Institute of Making UCL

Tool description

The saw is suited for small & fine applications for separating wood, non-ferrous metals and plastics, but also larger round and square materials can be easily cut in two with a straight cut

General tool safety

PPE
Always wear eye protection.
Wear a dust mask
Wear hearing protection
DO NOT wear gloves

Personal Safety
Do not wear loose clothing.
Remove Jewellery.
Keep hair tied up.

Do not overreach. Stand in front of the device while working. Never work from the side or even from the back. Ensure sufficient stability while you work.

Consider those working around you, inform them before starting the equipment so they can use relevant PPE, ensure there are no trip hazards.

Do not use a power tool while tired or rushed. A moment of inattention and incorrect use of PPE while operating power tools may result in serious personal injury and or death.

Power Tool Use & Care

Correct blade, Always select the correct saw blade for your work task. Of particular importance is that the blade is suitable for the material to be sawn.

Check material condition before cutting. Remove any foreign objects such as nails or screws from the material to prevent damaging the tool and its cutting blade. Do not use green or wet wood as the water and sap content can damage the tool and its cutters.

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 brought to the attention of a technician before further use.

Never reach into the rotating tool.

Never operate without its protective guard.

Your fingers and hands should not come near the saw blade or within the sawing range. A moment of carelessness or slipping could direct your hand towards the saw blade and result in serious injuries.

Do not work "freehand". Always use the clamping screw to secure your work. Freehand sawing leads to misalignment jamming.

Support long work pieces so they stay horizontal. Long work pieces tend to tilt down at the end, this leads to loss of control and jamming of the saw blade.

Clamp the work pieces to be sawn as short as possible If a work piece projects too far out of the vice, it can vibrate and cause excessive noise.

Guide the work piece evenly. Do not bend or twist the work piece. If the saw blade jams, immediately shut off the power tool, disconnect the mains plug and alert a technician.

Do not remove sawn off material whilst the saw is still operating. Switch off the saw and wait until the saw blade has come to a complete standstill before you remove the material.

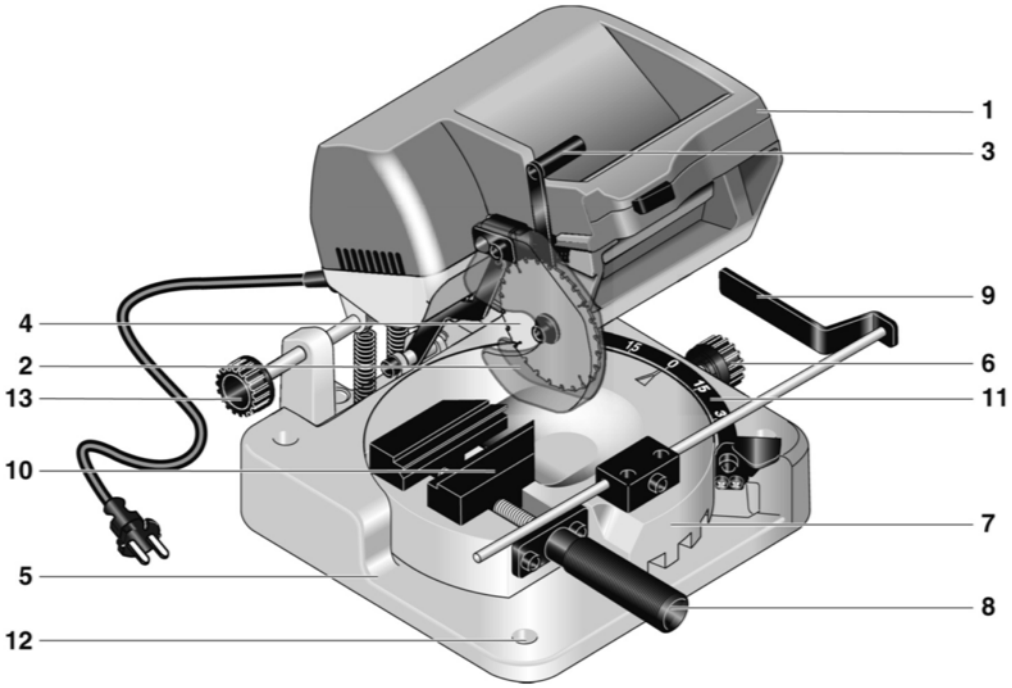
Never leave an operating saw unattended. Switch off the power tool and do not leave until it has reached a complete standstill.

Regularly remove chips and saw dust. Accumulated saw dust is combustible and can self-ignite. Unplug the tool from its power source before any cleaning is started

Never work with force, This places an unnecessary load on the machine mechanics and leads to bad results and increased wear.

Ensure the blade is spinning at full speed before bringing down into workpiece.

Functional Description



1	Saw head	8	Spindle for clamping fixture
2	Saw blade cover	9	Limit stop
3	Locking lever	10	Clamping fixture
4	Saw blade	11	Scale
5	Device base	12	Fastening bores
6	Clamping screw	13	Adjusting screw for saw head
7	Turntable		

Cutting capacity

Note: the following maximum sizes in dependence on the sawing angle.

