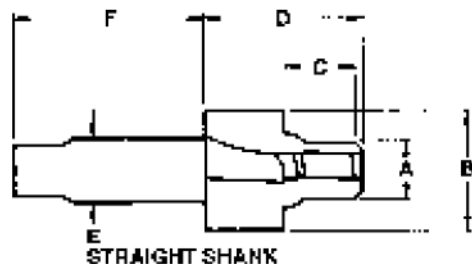


Port Contour Cutters – SAE J1926, MS 16142

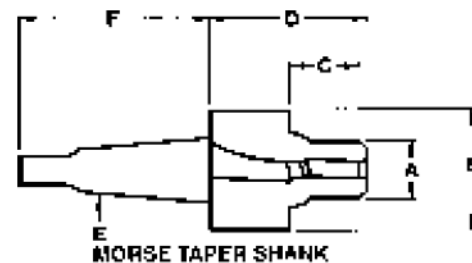
High Speed Steel, Straight Shank



Thread Size	Tube		Part Number	A Small Diameter	B Spotface	C Bore Length	D Head Length	E Shank Diameter	F Shank Length	Pre-Drill Diameter/Length
	No.	O.D.								
5/16-24	2	.125	163-2031	.272	.682	.473	1.625	.500	3.125	F x .688
3/8-24	3	.187	163-2037	.335	.760	.473	1.625	.500	3.125	O x .688
7/16-20	4	.250	163-2043	.389	.838	.552	1.625	.500	3.125	U x .812
1/2-20	5	.312	163-2050	.452	.916	.552	1.625	.500	3.125	.44 x .812
9/16-18	6	.375	163-2056	.509	.994	.614	1.625	.500	3.125	.48 x .875
3/4-16	8	.500	163-3075	.689	1.198	.693	1.875	.750	3.875	.67 x .937
7/8-14	10	.625	163-3087	.806	1.354	.786	1.875	.750	3.875	.78 x 1.062
1-1/16-12	12	.750	163-3106	.981	1.635	.911	2.125	.750	3.875	.95 x 1.250
1-3/16-12	14	.875	163-3118	1.106	1.775	.911	2.125	.750	3.875	1.09 x 1.250
1-5/16-12	16	1.000	163-3131	1.231	1.939	.911	2.125	.750	3.875	1.21 x 1.250
1-5/8-12	20	1.250	163-4162	1.544	2.280	.911	2.375	1.000	4.875	1.53 x 1.250
1-7/8-12	24	1.500	163-4187	1.794	2.570	.911	2.375	1.000	4.875	1.78 x 1.250
2-1/2-12	32	2.000	163-4250	2.419	3.490	.911	2.375	1.000	4.875	2.41 x 1.250

All dimensions shown in inches.

High Speed Steel, Morse Taper Shank

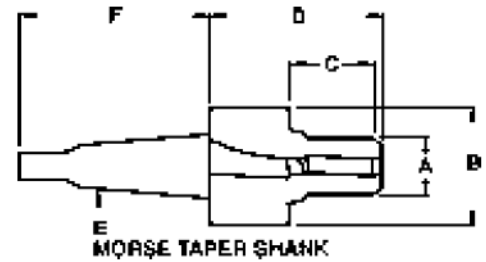


Thread Size	Tube		Part Number	A Small Diameter	B Spotface	C Bore Length	D Head Length	E Shank Diameter	F Shank Length	Pre-Drill Diameter/Length
	No.	O.D.								
5/16-24	2	.125	163-2031	.272	.682	.473	1.625	.500	3.125	F x .688
3/8-24	3	.187	163-2037	.335	.760	.473	1.625	.500	3.125	O x .688
7/16-20	4	.250	163-2043	.389	.838	.552	1.625	.500	3.125	U x .812
1/2-20	5	.312	163-2050	.452	.916	.552	1.625	.500	3.125	.44 x .812
9/16-18	6	.375	163-2056	.509	.994	.614	1.625	.500	3.125	.48 x .875
3/4-16	8	.500	163-3075	.689	1.198	.693	1.875	.750	3.875	.67 x .937
7/8-14	10	.625	163-3087	.806	1.354	.786	1.875	.750	3.875	.78 x 1.062
1-1/16-12	12	.750	163-3106	.981	1.635	.911	2.125	.750	3.875	.95 x 1.250
1-3/16-12	14	.875	163-3118	1.106	1.775	.911	2.125	.750	3.875	1.09 x 1.250
1-5/16-12	16	1.000	163-3131	1.231	1.939	.911	2.125	.750	3.875	1.21 x 1.250
1-5/8-12	20	1.250	163-4162	1.544	2.280	.911	2.375	1.000	4.875	1.53 x 1.250
1-7/8-12	24	1.500	163-4187	1.794	2.570	.911	2.375	1.000	4.875	1.78 x 1.250
2-1/2-12	32	2.000	163-4250	2.419	3.490	.911	2.375	1.000	4.875	2.41 x 1.250

