

TOL-24X
OPTICAL LEVEL PACKAGE



I N S T R U C T I O N M A N U A L

SAFETY

Read the following safety instructions before attempting to operate this product.

Keep these instructions in a safe place or store in the carry case for future reference.

SAVE ALL WARNINGS AND INSTRUCTIONS FOR FUTURE REFERENCE.

 **WARNING: Read and understand all instructions.**

- Use only accessories that are recommended for your model.
- Tool service must be performed only by qualified repair personnel. Repairs, service or maintenance performed by unqualified personnel will void the warranty. Only approved and authorised service technicians can carry out warranty repairs.

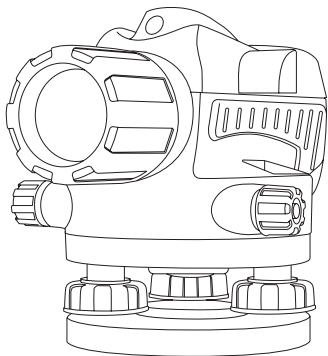
- Position the optical level securely on a level surface. Damage or serious injury could result if the optical level falls.

 **WARNING: Do Not Disassemble The Laser.**

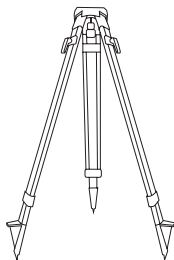
There are no user serviceable parts inside. Disassembling the laser will void all warranties on the product. Do not modify the product in any way. Modifying the tool may result in hazardous laser radiation exposure.

ITEM CHECKLIST

Please ensure the following items are included with your laser level.
If anything is missing please contact your retailer.



