

Mastercraft AD9114

Mastercraft Digital Caliper AD9114 Instruction Manual

Model: AD9114

1. PRODUCT OVERVIEW

The Mastercraft Digital Caliper (Model AD9114) is a precision measuring instrument designed for accurate internal, external, depth, and step measurements. It features a large LCD for easy reading, a thumb wheel for fine adjustment, and the ability to convert between metric, imperial (decimal inches), and fractional imperial units.



Figure 1: Mastercraft Digital Caliper in its protective case.

2. SETUP AND BATTERY INSTALLATION

2.1. Battery Installation

The caliper requires one LR44 1.5V button cell battery. While some packages may include batteries, it is recommended to have spares. To install or replace the battery:

1. Locate the battery compartment cover on the back of the digital display unit.
2. Use a small Phillips head screwdriver (if provided) to carefully remove the screw securing the battery cover.
3. Remove the cover and insert the LR44 battery with the positive (+) side facing upwards.
4. Replace the battery cover and secure it with the screw.

Note: The caliper may turn on automatically once the battery is inserted. Ensure the battery is correctly oriented to prevent damage.

Video 1: Demonstration of battery installation and basic operation of a digital caliper. This video shows the process of inserting the LR44 battery and testing the caliper's functions.

2.2. Initial Zeroing

Before taking any measurements, ensure the caliper is properly zeroed:

1. Close the measuring jaws completely, ensuring they are clean and free of debris.
2. Press the 'ZERO' button on the digital display. The display should read '0.00' (or '0.000' depending on the unit setting).

3. OPERATING INSTRUCTIONS

3.1. Power On/Off and Unit Conversion

- Press the 'ON/OFF' button to turn the caliper on or off.
- Press the 'mm/in/F' button to switch between millimeters (mm), decimal inches (in), and fractional inches (F).



Figure 2: Front view of the Mastercraft Digital Caliper, highlighting the display and control buttons.

3.2. Taking Measurements

The caliper can perform four types of measurements:

- **External Measurement:** Use the large jaws to measure the outside dimensions of an object. Open the jaws, place the object between them, and close the jaws until they firmly contact the object. Read the measurement on the display.
- **Internal Measurement:** Use the small jaws at the top to measure inside dimensions. Insert the small jaws into the opening, then expand them until they firmly contact the inner surfaces. Read the measurement on the display.
- **Depth Measurement:** Use the depth rod located at the end of the sliding jaw. Place the end of the main beam on the top surface of the object, then extend the depth rod until it touches the bottom of the hole or step. Read the measurement on the display.
- **Step Measurement:** Use the step measuring face at the end of the main beam. Place the main beam on the higher surface and extend the sliding jaw until its step measuring face rests on the lower surface. Read the measurement on the display.

3.3. Thumb Wheel and Locking Screw

- **Thumb Wheel:** Use the knurled thumb wheel for precise and smooth adjustment of the sliding jaw.
- **Locking Screw:** Once a measurement is taken, tighten the locking screw (located on the top of the sliding jaw) to hold the jaws in place. This prevents accidental movement and allows for easy transfer of measurements.

Video 2: A demonstration of a digital caliper's features, including the thumb wheel, locking screw, and unit conversion, highlighting its utility for woodworking.

Video 3: Detailed overview of a digital caliper's functions, including internal, external, and depth measurements, as well as unit conversion and battery installation.

4. MAINTENANCE

- **Cleaning:** Regularly clean the caliper bar with a soft, dry cotton cloth. Avoid using harsh chemicals or abrasive materials that could damage the surface or the digital components.
- **Storage:** Store the caliper in its fitted plastic case when not in use to protect it from dust, moisture, and physical damage.
- **Battery Care:** If the caliper will not be used for an extended period, remove the battery to prevent leakage and potential damage to the electronics.

5. TROUBLESHOOTING

- **Display not turning on:** Check if the battery is correctly installed and has sufficient charge. Replace the LR44 battery if necessary.

- **Inaccurate readings:** Ensure the jaws are clean and fully closed before zeroing. Re-zero the caliper. Avoid using the caliper in environments with extreme temperature fluctuations or high humidity.
- **Jaws sticking or difficult to move:** Clean the caliper bar thoroughly. A very small amount of light machine oil can be applied to the sliding surfaces, but avoid getting oil on the digital sensor strip.

6. SPECIFICATIONS

Feature	Specification
Brand	Mastercraft
Model Number	AD9114
Measurement Range	6 inches (15 cm)
Measurement Accuracy	±0.0004 inches
Material	Stainless Steel
Display	Large LCD
Unit Conversion	Metric (mm), Imperial (decimal inches), Fractional Imperial (F)
Battery Type	1 x LR44 (1.5V)
Item Weight	290 g
Product Dimensions	15.2 x 15.2 x 0.1 cm

7. WARRANTY AND SUPPORT

For warranty information or technical support, please refer to the contact details provided with your purchase or visit the official Mastercraft website. Keep your proof of purchase for any warranty claims.