All dimensions shown in inches.

Port Contour Cutters – SAE J1926, MS 16142

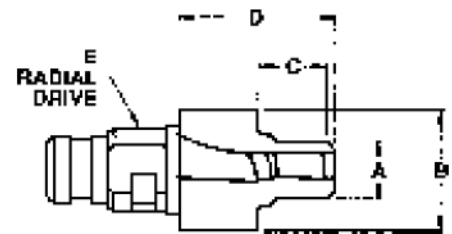
High Speed Steel, Taper Shank with Extra Length Reamer



Thread Size	Tube		Part Number	A Small Diameter	B Spotface Diameter	C Bore Length	D Head Length	E Morse Taper	F Shank Length	Pre-Drill Diameter/Length
	No.	O.D.								
5/16-24	2	.125	161-2031	.272	.682	.580	1.750	2	3.125	F x .812
3/8-24	3	.187	161-2037	.335	.760	.580	1.750	2	3.125	O x .812
7/16-20	4	.250	161-2043	.389	.838	.690	1.750	2	3.125	U x .937
1/2-20	5	.312	161-2050	.452	.916	.690	1.750	2	3.125	.44 x .937
9/16-18	6	.375	161-2056	.509	.979	.750	1.750	2	3.125	.48 x .968
3/4-16	8	.500	161-3075	.689	1.198	.840	2.000	3	3.875	.67 x 1.090
7/8-14	10	.625	161-3087	.806	1.354	.970	2.000	3	3.875	.78 x 1.220
1-1/16-12	12	.750	161-3106	.981	1.635	1.125	2.250	3	3.875	.95 x 1.470
1-3/16-12	14	.875	161-3118	1.106	1.775	1.125	2.250	3	3.875	1.09 x 1.470
1-5/16-12	16	1.000	161-3131	1.231	1.920	1.125	2.250	3	3.875	1.21 x 1.470
1-5/8-12	20	1.250	161-4162	1.544	2.280	1.125	2.250	4	4.875	1.53 x 1.470
1-7/8-12	24	1.500	161-4187	1.794	2.570	1.125	2.250	4	4.875	1.78 x 1.470
2-1/2-12	32	2.000	161-4250	2.419	3.490	1.125	2.250	4	4.875	2.41 x 1.470

All dimensions shown in inches.

