

Owner's Manual

Green Rotary-Laser Level

Model No.
9203

Remote control Model No.
2821963000



CAUTION: Before using this product, read this manual and follow all its Safety Rules and Operating Instructions.

- Safety
- Operation
- Maintenance
- Trouble shooting

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Contents

Green rotary-laser level, Detector, Remote control, Wall-mounting base, Detector mounting base, AC/DC adapter, Green-laser enhancing safety glasses.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

SAVE THESE INSTRUCTIONS!

READ ALL INSTRUCTIONS!

SAFETY INSTRUCTION

⚠ WARNING: BE SURE to read and understand all instructions in this manual before using this green rotary-laser level. Failure to follow all instructions may result in hazardous radiation exposure, electric shock, and/or bodily injury.

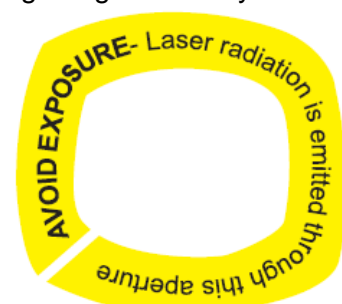
⚠ CAUTION: Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

⚠ CAUTION: The use of optical instruments with this product will increase eye hazard.

IMPORTANT: The following labels are on your tool. They indicate the location from which the laser light is emitted.



Always be aware of the emission-point locations when using the green rotary-laser level.



Always make sure that any bystanders in the vicinity of use are made aware of the dangers of looking directly into the laser.

 WARNING! LASER LIGHT. LASER RADIATION.

Avoid Direct Eye Exposure. Do Not Stare into beam.

Do not remove or deface any product labels. Removing product labels increases the risk of exposure to laser radiation.

Do not stare directly at the laser beam or project the laser beam directly into the eyes of others. Serious eye injury could result.

Do not place the digital laser level in a position that may cause anyone to stare into the laser beam intentionally or unintentionally. Serious eye injury could result.

Do not use any magnifying optical tools such as, but not limited to telescopes or transits to view the laser beam. Serious eye injury could result.

Do not operate the green rotary-laser level around children or allow children to operate the tool. Serious eye injury could result.

Always turn the green rotary-laser level “OFF” when it is not in use. Leaving the tool “ON” increases the risk of someone inadvertently staring into the laser beam.

Do not operate the green rotary-laser level in combustible environments, such as in the presence of flammable liquids, gases, or dust.

Always check to be sure that the tool is securely mounted on the base when using any of the base plates, Damage to the tool and/or serious injury to the user could result if the tool falls.

Always use only accessories that are recommended by Craftsman for use with this product. Use of accessories that have been designed for use with other laser tools could result in serious injury.

Do not use this green rotary-laser level for any purpose other than those outlined in this manual. This could result in serious injury.

Do not leave the green rotary-laser level “ON” and unattended.

Do not attempt to repair or disassemble the green rotary-laser level. If unqualified persons attempt to repair this laser product, serious injury may result. Any repair required on this laser product should be performed by authorized service center personnel.

Before plugging in the tool, **be sure** that the outlet voltage supplied is same as the voltage marked on the tool's power adapter.

Do not expose the power adapter to rain or wet conditions. Water entering the adapter will increase the risk of electric shock.

When operating the power adapter outside, **always** use an outdoor extension cord marked “W-A” or “W”. These cords are rated for outdoor use and reduce the risk of electric shock.

⚠ CAUTION: To reduce the risk of electric shock, use the tool only in dry location.

DESCRIPTION

KNOW YOUR GREEN ROTARY-LASER LEVEL (See Fig.1 & Fig.2)

This Craftsman green rotary-laser level is a highly versatile tool. It can be hand-held, wall-mounted (on the wall-mount base included) or leveled on a horizontal surface or tripod stand (sold separately).

The green rotary-laser level projects a bright, pulsed, green laser ‘dot’ that rotates horizontally or vertically to form a visible line, describing a plane, that is projected onto surfaces 360° around the position of the tool.

As a 2-beam level, it can be used to accurately determine square alignment, such as when laying concrete foundations, “squaring off” a deck or porch, and when aligning fence and rail constructions.

This green rotary-laser level is easy to use in many applications, from simple home-decorating projects to home construction. It will project a level horizontal or vertical ‘line’ that is accurate to $\pm 1/4$ -inch at 100 feet. (The recommended usable range is 50 feet.)

With the remote control, you can conveniently operate your rotary laser from as far away as 100 feet. The green laser detector can help you to easily find the laser position within 200 feet, even in bright surrounding.

