

# MICROSNAPE

## MICRO SERIES Front & Back Chamfering of Small Through Holes

- Chamfers front and back surfaces in a single pass
- Provides high quality, consistent chamfers
- Coated carbide blades provide long tool life
- Sizes 2mm-5mm (.080"-.197") available from stock

The HEULE SNAP chamfering carbide tool for all purpose deburring and chamfering of through holes 2mm-5mm (.079"-.197"), front and back, and in a single pass. SNAP is a very simple tool for deburring and/or chamfering through holes on the top and bottom without reversing the spindle, dwelling, or indexing the part. The SNAP tool offers a simple to use, high quality chamfering tool with Carbide inserts coated with TiAlN to meet today's manufacturing needs.

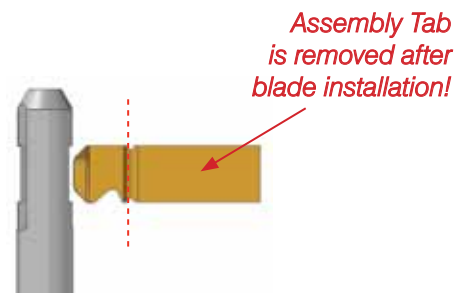
### High Quality Consistent Chamfers

The SNAP blades are ground with a patented geometry developed by HEULE to produce quality chamfers and eliminate secondary burrs. Different chamfer sizes can be achieved by selecting a different blade. There is no need for adjustments or operator intervention. In hard materials above Rc=28, request the SNAP-DF geometry.



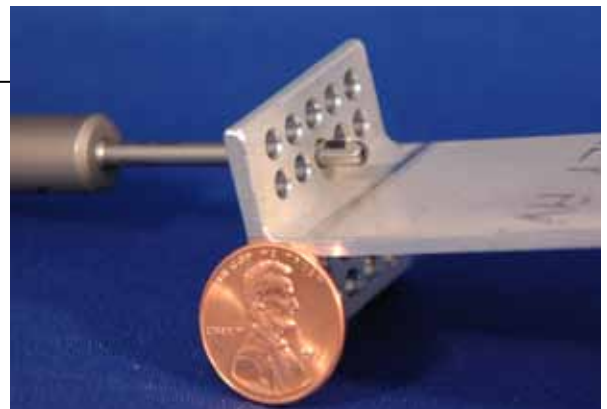
### Easy to Change Cutting Blades

Despite the very small size, the MICRO Series SNAP Tools offer a very easy blade change solution. Each cutting blade comes with extra material that is *Snapped Off* after the blade is installed. See instructions in "Technical Instructions".



### High Quality Consistent Chamfers

There are different blade options for the SNAP tool if an application requires a different chamfer than the standard 90° blade. DEFA geometry blades provide precision chamfering. DEFA is recommended for all materials above 28HRC. When deburring through holes breaking into cross holes; a min. ratio of 1:5 (Øhole:ØCross Hole) for 90° blades should be referenced.



## How Does It Work?

As the rotating tool is fed into the hole, the front cutting edge deburrs the top of the hole by cutting a 45° chamfer. As the tool feeds into the part, the blade is forced into the body and slides in the blade window.

When the blade is in the hole, only the ground sliding surface touches the hole protecting it from damage while the tool is fed through the part. There is no need to stop or reverse the spindle.

When the blade reaches the back of the part the coiled spring acts with the control bolt to push it back out into cutting position. The back edge is deburred and chamfered as the tool is withdrawn. When the blade is again in the hole, the tool can be rapid fed out and on the next hole.

## Typical Parts



## How to Select the Tool and Blade:

Selecting the proper tool is very easy and you only need to know the bore diameter and desired chamfer size. Tools are sold without blades. In most cases, there are several choices of blade sizes based on size of desired edge break. (Example: .010", .020", .030" x 45°)

### Sample Tool Selection

1. Use the bore size to select a tool body.  $\varnothing d$ 
  - Select the largest tool that fits the bore.
2. Use the desired chamfer size to select a blade.  $\varnothing D$ 
  - Select the proper cutting blade.

### Order Example:

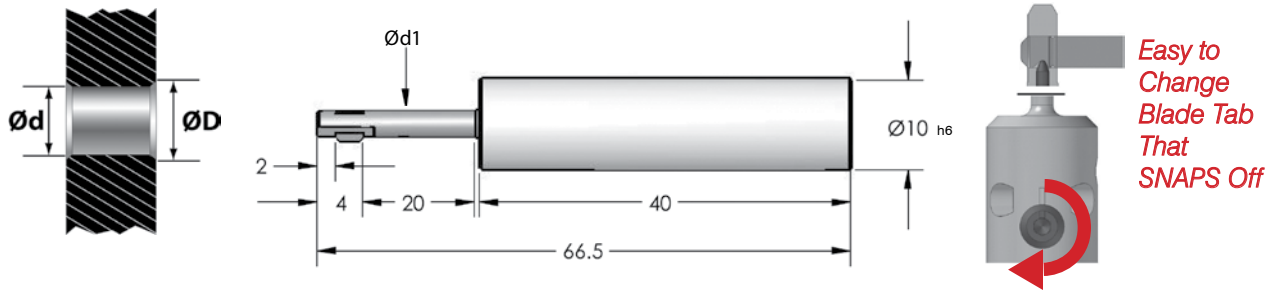
**Bore  $\varnothing 0.094$ " / Chamfer  $\varnothing 0.114$ " fab Alm.**

**Tool Holder Order Number: SNAP2-2.3-20**

**Blade Order Number: GH-Q-M-40071**

If the application calls for different chamfer specifications, see our special blade options section for each series

HTC015



### MICRO SNAP Series 2

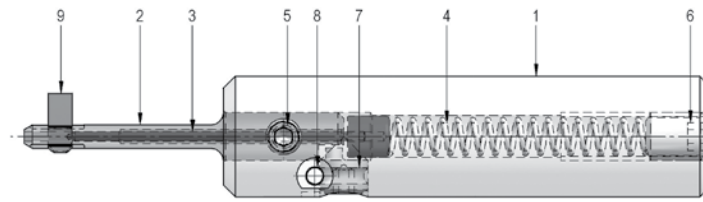
$$(\text{ØD2} = \text{ØD} + 0.2\text{mm})$$

| Minimum Hole Ø<br>mm inches | Tool Diameter<br>Ød1 +0/- .03<br>mm inches | Order Number | 2. Housings<br>Ln-20mm<br>GH-Q-N- | 9. Blade Gs, 90°, Carbide, TiAlN<br>GH-Q-M-____ and Chamfer ØD (mm) |                 |                   |                  |
|-----------------------------|--|--------------|-----------------------------------|---|-----------------|-------------------|------------------|
|                             |  |              |                                   | Front & Back (fab)  |                 | Back Only (bco)*  |                  |
| 2.0 .079                    | 1.95 .077                                  | SNAP2-2.0-20 | -0061                             | --  | -40031<br>(2.4) | --                | -40631*<br>(2.4) |
| 2.1 .083                    | 2.05 .081                                  | SNAP2-2.1-20 | -0062                             | -40031<br>(2.4)   | -40051<br>(2.6) | -40631*<br>(2.4)  | -40651*<br>(2.6) |
| 2.2 .087                    | 2.15 .085                                  | SNAP2-2.2-20 | -0063                             | -40031<br>(2.4)   | -40051<br>(2.6) | -40631*<br>(2.4)  | -40651*<br>(2.6) |
| 2.3 .091                    | 2.25 .089                                  | SNAP2-2.3-20 | -0064                             | -40051<br>(2.6)   | -40071<br>(2.8) | -40651*<br>(2.6)  | -40671*<br>(2.8) |
| 2.4 .095                    | 2.35 .092                                  | SNAP2-2.4-20 | -0065                             | -40051<br>(2.6)   | -40071<br>(2.8) | -40651*<br>(2.6)  | -40671*<br>(2.8) |
| 2.5 .099                    | 2.45 .097                                  | SNAP2-2.5-20 | -0066                             | -40071<br>(2.8)   | -40091<br>(3.0) | -40671*<br>(2.8)  | -40691*<br>(3.0) |
| 2.6 .102                    | 2.55 .100                                  | SNAP2-2.6-20 | -0067                             | -40071<br>(2.8)   | -40091<br>(3.0) | -406718*<br>(2.8) | -40691*<br>(3.0) |
| 2.7 .106                    | 2.65 .104                                  | SNAP2-2.7-20 | -0068                             | -40091<br>(3.0)   | -40111<br>(3.2) | -40691*<br>(3.0)  | -40711*<br>(3.2) |
| 2.8 .110                    | 2.75 .108                                  | SNAP2-2.8-20 | -0069                             | -40091<br>(3.0)   | -40111<br>(3.2) | -40691*<br>(3.0)  | -40711*<br>(3.2) |
| 2.9 .114                    | 2.85 .112                                  | SNAP2-2.9-20 | -0070                             | -40111<br>(3.2)   | -40131<br>(3.4) | -40711*<br>(3.2)  | -40731*<br>(3.4) |

\* Limited-stock standard item with extended delivery time Note: DEFA Geometry available for material above 28Rc

BLADE  
OPTIONS PG.  
59

SPARE  
PARTS PG.  
59



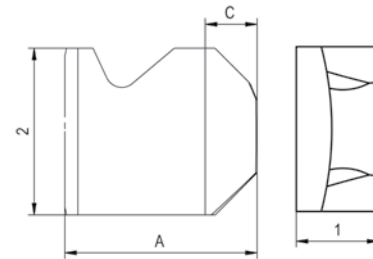
10. Wrench for Set Screw  
GH-H-S-2101

### Spare Parts – MICRO SNAP 2

| 1                    | 2               | 3                       | 4                 | 5                    | 6                | 7                    | 8                   | 9     |
|----------------------|-----------------|-------------------------|-------------------|----------------------|------------------|----------------------|---------------------|-------|
| Tool Body<br>GH-Q-G- | Housing<br>20mm | Control 20mm<br>GH-Q-E- | Spring<br>GH-H-F- | Set Screw<br>GH-H-S- | Screw<br>GH-H-S- | Eccentric<br>GH-S-E- | Roll Pin<br>GH-C-E- | Blade |
| -5024                | See pg 58       | -0237                   | -0047             | -1075                | -0134            | -0031                | -0811               | Below |

### Blades – MICRO SNAP 2 – GS geometry 90° angle

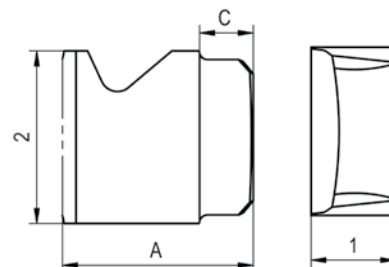
| Max.<br>Chamfer ØD<br>mm Inches | fab TiAlN coated | bco TiAlN coated* | Dimensions |      |
|---------------------------------|------------------|-------------------|------------|------|
|                                 |                  |                   | A          | C    |
| 2.4 .095                        | GH-Q-M-40031     | GH-Q-M-40631*     | 1.92       | 0.53 |
| 2.6 .102                        | GH-Q-M-40051     | GH-Q-M-40651*     | 2.02       | 0.58 |
| 2.8 .110                        | GH-Q-M-40071     | GH-Q-M-40671*     | 2.12       | 0.63 |
| 3.0 .118                        | GH-Q-M-40091     | GH-Q-M-40691*     | 2.12       | 0.63 |
| 3.2 .126                        | GH-Q-M-40111     | GH-Q-M-40711*     | 2.52       | 0.63 |
| 3.4 .134                        | GH-Q-M-40131     | GH-Q-M-40731*     | 2.72       | 0.63 |



\* Limited-stock standard item with extended delivery time

### Blades – MICRO SNAP 2 – DF (DEFA) geometry 90° angle

| Max.<br>Chamfer ØD<br>mm Inches | fab TiAlN coated | bco TiAlN coated* | Dimensions |      |
|---------------------------------|------------------|-------------------|------------|------|
|                                 |                  |                   | A          | C    |
| 2.4 .095                        | GH-Q-M-44031     | GH-Q-M-44631*     | 1.92       | 0.53 |
| 2.6 .102                        | GH-Q-M-44051     | GH-Q-M-44651*     | 2.02       | 0.58 |
| 2.8 .110                        | GH-Q-M-44071     | GH-Q-M-44671*     | 2.12       | 0.63 |
| 3.0 .118                        | GH-Q-M-44091     | GH-Q-M-44691*     | 2.12       | 0.63 |
| 3.2 .126                        | GH-Q-M-44111     | GH-Q-M-44711*     | 2.52       | 0.63 |
| 3.4 .134                        | GH-Q-M-44131     | GH-Q-M-44731*     | 2.72       | 0.63 |

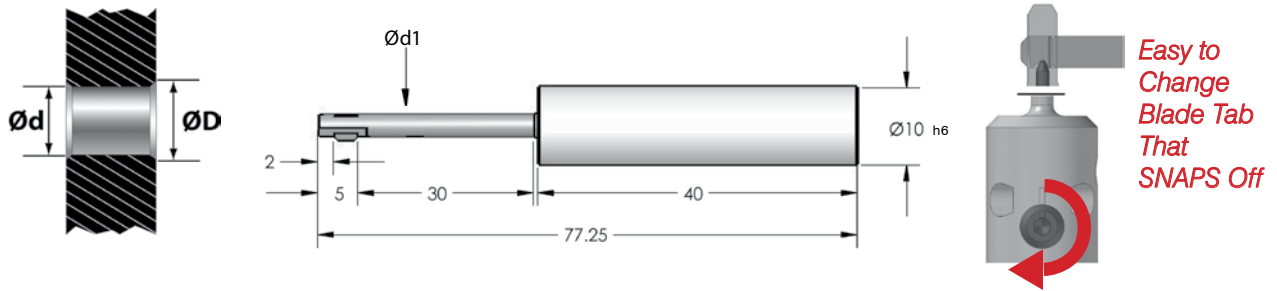


\* Limited-stock standard item with extended delivery time

PROGRAMMING PG. 66-67

CHANGE BLADES PG. 64

HTC015



### MICRO SNAP Series 3

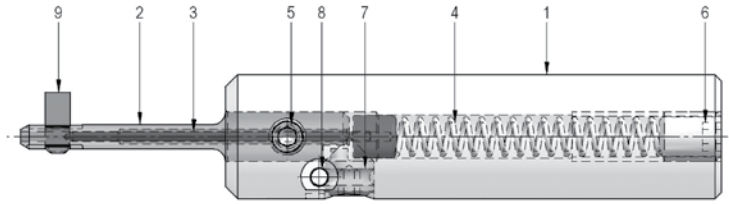
$$(\text{ØD2} = \text{ØD} + 0.3\text{mm})$$

| Minimum Hole Ø<br>mm inches | Tool Diameter<br>Ød1 +0/- .03<br>mm inches | Order Number | 2. Housings<br>Ln-30mm<br>GH-Q-N- | 9. Blade Gs, 90°, Carbide, TiAlN<br>GH-Q-M-____ and Chamfer ØD (mm) |                 |                  |                  |
|-----------------------------|--|--------------|-----------------------------------|---|-----------------|------------------|------------------|
|                             |  |              |                                   | Front & Back (fab)  |                 | Back Only (bco)* |                  |
| 3.0 .118                    | 2.90 .114                                  | SNAP3-3.0-30 | -0141                             | -40171<br>(3.3)   | -40201<br>(3.6) | -40771*<br>(3.3) | -40801*<br>(3.6) |
| 3.1 .122                    | 3.00 .118                                  | SNAP3-3.1-30 | -0142                             | -40201<br>(3.6)   | -40231<br>(3.9) | -40801*<br>(3.6) | -40831*<br>(3.9) |
| 3.2 .126                    | 3.10 .122                                  | SNAP3-3.2-30 | -0143                             | -40201<br>(3.6)   | -40231<br>(3.9) | -40801*<br>(3.6) | -40831*<br>(3.9) |
| 3.3 .130                    | 3.20 .126                                  | SNAP3-3.3-30 | -0144                             | -40231<br>(3.9)   | -40261<br>(4.2) | -40831*<br>(3.9) | -40861*<br>(4.2) |
| 3.4 .134                    | 3.30 .130                                  | SNAP3-3.4-30 | -0145                             | -40231<br>(3.9)   | -40261<br>(4.2) | -40831*<br>(3.9) | -40861*<br>(4.2) |
| 3.5 .138                    | 3.40 .134                                  | SNAP3-3.5-30 | -0146                             | -40231<br>(3.9)   | -40261<br>(4.2) | -40831*<br>(3.9) | -40861*<br>(4.2) |
| 3.6 .142                    | 3.50 .138                                  | SNAP3-3.6-30 | -0147                             | -40261<br>(4.2)   | -40291<br>(4.5) | -40861*<br>(4.2) | -40891*<br>(4.5) |
| 3.7 .146                    | 3.60 .142                                  | SNAP3-3.7-30 | -0148                             | -40261<br>(4.2)   | -40291<br>(4.5) | -40861*<br>(4.2) | -40891*<br>(4.5) |
| 3.8 .150                    | 3.70 .146                                  | SNAP3-3.8-30 | -0149                             | -40261<br>(4.2)   | -40291<br>(4.5) | -40861*<br>(4.2) | -40891*<br>(4.5) |
| 3.9 .154                    | 3.80 .150                                  | SNAP3-3.9-30 | -0150                             | -40291<br>(4.5)   | -40321<br>(4.8) | -40891*<br>(4.5) | -40921*<br>(4.8) |

