

Instruction Manual

_____ Wood lathe

_____ DB 510 Vario



DB 510 Vario

DB 510 VARIO

Imprint

Product identification

Wood lathe	Item number
DB 510 Vario	5920510

Manufacturer

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Indications regarding the operating instructions

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Indications regarding the Copyright

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Subject to technical modifications and error.

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1 Introduction

You have made a good choice by purchasing a HOLZSTAR Wood Lathe.

Carefully read the operating instructions prior to commissioning.

They describe correct commissioning, intended use and safe as well as efficient operation and maintenance of your Wood Lathe.

The operating instructions form part of the Wood Lathe. Keep these operating instructions at the installation location of your Wood Lathe. Also observe the local accident prevention regulations and general safety regulations for the use of the Wood Lathe.

1.1 Copyright

The contents of these operating instructions are protected by copyright. Their application is permitted within the context of the use of the Wood Lathe. Any further use shall not be permitted without written consent by the manufacturer.

For the protection of our products, we shall register trademark, patent and design rights, as this is possible in individual cases. We strongly oppose any infringement of our intellectual property.

1.2 Customer service

Please contact your specialist retailer if you have any questions regarding your Wood Lathe or require any technical information. Your specialist retailer will be happy to support you with specialist advice and information.

Germany:

Stürmer Maschinen GmbH
Dr.-Robert-Pfleger-Str. 26
D-96103 Hallstadt

Repair service:

Fax: 0049(0)951 96555-111
E-Mail: service@stuermer-maschinen.de
Internet: www.holzstar.de

Spare parts orders:

Fax: 0049(0)951 96555-119
E-Mail: ersatzteile@stuermer-maschinen.de

We are always interested in valuable experience and knowledge gained from using the application, which then could be shared and be valuable to develop our products even further.

1.3 Limitation of liability

All data in these operating instructions has been compiled on the basis of the state-of-the-art, valid standards and guidelines as well as our many years of expertise and experience.

The manufacturer shall not be liable for damage in the following cases:

- Non-observance of these operating instructions
- Unintended use
- Deployment of untrained staff
- Conversions at one's own responsibility
- Technical modifications
- Use of unauthorised spare parts

The actual scope of delivery may deviate from the descriptions and illustrations in this document as a result of special variants, optional extras or recent, technical modifications.

The obligations defined in the supply contract shall apply in addition to the general terms and conditions and the manufacturer's general terms and conditions as well as the statutory regulations valid at the time of the conclusion of the contract.

2 Safety

This section provides an overview of all important safety packages for personal protection as well as safe and reliable operation. The sections on individual service life phases contain additional, specifically applicable safety information.

2.1 Legend of symbols

Safety Instructions

Safety instructions in these operating instructions have been highlighted with symbols. Safety instructions are indicated by signal terms that express the degree of risk involved.



DANGER!

This combination of symbol and signal term indicates a directly dangerous situation which may cause death or serious injury if not averted.



WARNING!

This combination of symbol and signal term indicates potentially hazardous situations which may cause death or serious injury if not averted.



ATTENTION!

This combination of symbol and signal term indicates a potentially hazardous situation which may cause minor or light injuries if it is not averted.



NOTE!

This combination of symbol and signal term indicates a potentially dangerous situation which may cause material damage or harm the environment if it is not averted.

Tips and recommendations



Tips and recommendations

This symbol highlights useful tips and recommendations as well as information for efficient and reliable operation.

To reduce the risk of personal injury and property damage and to avoid dangerous situations, the safety instructions in this manual must be observed.

The term "machine" replaces the usual trade name of the device to which these operating instructions refer (see cover sheet).

2.2 Responsibility of the operator

The operator is the person who operates the machine himself for commercial or economic purposes or leaves it to a third party for use or use and bears legal product responsibility for the protection of the user, the personnel or third parties during operation.

Obligations of the operator:

If the machine is used in the commercial sector, the operator of the machine is subject to the legal obligations for occupational safety. Therefore, the safety instructions in this operating manual as well as the safety, accident prevention and environmental protection regulations applicable to the area of application of the machine must be observed. The following applies in particular:

- The operator must obtain information about the applicable occupational safety regulations and, in a risk assessment, must also identify additional hazards that arise as a result of the special working conditions at the place of use of the machine. He must implement these in the form of operating instructions for the operation of the machine.

- The operator must check during the entire period of use of the machine whether the operating instructions he has prepared comply with the current state of the regulations and adjust them if necessary.
- The operator must clearly regulate and determine the responsibilities for installation, operation, troubleshooting, maintenance and cleaning.
- The operator must ensure that all persons handling the machine have read and understood this manual. In addition, he must train the staff at regular intervals and inform them about the dangers.
- The operator must provide the personnel with the necessary protective equipment and bind the wearing of the necessary protective equipment in a binding manner.

Furthermore, the operator is responsible for ensuring that the machine is always in perfect technical condition. Therefore, the following applies:

- The operator must ensure that the maintenance intervals described in this manual are adhered to.
- The operator must have all safety equipment regularly checked for functionality and completeness.

2.3 Qualification of the staff

The various tasks described in this manual place different demands on the qualifications of the persons entrusted with these tasks.



WARNING!

Danger due to insufficient qualification of persons!

Insufficiently qualified persons can not assess the risks involved in handling the machine and expose themselves and others to the risk of serious or fatal injuries.

- All work should only be carried out by qualified persons.
- Keep inadequately qualified persons out of the work area.

Only persons who are expected to carry out this work reliably are permitted for all work. Persons whose reactivity z. As influenced by drugs, alcohol or drugs are not allowed. This manual identifies the qualifications of the persons listed below for the different tasks:

Operator:

The operator has been instructed in a briefing by the operator about the tasks assigned to him and possible dangers of improper behavior. The operator may only carry out tasks that go beyond normal operation if this is specified in this operating manual and the operator has expressly entrusted this to him.

Electrician:

Due to their professional training, knowledge and experience as well as knowledge of the relevant standards and regulations, the electrician is in a position to carry out work on electrical installations and to recognize and avoid possible dangers independently.

Personnel:

Due to their technical training, knowledge and experience, as well as knowledge of the relevant standards and regulations, qualified personnel are in the position to carry out the work assigned to them and to recognize possible dangers independently and to avoid hazards.

Manufacturer:

Certain work may only be carried out by specialist personnel of the manufacturer. Other personnel are not authorized to carry out this work. To carry out the work, contact our customer service.

2.4 Personal protective equipment

Personal protective equipment is intended to protect the health and safety of persons at work. Staff must wear the personal protective equipment indicated in individual sections of these operating instructions when carrying out the different tasks on the machine.

The personal protective equipment is described in the following section:



Respiratory protection

A dust mask protects the airways from dust.



Ear protection

The ear protection protects against hearing damage caused by noise.



Eye protection

Protective glasses protect the eyes against projected parts and splashes of liquid.



Protective gloves

The protective gloves provide protection for the hands against sharp-edged components, as well as against friction, abrasions or deeper injuries.



Safety boots

The safety boots protect the feet against crushes, falling parts and slipping over on slippery underground.



Protective clothes

Protective work clothing means tight-fitting clothing with low tear resistance.

2.5 Safety signs on the machine

The following safety signs are applied on the Wood Lathe (Fig. 1), which need to be observed and followed.



Fig. 1: Safety signs

If safety labels on the machine are damaged or missing, this can cause errors, personal injury and material damage. The safety symbols attached to the machine must not be removed. Damaged safety symbols must be replaced immediately.

As soon as the signs are not clearly visible and comprehensible at first glance, the machine must be stopped until new signs have been attached.

2.6 Safety informations



NOTE!

Before starting, using, servicing or otherwise intervening on the machine, read the instructions for use and maintenance carefully. Handling and working with the machine is only permitted for persons who are familiar with the handling and operation of the machine.



DANGER!

Repairs, maintenance and upgrades may only be carried out by qualified personnel with the machine switched off (unplug the mains plug!)

- Before switching on the machine, check the correct pick-up of the workpiece!
- When working with the machine, always keep hands away from rotating parts! Hold the turning tool firmly against the tool rest with both hands.
- Adjust the tool rest approximately 1/4" from the workpiece and 1/8" above the workpiece center line to properly support the lathe tool.
- Do not remove sharp-edged chips by hand; Use a hand brush or swarf hook!
- Use the guards and secure them securely. Never work without guards and get them working. Check the functionality before starting work.
- Keep the machine and its working environment always clean. Ensure adequate lighting.
- In principle, secure your workpiece when working with suitable clamping devices. Make sure there is sufficient contact surface.
- The machine may not be modified in its design and may not be used for purposes other than those specified by the manufacturer.
- Never work under the influence of concentration-disturbing illnesses, fatigue, drugs, alcohol or medicines.
- Remove tool keys and other loose parts from the machine after installation or repair before turning them on.
- Observe all safety and hazard warnings on the machine and keep them in perfect readable condition.
- Keep children and people unfamiliar with the machine away from your work environment, machine, and tools.

- The machine may only be used, equipped and maintained by persons who are familiar with it and have been informed of the dangers.
- Do not pull on the power cord to pull the plug out of the socket. Protect the cable from heat, oil and sharp edges.



DANGER!

Make sure the main power switch is in the "OFF" position when connecting the machine to the power supply to prevent it from switching on accidentally.

- Wear tight-fitting work clothing, safety glasses, safety shoes and ear protection. Tie long hair together. When working, do not wear watches, bracelets, chains, rings or gloves (rotating parts!).
- Disruptions that affect safety are eliminated immediately.
- Never leave the machine unattended in operation and remain with the machine until the tool is at a standstill. Then pull out the mains plug to protect against unintentional switching on.
- Protect the machine against moisture (danger of short circuit!).
- Never use the machines near flammable liquids and gases (risk of explosion!).
- Before each use of the machine, make sure that no parts are damaged. Damaged parts must be replaced immediately to avoid danger sources!
- Do not overload the machine! You work better and safer in the specified performance range. Use the right tool! Make sure the tools are not dull or damaged.
- Make sure that the tool rest, headstock and tailstock are clean and undamaged before turning on the machine.
- Make sure that each workpiece is free of knots, cracks, nails, or foreign objects to ensure it can rotate safely without breaking or causing the tool to kick back.
- Wait until the rotating workpiece stops by itself. Never place hands or other objects on the workpiece to stop it.
- Only use original spare parts and accessories in order to avoid possible danger and accident risks.

