



Self-Leveling 360° Laser w/Plumb Line
Model Nos. 40-6606, 40-6607, 40-6611



Instruction Manual

Congratulations on your choice of this Self-Leveling 360° Laser w/Plumb Line. We suggest you read this instruction manual thoroughly before using the instrument and save this instruction manual for future use.

This is a Class II laser tool and is manufactured to comply with CRF 21, parts 1040.10 and 1040.11 as well as international safety rule IEC 285.



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1. Kit Contents

<u>Description for Model 40-6606</u>	<u>Qty.</u>
Self-Leveling 360° Laser w/Plumb Line	1
“AA” Alkaline Batteries	2
<u>Description for Model 40-6607 & 40-6611</u>	<u>Qty.</u>
Self-Leveling 360° Laser w/Plumb Line	1
Magnetic Bracket	1
Tinted Glasses	1
Magnetic Target	1
“AA” Alkaline Batteries	2
Hard-Shell Carrying Case	1





2. Features and Functions

- Simultaneously or individually projects a 360° horizontal (level) line and a vertical (plumb) line.
- Tilt mode can be used to plot orthogonal reference lines at any angle
- Magnetically dampened compensator system stabilizes the pendulum quickly and accurately, and stays level even with nearby jobsite vibration
- Status light alerts you to when the tool is beyond its leveling range
- Locking mechanism protects the pendulum during transportation
- 1/4"-20 tripod thread for use with most common tripods.



3. Safety Instructions

Please read and understand all of the following instructions, prior to using this tool. Failure to do so, may void the warranty.

DANGER!

Class II Laser Product
Max. Power Output: $\leq 1\text{mW}$
Wavelength: 635nm (40-6606 & 40-6611)

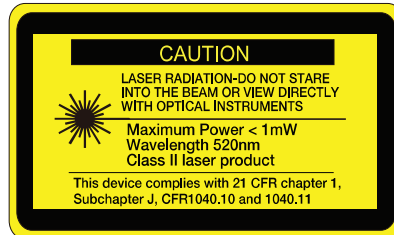
**THIS TOOL EMITS LASER RADIATION.
DO NOT STARE INTO BEAM.
AVOID DIRECT EYE EXPOSURE.**



DANGER!

Class II Laser Product
Max. Power Output: $\leq 1\text{mW}$
Wavelength: 520nm (40-6607)

**THIS TOOL EMITS LASER RADIATION.
DO NOT STARE INTO BEAM.
AVOID DIRECT EYE EXPOSURE.**



**ATTENTION****IMPORTANT**

- Read all instructions prior to operating this laser tool. Do not remove any labels from tool.
- Do not stare directly at the laser beam.
- Do not project the laser beam directly into the eyes of others.
- Do not set up laser tool at eye level or operate the tool near a reflective surface as the laser beam could be projected into your eyes or into the eyes of others.
- Do not place the laser tool in a manner that may cause someone to unintentionally look into the laser beam. Serious eye injury may result.
- Do not operate the tool in explosive environments, i.e. in the presence of gases or flammable liquids.
- Keep the laser tool out of the reach of children and other untrained persons.
- Do not attempt to view the laser beam through optical tools such as telescopes as serious eye injury may result.
- Always turn the laser tool off when not in use or left unattended for a period of time.
- Remove the batteries when storing the tool for an extended time (more than 3 months) to avoid damage to the tool should the batteries deteriorate.
- Do not attempt to repair or disassemble the laser tool. If unqualified persons attempt to repair this tool, warranty will be void.
- Use only original Johnson® parts and accessories purchased from your Johnson® authorized dealer. Use of non-Johnson® parts and accessories will void warranty.



4. Location/Content of Warning Labels



5. Location of Parts/Components



6. Operating Instructions

IMPORTANT: It is the responsibility of the user to ensure proper maintenance of the Self-Leveling 360° Line Laser. Conduct periodic test measurements to ensure the instrument is measuring accurately and consistently. This is most important if the instrument has been exposed to extreme temperatures or moisture. Keep the Self-Leveling 360° Line Laser optic lens clean and inspect for damage.

Battery Installation

To install batteries in the Self-Leveling 360° Line Laser:

1. Remove the battery cover, which is located at the back of the tool, by pressing the battery cover release tabs found on the left and right side of the tool and pulling the cover back.
2. Insert 2 “AA” batteries into the battery compartment according to the polarity illustrated inside.
3. Replace the battery cover. Press in the release tabs as you insert them into the tool housing.



Notes:

- Always check that the locking compensator/power switch is in the locked position before removing and replacing batteries.
- Use only alkaline batteries.
- Remove the batteries when storing the instrument for an extended time (more than 3 months) to avoid damage to the tool should the batteries deteriorate.



