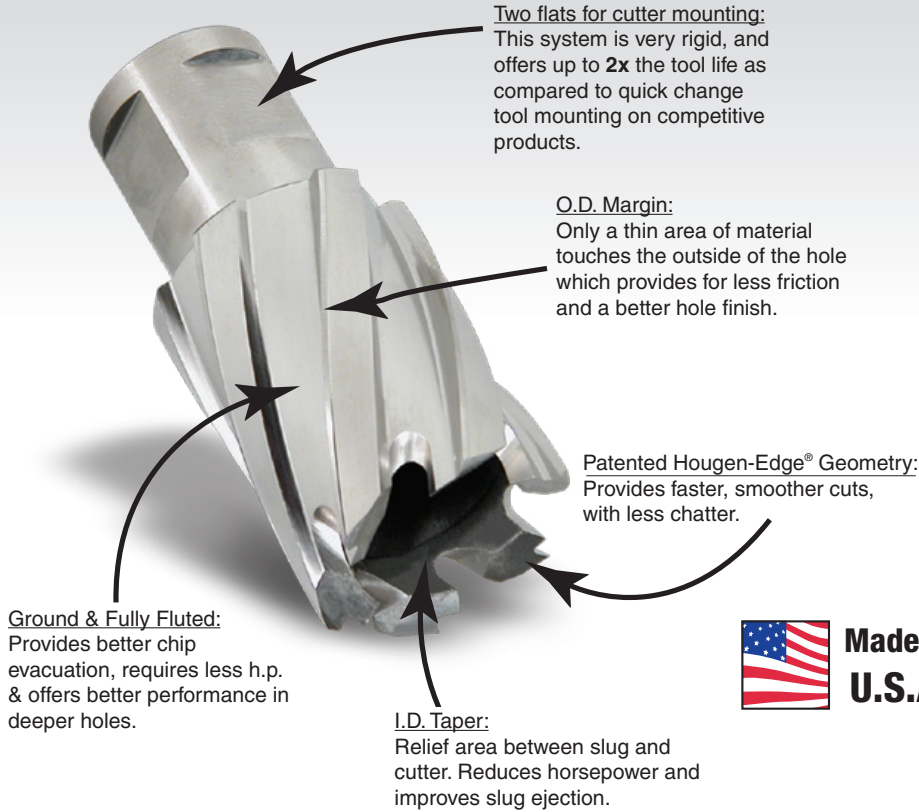


HOUGEN® "12,000-SERIES" CUTTERS - SIMPLY THE BEST



Two flats for cutter mounting:
This system is very rigid, and offers up to **2x** the tool life as compared to quick change tool mounting on competitive products.

O.D. Margin:
Only a thin area of material touches the outside of the hole which provides for less friction and a better hole finish.

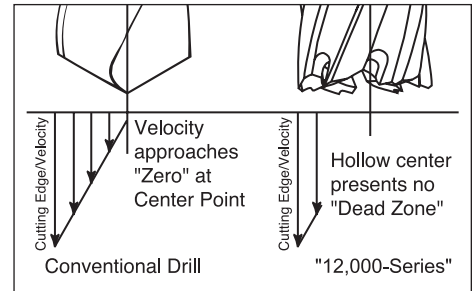
Patented Hougen-Edge® Geometry:
Provides faster, smoother cuts, with less chatter.

Ground & Fully Fluted:
Provides better chip evacuation, requires less h.p. & offers better performance in deeper holes.

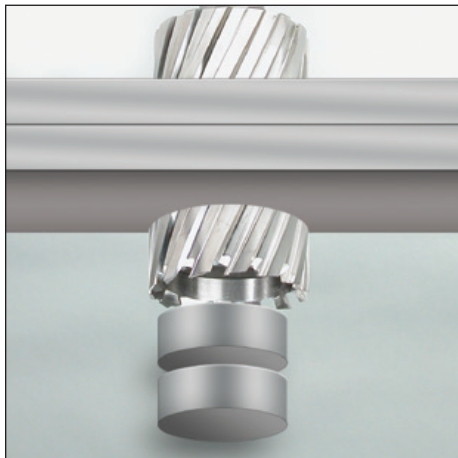
I.D. Taper:
Relief area between slug and cutter. Reduces horsepower and improves slug ejection.

 **Made in U.S.A.**

Hougen "12,000-Series" cutters were the original annular cutters invented over 35 years ago. With the most features of any annular cutter, "12,000-Series" cutters provide the best performance in the largest variety of materials. Compared to traditional tooling (twist drills, etc.) "12,000-Series" cutters can multiply your cutting speed by up to 3 times. And you get longer tool life, a more accurate hole, a better finish, with no burrs. Hougen cutters maximize feed rates because up to 10 cutting edges distribute the cutting load evenly. "12,000-Series" cutters convert a smaller area to chips, requiring less horsepower and thrust. The Hougen-Edge® feature is a patented tooth geometry that provides long tool life, less chatter, and extended resharpenability. The slug also offers a higher scrap value than loose chips.



Why use Stack-Cut Geometry?



Hougen "12,000-Series" Annular Cutters with a Stack-Cut tooth geometry must be used whenever two or more plates are being drilled simultaneously. When drilling multiple pieces with traditional cutters, after the first piece is drilled, you need to stop and remove the slug before continuing on thru the second piece. Not a problem with stack cutters. Drill straight thru without stopping.

Many sizes of "12,000-Series" cutters are available from stock with stack cut geometry. All sizes are available by special request with stack-cut geometry.

Stack-Cut* and Flat Bottom Grooving Tooth Geometry is available on the following Series of Cutters:

- "12,000-Series"
- "43,000-Series"
- "23,000-Series"
- RotaLoc Plus™

Hougen's Technical Service Department should be contacted whenever special tooth geometry and applications will be necessary.

**NOTE: Stack-Cut geometry is a standard feature of RotaLoc™ Cutters.*

Carbide Cutters



Copperhead™ Carbide tipped cutters are premium tools with unique Hougen features. Designed for harder, rough, rusted, or more abrasive materials, but offer excellent performance in mild and structural steel applications.

These cutters feature a full length flute to pull chips out when deep in the hole. A thinner cutter wall improves cutting speed, while special Hougen tooth geometry optimizes cutter life and hole finish. Plus they now are available with the Fusion2™ style shank that fits Hougen mag drills and competitive one-touch arbors.



Hougen can design & manufacture custom cutters and tools for your specific application. Call or email us today...

