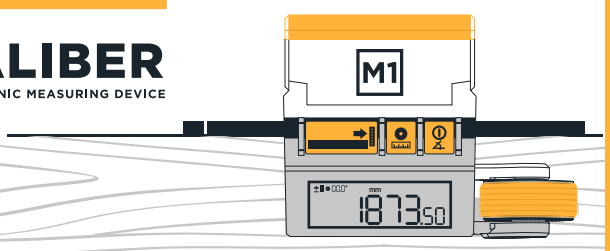
REEKÖN

M1 CALIBER

ELECTRONIC MEASURING DEVICE

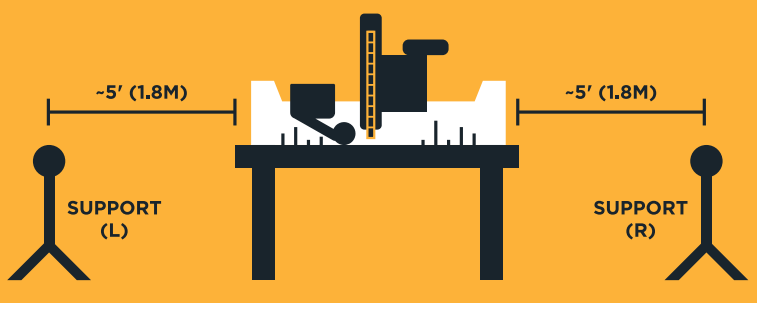
QUICK START GUIDE
ENGLISH



JANUARY 2021

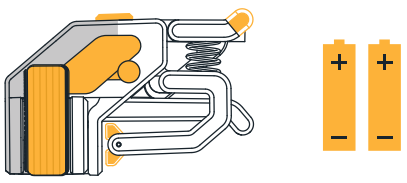
SAW SETUP DIAGRAM

Ensure saw setup has support on both sides of the saw blade to allow the material to be slid properly.



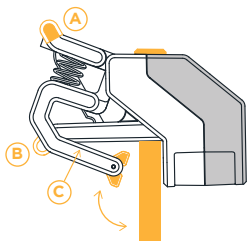
A M1 SETUP

1 INSTALL 2 AA BATTERIES (NOT INCLUDED)



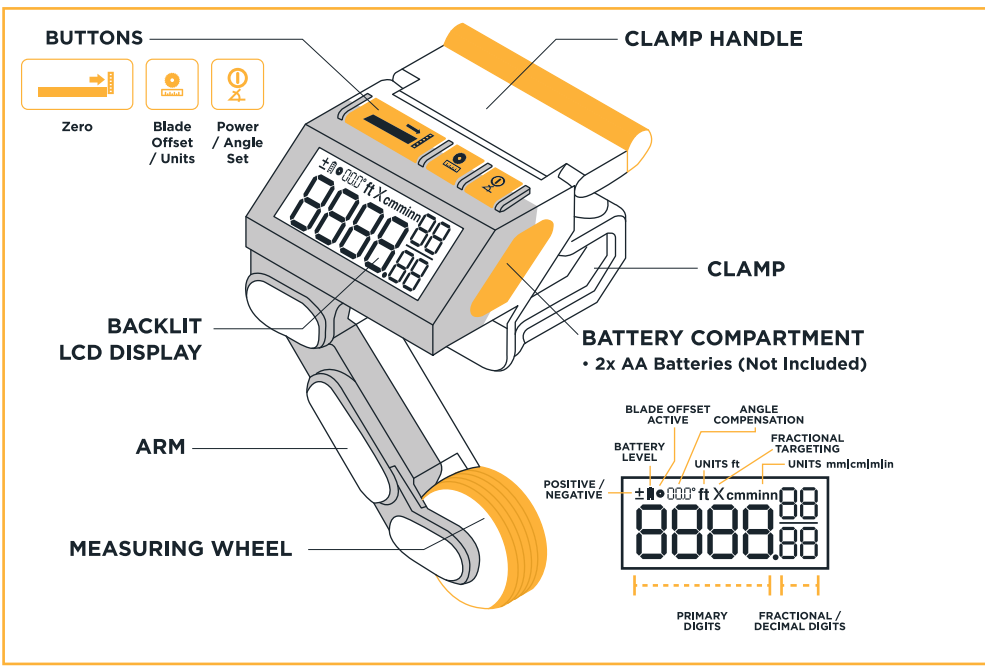
2 ATTACH TO SAW FENCE

M1 Caliber should sit on **left side of saw fence**, securely, with its feet on flat faces (not on rib features). Verify it is securely attached to saw fence once clamped.

