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Tool Description

A miter saw is a specialized tool that lets you make cuts at a variety of angles. The saw has a blade mounted on a swing arm that pivots left or right to produce angled cuts.

General Tool Safety

PPE
Always wear eye protection.
- Wear a dust mask were appropriate
- Wear hearing protection
- **DO NOT** wear gloves

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

Consider those working around you, inform them before starting the equipment so they can use relevant PPE, ensure there are no trip hazards and reassess the area once all cables and extraction hoses are connected.

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 and Care

Do not force the power tool. Correct settings will do the job better and more safely at the rate for which it is 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 brought to the attention of a technician before further use.

Use sharp and clean cutters. If the cutting tool looks blunt, worn or chipped, bring this to the attention of a technician before continuing. Properly maintained tools with sharp cutting edges are less likely to bind and are easier to control.

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

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Specific Safety Rules for the Mitre Saw

Be certain the mitre saw is mounted or securely placed on a level, firm work surface before using. A level and firm work surface reduces the risk of the miter saw becoming unstable or tipping.

Make sure all controls and clamping handles are secured before starting any operation. Unsecured clamps or adjustment handles can cause the saw and/or workpiece to move unexpectedly.

Never remove or disable the blade guard. Inspect the blade guard before use. If the guard is not functioning correctly do NOT continue any operations and speak with a technician.

Use clamps to support workpiece. Use clamps to support workpiece whenever possible. Do not use this saw to cut pieces that are too small to be securely clamped. Clamp the offcut side of the workpiece when using a length stop. An unsecured offcut can bind between the length stop and the saw blade.

Keep hands out of the path of the sawblade. Never cross your hand over intended line of cutting.

For proper control, never "pull" the saw through the cut, always chop or push cut

Cut only one workpiece at a time. Multiple workpieces cannot be adequately clamped or braced and may bind on the blade or shift during cutting.

Keep workpieces firmly against the rear fence when cutting. Never cut workpieces that do not lay flat or are curved in any way. A curved workpiece can be grabbed by the blade and propelled back against the fence.

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Functional description

The Mitre saw is intended to cut wood, plastic, aluminum, and similar materials. Using the tool in contravention to this induction may lead to injury and/or death.

Item	Name or Description
A	Bevel Gauge and Pointer (both sides)
B	Power Cord Storage
C	Tall Mitre Latch
D	Tall Mitre Release
E	Bevel Lock
F	Bevel Range Selector
G	Dust Extraction Port
H	FastFix® Arbor Lock
I	Trigger Lock
J	Power Switch/Trigger
K	Main Handle
L	Laser Dust Lens
M	Blade Guard
N	Mitre Stop Release Lever
O	Mitre Lock Lever
P	Mitre Gauge and Pointer
Q	MitreFast™ Angle Tool and Storage

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Functional description continued

Item	Name or Description
A	Bevel Gauge and Pointer (both sides)
I	Trigger Lock
J	Power Switch/Trigger
K	Main Handle
L	Laser Dust Lens
M	Blade Guard
N	Mitre Stop Release Lever
O	Mitre Lock Lever
R	Bevel Adjustment Knob
S	Speed Control Dial (see inset)
T	Laser On/Off Button (see inset)
U	Depth Limit Adjustment Knob
V	Slide Lock Knob
W	Head Lock Knob
X	Auxiliary Fence
Y	Main Fence
Z	Table Inserts

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Dust Extraction

Connect the saw to a dust extractor to reduce dust during operations on wood.
NOTE Extraction must **NOT** be used when cutting Aluminium.
Ensure the dust extraction port is facing away from others who are working in the space.
Plug the power tool cable into the front of the extractor and set to full suction and Auto.
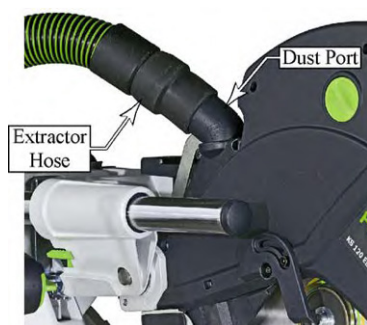
Operation

Setting the Motor Speed The optimal speed of the saw is predominately determined by the type of material being cut. Turn the speed control dial to the number shown in the table to the left. The speeds listed in the table are just rough guidelines, and actual results may vary.