**(810) 635-7111
info@hougen.com**

HOUGEN® "12,000-SERIES" ANNULAR CUTTERS

| Cutter Dia. (Inches) | Decimal Equiv. | Part No. | | | | |
|----------------------|----------------|-----------|-----------|-----------|-----------|-----------|
| | | 1" D.O.C. | 2" D.O.C. | 3" D.O.C. | 4" D.O.C. | 6" D.O.C. |
| Use with Pilot | | 10531 | 10532 | | | |
| 7/16 | .4375 | 12114 | 12214 | ---- | ---- | ---- |
| 29/64 | .4531 | ---- | 12010 | ---- | ---- | ---- |
| 31/64 | .4844 | ---- | 12011 | ---- | ---- | ---- |
| 1/2 | .5000 | 12116 | 12216 | ---- | ---- | ---- |
| 33/64 | .5156 | ---- | 12012 | ---- | ---- | ---- |
| 17/32 | .5313 | 12117 | 12217 | ---- | ---- | ---- |
| 9/16 | .5625 | 12118 | 12218 | ---- | ---- | ---- |
| 19/32 | .5938 | ---- | 12219 | ---- | ---- | ---- |
| Use with Pilot | | 10527 | 10528 | 24131 | 4-10528 | 6-10528 |
| 5/8 | .6250 | 12120 | 12220 | ---- | ---- | ---- |
| 21/32 | .6563 | 12121 | 12221 | ---- | ---- | ---- |
| 11/16 | .6875 | 12122 | 12222 | ---- | ---- | ---- |
| 23/32 | .7188 | ---- | 12223 | ---- | ---- | ---- |
| 3/4 | .7500 | 12124 | 12224 | 3-12224 | ---- | ---- |
| 49/64 | .7656 | ---- | 12020 | ---- | ---- | ---- |
| 25/32 | .7812 | 12125 | 12225 | ---- | ---- | ---- |
| 13/16 | .8125 | 12126 | 12226 | 3-12226 | 4-12226 | 6-12226 |
| 7/8 | .8750 | 12128 | 12228 | 3-12228 | ---- | ---- |
| 59/64 | .9219 | ---- | 12025 | ---- | ---- | ---- |
| 15/16 | .9375 | 12130 | 12230 | 3-12230 | 4-12230 | 6-12230 |
| 1 | 1.0000 | 12132 | 12232 | 3-12232 | ---- | ---- |
| 1-1/16 | 1.0625 | 12134 | 12234 | 3-12234 | 4-12234 | 6-12234 |
| 1-1/8 | 1.1250 | 12136 | 12236 | 3-12236 | ---- | ---- |
| 1-3/16 | 1.1875 | 12138 | 12238 | 3-12238 | 4-12238 | 6-12238 |
| 1-1/4 | 1.2500 | 12140 | 12240 | 3-12240 | ---- | ---- |
| 1-5/16 | 1.3125 | 12142 | 12242 | 3-12242 | ---- | ---- |
| 1-3/8 | 1.3750 | 12144 | 12244 | 3-12244 | ---- | ---- |
| 1-7/16 | 1.4375 | 12146 | 12246 | 3-12246 | ---- | ---- |
| 1-1/2 | 1.5000 | 12148 | 12248 | 3-12248 | ---- | ---- |
| 1-9/16 | 1.5625 | 12150 | 12250 | 3-12250 | ---- | ---- |
| 1-5/8 | 1.6250 | 12152 | 12252 | 3-12252 | ---- | ---- |
| 1-11/16 | 1.6875 | 12154 | 12254 | 3-12254 | ---- | ---- |
| 1-3/4 | 1.7500 | 12156 | 12256 | 3-12256 | ---- | ---- |
| 1-13/16 | 1.8125 | 12158 | 12258 | 3-12258 | ---- | ---- |
| 1-7/8 | 1.8750 | 12160 | 12260 | 3-12260 | ---- | ---- |
| 1-15/16 | 1.9375 | 12162 | 12262 | 3-12262 | ---- | ---- |
| 2 | 2.0000 | 12164 | 12264 | 3-12264 | ---- | ---- |
| 2-1/16 | 2.0625 | ---- | 12266 | 3-12266 | ---- | ---- |
| 2-1/8 | 2.1250 | ---- | 12268 | 3-12268 | ---- | ---- |
| 2-3/16 | 2.1875 | ---- | 12270 | 3-12270 | ---- | ---- |
| 2-1/4 | 2.2500 | ---- | 12272 | 3-12272 | ---- | ---- |
| 2-5/16 | 2.3125 | ---- | 12274 | 3-12274 | ---- | ---- |
| 2-3/8 | 2.3750 | ---- | 12276 | 3-12276 | ---- | ---- |



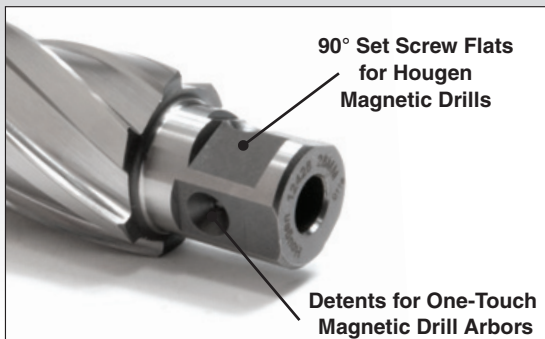
- Cuts holes faster
- Longer tool life
- Lower cost per hole
- Precision tooth geometry
- For the widest range of materials
- Resharpenable

For use with Hougén® Portable Magnetic Drills and many competitive models on materials up to 6" thick. They are made of hardened M2 high speed steel and are precision ground for excellent performance throughout the cut and long tool life. They require less horsepower and thrust to cut, and last much longer than traditional holemaking methods. "12,000-Series" cutters have a 3/4" dia. double-flatted shank and for extended tool life and lower cost per hole "12,000-Series" Cutters are resharpenable. Modified end tooth geometry is also available for drilling in stacked plate applications.

All Cutters are available with **stack geometry**.
To order: add 'S' to end of part no. ie...12226S.
(Some sizes may take 7-10 days. Call for availability).