\* Limited-stock standard item with extended delivery time Note: DEFA Geometry available for material above 28Rc

BLADE  
OPTIONS PG. 61

SPARE  
PARTS PG. 61



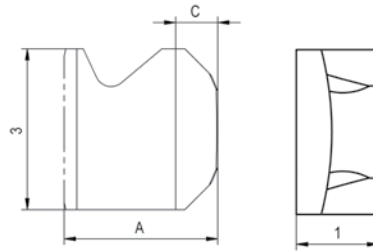
10. Wrench for Set Screw  
GH-H-S-2101

### Spare Parts – MICRO SNAP 3

| 1                    | 2               | 3                       | 4                 | 5                    | 6                | 7                    | 8                   | 9     |
|----------------------|-----------------|-------------------------|-------------------|----------------------|------------------|----------------------|---------------------|-------|
| Tool Body<br>GH-Q-G- | Housing<br>30mm | Control 30mm<br>GH-Q-E- | Spring<br>GH-H-F- | Set Screw<br>GH-H-S- | Screw<br>GH-H-S- | Eccentric<br>GH-S-E- | Roll Pin<br>GH-C-E- | Blade |
| -5024                | See pg 60       | -0238                   | -0047             | -1075                | -0134            | -0031                | -0811               | Below |

### Blades – MICRO SNAP 3 – GS geometry 90° angle

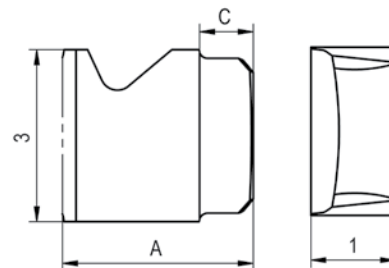
| Max. Chamfer ØD<br>mm Inches | fab TiAIN coated | bco TiAIN coated* | Dimensions |      |
|------------------------------|------------------|-------------------|------------|------|
|                              |                  |                   | A          | C    |
| 3.3 .130                     | GH-Q-M-40171     | GH-Q-M-40771*     | 2.84       | 0.55 |
| 3.6 .142                     | GH-Q-M-40201     | GH-Q-M-40801*     | 2.84       | 0.70 |
| 3.9 .154                     | GH-Q-M-40231     | GH-Q-M-40831*     | 2.84       | 0.85 |
| 4.2 .165                     | GH-Q-M-40261     | GH-Q-M-40861*     | 3.04       | 0.90 |
| 4.5 .177                     | GH-Q-M-40291     | GH-Q-M-40891*     | 3.34       | 0.90 |
| 4.8 .189                     | GH-Q-M-40321     | GH-Q-M-40921*     | 3.64       | 0.90 |



\* Limited-stock standard item with extended delivery time

### Blades – MICRO SNAP 3 – DF (DEFA) geometry 90° angle

| Max. Chamfer ØD<br>mm Inches | fab TiAIN coated | bco TiAIN coated* | Dimensions |      |
|------------------------------|------------------|-------------------|------------|------|
|                              |                  |                   | A          | C    |
| 3.3 .130                     | GH-Q-M-44171     | GH-Q-M-44771*     | 2.84       | 0.55 |
| 3.6 .142                     | GH-Q-M-44201     | GH-Q-M-44801*     | 2.84       | 0.70 |
| 3.9 .154                     | GH-Q-M-44231     | GH-Q-M-44831*     | 2.84       | 0.85 |
| 4.2 .165                     | GH-Q-M-44261     | GH-Q-M-44861*     | 3.04       | 0.90 |
| 4.5 .177                     | GH-Q-M-44291     | GH-Q-M-44891*     | 3.34       | 0.90 |
| 4.8 .189                     | GH-Q-M-44321     | GH-Q-M-44921*     | 3.64       | 0.90 |



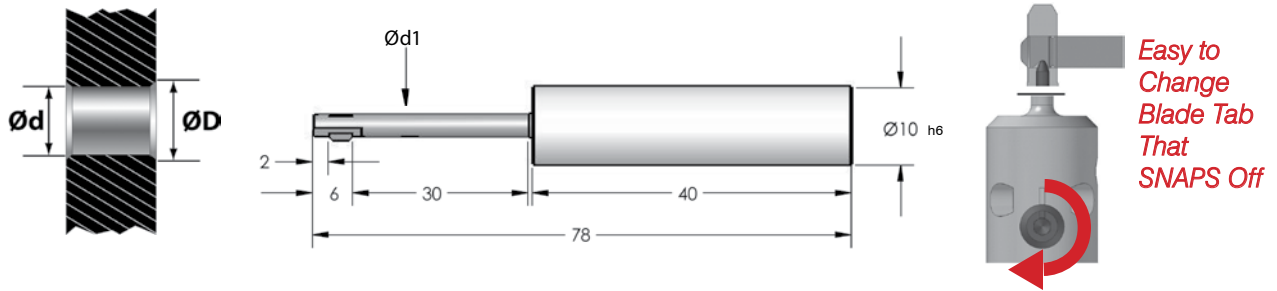
\* Limited-stock standard item with extended delivery time

PROGRAMMING PG. 66-67

CHANGE BLADES PG. 64



HTC015



Easy to Change Blade Tab That SNAPS Off

### MICRO SNAP Series 4

$$(\text{ØD2} = \text{ØD} + 0.4\text{mm})$$

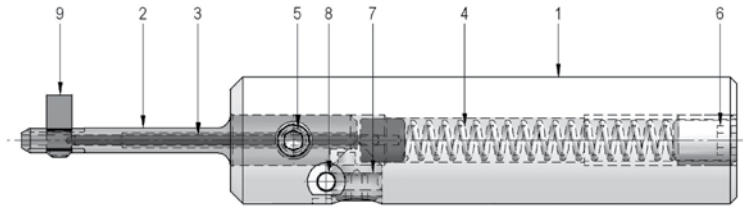
| Minimum Hole Ø<br>mm inches | Tool Diameter<br>Ød1 +0/- .03<br>mm inches | Order Number | 2. Housings<br>Ln-30mm<br>GH-Q-N- | 9. Blade Gs, 90°, Carbide, TiAlN<br>GH-Q-M-____ and Chamfer ØD (mm) |                 |                 |
|-----------------------------|--|--------------|-----------------------------------|---|-----------------|-----------------|
|                             |  |              |                                   | Front & Back (fab)  |                 |                 |
| 4.0 .157                    | 3.90 .153                                  | SNAP4-4.0-30 | -0161                             | -40381<br>(4.4)   | -40421<br>(4.8) | -40461<br>(5.2) |
| 4.1 .161                    | 4.00 .157                                  | SNAP4-4.1-30 | -0162                             | -40421<br>(4.8)   | -40461<br>(5.2) | -40501<br>(5.6) |
| 4.2 .165                    | 4.10 .161                                  | SNAP4-4.2-30 | -0163                             | -40421<br>(4.8)   | -40461<br>(5.2) | -40501<br>(5.6) |
| 4.3 .169                    | 4.20 .165                                  | SNAP4-4.3-30 | -0164                             | -40421<br>(4.8)   | -40461<br>(5.2) | -40501<br>(5.6) |
| 4.4 .173                    | 4.30 .169                                  | SNAP4-4.4-30 | -0165                             | -40421<br>(4.8)   | -40461<br>(5.2) | -40501<br>(5.6) |
| 4.5 .177                    | 4.40 .173                                  | SNAP4-4.5-30 | -0166                             | -40461<br>(5.2)   | -40501<br>(5.6) | -40541<br>(6.0) |
| 4.6 .181                    | 4.50 .177                                  | SNAP4-4.6-30 | -0167                             | -40461<br>(5.2)   | -40501<br>(5.6) | -40541<br>(6.0) |
| 4.7 .185                    | 4.60 .181                                  | SNAP4-4.7-30 | -0168                             | -40461<br>(5.2)   | -40501<br>(5.6) | -40541<br>(6.0) |
| 4.8 .189                    | 4.70 .185                                  | SNAP4-4.8-30 | -0169                             | -40461<br>(5.2)   | -40501<br>(5.6) | -40541<br>(6.0) |
| 4.9 .193                    | 4.80 .189                                  | SNAP4-4.9-30 | -0170                             | -40501<br>(5.6)   | -40541<br>(6.0) | -40581<br>(6.4) |
| 5.0 .197                    | 4.90 .193                                  | SNAP4-5.0-30 | -0171                             | -40501<br>(5.6)   | -40541<br>(6.0) | -40581<br>(6.4) |

Note: DEFA Geometry available for material above 28Rc

BLADE  
OPTIONS PG. 63

SPARE  
PARTS PG. 63





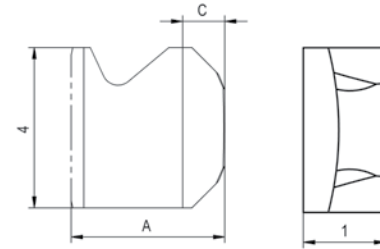
10. Wrench for Set Screw  
GH-H-S-2101

### Spare Parts – MICRO SNAP 4

| 1                    | 2               | 3                       | 4                 | 5                    | 6                | 7                    | 8                   | 9     |
|----------------------|-----------------|-------------------------|-------------------|----------------------|------------------|----------------------|---------------------|-------|
| Tool Body<br>GH-Q-G- | Housing<br>30mm | Control 30mm<br>GH-Q-E- | Spring<br>GH-H-F- | Set Screw<br>GH-H-S- | Screw<br>GH-H-S- | Eccentric<br>GH-S-E- | Roll Pin<br>GH-C-E- | Blade |
| -5024                | See pg 62       | -0238                   | -0047             | -1075                | -0134            | -0031                | -0811               | Below |

### Blades – MICRO SNAP 4 – GS geometry 90° angle

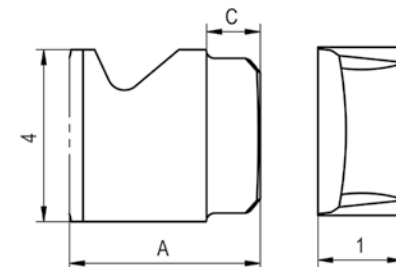
| Max. Chamfer ØD<br>mm Inches | fab TiAIN coated | bco TiAIN coated* | Dimensions |      |
|------------------------------|------------------|-------------------|------------|------|
|                              |                  |                   | A          | C    |
| 4.4 .173                     | GH-Q-M-40381     | GH-Q-M-40981*     | 3.84       | 0.65 |
| 4.8 .189                     | GH-Q-M-40421     | GH-Q-M-41021*     | 3.84       | 0.85 |
| 5.2 .205                     | GH-Q-M-40461     | GH-Q-M-41061*     | 3.84       | 1.05 |
| 5.6 .220                     | GH-Q-M-40501     | GH-Q-M-41101*     | 3.94       | 1.20 |
| 6.0 .236                     | GH-Q-M-40541     | GH-Q-M-41141*     | 4.35       | 1.20 |
| 6.4 .252                     | GH-Q-M-40581     | GH-Q-M-41181*     | 4.75       | 1.20 |



\* Non-stock standard item with extended delivery time

### Blades – MICRO SNAP 4 – DF (DEFA) geometry 90° angle

| Max. Chamfer ØD<br>mm Inches | fab TiAIN coated | bco TiAIN coated* | Dimensions |      |
|------------------------------|------------------|-------------------|------------|------|
|                              |                  |                   | A          | C    |
| 4.4 .173                     | GH-Q-M-44381     | GH-Q-M-44981*     | 3.84       | 0.65 |
| 4.8 .189                     | GH-Q-M-44421     | GH-Q-M-45021*     | 3.84       | 0.85 |
| 5.2 .205                     | GH-Q-M-44461     | GH-Q-M-45061*     | 3.84       | 1.05 |
| 5.6 .220                     | GH-Q-M-44501     | GH-Q-M-45101*     | 3.94       | 1.20 |
| 6.0 .236                     | GH-Q-M-44541     | GH-Q-M-45141*     | 4.35       | 1.20 |
| 6.4 .252                     | GH-Q-M-44581     | GH-Q-M-45181*     | 4.75       | 1.20 |



\* Non-stock standard item with extended delivery time

PROGRAMMING PG. 66-67

CHANGE BLADES PG. 64

HTC015

## Changing the Blade - MICRO SNAP Series 2, 3, & 4

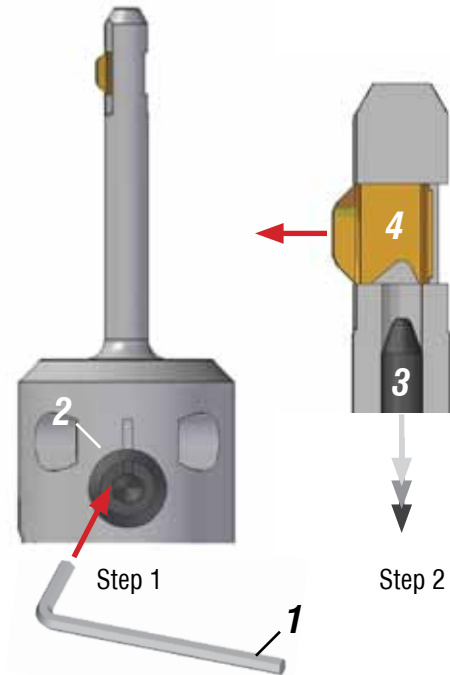
### Blade Removal

#### Step 1:

With 1.5mm Hex Wrench (1), Turn eccentric screw (2) 180° until notch points down (opposite of blade).

#### Step 2:

The Control Bolt (3) is lowered and the blade (4) is now free to fall out or can be pushed out with a new blade.