Safety instructions for lathes

- The machine must always be operated by qualified personnel who are familiar with the function and function.
- The machine may only be operated with functioning safety devices. Stop the machine immediately if a safety device is defective or ineffective.
- Secure the wood to be processed securely.
- Do not work on cracked or faulty wood.
- Use the lowest speed after clamping a new workpiece.
- Observe the warnings on the machine
- The clamped material must not be too large imbalance in order to avoid ejection.
- Before turning on the motor, turn the clamped workpiece only a few turns by hand to avoid collisions.
- Do not wear work gloves, as they may get caught on the workpiece.
- Wear a dust mask and eye protection to protect yourself from wood dust.
- Prevent the tool from being hooked in during machining.
- Place the tool on the support. Set the tool cutting edge to the center of the workpiece
- Pay attention to the correct direction of rotation.
- Remove any loose knobs before turning them on
- Always pay attention to the safe use and handling of the machine.

3 Intended Use

The Wood lathe DB 510 Vario is used exclusively for turning wood or wood-like materials. It is suitable for private use, not for industrial use. Proper use also includes compliance with all information in this manual. Any use beyond the intended use or otherwise is considered misuse.



DANGER!

Certain types of wood and wood products produce harmful dust emissions when processed. Therefore, use your machine only in a well-ventilated room and use a suction device.

For structural and technical changes to the Wood Lathe the company Stürmer Maschinen GmbH assumes no liability.

Claims of any kind due to damage due to improper use are excluded.



WARNING!

Risk of misuse!

Misuse of the Wood lathe can lead to dangerous situations.

- Only operate the lathe in the power range specified in the technical data.
- Never bypass or override the safety devices.
- Never work on other materials than specified in the intended use.
- Only operate the lathe in a technically perfect condition.
- Never work on several workpieces at the same time.



DANGER!

The machine may only be operated in a technically perfect condition. Any faults must be eliminated immediately.

Unauthorized modifications to the machine or improper use of the machine as well as disregard of the safety regulations or the operating instructions.

Exclude a liability of the manufacturer for resulting damage to persons or objects and cause the warranty to expire!

3.1 Residual risks

Even if all safety regulations are observed and the machine is used correctly, there are still residual risks listed below:

- Injuries from flying workpieces or workpiece parts
- Fire hazard with insufficient ventilation of the engine
- Danger due to incorrect clamping of the workpiece
- Risk of injury by using a wrong tool
- Danger of current, in case of improper wiring
- Danger from noise and dust (wear ear protection and use a suitable extraction system)



WARNING!

It should be noted that each machine has residual risks. When carrying out all operations (even the simplest ones), great care should be taken. Safe working depends on you!

4 Technical Data

Model	DB 510 Vario
Length	1055 mm
Width/depth	560 mm
Height	460 mm
Weight	50 kg
Supply voltage	230 V
Max. turning diameter	355 mm
Max. height	178 mm
Max. width	510 mm
Spindle head thread	M 33 x 3,5
Speed stages	3
Speed stages	250-720, 600-1700, 1200-3550 min ⁻¹
Control of the speed regulation	Electronic variable
Morse cone	MK 2
Drive motor output	0,49 kW
Motor input power	0,75 kW
Rated current	4,8 A
Quill adjustment	70 mm



Ear protection

It is recommended to wear ear protection. It should be noted that the duration of the sound exposure, the nature and condition of the work area as well as other machines that are in operation at the same time influence the noise level in the workplace.

4.1 Type plate

Drehselbank Wood lathe			
Typ Type	DB 510 Vario	Serien-Nr. Serial no.	
Artikel-Nr. Item no.	5920510	Baujahr Year of manufacture	
Motorleistung Motor power	0,75 kW	Netzanschluss Power connection	230 V / 50 Hz
Gewicht Weight	50 kg	Drehzahl Speed	250 - 3550 1/min
		Stürmer Maschinen GmbH Dr.-Robert-Pfleger-Str. 26, 96103 Hallstadt Deutschland / Germany	

Fig. 2: Type plate DB 510 Vario

5 Transport, packaging, storage

5.1 Delivery and Transport

Delivery

Check the Wood Lathe for visible shipping damage after delivery. If you discover damage to the Wood Lathe, immediately report it to the carrier or dealer.

Transport

Improper transport is accident-prone and can cause damage or malfunctions for which we do not grant any liability or guarantee.

Transport the scope of delivery secured against shifting or tilting with a sufficiently dimensioned industrial truck to the installation site.



WARNING!

Severe or fatal injuries may occur if parts of the machine tumble or fall down from the forklift truck, pallet truck or from the transport vehicle. Follow the instructions and information on the transport box.

Note the total weight of the machine. The weight of the machine is indicated in the "Technical data" of the machine. When the machine is unpacked, the weight of the machine can also be read on the rating plate.

Only use transport devices and load suspension gear that can hold the total weight of the machine.



WARNING!

The use of unstable lifting and load suspension equipment that might break under load can cause severe injuries or even death. Check that the lifting and load suspension gear has sufficient load-bearing capacity and that it is in perfect condition.

Observe the accident prevention regulations issued by your Employers Liability Insurance Association or other competent supervisory authority, responsible for your company.

Fasten the loads properly.

General risks during internal transport



WARNING: DANGER OF TIPPING

The device may be lifted unsecured by a maximum of 2cm.

Employees must be outside the danger zone, the reach of loads.

Warn employees and, if necessary, advise employees of the hazard.

Devices may only be transported by authorized and qualified persons. Act responsibly during transport and always consider the consequences. Refrain from daring and risky actions.

Gradients and descents (e.g. driveways, ramps and the like) are particularly dangerous. If such passages are unavoidable, special caution is required.

Before starting the transport check the transport route for possible danger points, unevenness and disturbances as well as for sufficient strength and load capacity.

Danger points, unevenness and disturbance points must be inspected before transport. The removal of danger spots, disturbances and unevenness at the time of transport by other employees leads to considerable dangers.

Careful planning of internal transport is therefore essential.

Transport with a forklift / pallet truck:

For shipping, the device packed in a wooden box is delivered on a pallet so that it can be transported by a forklift or a pallet truck.

5.2 Packaging

All of the machine's packaging materials and packing aids are suitable for recycling and must always be disposed of using material-based recycling systems.

Packaging materials made of cardboard must be shredded and disposed of as part of waste paper recycling.

The foils are made of polyethylene (PE), padding is made of polystyrene (PS). Dispose of these substances at a recycling centre or hand them over to the relevant waste disposal company.

5.3 Storage

The Wood Lathe must be thoroughly cleaned before it is stored in a dry, clean and frost-free environment. Cover the machine with a protective tarpaulin.

Ambient temperature range: -25 ° C to +55 ° C.

6 Description of the device

6.1 Machine

Illustrations in this manual may differ from the original.

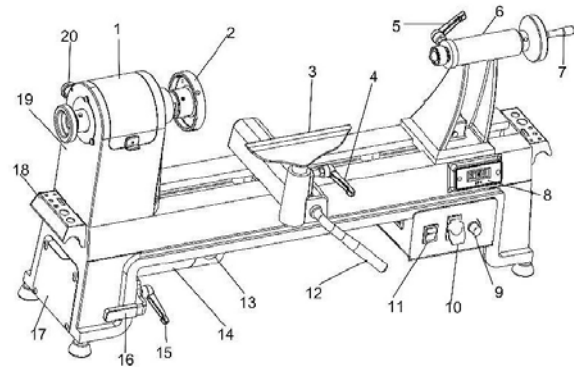


Fig. 3: Wood lathe DB 510 Vario

- 1 Belt Drive Access Panel
- 2 Face Plate
- 3 Tool Rest
- 4 Tool Rest Locking Handle
- 5 Quill Locking Handle
- 6 Tailstock
- 7 Tailstock Handle
- 8 Digital RPM Readout
- 9 Speed Adjustment Knob
- 10 ON/OFF Switch
- 11 Forward/Reverse Switch
- 12 Tool Rest Locking Lever
- 13 Carbon Brush Cap
- 14 Engine
- 15 Motor Plate Locking Handle
- 16 Motor Plate Tensioning Handle
- 17 Lower Belt Drive Plate
- 18 Accessory Holder
- 19 Headstock
- 20 Spindle Lock (Backside)

6.2 Scope of delivery

- Operating tool
- Operating manual
- Four-stroke driver 25 mm
- Hand rest 200 mm
- Clamping disc 100 mm
- Revolving center point MK 2

6.3 Accessories, not included



Fig. 4: Accessories

	Description	Item Nr.
1	8-piece turning tool set	5931011
2	4-jaw chuck set 1 - Ø 100 mm M33 x 3,5	5931021
3	4-jaw chuck set 2 Ø 100 mm M33 x 3,5	5931023
4	4-jaw chuck set Ø 95 mm Premium-Set	5931057
5	4-jaw chuck set Ø 115 mm Premium-Set	5931058

7 Setting up and connection

7.1 Requirements for the installation site

The Wood Lathe must be stable on a level and solid ground. It is important to ensure that there is enough freedom of movement to work. The site should meet the following criteria:

- The substrate must be level, firm and vibration-free.
- The substrate must not let any lubricant through.
- The installation or working room must be dry and well ventilated.
- The mounting place must have a good lighting.

7.2 Assembly

The machine must be completely assembled before it can be put into operation. To ensure a smooth assembly process, first clean all parts that are covered or coated with a high-performance antifreeze (if applicable).

Step 1: Place and place the 4 rubber feet into the holes on the bottom of the machine, making sure the machine is upright without wobbling.

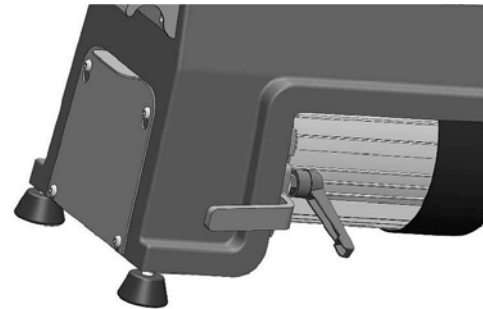


Fig. 5: Mount rubber feet

Step 2: Plug the end of the power cord into the socket on the back of the control box.

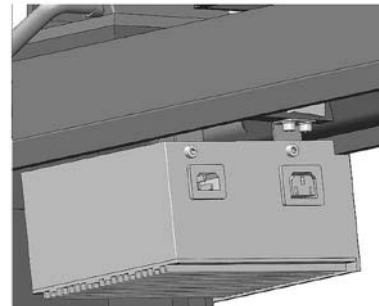


Fig. 6: Connecting the power cord

7.2.1 Setting up the Wood lathe

The machine must be placed on a stable and free surface. This prevents the machine from tipping over, injuring someone, as well as causing vibrations and thus inaccuracies in the workpieces.

Place the machine on a level surface and unscrew the respective feet until the machine has a tilt-free position!



ATTENTION!

Risk of injury due to a machine that is not stably erected! Check the stability of the machine after placing it on stable ground.



DANGER!

Before starting the lathe, all moving parts must be lubricated. Guides,

Greases, bearings with commercial grease lubricate or oil.

