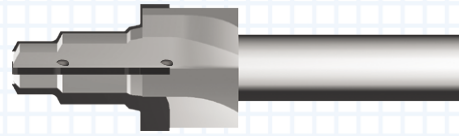
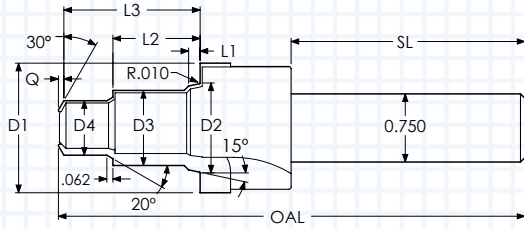


# PARKER COMMON CAVITY TOOLS

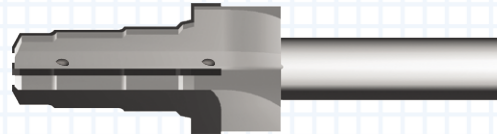
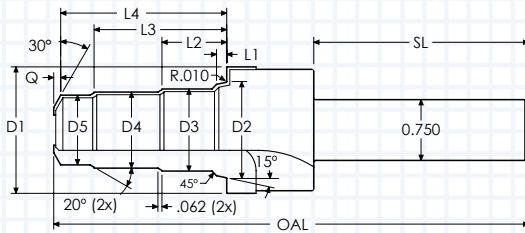
## ROUGHER - CARBIDE TIPPED



Coolant Hole(s) Each Flute

### TWO WAY CAVITY

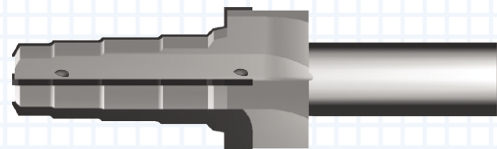
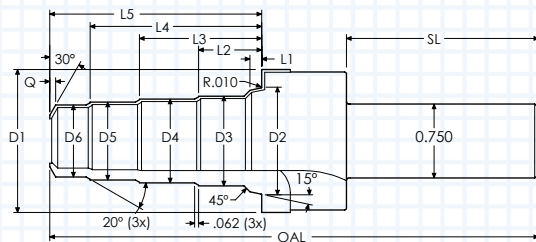
D1	D2	D3	D4	L1	L2	L3	Q	OAL	SL	ORDER #		EDP #	
										UNCOATED	ALTiN+	UNCOATED	ALTiN+
1.163	0.789	0.663	0.476	0.108	0.750	1.156	0.050	4.00	2.00	C08-2-ROUGH-X8	C08-2-ROUGH-X8A	400202	400238
1.319	0.920	0.787	0.601	0.108	0.965	1.332	0.060	4.00	2.00	C10-2-ROUGH-X8	C10-2-ROUGH-X8A	400211	400247
1.600	1.126	0.951	0.851	0.138	1.182	1.678	0.075	5.25	2.25	C12-2-ROUGH-X8	C12-2-ROUGH-X8A	400220	400256
1.885	1.376	1.209	1.102	0.138	1.344	1.864	0.075	5.50	2.25	C16-2-ROUGH-X8	C16-2-ROUGH-X8A	400229	400265



Coolant Hole(s) Each Flute

### THREE WAY CAVITY

D1	D2	D3	D4	D5	L1	L2	L3	L4	Q	OAL	SL	ORDER #		EDP #	
												UNCOATED	ALTiN+	UNCOATED	ALTiN+
1.163	0.789	0.663	0.601	0.538	0.108	0.680	1.240	1.750	0.060	5.00	2.12	C08-3-ROUGH-X8	C08-3-ROUGH-X8A	400205	400241
1.319	0.920	0.787	0.664	0.601	0.108	0.850	1.500	1.895	0.050	5.00	2.12	C10-3-ROUGH-X8	C10-3-ROUGH-X8A	400214	400250
1.600	1.126	0.950	0.913	0.851	0.138	1.062	1.908	2.346	0.070	5.75	2.12	C12-3-ROUGH-X8	C12-3-ROUGH-X8A	400223	400259
1.885	1.376	1.209	1.102	1.039	0.138	1.344	2.469	2.988	0.065	6.25	2.12	C16-3-ROUGH-X8	C16-3-ROUGH-X8A	400232	400268