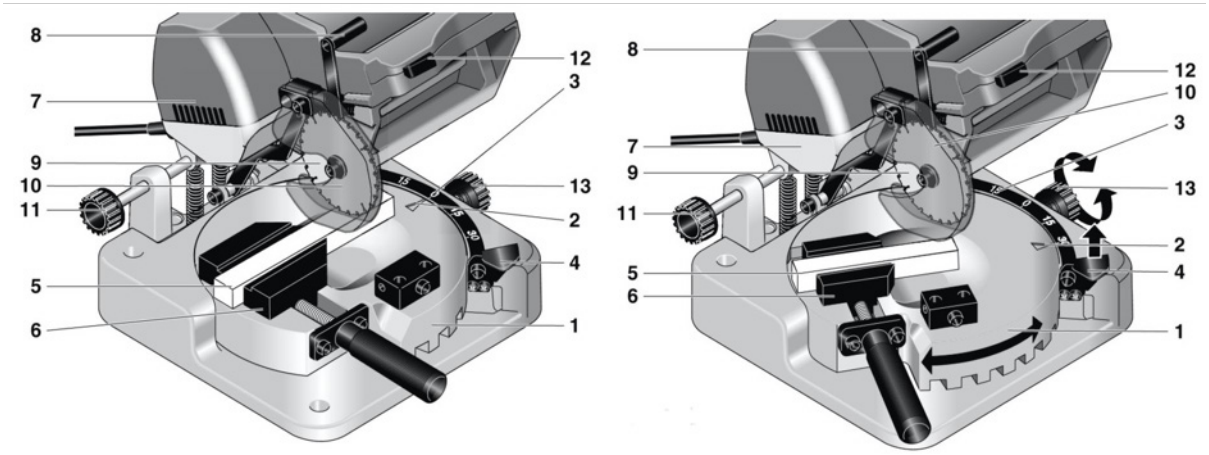
Cutting capacity at 90° (right-angled cut):			Cutting capacity at 45° (mitre cut):		
For material thicknesses up to (in mm)	Maximum material width (in mm)	Round material: (in mm)	For material thicknesses up to (in mm)	Maximum material width (in mm)	Round material: (in mm)
10	65		5	36	
18	50		10	30	
21	40		15	25	
25	25	Ø max. 25	20	18	Ø max. 20

Sawing

To achieve the shortest possible clamping length of the clamped work piece, the position of the saw head can be adjusted by using the knurled screw (11). This enables the saw blade to be guided as close to the clamping fixture (6) as possible. Cuts will then be especially clean and precise if there is only a small gap between the restraint and the saw blade level.

Before every use, make certain that the saw head is not set so that the saw blade will collide with the jaws of the clamping fixture when swiveling the saw head down (e.g. by shutting down the saw head when machine is off.

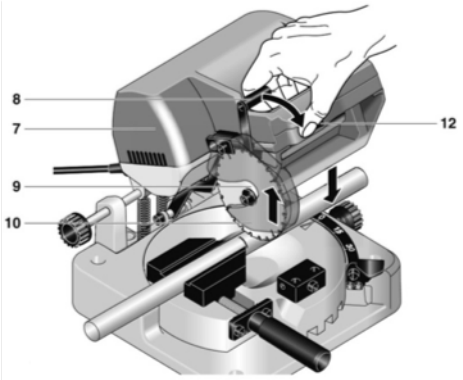
Note: disconnect the mains plug when checking if the saw will collide with the clamp



1	Turntable	8	Locking lever
2	Angle marker	9	Saw blade
3	Scale	10	Saw blade cover
4	Stop Lever	11	Adjusting screw for saw head
5	Work Piece	12	On/off button
6	Clamping fixture	13	Clamping screw
7	Saw Head		

Caution: Do not remove any cutting scraps or other work piece parts from the cutting area as long as the machine is running and the saw blade is not in its home position.

Straight cuts



1. Make sure that turntable 1 is in the 0° position, the arrow marking 2 must point to the 0° marking on scale 3 in the device base. If not, then set as follows:
Note: Make sure that knurled screw 13 is released

2. Release stop lever 4 by lifting it and guide turntable 1 to the corresponding position. Let go of stop lever 4. Note: The turntable will lock in place at 0°. If necessary, move turntable back and forth a bit with released stop lever until the stop lever catches.

3. Insert work piece 5 in clamping fixture 6, align and tighten. Pay attention to the desired length of the ”free“ end.

4. To assist with alignment, the saw blade can be brought down without starting the cut by using lever (8), the saw can be brought down with guard (10) to give a better estimation of the future cut.

5. For exact adjustment, saw head 7 can be finely toggled by using knurled screw 11.

Note: Make sure here that the saw blade 9 will never collide with the jaws of clamping fixture 6!

6. After locking lever 8 has been released and the on/off button 12 has been pressed, swivel saw head 7 down and cut the work piece into two as shown. The saw blade protection swivels up.

Miter cuts

See previous images for reference.