To lubricate the shifter shafts and drive shafts, the belt cover must be removed. For this purpose, only one adhesive grease may be used, otherwise it could lead to malfunction of the belt! When servicing / maintaining the lathe, lubricate at least once a month or more often if necessary!



DANGER!

Make sure that the machine is freely accessible for the operating personnel, for material transport as well as for adjustment and maintenance work.

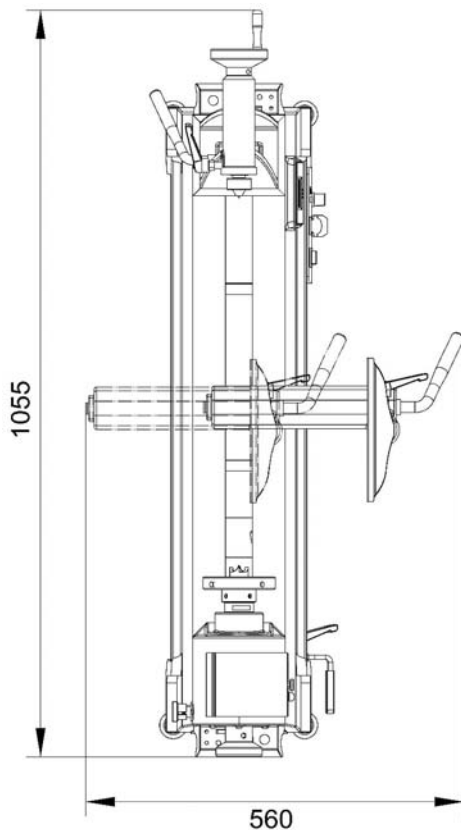


Fig. 7: Space requirement

7.2.2 Electrical connection



DANGER!

Danger of electrocution!

Contact with live components may cause mortal danger. Switched on electrical components can cause uncontrolled movements and lead to serious injuries.



DANGER!

All work on the electrical installation may only be carried out by a qualified electrician.

8 Before startup

After the installation is complete, run a test run to ensure that the machine is properly connected to the power supply and the safety components are functioning properly. If you notice any unusual problem during the test run, stop the machine immediately, disconnect it from the mains, and correct the problem BEFORE operating the machine. The troubleshooting table in this guide can help.

The test run consists of checking the engine performance and correct operation.

Carry out a test run of the machine with the following steps:

Step 1: Remove all the tools you need for assembly from the machine.

Step 2: Pull out the knob and turn it so that the lock is on the pin. This locks the switch knob.

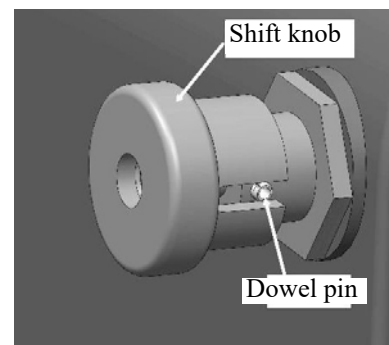


Fig. 8: Engaging the shift knob

Step 3: Set the machine to neutral (0) and turn the spindle speed knob counterclockwise until it stops.

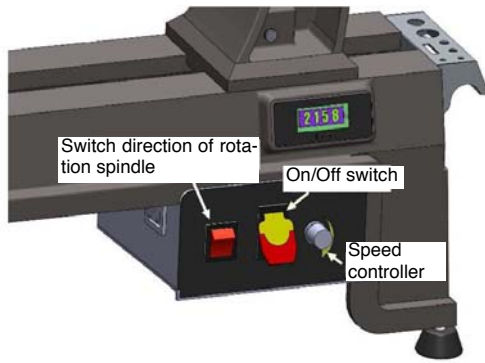




Fig. 9: Operation of the machine

- Step 4: Connect the machine to the power supply.
- Step 5: Make sure the machine is working properly by moving the spindle direction switch forward (down), pressing the ON button, and slowly turning the spindle speed control clockwise. The digital display should be lit and the spindle must turn.
- Step 6: Turn the spindle speed control fully counterclockwise.
- Step 7: Press the OFF button.
- Step 8: Slowly turn the spindle speed control counterclockwise (up), press the ON button and slowly turn the spindle speed control clockwise.
- Step 9: When operated properly, the machine will run smoothly, with no vibrations and no frictional noise. The spindle should rotate counterclockwise.
- Step 10: Press the OFF button.

9 Settings

 **DANGER!**
Danger of electrocution!
 Before making any adjustments, disconnect the machine from the mains voltage!

 **DANGER!**
 Before starting, using, servicing or otherwise intervening on the machine, read the instructions for use and maintenance carefully. Handling and working with the machine is only permitted for persons who are familiar with the handling and operation of the machine.

9.1 Tool rest adjustment

You can adjust the position, height and angle of the tool rest to suit your task.

Step 1: Loosen the lever to move the tool rest along the lathe bed. Tighten the lever as soon as the tool rest is correctly positioned. NOTE: There is a nut on the underside of the tool rest body that requires regular tightening to properly tighten the tool rest body lock lever.

Step 2: The upper locking handle tensions the tool rest. Loosen the handle to position the tool rest at a specific angle or height. Tighten the handle firmly as soon as the tool rest is correctly positioned.

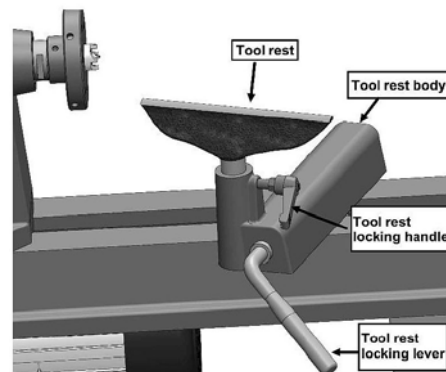


Fig. 10: Setting the tool rest

9.2 Assembly of the faceplate



NOTE!

When mounting the faceplate, attach the workpiece to the faceplate before mounting the faceplate onto the headstock.

Install the faceplate with the following steps:

- Step 1: Screw the faceplate clockwise onto the spindle and tighten the two setscrews with an Allen key.
- Step 2: Lock the spindle lock by snapping the button into the groove. Insert the fixation rod into the hole on the side of the faceplate and tighten the faceplate with the wrench.

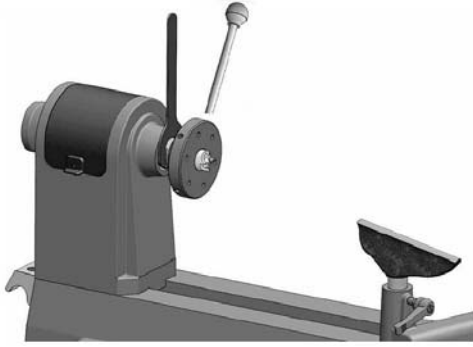


Fig. 11: Mounting the faceplate

Disassemble the faceplate with the following steps:

Step 1: Loosen the two set screws of the faceplate.

Step 2: Lock the spindle lock and insert the fixing rod into the lateral hole of the faceplate. Loosen the faceplate with the wrench by turning it towards the operator.

9.3 Mounting the driving pin

Mount the driving pin with the following steps:

Step 1: Make sure the mating surfaces of the driving pin and headstock are clean. You can use an acetone-moistened cloth to remove other debris, oil, etc.



DANGER!

Never drive the workpiece into the center of the spindle while the driving pin is in the headstock.

Step 2: Push the driving pin through the faceplate into the headstock holder.

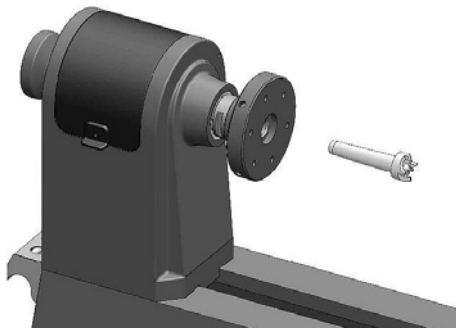


Fig. 12: Insert the driving pin

Remove the driving pin with the following steps:

Step 1: Hold the driving pin firmly to prevent it from falling. Protect your hand with a rag from sharp edges.

Step 2: Pass the fixing rod through the spindle hole to release the driving pin.

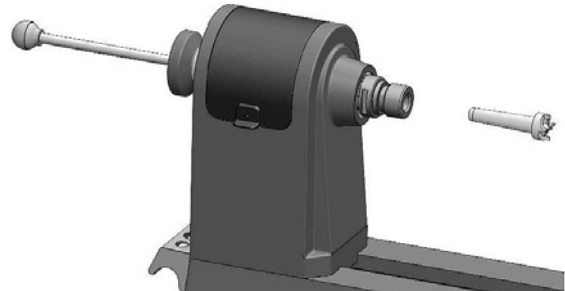


Fig. 13: Release and remove the driving pin

9.4 Adjusting the tailstock

Loosen the tailstock locking lever and slide the tailstock along the lathe bed to the desired position. Tighten the locking lever again.

Release the locking handle to unlock the tailstock quill. Turn the handwheel clockwise to advance the quill and counterclockwise to retract the quill. Tighten the locking handle again.

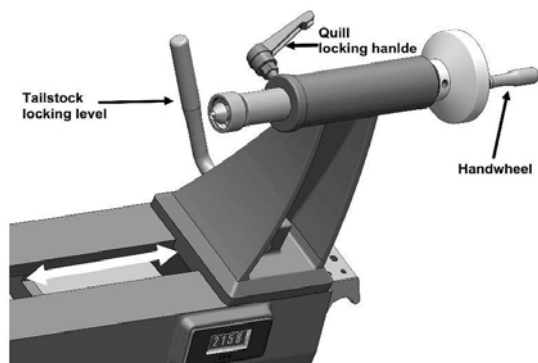


Fig. 14: Adjusting the tailstock

9.5 Inserting the driving pin in the tailstock

Step 1: Turn the tailstock handwheel a few times clockwise to move the quill forward.

Step 2: Make sure the contact surfaces are clean. Push the driving pin into the quill of the tailstock.



NOTE!

If the tailstock spool is retracted completely when mounting the driving pin, the driving pin is disassembled. That is normal. Mount the driver again by extending the tailstock bobbin by approx. 1 cm and pressing the driving pin into the spindle.

Use the following steps to release the live center:

Step 1: Hold the live center firmly to prevent it from falling. Protect your hand with a rag from sharp edges.

Step 2: Turn the handwheel counterclockwise to retract the quill until the live center releases.

