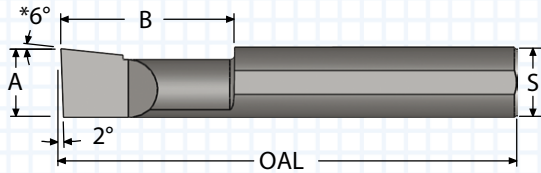


# BORING BARS - LEFT HAND - SOLID CARBIDE



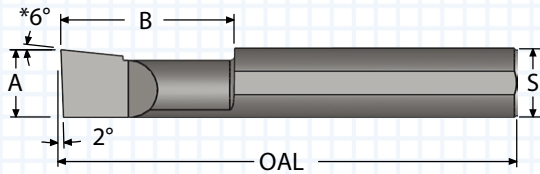
- ALTiN+ coating provides better surface finish
- Elliptically ground neck provides maximum strength
- Made with premium submicron grade carbide

"A" MIN BORE	"B" MAX DEPTH	"S" SHANK DIA.	OAL	ORDER #		EDP #	
				UNCOATED	AITIN+	UNCOATED	AITIN+
0.050	0.150	0.125	1.50	LHB050150	LHB050150A	211794	215001
0.050	0.200	0.125	1.50	LHB050200	LHB050200A	211797	215004
0.050	0.300	0.125	1.50	LHB050300	LHB050300A	211800	215007
0.050	0.400	0.125	1.50	LHB050400	LHB050400A	211803	215010
0.060	0.150	0.125	1.50	LHB060150	LHB060150A	211806	215013
0.060	0.200	0.125	1.50	LHB060200	LHB060200A	211809	215016
0.060	0.300	0.125	1.50	LHB060300	LHB060300A	211812	215019
0.060	0.400	0.125	1.50	LHB060400	LHB060400A	211815	215022
0.060	0.500	0.125	1.50	LHB060500	LHB060500A	211818	215025
0.080	0.150	0.125	1.50	LHB080150	LHB080150A	211821	215028
0.080	0.200	0.125	1.50	LHB080200	LHB080200A	211824	215031
0.080	0.300	0.125	1.50	LHB080300	LHB080300A	211827	215034
0.080	0.400	0.125	1.50	LHB080400	LHB080400A	211830	215037
0.080	0.500	0.125	1.50	LHB080500	LHB080500A	211833	215040
0.080	0.600	0.125	1.50	LHB080600	LHB080600A	211836	215043
0.100	0.150	0.125	1.50	LHB100150	LHB100150A	211839	215046
0.100	0.200	0.125	1.50	LHB100200	LHB100200A	211842	215049
0.100	0.300	0.125	1.50	LHB100300	LHB100300A	211845	215052
0.100	0.400	0.125	1.50	LHB100400	LHB100400A	211848	215055
0.100	0.500	0.125	1.50	LHB100500	LHB100500A	211851	215058
0.100	0.600	0.125	1.50	LHB100600	LHB100600A	211854	215061
0.100	0.700	0.125	1.50	LHB100700	LHB100700A	211857	215064
0.110	0.150	0.125	1.50	LHB110150	LHB110150A	211860	215067
0.110	0.200	0.125	1.50	LHB110200	LHB110200A	211863	215070
0.110	0.300	0.125	1.50	LHB110300	LHB110300A	211866	215073
0.110	0.400	0.125	1.50	LHB110400	LHB110400A	211869	215076
0.110	0.500	0.125	1.50	LHB110500	LHB110500A	211872	215079
0.110	0.600	0.125	1.50	LHB110600	LHB110600A	211875	215082
0.110	0.700	0.125	1.50	LHB110700	LHB110700A	211878	215085
0.120	0.250	0.1875	2.00	LHB120250	LHB120250A	211881	215088
0.120	0.350	0.1875	2.00	LHB120350	LHB120350A	211884	215091
0.120	0.500	0.1875	2.00	LHB120500	LHB120500A	211887	215094
0.120	0.600	0.1875	2.00	LHB120600	LHB120600A	211890	215097
0.120	0.700	0.1875	2.00	LHB120700	LHB120700A	211893	215100
0.120	0.800	0.1875	2.00	LHB120800	LHB120800A	211896	215103

