Features that must be programmed

(N4, N5, N8) Threaded hole & Chamfer 4x
(N9) Radiused Keyway/Keyseat 2x
(N3, N8) Close Pocket & Chamfer
(N3) Open Pocket 2x
(N2, N8) Island & Chamfer
(N6, N7) Reamed Hole
(N10) Radius Slot
(N1) Face Mill Top

SkillsUSA 2017 CNC Milling
Notes:
1. Break all edges .015 max
2. All fillets .03 max
3. 125 RA max all machined surfaces
Contestant #: ______________

Milling Score Card

<table>
<thead>
<tr>
<th>Sequence: N1</th>
<th>Cutting Parameters</th>
<th>Features</th>
<th>Points</th>
<th>Y Results</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tool Number: T1</td>
<td>Speed: 3000 RPM</td>
<td>Top</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tool Description: 2.000 Dia. Shell Mill</td>
<td>Feed: 100 IPM</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coding Instructions: Face mill top of part</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Followed Instructions? | 5 | | | |

<table>
<thead>
<tr>
<th>Sequence: N2</th>
<th>Cutting Parameters</th>
<th>Features</th>
<th>Points</th>
<th>Y Results</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tool Number: T2</td>
<td>Speed: 6000 RPM</td>
<td>Mill island</td>
<td>30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tool Description: .625 Dia. End Mill</td>
<td>Feed: 60 IPM</td>
<td>Dia. Offset: .625&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coding Instructions: Mill island</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Followed Instructions? | 5 | | | |

<table>
<thead>
<tr>
<th>Sequence: N3</th>
<th>Cutting Parameters</th>
<th>Features</th>
<th>Points</th>
<th>Y Results</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tool Number: T3</td>
<td>Speed: 6000 RPM</td>
<td>Open pocket 1</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tool Description: .375 Dia. End Mill</td>
<td>Feed: 40 IPM</td>
<td>Open pocket 2</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coding Instructions: Mill both open pockets and closed pocket</td>
<td>Dia. Offset: .375&quot;</td>
<td>Closed pocket</td>
<td>20</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Followed Instructions? | 5 | | | |

<table>
<thead>
<tr>
<th>Sequence: N4</th>
<th>Cutting Parameters</th>
<th>Features</th>
<th>Points</th>
<th>Y Results</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tool Number: T4</td>
<td>Speed: 6000 RPM</td>
<td>Hole 1</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tool Description: .3125 Dia. Drill</td>
<td>Feed: 40 IPM</td>
<td>Hole 2</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coding Instructions: Pre-drill (tap drill) for threaded holes</td>
<td>Hole 3</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hole 4</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Followed Instructions? | 5 | | | |
## Milling Score Card

### Sequence: N5

<table>
<thead>
<tr>
<th>Tool Number</th>
<th>Tool Description</th>
<th>Cutting Parameters</th>
<th>Features</th>
<th>Points</th>
<th>Y</th>
<th>Results</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>T5</td>
<td>3/8-16 Tap</td>
<td>Speed: 1000 RPM</td>
<td>Hole 1</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Feed: 62.5 IPM</td>
<td>Hole 2</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Hole 3</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Hole 4</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Followed Instructions?</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Sequence: N6

<table>
<thead>
<tr>
<th>Tool Number</th>
<th>Tool Description</th>
<th>Cutting Parameters</th>
<th>Features</th>
<th>Points</th>
<th>Y</th>
<th>Results</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>T6</td>
<td>.2657 Dia. Drill</td>
<td>Speed: 6000 RPM</td>
<td>Hole</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Feed: 40 IPM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Followed Instructions?</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Sequence: N7

<table>
<thead>
<tr>
<th>Tool Number</th>
<th>Tool Description</th>
<th>Cutting Parameters</th>
<th>Features</th>
<th>Points</th>
<th>Y</th>
<th>Results</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>T7</td>
<td>.275 Dia. Reamer</td>
<td>Speed: 1000 RPM</td>
<td>Hole</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Feed: 30 IPM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Followed Instructions?</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Sequence: N8

<table>
<thead>
<tr>
<th>Tool Number</th>
<th>Tool Description</th>
<th>Cutting Parameters</th>
<th>Features</th>
<th>Points</th>
<th>Y</th>
<th>Results</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>T8</td>
<td>500 Dia. Chamfer Mill</td>
<td>Pocket: Island Speed: 6000 RPM</td>
<td>Island</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pocket: Closed pocket Speed: 4000 RPM</td>
<td>Closed pocket</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pocket: Hole 1 Speed: 75 IPM</td>
<td>Hole 1</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pocket: Hole 2 Speed: 20 IPM</td>
<td>Hole 2</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pocket: Hole 3 Speed: 4000 RPM</td>
<td>Hole 3</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pocket: Hole 4 Speed: 20 IPM</td>
<td>Hole 4</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Followed Instructions?</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Coding Instructions:

