathe legs. The lathe and legs are extremely heavy and assistance will be required.



The legs are connected together by brackets at each end which should be removed and discarded (13mm & 16mm spanners).

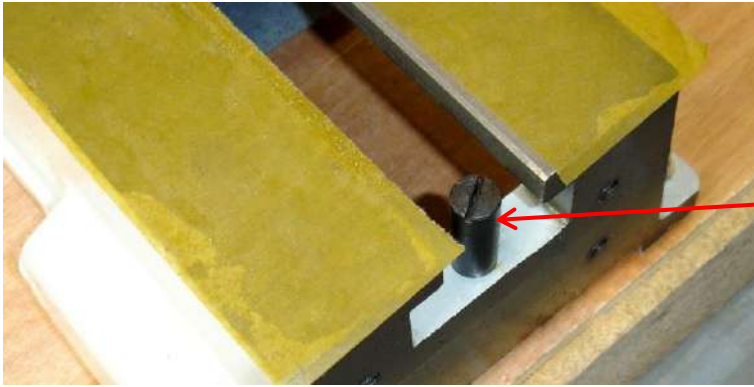


Unpack the parts from the accessories box and check that everything is present as shown.

If anything is missing contact your retailer immediately.



With the accessory box and legs removed, the remaining sides of the crate should now be prised apart to leave only the lathe attached to its pallet.



The attachment of the legs will be made easier if the headstock, toolrest and tailstock assemblies are temporarily removed from the bed in order to reduce weight.

Using a large flat blade screwdriver, remove the two bed end stops – one located at each end of the lathe.



Release the levers locking the headstock (requires handle from accessory box), banjo and tailstock – then remove each item by sliding off the end of the bed.

Remove the four nuts and washers from the bolts attaching the bed to the pallet and lift clear, laying it on its top face ready to accept the legs.

Remove Release Levers Remove



Using the 8mm hex key, attach the two legs with the eight M10 x 35mm cap head bolts & spring washers supplied.

The leg with the two holes for mounting the Tool Rack is fitted to the headstock end of the bed.

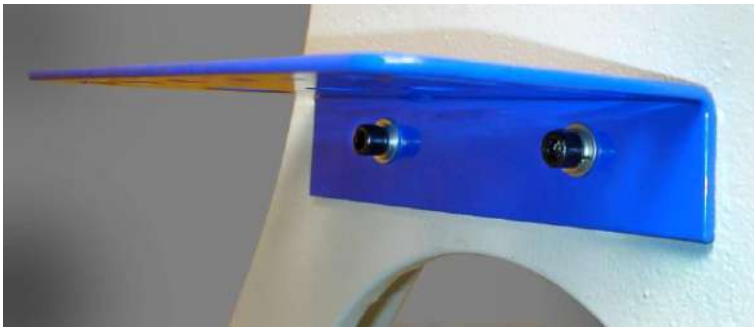
The leg with the four extension bed mounting holes is fitted to the end of the bed with similar holes.



Attach one foot to each of the legs.

These can be adjusted to level the lathe bed when it is in its final position.

Invert the bed/leg assembly.



Attach the Tool Rack to the left hand leg with two M8 x 16mm bolts, flat & spring washers.

Refit the headstock, toolrest and tailstock assemblies to the lathe bed.

The headstock is fitted at the tool rack end of the bed.

Replace the two end stops.

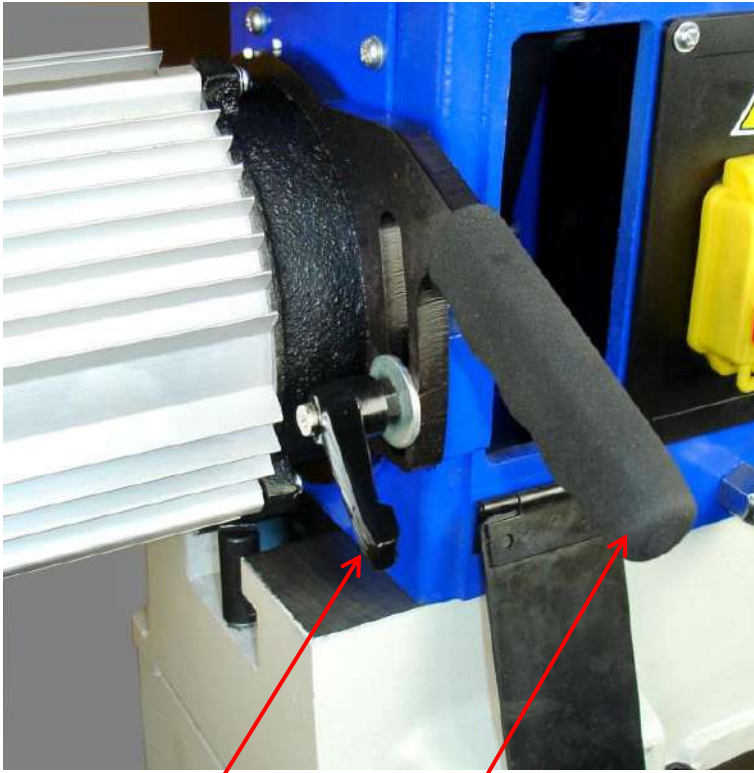
Adjusting the Spindle Speed



The lathe has electronic speed control. There are two ranges of speeds which are obtained by changing the position of the drive belt.

