

## Yaeccc AB-0381

# Yaeccc 32X Optical Auto Level Model AB-0381 Instruction Manual

Precision Leveling and Surveying Instrument

## 1. INTRODUCTION

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This manual provides essential instructions for the proper setup, operation, and maintenance of your Yaeccc 32X Optical Auto Level, Model AB-0381. Designed for high-precision leveling and surveying, this instrument is suitable for various applications in construction, engineering, and land measurement. Please read this manual thoroughly before using the device to ensure safe and accurate operation.

## 2. PRODUCT OVERVIEW AND FEATURES

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The Yaeccc 32X Optical Auto Level is a robust and reliable instrument featuring a 32x magnification optical system for clear viewing, even in low-light conditions. Its automatic compensator ensures rapid and accurate leveling. Key features include:

- **32x Magnification Lens:** Provides enhanced visibility and precision for distant targets.
- **360-Degree Rotary Dials:** Allows for precise angular measurements and setting out.
- **Horizontal Knobs:** Offer unlimited range for fine adjustments.
- **Circular Level:** Aids in initial coarse leveling of the instrument.
- **Durable Construction:** Made from metal, designed for longevity.
- **Dustproof & Waterproof:** Ensures reliable performance in various environmental conditions.
- **Protective Plastic Case:** Facilitates safe transport and storage.



Figure 2.1: The Yaecce 32X Optical Auto Level, showcasing its main unit, carrying case, and various components. This image provides a comprehensive view of the product and its accessories.



Figure 2.2: Detailed view highlighting key features of the auto level, including the 32x magnification, 36mm aperture, circular bubble vial for leveling, and the robust plastic carrying case.

### 3. SAFETY INSTRUCTIONS

Always observe the following safety precautions to prevent injury and ensure the longevity of your instrument:

- Do not look directly at the sun through the telescope, as this can cause severe eye damage.
- Handle the instrument with care to avoid dropping or impacting it, which can affect its calibration and internal components.
- Store the auto level in its protective case when not in use to shield it from dust, moisture, and physical damage.
- Ensure the tripod is stable and securely set up on firm ground before mounting the instrument.
- Keep the instrument clean and free from debris. Use a soft, lint-free cloth for cleaning optical surfaces.

### 4. PACKAGE CONTENTS

Upon opening the package, verify that all items are present and undamaged:

- Yaeccc 32X Optical Auto Level (Model AB-0381)
- Protective Plastic Carrying Case
- Plumb Bob
- Hex Wrench (for bubble adjustments)
- Instruction Manual



Figure 4.1: The Yaeccc 32X Optical Auto Level securely packed within its red protective carrying case, alongside the instruction manual, ready for transport or storage.

## 5. SETUP

Follow these steps to set up your auto level for operation:

1. **Set up the Tripod:** Extend the tripod legs to a suitable height and spread them firmly on stable ground. Ensure the tripod head is as level as possible.
2. **Mount the Auto Level:** Carefully place the auto level onto the tripod head. Secure it by screwing the tripod's mounting screw into the base of the auto level. Ensure it is tightened sufficiently to prevent movement, but do not overtighten.
3. **Coarse Leveling:** Adjust the tripod legs to bring the circular bubble vial roughly to the center.
4. **Fine Leveling:** Use the three foot screws on the instrument's base to precisely center the circular bubble. Rotate two foot screws simultaneously in opposite directions to move the bubble. Then, use the third foot screw to bring the bubble fully into the center of the circle. The automatic compensator will then take over for fine leveling.



### 32X AUTO OPTICAL LEVEL

Easy Set-up and Alignment

Figure 5.1: The Yaecce 32X Optical Auto Level positioned on a tripod at a construction site, demonstrating its readiness for use with easy setup and alignment.

## 6. OPERATION

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Once the auto level is set up and leveled, you can begin taking measurements:

1. **Focus the Eyepiece:** Look through the eyepiece and rotate the eyepiece focusing ring until the reticle (crosshairs) is sharp and clear.
2. **Target an Object:** Use the rough sighting mechanism on top of the telescope to quickly aim at your target (e.g., a leveling staff).
3. **Focus the Target:** Rotate the main focusing handwheel until the target image appears sharp and clear in the telescope. Ensure there is no parallax (the apparent shift of the target relative to the reticle when moving your eye).
4. **Take Readings:** Read the measurement on the leveling staff where the horizontal crosshair intersects it.
5. **Angular Measurements:** The 360-degree rotary dials allow for horizontal angle measurements. Rotate the instrument to align the zero mark with a reference point, then rotate to the target and read the angle.

