



Self-Leveling 3 Line or 3 Cross-Line Laser

Model No. 40-6645



Instruction Manual

Congratulations on your choice of this Self-Leveling 3 Line or 3 Cross-Line Laser. We suggest you read this instruction manual thoroughly before using the instrument. Save this instruction manual for future use.

This laser emits 3 laser beams that create 3 cross-lines. The laser features quick damping, visual and audible out of range indication, and a pendulum-locking design. Beam visibility depends upon lighting conditions in the work area.

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.



Table of Contents

1. Kit Contents	8. Self-Check & Fine Calibration
2. Features and Functions	9. Technical Specifications
3. Safety Instructions	10. Application Demonstrations
4. Location/Content of Warning Labels	11. Care and Handling
5. Location of Parts/Components	12. Product Warranty
6. Operating Instructions	13. Warranty Registration
7. Using the Product	14. Accessories
	15. Trouble Shooting

1. Kit Contents

Description for Model 40-6645

Description for Model 40-6645	Qty.
Self-Leveling 3 Line or 3 Cross-Line Laser	1
Multi-functional Elevating Magnetic Bracket	1
“AA” Alkaline Batteries	3
Instruction Manual with Warranty Card	1
Soft-Sided Pouch	1

2. Features and Functions

- Indoor and outdoor use (for outdoor use, must use 40-6780 detector, not included)
- Simultaneously projects three cross-lines or one horizontal line, one vertical line or one additional vertical line.
- Locking mechanism protects inner pendulum during transportation.
- Self-leveling with visual and audible alarms when beyond leveling range.
- Emits continuously either a solid or pulse beam (pulse beam for use with detector).
- Manual mode allows unit to tilt to extreme angles.





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 IIIa Laser Product
Max. Power Output: $\leq 5\text{mW}$
Wavelength: 625-645nm

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



ATTENTION

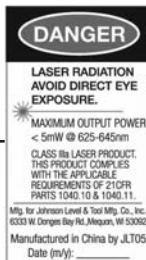


IMPORTANT

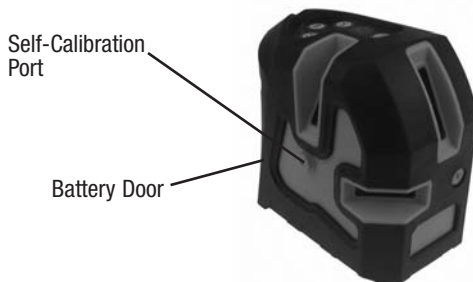
- Read all instructions prior to operating this laser tool. Do not remove any labels from tool.
- Do not stare directly at the laser beam.
- Do not project the laser beam directly into the eyes of others.
- Do not set up laser tool at eye level or operate the tool near a reflective surface as the laser 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.



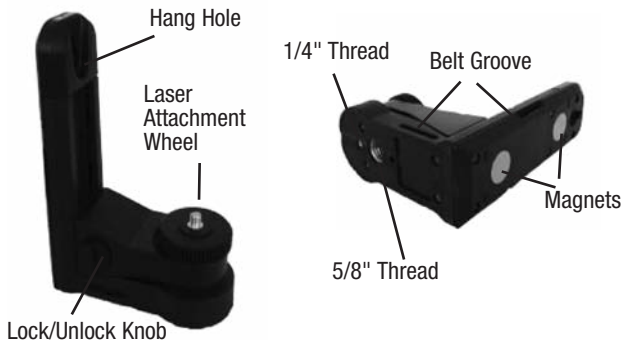
4. Location/Content of Warning Labels



5. Location of Part/Components



Multi-Functional Elevating Magnetic Bracket



6. Operating Instructions

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

Battery Installation

Note: Always check to be sure that the on/off switch is in the off position before removing and replacing batteries.



Open the battery door and put 3 x AA alkaline batteries into the battery case according to the polarity indication shown by battery case. Then put the battery door back on.

Note:

- Pay attention to the polarity of the batteries.
- Used (discharged) batteries are hazardous waste and should be disposed of properly.

Multi-Functional Elevating Bracket

Place the laser on a horizontal surface and unlock the compensator lock (if the laser flashes with an audible alarm, the laser is out of its leveling range).

The laser can be attached to the bracket and raised and lowered 2 1/2".



The laser can be attached to the bracket and rotate 360°.



The laser can be attached to a tripod using the 5/8" thread on the bracket.



The laser can be attached to a metallic surface.