Fig.1

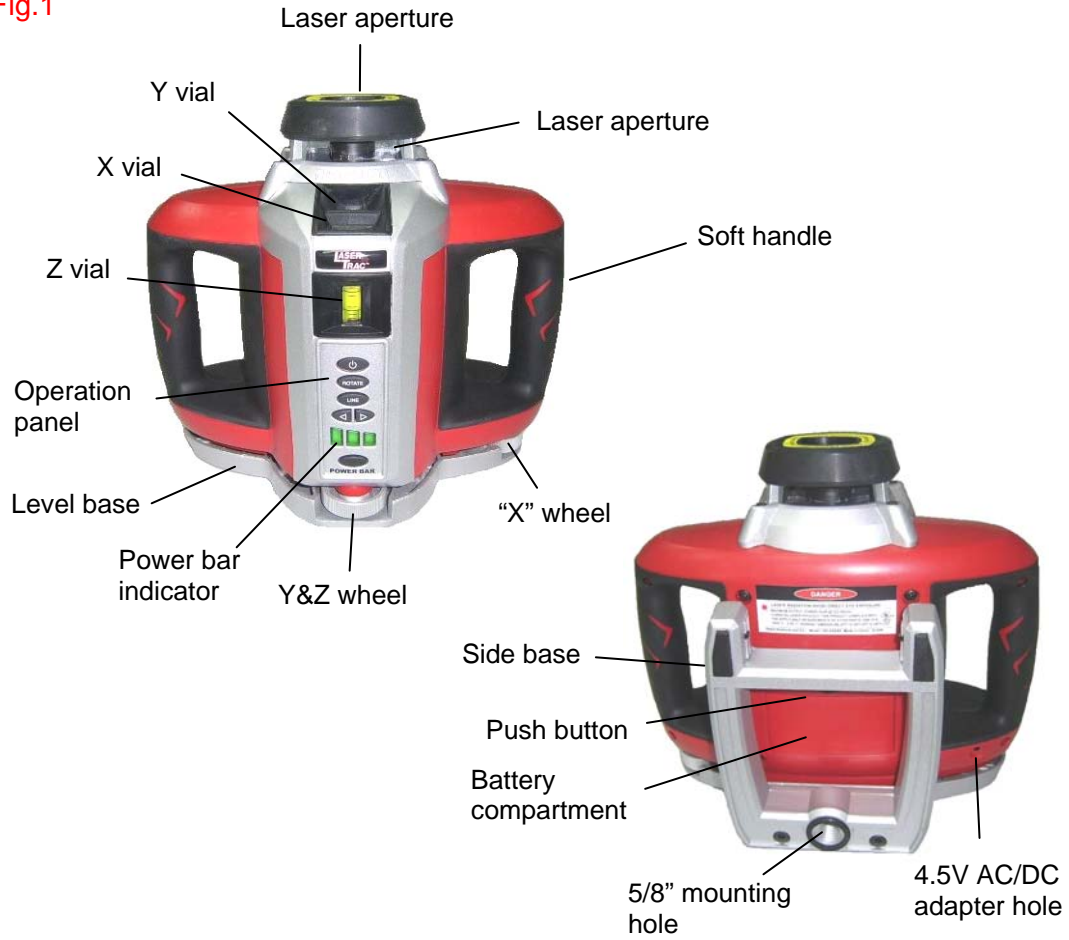
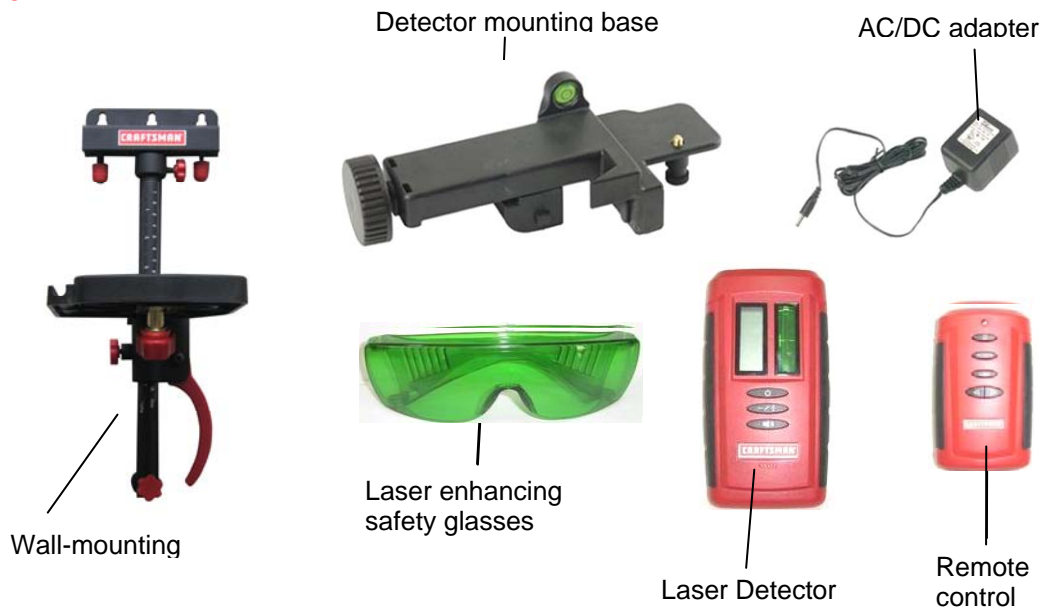