Coolant Hole(s) Each Flute

### FOUR WAY CAVITY

D1	D2	D3	D4	D5	D6	L1	L2	L3	L4	L5	Q	OAL	SL	ORDER #		EDP #	
														UNCOATED	ALTiN+	UNCOATED	ALTiN+
1.163	0.789	0.663	0.601	0.538	0.476	0.108	0.680	1.240	1.797	2.150	0.050	5.50	2.12	C08-4-ROUGH-X8	C08-4-ROUGH-X8A	400208	400244
1.319	0.920	0.787	0.726	0.664	0.601	0.108	0.875	1.500	2.125	2.520	0.055	5.50	2.12	C10-4-ROUGH-X8	C10-4-ROUGH-X8A	400217	400253
1.600	1.126	0.950	0.913	0.851	0.789	0.138	1.062	1.908	2.758	3.196	0.070	7.00	2.25	C12-4-ROUGH-X8	C12-4-ROUGH-X8A	400226	400262
1.885	1.376	1.209	1.102	1.039	0.977	0.138	1.344	2.469	3.594	4.096	0.070	7.25	2.25	C16-4-ROUGH-X8	C16-4-ROUGH-X8A	400235	400271

THREAD MILLS

SINGLE POINT

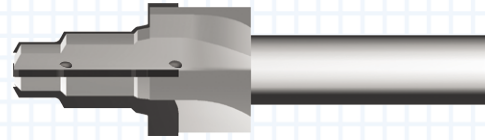
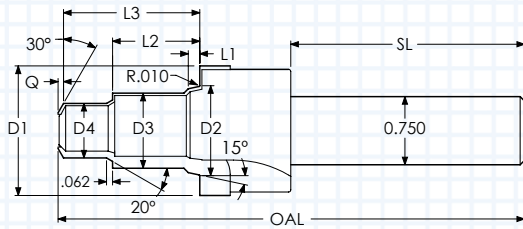
INDEXABLE TOOLS

Cavity Tools

SPECIALTY

# PARKER COMMON CAVITY TOOLS

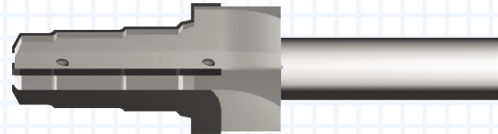
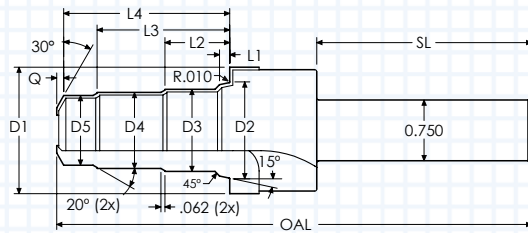
## FINISHER - CARBIDE TIPPED



Coolant Hole(s) Each Flute

### TWO WAY CAVITY

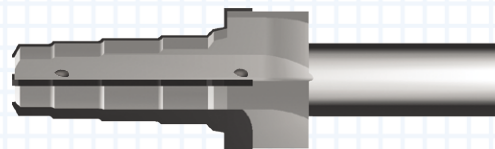
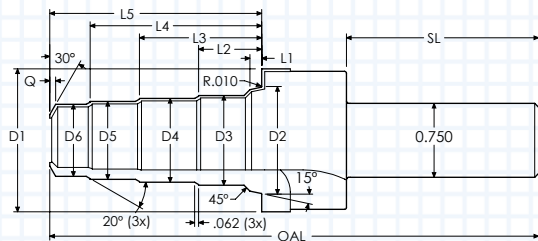
D1	D2	D3	D4	L1	L2	L3	Q	OAL	SL	ORDER #		EDP #	
										UNCOATED	ALTiN+	UNCOATED	ALTiN+
1.188	0.813	0.688	0.501	0.108	0.750	1.156	0.050	4.00	2.00	C08-2-FINISH-X8	C08-2-FINISH-X8A	400201	400237
1.344	0.945	0.812	0.626	0.108	0.965	1.332	0.060	4.00	2.00	C10-2-FINISH-X8	C10-2-FINISH-X8A	400210	400246
1.625	1.150	0.976	0.876	0.138	1.182	1.678	0.075	5.25	2.25	C12-2-FINISH-X8	C12-2-FINISH-X8A	400219	400255
1.910	1.401	1.234	1.127	0.138	1.344	1.864	0.075	5.50	2.25	C16-2-FINISH-X8	C16-2-FINISH-X8A	400228	400264



Coolant Hole(s) Each Flute

### THREE WAY CAVITY

D1	D2	D3	D4	D5	L1	L2	L3	L4	Q	OAL	SL	ORDER #		EDP #	
												UNCOATED	ALTiN+	UNCOATED	ALTiN+
1.188	0.813	0.688	0.626	0.563	0.108	0.680	1.240	1.750	0.060	5.00	2.12	C08-3-FINISH-X8	C08-3-FINISH-X8A	400204	400240
1.344	0.945	0.812	0.689	0.626	0.108	0.850	1.500	1.895	0.050	5.00	2.12	C10-3-FINISH-X8	C10-3-FINISH-X8A	400213	400249
1.625	1.150	0.975	0.938	0.876	0.138	1.062	1.908	2.346	0.070	5.75	2.12	C12-3-FINISH-X8	C12-3-FINISH-X8A	400222	400258
1.910	1.401	1.234	1.127	1.064	0.138	1.344	2.469	2.988	0.065	6.25	2.12	C16-3-FINISH-X8	C16-3-FINISH-X8A	400231	400267



