

Original Instruction Manual

DML320 Cast Iron Electronic Variable Speed Lathe

Version 3.3
December 2016



To register this product please visit
www.recordpower.info

It is important to register your product as soon as possible in order to receive efficient after sales support and be entitled to the full **5 year guarantee**. Your statutory rights are not affected.
Please see back cover for contact details.



Always wear safety glasses when using woodworking equipment.



Always read the instructions provided before using woodworking equipment.

Important

For your safety read instructions carefully before assembling or using this product.

Save this manual for future reference.

Contents

- 1** Explanation of Symbols
- 2** General Health and Safety Guidance
- 3** Additional Health and Safety Guidance for Woodturning Lathes
- 4** Record Power Guarantee
- 5** Specifications
- 6** Contents of the Package
- 7** Getting to Know Your Lathe
- 8** Assembly
- 9** Assembly of the Optional DML305/A Leg Stand
- 10** Operation
- 11** Maintenance
- 12** Intended Use of the Lathe and Basic Woodturning Instructions
- 13** Dust Extraction
- 14** Troubleshooting
- 15** Electrical Connection and Wiring Diagram
- 16** Parts Diagram and List
EU Declaration of Conformity

1. Explanation of Symbols

The symbols and their meanings shown below may be used throughout this manual. Please ensure that you take the appropriate action wherever the warnings are used.

Mandatory Instructions



Read and fully understand the instruction manual before attempting to use the machine.



Indicates an instruction that requires particular attention



Wear protective eyewear



Use respiratory protective equipment



Use hearing protection



Use suitable protective footwear



Use protective work gloves

Warnings



Indicates a risk of severe personal injury or damage to the machine



Indicates a risk of severe personal injury from electrical shock



Risk of personal injury from lifting of heavy items



Indicates a risk of severe personal injury from airborne objects



Risk of fire

2. General Health and Safety Guidance

Ensure that you carefully read and fully understand the instructions in this manual before assembly, installation and use of this product. Keep these instructions in a safe place for future reference.

WARNING: for your own safety, do not attempt to operate this machine until it is completely assembled and installed according to these instructions.

WARNING: When using any machine, basic safety precautions should always be followed to reduce the risk of fire, electric shock and personal injury.

Safe Operation

1. Use Personal Protective Equipment (PPE)

- The operation of any machine can result in foreign objects being thrown into your eyes, which can result in severe eye damage. Protective eyewear or other suitable eye protection or face shield should be used at all times. Everyday spectacles only have impact resistant lenses. They are not protective eyewear and do not give additional lateral protection.
- Use respiratory protective equipment (dust mask etc.) if the machining operation creates dust. Exposure to high levels of dust created by machining hardwoods, softwoods and man made composite boards can result in serious health problems. Some imported hardwoods give off highly irritating dust, which can cause a burning sensation. The use of respiratory protective equipment should not be seen as an alternative to controlling the risk of exposure at source by using adequate dust extraction equipment.
- The use of ear plugs or ear defenders is recommended when the machine is in use, particularly if the noise level exceeds 85 dB.
- Wear suitable protective gloves when handling cutting tools or blades. Gloves should NOT be worn when using the machine as they can be caught in moving parts of the machine.
- Non-slip safety footwear is recommended when using the machine and handling large work pieces.

2. Dress appropriately

- Do not wear loose clothing, neckties or jewellery; they can be caught in moving parts of the machine.
- Roll up long sleeves above the elbow.
- Wear protective hair covering to contain long hair.

3. Safety warnings

- Find and read any warning labels on the machine.
- It is important that any labels bearing health and safety warnings are not removed, defaced or covered. Replacement labels can be obtained by contacting our Customer Service Department.

4. Familiarise yourself with the machine

- If you are not thoroughly familiar with the operation of this machine, obtain advice from your supervisor, instructor, or other qualified person or contact your retailer for information on training courses. Do not use this machine until adequate training has been undertaken.

5. Take care when moving or positioning the machine

- Some machines can be very heavy. Ensure the floor of the area in which the machine is to be used is capable of supporting the machine.
- The machine and its various components can be heavy. Always adopt a safe lifting technique and seek assistance when lifting heavy components. In some cases it may be necessary to use mechanical handling equipment to position the machine within the work area.
- Some machines have optional wheel kits available to allow them to be manoeuvred around the workshop as required. Care should be taken to install these according to the instructions provided.
- Due to the nature of the design of some machines the centre of gravity will be high making them unstable when moved. Extreme care should be taken when moving any machine.
- If transportation of the machine is required then all precautions relating to the installation and handling of the machine apply. In addition, ensure that any vehicles or manual handling equipment used for transportation are of adequate specification.

6. The machine should be level and stable at all times

- When using a leg stand or cabinet base that is designed to be fitted to the machine, always ensure that it is securely fastened to the machine using the fixings provided.
- If the machine is suitable to be used on a workbench, ensure that the workbench is well constructed and capable of withstanding the weight of the machine. The machine should always be securely fastened to the workbench with appropriate fixings.
- Where possible, floor standing machines should always be secured to the floor with fixings appropriate to the structure of the floor.
- The floor surface should be sound and level. All of the feet of the machine should make contact with the floor surface. If they do not, either re-locate the machine to a more suitable position or use packing shims between the feet and the floor surface to ensure the machine is stable.

7. Remove adjusting keys and wrenches

- Ensure that all adjusting wrenches and keys are removed before switching the machine 'ON'. There is a risk of severe personal injury or damage to the machine from airborne objects.

8. Before switching the machine 'ON'

- Clear the machine table of all objects (tools, scrap pieces etc.)
- Make sure there is no debris between the work piece and the table / work support.
- Ensure that the work piece is not pressed against, or touching the saw blade or cutting tool.
- Check all clamps, work holding devices and fences to ensure that they are secure and cannot move during machining operations.
- Plan the way that you will hold and feed the work piece for the entire machining operation.

9. Whilst machining

- Before starting work, watch the machine while it runs. If it makes an unfamiliar noise or vibrates excessively, switch the machine 'OFF' immediately and disconnect it from the power supply. Do not restart until finding and correcting the source of the problem.

10. Keep the work area clear

- Working clearances can be thought of as the distances between machines and obstacles that allow safe operation of every machine without limitation. Consider existing and anticipated machine needs, size of material to be processed through each machine and space for auxiliary stands and/or work tables. Also consider the relative position of each machine to one another for efficient material handling. Be sure to allow yourself sufficient room to safely operate your machines in any foreseeable operation.
- Cluttered work areas and benches create the risk of accidents. Keep benches clear and tidy away tools that are not in use.
- Ensure that the floor area is kept clean and clear of any dust and debris that may create trip or slip hazards.

11. Consider the work area environment

- Do not expose the machine to rain or damp conditions.
- Keep the work area well lit and ensure that there is artificial lighting available when there is insufficient natural light to effectively light the work area. Lighting should be bright enough to eliminate shadow and prevent eye strain.
- Do not use the machine in explosive environments eg. in the presence of flammable liquids, gases or dust.
- The presence of high levels of dust created by machining wood can present a risk of fire or explosion. Always use dust extraction equipment to minimise the risk.

12. Keep other persons away (and pets)

- The machine is designed to be used by one person only.
- Do not let persons, especially children, touch the machine or extension cable (if used) and keep visitors away from the work area.
- Never leave the machine running unattended. Turn the power supply off and do not leave the machine unattended until it comes to a complete stop.

2. General Health and Safety Guidance

- If the work area is to be left unattended, all machinery should be switched 'OFF' and isolated from the mains power supply.

13. Store machines safely when not in use

- When not in use, machines should be stored in a dry place, out of reach of children. Do not allow persons unfamiliar with these instructions or with the machine to operate it.

14. Do not overreach

- Choose a working position that allows your body to remain balanced and feed the work piece in to the machine without overreaching.
- Keep proper footing and balance at all times.

15. Electrical supply

- Electrical circuits should be dedicated to each machine or large enough to handle combined motor amp loads. Power outlets should be located near each machine so that power or extension cables are not obstructing high-traffic areas. Observe local electrical guidelines for proper installation of new lighting, power outlets, or circuits.
- The machine must be connected to an earthed power supply.
- The power supply must be equipped with a circuit breaker that provides short circuit, overload and earth leakage protection.
- The voltage of the machine must correspond to the voltage of the mains power supply.
- The mains plug fitted to the machine should always match the power outlet. Do not modify the plug in any way. If a replacement plug is required it should be fitted by a competent person and of the correct type and rating for the machine.
- If you are unsure about any electrical connections always consult a qualified electrician.

16. Avoid unintentional starting of the machine

- Most machines are fitted with a no-volt release (NVR) switch to prevent unintentional starting. If in doubt always ensure the machine switch is in the 'OFF' position before connecting it to the power supply. This means the machine will not automatically start up after a power cut or switching on of the power supply, unless you first reset the start switch.

17. Outdoor use

- Your machine should not be used outdoors.

18. Extension cables

- Whenever possible, the use of extension cables is not recommended. If the use of an extension cable is unavoidable, then it should have a minimum core cross section of 2.5mm² and limited to a maximum length of 3 metres.
- Extension cables should be routed away from the direct working area to prevent a trip hazard.

19. Guard against electric shock

- Avoid body contact with earthed or grounded surfaces such as pipes and radiators. There is an increased risk of electric shock if your body is earthed or grounded.

20. Always work within the machine's intended capacities

- Operator safety and machine performance are seriously adversely affected if attempts to make the machine perform beyond its limits are made.

21. Do not abuse the power cable

- Never pull the power cable to disconnect it from the power socket. Always use the plug.
- Keep the power cable away from heat, oil and sharp edges.
- Do not use the power cable for carrying or moving the machine.

22. Secure the work piece

- Ensure that the work piece is securely held before starting to machine it.
- When working within 300 mm of the machining area, always use a push stick to feed the work piece in to the blade or cutting tool. The push stick should have a minimum length of 400 mm. If the push stick becomes damaged, replace it immediately.
- Use extra supports (roller support stands etc.) for any work pieces large enough to tip when not held down to the table top.
- Do not use another person as a substitute for a table extension, or as

additional support for a work piece that is longer or wider than the basic table, or to help feed, support, or pull the work piece.

- Do not attempt to machine more than one work piece at a time.
- When feeding the work piece towards the blade or cutting tool never position your hands in direct line of the cutting path. Avoid awkward operations and hand positions where a sudden slip could cause your hand or fingers to move into the machining area.

23. Stay alert

- Safety is a combination of operator common sense and alertness at all times when the machine is being used.
- Use all machines with extreme care and do not use the machine when you are tired or under the influence of drugs, alcohol or medication.

24. Use the correct tool for the job

- Do not use the machine for any purpose other than which it was designed.
- When selecting replacement cutting tools and blades, always ensure that they are designed to cut the material that you intend to use them for. If in any doubt seek further advice from the manufacturer.

25. Connect dust extraction equipment

- Always use dust extraction equipment. The dust extractor should be of suitable size and capacity for the machine that it is connected to and have a filtration level appropriate to the type of waste being collected. Refer to the relevant section of the manual for details of the specific dust extraction requirements for this machine.
- The dust extractor should be switched 'ON' before starting the machine that it is connected to. The dust extractor should be left running for 30 seconds after the last machining operation is complete in order to clear any residual waste from the machine.

26. Ensure that the machine is correctly guarded

- Never use the machine if any of the standard safety guards and equipment are removed or damaged.
- Some machines incorporate safety interlocks to prevent the machine from being used without the guards in place. Never attempt to bypass or modify the interlocks to allow the machine to be used without the guards in place.

27. Maintain your machine with care

- This manual gives clear instructions on installation, set up and operation of the machine and also details any routine and preventative maintenance that should be performed periodically by the user.
- Remember always to switch off and unplug the machine from the power supply before carrying out any setting up or maintenance operations.
- Follow any instructions for the maintenance of accessories and consumables.
- Do not use compressed air to clean the machine. Always use a brush to dislodge dust in places that are awkward to reach and a dust extractor to collect the waste.
- Inspect electric cables periodically and, if damaged, have them replaced by an authorised service facility or qualified electrician.
- Inspect extension cables (if used) periodically and replace if damaged.

28. Keep cutting tools sharp and clean

- Correctly maintained cutting tools are easier to control and less likely to bind.
- Cutting tools and blades can become hot during use. Take extreme care when handling them and always allow them to cool before changing, adjusting or sharpening them.

29. Disconnect the machine from the power supply

- When not in use, before servicing, changing blades etc. always disconnect the machine from the power supply.

30. Check for damaged parts

- Before each use of the machine, it should be carefully checked to determine that it will operate properly and perform its intended function.
- Check for alignment of moving parts, binding of moving parts, breakage of parts and any other conditions that may affect the operation of

2. General Health and Safety Guidance

the machine.

- A guard or other part that is damaged should be properly repaired or replaced by a qualified person unless otherwise indicated in this instruction manual.
- Do not use the machine if the switch does not turn the machine 'ON' and 'OFF'.
- Have defective switches replaced by a qualified person.

31. Warning!

- The use of any accessory or attachment, other than those recommended in this instruction manual, or recommended by our Company may present a risk of personal injury or damage to the machine and invalidation of the warranty.

32. Have your machine repaired by a qualified person

- This machine complies with the relevant safety rules and standards appropriate to its type when used in accordance with these instructions and with all of the standard safety guards and equipment in place. Only qualified persons using original spare parts should carry out repairs. Failure to do this may result in considerable danger to the user and invalidation of warranty.