Fig. 2



TECHNICAL SPECIFICATIONS	
Recommended Use	Indoors


Laser Diode Type	Green Laser Diode 522-542nm
Laser Class	Class IIIa, power output <5mW
Battery	3pcs 1.5V "D" batteries for rotary-laser level 1pc 12V "23A" battery for remote control 1pc 9V "6LR61" battery for detector (Batteries are not included)
Working range of laser	Maximum 100ft. (30m) without detector, depending upon light conditions Maximum 200ft. (60m) with detector
Working range of remote control	100 ft. (30m)
Optimum Operating Temperature Range	32°F to 104°F (0°C to +40°C)
Accuracy	+/-1/4-inch at 100 feet
Weight (without batteries)	

OPERATION

To install batteries for the green rotary-laser level (See fig.3)

This green rotary-laser level uses three "D" 1.5V batteries. (Sold separately)

Fig.3



1. Press the button labeled "Push" to remove the battery compartment.
2. Install three, new, "D" size, alkaline batteries according to the polarity indicators (+ and -) inside the battery compartment.
3. Replace the battery compartment in the tool and push it securely to lock it into place.

⚠ CAUTION! When attaching the battery compartment into the tool, **always** make sure it has been locked securely. Damage to the case and/or serious injury to the user could result if it drops out.

To connect AC/DC adapter to the tool

Fig. 4



The laser level can also be powered with the AC/DC adapter.

1. Insert the connecting plug into the adapter hole, located in the rear of the level (Fig.4).
2. Plug the AC/DC adapter into the correct power outlet (120V, 60Hz)

CAUTION! Whenever connecting the adapter to the power supply, always make sure that the voltage is 120V, 60Hz. Damage to the adapter or the tool and/or serious injury to the user could result if the tool is connecting to the other power outlets with other voltages.

To turn on/off the rotary laser (see Fig. 5)

1. Press the Power button to turn on the level; the bright green laser beam will light. The backlights of the vials will also light up for easier visibility when leveling or calibrating the laser tool.
2. To turn off the level, press the button again: the backlights of the vials will wink twice quickly before shutting off.

If the laser is not operated for rotating or chalk line for one hour after it is turned on, it will automatically turn to the “Sleep” mode to save power:

- The laser will shut off, and the backlights of the vials will flash once every two seconds to remind you that the tool has not been fully shut off.
- Press any of the buttons on the tool except the power button, or use the remote control to “wake” the laser within two hours of inactivity.
- After two hours of non-use, the tool will automatically shut off completely.
- Press the power button on the tool to turn on the rotary laser again.

⚠ WARNING: When turning ON the Rotary-laser level, **ALWAYS** be aware of protecting your eyes and the eyes of those around you. **NEVER** point the green laser at anyone’s face, including your own.

Operation Buttons

Fig.5

Operation panel



1. **Power button:** turns the tool on/off.
2. **Rotation button:** adjusts the rotation speed.
3. **Chalk line button:** adjusts the length of the chalk line.
4. **Left button:** moves the chalk line or laser dot to the left position.
5. **Right button:** move chalk line or laser dot to the right position.
6. **Power bar indicator:** indicates battery capacity.
7. **Power bar button:** turns the Power bar indicator on/off.

Power bar indicator:

The indicator has three LEDs to indicate battery capacity.

- Press the “POWER BAR” button: the LEDs will light up, and then turn off in about five seconds.
- Full battery capacity is indicated when all the LEDs light up
- Low battery is indicated when the LED on the right blinks on and off; it reminds you to replace the batteries or switch to the AC/DC adapter.

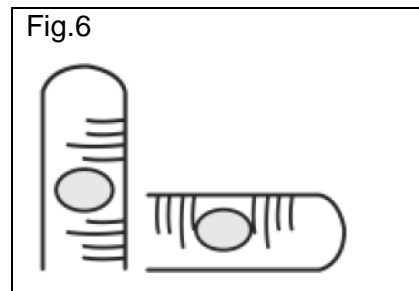
Using the Laser-Enhancing Glasses Provided

This green laser level includes a pair of standard safety glasses that are made of a laser-light enhancing material. The purpose of these glasses is to improve the viewing of the tool’s laser line.

⚠ WARNING: These glasses **will not** protect the eyes from damage that could result from looking directly into the laser projection.

Adjustment of X&Y wheels to level the tool

1. If the green rotary-laser level is in the horizontal position, adjust the “X”&”Y” wheels. The “X” wheel controls the X bubble vial, and the “Y” wheel controls the Y bubble vial. Adjust the two wheels to center the X and Y bubbles in their vials. (Fig6)



2. If the Green rotary-laser level is in the vertical position, adjust the “Y” wheel. The “Y” wheel controls the Z bubble vial. Adjust the “Y” wheel to make sure the bubble of Z vial is in the centre of the vial.

NOTE: The Green rotary-laser level can be mounted on a tripod (sold separately) or mounted on the wall-mount base by using the thread holes located on the level base plate or the side base plate.

Level the mounting plate on the tripod base as closely as possible before mounting the Green rotary-laser level. After mounting and securing the level to the tripod base plate, perform steps 1 and 2 above to level the tool to its new position.

