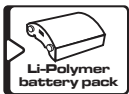
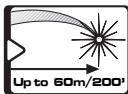
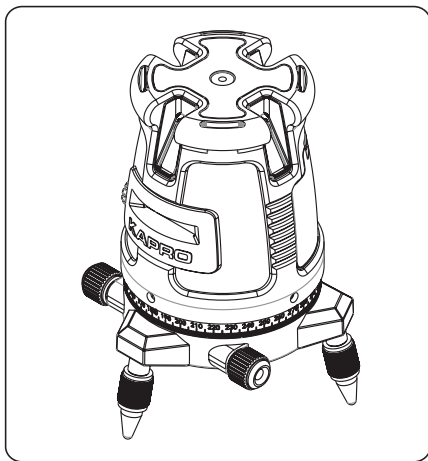




# PROLASER® ALL-LINES Model No. 875 GREEN

## User Manual





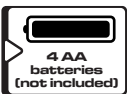
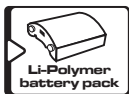
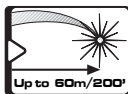
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Thank you for purchasing Kapro's 875 GREEN Prolaser® ALL-LINES. You now own one of the most advanced laser tools available. This manual will show you how to get the most out of your laser tool.

## Applications

The 875 GREEN Prolaser® ALL-LINES is a laser level with 5 green laser line generators and one plumb dot. The laser level is innovatively designed for a very broad range of professional and DIY jobs, including:

- Hanging cabinets and shelves.
- Setting floor and wall tiles
- Drywall installation and hanging acoustic ceilings
- Framing and aligning windows and doors
- Leveling electrical outlets, plumbing and studs
- Accurately laying out right angles for flooring, fences, gates, decks and pergolas.
- Leveling slopes for stairs, rails, roofs and more.  
(manual mode)



### NOTE

**Keep this user manual for future reference.**

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## FEATURES

- This laser tool automatically determines horizontal and vertical plans.
- The laser projects separately or simultaneously 1 horizontal and 4 orthogonal vertical green beams, intersected forward and on the ceiling as well as one plumb dot.
- Self-levels in automatic mode when the laser is positioned within its self-leveling range of  $\pm 2.5^\circ$ .
- Visual and audible warning will appear, when the laser is positioned beyond its self-leveling range.
- Pulse mode emits pulses that can be detected by a detector, increasing the product's range up to 60m (200').
- Manual mode allows angular layout/markings.
- The locking mechanism protects the pendulum during transportation or when the laser is not in use.
- Rubberized shock resistant casing.
- 5/8" tripod adaptor
- Height-adjustable support legs
- 360° micro-adjustable rotation.
- Powered by Li – Polymer battery pack, or 4 AA alkaline batteries
- Includes: Li – Polymer battery pack, beam finder glasses, laser target, micro USB cable and carrying bag.

### NOTE

**This device contains precision components that are sensitive to external shock. An impact or fall may compromise its functionality. Handle with care to maintain its accuracy.**

## SAFETY INSTRUCTIONS



### WARNING

**This product emits radiation that is classified as class II according to EN 60825 -1**

Laser radiation can cause serious eye injury



- Do not stare into the laser beam
- Do not position the laser beam so that it unintentionally blinds you or others.
- Do not operate the laser level near children or let children operate the laser level.
- Do not look into a laser beam using magnifying optical devices such as binoculars or a telescope, as this will increase the level of eye injury.



**WARNING:** This product contains lead in solder and certain electrical components contain chemicals which are known to the State of California to cause cancer, birth defects or other reproductive harm.

(California Health & Safety Code Section 25249.6- Proposition 65)



### NOTE

**The green goggles are intended to enhance the visibility of the laser beam. They will not protect your eyes against laser radiation.**



- Do not remove or deface warning labels on the laser level.
- Do not disassemble the laser level, laser radiation can cause serious eye injury.
- Do not drop the unit.
- Do not use solvents to clean the laser unit.
- Do not use in temperatures below -10°C or above 45°C (14°F to 113°F)
- Do not operate the laser in explosive surroundings such as flammable liquids, gases or dust. Sparks from tools can cause ignition.
- When not in use remove the batteries, engage the pendulum lock and place the laser in the carrying pouch.
- Make sure the pendulum lock mechanism is engaged before transporting the laser.

