



**Electronic Self-Leveling Horizontal &
Vertical Rotary Laser**
**Model Nos. 40-6526, 40-6529, 40-6534,
40-6544, 99-028K**



Instruction Manual

Congratulations on your choice of this Electronic Self-Leveling Horizontal & Vertical Rotary Laser. We suggest you read this instruction manual thoroughly before using the instrument. Save this instruction manual for future use.

This tool emits one rotating laser beam plus one plumb beam and is ideal for laying out indoor or outdoor construction projects.

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. Accuracy Check |
| 2. Features and Functions | 9. Technical Specifications |
| 3. Safety Instructions | 10. Application Demonstrations |
| 4. Location/Content
of Warning Labels | 11. Troubleshooting Guide |
| 5. Location of Parts/Components | 12. Care and Handling |
| 6. Operating Instructions | 13. Product Warranty |
| 7. Using the Product | 14. Warranty Registration |
| | 15. Accessories |

1. Kit Contents

Description Model No. 40-6526

	<u>Qty.</u>
Electronic Self-Leveling Horizontal & Vertical Red Beam Rotary Laser	1
Alkaline "C" Batteries	4
Tinted Glasses	1
Instruction Manual	1
Soft-Sided Carrying Case	1

Description Model No. 40-6529

	<u>Qty.</u>
Electronic Self-Leveling Horizontal & Vertical Red Beam Rotary Laser	1
Detector with Clamp & 9V Battery	1
Tinted Glasses	1
Target	1
6.4V battery adapter	1
Alkaline battery compartment (batteries not included)	1
Remote Control with 9V Battery	1
NiMH rechargeable battery pack	1
Instruction Manual	1
Hard-Shell Carrying Case	1

Description Model No. 40-6534

	Qty.
Electronic Self-Leveling Horizontal & Vertical Red Beam Rotary Laser	1
Detector with Clamp & 9V Battery	1
Tinted Glasses	1
Target	1
6.4V battery adapter	1
Alkaline battery compartment (batteries not included)	1
Remote Control with 9V Battery	1
NiMH rechargeable battery pack	1
Instruction Manual	1
Multi-Function Mount	1
Hard-Shell Carrying Case	1

Description Model No. 40-6544

	Qty.
Electronic Self-Leveling Horizontal & Vertical Green Beam Rotary Laser	1
NiMH rechargeable battery pack	1
Alkaline battery compartment (batteries not included)	1
6.4V battery adapter	1
Remote Control with 9V Battery	1
Wall/Ceiling Mount	1
Tinted Glasses	1
Target	1
Instruction Manual	1
Hard-Shell Carrying Case	1

Description Model No. 99-028K

	Qty.
Electronic Self-Leveling Horizontal & Vertical Red Beam Rotary Laser	1
Detector with Clamp & 9V Battery	1
Tinted Glasses	1
Target	1
6.4V battery adapter	1
Alkaline battery compartment (batteries not included)	1
Remote Control with 9V Battery	1
NiMH rechargeable battery pack	1
13' Grade Rod	1
Tripod	1
Instruction Manual	1
Hard-Shell Carrying Case	1

2. Features and Functions

- Large electronic self-level range: The unit works when within $\pm 5^\circ$. When beyond the $\pm 5^\circ$ leveling range, the laser beam flashes, rotation of the beam stops, and an audible alarm activates.
- Vertical and horizontal working modes: electronic self-leveling in both horizontal and vertical mode with one rotating laser beam and one 90° split beam.
- Two rotational speeds: 300 and 800 RPM
- Scan function adjusts the scan size and direction.
- Out-of-level alarm ensures the working accuracy.
- Fine self-calibration function
- In "Tilt Mode" the laser will stop rotating and flash when bumped to ensure work accuracy.
- Slope function allows the user to perform slope in both X & Y axis.
- Dust and rain resistant

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.

Model 40-6526, 40-6529, 40-6534, 99-028K

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.**



Model 40-6544

DANGER!

Class IIIa Laser Product
Max. Power Output: $\leq 5\text{mW}$
Wavelength: 522-542nm

**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



**Model 40-6526, 40-6529,
40-6534, 99-028K**

DANGER
LASER RADIATION AVOID DIRECT EYE EXPOSURE.
 MAXIMUM OUTPUT POWER < 5mW @ 625-645nm CLASS IIIa LASER PRODUCT. THIS PRODUCT COMPLIES WITH THE APPLICABLE REQUIREMENTS OF 21CFR PARTS 1040.10 & 1040.11.
Mfg. for Johnson Level & Tool Mfg. Co., Inc. 6333 W. Donges Bay Rd., Mequon, WI 53092 Manufactured in China by JLT05 Date (m/y): _____