1. Chamfer mill around island and pockets; chamfer for tapped holes.

   NOTE: Offset # 8 is set to .250 Dia. Programming to the geometry (profile) of island and pockets at a Z depth of (negative) -.200 will machine the chamfer to size.
## Milling Score Card

<table>
<thead>
<tr>
<th>Sequence</th>
<th>Cutting Parameters</th>
<th>Features</th>
<th>Points</th>
<th>Followed Instructions?</th>
</tr>
</thead>
<tbody>
<tr>
<td>N9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tool Number: T9</td>
<td>Speed: 1500 RPM</td>
<td>Slot 1</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Feed: 20 IPM</td>
<td>Slot 2</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Tool Description: 16 WD x 4.00 Dia. Slot Mill</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coding Instructions: Mill keyway/keyseat (slots)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N10</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tool Number: T10</td>
<td>Speed: 6000 RPM</td>
<td>Slot</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Feed: 25 IPM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tool Description: 375 Dia. Ball End Mill</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coding Instructions: This sequence ball mills the slots at bottom of pockets. This is a supported sequence. Fill in the missing codes as indicated in the NC Program template. <strong>Length offset is set to center of ball (no cutter compensation)</strong>.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2016 SkillsUSA
## CNC Milling Sequences

<table>
<thead>
<tr>
<th>Sequence</th>
<th>Cutting Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>N1</strong></td>
<td></td>
</tr>
<tr>
<td>Tool Number: T1</td>
<td>Speed: 3000 RPM</td>
</tr>
<tr>
<td>Tool Description: 2.000 Dia. Shell Mill</td>
<td>Feed: 100 IPM</td>
</tr>
<tr>
<td>Coding Instructions: Face mill top of part</td>
<td></td>
</tr>
<tr>
<td><strong>N2</strong></td>
<td></td>
</tr>
<tr>
<td>Tool Number: T2</td>
<td>Speed: 6000 RPM</td>
</tr>
<tr>
<td>Tool Description: .625 Dia. End Mill</td>
<td>Feed: 50 IPM</td>
</tr>
<tr>
<td>Coding Instructions: Mill island</td>
<td>D2 - Dia. Offset: .625&quot;</td>
</tr>
<tr>
<td><strong>N3</strong></td>
<td></td>
</tr>
<tr>
<td>Tool Number: T3</td>
<td>Speed: 6000 RPM</td>
</tr>
<tr>
<td>Tool Description: .375 Dia. End Mill</td>
<td>Feed: 20 IPM</td>
</tr>
<tr>
<td>Coding Instructions: Mill both open pockets and closed pocket</td>
<td>D3 - Dia. Offset: .375&quot;</td>
</tr>
<tr>
<td><strong>N4</strong></td>
<td></td>
</tr>
<tr>
<td>Tool Number: T4</td>
<td>Speed: 6000 RPM</td>
</tr>
<tr>
<td>Tool Description: .3125 Dia. Drill</td>
<td>Feed: 40 IPM</td>
</tr>
<tr>
<td>Coding Instructions: Pre-drill (tap drill) for threaded holes</td>
<td></td>
</tr>
<tr>
<td><strong>N5</strong></td>
<td></td>
</tr>
<tr>
<td>Tool Number: T5</td>
<td>Speed: 1000 RPM</td>
</tr>
<tr>
<td>Tool Description: 3/8-16 Tap</td>
<td>Feed: 62.5 IPM</td>
</tr>
<tr>
<td>Coding Instructions: Tap holes</td>
<td></td>
</tr>
</tbody>
</table>
# CNC Milling Sequences

<table>
<thead>
<tr>
<th>Sequence</th>
<th>Cutting Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>N6</td>
<td></td>
</tr>
<tr>
<td><strong>Tool Number:</strong> T6</td>
<td>Speed: 6000 RPM</td>
</tr>
<tr>
<td><strong>Tool Description:</strong> .2657 Dia Drill</td>
<td>Feed: 40 IPM</td>
</tr>
<tr>
<td><strong>Coding Instructions:</strong> Pre-drill for reaming</td>
<td></td>
</tr>
</tbody>
</table>

| N7       |                    |
| **Tool Number:** T7 | Speed: 1000 RPM |
| **Tool Description:** .275 Dia. Reamer | Feed: 20 IPM |
| **Coding Instructions:** Ream hole | |

