

KLUTCH[®]

2 IN 1 PORTABLE/BENCHTOP BAND SAW

Owner's Manual



! **WARNING:** Read carefully and understand all ASSEMBLY AND OPERATION INSTRUCTIONS before operating. Failure to follow the safety rules and other basic safety precautions may result in serious personal injury.

Item # 5797354

READ & SAVE THESE INSTRUCTIONS

Thank you very much for choosing a **KLUTCH** product!

For future reference, please complete the owner's record below:

Serial Number/Lot Date Code: _____

Purchase Date: _____

Save the receipt, warranty, and this manual. It is important that you read the entire manual to become familiar with this product before you begin using it.

This 2 In 1 Portable/benchtop Band Saw is designed for certain applications only. Northern Tool and Equipment is not responsible for issues arising from modification or improper use of this product such as an application for which it was not designed. We strongly recommend that this product not be modified and/or used for any application other than that for which it was designed.

For technical questions, please call **1-866-915-8626**.

WARNING: Read this material before using this product. Failure to do so can result in serious injury. SAVE THIS MANUAL.

Fig.1

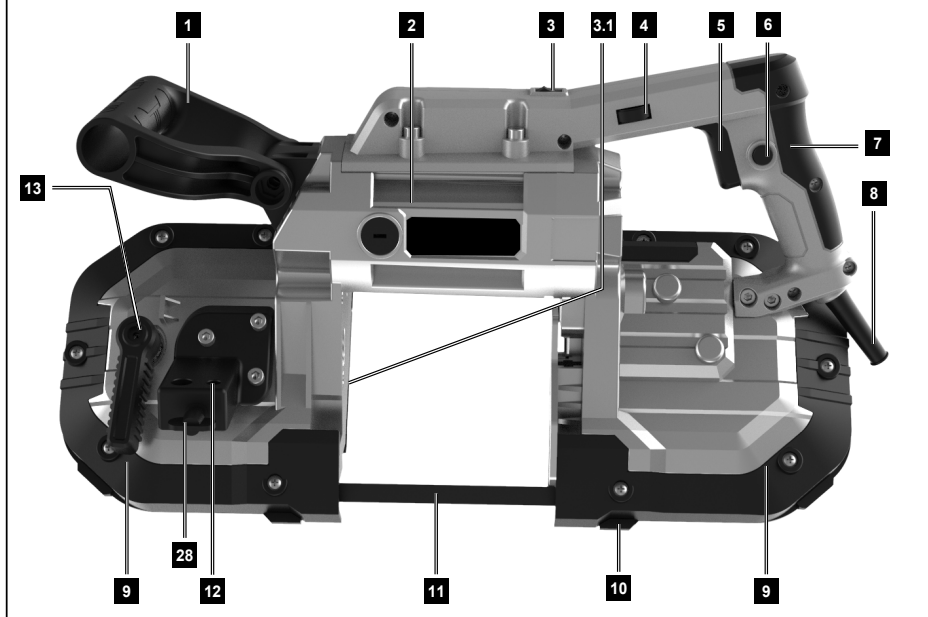


Fig.2

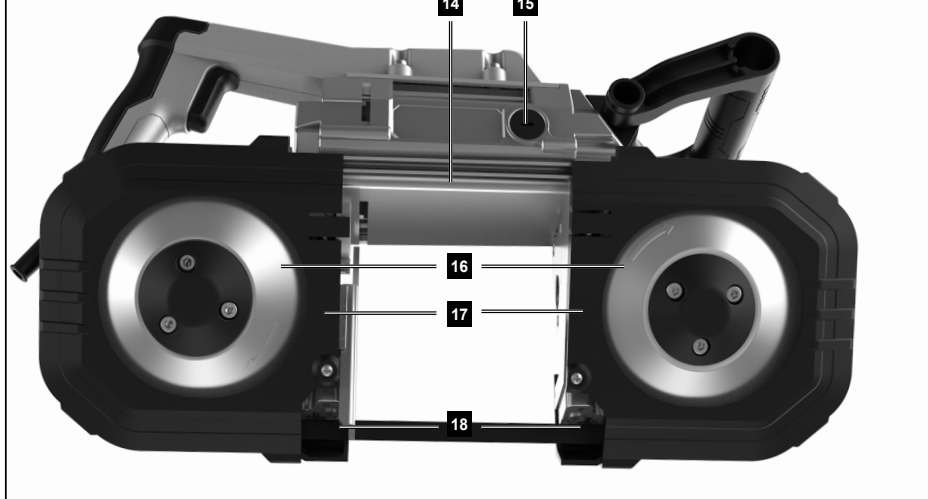


Fig.3

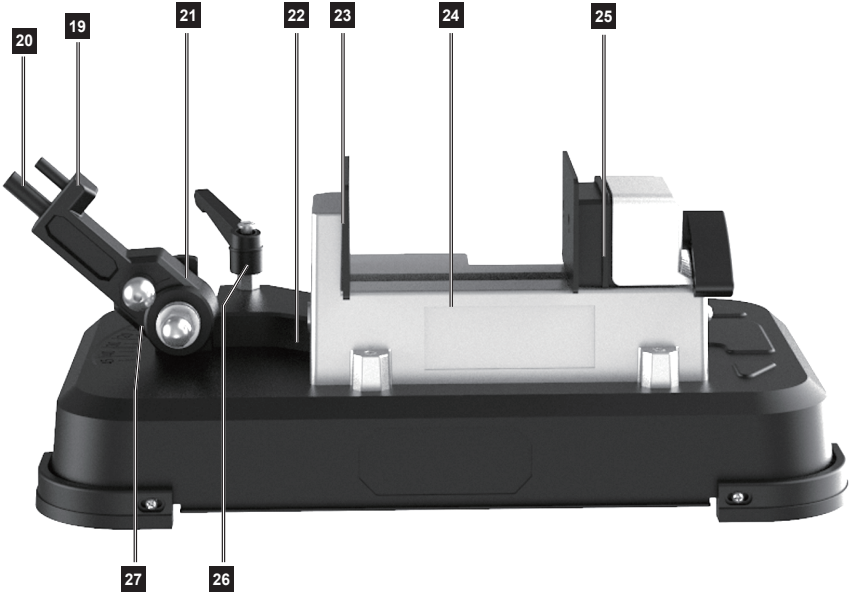


Fig.4

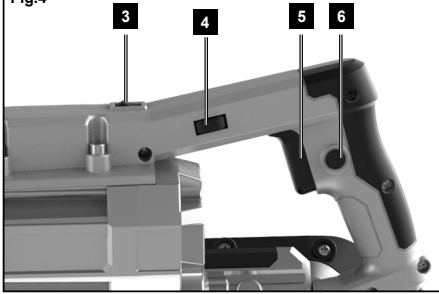


Fig.5

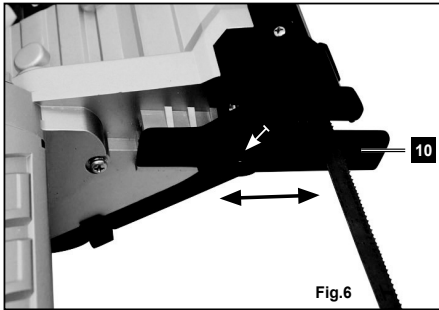
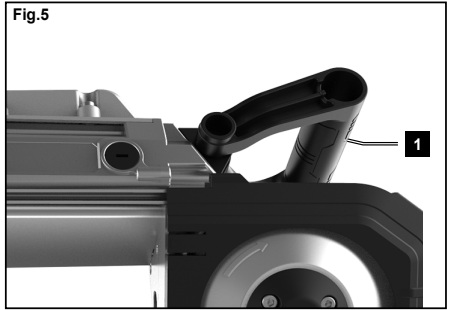