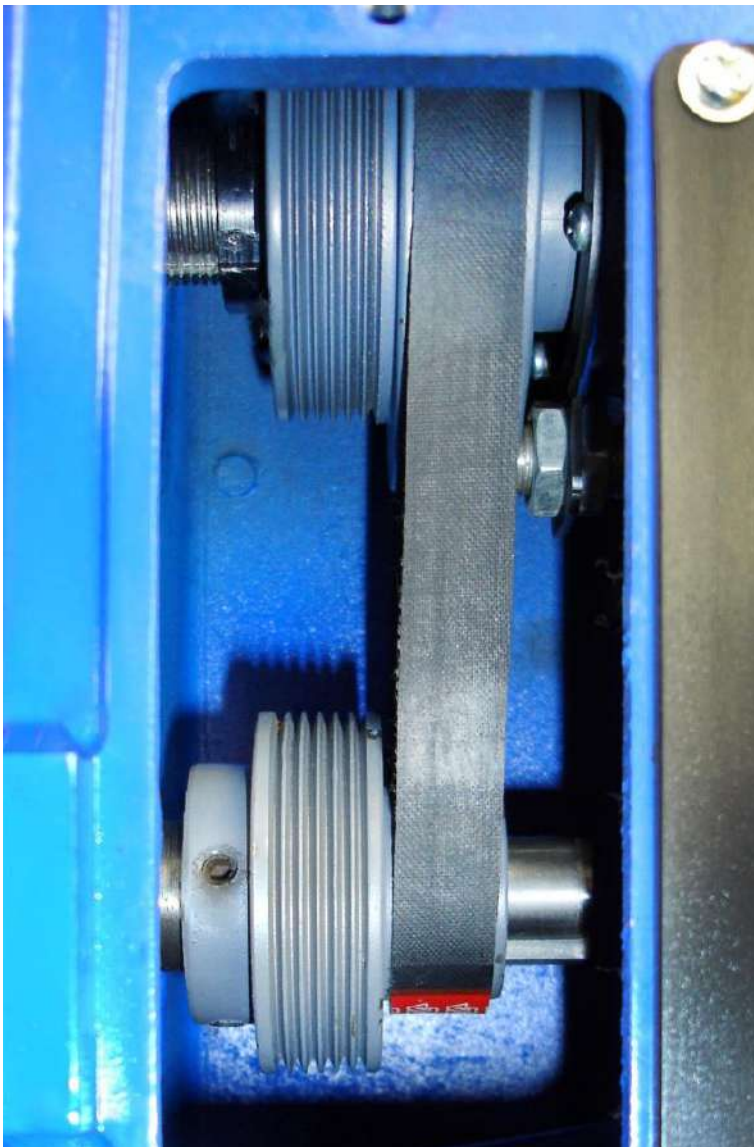
To adjust the drive belt position:

- 1) Open the belt/pulley access door by unscrewing the securing screw with the 3mm hex key. (this screw can be replaced by the knurled head screw supplied but only if the lathe is being used in a non-European Union country)



Locking Handle Belt Tensioning Lever

2) Loosen the belt by releasing the locking handle and lifting the tensioning lever. Retighten the locking handle with the lever in this raised position.



3) Position the belt on the left or right sets of pulleys according to which speed range you require.

The High Speed range (left hand pulleys) will provide maximum speed whereas the Low Speed range (right hand pulleys) will provide maximum torque.

Always remove the belt from the larger pulley first.

Re-tension the belt by releasing the locking handle and lowering the tensioning lever. The weight of the motor will provide the correct amount of tension.

Tighten the locking handle in this position.

Close the belt cover and re-tighten the securing screw.



On/Off Switch Variable Speed Control
Forward/Reverse Switch

After switching on the lathe, adjust the speed using the variable speed control knob.

