Self-Leveling Rotary Laser Level
Model No. 40-6527 & 40-6532

Instruction Manual

Congratulations on your choice of this Self-Leveling Rotary Laser Level. 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 and outdoor construction projects.

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

Table of Contents

1. Kit Contents

Description for Model 40-6527	**Qty.**
Self-Leveling Rotary Laser	1
Tinted Glasses	1
Alkaline Battery Compartment	1
"C" Alkaline Batteries	4
Instruction Manual with Warranty Card	1
Soft-Sided Carrying Case	1

Description for Model 40-6532	**Qty.**
Self-Leveling Rotary Laser	1
Ni-MH Rechargeable Battery Pack	1
6V Battery Adapter	1
Alkaline Battery Compartment (batteries not included)	1
Detector with Clamp and 9V Battery	1
Remote Control with 9V Battery	1
Tinted Glasses	1
Instruction Manual with Warranty Card	1
Hard Shell Carrying Case	1

2. Features and Functions

- Self leveling in the horizontal plane
- Locking mechanism protects inner pendulum during transportation
- Manual leveling in the vertical plane with 90º split beam
- Range-scan modes include dot and two adjustable line lengths
- Visual and audible alarms when beyond leveling range
- 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.

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DANGER!
Class IIIa Laser Product
Max. Power Output: ≤ 5mW
Wavelength: 625-645nm
**THIS TOOL EMITS LASER RADIATION.
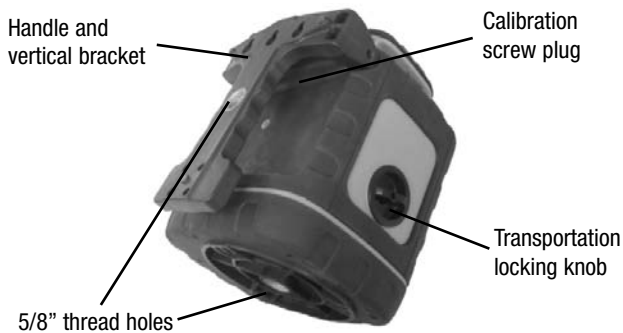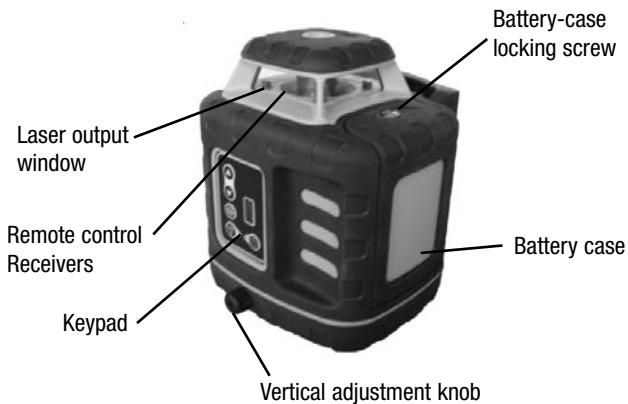DO NOT STARE INTO BEAM.
AVOID DIRECT EYE EXPOSURE.**

</div>

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 AccuLine Pro® parts and accessories purchased from your AccuLine Pro® authorized dealer. Use of non-AccuLine Pro® parts and accessories will void warranty.

4. Location/Content of Warning Labels

5. Location of Part/Components

Battery-case
locking screw

Laser output
window

Remote control
Receivers

Battery case

Keypad

Vertical adjustment knob

Handle and
vertical bracket

Calibration
screw plug

Transportation
locking knob

5/8" thread holes

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.

Usage for Rechargeable (40-6532 only) & Alkaline Battery Cases

1. Put 4 "C" alkaline batteries into the battery case according to the polarity indication shown in the battery case.

2. Put the battery case on the instrument and tighten the locking screw.

3. If using the rechargeable (40-6532 only) battery pack, put the battery box on the instrument and tighten the locking screw.
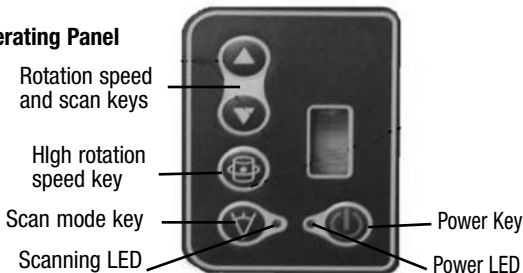

Note (40-6532 only):
• For the first two charges of a new rechargeable battery pack, it is necessary to charge for 12-plus hours.
• The instrument will still work even if it is being charged with the adapter.
• Do not charge alkaline batteries.
• Used (discharged) batteries are hazardous waste and should be disposed of properly.