Fig.6

Fig.7

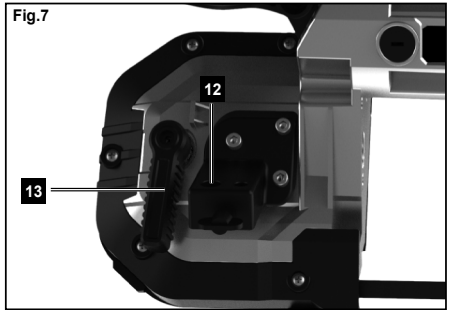


Fig.8

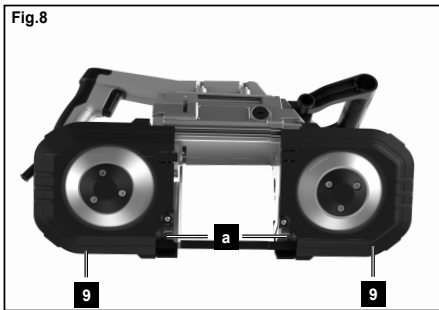
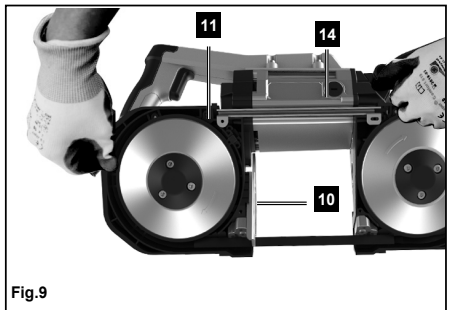


Fig.9



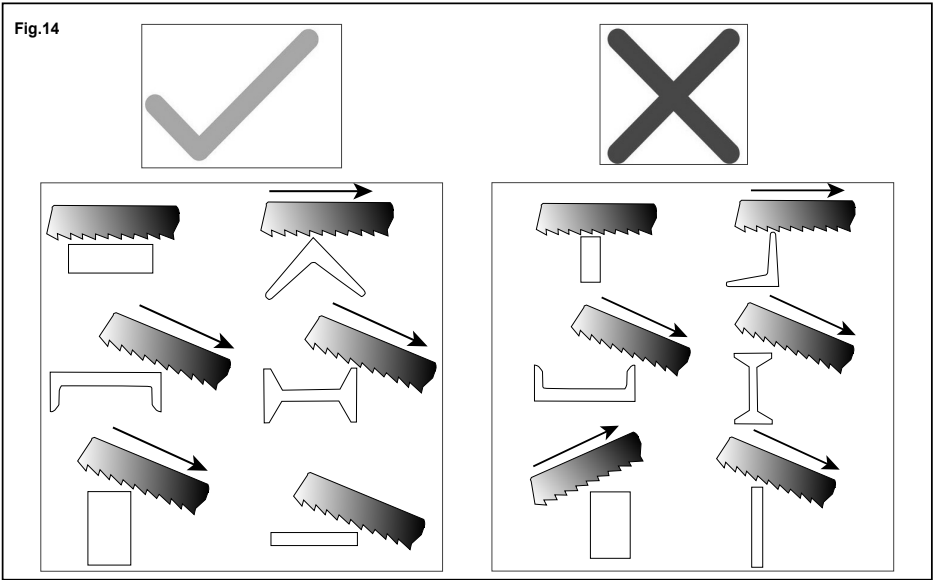
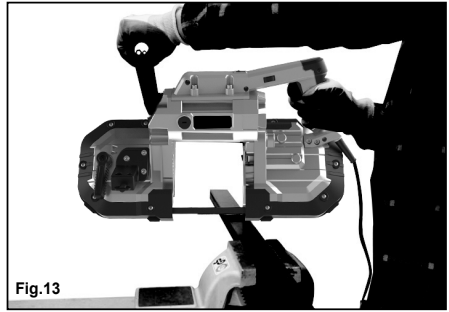
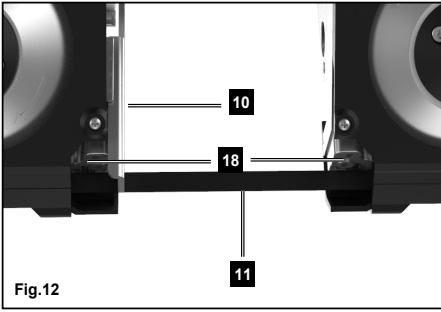
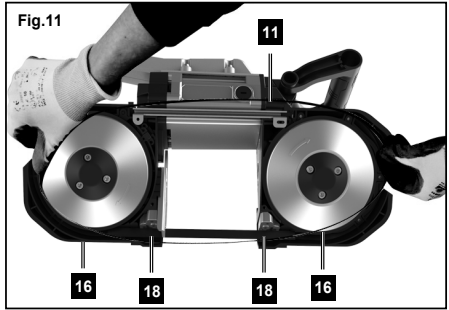
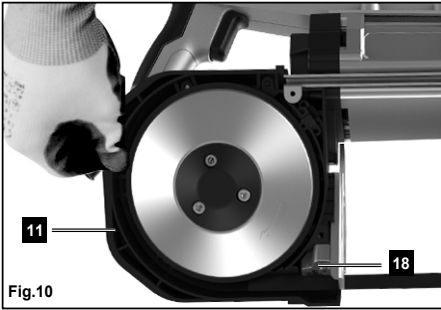


