

CEN-TECH™

ROTARY LASER LEVEL KIT

Model 92801

OPERATING INSTRUCTIONS



3491 Mission Oaks Blvd., Camarillo, CA 93011
Visit our Web site at: <http://www.harborfreight.com>

**TO PREVENT SERIOUS INJURY,
READ AND UNDERSTAND ALL WARNINGS
AND INSTRUCTIONS BEFORE USE.**

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For technical questions, please call 1-800-444-3353.

PRODUCT SPECIFICATIONS



LASER RADIATION
AVOID DIRECT EYE EXPOSURE
Power Output: $\leq 5\text{mW}$,
Wavelength: $650\text{ nm} \pm 10\text{ nm}$

CLASS IIIa LASER PRODUCT

This product complies with
21 CFR 1040.10 and 1040.11

Item	Description
Power Supply	4 "C" Size Batteries
Leveling Method	Two-Screw Manual Horizontal & Vertical
Measuring Accuracy	+/- 0.5mm (1/4" up to 33')
Visible Range	~100' Maximum for Dot, ~30' Maximum for Line (Varies Depending on Work Area Illumination)
Rotation Capacity	360°
Rotation Speed	0 to 600 RPM (Variable)
Includes	Laser Enhancement Goggles, Tripod, Case, 4 "C" Batteries
Unit Weight	3.90 Pounds

NOTE: No replacement parts are available for this product.

UNPACKING

When unpacking, check to make sure all the parts shown in this manual are included. If any parts are missing or broken, please call Harbor Freight Tools at the number shown on the cover of this manual as soon as possible.

SAVE THIS MANUAL

You will need this manual for the safety warnings and precautions, assembly, operating, inspection, maintenance and cleaning procedures, parts list and assembly diagram. Keep your invoice with this manual. Write the invoice number on the inside of the front cover. Keep this manual and invoice in a safe and dry place for future reference.

GENERAL SAFETY RULES

 **WARNING!**

READ AND UNDERSTAND ALL INSTRUCTIONS
Failure to follow all instructions listed below may
result in serious injury.

SAVE THESE INSTRUCTIONS

WORK AREA

1. **Keep your work area clean and well lit.** Cluttered benches and dark areas invite accidents.
2. **Do not operate this tool in explosive atmospheres, such as in the presence of flammable liquids, gases, or dust.** Electrically powered tools create sparks

which may ignite the dust or fumes.

3. **Keep bystanders, children, and visitors away while operating this tool.** Distractions can cause you to lose control. Protect others in the work area from the laser beam. Provide barriers or shields as needed.

PERSONAL SAFETY

1. **Stay alert. Watch what you are doing, and use common sense when operating a power tool. Do not use a power tool while tired or under the influence of drugs, alcohol, or medication.** A moment of inattention while operating power tools may result in serious personal injury.
2. **Dress properly. Do not wear loose clothing or jewelry. Contain long hair. Keep your hair, clothing, and gloves away from moving parts.** Loose clothes, jewelry, or long hair can be caught in moving parts.
3. **Avoid accidental starting. Be sure the Power Switch is off when the tool is not in use.** Carrying power tools with your finger on the Power Switch invites accidents.
4. **Remove adjusting keys or wrenches before turning the power tool on.** A wrench or a key that is left attached to a rotating part of the power tool may result in personal injury.
5. **Do not overreach. Keep proper footing and balance at all times.** Proper footing and balance enables better control of the power tool in unexpected situations.
6. **Dress properly. Do not wear loose clothing or jewelry. Contain long hair. Keep your hair, clothing, and gloves away from moving parts.** Loose clothes, jewelry, or long hair can be caught in moving parts.
7. **Avoid accidental starting. Be sure the Power Switch is off before plugging in.** Carrying power tools with your finger on the Power Switch, or plugging in power tools with the Power Switch on, invites accidents.
8. **Remove adjusting keys or wrenches before turning the power tool on.** A wrench or a key that is left attached to a rotating part of the power tool may result in personal injury.
9. **Do not overreach. Keep proper footing and balance at all times.** Proper footing and balance enables better control of the power tool in unexpected situations.