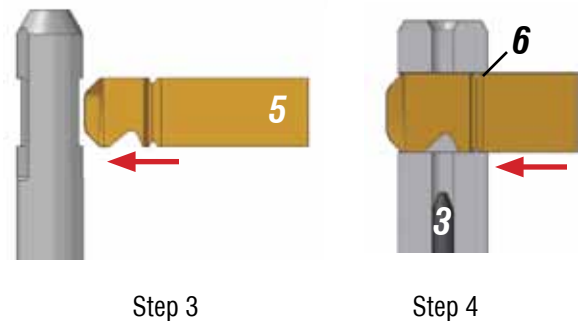
### Installing NEW Blade

#### Step 3:

With the eccentric screw (2) 180° notch still pointing down (opposite of blade); install a NEW blade with assembly tab (5) into the blade window (6) opposite side of the chip flat.

#### Step 4:

Install the blade so the pin groove of the blade is located over the Control Bolt (3). The cutting side of the blade should be visible.

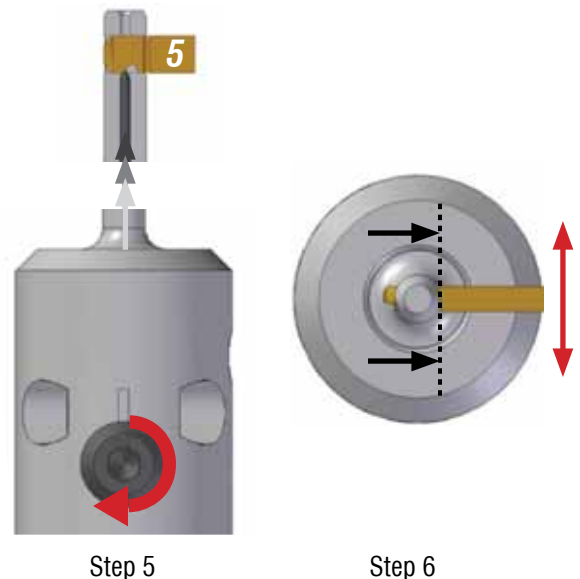


#### Step 5:

Using the 1.5mm Hex Wrench (1), turn the eccentric screw (2) 180° so the notch is back towards the blade. The Control Bolt (3) will move up. Check that the blade is locked into the tool.

#### Step 6:

To remove the assembly tab (5); slightly pull back on the assembly tab so the blade is still engaged but the score mark is located close to the edge of the window. Then, using a back and forth movement break-off the assembly tab. Discard or recycle the carbide tab.



### Adjusting the Chamfer Size

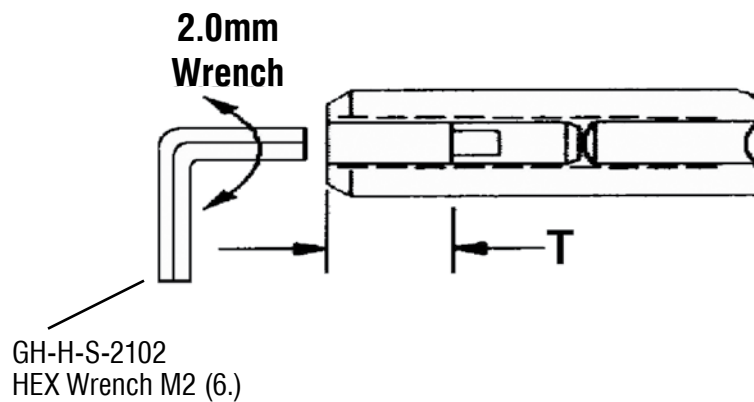
Chamfer size is based on the size of the blade. Both the blade force and the feed rate can be adjusted to slightly increase or decrease the chamfer size. The maximum chamfer size may not be possible when cutting harder materials such as those with hardness Rc>28 or exotic alloys. It is recommended to use our DEFA (DF) geometry when cutting difficult material or large burr formations.

**ATTENTION: MAXIMUM FEED RATE OF "DF" GEOMETRY IS 0.003 IPR!!**

### Setting the Blade Force

The blade force can be adjusted with the set screw in the end of the shank. The blade force should be enough to ensure the blade extends completely after passing through the bore. Changing the blade force does not change the chamfer size.

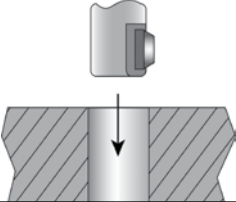
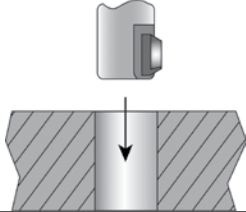
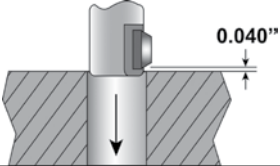
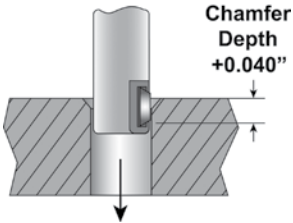
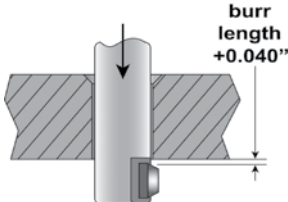
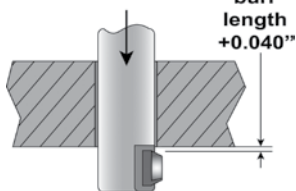
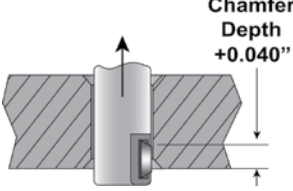
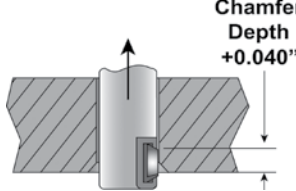
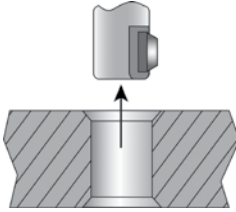
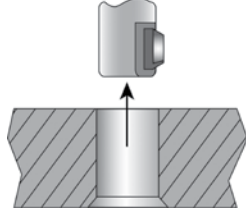
- Increase the blade force by turning the set screw clockwise.
- Decrease the blade force by turning the set screw counter-clockwise.



\*Housing Set Screw Wrench is GH-H-S-2101 (5.)

HTC015

## Programming Information

| For Front & Back Chamfer  |  | Back Chamfer Only   |
|---|--|---|
|    | <p><b>Step 1:</b></p> <p>Set the RPM according to the suggested values.</p>  |    |
|    | <p><b>Step 2:</b> (Move into position)</p> <p>Move the tool with rapid feed into position with the front.</p>  |   |
|   | <p><b>Step 3:</b> (Cut front chamfer)</p> <p>Machine the part with cutting feed (cf) and speed (cs). Feed into the part the chamfer depth + 0.040" to ensure the tool is finished cutting.</p> |   |
|  | <p><b>Step 4:</b> (Rapid through part)</p> <p>Move the tool through the part with rapid feed until the blade is 0.040" beyond burr. The blade will not damage the through hole.</p>            |  |
|  | <p><b>Step 5:</b> (Cut back chamfer)</p> <p>Machine the part with cutting feed (cf) and speed (cs). Feed into the part the chamfer depth + 0.040" to ensure the tool is finished cutting.</p>  |  |
|  | <p><b>Step 6:</b> (Remove from the part)</p> <p>Remove the tool from the part with a rapid feed and proceed to the next hole. The blade will not damage the through hole.</p>                  |  |

## Programming Information (continued)

| Material              | IPR (SNAP- GS) | IPR (SNAP- DF) | SFM     |
|-----------------------|----------------|----------------|---------|
| Aluminum              | 0.006-0.012    | 0.001-0.003    | 210-400 |
| Brass                 | 0.006-0.014    | 0.001-0.003    | 210-400 |
| Low Carbon Steels     | 0.004-0.008    | 0.001-0.003    | 150-210 |
| Med Carbon Steels     | 0.004-0.009    | 0.001-0.002    | 130-180 |
| Free Machining Alloys | 0.004-0.006    | 0.001-0.002    | 100-160 |
| Stainless Steel       | 0.002-0.005    | 0.001-0.002    | 90-140  |
| Gray Cast Iron        | 0.004-0.008    | 0.001-0.003    | 150-220 |
| Nodular Cast Iron     | 0.003-0.007    | 0.001-0.002    | 150-220 |
| Short Chipping Iron   | 0.003-0.007    | 0.001-0.002    | 100-150 |
| Titanium              | 0.001-0.003    | 0.001-0.002    | 20-50   |

**Important Note:** RECOMMENDED MAXIMUM SPEED IS 6,000 RPM. Please contact Heule Tool Corporation Engineering Department for further assistance with your application.

For added stability, tool working lengths of 10mm and 20mm are available at request.



Visit our website for our full line  
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[www.HeuleTool.com](http://www.HeuleTool.com)

We provide online tool selectors for the  
**COFA**, **SNAP**, **DEFA** and **BSF** product groups.

Simply enter your application information and the correct tool will  
be provided complete with order number and sample drawing.

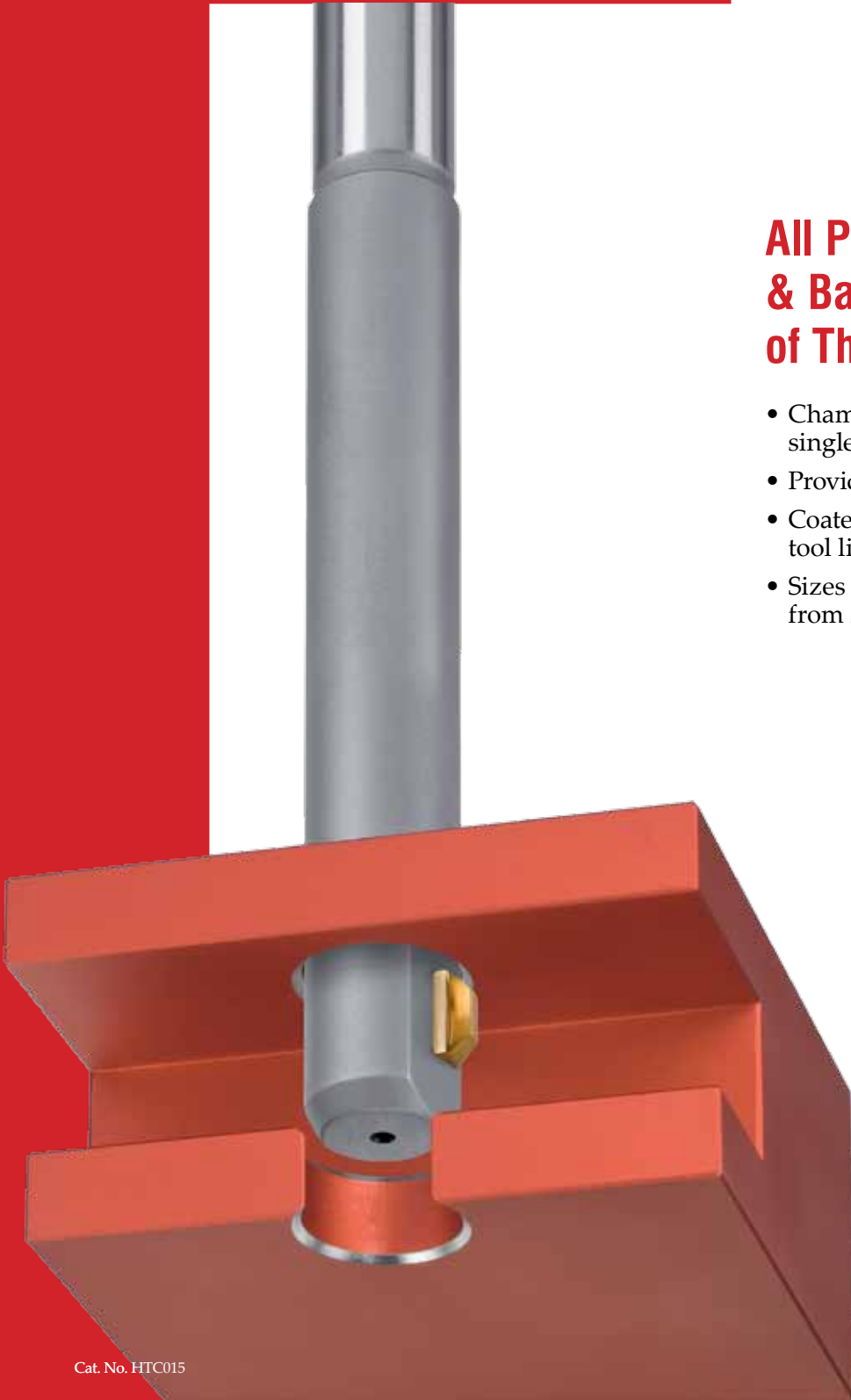
We are also available on:



# SNAP

## All Purpose Front & Back Chamfering of Through Holes

- Chamfers front and back surfaces in a single pass
- Provides high quality, consistent chamfers
- Coated carbide blades provide long tool life
- Sizes 5mm-25mm (.197"-.984") available from stock





The HEULE SNAP chamfering tool is the answer for today's manufacturers requiring simpler and more flexible solutions without sacrificing quality or tool life. SNAP is a very simple tool for deburring and/or chamfering through holes on the top and bottom without reversing the spindle, dwelling, or indexing the part. The SNAP tool offers a simple to use high quality chamfering tool with Carbide inserts coated with TiN, TiCN, or TiAlN to meet today's manufacturing needs.

### High Quality Consistent Chamfers

The SNAP blades are ground with a patented geometry developed by HEULE to produce quality chamfers and eliminate secondary burrs. Different chamfer sizes can be achieved by selecting a different blade. There is no need for adjustments or operator intervention. In hard materials above Rc=28, request the SNAP-DF geometry.



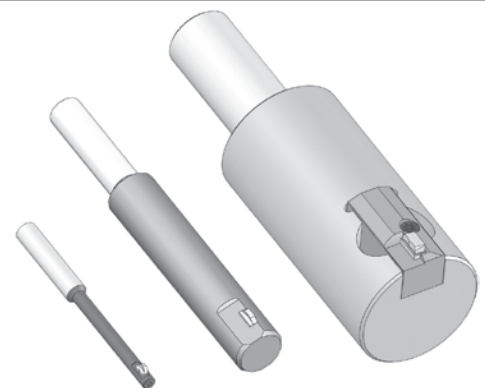
### Long Tool Life

The solid body design of the SNAP tool provides the highest durability of any deburring tool. Additionally, the coated carbide blades give longer tool life and faster operation speeds. This durability and blade life make SNAP the ideal choice for high volume manufacturers.



### Wide Range of Standard Tools

SNAP tools are available from stock from 2mm to 25mm (0.079"-0.984"). The SNAP Cassette makes it possible to deburr even larger holes quickly and efficiently and is also available from stock.



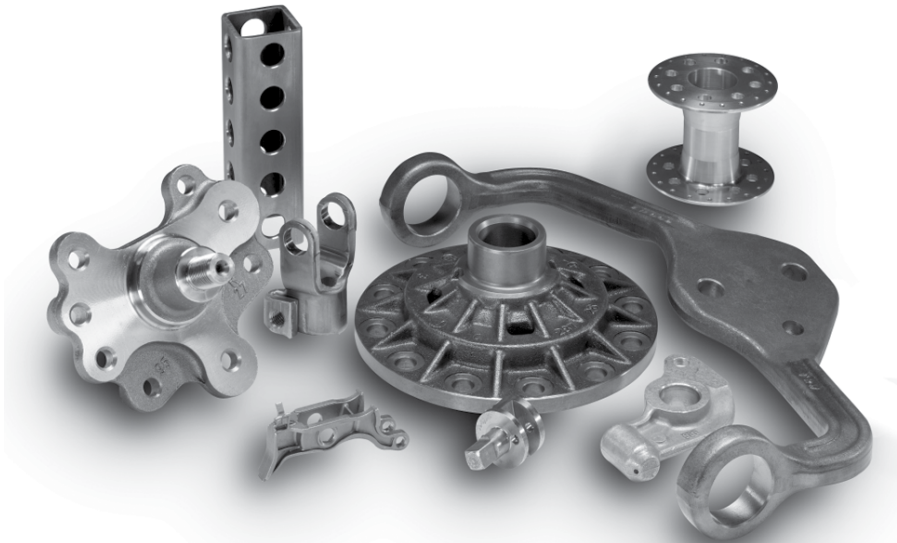
### How Does It Work?