Fig.15

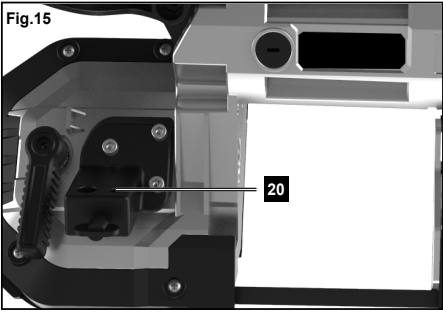


Fig.16

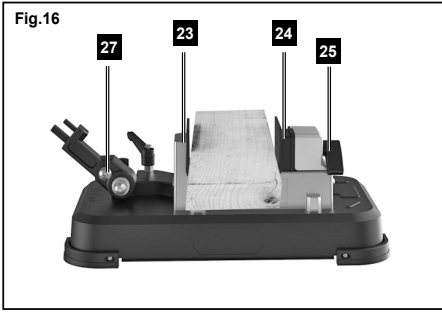


Fig.17



Fig.18

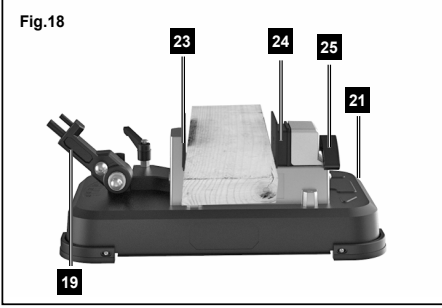


Fig.19

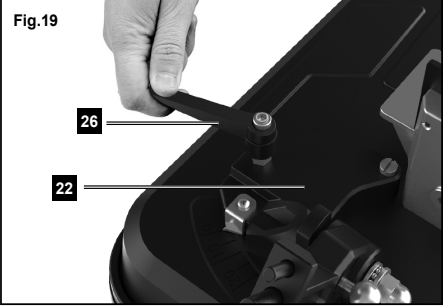


Fig.20

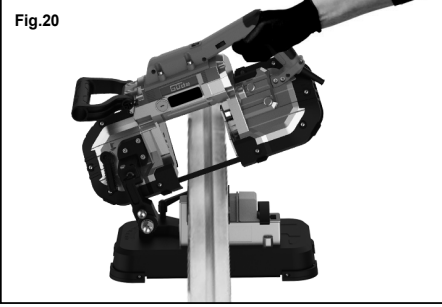


Fig.21

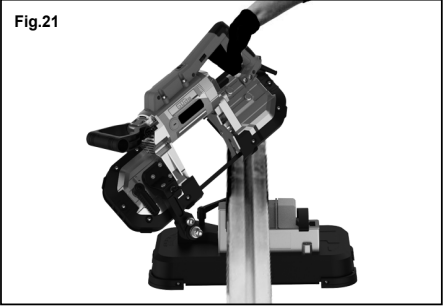
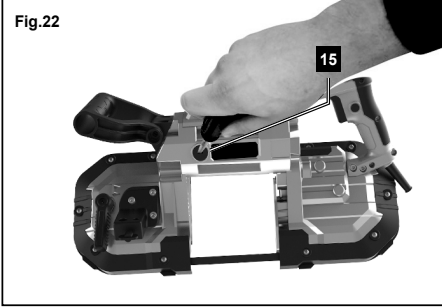


Fig.22



SYMBOLS

Explanation of the symbols on the device

	<p>Warning! Disregard results in a risk of death or injury, or damage to the tool!</p>
	<p>Read the operating and safety instructions before start-up and follow them!</p>
	<p>Wear eye protection!</p>
	<p>Wear hearing protection!</p>
	<p>If dust builds up, wear respiratory protection!</p>
	<p>Attention! Risk of injury! Do not reach into saw band while it is running!</p>
	<p>Wear protective gloves.</p>
	<p>Attention! Before assembly, cleaning, modification, servicing, storage and transport, the device must be switched off and disconnected from the power supply.</p>
	<p>Saw band direction</p>
	<p>Protection class II (double insulation)</p>

IMPORTANT SAFETY INFORMATION

General Power Tool Safety Warnings

WARNING:

Read all safety warnings and instructions.

Failure to follow the warnings and instructions may result in electric shock, fire and/or serious injury.

Save all warnings and instructions for future reference.

Introduction

Note: In accordance with the applicable product liability laws, the manufacturer of this device assumes no liability for damage to the device arising from:

- Improper handling.
- Failure to comply with the operating instructions.
- Repairs carried out by third parties, unauthorised specialists.
- Installing and replacing non-original spare parts.
- Application other than specified.

Please consider:

- Read through the complete text in the operating manual before installing and commissioning the device.
- This operating manual should help you familiarise yourself with your power tool and teach you how to use it for its intended purpose.
- The operating manual includes important instructions for the safe, proper and economic operation of the power tool, for avoiding danger, for minimising repair costs and downtimes and for increasing the reliability and extending the service life of the power tool.
- In addition to the safety instructions in this operating manual, you must also observe the regulations applicable to the operation of the power tool in your country.
- Keep the operating manual package with the power tool at all times and store it in a plastic cover to protect it from dirt and moisture. They must be read and carefully observed by all operating personnel before starting the work.
- The power tool may only be used by personnel who have been trained to use it and who have been instructed with respect to the associated hazards.
- The required minimum age must be observed.
- In addition to the safety instructions in this operating manual and the separate regulations

IMPORTANT SAFETY INFORMATION

of your country, the generally recognised technical rules relating to the operation of such machines must also be observed.

- We accept no liability for accidents or damage that occur due to a failure to observe this manual and the safety instructions.

Device description

- | | |
|--------------------------------------|------------------------------------|
| 1. Handle | 2. Motor |
| 3. LED on/off switch | 3.1. LED |
| 4. Speed setting wheel | 5. On/off switch |
| 6. Release switch | 7. Handle |
| 8. Mains connection | 9. Saw blade guard (left/right) |
| 10. Workpiece stop | 11. Saw blade |
| 12. Metal band saw holes | 13. Tightening lever for saw blade |
| 14. Top saw blade guard | 15. Carbon brushes |
| 16. Saw blade drive unit | 17. Rubber belts |
| 18. Guide rollers | 19. Support arm |
| 20. Straight Pin | 21. Saw table |
| 22. Support arm base plate | 23. Fixed clamping jaw |
| 24. Moving clamping jaw | 25. Workpiece clamping lever |
| 26. Locking handle (graduated scale) | 27. Safety bolt |
| 28. Locking knob | |

Proper use

- The portable metal band saw with speed setting is exclusively suited for cutting wood, pipes, profiles and thin non-ferrous metals.
- The shape of the workpieces must be such that safe clamping in the machine vice is possible and such that the workpiece is prevented from jumping out during the sawing process.
- The machine may only be used in the intended manner.
- Any use beyond this is improper. The user/operator, not the manufacturer, is responsible for damages or injuries of any type resulting from this.
- Only saw blades that are suitable for the machine may be used. An element of the intended use is also the observance of the safety instructions, as well as the assembly instructions and operating information in the operating manual.

IMPORTANT SAFETY INFORMATION

- Persons who operate and maintain the machine must be familiar with the manual and must be informed about potential dangers. In addition, the applicable accident prevention regulations must be strictly observed.
- Other general occupational health and safety-related rules and regulations must be observed.
- The liability of the manufacturer and resulting damages are excluded in the event of modifications of the machine.
- Despite use as intended, specific risk factors cannot be entirely eliminated. Due to the design and layout of the machine, the following risks remain:
 - Danger of injury to the eyes when the necessary eye protection is not used.
 - Hearing damage when the necessary hearing protection is not used.
 - Harmful emissions of wood dusts during use in enclosed areas.
 - Risk of accident due to contact with the hands in the uncovered cutting area of the tool.
 - Danger of injury during a workpiece change (cutting hazard).
 - Danger due to the ejection of workpieces or parts of the workpiece.
 - Crushing of fingers.
 - Danger due to kick-back.
 - Tilting of the workpiece due to insufficient workpiece support surface.
 - Touching the cutting tool.
 - Ejection of branches and workpiece parts.
- Please observe that our equipment was not designed with the intention of use for commercial or industrial purposes. We assume no guarantee if the equipment is used in commercial or industrial applications, or for equivalent work.

General power tool safety warnings

WARNING Read all safety information and instructions. Failure to observe safety information and instructions can result in electric shock, fire and/or serious injuries.

- Save all warnings and instructions for future reference.
- The term "electric tool" used in the safety instructions refers to mains-powered electrical tools (with a mains cable).

IMPORTANT SAFETY INFORMATION

Work area safety

- Keep work area clean and well lit. Cluttered or dark areas invite accidents.
- Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases or dust. Power tools create sparks which may ignite the dust or fumes.
- Keep children and bystanders away while operating a power tool. Distractions may cause you to lose control of the device.