33. Caution! Motor may become hot during use

- It is normal for motors on some machines to become hot to the touch during use. Avoid touching the motor directly when in use.

3. Additional Health and Safety Guidance for Woodturning Lathes

Safe Operation

Familiarise yourself with the machine

- Machining operations using wood turning lathes have a history of serious accidents. Most serious accidents resulted from the work piece being thrown from the lathe whilst turning. Other accidents can be caused by loose clothing being drawn in to the rotating work piece or hands becoming trapped between the rotating work piece and fixed parts of the lathe.

2. Before switching the machine 'ON'

- Before attaching a work piece to a faceplate, always prepare it to be as round as possible. This will minimise vibration whilst turning. For further instructions please see the section of this manual entitled **Intended Use of the Lathe and Basic Woodturning Instructions**.
- Adjust the tool rest to the correct height and distance from the work piece and check that all fixings are secure.
- Check that the size of the work piece is within the safe working capacities of the lathe as detailed in the manual.
- Select the correct speed according to the size and type of work piece. The slowest speed is the safest speed to start any new work piece.
- Always rotate the work piece by hand before starting the lathe to ensure it does not come into contact with the tool rest. If the work piece strikes the tool rest during operation, it could be split and thrown from the lathe.
- When using a faceplate always ensure the work piece is well secured with screws of a suitable diameter and length.
- Remove any loose knots and bark from the work piece before mounting it to the lathe.
- If mounting a work piece between centres, always ensure that the tailstock is correctly adjusted and fully secure. Check that the locking handle for the tailstock barrel is fully tightened.

3. Whilst using the lathe

- Do not allow the turning tool to dig in to the work piece, which could result in the work piece splitting or being thrown from the lathe. Always position the tool rest at the correct height. For further instructions please see the section of this manual entitled **Intended Use of the Lathe and Basic Woodturning Instructions**.
- Before starting to machine a work piece that is off centre or not perfectly round, always set the machine to the slowest speed and gradually increase speed as the work piece becomes more balanced as material is removed. Running the lathe too fast could cause the work piece to be thrown from the lathe or the turning tool to be snatched from your hands.
- Always store turning tools in a safe place away from the work area of the lathe. Never reach over the rotating work piece to reach for turning tools or accessories.
- Never attempt to adjust the position of the tool rest whilst the machine is running. Always switch the machine 'OFF' and wait until the work piece has stopped rotating before attempting any adjustments.

- Do not mount a work piece that contains excessive splits or loose knots or bark.
- Keep firm hold and control of the turning tool at all times. Use extreme caution when knots and voids are exposed in the work piece.
- Finish all hand sanding before removing the work piece from the lathe. Do not exceed the speed used for the last cutting operation. For further instructions please see the section of this manual entitled **Intended Use of the Lathe and Basic Woodturning Instructions**.
- Do not attempt to remount a work piece that has been turned on a faceplate unless you are deliberately turning eccentric work. You cannot remount faceplate turned work and expect it to run true, as the timber will have expanded or contracted.
- Do not remount a work piece that has been turned between centres if the original centres have been altered or removed, unless you are deliberately turning eccentric work.
- If re-mounting any work piece, always set the machine to the slowest speed and gradually increase the speed as the work piece becomes more balanced as material is removed.
- Use extra caution when mounting a work piece that has been turned between centres to a faceplate, or when mounting a faceplate turning between centres, for subsequent machining operations. Always ensure that the lathe is set to the slowest speed before switching ON.
- Do not attempt to perform any machining operations when holding the work piece by hand.
- Do not mount a reamer, milling cutter, wire wheel, buffing wheel, drill bit or any other tool to the headstock spindle.
- Always ensure that the turning tool is in contact with the tool rest and fully supported before applying the tool to the work piece.
- When the tool rest holder unit is not in use (e.g. when sanding), it should be moved away from the headstock, and the tool rest removed.

4. Maintenance

- Before attempting any maintenance and particularly when cleaning the machine, always remove any accessories and tooling from the machine.
 - Always ensure that any accessories used on the lathe are kept clean and free from rust and deposits of resin.
 - Keep all turning tools sharp and in good condition. Check that the handles are secure and not split or damaged.
5. This machine falls under the scope of the 'Health and Safety at Work etc. Act 1974', and the 'Provision and Use of Work Equipment Regulations 1998'. In addition the elimination or control of risks from wood dust is included in the above regulations and the 'Control of Substances Hazardous to Health (COSHH) Regulations 2002'. We recommend that you study and follow these regulations.

Further guidance is available from The Health and Safety Executive and their website www.hse.gov.uk and from the authorised distributor in your country (details on back cover of the manual).

4. Record Power Guarantee

“**Products**” means the Products sold by Record Power subject to these terms and conditions;

“**Record Power**” is Record Power Limited, whose company registration number is 4804158 and registered office address is Centenary House, 11 Midland Way, Barlborough Links, Chesterfield, Derbyshire S43 4XA and sells through a network of Authorised Dealers;

“**Authorised Distributor**” is the nominated importer for your region who will generally sell through a network of Authorised Dealers. Details of Authorised Distributors for specific countries can be found in the Product manual or at www.recordpower.info;

“**Authorised Dealer**” is a retailer or business authorised to sell Record Power Products to end users.

1 Guarantee

- 1.1 Record Power guarantees that for a period of 5 years from the date of purchase the components of qualifying Products (see clauses 1.2.1 to 1.2.9) will be free from defects caused by faulty construction or manufacture.
- 1.2 During this period Record Power, its Authorised Distributor or Authorised Dealer will repair or replace free of charge any parts which are proved to be faulty in accordance with paragraphs 1.1 above provided that:
 - 1.2.1 you follow the claims procedure set out in clause 2 below;
 - 1.2.2 Record Power, our Authorised Distributor or Authorised Dealer are given a reasonable opportunity after receiving notice of the claim to examine the Product;
 - 1.2.3 if asked to do so by Record Power, its Authorised Distributor or Authorised Dealer, you return the Product, at your own cost, to Record Power’s premises or other approved premises such as those of the Authorised Distributor or supplying Authorised Dealer, for the examination to take place;
 - 1.2.4 the fault in question is not caused by industrial use, accidental damage, fair wear and tear, wilful damage, neglect, incorrect electrical connection, abnormal working conditions, failure to follow our instructions, misuse, or alteration or repair of the Product without our approval;
 - 1.2.5 the Product has been used in a domestic environment only;
 - 1.2.6 the fault does not relate to consumable Products such as blades, bearings, drive belts or other wearing parts which can reasonably be expected to wear at different rates depending on usage (for full details contact Record Power or your local Authorised Distributor);
 - 1.2.7 the Product has not been used for hire purposes, by you or by a previous owner;
 - 1.2.8 the Product has been purchased by you as the guarantee is not transferable from a private sale.
 - 1.2.9 where the Product has been purchased from a retailer, the 5 year guarantee is transferable and begins on the date of the first purchase of the Product and in the event of a claim under this guarantee proof of the original purchase date will be required to validate the warranty period.

2 Claims Procedure

- 2.1 In the first instance please contact the Authorised Dealer who supplied the Product to you. In our experience many initial problems with machines that are thought to be due to faulty parts are actually solved by correct setting up or adjustment of the machines. A good Authorised Dealer should be able to resolve the majority of these issues much more quickly than processing a claim under the guarantee.
- 2.2 Any damage to the Product resulting in a potential claim under the guarantee must be reported to the Authorised Dealer from which it was purchased within 48 hours of receipt.
- 2.3 If the Authorised Dealer who supplied the Product to you has been unable to satisfy your query, any claim made under this Guarantee should be made directly to Record Power or its Authorised Distributor (for details of the Authorised Distributor in your country please see your Product manual or check www.recordpower.info for details). The claim itself should be made in a letter setting out the date and place of purchase, and giving a brief explanation of the problem which has led to the claim. This letter should then be sent with proof of the purchase date (preferably a receipt) to Record Power or its Authorised Distributor. If you include a phone number or email address this will help to speed up your claim.
- 2.4 Please note that it is essential that the letter of claim reaches Record Power or its Authorised Distributor on the last day of this Guarantee at the latest. Late claims will not be considered.

3 Limitation of Liability

- 3.1 We only supply Products for domestic and private use. You agree not to use the Product for any commercial, business or re-sale purposes and we have no liability to you for any loss of profit, loss of business, business interruption or loss of business opportunity.
- 3.2 This Guarantee does not confer any rights other than those expressly set out above and does not cover any claims for consequential loss or damage. This Guarantee is offered as an extra benefit and does not affect your statutory rights as a consumer.

4 Notice

This Guarantee applies to all Products purchased from an Authorised Dealer of Record Power within the United Kingdom of Great Britain and Northern Ireland. Terms of Guarantee may vary in other countries – please check with the Authorised Distributor in your country (details of the Authorised Distributor for your country can be found in the manual or at www.recordpower.info).

5. Specifications

Voltage: 230 V

Frequency: 50 Hz

Motor input P1: 0.75 kW

Motor output P2: 0.55 kW

Motor speed: 2900 rpm

Full load current: 3 A

Max. bowl diameter: 320 mm (12 1/2")

Max. between centres: 510 mm (20")

Max. swing over bed: 320 mm (12")

Spindle speeds: 250 - 3850 rpm

Taper: 2 Morse Taper

Spindle travel: 63 mm

Size: L1035 x W305 x D449 mm

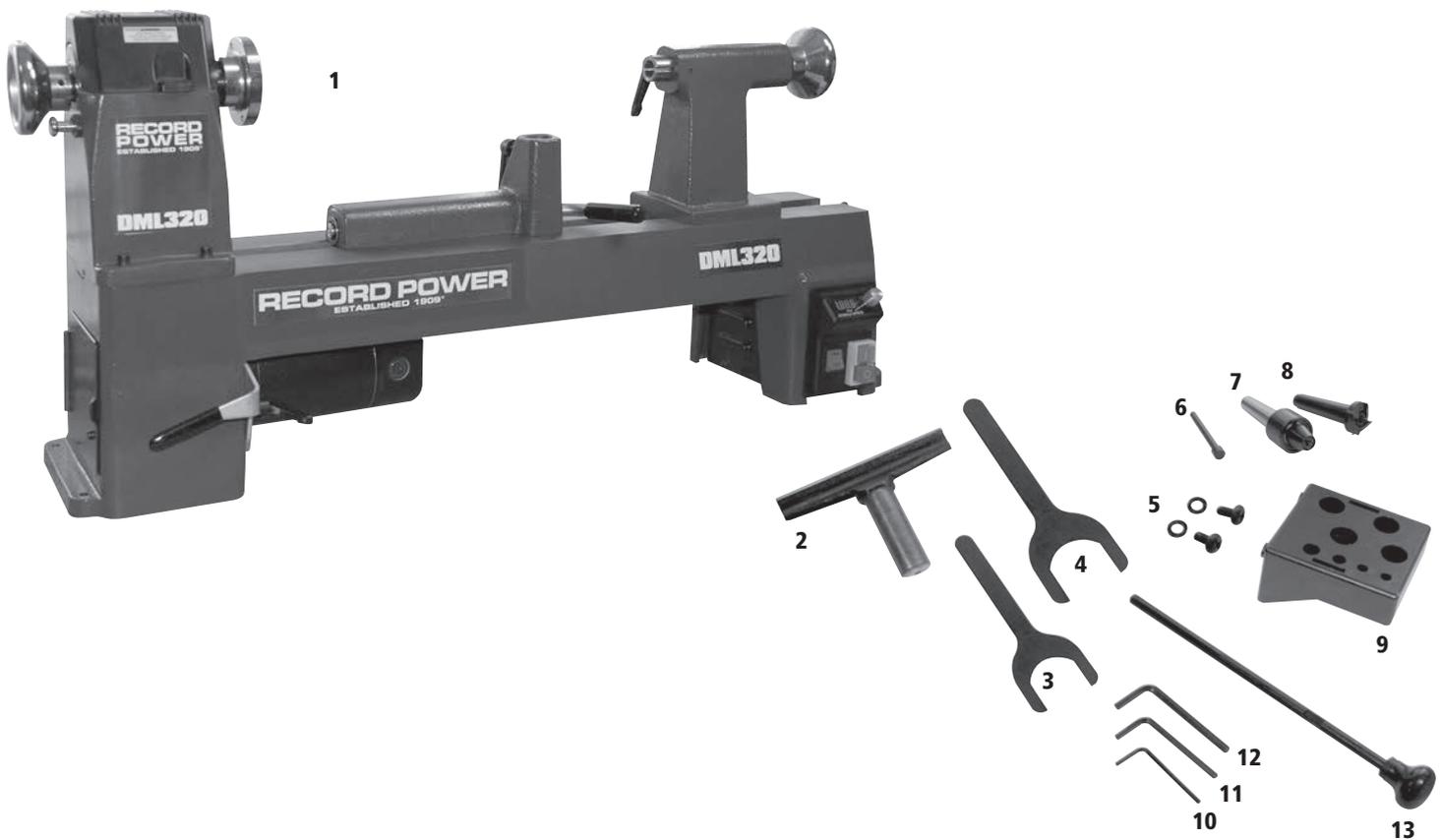
Weight: 52 kg

Spindle Thread: M33 x 3.5

Sound Pressure Level: No load < 80dB(A), Load < 90dB(A)

Sound Power Level: No load < 90dB(A), Load < 100dB(A)