As the rotating tool is fed into the hole, the front cutting edge deburrs the top of the hole by cutting a 45° chamfer. As the tool feeds into the part, the blade is forced into the body and slides in the blade window.

When the blade is in the hole, only the ground sliding surface touches the hole protecting it from damage while the tool is fed through the part. There is no need to stop or reverse the spindle.

When the blade reaches the back of the part the coiled spring acts with the control bolt to push it back out into cutting position. The back edge is deburred and chamfered as the tool is withdrawn. When the blade is again in the hole, the tool can be rapid fed out and on the next hole.

### Typical Parts



### How to Select the Tool and Blade:

Selecting the proper tool is very easy and you only need to know the bore diameter and desired chamfer size. Tools are sold without blades. In most cases, there are four choices of blade sizes based on size of desired edge break. (Example: .010", .020", .030", .040" x 45°)

#### Sample Tool Selection

1. Use the bore size to select a tool body. Ød
  - Select the largest tool that fits the bore.
2. Use the desired chamfer size to select a blade. ØD
  - Select the proper cutting blade.

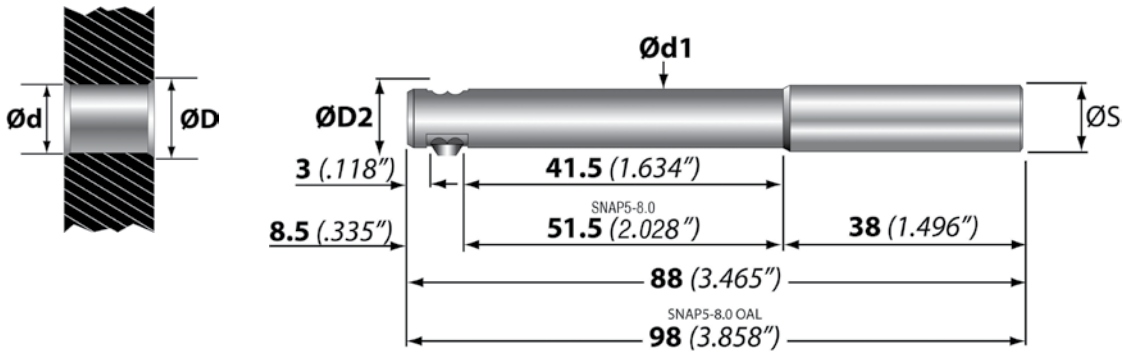
#### Order Example:

**Bore Ø.500" / Chamfer Ø.550" (.025" x 45°)**

**Tool Body Order Number: SNAP12-492**

**Blade Order Number: GH-Q-M-03744**

HTC015



### SNAP Series 5

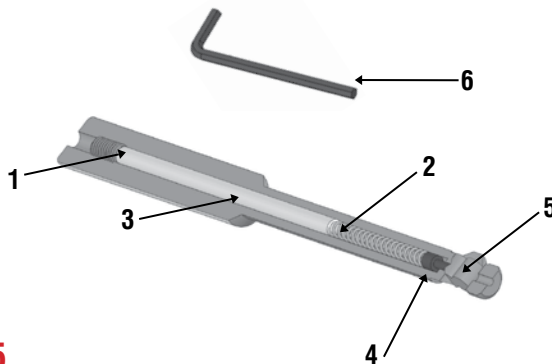
(ØD2= ØD+0.6mm)

| Minimum Hole Ø<br>mm inches | Tool Diameter Ød1<br>mm inches | Tool Holder | Shank Diameter ØS<br>mm | Blade Options* Front and Back Cutting<br>Gs, 90°, Carbide, TiAlN<br>GH-Q-M-_____ Chamfer ØD (mm) |                  |                  |                  |
|-----------------------------|--------------------------------|-------------|-------------------------|--|------------------|------------------|------------------|
|                             |                                |             |                         | -30204<br>(5.5)  | -30205<br>(6.0)  | -30206<br>(6.5)  | -30207<br>(7.0)  |
| 5.0 .197                    | 4.9 .193                       | SNAP5-5.0   | Ø8mm                    | -30204<br>(5.5)  | -30205<br>(6.0)  | -30206<br>(6.5)  | -30207<br>(7.0)  |
| 5.5 .217                    | 5.4 .214                       | SNAP5-5.5   | Ø8mm                    | -30205<br>(6.0)  | -30206<br>(6.5)  | -30207<br>(7.0)  | -30208<br>(7.5)  |
| 6.0 .236                    | 5.9 .232                       | SNAP5-6.0   | Ø8mm                    | -30206<br>(6.5)  | -30207<br>(7.0)  | -30208<br>(7.5)  | -30209<br>(8.0)  |
| 6.5 .256                    | 6.4 .252                       | SNAP5-6.5   | Ø8mm                    | -30207<br>(7.0)  | -30208<br>(7.5)  | -30209<br>(8.0)  | -30210<br>(8.5)  |
| 7.0 .276                    | 6.9 .272                       | SNAP5-7.0   | Ø8mm                    | -30208<br>(7.5)  | -30209<br>(8.0)  | -30210<br>(8.5)  | -30211<br>(9.0)  |
| 7.5 .296                    | 7.4 .291                       | SNAP5-7.5   | Ø8mm                    | -30209<br>(8.0)  | -30210<br>(8.5)  | -30211<br>(9.0)  | -30212<br>(9.5)  |
| 8.0 .315                    | 7.8 .307                       | SNAP5-8.0   | Ø10mm                   | -30210<br>(8.5)  | -30211<br>(9.0)  | -30212<br>(9.5)  | -30213<br>(10.0) |
| 8.5 .335                    | 8.3 .331                       | SNAP5-8.5   | Ø10mm                   | -30211<br>(9.0)  | -30212<br>(9.5)  | -30213<br>(10.0) | -30214<br>(10.5) |
| 9.0 .354                    | 8.8 .346                       | SNAP5-9.0   | Ø10mm                   | -30212<br>(9.5)  | -30213<br>(10.0) | -30214<br>(10.5) | -30215<br>(11.0) |
| 9.5 .374                    | 9.3 .366                       | SNAP5-9.5   | Ø10mm                   | -30213<br>(10.0)   | -30214<br>(10.5) | -30215<br>(11.0) | -30216<br>(11.5) |

\* Blade sold separately

BLADE  
OPTIONS **PG. 73**

SPARE  
PARTS **PG. 73**



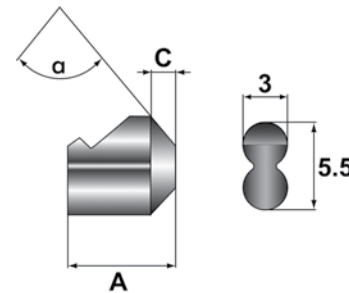
## Spare Parts – SNAP 5

| 1           | 2           | 3            | 4            | 5         | 6           |
|-------------|-------------|--------------|--------------|-----------|-------------|
| Set Screw   | Spring      | Distance Pin | Control Bolt | Blade     | Wrench      |
| GH-H-S-0127 | GH-H-F-0019 | GH-Q-E-0041* | GH-Q-E-0008  | See Below | GH-H-S-2101 |

\* For SNAP 5-8.0 through SNAP 5-9.5 use GH-Q-E-0068

## Blades – SNAP 5 – GH-S geometry 90° angle (a = 90°)

| Max. Chamfer ØD | fab TiAlN coated | bco TiAlN coated* | Dimensions |     |
|-----------------|------------------|-------------------|------------|-----|
|                 |                  |                   | A          | C   |
| 5.5             | GH-Q-M-30204     | GH-Q-M-31204      | 4.40       | 0.8 |
| 6.0             | GH-Q-M-30205     | GH-Q-M-31205      | 4.65       | 1.3 |
| 6.5             | GH-Q-M-30206     | GH-Q-M-31206      | 4.70       | 1.6 |
| 7.0             | GH-Q-M-30207     | GH-Q-M-31207      | 4.85       | 1.6 |
| 7.5             | GH-Q-M-30208     | GH-Q-M-31208      | 5.20       | 1.6 |
| 8.0             | GH-Q-M-30209     | GH-Q-M-31209      | 5.70       | 1.7 |
| 8.5             | GH-Q-M-30210     | GH-Q-M-31210      | 5.80       | 1.7 |
| 9.0             | GH-Q-M-30211     | GH-Q-M-31211      | 6.30       | 1.7 |
| 9.5             | GH-Q-M-30212     | GH-Q-M-31212      | 6.80       | 1.7 |
| 10.0            | GH-Q-M-30213     | GH-Q-M-31213      | 7.30       | 1.7 |
| 10.5            | GH-Q-M-30214     | GH-Q-M-31214      | 7.80       | 1.7 |
| 11.0            | GH-Q-M-30215     | GH-Q-M-31215      | 7.80       | 1.8 |
| 11.5            | GH-Q-M-30216     | GH-Q-M-31216      | 8.05       | 1.8 |
| 12.0            | GH-Q-M-30217     | GH-Q-M-31217      | 8.30       | 1.8 |
| 12.5            | GH-Q-M-30218     | GH-Q-M-31218      | 8.55       | 1.8 |
| 13.0            | GH-Q-M-30219     | GH-Q-M-31219      | 8.80       | 1.8 |

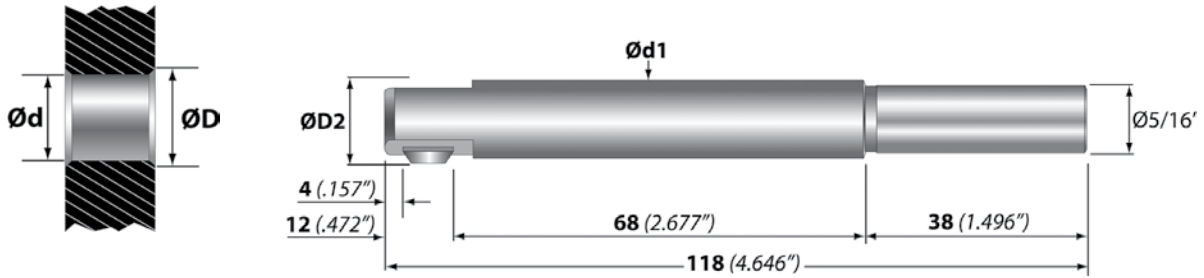


\* Non-stock standard item with extended delivery time

PROGRAMMING PG. 88-89

CHANGE BLADES PG. 87

HTC015



### SNAP Series 8

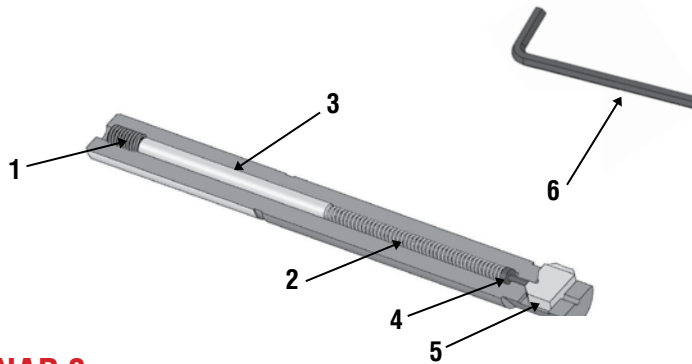
(ØD2= ØD+0.8mm)

| Minimum Hole Ø<br>mm inches | Tool Diameter Ød1<br>mm inches | Tool Holder | Blade Options* Front and Back Cutting<br>Gs, 90°, Carbide, TiN<br>GH-Q-M-_____ Chamfer ØD (mm) |                  |                  |
|-----------------------------|--------------------------------|-------------|--|------------------|------------------|
|                             |                                |             | -03720<br>(8.5)  | -03721<br>(9.0)  | -03722<br>(9.5)  |
| 8.0 .315                    | 7.8 .307                       | SNAP8-315   | -03720<br>(8.5)  | -03721<br>(9.0)  | -03722<br>(9.5)  |
| 8.5 .335                    | 8.3 .327                       | SNAP8-335   | -03721<br>(9.0)  | -03722<br>(9.5)  | -03723<br>(10.0) |
| 9.0 .354                    | 8.8 .346                       | SNAP8-354   | -03722<br>(9.5)  | -03723<br>(10.0) | -03724<br>(10.5) |
| 9.5 .374                    | 9.3 .366                       | SNAP8-374   | -03723<br>(10.0)   | -03724<br>(10.5) | -03725<br>(11.0) |
| 10.0 .394                   | 9.8 .386                       | SNAP8-394   | -03724<br>(10.5)   | -03725<br>(11.0) | -03726<br>(11.5) |
| 10.5 .413                   | 10.3 .406                      | SNAP8-413   | -03725<br>(11.0)   | -03726<br>(11.5) | -03727<br>(12.0) |
| 11.0 .433                   | 10.8 .425                      | SNAP8-433   | -03726<br>(11.5)   | -03727<br>(12.0) | -03728<br>(12.5) |
| 11.5 .453                   | 11.3 .445                      | SNAP8-453   | -03727<br>(12.0)   | -03728<br>(12.5) | -03729<br>(13.0) |
| 12.0 .472                   | 11.8 .465                      | SNAP8-472   | -03728<br>(12.5)   | -03729<br>(13.0) | -03730<br>(13.5) |

\* Blade sold separately

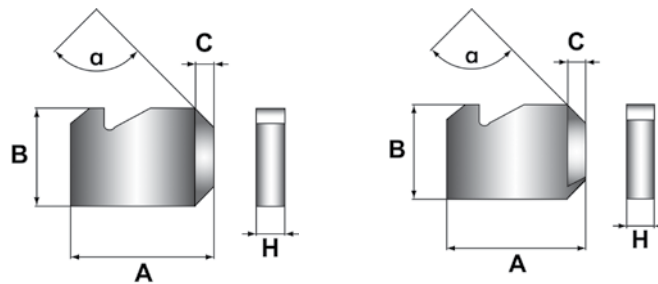
BLADE  
OPTIONS PG.  
85

SPARE  
PARTS PG.  
75



## Spare Parts – SNAP 8

| 1           | 2           | 3            | 4            | 5         | 6           |
|-------------|-------------|--------------|--------------|-----------|-------------|
| Set Screw   | Spring      | Distance Pin | Control Bolt | Blade     | Wrench      |
| GH-H-S-0119 | GH-H-F-0007 | GH-Q-E-0028  | GH-Q-E-0002  | See Below | GH-H-S-2100 |



## Blades – SNAP 8 – GH-S geometry 90° angle

(a = 90°)