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7. Using the Product

Operating Panel

Rotation speed
and scan keys

HIgh rotation
speed key

Scan mode key

Scanning LED

Power Key

Power LED

1. Power Key
   • Press this key to turn on and off the power
2. Power LED
   • When the LED is lit the unit is connected to the power
   • When the LED is off the unit is not receiving power
   • When the LED is flashing the battery is low
3. Scanning LED
   • When the LED is lit the unit is in rotation mode
   • When the LED is flashing the unit is in scan mode
4. Scan mode key
   • With the first press of this button, the instrument
     emits a short laser line.
   • With a second press of this button, the instrument emits a longer
     laser line.
   • With a third press of this button, the instrument emits a laser point.

5. High rotation speed key

Press this key, the instrument will rotate in its highest speed

6. Rotation speed and scan keys

In rotation mode

• Press the up arrow to increase rotation speed

• Press the down arrow to decrease rotation speed

In scan mode

• Press the up arrow to rotate the scan counterclockwise

• Press the down arrow to rotate the scan clockwise

Out of level alarm

Set the transportation locking knob to the unlocked/on position. Turn the power on and the instrument will self-level. During the process of self-leveling, if the instrument is tilted to exceed its self-leveling range, it will stop rotating and the unit will give a sound alarm.

Transportation lock knob operation

When the lock knob is turned to "ON", the compensator is unlocked. When the lock knob is turned to "OFF", the compensator is locked.

Use on a platform

Connected to a 5/8" x 11 tripod

Usage for Horizontal Application

1. Put in the Ni-MH battery pack (40-6532 only) or alkaline batteries, or connect with 6V DC (40-6532 only) power through power jack.

2. Place the instrument on a platform or tripod, connect to the tripod using the 5/8" thread at the bottom of laser.

   Note: If instrument is inclined beyond its self-leveling range, it will deliver an audible alarm. Re-position the instrument until level.

3. Rotate the transportation locking knob counter-clockwise to "ON", then turn power on. Press the keys on control panel or remote control (40-6532 only) to adjust to your desired working status.

4. After finishing operation or before moving the instrument, turn power off and return locking knob to the "OFF" position.

   Note: If transportation locking knob is not turned to the lock position it will deliver an audible alarm when the unit is returned to its case.

   It is important that the locking knob is turned to the locked position prior to returning the unit to its case.

High Rotation Speed Key

Scan Key

Rotation speed and scan keys

Power Key (turns power off only)

Note: Remote control operating panel is similar to laser operating panel (40-6532 only).

Usage for vertical application
IMPORTANT: Keep the transportation "Locking Knob" in the "Locked/Off" position.

1. Install batteries/battery pack (40-6532 only) as previously discussed.
2. Set the laser down on its vertical bracket.
3. Turn on the power by pressing the Power Key. The vertical vial will now be backlit.
4. Turn the vertical "Adjusting Knob" until the vertical vial bubble is centered.
5. Select the work state that you need by pressing the buttons on the operating panel or remote control (40-6532 only).
6. Power the instrument off when you finish work and keep the transportation lock in the locked/off position.

Use on a platform

Connected to a
5/8" x 11 tripod

Detector Usage (included in Model No. 40-6532)
1. Technical Specifications

|	
Detecting accuracy	Fine: ±0.039" (±1mm)
	Coarse 1: ±0.098" (±2.5mm) when range ≥ 492 ft. (150m)
	Coarse 2: ±0.394" (±10mm) when range ≥ 492 ft. (150m)
Automatic Shut-off	6 min ±1min
Power Supply	9V battery, 30 hrs continuous use (with LCD illumination off)
Sound Indicator	slow short beep, rapid short beep and continuous sound
LED Display	down arrow, up arrow, horizontal on grade bar
Dimensions	6.30" x 3.35" x 1.10" (160 x 85 x 28mm)
Weight	1 lb. (0.45kg)
Others	Rain and dust resistant

2. Components
(a) Structure
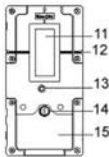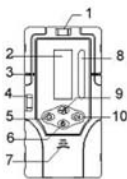
1) Horizontal vial
2) Front display window
3) Front on grade mark
4) Vertical vial
5) LED key
6) Power key
7) Beeper
8) Reception window
9) Fine/Coarse accuracy key
10) Beeper key
11) Back display window
12) Back on grade mark
13) Bracket screw thread
14) Battery cover screw
15) Battery cover

(b) Display
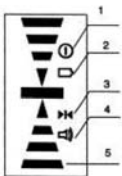
1. Power on symbol
2. Low battery indicator
3. Fine/Coarse symbol
4. Beeper symbol
5. Position indication arrows

Power Key: Turn on/off the power

Fine/Coarse Accuracy Key: Switch detecting accuracy

LED Key: Turn on/off the LCD's light

Volume Key: Cycles between high, low and off

3. Operation Guide

(a) Battery Installation

• Open the battery cover door by turning the battery cover screw counter-clockwise. Put the battery into the battery case noting the polarity shown in the battery compartment.

