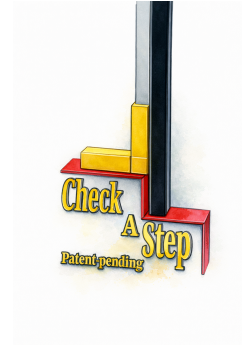


CHECK-A-STEP

Multi-Function Stair, Handrail & Guardrail Measurement Tool

User Manual – Version 1.0



1. Introduction

Check-a-Step™ is a multi-use, upright inspection tool designed for fast, accurate verification of:

- Stair riser height
- Handrail height
- Guardrail height
- Intermediate baluster/picket spacing
- Minimum tread depths (tread nosing to toe kick)
- Electrical outlet box elevation

The tool incorporates a **fixed calibration post**, a **sliding measuring arm**, an **adjustable tread foot**, and an **electrical box checker tab**, allowing a single device to replace multiple code-compliance gauges.

2. Components Overview

2.1 Calibration Post

- Fixed 34-inch height
- Forms the main vertical body
- Provides reference for all measurements

2.2 Sliding Measuring Arm

- Moves vertically along the calibration post
- Displays 1/8-inch measurement increments over a 13-inch region
- Used for riser height, handrail, and guardrail measurements

2.3 Upper & Lower Guide Brackets

- Maintain linear, friction-controlled movement of the sliding arm
- Spaced approximately 13 inches apart

2.4 Adjustable Tread Foot

- Connects to the bottom of the sliding arm
- Rests on an upper stair tread/nosing during riser measurements
- Width ≈ 4 inches (also acts as a 4" guardrail spacing gauge)

2.5 Handle + Locking Screw

- Located at the top
- Used for upright operation
- Lock screw secures measurement position
- Handle depth $\approx 4\frac{3}{8}$ inches (also functions as $4\frac{3}{8}$ " handrail spacing gauge)

2.6 Magnetic Foot extension

- **Attached the magnetic foot extension** (for commercial stairs) to the bottom the foot.
- Hold the check a step horizontally with the numbers facing up.
- Push the check a step until the post touches the toe kick of the next riser and take the reading, (for commercial and attached foot extension, add 1 inch to displayed number for depth.)

2.7 Electrical Box Checker Bracket

- Fixed 14 inches above the bottom reference plane
- Lateral projection engages interior lower edge of an electrical outlet box

3. Calibration Procedures

3.1 Calibrating the Adjustable Tread Foot

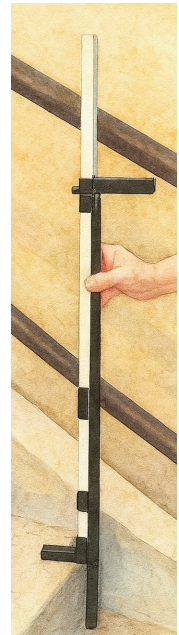
1. Move the sliding measuring arm to an **even number** on the measurement markings.
2. Measure from the **bottom of the calibration post** to the **bottom of the adjustable foot**.
3. Adjust the foot until this dimension matches the number set on the sliding arm.
4. Tighten the foot to secure the position.
5. Check the sliding action once more to confirm accuracy.

3.2 Calibrating the Electrical Box Checker

1. Confirm that the electrical tab is **14 inches above the bottom of the sliding arm or foot assembly**, whichever sits lowest.
2. Verify that the tab's flat contact surface is perpendicular to the post.

4. How to Use Check-a-Step™

1. The following sections correspond to Figures 5–10 in the patent application
2. Stand upright at the stair. Hold the check-a-step **just under the handle** with one hand.
3. Place the **Adjustable Foot** on the nosing of the **upper** tread/riser to be compared.
4. Let the **Calibration Post** descend to touch the **lower** tread/landing.
5. Lightly squeeze your finger to hold the **sliding measurement arm**, or tighten the **lock screw** for repeat checks.
6. Read the measurement markings . Mark on the sliding arm's side if needed (dry-erase).
7. Move to the next step and repeat to compare uniformity across the flight.
8. Magnetic foot extension for checking minimum tread depth.