| N8       |                    |
| **Tool Number:** T8 | Speed: 6000 RPM |
| **Tool Description:** .500 Chamfer Mill | Feed: 75 IPM |
| **Coding Instructions:** Chamfer mill around island and pockets; chamfer for tapped holes. **NOTE:** Offset # 8 is set to .250 Dia. Programming to the geometry (profile) of island and pockets at a Z depth of (negative) -.200 will machine the chamfer to size. | |
| **Pocket** | Speed: 6000 RPM |
| **Feed:** 75 IPM | |
| **Holes** | Speed: 4000 RPM |
| **Feed:** 25 IPM | |

| N9       |                    |
| **Tool Number:** T9 | Speed: 1500 RPM |
| **Tool Description:** .16 WD x 4.00 Dia. Slot Mill | Feed: 20 IPM |
| **Coding Instructions:** Mill keyway/keyseat (slots) | D9 - Dia. Offset: 4.00" |

| N10      |                    |
| **Tool Number:** T10 | Speed: 6000 RPM |
| **Tool Description:** .375 Dia. Ball End Mill | Feed: 25 IPM |
| **Coding Instructions:** This sequence ball mills the slots at bottom of pocket. This is a supported sequence. Fill in the missing codes as indicated in the NC Program template. **Length offset is set to center of ball (no cutter compensation).** | |
SkillsUSA 2017: Setup Sheet

- **Part Number:** M2017
- **Operation:** 1 of 1
- **Machine:** Haas Mini Mill
- **Material:** 6061 Aluminum
- **Stock Size:** 1" x 3" x 4"
- **Workholding:** 6" Vise
- **Fixture:** Step Jaws

**XY ZERO (G54)**

**Z ZERO**

**JAW DEPTH**

**DIMENSIONS ARE IN INCHES**

**TOLERANCES:**
- FRACTIONAL ± .015
- ANGULAR ± 1°
- TWO PLACE DECIMAL ± .010
- THREE PLACE DECIMAL ± .005
- FOUR PLACE DECIMAL ± .0005
% 000001

(SKILLSUSA CNC MILLING 2017)

(ENTER YOUR CONTESTANT ID HERE)

G17 G40 G80 G90

N1
T01 M6 (2.0 INCH FACEMILL)
G0 G90 G54 (ENTER INITIAL X & Y COORDINATES)
S3000 M3
G43 H01 Z.25 M8

(ENTER TOOLPATH CODE)

M9
M5
G0 G28 G91 Z0
M1

N2
T02 M6 (0.625 ENDMILL)
G0 G90 G54 (ENTER INITIAL X & Y COORDINATES)
S6000 M3
G43 H02 Z.25 M8

(ENTER TOOLPATH CODE)

M9
M5
G0 G28 G91 Z0
M1

N3
T3 M6 (EM 0.375 INCH ENDMILL)
G0 G90 G54 (ENTER INITIAL X & Y COORDINATES)
S6000 M3
G43 H3 Z1. M8

(ENTER TOOLPATH CODE)

M5
G0 G28 G91 Z0
M1

N4
T04 M6 (.3125 DIA DRILL)
G0 G90 G54 (ENTER INITIAL X & Y COORDINATES)
S6000 M3
G43 H04 Z.4739 M8

(ENTER TOOLPATH CODE)
M9
M5
G0 G28 G91 Z0
M1

N5
T05 M6 (3/8 - 16 UNC TAP)
(SOLIDMILL - TAPPING)
G0 G90 G54 (ENTER INITIAL X & Y COORDINATES)
S1000 M3
G43 H05 Z.4739 M8

(ENTER TOOLPATH CODE)

M5
G0 G28 G91 Z0
M1

N6
T06 M6 (0.265 DIA DRILL)
G0 G90 G54 (ENTER INITIAL X & Y COORDINATES)
S6000 M3
G43 H06 Z.235 M8

(ENTER TOOLPATH CODE)

M9
M5
G0 G28 G91 Z0
M1

N7
T07 M6 (.2750 DIA REAMER)
G0 G90 G54 (ENTER INITIAL X & Y COORDINATES)
S1000 M3
G43 H07 Z.235 M8

(ENTER TOOLPATH CODE)

M9
M5
G0 G28 G91 Z0
M1

N8
T08 M6 (.500 DIA CHAMFER MILL)
G0 G90 G54 (ENTER INITIAL X & Y COORDINATES)
S6000 M3
G43 H08 Z.25 M8

(ENTER TOOLPATH CODE)