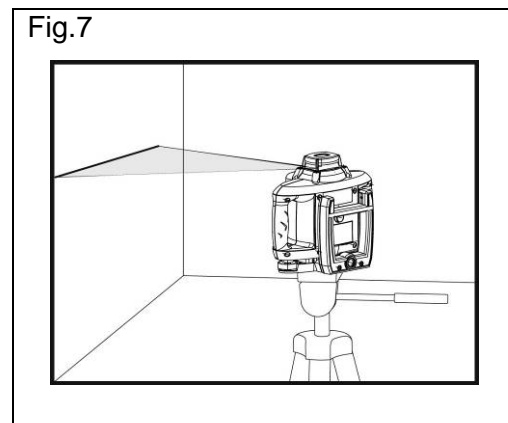
Marking a series of level points

1. Adjust the X&Y wheels to center the bubbles in the vials.
2. Turn on the laser
3. Align the laser beam to your target by pressing the left-arrow button or right-arrow button.

The tool can be used to mark a series of points in either the horizontal or vertical direction.

Adjusting the laser rotation speed

1. Place the Green rotary-laser level horizontally or vertically on a stable surface or on a tripod stand (sold separately).
2. Level the tool.
3. Press the power button to turn on the level.
4. Press the rotation button once for “fast” speed, twice for “medium” speed, a third



time for “slow” speed, or a fourth times to stop the rotation.

Making a chalk line (see Fig.7)

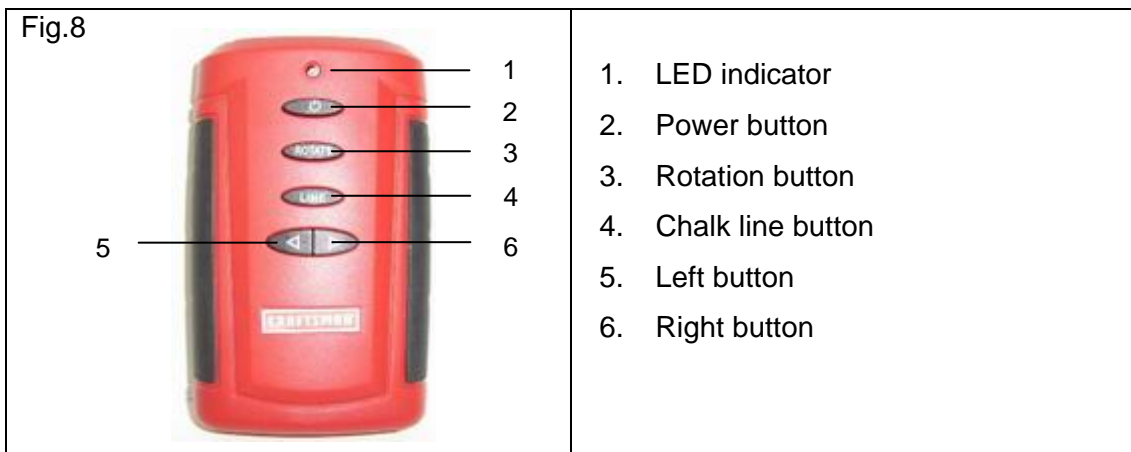
1. Place the Green rotary-laser level on a horizontal surface or on a tripod stand (sold separately).
2. Level the tool.
3. Press the power button to turn on the level.
4. Press the chalk line button to project a chalk line: Press once to project the longest chalk line, twice to project a medium chalk line, and three times to project the shortest chalk line.
5. Align the chalk line to your target by pressing the left or right button. You do not need to move the tool and re-level it.
6. The chalk line can be projected in either the horizontal or the vertical direction.

REMOTE CONTROL (see fig.8)

Description

To operate the remote control, first turn on the tool with the power button on the level.

The wireless remote control can operate your rotary level within a maximum distance of 100 feet. The functions of the buttons on the remote control are the same as for the buttons on the operation panel of the level, except for the power button.



Remote control Power button:

When the green rotary-laser level is powered on, push the remote control’s power button to place the level in “sleep” mode. The backlights of the vials will flash once every two seconds to remind you that the tool has not been fully shut off. You can “wake” the level with the remote control within two hours. After two hours in “sleep”

mode, the tool will automatically shut off, completely, and the remote cannot control the tool.

To install battery in the remote control (See fig.9)