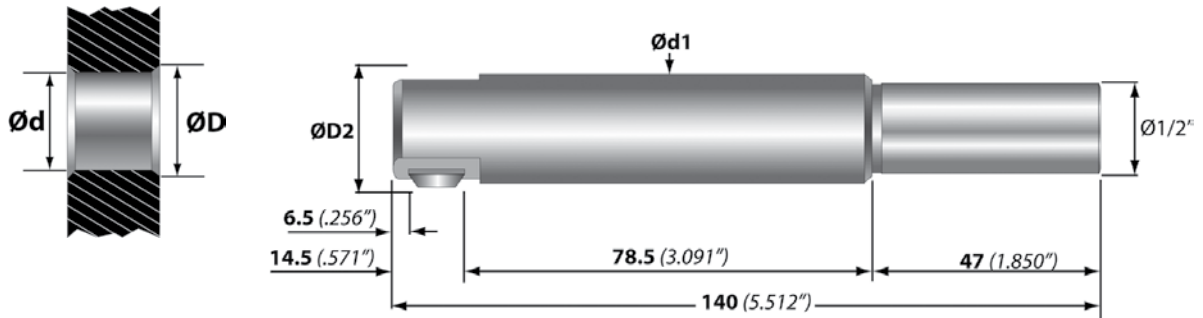
| Max. Chamfer ØD | fab TiN coated | bco TiN coated* | Dimensions |     |     |     |
|-----------------|----------------|-----------------|------------|-----|-----|-----|
|                 |                |                 | A          | B   | C   | H   |
| 8.5             | GH-Q-M-03720   | GH-Q-M-05720    | 7.5        | 8.0 | 1.2 | 2.0 |
| 9.0             | GH-Q-M-03721   | GH-Q-M-05721    | 7.6        | 8.0 | 1.4 | 2.0 |
| 9.5             | GH-Q-M-03722   | GH-Q-M-05722    | 8.0        | 8.0 | 1.6 | 2.0 |
| 10.0            | GH-Q-M-03723   | GH-Q-M-05723    | 8.1        | 8.0 | 1.6 | 2.0 |
| 10.5            | GH-Q-M-03724   | GH-Q-M-05724    | 8.5        | 8.0 | 1.6 | 2.0 |
| 11.0            | GH-Q-M-03725   | GH-Q-M-05725    | 8.6        | 8.0 | 1.8 | 2.0 |
| 11.5            | GH-Q-M-03726   | GH-Q-M-05726    | 9.0        | 8.0 | 1.8 | 2.0 |
| 12.0            | GH-Q-M-03727   | GH-Q-M-05727    | 9.4        | 8.0 | 1.8 | 2.0 |
| 12.5            | GH-Q-M-03728   | GH-Q-M-05728    | 9.8        | 8.0 | 1.8 | 2.0 |
| 13.0            | GH-Q-M-03729   | GH-Q-M-05729    | 10.2       | 8.0 | 1.8 | 2.0 |
| 13.5            | GH-Q-M-03730   | GH-Q-M-05730    | 10.5       | 8.0 | 1.8 | 2.0 |

\* Non-stock standard item with extended delivery time

**PROGRAMMING** PG. 88-89

**CHANGE BLADES** PG. 87

HTC015



### SNAP Series 12

(ØD2 = ØD + 0.8mm)

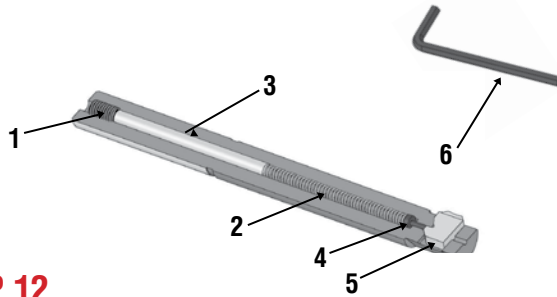
| Minimum Hole Ø<br>mm inches | Tool Diameter Ød1<br>mm inches | Tool Holder | Blade Options* Front and Back Cutting<br>Gs, 90°, Carbide, TiN<br>GH-Q-M-_____ Chamfer ØD (mm) |                  |                  |                  |
|-----------------------------|--------------------------------|-------------|--|------------------|------------------|------------------|
|                             |                                |             | -03740<br>(12.5)   | -03741<br>(13.0) | -03742<br>(13.5) | -03743<br>(14.0) |
| 12.0 .473                   | 11.8 .465                      | SNAP12-473  | -03740<br>(12.5)   | -03741<br>(13.0) | -03742<br>(13.5) | -03743<br>(14.0) |
| 12.5 .492                   | 12.3 .484                      | SNAP12-492  | -03741<br>(13.0)   | -03742<br>(13.5) | -03743<br>(14.0) | -03744<br>(14.5) |
| 13.0 .512                   | 12.8 .504                      | SNAP12-512  | -03742<br>(13.5)   | -03743<br>(14.0) | -03744<br>(14.5) | -03745<br>(15.0) |
| 13.5 .531                   | 13.3 .524                      | SNAP12-531  | -03743<br>(14.0)   | -03744<br>(14.5) | -03745<br>(15.0) | -03746<br>(15.5) |
| 14.0 .551                   | 13.8 .543                      | SNAP12-551  | -03744<br>(14.5)   | -03745<br>(15.0) | -03746<br>(15.5) | -03747<br>(16.0) |
| 14.5 .571                   | 14.3 .563                      | SNAP12-571  | -03745<br>(15.0)   | -03746<br>(15.5) | -03747<br>(16.0) | -03748<br>(16.5) |
| 15.0 .591                   | 14.8 .583                      | SNAP12-591  | -03746<br>(15.5)   | -03747<br>(16.0) | -03748<br>(16.5) | -03749<br>(17.0) |
| 15.5 .610                   | 15.3 .602                      | SNAP12-610  | -03747<br>(16.0)   | -03748<br>(16.5) | -03749<br>(17.0) | -03750<br>(17.5) |
| 16.0 .630                   | 15.8 .622                      | SNAP12-630  | -03748<br>(16.5)   | -03749<br>(17.0) | -03750<br>(17.5) | -03751<br>(18.0) |
| 16.5 .650                   | 16.3 .642                      | SNAP12-650  | -03749<br>(17.0)   | -03750<br>(17.5) | -03751<br>(18.0) | -03752<br>(18.5) |
| 17.0 .669                   | 16.8 .661                      | SNAP12-669  | -03750<br>(17.5)   | -03751<br>(18.0) | -03752<br>(18.5) | -03753<br>(19.0) |
| 17.5 .689                   | 17.3 .681                      | SNAP12-689  | -03751<br>(18.0)   | -03752<br>(18.5) | -03753<br>(19.0) | -03754<br>(19.5) |
| 18.0 .709                   | 17.8 .701                      | SNAP12-709  | -03752<br>(18.5)   | -03753<br>(19.0) | -03754<br>(19.5) | -03755<br>(20.0) |
| 18.5 .729                   | 18.3 .720                      | SNAP12-729  | -03753<br>(19.0)   | -03754<br>(19.5) | -03755<br>(20.0) | -03756<br>(20.5) |
| 19.0 .748                   | 18.8 .740                      | SNAP12-748  | -03754<br>(19.5)   | -03755<br>(20.0) | -03756<br>(20.5) | -03757<br>(21.0) |
| 19.5 .768                   | 19.3 .760                      | SNAP12-768  | -03755<br>(20.0)   | -03756<br>(20.5) | -03757<br>(21.0) | -03758<br>(21.5) |
| 20.0 .787                   | 19.8 .780                      | SNAP12-787  | -03756<br>(20.5)   | -03757<br>(21.0) | -03758<br>(21.5) | -03759<br>(22.0) |

\* Blade sold separately

BLADE  
OPTIONS PG.  
86

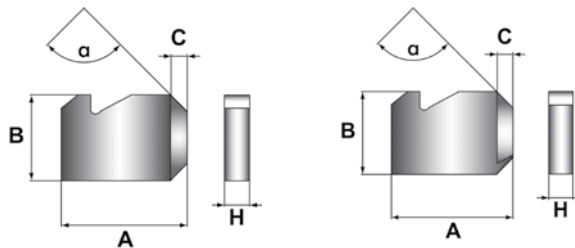
SPARE  
PARTS PG.  
77





## Spare Parts – SNAP 12

| 1           | 2           | 3            | 4            | 5         | 6           |
|-------------|-------------|--------------|--------------|-----------|-------------|
| Set Screw   | Spring      | Distance Pin | Control Bolt | Blade     | Wrench      |
| GH-H-S-0119 | GH-H-F-0007 | GH-Q-E-0032  | GH-Q-E-0002  | See Below | GH-H-S-2100 |



## Blades – SNAP 12 – GH-S geometry 90° angle

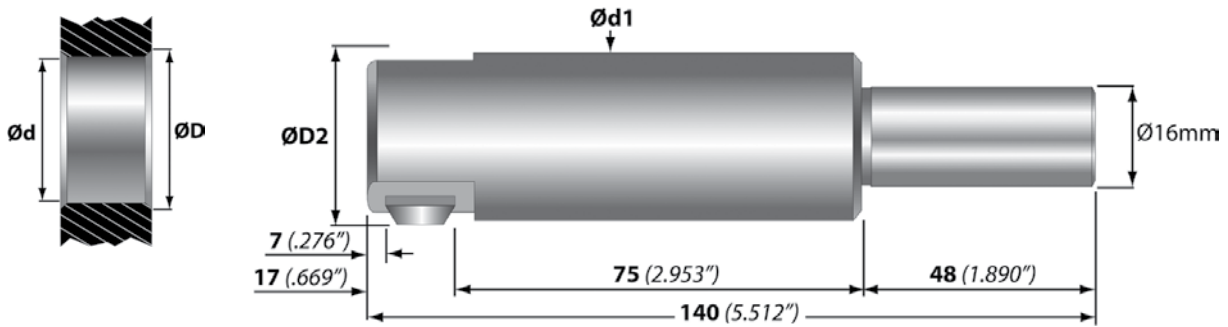
(a = 90°)

| Max. Chamfer ØD | fab TiN coated | bco TiN coated* | Dimensions |     |     |     |
|-----------------|----------------|-----------------|------------|-----|-----|-----|
|                 |                |                 | A          | B   | C   | H   |
| 12.5            | GH-Q-M-03740   | GH-Q-M-05740    | 10.5       | 8.0 | 1.5 | 3.0 |
| 13.0            | GH-Q-M-03741   | GH-Q-M-05741    | 10.7       | 8.0 | 1.8 | 3.0 |
| 13.5            | GH-Q-M-03742   | GH-Q-M-05742    | 11.0       | 8.0 | 1.8 | 3.0 |
| 14.0            | GH-Q-M-03743   | GH-Q-M-05743    | 11.5       | 8.0 | 1.8 | 3.0 |
| 14.5            | GH-Q-M-03744   | GH-Q-M-05744    | 12.0       | 8.0 | 1.8 | 3.0 |
| 15.0            | GH-Q-M-03745   | GH-Q-M-05745    | 12.5       | 8.0 | 1.8 | 3.0 |
| 15.5            | GH-Q-M-03746   | GH-Q-M-05746    | 12.8       | 8.0 | 1.8 | 3.0 |
| 16.0            | GH-Q-M-03747   | GH-Q-M-05747    | 13.0       | 8.0 | 1.8 | 3.0 |
| 16.5            | GH-Q-M-03748   | GH-Q-M-05748    | 13.2       | 8.0 | 1.8 | 3.0 |
| 17.0            | GH-Q-M-03749   | GH-Q-M-05749    | 13.6       | 8.0 | 1.8 | 3.0 |
| 17.5            | GH-Q-M-03750   | GH-Q-M-05750    | 14.0       | 8.0 | 1.8 | 3.0 |
| 18.0            | GH-Q-M-03751   | GH-Q-M-05751    | 14.2       | 8.0 | 1.8 | 3.0 |
| 18.5            | GH-Q-M-03752   | GH-Q-M-05752    | 14.5       | 8.0 | 1.8 | 3.0 |
| 19.0            | GH-Q-M-03753   | GH-Q-M-05753    | 14.8       | 8.0 | 1.8 | 3.0 |
| 19.5            | GH-Q-M-03754   | GH-Q-M-05754    | 15.0       | 8.0 | 1.8 | 3.0 |
| 20.0            | GH-Q-M-03755   | GH-Q-M-05755    | 15.4       | 8.0 | 1.8 | 3.0 |
| 20.5            | GH-Q-M-03756   | GH-Q-M-05756    | 15.6       | 8.0 | 1.8 | 3.0 |
| 21.0            | GH-Q-M-03757   | GH-Q-M-05757    | 16.0       | 8.0 | 1.8 | 3.0 |
| 21.5            | GH-Q-M-03758   | GH-Q-M-05758    | 16.4       | 8.0 | 1.8 | 3.0 |
| 22.0            | GH-Q-M-03759   | GH-Q-M-05759    | 16.6       | 8.0 | 1.8 | 3.0 |

\* Non-stock standard item with extended delivery time



HTC015



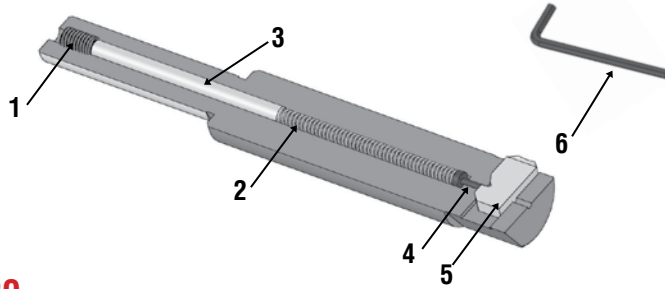
### SNAP Series 20

( $\text{ØD2} = \text{ØD} + 0.8\text{mm}$ )

| Minimum Hole Ø<br>mm inches | Tool Diameter Ød1<br>mm inches | Tool Holder* | Blade Options* Front and Back Cutting<br>Gs,90°, Carbide, TiN<br>and Chamfer ØD (mm) |                  |                  |
|-----------------------------|--------------------------------|--------------|--|------------------|------------------|
|                             |                                |              | GH-Q-M-  |                  |                  |
| 20.0 .787                   | 19.8 .780                      | SNAP20-20.0  | -03770<br>(21.0)   | -03771<br>(22.0) | -03772<br>(23.0) |
| 21.0 .827                   | 20.8 .819                      | SNAP20-21.0  | -03771<br>(22.0)   | -03772<br>(23.0) | -03773<br>(24.0) |
| 22.0 .866                   | 21.8 .858                      | SNAP20-22.0  | -03772<br>(23.0)   | -03773<br>(24.0) | -03774<br>(25.0) |
| 23.0 .906                   | 22.8 .898                      | SNAP20-23.0  | -03773<br>(24.0)   | -03774<br>(25.0) | -03775<br>(26.0) |
| 24.0 .945                   | 23.8 .937                      | SNAP20-24.0  | -03774<br>(25.0)   | -03775<br>(26.0) | -03776<br>(27.0) |
| 25.0 .984                   | 24.8 .976                      | SNAP20-25.0  | -03775<br>(26.0)   | -03776<br>(27.0) | -03777<br>(28.0) |
| 26.0 1.024                  | 25.8 1.016                     | SNAP20-26.0  | -03776<br>(27.0)   | -03777<br>(28.0) | -03778<br>(29.0) |
| 27.0 1.063                  | 26.8 1.055                     | SNAP20-27.0  | -03777<br>(28.0)   | -03778<br>(29.0) | -03779<br>(30.0) |
| 28.0 1.102                  | 27.8 1.094                     | SNAP20-28.0  | -03778<br>(29.0)   | -03779<br>(30.0) | -03780<br>(31.0) |
| 29.0 1.142                  | 28.8 1.134                     | SNAP20-29.0  | -03779<br>(30.0)   | -03780<br>(31.0) | -03781<br>(32.0) |
| 30.0 1.181                  | 29.8 1.173                     | SNAP20-30.0  | -03780<br>(31.0)   | -03781<br>(32.0) | -03782<br>(33.0) |
| 31.0 1.220                  | 30.8 1.213                     | SNAP20-31.0  | -03781<br>(32.0)   | -03782<br>(33.0) | -03783<br>(34.0) |
| 32.0 1.260                  | 31.8 1.252                     | SNAP20-32.0  | -03782<br>(33.0)   | -03783<br>(34.0) | -03784<br>(35.0) |
| 33.0 1.299                  | 32.8 1.291                     | SNAP20-33.0  | -03783<br>(34.0)   | -03784<br>(35.0) | -03785<br>(36.0) |
| 34.0 1.339                  | 33.8 1.331                     | SNAP20-34.0  | -03784<br>(35.0)   | -03785<br>(36.0) | -03786<br>(37.0) |
| 35.0 1.378                  | 34.8 1.370                     | SNAP20-35.0  | -03785<br>(36.0)   | -03786<br>(37.0) | -03787<br>(38.0) |