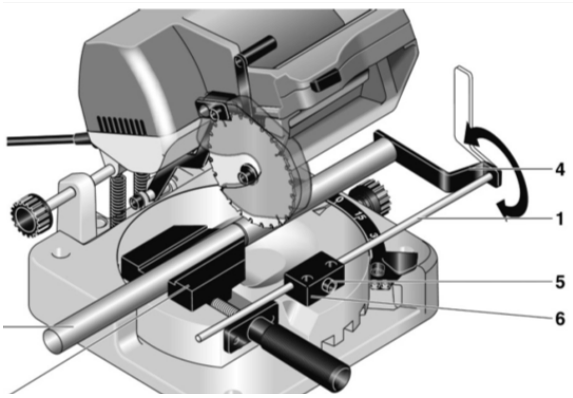
1. Release knurled screw 13 and lift up stop lever 4. Now set turntable 1 to the desired angle. Use the scale (3) and orient yourself using arrow marking 2 on turntable 1. The 15° graduations are provided with serrations, and stop lever 4 must be released so that they can become effective. Intermediate settings can also be set and fixed using knurled screw 13.

2. Insert work piece 5 in clamping fixture (6) then align and tighten. Pay attention to the desired length of the ‘free’ end.

3. To assist with alignment, the saw blade can be brought down without starting the cut by using lever (8), the saw can be brought down with guard (10) to give a better estimation of the future cut.

4. After block lever 8 has been released and the on/off button (12) has been pressed, swivel saw head (7) down and cut the work piece in two as shown. The saw blade protection swivels up.

Working with the Length Stop



The length stop (1) and limit plate (4) allows you to make multiple cuts at the same length. You must use the vice clamp (3) to secure your workpiece (2) between each cut. The length stop extends up to 12 inches.

Note: After the work piece has been aligned and clamped, fold limit plate (4) away during work to prevent the separated work pieces from jamming.

1	Length stop	4	Limit plate
2	Work Piece	5	Allen Screw
3	Clamping fixture	6	Limit stop guide

How to set the limit stop:
1. Allen screw 5 is released using an Allen key. The limit stop 1 can then be pushed in the guide (6) up to the desired length. Make sure that limit plate (4) is properly aligned and that it hits the work piece correctly.

2. Clamp limit stop 1 with Allen screw 5. If the limit stop is not required, it can be completely removed after
releasing screw 5.

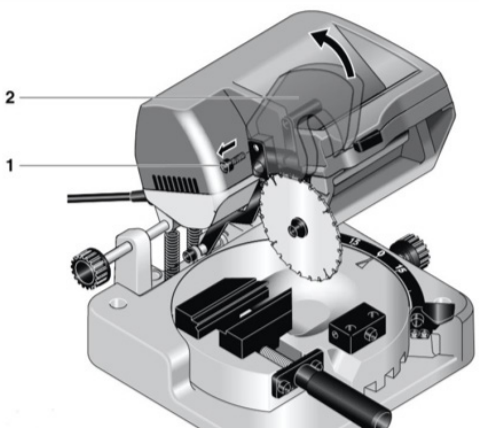
By setting up the desired position of the limit stop once following a marking on your material to align with the saw blade, this then allows you to repeat the process without any further markings or measurements.

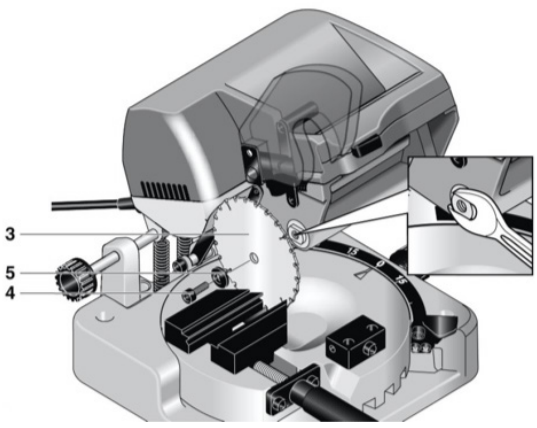
Changing the cutting disk

Only perform the following under the supervision of a technician.

Disconnect the mains plug.
1. Unscrew Allen screw (1) in saw blade protection (2) and fold saw blade protection up as shown.
2. Using an Allen key, unscrew screw (4) in the center of saw blade.
3. Hold the shaft at the flat spot with an open-ended spanner, Attention: Left-handed-thread!
3. Remove old saw blade. Mind flat washer (5) here.
4. Attach new saw blade and tighten with flat washer (5) and screw (4).

Note: Pay close attention to the running direction of the saw blade. When viewed from the front side of the saw, the teeth must point downwards.





Housekeeping

Before starting any cleaning, disconnect the saw from the power supply.

The Chop saw should be cleaned after every use. Use a vacuum with the brush attachment for the outside of the tool.

Never used compressed air to clean the tool. This will cause dust to be pushed into the atmosphere for you and others to breath in as well force dust into the motor and fixings of the tool.

Ensure all tools are placed back where they belong.

Do not leave tools out. If you are unsure where tools are stored, please speak to a technician.

To see the saw in use watch: https://www.youtube.com/watch?v=Qluv7NsJufI

Image 1 shows clamping screw being undone, image 2 shows table being moved to a new angle.