"A" MIN BORE	"B" MAX DEPTH	"S" SHANK DIA.	OAL	ORDER #		EDP #	
				UNCOATED	AITIN+	UNCOATED	AITIN+
0.140	0.250	0.1875	2.00	LHB140250	LHB140250A	211899	215106
0.140	0.400	0.1875	2.00	LHB140400	LHB140400A	211902	215109
0.140	0.500	0.1875	2.00	LHB140500	LHB140500A	211905	215112
0.140	0.600	0.1875	2.00	LHB140600	LHB140600A	211908	215115
0.140	0.700	0.1875	2.00	LHB140700	LHB140700A	211911	215118
0.140	0.750	0.1875	2.00	LHB140750	LHB140750A	211914	215121
0.140	0.800	0.1875	2.00	LHB140800	LHB140800A	211917	215124
0.160	0.250	0.1875	2.00	LHB160250	LHB160250A	211923	215130
0.160	0.400	0.1875	2.00	LHB160400	LHB160400A	211926	215133
0.160	0.500	0.1875	2.00	LHB160500	LHB160500A	211929	215136
0.160	0.600	0.1875	2.00	LHB160600	LHB160600A	211932	215139
0.160	0.750	0.1875	2.00	LHB160750	LHB160750A	211935	215142
0.160	0.900	0.1875	2.00	LHB160900	LHB160900A	211938	215145
0.160	1.000	0.1875	2.00	LHB1601000	LHB1601000A	211920	215127
0.180	0.350	0.250	2.50	LHB180350	LHB180350A	211947	215154
0.180	0.500	0.250	2.50	LHB180500	LHB180500A	211950	215157
0.180	0.600	0.250	2.50	LHB180600	LHB180600A	211953	215160
0.180	0.750	0.250	2.50	LHB180750	LHB180750A	211956	215163
0.180	0.900	0.250	2.50	LHB180900	LHB180900A	211959	215166
0.180	1.000	0.250	2.50	LHB1801000	LHB1801000A	211941	215148
0.180	1.100	0.250	2.50	LHB1801100	LHB1801100A	211944	215151
0.200	0.400	0.250	2.50	LHB200400	LHB200400A	211974	215181
0.200	0.500	0.250	2.50	LHB200500	LHB200500A	211977	215184
0.200	0.600	0.250	2.50	LHB200600	LHB200600A	211980	215187
0.200	0.700	0.250	2.50	LHB200700	LHB200700A	211983	215190
0.200	0.800	0.250	2.50	LHB200800	LHB200800A	211986	215193
0.200	0.900	0.250	2.50	LHB200900	LHB200900A	211989	215196
0.200	1.000	0.250	2.50	LHB2001000	LHB2001000A	211962	215169
0.200	1.100	0.250	2.50	LHB2001100	LHB2001100A	211965	215172
0.200	1.200	0.250	2.50	LHB2001200	LHB2001200A	211968	215175
0.200	1.300	0.250	2.50	LHB2001300	LHB2001300A	211971	215178

\* The LHB050 and the LHB060 series have 3° side clearance.

# BORING BARS - LEFT HAND - SOLID CARBIDE



- ALTiN+ coating extends tool life
- Polished flute face for optimum performance
- Precision ground shank flat guarantees tool orientation