Model 40-6544

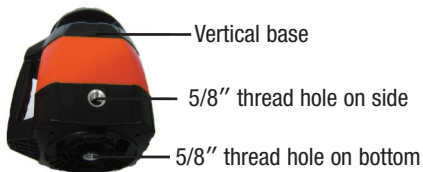
DANGER
LASER RADIATION AVOID DIRECT EYE EXPOSURE.
 MAXIMUM OUTPUT POWER < 5mW @ 522-542nm CLASS IIIa LASER PRODUCT. THIS PRODUCT COMPLIES WITH THE APPLICABLE REQUIREMENTS OF 21CFR PARTS 1040.10 & 1040.11.
Mfg. for Johnson Level & Tool Mfg. Co., Inc. 6333 W. Donges Bay Rd., Mequon, WI 53092 Manufactured in China by JLT05 Date (m/y): _____



All models

 <p>Laser radiation is emitted from this aperture.</p> <p>AVOID EXPOSURE</p>

5. Location of Part/Components



6. Operating Instructions

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

Notes:

- Always check to make sure that the laser is in the off position (when power indicator lamp is not lit) before removing and replacing batteries.
- Both NiMH (40-6529, 40-6534, 40-6544 & 99-028K) and "C" alkaline batteries (included in 40-6526 only) can be used in the units battery compartment.

Battery Installation

Install 1x9V battery into the remote control by depressing the arrow on the remote's lower cover and sliding the cover in the direction indicated by the arrow until the battery compartment is exposed. NOTE: The battery compartment is located below the calibration function buttons - once you have slid the remote cover enough to expose the calibration buttons, continue sliding it to expose the battery housing.

Put 4 "C" alkaline batteries into the alkaline battery pack according to polarity direction, then insert the battery pack into the laser.



Or, insert the rechargeable battery into the laser, if equipped.



Charging the Rechargeable Batteries

Insert the charger into an AC outlet and into the rechargeable battery pack, the rechargeable battery is now charging. The charger indication light is red when it is charging, and it turns green when the battery is full.



Charging directly to rechargeable battery pack



Charging to the laser



Note:

When the power indicator light is flashing on the laser, the battery is low. Charge the rechargeable battery every two or three months if the laser will be unused for a long period of time.

Before Using Your Laser

When you charge the new battery or one which has not been used for long periods of time, it may not reach full charge until after you have discharged and recharged it several times.

Instrument Usage

1. Put in Ni-MH rechargeable battery pack, or 4 "C" alkaline batteries (not included, except in 40-6526), or connect the 6.4V DC battery adapter to the unit's power jack.
2. Place the laser on a platform or tripod, connecting with tripod to the 5/8" screw thread at the bottom of the instrument.

Note: If the laser is inclined beyond the self-leveling range, the laser will deliver an audible alarm. You will need to re-position the laser inside of its self-leveling range.

3. Press power button to turn power on, and press operation buttons on control panel or use remote control (not included with 40-6526)

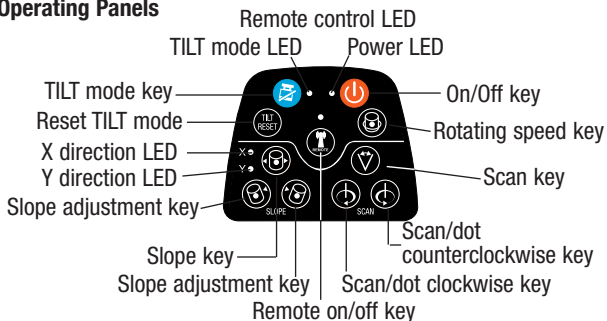
to adjust to your desired working status. (Note: Remote will not power unit on.)

4. After finishing operation or before moving the instrument, turn the power off.

7. Using the Product

Place the unit on a relatively level surface like a tripod, floor, etc during operation.

Operating Panels



Remote Control Panel

Power On/Off

1. Press the power button to power on. The power indicator LED will light up and the instrument will automatically level itself, with rotation occurring once the unit is level.
2. Press the power button again to power off.
3. Pressing the red power button on the remote will power down the laser beam and rotating beacon, but does not power off the laser. The power indicator LED will flash twice.

Low Battery Indicator

If the battery indicator LED is blinking, it means the battery is low. To ensure operation, replace batteries or charge the rechargeable Ni-MH battery pack.



Alarm If Beyond Range

If the laser is inclined beyond its auto-leveling range of $\pm 5^\circ$, it will deliver an audible alarm, rotation will stop and the laser beam will flash. You will need to re-position the laser within its self-leveling range.