Material	Speed
Soft wood products and veneer plywoods	6
Hardwood products	3-6
Plastic laminate countertops	6
Hard plastics	3-5
Soft plastics	1-4
Aluminum	4-6
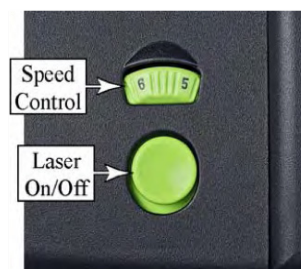
Laser Guide

CAUTION! Laser Radiation. Do not look directly into the laser beam. The laser system scans across the path of the sawblade to indicate where the blade will cut the workpiece.
The two laser beams shine down on the workpiece on either side of the sawblade. The sawblade will cut the workpiece between the two laser lines.
To turn on the laser, press the On/Off button on the rear of the motor near the speed control dial. Pressing the button a second time will turn the laser off. The laser will also automatically shut off if left on for more than approximately 30 minutes.

Power Trigger and Plunge Release

The power trigger turns on the saw but also releases the motor head to plunge downward. To help prevent accidental starting of the saw, the trigger lock must be pushed to release the trigger to power the saw.

To start the saw (activate the sawblade), press the trigger lock and squeeze the trigger. The saw head can then be plunged downward.

To plunge the saw head down without starting the saw, squeeze the power trigger, but do not press the trigger lock.

Using the Hold Down Clamp

The hold down clamp fits in a socket on either the left or right sides of the saw. To insert or remove the clamp, rotate it to the rear to unlock it from the socket, as shown in the first image below. To lock the clamp in its socket, rotate it to the forward position, as shown in the centre image below. To secure the workpiece, press down on the green knob and rotate the locking handle down, as shown in the image on the right, below. To release the clamp, rotate the locking lever up.
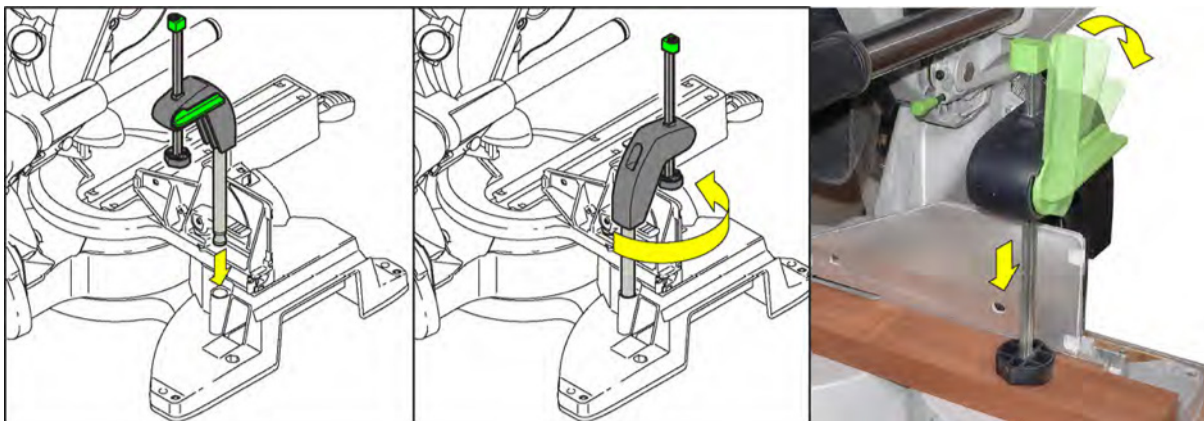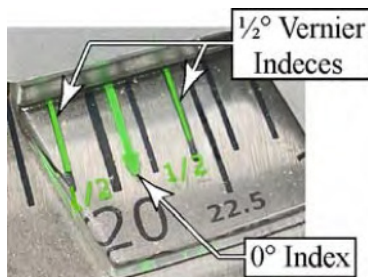

Setting the Mitre Angle

A mitred cut is where the saw head is rotated side-to-side. The saw is capable of mitring 50° to the left and 60° to the right. Positive stops are located at 0, 22½, 30 and 45°.

1. Release the mitre lock by lifting up on the handle.

2. Press down on the mitre stop release lever and rotate the mitre to the desired angle.

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To stop at the one of the preset lock positions, release the mitre stop lever just before reaching the angle, the mitre stop will click as it locks into position. Can you change the spelling of Mitre in the caption?!