"A" MIN BORE	"B" MAX DEPTH	"S" SHANK DIA.	OAL	ORDER #		EDP #	
				UNCOATED	AITiN+	UNCOATED	AITiN+
0.230	0.400	0.3125	2.50	LHB230400	LHB230400A	212013	215220
0.230	0.500	0.3125	2.50	LHB230500	LHB230500A	212016	215223
0.230	0.600	0.3125	2.50	LHB230600	LHB230600A	212019	215226
0.230	0.700	0.3125	2.50	LHB230700	LHB230700A	212022	215229
0.230	0.800	0.3125	2.50	LHB230800	LHB230800A	212025	215232
0.230	0.900	0.3125	2.50	LHB230900	LHB230900A	212028	215235
0.230	1.000	0.3125	2.50	LHB2301000	LHB2301000A	211992	215199
0.230	1.150	0.3125	2.50	LHB2301150	LHB2301150A	211995	215202
0.230	1.200	0.3125	2.50	LHB2301200	LHB2301200A	211998	215205
0.230	1.250	0.3125	2.50	LHB2301250	LHB2301250A	212001	215208
0.230	1.400	0.3125	2.50	LHB2301400	LHB2301400A	212004	215211
0.230	1.500	0.3125	2.50	LHB2301500	LHB2301500A	212007	215214
0.230	1.600	0.3125	3.00	LHB2301600	LHB2301600A	212010	215217
0.290	0.500	0.3125	2.50	LHB290500	LHB290500A	212052	215259
0.290	0.600	0.3125	2.50	LHB290600	LHB290600A	212055	215262
0.290	0.750	0.3125	2.50	LHB290750	LHB290750A	212058	215265
0.290	0.900	0.3125	2.50	LHB290900	LHB290900A	212061	215268
0.290	1.000	0.3125	2.50	LHB2901000	LHB2901000A	212031	215238
0.290	1.100	0.3125	2.50	LHB2901100	LHB2901100A	212034	215241
0.290	1.250	0.3125	2.50	LHB2901250	LHB2901250A	212037	215244
0.290	1.350	0.3125	2.50	LHB2901350	LHB2901350A	212040	215247
0.290	1.500	0.3125	2.50	LHB2901500	LHB2901500A	212043	215250
0.290	1.600	0.3125	3.00	LHB2901600	LHB2901600A	212046	215253
0.290	1.750	0.3125	3.00	LHB2901750	LHB2901750A	212049	215256
0.320	0.500	0.375	2.50	LHB320500	LHB320500A	212091	215298
0.320	0.600	0.375	2.50	LHB320600	LHB320600A	212094	215301
0.320	0.750	0.375	2.50	LHB320750	LHB320750A	212097	215304
0.320	0.900	0.375	2.50	LHB320900	LHB320900A	212100	215307
0.320	1.000	0.375	2.50	LHB3201000	LHB3201000A	212064	215271
0.320	1.100	0.375	2.50	LHB3201100	LHB3201100A	212067	215274
0.320	1.250	0.375	2.50	LHB3201250	LHB3201250A	212070	215277
0.320	1.500	0.375	2.50	LHB3201500	LHB3201500A	212073	215280
0.320	1.600	0.375	3.00	LHB3201600	LHB3201600A	212076	215283
0.320	1.800	0.375	3.00	LHB3201800	LHB3201800A	212079	215286
0.320	2.000	0.375	4.00	LHB3202000	LHB3202000A	212082	215289
0.320	2.500	0.375	4.00	LHB3202500	LHB3202500A	212085	215292
0.320	3.000	0.375	4.00	LHB3203000	LHB3203000A	212088	215295

"A" MIN BORE	"B" MAX DEPTH	"S" SHANK DIA.	OAL	ORDER #		EDP #	
				UNCOATED	AITiN+	UNCOATED	AITiN+
0.360	0.500	0.375	2.50	LHB360500	LHB360500A	212130	215337
0.360	0.600	0.375	2.50	LHB360600	LHB360600A	212133	215340
0.360	0.750	0.375	2.50	LHB360750	LHB360750A	212136	215343
0.360	0.900	0.375	2.50	LHB360900	LHB360900A	212139	215346
0.360	1.000	0.375	2.50	LHB3601000	LHB3601000A	212103	215310
0.360	1.150	0.375	2.50	LHB3601150	LHB3601150A	212106	215313
0.360	1.250	0.375	2.50	LHB3601250	LHB3601250A	212109	215316
0.360	1.500	0.375	2.50	LHB3601500	LHB3601500A	212112	215319
0.360	1.600	0.375	3.00	LHB3601600	LHB3601600A	212115	215322
0.360	1.800	0.375	3.00	LHB3601800	LHB3601800A	212118	215325
0.360	2.000	0.375	4.00	LHB3602000	LHB3602000A	212121	215328
0.360	2.500	0.375	4.00	LHB3602500	LHB3602500A	212124	215331
0.360	3.000	0.375	4.00	LHB3603000	LHB3603000A	212127	215334
0.490	0.750	0.500	3.00	LHB490750	LHB490750A	212175	215382
0.490	1.000	0.500	3.00	LHB4901000	LHB4901000A	212142	215349
0.490	1.250	0.500	3.00	LHB4901250	LHB4901250A	212145	215352
0.490	1.500	0.500	3.00	LHB4901500	LHB4901500A	212148	215355
0.490	2.000	0.500	4.00	LHB4902000	LHB4902000A	212151	215358
0.490	2.500	0.500	4.00	LHB4902500	LHB4902500A	212154	215361
0.490	2.600	0.500	4.00	LHB4902600	LHB4902600A	212157	215364
0.490	2.750	0.500	4.00	LHB4902750	LHB4902750A	212160	215367
0.490	3.000	0.500	6.00	LHB4903000	LHB4903000A	212163	215370
0.490	3.500	0.500	6.00	LHB4903500	LHB4903500A	212166	215373
0.490	4.000	0.500	6.00	LHB4904000	LHB4904000A	212169	215376
0.490	4.500	0.500	6.00	LHB4904500	LHB4904500A	212172	215379