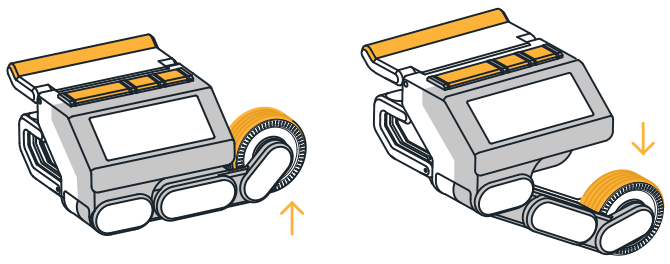


- To clamp to saw fence, place palm on top of **clamp (A)** and fingertips on **lower handle (B)** ensuring you do not touch the **yellow release latch (C-not shown)**.
- Applying a firm grip, squeeze the two surfaces together. A clicking sound can be heard once clamp is properly secured.
- To remove, utilize the same grip while pressing the **yellow release latch (C)** to release clamping force and remove M1 from fence.

*Adapter plate may be required if your fence does not meet the minimum specifications. See back for additional details.



3 RELEASE THE ARM



To unlock the arm and begin to measure, push the arm up towards the bottom of the M1 housing (a click sound can be heard at the top of the motion) then guide the arm down to meet the surface of the saw base.

To lock the arm in the upright position (when you are finished using the M1 for the day), push the arm up until it meets the bottom of the M1 housing and allow the arm to extend slightly as it lowers (a click sound can be heard) to the resting position.

B CALIBRATION

While all M1 Caliber Tools come with a factory calibration, an onsite calibration is recommended when first receiving the M1 to ensure the most accurate cuts possible are made that match a specific tape measure. Tape measures may vary based on manufacturer and class rating making it essential that a calibration is performed to match the specific tape measure blade printing. The following procedure allows the M1 to accurately convert rotary motion of the wheel to linear measurements that exactly match a specific tape measure.

BEFORE BEGINNING, ENSURE THE FOLLOWING:

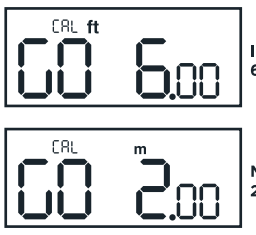
- ☑ The M1 is powered off
- ☑ The M1 is properly secured to the fence
- ☑ A flat, smooth, and straight piece of material at least 8 ft (2.5m) is available to use
- ☑ A trusted tape measure, at least 8 feet long, that will be commonly used, is available
- ☑ A sharp tip pencil or pen is available to make a mark
- ☑ A sharp tip pencil or pen is available to make a mark

1 WITH TOOL POWERED OFF, TURN ON M1 CALIBER INTO CALIBRATION MODE

2 SLIDE MEASURING MATERIAL UNDER M1 WHEEL UNTIL IS IT SLIGHTLY PAST BLADE LOCATION

3 CUT THE MATERIAL AND SELECT THE ZERO BUTTON

4 MOVE MATERIAL SLIGHTLY TO THE RIGHT AND ENSURE THE MATERIAL IS STABLE ON SAW SETUP. SELECT UNITS (FT OR M).



5 USING TAPE MEASURE, MAKE A MARK AT:

- EXACTLY 6FT (72IN) IF IN "FT" MODE
- EXACTLY 2M (200CM) IF IN "M" MODE

6 VERY CAREFULLY, ENSURING THE BACK OF THE BOARD IS ALWAYS IN CONTACT WITH THE FENCE, SLIDE THE MATERIAL, FROM LEFT TO RIGHT, UNTIL THE LEFT EDGE OF THE SAW BLADE IS PERFECTLY ALIGNED WITH THE MARK MADE IN STEP (5). ONCE ALIGNED, SELECT THE ZERO BUTTON TO CONFIRM THE CALIBRATION.

C GET CUTTING

1 SELECT UNITS

mm | cm | m | in (fractional (1/16) | in (fractional (1/32) | in (decimal)
ft-inches (fractional) | ft-inches (decimal)

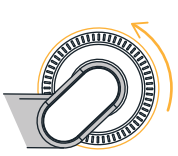
2 ENTER BLADE WIDTH

The effective Blade Width (kerf width) is a measure of the material removed from the workpiece each time a cut is made.

