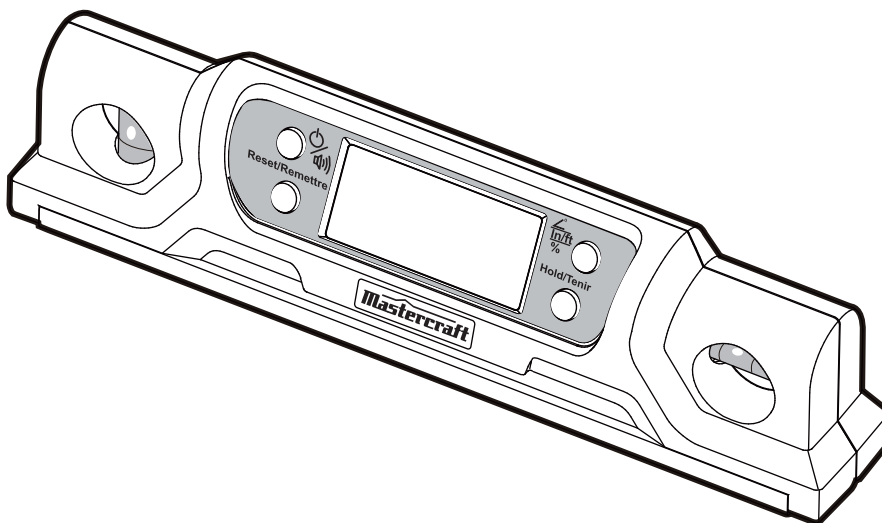


model no. 057-4575-4

**Mastercraft™**

## TORPEDO LEVEL WITH BACKLIT LCD



### **IMPORTANT:**

Read and understand this instruction manual thoroughly before using the product.

## **INSTRUCTION MANUAL**

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**NOTE:** If any parts are missing or damaged, or if you have any questions, please call our toll-free helpline at 1-800-689-9928

**SAVE THESE INSTRUCTIONS**

- This manual contains important safety and operating instructions. Read all instructions and follow them with use of this product.

model no. 057-4575-4 | contact us 1.800.689.9928

**Mastercraft****TECHNICAL SPECIFICATIONS**

Power supply	2 "AAA" batteries – 1.5 V
Measuring range	0-360°
Estimated battery life	12 hours with alkaline batteries
Optimum operating temperature range	0° to 40° C (32° to 104° F)
Accuracy of vials	±0.043° (level or plumb)
Accuracy of digital display	±0.1° (0°/90°/180°/270°) ±0.2° (all angles)
Weight	0.5 lbs (0.23 kg)

**SAFETY GUIDELINES****BECOME FAMILIAR WITH THE LEVEL**

Before using this level, read this Owner's Manual carefully. Keep this Manual in a safe place for future reference.

**IMPORTANT**

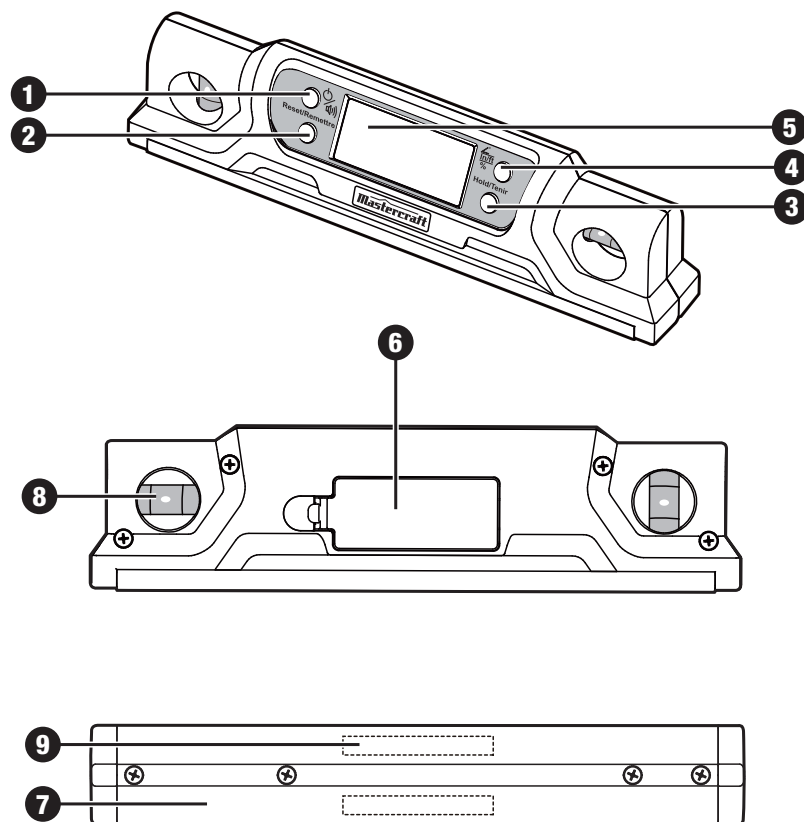
This tool should only be serviced by a qualified service technician.