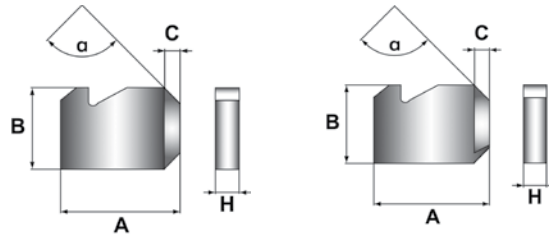
\* Blade sold separately

\* Non-stock standard item with extended delivery time



## Spare Parts – SNAP 20

| 1           | 2           | 3            | 4            | 5         | 6           |
|-------------|-------------|--------------|--------------|-----------|-------------|
| Set Screw   | Spring      | Distance Pin | Control Bolt | Blade     | Wrench      |
| GH-H-S-0119 | GH-H-F-0011 | GH-Q-E-0031  | GH-Q-E-0003  | See Table | GH-H-S-2100 |



## Blades – SNAP 20 – GH-S geometry 90° angle

(a = 90°)

| Max. Chamfer ØD | fab TiN coated | bco TiN coated* | Dimensions |      |     |     |
|-----------------|----------------|-----------------|------------|------|-----|-----|
|                 |                |                 | A          | B    | C   | H   |
| 21.0            | GH-Q-M-03770   | GH-Q-M-05770    | 17.0       | 10.0 | 2.5 | 5.0 |
| 22.0            | GH-Q-M-03771   | GH-Q-M-05771    | 17.5       | 10.0 | 2.5 | 5.0 |
| 23.0            | GH-Q-M-03772   | GH-Q-M-05772    | 18.0       | 10.0 | 2.5 | 5.0 |
| 24.0            | GH-Q-M-03773   | GH-Q-M-05773    | 18.5       | 10.0 | 2.5 | 5.0 |
| 25.0            | GH-Q-M-03774   | GH-Q-M-05774    | 20.0       | 10.0 | 2.5 | 5.0 |
| 26.0            | GH-Q-M-03775   | GH-Q-M-05775    | 20.5       | 10.0 | 2.5 | 5.0 |
| 27.0            | GH-Q-M-03776   | GH-Q-M-05776    | 21.0       | 10.0 | 2.5 | 5.0 |
| 28.0            | GH-Q-M-03777   | GH-Q-M-05777    | 21.5       | 10.0 | 2.5 | 5.0 |
| 29.0            | GH-Q-M-03778   | GH-Q-M-05778    | 22.0       | 10.0 | 2.5 | 5.0 |
| 30.0            | GH-Q-M-03779   | GH-Q-M-05779    | 23.5       | 10.0 | 2.5 | 5.0 |
| 31.0            | GH-Q-M-03780   | GH-Q-M-05780    | 24.0       | 10.0 | 2.5 | 5.0 |
| 32.0            | GH-Q-M-03781   | GH-Q-M-05781    | 24.5       | 10.0 | 2.5 | 5.0 |
| 33.0            | GH-Q-M-03782   | GH-Q-M-05782    | 25.0       | 10.0 | 2.5 | 5.0 |
| 34.0            | GH-Q-M-03783   | GH-Q-M-05783    | 25.5       | 10.0 | 2.5 | 5.0 |
| 35.0            | GH-Q-M-03784   | GH-Q-M-05784    | 27.0       | 10.0 | 2.5 | 5.0 |
| 36.0            | GH-Q-M-03785   | GH-Q-M-05785    | 27.5       | 10.0 | 2.5 | 5.0 |
| 37.0            | GH-Q-M-03786   | GH-Q-M-05786    | 28.0       | 10.0 | 2.5 | 5.0 |
| 38.0            | GH-Q-M-03787   | GH-Q-M-05787    | 28.5       | 10.0 | 2.5 | 5.0 |

\* Non-stock standard item with extended delivery time

PROGRAMMING PG. 88-89

CHANGE BLADES PG. 87

## SNAP 5 “Slim Line” Cassette

**Easy Incorporation with Various Multi-Tasking Tools while Producing Quality Front & Back Chamfers**

New SNAP 5 “Slim Line” Cassette with GS geometry cutting blade. The SNAP 5 Cassette is the smallest standard cassette Heule makes, measuring 5mm thick and 30mm long.

The advantage of the “Slim Line” SNAP 5 Cassette is it can easily be incorporated into various multi-tasking tools, including drills, boring tools and other state of the art technology.

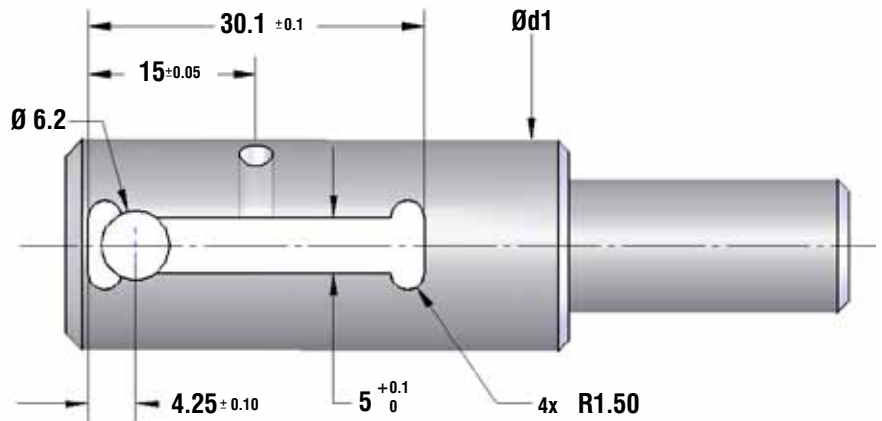
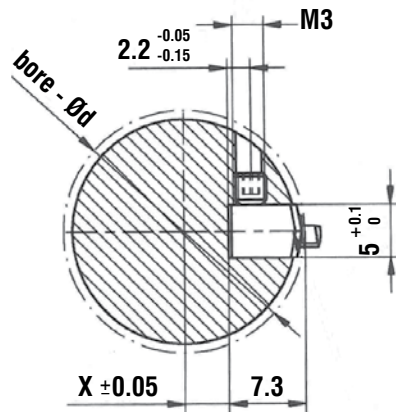
The benefits are using Heule’s quality front and back chamfer system with the industry’s best hole making technology.

The part number for the cassette is **GH-Q-0-1430**.



### SNAP Cassette

|     | Reference          |
|-----|--------------------|
| Ød  | Hole Diameter      |
| ØD2 | Over Blade Dia.    |
| ØD  | Chamfer Diameter   |
| Ød1 | Tool Diameter      |
| x   | Offset from Center |



| Minimum Bore Ød                                      | Maximum Chamfer ØDmax | Maximum Tool Diameter Ød1 | Calc. of the “X” offset                                     |
|--|-----------------------|---------------------------|---|
| 20mm - 80mm<br>(Specials on request down to Ø12.6mm) | ØDmax= Ød+2           | Max Ød1 = Bore Ød - 0.5mm | $X = \frac{\text{BORE Dia } (\text{Ød})}{2} - 7.3\text{mm}$ |

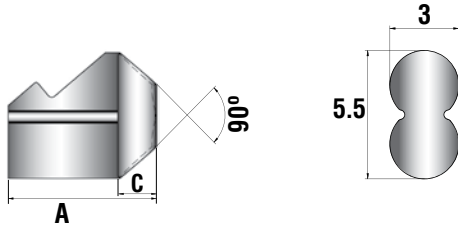
BLADE OPTIONS **PG. 81**

SPARE PARTS **PG. 81**

## Blade Options: SNAP 5 Cassette

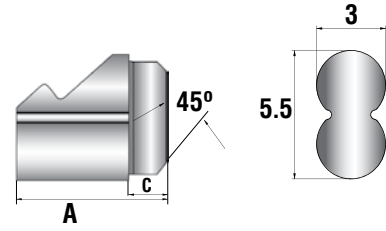
Blades are available from stock as front and back cutting (fab) or back only cutting (bco).

### GS Geometry 90° Carb-TiAlN



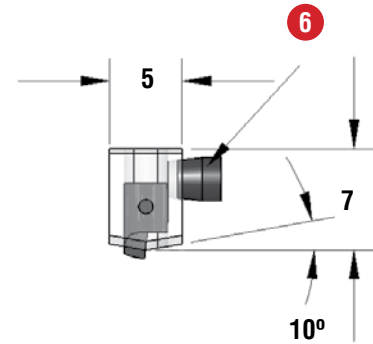
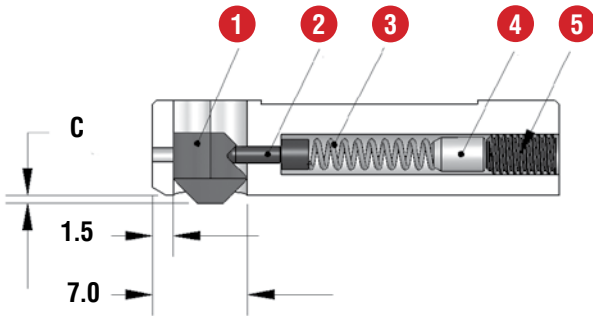
| Chamfer   | Front & Back<br>GH-Q-M- | Back Only<br>GH-Q-M- | A    | C    |
|-----------|-------------------------|----------------------|------|------|
| 0.5 x 90° | -30770                  | -31770               | 6.15 | 1.25 |
| 1.0 x 90° | -30771                  | -31771               | 6.6  | 1.8  |

### DF Geometry 90° Carbide-TiAlN



| Chamfer   | Front & Back<br>GH-Q-M- | Back Only<br>GH-Q-M- | A   | C   |
|-----------|-------------------------|----------------------|-----|-----|
| 0.5 x 90° | -30780*                 | -31780*              | 6.3 | 1.3 |
| 1.0 x 90° | -30781*                 | -31781*              | 6.8 | 1.8 |

\*Extended delivery



## Spare Parts – SNAP 5 CASS; Order Number Complete GH-Q-0-1430\*

| 1         | 2           | 3           | 4            | 5           | 6           |
|-----------|-------------|-------------|--------------|-------------|-------------|
| Blade*    | Bolt        | Spring      | Distance Pin | Screw       | Set Screw   |
| See Above | GH-Q-E-0008 | GH-H-F-0027 | GH-H-E-0046  | GH-H-S-0127 | GH-H-S-0355 |

\*Blade sold separately.

PROGRAMMING PG. 88-89  
CHANGE BLADES PG. 87

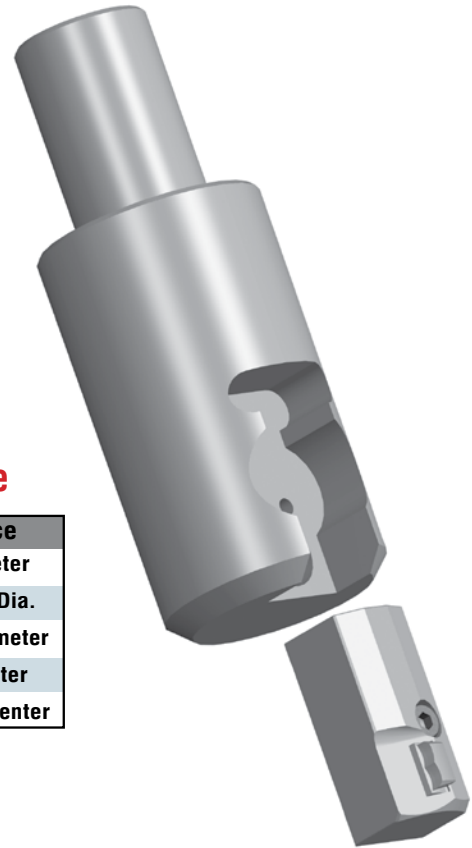
## SNAP 35 Cassette

**Large Bore Chamfering and Multi-Tasking is easy with Heule's SNAP Cassette**

The SNAP 35 Cassette makes it possible to deburr larger holes quickly and efficiently and is also available from stock.

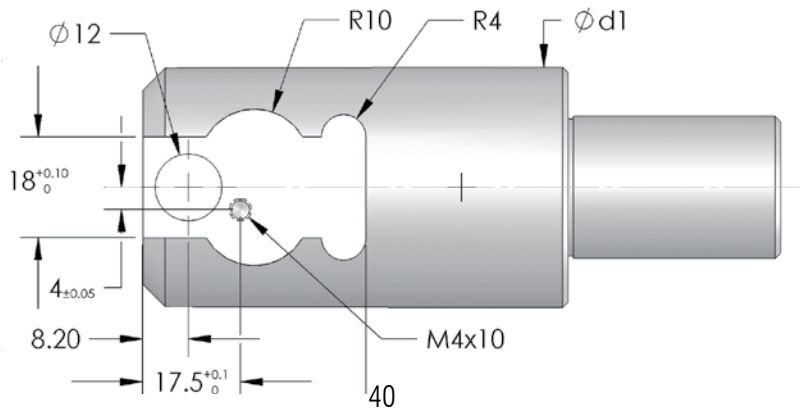
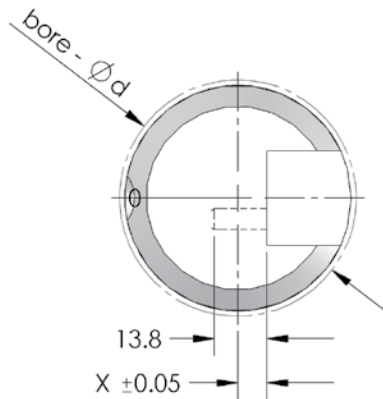
New blade options include both DF and GS geometries. Large chamfer up to .060" (1.5mm) is possible. Use DF geometry for materials above 28Rc.

The part number for the cassette is **GH-Q-0-1030**.



### SNAP Cassette

|     | Reference          |
|-----|--------------------|
| Ød  | Hole Diameter      |
| ØD2 | Over Blade Dia.    |
| ØD  | Chamfer Diameter   |
| Ød1 | Tool Diameter      |
| x   | Offset from Center |



| Minimum Bore Ød | Maximum Chamfer ØDmax            | Maximum Tool Diameter Ød1  | Calc. of the "X" offset                                      |
|-----------------|----------------------------------|--|--|
| 35mm            | $\text{ØDmax} = \text{Ød} + 3.0$ | $\text{Max } \text{Ød1} = \text{Bore } \text{Ød} - 2.0\text{mm}$ | $X = \frac{\text{BORE Dia } (\text{Ød})}{2} - 17.0\text{mm}$ |

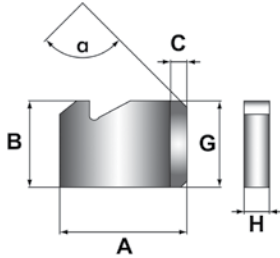
BLADE OPTIONS **PG. 83**

SPARE PARTS **PG. 83**

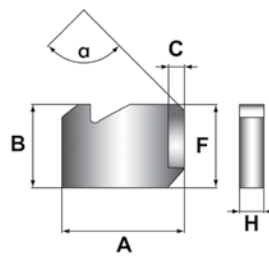
## Blade Options: Cassette Series 35:

Blades are available from stock as front and back cutting (**fab**) or back cutting only (**bco**).

