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› Klein Tools 25961 Step Drill Bit Instruction Manual

## Klein Tools 25961

# Klein Tools 25961 Step Drill Bit Instruction Manual

Model: 25961 | Brand: Klein Tools

## 1. PRODUCT OVERVIEW

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The Klein Tools 25961 Step Drill Bit is engineered for efficient drilling in various materials. Its dual spiral flutes are designed to effectively remove chips and facilitate faster cutting. The bit features a Titanium Nitride coating for enhanced durability and heat dissipation, extending its lifespan. With a 1/4-inch hex shank, it ensures a secure grip in both standard drills and impact drivers. This specific model is designed to create two hole sizes, ranging from 7/8 to 1-1/8 inches, and is suitable for drilling through steel (up to 16 gauge), plastic, aluminum, and wood.

### Key Features

- **Dual Spiral Flutes:** Designed to remove chips efficiently and pull the bit through material for faster cutting.
- **Titanium Nitride Coating:** Helps dissipate heat, contributing to a longer bit life.
- **1/4-Inch Hex Shank:** Provides a firm, positive grip, compatible with standard drills and impact drivers.
- **Split Point Tip:** Ensures quick hole starts and prevents drifting when pressure is applied.
- **Laser-Etched Hole Size Markings:** Clearly marked sizes starting at 1/4-inch for easy identification.
- **Versatile Material Compatibility:** Suitable for steel (up to 16 gauge), wood, plastic, and aluminum.
- **Two Hole Sizes:** Drills holes from 7/8 to 1-1/8 inches.



Figure 1: Front view of the Klein Tools 25961 Step Drill Bit, showing its spiral flutes and laser-etched model number.

## 2. PRODUCT ANATOMY

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Understanding the key components of your Klein Tools Step Drill Bit will help in its proper use and maintenance.



**Titanium nitride coating**

**1/4" Hex shank**

**Laser-etched hole markings**

**Dual spiral flutes**

**Split point tip**

**2 Hole sizes**  
**7/8" to 1-1/8"**  
**(22.2 to 28.6 mm)**

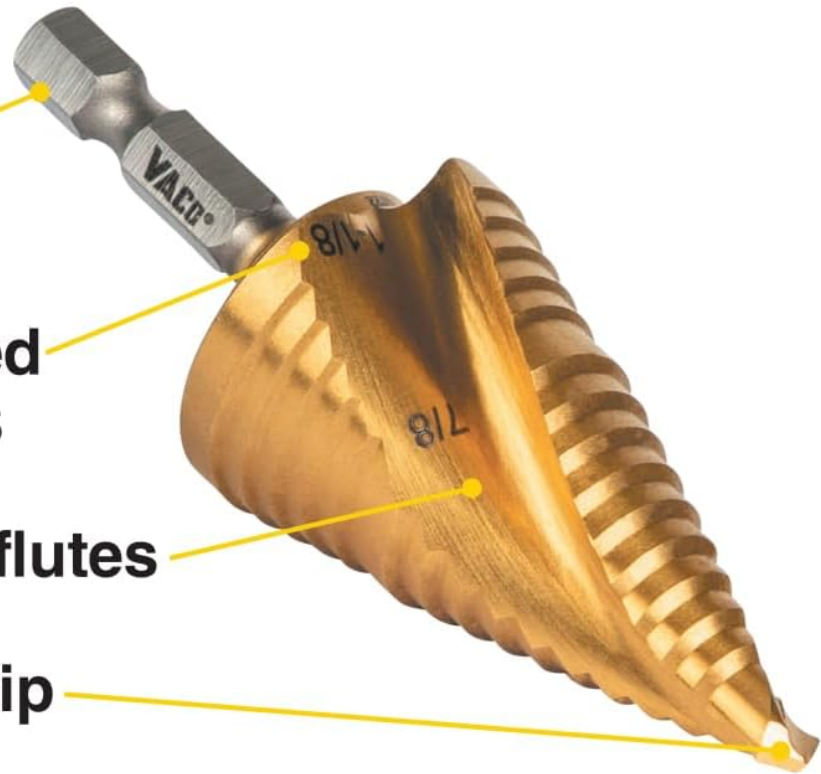


Figure 2: Annotated diagram of the step drill bit highlighting its key features: Titanium Nitride coating, 1/4" Hex shank, laser-etched hole markings, dual spiral flutes, and split point tip. It also indicates the two hole sizes: 7/8" to 1-1/8" (22.2 to 28.6 mm).

- **Titanium Nitride Coating:** The golden-colored surface treatment that reduces friction and increases hardness.
- **1/4" Hex Shank:** The hexagonal base that fits into drill chucks and impact drivers.
- **Laser-Etched Hole Markings:** Numerical indicators on the flutes showing the diameter of each step.
- **Dual Spiral Flutes:** The two helical grooves that run along the bit's body, designed for chip evacuation.
- **Split Point Tip:** The sharpened tip that allows for precise starting without pre-drilling.

### 3. SETUP

#### 3.1 Compatibility

The Klein Tools 25961 Step Drill Bit is designed for use with standard drills and impact drivers that accept a 1/4-inch hex shank. Ensure your power tool is compatible before use.