#### **NOTE**

**If the Pendulum lock mechanism is not engaged before transportation, internal mechanical damage may occur.**

## BATTERY INSTALLATION & SAFETY

This tool can be powered by either the designated Li-Polymer battery pack or 4AA alkaline batteries.

### Installation of the Li – Polymer Battery pack

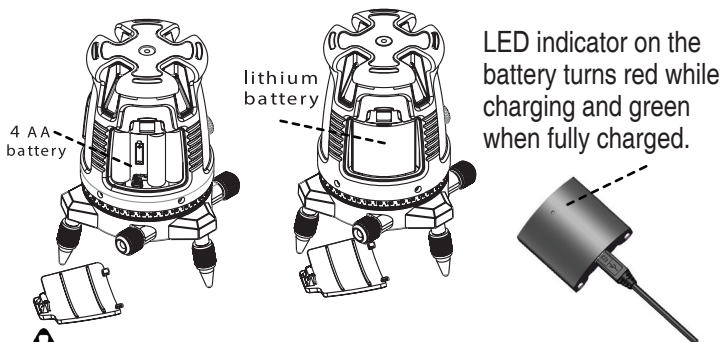
1. Press down the latch and take the battery cover off.
2. Insert the Li – Polymer battery pack with the contact terminal towards the 2 small pins in the battery compartment.
3. Reclose the battery cover.
4. Use a standard 5 V  $\pm$  5% charger (1A-2A), with micro USB connector to charge the Li-Polymer battery pack.
5. Charge the battery pack for at least 2 hours before using it for the first time. The micro USB charging port is positioned on the upper end of the battery. LED indicator on the battery turns red while charging and green when fully charged.

### Installation of the 4 AA Batteries

1. Press down the latch of the cover and take the battery cover off.
2. Insert 4 new AA batteries of the same brand, according to the polarity diagram on the inside of the battery compartment.
3. Reclose the battery cover.

#### **NOTE**

**If the laser level is not in use for a long period of time, remove the batteries from the battery compartment. This will prevent batteries from leaking and corrosion damage.**



**! WARNING:** Batteries can deteriorate, leak or explode, and may cause injury or fire.

1. Do not shorten the battery terminals.
2. Do not charge Alkaline batteries.
3. Do not mix old and new batteries.
4. Do not dispose of batteries into household waste.
5. Do not dispose of batteries in fire.
6. Defective or dead batteries must be disposed of according to local regulations.
7. Keep the batteries out of reach of children.

**NOTE**

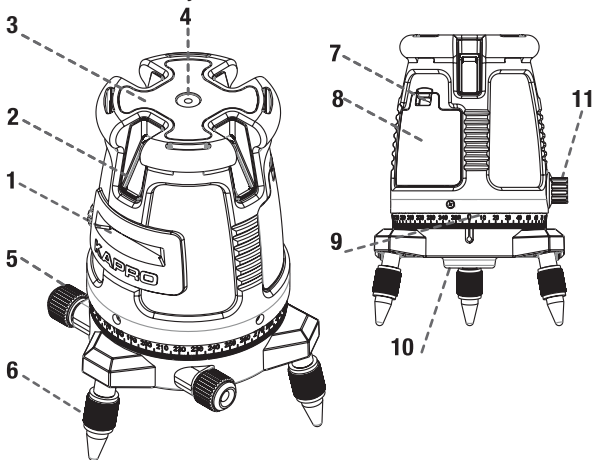
**If the laser level will not be used for a long period, remove the batteries from the battery compartment. This will prevent batteries from leaking and corrosion damage.**