The **approximate** practical speed ranges are:

Left Hand Pulleys:
100rpm to 1350rpm

Right Hand Pulleys:
200rpm to 3000rpm

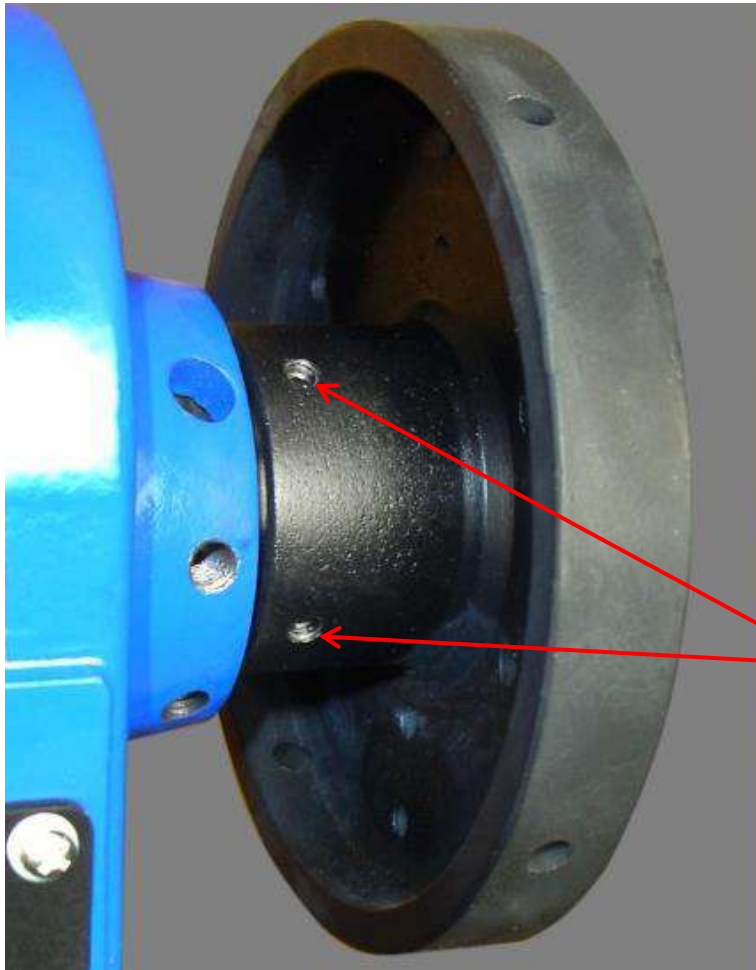


The actual spindle speed will be displayed on the LED Indicator.

Recommended Turning Speeds

Workpiece Diameter mm	Roughing Cuts RPM	General Cutting RPM	Finishing Cuts RPM
Under 50	1500	3200	3200
50-100	750	1600	2500
100-150	500	1000	1700
150-200	500	800	1250
200-250	500	650	1000
250-300	500	530	850

Forward/Reverse Control



The Forward/Reverse switch should never be used when the lathe spindle is still rotating.

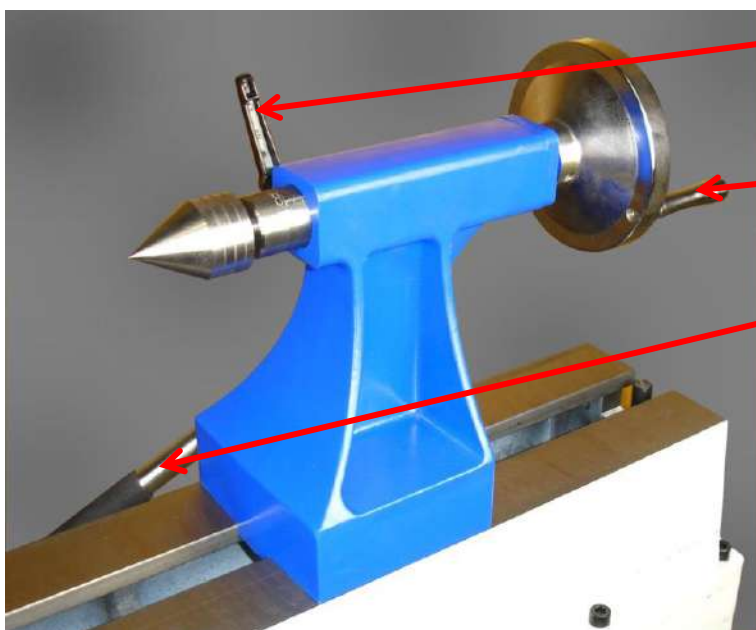
Always stop the lathe by using the ON/OFF switch and wait for the workpiece to come to a standstill.

IMPORTANT The lathe should be reversed only if the chuck or faceplate is locked onto the spindle thread (e.g. with a grub screw) or when turning between centres with the morse taper drive centre.

Some chucks are not equipped with any form of locking and should never be used in reverse.

The faceplate supplied with the lathe has two thread-locking grub screws.

