

CENTECH.

SELF-LEVELING LASER LEVEL

Model 92703

SET UP AND OPERATING INSTRUCTIONS



Visit our website at: <http://www.harborfreight.com>



**Read this material before using this product.
Failure to do so can result in serious injury.
SAVE THIS MANUAL.**

Copyright© 2005 by Harbor Freight Tools®. All rights reserved. No portion of this manual or any artwork contained herein may be reproduced in any shape or form without the express written consent of Harbor Freight Tools. Diagrams within this manual may not be drawn proportionally. Due to continuing improvements, actual product may differ slightly from the product described herein. Tools required for assembly and service may not be included.

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

Revised Manual 10h

SAVE THIS MANUAL

Keep this manual for the safety warnings and precautions, assembly, operating, inspection, maintenance and cleaning procedures. Write the product's serial number in the back of the manual near the assembly diagram (or month and year of purchase if product has no number). Keep this manual and the receipt in a safe and dry place for future reference.

IMPORTANT SAFETY INFORMATION

In this manual, on the labeling, and all other information provided with this product:



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

DANGER

DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

WARNING

WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION

CAUTION, used with the safety alert symbol, indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTICE

NOTICE is used to address practices not related to personal injury.

CAUTION

CAUTION, without the safety alert symbol, is used to address practices not related to personal injury.

General Safety Warnings



WARNING! Read all safety warnings and instructions. Save all warnings and instructions for future reference.

DANGER

Laser Light. Avoid direct eye exposure. The included laser enhancement glasses are **NOT** intended to protect your eyes in any way.

1. Do not direct the laser beam into the eyes of any person or animal. Doing so may cause severe injury to the eye.
2. Verify Laser Level is in the "Off" position before making any adjustments or changing the batteries.
3. Position batteries in proper polarity and do not install batteries of different types, charge levels, or capacities together.
4. Remove batteries if Laser Level is not to be used for a long period of time.
5. The Laser Level is a delicate instrument; do not drop or jar the Laser Level.
6. Wear ANSI-approved safety goggles and heavy-duty work gloves during use.
7. Keep work area clean and well lit.
8. This product is not a toy. Keep it out of reach of children.

Rev 05c, 06b

9. Keep children and bystanders away while operating Laser Level.
10. Inspect before every use; do not use if parts loose or damaged.
11. Stay alert, watch what you are doing and use common sense when operating Laser Level. Do not use Laser Level while you are tired or under the influence of drugs, alcohol or medication.
12. Dress properly. Do not wear loose clothing or jewelry. Keep your hair, clothing and gloves away from moving parts.
13. Maintain labels and nameplates on the tool. These carry important safety information. If unreadable or missing, contact Harbor Freight Tools for a replacement.
14. **WARNING:** This product contains or, when used, produces a chemical known to the State of California to cause cancer and birth defects or other reproductive harm. (California Health & Safety Code § 25249.5, *et seq.*)
15. The warnings, precautions, and instructions discussed in this instruction manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.

 **SAVE THESE INSTRUCTIONS.**

SPECIFICATIONS

Laser Range	Projects Up to 40 ft.
Max. Tripod Height	48"
Self Leveling Range	6°
Batteries	(3) AAA (included)



LASER LIGHT
 AVOID DIRECT EYE EXPOSURE
 Max. Output: <5 mW,
 Wavelength: 650 nm ± 10 nm
 CLASS IIIa LASER PRODUCT

This product complies with
 21 CFR 1040.10 and 1040.11
 CEN-TECH
 3491 Mission Oaks Blvd.,
 Camarillo, CA, USA, 93011
 Manufacture Date: _____

UNPACKING

When unpacking, make sure that the item is intact and undamaged. If any parts are missing or broken, please call Harbor Freight Tools at 1-800-444-3353 as soon as possible.

INSTRUCTIONS FOR PUTTING INTO USE



Read the ENTIRE IMPORTANT SAFETY INFORMATION section at the beginning of this manual including all text under subheadings therein before set up or use of this product.

⚠ WARNING TO PREVENT SERIOUS INJURY

FROM ACCIDENTAL OPERATION:

Turn the Power Switch to Off before adjusting Laser Level.

Note: For additional information regarding the parts listed in the following pages, refer to the Assembly Diagram near the end of this manual.