6. Contents of the Package



Item	Description	Quantity	Item	Description	Quantity
1	Lathe with faceplate, tool rest holder and tailstock installed	1	8	4 prong drive centre	1
2	Tool rest	1	9	Tool holder	1
3	Spindle wrench	1	10	3 mm hex wrench	1
4	Faceplate wrench	1	11	4 mm hex wrench	1
5	M6 x 12 mm Phillips head screws and washers	2	12	5 mm hex wrench	1
6	Drive centre knockout bar	1	13	Knockout bar	1
7	Revolving centre	1			

Unpacking and Cleaning

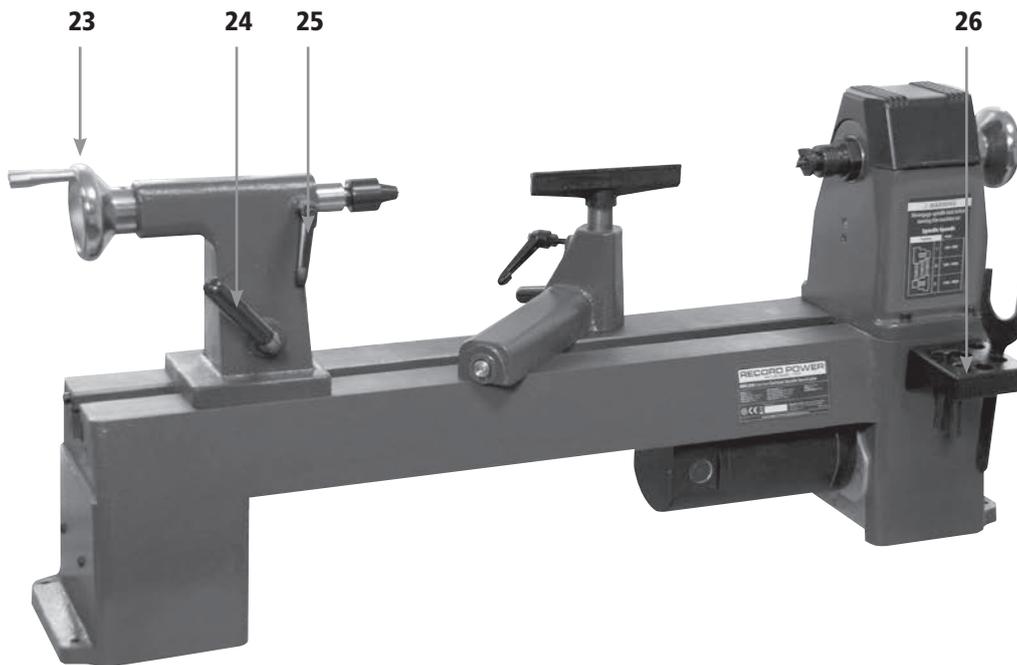
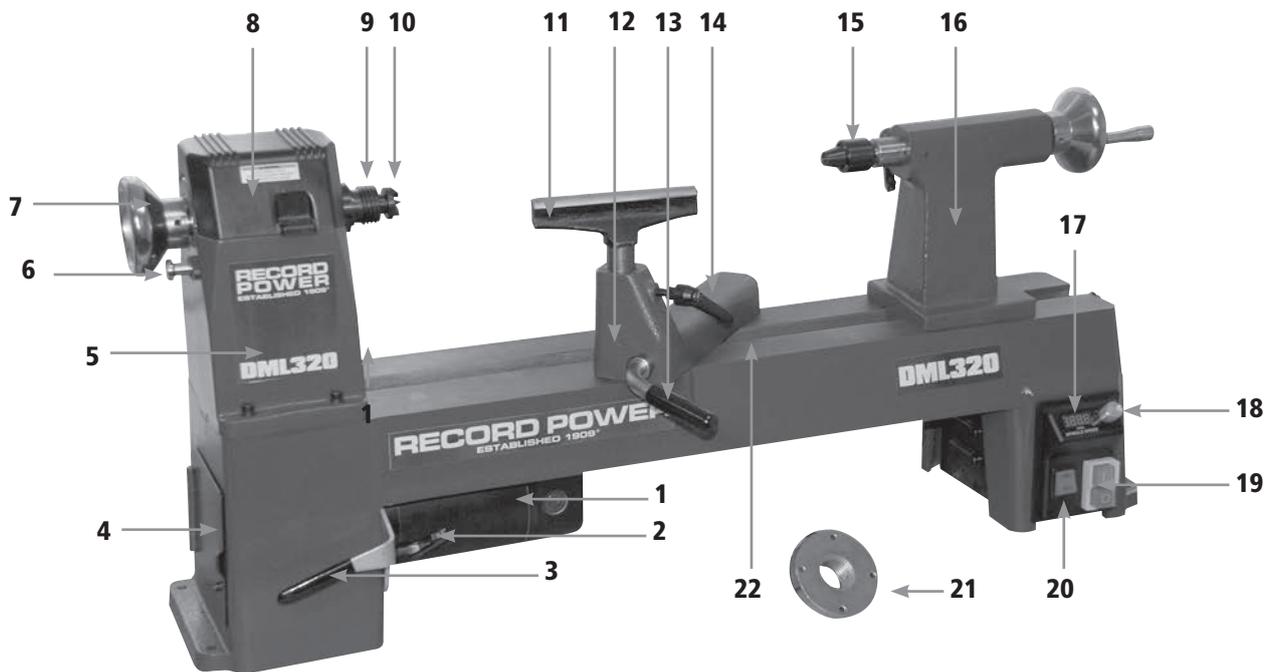
1. Carefully lift the lathe from the carton and check that all of the components and contents have been included. Place parts on a protected surface.
2. Clean all rust protected surfaces with white spirit. Do not use gasoline, paint thinner, mineral spirits, etc. These may damage painted surfaces. Make sure the area is well ventilated and that there are no naked flames or sources of ignition.
3. Set packing materials and shipping carton aside. Do not discard until the machine has been set up and is running properly.

Tools Required for Assembly (Not Supplied)



Phillips screwdriver

7. Getting to Know Your Lathe



- 1 Motor
- 2 Motor securing lever
- 3 Motor positioning lever
- 4 Motor pulley access hatch
- 5 Headstock
- 6 Indexing lock
- 7 Hand wheel
- 8 Headstock cover
- 9 Spindle
- 10 4 prong drive centre
- 11 Tool rest
- 12 Tool rest holder
- 13 Tool rest holder locking lever

- 14 Tool rest locking lever
- 15 Revolving centre
- 16 Tailstock
- 17 Digital spindle speed readout
- 18 Spindle speed control knob
- 19 On / off switch
- 20 Forward / reverse switch
- 21 Faceplate
- 22 Lathe bed
- 23 Tailstock hand wheel
- 24 Tailstock locking lever
- 25 Tailstock spindle locking lever
- 26 Tool holder and tools

8. Assembly



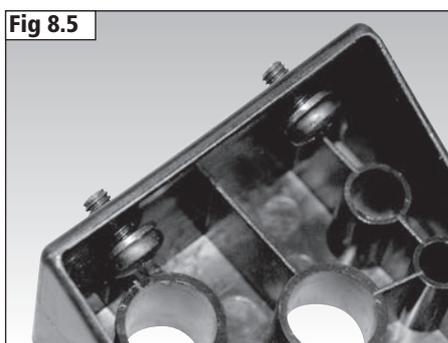
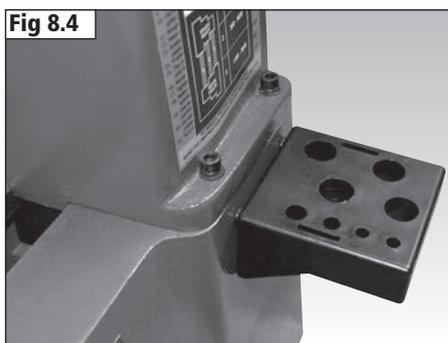
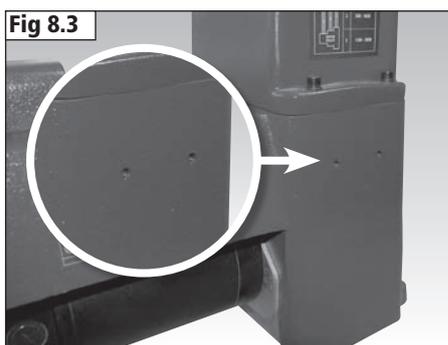
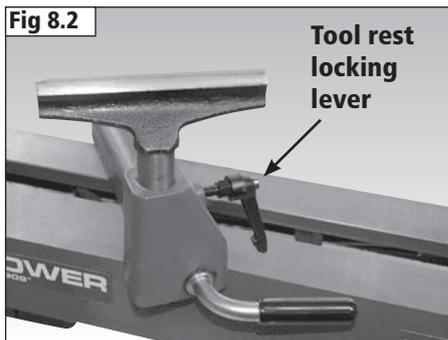
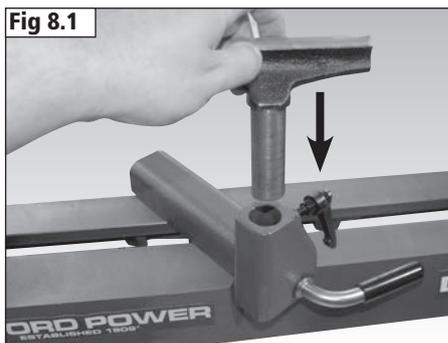
The machine must be unplugged and the power switch must be in the OFF position until the machine is assembled.

Installing the Tool Rest to the Tool Rest Holder

Loosen the locking lever and insert the tool rest into tool rest holder, **Fig 8.1**, adjust the height as required and tighten the locking lever, **Fig 8.2**.

Fitting the Tool Holder to the Lathe Bed

On the rear of the lathe bed, below the headstock are 2 tapped holes for mounting the tool holder, **Fig 8.3**. Install the tool holder onto the lathe bed at the rear of the headstock with the two Phillips head screws and washers supplied, **Fig 8.4**. The washers should be placed on the inside surface of the tool holder as shown in **Fig 8.5**.

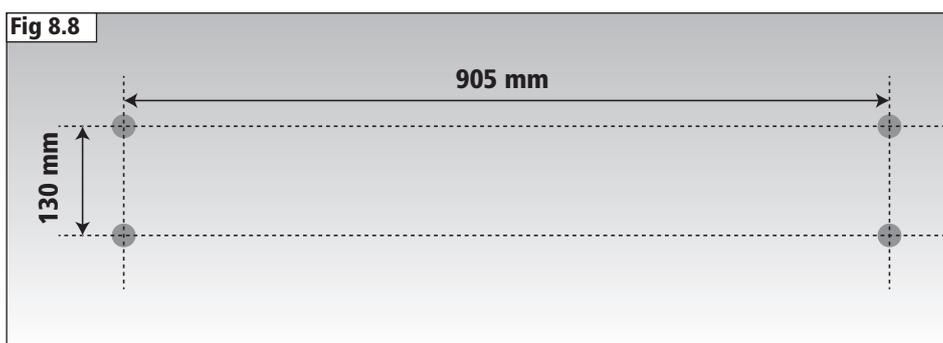
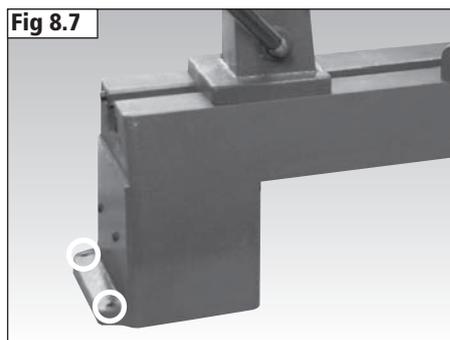