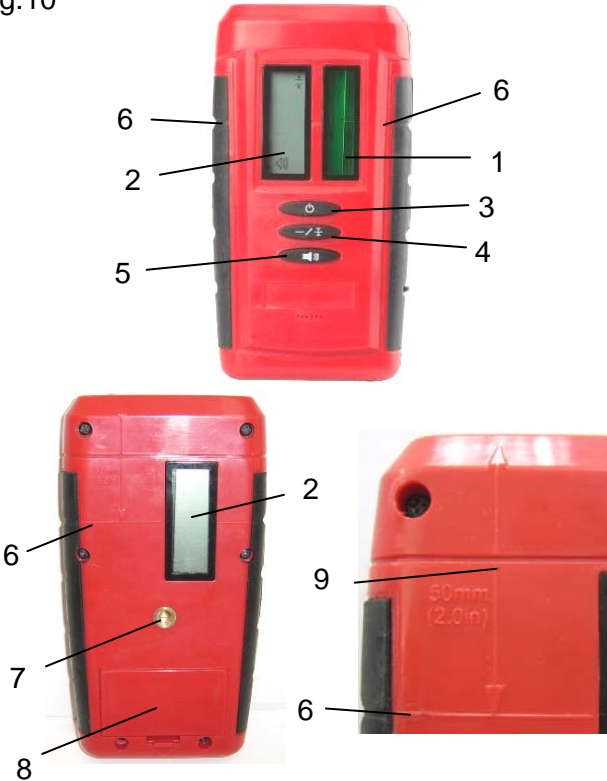
The remote control uses one "23A 12V" battery. (Sold separately)

<p>Fig. 9</p> 	<ol style="list-style-type: none"> 1. Open and remove the battery cover. 2. Install one "23A" 12V battery (sold separately). 3. Make sure that the polarity (+/-) is correct 4. Replace and close the battery cover, and make sure that it locks securely in place.
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Using the green-laser detector


The green laser detector is designed to find the position of the green-laser line within a maximum range of 200 feet under circumstance in which the laser is hard to see. It cannot locate a red-laser line.

Description

<p>Fig.10</p> 	<ol style="list-style-type: none"> 1. Receiving window 2. LCD 3. Power button 4. Coarse/Fine detection button 5. Buzzer button 6. Lineation slot 7. Mounting hole (1/4") 8. Battery compartment 9. Distance indicator
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1. Receiving window: receives the laser signals
2. LCDs: indicate the detection result and the position of the laser line. The LCDs are visible on the front and back of the detector
3. Power button: turns the detector on/off.
4. Coarse/Fine detection button: coarsely detects the laser position or accurately detects the laser position.
5. Buzzer button: turns the buzzer on/off.
6. Lination slot: used for marking a target line
7. Mounting hole (1/4"): for installation on the mounting base or on a tripod (sold separately).
8. Battery compartment
9. Distance indicator: shows the lination slot is 2 inches to the top of the detector.


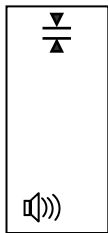

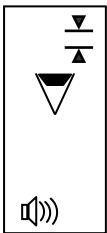
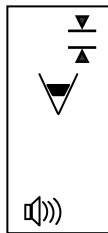
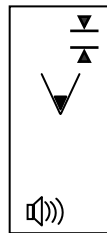
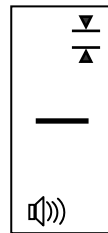
To install battery for the detector

<p>Fig. 11</p> 	<ol style="list-style-type: none"> 1. Open the battery compartment cover. 2. Install one "6LR61" 9V battery. 3. Make sure the polarity (+/-) is correct! 4. Close the battery compartment cover
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Locating the green laser line with the detector

NOTE: Always keep the instrument stable and level when detecting.

1. Press the power button to turn the unit on. The LCD display will illuminate the detection indicator and the sound indicator, as shown in [Fig.12](#), indicating that the detector is ready for use.

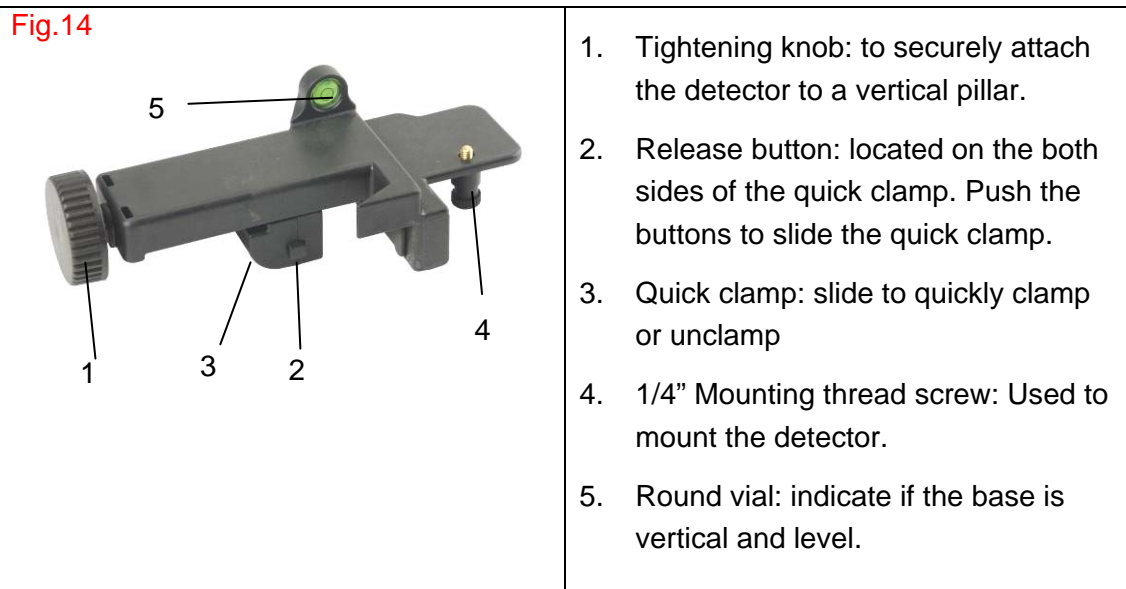
<p>Fig. 12</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>(a) Coarse</p> </div> <div style="text-align: center;">  <p>(b) Medium</p> </div> <div style="text-align: center;">  <p>(c) Fine</p> </div> </div>	<p>Fig. 13</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>(a)</p> </div> <div style="text-align: center;">  <p>(b)</p> </div> <div style="text-align: center;">  <p>(c)</p> </div> <div style="text-align: center;">  <p>(d)</p> </div> </div>
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2. To locate the position of the laser line, you can push the Coarse/Fine detection button to choose a detection mode, as figure 12(a), 12(b) and 12(c) shown.