**READ ALL INSTRUCTIONS CAREFULLY****CAUTION!**

Do not attempt to use this level until you have read all instructions, safety rules, and warnings carefully and thoroughly. Keep this Owner's Manual and review it frequently for reference.

- **Use this battery-operated level only with two AAA batteries.** The use of any other batteries may cause a risk of fire.
- **Follow all instructions and warnings on the package carefully.**
- **Insert the batteries according to the polarity (+ and -) that is marked on the battery and the level.**
- **Do not short-circuit the battery terminals.**
- **Do not charge the batteries.**
- **Do not mix old batteries with new batteries.** Replace both batteries at the same time with new batteries of the same brand and type.
- **Remove dead batteries immediately, and dispose of them in compliance with local regulations.**
- **Do not dispose of batteries in a fire.**
- **Keep batteries out of the reach of children.**
- **Remove batteries if the level will not be used for several days.**
- **Use only accessories that are recommended for this level by the manufacturer.** Accessories that may be suitable for one tool may become hazardous when used with another tool.

## KEY PARTS DIAGRAM



No.	Part
1	On/Off button / beeper activate button
2	Reset button
3	Hold button
4	In / Ft / $\angle^\circ$ button
5	LCD Display

No.	Part
6	Battery compartment
7	Working base
8	Vials
9	Magnets

## OPERATING INSTRUCTIONS

## BECOME FAMILIAR WITH THE DIGITAL LEVEL (see fig1)

Before attempting to use this digital level, become familiar with all of its operating features and safety requirements.

The digital level is a manual-levelling tool that can be used indoors or outdoors for horizontal (level), vertical (plumb), and square alignment projects.

**1. On/Off button / beeper activate button**

- Press the button in order to turn the level on. When the level is no longer in use, press the button for approximately 2 seconds in order to turn the level off. The level will shut off automatically if it is left idle for approximately 5 minutes.
- Once the level is turned on, push the button again in order to activate or deactivate the beeper. The beeper will sound at level, at a 45° angle, at plumb, and at the last angle that was saved in the memory.

**2. Reset button**

Absolute/relative angle conversion button. When the level is turned on, it is automatically set to absolute angle mode. Press the Reset button in order to change the level to relative angle mode. Turn the level off and then on again in order to return to absolute angle again mode.

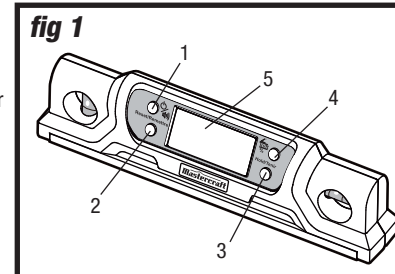
**3. Hold**

Push this button in order to “freeze” and “unfreeze” the display reading.

**4. In / Ft /  $\angle^\circ$** 

Use this button to convert angles to different units.


Push the button in order to change the display units: Degrees ( $^\circ$ ), Slope (%), or Pitch (in/ft). Pitch readings are in increments of 1/8 in/ft. Plus and minus signs indicate whether the pitch is slightly more (+) or slightly less (-) than the pitch that is shown on the display.



**NOTE:** The In/Ft/  $\angle^\circ$  button can be used even when the display is in **Hold** mode. This feature provides a convenient method for converting angles from one unit to another.

## 5. LCD Display

The display reads right side up, even when the level is upside down. Once the level is turned on, the first display reads the temporary temperature, and it automatically reverts to measuring the degree of absolute angle after several seconds.