To set the mitre angle to ½ degree between the primary angles, line up the ½° Vernier indices with the adjacent angle index marks. (The example below shows 20 ½°)


3. When the desired mitre angle is set, engage the mitre lock by pressing down on the mitre lock lever.

Setting the Bevel Angle

A beveled cut is where the saw head is tilted to the left or right from vertical. The saw is capable of beveling up to 47° to the left and right.
The bevel range selector engages a series of angle stops. The selector has three settings. The first setting, (0-45°) limits the bevel travel between 0 degrees and 45 degrees to the left. The second setting (±45°) limits the bevel travel between 45 degrees to the left and 45 degrees to the right. The last setting (±47°) limits the bevel travel to the full extent of the saw, which is 47 degrees to the left and to the right.

1. Release the bevel lock by lifting the lever.
2. As necessary, turn the bevel range selector to the desired range.
3. Rotate the bevel adjustment knob until the bevel index pointer is pointing to the desired angle. (There is a duplicate pointer on either side of the saw.)
4. Lower the bevel lock lever.
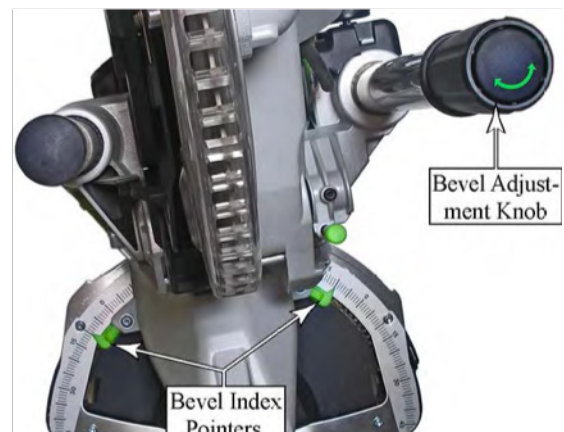
Using the Auxiliary Fence

The auxiliary fence provides support for taller workpieces. The two halves of the fence can be pushed towards or away from the blade or be removed completely. Making beveled cuts requires the auxiliary fence to be moved away from the blade area.

To move the auxiliary fence, lift the locking lever, slide the fence, then lower the locking lever.

To remove the auxiliary fence, lower the limit screw by turning it clockwise, then slide the fence out of the retaining slot.
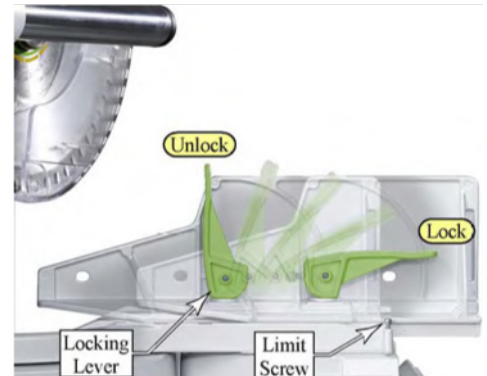
Setting the Depth Limit

The depth limit is used for making partial cuts that do not cut all the way through the workpiece. When the depth limit is engaged, the sawblade's vertical travel is limited from going below the preset height.
The height is easily adjustable by turning the depth limit knob. Turning the knob clockwise ¼-turn raises the sawblade by approximately 1mm, and turning it counterclockwise lowers the sawblade. To engage the depth limit, pull the knob forward. To disengage the depth limit, push the knob back.
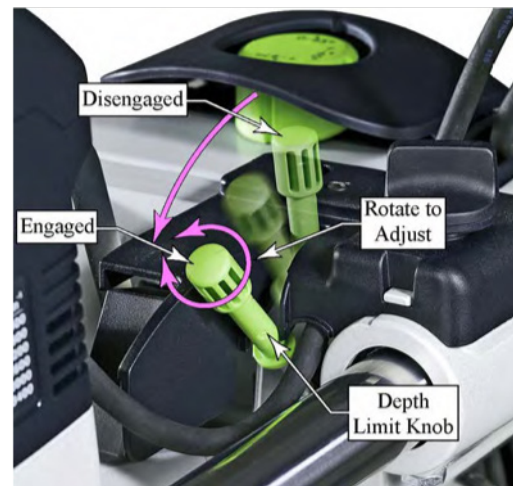
Housekeeping 1010 (Small) & 1400 (Large)

It's important that once you have finished your operation, you clean the tool sufficiently and replace all the components to the designated storage space. If you are unsure where items live, please speak with a technician. **Do Not** leave them out or place them randomly in the Makerspace cupboards.