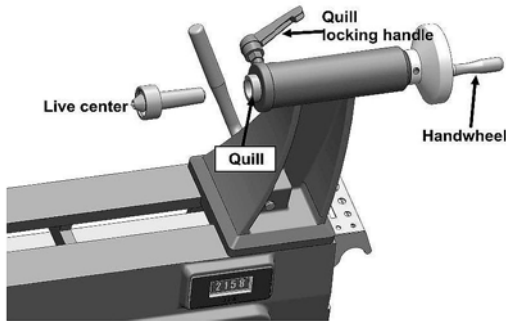


Fig. 15: Release live center from tailstock and remove

9.6 Spindel locking

The spindle lock is used to create even features around the circumference of the workpiece while keeping the spindle locked. There are 24 index positions in the spindle roller, which are every 15 ° apart so that you can rotate the workpiece evenly, in order to achieve exact characteristics. Set the spindle lock to the locked position to maintain the specified index point.



DANGER!

Make sure that the spindle lock is released before starting the machine. Never start the machine with the index pin locked in the spindle roller!



Fig. 16: Spindle locking

9.7 Speed setting

The lathe has 3 speed ranges.

Three speed ranges:

250-720 min⁻¹, 600-1700 min⁻¹ und 1200-3550 min⁻¹

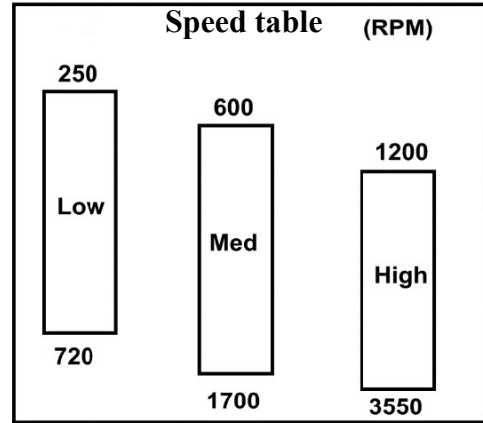


Fig. 17: speed table

Always start at slower speeds on rough cuts and larger workpieces. Use faster speeds for refined cuts and detailed work. Set the appropriate speed range for your operation by adjusting the belt position. Change the speed within a speed range using the speed control. The speed is displayed in the digital speed display on the front panel.

Step 1: When changing the speed, make sure that the machine is switched off and disconnected from the mains.

Step 2: Open the access door on the headstock to access the belt drive.

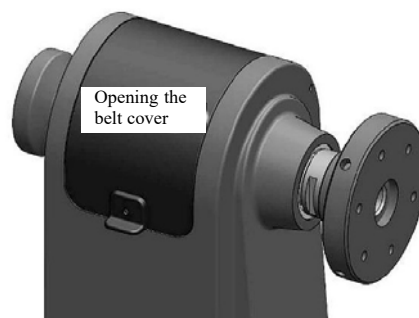


Fig. 18: Opening the belt cover

Step 3: Loosen the four screws that secure the lower belt drive plate to the left side (but do not remove it). Lift and lower the lower belt drive plate.

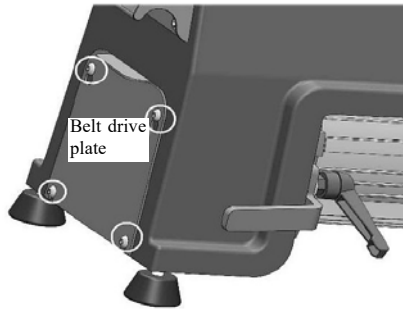


Fig. 19: Loosen the belt drive plate

Step 4: Loosen the motor voltage locking handle.



NOTE!

The screw in the middle of the locking handle can be released to turn the locking handle to an optimal position.

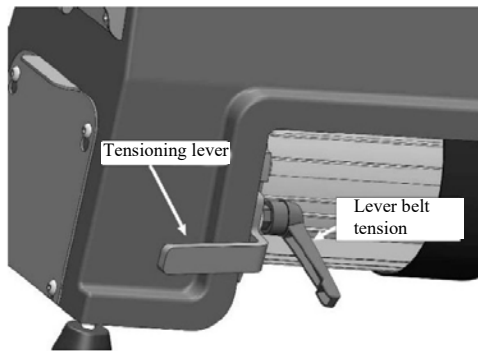


Fig. 20: Tension the belt

Step 5: Pull the cocking handle up to relieve the belt. It may be helpful to pinch a piece of wood or other pad under the cocking handle to fix it in place while adjusting the belt position.

Step 6: Adjust the belt to the desired speed range on both the upper and lower pulleys. Make sure that the belt is aligned vertically on the upper and lower pulleys.

Step 7: Lower the cocking handle to its original position so that the weight of the motor can tighten the belt. Then tighten the locking handle again.

Step 8: Reinstall the lower belt drive plate and tighten the screws. Close the belt drive access door and tighten the belt drive door access door knob.

Step 9: Use the front speed control to set the speed within the selected speed range. Use the forward / reverse dial to set the direction of rotation.

Speed recommendations

A high range is best for turning a workpiece, where a clean end product is required and only light cuts are made. The middle range is a compromise between high and low ranges. A lower range with higher torque is best for turning a workpiece where a lot of material has to be removed and a rough surface is not important. Use the dial to adjust the spindle speed in each range.

Workpiece Ø	Roughing	General cutting	Finishing
Unter 2"	1520 rpm	3000 rpm	3000 rpm
2 - 4"	760 rpm	1600 rpm	2480 rpm
4 - 6"	510 rpm	1080 rpm	1650 rpm
6 - 8"	380 rpm	810 rpm	1240 rpm
8 - 10"	300 rpm	650 rpm	1000 rpm
10 - 12"	255 rpm	540 rpm	830 rpm
12 - 14"	220 rpm	460 rpm	710 rpm

9.8 Clamping of workpieces

Option 1: Tension between tips

Mark the center of the two sides of the workpiece. Especially with irregular workpieces, make sure that a large imbalance occurs if the center is incorrectly marked. Now place a centering hole at the marking or clamp the workpiece directly. Loosen the clamping of the tailstock and push it forward so that the workpiece still fits between the tips. Clamp the tailstock. Press the center of the marking on the driver tip (Pos. 1, Fig. 21). Turn the spindle of the tailstock out of the crank so that the revolving centering point (Pos. 2, Fig. 21) presses sufficiently deep into the other marking. Clamp the spindle.

Before starting the machine, execute a few sample revolutions on the handwheel (Pos. 4, fig. 21) to avoid collisions.

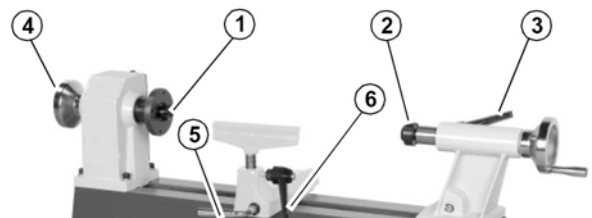


Fig. 21: Clamping of workpieces

Option 2: Clamping on the faceplate

Unscrew the faceplate from the spindle. Make sure that the plane surface of the workpiece is perpendicular to the axis of rotation. Screw the faceplate centrally to the plane surface with sufficiently long wood screws (when turning, make sure that you do not reach the screws with the tool!). Screw the face plate with the workpiece back onto the spindle and tighten. Support the workpiece again as described above with the revolving centering point in the tailstock. Also perform a few sample rotations before switching on.

10 Operation

To complete a typical editing operation, the operator performs the following:

- Step 1: Make sure that the workpiece is suitable for turning. There must be no extreme arcs, knots or cracks.
- Step 2: Prepare the workpiece with a band saw or table saw and cut it so that it is approximately concentric.
- Step 3: Clamp the workpiece between the centers or attach it to the faceplate or chuck.
- Step 4: Adjust the tool rest according to the type of operation and set the minimum distance between the workpiece and the lip of the tool rest to 1/4 ".
- Step 5: Turn the workpiece by hand to ensure that the spindle and workpiece rotate freely over the entire range of motion.
- Step 6: The speed range of the pulley depends on the type of wood and the size of the workpiece to be machined.
- Step 7: The spindle speed dial is turned all the way counterclockwise to prevent the spindle from starting at high speed.
- Step 8: The spindle direction controller is in neutral position.
- Step 9: Put on goggles, ear protection and respiratory protection.
- Step 10: Set the spindle direction controller to forward or reverse, start the spindle, set the spindle speed, and carefully start turning. Make sure that the bit rests against the tool throughout the cutting process.
- Step 11: Turn off the spindle and machine as soon as cutting is complete



DANGER!

Turn off the machine before changing the direction of rotation.

10.1 Longitudinal turning

Longitudinal turning is the process that is performed when a workpiece is mounted between points.

Proceed as follows:

Step 1: Find the center of both ends of your workpiece by drawing diagonal lines from corner to corner over the workpiece.

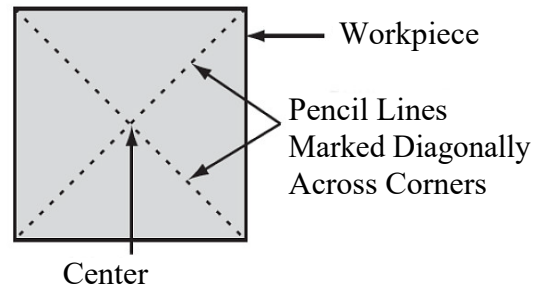


Fig. 22: Find center of a workpiece

Step 2: Mark the center and place the tip of the spur center at both ends in the center of the workpiece.

Step 3: Use a 1/4 "drill to drill a 1/4" deep hole at the center mark on the end of the workpiece to secure it in the center of the headstock spur.

Step 4: To make it easier to embed the spur center into the workpiece, cut 1/8 "deep saw cuts into the headstock end of the workpiece along the diagonal lines marked in step 1.

Step 5: If your workpiece is larger than 2 "x 2", cut the corners of the workpiece lengthwise to make turning safer and easier.

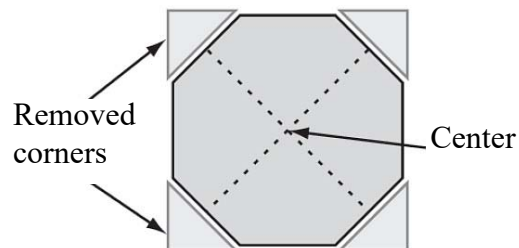


Fig. 23: Cutting off the corners of a workpiece

Step 6: Use a mallet to insert the driving pin into the end center mark of the workpiece to embed it at least 1/4" into the workpiece.

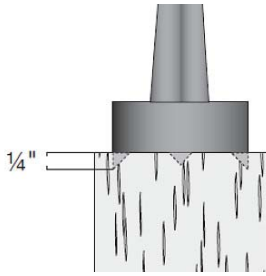


Fig. 24: Insert the driving pin

Step 7: With the workpiece still attached, place the driver in the spindle.



NOTE!

Use the tool rest to support the opposite end of the workpiece so that the workpiece and driver do not separate during installation.

Step 8: Install the driving pin in the quill of the tailstock and tighten the cocking handle to lock the quill in place.

Step 9: Slide the tailstock toward the workpiece until the center touches the mark in the center of the workpiece and lock it in this position.