# OVERVIEW

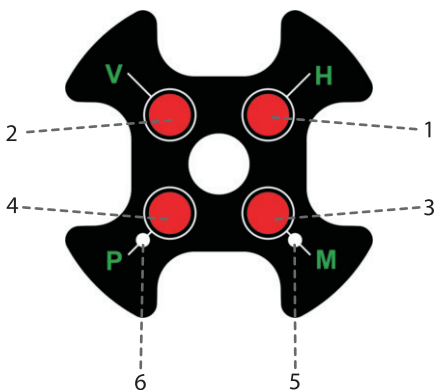
## Laser level

1. Horizontal laser output window
2. Vertical laser output window
3. Keypad
4. Surface level
5. Fine adjustment knob
6. Adjustable support legs
7. Battery cover
8. Battery compartment
9. Graduated scale
10. 5/8" Tripod threaded adaptor
11. Pendulum safety lock



## Keypad

1. Horizontal line button
2. Vertical lines button
3. Manual mode button
4. Pulse mode button
5. Manual mode red LED indicator
6. Pulse mode green LED indicator

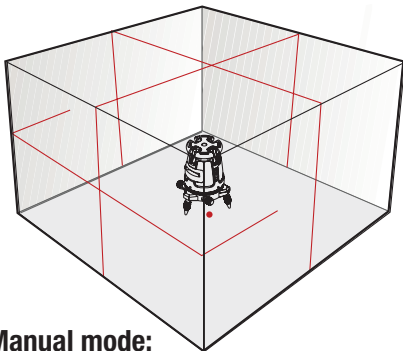


## OPERATING INSTRUCTIONS

### Working in Automatic mode (self-leveling):

In automatic mode the laser level, will level itself in a  $\pm 2.5^\circ$  range and can project 1 horizontal ,4 vertical lines and 1 plumb dot. These lines will create 1 cross line on the wall and a second cross line on the ceiling.

1. Remove the laser from the case and place it on a flat, vibration free surface or on a tripod.
2. Adjust the unit's support legs (#6), or the tripod legs, until the surface level (#4) is centered.
3. Turn the pendulum safety lock (#11) clockwise, to the **ON** position. The surface level at the center of the keypad (#4) will light up and the forward cross beam and plumb dot will be projected.
4. To direct the beams to the desired position, turn the laser and use the fine – adjustment knob (#5) for precise positioning.
5. Press the V button (#2) and the rear vertical beam will also be projected.
6. An additional click on the V button (#2) will project the additional 2 side vertical beams creating an additional cross beam above the laser.
7. One more click on the **V** button (#2) will turn off all the vertical beams at once.
8. Press the **H** button (#1) to turn the horizontal beam on or off.
9. If the initial level of the laser is beyond  $\pm 2.5^\circ$ , the laser beams will flash and a beeping alarm will be heard. In this case reposition the laser on a more leveled surface.
10. Before moving the laser level, turn the pendulum safety lock (#11) counterclockwise to the **OFF** position. This will lock the pendulum and protect your laser.



### **Working in Manual mode:**

In Manual mode the 875G's self-leveling mechanism is disabled and the laser beams can be set at any slope required.

1. Long press on the **M** button (#3) will activate the Manual mode. The laser will project blinking forward cross beams, and the red LED (#5) will light up.
2. Choose the beams that you want to work with by pressing the **V** or **H** buttons.
3. To mark the slope, tilt the laser to the desired slope.
4. To turn the Manual mode **OFF**, press the **M** button (#3) again.
5. If while in Manual mode you turn the pendulum safety lock (#11) from **OFF** to **ON**, it will incapacitate the Manual mode and the red LED (#5) near the **M** (#3) button. If the laser level is within its self-leveling range, the automatic self-leveling feature will be activated.

### **Working in Pulse mode with a detector:**

For outdoor work under direct sunlight, or bright conditions and for extended indoor ranges up to 60 meters, use the Pulse mode with a Detector.

When the Pulse mode is activated the laser beams will flash at a very high frequency (invisible to the human eye) this will allow the detector to detect them.