Electrical safety

- Power tool plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with earthed (grounded) power tools. Unmodified plugs and matching outlets will reduce risk of electric shock.
- Avoid body contact with earthed or grounded surfaces, such as pipes, radiators, ranges and refrigerators. There is an increased risk of electric shock if your body is earthed or grounded.
- Do not expose power tools to rain or wet conditions. Water entering a power tool will increase the risk of electric shock.
- Do not use the cable for another purpose, for example, carrying or hanging the power tool or pulling the plug out of the socket. Keep the cable away from heat, oil, sharp edges or moving device parts. Damaged or coiled cables increase the risk of an electric shock.
- If you work with a power tool outdoors, only use extension cables that are also suitable for outdoor use. Using an extension cable suitable for outdoor use reduces the risk of an electric shock.
- If you cannot avoid using the electrical tool in a wet environment, use a fault-current circuit breaker. Use of an RCD reduces the risk of electric shock.

Personal safety

- Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are tired or under the influence of drugs, alcohol or medication. A moment of carelessness when using electrical tools can result in serious injuries.
- Use personal protective equipment. Always wear eye protection. Protective equipment such as a dust mask, non-skid safety shoes, hard hat or hearing protection used for

IMPORTANT SAFETY INFORMATION

appropriate conditions will reduce personal injuries.

- Prevent unintentional starting. Make sure the switch is in the off-position before connecting to the power supply, picking up or carrying the electric tool. Keeping your finger on the switch or having the device switched on when you connect it to the power supply may result in accidents.
- Remove any adjusting key or wrench before turning the power tool on. A tool or spanner that is located in a rotating device part may result in injuries.
- Do not overreach. Keep proper footing and balance at all times. This enables better control of the power tool in unexpected situations.
- Dress properly. Do not wear loose clothing or jewellery. Keep hair, clothing and gloves away from moving parts. Loose clothes, jewellery or long hair can be caught in moving parts.
- If dust extraction and collection devices can be mounted, make sure that they are connected and used properly. Use of dust collection can reduce dust-related hazards.

Power tool use and care

- Do not overload the device. Use the correct power tool for your application. The correct power tool will do the job better and safer at the rate for which it was designed.
- Do not use the power tool if the switch does not turn it on and off. Any power tool that cannot be controlled with the switch is dangerous and must be repaired.
- Remove the plug from the socket before setting the device, changing accessories or putting the device away. Such preventive safety measures reduce the risk of starting the power tool accidentally.
- Store idle power tools out of the reach of children and do not let people use the device who are not familiar with it or who have not read these instructions. Power tools are dangerous in the hands of untrained users.
- Maintain the electric tool with care. Check whether moving parts function properly and do not get stuck and whether parts are broken or are damaged and thus adversely affect the electric tool function. Have damaged parts repaired before using the device. Many accidents are caused by poorly maintained power tools.
- Keep cutting tools sharp and clean. Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.
- Use the power tool, accessories and tool bits etc. in accordance with these instructions, taking into account the working conditions and the work to be performed. Use of the

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power tool for operations different from those intended could result in a hazardous situation.

Service

- Have your power tool serviced by a qualified repair person using only identical replacement parts. This will ensure that the safety of the power tool is maintained.

Warning! This power tool generates an electromagnetic field during operation. This field can impair active or passive medical implants under certain conditions. In order to prevent the risk of serious or deadly injuries, we recommend that persons with medical implants consult with their physician and the manufacturer of the medical implant prior to operating the power tool.

Additional safety instructions - portable band saws

- When performing work during which the cutting device could come into contact with concealed power lines, hold the electrical tool by the insulated handle surfaces. Contact between the cutting tool and a live power line can also electrify metal device parts and lead to an electric shock.
- Keep your hands away from the sawing area and saw blade.
- Before use, always ensure that the portable band saw is clean.
- Stop operation immediately, if you notice anything unusual.
- Prior to using the tool, always make sure that all components are properly and safely fitted.
- Always proceed with caution when fitting or removing the saw blade.
- Always keep your hands away from the cutting path of the saw blade.
- Before sawing, always wait until the motor has reached full speed.
- Always keep the handles dry, clean and free of oil and grease. Hold the tool firmly during work.
- Always remain alert, in particular when performing repetitive, monotonous tasks. Always make sure your hands are in the correct position in relation to the saw blade.
- Never remove the workpiece stop.
- Maintain a distance from end pieces, which fall down after sawing. They may be hot, sharp and/or heavy. They could cause serious injuries.
- Air intakes often cover moving parts and should be kept clear. Loose-fitting clothing,

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jewelry and long hair may become caught in the moving parts.

- Residual risks
- The electric tool has been built according to state-of-the-art and the recognised technical safety rules. However, individual residual risks can arise during operation.
- Danger of injury to fingers and hands due to running the saw blade with improper guiding of the workpiece. Injuries due to the workpiece being ejected at high speed due to improper holding or guiding, such as working without the stop.
- Risk to health from wood dust or wood chippings. It is essential that personal protective equipment, such as eye protection, is worn.
- Injuries due to defective saw blade. Check the integrity of the saw blade regularly.
- Danger of injury for fingers and hands when changing the saw blade. Wear suitable work gloves.
- Danger of injury while the saw blade is running.
- Hazard due to electrical power with the use of improper electrical connection cables.
- Danger to health from running saw blade due to long hair and loose clothing. Wear personal protective equipment such as a hair net and close-fitting work clothing.
- Furthermore, despite all precautions having been met, some non-obvious residual risks may still remain.
- Residual risks can be minimised if the “General safety instructions” and the “Proper use” are observed along with the whole of the operating instructions.

Unpacking

- Open the packaging and carefully remove the device.
- Remove the packaging material, as well as the packaging and transport safety devices (if present).
- Check whether the scope of delivery is complete.
- Check the device and accessory parts for transport damage. In the event of complaints the carrier must be informed immediately. Later claims will not be recognised.
- If possible, keep the packaging until the expiry of the warranty period.
- Familiarise yourself with the product by means of the operating manual before using for the first time.
- With accessories as well as wearing parts and replacement parts use only original parts. Replacement parts can be obtained from your dealer.
- When ordering please provide our model number as well as type and year of

SPECIFICATIONS

manufacture for your product.

WARNING! The device and the packaging are not children's toys! Do not let children play with plastic bags, shrinkwrap or small parts! There is a danger of choking or suffocating!

Electrical Rating: 120V/60Hz

Power: 1200W

Saw Blade: 44-7/8 in.x1/2 in.

Saw Blade Speed: 0.7-2.4m/s

Handheld Cutting capacity at 0°: 5" x 5"

Handheld Cutting capacity at 45°: 5" x 1-9/16"

With Stand Cutting capacity at 0°: 4" x 2-3/4"

With Stand Cutting capacity at 45°: 1-1/8" x 1-9/16"

Pivot Range: 0°-45°

Protection Class: II

OPERATING PROCEDURES

Assembly

Fitting The Support Arm (19) To The Saw Table (21)(Fig. 3)

- Rotate the support arm base plate (22) until the support arm base plate hole aligns with the hole in the saw table.
- Insert the hexagon socket screw from above through the aligned holes in the saw table (21).
- Tilt the saw table (21) on its side and fasten the provided nut onto the hexagon socket screw.
- Fix the nut in place using an open ended spanner (not included in the scope of delivery).

Fitting The Machine Onto The Support Arm (19) (Fig. 15)

- Align the brackets of the metal band saw (12) to the holes in the support arm (20).
- Then tighten the locking knob(28) to secure the band saw.