THREAD MILLS

SINGLE POINT TOOLS  
BORING

INDEXABLE TOOLS

PORT - CAVITY

SPECIALTY

# SOLID CARBIDE BORING BAR FEED AND SPEED CHART

MATERIAL	HB/Rc	SPEED (SFM)		FEED IPR	CUTTING CONDITIONS					
		UNCOATED	ALTiN+		TOOL DIAMETER					
					.015-.045	.050-.100	.110-.160	.180-.230	.290-.320	.360+
					MAX DOC	MAX DOC	MAX DOC	MAX DOC	MAX DOC	MAX DOC
CAST IRON	160 HB	75-200	200-550	.0005-.010	0.006	0.008	0.010	0.014	0.020	0.031
CARBON STEEL	18 Rc	75-200	200-450	.0005-.007	0.003	0.005	0.006	0.008	0.012	0.017
ALLOY STEEL	20 Rc	75-200	200-425	.0005-.007	0.003	0.004	0.005	0.007	0.010	0.015
TOOL STEEL	25 Rc	75-175	175-300	.0005-.005	0.002	0.003	0.004	0.006	0.008	0.012
300 STAINLESS STEEL	150 HB	75-175	175-350	.0005-.005	0.003	0.003	0.004	0.006	0.008	0.013
400 STAINLESS STEEL	195 HB	75-210	130-420	.0005-.005	0.002	0.003	0.004	0.006	0.008	0.012
HIGH TEMP ALLOY (Ni & Co BASE)	20 Rc	50-130	130-300	.0005-.004	0.002	0.003	0.003	0.005	0.007	0.010
TITANIUM	25 Rc	50-120	120-275	.0005-.005	0.003	0.004	0.005	0.006	0.009	0.014
HEAT TREATED ALLOYS (38-45Rc)	40 Rc	50-100	100-200	.0005-.005	0.002	0.002	0.003	0.004	0.006	0.009
ALUMINUM	100 HB	75-250	250-750	.0005-.015	0.011	0.015	0.019	0.026	0.038	0.056
BRASS, ZINC	80 HB	75-300	250-650	.001-.010	0.009	0.012	0.015	0.021	0.030	0.045

SFM = Surface Feet Per Minute    DOC = Depth of Cut    IPR = Inches Per Revolution

Starting parameters only. Length-to-diameter ratios, setup, and machine rigidity may affect performance.

$$\text{SFM} = .262 \times \text{DIAMETER} \times \text{RPM}$$

$$\text{RPM} = 3.82 \times \text{SFM} \div \text{DIAMETER}$$

$$\text{IPM} = \text{FPT} \times \text{Number of Teeth} \times \text{RPM}$$

$$\text{Meters/Min} = \text{SFM} \times .3048$$

$$\text{Millimeters/Rev} = \text{IPR} \times 25.40$$

# SOLID CARBIDE BORING TROUBLESHOOTING

PROBLEM	CAUSE	SOLUTION
RAPID FLANK WEAR	CUTTING CONDITIONS	Check for excessive speed and feed - See chart.
	TOOL	Select a coated tool.
	PART	Make sure prior operation did not work harden the metal.
BUILT-UP EDGE	TOOL	Select a coated tool.
	CUTTING FORCE	Check for excessive feed rate (IPR) - See chart.
	HEAT	Use the SCT coolant holder. If coolant is not available, use shop air and a coated tool.
CORNER BREAKAGE	CUTTING CONDITIONS	Check for excessive feed and speed and depth of cut - see chart.
	TOOL	Select a tool with a radius. A radius is stronger than a sharp corner.
	PART	Check the drilled hole.
SURFACE TOO ROUGH	CUTTING CONDITIONS	Check for excessive feed rate (IPR) - See chart.
	BUILT-UP EDGE	See above (Built-Up Edge).
CHATTER	SET UP	Set tool above center. Reduce the overhang ratio. Clamping length should be at least 3x the boring bar diameter. Change the speed of the machine. Speed change may break up harmonics and reduce chatter.
	BORING BAR	Select the largest diameter boring bar that will bore the required diameter.
TAPER SMALLER IN BACK	CHIP PACKING	If the boring bar is too large to allow chips to evacuate, then the chips may pack on the tool and cause the bar to deflect away from the bore.
	PROGRAM	If the taper is consistent, then the program can be altered to bore a taper in opposite direction resulting in a straight hole.
TAPER BIGGER IN BACK	CUTTING FORCES	Reduce forces. Deflecting bar below center causes hole to become larger.
	BUILT-UP EDGE	Built-up edge will cause the hole to become larger until the built edge breaks off, then the hole becomes smaller.
	PROGRAM	If taper is consistent, then the program can be altered to bore a taper in the opposite direction resulting in a straight hole.

