

# COUGAROMILL™



**AHB** Tooling & Machinery, Inc.  
Complete Metalworking Solutions  
Roseville Saginaw & Jackson, MI  
ISO Certified  
(800) 991-4225  
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## POWER•SHEAR™

**Diameters:**  
4.00" - 14.00"

**Depth of Cut:**  
.51"

**Insert Style:**  
SPEN2007DPTR-MR  
SPKN2007DPTR-HD  
ZPKN2007DPTR-HD

**Insert Grades:**  
IN4040  
IN4030  
IN4005  
IN4015  
IN2530 (NEW)  
IN2540 (NEW)

**Materials:**  
**Steels:**  
Low-High Carbon  
Low-High Alloy  
HSLA  
Tool  
Impact Resistant  
Abrasion Resistant

**Stainless Steels:**  
PH Series  
Martensitic

**Irons:**  
Ductile  
Nodular



## Powerfully Inclined for Performance "The Cougar's a Beast"

### Features

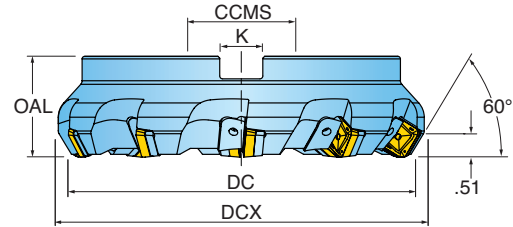
- 60° lead family of face-mills with unique wedge-clamp design that mechanically secures and heavily pre-loads the insert for superior stability
- **Multi-purpose** insert combines edge strength with double positive shearing action for steels, stainless steels and ductile irons
- **Heavy-duty** inserts incorporate POWER•SHEAR technology for reliable shearing action in the most demanding applications
- POWER•SHEAR is ideally suited to descaling the most hardened and abrasive cast steels, forged steels and hot rolled oxide layers
- Serrated POWER•SHEAR inserts allow for more smooth and efficient operation as set-up conditions require
- IN2530/IN2540 utilizing latest coating technology



# COUGAR MILL™

## SERIES 5C2M FACE MILLS

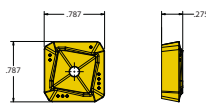
### HEAVY DUTY 60° LEAD FACE MILL



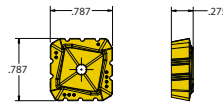
Cutter Number	DC Cutting Diameter	DCX Cutting Dia. Max.	CCMS Bore Dia.	OAL Overall Length	ZEFF Effective Teeth Diameter	CSP Coolant	K Keyway	Bolt Circle
5C2M-04R01	4.000	4.67	1.500	2.500	6	No	0.625	N/A
5C2M-06R01	6.000	6.67	1.500	2.375	6	No	0.625	N/A
5C2M-06R02	6.000	6.67	1.500	2.375	8	No	0.625	N/A
5C2M-08R01	8.000	8.67	2.500	2.375	8	No	1.000	4.00
5C2M-08R02	8.000	8.67	2.500	2.375	10	No	1.000	4.00
5C2M-10L01	10.000	10.67	2.500	2.375	10	No	1.000	4.00
5C2M-10L02	10.000	10.67	2.500	2.375	12	No	1.000	4.00, 7.00
5C2M-10R01	10.000	10.67	2.500	2.375	10	No	1.000	4.00
5C2M-10R02	10.000	10.67	2.500	2.375	12	No	1.000	4.00, 7.00
5C2M-12L01	12.000	12.67	2.500	2.375	12	No	1.000	4.00, 4.74, 7.00
5C2M-12L02	12.000	12.67	2.500	2.375	14	No	1.000	4.00, 4.75, 7.00
5C2M-12R01	12.000	12.67	2.500	2.375	12	No	1.000	4.00, 4.74, 7.00
5C2M-12R02	12.000	12.67	2.500	2.375	14	No	1.000	4.00, 4.75, 7.00
5C2M-14L01	14.000	14.67	2.500	2.375	14	No	1.000	4.00, 4.74, 7.00
5C2M-14L02	14.000	14.67	2.500	2.375	16	No	1.000	4.00, 4.75, 7.00
5C2M-14R01	14.000	14.67	2.500	2.375	14	No	1.000	4.00, 4.74, 7.00
5C2M-14R02	14.000	14.67	2.500	2.375	16	No	1.000	4.00, 4.75, 7.00

## INSERTS

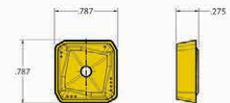
### SPKN2007DPTR-HD



### ZPKN2007DPTR-HD

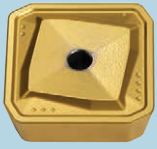
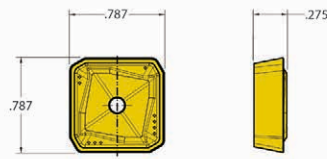