Using the Lathe

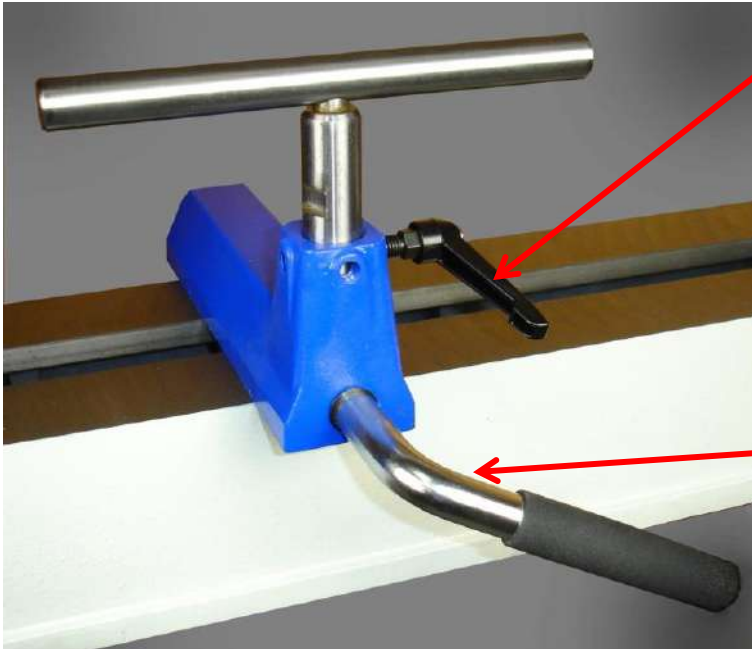


Fine adjustment of the tail centre is made by unlocking the winding handle locking lever (by half a turn only).

Turn the winding handle to enable the tail centre to be advanced or retracted. It has a travel of 110mm.

To slide the tailstock along the bed, pull up the silver tailstock locking lever.

When it is positioned where required, clamp it firmly in place by pressing the lever down firmly.



The height of the tool rest can also be adjusted, using the black locking lever.

This type of lever can be rotated to a more convenient position, without moving the thread, by pulling the lever away from the thread to disengage the ratchet teeth and then rotating it.

The tool rest can be moved along the bed of the lathe.

To release the toolrest pull up the silver tool rest locking lever.

The tool rest can now freely slide along the bed, when it is positioned where required, clamp it firmly in place by pressing the lever down firmly.

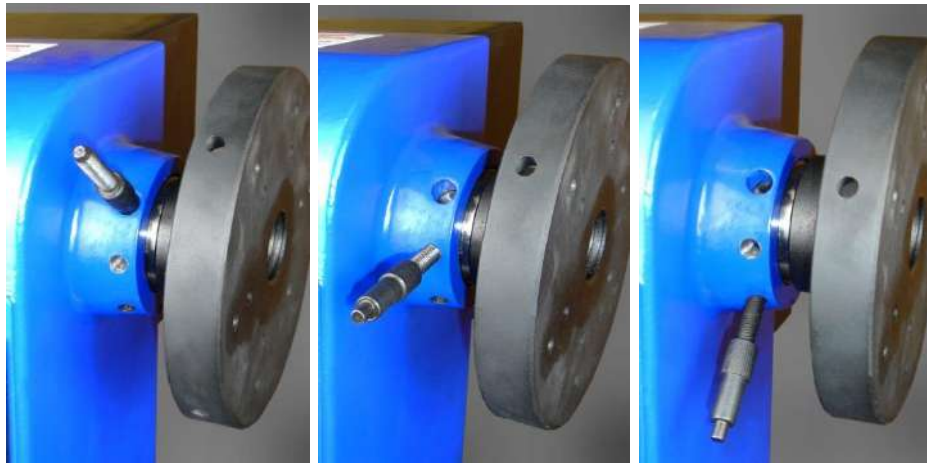
Faceplate Turning with Head Rotated

- 1) Release the Headstock locking cam with the handle provided and slide it towards the centre of the lathe bed.
- 2) Pull out the spring loaded head locking pin and turn the headstock through ninety degrees so that the spindle is facing forwards. Lock the headstock with the cam handle.
- 3) Remove the stop pins from both ends of the lathe bed with a large flat bladed screwdriver.
- 4) Slide the tailstock and toolrest assemblies off the end of the bed.
- 5) Reposition the toolrest assembly to the left of the headstock as in the photograph.



Using the Indexing System

The lathe is fitted with an indexing system which allows the spindle to be locked in any of 36 positions (i.e. at 10 degree intervals). The indexing facility is useful for fluted columns, clock faces and accurate hole placements.