Step 10: Loosen the quill handle and turn the tailstock handwheel to push the spindle at least 1/4" into the workpiece.

Step 11: Adjust the tool rest to the workpiece.

Step 12: Turn the workpiece by hand before starting to rotate to ensure a safe clearance on all sides.

10.1.1 Tips for woodturning

- If you turn on the lathe, keeping away from the rotating part until the spindle reaches full speed, you can ensure that the part does not come loose.
- Use the slowest speed as soon as you start or stop the lathe.
- Select the correct speed for the size of the workpiece to be machined.
- Allow the turning tool to rest on the tool rest the ENTIRE time it has contact with the workpiece.
- Learn the right techniques for every tool you use. If you are not sure how to handle the lathe tools, read books or magazines about turning techniques and get trained by experienced and knowledgeable users.

10.2 Roughing

Roughing is the first step in the turning process, where sharp edges are smoothed with the large roughing tool to make the workpiece cylindrical. When roughing a workpiece, run the machine at low speed and always cut from the large diameter side of the workpiece to the small diameter side.

Step 1: Make sure the machine is off and not connected. The first cut begins about 5 cm from the tailstock end of the workpiece. Set the tool tray to a suitable position and set the machine to a slow speed.

Step 2: Turn on the machine. Wait until the engine has reached full speed. Place the roughing tool on the tool rest approximately 5 cm from the tailstock end of the workpiece. Lift the tool handle slowly and carefully until the blade comes into contact with the workpiece.



NOTE!

Make sure that the tool is held well on the workpiece, with the bevel or ground touching the rotating surface or workpiece. This position creates a clean shear cut.

Step 3: For the first pass, pass the groove of the tool (the hollowed out part) towards the end of the tailstock.

Step 4: Perform the second pass, starting about 2 to 3 inches to the left of the first cut. Slide the tool again in the direction of the tailstock along the previous cut.

Step 5: Once the cuts approach the mid-point of the workpiece, move the tool in the opposite direction to discharge the final cut.



NOTE!

Always work in the direction of the workpiece end. NEVER start a cut at the end.

Step 6: Make long cuts in a continuous motion to turn the workpiece into a cylinder. Keep the chamfer of the tool in contact with the workpiece as far as possible to ensure control and blockage. The roughing cut is continued until approximately 1/8 of an inch approaches the required cylinder diameter.

Step 7: Once the workpiece is cylindrically ground, smooth it with a large bevel bit. The rotational speed can be increased.

Hold the skew handle perpendicular to the spindle and use only the middle third of the cutting edge for a long smoothing cut (touching one of the slanted points of the rotating workpiece may cause pinching and ruining the workpiece).



NOTE!

Always remember to move the tool rest inward towards the workpiece to ensure a safe distance between the tool and your workpiece.

10.3 Making of fillets

Step 1: Hold the groove of the tool at a 90 degree angle to the workpiece and touch the tip of the tool with the workpiece. Roll the tool in the direction of the bottom of the groove. Stop at the bottom of the cut as the tool may get caught trying to climb to the opposite side.

Step 2: Move the tool over the desired width. Repeat the step with the tool in the opposite direction for the other side. Stop at the bottom of the cut.

10.4 Making of V-grooves

Use the tip of the tool to create a V-groove in the workpiece.

Step 1: Mark the center of the V-groove with the top of the slope. Move the tip of the bevel cut to the right half of the desired cut width.

Step 2: Lift the handle with the bevel parallel to the right side of the cut and slide the tool to the desired depth. Repeat it from the left side..



NOTE!

The two cuts should meet below and leave a clean V-groove. Additional cuts may be made to increase either the depth or the width of the cut.

10.5 Carry out a separation cut

Make a cut for the desired depth and position of your workpiece.

Step 1: Place the trimming tool on the tool rest and move the tool forward so that the entire chamfer of the tool comes into contact with the workpiece. Gently lift the handle to make cuts of the appropriate depth.

Step 2: Begin in the middle between the two cuts with a small diagonal or spindle groove and cut off each side.

10.6 Grind workpiece

Set the machine to a slower speed for sanding and finishing. High speeds can cause friction during grinding and cause burns. The cleaner the cuts, the less sanding is done. Try to make the cuts as fine as possible before you start the sanding process.

Step 1: Use sandpaper with a grain size greater than 120, as coarse sandpaper can scratch the workpiece. Fold the sandpaper into a block to make sanding easier and safer. Do not wrap the sandpaper around your fingers or the workpiece.

Step 2: Apply light pressure to the workpiece while grinding. Use grinding techniques to avoid concentric marks on the finished part.

Step 3: Use finer sandpaper until the desired surface is achieved. Finish the sanding process with 220 grit sandpaper.

10.7 Bowl turning

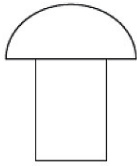
Mount the workpiece on the faceplate. When you turn bowls or large diameter plates, attach them to the faceplate for maximum support. While face plates are the most reliable method of holding a larger block of wood for turning, lathe chucks can also be used. A chuck is handy when working on multiple parts at the same time. This allows you to open the chuck and change workpieces instead of removing the mounting screws.

Step 1: Select a material that is at least 5 mm larger than the dimensions of the finished part.

Step 2: Remove the bark from the top of the wooden board (which will later be mounted on a faceplate or in a chuck).

Step 3: If the fixing screws on the front panel disturb the workpiece, a waste block can be used. Shape the waste block to have the same diameter as the front plate. Smooth the mating surfaces of the waste block and the workpiece. Use a high quality adhesive suitable for the particular workpiece to prevent the workpiece from falling during operation. Stick the waste block firmly to the workpiece. If you plan to use a chuck, transform the trash block into a pin of the appropriate length and diameter that fits your chuck.

Correct



Incorrect

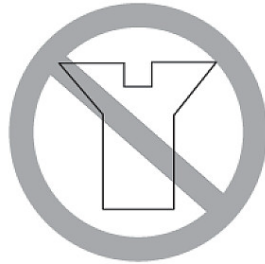


Fig. 25: Create a waste block

10.8 To shape the inside of a bowl or plate

Step 1: Turn off the machine and slide the tailstock to the rear.

Step 2: Mount the workpiece on the faceplate and attach the faceplate to the headstock.

Step 3: Adjust the tool rest in front of the workpiece so that it is exactly below the centerline and at right angles to the machine's axis of rotation.

Step 4: Turn the workpiece by hand to check for proper fit and play.

Step 5: Begin shaping by gently shearing from edge to center over the top of the bowl. Place a planer tool on the tool tray in the center of the workpiece with the flute pointing up. The tool handle should be level and aligned with the four o'clock position.

Step 6: Use your left hand to control the cutting edge while using your right hand to turn the tool handle toward your body. The groove should point upwards and turn upwards as it extends deeper into the bowl for a clean and even curve. As the tool dips deeper into the bowl, work gradually outward to the edge of the bowl. It may be necessary to turn the tool tray into the part to get deeper into the bowl.



NOTE!

Try to make a slight continuous movement from the edge to the bottom of the bowl to ensure a clean, curved curve through the piece. If there are any burrs remaining, a slight cut with a large curved scraper can balance the surface.

Step 7: When the inner part is finished, slide the tool tray outward again to redefine the bottom of the bowl. Work the narrow area around the faceplate or the chuck with a tray planer. Start separation with a cutting tool, but do not cut it.

11 Turning tools

Turning tools come in various shapes and sizes and can usually be divided into five main categories.



DANGER!

Choose the right tool for your task. Make sure all tools, chisels and accessories are sharp before using them.

DO NOT use dull or damaged tools!

Roughing gouge

Mainly used for rough cutting, detail cutting and cutting profiles. The coarse tube is a hollow, double ground tool with a round nose, and the detail tube is a hollow, double ground tool with a round or pointed nose.

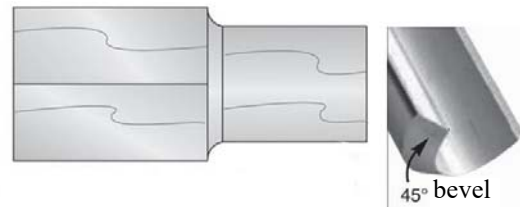


Fig. 26: Roughing gouge

Spindle gouge

The spindle gouge cuts coves, beads and free-form contours. It can also be used for producing shallow hollows on faceplate turnings.

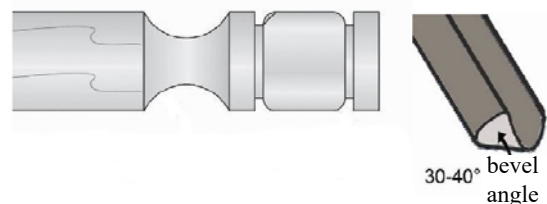


Fig. 27: Spindle gouge

Bowl gouge

The bowl gouge cuts external and internal profiles on faceplate-mounted stock, such as bowls and platters. It can also be used for creating ultra smooth cuts on bowls and spindles by using it as a shearing scraper.

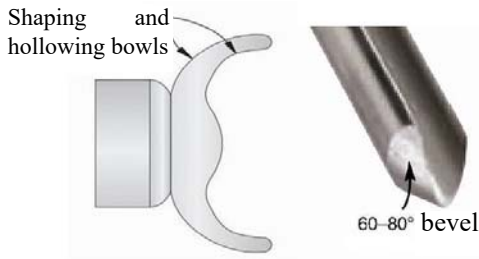


Fig. 28: Bowl gouge

Skew Chisel

A very versatile tool that can be used for planing, squaring, V-cutting, beading, and parting off. The skew chisel is flat, double-ground with one side higher than the other (usually at an angle of 20°–40°).

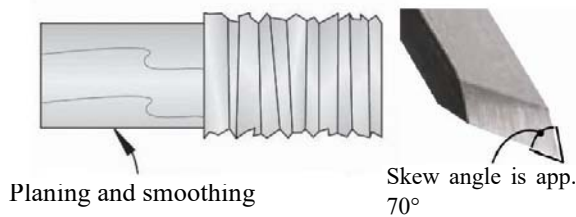


Fig. 29: Skew chisel

Round nose scraper

Typically used where access for other tools is limited, such as hollowing operations. This is a flat, double-ground tool that comes in a variety of profiles (round nose, spear point, square nose, etc.) to match many different contours.

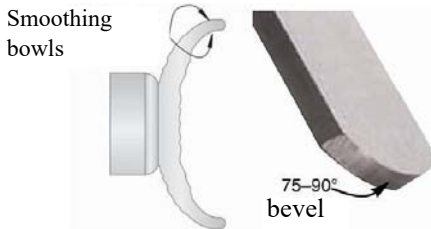


Fig. 30: Round nose scraper

Parting tool

Use the parting tool to form grooves and tenons and to remove stock. It can also be used for rolling small beads.

