<u>DHN50</u> 40-6932, 40-6935 & 40-6936 Theodolite Quick Start Guide

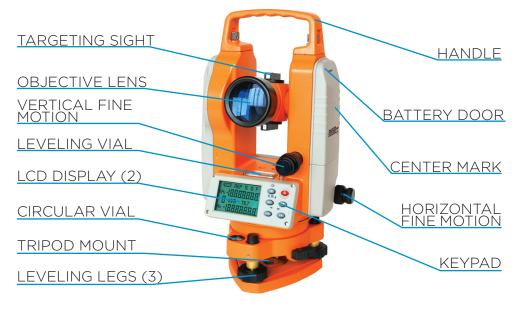
Thank you for purchasing this Johnson theodolite - the easiest way to tackle large jobsite layout. This theodolite is engineered to give you years of trouble-free performance and reliability!

Johnson theodolites feature:

- 2 arcsec (40-6932) or 5 arcsec (40-6935/40-6936) accuracy
- Optical plummet (40-6932/40-6935)
- Laser plummet & sighting laser (40-6936)
- Dual LCD displays
- Large 30mm objective
- Simple dual 6-button keypads
- Focusable crosshairs
- Rain cover for use on wet jobsites
- Compatible with 90° pivoting rear optic (sold separately)



KEY COMPONENTS



KEYPAD OVERVIEW



POWER - Press to toggle power on/off.



FUNCTION - Tap to enter function mode (see manual for details). Double tap to enable the backlight.

- R/L **RIGHT/LEFT -** Sets the horizontal angle direction.
- 0 SET **ZERO SET -** Sets current horizontal position to 0°0'0".
- HOLD Press to freeze the horizontal angle. Press again to release. Hold does not affect the vertical angle.
- V/% VERTICAL UNIT CONTROL Press to toggle vertical units between the default degrees and percent of slope.

LCD OVERVIEW



INSTALLING BATTERIES

The theodolite comes with an option to use the rechargeable battery pack or standard AA cell batteries. To remove, press the retaining tab and pull the battery away from the theodolite. To reinstall, align the

bottom edge and then press the battery into place. Charge the NiMH pack by plugging the included adapter directly into the battery. The adapter's light will turn green when fully charged.



To install AA's: 1: Remove battery holder. 2: Open holder to access AA's.



We want to get you up and running as quickly as possible - but this quick start guide is not a replacement for reading and understanding your operator's manual! For complete safety & operating instructions, refer to the operator's manual included with your tool, or scan the QR code.



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OPERATING THE THEODOLITE

- Align the theodolite over your reference point and use the circular vial to coarse level the theodolite. Validate your position over the reference point using the optical or laser plummet. Readjust the position as needed.
- Complete the fine leveling of the theodolite using the three leveling legs until the leveling vial bubble is centered in both axes.
- Note, detailed leveling instructions can be found in the manual.
- Power on the theodolite by pressing
- Rotate the theodolite to your desired zero point and press to zero the measurement. The vertical angle display is an absolute measurement with respect to true level and cannot be zeroed. If the vertical angle on the LCD shows "b", the theodolite is not level.
- Note, when sighting targets, the 30x zoom of the main objective can make it difficult to locate a small target. Use the targeting sight to "rough-site" your target, then switch to the objective lens.
- When you are centered on your target, lock the horizontal and vertical fine motion controls to prevent the theodolite from moving. Read the angle from the LCD display.
- To hold the horizontal reading on the LCD display even if the theodolite moves, press HOLD. Note, the vertical angle cannot be held.
- To convert the vertical reading from degrees to percent grade, press v.
 Press v.
 again to toggle back.

To perform repeat measurements:

- Press FUNC, then HOLD [REP]. Aim at target A and press OSET to zero the theodolite.
- Aim at target B and press HOLD
- Aim back at target A and press (R/L) to release the angle hold.
- Rotate back to target B and press (HOLD). Double and average angle value will be displayed on the LCD display.
- Repeat the last two steps as required. A maximum of 15 repeat measurements can be taken. Note: The repeat mode will not work if the angle between targets A and B is <30 arcseconds.
- Press FUNC then HOLD to exit repeat measurement mode.

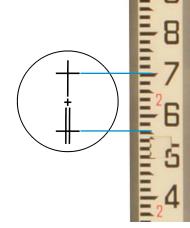
DISTANCE ESTIMATION

- Level the theodolite and aim the objective at a grade rod.
- Read the grade rod to obtain the difference in height between the top and bottom stadia hairs. Multiply this difference by 100 to get horizontal distance.
- For example, as shown to the right, the distance between stadia hairs is 1.4" inches. Therefore the distance from theodolite to grade rod is 140", or 11'8".

USING THE 90° OFFSET LENS

This theodolite can operate using an offset lens, sold separately, which is ideal for when the theodolite is used on ground level or any time your eye does not align well to the objective.

Install the offset lens according to the directions included with the offset lens. It can be stored in your theodolite carrying case when not in use.









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