HOUGEN® "12,000-SERIES" ANNULAR CUTTERS



Metric "12,000-Series" cutters now feature the Fusion2™ shank. This new shank design can be used in Hougen magnetic drills with the two flat arbors or in competitive models featuring the One-Touch arbor system.



| Cutter Dia. (Metric) | Decimal Equivalent | Part No. | | |
|----------------------|--------------------|-------------|-------------|-------------|
| | | 25mm D.O.C. | 50mm D.O.C. | 76mm D.O.C. |
| Use with Pilot | | 10531 | 10532 | |
| 12mm | .4724 | 12312 | 12412 | ---- |
| 13mm | .5118 | 12313 | 12413 | ---- |
| 14mm | .5512 | 12314 | 12414 | ---- |
| 15mm | .5906 | 12315 | 12415 | ---- |
| Use with Pilot | | 10527 | 10528 | 24131 |
| 16mm | .6299 | 12316 | 12416 | ---- |
| 17mm | .6693 | 12317 | 12417 | ---- |
| 18mm | .7087 | 12318 | 12418 | ---- |
| 19mm | .7480 | 12319 | 12419 | 12519 |
| 20mm | .7874 | 12320 | 12420 | 12520 |
| 21mm | .8268 | 12321 | 12421 | 12521 |
| 22mm | .8661 | 12322 | 12422 | 12522 |
| 23mm | .9055 | 12323 | 12423 | 12523 |
| 24mm | .9449 | 12324 | 12424 | 12524 |
| 25mm | .9843 | 12325 | 12425 | 12525 |
| 26mm | 1.0236 | 12326 | 12426 | 12526 |
| 27mm | 1.0630 | 12327 | 12427 | 12527 |
| 28mm | 1.1024 | 12328 | 12428 | 12528 |
| 29mm | 1.1417 | 12329 | 12429 | 12529 |
| 30mm | 1.1811 | 12330 | 12430 | 12530 |
| 31mm | 1.2205 | 12331 | 12431 | 12531 |
| 32mm | 1.2598 | 12332 | 12432 | 12532 |
| 33mm | 1.2992 | 12333 | 12433 | 12533 |
| 34mm | 1.3386 | 12334 | 12434 | 12534 |
| 35mm | 1.3779 | 12335 | 12435 | 12535 |

| Cutter Dia. (Metric) | Decimal Equivalent | Part No. | | |
|----------------------|--------------------|-------------|-------------|-------------|
| | | 25mm D.O.C. | 50mm D.O.C. | 76mm D.O.C. |
| Use with Pilot | | 10527 | 10528 | 24131 |
| 36mm | 1.4173 | 12336 | 12436 | 12536 |
| 37mm | 1.4567 | 12337 | 12437 | 12537 |
| 38mm | 1.4961 | 12338 | 12438 | 12538 |
| 39mm | 1.5354 | 12339 | 12439 | 12539 |
| 40mm | 1.5743 | 12340 | 12440 | 12540 |
| 41mm | 1.6142 | 12341 | 12441 | 12541 |
| 42mm | 1.6535 | 12342 | 12442 | 12542 |
| 43mm | 1.6929 | 12343 | 12443 | 12543 |
| 44mm | 1.7323 | 12344 | 12444 | 12544 |
| 45mm | 1.7717 | 12345 | 12445 | 12545 |
| 46mm | 1.8110 | 12346 | 12446 | 12546 |
| 47mm | 1.8504 | 12347 | 12447 | 12547 |
| 48mm | 1.8898 | 12348 | 12448 | 12548 |
| 49mm | 1.9291 | 12349 | 12449 | 12549 |
| 50mm | 1.9685 | 12350 | 12450 | 12550 |
| 51mm | 2.0079 | 12351 | 12451 | 12551 |
| 52mm | 2.0472 | 12352 | 12452 | 12552 |
| 53mm | 2.0866 | 12353 | 12453 | ---- |
| 54mm | 2.1260 | 12354 | 12454 | ---- |
| 55mm | 2.1654 | 12355 | 12455 | ---- |
| 56mm | 2.2047 | 12356 | 12456 | ---- |
| 57mm | 2.2441 | 12357 | 12457 | ---- |
| 58mm | 2.2835 | 12358 | 12458 | ---- |
| 59mm | 2.3228 | 12359 | 12459 | ---- |
| 60mm | 2.3622 | 12360 | 12460 | ---- |

"12,000-SERIES" TAP DRILL SIZES

A clean, accurate hole helps to make tapping an easier task. You can achieve that task easily with these tap drill size "12,000-Series" Cutters. Kit #12007 contains five popular sizes of tap drills.

| Cutter Dia. (Inches) | Decimal Equivalent | Thread | Part No. | |
|----------------------|--------------------|------------|-----------|-----------|
| | | | 1" D.O.C. | 2" D.O.C. |
| Use with Pilot | | | 10531 | 10532 |
| 7/16 | .4375 | 1/2-13 | 12114 | 12214 |
| 29/64 | .4531 | 1/2-20 | ---- | 12010 |
| 31/64 | .4844 | 9/16-12 | ---- | 12011 |
| 33/64 | .5156 | 9/16-18 | ---- | 12012 |
| 17/32 | .5313 | 5/8-11 | 12117 | 12217 |
| 37/64 | .5781 | 5/8-18 | ---- | 12014 |
| 19/32 | .5938 | 11/16-11 | ---- | 12219 |
| Use with Pilot | | | 10527 | 10528 |
| 21/32 | .6563 | 3/4-10 | 12121 | 12221 |
| 11/16 | .6875 | 3/4-16 | 12122 | 12222 |
| 23/32 | .7188 | 1/2-14 NPT | ---- | 12223 |
| 49/64 | .7656 | 7/8-9 | ---- | 12020 |
| 25/32 | .7812 | 7/8-9 | 12125 | 12225 |
| 13/16 | .8125 | 7/8-14 | 12126 | 12226 |
| 7/8 | .8750 | 1-8 | 12128 | 12228 |
| 59/64 | .9219 | 1-12 | ---- | 12025 |

PILOTS - "12,000-SERIES"

The pilot serves three functions when used with "12,000-Series" cutters in a portable magnetic drill; 1) Locate the holes center point, 2) Initiate coolant flow to the center of the tool, 3) Eject the slug at the end of the cut. Always use a sharp pilot for best results.



| Part No. | Description |
|--|---|
| 10527 | 1" D.O.C. Pilot (5/8" - 2-3/8" & 16mm - 60mm) |
| 10528 | 2" D.O.C. Pilot (5/8" - 2-3/8" & 16mm - 60mm) |
| 10531 | 1" D.O.C. Pilot (7/16 - 9/16" & 12 - 15mm) |
| 10532 | 2" D.O.C. Pilot (7/16 - 9/16" & 12 - 15mm) |
| 24131 | 3" D.O.C. Pilot (3/4" - 2-3/8" & 19mm - 52mm) |
| 4-10528 | 4" Pilot for Extended Reach "12,000-Series" |
| 6-10528 | 6" Pilot for Extended Reach "12,000-Series" |
| Pilots for Old Style "12,000-Series" Cutters | |
| 10533 | 1" D.O.C. Pilot (1/2" - 11/16" & 13mm - 18mm) |
| 10534 | 2" D.O.C. Pilot (1/2" - 11/16" & 13mm - 18mm) |