8. Assembly

Secure the Lathe to a Solid Work Surface or Suitable Stand

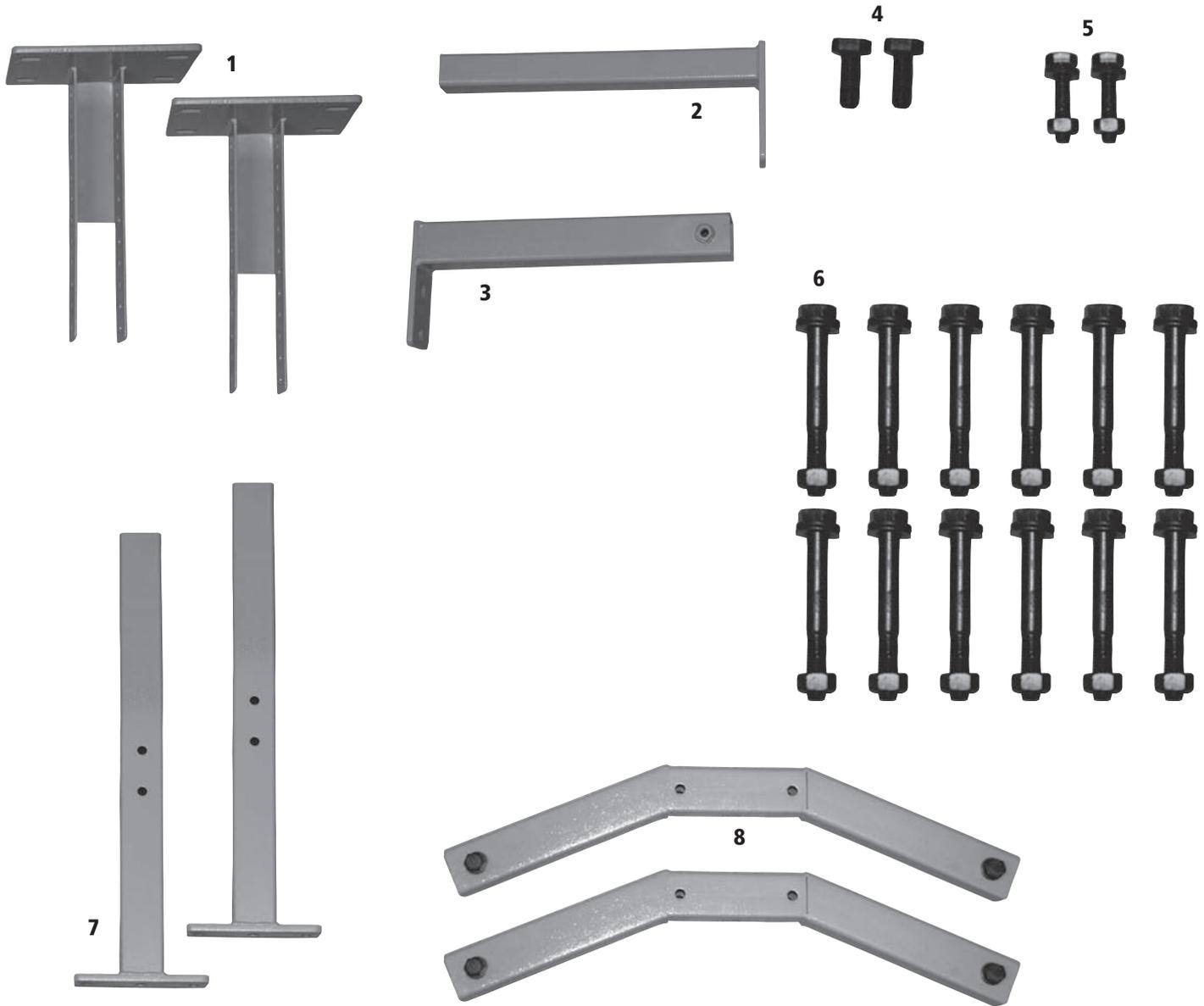
The lathe must be attached to a solid work surface at least 25 mm thick, or a suitable stand. Four mounting holes are located at the base of the lathe, 2 to the left of the headstock, **Fig 8.6**, and 2 to the right of the tailstock, **Fig 8.7**. If mounting to a bench, drill holes in the work surface, using a 9 mm (5/16") drill bit, following the measurements shown in **Fig 8.8**.

Please note: Use of the DML305/A Leg Stand is recommended.



9. Assembly of the Optional DML305/A Leg Stand

Contents of the Package



Item	Description	Quantity
1	Upright plinths	2
2	Male cross brace	1
3	Female cross brace	1
4	M10 x 25 mm hex head screws	2
5	M8 x 35 mm bolts, nuts and washers	2
6	M10 x 80 mm bolts, nuts and washers	12
7	Upright columns	2
8	Bases	2

9. Assembly of the Optional DML305/A Leg Stand

Using an 18 mm wrench (not supplied) attach the upright column to the base using 2 M10 x 80 mm bolts, ensuring that there is an M10 washer between each bolt and the upright column and another M10 washer between each M10 nut and the base, **Fig 9.1**. Repeat this process to assemble the second base onto the second upright column.

Using a 16 mm wrench (not supplied) attach the upright plinth to the upright column using 2 M10 x 80 mm bolts to the desired height, making sure that the overhang of the plate on top of the plinth is facing towards the inside of the leg stand. Also ensure that there is at least 1 hole space between the 2 bolts and that both bolts pass through the upright column. **Fig 9.2**. Repeat this process to complete assembly of the second leg.

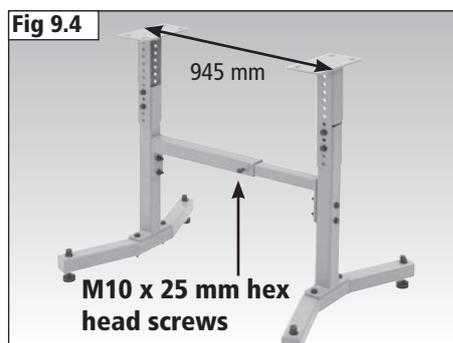
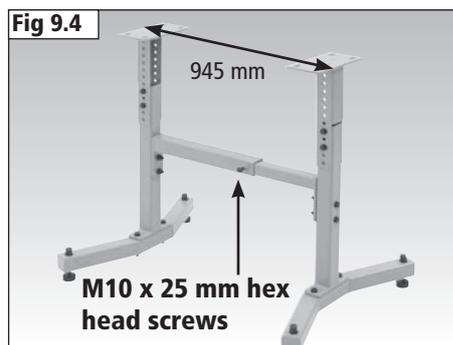
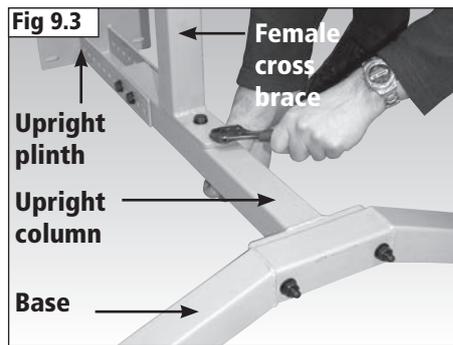
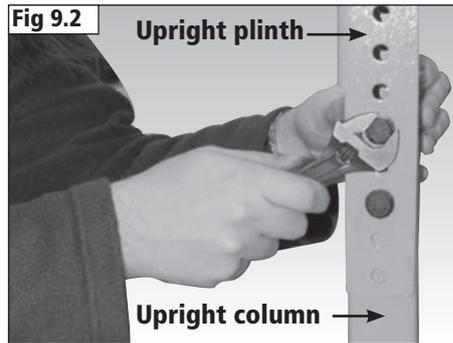
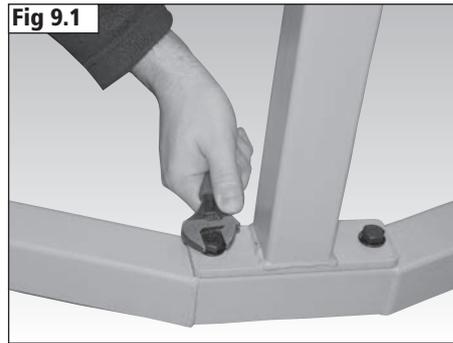


Please note: The leg stand is adjustable in height to allow for comfortable use of the lathe. As a general rule, the centre height of the lathe should be at elbow height.

Using a 16 mm wrench (not supplied) attach the female cross brace to one of the upright columns using two M10 x 80 mm bolts. Attach the male cross brace to the remaining upright column in the same manner, **Fig 9.3**.

To complete assembly of the leg stand, insert the male cross brace into the female cross brace, ensuring that the distance from the outer edges of the tops of the plinths is approximately 945 mm. Using a 16 mm wrench (not supplied) hold in place with 2 M10 x 25 mm hex head screws, **Fig 9.4**.

The remaining bolts, nuts and washers are used to attach the lathe to the stand.



10. Operation

Using the Faceplate

The DML320 is supplied with an 81 mm (3") faceplate which is already assembled to the machine as shown in **Fig 10.1**. The faceplate is designed for turning small to medium sized bowls.

Find the centre of the bowl blank and using dividers as shown in **Fig 10.2**, mark an 81 mm diameter circle from the centre of the blank.

Place the faceplate over the scribed circle and attach it to the blank using 4 woodscrews as shown in **Fig 10.3**. The length of woodscrews used will vary depending on the size of bowl blank and intended finished thickness of the base but the largest possible screws should be used to give maximum hold.

Screw the faceplate onto the lathe spindle as shown in **Fig 10.4**.

When beginning to turn the bowl, proceed with caution and ensure the blank is securely held to the faceplate.

Fig 10.1



Fig 10.2

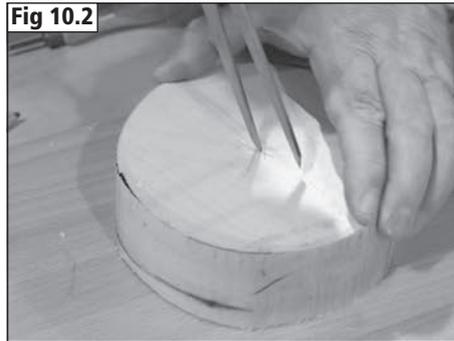


Fig 10.3

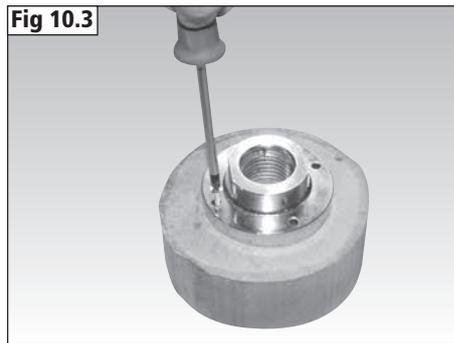
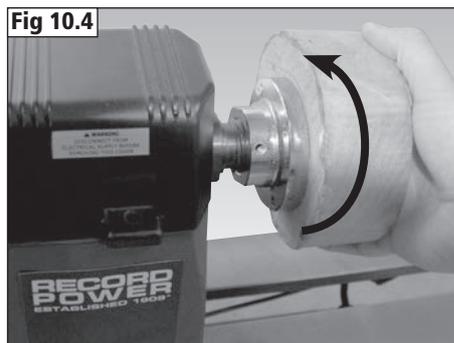


Fig 10.4



10. Operation

Fitting the 4 Prong Drive Centre to the Headstock

When turning between centres, the 4 prong drive centre should be used in conjunction with the revolving centre. For details on turning between centres, please refer to the **Intended use of the Lathe and Basic Woodturning Instructions** chapter of the manual.

Before fitting the drive centre, the faceplate must be removed from the lathe. Using the 2 supplied wrenches, hold the spindle in place with the smaller wrench using the flat areas of the spindle collar, **Fig 10.5**, and loosen the faceplate using the larger wrench as shown in **Fig 10.6** by turning in an anti-clockwise direction, placing the wrench on the flat areas of the faceplate collar.

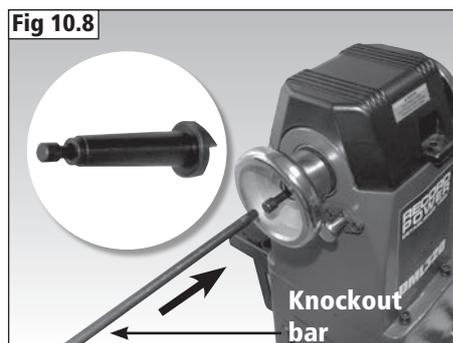
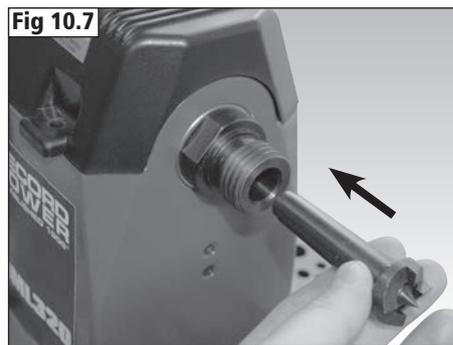
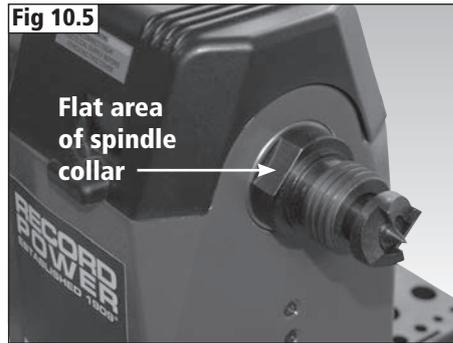
Insert the drive centre into the headstock spindle, **Fig 10.7**.

Removing the 4 Prong Drive Centre from the Headstock

The knockout bar is used to remove the drive centre from the headstock spindle. The smaller drive centre knockout bar must also be used to prevent the end of the drive centre from becoming damaged. The drive centre knockout bar is placed inside the shaft of the drive centre as shown in **Fig 10.8** before inserting the knockout bar into the hole positioned centrally in the hand wheel, at the opposite side of the headstock from the drive centre. Using the knockout bar, give the drive centre a sharp knock to dislodge it, **Fig 10.8**.



The drive centre knockout bar must only be fitted inside the shaft of the drive centre when removing it. Do not place it inside the drive centre shaft during operation as it will rattle and may work loose from the lathe.



10. Operation

Fitting the Revolving Centre to the Tailstock

When turning between centres, the revolving centre should be used in conjunction with the 4 prong drive centre. For details on turning between centres, please refer to the **Intended use of the Lathe and Basic Woodturning Instructions** chapter of the manual. First ensure the tailstock spindle locking lever is loosened then insert the revolving centre into the tailstock spindle, **Fig 10.9**, and tighten the locking lever, **Fig 10.10**.



Please note: Before inserting tapered attachments into the headstock or tailstock spindle, always ensure that the taper is clean and free of any waste material that may cause misalignment or vibration. Always fully seat the taper by tapping it into place with a wooden mallet.

To remove the revolving centre from the tailstock spindle, loosen the tailstock spindle locking lever, insert the knockout bar into the hole in the centre of the tailstock hand wheel and give the revolving centre a sharp knock to dislodge it from the tailstock, see **Fig 10.11**.

Adjusting the Tool Rest

To move the tool rest across the lathe bed, loosen the tool rest holder locking lever by turning in an anti-clockwise direction, slide the tool rest holder to the desired position and tighten the locking lever in a clockwise direction. To adjust the height of the tool rest loosen the tool rest locking lever, position as required and re-tighten, **Fig 10.12**.