1. The Pulse mode can be activated in Automatic and Manual mode.
2. To switch on the Pulse Mode press the **P** button (#4), the green LED (#6) near the **P**(#4) button will light up.
3. When the Pulse mode is switched on, the visibility of the laser beams are reduced a little bit.
4. To switch off the Pulse Mode press the **P** button (#4) again, the green LED (#6)near the **P** (#4) button will turn itself off.



## MAINTENANCE

- To assure the accuracy of your project, check the accuracy of your laser level according to the field calibration test procedures.
- Charge the Li-Polymer battery pack when the laser beams begin to dim, or replace with new 4 AA alkaline batteries.
- Clean with a soft cloth, slightly dampened with a soap and water solution.
- Do not use harsh chemicals, cleaning solvents or strong detergents to clean the laser tool.
- Although the laser level is dust and dirt resistant to a certain degree, do not store in dusty places, as long term exposure may damage internal moving parts.
- If the laser level is exposed to water, dry the laser level before returning it to the carrying case to prevent corrosion damage.
- Do not attempt to dry the laser level with heat or with an electric dryer.
- Remove the batteries if you do not intend to use the laser level for a long period of time, to prevent corrosion damage.
- Lock the unit before transporting it.

### Repairs

- See the warranty section at the end of this manual.
- Do not take apart the Prolaser 875G, or permit unqualified persons to disassemble the laser level.
- Repair the measuring tool through a qualified technician using original spare parts.
- Unauthorized service may cause eye injury, irreparable damage to the laser level and the warranty will be void.

## FIELD CALIBRATION TEST

This laser level left the factory fully calibrated. Kapro recommends the user check the accuracy of the laser periodically, especially if the unit falls or is mishandled.

1. Check the height accuracy of the horizontal beam.
2. Check the leveling accuracy of the horizontal beam.
3. Check the leveling accuracy of the vertical beam.
4. Check the perpendicularity between the 2 vertical beams.

### 1. Checking the Height Accuracy of the Horizontal beam. (Up and down deviation)

- 1) Set up the laser on a tripod or on a flat surface between two walls **A** and **B**, approximately 5 meters apart.
- 2) Position the laser level at approximately 0.5 meters from wall **A**.
- 3) Unlock the pendulum safety lock (#11), to project the forward horizontal and the vertical cross beams towards wall **A**.
- 4) Mark the center of the cross beams on the wall as **a1** (see figure # 1).

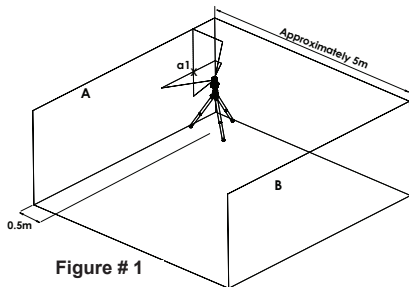
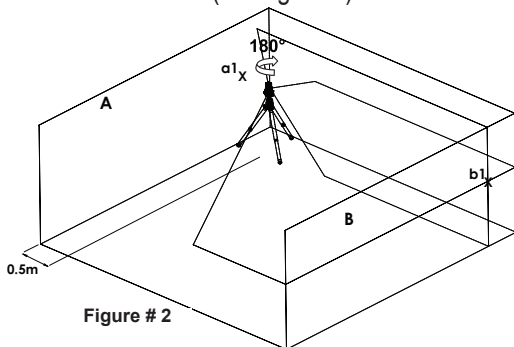
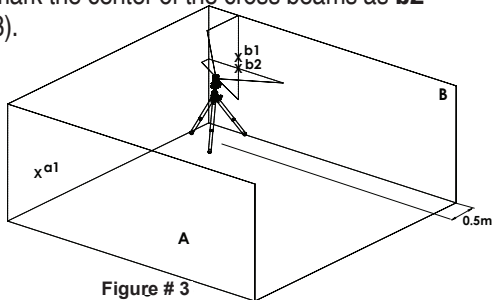


Figure # 1

- 5) Turn the laser 180° towards wall **B** and mark the center of the cross beams as **b1** on the wall (see figure 2)



- 6) Move the laser level towards wall **B** positioning it at approximately 0.5 meters from wall **B** and adjust the laser so that the vertical beam passes through point **b1**.
- 7) On wall **B**, mark the center of the cross beams as **b2** (see figure 3).