3. Move the detector up and down. If the laser is in the detection area, the detection indicator will appear on the LCD (Fig. 13 (a) (b) (c)), and the buzzer will sound intermittently.
4. An arrow pointing down indicates that the laser line is lower than the lineation slot. Move the detector lower to match the laser line.
5. An arrow pointing up tells you to move the tool upwards.
6. If the detected laser line is aligned with the lineation slot, a black line will appear on the center of the LCD and the buzzer will sound continuously.
7. When the laser line is located, you can mark this position with pencil through either side of the lineation slot.

Detector mounting base

Description



Using the detector mounting base

With the detector mounting base, the detector can be secured to a vertical pillar with flat sides at 90° angles for convenient use, the maximum width the base can hold is 3.7".

1. Inert the 1/4" mounting thread screw (4) into the 1/4" mounting hole at the back of the detector; tighten the screw to fix the detector securely (Fig.15).
2. Press the two release buttons at the same time to slide the quick clamp and fit it onto the vertical pillar (Fig.16.)
3. Turn the tightening screw clockwise to keep the clamp securely attached to the pillar.

- For accurate detection, make sure that the bubble of the round vial is in the center of the circle mark.

⚠ CAUTION! Whenever using the detector mounting base to secure the detector to a vertical pillar, **be sure** that the detector is connected tightly and the base is clamped firmly.

Fig. 15



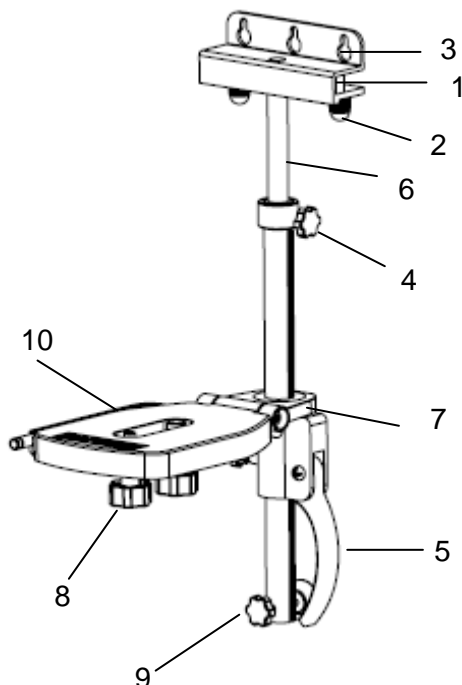
Fig. 16



Wall-mounting base

Description

Fig.17



- Trough with 1/2" width and 1/2" depth - Used for attaching the wall-mounting base to horizontal studs on the wall.
- Lock screw - Used for securing the wall-mounting base to the stud.
- Mounting hole - Used for hanging the wall-mounting base from a nail or screw on a wall
- Secure screw - Used to secure the platform.
- Handle – Quick release or clamp for the platform.
- Pole with Inch/Centimeter scale
- Platform pivots – Used for easy storage of the wall-mounting base assembly.
- 5/8" mounting thread screw – Used to attach the rotary laser to the base
- Balance screw – Used to adjust the balance of the base.
- Platform – Used to support the rotary laser.

Using the wall-mounting base

The wall-mounting base can be hung from nails or screws on a wall or clamped on a beam. By using the wall-mounting base, you can easily adjust the height and direction of the laser to your reference object.