Assembly

1. Remove the tripod from the case.
2. Open tripod's legs and adjust positioning of each leg until base is level. Use bubble level in tripod base as a guide.
3. Remove the Laser Level from the case.
4. Install batteries, making sure to align batteries according to indicated polarity.
5. Attach the Laser to the tripod base. Do this by threading the bolt at the top of the tripod through the holes at the center of the Laser Level's lower base.
6. Level the Laser by using the tri-brack adjustment screws until the bubbles are centered on the two levels.
7. Loosen the brass screw located under the center of the Laser Level's upper base until the pendulum lock is released.
8. Turn on the Laser. Allow the laser lines to stabilize for 4 to 6 seconds before starting any measuring or leveling tasks.
9. To disassemble and store, follow the above directions in reverse. **Please note:** Retighten the brass screw under the Laser Level before continuing. This will lock down the pendulum during disassembly.

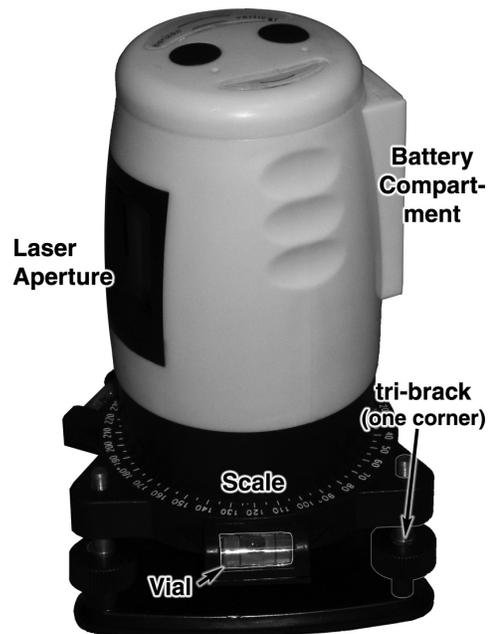
OPERATING INSTRUCTIONS



Read the **ENTIRE IMPORTANT SAFETY INFORMATION** section at the beginning of this manual including all text under subheadings therein before set up or use of this product.

⚠ WARNING TO PREVENT SERIOUS INJURY FROM ACCIDENTAL OPERATION: Turn Power Switch to Off before adjusting Level.

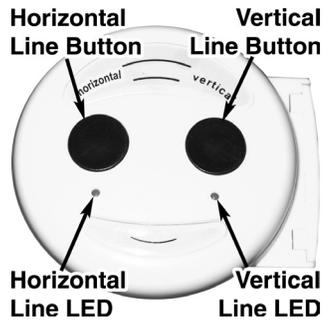
1. After removing the Laser from the Carrying Case, open the battery compartment, insert the three "AA" Batteries into the battery compartment according to the polarity symbols shown inside, and close the battery compartment door.
2. Be sure to set the Laser on as flat a surface as possible. The tri-brack adjustment on the base of the level can be used to help level the unit. (Turn each of the knobs to either raise or lower that corner.) The self-leveling range of the Laser is within $\pm 6^\circ$. Use the 2 Vials on the base to verify that the base is level.



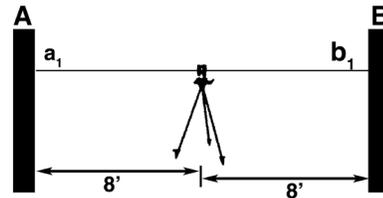
3. Release the Pendulum Lock on the bottom of the Laser Level, by loosening the Brass screw in the center.

Rev 05c, 05g, 07h

- Press the button for the desired line(s) on the top of the unit to switch "ON". The LED for the line will turn on when that line is switched on.

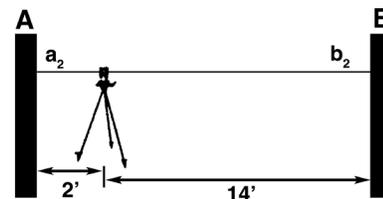


- Press both the horizontal and vertical buttons to project a laser cross on wall A. Mark point a_1 at the intersection of the beams. Turn the cross line laser 180° and repeat on wall B, marking point b_1 at the intersection of the beams, see below.