- 8) Turn the laser 180° towards wall **A**, and adjust the laser so that the vertical beam passes through point **a1** and on the wall, mark the center of the cross beams as **a2** (see figure 4).

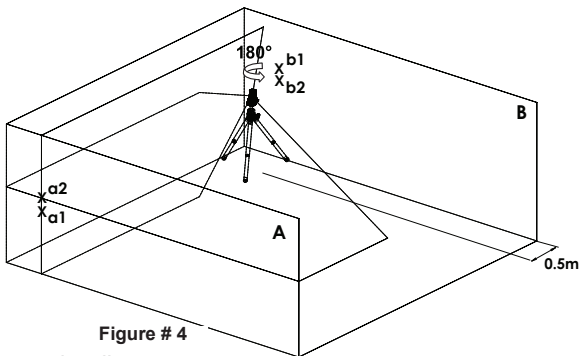


Figure # 4

- 9) Measure the distances:

$$\Delta a = |a2 - a1|$$

$$\Delta b = |b1 - b2|$$

- 10) The difference  $|\Delta a - \Delta b|$  should be no more than 2 mm, if otherwise, send the laser level to a qualified technician for repair.

## 2. Checking the Level Accuracy of the Horizontal beam. (Side to side inclination)

- 1) Set up the laser on a tripod or on a flat surface at a distance of approximately 1.5 meters from a 5 meter/16 feet long wall.
- 2) Unlock the pendulum safety lock (#11), to project the forward horizontal and vertical cross beams towards the wall.

- 3) Mark point **a1** on the wall, in the middle of the horizontal line at the left edge of the horizontal beam (see figure 5).

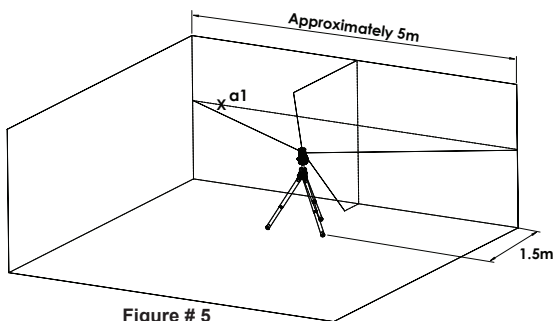


Figure # 5

- 4) Turn the laser level counterclockwise until the right edge of the horizontal beam reaches near **a1**, mark a point **a2** on the wall in the middle of the horizontal beam (see figure 6).

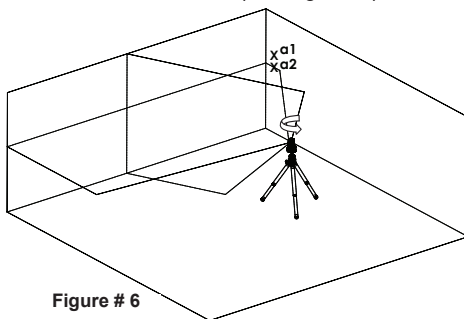
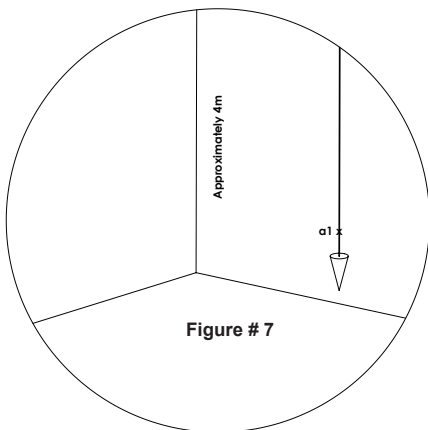


Figure # 6

- 5) The distance between **a1** and **a2**, should be no more than 1 mm, otherwise send the laser level to a qualified technician for repair.