**0**  **Up/Down Arrow:** The zero line (0°) indicates the level position; the bias indicates whether the digital level is below or above the level or vertical position. The right arrow points toward level or plumb.

 **Icon of Battery Capacity:** Indicates the capacity of the batteries; Replace the batteries when it shows almost empty.

 **Icon of Hold function:** Indicates that the display reading is frozen.

 **Icon of Beeper:** This icon will appear on the screen when the beeper function is activated.

## 6. Battery compartment (see fig 2)

### To install the batteries:

1. Open the battery compartment, which is located on the back of the level.
2. Insert two new "AAA" alkaline batteries. Verify that the polarity (+/-) is correct.
3. Close the cover, and be sure that it locks securely in place.

## 7. Working base

When the digital level is laid on a flat surface, verify that the working base makes sufficient contact with the working surface.

## 8. Vials

If the level is being used to check a working surface for level or plumb, get more accurate results when measuring the surface by observing whether the bubbles in the vials are in the centre. The digital level can also be used like a common level when there are no batteries installed.

## 9. Magnets

There are two magnets located on the bottom of the level (see fig 3) that allow the level to adhere directly to a steel working surface.

fig 2

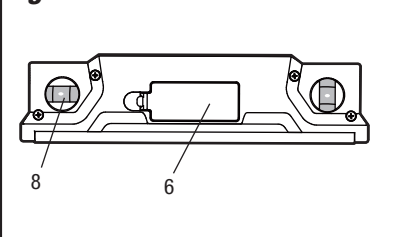
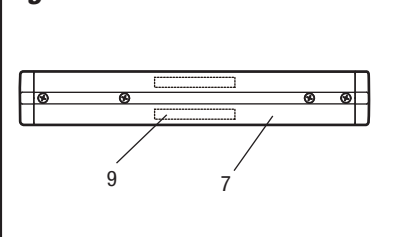


fig 3



## ABSOLUTE ANGLE MEASUREMENT

1. Lay the digital level on a flat working surface. The two magnets on the bottom of the level allow it to adhere directly to a steel working surface.
2. Push the ON/OFF button in order to turn the digital level on.
3. The angle that is shown on the display screen is the absolute angle of the measured surface.
4. Change the unit that is displayed for the angle that was measured. For example, fig 4 shows the display measuring figure. The measuring angle  $\alpha = 30.0^\circ$ .

- (a) Press the Hold button in order to freeze the figure temporarily. The display will be frozen in order to facilitate reading.
- (b) Shift to In/ft by pushing the In/Ft/  $^\circ$  button. The pitch will be displayed (see fig 5 and fig 7):  $H=6\frac{7}{8}$  inch ( $H=L*\tan\alpha$ ,  $L=1$  foot,  $\alpha=30.0^\circ$ ).
- (c) Press the In/Ft/  $^\circ$  button again in order to display the slope of the working surface (see fig 6 and fig 7):  $H=57.7$  cm ( $H=L*\tan\alpha$ ,  $L=100$  cm,  $\alpha=30.0^\circ$ ). If the angle  $\alpha$  is between  $45^\circ$  and  $90^\circ$ , the slope of working surface  $H=L*\tan(90^\circ-\alpha)$

5. The display is designed to be read upright, even if the level is turned over in order to measure on a ceiling.
6. As the angle changes, the bias on the display shows the tilt trend of the tool, while the right arrow points upward or downward.
7. When the work is completed, push the On/Off button and hold it for several seconds in order to turn the digital level off.
8. The level will shut off automatically if it is left idle for approximately 5 minutes.

fig 4

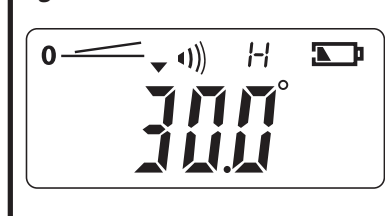


fig 5

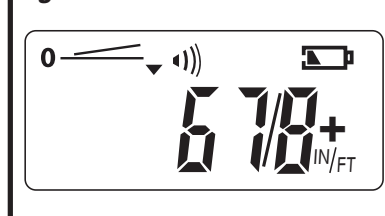
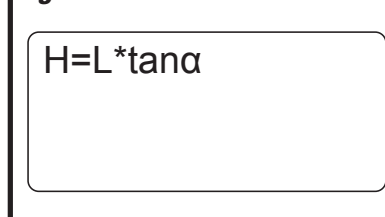


fig 6



fig 7



### NOTE:

- If the batteries are weak, it is recommended that the level be turned off before removing the old batteries and installing new batteries.
- Do not mix old and new batteries. do not mix alkaline, standard (Carbon-Zinc), or rechargeable batteries.