OPERATING PROCEDURES

Fitting The Saw Blade (Fig. 7-11)

- Loosen the Phillips screws (a) from the saw blade guard (left/right) (9).
- Remove the saw blade guard (9) by sliding to left or right.
- Position the saw blade (11) so that the teeth are on the base and are angled in the direction of the workpiece stop (10), as shown in Figure 9.
- Slide the saw blade (11) into the guide rollers (18), as shown in Figure 10.
- Hold the saw blade (11) in the guide rollers (18) and place it around both drive units (16).
- Tension the saw blade (11) using the tightening lever for the saw blade (13).
- Push the saw blade guard (left/right) (9) back onto the metal band saw and screw it tight again.
- Attention! Do not operate the metal band saw without the saw blade guard!
- Switch the metal band saw on and off a few times, to ensure that the saw blade is sitting correctly.

CAUTION: Maintain physical distance from the saw blade area during this test.

Before Commissioning

ATTENTION: Always make sure the device is fully assembled before commissioning!

Check all screws and connections for firm seating.

Check that the saw blade is in perfect condition.

- Remove all tools from the clamping jaw and the saw table.
- The saw blade must be able to run freely.
- In case of previously machined wood, be aware of any foreign objects, such as nails or screws, etc.
- Before pressing the on/off switch (5), make sure that the saw blade is correctly fitted, and that moving parts run smoothly.
- Before connecting the machine, make certain that the data on the type plate matches with the mains power data.

Switching The Machine On (Fig. 4)

CAUTION: Before connecting the machine to the mains power supply, always make sure that the on/off switch (5) is functioning properly.

- To switch the machine on, press the on/off switch (5) and the release switch (6) at the same time.
- To switch off, release the on/off switch (5).

OPERATING PROCEDURES

- Attention: The saw blade runs after the device has been switched off.

Handle (Fig. 5)

- For safety reasons, please disconnect the power cable from the mains.
- The handle (1) allows the user to maintain a firm hold during use.
- Put the handle (1) in a comfortable and secure working position.

Switching The Led Lamp On (Fig. 1)

- To switch the LED (3.1) on, set the on/off switch
- (3) to "I (ON)". To switch the machine off, set the switch to position "O (OFF)".
- NOTE: Wipe any dirt off the LED (3.1) with a dry cloth. Be careful to avoid scratching the LED (3.1), because this can severely reduce the light intensity.
- Do not use thinners or spirit to clean the LED (3.1). Such solvents may damage the LED.
- Always switch the LED (3.1) off after work.

Speed Setting Wheel (Fig. 4)

CAUTION: Never change the speed with the device running.

- The machine speed can be set between 0.7 m/s and 2.2 m/s by turning the speed setting wheel(4).
- By turning the speed setting wheel (4) towards the number 6 you increase the speed, whilst turning it towards 1 reduces the speed.

CAUTION: The speed setting wheel (4) can only be turned up to 6 and back to 1. If it is forcibly turned past 6 or beyond 1, it may no longer be possible to adjust the speed.

- Choose a suitable speed for the workpiece to be cut.

Adjusting The Workpiece Stop (10) (Fig. 6)

For safety reasons, please disconnect the power cable from the mains.

While using the metal band saw, the workpiece stop(10) must be secured in the lowest position.

- If the workpiece stop (10) should butt against an obstacle at the end of a cut, e.g. a wall or similar,loosen the screw (see fig. 6) and slide the workpiece stop (10) upwards. Secure the workpiece stop (10) after sliding by fixing the screws again.

OPERATING PROCEDURES

- Attention: Ensure that the metal band saw is switched off when adjusting the workpiece stop(10)!

Operation

Tips For Better Sawing (Fig. 14)

- The following recommendations should be applied as a guideline (see “Recommended sawing positions” table in figure 14).
- Never twist the saw blade during the cutting process.
- Never use liquid coolant for the metal band saw.
- The use of liquid coolants causes deposits on the rubber belts (17) and reduces the cutting performance.
- If severe vibrations arise during the cutting process, make sure that the sawn workpiece is securely clamped. If the vibrations continue, replace the saw blade (see chapter “Cleaning and maintenance”).

Sawing Process Without Saw Table (Fig. 13)

Warning! Only adjust or reload workpieces when the metal band saw is at a standstill.

- Clamp the workpieces to be sawed in a vice or in another clamping device, i.e. directly between the two clamping jaws and without placing other objects in between.
- Bring the workpiece stop (10) in contact with the workpiece, and while doing so hold the saw blade away from the workpiece.
- Then switch the metal band saw on. To do this, press the on/off switch (5) and the release switch (6) at the same time.
- Once the metal band saw has reached the desired speed, tilt the main body of the machine slowly and cautiously so that the saw blade (11) comes into contact with the workpiece. Do not apply any additional pressure. Be careful to avoid the saw blade (11) coming suddenly and abruptly into contact with the surface of the workpiece. This results in serious damage to the saw blade. In order to achieve the maximum service life of the saw blade, ensure that no sudden impacts arise at the start of the sawing process.
- Straight cuts can be achieved if the saw blade is flush with the side surface of the engine housing. Be aware of your viewing angle in this case. Twisting the saw blade or holding it at an angle causes the cut to run alongside the cutting line, and this reduces the service life of the saw blade.

OPERATING PROCEDURES

NOTE: If the band saw becomes jammed or stuck in the workpiece during sawing, release the on/off switch (5) immediately to avoid damage to the saw blade and engine.

- The net weight of the metal band saw delivers the most efficient cutting pressure. If the pressure is increased by the operator, the saw blade (11) becomes slower and the service life of the band is reduced.
- End pieces that are so heavy they would cause injuries if they were to fall should be supported. Wearing safety shoes is strongly recommended.
- Attention: End pieces may be hot and sharp.
- Hold the metal band saw tight in both hands when sawing.
- Prevent the metal band saw from falling against the clamped or supported workpiece after cutting.

Clamping The Workpiece (Fig. 16-18)

- First, open the workpiece clamping lever (25) anti-clockwise.
- Pull the moving clamping jaw (24) back.
- Place the workpiece on the front fixed clamping jaw (23).
- Slide the moving clamping jaw (24) toward the workpiece.
- Clamp the workpiece using workpiece clamping lever (25) anti-clockwise.

Miter Cut 0°- 45° (Fig. 19)

Miter cuts of 0°-45° to the working surface can be carried out using the metal band saw.

- To do this, open the locking handle (graduated scale) (26).
- Set the support arm base plate (22) to the desired angle.
- Re-tighten the locking handle (graduated scale) (26).

Sawing process with the saw table (Fig. 20 + 21)

Attention! Keep the mains cable away from the sawing area during the sawing process.

Risk of injury! Keep your hands away from the sawing area.

Miter cuts of 0°- 45° to the working surface to the left can be carried out using the metal band saw.

- Before cutting, please check whether the 90 ° cutting angle between the band saw and the left plane of the clamping jaw is accurate.
- If the angle is tilted, adjust the clamping jaw plane by rotating the screw on the right side of the clamping jaw up and down using a wrench.

OPERATING PROCEDURES

- Set the desired angle as described under point “miter cut 0°- 45°”.
- Clamp your workpiece as described under point “Clamping the workpiece”.
- Switch the metal band saw on. To do this, press the on/off switch (5) and the release switch (6) at the same time.
- Once the metal band saw has reached the desired speed, pull the safety bolt (27) (see fig.3) and tilt the main body of the metal band saw slowly and cautiously downwards so that the saw blade comes into contact with the workpiece. Do not apply any additional pressure. Be careful to avoid the saw blade coming suddenly and abruptly into contact with the surface of the workpiece. This results in serious damage to the saw blade. In order to achieve the maximum service life of the saw blade, ensure that no sudden impacts arise at the start of the sawing process.