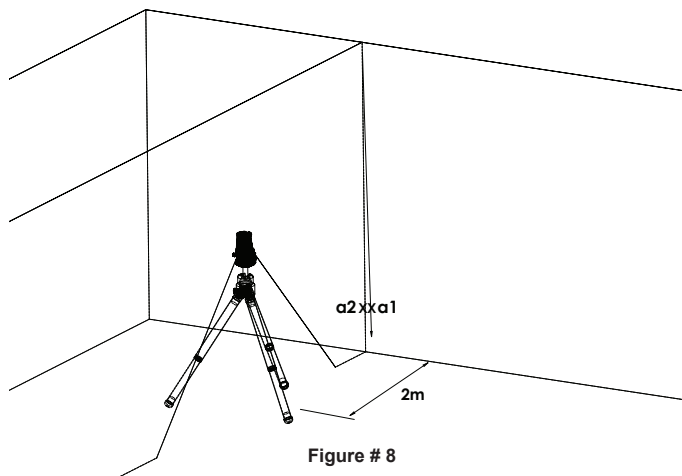
### 3. Checking the Accuracy of the Vertical beams.

- 1) Hang an approximately 4 meter /13 feet plumb line on a wall.
- 2) After the plumb line has settled, mark point **a1** on the wall behind the plumb line, near the plumb cone. (see figure 7).



- 3) Set the laser up on a tripod or on a flat surface in front of the wall at a distance of approximately 2 meters/ 6.5 feet.
- 4) Unlock the pendulum safety lock (#11), to project the forward horizontal and vertical cross beams towards the plumb line.

- 5) Press the **H** (#1) button, to turn off the horizontal beam.
- 6) Use the micro – adjustment knob (#5), to turn the laser, so that the vertical beam will merge with the plumb line below the hanging point.
- 7) Mark point **a2** on the wall, in the middle of the vertical beam at the same height as **a1**. (see figure 8).



- 8) The distance between **a1** and **a2**, should be no more than 1mm, if otherwise, send the laser level to a qualified technician for repair.
- 9) Repeat the same procedure to check all other 3 vertical beams.

#### 4. Checking 90° accuracy between the 2 vertical beams.

This procedure requires a room of at least 5x5 meters with 4 walls.

- 1) Set up the laser on the table or on the floor in the middle of the room
- 2) Unlock the pendulum safety lock (#11), to project the forward horizontal and vertical cross beams.
- 3) Press the **H** (#1) button to turn off the horizontal beam
- 4) Press the **V** (#2) button twice to project all 4 vertical beams.
- 5) Project the forward vertical beam towards wall **A**.  
(see figure #9).

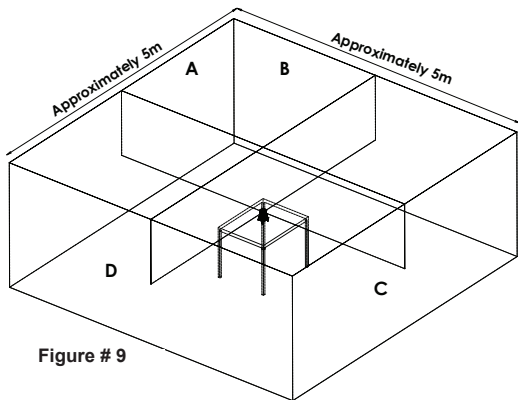
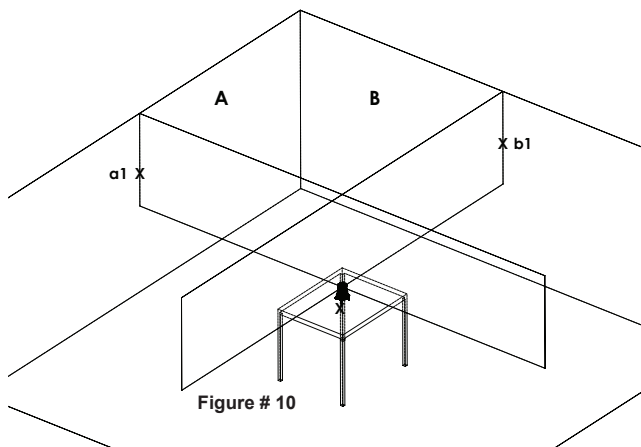