10. **Use safety equipment.** Dust mask, non-skid safety shoes, hard hat, or hearing protection must be used for appropriate conditions. **The included laser enhancement glasses are NOT intended to protect your eyes in any way.**

TOOL USE AND CARE

1. **Do not force the tool. Use the correct tool for your application.** The correct tool will do the job better and safer at the rate for which it is designed.
2. **Do not use the tool if the Power Switch does not turn it on or off.** Any tool that cannot be controlled with the Power Switch is dangerous and must be replaced.
3. **Remove the Batteries from the tool before making any adjustments, changing accessories, or storing the tool.** Such preventive safety measures reduce the risk of starting the tool accidentally.
4. **Store idle tools out of reach of children and other untrained persons.** Tools are dangerous in the hands of untrained users.
5. **Maintain tools with care. Keep tools clean and dry.** Properly maintained tools are less likely to malfunction and are easier to control. Do not use a damaged tool. Tag damaged tools “Do not use” until repaired.
6. **Check for misalignment or binding of moving parts, breakage of parts, and any other condition that may affect the tool’s operation. If damaged, have the tool serviced before using.** Many accidents are caused by poorly maintained tools.
7. **Use only accessories that are recommended by the manufacturer for your model.** Accessories that may be suitable for one tool may become hazardous when used on another tool.

SERVICE

1. **Tool service must be performed only by qualified repair personnel.** Service or maintenance performed by unqualified personnel could result in a risk of injury.
2. **When servicing a tool, use only identical replacement parts. Follow instructions in the “*Inspection, Maintenance, And Cleaning*” section of this manual.** Use of unauthorized parts or failure to follow maintenance instructions may create a risk of electric shock or injury.

SPECIFIC SAFETY RULES

-  **WARNING!** Laser light can harm the eye. Do not look directly into this Laser Level, or the reflection of the light. Do not allow any other person or animal to be exposed to the direct or reflected laser beam. If necessary, wear protective laser goggles (not included) appropriate for this laser type to protect yourself and others from harmful laser beams.
- Make sure the laser beam is aimed at a sturdy object without reflective surfaces.** Reflective surfaces are not suitable for laser applications, as the reflective surface may direct the laser beam back at the operator, causing potential eye damage.
- Do not attempt to alter the laser light or replace it with a different type.** Doing so may result in hazardous radiation exposure. Only qualified and trained employees must be assigned to install, adjust, and operate laser equipment.
- Never leave the Laser Level unattended when it is turned on.** Make sure to turn off the tool before leaving the work area.
- Do not use the Laser Level if it has been dropped, damaged, or immersed in liquid.**
- This Laser Level features a variable rotation speed of 0 to 600 RPM.** Higher rotation speeds allow the operator to see the laser beam at greater distances *outdoors*. However, higher rotation speeds make the laser beam less detectable when the Laser Level is used *indoors*. Typically, the *slower* the rotation speed the *brighter* the laser beam appears. The exact speed at which that happens depends on the individual and will require dialing the rotation speed to best match your own eyes.
- Take care not to accidentally bump or move the Laser Level and its Tripod after they have been set up and leveled.** If the Laser Level is accidentally bumped or moved you must re-level the unit and its Tripod using the Level Vials. Accuracy when using the Level Vials is crucial. For example, when you are aligning the bubble with the scribe on the Level Vial and you are “off” by just the thickness of the scribed line, then when you are measuring an object a hundred feet away that small difference will equal about **three inches**.
- Maintain labels and nameplates on the Laser Level.** These carry important information. If unreadable or missing, contact Harbor Freight Tools for a replacement.
- Always turn off the Laser Level and remove its Batteries before changing**

