

Mini Tripods – Big Impact in a Tiny Package

How the Rothbucher RSFP-X98-2 Floor Stand Improves Surveying & 3D Scanning Accuracy

Introduction

Surveying and 3D scanning professionals continuously seek tools that enhance accuracy, efficiency, and portability in their workflows. Mini tripods, also known as floor stands or mini tribrachs, offer a compact yet powerful solution for total station and scanning applications. Despite their advantages, these tools remain underutilized in the industry.

Shea Gleadle's latest video showcases why mini tripods, particularly the **Rothbucher RSFP-X98-2 Floor Stand**, are essential for surveyors. He demonstrates how these compact tools outperform traditional full-size tripods and pole-mounted setups, offering significant improvements in **horizontal and vertical centering accuracy, workflow efficiency, and portability**.

Why Mini Tripods Matter

Mini tripods may not be high-tech, but they deliver **game-changing benefits** in the field. These small, transportable survey prisms and scan target holders provide a **stable, low-profile solution** for total stations and 3D scanners. Shea emphasizes that **every surveyor working with traverses, high-precision layouts, or 3D scanning should have one in their vest**.

He first discovered mini tripods about seven years ago and has used them consistently. However, the recent upgrade to **Rothbucher's RSFP-X98-2 Floor Stand** led to an immediate shift in his workflow—so significant that he felt compelled to make this video.

Key Advantages of Mini Tripods Over Traditional Equipment

1. Reduction in Horizontal Centering Errors

One of the primary advantages of mini tripods is their ability to reduce **pole plumbness error**, which occurs when a surveyor levels a pole or tribrach over a control point. The height of a target plays a crucial role in accuracy:

- **Standard tripod/pole setups:** A target height of **1.5 meters (5 feet)** introduces **4mm of potential plumbness error** (when using a 40-minute bubble).

- **Tribrach or pole with an 8-minute level bubble:** Reduces error to **1mm**, but still allows for potential accuracy loss.
- **Mini tripods with a target height of 178mm (7 inches):** Reduce plumbness error to **under 0.1mm**, making errors negligible.

Since survey equipment is often subject to bumps and calibration shifts, reducing potential centering errors at the source is critical. **Mini tripods provide near-zero horizontal centering error, ensuring high-precision measurements.**

2. Elimination of Vertical Centering Errors

Fixed-height mini tripods, such as the Rothbucher RSFP-X98-2, eliminate **vertical centering error** entirely. Unlike pole-mounted prisms where surveyors must manually measure and record target heights, a **fixed-height tripod removes human error from the equation**. This consistency dramatically improves **total station accuracy, especially in least squares adjustment calculations.**

Challenges of Mini Tripods

Despite their many benefits, mini tripods have limitations that surveyors should be aware of:

1. Obstructed Sight Lines

- Due to their low height, mini tripods may have restricted lines of sight in cluttered environments.
- Surveyors should **strategically place control points** to mitigate this issue.

2. Durability Concerns

- Some mini tripods on the market have fragile **spirit level bubbles** that break easily.
- The **Rothbucher RSFP-X98-2 addresses this issue** with a **robust, well-protected level bubble**.

3. Suitability for Soft Surfaces

- Many mini tripods struggle on grass, dirt, or uneven surfaces.
- The **Rothbucher RSFP-X98-2** comes with **rubber feet** for better stability in these conditions.

4. Stability in Windy Conditions

- Lightweight mini tripods can tip over in windy environments.
 - Proper positioning (orienting back feet against wind direction) reduces this risk.
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Why the Rothbucher RSFP-X98-2 Stands Out

Compared to other mini tripods, the **Rothbucher RSFP-X98-2 Floor Stand** is built for real-world surveying and scanning challenges. Key improvements over competing designs include:

- **Compact Folding Design:** The legs fold up neatly for easy storage in a survey vest or pocket.
- **Enhanced Durability:** Sturdy construction with a **reinforced level bubble** that withstands rough handling.
- **Rubber Feet:** Improved stability on hard and soft surfaces alike.
- **Magnetic Attachment:** Seamlessly integrates with **Rothbucher's One Point Fits All System**, making target setup effortless.

Shea highlights how pairing the **RSFP-X98-2 with Rothbucher paddle targets** completely transforms scanning workflows. This combination eliminates wasted time repositioning targets, allowing for **faster, more efficient scans**.

Time-Saving Benefits in Scanning Workflows

In large scan projects, **traditional control workflows require surveyors to move target poles between control points manually**. This process is time-consuming and inefficient.

With the **RSFP-X98-2 Floor Stand**, surveyors can:

- **Pre-place scan targets** on control points before scanning.
- **Keep multiple tripods in their survey vest**, allowing for **quick, on-the-fly target placement**.
- **Reduce wasted motion**, significantly speeding up data collection.

Instead of constantly repositioning a tripod or pole-mounted target, surveyors using the **RSFP-X98-2 can scan a control point and move seamlessly to the next location**. This approach results in **higher accuracy and dramatically improved efficiency**.

Versatility Across Surveying Applications

While initially designed for **total stations and 3D scanning**, Shea also highlights the **multi-purpose nature** of the RSFP-X98-2:

- **Use with GNSS Receivers:**
 - Ideal for **short-term static GNSS observations** without needing a full tripod setup.
 - Perfect for **backcountry surveying** where carrying bulky tripods isn't feasible.
- **Pairing with Rothbucher's One Point Fits All System:**
 - Expands usability to **electric outlet targets, suction cup-mounted reference points, and floor targets**.
 - Allows for **seamless integration into both traditional and modern surveying workflows**.
- **Enhanced Transportability:**
 - Traditional tripod kits weigh **20-30 lbs**, taking up **significant truck space**.
 - **Mini tripods eliminate this burden**, allowing surveyors to **carry multiple units in their vest**.

Final Thoughts

Shea concludes by predicting that **mini tripods like the Rothbucher RSFP-X98-2 will become a surveying industry standard** in the coming years. Their **transportability, affordability, and accuracy advantages** make them a no-brainer for **total station work, 3D scanning, and GNSS surveying**.

For those working in **high-precision applications**, investing in a **Rothbucher RSFP-X98-2 Floor Stand** provides **instant improvements in workflow speed and data accuracy**.

💡 *“Some of the simplest ideas are often the most effective. Mini tripods may not have the complexity of robotic total stations or IMUs, but their impact on accuracy and efficiency is undeniable.”* – Shea Gleadle

Watch the Full Video Here:

 [Mini Tripods - Big Impact in a Tiny Package](#)