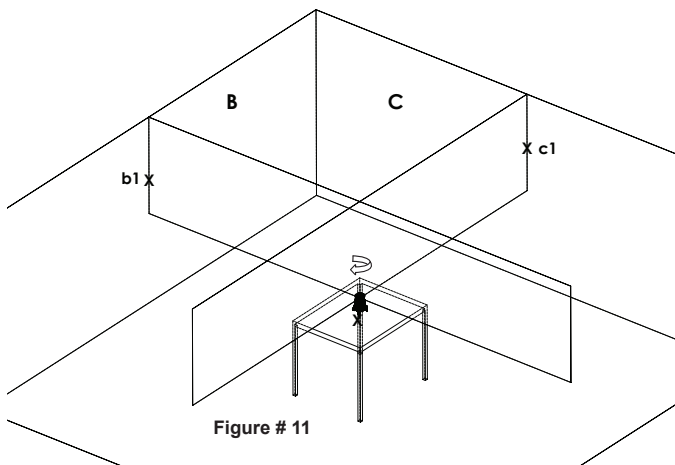
Figure # 9

- 6) Mark point **a1** on wall **A**, in the middle of the forward vertical beam.
- 7) Mark point **b1** on wall **B**, in the middle of the side vertical beam.
- 8) Mark the plumb dot position as **x** on the table. (see figure # 10).



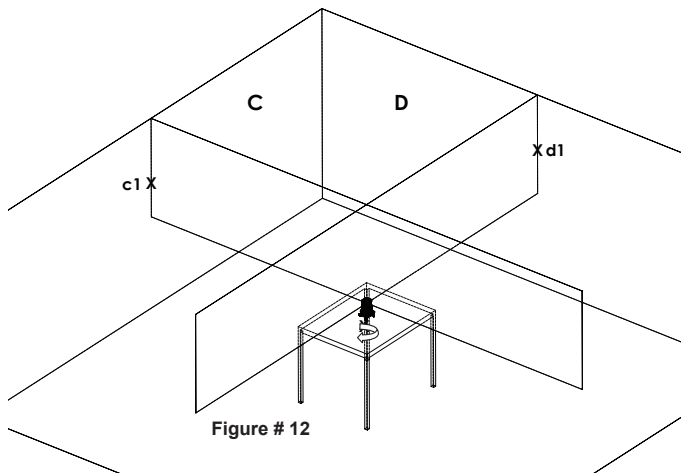
- 9) Rotate the laser clockwise so that the forward laser beam passes through mark **b1** on wall **B**. Verify that the plumb dot is on mark **x**.

- 10) Mark point **c1** on wall **C**, in the middle of the side vertical beam. (see figure #11).



- 11) Rotate the laser clockwise so that the forward laser beam passes through mark **c1** on wall **C**. Verify that the plumb dot is on mark **x**.

- 12) Mark point **d1** on wall **D**, in the middle of the side vertical beam. (see figure #12).



- 13) Rotate the laser clockwise so that the forward laser beam passes through mark **d1** on wall **D**. Verify that the plumb dot is on mark **x**.



- 14) Mark point **a2** on wall **A**, in the middle of the side vertical beam, near point **a1** and at the same height.  
(see figure #13).