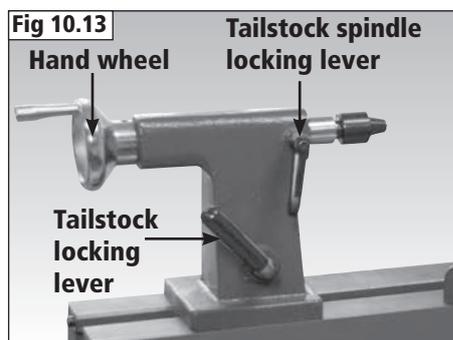
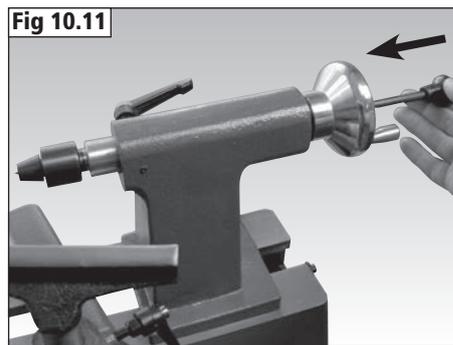
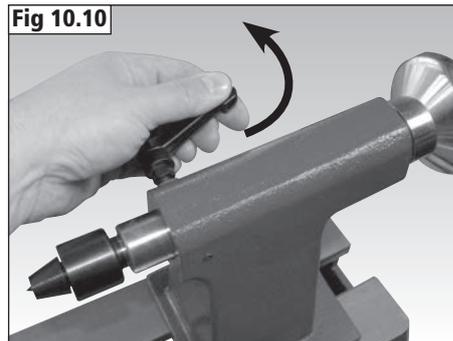
Adjusting the Tailstock

Loosen the tailstock locking lever to move the tailstock along the lathe bed to the desired position and tighten the lever, **Fig 10.13**.

To adjust the tailstock spindle position, loosen the tailstock spindle locking lever and turn the hand wheel. When the tailstock spindle is in the desired position, re-tighten the locking lever, **Fig 10.13**.

Adjustment of the Clamping Action of the Tool Rest Holder and Tailstock

If the movement of the tool rest holder or tailstock is unsatisfactory, either due to being too stiff and difficult to move or too easy to move and giving inadequate locking, the clamping action can be adjusted. Please see the maintenance section of the manual for full details.



10. Operation

Changing the Spindle Speed

The DML320 features a 3 step pulley system. The drive belt should be positioned on the corresponding pulleys as shown in **Fig 10.14** to achieve the speed range required.

To access the spindle pulley, remove the hex head socket screw from the front of the headstock cover using a 4 mm hex wrench, **Fig 10.15**.

To access the motor pulley, remove the hex head socket screw from the motor pulley access hatch and open the door, **Fig 10.16**.

Loosen the motor securing lever and raise the motor to its highest position using the motor positioning lever, **Fig 10.17**, and re-tighten the motor securing lever to hold it in place. The drive belt will now be loose enough to place in the desired position, **Figs 10.18** and **10.19**.

Ensure the V grooves of the drive belt are positioned in the grooves of the pulleys as shown in **Fig 10.18**. Turn the hand wheel by hand to check they are located correctly.

Once the drive belt is positioned as desired, loosen the motor securing lever and lower the motor until it is at its lowest position - The weight of the motor provides sufficient tension to the drive belt. Tighten the motor securing lever, close the headstock cover and close the motor pulley access hatch cover.

Fig 10.14

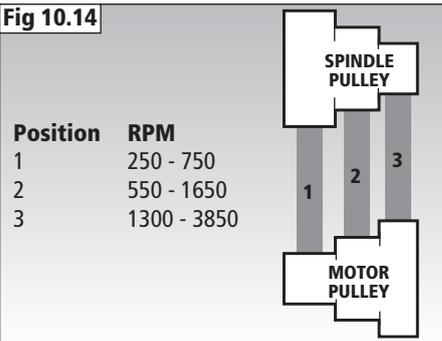


Fig 10.15



Fig 10.16

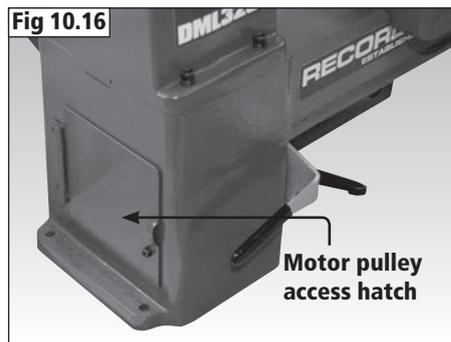
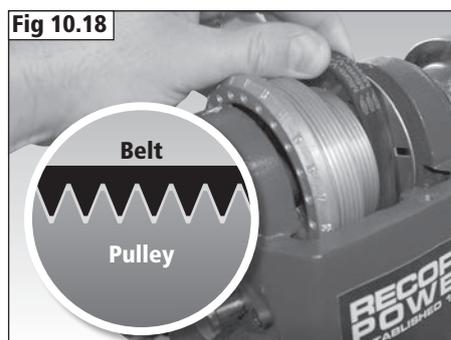


Fig 10.17



Fig 10.18



10. Operation

Indexing Lock

Indexing is a useful feature of the DML320 lathe, allowing accurate pattern work on projects such as straight fluting, grooving, drilling, lay out and more.



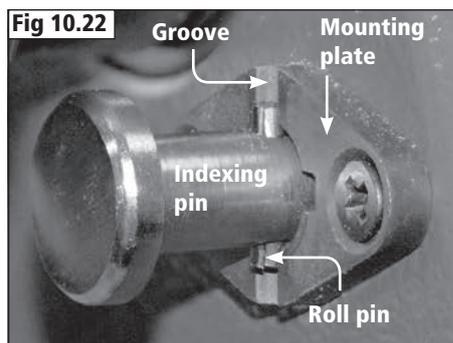
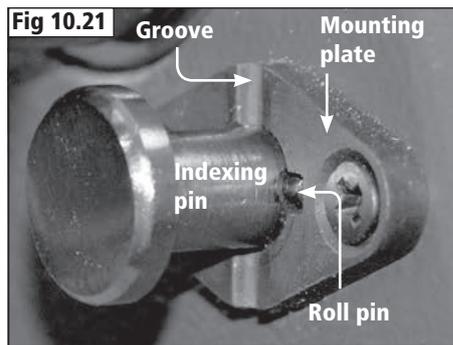
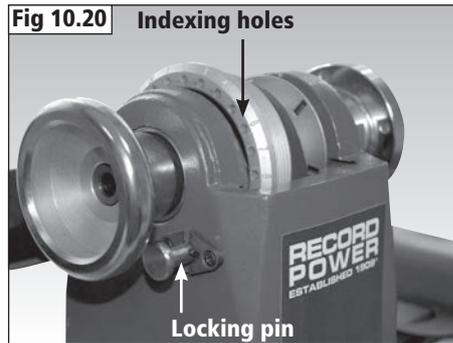
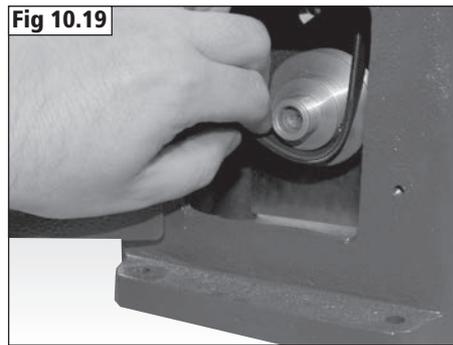
The indexing system must only be used when the lathe is stationary and the power is turned off.

The 24 position indexing lock system is located inside the headstock as shown in **Fig 10.20**. The indexing holes are spread evenly around the circumference of the spindle pulley edge in 15° increments. The spring loaded locking pin is engaged by pulling the knob outwards and twisting it until the roll pins are at 90° to the grooves in the mounting plate as shown in **Fig 10.21** and then released to allow the locking pin to locate inside one of the indexing holes. To disengage, lift the lock knob outwards, twist until the roll pins are parallel to the grooves and release, **Fig 10.22**.



Please note: The indexing system must not be used as a method of holding the spindle while removing accessories such as face plates, chucks etc. Damage caused to the machine by doing so is not covered by the warranty.

Always disengage the locking pin before turning the machine on. Damage caused to the machine by running it with the indexing pin engaged is not covered by the warranty.



10. Operation

Spindle Indexing Reference Chart

The chart opposite gives a useful reference guide to basic indexing, showing the standard 8 divisions of the indexing system, the angle between positions and also the spindle index numbers to use.

Number of Index Positions	Angle Between Positions	Spindle Index Numbers
1	360°	1
2	180°	1, 13
3	120°	1, 9, 17
4	90°	1, 7, 13, 19
6	60°	1, 5, 9, 13, 17, 21
8	45°	1, 4, 7, 10, 13, 16, 19, 22
12	30°	1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23
24	15°	1 - 24

Operating the Lathe

To turn the lathe on, press the green switch marked 'I' on the control panel situated on the lathe bed beneath the headstock, as shown in **Fig 10.23**.

To stop the machine, press the red button marked 'O' on the control panel as shown in **Fig 10.23**.

To adjust the speed, use the speed control dial on the control panel as shown in **Fig 10.23**.

The lathe can be used in forward or reverse. Use the directional switch shown in **Fig 10.23** to control the direction of the lathe.

FWD - This is the conventional rotational direction of the lathe spindle and will turn the spindle anti-clockwise when viewing it directly from its front.

REV - This is opposite to the conventional rotational direction of the lathe spindle and will turn the spindle clockwise when viewing it directly from its front.



WARNING

Extreme caution must be exercised when turning in reverse as not all lathe accessories are designed to be used for reverse turning. Before reverse turning, always ensure the accessories are suitable for this use and that all relevant securing items (such as blind set screws) are employed correctly. If standard woodturning accessories are used with the lathe running in reverse there is a risk they could come away from the lathe and cause serious harm to the user.

In the Event of a Blockage or if the Machine Stalls

If the lathe stalls due to a dig in, simply removing the turning tool from the work piece will normally allow the work piece to start turning again.

In the event of a blockage (for example, if the work piece becomes trapped against a fixed part of the machine) switch off the machine immediately, by pressing the red button marked 'O' on the switch.

Locate and rectify the source of the blockage and ensure that the work piece can be rotated freely by hand before attempting to re-start the machine.

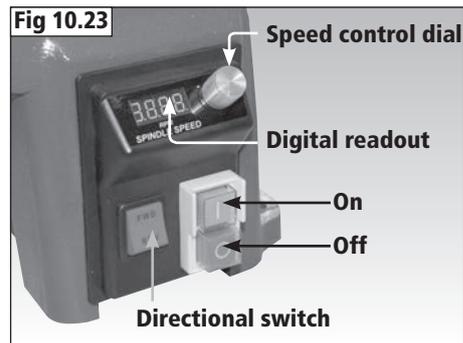
To re-start the machine, press the green button marked 'I' on the switch.

In the Event of a Power Failure

The lathe is fitted with a no volt release (NVR) switch to protect the user against automatic starting of the machine when power is restored after a power failure.

In the event of a power failure, first locate and rectify the source of the failure. If the fault is within the power circuit of the workshop, there may be an underlying cause (circuit overload etc.) that should be investigated by a qualified electrician, before attempting to restore the power source.

Once the power is restored, the machine can be re-started by pressing the green button marked 'I' on the switch.



10. Operation

Error Codes

Under certain conditions the digital display will show error codes to indicate the nature of a particular error with the machine or its use.

Error Code

Error

Action

01

Hardware Protection Mode

Possible damage to electronic controller.

Turn off the machine and re-start once the digital display has cleared. If error code still appears the controller hardware may be damaged and customer services should be contacted.

02

Software Protection Mode

Possible damage to electronic controller software.

Turn off the machine and re-start once the digital display has cleared. If error code still appears the controller software may be damaged and customer services should be contacted.

03

Low Voltage Abnormality Protection Mode

Voltage is lower than 165 V.

It is normal for this error code to appear for a short period after turning the machine off. If it appears during operation, turn off the machine and re-start once the digital display has cleared. If the error code is still shown the power supply must be checked and corrected if necessary.

05

Spindle Direction Protection Mode

The spindle direction has been changed during operation.

Turn off the machine and re-start once the digital display has cleared.

07

High Voltage Abnormality Protection Mode

Voltage is higher than 265 V.

Turn off and re-start the machine. If error code still appears, check and correct the power supply.

08

Motor Speed Protection Mode

Motor speed has been increased sharply, indicating possible user error.

Turn off the machine and re-start. If error code still appears, the motor or controller may be damaged.

11. Maintenance

Cleaning the Machine

Avoid build up of wood shavings and dust by regularly cleaning the lathe with a soft cloth or brush.

Adjustment of the Tool Rest Holder

If the movement of the tool rest is unsatisfactory, either due to being too stiff and difficult to move or too easy to move and giving inadequate locking, the clamping action can be adjusted.