Coolant Hole(s) Each Flute

### FOUR WAY CAVITY

D1	D2	D3	D4	D5	D6	L1	L2	L3	L4	L5	Q	OAL	SL	ORDER #		EDP #	
														UNCOATED	ALTiN+	UNCOATED	ALTiN+
1.188	0.813	0.688	0.626	0.563	0.501	.108	0.680	1.240	1.797	2.150	.050	5.50	2.12	C08-4-FINISH-X8	C08-4-FINISH-X8A	400207	400243
1.344	0.945	0.812	0.751	0.689	0.626	.108	0.875	1.500	2.125	2.520	.055	5.50	2.12	C10-4-FINISH-X8	C10-4-FINISH-X8A	400216	400252
1.625	1.150	0.975	0.938	0.876	0.814	.138	1.062	1.908	2.758	3.196	.070	7.00	2.25	C12-4-FINISH-X8	C12-4-FINISH-X8A	400225	400261
1.910	1.401	1.234	1.127	1.064	1.002	.138	1.344	2.469	3.594	4.096	.070	7.25	2.25	C16-4-FINISH-X8	C16-4-FINISH-X8A	400234	400270

THREAD MILLS

SINGLE POINT

INDEXABLE TOOLS

Cavity Tools

SPECIALTY

# PORT & CAVITY TECHNICAL INFORMATION

MATERIAL	HB/Rc	SPEED (SFM)		CUTTING CONDITIONS	
		UNCOATED	ALTiN+	INFEEED PER FLUTE REAM	INFEEED PER FLUTE SPOT FACE
CAST IRON	130 HB	75-210	200-450	.001-.0025	.0008-.0020
CARBON STEEL	18 Rc	125-190	190-400	.001-.0030	.001-.0020
ALLOY STEEL	20 Rc	70-135	130-350	.001-.0030	.0008-.0020
TOOL STEEL	25 Rc	75-100	100-220	.001-.0025	.0005-.0020
300 STAINLESS STEEL	150 HB	90-100	100-230	.001-.0020	.0007-.0015
400 STAINLESS STEEL	195 HB	90-135	135-300	.001-.0020	.0005-.0015
HIGH TEMP ALLOY (NICKEL & COBALT BASE)	20 Rc	30-125	100-150	.0008-.0015	.0005-.0010
TITANIUM	25 Rc	50-100	100-140	.001-.0020	.0005-.0010
HEAT TREATED ALLOYS (38-45Rc)	40 Rc	50-75	75-130	.0008-.0015	.0005-.0010
ALUMINUM	100 HB	850-1000	800-1500	.002-.0040	.0010-.0030
BRASS, ZINC	80 HB	750-950	800-1200	.002-.0040	.0010-.0030

SFM = Surface Feet per Minute

RPM = SFM x 3.82 divided by tool diameter

Starting parameters only. Setup and machine rigidity may affect performance.

PROBLEM	CAUSE	SOLUTION
RAPID FLANK WEAR	CUTTING CONDITIONS	Check for excessive speed and feed - see chart.
	TOOL	Select a coated tool.
	PROGRAM	Remove dwell from program at end of cut.
BUILT-UP EDGE	TOOL	Select a coated tool. The coating will resist built-up edges.
	HEAT	Use coolant through port tool. If coolant is not available, use shop air and a coated tool.
SURFACE TORN	TOOL	Use a coated tool. On most carbon steels, an uncoated tool will not produce an acceptable finish.
CHATTER	TOOL	Hone cutting edge of spot face. Use Coated Tool. Increase chip load.
LIGHT CHATTER	PROGRAM	Increase speed by 15-20%. A faster speed reduces forces. A dwell typically will not remove chatter.
POOR TOOL LIFE	AMOUNT OF STOCK	Rough port to 0.97 inch of finish size.
	PART	Make sure prior operation did not work harden the material.

## SAMPLE PROGRAM FOR MAXIMUM PRODUCTIVITY

N51 (Sample Port Tool Program: MS33649-4RA (ALTiN+) cutting Carbon Steel

**T51 M06**

**Select Tool**

**S2916 M03**

**SFM = 300 ; RPM = 300 x 3.82 / Reamer Diameter**

**G00 G90 G54 X0. Y0.**

**RPM = 300 X 3.82 / 0.393**

**G43 H51 Z0.1 M08**

**RPM = 2916**

**G01 Z-0.6 F23.3**

**Feed Rate = RPM x 0.002 x 4 (Number of Flutes)**

**S1290 M03**

**RPM = 300 x 3.82 / 0.888 (Spot Face Diameter)**

**G04 P1.**

**Dwell to slow down spindle**

**G01 Z-.73 F10.3**

**Feed rate = RPM x 0.002 x 4 (Number of Flutes)**

**G00 Z5. M09**