Tilt Mode

After turning on the laser, the laser will self-level and begin to rotate. The TILT symbol LED will blink for 30 seconds after the laser begins to rotate. During these 30 seconds if the laser is moved, the laser will stop rotating, re-level and begin to rotate again. After 30 seconds, the TILT symbol LED will stop blinking and will become solid. If the laser is moved when the TILT symbol LED is solid, the laser will stop rotating. The laser beam will blink on and off and the TILT symbol LED will blink quickly alerting the user that the height of instrument may have been changed. Pressing the tilt reset



button on the laser keypad will allow the laser to re-level and start rotating again and the TILT mode will repeat.

Speed Adjustment

After unit electronically self-levels, it rotates at its highest speed (800rpm). Press the speed adjustment button (see figure) on either the laser keypad or remote to change the rotating speed to its low speed (300rpm).

Laser



Remote



NOTE: For best performance, we recommend operating on high speed when you are utilizing a laser detector, and operating on low speed when you are operating indoors with the naked eye or with laser enhancement glasses.



Scan Mode




1. Press the scan mode button (see figure) on either the laser keypad or remote to activate scan mode.
2. With the second press of this button, the unit emits a shorter bright laser line.
3. With the third press of this button, the unit emits a bright laser point.
4. To return to rotating, press the speed adjustment button.

Rotating the Scan Line

1. Press the clockwise button on either the laser keypad or remote and the scan line moves to the right.
2. Press the counter-clockwise button and the scan line moves to the left.



Slope Mode

1. Press the slope mode button once (see figure) on either the laser keypad or remote to enter into the X-direction slope mode. The X LED will turn on. This will put the laser into dual axis slope mode and the self-leveling motors will be turned off.
 - Press the button pointing to the left to shift the slope angle down to the left facing the laser.
 - Press the button pointing to the right to shift the slope angle down to the right facing the laser.
2. Press the slope mode button again to select Y-direction slope. The Y LED will turn on.
 - Press the button pointing to the left to shift the slope angle down to the front of the laser facing the laser.
 - Press the button pointing to the right to shift the slope angle down to the back of the laser facing the laser.
3. Another press of the slope mode button changes back to X-direction slope selection. Pressing and holding the button returns the unit to normal operation.
4. Hold the slope mode button in for three seconds to enter single slope mode. X is the default axis. The X-axis LED is on and the Y-axis LED is flashing. Push the slope button again to slope the X-axis. The laser will continue to self-level in this mode. Pressing and holding the button returns the unit to normal operation.

Notes:

- When the unit is in TILT mode, pressing the slope mode button and entering the dual axis mode will exit you from the TILT mode and go into the slope mode.
- When using the laser in the single slope mode, the slope feature can be used and the laser is self-leveling. When using the slope mode in X-direction the X-axis LED is on and the Y-axis LED is flashing. When the laser is positioned on its side in the vertical mode, the vertical laser line can be moved to the left or right.

Timed Auto-off Function

Turn the unit on using the power button on the laser keypad. Press the power button once on the remote control. The unit is now in sleep mode. The rotating beacon and laser beam will be powered down.

If the unit is in sleep mode for 30 continuous minutes, the unit turns off automatically. With a second press of the power button on remote control, the unit exits sleep mode and enters self-level mode.

Remote Control Shield Key

The remote control function is on when the laser is turned on and the remote control LED is on. Press this key and the remote control LED goes off. The laser does not receive a remote control signal.

**Using the Laser in the Vertical Mode**

Set the laser on a flat surface with the keypad facing up.

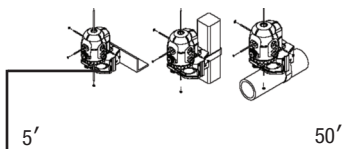
8. Accuracy Check

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

The laser must be checked before operation to ensure accuracy.

X & Y Direction Accuracy Check

1. Note the X & Y direction on top of the laser.
2. Place the unit on a platform or tripod that is 5' away from one wall and 50' away from another wall indoors, with the X-direction facing the wall head-on. Turn the unit on.
3. Mark on the wall where the beam hits the close wall (5') as X= and on the far wall (50') as X-.
4. Turn the instrument 180° being careful not to change the HI (height of the instrument). Mark on the close wall X- and far wall X=.
5. Measure the vertical distance between X= and X- at the far wall. If X= and X- are more than 1/8" apart at 50', the unit is out of calibration. Note: If there is a vertical distance at the close wall, the HI was changed when the laser was rotated 180°.
6. Turn the instrument by 90° and place it on the platform, with the Y-direction facing the wall. Perform Y-direction accuracy check with the same method as X-direction check, and mark point Y- and point Y= similarly.
7. If point C and point D are within 1/8" at 50', the accuracy is within tolerance.