Pin Position A

Pin Position B

Pin Position C

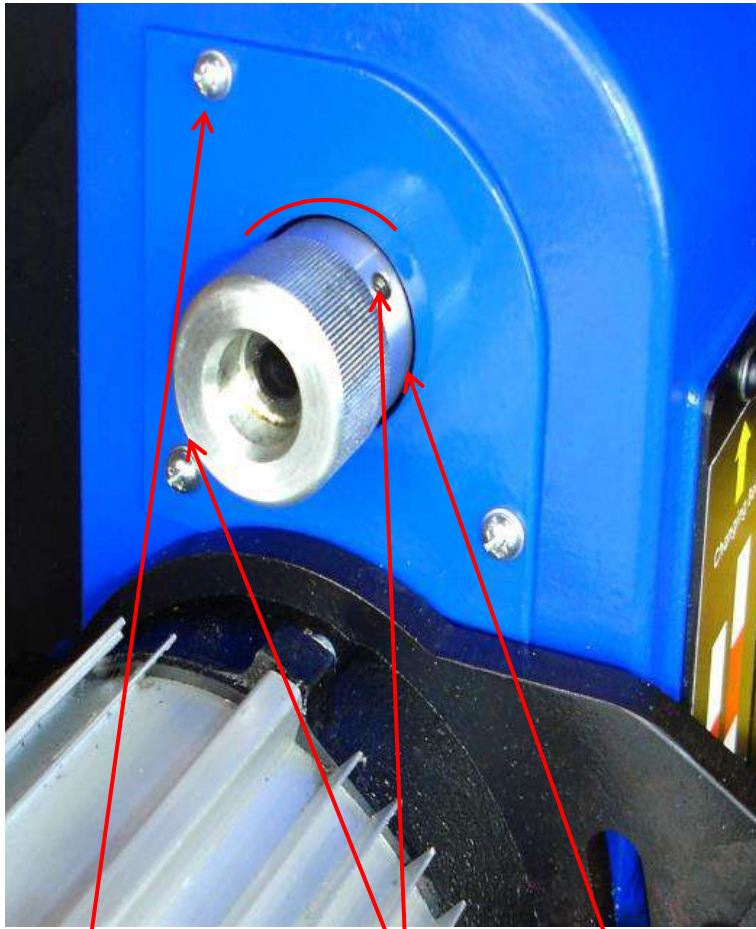
There are three holes in the headstock casting which will accept the Indexing Pin. These are 20 degrees apart. The spindle has twelve holes 30 degrees apart and a combination of these will enable you to mark your workpiece for evenly spaced features.

Pin Position A is unthreaded and will accept the unthreaded end of the Indexing Pin. This position can be also used to lock the spindle when removing chucks, faceplates etc.

Pin positions B & C are threaded and are used in combination with the threaded end of the Indexing Pin

NUMBER OF SEGMENTS	ANGULAR SPACING DEGREES	PIN PLACING/SPINDLE HOLE COMBINATION
2	180	A1, A7
3	120	A1, A5, A9
4	90	A1, A4, A7, A10
6	60	A1, A3, A5, A7, A9, A11
9	40	A1, A5, A9, B3, B7, B11, C1, C5, C9
12	30	A1, A2, A3, A4, A5, A6, A7, A8, A9, A10, A11, A12
18	20	A1, A3, A5, A7, A9, A11, B1, B3, B5, B7, B9, B11, C1, C3, C5, C7, C9, C11
36	10	A1-12, B1-12, C1-12

Routine Maintenance



Remove Cover Plate
Loosen Grub Screws
Unscrew Knob

Replacing the Drive Belt

Eventually, the drive belt will become worn and require replacement.

To replace the belt, open the belt/pulley access cover.

Remove the hand wheel from the spindle by loosening the two grub screws and then unscrewing it from the spindle.

Using a cross head screwdriver, remove the cover plate surrounding the spindle to allow access for the belt



Release the tension on the drive belt, as when changing the speed range, and remove the old belt by feeding it over the end of the motor shaft, then over end of the spindle and through the aperture in the headstock casting.

Fit the new belt by reversing this procedure. Apply tension and tighten the locking handle. Ensure that the V-grooves are on the inside of the belt and engaged with the grooves on the pulleys.

1624VEB – Optional Extension Bed



An Extension bed is available as an optional extra. This can be fitted in either of two positions enabling the distance between centres to be increased by 575mm (22 ½”) or maximum bowl diameter to 700mm (28”).

The bed is supplied with four M10 x 30mm Socket Head Mounting Bolts and a tool rest extension (for use when bowl turning).

To Extend the Lathe Bed for Between Centres Turning



Remove the Stop Pin from the tailstock end of the lathe bed using a large flat bladed screwdriver.

Attach the Extension Bed casting to end of the main bed with the four M10 bolts, flat and spring washers. Before finally tightening the bolts ensure that the top surfaces of the beds are exactly level & aligned and that the tailstock can slide smoothly over the joint.

Fit the Stop Pin to the extended bed

To Increase the Bowl Turning Capacity



Remove the Stop Pin from the tailstock end of the lathe bed.

Remove the Tailstock and Tool Rest by sliding them along the lathe bed.

Bolt the Extension Bed to the leg casting using into the lower holes at the tailstock end of the lathe.

Slide the Tool Rest assembly onto the bed extension and fit the Stop Pin to prevent it accidentally falling off. Insert the Tool Rest Extension between the Banjo and the Tool Rest Stem.