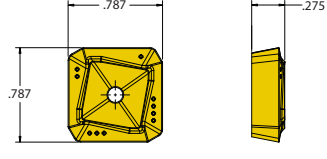

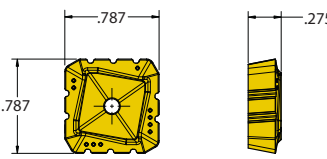


### SPEN2007DPTR-MR





## INSERT SELECTION GUIDE









Insert	No. of Indexes	Material Focus	Description
<p>SPEN2007DPTR-MR</p>  	4	<p><b>Steels:</b> Low - High Carbon Low - High Alloy HSLA Tooling Impact Resistant Abrasion Resistant</p> <p><b>Stainless Steels:</b> PH Series Martensitic</p> <p><b>Irons:</b> Ductile</p>	<p>Medium - High chip loads in steels, stainless steels and irons.</p> <p>Rake geometry is presented Pos./Pos. with the edge strengthened with both land and hone.</p> <p>IN4005 is typically the best choice in steels. If additional toughness is needed switch to IN4030.</p> <p>IN4030 is typically the best choice in stainless steels. If additional hardness is needed, switch to IN4005.</p> <p>IN4015 is typically the best choice in irons. If additional toughness is needed, switch to IN4005.</p>
<p>SPKN2007DPTR-HD</p>  	4	<p><b>Steels:</b> Low - High Carbon Low - High Alloy HSLA Tooling Impact Resistant Abrasion Resistant</p>	<p>High - very high chip loads in steels.</p> <p>Rake geometry is presented Neg./Pos. with the edge strengthened with both land and hone.</p> <p>IN4040 is first choice in all steels. If additional toughness is needed, switch to IN4030.</p> <p>PowerShear is the combination of a strong insert cross-section that is inclined for smooth chip formation. It will allow for thicker chip formation but its primary benefit has been to sustain edge life in difficult material conditions (sand and hard spots cast and forged scale, slag and mechanical shock).</p>
<p>ZPKN2007DPTR-HD</p>  	4	<p><b>Steels:</b> Low - High Carbon Low - High Alloy HSLA Tooling Impact Resistant Abrasion Resistant</p>	<p>Same insert as SPKN2007DPTR-HD but with serrated edges.</p> <p>Serrations allow for more efficient chip formation and decrease mechanical shock during entry and exit to the part.</p> <p>The efficiency and shock reducing benefits of serrated inserts become more beneficial as depth-of-cut increases.</p> <p>Because of their slender shape, serrated chips can be problematic with some chip conveyor systems.</p>

## INSERTS GRADES

Insert Number	Application	Grades					
		IN4040	IN4030	IN4005	IN4015	IN2530	IN2540
SPEN2007DPTR-MR	Multi-Purpose		•	•	•	•	
SPKN2007DPTR-HD	Heavy-Duty	•	•				•
ZPKN2007DPTR-HD	Heavy-Duty Serrated	•	•				
SPEN2007DPTR-MRW	Wiper		•	•			