# GROOVING TOOL FEED AND SPEED CHART

MATERIAL	HB/Rc	SPEED (SFM)		CUTTING CONDITIONS				
				TOOL DIAMETER				
		UNCOATED	ALTiN+	.060 -0.080	.090 -.120	.187	.250-.312	.375+
				MAX FPR	MAX FPR	MAX FPR	MAX FPR	MAX FPR
CAST IRON	160 HB	75-200	200-550	0.0010	0.0012	0.0017	0.0031	0.0044
CARBON STEEL	18 Rc	75-200	200-450	0.0007	0.0008	0.0011	0.0022	0.0030
ALLOY STEEL	20 Rc	75-200	200-425	0.0006	0.0007	0.0010	0.0019	0.0026
TOOL STEEL	25 Rc	75-175	175-300	0.0005	0.0006	0.0008	0.0015	0.0022
300 STAINLESS STEEL	150 HB	75-175	75-350	0.0006	0.0007	0.0010	0.0019	0.0026
400 STAINLESS STEEL	195 HB	75-210	130-420	0.0005	0.0006	0.0008	0.0016	0.0023
HIGH TEMP ALLOY (NICKEL & COBALT BASE)	20 Rc	50-130	130-300	0.0004	0.0005	0.0007	0.0013	0.0017
TITANIUM	25 Rc	50-120	120-275	0.0005	0.0006	0.0008	0.0016	0.0022
HEAT TREATED ALLOYS (38-45Rc)	40 Rc	50-100	100-200	0.0004	0.0004	0.0006	0.0011	0.0016
ALUMINUM	100 HB	75-250	250-750	0.0022	0.0026	0.0037	0.0065	0.0085
BRASS, ZINC	80 HB	250-300	250-650	0.0018	0.0021	0.0030	0.0053	0.0079

SFM = Surface Feet Per Minute

FPR = Feed Per Revolution

Starting parameters only. Length-to-diameter ratios, setup, and machine rigidity may affect performance.

## GROOVING TOOL TROUBLESHOOTING

PROBLEM	CAUSE	SOLUTION
RAPID FLANK WEAR	CUTTING CONDITIONS	Check for excessive speed - see chart.
	TOOL	Select a coated tool.
	PART	Make sure prior operation did not work harden the material.
BUILT-UP EDGE	TOOL	Select a coated tool.
	CUTTING FORCE	Check for excessive speed rate (IPR) - see chart.
	HEAT	Use the SCT coolant holder. If coolant is not available, use shop air and a coated tool.
CHATTER	CUTTING CONDITIONS	Reduce RPM and increase feed rate within the feed and speed chart parameters.
	CLAMPING	Clamping length should be a minimum of 3x the shank diameter in the tool holder. Check tool holding rigidity.
	TOOL	Hone cutting edge. A light hone (0.0001-0.0003 inch) will help keep force constant.
TOOL BREAKAGE	CUTTING CONDITIONS	Check for excessive feed rate (IPR) - see chart.
	CHIP PACKING	Stagger - Peck grooving.