NOTE: If the band saw becomes jammed or stuck in the workpiece material during sawing, release the on/off switch (5) immediately to avoid damage to the saw blade and engine.

- The net weight of the metal band saw delivers the most efficient cutting pressure. If the pressure is increased by the operator, the saw blade becomes slower and the service life of the band is reduced.
- Swivel the metal band saw back into the initial position after the sawing process. Make sure that the metal band saw does not tilt back down again.

Attention! Wait until the saw blade has come to a complete standstill before removing the workpiece.

Working Instructions

The following recommendations are examples for safe use of the metal band saws.

The following safe working methods are considered to contribute to safety but may not be appropriate, fully or extensively applicable for every use. They cannot cover all possible hazardous conditions and must be interpreted carefully.

- If the machine is not in operation, e.g. work is complete, slacken the saw blade. Attach a corresponding note to the machine for the next user about the tensioning of the saw blade.
- Store unused saw blades together and safely in a dry place. Check them for faults (e.g. teeth and cracks) before use. Do not use defective saw blades!
- The correct belt tension contributes significantly to a straight cut of the saw blade. Check and correct the clamping force after sawing if necessary.
- Wear suitable protective gloves when handling saw blade.

OPERATING PROCEDURES

- Mount all protective and safety devices to the machine before starting work.
- Never clean the saw blade or the saw blade guide rollers with a hand-held brush or scraper if the saw blade is running. Resinous saw blades jeopardise work safety and must be cleaned regularly.
- Wear safety goggles and hearing protection when working for your own personal protection. Wear a hair net with long hair. Roll loose sleeves up above the elbows.
- Make sure that the lighting conditions in the working and surrounding area of the machine are sufficient.
- Secure the workpiece against turning when cutting round pieces of wood.

Electrical Connection

The electrical motor installed is connected and ready for operation.

Damaged electrical connection cable

The insulation on electrical connection cables is often damaged.

This may have the following causes:

- Pressure points, where connection cables are passed through windows or doors.
- Kinks where the connection cable has been improperly fastened or routed.
- Places where the connection cables have been cut due to being driven over.
- Insulation damage due to being ripped out of the wall outlet.
- Cracks due to the insulation ageing.

Such damaged electrical connection cables must not be used and are life-threatening due to the insulation damage.

Check the electrical connection cables for damage regularly. Ensure that the connection cables are disconnected from electrical power when checking for damage.

Cleaning And Maintenance

Attention! Disconnect the mains plug before carrying out any maintenance work.

Cleaning

- Keep protective devices, air vents and the motor housing as free of dust and dirt as possible. Rub the device clean with a clean cloth or blow it off with compressed air at low pressure. We recommend that you clean the device directly after every use.
- Clean the device at regular intervals using a damp cloth and a little soft soap. Do not use any cleaning products or solvents; they could attack the plastic parts of the device.

OPERATING PROCEDURES

Make sure that no water can penetrate the device interior. Water entering a power tool will increase the risk of electric shock.

General maintenance tasks

- Wipe swarf and dust off the machine from time to time with a cloth.
- Do not oil the motor.
- Do not use corrosive cleaning agents for cleaning the plastic.

Maintenance

Brush inspection (Fig. 22)

If the machine is new, check the carbon brushes after the first 50 operating hours or if a new brush has been mounted. After the initial check, check every 10 operating hours. If the carbon is worn down to a length of 6 mm, or the spring or the shunt wire is burnt or damaged, both brushes must be replaced. If the brushes are found to be usable after removal, they can be reinstalled.

- To service the carbon brushes, open both locks (as shown in figure 22) counterclockwise.
- Then remove the carbon brushes.
- Re-insert the carbon brushes in reverse order.

Replacing the saw blade (Fig. 7-11)

Attention! Disconnect the mains plug before carrying out any maintenance work.

- Rotate the tightening lever for the saw blade (13) in a clockwise direction up to the stop, in order to relieve the saw blade tension (see Figure 7).
- Turn the metal band saw over and place it down on a workbench or table.
- Loosen the Phillips screws (a) and remove the saw blade guard (9) (left/right) by sliding to the left or right.
- Start to remove the saw blade at the top part of the saw blade guard (14) and continue right around the drive unit of the saw blade (16). When removing the saw blade, the tension may be relieved and the saw blade may jump off. **SAW BLADES ARE SHARP. WEAR PROTECTIVE GLOVES WHEN HANDLING THEM.**
- Check the guide rollers (18) and remove all coarse chips that may be in there. Jammed chips may prevent the guide rollers (18) from turning and lead to flat spots.
- Rubber belts (17) are located on the pulleys (13). The rubber belts should be checked

OPERATING PROCEDURES

for looseness or damage when changing the saw blade. Wipe chips off the rubber belts (17).

- Position the saw blade (11) so that the teeth are on the base and are angled in the direction of the workpiece stop (10), as shown in Figure 9.
- Slide the saw blade (11) into the guide rollers (18), as shown in Figure 10.
- Hold the saw blade (11) in the guide rollers (18) and place it around both drive units (16).
- Tension the saw blade (11) using the tightening lever for the saw blade (13).
- Push the saw blade guard (left/right) (9) back onto the metal band saw and screw it tight again.
- Attention! Do not operate the metal band saw without the saw blade guard!
- Switch the metal band saw on and off a few times, to ensure that the saw blade is sitting correctly.

CAUTION: Maintain physical distance from the saw blade area during this test.

Service information

- With this product, it is necessary to note that the following parts are subject to natural or usage-related wear, or that the following parts are required as consumables. Wearing parts: Carbon brushes, saw blade (may not be included in the scope of supply)

Storage

- Store the device and its accessories in a dark, dry and frost-free place that is inaccessible to children. The optimum storage temperature lies between 40°F(5°C) and 90°F(30°C).
- Store the power tool in its original packaging. Cover the electric tool to protect it from dust or moisture.
- Store the operating manual with the power tool.

Transport

- Transport the metal band saw by holding it with both hands by the handles (1) and (8).
- Carry the machine on the saw table (21) with the metal band saw mounted to the saw.