M5
G0 G28 G91 Z0
M1

N9
T9 M6 (4.0 DIA SLOT CUTTER)
G0 G90 G54 (ENTER INITIAL X & Y COORDINATES)
S1500 M3
G43 H09 Z1. M8

(ENTER TOOLPATH CODE)

M9
M5
G0 G28 G91 Z0

N10
T10 M06 (3/8 DIA BALL ENDMILL)
(SOLIDMILL - SWEEP CUT)
G00 G90 G54 S6000 M03
G43 H10 Z0.8 M8

G00 Z1.
G91 G28 Z0

G53 G90 Y0.
M30
%

T1

**Product information**

Ordering code
ISO  RA245-051R19-12H
ANSI  RA245-051R19-12H
Material ID  5738674
Bar code  80015629

**Product Description**

CoroMill® 245 face milling cutter

tool cutting edge angleKAPR  45 deg
cutting diameterDC  2 inch
maximum cutting diameterDCX  2.49201 inch
cutting item countCICTP1  5
cutting item countCICTTOT  5
part2 of cutting item interface identifiersCUTINT_MASTERP1  COR: CoroMill 245 -size 12 (R245-12T3)
depth of cut maximumAPMX  0.24 inch
depth of cut maximumAPMXFFW  0.24 inch
tool style codeTSYC  RA245..Rxx
maximum ramping angleRMPX  0 deg
cutting pitch differentialCPDF  0
peripheral effective cutting edge countZEFP  5
CNC Milling Cutters

T2

Product information
Ordering code
ISO A316-16SL442-06208P 1730
ANSI A316-16SL442-06208P 1730
Material ID 6874253
Bar code 7.32322E+12

Product Description
CoroMill® 316 solid carbide head for square shoulder milling

cutting diameter DC 0.625 inch
cutting diameter face contact DCF 0.565 inch
Corner radius RE 0.03 inch
depth of cut maximum APMX 0.751968 inch
maximum ramping angle RMPX 5 deg
center cutting capability CCC 0
tool style code TSYC A316..SL..P
peripheral effective cutting edge count ZEFP 4
adaptive interface machine direction ADINTMS Coromant EH -inch - E16
grade GRADE 1730
basic standard group BSG COROMANT
coolant entry style code CNSC 0: without coolant
CNC Milling Cutters

T3

Product information
Ordering code
ISO RA216.24-2450AAK18P 1620
ANSI RA216.24-2450AAK18P 1620
Material ID 5739458
Bar code 11560651

Product Description
CoroMill® Plura solid carbide square shoulder end mill

cutting diameter DC 0.375 inch
cutting diameter face contact DCF 0.34374 inch
Corner radius RE 0.01563 inch
depth of cut maximum APMX 1.1252 inch
maximum ramping angle RMPX 5 deg
center cutting capability CCC 1
tool style code TSYC RA216.2x..AK..P
usable length LU 1.1252 inch
peripheral effective cutting edge count ZEFP 4
adaptive interface machine direction ADINTMS Cylindrical shank without clamping features -inch: 3/8
connection diameter tolerance TCDCON h6
grade GRADE 1620

Holder Assembly
extension out of holder 1.5 inch minimum
CNC Milling Cutters

T4

Product information
Ordering code
ISO 860.1-0794-064A1-NM H10F
ANSI 860.1-0794-064A1-NM H10F
Material ID 6253770
Bar code 26253770

Product Description
CoroDrill® 860 solid carbide drill

cutting diameter DC 0.312598 inch
achievable hole tolerance TCHA H7
usable length LU 2.54331 inch
usable length diameter ratio ULDR 8.13602
adaptive interface machine direction ADINTMS Cylindrical shank (DIN1835-A / DIN6535-HA) -metric: 8
connection diameter tolerance TCDCON h6
grade GRADE H10F
Substrate SUBSTRATE HM
coating COATING Uncoated
tool style code TSYC 860.1..A1-NM (8xD)
basic standard group BSG COROMANT
coolant entry style code CNSC 4: axial concentric entry on circle

Holder Assembly
extension out of holder 3.0 inch minimum

---

2017 SkillsUSA
CNC Milling Cutters

T5

Product information
Ordering code
ISO E8863/8
ANSI E8863/8
Material ID 6182751
Bar code 26182751

Product Description
CoroTap™ 300 cutting tap with spiral flutes

thread diameter sizeTDZ UNC 3/8-16
threads per inchTPI 16
thread diameterTD 0.375 inch
premachined hole diameterPHD 0.314961 inch
blind hole function propertyBHFP 1
thread tolerance classTCTR 2B
basic standard groupBSG DIN/ANSI
usable lengthLU 1.2915 inch
adaptive interface machine directionADINTMS Tap shank ANSI -inch: 0.381 x 0.286
gradeGRADE HSS-E-PM
tool style codeTSYC E886
SubstrateSUBSTRATE HSS-E-PM