"12,000-SERIES" M2 CUTTERS TIN COATED

"12,000-Series" cutters with a TiN Coating increases tool life, reduces friction, and operates at cooler temperatures. For materials up to 325 BHN (34.5 HRC) or gummy materials. Made in USA.

| Cutter Dia. (Inches) | Decimal Equiv. | Part No. | |
|-------------------------|-------------------|-----------|-----------|
| | | 1" D.O.C. | 2" D.O.C. |
| Use with Pilot | | 10531 | 10532 |
| 7/16 | .4375 | 12614 | 12714 |
| 1/2 | .5000 | 12616 | 12716 |
| 9/16 | .5625 | 12618 | 12718 |
| Use with Pilot | | 10527 | 10528 |
| 5/8 | .6250 | 12620 | 12720 |
| 11/16 | .6875 | 12622 | 12722 |
| 3/4 | .7500 | 12624 | 12724 |
| 13/16 | .8125 | 12626 | 12726 |
| 7/8 | .8750 | 12628 | 12728 |
| 15/16 | .9375 | 12630 | 12730 |
| 1 | 1.0000 | 12632 | 12732 |
| 1-1/16 | 1.0625 | 12634 | 12734 |
| 1-1/8 | 1.1250 | 12636 | 12736 |
| 1-3/16 | 1.1875 | 12638 | 12738 |

| Cutter Dia. (Inches) | Decimal Equiv. | Part No. | |
|-------------------------|-------------------|-----------|-----------|
| | | 1" D.O.C. | 2" D.O.C. |
| Use with Pilot | | 10527 | 10528 |
| 1-1/4 | 1.2500 | 12640 | 12740 |
| 1-5/16 | 1.3125 | 12642 | 12742 |
| 1-3/8 | 1.3750 | 12644 | 12744 |
| 1-7/16 | 1.4375 | 12646 | 12746 |
| 1-1/2 | 1.5000 | 12648 | 12748 |
| 1-9/16 | 1.5625 | 12650 | 12750 |
| 1-5/8 | 1.6250 | 12652 | 12752 |
| 1-11/16 | 1.6875 | 12654 | 12754 |
| 1-3/4 | 1.7500 | 12656 | 12756 |
| 1-13/16 | 1.8125 | 12658 | 12758 |
| 1-7/8 | 1.8750 | 12660 | 12760 |
| 1-15/16 | 1.9375 | 12662 | 12762 |
| 2 | 2.0000 | 12664 | 12764 |
| 2-1/16 | 2.0625 | ---- | 12766 |
| 2-1/8 | 2.1250 | ---- | 12768 |
| 2-3/16 | 2.1875 | ---- | 12770 |
| 2-1/4 | 2.2500 | ---- | 12772 |
| 2-5/16 | 2.3125 | ---- | 12774 |
| 2-3/8 | 2.3750 | ---- | 12776 |



 Made in U.S.A.

"12,000-SERIES" M42 PREMIUM CUTTERS

"12,000-Series" Premium Steel Cutters with TiN Coating extends tool life, reduces friction, and operates at cooler temperatures. They're made from M42 high speed steel for cutting materials up to 350 BHN (37.7 HRC) or gummy materials. These tools are specifically designed to stay cool throughout the cut. For materials up to 2" (50mm) thick. Made in USA.

| Cutter Dia. (Inches) | Decimal Equiv. | Part No. |
|-------------------------|-------------------|----------|
| | | |
| 7/8 | .8750 | 01354 |
| 15/16 | .9375 | 01355 |
| 1 | 1.0000 | 01356 |
| 1-1/16 | 1.0625 | 01357 |
| 1-1/8 | 1.1250 | 01358 |
| 1-3/16 | 1.1875 | 01359 |
| 1-1/4 | 1.2500 | 01360 |
| 1-5/16 | 1.3125 | 01361 |
| 1-3/8 | 1.3750 | 01362 |
| 1-7/16 | 1.4375 | 01363 |
| 1-1/2 | 1.5000 | 01364 |

"12,000-SERIES" CUTTER KITS



"12,000-Series" cutter kits are conveniently packaged with the most popular diameters in protective cases for easy transporting and safe storage. Choose from fractional or metric diameters, in 1" or 2" depth of cut. Each kit includes hex wrenches and 2 pilots.

| Part No. | Mat'l / Coating | D.O.C. | Diameters Included |
|----------|-----------------|--------|------------------------------------|
| 12001 | M2 HSS | 1" | 9/16, 11/16, 13/16, 15/16, 1-1/16" |
| 12002 | M2 HSS | 2" | 9/16, 11/16, 13/16, 15/16, 1-1/16" |
| 12003 | M2 HSS | 25mm | 14mm, 16mm, 18mm, 20mm, 22mm |
| 12004 | M2 HSS | 50mm | 14mm, 16mm, 18mm, 20mm, 22mm |
| 12005 | M2 HSS | 1" | 5/8, 3/4, 7/8, 1, 1-1/8" |
| 12006 | M2 HSS | 2" | 5/8, 3/4, 7/8, 1, 1-1/8" |
| 12007 | M2 HSS | 2" | 7/16, 17/32, 21/32, 25/32, 7/8" |
| 12601 | M2 / TiN | 1" | 9/16, 11/16, 13/16, 15/16, 1-1/16" |
| 12702 | M2 / TiN | 2" | 9/16, 11/16, 13/16, 15/16, 1-1/16" |

ROTALOC™ & ROTALOC PLUS™ ANNULAR CUTTERS AND KITS



Made in U.S.A.

Patented

RotaLoc™ Annular Cutters are designed for use with the Hougen® HMD115 Ultra-Low Profile Truck Frame Drill. They're made of M42 high speed steel and feature Stack Cut geometry for penetrating multiple plates in a single pass, up to 3/4" depth of cut.

RotaLoc Plus™ Annular Cutters are designed for the Hougen® HMD150 Low Profile Drill. They're made of M2 high speed steel and are designed for a full 1" D.O.C.

Both series feature a 5/8" bayonet-style shank mounting for fast change out, with no other tools required to install in the drill spindle, and can be as easily removed. For optimum cutter tool life and cutter efficiency use Hougen® Slick-Stik™ Lubricant.