To reduce the risk of electrocution or other personal injury, always unplug the tool from the power supply outlet before performing any maintenance or cleaning work on the tool.

Keep the tool clean.

Dust and debris from some materials can be extremely abrasive and cause components within the tool to wear prematurely. It is important to keep moving parts cleared of abrasive dusts. Wood dust can attract atmospheric moisture and corrode the cutters and its fixings.
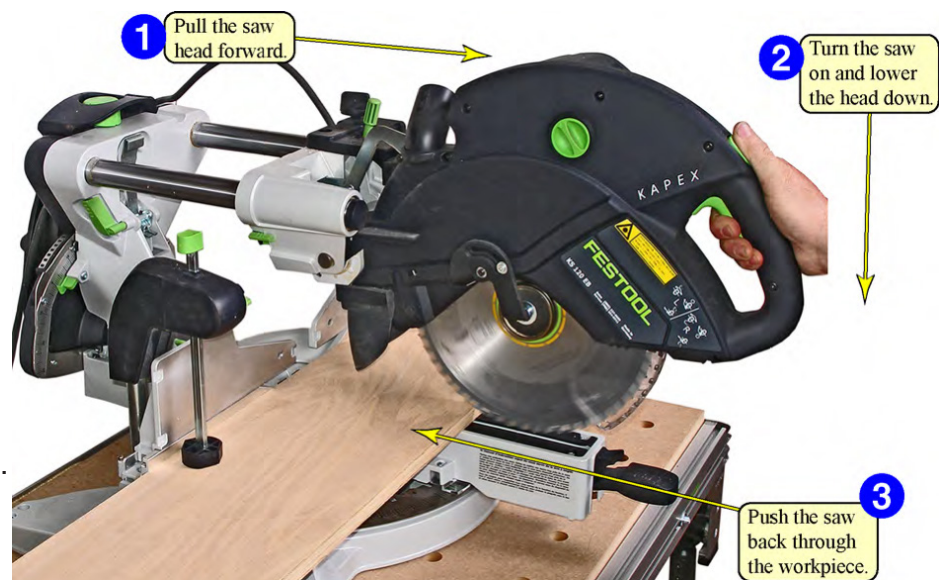
Dust down the saw with the extraction and the brush attachment once finished. **Do Not** use compressed air to clean the saw as this will put fine dust particles into the atmosphere for others and yourself to breath in. You can also inject foreign objects into the motor through the ventilation openings.

Cutting Techniques

There are two basic cutting techniques for sliding mitre saws. These are Chop-Cut, Push-Cut. Never pull cut.

Chop-Cut
A chop-cut is used for cutting narrow or tall stock, where the front edge of the workpiece is behind the centre of the sawblade. For this type of cut, the saw head is brought straight down into the cut.

1 Pull the saw head forward.
2 Turn the saw on and lower the head down.
3 Push the saw back through the workpiece.

Push-Cut
A push-cut is used for cutting wider boards, but is also usable in most situations where a chop-cut could be used. For this type of cut, the saw head is pulled out toward the operator, plunged downward, and the primary cutting of the workpiece occurs as the saw head is being pushed back toward the rear of the saw.

For more accurate cuts, mark your cutting length with a thin pencil line. A thick line will result in a less accurate cut length.

- When fitting one piece to another, it may be helpful to make the initial cut slightly long, then sand the cut to the final length after test-fitting the piece.
- When cutting a new board, cut off the original factory end to ensure a square, fresh end, before measuring for your final length.
- When cutting multiple pieces of varying lengths from a limited supply of stock, always cut the longest pieces first, and cut the remaining pieces from the leftovers.
- Do not force the blade through the cut. A cleaner edge will be achieved with a steady, moderate feed rate.
- A chop-type of cut yields the lowest tear out on the front and top edges of the cut, but the most tear out on the rear side of the cut.
- A push-type cut yields moderate tear out on the top surface, but the best cut edge.