High Speed Steel, Radial Drive

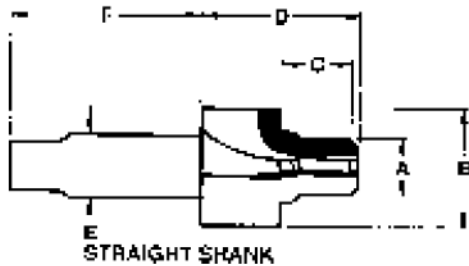


Thread Size	Tube		Part Number	A Small Diameter	B Spotface Diameter	C Bore Length	D Head Length	E Radial Drive	Number of Flutes	Pre-Drill Diameter/Length
	No.	O.D.								
5/16-24	2	.125	160-2031	.272	.875	.473	1.50	RB	3	F x .687
3/8-24	3	.188	160-2037	.335	.875	.473	1.50	RB	3	O x .687
7/16-20	4	.250	160-2043	.389	.875	.552	1.50	RB	3	U x .812
1/2-20	5	.313	160-2050	.452	.938	.552	1.50	RB	3	.44 x .812
9/16-18	6	.375	160-2056	.509	1.000	.614	1.63	RB	3	.48 x .875
3/4-16	8	.500	160-3075	.689	1.219	.693	1.63	RC	3	.67 x .937
7/8-14	10	.625	160-3087	.806	1.375	.786	1.75	RC	4	.78 x 1.062
1-1/16-12	12	.750	160-4106	.981	1.656	.911	1.88	RE	4	.95 x 1.250
1-3/16-12	14	.875	160-5118	1.106	1.813	.911	1.88	RF	4	1.09 x 1.250
1-5/16-12	16	1.000	160-5131	1.231	2.000	.911	1.88	RF	4	1.21 x 1.250
1-5/8-12	20	1.250	160-6162	1.544	2.313	.911	1.88	RJ	4	1.53 x 1.250
1-7/8-12	24	1.500	160-6187	1.794	2.563	.911	1.88	RJ	4	1.78 x 1.250

All dimensions shown in inches.

Port Contour Cutters – SAE J1926, MS 16142

Tungsten Carbide Tipped, Straight Shank



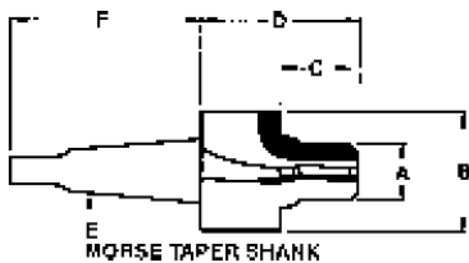
Thread Size	Tube		Part Number	A Small Diameter	B Spotface Diameter	C Bore Length	D Head Length	E Shank Diameter	F Shank Length	Pre-Drill Diameter/Length
	No.	O.D.								
5/16-24	2	.125	263-2031	.272	.682	.473	1.625	.500	3.125	F x .688
3/8-24	3	.187	263-2037	.335	.760	.473	1.625	.500	3.125	O x .688
7/16-20	4	.250	263-2043	.389	.838	.552	1.625	.500	3.125	U x .812
1/2-20	5	.312	263-2050	.452	.916	.552	1.625	.500	3.125	.44 x .812
9/16-18	6	.375	263-2056	.509	.994	.614	1.625	.500	3.125	.48 x .875
3/4-16	8	.500	263-3075	.689	1.198	.693	1.875	.750	3.875	.67 x .937
7/8-14	10	.625	263-3087	.806	1.354	.786	1.875	.750	3.875	.78 x 1.062
1-1/16-12	12	.750	263-3106	.981	1.635	.911	2.125	.750	3.875	.95 x 1.250
1-3/16-12	14	.875	263-3118	1.106	1.775	.911	2.125	.750	3.875	1.09 x 1.250
1-5/16-12	16	1.000	263-3131	1.231	1.920	.911	2.125	.750	3.875	1.21 x 1.250
1-5/8-12	20	1.250	263-4162	1.544	2.280	.911	2.125	1.000	4.875	1.53 x 1.250
1-7/8-12	24	1.500	263-4187	1.794	2.570	.911	2.125	1.000	4.875	1.78 x 1.250
2-1/2-12	32	2.000	263-4250	2.419	3.490	.911	2.125	1.000	4.875	2.41 x 1.250

All dimensions shown in inches.

Special carbide grades and coatings available upon request.

Call quotations for price and availability.