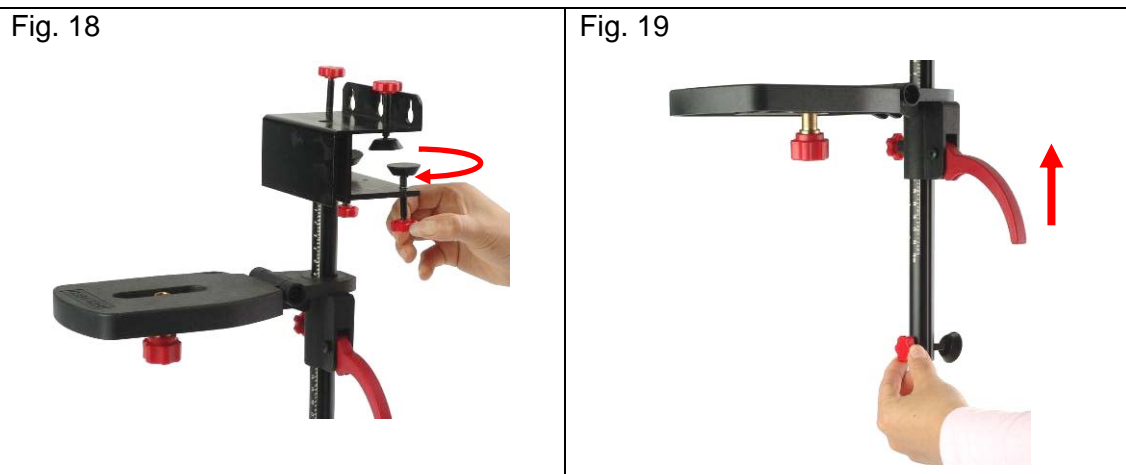
Hang from nails or screws:

The base has three mounting holes for secure attachment. Always use three screws or nails, and make sure these screws or nails are securely in place in the wall.

Clamp on a level stud

The base can only be attached to a level, horizontal stud; do not try to attach to a vertical stud.

1. Turn the four lock screws (2 in Fig 17) counterclockwise (Fig.18). Attach the wall-mounting base to a level stud, making sure that the stud is fully inserted into the trough (1 in Fig 17).
2. Turn the four lock screws clockwise to secure the clamp. The four rubber blocks can protect the support from clamping damage.
3. Adjust the balance screw (9 in Fig. 17) until the rubber support touches the wall. Ensure the platform is approximately level, as fig.19 shown.



Mount the rotary laser on the wall-mounting base

1. Align the 5/8" screw of the platform with the screw hole in the bottom base or side base of the tool.
2. Adjust the direction of the tool to your reference object.
3. Turn the screw clockwise to secure the tool on the base (Fig. 20).

⚠ CAUTION! Whenever using the wall-mounting base to secure the green rotary-laser level on a stud, **be sure** to place the tool on the base carefully, securing it with your hands at all times. Once you are certain that the tool is fixed firmly on the

base with the screw, and the base is fastened on the stud, you can safely remove your hands.

Adjust the laser height

1. Support the base of the platform with one hand to hold the tool.
2. Pull the handle upwards to loosen it (Fig. 19).
3. Adjust the height of the platform to the desired position; the adjustable platform height is up to 7 1/2".
4. Pull the handle downwards to lock the platform. To fix the platform firmly, tighten the secure screw clockwise (Fig. 21).

Fig.20



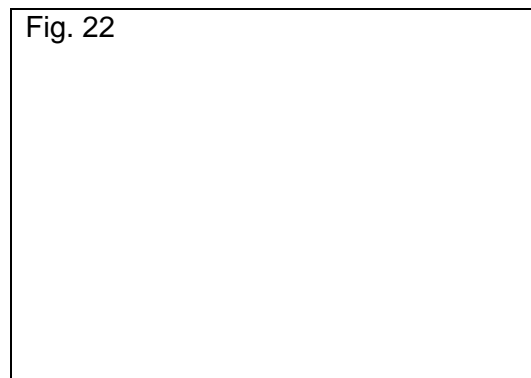
Fig.21



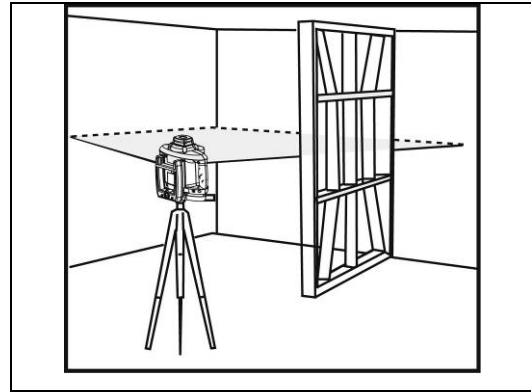
APPLICATIONS

Using the green rotary-laser level

Fig. 22



This level can be easily used in several ways. It can be hand-held for point marking and simple alignment, placed on a level surface, mounted on the wall-mounting base or on a tripod (sold separately) to project a pulsing dot “chalk line,” as a horizontal level line, or vertical plumb line. Be sure to re-level (re-calibrate) the rotary-laser level every time you change its position.



Working with obstructions and user interference

Figure 22 illustrates the nature of the laser “line” projected from the rotary-laser level. It is actually a “dot” of laser light that is projected as a pulse. This is important, because obstructions and user interference that takes place in front of the device **WILL NOT** affect the laser line projected on either side of the user or obstruction.

Referencing and Leveling across multiple adjacent surfaces

The rotary-laser level’s ‘dot of light’ is also useful when working with two or more adjacent surfaces.