# SINGLE POINT THREADING TECHNICAL CHART

MATERIAL	HB/Rc	SPEED (SFM)		FIRST PASS DEPTH					
		UNCOATED	ALTiN+	TOOL DIAMETER					
				.040-.050	.060-.092	.120-.152	.180-.232	.290-.362	.373+
CAST IRON	160 HB	75-200	200-550	0.003	0.004	0.005	0.007	0.008	0.009
CARBON STEEL	18 Rc	75-200	200-450	0.003	0.005	0.006	0.007	0.008	0.009
ALLOY STEEL	20 Rc	75-200	200-425	0.003	0.004	0.005	0.006	0.007	0.008
TOOL STEEL	25 Rc	75-175	175-300	0.002	0.003	0.004	0.005	0.006	0.007
300 STAINLESS STEEL	150 HB	75-175	175-350	0.003	0.003	0.004	0.005	0.006	0.007
400 STAINLESS STEEL	195 HB	75-210	130-420	0.003	0.004	0.005	0.006	0.006	0.007
HIGH TEMP ALLOY (NICKEL & COBALT BASE)	20 Rc	50-130	130-300	0.002	0.003	0.003	0.004	0.005	0.005
TITANIUM	25 Rc	50-100	120-275	0.003	0.003	0.004	0.005	0.006	0.007
HEAT TREATED ALLOYS (38-45Rc)	40 Rc	50-100	100-200	0.002	0.002	0.003	0.004	0.004	0.005
ALUMINUM	100 HB	75-250	200-750	0.004	0.005	0.007	0.008	0.010	0.011
BRASS, ZINC	80 HB	75-300	250-650	0.003	0.005	0.006	0.007	0.008	0.009

Parameters are a starting point based on machinability rating at hardness listed.  
Check machinability rating of the material to be machined and adjust First Pass Depth.

## Helpful Formulas and Information

$$\text{PITCH} = \frac{1}{\text{TPI}}$$

TPI = Threads Per Inch

ACME Thread Depth = Pitch × 0.5

Stub ACME Thread Depth = Pitch × 0.3

NPT Pipe Thread Depth = Pitch × 0.76

Internal 60° Thread Depth = Pitch × 0.54

Feed Rate = Pitch × Number of Thread Starts

Minimum Depth per Pass should not be less than 0.0003

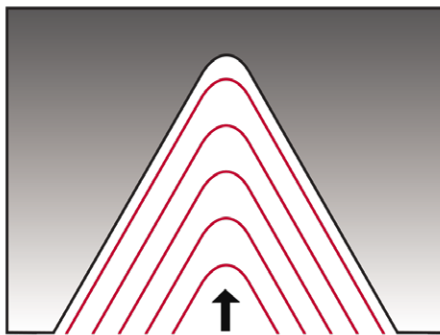
Threads not ending in a relief need at least one thread pitch length of pullout

Make sure feed rate calculation does not exceed the maximum feed rate of the machine

# SINGLE POINT THREADING TROUBLESHOOTING

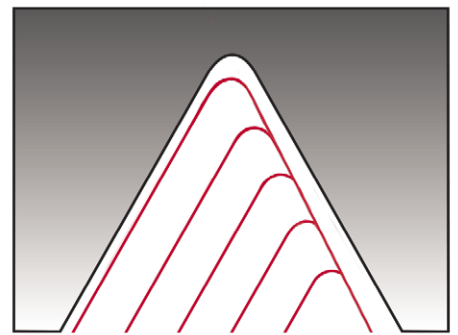
PROBLEM	CAUSE	SOLUTION
RAPID FLANK WEAR	CUTTING CONDITIONS	Check for excessive speed - see chart.
	PART	Make sure prior operation did not work harden the material.
	TOOL	Select a coated tool.
BUILT-UP EDGE	TOOL	Select a coated tool.
	CUTTING FORCE	Increase the number of passes.
	HEAT	Use the SCT coolant holder. If coolant is not available, use shop air and a coated tool.
CORNER BREAKAGE	CUTTING CONDITIONS	Reduce the depth-of-cut on the first pass.
	PROGRAM	If there is no thread relief, withdraw the tool on an angle.
	PART	End in thread relief.
CHIPS WRAPPING AROUND TOOL	TOOL	Use a tool that is at least 30% smaller than the hole diameter.

## RADIAL INFEEED



NOT RECOMMENDED

## MODIFIED FLANK



PREFERRED METHOD

Radial Infeed is not recommended. Modified flank at 1° is recommended.

For unfavorable length-to-diameter ratios or difficult-to-machine materials, the number of passes will need to be increased up to 40% more.

Depth of cut per pass should not be less than 0.0003 inch.

