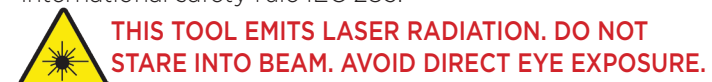


Thank you for your purchase of this pipe laser, the ideal tool for installing storm, sanitary or other gravity-flow drainage pipe. This laser is also designed for tunneling, boring, pipe alignment, or any other application requiring line, elevation, and grade control.

SAFETY INFORMATION

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



ATTENTION:

- Read all instructions before operating this tool. Do not remove any labels from the tool.
- Do not project the laser into the eyes of others.
- Do not set up the laser tool at eye level, or operate the tool near reflective surfaces, as the beam can be projected into your eyes or 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. Serious eye injury may result.
- Always turn off the laser tool when not in use or when left unattended for any period of time.
- Disassembly or repair by unqualified persons will void the warranty.

SAFETY LABEL LOCATIONS



MAIN COMPONENTS



REMOTE CONTROL OVERVIEW



PREPARING FOR OPERATION

• Before use, charge the battery. The battery can be charged by removing it from the tool and plugging the included USB adapter into the bottom of the battery and the AC adapter. Alternatively, you can charge the battery while it is installed in the tool by plugging the AC adapter directly into the power receptacle. When recharging by USB, there will be no indication of battery charge, but a full charge from the discharged state takes approximately 6 hours.



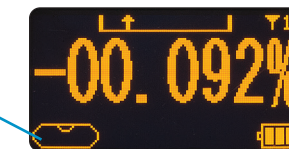
• Before inserting the pipe laser into the pipe, install the desired leg set. The leg sets center the laser in a pipe of the size indicated on each leg. For example, the legs marked 150 will center the laser in a pipe of 150mm (or 6") diameter. The leg sets included will center the laser in pipe sizes of 6", 8", 9", 10" and 12".

- It is the operator's responsibility to confirm accuracy of the tool before every job. See "ACCURACY CHECK" for instructions on how to confirm your laser is within its calibration spec.
- Place the laser into your pipe and power it on by pressing **⏻** on the laser. The laser will not receive remote control signals while powered off.
- Set the target height so that the beam passes through the bullseye on the target while the beam is at a grade of 0.0%. There are three target inserts to choose from based on your selected legs.
- Finally, set the remote control channel by pressing **⏪** on the remote. You can choose from channels 1 - 9. If you are working with multiple pipe lasers in the area, ensure each is on its own channel.

OPERATING THE LASER

- Place the laser into the pipe. Level the laser side-to-side until the level indicator on the display (shown below) reads centered.

SIDE-TO-SIDE LEVEL INDICATOR



- Power on the remote control by pressing **⏻** on the remote. Note, the remote cannot be used to power on or off the laser, although the laser can be put into sleep mode by pressing **⏸** on the remote. This will disable the laser beam and flash the centerline light to alert you that the laser is in sleep mode.
- Set the channel on the remote to match that of the laser by pressing **⏪**. Note: the remote will control any additional pipe lasers in the area set to the same channel, so use caution when working with multiple pipe lasers. The remote uses radio frequency and does not require line of sight to work.
- At any time, you can enable or disable the beam centerlight by pressing **⚙**. The beam centerlight gives you a quick visual reference of the horizontal position from which the beam is emitted, which is useful for rough sighting from the rear of the laser.
- The laser will always self-level at startup (0.0% slope). In this mode, the laser will project a perfectly level (horizontal) beam.
- In most cases, you won't use the laser in the level position; you'll instead slope the beam to set your desired drainage angle. The drainage angle typically comes from your engineering plans.
- To set the laser's slope, press **⚙**, then use **⬆** and **⬇** to adjust first the slope direction (**⬆** tilts the beam up as you go away from the laser; **⬇** tilts the beam down as you go away from the laser). Press **⚙** to move onto the next column. Again, use **⬆** and **⬇** to adjust each digit in the slope setting, pressing **⚙** after each to move to the



next column. When you are finished, press **ENTER** to confirm your selection. The “%” indicator on the remote’s display will flash while the beam is adjusting and return to solid when the correct slope has been achieved.

- When the proper grade is set, place the target in the center of the far end of the pipe. Do not adjust the target’s height, instead adjust the pipe height until the beam passes through the target to achieve the proper grade.
- The beam can be adjusted side-to-side to compensate for misalignment of the laser or target in the pipe by pressing (or holding for faster movement) **◀** and **▶**. The beam position will be indicated on the display as shown by the arrow in the figure below.