Holder Assembly
extension out of holder 2.0 inch minimum
CNC Milling Cutters

T6

**Product information**

Ordering code

- ISO: 460.1-0675-020A0-XM GC34
- ANSI: 460.1-0675-020A0-XM GC34

Material ID: 6241404

Bar code: 26241404

**Product Description**

CoroDrill® 460 solid carbide drill

- Cutting diameter (DC): 0.265748 inch
- Achievable hole tolerance (TCHA): H9
- Usable length (LU): 0.834646 inch
- Usable length diameter ratio (ULDR): 3.14074
- Adaptive interface machine direction (ADINTMS): Cylindrical shank (DIN1835-A / DIN6535-HA) - metric: 8
- Connection diameter tolerance (TCDCON): h6
- Grade (GRADE): GC34
- Substrate (SUBSTRATE): HM
- Coating (COATING): PVD
- Tool style code (TSYC): 460.1..A0-XM (3xD)
- Basic standard group (BSG): DIN 6537 K
- Coolant entry style code (CNSC): 0: without coolant
CNC Milling Cutters

T7

Product information
Ordering code
ANSI 435.T-0700-A1-XF H10F
Material ID 6266842
Bar code 2626842

Product Description
CoroReamer™ 435 solid carbide reamer

basic standard group BSG COROMANT
Substrate SUBSTRATE CARBIDE
coating COATING Uncoated
adaptive interface machine direction ADINTMS Cylindrical shank (DIN1835-A / DIN6535-HA) - metric: 8
connection size code CZC 8
connection diameter DCON 0.314961 inch
functional length LF 3.89567 inch
cutting edge length L 0.629921 inch
usable length LU 2.51969 inch
hand HAND R
flute count NOF 6
achievable hole tolerance TCHA H7
diameter DC .275 inch
## T8

### Product information

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### Product Description

CoroMill® 316 solid carbide head for chamfer milling

- Tool cutting edge angle $\text{KAPR} = 45$ deg
- Cutting diameter $\text{DC} = 0.11811$ inch
- Maximum cutting diameter $\text{DCX} = 0.5$ inch
- Depth of cut $\text{APMX} = 0.190945$ inch
- Peripheral effective cutting edge count $\text{ZEFP} = 6$
- Adaptive interface machine direction $\text{ADINTMS} = \text{Coromant EH -inch - E12}$
- Grade $\text{GRADE} = 1030$
- Substrate $\text{SUBSTRATE} = \text{H10F}$
- Coating $\text{COATING} = \text{PVD}$
- Basic standard group $\text{BSG} = \text{COROMANT}$
- Tool style code $\text{TSYC} = \text{A316..CM..G}$
- Coolant entry style code $\text{CNSC} = 0$: without coolant
CNC Milling Cutters

T9

**Product information**

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**Product Description**

CoroMill® 329 groove milling cutter

| insert seat size code SSCM | H |
| insert seat size code SSCN | H |
| adaptive interface machine direction ADINTMS | Arbor -ISO 6462 -A (hexagon socket head cap screw) -inch: 3/4 |
| connection size code CZC | 42433 |
| cutting diameter DC | 4 inch |
| cutting depth maximum CDX | 0.590984 inch |
| connection diameter DCON | 0.75 inch |
| cutting width CW | 0.15748 inch |
| peripheral effective cutting edge count ZEFP | 6 |
| functional length LF | 1.96902 inch |
| maximum overhang OHX | 1.96902 inch |
| body half taper angle BHTA | 0 deg |
CNC Milling Cutters

T10

Product information
Ordering code
ISO 1B232-0953-XA 1620
ANSI 1B232-0953-XA 1620
Material ID 6259446
Bar code 26259446

Product Description
CoroMill® Plura solid carbide ball nose end mill

cutting diameter DC 0.375039 inch
corner radius RE1 0.18752 inch
depth of cut maximum APMX 0.75 inch
maximum ramping angle RMPX 15 deg
usable length LU 0.75 inch
peripheral effective cutting edge count ZEFP 2
adaptive interface machine direction ADINTMS Cylindrical shank without clamping features -inch: 3/8
tool style code TSYC 1B232-XA (2)
connection diameter tolerance TCDCON h6
grade GRADE 1620
Substrate SUBSTRATE H10F
coating COATING PVD

Holder Assembly
extension out of holder 1.5 inch minimum