KLEIN TOOLS 31872

Klein Tools 31872 Heavy Duty Hole Saw Kit - Instruction Manual

Model: 31872 | Brand: KLEIN TOOLS

Introduction

This instruction manual provides essential information for the safe and effective use of the Klein Tools 31872 Heavy Duty Hole Saw Kit. This 4-piece Carbide-Tipped Hole Cutter kit is designed to cut quick, precise holes in a variety of materials, including stainless steel, mild steel, iron, copper, and brass sheet up to 3/16-Inch (0.5 cm) thick. The set includes three commonly used sizes plus an extra pilot bit, and comes in a rust-proof, molded plastic carrying case.

Image: The Klein Tools 31872 Heavy Duty Hole Saw Kit, showing the three hole cutters, pilot bit, hex key, and the open carrying case.

Safety Information

WARNING:
Always ensure that you and persons in the vicinity wear approved eye protection when operating this tool. Failure to do so may result in serious injury. Adhere to all local safety regulations and guidelines for power tool operation.

What's in the Box

The Klein Tools 31872 Heavy Duty Hole Saw Kit includes the following components:

- One 7/8-Inch (2.2 cm) Carbide-Tipped Hole Cutter
- One 1-1/8-Inch (2.9 cm) Carbide-Tipped Hole Cutter
- One 1-3/8-Inch (3.5 cm) Carbide-Tipped Hole Cutter
- One Extra Split Point Pilot Bit
- One Hex Key

- One Rust-Proof, Molded Plastic Carrying Case

Image: A close-up view of the Klein Tools Hole Saw Kit contents neatly organized within its rust-proof molded plastic carrying case.

Setup

Before operation, ensure your drill is unplugged or its battery is removed. Select the appropriate size hole cutter for your application. The hole cutter features an integrated flange to prevent over-drilling and a split point pilot drill bit to prevent bit walking.

1. Insert the pilot bit into the chuck of your drill. Tighten the chuck securely to prevent slippage.
2. Align the hole cutter with the pilot bit. The pilot bit should extend through the center of the hole cutter.
3. Ensure the hole cutter is properly seated and secured to the pilot bit assembly. Some models may require a hex key (included) to tighten a set screw on the side of the hole cutter to the pilot bit shaft.
4. Verify that all components are firmly attached before proceeding.