Figure 1

• Put the battery cover door back, and tighten the screw.

Note: 1) Remove the battery when the unit is being stored for a long time.
2) When the low battery indicator is displayed, change the battery soon.

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4. Operating Instructions

Power On

Press the power key to turn the unit on. The LCD display will illuminate all the indicator segments for 0.5 second (Fig.2). When the indicator segments are no longer illuminated, the detector is ready for use. **Note:** The LCD display will still have the power, detection and sound indicators illuminated (Fig. 3).
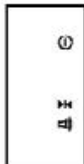
Figure 2   *Figure 3*

Fine/Coarse accuracy key

Power on and press the fine/coarse accuracy key, the unit will cycle between three accuracy options: fine, coarse 1, coarse 2. The accuracy symbol displayed on the LCD will change.

Fine   Coarse 1   Coarse 2

Volume Key

Power on and press the volume key, the unit will cycle between a high sound, low sound and mute. The

High sound   Low sound   Mute

sound symbol displayed on the LCD will change accordingly.

Note: There will be two beeps when turning the unit on and off. There will be one beep when changing functions.

Detecting Laser Level Signals

While detecting laser signals, the LCD will display as follows: (take the set-up state of high sound and fine detection as an example)

Laser signal	Laser signal	Laser signal	
The laser signal is down	The laser signal is up	Horizontal bar indicated on-grade	No laser signal is detected
Sound: rapid short beeps	Sound: slow short beeps	Sound: continuous sound	Sound: no sound

When the laser signal is near the on-grade mark, the displayed up and down arrows will decrease as the distance to the on-grade mark decreases.

Laser signal   Laser signal   Laser signal   Laser signal
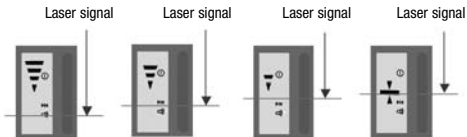
1. When detecting a horizontal laser signal, it is important to have the bubble vial centered, as the deflection of the receiver will influence its receiving accuracy.

2. When detecting a vertical laser signal, it is important to have the bubble vial centered, as the deflection of the receiver will influence its receiving accuracy.

3. Keep the reception window facing the laser while detecting.

4. Hold the unit stable while detecting.

LED Function

Power on and press the LED key, the LCD will now be backlit.

Automatic Shut-off Function

When the unit does not receive a laser signal for 6 minutes, the unit will power off automatically.

Low Battery Display Function

When the battery sign blinks on the LCD, the battery is low and needs to be replaced. If the battery is very low, the unit will power off automatically. Replace the battery.
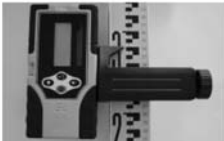
Rod Clamp

Connecting to the rod clamp.
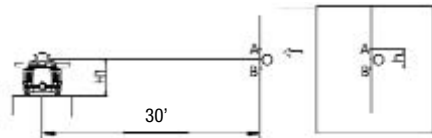

Connecting to the grade rod.

5. Detector Maintenance

• Keep the unit, particularly the reception window, clean. If it does get dirty, use a cloth to wipe it clean.

8. Self-Check and Calibration

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

X-Direction Accuracy Self-Check

1. Place the unit on a platform that is 30 feet away from a wall, with the battery case facing towards the wall. Turn the locking knob to "ON", power on the unit in the high-speed rotating status.

2. Draw a vertical line on the wall, and mark the intersection between the laser line and the vertical line as point A. Note this test should be done indoors with dim lighting. Its critical that the laser beam is easily seen.

3. Turn the instrument 180 degrees, mark point B on the wall at the intersection of the laser beam and vertical line. Also mark the center between point A and point B as point 0.

4. Measure the vertical distance (h) between point A and point B.

5. If h≤0.118", accuracy is within specification. If not, the accuracy is beyond the specification. If beyond the specification, the unit can be calibrated as follows.
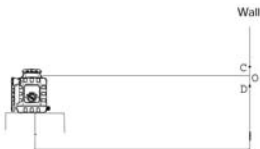
X-Direction Accuracy Calibration

1. Turn the lock knob to the "OFF' position.

2. Remove the rubber plug from the X-direction self-calibration aperture inside the battery compartment. Adjust the weight screw inside the instrument core with a flathead screwdriver.

