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› Simpson Strong-Tie THD50500H Titen HD Heavy Duty Screw Anchor User Manual

## Simpson Strong-Tie THD50500H

# Simpson Strong-Tie THD50500H Titen HD Heavy Duty Screw Anchor User Manual

Model: THD50500H | Size: 1/2" x 5"

## 1. INTRODUCTION

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This manual provides detailed instructions for the proper installation and use of the Simpson Strong-Tie THD50500H Titen HD Heavy Duty Screw Anchor. This anchor is designed for high-strength fastening in concrete and masonry applications. Adherence to these instructions is crucial for ensuring the anchor's performance and safety.



**Image 1.1:** The Simpson Strong-Tie THD50500H Titen HD Heavy Duty Screw Anchor. This image displays the screw anchor, highlighting its hex head and aggressive threading designed for secure concrete and masonry fastening.

## 2. SAFETY INFORMATION

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Always prioritize safety during installation. Failure to follow safety guidelines can result in injury or property damage.

- Wear appropriate personal protective equipment (PPE), including safety glasses, gloves, and hearing protection.
- Ensure the work area is clear of obstructions and well-lit.
- Use tools in good working condition and as intended by the manufacturer.
- Verify the integrity of the base material (concrete/masonry) before drilling and installation.
- Do not overtighten the anchor, as this can damage the base material or the anchor itself.
- Consult local building codes and regulations for specific requirements.

## 3. SETUP AND REQUIRED TOOLS

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### 3.1 Tools Required

- Rotary hammer drill
- Carbide drill bit (1/2 inch diameter, specifically for concrete/masonry)
- Wire brush or compressed air for hole cleaning
- Torque wrench or impact wrench with appropriate hex socket (e.g., 3/4 inch or 19mm for 1/2" anchor)
- Measuring tape and marking tool
- Personal Protective Equipment (PPE)

## 3.2 Preparation

1. **Mark the Location:** Clearly mark the precise location for each anchor on the concrete or masonry surface.
2. **Select Drill Bit:** Use a 1/2 inch diameter carbide-tipped drill bit suitable for concrete or masonry.
3. **Set Drill Depth:** Adjust the drill stop on your rotary hammer drill to ensure the correct hole depth. The hole depth should be at least 1/2 inch deeper than the anchor's embedment depth to allow for dust accumulation. For a 5-inch anchor, the hole should be approximately 5.5 inches deep.

## 4. OPERATING (INSTALLATION) INSTRUCTIONS

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Follow these steps carefully for optimal performance and secure fastening.

1. **Drill the Hole:** Using a rotary hammer drill and the specified 1/2 inch carbide drill bit, drill a hole perpendicular to the surface at the marked location. Ensure the hole is drilled to the correct depth (anchor length + 1/2 inch).
2. **Clean the Hole:** Thoroughly clean the drilled hole using a wire brush and compressed air. Remove all dust and debris to ensure proper engagement of the anchor threads. A clean hole is critical for achieving specified holding values.
3. **Insert the Anchor:** Place the Titen HD screw anchor into the cleaned hole.
4. **Drive the Anchor:** Using an impact wrench or torque wrench with the appropriate hex socket, drive the anchor into the hole until the washer head is flush with the surface of the fixture or base material.
  - For optimal performance, ensure the anchor is driven straight.
  - Avoid over-torquing, which can strip the threads in the concrete or damage the anchor.
  - *Note:* In very old or hard concrete, the anchor may be difficult to drive to full depth. If resistance is excessive, consider using a different anchoring solution or consulting a professional. Do not force the anchor, as this can lead to shearing.
5. **Verify Installation:** Once installed, the anchor should be firmly seated and provide a secure connection.

## 5. MAINTENANCE

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Titen HD screw anchors are designed for long-term, maintenance-free performance once properly installed. However, periodic inspection of the fastened assembly is recommended, especially in critical applications or environments subject to vibration or extreme conditions.

- Inspect anchors for any signs of corrosion, loosening, or damage.
- If an anchor appears damaged or loose, it should be replaced. Do not reuse anchors that have been removed.
- Ensure the surrounding concrete or masonry remains in good condition. Cracks or deterioration in the base material can compromise anchor performance.

## 6. TROUBLESHOOTING

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Problem	Possible Cause	Solution
Anchor stalls or does not drive to full depth.	<p>Hole not deep enough.</p> <p>Hole not properly cleaned (dust accumulation).</p> <p>Extremely hard or old concrete.</p> <p>Drill bit worn or incorrect size.</p> <p>Anchor not driven straight.</p>	<p>Ensure hole depth is at least 1/2 inch deeper than anchor embedment.</p> <p>Thoroughly clean hole with wire brush and compressed air.</p> <p>For very hard concrete, consider pre-drilling with a slightly smaller bit before final 1/2" bit, or use a more powerful impact wrench. If still problematic, an alternative anchoring method may be required.</p> <p>Use a sharp, correct-sized carbide drill bit.</p> <p>Ensure anchor is started and driven straight.</p>
Anchor shears off during installation.	<p>Excessive torque applied.</p> <p>Anchor binding in the hole due to misalignment or debris.</p> <p>Base material too hard for the anchor.</p>	<p>Use a torque wrench to control applied torque; avoid over-torquing.</p> <p>Ensure hole is clean and anchor is driven straight.</p> <p>If base material is exceptionally hard, consider alternative anchors or professional advice.</p>
Anchor feels loose after installation.	<p>Hole drilled too large.</p> <p>Base material compromised (cracked, weak).</p> <p>Anchor not fully engaged.</p>	<p>Ensure correct 1/2 inch drill bit is used.</p> <p>Inspect base material for damage. If compromised, relocate the anchor.</p> <p>Ensure anchor is driven to full embedment depth.</p>

## 7. SPECIFICATIONS

Attribute	Value
Brand	Simpson Strong-Tie
Model Number	THD50500H
Fastener Size	1/2 inch x 5 inches
Item Diameter	0.5 Inches
Head Type	Hex
Head Style	Socket
Exterior Finish	Zinc Plated
Metal Type	Alloy Steel
Point Style	Type 1 Point

Attribute	Value
Thread Type	Undercut Design, Fully Threaded
Usage	Concrete, Masonry
Item Weight	6.6 Pounds (for 20-piece set)
UPC	707392708414

## 8. WARRANTY AND SUPPORT

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For detailed warranty information and technical support regarding the Simpson Strong-Tie THD50500H Titen HD Heavy Duty Screw Anchor, please refer to the official Simpson Strong-Tie website or contact their customer service directly.

**Manufacturer:** Simpson Strong-Tie

**Website:** [www.strongtie.com](http://www.strongtie.com)