Figure 3: The Klein Tools step drill bit shown inserted into both a standard drill chuck and an impact driver, demonstrating its 1/4" hex shank compatibility.

### 3.2 Initial Inspection

Before each use, perform a visual inspection of the drill bit:

- Check for any signs of damage, such as bends, cracks, or excessive wear on the cutting edges.
- Ensure the Titanium Nitride coating is intact and not significantly worn.
- Verify that the hex shank is not stripped or damaged, which could lead to poor grip in the chuck.
- Confirm that the laser-etched markings are clear and readable.

### 3.3 Installing the Drill Bit

1. Ensure your drill or impact driver is unplugged or has its battery removed for safety.
2. Open the chuck of your drill or impact driver.
3. Insert the 1/4-inch hex shank of the step drill bit fully into the chuck.
4. Tighten the chuck securely to ensure a firm grip on the bit. A loose bit can cause injury or damage.
5. Give the bit a gentle tug to confirm it is properly seated and secure.

## 4. OPERATING INSTRUCTIONS

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## 4.1 General Usage Guidelines

- **Safety First:** Always wear appropriate personal protective equipment (PPE), including safety glasses, gloves, and hearing protection, when operating power tools.
- **Secure Workpiece:** Ensure the material you are drilling is securely clamped or held to prevent movement during operation.
- **Start Slowly:** Begin drilling at a slow speed to allow the split point tip to engage the material accurately and prevent wandering.
- **Apply Steady Pressure:** Apply consistent, moderate pressure. Avoid excessive force, which can overheat the bit or damage the material.
- **Monitor Heat:** The Titanium Nitride coating helps, but continuous drilling can still generate heat. If the bit becomes excessively hot, pause to allow it to cool.
- **Chip Clearance:** The dual spiral flutes are designed for efficient chip removal. Ensure chips are clearing the hole as you drill.
- **Achieving Desired Hole Size:** Drill until the desired laser-etched marking on the bit reaches the surface of the material. The step design allows for precise hole sizing.



Figure 4: A user demonstrating the use of the Klein Tools step drill bit to create a hole in a metal surface, highlighting its suitability for DIY projects.

## 4.2 Material Specific Usage

- **Steel (up to 16 gauge):** Use a moderate speed and consistent pressure. Consider using cutting fluid to prolong bit life and improve cut quality, especially for thicker gauges.
- **Aluminum:** Drill at a slightly higher speed than steel, but still maintain control. Aluminum can be sticky, so ensure good chip evacuation.
- **Plastic:** Use a lower to moderate speed to prevent melting the plastic. Apply light pressure to avoid cracking or deforming the material.
- **Wood:** Generally, higher speeds can be used for wood. The split point tip will help prevent splintering at the start of the hole.



Figure 5: Examples of the Klein Tools step drill bit being used on different materials including steel, plastic, wood, and aluminum, demonstrating its versatility.

## 5. MAINTENANCE

Proper maintenance will extend the life and performance of your Klein Tools Step Drill Bit.

- **Cleaning:** After each use, clean the drill bit to remove any accumulated debris, chips, or residue. Use a brush or cloth. Avoid harsh chemicals that could damage the coating.
- **Lubrication:** For metal drilling, using appropriate cutting fluid during operation is recommended to reduce friction and heat, which helps preserve the bit's sharpness and coating.
- **Storage:** Store the drill bit in a dry environment to prevent rust. Keep it in its original packaging or a

dedicated drill bit organizer to protect the cutting edges from damage.

- **Sharpening:** While the Titanium Nitride coating provides durability, over time, the cutting edges may dull. Sharpening step drill bits requires specialized tools and expertise to maintain the precise geometry. It is generally recommended to replace the bit if significant dullness occurs, or consult a professional sharpening service.

## 6. TROUBLESHOOTING

Refer to the table below for common issues and their potential solutions.

Problem	Possible Cause	Solution
Bit not cutting efficiently / Dull performance	Dull cutting edges; Incorrect speed/pressure; Material too hard.	Increase pressure slightly (if safe); Adjust drilling speed; Consider replacing the bit if severely dull; Ensure material is within specified limits.
Excessive heat generation	Too high speed; Insufficient lubrication (for metal); Worn coating.	Reduce drilling speed; Apply cutting fluid (for metal); Allow bit to cool periodically; Replace if coating is significantly worn.
Bit "walking" or drifting at start	Insufficient initial pressure; Starting at too high a speed; Uneven surface.	Start at a slower speed with firm, steady pressure; Ensure workpiece is stable; Use a center punch for very precise starts on metal.
Hole is not clean or has burrs	Dull bit; Incorrect feed rate; Material type.	Ensure bit is sharp; Adjust feed rate; Deburr the hole after drilling if necessary.
Bit getting stuck in material	Chips not clearing; Excessive pressure; Material binding.	Reduce pressure; Withdraw bit periodically to clear chips; Use cutting fluid for metal.