3. If point A is above point O, rotate the screwdriver counterclockwise. If point A is under the point O, rotate the screwdriver clockwise. (Rotating the screwdriver 1 rotation will adjust the laser line 1mm).

X-direction Self-calibration aperture

4. Check the accuracy again following the X direction accuracy self-check. If the accuracy is still beyond specification, readjust the weight screw again until the accuracy is correct.

Y-Direction Accuracy Self-Check

1. Rotate the instrument 90 degrees and place it on the platform.

2. Check the accuracy of Y-direction with the same method as that of X-direction (mark the point as C and D).

3. If the accuracy is beyond specification the unit can be calibrated as follows.

Y-Direction Accuracy Calibration

1. Turn the lock knob to the "OFF' position.
2. Screw off the Y-direction self-calibration aperture bolt located behind the handle. Adjust the weight screw inside the instrument core with a flathead screwdriver.
3. If point C is above the point O, rotate the screwdriver counterclockwise. If point C is under the point O, rotate the screwdriver clockwise.

Note: After the unit is checked in one direction, check the other direction, until the accuracy of the two directions are both within specification.

Note: Install the self-calibration aperture screw and rubber stopper after finishing the accuracy self-check and calibration.

### Accuracy Self-check in vertical status
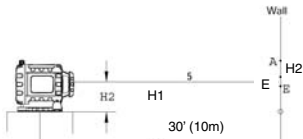
1. Follow the operations as shown above, and measure the distance "H1" between the laser rotating plane and the platform surface.
2. Set the locking knob to "OFF" position, and place the instrument in vertical position.
3. Rotate the vertical adjusting knob to center the bubble.
4. Measure the distance "H2" between the top laser beam and the platform surface.
5. Mark E in the position that is equal to (H1-H2) under the point O.

6. Adjust the adjusting knob to make the laser beam aim at E.
7. Check the bubble to see if it is centered. If it is not yet - instrument will need to be sent in for calibration.

9. Technical Specifications

|	
Laser Wavelength	635nm±10nm
Laser Classification	Class IIIa
Maximum Power Output	≤5mW
Accuracy	±1/8"/100 ft. (±1mm/10m)
Interior Range	Up to 200 ft. (60m) diameter depending upon light conditions
Exterior Range	Up to 2,000 ft. (600m) diameter with detector
Remote Range	Up to 100 ft. (30m) diameter with remote (40-6532 only)
Self-Leveling Range	±3.5°
Power Supply	Rechargeable battery pack (40-6532 only) 4 "C" alkaline batteries (not included)
Battery Life	Approx. battery life 15 hours continuous use with 40-6532 only rechargeable battery pack, 20 hours with 4 "C" alkaline batteries
Dimensions	7.087" x 6.378" x 7.953" (180 x 162 x 202mm)
Weight	4.409lbs (2Kg)
Working Temperature	32°F to 104°F (0°C to +40°C)
Center screw thread	5/8" – 11
Rotation Speed	150, 200, 250, 300 rpm
IP Protection Class	66

10. Application Demonstrations
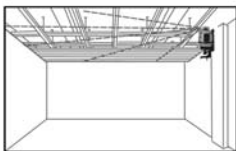
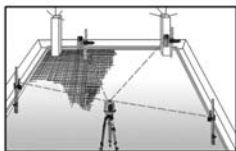Plumb reference for ceiling installation
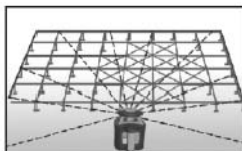
Reference for anti-static flooring installation

Reference for window installation
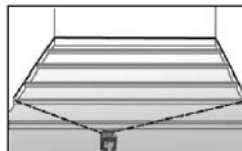
Reference for flooring

Reference for squaring and leveling

Reference for cement floor installation

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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 one year limited warranty on each 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 us online 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. Required repair/calibration must be done by an authorized AccuLine Pro™ service center or Johnson Level & Tool's limited warranty, if applicable, will be void and there will be NO WARRANTY. Contact our Customer Service Department to obtain a Return Material Authorization (RMA) number for return to an authorized service center. 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 800-563-8553.

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

13. Product Registration

Enclosed with this instruction manual you will find a warranty card to be completed for product warranty registration. Product warranty registration can also be completed online at our web site www.johnsonlevel.com. 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 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

AccuLine Pro® accessories are available for purchase through authorized AccuLine Pro dealers. Use of non-AccuLine Pro 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 800-563-8553.

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