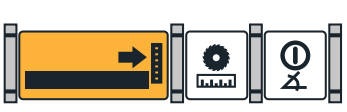
HOLD THE BLADE OFFSET BUTTON TO ENTER THE MENU

ROTATE THE WHEEL UNTIL CORRECT BLADE WIDTH IS DISPLAYED

- To determine blade width, consult manufacturer or measure width of a cut made using saw blade.
- This value will automatically be applied to subsequent measurements to properly account for this width in material measurements.

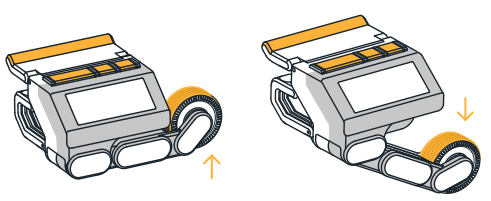


HIT THE ZERO BUTTON TO CONFIRM



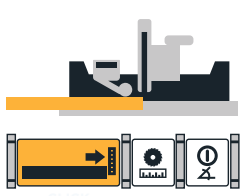
3 RELEASE THE ARM

Ensure Arm is Locked in the Upright position when not in use.

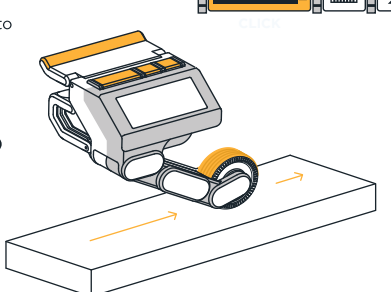


4 ZERO MATERIAL BY LIGHTLY PRESSING MATERIAL ON LEFT EDGE OF BLADE. SELECT ZERO BUTTON TO SET POSITION. NEGATIVE VALUE (BLADE WIDTH) IS DISPLAYED

- Be sure to only lightly touch blade as not to cause deflection of blade
- Alternatively, an initial cut can be made to remove a small amount of material in order to establish a zero position

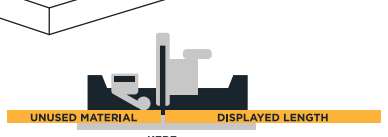


5 SLIDE MATERIAL TO DESIRED CUT LOCATION



6 START CUTTING

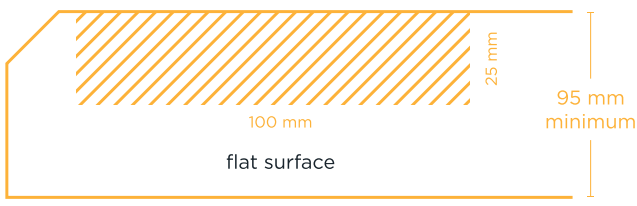
- Ensure M1 is zeroed each time a new measurement is begun



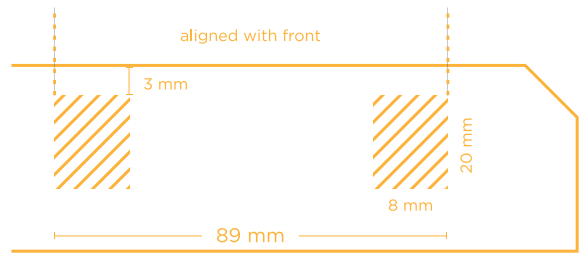
CLAMPING REQUIREMENTS

The M1 Caliber's unique clamping mechanism has been designed to work directly with a wide range of saw fences. The M1 can clamp directly to any flat surface less than 7mm thick. The below diagrams illustrate the necessary space requirements for mounting the M1.

- ☑ Feet clear of any obstructions or ribs
- ☑ M1 Does not wobble once clamped
- ☑ Feet are resting on flat surface



FRONT OF FENCE
(LEFT SIDE OF SAW)



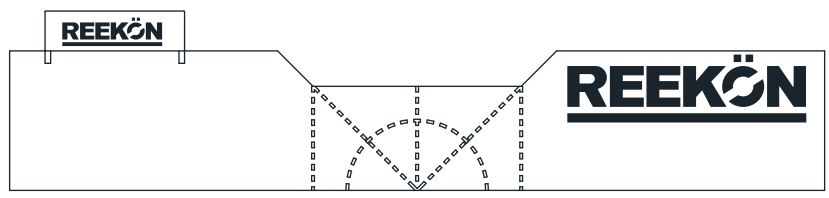
BACK OF FENCE
(LEFT SIDE OF SAW)