Release the Cam Lock and slide the headstock until the casting is level with the end of the bed. Lock the headstock in place.

CHARNWOOD 1624V LATHE TROUBLESHOOTING GUIDE

Fault	Possible Cause	Remedy
Machine will not start	Power supply not connected	Check plug connections in rear of control unit
	Fuse in plug blown	Replace fuse
	Break in power supply cable	Visually check cable - replace if necessary
	Loose terminal on switch	Remove switch and check connections
	Switch failed	Replace switch
Machine will not start, Speed Display Lit	Indexing Pin Engaged	Disengage Indexing Pin
	Speed controller failed	Replace speed controller
Machine starts only when green button held	Switch has failed	Replace Switch
Spindle stalls but motor still running	Loose drive belt	Increase belt tension
Motor is running but spindle not turning	Broken drive belt	Replace drive belt
Motor is overheating	Too much load on motor	Reduce load - make shallower cuts
	Airflow around motor restricted	Keep motor clear of shavings
Spindle rotation slows during cut	Excessive depth of cut	Make shallower cuts
	Chisels are dull	Sharpen chisels
	Loose drive belt	Increase belt tension

Declaration of Conformity for CE Marking

Charnwood Declare that Woodworking Lathe, Model 1624V

Conforms with the following Directives: Machinery Directive 2006/42/EC

And further conforms to the machinery example for which the EC type examination Certificate No. AM 50387408 has been issued by TUV Rheinland LGA Products GmbH, Tillystrasse 2, 90431, Nurnberg, Germany.

I hereby declare that equipment named above has been tested and found to comply with the relevant sections of the above referenced specifications. The machinery complies with all essential requirements of the directive.

Signed: Richard Cook

Dated: 11/09/2017

Location: Leicestershire

Richard Cook
Director



Please dispose of packaging for the product in a responsible manner. It is suitable for recycling. Help to protect the environment, take the packaging to the local amenity tip and place into the appropriate recycling bin.

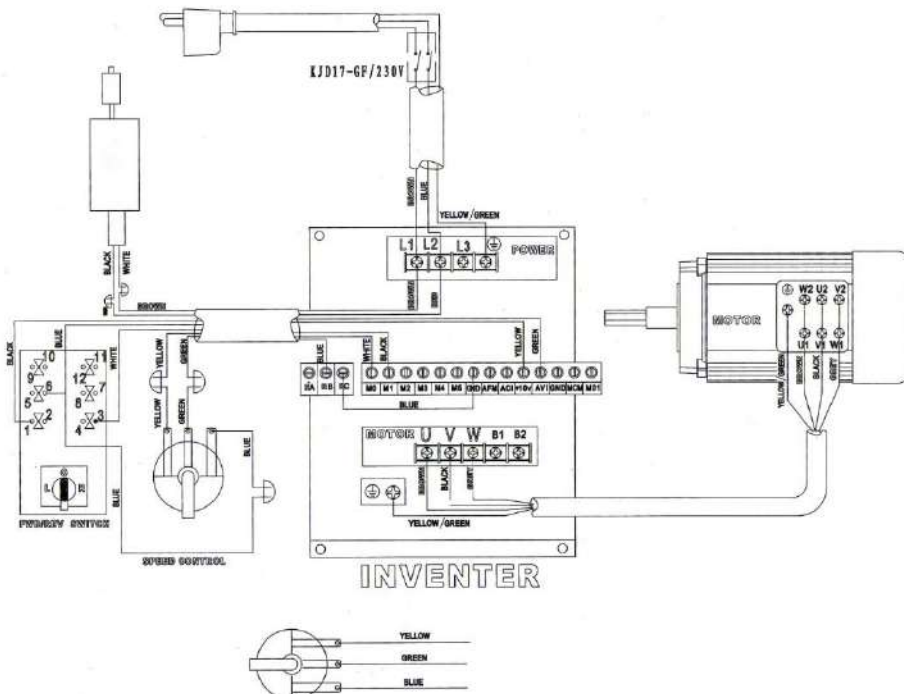


Only for EU countries
Do not dispose of electric tools together with household waste material!