- The Laser Level will work properly if it is positioned within its self-leveling range.
- Allow 4-6 seconds for the horizontal and vertical Laser lines to be stabilized. After stabilization, the Laser lines can be used for measurement reference. Laser lines may swing slightly due to vibration from surroundings.
- To prevent damage to the level, tighten the pendulum lock after use and store in the carrying case.

- Move the instrument straight towards wall A to a point 2 ft. away and repeat step 2, marking the intersections as a_2 and b_2 , see below.



- a distance $(d_a) = |a_1 - a_2|$
 b distance $(d_b) = |b_1 - b_2|$
 If $|d_a - d_b| < 1\text{mm}$, the accuracy is within tolerance. Otherwise, return the instrument to a qualified technician for repair.

Accuracy Checking

NOTE: Due to the complicated, sensitive nature of these procedures, ordinarily only a qualified technician would attempt them.

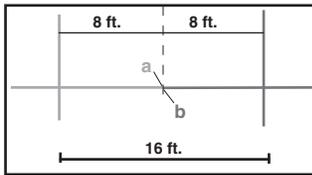
Level Beam Accuracy

- Set up the instrument with the Tripod centered between two walls approximately 16 ft. apart. Please ensure the Rotary Base is level.

Horizontal Beam Level Accuracy (End to End)

- Set up the instrument with the Tripod approximately 16 ft. from the wall. Please ensure the Rotary Base is level.
- Press both the horizontal and vertical buttons to project a laser cross on the wall, mark point a 8 ft. from the intersection of the beams to the right on the horizontal beam.
- Turn the instrument until the vertical beam has moved 16 ft. to the right side, and mark b 8 ft. from the intersection of

the beams to the left on the horizontal line.



4. If the distance between **a** and **b** is less than or equal to 2mm, the accuracy is within tolerance. Otherwise, take the instrument to a qualified technician for repair.

Vertical Beam Level Accuracy (End to End)

1. Set up the instrument with the Tripod, approximately 16 ft. from the wall. (The wall should be at least 17 ft. high). Please ensure the Rotary Base is approximately level.
2. Press both the horizontal and vertical buttons to project a laser cross on the wall, mark point A 8 ft. above the intersection of the beams on the vertical beam.
3. Use A as a starting point and nail one end of a string with plumb bob (not included) on A. The length of the string should be 16 ft.
4. Mark M1 16 ft. from point A on the string.
5. Mark M2 8 ft. below the intersection of the beams on the vertical line.
6. Measure the distance between M1 and M2.
7. If the distance is less than or equal to 2 mm, the accuracy is within tolerance. Otherwise, take the instrument to a qualified technician for repair.

After Using Laser

1. Detach Laser from Tripod.
2. Switch off both laser lines, horizontal and vertical. Check to see that both indicator LEDs are off.
3. Lock Pendulum Lock by tightening the screw in the center underneath the unit. After use the Pendulum Lock should be locked before the instrument is put away in the Carrying Case.
4. **Note:** When the Pendulum Lock is unlocked, do not shake or strike the instrument, otherwise the mechanism inside could be damaged.
5. **Warning:** Always make certain the Laser is OFF before adjusting or changing batteries.

MAINTENANCE AND SERVICING



Procedures not specifically explained in this manual must be performed only by a qualified technician.

!WARNING TO PREVENT SERIOUS INJURY

FROM ACCIDENTAL OPERATION:

Turn the **OFF** the Laser Level before performing any inspection, maintenance, or cleaning procedures.

TO PREVENT SERIOUS INJURY FROM TOOL FAILURE:

Do not use damaged equipment. If abnormal noise or vibration occurs, have the problem corrected before further use.

Installing and Removing Batteries

1. Remove the Battery Cover and insert three new "AA" Alkaline Batteries. Follow the polarity symbols so that the positive and negative ends of the batteries match the diagram.
2. **WARNING!** Do not mix old and new batteries. Remove batteries when storing Laser.

Replacement Parts

NOTE: Internal replacement parts are not available for this item.