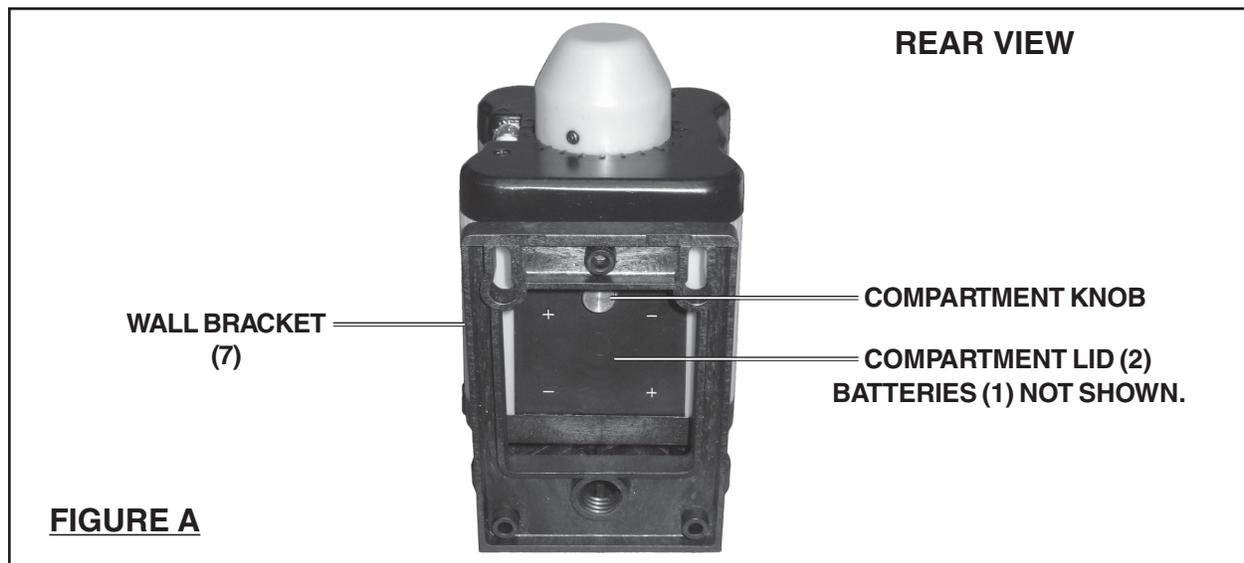
accessories, performing inspection, maintenance, cleaning procedures, or storing the tool.

10. **Battery precautions:** Never burn Batteries, as they can explode in a fire. Contact local solid waste authorities for instructions on correct disposal or recycling of the Batteries.
11. **Industrial applications must follow OSHA requirements.**
12. **Use the right tool or attachment for the right job.** Do not attempt to force a small tool or attachment to do the work of a larger industrial tool or attachment. There are certain applications for which this product was designed. It will do the job better and more safely at the rate for which it was intended. Do not modify this product, and do not use this product for a purpose for which it was not intended.
13.  **WARNING!** The warnings, precautions, and instructions discussed in this manual cannot cover all possible conditions and situations that may occur. The operator must understand that common sense and caution are factors, which cannot be built into this product, but must be supplied by the operator.