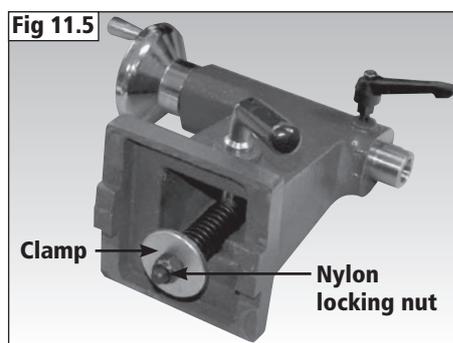
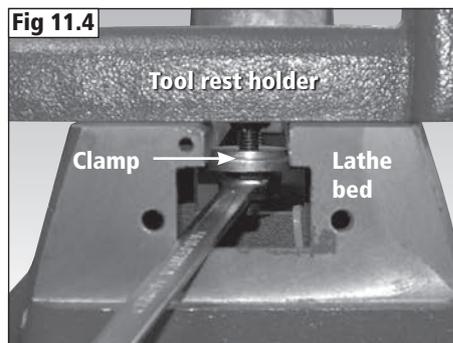
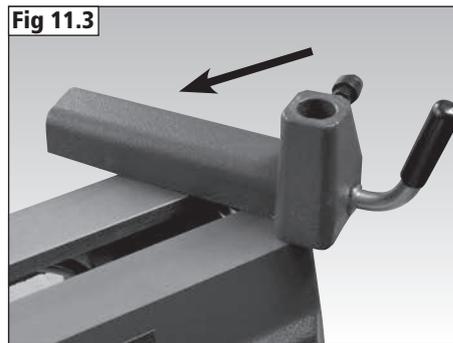
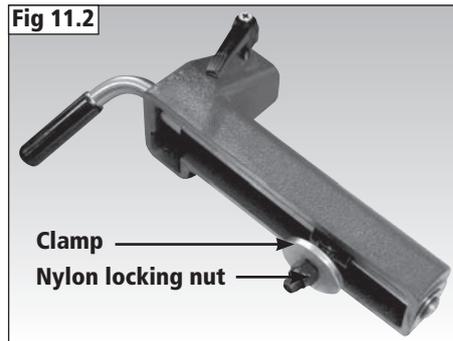
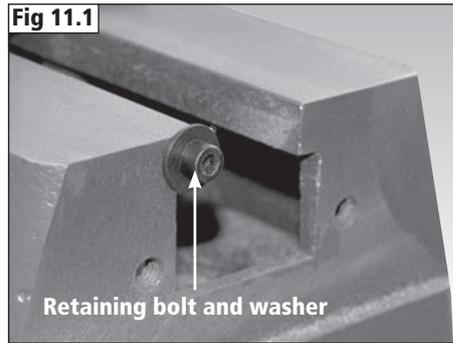
To remove the tool rest holder from the lathe bed, the hex head socket bolt and retaining washer must be removed from the end of the lathe bed as shown in **Fig 11.1**, using a 5 mm hex wrench.

On the underside of the tool rest holder is a bolt with a nylon locking nut which holds the clamp in place, **Fig 11.2**. Loosen the nylon locking nut using a 16 mm wrench (not supplied) until the tool rest holder can be slid onto the lathe bed, **Fig 11.3**.

The nylon locking nut can now be adjusted so the tool rest holder is held firmly on the lathe bed when the cam handle is engaged but can slide freely along its length when loosened, **Fig 11.4**.

Adjustment of the Tailstock

The procedure for adjustment of the tailstock is the same as for the tool rest holder. **Fig 11.5** shows the position of the nylon locking nut and clamp.



11. Maintenance

Changing the Belt

To replace the belt, the spindle shaft must be removed from the headstock. This will allow the old belt to be removed and the new one installed.



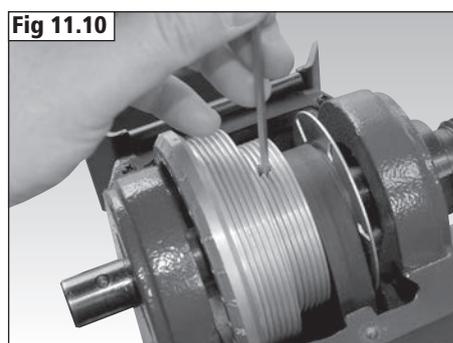
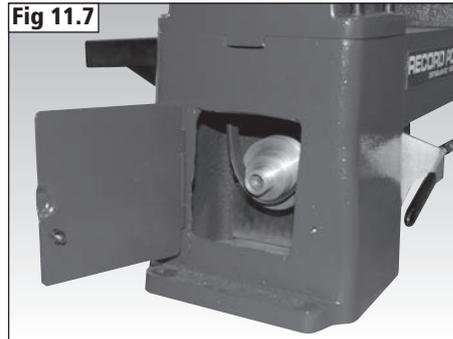
The machine must be unplugged and the power switch must be in the OFF position while carrying out this procedure.

Using a 4 mm hex wrench, open the headstock cover as shown in **Fig 11.6** and the motor pulley access hatch as shown in **Fig 11.7**.

Remove any accessories from the headstock spindle then remove the headstock handwheel by removing the 2 blind set screws located opposite each other in the shaft with a 3 mm hex wrench, **Fig 11.8**.

Remove the speed sensor from inside the headstock by removing the two countersunk screws from the side of the headstock as shown in **Fig 11.9**. The sensor will drop down and away from the spindle and pulley, reducing the possibility of damage to it.

Remove the 2 blind set screws that hold the pulley to the spindle using a 3 mm hex wrench, **Fig 11.10**. Note that the 2 screws are stacked one on top of the other to give optimum securing of the pulley to the spindle.



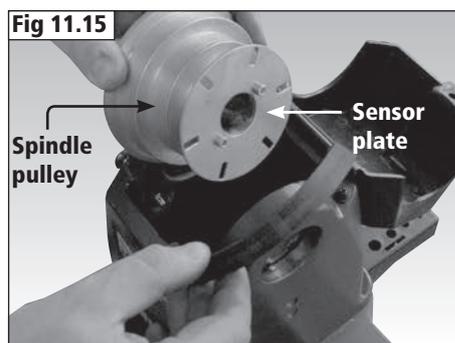
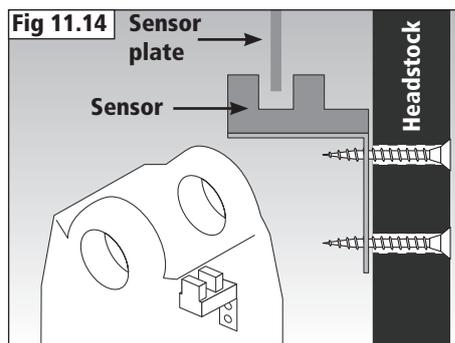
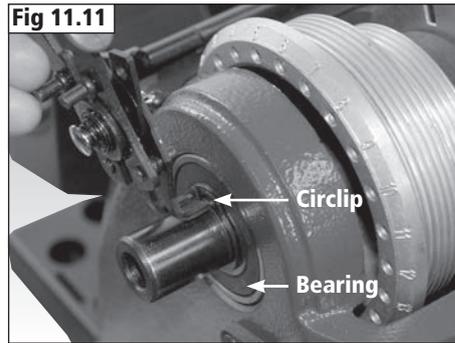
11. Maintenance

Using circlip pliers, remove the circlip positioned on the left of the spindle on the outside of the headstock as shown in **Fig 11.11**.

The spindle is held in place by 2 bearings, one can be seen on the outside left of the headstock as shown in **Fig 11.11** and the second is on the inside right of the headstock. Carefully knock the spindle from the headstock using either a soft head mallet or a hammer against a block of wood towards the tailstock as shown in **Fig. 11.12**. Once free from the bearings, the spindle can be removed as shown in **Fig 11.13**. Hold the spindle pulley while removing the spindle to avoid it dropping into the headstock.

Before fitting the new belt re-install the speed sensor, positioning as shown in **Fig 11.14** and screw back in place. The vertical sections of the sensor must be on either side of the sensor plate as shown.

The new belt can now be placed over the spindle pulley as shown in **Fig 11.15** before replacing the spindle to its original position and re-installing the pulley blind set screws, circlip and handwheel.



12. Intended Use of the Lathe and Basic Woodturning Instructions

Intended Use of the Lathe

This lathe is designed for turning wood between centres or on the headstock (using appropriate accessories), for sanding and applying finishes to wood. It is not to be used for any other purpose. Doing so will invalidate the warranty and may cause serious harm to the user.

Health and Safety

Please read the health and safety instructions contained in this manual and the specific health and safety instructions relating to woodturning. In addition, it is recommended to ensure your work area is adequately equipped with dust extraction and air filtration equipment.



Respiratory equipment should also be used to greatly reduce lung exposure to harmful fine dust. Always establish the properties of the timber being turned and take extra care when working with harmful and carcinogenic materials.



Eye protection must always be worn. Due to the nature of woodturning, shavings, dust and splinters can be thrown at fast speeds, making adequate eye protection essential.

Mounting Timber to a Faceplate or Chuck

Before mounting the workpiece to a faceplate or chuck, it is advisable to shape the timber into as cylindrical a profile as possible, see **Fig 12.1**. Turning unbalanced timber increases lathe vibration, the risk of it being thrown from the lathe, increased risk of chisel dig in and makes correct positioning of the tool rest difficult due to variable distances.

Mounting Timber Between Centres

When turning between centres, it is essential to correctly and securely mount the timber so as to reduce the risk of it being thrown from the lathe. It is also essential to mount the timber as centrally as possible. This will reduce the amount of roughing out needed and also maximise the possible diameter of the final piece.

1. Using a square or rectangular profile blank, draw two lines, one from each opposing diagonal corner to the other, at each end of the blank. The point where the lines intersect indicates the centre of the blank. See **Fig 12.2**. If using irregular shaped timber, a centre finder is an invaluable tool.
2. Take the four prong centre supplied with the lathe and place its point directly on to the centre point of one end of the blank. Using a soft mallet (of either plastic, rubber or wood) tap the four prong centre with reasonable force until it bites into the timber. See **Fig 12.3**.
3. Carefully place the four prong centre into the headstock spindle of the lathe, **Fig 12.4**, and ensure that it is correctly seated in the spindle by tapping it firmly into place with a mallet.
4. Slide the tailstock up the bed until the tailstock centre is almost touching the other end of the blank. Lock the tailstock in position and use the hand wheel to extend the tailstock centre until it grips the blank firmly at the centre point. See **Fig 12.5**. Then use the tailstock locking handle to secure the position. The blank is now successfully mounted and ready to be turned.

Fig 12.1

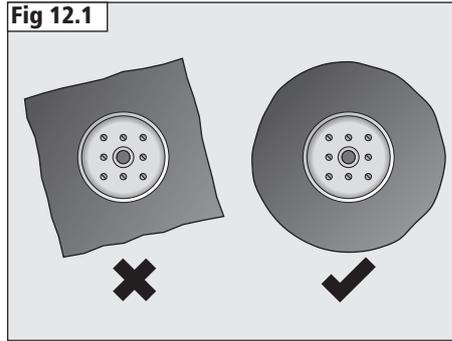


Fig 12.2

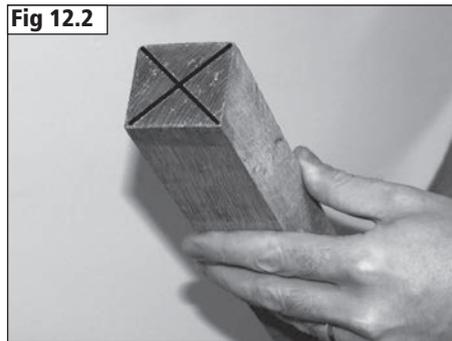


Fig 12.3

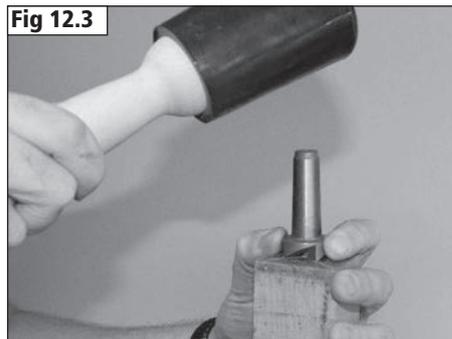


Fig 12.4



Fig 12.5



12. Intended Use of the Lathe and Basic Woodturning Instructions

Positioning the Tool Rest

It is extremely important to ensure the tool rest is correctly positioned before turning on the lathe. Place the tool rest close to the timber, allowing enough room to manoeuvre the chisel with ease. Spin the timber by hand to ensure it does not come into contact with the tool rest. If the lathe is started without checking this and the timber hits the tool rest, there is a risk the timber could be thrown from the lathe and cause injury. Never attempt to reposition the tool rest while the lathe is in motion.

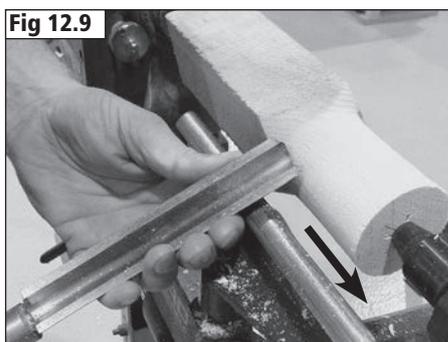
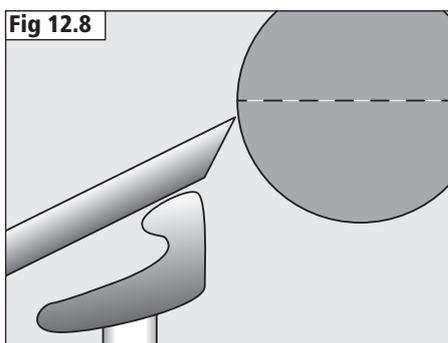
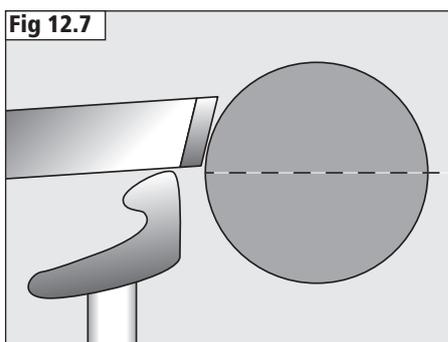
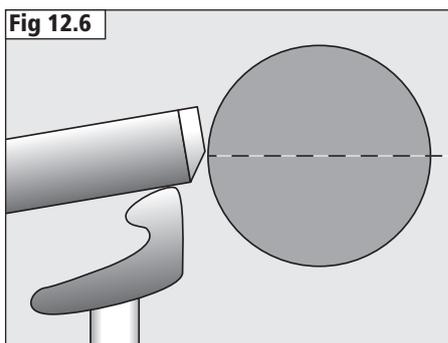
Tool rest height is also important and varies depending on the chisel being used. When using a roughing gouge, the cutting edge should come into contact with the centre of the workpiece, see **Fig 12.6**. If using a skew chisel, the cutting edge should be applied approximately 3/8" (10 mm) above the centre height, see **Fig 12.7**. A spindle gouge's cutting edge should come into contact with the workpiece approximately 3/8" (10 mm) below its centre, see **Fig 12.8**.