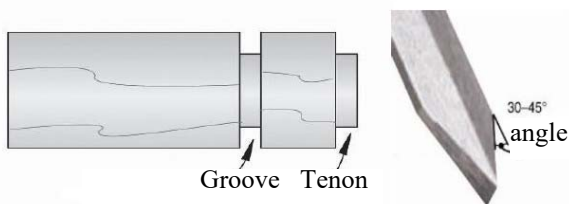


Fig. 31: Parting tool

12 Work instructions



NOTE!

For an optimal turning result always perfect and sharply ground tools are to be used

Material selection

Faulty wood tends to splinter and becomes a risk to both user and machine.

Workpieces made of glued woods should only be worked by experienced craftsmen. The turning of these woods requires a careful gluing without weak spots, because the workpiece can splinter due to the resulting centrifugal force.

Mastery in basic wood turning should be mastered with massive material.

Material preparation

For turning long wood, the material must first be cut to a square shape.

For turning wood, the material must also be cut to size. For example, you can saw the cross-cut wood raw with the band saw. Suitable is an octagonal shape, thereby vibration can be avoided.

Center the workpiece

Centering the prepared workpieces is an important operation before they are inserted into the machine. Centering means measuring the center of the workpiece, marking with grains and punching a depression of 1.5 to 2 mm diameter into the center. If the workpiece is not centered exactly, the imbalance causes excessive vibrations. A spinning out of the workpiece can be the result. Only through exact workpiece centering can you achieve a clean concentricity.

During the wood turning

The still unprocessed workpiece must be machined at low speed. After the pre-turning, that is, when the basic shape of the workpiece, and a uniform concentricity is reached, the speed can be increased. The revolving center of the grain must be readjusted in between using the handwheel with the engine switched off. The grain tip must be firmly in the wood. Turn the workpiece by hand to check the tight fit between the tips.

Tool selection

If possible, choose only quality turning tools made of high-speed steel. High speed steel tools last longer than ordinary carbon steel.

13 Care, maintenance and repair



DANGER!

Risk of fatal injury due to electric shock!

Contact with live components may result in fatal injury. Switched-on electrical components can make uncontrolled movements and lead to serious injuries.

- Before starting cleaning and maintenance work, switch off the machine and disconnect the mains plug.
- Connections and repairs to the electrical equipment may only be carried out by a qualified electrician.

13.1 Care after work



Use protective gloves!



NOTE!

Never use harsh cleaning agents for cleaning. This can lead to damage or destruction of the device.

Step 1: Disconnect the power plug from the power outlet.

Step 2: Remove the machine from shavings and dust with a hand brush or brush.

Step 3: Check the machine for damage to the safety devices. If necessary, carry out or arrange the repair according to the safety instructions.



DANGER!

Do not remove the chips with bare hands. There is a risk of cuts due to chips and tools!

13.2 Maintenance

Maintenance and repair work may only be carried out by qualified personnel.

If the wood lathe does not work properly, contact a dealer or our customer service. The contact details can be found in chapter 1.2 Customer Service.

Please consider the following points:

1. All protection and safety devices must be reinstalled immediately after repair and maintenance work has been completed.
2. Clean the spindle thread for the tool holder when changing the tool and lightly oil it.
3. Unscrew tailstock quill from time to time, clean and spray with dry lubricant. Lubricate the threaded spindle.
4. Check the clamping of tailstock and tool rest and adjust if necessary.
5. Check mains cable for damage.
6. Check the faceplate.
7. Check drive belt and replace if necessary. The review should be done every month.
8. Clean and lubricate the rotary bed, spindle and quill.

13.3 Lubrication



NOTE!

When servicing / maintaining the lathe, all moving parts must be lubricated at least once a month or more often if necessary.

Prior to commissioning and during the regular maintenance / repair of the lathe, all moving parts must be greased at least once a month or, if necessary, more often.

All bearings of this lathe are factory lubricated and sealed and do not require additional lubrication.

Wipe a lightly oiled rag on the outside of the spindle. DO NOT allow any oil to get onto the inner mating surfaces of the spindle.

Use the tailstock handwheel to pull the quill out to the outermost position and apply a thin layer of white lithium grease to the outside of the quill.



NOTE!

DO NOT allow oil or grease to get into the inner mating surfaces of the quill.

13.4 Tension and replace the drive belt

Most of the stretching takes place during the first 16 hours, but may continue with continued use. If the machine loses power during cutting, the belt may slip and must be tensioned. If the belt shows signs of excessive wear or damage, replace it.

Tighten the belt with the following steps:

Step 1: Switch off the machine and disconnect it from the mains.

Step 2: Remove the side access panel, open the front access panel, and release the belt tension lock handle.

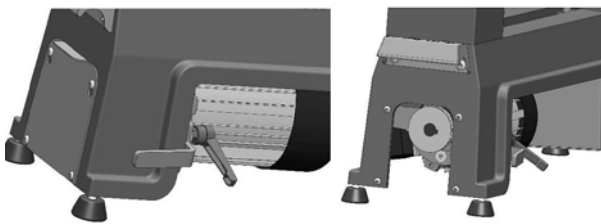


Fig. 32: Remove belt cover

Step 3: Lift the belt tension lever and tighten the belt tension lock handle.

Step 4: Press the belt moderately into the middle to check the tension. The belt is correctly tensioned when a deflection of about 1/2 "occurs.

Step 5: Replace the side access panel and close the front access panel.

Replace the belt with the following steps:

Step 1: Switch off the machine and disconnect it from the mains.

Step 2: Remove the side cover and open the front cover.



Fig. 33: Open the belt cover

Step 3: Loosen the belt tension lock handle, loosen the belt tension, tighten the lock handle, and remove the belt from the engine pulley.

Step 4: Loosen and remove the spindle handwheel, then remove the Phillips screws from the spindle end cover and remove the cover.

Step 5: Lay the belt around the pulley and spindle and remove the belt through the top opening.

Step 6: Insert a new belt through the bottom hole and pull it around the end of the spindle onto the pulley

Step 7: Reinstall the end cover and handwheel of the headstock spindle.

Step 8: Loosely attach the belt to the inner or outermost position of the engine pulley.

Step 9: Loosen the belt tension lever and slide it down to tension it. Then tighten the belt tension lever again.

Step 10: Follow step 4 in the belt tensioning procedure to adjust the belt tension.

Step 11: Replace the side access panel and close the front access panel.

13.5 Align pulley

The motor and spindle discs are aligned at the factory and do not need to be adjusted. If they become misaligned over time, it is important that they be realigned to extend the life of the belt and to maximize power transfer from the engine to the spindle.

Align the pulley with the following steps:

Step 1: Switch off the machine and disconnect it from the mains.

Step 2: Open the front access panel.

Step 3: Loosen the 2 adjusting screws (Fig.34) on the spindle disc.



Fig. 34: Release set screws

Step 4: Slide the spindle disk into alignment with the motor pulley.



NOTE!

If the pulleys are properly aligned, do not allow any unusual or pulsating noise from the belt.

Step 5: Tighten set screws.

13.6 Replace carbon brushes

This machine is equipped with a universal motor that transmits power via a pair of carbon brushes. These brushes are considered normal "consumables" or "consumables" that may need to be replaced. The frequency of this replacement depends directly on how much the engine consumes and how much it is consumed. These brushes are not covered by the warranty.

Replace both brushes at the same time when the engine is not working at full capacity, working inconsistently or when the brushes are less than 1/4 "(new brushes are 5/8" long).

Change the carbon brushes with the following steps:

Step 1: Switch off the machine and disconnect it from the mains.

Step 2: Unscrew the brush caps on the front and rear of the motor and remove them.

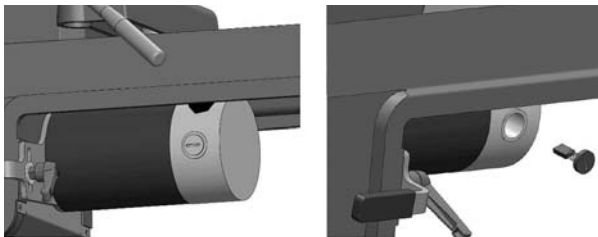


Fig. 35: Replacement of carbon brushes

Step 3: Use a ruler to measure the wear of each carbon brush. If one of the brushes is shorter than 1/4 ", replace both brushes.

Step 4: Insert new carbon brushes and position them so they fit into the slots on the motor sockets. Press each brush individually against its spring and turn the brush cap to lock in the motor housing.

Step 5: Start the machine and carry out test run.

13.7 Assemble four-jaw chuck

Description Four jaw chuck



Fig. 36: Wood lathe

- 1 Screw set
- 2 Thread mount, external clamping range 50-90 mm
- 3 Thread mount, internal clamping range 38-73 mm
- 4 Replaceable jaws

13.7.1 Mounting and securing the chuck to the wood lathe spindle

To mount the four-jaw chuck on the spindle of the wood-working machine, carefully screw the adapter and the chuck onto the spindle until it stops. Place the lever (A, Fig. 37) in the hole of the jaw chuck and the second lever in the spindle flange hole as shown in Fig. 37. To secure the chuck, turn the two levers clockwise until the adapter face (B, Fig. 37) contacts the spindle flange (C, Fig. 37). To release the chuck, turn the levers counterclockwise.

Opening and closing the clamping jaws (D, Fig. 37) also requires both levers (A, Fig. 37). Place one lever in the hole (E, Fig. 37) and the second lever in the chuck hole. To open the jaws, turn the two levers counterclockwise. To close the jaws, turn the levers clockwise.

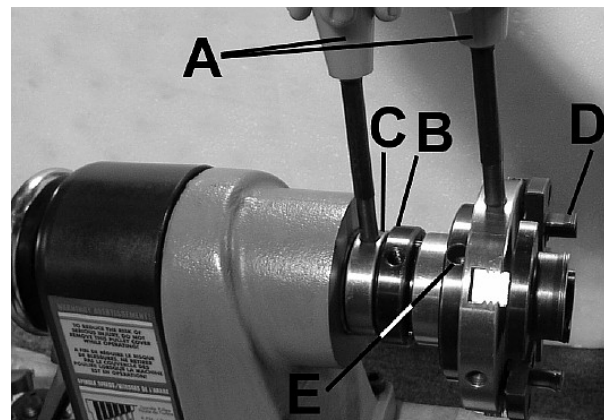


Fig. 37: Assembly of the jaw chuck

13.7.2 Changing the chuck jaws

To change the standard chuck jaws already mounted to the outer jaws, loosen the 2 cap screws (A, Fig. 38) which fix each jaw to its jaw base. Take the outer jaw with the limiting pin (B, Fig. 38) and position it either on jaw base 2 or 4 (C, Fig. 38). The limit pin (D, Fig. 38) engages in the slot (E, Fig. 38) in the chuck body.