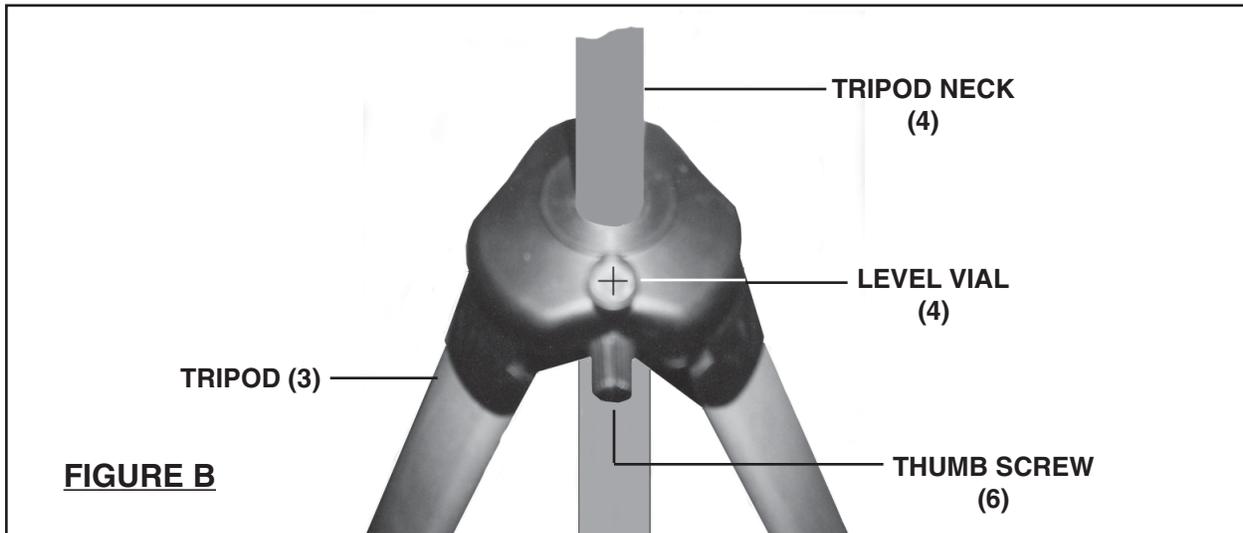
SAVE THESE INSTRUCTIONS

ASSEMBLY INSTRUCTIONS

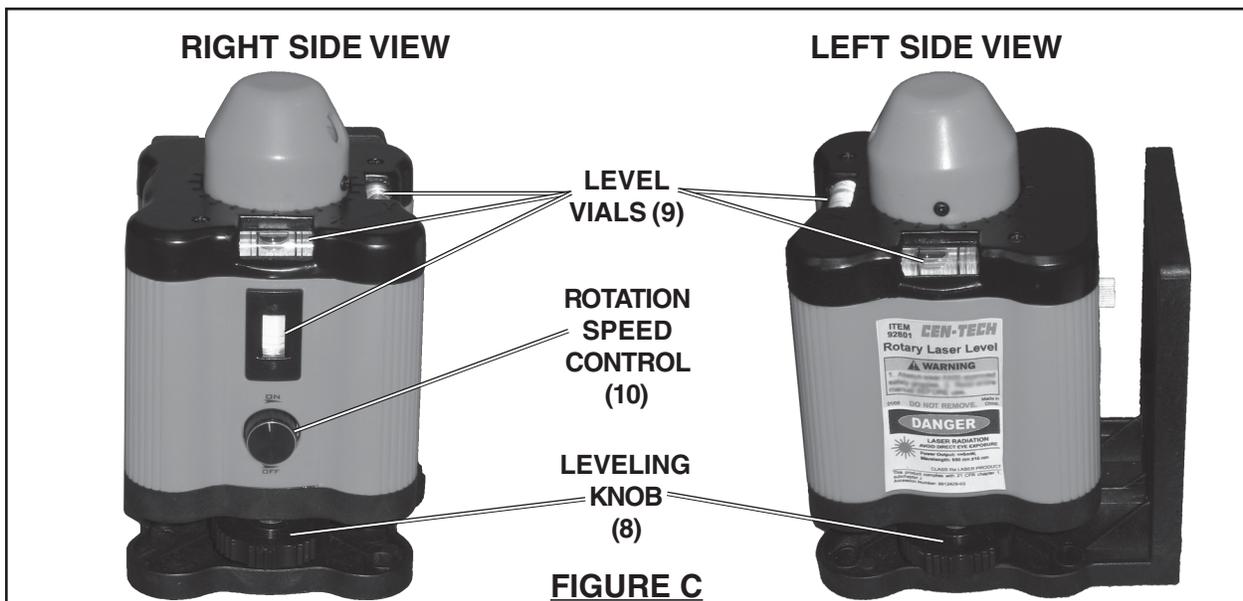
1. To install the Batteries (1), loosen the compartment knob, remove the Battery Compartment Lid (2), and install four size “C” Batteries. Make sure to install the Batteries matching the polarity marked on the Battery Compartment’s cover. (See Figure A.)



