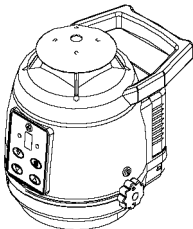


# ACCULINE<sup>™</sup>

LASER LEVELS

## PRO<sup>™</sup>

### **Self-Leveling Rotary Laser Level** **Model Nos. 40-6520 and 40-6530**



## **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 level line that is ideal for layout of indoor or outdoor construction projects. Since the product is equipped with a beam detector (in model no. 40-6530 only), visibility of the beam in various lighting conditions is not an issue.

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.

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## 1. Kit Contents

### *For Model No. 40-6520*

<b>Description</b>	<b>Qty.</b>
Self- Leveling Rotary Laser Level	1
Ni-MH Rechargeable Battery Pack	1
“C” Alkaline Battery Holder (batteries not included)	1
6V Battery Adapter	1
Vertical Mounting Adapter	1
Tinted Glasses	1
Instruction Manual with Warranty Card	1
Hard Shell Carrying Case	1

### *For Model No. 40-6530*

<b>Description</b>	<b>Qty.</b>
Self- Leveling Rotary Laser Level	1
Ni-MH Rechargeable Battery Pack	1
“C” Alkaline Battery Holder (batteries not included)	1
6V Battery Adapter	1
Vertical Mounting Adapter	1
Tinted Glasses	1
Detector with 9V Battery and Quick Clamp	1
Instruction Manual with Warranty Card	1
Hard Shell Carrying Case	1

## 2. Features and Functions

- Magnetic dampening compensation system.
- Laser flashes and sounds alarm when product is not within leveling tolerance.
- Projects a horizontal rotating plane with one up plumb beam.
- Projects a vertical rotating plane with one horizontal beam.
- Optional scan range from small to large providing user visible chalk line.
- Adjustable scan orientation.
- Adjustable scan speed.
- Long battery life. Applicable for both alkaline batteries and rechargeable battery-pack.
- 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 result in bodily injury.

**CAUTION:** If using this product with any type of tinted goggles, please note safety warning below.

### **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.
- Use of controls or performance of procedures other than those specified herein may result in hazardous radiation exposure.
- 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, serious injury may result.
- 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.

**WARNING!**

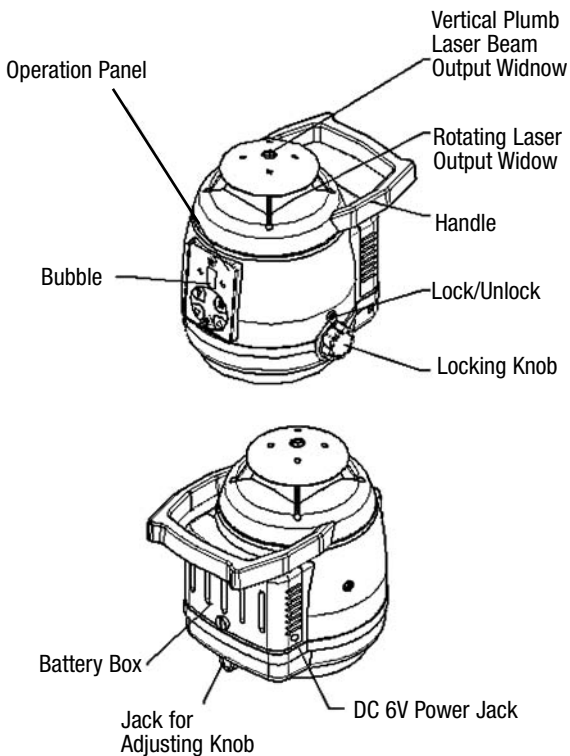
The tinted goggles are designed to enhance the visibility of the laser beam. They **DO NOT** offer protection to the eyes from direct exposure of the laser beam.



## 4. Location/Content of Warning Labels



## 5. Location of Part/Components



## 6. Operating Instructions

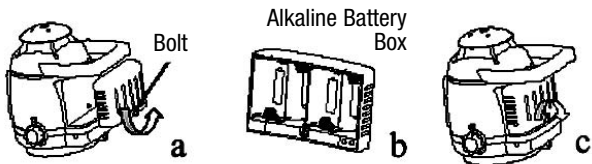
**IMPORTANT:** It is the responsibility of the user to verify the calibration of the instrument before each use.