Using the Product in Self-Leveling Mode

1. Slide the locking compensator up to the unlocked position to power on the unit. The status light will illuminate, and the unit will emit both a 360° horizontal (level) line and a vertical (plumb) line.
2. Press the tilt mode button once to produce only the 360° horizontal (level) line.
3. Press the tilt mode button a second time to produce only the vertical (plumb) line.
4. Press the tilt mode button a third time to again produce both a 360° horizontal (level) line and a vertical (plumb) line.
5. Slide the locking compensator down to the locked position to power off the unit.

Note: The Self-Leveling 360° Line Laser must be within $\pm 4^\circ$ of level for the self-leveling feature to function properly. If the instrument is beyond its 4° self-leveling range, the unit will not self-level, the laser will flash and the status light will turn red. Once the instrument has been adjusted to within its 4° self-leveling range, the laser will self-level, the status light will turn green and the laser light will stop flashing and remain solid.

Using the Product in Tilt (Manual Level) Mode

The Self-Leveling 360° Line Laser can be used to project laser beams at any angle desired, such as when projecting a line for stairs or a railing. This mode produces the best results when the tool is mounted on a tripod.





1. With the locking compensator down in the locked position, tap the tilt mode button to power on the unit. The status light will illuminate in red, and the unit will emit both a 360° horizontal (level) line and a vertical (plumb) line.
2. Press the tilt mode button a second time to produce only the 360° horizontal (level) line.
3. Press the tilt mode button a third time to produce only the vertical (plumb) line.
4. Press the tilt mode button a fourth time to power off the unit.

Tips from the Pros

- **Increasing the Beams' Visibility** – When working in bright conditions, such as when working near windows or outside walls, the visibility of the laser beams can be maximized by following these steps:
 - Work towards the laser.
 - Use a freestanding target (sold separately).
 - Wear laser glasses (sold separately).

Note: Laser glasses enhance beam visibility but should never be used to stare into the beam or be used as safety glasses. Eye damage may result if these directions are not followed.





Care and Handling

- This Self-Leveling 360° Line Laser is a precision tool that must be handled with care.
- Avoid exposing unit to shock vibrations and extreme temperatures.
- Remove the batteries when storing the unit for an extended time (more than 3 months) to avoid damage to the unit should the batteries deteriorate.
- Avoid getting the unit wet.
- Keep the laser unit dry and clean, especially the laser output window. Remove any moisture or dirt with a soft, dry cloth.
- Do not use harsh chemicals, strong detergents or cleaning solvents to clean the unit.



7. Checking Accuracy

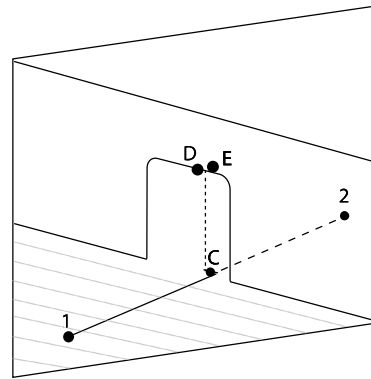
IMPORTANT: It is the responsibility of the user to verify the calibration of the instrument before each use.

Plumb Accuracy Check

Plumb accuracy can be checked in two ways. The easier, though less accurate, method is to project the beam on a flat wall and use a plumb bob to check the plumb of the beam.

The more accurate method to check the plumb line accuracy is to follow these steps:

1. Place the laser on the floor in a fairly dark room, approximately 10' from a doorway.
2. Project the plumb beam through the doorway.
3. Mark the plumb beam's closet point to the tool on the floor as Point 1.
4. Mark a spot 20' away as Point 2.
5. Mark directly under the doorway as Point C.
6. Mark a spot directly above Point C, but on the doorway, as point D.
7. Move the laser to Point 2, and aim the plumb beam directly through Point 1 and Point C.
8. Mark on the doorway Point E.
9. Measure the distance between Point D and Point E. If this distance is less than 1/8" for a 10' high doorway, then the tool is properly calibrated.





360° Line Accuracy Check

The accuracy of the 360° beam can be checked by following these steps:

1. Set the device on a table or tripod, centered in a room with walls ideally 20' away (minimum 10').
2. Turn the laser on, and after it self-levels, make a horizontal mark on the wall anywhere along the 360 line to indicate the height of the beam. Label this as Point A.
Tip: Choose a reference edge (top or bottom) of the beam to get better results; do not try to measure or estimate the beam centerline.
3. Turn the device 90°, and after it self-levels, mark Point B on the same spot on the wall as Point A where the beam intersects. This mark should either be directly above, below or on top of Point A.
4. Repeat Step 3 twice more, labeling the marks as Point C and Point D, respectively.
5. Using the marks A, B, C and D, measure the greatest vertical distance between any two of the points. This will be measurement 'h'.
6. If $h < 1/8''$ (for walls 10' away from the tool), the accuracy of the instrument is within its specifications.
7. If $h < 1/4''$ (for walls 20' away from the tool), the accuracy of the instrument is within its specifications.