Using the Roughing Gouge

The first step when turning between centres is invariably to 'rough out' the blank. This involves taking a square section blank and paring it down with a roughing gouge to a cylindrical profile, ready to shape into the final piece. Roughing gouges are usually sharpened to have the bevel at a 45° angle. Using the tool rest to support the blade, offer the blade to the workpiece at an angle, see **Fig 12.9**. When offering the roughing gouge to the workpiece, the bevel should be rubbing it, without cutting. To make a cut, gently raise the handle of the tool in order to bring the cutting edge into contact with the timber. Using light passes, move the blade outwards towards the same edge of the timber which the blade is facing, **Fig 12.9**. Never move the tool backwards, as this introduces the risk of splintering the wood and causing injury.

Using the Spindle Gouge

A spindle gouge is used to shape the final profile of a spindle and is capable of finer work than a roughing gouge. It is designed specifically for cutting coves or valleys. The blade should come into contact with the wood at just below the centre line. Resting it on the tool rest, apply the blade to the workpiece at an angle, see **Fig 12.10**, rubbing the bevel onto it. Raise the handle to apply the cutting edge and make cuts. As with the roughing gouge, use controlled and light passes, trying to not remove too much wood at once. Never attempt to use a spindle gouge for working on bowls or hollow form work as the angle of the cutting bevel of the gouge is too shallow and will cause it dig in to the work piece or snatch the tools from your hands.



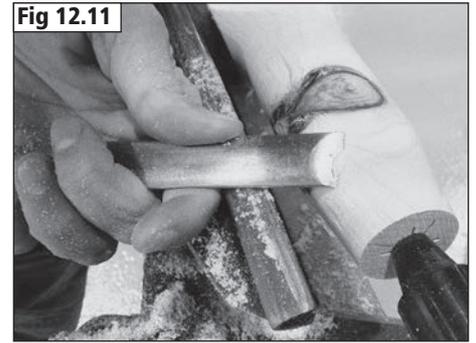
12. Intended Use of the Lathe and Basic Woodturning Instructions

Using the Skew Chisel

Skew chisels are available in both flat and oval profiles. The curved profile is favoured by many as it gives better results more easily. Skew chisels are ideal for creating beads, refining the profiles and can be used to create a final smooth finish to the workpiece. The skew chisel should be applied to the workpiece horizontally with the blade resting on the tool rest, **Fig 12.11**, again with the bevel rubbing the workpiece and raising the handle to take careful, controlled cuts.

Further Operations

The guidelines above give basic instructions on some of the most common woodturning procedures. There are a wide variety of specialised chisels and many complementary accessories available for Record Power lathes which enable a huge variety of work to be created. For further instructions on more advanced safe and effective woodturning, please seek professional training.



Speeds of the Lathe

To ensure the safest possible use of the lathe, it is important to understand which speeds are suited to which tasks. In general, the slower speeds should be used for the initial turning and roughing out of large pieces and the slowest speed should be used when large pieces are out of balance. This will reduce the possibility of the workpiece being thrown from the lathe.

Medium speeds are ideally suited for general purpose work which doesn't place heavy loads on the spindle of the lathes, for example when creating the profiles of spindles and some smaller bowl turning.

The fastest speeds should be used only for small diameter work, where the size of workpiece is relatively small and therefore poses a lower risk of causing damage. Extra care should be taken when turning at the fastest speeds, using only a relatively light touch.

When sanding, care should be taken to not burn the operator's hands or the workpiece. It is recommended to not exceed the speed used for the last turning operation. If in doubt, use a slow speed.

13. Dust Extraction

The Importance Of Dust Extraction

Before the machine is started, ensure that adequate dust extraction provisions have been installed. Dust extraction is extremely important not only for health and safety but also for the correct upkeep of the machine. Saw dust can cause the machine not to operate properly or even fail completely. By keeping the machine free of large amounts of waste the performance will be optimised.

If a large amounts of MDF or toxic woods are to be cut we recommend that there is a good ventilation system in place and that in addition to proper extraction a mask or respirator be worn as minimum protection.

Record Power Extractors

Record Power offer a range of high quality dust extractors, we offer both drum and bag type extractors which filter down 0.5 micron providing protection from harmful fine dusts. All Record Power dust extractors and chip collectors have 100 mm inlets and hoses.

DX1000 High Filtration Dust Extractor

Drum type extractor, 45 litre capacity, single 1 kW motor, suitable for intermittent use ie must be switched off for 20 minutes every hour.

0.5 micron filtration

RSDE1 High Filtration Dust Extractor

Drum type extractor, 45 litre capacity, single 1 kW motor, suitable for intermittent use ie must be switched off for 20 minutes every hour.

0.5 micron filtration

RSDE2 High Filtration Dust Extractor

Drum type extractor, 50 litre capacity, single 1 kW motor, suitable for intermittent use ie must be switched off for 20 minutes every hour.

0.5 micron filtration

RSDE/2A High Filtration Dust Extractor with Auto Switching

Drum type extractor, 50 litre capacity, single 1 kW motor, auto switching allows the machine to be turned on and off as machines and power tools are operated. Suitable for intermittent use ie must be switched off for 20 minutes every hour. Maximum auto switch capacity tools up to 1.1 kW.

0.5 micron filtration

DX4000 High Filtration Dust Extractor

Drum type extractor, 80 litre capacity, Twin 1 kW motor, suitable for heavy usage ie if one motor is switched off for 20 minutes then the other can be used thus enabling continuous usage. Or both motors can be used simultaneously giving maximum suction but in this mode the extractor must be switched off for 20 minutes every hour. **0.5 micron filtration**

DX5000 High Filtration Dust Extractor

Bag type extractor, 200 litre capacity, Twin 1 kW motor, suitable for heavy usage ie if one motor is switched off for 20 minutes then the other can be used thus enabling continuous usage. Or both motors can be used simultaneously giving maximum suction but in this mode the extractor must be switched off for 20 minutes every hour. **0.5 micron filtration**

CX2000 Compact Chip Extractor

Medium capacity chip collector, with a powerful 0.56 kW induction motor. An extremely smooth running unit suitable for continuous usage. Very quiet impeller system extracts dust and chippings.

CX2600 Chip Collector

Large capacity chip collector, with a powerful 0.37 kW induction motor. An extremely smooth running unit suitable for continuous usage. Very quiet impeller system extracts dust and chippings.

Suitable for chip collection or finer dust using the optional filter cartridge

CX3000 Chip Collector

Larger capacity chip collector, with a more powerful 0.75 kW induction motor and heavy duty construction. An extremely smooth running unit suitable for continuous usage. Very quiet impeller system extracts dust and chippings.

Suitable for chip collection or finer dust using the optional filter cartridge

Air Cleaners

It is strongly advised to also use an air cleaner to remove the fine airborne dust present in the workshop which cannot be removed using machine extraction. Record Power offer a range of air cleaners suitable for all home workshops. Please contact your preferred stockist or visit www.recordpower.info.

	DX1000	RSDE1	RSDE2	RSDE/2A	DX4000	DX5000	CX2000	CX2600	CX3000
Bandsaws Circular saws Sanders Intermittent usage	✓ Recommended	✓ Recommended	✓ Recommended	✓ Recommended	✓ Recommended	✓ Recommended			
Bandsaws Circular saws Sanders Heavy usage					✓ Recommended	✓ Recommended			
Planer Thicknessers Spindle Moulders Universals Intermittent usage	✓ Recommended	✓ Recommended			✓ Can be used	✓ Recommended	✓ Recommended	✓ Recommended	✓ Recommended
Planer Thicknessers Spindle Moulders Universals Heavy usage					✓ Can be used	✓ Recommended		✓ Recommended	✓ Recommended
Dust Extraction System Intermittent usage					✓ Can be used	✓ Recommended			

14. Troubleshooting



Warning: For your own safety, always turn off and unplug the machine before carrying out any troubleshooting.

Problem	Cause	Solution
Machine will not start, develop full power or stalls.	<ol style="list-style-type: none"> 1. Machine not plugged in. 2. Low voltage. 3. Loose connection. 4. Circuit overloaded with electrical appliances. 5. Circuit too long or undersized wires. 6. Circuit breaker does not have sufficient capacity. 7. Drive belt tension too high. 8. Extension cord is too long. 9. Worn motor. 10. Motor not cooling sufficiently. 	<ol style="list-style-type: none"> 1. Plug the machine in. 2. Check power supply to the machine. 3. Check all external connections. 4. Decrease the load on the circuit. 5. Reduce the length of the wire or use a suitable diameter of cable. 6. Have a qualified electrician install proper sized circuit breaker. 7. Reduce belt tension. 8. Reduce the length of the extension cord. 9. Replace motor. 10. Clean the motor to increase airflow or reduce operational periods.
Motor overheats.	<ol style="list-style-type: none"> 1. Motor overloaded. 2. Motor not cooling sufficiently. 	<ol style="list-style-type: none"> 1. Reduce load on the motor. 2. Clean the motor to increase airflow or reduce operational periods.
Spindle stalls or will not turn.	<ol style="list-style-type: none"> 1. Excessive depth of cut. 2. Loose or broken belt. 3. Worn spindle bearings. 4. Indexing lock is engaged. 	<ol style="list-style-type: none"> 1. Reduce cutting depth. 2. Adjust belt tension or replace drive belt. 3. Replace bearings. 4. Disengage the indexing lock and check the spindle pulley for damage and replace if necessary.
Tailstock moves when applying pressure	<ol style="list-style-type: none"> 1. Excessive pressure is being applied by the tailstock to the workpiece. 2. Tailstock is not secured in place. 3. Lathe bed and tailstock mating surfaces are dirty. 	<ol style="list-style-type: none"> 1. Apply only sufficient force with the tailstock to hold the timber securely between centres. 2. Tighten tailstock locking lever. 3. Remove and clean the tailstock and lathe bed.
Tailstock or tool rest holder will not lock in place securely.	<ol style="list-style-type: none"> 1. The clamp is set incorrectly. 	<ol style="list-style-type: none"> 1. Adjust the clamp as shown in the Maintenance chapter of the manual.
Turning tool digs into the timber or grabs it.	<ol style="list-style-type: none"> 1. The turning tool is blunt. 2. The tool rest is set to low. 3. The tool rest is too far from the timber. 4. The wrong turning tool is being used. 	<ol style="list-style-type: none"> 1. Sharpen the turning tool. 2. Set the tool rest to the correct height. 3. Move the tool rest closer to the timber. 4. Use the correct turning tool.
Digital speed readout does not work.	<ol style="list-style-type: none"> 1. The speed sensor is in the wrong position. 	<ol style="list-style-type: none"> 1. Contact customer services in your country for advice.
Excessive motor noise.	<ol style="list-style-type: none"> 1. Faulty motor. 2. Pulley blind set screws are loose. 	<ol style="list-style-type: none"> 1. Replace motor. 2. Tighten blind set screws.

15. Electrical Connection and Wiring Diagram

Machines supplied for use in the UK are fitted with a 3 pin plug conforming to BS1363, fitted with a fuse conforming to BS1362 and appropriate to the current rating of the machine.

Machines supplied for use in other countries within the European Union are fitted with a 2 pin Schuko plug conforming to CEE 7/7.

Machines supplied for use in Australia and New Zealand are fitted with a 3 pin plug conforming to AS/NZS3112.

In all cases, if the original plug or connector has to be replaced for any reason, the wires within the mains power cable are colour coded as follows:

230 V (Single Phase)

Brown: Live (L)
 Blue: Neutral (N)
 Green and Yellow: Earth (E)

The wire coloured brown must always be connected to the terminal marked 'L' or coloured red.

The wire coloured blue must always be connected to the terminal marked 'N' or coloured black.

The wire coloured green and yellow must always be connected to the terminal marked 'E' or with the earth symbol:



or coloured green / green and yellow.

It is important that the machine is effectively earthed. Some machines will be clearly marked with the double insulated logo:



In this case there will not be an earth wire within the circuit.

In the case of the BS1363 plug for use in the UK, always ensure that it is

fitted with a fuse conforming to BS1362 appropriate to the rating of the machine. If replacing the original fuse, always fit a fuse of equivalent rating to the original. Never fit a fuse of a higher rating than the original. Never modify the fuse or fuse holder to accept fuses of a different type or size.