### Battery Installation

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

Battery kit:

- “C” alkaline battery box
- Rechargeable battery-pack



1. Loosen the set-bolt and take the battery box apart from the unit, as shown in fig. a.
2. Put in four “C” batteries (not included) according to the polarity illustrated in the battery box, and snap the battery box back into place, as shown in fig. b and c.
3. If using the rechargeable battery-pack, fix the battery-box onto the unit directly, and tighten the bolt (fig. c).

**Note:**

- For the first two charges of new battery pack, it is necessary to charge for 12-plus hours.
- After having been fully charged, we suggest that users should charge for 2 more hours to ensure battery-pack's capacity.
- The instrument can still work even if it is being charged with adapter.
- Do not charge alkaline batteries to avoid explosion.
- Used (discharged) batteries are hazardous waste and should be disposed of properly.

**Instrument Usage**

1. Put in Ni-MH battery pack or alkaline batteries, or connect with 6V DC power through power jack.
2. Place the instrument on platform or tripod, and connect with tripod through 5/8" thread at the bottom of instrument.

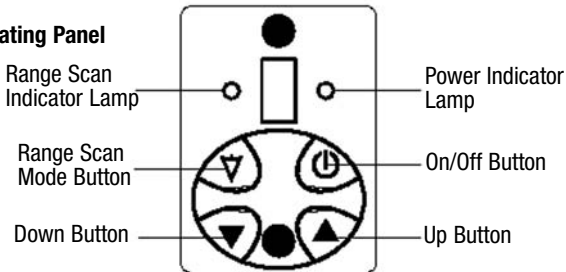
**Note:** If instrument is inclined beyond the self-leveling range, it will deliver an audible alarm. Re- position the instrument until leveled.

3. Rotate locking knob counter-clockwise to unlock, then turn power on, and press the keys on control panel to adjust to your desired working status.
4. After finishing operation or before moving the instrument, proceed to turn power off and return locking knob to the locked position.



## 7. Using the Product

### Operating Panel



1. On/Off Button
  - Pressing the button will turn the unit on / off.
2. Power Indicator Lamp
  - Lit indicator lamp means power-on.
  - Unlit indicator lamp means power-off.
  - Flashing indicator lamp means low voltage.
3. Range scan Indicator Lamp
  - Stable indicator lamp means continuous scan.
  - Flashing indicator lamp means range scan.
4. Range scan mode button
  - With the first press of this button, the instrument emits a short bright horizontal laser line.
  - With a second press of this button, the instrument emits a long bright horizontal laser line.
  - With a third press of this button, the instrument emits a bright laser point.
  - With a fourth press of this button, the laser will once again rotate at high speed.

## 5 and 6. Up/Down button

In continuous scan mode

- Press to increase scan speed
- Press to decrease scan speed

In range scan mode

- Press to make the scanned range rotate clockwise
- Press to make the scanned range rotate counterclockwise

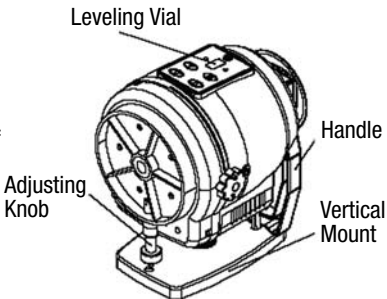
## Usage for horizontal output status

- Reference “Instrument Usage” previously discussed

## Usage for vertical output status

**IMPORTANT:** Keep “Locking Knob” in the “Locked” position.

1. Install batteries/battery pack as previously discussed.
2. Insert the “Adjusting knob” and place the instrument horizontally on a stable platform (see fig. 5) or mount it on the tripod with vertical mount.
3. Turn the “Adjusting Knob” until the bubble is centered.
4. Power on and select the work state that you need by pressing the mode button on the operating panel.
5. Power the instrument off when you finish work or make any movement.



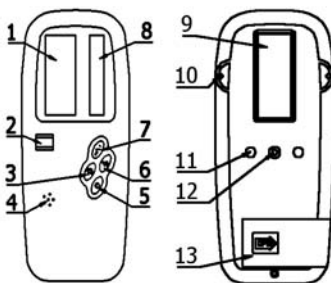
## Detector Usage (included in Model No. 40-6530 only)

### 1. Technical Specifications

Detecting range	≥820 ft. (250m)
Detecting accuracy	Fine ±0.039" (±1mm) Coarse ±0.098" (±2.5mm)
Turn-off time	5 minutes
Operating voltage	DC9V
Size	6-3/4" x 3" x 1" (0.266 x 0.118 x 0.029mm)
Weight	0.55 lbs (0.249 Kg)
Dust and rain resistant	
Illuminated Screen	
Multi-functional double sides display	
Buzzer for recognizing location	