8. Application Examples

360° lasers can take the place of rotary lasers in many indoor applications. The added plumb line gives extra versatility, duplicating the utility of a crossline. The tilt/manual level mode allows operation at unique angles for difficult layout tasks. Some applications for the Self-Leveling 360° Line Laser include:

- Plumb layout of studs
- Squaring of walls, beams or posts
- Level layout of chair rails, wainscoting, baseboards, etc.
- Installing photographs plumb or level
- Plumb layout of wallpaper, pinstriping, plumbing and electrical conduit, etc.
- As a level reference for setting the slope of drainage piping
- In tilt/manual level mode to layout railings, photographs and other wall art at any angle.
- Installing tile or other flooring on walls and floors
- Installing partitions, windows or doorways
- Fixing cabinetry
- As a measuring reference for checking spacing or the angle of objects
- Bottom plate layout for new walls or partitions
- Reference height for drop ceiling installations
- Height reference for setting posts or pipes



9. Troubleshooting Guide

This section is designed to help you diagnose and troubleshoot common problems that prevent the Self-Leveling 360° Line Laser from working properly.

Symptom	Possible Cause	Solution
Will not turn on	Batteries missing or depleted	Change the batteries
	Polarity reversed	Check battery polarity
Turns off after a short time	Batteries depleted	Change the batteries
Laser light is dim	Batteries depleted	Change the batteries
Laser light is blinking	Laser is out of self-leveling range	Position laser within 4° of level so that it can self-level
Laser will not self-level	Laser is out of self-leveling range	Position laser within 4° of level so that it can self-level
	Compensator is locked	Unlock compensator to allow the pendulum to self-level; operating with the compensator locked is for tilt/manual level mode at unique angles



10. Technical Specifications

Laser Wavelength	635 nm (40-6606 & 40-6611)
Laser Wavelength	520 nm (40-6607)
Laser Classification	II
Maximum Power Output	$\leq 1\text{mW}$
Self-Leveling Range	$\pm 4^\circ$
Laser Accuracy	$\pm 3/16'' / 30'$
Measuring Range	0' - 50'
Power Supply	2 "AA" alkaline batteries (included)
Battery Life*	16 hours/12 hours (40-6606 & 40-6611) 12 hours/6 hours (40-6607)
Operating Temperature Range	32°F - 104°F
Storage Temperature Range	0°F - 120°F
Dimensions	3" x 3" x 2.5"
Weight	0.4 lbs
Tripod Thread	1/4" – 20
IP Rating	IP 50

* Battery life reported with all beams enabled, as tested with lithium AA/Alkaline AA.





11. Product Warranty

Johnson Level & Tool offers a two year limited warranty on each of its products. You can obtain a copy of the limited warranty for a Johnson Level & Tool product by contacting Johnson Level & Tool's Customer Service Department, as provided below, or by visiting our web site at www.johnsonlevel.com. The limited warranty for each product contains various limitations and exclusions.

Do not return this product to the store/retailer or place of purchase. Non-warranty repairs and course calibration must be done by an authorized Johnson® service center or Johnson Level & Tool's limited warranty, if applicable, will be void and there will be NO WARRANTY. Contact one of our service centers for all non-warranty repairs. A list of service centers can be found on our web site at www.johnsonlevel.com or by calling our Customer Service Department. Contact our Customer Service Department for Return Material Authorization (RMA) for warranty repairs (manufacturing defects only). Proof of purchase is required.

NOTE: The user is responsible for the proper use and care of the product. It is the responsibility of the user to verify the calibration of the instrument before each use.

For further assistance, or if you experience problems with this product that are not addressed in this instruction manual, please contact our Customer Service Dept.

In the U.S., contact Johnson Level & Tool's Customer Service Department at 888-9-LEVELS (888-953-8357).

In Canada, contact Johnson Level & Tool's Customer Service Department at 800-346-6682.



12. Warranty Registration

Please register within 30 days of purchase. Registering ensures we have your information on file for warranty service even if you lose your receipt, and lets us contact you if there is ever a product recall. We will never sell your information and only send you marketing information if you opt-in.

To register, go to www.johnsonlevel.com/register.