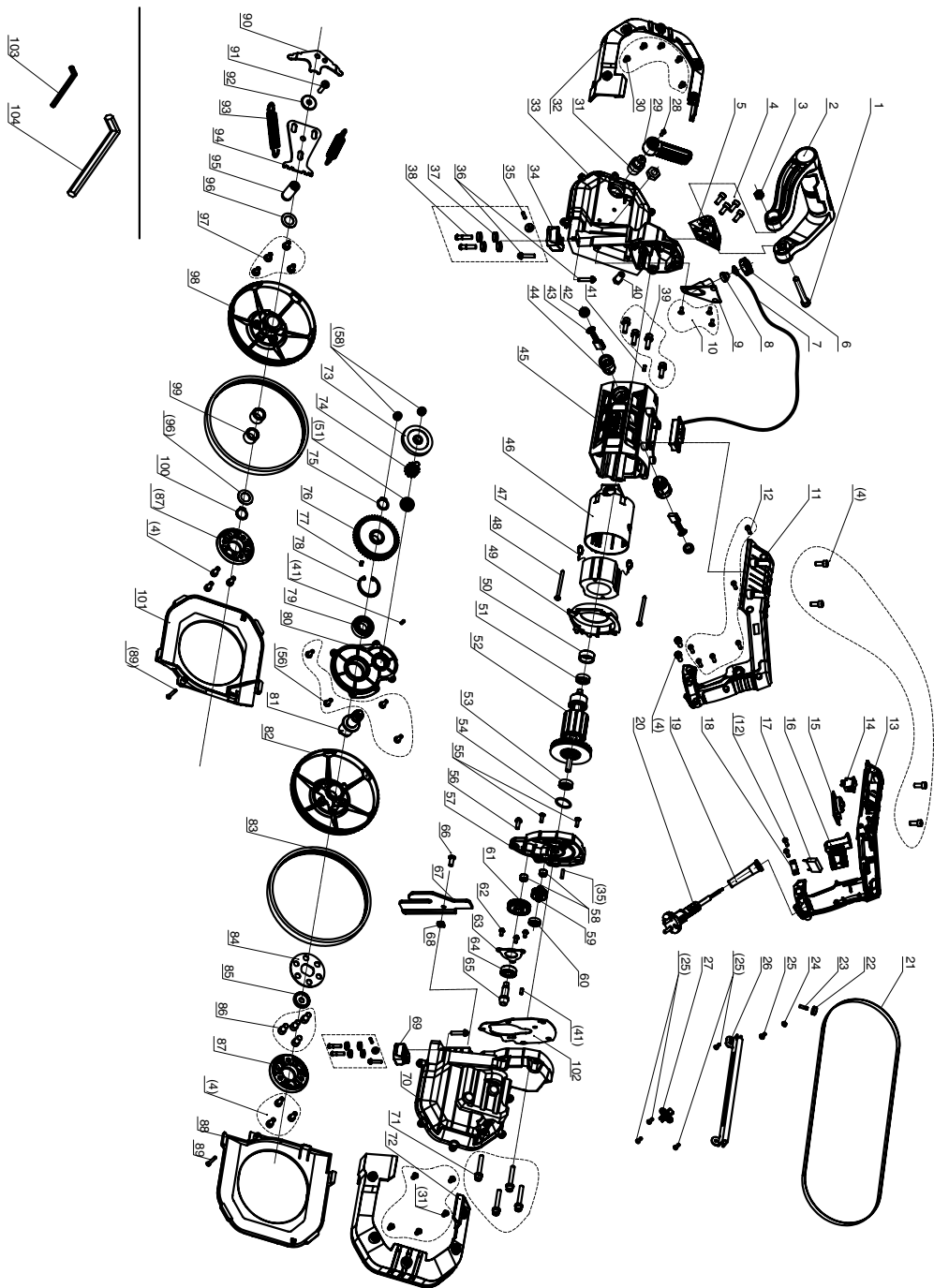
PARTS LIST

No.	Description	QTY	No.	Description	QTY
1	Socket Head Cap Screw	1	40	Support Adjusting Screw	1
2	Handle	1	41	Straight Pin	3
3	Hexagon Nut	1	42	Brush Cover	2
4	Socket Head Cap Screw	16	43	Brush	2
5	The Handle Seat	1	44	Brush Holder	2
6	Led Lamp Holder Cover	1	45	Main Case	1
7	Transformer Assembly	1	46	The Stator Cover	1
8	Led Lamp	1	47	Stator	1
9	Led Lamp Holder	1	48	Cross Recessed Pan Head Tapping Screws	2
10	Cross Recessed Countersunk Head Screw	3	49	Windshield	1
11	Upper Handle	1	50	Bearing Sleeve	1
12	"Cross Recessed Pan Head Tapping Screws"	8	51	Bearing	2
13	Bottom Handle	1	52	Rotor	1
14	little Switch	1	53	Bearing	1
15	Speed Control Module	1	54	O-Ring	1
16	Switch	1	55	Cross Recessed Countersunk Head Screw	2
17	Capacitor	1	56	Cross Recess Pan Head Screw	4
18	Press Board	1	57	The Middle Cover	1
19	Sheath	1	58	Needle Bearing	4
20	Cable	1	59	Cross Axle Gear Shaft	1
21	Saw Blade	1	60	Bearing	1
22	Bearing	3	61	The Level Of Gear	1
23	Straight Pin	1	62	Cross Recess Pan Head Screw	3
24	Flat Gasket	1	63	Bearing Pressure Plate	1
25	Cross Recess Pan Head Screw	5	64	Bearing	1
26	Guide Groove For Saw Blade	1	65	The Secondary Gear Shaft	1
27	Brush Component	1	66	Hexagon Socket Countersunk Head Screws	1
28	Cross Recess Pan Head Screw	1	67	Block Frame	1
29	Adjusting Knob	1	68	Square Nut	1
30	Cross Recess Pan Head Screw	10	69	Locating Piece Left	1
31	Eccentric Shaft	1	70	The Left Box Body	1
32	Right Shield	1	71	Socket Head Cap Screw	4
33	The Right Box Body	1	72	The Left Cover	1
34	Right Positioning Block	1	73	The Helical Gear	1
35	Straight Pin	3	74	Triple Gear Shaft	1
36	Cross Recess Pan Head Screw	4	75	Circlip For Shaft	1
37	Bearing	8	76	Rack Wheel	1
38	Cross Recess Pan Head Screw	4	77	Flat Key	1
39	Socket Head Cap Screw	4	78	Circlip For Hole	1