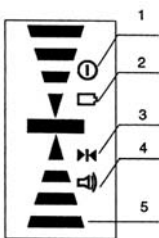
### 2. Components

#### (a) Structure



1. Display window
2. Level vial
3. Coarse/Fine detection button
4. Buzzer
5. Power button
6. Sound button
7. Illuminator button
8. Receiving window
9. Reverse display window
10. Reference rabbet
11. Location hole
12. Threaded hole
13. Battery-box cap

## (b) Display



1. Power symbol
2. Low battery symbol
3. Coarse/Fine detection symbol
4. Sound symbol
5. Detecting position symbol

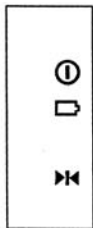
**3. Operation Guide**

## (a) Installation of battery

- Open the battery-box cap
- Put the 9V battery into the battery-box. Please note the polarity. Then close the battery-box cap.

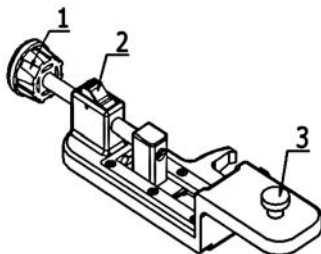
**Note:** Take the battery out if the instrument is not use for a long time.

## (b) Turn on/off



- Press the power button. When Power symbol is displayed, the instrument is ready for coarse detection.
- When low battery symbol is displayed, change the battery.
- Press the power button again to turn off the instrument.

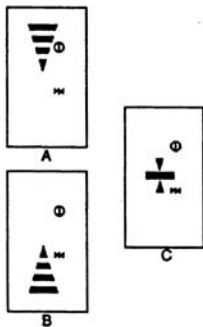
## (c) Using the clamp holder



1. clamp bolt
2. button
3. M5 screw

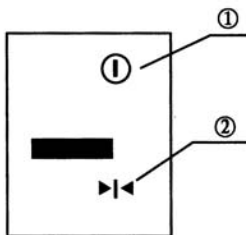
## (d) Detection

## 1. Coarse detection



- Aim the receiving window at the rotating laser instrument. Loosen the clamp bolt and move the instrument up and downwards to receive the laser scanning signals transmitted by the rotating laser instrument.
- When the instrument displays like Fig. (A), move the instrument slightly downwards as indicated by the arrow. When it displays like Fig. (B), move it slightly upwards as indicated by the arrow.
- When Fig. (C) is displayed, the instrument is at the right position.
- Tighten the clamp bolt and mark the position of the object on the rabbit. This mark will be the horizontal reference of the coarse detection.

## 2. Fine detection



1. power symbol
2. fine detection symbol

- Press coarse/fine detection button. The instrument is ready for fine detection.
  - Move the instrument slightly up and downwards like the coarse detection procedure.
  - When the instrument displays as shown in the figure, it is at the right position.
- Tighten the clamp bolt and mark the position of the object on the rabbet. This mark will be the horizontal reference of the fine detection.

### (e) Sound function

- If the instrument is working in a circumstance that makes it difficult to use the display function, the sound function can be used instead.
- Press the sound function button. The sound symbol is displayed which means it is ready for sound function. The instrument then conducts coarse/fine detection through sound (buzz) signals.
- When the sound signal is ultra-short buzz, move the instrument slightly upwards.
- When the instrument makes short buzz, move it slightly downwards.
- When the instrument makes intermittent, continuous sound, it is at the right position.
- If there is no buzz heard, the instrument has not received the laser scanning signal.

## (f) Turn-off timer

- The instrument will automatically turn off if it has not received laser scanning signal for 5 minutes

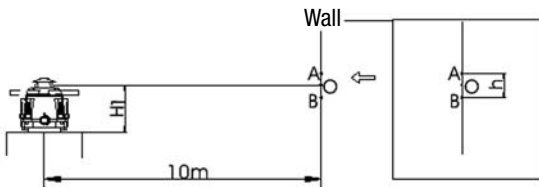
## (g) Illuminator system

- There is an illuminator system at the right-faced display window. Press the illuminator button which will illuminate the display window.

