

Diamatip™ Core Drill Bit

MAG1001DC • MAG1002DC • MAG1003DC • MAG1001DC4



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Attention: The DIAMATIP bit should be used when no other bit will cut the hardplate, such as the plates which have carbide chips embedded in them. It should be used in a fixed drill rigs such as the 557 Magnum Pro Drill Rig™ and MAG657 High Velocity Drill for best results.

After you have contacted the hardplate and made the decision to use the DIAMATIP bit, inspect the surface of the plate for smoothness. If the surface is rough or lumpy, first use a carbide drill bit to wear a smooth area to start the diamatip bit. An old carbide bit will usually do the job and save you the cost of a new bit. If the DIAMATIP bit is started on a rough surface it can damage the diamond cutting surface.

Feed the DIAMATIP bit in until it has made contact with the smooth spot on the plate. With the drill motor turning at about 500 RPM, apply light pressure on the bit. After 1 or 2 minutes increase the pressure slightly and continue through the plate using a light steady pressure and slow 500 RPM. High RPM and high heat will damage the bit. A cordless drill on low speed also works well.

Keep track of your progress by counting the revolutions of the feed wheel on the 557 Magnum. Each revolution is 1/16" penetration. You should know when you break through the back of the hardplate because there will be a distinct change in the feel of the drilling. With plates that have chunks of carbide you will cut through the carbide and copper composition and contact the mild steel which is bonded to the back. You will notice some change in the feel when you contact the mild steel such as a binding of the bit and the progress will cease or slow down drastically. When this happens, withdraw the bit and inspect the bottom of the cut. If it is bright and shiny with no copper or bronze showing, you are into the mild steel.

If you continue to drill in the mild steel with the diamatip bit you will cut through it. It will just take a little longer than using the hole saw. The time expended to reach the mild steel can vary from 8 minutes to 30 minutes or more depending on the type of plate you are drilling and your experience drilling carbide chip plates. At this point, you must remove the core which is still attached to the mild steel backing. The recommended method for this task is to use a hole saw which cuts the same track as the diamatip bit. Insert the hole saw in your drill rig and feed it into the track cut by the DIAMATIP bit. Using 200 to 300 RPM, cut through the mild steel plate. Now remove the core using a small magnet. You can also adapt a pair of long needle nose pliers for this. As you drill, the lubricant (in the core of the bit will lubricate the diamond with a substance which will prevent the soft metal from adhering to the diamond. If you withdraw the bit and lose the lubricant, use the extra enclosed. Another method for removing the core is to break it off using a hammer and a pointed punch. Sometimes the core will break off cleanly other times you may have to break it off in pieces.

With practice you will drill the toughest carbide chip plates in 20 minutes or so, but don't rush it. Take your time and get the feel of drilling with the DIAMATIP.

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