SIDE

Ribs may be thicker as M1 clamp can extend to clear these ribs while moving device to suitable clamping position

ADAPTER FENCE

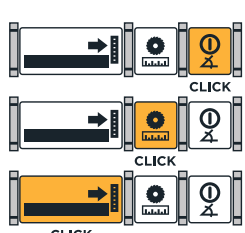
For fences that do not meet the required size requirements, the Adapter Fence accessory may be used which allows the M1 to attach to almost any miter saw. The MDF Adapter Fence is secured with included fasteners through standard mounting holes in miter saw fence. Please visit our website for additional details **https://reekon.tools/m1**



ANGLED CUTS

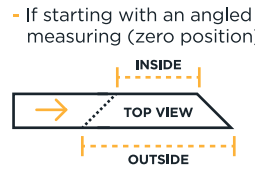
Making angled cuts on the M1 is simple. The angle compensation button allows you change the blade offset value to ensure it matches the angle of the next cut that you will make.

1. **Make initial cut in material (does not matter if it is straight or angled)**
2. **If the next cut you are making is angled, set that angle in the Angle Set menu**
   - Select Angle Set button
   - Toggle using the center button until the angle of your next cut appears
   - Select zero button to confirm

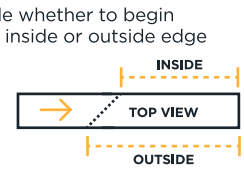


   - Ensure desired angle is visible in top of screen

3. **Zero saw blade as normal on desired side of angle**
   - If starting with an angled cut, decide whether to begin measuring (zero position) from the inside or outside edge



STARTING FROM ANGLED CUT



STARTING FROM STRAIGHT CUT

4. **Slide wood to desired location**
5. **Make cut**
   - Ensure angle compensation is set to **00.0°** once angled cuts are completed
   - Setting to **OFF** will disable the blade offset value (but not delete from memory)

TECHNIQUE

The M1 Caliber is a unique device that is built to support speed and accuracy of measurements. However, there are some best practices that will ensure you always get desired results.

PUSH MATERIAL AGAINST FENCE WHEN SLIDING
Ensuring material moves in a straight line is essential for accurate and precise cuts.

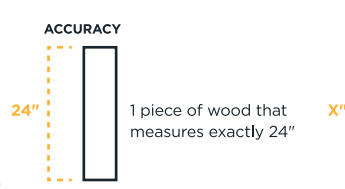
CONSISTENT MOVEMENTS
There is no speed limit for how fast you move material. However, it is important you consistently slide the material and not to jerk it or move it back and forth unnecessarily.

KEEP WHEEL CLEAN
Wheel should be clean and free of debris at all times.

CALIBRATE WHEN SWITCHING MATERIAL TYPES
The M1 behaves slightly differently based on the material being measured. Ensure a new calibration is performed when switching material types.

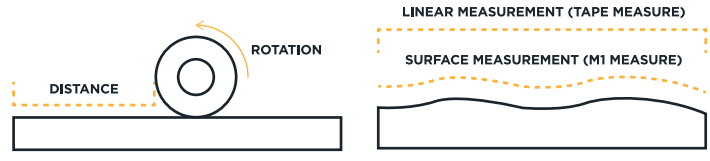
ACCURACY VS PRECISION

Accuracy is a metric of how close a given measurement is to the displayed measurement (when compared to a tape measure). Precision is how close multiple pieces are relative to one another at the same measurement. Both are achievable using the M1. Consistent movement of the material, kept flush against the back of the fence, combined with a recent calibration, on the same kind of material in similar temperature conditions, will ensure both accurate and precise cuts.



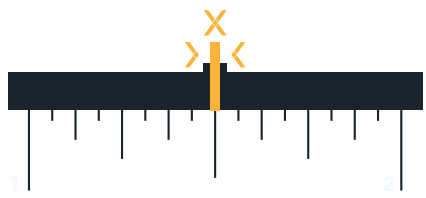
HOW IT WORKS

The M1 Caliber converts rotations to distance. The device will always display the distance traveled by the wheel – 4096 positions per 1 rotation or ± 0.00153 in of resolution. The blade offset value is simply accounting for the width of the blade kerf to ensure the final piece of material is the correct size.