BEAM POSITION INDICATOR



- Note the position of the laser dot on your target. The dot should pass through the center of your target bullseye. If the dot is too high, the far end of the pipe should be lowered (or the near end raised). If the dot is too low, the far end should be raised (or the near end lowered).



- As you add new sections of pipe, keep the laser in position and move only the target. This will keep your piping in a straight line and set to the correct slope. Your piping will be straight and aligned to the grade you have set.

TROUBLESHOOTING

The following can help you troubleshoot the most common issues you may experience with your pipe laser. For additional information not shown here, visit us on the web (www.johnsonlevel.com) or reach out to our customer service team.

Laser will not power on

- Check the battery is charged & properly installed.
- Operate from AC power using the AC adapter if the battery is not charged.
- Ensure you are powering the laser on from the laser’s control panel. The remote control cannot be used to power on the laser.
- Ensure the laser is not in sleep mode. Sleep mode can be toggled by pressing **SLEEP**.

Laser light is dim

- Charge or replace the battery pack or operate using the included AC adapter.

Remote control will not function

- Replace the remote’s batteries if the remote will not power on.
- If the remote is powering on but not operating the laser, check that the communication channel on the remote matches the channel on the laser.
- Check that there is no interference from nearby pipe lasers.
- Note: The remote cannot power on the laser. You must manually power on the laser.

Laser will not set correct slope

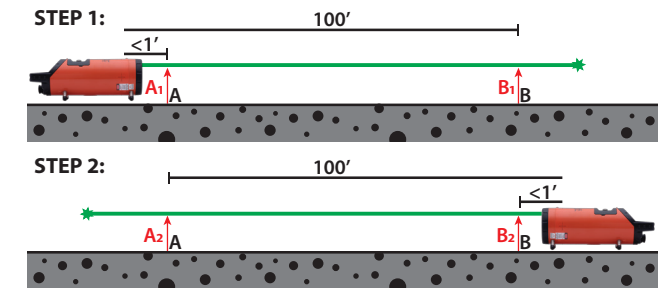
- Confirm proper setting of slope mode. See OPERATING THE LASER.
- Confirm calibration. See ACCURACY CHECK.
- Confirm the laser is within its self leveling range of $\pm 10^\circ$.
- For extreme slopes near the limits, the laser should not be at the extreme ends of its self-leveling range. For example, you may not be able to set a slope of +30% if the laser is tilted -10° . Position the laser closer to level.

ACCURACY CHECK

Power on the laser on a flat surface at least 100’ long with a slope $< 4''/100'$ (e.g., a parking lot).

Step 1: Mark the centerline of the beam on the ground $< 1'$ from the laser aperture as point “A”. Mark the centerline of the beam on the ground 100’ away as point “B”. Measure the heights of the beam center over the ground (A_1 and B_1).

Step 2: Move the laser behind point “B”, and aim it to pass over points “A” and “B”. Record beam center heights over “A” and “B” as A_2 and B_2 .



If $(A_2 - A_1) - (B_2 - B_1) < 1/8''$, the laser is within spec. If the laser is out of spec, do not use it. Return it to an authorized Johnson service center for repair or calibration.

SPECIFICATIONS

Laser	Class IIIa, $< 5\text{mW}$, 520nm
Accuracy	$\pm 1/16''$ @ 100'
Range	Up to 2000'
Self-Leveling	$\pm 10^\circ$
Left/Right Scan	$\pm 4^\circ$
Grade Range	-20% to +30%
Power Supply	Li-Ion Battery Pack
Battery Life	24 hr
Operating Temp	-4°F to 122°F
IP Rating	IP68
Weight	8.8 lb
Dimensions	$3\ 3/4'' \times 3\ 3/4'' \times 14\ 15/16''$

PRODUCT REGISTRATION

Please register your product 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 will only send you marketing information if you opt-in.

To register, scan or click:



www.johnsonlevel.com/register

PRODUCT WARRANTY

Johnson Level & Tool offers a three-year limited warranty on this product. You can obtain a copy of this warranty on our website or by contacting our customer service department. The limited warranty contains various limitations and exclusions.

Do not return this product to the place of purchase. Non-warranty repairs and calibration must be done by an authorized Johnson service center or the warranty will be void. A service center list can be found on our website.

Contact us for an RMA number before sending any product in for service. Proof of purchase is required for warranty service.

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. If you experience problems with this product, please contact us.

In the USA: 888-953-8357

In Canada: 800-346-6682

Email: service@johnsonlevel.com

On the Web: www.johnsonlevel.com



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