Tungsten Carbide Tipped, Morse Taper Shank



Thread Size	Tube		Part Number	A Small Diameter	B Spotface Diameter	C Bore Length	D Head Length	E Morse Taper	F Shank Length	Pre-Drill Diameter/Length
	No.	O.D.								
5/16-24	2	.125	262-2031	.272	.682	.473	1.625	2	3.125	F x .688
3/8-24	3	.187	262-2037	.335	.760	.473	1.625	2	3.125	O x .688
7/16-20	4	.250	262-2043	.389	.838	.552	1.625	2	3.125	U x .812
1/2-20	5	.312	262-2050	.452	.916	.552	1.625	2	3.125	.44 x .812
9/16-18	6	.375	262-2056	.509	.979	.614	1.625	2	3.125	.48 x .875
3/4-16	8	.500	262-3075	.689	1.198	.693	1.875	3	3.875	.67 x .937
7/8-14	10	.625	262-3087	.806	1.354	.786	1.875	3	3.875	.78 x 1.062
1-1/16-12	12	.750	262-3106	.981	1.635	.911	2.125	3	3.875	.95 x 1.250
1-3/16-12	14	.875	262-3118	1.106	1.775	.911	2.125	3	3.875	1.09 x 1.250
1-5/16-12	16	1.000	262-3131	1.231	1.920	.911	2.125	3	3.875	1.21 x 1.250
1-5/8-12	20	1.250	262-4162	1.544	2.280	.911	2.125	4	4.875	1.53 x 1.250
1-7/8-12	24	1.500	262-4187	1.794	2.570	.911	2.125	4	4.875	1.78 x 1.250
2-1/2-12	32	2.000	262-4250	2.419	3.490	.911	2.125	4	4.875	2.41 x 1.250

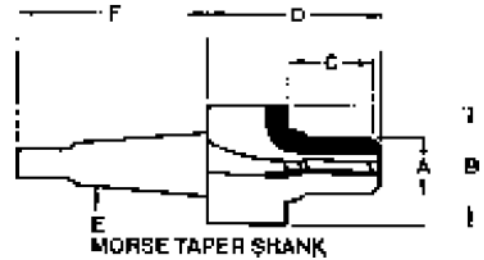
All dimensions shown in inches.

Special carbide grades and coatings available upon request.

Call quotations for price and availability.

Port Contour Cutters – SAE J1926, MS 16142

Tungsten Carbide Tipped Taper Shank with Extra Length Reamer

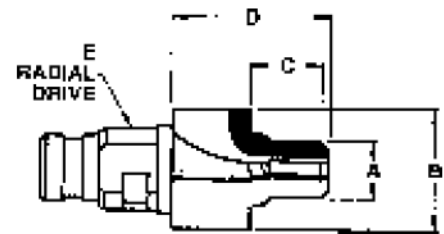


Thread Size	Tube		Part Number	A Small Diameter	B Spotface Diameter	C Bore Length	D Head Length	E Morse Taper	F Shank Length	Pre-Drill Diameter/Length
	No.	O.D.								
5/16-24	2	.125	261-2031	.272	.682	.580	1.750	2	3.125	F x .812
3/8-24	3	.187	261-2037	.335	.760	.580	1.750	2	3.125	O x .812
7/16-20	4	.250	261-2043	.389	.838	.690	1.750	2	3.125	U x .937
1/2-20	5	.312	261-2050	.452	.916	.690	1.750	2	3.125	.44 x .937
9/16-18	6	.375	261-2056	.509	.979	.750	1.750	2	3.125	.48 x .968
3/4-16	8	.500	261-3075	.689	1.198	.840	2.000	3	3.875	.67 x 1.090
7/8-14	10	.625	261-3087	.806	1.354	.970	2.000	3	3.875	.78 x 1.220
1-1/16-12	12	.750	261-3106	.981	1.635	1.125	2.250	3	3.875	.95 x 1.470
1-3/16-12	14	.875	261-3118	1.106	1.775	1.125	2.250	3	3.875	1.09 x 1.470
1-5/16-12	16	1.000	261-3131	1.231	1.920	1.125	2.250	3	3.875	1.21 x 1.470
1-5/8-12	20	1.250	261-4162	1.544	2.280	1.125	2.250	4	4.875	1.53 x 1.470

All dimensions shown in inches.
Special carbide grades and coatings available upon request.

Call quotations for price and availability.