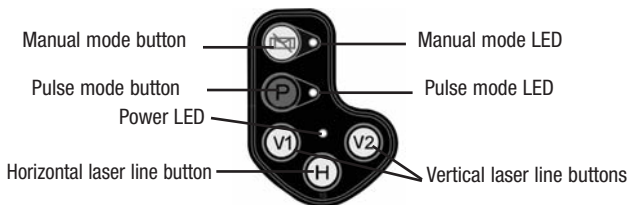
The laser can be strapped to a column.



The laser can be hung using a screw.



7. Using the Product



Power LED:

Light On: Power on

Light Off: Power off

Light Flashing: Low Battery

Pulse mode LED:

Light On: Pulse mode on and the laser can be used with the 40-6780 detector (not included)

Light Off: Pulse mode is off

**Manual mode LED:**

Light On: Manual mode is on and laser can be turned on with compensator locked

Light Off: Manual mode is off

Note: When manual mode is on, the laser does not self-level and no out-of-level alarm is indicated.

Compensator Lock and Power On/Off Switch:

Turn the switch up, the laser is on, and the power LED is on.

Turn the switch down, the laser is off, the power LED is off.

Pulse Mode:

Push the pulse mode button to turn on. The pulse LED light will be lit and the laser line will be dim. The laser can be used with the 40-6780 detector (not included) when the pulse mode is on. Push the pulse mode button again to turn off the pulse mode. The pulse LED light will not be lit and the laser line brightness will be normal.

Manual Mode:

Press the manual mode button with the transportation lock knob in the “Locked” position. The power LED will light and the manual mode LED will flash. The instrument is now in the manual mode.

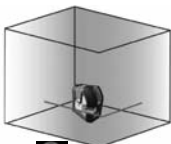
Note: When manual mode is on, the laser does not self-level and no out-of-level alarm is indicated.

Press the manual mode button again and the instrument will power off.

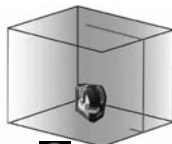


1. If the instrument is in manual mode and the instrument is turned to the “Unlock” position, the instrument will exit manual mode and enter self-leveling mode.
2. If the instrument is in the “Unlock” position, pressing the manual mode button will not get a response.

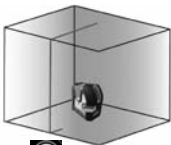
Output of the laser line



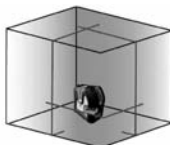
Press the **H** button to form the horizontal line above



Press the **V1** button to form the vertical line above



Press the **V2** button to form the vertical line above



Press all 3 buttons to form the laser lines shown above

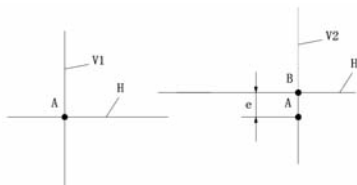


8. Self-Check & Fine Calibration

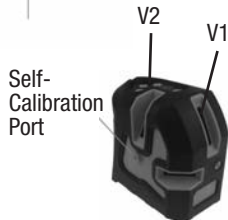
IMPORTANT: It is the responsibility of the user to verify the calibration of the instrument before each use.

Horizontal Accuracy (transversely)

1. Locate a wall, set up an elevated tripod 15 feet away from the wall, fix the laser to the tripod.
2. Rotate the laser until the V1 laser beam faces the wall and power on all the laser lines, mark the cross dot of V1 and H on the wall as point “A”.
3. Rotate the laser 90° counter-clockwise and mark the cross dot of V2 line and H line as “B”.
4. Measure the distance ‘e’ between “A” and “B”. (See illustration below)
5. If the distance is greater than 3mm (0.125”), then the horizontal line accuracy is out of tolerance and the laser needs to be calibrated.



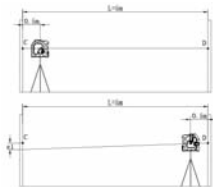
When the horizontal line accuracy is out of tolerance, remove the screw of the self-calibration port. Use a 3mm hex wrench to adjust the laser to get a distance $\leq 3\text{mm}$.





Horizontal Accuracy (longitudinal)

1. Set up two grade rods which are 15 feet away from each other as seen to the right (or two parallel walls which are more than 15 feet away from each other.)
2. Mount the laser on a tripod 15 feet away from the left grade rod, level out the bubble by adjusting the tripod.
3. Power on the laser, mark the cross dot of V1 line and H line on the grade rod as "C".
4. Rotate the tripod 180°, mark the cross dot of V2 and H as "D".
5. Move the tripod 15 feet away from the right grade rod. Line up the cross dot with point "D" by elevating the tripod.
6. Rotate the laser 180°, measure the distance between the new projected cross dot and point "C".
7. If the distance is greater than a 3mm (0.125"), the horizontal accuracy of the laser is out of tolerance and the laser needs to be calibrated.