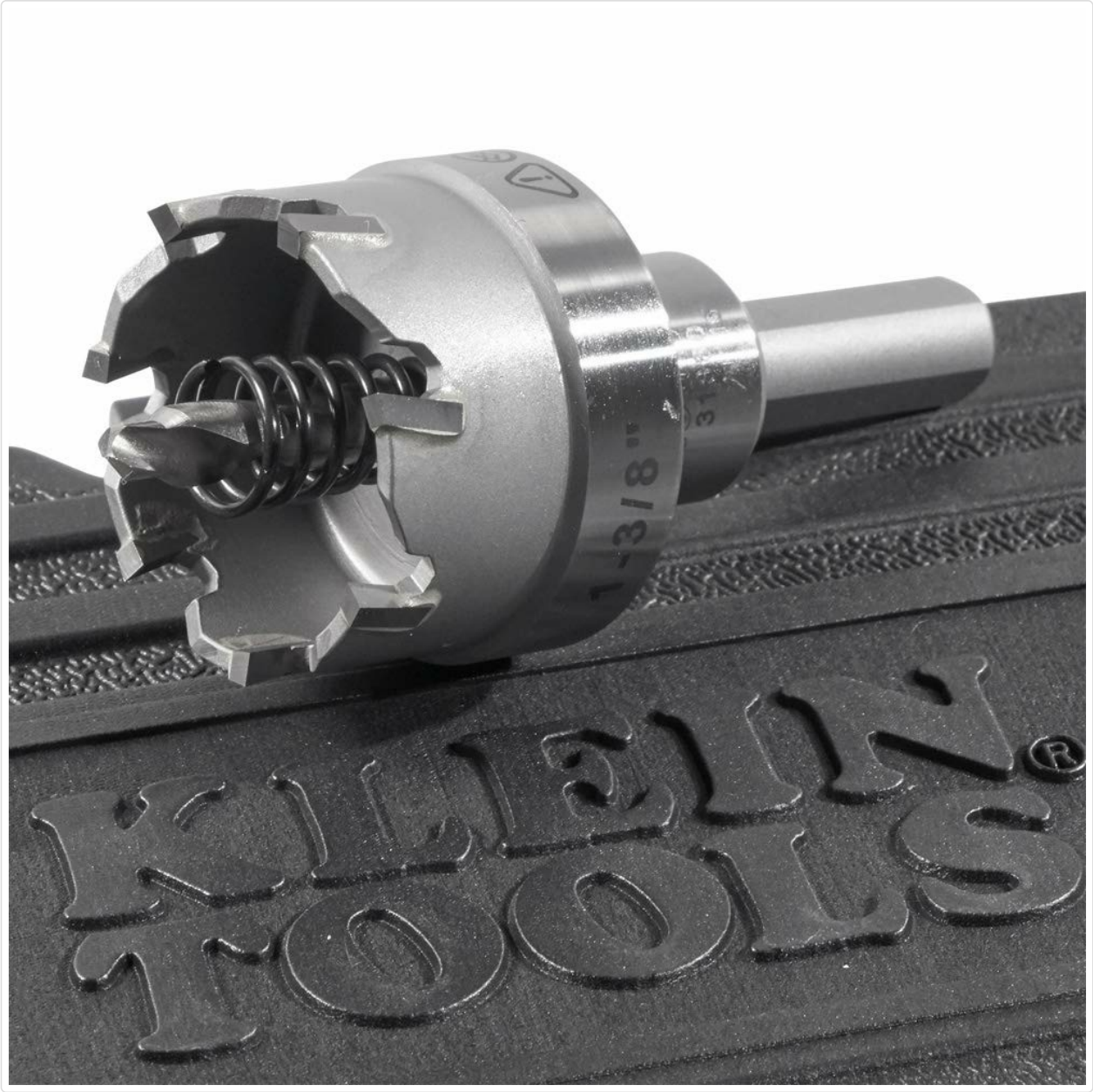

Image: A detailed view of a single Klein Tools carbide-tipped hole cutter, showing the pilot bit and the internal spring mechanism for slug removal.

Operating Instructions

This hole saw kit is designed for cutting quick, precise holes in various sheet metals. Always wear appropriate personal protective equipment, including eye protection and gloves.

1. **Prepare the Workpiece:** Secure the material you intend to drill to a stable surface to prevent movement during operation.
2. **Mark the Hole:** Clearly mark the center point where you wish to drill the hole.
3. **Position the Drill:** Place the pilot bit directly on the marked center point. Ensure the drill is held firmly and perpendicular to the workpiece.
4. **Begin Drilling:** Start the drill at a low to medium speed. Apply steady, even pressure. The split point pilot drill bit will guide the hole saw, preventing it from walking.
5. **Maintain Speed and Pressure:** Once the hole saw begins to cut, maintain a consistent speed and pressure. Refer to the Recommended Speeds (RPM) table below for optimal performance based on material type.
6. **Clear Debris:** The integrated flange prevents over-drilling, and the ejection spring assists in slug

removal once the cut is complete. Periodically clear chips and debris to prevent overheating and ensure a clean cut.

7. **Complete the Cut:** Continue drilling until the hole saw passes completely through the material.

Recommended Speeds (RPM) for various materials:

Hole Saw Size	Stainless Steel	Mild Steel	Iron	Copper & Brass
7/8" (22 mm)	310	470	510	530
1-1/8" (29 mm)	270	410	450	460
1-3/8" (35 mm)	210	310	340	350

Table: Recommended RPMs for different hole saw sizes and materials. Values are approximate and may vary based on specific conditions.

Image: A Klein Tools hole saw actively cutting a precise circular hole in a metal surface, with metal shavings visible around the cutting area.

Maintenance

Proper maintenance ensures the longevity and performance of your Klein Tools Hole Saw Kit.

- **Cleaning:** After each use, clean the hole cutters and pilot bit to remove any metal shavings or debris. A brush or compressed air can be used.
- **Lubrication:** For optimal cutting performance and to extend tool life, apply a suitable cutting lubricant to the workpiece and the hole saw during operation, especially when cutting harder metals.
- **Storage:** Store all components in the provided rust-proof, molded plastic carrying case. Keep the kit in a dry environment to prevent corrosion.
- **Inspection:** Regularly inspect the carbide teeth for wear, chipping, or damage. Replace worn or damaged hole cutters to maintain cutting efficiency and safety.

Troubleshooting

Encountering issues? Refer to the common problems and solutions below:

Problem	Possible Cause	Solution
Hole saw not cutting efficiently or teeth chipping	Incorrect RPM for material, lack of lubrication, worn or damaged carbide teeth, excessive pressure.	Refer to the RPM table for correct speeds. Apply cutting lubricant. Inspect and replace hole saw if teeth are damaged. Apply steady, not excessive, pressure.
Pilot bit walking or not starting cleanly	Pilot bit not securely tightened, dull pilot bit, uneven pressure.	Ensure pilot bit is securely fastened in the drill chuck. Replace pilot bit if dull. Apply even pressure and ensure the drill is perpendicular to the surface.
Hole saw getting stuck or overheating	Insufficient chip clearance, lack of lubrication, incorrect speed.	Clear chips frequently. Use cutting lubricant. Adjust RPM according to the material.
Difficulty removing slug after cutting	Debris buildup, spring mechanism obstructed.	Ensure the ejection spring is clean and free of debris. The spring is designed to assist in slug removal.

Specifications

Feature	Detail
Model Number	31872
Brand	KLEIN TOOLS
Material	Carbide (for cutters)
Compatible Materials	Stainless Steel, Mild Steel, Iron, Copper, Brass (up to 3/16" / 0.5 cm thick)
Kit Contents	7/8", 1-1/8", 1-3/8" Hole Saws, Extra Pilot Bit, Case
Product Dimensions	6 x 4 x 4 inches (approximate case dimensions)
Item Weight	1.4 Pounds
UPC	092644318726

Image: A visual representation of the Klein Tools Hole Saw Kit case with approximate dimensions (5.3 inches / 13 cm height shown).

Warranty and Support

Klein Tools products are manufactured to the highest standards of quality and durability. For specific warranty information and support, please refer to the official Klein Tools website or contact their customer service directly.

Manufacturer: Klein Tools

Website: www.kleintools.com

For technical assistance or replacement parts, please visit the manufacturer's website or contact their authorized service centers.