## HARDWARE

Cutter Number								
	Wedge Screw Driver	Driver Handle	Insert Driver Blade	Retention Bolt	Seat Screw	Seat	Wedge	Wedge Screw
5C2M-04R01	DS-H04T	DS-A00T	DS-T206B	SD-12-82	SM50-130-R0	PAR0748	WSC8R-21	TS80200W
5C2M-06R01	DS-H04T	DS-A00T	DS-T206B	-	SM50-130-R0	PAR0748	WSC8R-21	TS80200W
5C2M-06R02	DS-H04T	DS-A00T	DS-T206B	-	SM50-130-R0	PAR0748	WSC8R-21	TS80200W
5C2M-08R01	DS-H04T	DS-A00T	DS-T206B	-	SM50-130-R0	PAR0748	WSC8R-21	TS80200W
5C2M-08R02	DS-H04T	DS-A00T	DS-T206B	-	SM50-130-R0	PAR0748	WSC8R-21	TS80200W
5C2M-10L01	DS-H04T	DS-A00T	DS-T206B	-	SM50-130-R0	PAL0748	WSC8L-21	TS80200W
5C2M-10L02	DS-H04T	DS-A00T	DS-T206B	-	SM50-130-R0	PAL0748	WSC8L-21	TS80200W
5C2M-10R01	DS-H04T	DS-A00T	DS-T206B	-	SM50-130-R0	PAR0748	WSC8R-21	TS80200W
5C2M-10R02	DS-H04T	DS-A00T	DS-T206B	-	SM50-130-R0	PAR0748	WSC8R-21	TS80200W
5C2M-12L01	DS-H04T	DS-A00T	DS-T206B	-	SM50-130-R0	PAL0748	WSC8L-21	TS80200W
5C2M-12L02	DS-H04T	DS-A00T	DS-T206B	-	SM50-130-R0	PAL0748	WSC8L-21	TS80200W
5C2M-12R01	DS-H04T	DS-A00T	DS-T206B	-	SM50-130-R0	PAR0748	WSC8R-21	TS80200W
5C2M-12R02	DS-H04T	DS-A00T	DS-T206B	-	SM50-130-R0	PAR0748	WSC8R-21	TS80200W
5C2M-14L01	DS-H04T	DS-A00T	DS-T206B	-	SM50-130-R0	PAL0748	WSC8L-21	TS80200W
5C2M-14L02	DS-H04T	DS-A00T	DS-T206B	-	SM50-130-R0	PAL0748	WSC8L-21	TS80200W
5C2M-14R01	DS-H04T	DS-A00T	DS-T206B	-	SM50-130-R0	PAR0748	WSC8R-21	TS80200W
5C2M-14R02	DS-H04T	DS-A00T	DS-T206B	-	SM50-130-R0	PAR0748	WSC8R-21	TS80200W
Kit Hardware 5C2M-L (Kit includes one of each item)					SM50-130-R0	PAL0748	WSC8L-21	TS80200W
Kit Hardware 5C2M-R (Kit includes one of each item)					SM50-130-R0	PAR0748	WSC8R-21	TS80200W

## OPERATING GUIDELINES

### SPEN

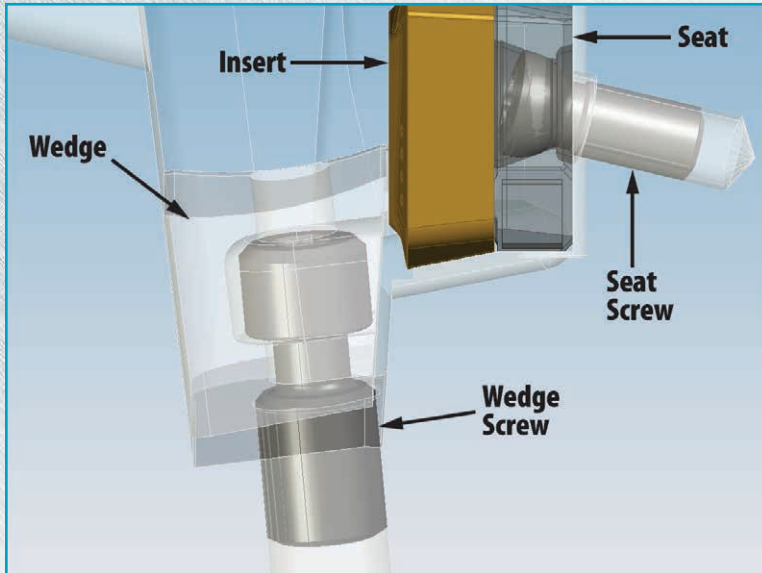
Material	Brinnell Hardness	SFM	Feed per Insert SPEN	Grades				
				IN4015	IN4005	IN4030	IN2530	
Iron	Gray	700 - 1200	500 - 900	.006 - .018	1	2		
	Nodular	500 - 900	500 - 900					
Steel	Low Carbon 1018, A36 1045	150 - 350	400 - 800	.006 - .018			2	1
	Alloyed Steel 4140, 4340, 300M	250 - 450	250 - 500	.006 - .015			2	1
	Tool P20, FX, D2, H13							
	Stainless 15-5, 17-4, 303, 420	250 - 450	250 - 450	.006 - .014			2	1
Armor, Rail, Hardox	300 - 500	200 - 350	.006 - .012			2	1	

### SPKN / ZPKN

Material	Brinnell Hardness	SFM	Feed per Insert SPKN, ZPKN	Grades				
				IN4040	IN4030	IN2540	IN2530	
Steel	Low Carbon 1018, A36 1045	150 - 350	400 - 700	.010 - .024		2		1
	Alloyed Steel 4140, 4340, 300M	250 - 450	250 - 500	.010 - .018	2		1	
	Tool P20, FX, D2, H13							
	Armor, Rail, Hardox	300 - 500	200 - 350	.010 - .014	2		1	



## ASSEMBLY



HARDWARE KIT (ABOVE) INCLUDES:  
SEAT, SEAT SCREW, WEDGE & WEDGE SCREW

## CHIPBREAKERS