## 8. Self-Check and Calibration

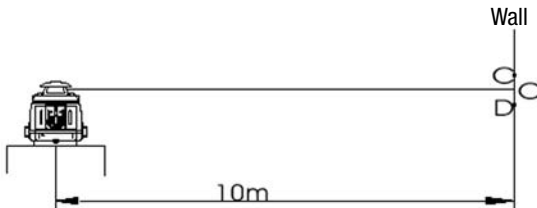
### X-Direction Accuracy Self-Check

1. For clarity, we define the direction of handle as X-direction, and another direction as Y-direction



2. Place the unit on a platform that is 30 feet (10m) away from a wall indoors, with the handle facing the wall head-on. Unlock the unit and adjust it to the quick-scan status.
3. Draw one vertical line on exactly front wall, which intersection with the laser line can be marked as point A.  
(**Note:** This test should be done indoors with dim lighting. It's critical that the laser mark is easily seen)
4. Turn the instrument by 180 degrees, mark the intersection of vertical line and laser line as point B, and also mark the center of point A and point B as point O.

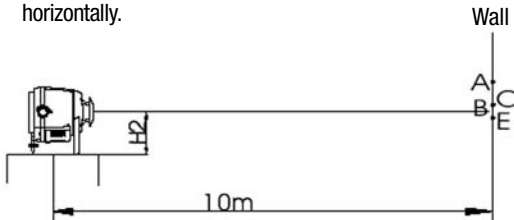
5. Measure the vertical distance  $h$  between point A and point B.



6. As shown, turn the instrument by  $90^\circ$  and place it on the platform, with the operating panel facing you. Perform Y-direction self-check with the same method as X-direction self-check, and mark point C and point D by turns.
7. If  $h < 0.236''$  (6mm), the accuracy is within tolerance. Otherwise reference section 12 of this document.

### Accuracy Self-Check for Vertical Output Status

1. Follow the operations as above, and measure the distance  $H_1$  between the laser rotating plane and the platform surface.
2. Set the locking knob to locking position, and place the instrument horizontally.



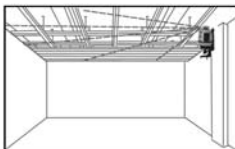


3. Adjust the adjusting screw to center the bubble.
4. Measure the distance H2 between the top laser beam and the platform surface.
5. Mark out E in the position that is (H1 –H2 ) lower than point O.
6. If  $e - \text{point } O < 0.394''$  (10mm), the accuracy is within tolerance. Otherwise reference section 12 of this document.

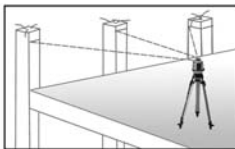
## 9. Technical Specifications

Laser Wavelength	635nm±10nm
Laser Classification	Class IIIa
Maximum Power Output	≤5mW
Accuracy	Horizontal Rotation = ±3/8"/100 ft. (±3mm/10m) Vertical Rotation = ±5/8"/100 ft. (± 5mm/10m)
Working Range	Maximum 100 ft. (30m) depending upon light conditions
Measuring Range	820 ft. (250m) radius with detector
Self-Leveling Range	±3.5°, Delivers an alarm if beyond range, and stops rotation simultaneously
Power Supply	4 "C" alkaline batteries (not included) Rechargeable battery pack, or 6V adapter
Dimensions	5-3/4" x 7-3/4" x 7-5/8" (146 x 197 x 194mm)
Weight	4.4lbs (2Kg)
Working Temperature	14°F to 113°F (-10°C to +45°C)
Center screw thread	5/8" – 11
Rotation Speed	300 rpm, 600 rpm, 900 rpm
Range Scan Area	Continuous, small range, large range, point
Enclosure	Dust and rain resistant

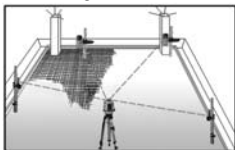
## 10. Application Demonstrations



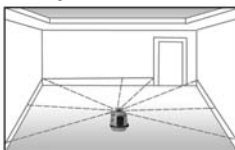
Plumb reference  
for ceiling installation



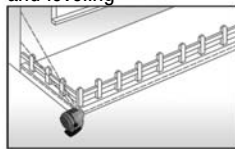
Reference for wall or  
footing construction



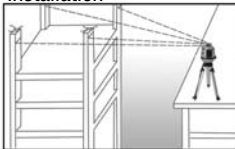
Reference for squaring  
and leveling



Reference for baseboard  
installation



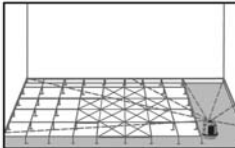
Reference for fence  
installation



Reference for cement  
floor installation



Reference for window  
installation



Reference for anti-static  
flooring installation

## 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 and in the locked position. Failure to lock before transport or storage may cause damage to the units inner mechanism and void warranty.
- 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](http://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 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.

### 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](http://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.