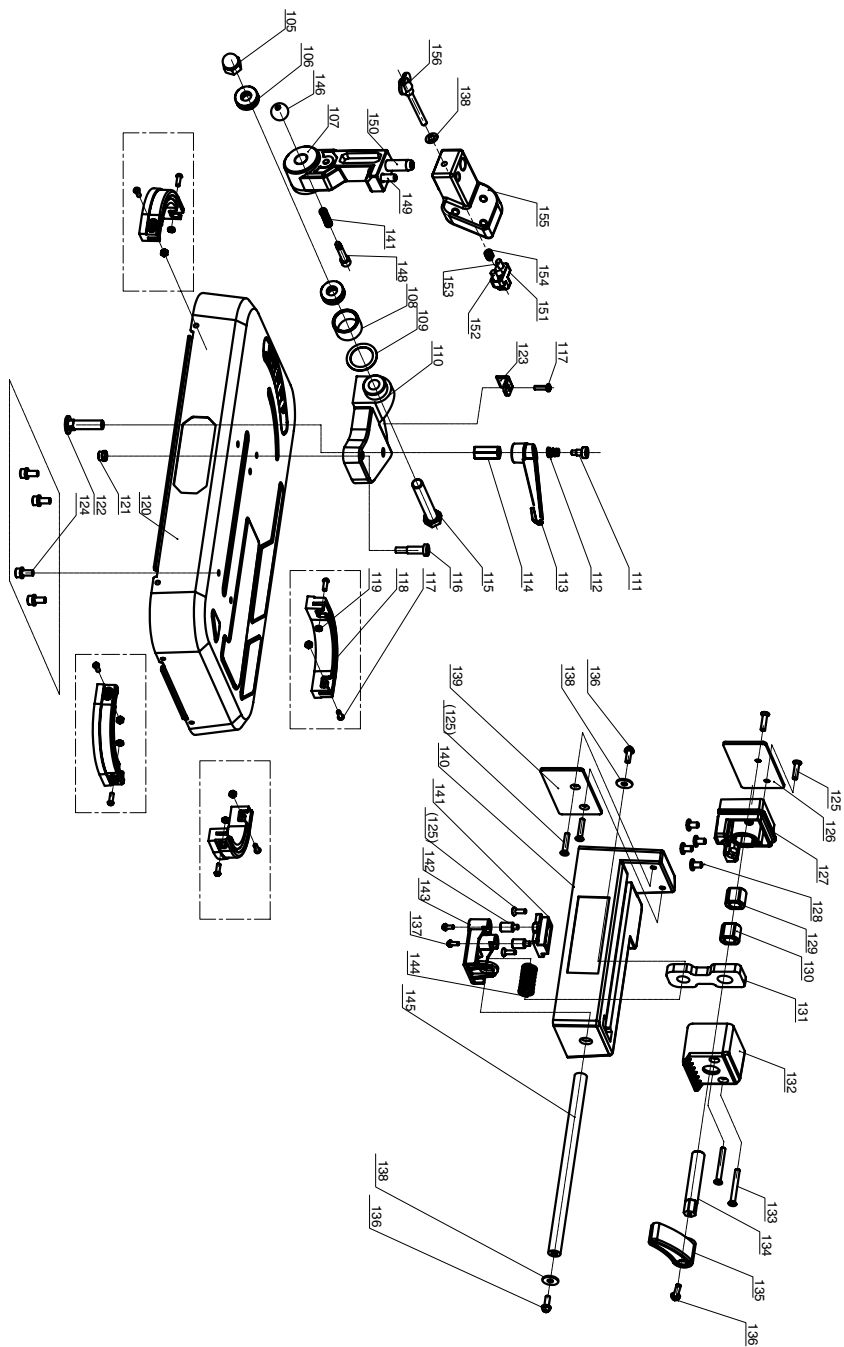
PARTS LIST

No.	Description	QTY	No.	Description	QTY
79	Bearing	1	118	Plastic Feet	4
80	Front Cover	1	119	Nut	8
81	Output Shaft	1	120	Pedestal	1
82	The Left Saw Blade Plate	1	121	Locknut	1
83	Rubber Belt	2	122	Square Neck Bolt	1
84	Lower Platen	1	123	Angle Pointer	1
85	Top Board	1	124	Socket Head Cap Screw M6X14	4
86	Socket Head Cap Screw	4	125	Cross Recessed Countersunk Head Screw	6
87	Saw Blade Plate Cover	2	126	Knockout Plate	1
88	Left Shield Cover	1	127	Activity Block	1
89	Cross Recess Pan Head Screw	2	128	Friction Pad	4
90	Spring Support	1	129	Inner Nut	1
91	Cross Recess Pan Head Screw	1	130	Outer Nut	1
92	Adjusting Wheel	1	131	Camshaft Jacking Block	1
93	Extension Spring	2	132	Cover	1
94	Regulator Mounting Plate	1	133	Cross Recessed Countersunk Head Screw	1
95	Tightener Mounting Column	1	134	Push Rod	1
96	Paper Washer	2	135	Lock Knob	1
97	Set Screw	4	136	Cross Recess Pan Head Screw	5
98	Right Saw Blade Plate	1	137	Cross Recess Pan Head Screw	
99	Steel Bushing Ø21	2	138	Flat Gasket	2
100	Circlip For Shaft	1	139	Clamping Piece	1
101	The Right Shield Cover	1	140	Clamp Mounting Seat	1
102	Sealing Paper Pad	1	141	Link Block	1
103	Socket Head Wrench S4	1	142	Joint Pin	2
104	Socket Head Wrench S5	1	143	The Activity Base	1
105	Cap Nut	1	144	The Clamping Spring	1
106	Plane Bearing	2	145	Guide Bar	1
107	Split Rocker Arm	1	146	Ball Nut	1
108	Steel Bushingø30	1	147	Locking Disc Spring	1
109	Flat Gasket	1	148	Self Locking Pin	1
110	Connecting Base	1	149	Straight Pin	1
111	Hexagon Socket Step Screw	1	150	Straight Pin	1
112	Tower Type Spring	1	151	Clamping Piece	1
113	Fast Lock Knob	1	152	Pin	1
114	Hexagon Prism	1	153	Pin	1
115	Outer Hexagonal Bolts	1	154	Spring	1
116	Slotted Screw M6	1	155	Split Rocker Arm Seat	1
117	Cross Recess Pan Head Screw M4X10	8	156	Screw M6X55	1

SCHEMATIC DRAWING



SCHEMATIC DRAWING



REPLACEMENT PARTS

- For replacement parts and technical questions, please call Customer Service at 1-866-915-8626.
- Not all product components are available for replacement. The illustrations provided are a convenient reference to the location and position of parts in the assembly sequence.
- When ordering parts, the following information will be required: item description, item model number, item serial number/item lot date code, and the replacement part reference number.
- The distributor reserves the rights to make design changes and improvements to product lines and manuals without notice.

LIMITED WARRANTY

Limited Warranty

- Northern Tool and Equipment Company, Inc. (“We” or “Us”) warrants to the original purchaser only (“You” or Your”) that the KLUTCH product purchased will be free from material defects in both materials and workmanship; normal wear and tear excepted, for a period of one year from date of purchase. The foregoing warranty is valid only if the installation and use of the product is strictly in accordance with product instructions. There are no other warranties, express or implied, including the warranty of merchantability or fitness for a particular purpose. If the product does not comply with this limited warranty, Your sole and exclusive remedy is that We will, at our sole option and within a commercially reasonable time, either replace the product or product component without charge to You or refund the purchase price (less shipping). This limited warranty is not transferable.

Limitations on the Warranty

- This limited warranty does not cover: (a) normal wear and tear; (b) damage through abuse, neglect, misuse, or as a result of any accident or in any other manner; (c) damage from misapplication, overloading, or improper installation; (d) improper maintenance and repair; and (e) product alteration in any manner by anyone other than Us with the sole exception of alterations made pursuant to product instructions and in a workmanlike manner.

Obligations of Purchaser

- You must retain Your product purchase receipt to verify date of purchase and that You are the original purchaser. To make a warranty claim, contact Us at 1-866-915-8626, identify the product by make and model number, and follow the claim instructions that will be provided. The product and the purchase receipt must be provided to Us in order to process Your warranty claim. Any returned product that is replaced or refunded by Us becomes our property. You will be responsible for return shipping costs or costs related to Your return visit to a retail store.

Remedy Limits

- Product replacement or a refund of the purchase price is Your sole remedy under this limited warranty or any other warranty related to the product. We shall not be liable for service or labor charges or damage to Your property incurred in removing or replacing

LIMITED WARRANTY

- the product; any damages, including, without limitation, damages to tangible personal property or personal injury, related to Your improper use, installation or maintenance of the product or product component; or any indirect, incidental or consequential damages of any kind for any reason.

Assumption of Risk

- You acknowledge and agree that any use of the product for any purpose other than the specified use (s) stated in the product instruction is at Your own risk.

Governing Law

- This limited warranty gives You specific legal rights, and You also may have other rights which vary from State to State. Some states do not allow limitations or exclusions on implied warranties or incidental or consequential damages. So, the above limitations may not apply to You. This limited warranty is governed by the laws of the State of Minnesota, without regard to rules pertaining to conflicts of law. The state courts located in Dakota County, Minnesota shall have exclusive jurisdiction.

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Distributed by:

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Burnsville, Minnesota 55306

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