Where the current rating of the machine exceeds 13 A at 230 V, or if the machine is designated for use on a 400 V 3 phase supply a connector conforming to BS4343 (CEE17 / IEC60309) will be used.

230 V machines will be fitted with a blue 3 pin connector. The wiring for this type of this connector will be the same as shown above.

400 V, 3 phase machines will be fitted with a red 4 or 5 pin connector. The wiring for this type of connector is as shown below:

400 V (3 phase)

Brown: Live (L1)
 Black: Live (L2)
 Grey: Live (L 3)
 Blue: Neutral (N)
 Green and Yellow: Earth (E)

The wire coloured brown must always be connected to the terminal marked 'L1'.

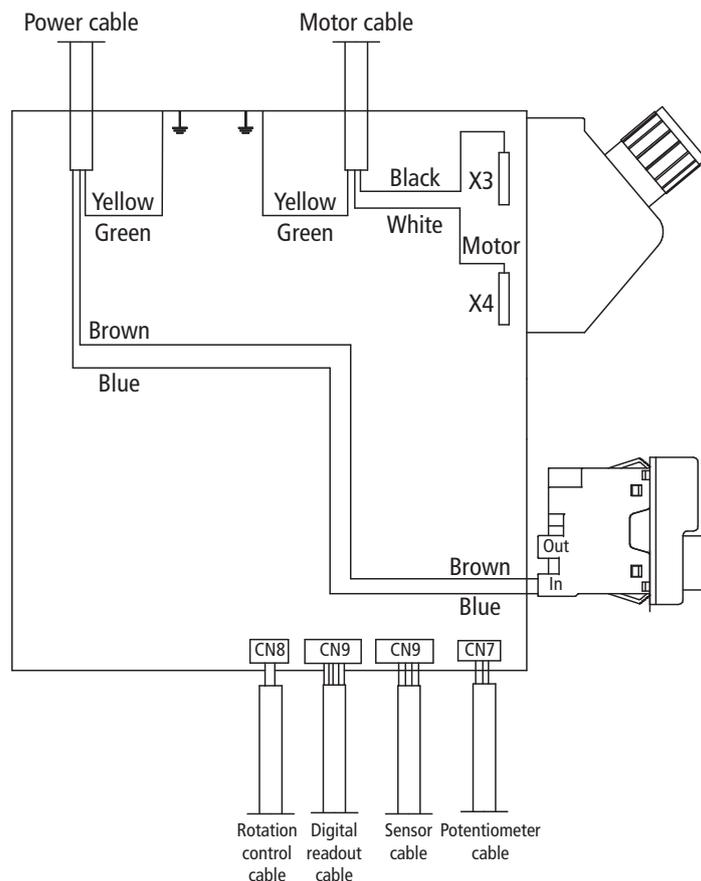
The wire coloured black must always be fitted to the terminal marked 'L2'.

The wire coloured grey must always be connected to the terminal marked 'L3'.

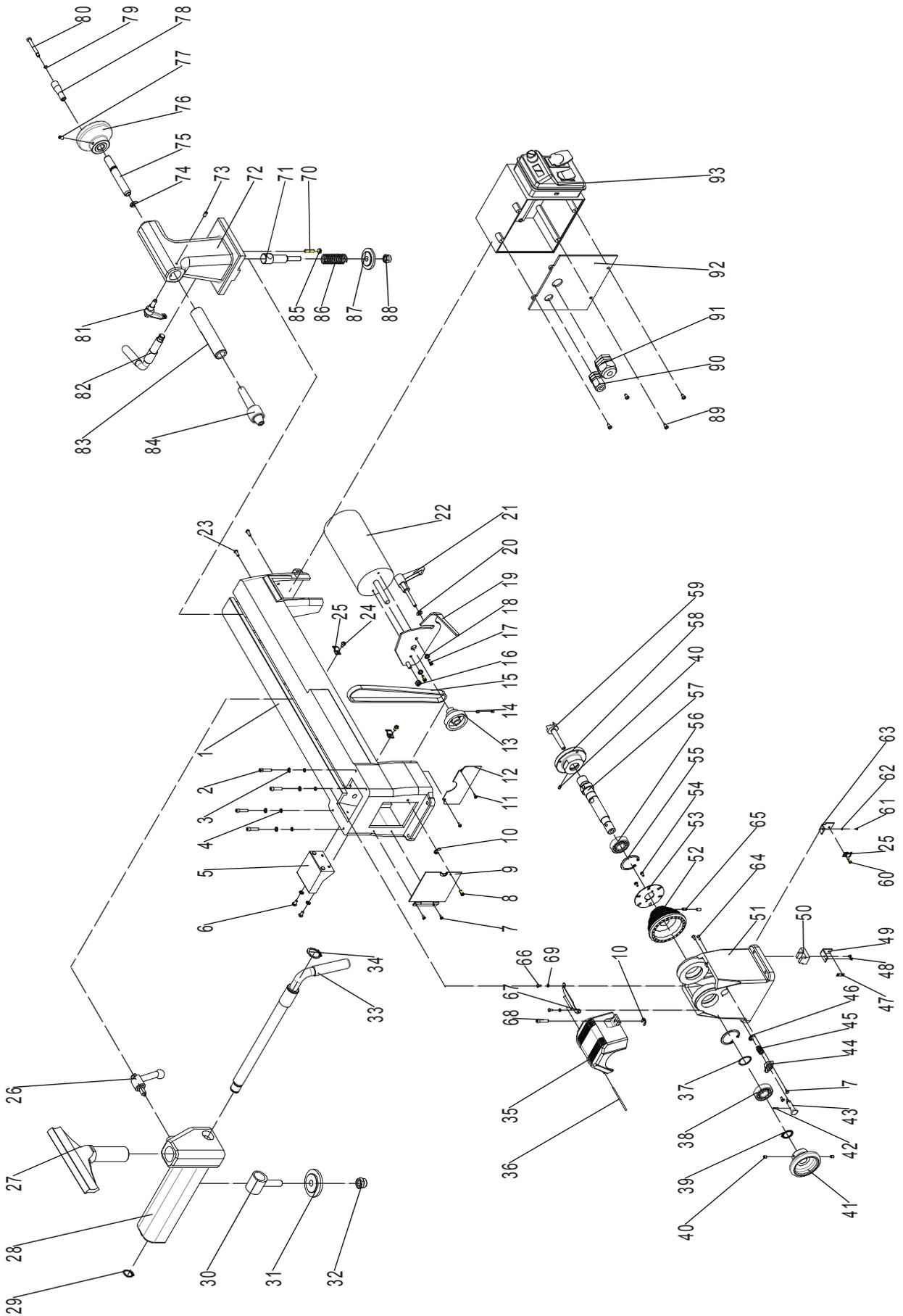
The wire coloured blue must always be connected to the terminal marked 'N' or coloured black.

The wire coloured green and yellow must always be connected to the terminal marked 'E' or with the earth symbol

If in doubt about the connection of the electrical supply, always consult a qualified electrician.



16. Parts Diagram and List

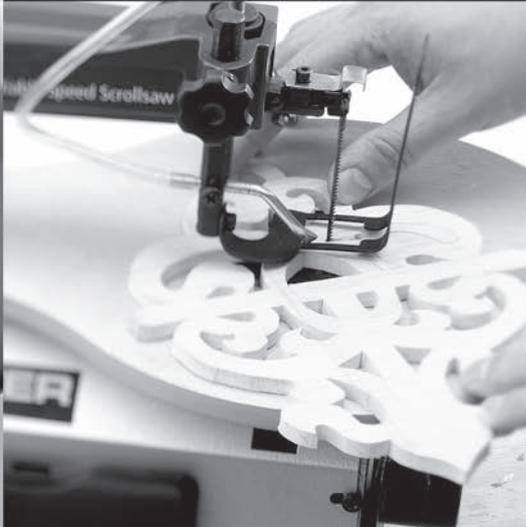
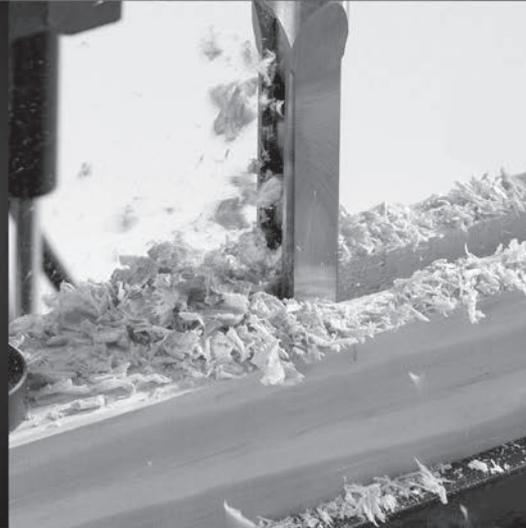


16. Parts Diagram and List

No.	Description	Part Number	Quantity	No.	Description	Part Number	Quantity
1	Bed	JMWL1203010002A	1	48	Tapping screw	ST2D9X6D5GB845Z	2
2	Hexagon socket cap screw	M6X30GB70B	4	49	Support bracket	JMWL1203020012	1
3	Flat washer	WSH6GB97D1B	6	50	Speed sensor	JMWL1203091001	1
4	Lock washer	WSH6GB93B	4	51	Headstock	JMWL1203020005A	1
5	Tool holder	JL93010017-001S	1	52	Spindle pulley	JMWL1203020006A	1
6	Cross pan head screw	M6X12GB818B	2	53	Segmented RMP plate	JMWL1203020007	1
7	Countersunk head screw	M4X10GB819B	4	54	Hexagon socket cap screw	M4X10GB70Z	2
8	Cylinder head hex socket bolt	M5X12GB70B	1	55	Circlip	CLP47GB893D1B	2
9	Bed cover plate door	JMWL1203011000A	1	56	Bearing	BRG6005-2RSV2GB276	1
10	Split washer	CLP5GB896B	2	57	Spindle	JMWL1203020004A	1
11	Half-Countersunk head screw	M4X10GB818B	2	58	3" Face plate	JMWL1203020010	1
12	Plate	JMWL1203010005	1	59	Spur centre	JL93011100	1
13	Motor pulley	JMWL1203010007	1	60	Cylinder head hex socket bolt	M5X8GB70D1B	1
14	Socket head cap screw	M6X5GB80B	2	61	Cross pan head screw	M4X8GB818Z	1
15	Poly-v-belt	JMWL1203010001	1	62	Flat washer	WSH4GB97D1Z	1
16	Self-locking nut	M8GB889Z	1	63	Plate	JMWL1203020014	1
17	Hex socket cap screw	M6X16GB70D2Z	2	64	Cross pan head screw	M4X16GB819B	2
18	Lock washer	WSH6GB93Z	2	65	Socket head cap screw	M6X10GB80B	2
19	Motor connecting plate	JMWL1203010004	1	66	Screw	M4X10GB823B	2
20	Big washer	WSH8GB96Z	1	67	Hinge	JMWL1203020002B	1
21	Locking handle	KTSB-1-B-M8X63X25	1	68	Hexagon socket cap screw	M5X16GB70B	1
22	Motor	Z3612020	1	69	Flat washer	WSH4GB97D1B	2
23	Hex socket cap screw	M6X16GB70D2B	2	70	Set screw	M5X25GB77B	1
24	Cross pan head screw	M5X10GB818B	2	71	Threaded shaft	JMWL1203040002	1
25	Cable plate	1502014-02	3	72	Tailstock	JMWL1203040003A-053L	1
26	Locking handle	KTSB-1-B-M8X63X32	1	73	Set screw	M5X12GB79B	1
27	Tool rest	JMWL1203050001-001G	1	74	Retaining ring	CLP12GB896B	1
28	Tool rest holder	JMWL1203050003	1	75	Tailstock shaft	JMWL1203040008	1
29	Retaining ring	CLP15GB894D1B	1	76	Hand wheel	JMWL1203040005	1
30	Threaded shaft and sleeve	JMWL1203050002	1	77	Socket head cap screw	M6X8GB80B	1
31	Clamping plate	JL93030012	1	78	Rotation handle	JL93030007	1
32	Self-locking nut	M10GB889B	1	79	Spring coil	JMWL1203040007	1
33	Locking lever	JMWL1203050004	1	80	Screw	JL93030008	1
34	Retaining ring	CLP21GB894D1B	1	81	Locking handle	JMWL1203041000	1
35	Headstock cover	JMWL1203020001A-001S	1	82	Tailstock locking lever	JMWL1203040001	1
36	Hinge shaft	JMWL1203020003	1	83	Tailstock locking shaft	JMWL1203040009	1
37	Wave washer	JL93010008	1	84	Live centre	JL93031000A	1
38	Bearing	BRG6204-2RS-P5GB276	1	85	Nut	M5GB6170B	1
39	Retaining ring	CLP20GB894D1B	1	86	Compression spring	JMWL1203040004	1
40	Socket head cap screw	M6X8GB80B	3	87	Clamping plate	JL93030012	1
41	Hand wheel	JMWL1203020013	1	88	Self-locking nut	M10GB889B	1
42	Roll pin	PIN3X14GB879B	1	89	Tapping screw	ST4D2X13GB845B	4
43	Index pin knob and shaft	JMWL1203020008	1	90	M16 Pull off	JL91046300	1
44	Locating sleeve	JMWL1203020011	1	91	M20 Pull off	DJH7120	1
45	Spring	JMWL1203020009	1	92	Electric box cover	JMWL1203090003-001S	1
46	Split washer	CLP9GB896B	1	93	Electric box	JMWL1203091000A	1
47	Threaded plate	JL27010017	1				



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