Tungsten Carbide Tipped, Radial Drive



Use with 320, 321 & 323 Series Holders (Pages 60-61)

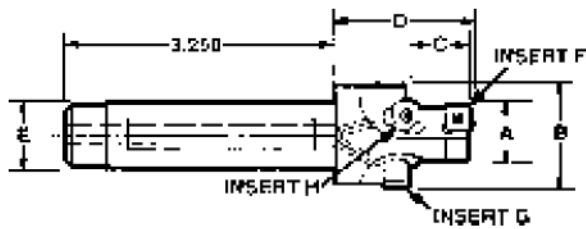
Thread Size	Tube		Part Number	A Small Diameter	B Spotface Diameter	C Bore Length	D Head Length	E Radial Drive	Number of Flutes	Pre-Drill Diameter/Length
	No.	O.D.								
5/16-24	2	.125	260-2031	.272	.875	.473	1.50	RB	3	F x .687
3/8-24	3	.188	260-2037	.335	.875	.473	1.50	RB	3	O x .687
7/16-20	4	.250	260-2043	.389	.875	.552	1.50	RB	3	U x .812
1/2-20	5	.313	260-2050	.452	.938	.552	1.50	RB	3	.44 x .812
9/16-18	6	.375	260-2056	.509	1.000	.614	1.63	RB	3	.48 x .875
3/4-16	8	.500	260-3075	.689	1.219	.693	1.63	RC	3	.67 x .937
7/8-14	10	.625	260-3087	.806	1.375	.786	1.75	RC	4	.78 x 1.062
1-1/16-12	12	.750	260-4106	.981	1.656	.911	1.88	RE	4	.95 x 1.250
1-3/16-12	14	.875	260-5118	1.106	1.813	.911	1.88	RF	4	1.09 x 1.250
1-5/16-12	16	1.000	260-5131	1.231	2.000	.911	1.88	RF	4	1.21 x 1.250
1-5/8-12	20	1.250	260-6162	1.544	2.313	.911	1.88	RJ	4	1.53 x 1.250
1-7/8-12	24	1.500	260-6187	1.794	2.563	.911	1.88	RJ	4	1.78 x 1.250
2-1/2-12	32	2.000	260-7250	2.419	3.500	.911	1.88	RS	4	2.41 x 1.250

All dimensions shown in inches.
Special carbide grades and coatings available upon request.

Call quotations for price and availability.

Port Contour Cutters – SAE J1926, MS 16142

Indexable, Straight Shank - Through Coolant



Thread Size	Tube		Part Number	A Small Diameter	B Spotface Diameter	C Bore Length	D Head Length	E Shank Diameter	Pre-Drill Diameter/Length
	No.	O.D.							
7/16-20	4	.250	267-3043	.389	.875	.552	1.389	.750	U x .812
1/2-20	5	.312	267-3050	.452	.916	.552	1.389	.750	.44 x .812
9/16-18	6	.375	267-3056	.509	.979	.614	1.819	.750	.48 x .875
3/4-16	8	.500	267-3075	.689	1.198	.693	1.654	.750	.67 x .937
7/8-14	10	.625	267-3087	.806	1.354	.786	1.874	.750	.78 x 1.062
1-1/16-12	12	.750	267-4106	.981	1.635	.911	2.014	1.000	.95 x 1.250
1-3/16-12	14	.875	267-4118	1.106	1.775	.911	2.014	1.000	1.09 x 1.250
1-5/16-12	16	1.000	267-4131	1.231	1.920	.911	2.014	1.000	1.21 x 1.250
1-5/8-12	20	1.250	267-5162	1.544	2.280	.911	2.275	1.250	1.53 x 1.250
1-7/8-12	24	1.500	267-5187	1.794	2.570	.911	2.275	1.250	1.78 x 1.250
2-1/2-12	32	2.000	267-8250	2.419	3.490	.911	2.685	2.000	2.41 x 1.250

All dimensions shown in inches. Inserts included with tool.