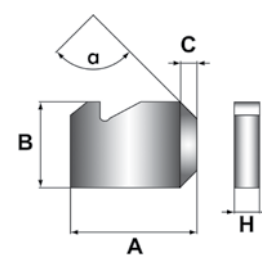
### SNAP DEFA Front & Back



### SNAP DEFA Back Only

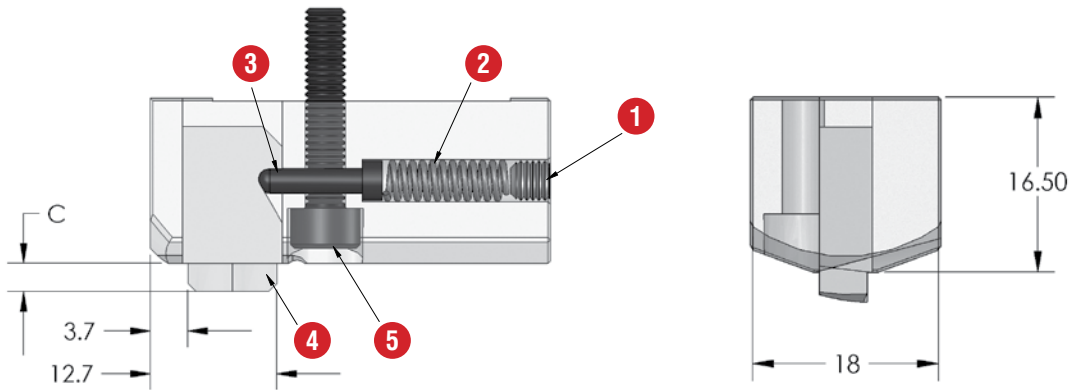


### SNAP GS Front & Back



| Maximum Chamfer | Dimensions    |             |              |              |              | DEFA front and back cutting 90° Carb-TiN | DEFA back cutting only 90° Carb-TiN | GS front and back cutting 90° Carb-TiAlN |
|-----------------|---------------|-------------|--------------|--------------|--------------|--|-------------------------------------|--|
|                 | A             | B           | F            | G            | H            |  |                                     |  |
| 0.5<br>0.020    | 16<br>0.630   | 10<br>0.394 | 9.5<br>0.374 | 9.0<br>0.354 | 5.0<br>0.197 | GH-Q-M-01901                             | GH-Q-M-01921                        | GH-Q-M-01802                             |
| 1.0<br>0.039    | 16.5<br>0.650 | 10<br>0.394 | 9.5<br>0.374 | 9.0<br>0.354 | 5.0<br>0.197 | GH-Q-M-01904                             | GH-Q-M-01924                        | GH-Q-M-01812                             |
| 1.5<br>0.059    | 16.5<br>0.650 | 10<br>0.394 | 9.5<br>0.374 | 9.0<br>0.354 | 5.0<br>0.197 | GH-Q-M-01907                             | GH-Q-M-01927                        | GH-Q-M-01822                             |

\*Note: GS chamfer range can vary more than DF geometry.



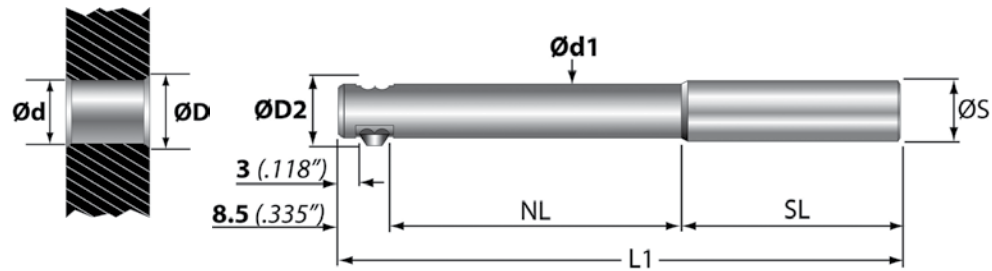
## Spare Parts – Cassette

|           | 1           | 2           | 3            | 4         | 5           |
|-----------|-------------|-------------|--------------|-----------|-------------|
| Cassette  | Set Screw   | Spring      | Control Bolt | Blade     | Cap Screw   |
| Series 35 | GH-H-S-0120 | GH-H-F-0012 | GH-Q-E-0003  | See Above | GH-H-S-0502 |

PROGRAMMING PG. 88-89  
CHANGE BLADES PG. 87



HTC015



### SNAP Tooling for Common Tap Holes

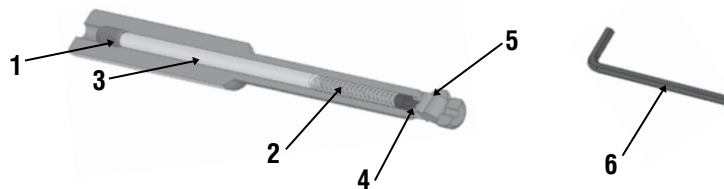
| SNAP Deburring Series 5                  |                      |        |                  |              |    |      |    |                   |                                      |        | $\text{ØD2} = \text{ØD} + 0.6\text{mm}$ |  |
|--|----------------------|--------|------------------|--------------|----|------|----|-------------------|--------------------------------------|--------|---|--|
| For holes 5mm-8mm (0.197" through .315") |                      |        |                  |              |    |      |    |                   |                                      |        | $\text{Ød1} + 0 / - .002"$              |  |
| Tap/Pitch                                | Drill $+0.1$<br>$-0$ |        | Order Number     | Tool Dia.    |    |      |    | Shank $\text{ØS}$ | Blade**, Carbide-TiAlN, 90°, fab     |        |   |  |
|  | mm                   | inches |                  | $\text{Ød1}$ | L1 | NL   | SL |                   | Chamfer ( $\text{ØD}$ ) <sup>1</sup> |        | Order Number                            |  |
|  |                      |        | mm               | mm           | mm | mm   | mm | mm                | mm                                   | inches |   |  |
| M6-1.0                                   | 5.0                  | (.197) | <b>SNAP5-5.0</b> | 4.9          | 88 | 41.5 | 38 | Ø8                | 6.5                                  | (.256) | <b>GH-Q-M-30206</b>                     |  |
| 1/4"-20                                  | 5.11                 | (.201) | <b>SNAP5-5.0</b> | 4.9          | 88 | 41.5 | 38 | Ø8                | 7.0                                  | (.276) | <b>GH-Q-M-30207</b>                     |  |
| M7-1.0                                   | 6.0                  | (.236) | <b>SNAP5-6.0</b> | 5.9          | 88 | 41.5 | 38 | Ø8                | 7.5                                  | (.295) | <b>GH-Q-M-30208</b>                     |  |
| 5/16"-18                                 | 6.53                 | (.257) | <b>SNAP5-6.5</b> | 6.4          | 88 | 40   | 38 | Ø8                | 8.5                                  | (.335) | <b>GH-Q-M-30210</b>                     |  |
| M8-1.25                                  | 6.7                  | (.264) | <b>SNAP5-6.5</b> | 6.4          | 88 | 40   | 38 | Ø8                | 8.5                                  | (.335) | <b>GH-Q-M-30210</b>                     |  |
| 3/8"-16                                  | 7.9                  | (.311) | <b>SNAP5-7.5</b> | 7.4          | 88 | 40   | 38 | Ø8                | 10.0                                 | (.394) | <b>GH-Q-M-30213</b>                     |  |

| SNAP Deburring Series 5 Extended Range      |                      |        |                    |              |     |      |    |                   |                                      |        | $\text{ØD2} = \text{ØD} + 0.6\text{mm}$ |  |
|---|----------------------|--------|--------------------|--------------|-----|------|----|-------------------|--------------------------------------|--------|---|--|
| For holes 8mm-10.5mm (0.316" through .500") |                      |        |                    |              |     |      |    |                   |                                      |        | $\text{Ød1} + 0 / - .002"$              |  |
| Tap/Pitch                                   | Drill $+0.1$<br>$-0$ |        | Order Number       | Tool Dia.    |     |      |    | Shank $\text{ØS}$ | Blade**, Carbide-TiAlN, 90°, fab     |        |   |  |
|   | mm                   | inches |                    | $\text{Ød1}$ | L1  | NL   | SL |                   | Chamfer ( $\text{ØD}$ ) <sup>1</sup> |        | Order Number                            |  |
|   |                      |        | mm                 | mm           | mm  | mm   | mm | mm                | mm                                   | inches |   |  |
| M10-1.5                                     | 8.4                  | (.331) | <b>SNAP5-8.0</b>   | 7.9          | 98  | 51.5 | 38 | Ø10               | 10.5                                 | (.413) | <b>GH-Q-M-30214</b>                     |  |
| M10-1.25                                    | 8.75                 | (.344) | <b>SNAP5-8.5</b>   | 8.4          | 98  | 51.5 | 38 | Ø10               | 11.0                                 | (.433) | <b>GH-Q-M-30215</b>                     |  |
| 7/16"-14                                    | 9.35                 | (.368) | <b>SNAP5-9.0</b>   | 8.8          | 98  | 51.5 | 38 | Ø10               | 11.5                                 | (.453) | <b>GH-Q-M-30216</b>                     |  |
| 7/16"-20                                    | 9.92                 | (.391) | <b>SNAP5-9.5</b>   | 9.3          | 98  | 51.5 | 38 | Ø10               | 12.0                                 | (.472) | <b>GH-Q-M-30217</b>                     |  |
| M12-1.75                                    | 10.3                 | (.406) | <b>SNAP5-10.0*</b> | 9.8          | 107 | 51.5 | 47 | Ø12               | 12.5                                 | (.492) | <b>GH-Q-M-30218</b>                     |  |
| 1/2"-13                                     | 10.7                 | (.421) | <b>SNAP5-10.5*</b> | 10.3         | 107 | 51.5 | 47 | Ø12               | 13.0                                 | (.512) | <b>GH-Q-M-30219</b>                     |  |

<sup>1</sup> Attainable chamfer size depends on material, blade force and feed rate. Not recommended for materials above 28Rc

\*Non-stock standard item with extended delivery time

\*\*Blade sold separately



### Spare Parts

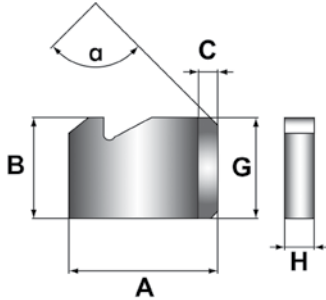
|                 | 1           | 2           | 3            | 4            | 5         | 6           |
|-----------------|-------------|-------------|--------------|--------------|-----------|-------------|
| Order Number    | Set Screw   | Spring      | Distance Pin | Control Bolt | Blade     | Wrench      |
| SNAP5-5.0-7.5   | GH-H-S-0127 | GH-H-F-0019 | GH-Q-E-0041  | GH-Q-E-0008  | See Above | GH-H-S-2101 |
| SNAP5-8.0-9.0   | GH-H-S-0127 | GH-H-F-0019 | GH-Q-E-0068  | GH-Q-E-0008  | See Above | GH-H-S-2101 |
| SNAP5-10.0-10.5 | GH-H-S-0127 | GH-H-F-0019 | GH-Q-E-0067  | GH-Q-E-0008  | See Above | GH-H-S-2101 |

PROGRAMMING **PG. 88-89**

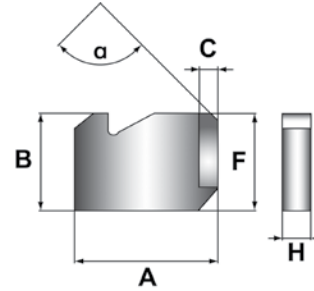
CHANGE BLADES **PG. 87**

BLADE OPTIONS **PG. 73**

### Front & Back Chamfering



### Back Only Chamfering



### SNAP 8 – DEFA Geometry 90° angle\*

(a = 90°)

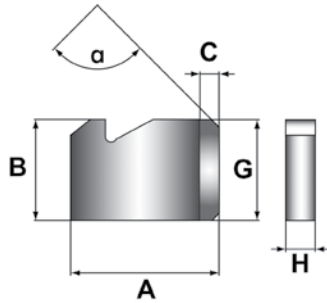
| Max. Chamfer | fab TiN coated | bco TiN coated | Dimensions |     |     |     |     |     |
|--------------|----------------|----------------|------------|-----|-----|-----|-----|-----|
|              |                |                | A          | B   | C   | G   | H   | F   |
| 8.5          | GH-Q-M-03120   | GH-Q-M-05120   | 7.5        | 8.0 | 1.2 | 7.2 | 2.0 | 7.6 |
| 9.0          | GH-Q-M-03121   | GH-Q-M-05121   | 7.6        | 8.0 | 1.4 | 7.2 | 2.0 | 7.6 |
| 9.5          | GH-Q-M-03122   | GH-Q-M-05122   | 8.0        | 8.0 | 1.6 | 7.2 | 2.0 | 7.6 |
| 10.0         | GH-Q-M-03123   | GH-Q-M-05123   | 8.1        | 8.0 | 1.6 | 7.2 | 2.0 | 7.6 |
| 10.5         | GH-Q-M-03124   | GH-Q-M-05124   | 8.5        | 8.0 | 1.6 | 7.2 | 2.0 | 7.6 |
| 11.0         | GH-Q-M-03125   | GH-Q-M-05125   | 8.6        | 8.0 | 1.8 | 7.2 | 2.0 | 7.6 |
| 11.5         | GH-Q-M-03126   | GH-Q-M-05126   | 9.0        | 8.0 | 1.8 | 7.2 | 2.0 | 7.6 |
| 12.0         | GH-Q-M-03127   | GH-Q-M-05127   | 9.4        | 8.0 | 1.8 | 7.2 | 2.0 | 7.6 |
| 12.5         | GH-Q-M-03128   | GH-Q-M-05128   | 9.8        | 8.0 | 1.8 | 7.2 | 2.0 | 7.6 |
| 13.0         | GH-Q-M-03129   | GH-Q-M-05129   | 10.2       | 8.0 | 1.8 | 7.2 | 2.0 | 7.6 |
| 13.5         | GH-Q-M-03130   | GH-Q-M-05130   | 10.5       | 8.0 | 1.8 | 7.2 | 2.0 | 7.6 |

### SNAP Blade Options

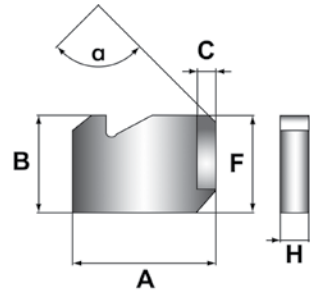
There are different blade options for the SNAP tool if an application requires a different chamfer than the standard 90° blade. The 60° blades offer a 60° angled chamfer instead of the standard 90° angled chamfer while the DEFA geometry blades provide precision chamfering and handles larger burr formation.