ROTALOC™ ANNULAR CUTTERS M42 HSS - 3/4" D.O.C. - STACK CUT (FOR HMD115 OR HMD150)

| Cutter Dia. (Inches) | Decimal Equiv. | Part No. |
|--|----------------|----------|
| Use with Pilot 17100 | | |
| 1/2 | .5000 | 17116 |
| 9/16 | .5625 | 17118 |
| 5/8 | .6250 | 17120 |
| 11/16 | .6875 | 17122 |
| 3/4 | .7500 | 17124 |
| 13/16 | .8125 | 17126 |
| 7/8 | .8750 | 17128 |
| 15/16 | .9375 | 17130 |
| 1 | 1.0000 | 17132 |
| 1-1/16 | 1.0625 | 17134 |
| Use with Pilot 17100 - 3/4" (19mm) D.O.C | | |
| 12mm | .4724 | 17300 |
| 13mm | .5118 | 17302 |
| 14mm | .5512 | 17304 |
| 15mm | .5906 | 17306 |
| 16mm | .6299 | 17308 |
| 17mm | .6693 | 17310 |
| 18mm | .7087 | 17312 |
| 19mm | .7480 | 17314 |
| 20mm | .7874 | 17316 |
| 21mm | .8268 | 17318 |
| 22mm | .8661 | 17320 |
| 23mm | .9055 | 17322 |
| 24mm | .9449 | 17324 |
| 24.5mm | .9645 | 17325 |
| 25mm | .9843 | 17326 |
| 26mm | 1.0236 | 17328 |
| 26.5mm | 1.0433 | 17329 |
| 27mm | 1.0630 | 17330 |



ROTALOC™ & ROTALOC PLUS™ PILOTS

| Part No. | Description |
|----------|---------------------------|
| 17100 | Standard Pilot for HMD115 |
| 17101 | Spring Ejection Pilot* |
| 17470 | For use with HMD150 |

* For early model HMD115 w/o spring ejection and all HMD100 drills.

ROTALOC PLUS™ ANNULAR CUTTERS M2 HSS - 1" D.O.C. - (FOR HMD150)

| Cutter Dia. (Inches) | Decimal Equiv. | Part No. |
|---|----------------|----------|
| Use with Pilot 17470 | | |
| 7/16 | .4375 | 17214 |
| 1/2 | .5000 | 17216 |
| 17/32 | .5313 | 17217 |
| 9/16 | .5625 | 17218 |
| 5/8 | .6250 | 17220 |
| 11/16 | .6875 | 17222 |
| 3/4 | .7500 | 17224 |
| 13/16 | .8125 | 17226 |
| 7/8 | .8750 | 17228 |
| 15/16 | .9375 | 17230 |
| 1 | 1.0000 | 17232 |
| 1-1/16 | 1.0625 | 17234 |
| 1-1/8 | 1.1250 | 17236 |
| 1-3/16 | 1.1875 | 17238 |
| 1-1/4 | 1.2500 | 17240 |
| 1-5/16 | 1.3125 | 17242 |
| 1-3/8 | 1.3750 | 17244 |
| Use with Pilot 17470 - 1" (25mm) D.O.C. | | |
| 12mm | .4724 | 17400 |
| 13mm | .5118 | 17402 |
| 14mm | .5512 | 17404 |
| 15mm | .5906 | 17406 |
| 16mm | .6299 | 17408 |
| 17mm | .6693 | 17410 |
| 17.5mm | .6890 | 17411 |
| 18mm | .7087 | 17412 |
| 19mm | .7480 | 17414 |
| 20mm | .7874 | 17416 |
| 21mm | .8268 | 17418 |
| 22mm | .8661 | 17420 |
| 23mm | .9055 | 17422 |
| 24mm | .9449 | 17424 |
| 24.5mm | .9645 | 17425 |
| 25mm | .9843 | 17426 |
| 26mm | 1.0236 | 17428 |
| 26.5mm | 1.0433 | 17429 |
| 27mm | 1.0630 | 17430 |
| 28mm | 1.1024 | 17432 |
| 29mm | 1.1417 | 17434 |
| 30mm | 1.1811 | 17436 |
| 31mm | 1.2205 | 17438 |
| 32mm | 1.2598 | 17440 |
| 33mm | 1.2992 | 17442 |
| 34mm | 1.3386 | 17444 |
| 35mm | 1.3779 | 17446 |



ROTALOC™ & ROTALOC PLUS™ CUTTER KITS

| Kit No. | Description |
|---|--|
| RotaLoc Kits for HMD115 and HMD150 | |
| 17001 | Kit contains (10) cutters, 3/4" D.O.C. - 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1 & 1-1/16" dia, plus (2) Pilots in a sturdy plastic case. |
| 17700 | Kit contains (3) cutters, 3/4" D.O.C. - 1/2, 5/8, 3/4" dia, plus (3) Pilots in a sturdy plastic case. |
| 17701 | Kit contains (3) cutters, 3/4" D.O.C. - 9/16, 11/16, 13/16" dia, plus (3) Pilots in a sturdy plastic case. |
| 17704 | Kit contains (3) cutters, 3/4" D.O.C. - 13mm, 15mm, 18mm dia, plus (3) Pilots in a sturdy plastic case. |
| 17705 | Kit contains (3) cutters, 3/4" D.O.C. - 13mm, 16mm, 19mm dia, plus (3) Pilots in a sturdy plastic case. |
| RotaLoc Plus Kits for HMD150 | |
| 17800 | Kit contains (3) cutters, 1" D.O.C. - 1/2, 5/8, 3/4" dia, plus (3) Pilots in a sturdy plastic case. |
| 17801 | Kit contains (3) cutters, 1" D.O.C. - 9/16, 11/16, 13/16" dia, plus (3) Pilots in a sturdy plastic case. |
| 17804 | Kit contains (3) cutters, 1" D.O.C. - 14mm, 16mm, 18mm dia, plus (3) Pilots in a sturdy plastic case. |

All Cutters are available with **stack geometry**. To order: add 'S' to end of part no. ie...17226S. (Some sizes may take 7-10 days. Call for availability). RotaLoc Cutters for the HMD115 come standard with stack geometry.