FRACTIONAL UNITS

For imperial units, fractional representation is more difficult in a digital format than in an analog format (while properly representing accuracy). There is a compromise between speed and accuracy displayed; it is easier to read in 1/16s than in 1/64s. To help capture the best of both speed and accuracy, an "X" marker has been added to help show how close a measurement is to a given fractional unit. An X indicates right on the mark while arrows < > in either direction indicates the direction of travel to hit the mark. This feature is only present in fractional modes.



RIGHT TO LEFT CUTS

The M1 Caliber can work both on the right and left side of a saw fence. The following steps outline the procedure for mounting the M1 to the right side of the saw blade.

1. **Mount M1 Caliber to right side of saw fence following best practices for mounting**
2. **Hold down the zero button for 10 seconds**

3. **You are now ready to measure from right to left**

NOTE: The automatic height adjustment of the arm will not work for feeding material through in this configuration with the M1 mounted to the right side. Be sure to lift arm and place material underneath when beginning cuts on new pieces of materials.

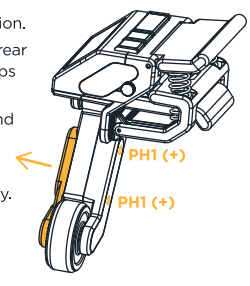
MAINTENANCE

CLEANING
- Blow dirt and dust off of M1 Caliber with clean, dry air at least once a week. To minimize the risk of eye injury, always wear eye protection when performing maintenance.
- Never use solvents or other harsh chemicals for cleaning the non-metallic parts of the device. These chemicals may weaken the plastic materials used in these parts.
- Use a cloth dampened only with water and mild soap.
- Never let liquid get inside the device.
- Never immerse any part of the device into a liquid.

BATTERY REPLACEMENT
- Using the thumb screw, remove the battery cover.
- Remove old AA batteries and properly discard.
- Insert new AA batteires.
- Put battery cover back on device.

GENERAL PROCEDURES
- Never leave arm extended when not in use. Wheel should be out of contact with material when not in use. Wipe off wheel when done each day.
- Ensure device is wiped off at the end of each use.
- Clean screen with damp, smooth, lint free cloth.

WHEEL REPLACEMENT
- Release arm from locked position.
- Remove two sets of screws in rear of wheel arm using a PH1 Phillips Screwdriver.
- Remove front arm assembly and wheel.
- Insert new wheel.
- Ensure wheel is seated properly.
- Fasten Screws back in. Do not over tighten.
- Recalibrate M1 Tool.



SAFETY

USER SAFETY

⚠**WARNING:** Carefully read this manual before using the product. The person responsible for the product must ensure that all users understand and comply with the instructions.

⚠**WARNING:** To reduce the risk of injury, the user must read the product QUICK START GUIDE.

⚠**WARNING:** For instructions and proper operation of the saw that will be used while using the M1 Caliber, please reference saw manufacturer documentation.

INTENDED USE

The M1 Caliber is designed for professional cutting applications on miter saws, cut off saws, and band saws. DO NOT use with unspecified tools. DO NOT use under wet conditions or in the presence of flammable liquids or gases. DO NOT replace any component of the M1 Caliber with a component that is not supplied by REEKON Tools. DO NOT store or use the tool in locations where the temperature may exceed 104 °F (40 °C) or drop below 5°F (-15 °C). Best use in relative humidity conditions of 8% to 80% non-condensing and altitudes no higher than 9,842ft (3,000 m). For best performance operation of the device should take place in cool, dry conditions.

Device requires 3 Volt DC power (2 x AA).

TECHNICAL ASSISTANCE & REPAIR

For questions about applications, technical support, repair or more information, please see our website: **https://www.reekon.tools**

INACCURATE MEASUREMENTS CAUSES

- ☑ Is wheel clean and free of debris?
- ☑ Is material being slid and moved consistently, in contact with the fence?
- ☑ Has the M1 been calibrated recently?
- ☑ Is the material being cut the same type of material that the M1 was calibrated with?
- ☑ Is the M1 Properly secured to the fence?
- ☑ Is the blade offset properly set to match blade cut width?

SUPPORT

In additional to delivering innovative products, REEKON Tools is committed to delivering an exceptional support experience. If you run into any issues or would like to see video demonstrations of the M1, please visit our website or YouTube channel. If your question cannot be answered there, please send us an email at: **M1@reekon.tools**

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