# SINGLE POINT CBN & PCD TECHNICAL & APPLICATION

## PCD TIPPED TOOL INFORMATION

SCT PCD tools and inserts are excellent for continuous cutting of a wide range of non-ferrous and non-metal materials. The products are precision ground for machining to sub-micron finishes with maximum tool life. PCD allows for higher cutting speeds with longer tool life.

SINGLE POINT TOOLS  
TECH INFO

MATERIAL	BHN/Rc	SPEED RANGE (SFM)	FEED IPR	SINGLE POINT PCD TIPPED BARS			
				TOOL DIAMETER			
				.120-160 MAX DOC	.180-.230 MAX DOC	.290-.320 MAX DOC	.360+ MAX DOC
LOW SILICON ALUMINUM	225-350 BHN	1000-5000	.001-.007	0.015	0.021	0.03	0.045
HIGH SILICON ALUMINUM	270-425 BHN	600-3000	.001-.007	0.015	0.021	0.03	0.045
METAL MATRIX COMPOSITIES	N/A	500-2000	.001-.007	0.008	0.012	0.02	0.03
COPPER ALLOYS, BRASS, BRONZE	80-120 BHN	750-3500	.001-.007	0.015	0.021	0.03	0.045
PRESINTERED TUNGSTEN CARBIDE	140-300 BHN	100-350	.001-.005	0.003	0.005	0.007	0.012
ACRYLICS	N/A	700-1500	.001-.007	0.015	0.021	0.03	0.045
FIBERGLASS	N/A	600-1000	.001-.007	0.012	0.02	0.03	0.045
GRAPHITES	N/A	600-1000	.001-.007	0.015	0.021	0.03	0.045
NYLON, PLASTIC	N/A	700-1500	.001-.007	0.015	0.021	0.03	0.045
HARD RUBBER	N/A	500-2500	.001-.007	0.015	0.021	0.03	0.045

APPLICATION GUIDELINES
Make sure the machine and setup is rigid and solid. Chatter will cause chipping.
Tool height when boring should be slightly above center. Tool deflection will put the tool on center.
Do not stop the machine with the tool in cut. This will result in tool breakage.
Use of coolant will reduce heat and improve surface finish.
Do not contact the tool to a hard surface prior to the machining process- this will cause chipping.
Higher speeds minimize tool buildup.
Depth of cut should not exceed 70% of PCD tip length.

As the DOC decreases the feed rate can increase DOC = Depth of Cut SFM = Surface Feet per Minute

## CBN TIPPED TOOL INFORMATION

SCT CBN tools and inserts are excellent for continuous cutting of a wide range of hardened steels, powdered metals, cast irons and super alloys. The products are precision ground with hones for machining to sub-micron finishes with maximum tool life. CBN tipped tools and inserts can take the place of grinding.

MATERIAL	BHN/Rc	SPEED RANGE (SFM)	FEED IPR	SINGLE POINT CBN TIPPED BARS			
				TOOL DIAMETER			
				.120-160 MAX DOC	.180-.230 MAX DOC	.290-.320 MAX DOC	.360+ MAX DOC
HEAT TREATED ALLOY	45-60Rc	200-600	.001-.005	0.003	0.004	0.006	0.009
TOOL STEEL	45-60Rc	200-600	.001-.005	0.003	0.004	0.006	0.009
NODULAR IRON	N/A	600-1500	.001-.005	0.006	0.01	0.02	0.03
PEARLITIC IRON	220-240BHN	600-2500	.001-.007	0.006	0.01	0.02	0.03
WHITE/CHILLED IRON	54-60Rc	200-500	.001-.005	0.005	0.008	0.012	0.015
SUPER ALLOY Ni BASE	240-475 BHN	200-800	.001-.005	0.003	0.004	0.006	0.025
COBOLT BASED ALLOY, STELLITE	45-55Rc	200-500	.001-.005	0.003	0.004	0.006	0.009
INCONELS	45-55Rc	200-500	.001-.005	0.003	0.004	0.006	0.009

APPLICATION GUIDELINES
Make sure the machine and setup is rigid and solid. Chatter will cause chipping
Tool height when boring should be slightly above center. Tool deflection will put the tool on center.
Do not stop the machine with the tool in cut. This will result in tool breakage.
Coolant use is not advised as it could cause thermal cracking.
Do not contact the tool to a hard surface prior to the machining process. This will cause chipping.
Depth of cut should not exceed 30% of CBN tip length.

As the DOC decreases the feed rate can increase DOC = Depth of Cut SFM = Surface Feet per Minute