This prevents the positioning of the outer jaw on jaw base 2, so that the jaws do not protrude from the chuck.

Check the jaw numbers against the jaw base numbers and secure the outer jaws with only 1 cap screw per jaw.

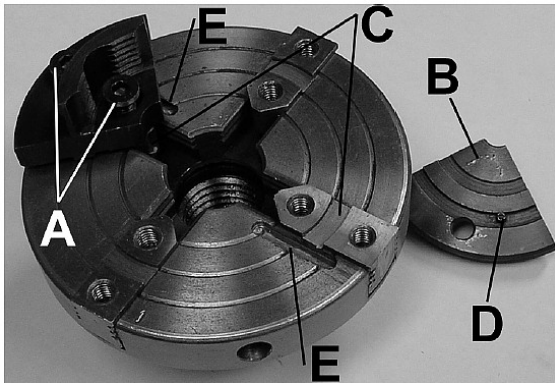


Fig. 38: Changing the chuck jaws

13.7.3 Clamping a workpiece in the chuck

To clamp a workpiece in the chuck, open the clamping jaws. Position the workpiece in the center so that the jaws are evenly distributed on the workpiece. Tighten the jaws enough to prevent the workpiece from slipping or twisting.

13.7.4 Removing the adapter

If necessary to remove the adapter, loosen and remove the 3 cap screws that secure it. Screw 2 of the cap screws into the 2 previously unused threaded holes in the adapter. These two cap screws lift the adapter by tightening the two screws one by one until the adapter slowly loosens.

13.8 Repair

As a result of wear and tear, it may happen that maintenance work must be carried out on the machine.



DANGER!

Cleaning - Maintenance work should only be carried out on the machine if it is disconnected from the mains voltage and the spindle is at a standstill.



DANGER!

Maintenance work may only be carried out by qualified personnel with mechanical knowledge.



NOTE!

Lubrication!

- When servicing / maintaining the Wood lathe, all moving parts must be lubricated at least once a month or, if necessary, more often.
- To lubricate the shifter shafts and drive shafts, the belt cover must be removed. For this purpose, only one adhesive grease may be used, otherwise it could lead to malfunction of the belt!
- In addition, guides, sleeves and bearings must be lubricated or oiled with commercially available lubricating grease!

14 Disposal, recycling of old equipment

In your own interests and in the interests of the environment, please ensure that all components of the machine are disposed of in the proper and approved way.

14.1 Decommissioning

Disused machines must be decommissioned immediately to prevent misuse at a later point and putting the environment or persons at risk.

Step 1: Remove all environmentally hazardous fluids from the old machine.

Step 2: If necessary, dismantle the machine into manageable and usable assemblies and components.

Step 3: Guide the machine components and operating materials to the appropriate disposal routes.

14.2 Disposal of electrical equipment

Please note that electrical appliances contain a variety of recyclable materials as well as environmentally harmful components.

Make sure that these components are disposed of separately and properly. In case of doubt, please contact your municipal waste disposal.

If necessary, the help of a specialized waste management company can be used for the treatment.

14.3 Disposal of lubricants

The disposal instructions for the lubricants used are provided by the lubricant manufacturer. If necessary, ask for the product-specific data sheets.

14.4 Disposal via municipal collection points

Disposal of used electrical and electronic equipment (Applicable in the countries of the European Union and other European countries with a separate collection system for these appliances).



The symbol on the product or its packaging indicates that this product should not be treated as normal household waste, but must be returned to a collection point for the recycling of electrical and electronic equipment. By helping to properly dispose of this product, you are protecting the environment and the health of others. Environment and health are endangered by improper disposal. Material recycling helps to reduce the consumption of raw materials. For more information about recycling this product, contact your local community, municipal waste management, or the shop where you purchased the product.

15 Troubleshooting

Fault	Possible cause	Solution
F1	Low voltage protection (20% lower than standard)	Check voltage, restart lathe
F2	High voltage protection (20% higher than standard)	Check voltage, restart lathe
F3	Incorrect operation of reverse	Turn off main switch, restart lathe after the speed display showing "zero"
Machine does not start, or powersupply fuse/breaker trips immediately after startup.	<ol style="list-style-type: none"> 1. Spindle direction switch in neutral position. 2. OFF button not pressed before toggling spindle direction switch. 3. Motor brushes worn or at fault. 4. Blown fuse. 5. Power supply circuit breaker tripped or fuse blown. 6. Motor wires connected incorrectly. 7. Wiring open/has high resistance. 8. ON/OFF switch at fault. 9. Circuit board at fault. 10. Variable-speed potentiometer at fault. 11. Motor at fault. 	<ol style="list-style-type: none"> 1. Toggle switch to forward/reverse. 2. Press OFF button before toggling spindle direction switch. 3. Remove/replace brushes. 4. Replace fuse/ensure no shorts. 5. Ensure circuit is sized correctly and free of shorts Reset circuit breaker or replace fuse. 6. Correct motor wiring connections. 7. Check/fix broken, disconnected, or corroded wires 8. Replace switch/circuit breaker. 9. Inspect/replace if at fault. 10. Test/replace if at fault.

Fault	Possible cause	Solution
Machine has vibration or noisy operation.	<ol style="list-style-type: none"> 1. Motor or component loose. 2. Machine sits unevenly on workbench. 3. V-belt worn, loose, or misaligned. 4. Pulley loose. 5. Motor fan rubbing on fan cover. 6. Workpiece/faceplate at fault. 7. Motor mount loose/broken. 8. Motor bearings at fault. 	<ol style="list-style-type: none"> 1. Inspect/replace damaged bolts/nuts, and retighten with thread-locking fluid. 2. Adjust feet. 3. Inspect/replace belt. Re-align pulleys if necessary 4. Re-align/replace shaft, pulley, set screw, and key. 5. Fix/replace fan cover; replace damaged fan. Center workpiece in chuck/faceplate; reduce RPM; replace defective chuck. 7. Test by rotating shaft; rotational grinding/loose shaft requires bearing replacement.
Engine overheats and has no power	<ol style="list-style-type: none"> 1. Machine too small for task. 2. Workpiece material not machine suitable 3. Feed / cutting speed too fast. 4. Speed potentiometer defective. 5. Belt slips. 6. Motor brushes worn or defective. 7. Board defective. 8. Pulley slips on the shaft. 9. Engine defective. 	<ol style="list-style-type: none"> 1. Use sharp chisels; Reduce feed / cutting depth. 2. Cut only wood / make sure the humidity is below 20%. 3. Reduce feed / cutting speed. 4. Test / replace if there is an error. 5. Tension / replace the belt; Make sure the pulleys are aligned, the belts are clean and undamaged. 6. Remove / replace brushes. 7. Inspect / replace if there is an error. 8. Tighten / replace loose pulley / shaft. 9. Test / repair / replace.
Bad surface	<ol style="list-style-type: none"> 1. Matt tool or wrong tool for the task. 2. The tool height is not 1/8 "above the spindle centerline 3. The spindle speed is wrong. 4. Excessive vibration. 	<ol style="list-style-type: none"> 1. Sharpen the tool and select the right tool for operation. 2. Adjust the tool tray so that the tool is 1/8 "above the spindle centerline 3. Set the appropriate spindle speed (page 23). 4. Troubleshoot possible causes / solutions in this table

Fault	Possible cause	Solution
Excessive vibration at start-up (when the workpiece is mounted).	<ol style="list-style-type: none"> 1. Workpiece is mounted incorrectly. 2. Workpiece warped, out of round or faulty. 3. The machine rests on an uneven surface. 4. Spindle speed for workpiece too high. 5. Workpiece hits stationary object. 6. Tailstock or tool rest are not securely fastened to the slewing bed. 7. Pulleys are not aligned properly. 8. Engine mounting screws are loose. 9. Belt is worn or damaged. 10. Spindle bearings are worn or damaged 	<ol style="list-style-type: none"> 1. Replace the workpiece, making sure that the centers are in the center of the workpiece. 2. Cut the workpiece concentrically or use another workpiece. 3. Adjust your feet so they do not wobble. 4. Reduce spindle speed. 5. Stop the lathe and fix the interference problem. 6. Check locking lever and tighten if necessary. 7. Align pulleys. 8. Tighten the engine mounting screws. 9. Replace the belt. 10. test with rotating shaft; Rotary grinding / loose shaft requires bearing replacement.
Chisel grabs or digs into the workpiece	<ol style="list-style-type: none"> 1. Wrong chisel / wrong tool. 2. Chisel / tool too dull. 3. The height of the tool tray is not set correctly. 4. The tool rest is too far away from the workpiece. 	<ol style="list-style-type: none"> 1. Use the right chisel / tool. 2. Sharpen or replace chisel / tool. 3. Correct the height of the tool tray. 4. Move the tool rest closer to the workpiece
Tailstock moves under load.	<ol style="list-style-type: none"> 1. Tailstock fixing screw / hexagon nut is loose. 2. Bed or clamping surface are too oily or too greasy. 	<ol style="list-style-type: none"> 1. Tighten the fixing screw / hexagon nut. 2. Clean the bed or clamping surface to remove excess oil / grease.
The spindle lacks the torque or it starts slowly.	<ol style="list-style-type: none"> 1. Belt slips. 2. Loose pulleys. 3. Workpiece too heavy for spindle 	<ol style="list-style-type: none"> 1. Tension / adjust the belt. 2. Tighten the pulley locking screw. Re-align / replace shaft, pulley screw and wedge. 3. Remove excess material before reinstalling it. Use a lighter workpiece.
The quill does not move forward when the handwheel is turned	<ol style="list-style-type: none"> 1. The keyway is not aligned with the spring blocking lever. 	<ol style="list-style-type: none"> 1. Align the keyway and lock lever, and gently tighten the lever to engage the keyway.
The workpiece becomes conical	<ol style="list-style-type: none"> 1. Tips are not aligned (tailstock offset) 	<ol style="list-style-type: none"> 1. Center the tailstock in the middle
Poor work accuracy	<ol style="list-style-type: none"> 1. uneven, heavy or distorted workpiece 2. inaccurate horizontal position of the tool rest 	<ol style="list-style-type: none"> 1. Balance the workpiece in a balanced way and clamp it tension-free 2. Align tool rest
DRO gives wrong result	<ol style="list-style-type: none"> 1. Wiring / plug shorted / disconnected. 2. Speed potentiometer defective. 3. DRO speed sensor defective. 4. Board defective. 	<ol style="list-style-type: none"> 1. Check the cable connections on circuit boards, sensors and plugs. Replace / repair if necessary. 2. Test / replace if there is an error. 3. Test / replace if there is an error. 4. Inspect / replace if there is an error.

16 Spare parts



DANGER!

Risk of injury caused by the use of incorrect spare parts!

The use of incorrect or faulty spare parts may cause risks for operating staff and damage as well as malfunctions.