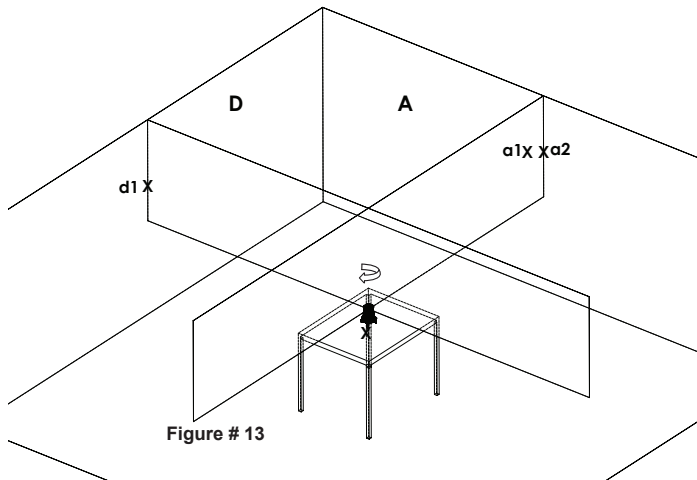


Figure # 13

- 15) Measure the distances:

$$\Delta = \text{from } \mathbf{a1} \text{ to } \mathbf{a2}$$

- 16) The difference  $\Delta$  from **a1** to **a2** should be no more than 3 mm, if otherwise, send the laser level to a qualified technician for repair.
- 17) Repeat the same procedure (1 – 16) to check the perpendicularity between the other 2 vertical beams.



## SPECIFICATIONS

Laser beams output pattern	<ul style="list-style-type: none"><li>• Horizontal and forward vertical cross beams</li><li>• Horizontal, forward and backward vertical beams</li><li>• Horizontal and 4 orthogonal vertical beams</li><li>Plumb down dot appears while vertical beam is ON</li><li>• Horizontal beam</li></ul>
Laser range	<ul style="list-style-type: none"><li>• Indoor - 30m (100ft)</li><li>• Outdoor with detector 60m (200ft)</li></ul>
Accuracy Accuracy (plumb Dot)	$\pm 0.2\text{mm/m}$ ( $\pm 0.0002\text{in/in}$ ) $\pm 1\text{mm}/1.2\text{m}$
Fan angle	$120^\circ \pm 5^\circ$
Self-leveling Range	$\pm 2.5^\circ$
Laser line width	$2\text{ mm} \pm 0.5\text{mm}/5\text{m}$ ( $0.10'' \pm 0.02''$ at $20'$ )
Wavelength	$520 \pm 10\text{nm}$ - Laser Class II
Power supply	Li-Polymer battery pack or 4 AA Alkaline batteries ( not included)
Battery life	2.5 hours continuous operation with Li-Polymer 5 hours with 4AA Alkaline batteries
Operating temp.	$-10^\circ\text{ C} + 45^\circ\text{ C}$ ( $14^\circ\text{F} + 113^\circ\text{F}$ )
Storage temp.	$-20^\circ\text{ C} + 60^\circ\text{ C}$ ( $-4^\circ\text{F} + 140^\circ\text{F}$ )
Water & dust proof	IP54
Dimensions	$\varnothing 150\text{mm} \times 195\text{mm}$ ( $\varnothing 6'' \times 8''$ )
Weight without batteries	$1250\text{gr} \pm 10\text{gr}$ ( $2.75\text{lbs} \pm 0.35\pm\text{oz}$ )

## WARRANTY

This product is covered three-year limited warranty against defects in materials and workmanship. The warranty does not cover products that are used improperly, altered or repaired without Kapro Tools' approval. In the event of a problem with the laser level, please return the product to the place of purchase with proof of purchase.

Model #875 GREEN

The serial number sticker is positioned inside the battery compartment.

### CE CONFORMITY CERTIFICATE

This product meets the standards of the Electromagnetic Compatibility (EMC) established by the European Directive 2014/30/EU and the Low Voltage Directive (LVD) 2014/35/EU

### EC DECLARATION OF CONFORMITY

We declare under our responsibility that the product 875G is in accordance with the requirements of the Community Directives and Regulations:

2014/30/EU

2011/65/EU

EN60825-1: 2014

EN61326-1: 2013



**Rev. 2.0**

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