**Applications:** This auto level is ideal for:

- Construction engineering surveys (e.g., setting foundations, checking grades).
- Deformation and subsidence monitoring.
- Mining surveys.
- General land leveling and measurement tasks.

## DISTANCE MEASURING



## HEIGHT MEASURING



## ANGLE MEASURING



Figure 6.1: Visual representation of the auto level's capabilities, including distance measurement, height measurement, and angle measurement, applicable across diverse terrains and projects.

# WIDE APPLICATION

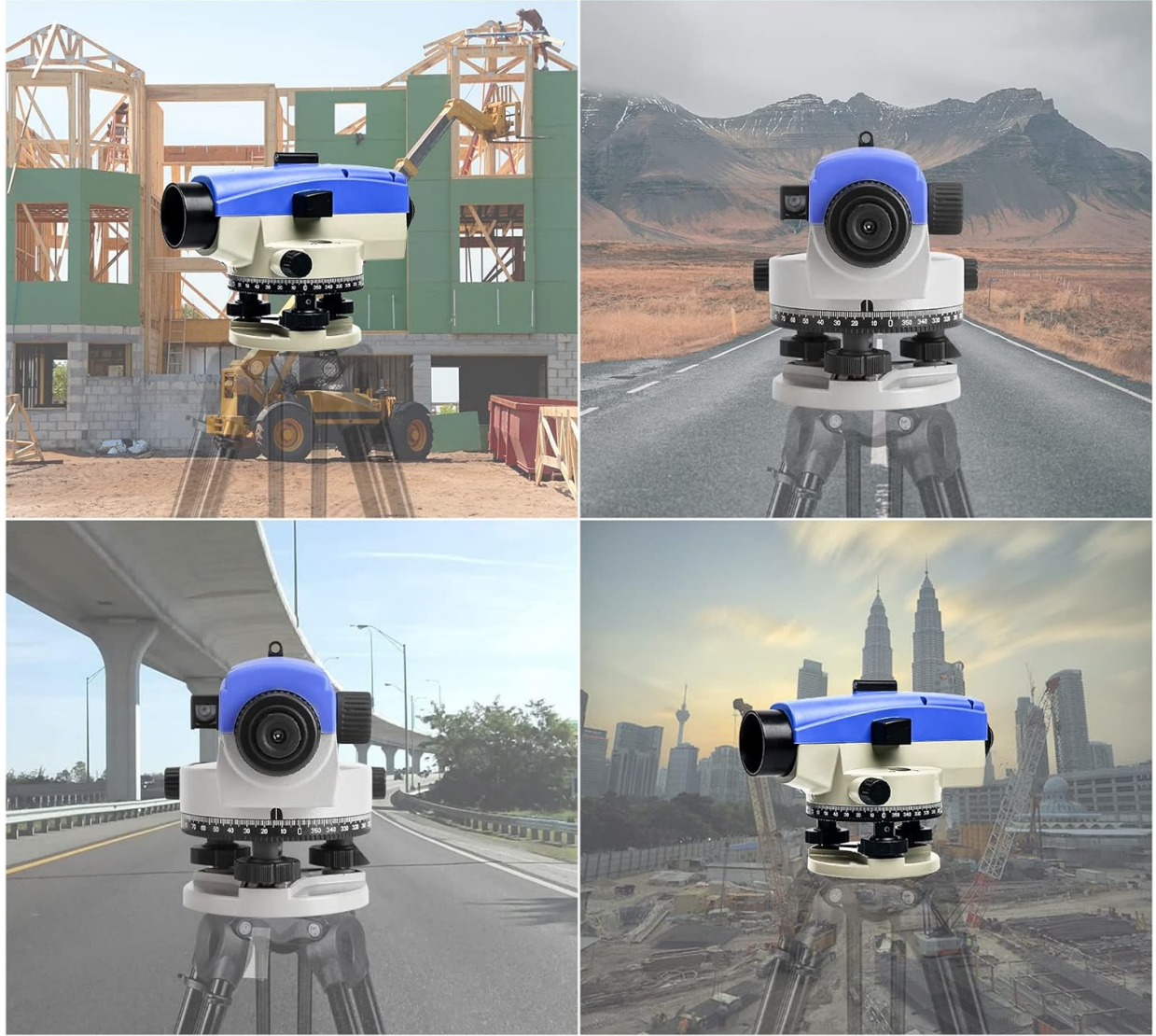


Figure 6.2: A collage demonstrating the wide range of applications for the Yaeccc 32X Optical Auto Level, from urban construction to open landscapes and infrastructure projects.

## 7. MAINTENANCE

Proper maintenance ensures the accuracy and longevity of your auto level:

- **Cleaning:** After each use, wipe the instrument body with a soft, dry cloth. For optical surfaces (lens, eyepiece), use a lens brush to remove dust, then gently clean with a lens cleaning cloth and optical cleaning solution if necessary. Avoid abrasive materials.
- **Storage:** Always store the auto level in its protective carrying case in a dry, temperature-controlled environment. Avoid extreme temperatures and high humidity.
- **Calibration Check:** Periodically check the instrument's calibration, especially if it has been subjected to impact or rough handling. Refer to professional surveying guidelines for calibration procedures or consult a qualified technician.
- **Dustproof & Waterproof Features:** While the instrument is designed to be dustproof and waterproof, avoid submerging it in water or exposing it to heavy, prolonged rainfall unnecessarily. Always dry the instrument thoroughly if it gets wet.



**DUSTPROOF &  
WATERPROOF**



Figure 7.1: This image highlights the dustproof and waterproof capabilities of the Yaecce 32X Optical Auto Level, demonstrating its resilience in challenging outdoor environments.

## 8. TROUBLESHOOTING

If you encounter issues with your auto level, consider the following common problems and solutions:

Problem	Possible Cause	Solution