General Titanium
Series TOL-24X



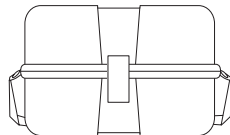
Tripod



Staff

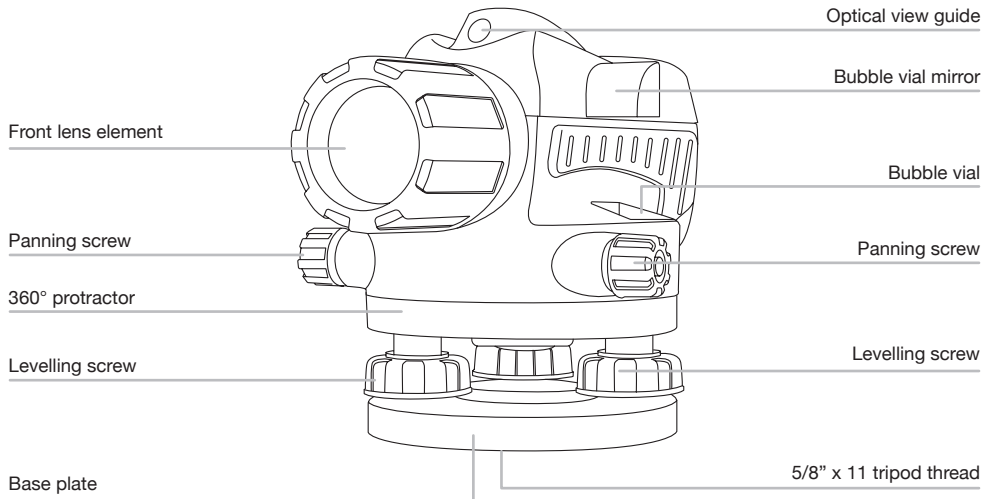


Plumb bob

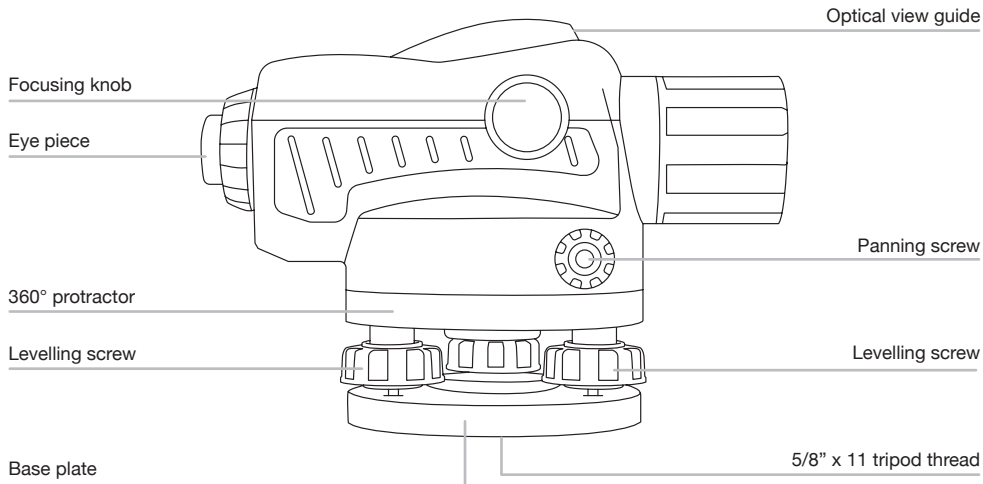


Carry case

OPTICAL LEVEL OVERVIEW: FRONT



OPTICAL LEVEL OVERVIEW: SIDE



USING YOUR OPTICAL LEVEL

SET UP

- Stand the tripod (part sold separately) on a level surface with legs spaced for stability.
- Thread the tripod yoke through the *5/8" x 11 thread* on the base of the instrument. Screw into place until secure.
- Centre the bubble vial by turning the levelling screws.

OPERATION

- Point the instrument towards the desired area.
- Use a bright background or hold a white sheet of paper in front of the area. Turn the eyepiece until the cross hairs are a sharp black.
- Turn the level towards the staff using the optical view guide.
- Turn the panning screw to set the vertical hair down the centre of the staff.

Measurement

- Read the staff where it is cut by the middle hair.

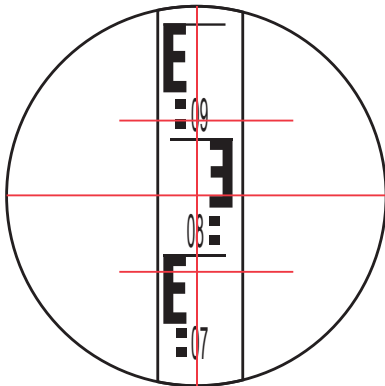
USING YOUR OPTICAL LEVEL (*continued*)

Distance measurement

- Read the staff where it is cut by the upper and lower hairs.
- Calculate the distance between the upper and lower hairs.
- Multiply the figure by 100 to calculate the distance between the instrument and the staff.

Angle measurement

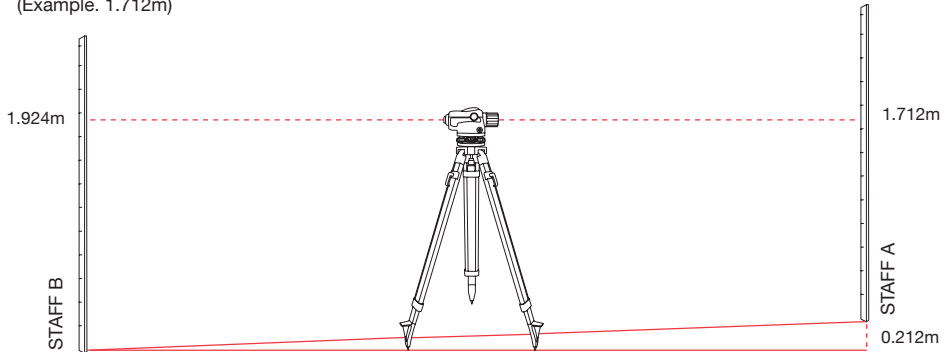
- Point the instrument towards the first point.
- Set the protractor base to 0°
- Point the instrument towards the second point.
- The angle result will be in the protractor reading.



USING YOUR OPTICAL LEVEL (*continued*)

Height measurement

- Place the instrument onto a solid tripod between two staves.
- Level off the optical using the bubble vial.
- Take an accurate measurement reading from staff A. (Example. 1.924m). Take an accurate measurement reading from staff B (Example. 1.712m)
- Subtract the measurement of staff B from staff A. (Example. $1.924\text{m} - 1.712\text{m} = 0.212\text{m}$). This calculation shows that staff B is 0.212m higher than staff A.