HTC015

**Front & Back Chamfering**



**Back Only Chamfering**



### SNAP 12 – DEFA Geometry 90° angle\*

(a = 90°)

| Max. Chamfer | fab TiN coated | bco TiN coated | Dimensions |     |     |     |     |     |
|--------------|----------------|----------------|------------|-----|-----|-----|-----|-----|
|              |                |                | A          | B   | C   | G   | H   | F   |
| 12.5         | GH-Q-M-03140   | GH-Q-M-05140   | 10.5       | 8.0 | 1.5 | 7.2 | 3.0 | 7.6 |
| 13.0         | GH-Q-M-03141   | GH-Q-M-05141   | 10.7       | 8.0 | 1.8 | 7.2 | 3.0 | 7.6 |
| 13.5         | GH-Q-M-03142   | GH-Q-M-05142   | 11.0       | 8.0 | 1.8 | 7.2 | 3.0 | 7.6 |
| 14.0         | GH-Q-M-03143   | GH-Q-M-05143   | 11.5       | 8.0 | 1.8 | 7.2 | 3.0 | 7.6 |
| 14.5         | GH-Q-M-03144   | GH-Q-M-05144   | 12.0       | 8.0 | 1.8 | 7.2 | 3.0 | 7.6 |
| 15.0         | GH-Q-M-03145   | GH-Q-M-05145   | 12.5       | 8.0 | 1.8 | 7.2 | 3.0 | 7.6 |
| 15.5         | GH-Q-M-03146   | GH-Q-M-05146   | 12.8       | 8.0 | 1.8 | 7.2 | 3.0 | 7.6 |
| 16.0         | GH-Q-M-03147   | GH-Q-M-05147   | 13.0       | 8.0 | 1.8 | 7.2 | 3.0 | 7.6 |
| 16.5         | GH-Q-M-03148   | GH-Q-M-05148   | 13.2       | 8.0 | 1.8 | 7.2 | 3.0 | 7.6 |
| 17.0         | GH-Q-M-03149   | GH-Q-M-05149   | 13.6       | 8.0 | 1.8 | 7.2 | 3.0 | 7.6 |
| 17.5         | GH-Q-M-03150   | GH-Q-M-05150   | 14.0       | 8.0 | 1.8 | 7.2 | 3.0 | 7.6 |
| 18.0         | GH-Q-M-03151   | GH-Q-M-05151   | 14.2       | 8.0 | 1.8 | 7.2 | 3.0 | 7.6 |
| 18.5         | GH-Q-M-03152   | GH-Q-M-05152   | 14.5       | 8.0 | 1.8 | 7.2 | 3.0 | 7.6 |
| 19.0         | GH-Q-M-03153   | GH-Q-M-05153   | 14.8       | 8.0 | 1.8 | 7.2 | 3.0 | 7.6 |
| 19.5         | GH-Q-M-03154   | GH-Q-M-05154   | 15.0       | 8.0 | 1.8 | 7.2 | 3.0 | 7.6 |
| 20.0         | GH-Q-M-03155   | GH-Q-M-05155   | 15.4       | 8.0 | 1.8 | 7.2 | 3.0 | 7.6 |
| 20.5         | GH-Q-M-03156   | GH-Q-M-05156   | 15.6       | 8.0 | 1.8 | 7.2 | 3.0 | 7.6 |
| 21.0         | GH-Q-M-03157   | GH-Q-M-05157   | 16.0       | 8.0 | 1.8 | 7.2 | 3.0 | 7.6 |
| 21.5         | GH-Q-M-03158   | GH-Q-M-05158   | 16.4       | 8.0 | 1.8 | 7.2 | 3.0 | 7.6 |
| 22.0         | GH-Q-M-03159   | GH-Q-M-05159   | 16.6       | 8.0 | 1.8 | 7.2 | 3.0 | 7.6 |

\*Non-stock standard item with extended delivery time

## Adjusting the Chamfer Size

Chamfer size is based on the size of the blade. The maximum possible chamfer size is between 0.5mm and 1.5mm per side depending on the blade size. The maximum chamfer size may not be possible when cutting harder materials such as those with hardness Rc>30 or exotic alloys.

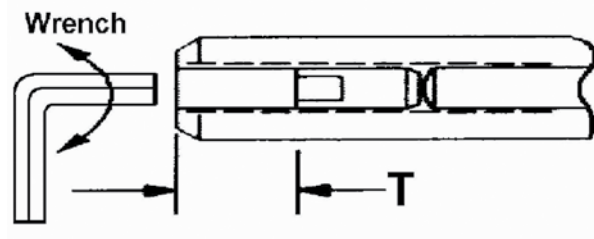
## Setting the Blade Force

The blade force can be adjusted with the set screw in the end of the shank. The blade force should be enough to ensure the blade extends completely after passing through the bore. Changing the blade force does not change the chamfer size.

- Increase the blade force by turning the set screw clockwise
- Decrease the blade force by turning the set screw counter-clockwise.

Working with the correct blade pressure increases the blade life and improves the chamfer quality. If a very strong blade force is required, the harder spring can be inserted into the tools of SNAP5 and SNAP12 groups (not standard).

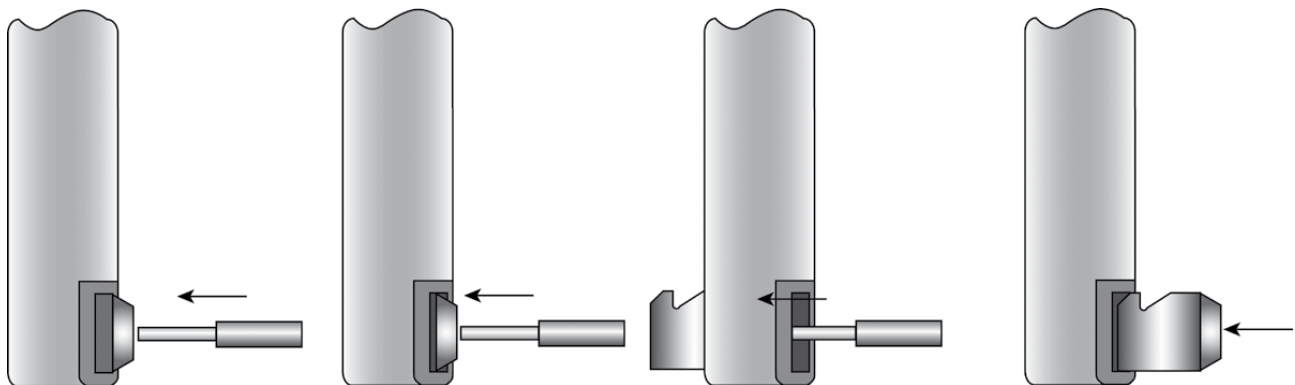
- Harder spring for SNAP5 is GH-H-F-0041
- Harder spring for SNAP12 is GH-H-F-0011
- Add suffix -HS for complete tool (ie. SNAP12-423-HS)



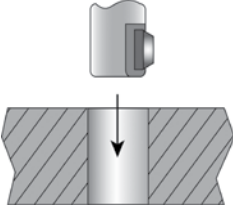
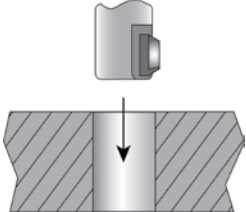
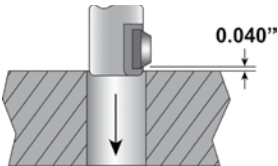
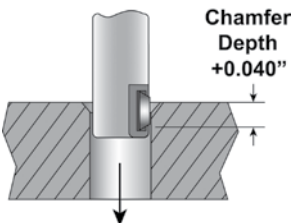
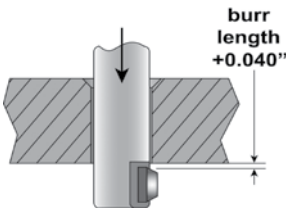
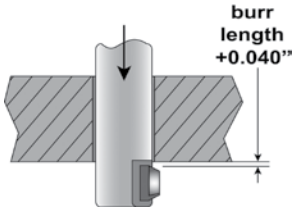
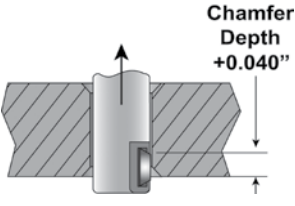
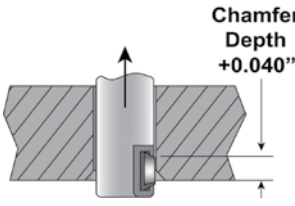
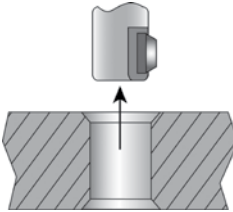
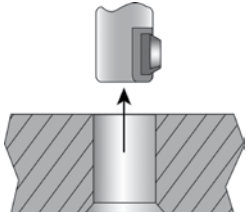
## Changing Blades

The blade change in the SNAP tool is quick and easy. There are no tools required and it can be done with the tool in the spindle.

- Remove the blade by simply pushing it past center and out the back of the tool.
- Install the new blade by pushing the back side of the blade through the window until it “snaps”.
- The tool is ready to run.



### Programming Information

| For Front & Back Chamfer  |   | Back Chamfer Only   |
|---|---|---|
|    | <p><b>Step 1:</b><br/>Set the RPM according to the suggested values.</p>  |    |
|    | <p><b>Step 2:</b> (Move into position)<br/>Move the tool with rapid feed into position with the front.</p>  |   |
|   | <p><b>Step 3:</b> (Cut front chamfer)<br/>Machine the part with cutting feed (cf) and speed (cs). Feed into the part the chamfer depth + 0.040" to ensure the tool is finished cutting.</p> |   |
|  | <p><b>Step 4:</b> (Rapid through part)<br/>Move the tool through the part with rapid feed until the blade is 0.040" beyond burr. The blade will not damage the through hole.</p>            |  |
|  | <p><b>Step 5:</b> (Cut back chamfer)<br/>Machine the part with cutting feed (cf) and speed (cs). Feed into the part the chamfer depth + 0.040" to ensure the tool is finished cutting.</p>  |  |
|  | <p><b>Step 6:</b> (Remove from the part)<br/>Remove the tool from the part with a rapid feed and proceed to the next hole. The blade will not damage the through hole.</p>                  |  |

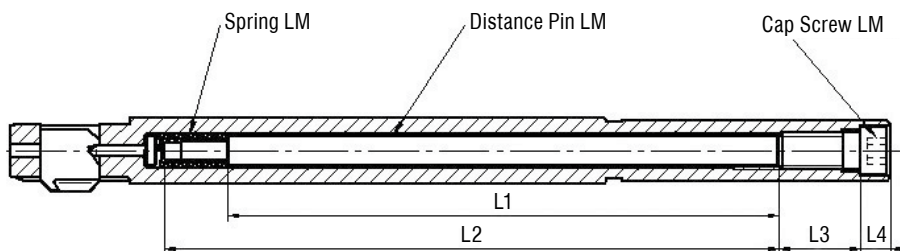
## Programming Information (continued)

| Material              | IPR (SNAP- GS) | IPR (SNAP- DF) | SFM     |
|-----------------------|----------------|----------------|---------|
| Aluminum              | 0.006-0.012    | 0.001-0.003    | 400-600 |
| Brass                 | 0.006-0.014    | 0.001-0.003    | 210-400 |
| Low Carbon Steels     | 0.004-0.008    | 0.001-0.003    | 200-280 |
| Med Carbon Steels     | 0.004-0.009    | 0.001-0.002    | 175-225 |
| Free Machining Alloys | 0.004-0.006    | 0.001-0.002    | 200-280 |
| Stainless Steel       | 0.002-0.005    | 0.001-0.002    | 150-225 |
| Gray Cast Iron        | 0.004-0.008    | 0.001-0.003    | 150-250 |
| Nodular Cast Iron     | 0.003-0.007    | 0.001-0.002    | 150-220 |
| Short Chipping Iron   | 0.003-0.007    | 0.001-0.002    | 100-250 |
| Titanium              | 0.001-0.003    | 0.001-0.002    | 40-80   |

**Important Note:**  
Tool holder must be modified with blade locking mechanism for spindle speeds above 6,000 rpm. Please contact Heule Tool Corporation Engineering Department.

## Optional SNAP Locking Mechanism Configuration for Standard SNAP Tool Holders

When Ordering please use a suffix -LM after the standard order number. Locking mechanism allows for higher RPM.



Order Example of SNAP Tooling with Locking Mechanism

SNAP - 8 - 315 - LM

LM Indicates SNAP Tooling with Locking Mechanism

| Tooling | Size (mm) | DIMENSIONS (mm) |       |    |     | PART NUMBER    |                   |             |
|---------|-----------|-----------------|-------|----|-----|----------------|-------------------|-------------|
|         |           | L1              | L2    | L3 | L4  | Cap Screw - LM | Distance Pin - LM | Spring- LM  |
| SNAP 5  | 5.0 – 7.5 | 52.85           | 61.35 | 9  | 3.5 | GH-H-S-0538-1  | GH-Q-E-0089       | GH-H-F-0055 |
|         | 8 – 9.5   | 62.85           | 71.35 | 9  | 3.5 | GH-H-S-0538-1  | GH-Q-E-0090       | GH-H-F-0055 |
|         | 10 – 10.5 | 71.85           | 80.35 | 9  | 3.5 | GH-H-S-0538-1  | GH-Q-E-0091       | GH-H-F-0055 |
| SNAP8   | 8 – 12    | 73.9            | 82.4  | 11 | 4   | GH-H-S-0524-5  | GH-Q-E-0093       | GH-H-F-0012 |
| SNAP12  | 12 – 20   | 93.5            | 102   | 11 | 4   | GH-H-S-0524-1  | GH-Q-E-0094       | GH-H-F-0012 |

**Important Note:**

Tool holder must be modified for locking mechanism components.

| PROBLEM  | EXPLANATION  | SOLUTION  |
|--|--|---|
| <b>Chamfer too small</b>                           | <ul style="list-style-type: none"> <li>Selected blade is too small</li> <li>Blade force is too small</li> <li>Feed rate is too high</li> </ul>                         | <ul style="list-style-type: none"> <li>Choose larger blade (if possible)</li> <li>Increase blade force</li> <li>Reduce feed rate</li> </ul>   |
| <b>No chamfer at all</b>                           | <ul style="list-style-type: none"> <li>Tool is incorrectly programmed</li> <li>Blade force is too small</li> <li>Blade is dull</li> <li>Too heavy of a burr</li> </ul> | <ul style="list-style-type: none"> <li>Check programming depths</li> <li>Increase blade force</li> <li>Replace the blade</li> <li>Replace the drill tool</li> </ul>                             |
| <b>Chamfer is too large</b>                        | <ul style="list-style-type: none"> <li>Selected blade is too large</li> <li>Feed rate too small</li> <li>Blade force too high</li> </ul>                               | <ul style="list-style-type: none"> <li>Choose a smaller blade</li> <li>Increase the feed rate</li> <li>Reduce the blade force</li> <li>Use DF geometry</li> </ul>                               |
| <b>Chamfer differs from front to back</b>          | <ul style="list-style-type: none"> <li>Feed varies between forward and reverse feed</li> <li>Variation of burr between front and back</li> </ul>                       | <ul style="list-style-type: none"> <li>Select a constant feed rate</li> <li>Reduce the feed rate when too small or increase feed rate when too large</li> <li>Increase blade tension</li> </ul> |
| <b>Poor surface finish</b>                         | <ul style="list-style-type: none"> <li>Tool or part not held properly</li> <li>Tool is unstable</li> <li>Speed rate is too high</li> </ul>                             | <ul style="list-style-type: none"> <li>Ensure tool and part are secured</li> <li>Reduce Speed</li> <li>Check workpiece and holder</li> </ul>  |
| <b>Inconsistent chamfer</b>                        | <ul style="list-style-type: none"> <li>Varying feed rate</li> <li>Incorrect programming position</li> <li>Tool is unstable</li> </ul>                                  | <ul style="list-style-type: none"> <li>Ensure constant feed rate</li> <li>Check workpiece and holder</li> <li>Check programming</li> <li>Reduce Speed</li> </ul>                                |
| <b>Poor blade life (chipping) (excessive wear)</b> | <ul style="list-style-type: none"> <li>Workpiece or tool not secured</li> <li>Insufficient machine stability</li> <li>Poor cutting conditions</li> </ul>               | <ul style="list-style-type: none"> <li>Ensure tool or part is secured</li> <li>Recondition or rectify machine faults</li> <li>Check speed and feed and coolant supply</li> </ul>                |



Grinding may produce hazardous dust. To avoid adverse effects, use adequate ventilation and read MSDS. Cutting tools may break during use. To avoid injury, use proper safety precautions and protective equipment. Use the machine tool with sufficient rigidity and horsepower. Use a cover on a machine tool and protector, such as glasses, against shattering chips and broken tools due to misuse. Do not use insoluble oil because there is a danger of causing fire.