- Exclusively genuine spare parts made by the manufacturer or spare parts authorised by the manufacturer shall be used.
- Always contact the manufacturer if you are unsure.



Tips and recommendations

Using non-approved spare parts voids the manufacturer's warranty.

16.1 Ordering spare parts

Spare parts are available from authorised retailers or directly from the manufacturer. The contact details have been listed in section 1.2 Customer service.

The following key data is required for queries or spare parts orders:

- Device type
- Item number
- Position number
- Year of construction
- Quantity
- Desired shipping type (post, freight, sea, air, express)
- Shipping address

Spare parts orders without the aforementioned data cannot be taken into account. The supplier shall determine the shipping type if no relevant data was provided.

Data on the machine type, item number and year of manufacture is listed on the type plate attached to the machine.

Example

The drive belt for the Wood Lathe DB 510 VARIO must be ordered. The drive belt has the number 205 in the spare parts drawing 1.

By ordering spare parts, send a copy of the spare parts drawing (1) with the marked part (drive belt) and marked position number (205) to the dealer or spare parts department and provide the following information:

- Type of device: **Wood lathe DB 510 Vario**
- Item number: **5920510**
- Spare parts drawing: **1**
- Position number: **205**

16.2 Spare parts drawing DB 510 Vario

The following drawing should help in case of service to identify necessary spare parts. To order, send a copy of the parts drawing with the parts marked to your authorized dealer.

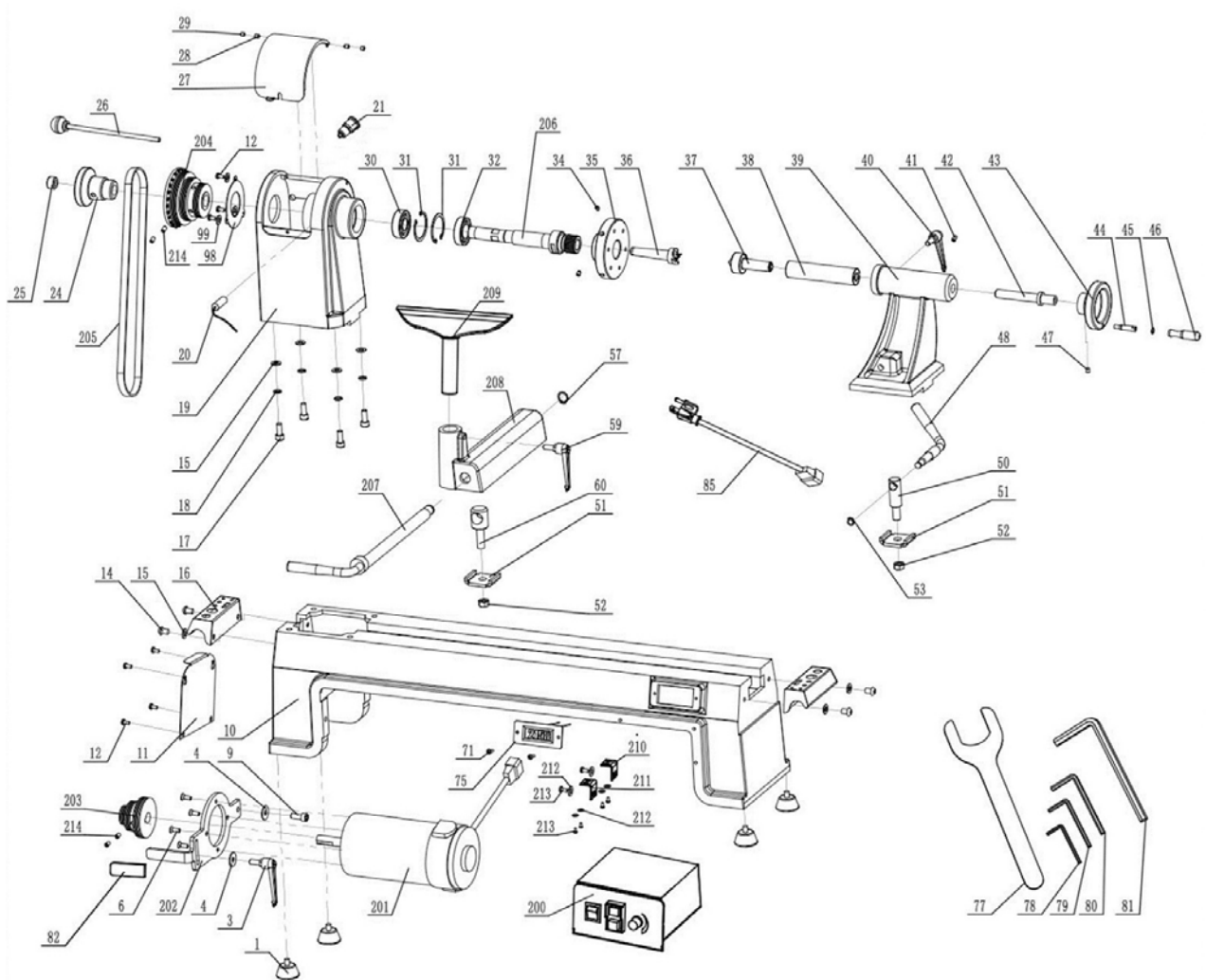


Fig. 39: Spare parts drawing DB 510 Vario

17 Electrical wiring diagram

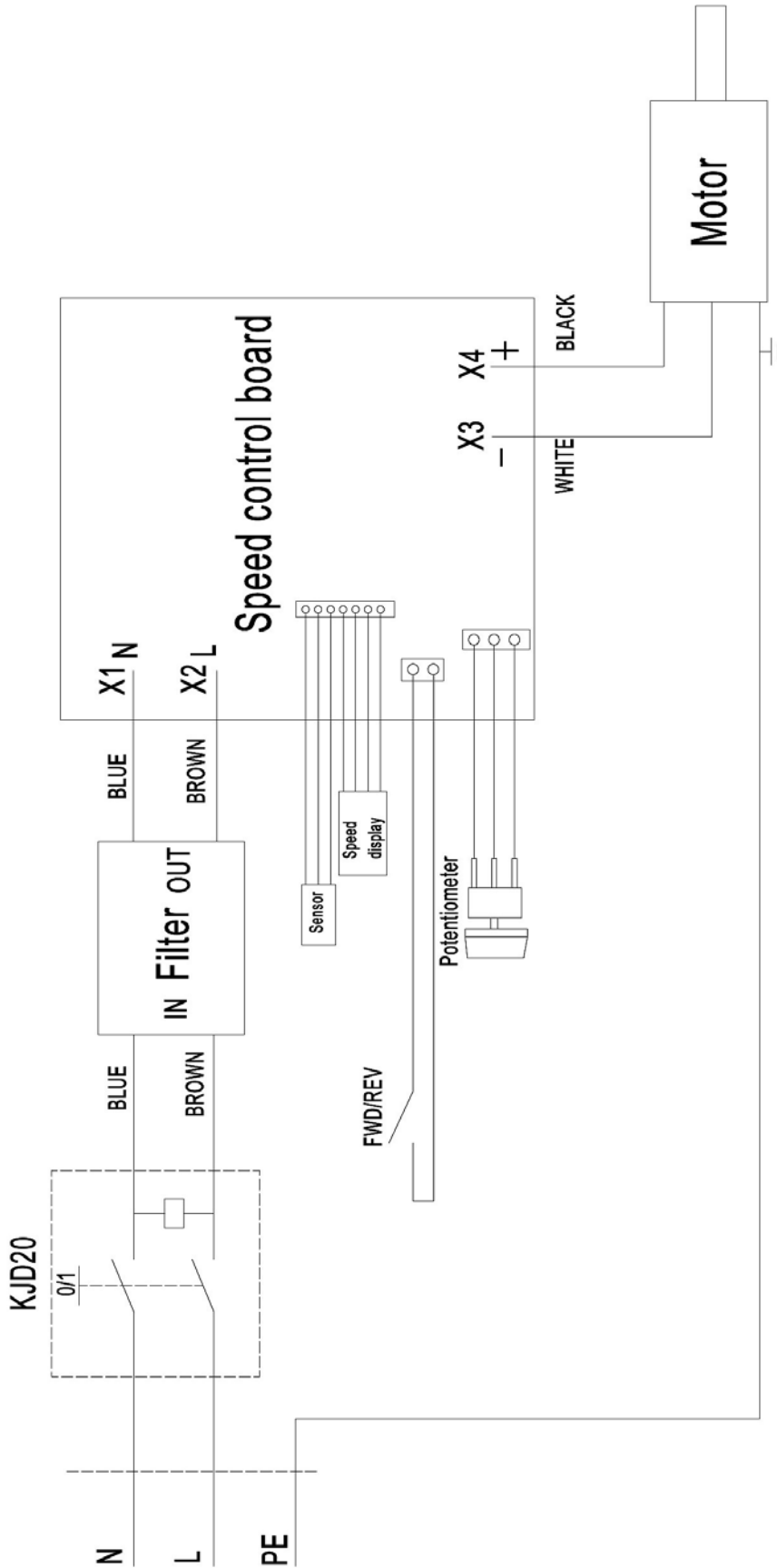


Fig. 40: Electrical wiring diagram DB 510 Vario

18 EC-Declaration of Conformity

According to Machinery Directive 2006/42/EC Annex II 1.A

Manufacturer / distributor: Stürmer Maschinen GmbH
Dr.-Robert-Pfleger-Str. 26
D-96103 Hallstadt

hereby declares that the following product

Product group: Holzstar® Woodworking machines

Machine type: Wood Lathe

Description of the machine: DB 510 Vario

Item number: 5920510

Serial number*: _____

Year of manufacture*: 20__

* please fill in according to the information on the type plate

complies with all relevant regulations of the aforementioned directive as well as any other, applicable directives (subsequently added) – including the changes applicable at the time the declaration was made.

Relevant EU directives: 2014/30/EU EMV-Directive
2012/19/EU WEEE-Directive

The following harmonized standards have been applied:

DIN EN 61029-1:2009+A11:2010	Safety of transportable motor-operated electric tools - Part 1: General requirements
DIN EN 55014-1:2006+A1+A2	Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus - Part 1: Emission
DIN EN 55014-2:2015	Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus - Part 2: Immunity - Product family standard
DIN EN 61000-3-2:2014	Electromagnetic compatibility (EMC) - Part 3-2: Limits - Limits for harmonic current emissions (equipment input current \leq 16 A per phase)
DIN EN 61000-3-3:2013	Electromagnetic compatibility (EMC) - Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current \leq 16 A per phase and not subject to conditional connection

Responsible of the documentation: Kilian Stürmer, Stürmer Maschinen GmbH,
Dr.-Robert-Pfleger-Str. 26, D-96103 Hallstadt
Hallstadt, 19.08.2019



Kilian Stürmer
Manager