COPPERHEAD™ CARBIDE TIP CUTTERS

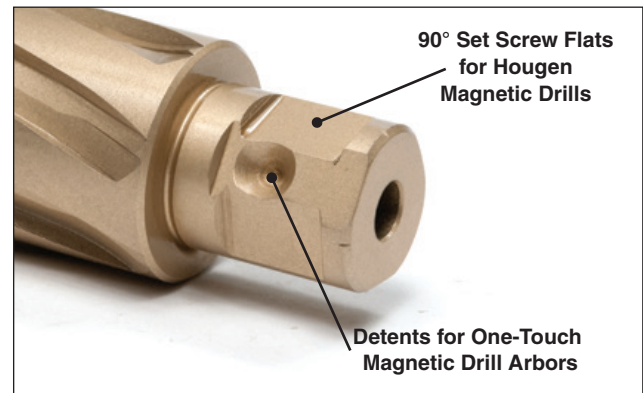


Copperhead™ Carbide Tip Cutters offer extended tool life on abrasive, tough-to-cut materials and in high-speed mag drills such as the HMD508. The unique Hougen design includes a special tooth geometry that helps maintain a better chip flow than other brands. Copperhead Cutters are available in fractional & metric sizes with the new Fusion2™ shank. The new shank allows for cutters to be used in Hougen drills and competitive models utilizing the one-touch arbor system. Using the set screw arbor system can result in up to 2x the tool life as tool-less systems.

| Cutter Dia. (Inches) | Part No. - Fusion2™ Shank | | | |
|----------------------|---------------------------|------------------|------------------|-------------------|
| | 1" D.O.C. (25mm) | 2" D.O.C. (50mm) | 3" D.O.C. (76mm) | 4" D.O.C. (102mm) |
| Use with Pilot | 10529 | 10530 | 10535 | 10540 |
| 9/16 | 18118 | 18218 | ---- | ---- |
| 5/8 | ---- | 18220 | ---- | ---- |
| 11/16 | 18122 | 18222 | 3-18222 | 4-18222 |
| 3/4 | ---- | 18224 | 3-18224 | 4-18224 |
| 13/16 | 18126 | 18226 | 3-18226 | 4-18226 |
| 7/8 | ---- | 18228 | 3-18228 | 4-18228 |
| 15/16 | 18130 | 18230 | 3-18230 | 4-18230 |
| 1 | ---- | 18232 | 3-18232 | 4-18232 |
| 1-1/16 | 18134 | 18234 | 3-18234 | 4-18234 |
| 1-1/8 | ---- | 18236 | 3-18236 | 4-18236 |
| 1-3/16 | ---- | 18238 | 3-18238 | 4-18238 |
| 1-1/4 | ---- | 18240 | 3-18240 | 4-18240 |
| 1-5/16 | ---- | 18242 | 3-18242 | 4-18242 |
| 1-3/8 | ---- | 18244 | 3-18244 | 4-18244 |
| 1-1/2 | ---- | 18248 | 3-18248 | 4-18248 |
| 1-5/8 | ---- | 18252 | 3-18252 | 4-18252 |
| 1-3/4 | ---- | 18256 | 3-18256 | 4-18256 |
| 1-7/8 | ---- | 18260 | 3-18260 | 4-18260 |
| 2 | ---- | 18264 | 3-18264 | 4-18264 |



| Cutter Dia. (Metric) | Part No. Fusion2™ Shank | Cutter Dia. (Metric) | Part No. Fusion2™ Shank |
|---|-------------------------|---|-------------------------|
| Use with Pilot 10530 - 2" (50mm) D.O.C. | | Use with Pilot 10530 - 2" (50mm) D.O.C. | |
| 12mm | 18412 | 38mm | 18438 |
| 13mm | 18413 | 39mm | 18439 |
| 14mm | 18414 | 40mm | 18440 |
| 15mm | 18415 | 41mm | 18441 |
| 16mm | 18416 | 42mm | 18442 |
| 17mm | 18417 | 43mm | 18443 |
| 18mm | 18418 | 44mm | 18444 |
| 19mm | 18419 | 45mm | 18445 |
| 20mm | 18420 | 46mm | 18446 |
| 21mm | 18421 | 47mm | 18447 |
| 22mm | 18422 | 48mm | 18448 |
| 23mm | 18423 | 49mm | 18449 |
| 24mm | 18424 | 50mm | 18450 |
| 25mm | 18425 | 51mm | 18451 |
| 26mm | 18426 | 52mm | 18452 |
| 27mm | 18427 | 53mm | 18453 |
| 28mm | 18428 | 54mm | 18454 |
| 29mm | 18429 | 55mm | 18455 |
| 30mm | 18430 | 56mm | 18456 |
| 31mm | 18431 | 57mm | 18457 |
| 32mm | 18432 | 58mm | 18458 |
| 33mm | 18433 | 59mm | 18459 |
| 34mm | 18434 | 60mm | 18460 |
| 35mm | 18435 | | |
| 36mm | 18436 | | |
| 37mm | 18437 | | |



COPPERHEAD™ CUTTER KITS

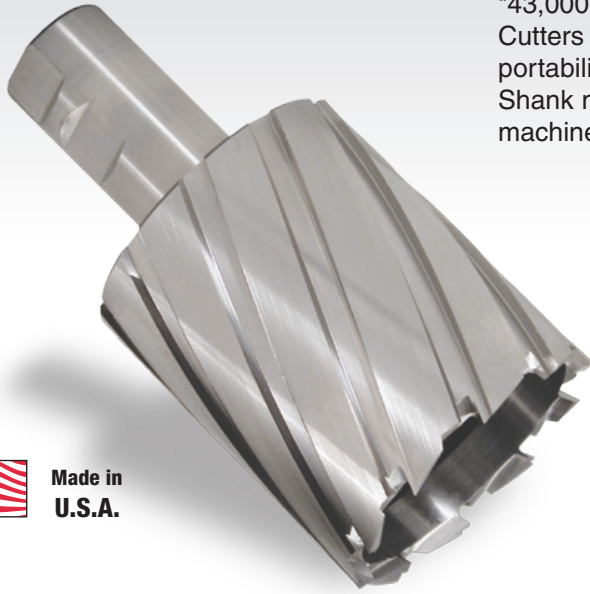


Copperhead Cutters are available in fractional & metric kits for convenient storage and portability. Includes five 2" DOC cutters & two pilots.

| Kit No. | Description 2" (50mm) DOC |
|---------|--|
| 18002 | Fractional Kit contains (5) cutters, 9/16, 11/16, 13/16, 15/16, 1-1/16", (2) Pilots & Hex Wrenches |
| 18004 | Metric Kit contains (5) cutters, 14, 16, 18, 20, & 22mm, (2) Pilots & Hex Wrenches |

INDUSTRIAL DUTY "43,000-SERIES" ANNULAR CUTTERS

You can produce holes up to 3-1/16" in diameter thru 3" (76mm) material with the Hougen® HMD933 portable magnetic drills using Hougen "43,000-Series" Annular Cutters. The heavy duty "43,000-Series" Annular Cutters handle the most demanding hole production jobs requiring portability for drilling large, deep holes. The cutters feature 1-1/4" Weldon Shank mounting which also provides for convenient use in stationary machine tools. Also available in stack geometry and grind downs.