## 7. SPECIFICATIONS

Attribute	Value
Model Number	25961
Brand	Klein Tools
Cutting Diameter Range	7/8" to 1-1/8" (22.2 to 28.6 mm)
Shank Type	1/4-Inch Hex
Finish Type	Titanium Nitride
Tool Flute Type	Spiral (Dual)
Point Style	Split Point
Surface Recommendation	Aluminum, Metal (up to 16 gauge steel), Plastic, Wood
Number of Flutes	2
Item Weight	3.68 ounces

Attribute	Value
Product Dimensions (L x W x H)	1.13 x 1.13 x 3.22 inches
UPC	092644259616
Country of Origin	China

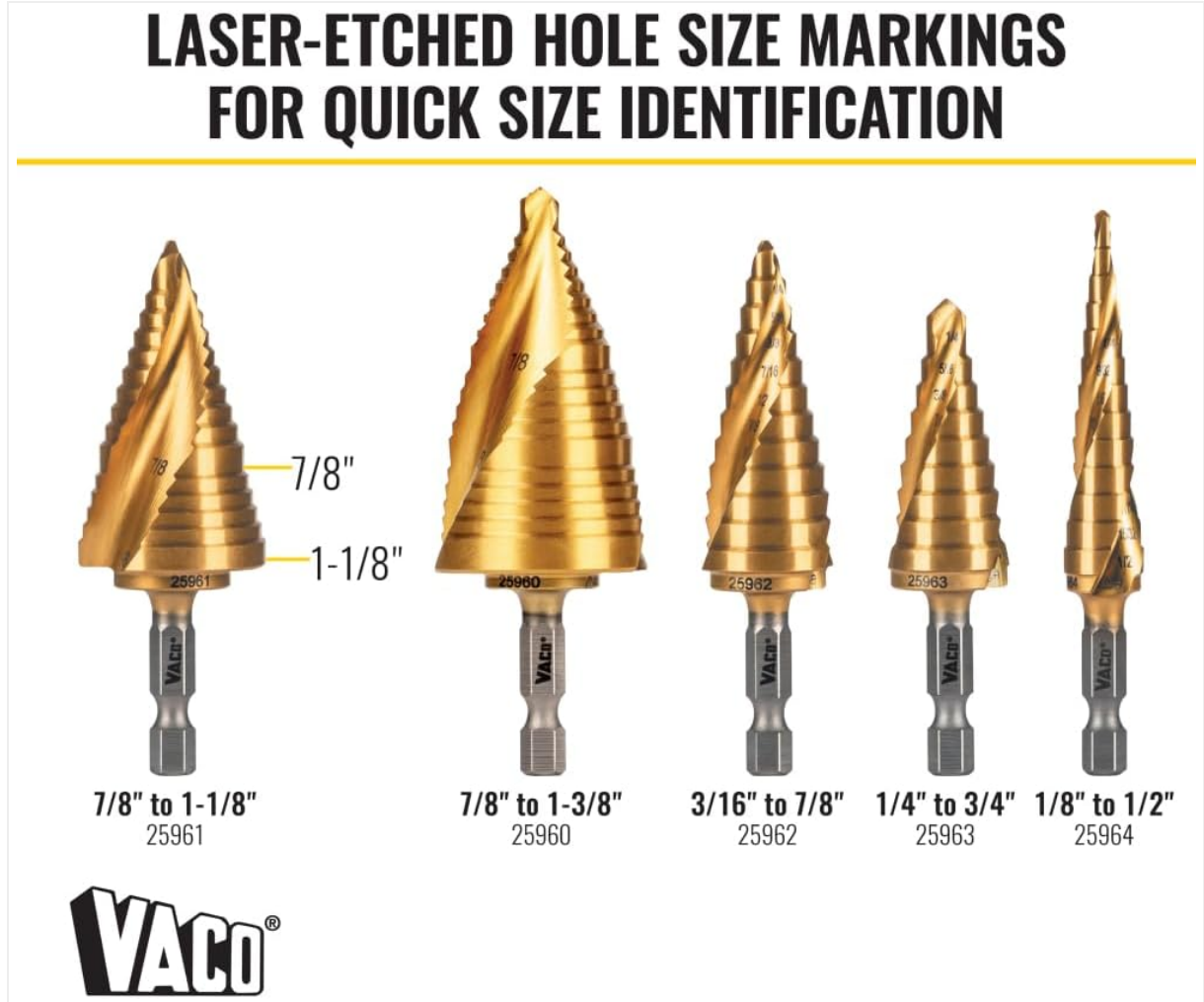


Figure 6: Close-up view of the Klein Tools step drill bit showing the laser-etched hole size markings for quick identification.

## 8. WARRANTY AND SUPPORT

### 8.1 Warranty Information

Klein Tools products are manufactured to the highest standards of quality and durability. For specific warranty details regarding your Klein Tools 25961 Step Drill Bit, please refer to the official warranty document provided with your purchase or visit the [Klein Tools official website](#).

### 8.2 Customer Support

For technical assistance, product inquiries, or support, please contact Klein Tools customer service. Contact information can typically be found on the Klein Tools website or on your product packaging. When contacting support, please have your model number (25961) and purchase details ready.