When the horizontal accuracy is out of tolerance, remove the screw of the self-calibration port. Use a 3mm hex wrench to adjust the weight inside the laser to make the distance $\leq 3\text{mm}$

Self-
Calibration
Port



Note: If you could not calibrate the accuracy through the self-calibration port, please send the instrument to Johnson Level for service.





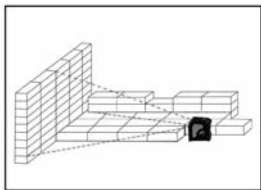
9. Technical Specifications

Laser Wavelength	635nm±10nm
Laser Classification	Class IIIa
Maximum Power Output	≤5mW
Accuracy	±3/16"/50 ft. (±3mm/10m)
Interior Range	Up to 200 ft. (60m) depending upon light conditions
Exterior Range	Up to 300 ft. (90m) with detector (not included)
Self-leveling Range	±3°
Power Supply	3 "AA" alkaline batteries
Battery Life	Approx. battery life 10 hours continuous use
Dimensions	4.25" x 2.5" x 4.25" (108 x 64 x 108mm)
Weight	1.3 lbs (0.6 Kg)
Working Temperature	14°F to 113°F (-10°C to +45°C)
Center Screw Thread	5/8" – 11
IP Protection	54

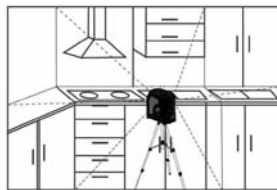




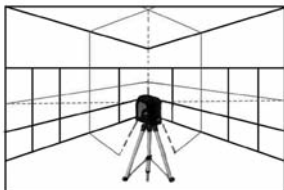
10. Application Demonstrations



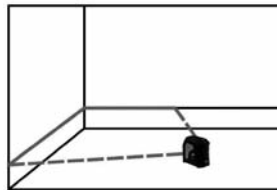
Setting Block Walls



Installing Cabinets



Installing Partitions



Installing Baseboards





11. Care and Handling

- This laser unit is a precision tool that must be handled with care.
- Avoid exposing unit to shock vibrations and extreme temperatures.
- Before moving or transporting the unit, make sure that the unit is turned off.
- Remove the batteries when storing the unit for an extended time (more than three months) to avoid damage to the unit should the batteries deteriorate.
- Always store the unit in its case when not in use.
- 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 laser unit.

12. Product Warranty

Johnson Level & Tool offers a three 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.

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

13. Warranty Registration

Enclosed with this instruction manual you will find a warranty registration card to be completed for your product. You will need to locate the serial number for your product that is located on the bottom of the unit. **PLEASE NOTE THAT IN ADDITION TO ANY OTHER**

LIMITATIONS OR CONDITIONS OF JOHNSON LEVEL & TOOL'S LIMITED WARRANTY, JOHNSON LEVEL & TOOL MUST HAVE RECEIVED YOUR PROPERLY COMPLETED WARRANTY CARD AND PROOF OF PURCHASE WITHIN 30 DAYS OF YOUR PURCHASE OF THE PRODUCT OR ANY LIMITED WARRANTY THAT MAY APPLY SHALL NOT APPLY AND THERE SHALL BE NO WARRANTY.





14. Accessories

Johnson® accessories are available for purchase through authorized Johnson® dealers. Use of non-Johnson® accessories will void any applicable limited warranty and there will be NO WARRANTY. If you need any assistance in locating any accessories, please contact our Customer Service Department.

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

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





15. Trouble Shooting

- If the unit does not turn on, check the battery polarity or clean battery terminals and install new alkaline batteries.
- If the laser does not illuminate, check the battery polarity or clean battery terminals and install new alkaline batteries.
- If the unit is out of calibration less than 1/4" at 50', follow calibration procedure in manual.
- If the unit is out of calibration more than 1/4" at 50', contact an authorized Johnson service center or Johnson Level & Tool's customer service department.
- If the unit will not calibrate, contact an authorized Johnson service center or Johnson Level & Tool's customer service department.
- If the unit beeps and/or flashes constantly, check to see if the unit is being tilted to angles beyond the self-leveling range. If the unit is being used for a level application, place onto a surface that is within the self-leveling range. If it is still beeping and/or flashing, the unit is out of calibration.
- If the unit turns off after a short time, clean the battery terminals and install new alkaline batteries. Also, make sure that the on/off knob is in the on position.