### NOTES:

- When checking a surface for level or plumb, or adjusting a surface to level or vertical, observe the bubbles in the vials in order to attain higher accuracy. The angle that is displayed on the screen becomes the reference.
- The vials are of no use for checking the gradient of a surface, and can be ignored.

## RELATIVE ANGLE MEASUREMENT

1. Lay the digital level on the working surface.
2. Turn the tool on, and push the Reset button. The display will read 0.0°, and the zero line will be displayed in the top left corner. When the level is moved to another working surface, the angle that appears on the display will be the relative angle between the two working surfaces.
3. To change the display to other units, follow the steps in point 4 of the section entitled **Absolute Angle Measurement**.
4. To return to absolute angle mode, turn the power off and then on again.

## APPLICATIONS

1. Gradient, level, vertical measuring, and checking floors, walls, and ceilings during construction, fitting, and decoration.
2. Measuring, checking, and maintenance in irrigation works, bridge or roadway construction, the manufacturing of precision machines or parts, industry flat base, and others.
3. Locating antenna, communications equipment, and other fixtures.

## MAINTENANCE

This digital level has been designed to be a low-maintenance tool. Follow these simple directions in order to maintain its performance.

1. Handle the level with care. Treat it like an optical device, such as a camera or binoculars.
2. Do not exposing the level to shock, continuous vibration, or extreme hot or cold temperatures.
3. Store the level indoors. Store the level in its protective case when it is not in use.
4. This level is weather and water resistant. If the level is splashed with mortar or other construction site residue, simply wipe it clean with a damp cloth. Do not immerse the level in water.
5. Aluminium surfaces can be cleaned using a non-abrasive cleaning powder.
6. Check the batteries regularly in order to avoid deterioration. Remove the batteries from the level if it is not going to be used for an extended period of time.
7. Do not disassemble the digital level.

## BATTERY DISPOSAL



Please dispose the used battery per municipal and provincial law.

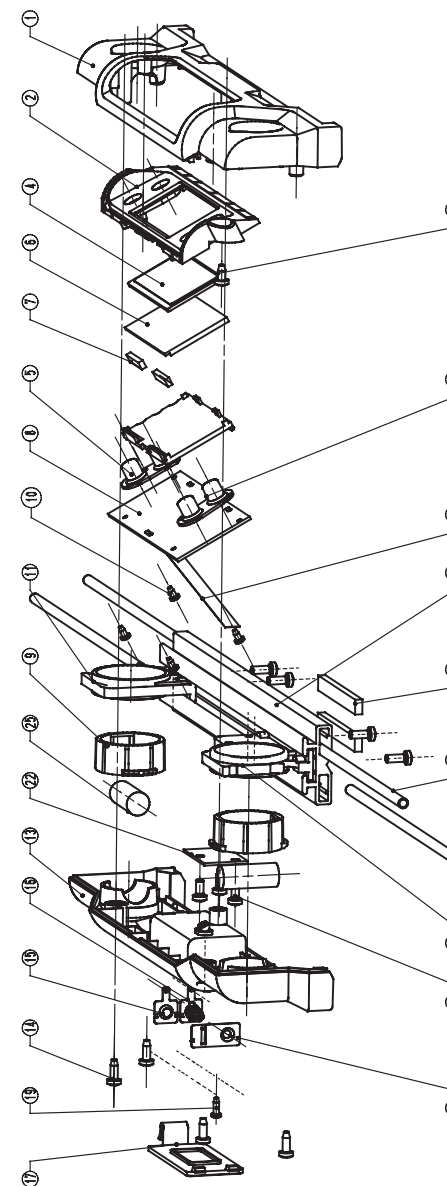
model no. 057-4575-4 | contact us 1.800.689.9928