4.1 Measuring Stair Riser Height

1. Place the **Adjustable Tread Foot** on the *upper stair nosing/tread*.
2. Keep the calibration post vertical.
3. Allow the **calibration post** to lower until its bottom makes firm contact with the tread below.
4. Tighten the lock screw to secure the sliding arm.
5. Read the riser height directly from the measurement scale.
6. Repeat step-to-step to compare variations and confirm uniformity.



4.2 Measuring Handrail Height

1. Stand the tool vertically on the stair tread directly beneath the handrail.
2. Raise the sliding measuring arm upward until its reference point aligns with the **4-inch mark**.
3. The **top of the handrail** should fall **between the top of the sliding arm and the handle**, corresponding to typical 34–38 inch handrail height requirements.
4. Tighten lock screw to verify or document compliance.



4.3 Checking Handrail Intermediate Spacing

1. Insert the **handle and calibration post horizontally** between two balusters/pickets.
2. The **handle's 4⅜-inch depth** represents the maximum allowable handrail spacing.
3. If the handle fits through the gap → spacing exceeds code allowance.



4. If it does not fit → spacing is compliant.

4.4 Measuring Guardrail Height

1. Stand the tool vertically on the walking surface (deck, balcony, landing).
2. Raise the sliding arm until the **8-inch marking** aligns with the top of the guardrail
 - This corresponds to **42 inches**, the typical minimum guardrail height.
3. Tighten the lock screw to verify the measurement.



4.5 Checking Guardrail Intermediate Spacing

1. Insert the **adjustable tread foot** and calibration post horizontally between two balusters.
2. The foot's **4-inch width** equals the maximum code-permitted gap.
3. If the foot passes through → spacing fails.
4. If it does not pass → spacing meets code.

4.6 Magnetic Foot Extension

1. Magnetically attaches to the bottom of the **adjustable tread foot**.
2. **Attached the magnetic foot extension** (for commercial stairs) to the bottom the foot.
3. Hold the check a step horizontally with the numbers facing up.
4. Push the check a step until the post touches the toe kick of the next riser and take the reading, (for commercial and attached foot extension, add 1 inch to displayed number



for depth.) Intended for commercial minimum horizontal tread measurements

5. Not required for residential minimum horizontal tread measurements

4.7 Measuring Electrical Outlet Box Height

1. Insert the **electrical tab** into the lower interior edge of the electrical box.
2. Lower the calibration post until the adjustable foot or base contacts the **floor or subfloor plane**.
3. Read the measurement from the scale.
4. Apply corrections for **finish floor thickness** if required (e.g., to confirm 15-inch AFF minimums).

4.8 Measuring Stair Tread Minimum Depth

1. Install the removable magnetic foot extension to the bottom of the adjustable foot, if needed (commercial applications).
2. The tool is held horizontally with measurement markings located on the sliding measuring arm, facing upward with the adjustable foot resting against the nosing of the stair tread.
3. The calibration post is advanced until it contacts the toe kick of the above riser.
4. Read the measurement from the scale.
5. When the magnetic foot extension is installed, one (1) inch is added to the displayed measurement to determine tread depth.

5. Safety & Operating Notes

- Always ensure the sliding arm is free of debris for smooth operation.
- Avoid over-tightening the lock screw; secure but do not crush the acrylic.
- Use two hands when lowering the calibration post on steep stairs.
- Do not use the device as a lever or pry bar.
- When used around energized electrical boxes, follow OSHA and NEC safe-work practices.

6. Maintenance

6.1 Cleaning

- Wipe rods and guides with a microfiber cloth.
- Avoid solvents that may cloud acrylic components.

6.2 Storage

- Store upright or in a padded tool bag.
- Protect from prolonged UV exposure to preserve accuracy of measurement markings.

Disclaimer

Invented and hand-crafted in the USA by a veteran and professional building inspector.

As with all handmade tools, slight variations may occur.

Always check calibration before use to ensure accurate measurements.