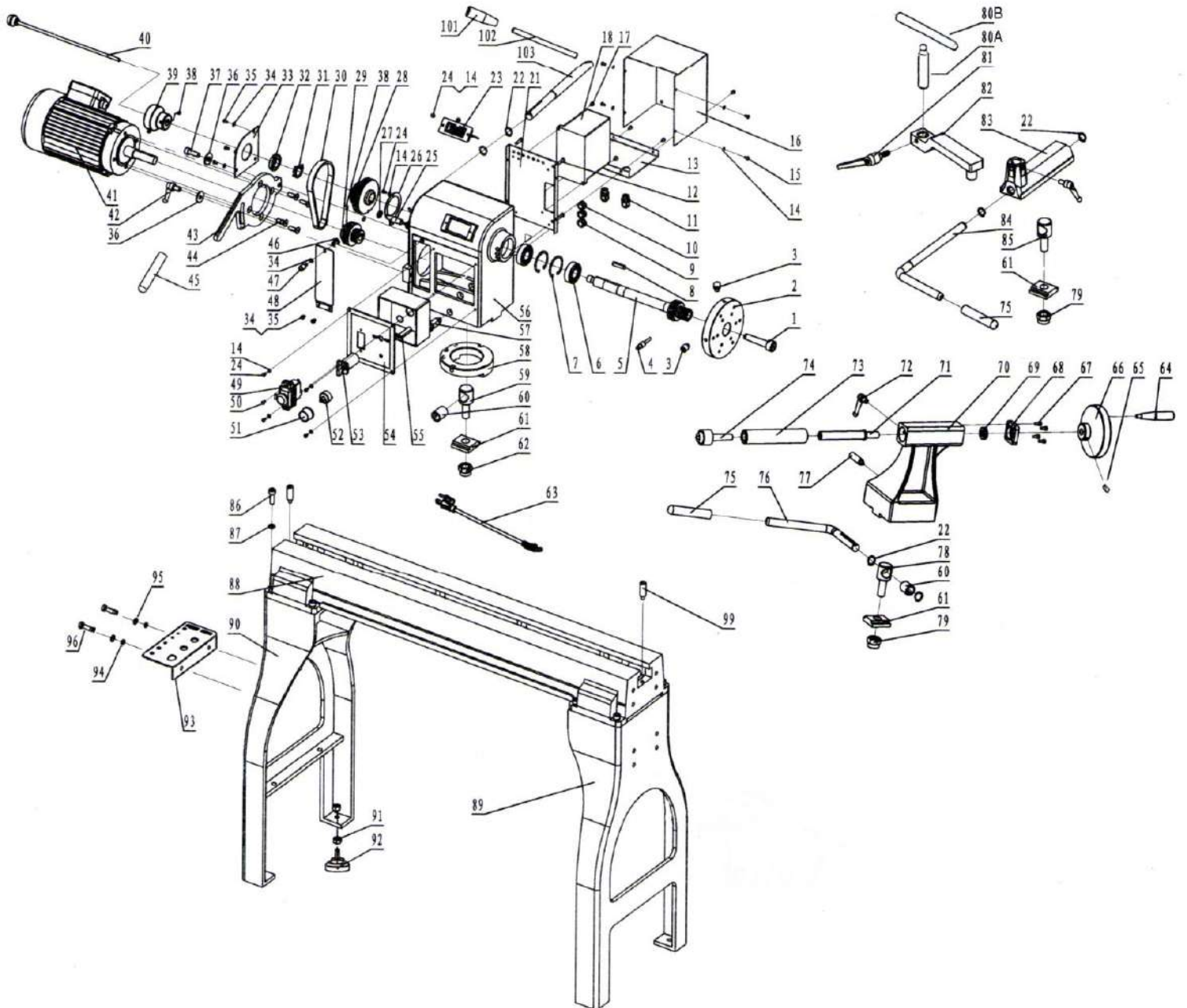
In observance of European Directive 2002/96/EC on waste electrical and electronic equipment (EEE) and its implementation in accordance with national law, electric tools that have reached the end of their life must be collected separately and returned to an environmentally compatible recycling facility.

