



Champion Cutting Tools

How to Cut a Perfect Hole

Champion carbide tipped hole cutters come to the rescue when other tools fail

“A Denver based manufacturer of underground boring equipment had a tough job to tackle. They had the challenge of drilling thousands of holes in 4340 Chromalloy steel. When a standard cobalt holesaw only produced ten holes before burning out, the CT5 was put to the test. They used the CT5-1-1/8” with cutting fluid at 400 RPMs and were able to produce 1,000 holes!”

“When a trailer company needed to drill 3-4” diameter holes in truck trailer beds 1/16” thick, the CT7 outperformed bi-metal hole saws. Trailer repair and manufacturers have to produce clean holes in uneven surfaces where there are often access issues and movement in the system. In this case, bi-metal holesaws only created two to three holes before the teeth snapped. With one CT7 cutter, they drilled thirty trailer beds over the course of five months. The CT7 saved time, money, and eliminated frustrations.”

Choosing the Right Tool for Drilling Holes in Tough Material

As power tool technology evolves, so do the tools that run in them. Over the past 150 years, cutting tools have changed to keep up with the industries that require productivity and efficiency. The construction, manufacturing, and MRO industries are demanding tighter specifications and faster work times. Harder steels are also creating a challenge for metal hole cutting. Champion Cutting Tool carbide tipped hole cutters provide the solution for fast cutting of hundreds of perfect, bur free holes in metal and other tough materials.



“ fast cutting of hundreds of perfect, bur free holes ”





Tanner White Paper Series

History

Until 2005, when Champion Cutting Tool introduced the Carbide Tipped Hole Cutter to the marketplace, there were two options for cutting holes larger than 1/2" diameter in a handheld electric drill.

The first option was a Silver and Deming drill. S&D drills or 1/2" shank drills have an overall length of six inches and range in size from 33/64 to 1-1/2." They can be used in a portable power tool or drill press. Champion's Brute Platinum S&D drills will penetrate quickly, accurately, and will not "walk" due to 118* split point.

This is a great option if you are looking for depth of cut. However, an operator must note two important factors when

using this type of drill. Since twist drills cut from the center of their point outward, and convert the entire diameter of the hole into chips, significant feed and torque are required. Also, S&D drills tend to grab on break through, which may be jarring to the operator.

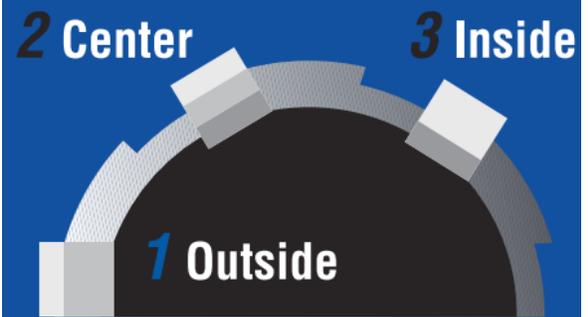
In the past, bi-metal holesaws were another option when cutting large diameter holes with an electric drill, but the tools did not perform. Cutting along the perimeter is a more efficient way to create holes, however, low tool life, irregular holes, and difficult slug ejection make cutting with bi-metal holesaws expensive and not productive.

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Solution

For the last ten years, Champion's carbide tipped hole cutters have been the reliable solution for the professional who wants the efficiency of a carbide tipped annular cutter without investing in a magnetic drill press. Electricians, plumbers, mechanics, and contractors benefit from the ability to use the tools in portable, electric handheld drills. Champion carbide tipped hole cutters are superior to bi-metal holesaws when cutting steel plate, stainless steel, aluminum, copper, cast iron, fiberglass and plastics. Triple cutting tooth geometry delivers rapid chip removal and better control- creating bur, free holes. Champion carbide tipped hole cutters drill more holes, reducing cost per hole. **They drill faster and seamlessly, increasing productivity.**

Triple Edge Cutting System

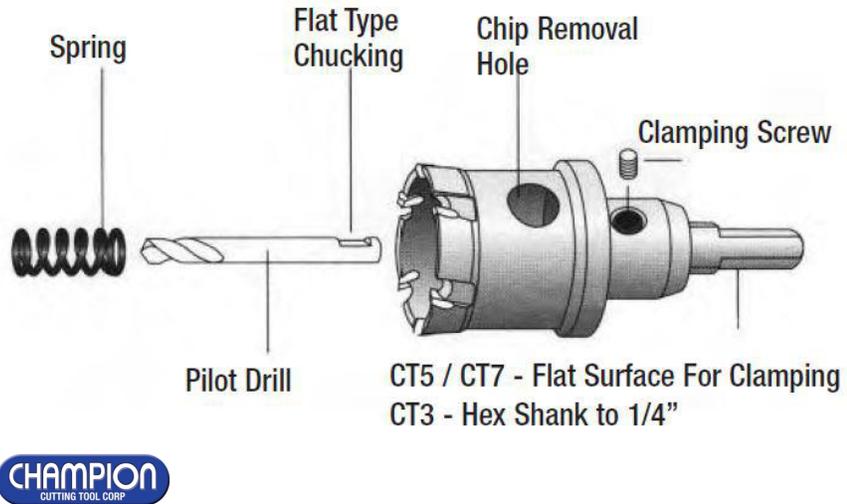


Champion CT7 hole cutters feature two sets of three cutting blades, each with different geometries. This unique system balances the cutting forces enabling rapid, smooth drilling with better control.



Safety Features

Since safety is a priority on jobsites, the CT5 and CT7 were developed with a safety collar stop to prevent over penetration while drilling at fast speeds.



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Size Range and Material

Champion carbide tipped hole cutters are available in four different depth of cut options to accommodate any job.

CT3 Up to 1/8" depth of cut 5/8" - 1" diameter

Ideal for sheet metal and other thin materials

CT5 Up to 3/16" depth of cut 9/16" - 5" diameter

Ideal for cutting stainless steel, steel plate, iron, aluminum, copper cast iron, FRP, and plastics

CT7 Up to 1" depth of cut 9/16" - 4-1/2" diameter

Ideal for cutting stainless steel, steel plate, iron, aluminum, copper cast iron, FRP, and plastics

CT9 Up to 2" depth of cut 1-1/2" & 2-1/8" diameter

Developed for the specific applications of drilling lockset and dead-bolt holes in steel doors

Operating Instructions

Insert the carbide tipped hole cutter into the electric drill

Secure drill chuck on the three flats of hole cutter shank

Begin drilling using light feed pressure until the hole cutter has begun drilling

Apply medium feed pressure once the cutter has engaged in material

Do not press the hole cutter strongly into the material after the pilot drill has penetrated, as this may damage the carbide tips

Always use rotation hand drills with no impact or with a rotation only mode

Drilling Conditions

BruteLube cutting fluid or wax is recommended for best tool performance and longer cutting tool life.