CHECKING ACCURACY

BUBBLE VIAL

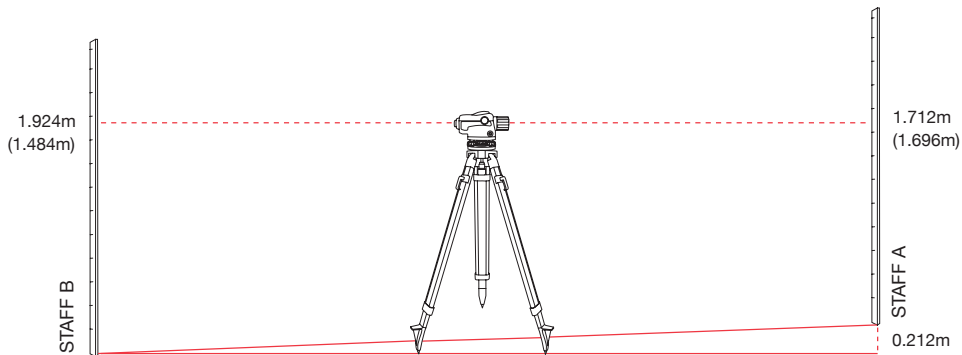
- Centre the bubble by adjusting the levelling screws until level.
- Turn the instrument 90° at a time and check the position of the bubble inside the vial. If the bubble moves out of the centre ring a service and calibration is required.

COMPENSATOR

- Place the instrument onto a solid tripod between two staves spaced 30m to 50m apart.
- Level off the optical using the bubble vial.
- Take an accurate measurement reading from staff A. (Example. 1.924m). Take an accurate measurement reading from staff B (Example. 1.712m)
- Subtract the measurement of staff B from staff A. (Example. $1.924\text{m} - 1.712\text{m} = 0.212\text{m}$). This calculation shows that staff B is 0.212m higher than staff A.
- Position the instrument and tripod 1m from Staff A while keeping it in between both Staff A and Staff B.
- Take an accurate measurement reading from Staff A. (Example. 1.696m. Subtract the height difference that was calculated in step 3 from the current measurement reading (Example. $1.696\text{m} - 0.212\text{m} = 1.484\text{m}$).

CHECKING ACCURACY *(continued)*

- Take an accurate measurement reading from staff B. The measurement reading for staff B should be approximately 1.484m based on the calculation above.
- If the compensator accuracy is less or greater than 3mm after following the measurements and calculations shown in these steps, a service and calibration is required.



CARE AND MAINTENANCE

- This is a precision measuring instrument and should always be handled with care and transported within the carry case provided.
- Whenever possible, store the instrument in a dry, shady location.
- Calibration of the instrument is recommended: every six months, if ongoing accurate levelling is required, or an impact has occurred.
- The operator should check the accuracy of the instrument before precision levelling is attempted. Failure to do so may result in inaccurate measurements.
- Clean the instrument with a dry, soft cloth after use in dusty, damp or wet conditions before storing. Use lens paper to clean the lens. Do not use your finger.
- Smudges and fingerprints may be removed with a damp tissue or a soft, lint-free cloth.

WARRANTY

3 YEAR STANDARD WARRANTY PERIOD

1. The warranty period for your tool is 3 years from the date of purchase.
2. The warranty period for batteries, battery packs and chargers is 1 year from the date of purchase.
3. Calibrations are not covered under warranty as they are deemed wear and tear.
4. All products have a standard warranty period, you do not have to register your products to obtain the standard warranty period.
5. To claim under this warranty, the date of purchase of the tool must be documented by an invoice/receipt.

7 YEAR EXTENDED WARRANTY PERIOD

1. The extended warranty is available on selected tools only.
2. You may extend the warranty period for your tool to 7 years from the date of purchase. This excludes batteries, battery packs and chargers.
3. Calibrations are not covered under warranty as they are deemed wear and tear.
4. To obtain the extended warranty, the registration process must be completed within 30 days from the date of purchase.
5. Failure to register your product online and/or submission of a valid invoice/receipt will void the warranty extension.
6. Please ensure ALL information submitted/uploaded is correct.
7. Extended warranty is ONLY available via online registration, offline (mailing in of warranty registration) will not be accepted.

WARRANTY (continued)

AUSTRALIA

“Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.”

For more information please visit consumerlaw.gov.au

NEW ZEALAND

For more information please visit
consumerprotection.govt.nz

CUSTOMER SUPPORT

To assist you with any queries or technical questions
please contact customer support

Australia: 1300 658 338

New Zealand: 0800 367 527

SPECIFICATIONS

Specifications	TOL-24X
Product code	88720
Warranty	7 Years*
Accuracy	±2.5mm at 1km (double run)
Compensator range	15'
Magnification	24x
Minimum focus	1m
Objective aperture	36m
Weight (kg)	1.385
Dimensions (mm)	135 x 210 x 150

*With online registration (3 years without registration). Please refer to page 12 for details.



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