Image is blurry or unclear	Eyepiece or objective lens not focused; parallax present; dirty optics.	Adjust eyepiece focus. Adjust objective lens focus. Eliminate parallax by refocusing. Clean lenses carefully.
Circular bubble cannot be centered	Tripod not stable; instrument not coarsely leveled; foot screws overtightened.	Ensure tripod is stable. Perform coarse leveling with tripod legs. Loosen foot screws slightly and re-level.

Problem	Possible Cause	Solution
Readings are inconsistent or inaccurate	Instrument out of calibration; compensator malfunction; unstable setup.	Check calibration (e.g., two-peg test). Ensure stable setup. If compensator is suspected, seek professional service.
Horizontal movement is stiff	Dust or debris in mechanism; lack of lubrication.	Clean around moving parts. Do not attempt to lubricate without professional guidance.

If problems persist after attempting these solutions, please contact the seller or a qualified service technician for assistance.

## 9. SPECIFICATIONS

Detailed technical specifications for the Yaeccc 32X Optical Auto Level Model AB-0381:



Figure 9.1: An annotated diagram of the auto level, indicating key components such as the ocular, focusing handwheel, bubble reflector, and dial scale, along with its approximate dimensions.

- **Brand:** Yaeccc

- **Model:** AB-0381
- **Magnification:** 32x
- **Material:** Metal
- **Color:** Clear (referring to optical clarity)
- **Product Dimensions:** Approximately 5.5"L x 7.6"W (194 x 140 x 105 mm / 7.6 x 5.5 x 4.1 inches)
- **Item Weight:** Approximately 2.1 Kilograms (4.62 pounds)
- **Operation Mode:** Automatic
- **UPC:** 602989771683
- **Manufacturer:** Yae First Trading Co.,Ltd
- **First Available:** January 17, 2018
- **Batteries Required:** No

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## 10. WARRANTY AND SUPPORT

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Specific warranty terms and support contact information are not provided in the available product data. For details regarding warranty coverage, technical support, or service, please refer to the documentation included with your purchase or contact the seller directly. You may also visit the official Yaeccc website for further information.

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