2. If using the Laser Level with the Tripod (3), thread the Tripod Stud located on the bottom of the Laser Level. The Tripod swivels 360 degree. Position the Tripod on a flat, level, dry ground surface. Extend the Legs of the Tripod and lock the Legs in place. Level the Tripod Neck (4), using the Level Vial (4) located on the Tripod Head. Then, lock the Tripod Neck in position with the Thumb Screw (6). **(See Figure B.)**



3. The Laser Level may also be installed on a wall surface without the Tripod (3). To do so, use the Wall Bracket (7) to secure the Laser Level to the wall. Use the wall bracket as a template. Mark drill holes and always check before drilling to make sure there are no hidden electrical wires or cables in the drilling path. Secure the Laser Level to the wall surface using screws and plastic anchors (not included). **(See Figure A.)**
4. Level the Laser, using a Leveling Knob (8) located on each side of the Laser and the two Level Vials (9) located at the top of the Laser. **(See Figure C.)**



OPERATING INSTRUCTIONS

1. When the Laser Level is properly positioned, turn on the Laser by rotating the Rotation Speed Control (10), clockwise. Then, recheck the Level Vials (4, 9) to make sure the Laser Level has not been bumped or moved.
(See Figures B and C.)
2. The rotation speed can be set by adjusting the Rotation Speed Control (10) knob. Turn the Control **clockwise** to make the beam rotate faster.
Turn the Control **counterclockwise** to slow the beam down.
3. Mark the desired measurement. Then, turn off the Laser Level by rotating the Rotation Speed Control (10), counterclockwise all the way. **(See Figure C.)**

Using the Laser Level To Equalize Height Of Distant Objects:

For example: If you wish to install cement footings for a storage shed, first determine the desired height of any one of the footings. Align the laser beam with the top surface of the reference footing, and check to make sure the Vial Levels (4, 9) are level with the ground. Direct the laser beam toward each of the remaining footing locations. On reference stakes at those locations, mark the spot that the Laser illuminates. This indicates the desired top surface of that footing. This technique can be used for many similar applications, i.e., to align pictures on a wall.

Using The Laser Level To Install Horizontal Or Vertical Objects:

For example: To install a chair rail on an interior wall, first mark the desired height of the rail. Align the Laser Level with that point, and check to make sure the Vial Levels (4, 9) are level with the floor. Shine the laser beam on the adjoining wall, and have an assistant mark that location. Then, install the chair rail in a direct line between the two points. This same technique can be used to install vertical or 45 degree angle objects.

Using The Laser Level To Check Slope:

For example: To determine the slope of a floor, place the Laser Level at one end of the floor, using the Tripod (3). Check to make sure the Vial Levels (4, 9) are level with the floor. Measure the vertical drop from the Laser Lens to the floor surface. Shine the laser beam on a ruler held vertical at the other end of the floor. The difference in these measurements is the amount of slope in the floor. This technique can also be used to design slope, such as when constructing an outdoor surface which will require a runoff slope.

INSPECTION, MAINTENANCE, AND CLEANING

1.  **WARNING!** Always turn the Power Switch (11) to its “OFF” position, and remove the Batteries from the tool before performing any inspection, maintenance, or cleaning.
2. **Before each use:** Inspect the general condition of the Laser Level. Check for misalignment or binding of moving parts, cracked or broken parts, leaking Batteries, and any other condition that may affect its safe operation. If abnormal noise or vibration occurs, have the problem corrected before further use.
Do not use damaged equipment.
3. **Daily:** With a clean cloth, remove all dirt, grease, and oil from the Laser Level. Do not immerse the Laser Level in any liquids.
4.  **WARNING!** All maintenance, service, or repairs not listed in this manual are only to be attempted by a qualified service technician.

NOTE: NO REPLACEMENT PARTS ARE AVAILABLE FOR THIS PRODUCT.