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## TROUBLESHOOTING

Problem	Possible Causes	Solutions
The LCD screen will not turn on	Batteries are installed incorrectly	Reinstall batteries with correct polarity
	Battery voltage is low	Replace with new batteries
	The LCD screen is damaged	Contact the toll-free helpline, at 1-800-689-9928

## EXPLODED VIEW



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No.	Part No.	Description	No.	Part No.	Description
1	3123667000	Right Housing	15	3700479000	Positive Contact
2	3121587000	Window Display	16	2820227000	Negative Contact
3	5610016000	Tapping Screw	17	3121589000	Battery Cover
4	3121585000	Transparent Guard	18	2820226000	Contact
5	3121590000	Key	19	5610006000	Tapping Screw
6	4540016000	LCD	20	5620031000	Screw
7	3121593000	Electricity Rubber	21	3690020000	Magnetic Block
8	4890291000	PCB ASSEMBLY	22	4890303000	PCB Assembly
9	3121584000	Vial Bracket	23	2821976000	Film Connecting Assembly
10	5610004000	Tapping Screw	24	3420365000	Support
11	3420366000	Support	25	2810013000	Vial
12	3550662000	Main Support	26	3121591000	Key
13	3123668000	Left Housing	27	3123661000	Bushing
14	5610010000	Tapping Screw			

If any parts are missing or damaged, or if you have any questions, please call the Toll-free Helpline, at 1-800-689-9928.



This Mastercraft product is guaranteed for a period of **3 years from the date of original retail purchase** against defects in workmanship and materials, except for the following components:

- a) Component A: Batteries, chargers and carrying case, which are guaranteed for a period of 2 years from the date of original retail purchase against defects in workmanship and materials;
- b) Component B: Accessories, which are guaranteed for a period of 1-year from the date of original retail purchase against defects in workmanship and materials.

Subject to the conditions and limitations described below, this product, if returned to us with proof of purchase within the stated warranty period and if covered under this warranty, will be repaired or replaced (with the same model, or one of equal value or specification), at our option. We will bear the cost of any repair or replacement and any costs of labour relating thereto.

#### These warranties are subject to the following conditions and limitations:

- a) a bill of sale verifying the purchase and purchase date must be provided;
- b) this warranty will not apply to any product or part thereof which is worn or broken or which has become inoperative due to abuse, misuse, accidental damage, neglect or lack of proper installation, operation or maintenance (as outlined in the applicable owner's manual or operating instructions) or which is being used for industrial, professional, commercial or rental purposes;
- c) this warranty will not apply to normal wear and tear or to expendable parts or accessories that may be supplied with the product that are expected to become inoperative or unusable after a seasonable period of use;
- d) this warranty will not apply to routine maintenance and consumable items such as, but not limited to, fuel, lubricants, vacuum bags, blades, belts, sandpaper, bits, fluids, tune-ups or adjustments;
- e) this warranty will not apply where damage is caused by repairs made or attempted by others (i.e. persons not authorized by the manufacturer);
- f) this warranty will not apply to any product that was sold to the original purchaser as a reconditioned or refurbished product (unless otherwise specified in writing);
- g) this warranty will not apply to any product or part thereof if any part from another manufacturer is installed therein or any repairs or alterations have been made or attempted by unauthorized persons;
- h) this warranty will not apply to normal deterioration of the exterior finish, such as, but not limited to, scratches, dents, paint chips, or to any corrosion or discolouring by heat, abrasive and chemical cleaners; and
- i) this warranty will not apply to component parts sold by and identified as the product of another company, which shall be covered under the product manufacturer's warranty, if any.



**Additional Limitations**

This warranty applies only to the original purchaser and may not be transferred. Neither the retailer nor the manufacturer shall be liable for any other expense, loss or damage, including, without limitation, any indirect, incidental, consequential or exemplary damages arising in connection with the sale, use or inability to use this product.

**Notice to Consumer**

This warranty gives you specific legal rights, and you may have other rights, which may vary from province to province. The provisions contained in this warranty are not intended to limit, modify, take away from, disclaim or exclude any statutory warranties set forth in any applicable provincial or federal legislation.

**IMPORTED BY MASTERCRAFT CANADA TORONTO, CANADA M4S 2B8**