Your local refuse amenity will have a separate collection area for EEE goods

Charnwood 1624V Wiring Diagram



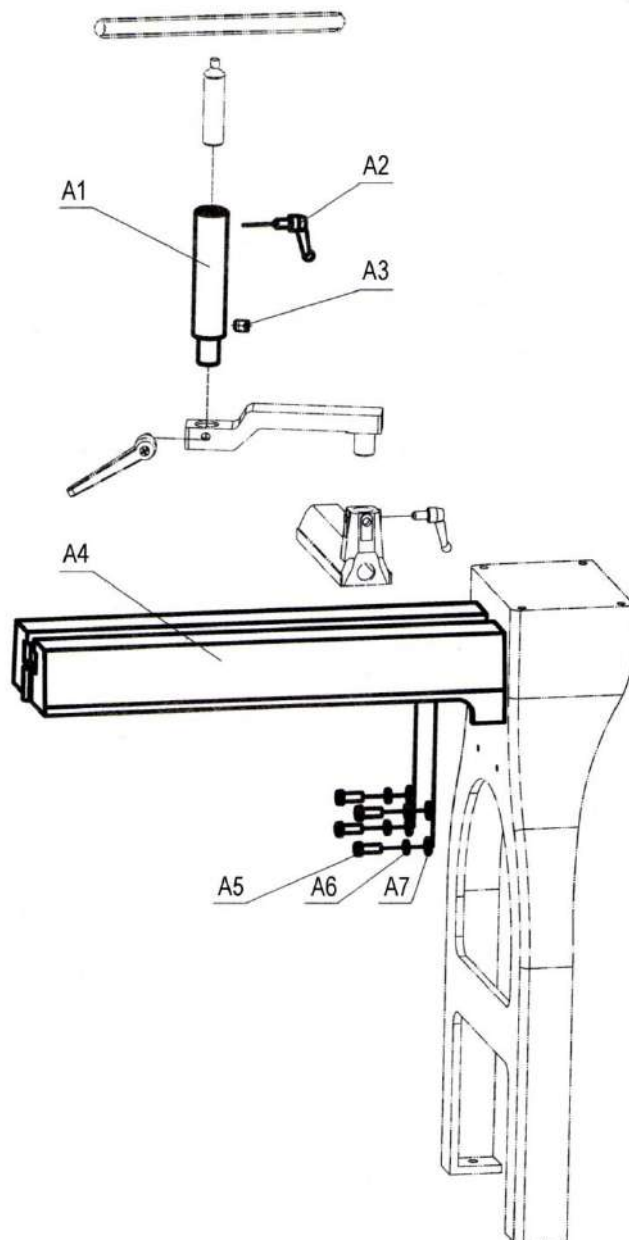
Charnwood 1624V Parts Drawing



Charnwood 1624V Parts List

Part No	Description	Part No	Description
01	Spur Centre	02	Face Plate
03	Set Screw M6 x 12mm	04	Indexing Pin
05	Spindle	06	Bearing 6205
07	Internal Retaining Ring 52mm	08	Key 8 x 40mm
09	Wire Tube	10	Wire Tube
11	Strain Relief	12	Phillips Head Screw M5 x 25mm
13	Wire Plate	14	Flat Washer M4
15	Phillips Head Screw M4 x 6mm	16	Power Inverter Cover
17	Phillips Head Screw M4 x 12mm	18	Power Inverter
21	Inverter Mounting Bracket	22	Internal Retaining Ring 19mm
23	RPM Digital Readout	24	Phillips Head Screw M4 x 10mm
25	Conduit	26	RPM Sensor Bracket
27	Nut M12	28	Spindle Pulley
29	Motor Pulley	30	V-Belt T450J6
31	Spanner Nut Washer 24mm	32	Spanner Nut M24
33	Spindle Pulley Cover	34	Flat Washer M5
35	Phillips Head Screw M5 x 10mm	36	Large Washer M10
37	Cap Screw M10 x 30mm	38	Set Screw M6 x 10mm
39	Handle Wheel	40	Knockout Rod
41	Motor 1100W 3Ph	42	Belt Tension Lock Lever
43	Motor Plate	44	Flat Hd Cap Screw M8 x 10mm
45	Handle Tube	46	E-Clip 4mm
47	Knurled Thumb Screw	48	Belt Door
49	On/Off Switch KJD17	50	Phillips Hd Screw S/Tap M4 x 12
51	Variable Speed Dial	52	Potentiometer
53	Rotary Switch ZH-A	54	Panel Cover
55	Switch Box	56	Headstock Casting
57	Angular Setting Assembly	58	Turning Base
59	Headstock Clamp Bolt	60	Bushing
61	Headstock Clamp	62	Nyloc Hex Nut M18
63	Power Cord	64	Handwheel Handle
65	Set Screw M8 x 12mm	66	Handwheel
67	Phillips Head Screw M5 x 12mm	68	Tailstock End Plate
69	External Retaining Ring	70	Tailstock Casting
71	Leadscrew	72	Quill Lock Lever
73	Quill	74	Live Centre
75	Handle Tube	76	Tailstock Lock Lever
77	Roll Pin	78	Tailstock Clamp Bolt
79	Nyloc Hex Nut M18	80A	Tool Rest Stem
80B	Tool Rest Crossbar	81	Tool Rest Lock Lever
82	Tool Rest Arm	83	Tool Rest Base
84	Tool Rest Base Lock Lever	85	Tool Rest Clamp Bolt
86	Cap Head Screw M10 x 35mm	87	Lock Washer 10mm
88	Bed	89	Stand Leg with Ext. Bed holes
90	Stand Leg with Tool Tray Holes	91	Hex Nut M10
92	Adjustable Foot	93	Tool Rack
94	Flat Washer M8	95	Spring Washer M8
96	Cap Head Screw M8 x 16mm	98	Bed Stop
99	Bed Stop	101	Handle Knob
102	Handle	103	Headstock Lock Lever

Charnwood 1624VE Parts Drawing



Charnwood 1624VE Parts List

Part No	Description	Part No	Description
A01	Tool Rest Stem Extension	A02	Extension Lock Lever
A03	Set Screw M6 x 10mm	A04	Bed Attachment
A05	Cap Head Bolt M10 x 30mm	A06	Spring Washer M10
A07	Flat Washer M10		

Updated March 2018

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