Made in
U.S.A.

| Cutter Dia. (Inches) | Decimal Equiv. | Part No. | |
|-------------------------|-------------------|--|---------------|
| | | M2 1-1/4" Weldon Shank - 3" (76mm) D.O.C. | M2 TiN Coated |
| 2-7/16 | 2.4375 | 43078 | 23078 |
| 2-1/2 | 2.5000 | 43080 | 23080 |
| 2-9/16 | 2.5625 | 43082 | 23082 |
| 2-5/8 | 2.6250 | 43084 | 23084 |
| 2-11/16 | 2.6875 | 43086 | 23086 |
| 2-3/4 | 2.7500 | 43088 | 23088 |
| 2-13/16 | 2.8125 | 43090 | 23090 |
| 2-7/8 | 2.8750 | 43092 | 23092 |
| 2-15/16 | 2.9375 | 43094 | 23094 |
| 3 | 3.0000 | 43096 | 23096 |
| 3-1/16 | 3.0625 | 43098 | 23098 |

Hougen also offers a full line of Heavy Duty Industrial Annular Cutters for extreme & industrial applications. Find out more at... www.hougen.com

SHARPENING MACHINE



Shipping Weight: 64 lbs (29 kgs)

The Model 10950 Sharpening Machine has been specifically designed for resharpening "12,000-Series", RotaLoc™, and RotaLoc Plus™ Annular Cutters. It provides ease of operation while restoring factory specified tooth geometry. Made in USA.

- Improved holders and fasteners allow easier changes and tool sharpening.
- Holder bushing is more accurate for precise tooth height.

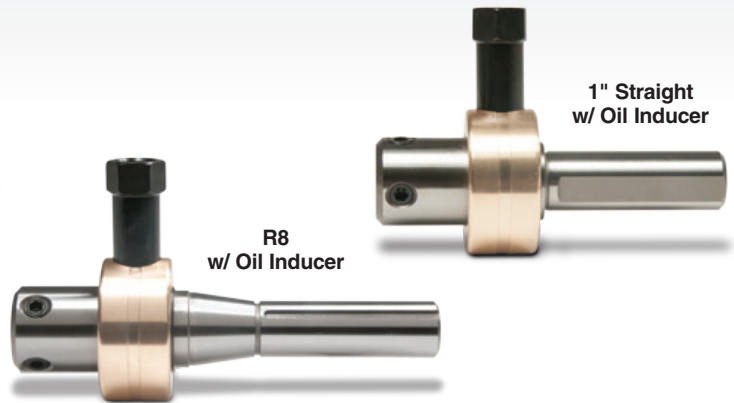
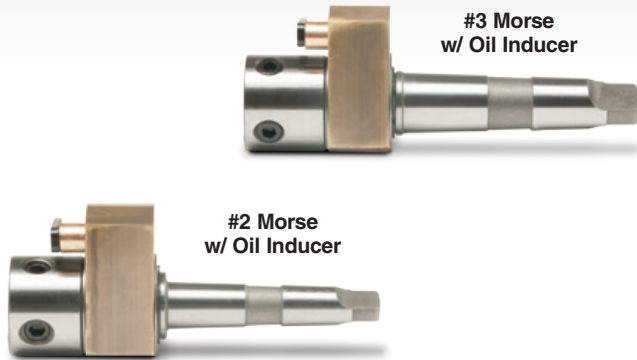
| Part No. | Description |
|----------------------|--|
| 10950 | Sharpening Machine (120V) |
| 10950A | Sharpening Machine - No Motor (Requires Bosch Motor - 230V Model GGS 27L Purchase from local source) |
| 03983 | Borazon® Cup Wheel |
| 04049 | Tool holder - "12,000-Series" |
| 04072 | Borazon® Gullet Wheel |
| 10747 | Dressing Stick |
| 10779 | 7/32" Hex Wrench for #04049 |
| Optional Accessories | |
| 04147 | Tool Holder - RotaLoc™ Cutters |
| 04118 | Work Stand |

ARBORS FOR MACHINE TOOLS

Convert CNC machines such as drill presses or mills into fast hole makers. 3 styles of holders: R-8, Straight, and Morse taper accommodate "12,000-Series" Cutters. Made in USA.

| Part No. | Shank Size | Hole Capacity | |
|---------------------------------|-------------|---------------|--------|
| | | Diameter | Depth |
| Arbor Assembly with Oil Inducer | | | |
| 10804 | #2 Morse | 1" | 1-1/2" |
| 10806 | #3 Morse | 2-3/8" | 1-1/2" |
| 49849 | R8 | 2-3/8" | 2" |
| 49850 | 1" Straight | 2-3/8" | 2" |

| Arbor Assembly without Oil Inducer | | | |
|------------------------------------|-------------|--------|--------|
| 10814 | #2 Morse | 1" | 1-1/2" |
| 10816 | #3 Morse | 2-3/8" | 1-1/2" |
| 49853 | R8 | 2-3/8" | 2" |
| 49851 | 1" Straight | 2-3/8" | 2" |



ARBORS FOR STATIONARY TOOLS



You can also use "12,000-Series" Cutters with stationary tools and drill presses. Triple flatted shank fits 1/2" drill chucks. Uses 1" (25mm) depth of cut "12,000-Series" Cutters for materials up to **1/2" (12.7mm) thick max.** (Not for use with Copperhead Cutters)

| Part No. | Description |
|-----------------------------|---|
| 11016 | Arbor Assembly (with set screws and spring) for 3/4" Shank Cutters up to 1/2" D.O.C. (Pilot not included) |
| Pilots | |
| 11022 | Starter Pilot for 7/16" - 9/16" & 12mm-15mm Dia. Cutters |
| 11031 | Starter Pilot for 5/8" - 2-1/16" & 16mm-52mm Dia. Cutters |
| Pilot for Old Style Cutters | |
| 11032 | Starter Pilot for 1/2"-11/16" & 13mm-18mm Dia. Cutters |

HOLE ENLARGING PILOTS - "12,000-SERIES"

Take an existing hole and make it larger using Hougén's Hole Enlarging Pilots. Available in three select sizes. Replaceable "Nose" screws on to end of pilot.