Fig.23

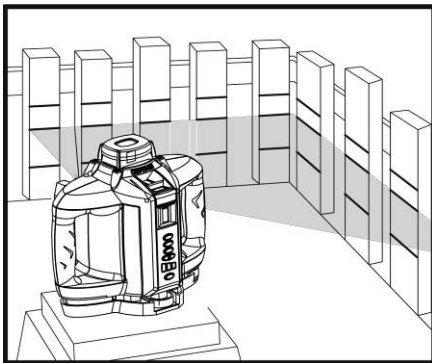


Fig.24

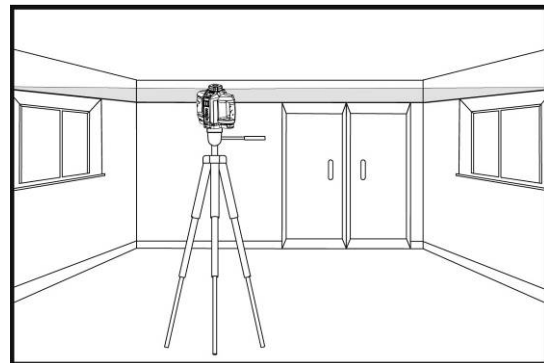


Fig. 23 illustrates its use in aligning electrical outlet positions on stud walls with two adjoining walls.

Fig. 24 illustrates pictures being aligned on multiple room walls.

MAINTENANCE

This green rotary-laser level has been designed to be a low-maintenance tool. However, in order to maintain its performance, you must **always** follow these simple directions.

- **Always** handle the tool with care. Treat it as the fine optical device it is, and as you would treat a camera or binoculars.
- **Avoid** exposing the tool to shock, continuous vibration, or extreme hot or cold temperatures.
- **Always** store the tool indoors. When not in use, **always** store the tool in its protective case.
- After you have finished using the tool, **always** make sure that the tool has been turned off.
- **Always** keep the tool free of dust and liquids. If needed, **only** use a soft cloth or cotton swab and glass cleaner to clean the laser-emitting window.
- **Always** clean and thoroughly dry the tool after each use.
- Check the batteries regularly to avoid deterioration.
- **Always** remove the batteries from the tool, if it is not going to be used for an extended period of time.
- **Always** replace the batteries when the power bar indicator goes out.
- **Do not** disassemble this green rotary-laser level. This will not only void the warranty, but could expose the user to hazardous radiation exposure.
- **Do not** attempt to change any part of the laser lens.
- Tool service **must be** performed only by a Sears Parts and Repair Center. Service or maintenance performed by unqualified personnel could result a risk of injury.

TROUBLE SHOOTING

PROBLEM	CAUSE	SOLUTION
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Laser dot/line projected is weak, hard to see	<ol style="list-style-type: none"> 1. Low voltage of the batteries 2. The tool is out of the operating temperature range. 3. The tool is too far from the target. 4. Working condition is too bright. 	<ol style="list-style-type: none"> 1. Replace with new batteries 2. Make sure the tool operating temperature is within 32°F to 104°F 3. Move the tool closer to the target. 4. Use laser-enhancing glasses and green-laser detector to locate the laser position.
Laser dot/line is not projected	<ol style="list-style-type: none"> 1. The tool is not turned on 2. The tool has automatically entered into “sleeping mode” 3. The tool has automatically shut off 4. The tool is out of the operating temperature range. 	<ol style="list-style-type: none"> 1. Check to be sure the tool is turned on. 2. Press any of the buttons, except power button, to active the tool 3. Press the power button of the tool to turn it on again. 4. Make sure the tool operating temperature is within 32°F to 104°F
The tool cannot be calibrated to level	The surface where the tool is placed is very uneven	Place the tool on an approximately horizontal surface.
Laser dot/line projected is not level	<ol style="list-style-type: none"> 1. The X and Y bubbles are not in the center of vials 2. The Z bubble is not in the center of vial 3. The rotary-laser level is moved to a new position 	<ol style="list-style-type: none"> 1. Adjust the “X” and”Y” wheels to make sure the X and Y bubbles are in the center of vials. 2. Adjust the “Y” wheels to make sure the Z bubble is in the center of the vial. 3. Adjust the “X” and “Y” wheels to re-level the tool.
Detector can-not find the laser	<ol style="list-style-type: none"> 1. It detects a red laser line 2. The detector is out of its working range 3. Low voltage of the battery 	<ol style="list-style-type: none"> 1. This detector can only detect green laser. 2. Make sure the distance between tool and detector does not exceed 200 feet. 3. Change to a new battery
The remote control cannot operate the tool	<ol style="list-style-type: none"> 1. The tool is shut off 2. Low voltage of the battery 3. The remote control is out of its working range 	<ol style="list-style-type: none"> 1. Press the power button on the tool first, and then use the remote control to operate it. 2. Change with a new battery 3. Make sure the distance between tool and remote control does not exceed 100 feet.

AC/DC adapter cannot provide electricity for the rotary laser	<ol style="list-style-type: none">1. Weak plug connections2. The power is "out"	<ol style="list-style-type: none">1. Make sure the AC/DC adapter is connected well with the tool and the socket of mains supply.2. Operate the tool with batteries.
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