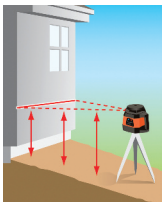
8. If your laser is not within tolerance, please contact your Johnson authorized service center or Johnson to arrange calibration service.

9. Technical Specifications

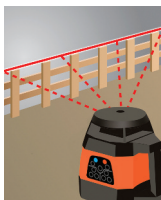
Laser Wavelength	635nm \pm 10nm (Model 40-6526, 40-6529, 40-6534, 99-028K) 532nm \pm 10nm (Model 40-6544)
Laser Classification	Class IIIa
Maximum Power Output	\leq 5mW
Accuracy	\pm 1/8"/100 ft.
Interior Range	Up to 200 ft. diameter (Model 40-6526, 40-6529, 40-6534, 99-028K) Up to 400 ft. diameter (Model 40-6544)
Exterior Range	Up to 1500 ft. diameter (Model 40-6526, 40-6529, 40-6534, 99-028K) with red detector (not included in 40-6526) Up to 1200 ft. diameter with green detector (not included in 40-6544)
Remote Range	Up to 200 ft. diameter with remote (not included in 40-6526)
Slope	\pm 5 $^{\circ}$
Self-Leveling Range	\pm 5 $^{\circ}$

Power Supply	Rechargeable NiMH battery pack and 6.4V adapter (included in Model 40-6529, 40-6534, 40-6544, 99-028K) 4 - "C" alkaline batteries (included in Model 40-6526)
Battery Life	24 hours with rechargeable battery pack, 40 hours with 4 "C" alkaline batteries
Dimensions	8.62" x 6.29" x 7.95"
Weight	4.4 lbs
Operating Temperature	14°F to 113°F (Model 40-6526, 40-6529, 40-6534, 99-028K) 32°F to 104°F (40-6544)
Tripod Thread	5/8" – 11
Rotation Speeds	300 and 800 RPM
Laser Beam Modes	0°, 30°, 60°
IP Rating	54

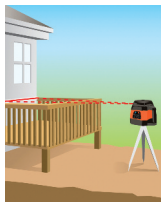
10. Application Demonstrations



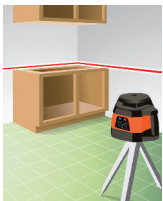
Grading



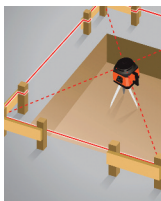
Fencing



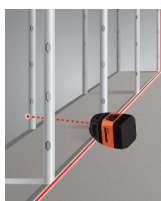
Deck



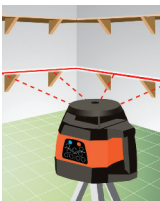
Interior Layout



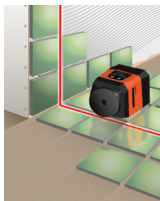
Post/Form Height



Framing





Shelving



Tiling

11. Troubleshooting

Symptom	Possible Cause	Solution
Unit will not power on	Batteries depleted	Replace batteries
	Battery charge depleted	Charge battery pack (rechargeable batteries only)
	Battery case not secure	Secure battery case with set screw
	Polarity reversed	Flip batteries
Unit powers on briefly	Batteries depleted	Replace batteries
	Battery charge too low	Charge battery pack (rechargeable batteries only)
Laser will not spin	Batteries depleted	Replace batteries
	Battery charge too low	Charge battery pack (rechargeable batteries only)
	Unit not powered on	Power on unit

Symptom	Possible Cause	Solution
Laser Flashing/Beeping		
Flashing less than 30 seconds	Unit is leveling Unit was bumped	Wait for unit to level Wait for unit to re-level
Flashing greater than 30 seconds	Unit has entered tilt mode	Check that unit height has not moved, and press  to resume use
Flashing and beeping	Unit is outside of its leveling range	Adjust unit to within its leveling range
Remote control not working	Remote control batteries depleted Remote control button on unit toggled Laser in sleep mode (occurs after 30 minutes of inactivity)	Replace batteries Toggle  on unit Power on laser from the laser's operation panel, then use the remote control

Symptom	Possible Cause	Solution
Detector not working	Detector batteries depleted Detector not powered on Unit not powered on	Replace batteries Power on detector Power on unit
Unit not accurate	Slope mode is engaged Loss of calibration	Exit slope mode Unit needs to be calibrated by a qualified service technician
Laser beam appears dim or does not illuminate	Batteries nearing depletion In direct sunlight or bright ambient lighting	Replace batteries Use a detector when exceeding 100' indoors, when using indoors with bright or fluorescent light, or when using outdoors

12. 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.

13. 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.

14. 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.

15. 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.