* Use with 2" Cutters. Sold separately.

| Part No. | Description |
|----------|---|
| 07370 | Replacement Pilot |
| 07373 | 11/16" Pilot assy for enlarging up to 13/16" |
| 07372 | 13/16" Pilot assy for enlarging up to 15/16" |
| 07371 | 15/16" Pilot assy for enlarging up to 1-1/16" |
| 07368 | 11/16" Replacement Nose |
| 07367 | 13/16" Replacement Nose |
| 07366 | 15/16" Replacement Nose |

CUSTOM CUTTERS AND MACHINES

Hougen can solve your holemaking problems with creative solutions to help you get the job done, complete it faster and at a lower cost. We have helped thousands of customers with unique holemaking solutions, from grind downs, to special cutting tools, to one of a kind magnetic drills. Give us a call or send us an email with your holemaking challenge.



ROTACUT™ SHEET METAL HOLE CUTTERS



Made in U.S.A.



Holemaking – faster and easier than with conventional twist drills and hole saws – in sheet metal, plate materials, and plastics up to 1/2" thick. RotaCut™ Cutters are precision-ground and produce clean, burr-free, round holes without deforming the surrounding material. For use in hand held drills with either 3/8" or 1/2" chucks, and in air feed drill spindles for production work. Lasts **10x** longer and cuts **3x** faster than twist drills or hole saws.

| Cutter Dia. (Inches) | Decimal Equiv. | Part No. |
|---|----------------|----------|
| 3/8"-24 Thread Mount & 1/4" D.O.C. Use with Arbor 11088 or 11006 | | |
| 1/4 | .2500 | 11100 |
| 9/32 | .2812 | 11102 |
| 5/16 | .3125 | 11104 |
| 11/32 | .3438 | 11106 |
| Use with Arbor 11088, 11089, or 11006 | | |
| 3/8 | .3750 | 11108 |
| 13/32 | .4062 | 11110 |
| 27/64 | .4219 | 11111 |
| 7/16 | .4375 | 11112 |
| 29/64 | .4531 | 11113 |
| 15/32 | .4688 | 11114 |
| 1/2 | .5000 | 11116 |
| 17/32 | .5312 | 11118 |
| 9/16 | .5625 | 11120 |
| 5/8 | .6250 | 11124 |
| 11/16 | .6875 | 11128 |
| 23/32 | .7188 | 11130 |
| 3/4 | .7500 | 11132 |
| 1/2"-20 Thread Mount & 1/2" D.O.C. Use with Arbor 11005 or 11012 | | |
| 13/16 | .8125 | 11136 |
| 7/8 | .8750 | 11140 |
| 15/16 | .9375 | 11144 |
| 1 | 1.0000 | 11148 |
| 1-1/16 | 1.0625 | 11152 |
| 1-1/8 | 1.1250 | 11156 |
| 1-3/16 | 1.1875 | 11160 |
| 1-1/4 | 1.2500 | 11164 |
| 1-5/16 | 1.3125 | 11165 |
| 1-3/8 | 1.3750 | 11166 |
| 1-7/16 | 1.4375 | 11167 |
| 1-1/2 | 1.5000 | 11168 |

Special sizes of RotaCut™ Cutters are available on request. Contact the Hougen Customer Service Department for more information.
800-426-7818

| Cutter Dia. (Metric) | Decimal Equiv. | Part No. |
|---|----------------|----------|
| 3/8"-24 Thread Mount & 6.4mm D.O.C. Use with Arbor 11088 or 11006 | | |
| 6mm | .2362 | 11206 |
| 7mm | .2756 | 11207 |
| 8mm | .3150 | 11208 |
| 8.5mm | .3346 | 11285 |
| 9mm | .3543 | 11209 |
| Use with Arbor 11088, 11089, or 11006 | | |
| 10mm | .3937 | 11210 |
| 11mm | .4331 | 11211 |
| 12mm | .4724 | 11212 |
| 13mm | .5118 | 11213 |
| 14mm | .5512 | 11214 |
| 15mm | .5906 | 11215 |
| 16mm | .6299 | 11216 |
| 17mm | .6693 | 11217 |
| 18mm | .7087 | 11218 |
| 19mm | .7480 | 11219 |
| 20mm | .7874 | 11220 |
| 1/2"-20 Thread Mount & 12.7mm D.O.C. Use with Arbor 11005 or 11012 | | |
| 21mm | .8268 | 11221 |
| 22mm | .8661 | 11222 |
| 23mm | .9055 | 11223 |
| 24mm | .9449 | 11224 |
| 25mm | .9843 | 11225 |

ROTACUT™ SPOTWELD CUTTER

Remove spotwelds in auto body and restoration work quickly with the RotaCut™ Premium Spotweld Cutter. Heavy cutter wall and fast cutting action that can last for hundreds of spotwelds.

| Part No. | Description |
|----------|---|
| 11200C | Package includes 3/8" RotaCut p/n 11108, Arbor p/n 11088, and instructions. |

ROTACUT™ KITS



11087 Kit

Hougen® offers kits packaged in sturdy cases for keeping handy the most often used sizes of RotaCut™ Annular Cutters.

| Part No. | Description |
|-----------------------------|---|
| 11075 / 11075C (Fractional) | Kit contains an 11088 Arbor Assembly, Center Punch, extra Pilot, and (7) Cutters: 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, & 3/4" (DOC: 1/4" / 6.4mm) |
| 11075-12 (Fractional) | Contains (12) 11075 Kits in a pop up display box |
| 11077 (Metric) | Kit contains an 11088 Arbor Assembly, Center Punch, extra Pilot, and (7) Metric Cutters: 8, 10, 12, 14, 16, 18, & 20mm (DOC: 1/4" / 6.4mm) |
| 11078 (Fractional) | Kit contains an 11005 Arbor Assembly, Center Punch, extra Pilot, and (6) Cutters: 7/8, 1, 1-1/8, 1-1/4, 1-3/8, & 1-1/2" (DOC: 1/2" / 12.7mm) |
| 11078-12 (Fractional) | Contains (12) 11078 Kits |
| 11085 (Fractional) | Fractional Master Kit 16 Sizes of cutters from 1/4" to 3/4", extra Pilots, Arbor & Center Punch (DOC: 1/4" / 6.4mm) |
| 11085-12 (Fractional) | Contains (12) 11085 Kits |
| 11086 (Metric) | Metric Master Kit 16 Sizes of cutters from 6mm to 20mm, extra Pilots, Arbor & Center Punch (DOC: 1/4" / 6.4mm) |
| 11087 (Fractional) | Fractional Combo Kit Combines the 11075 and 11078 kits into one awesome package. |