Cleaning, Maintenance, and Lubrication

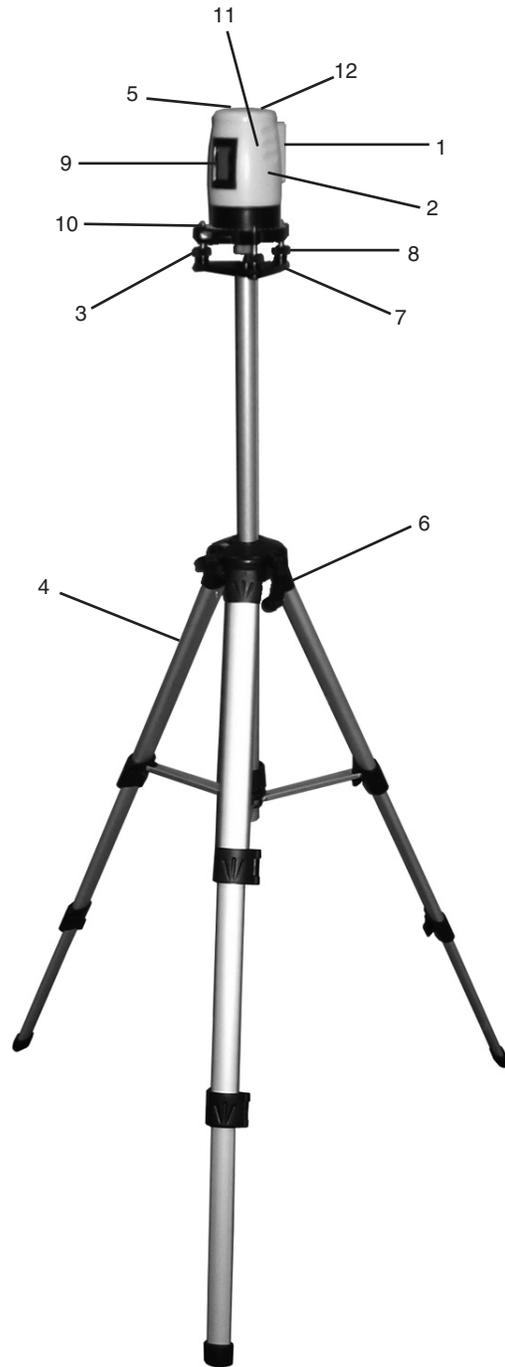
1. **BEFORE EACH USE**, inspect the general condition Laser Level. Check for loose hardware, misalignment or binding of moving parts, cracked or broken parts, and any other condition that may affect its safe operation.
2. **AFTER USE**, wipe external surfaces of the tool with clean cloth.
3. Store the Laser Level indoors and out of children's reach.

PLEASE READ THE FOLLOWING CAREFULLY

THE MANUFACTURER AND/OR DISTRIBUTOR HAS PROVIDED THE PARTS LIST AND ASSEMBLY DIAGRAM IN THIS MANUAL AS A REFERENCE TOOL ONLY. NEITHER THE MANUFACTURER OR DISTRIBUTOR MAKES ANY REPRESENTATION OR WARRANTY OF ANY KIND TO THE BUYER THAT HE OR SHE IS QUALIFIED TO MAKE ANY REPAIRS TO THE PRODUCT, OR THAT HE OR SHE IS QUALIFIED TO REPLACE ANY PARTS OF THE PRODUCT. IN FACT, THE MANUFACTURER AND/OR DISTRIBUTOR EXPRESSLY STATES THAT ALL REPAIRS AND PARTS REPLACEMENTS SHOULD BE UNDERTAKEN BY CERTIFIED AND LICENSED TECHNICIANS, AND NOT BY THE BUYER. THE BUYER ASSUMES ALL RISK AND LIABILITY ARISING OUT OF HIS OR HER REPAIRS TO THE ORIGINAL PRODUCT OR REPLACEMENT PARTS THERETO, OR ARISING OUT OF HIS OR HER INSTALLATION OF REPLACEMENT PARTS THERETO.

PARTS LIST AND ASSEMBLY DIAGRAM

PART	DESCRIPTION	QUANTITY
1	Battery Cover	1
2	Plastic Body	1
3	Lock Screw	1
4	Tripod	1
5	Switch (Horizon)	1
6	Adjustable Handle	1
7	Base	1
8	Adjustable Screw	3
9	Laser Window	1
10	Bubble Vial	2
11	Laser Modules (Internal)	1
12	Switch (Vertical)	1



Record Product's Serial Number Here: _____

Note: If product has no serial number, record month and year of purchase instead.

Note: Some parts are listed and shown for illustration purposes only, and are not available individually as replacement parts.

Rev 07h