Inserts & Accessories for Indexable, Straight Shank Port Contour Cutters

Tool Number	Insert "F&G" Honed Coated	Insert "F&G" Unhoned Uncoated	Torx Screw	Torx Wrench	Insert "H" Honed Coated	Insert "H" Unhoned Uncoated	Torx Screw	Torx Wrench
267-3043	C-250-BD	C-250-CC	056-1017	056-2017 T-7	D-312-GF	D-312-FE	056-1017	056-2017 T-7
267-3050	C-250-BD	C-250-CC	056-1017	056-2017 T-7	D-312-GF	D-312-FE	056-1017	056-2017 T-7
267-3056	C-250-BD	C-250-CC	056-1017	056-2017 T-7	D-312-GF	D-312-FE	056-1017	056-2017 T-7
267-3075	C-312-BD	C-312-CC	056-1020	056-2028 T-8	D-375-GF	D-375-FE	056-1033	056-2033 T-10
267-3087	C-312-BD	C-312-CC	056-1020	056-2028 T-8	D-375-GF	D-375-FE	056-1033	056-2033 T-10
267-4106	C-375-BD	C-375-CC	056-1018	056-2015 T-15	D-500-GF	D-500-FE	056-1018	056-2015 T-15
267-4118	C-375-BD	C-375-CC	056-1018	056-2015 T-15	D-500-GF	D-500-FE	056-1018	056-2015 T-15
267-4131	C-375-BD	C-375-CC	056-1018	056-2015 T-15	D-500-GF	D-500-FE	056-1018	056-2015 T-15
267-5162	C-500-BD	C-500-CC	056-1018	056-2015 T-15	D-500-GF	D-500-FE	056-1018	056-2015 T-15
267-5187	C-500-BD	C-500-CC	056-1018	056-2015 T-15	D-500-GF	D-500-FE	056-1018	056-2015 T-15
267-8250	C-502-BD	C-502-CC	056-1018	056-2015 T-15	D-500-GF	D-500-FE	056-1018	056-2015 T-15

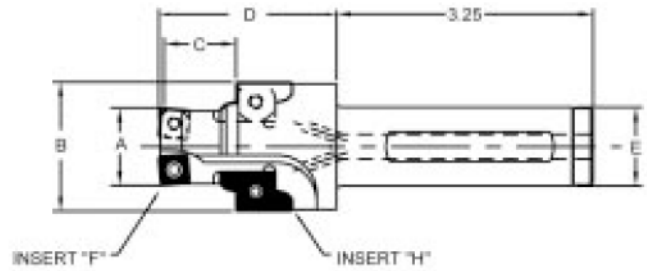
NOTE: Sizes not listed, and special configurations available on request.

NOTE: Insert G is available with 1/64" nose radius (e.g. C-251-BD, C-313-BD, C-376-BD, C-501-BD). Prices on request.

NOTE: Insert H is available with a "HF" chip breaker for long chipping materials such as 300 series stainless steel (e.g., D-375-HF)

Port Contour Cutters – SAE J1926, MS 16142

Double Feed Indexable Porting Tools (Two Effective Flutes)



Thread Size	Tube		Part Number	A Small Diameter	B Spotface Diameter	C Bore Length	D Head Length	E Shank Diameter	Pre-Drill Diameter/Length
	No.	O.D.							
9/16-18	6	.375	367-3056	.509	.979	.614	2.000	.750	.41 x .875
3/4-16	8	.500	367-3075	.689	1.297	.693	2.250	.750	.53 x .937
7/8-14	10	.625	367-3087	.806	1.348	.786	2.250	.750	.65 x 1.062
1-1/16-12	12	.750	367-4106	.981	1.642	.911	2.500	1.000	.81 x 1.250
1-5/16-12	16	1.000	367-4131	1.231	1.939	.911	2.500	1.000	1.05 x 1.250

Protected under Greenfield Industries US Patent No. 5816753, "Port Cutting Tool with Multiple Function Inserts".

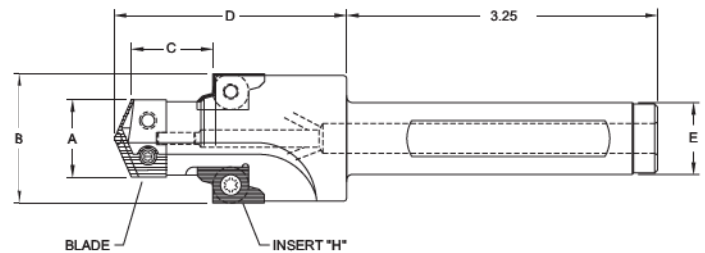
Inserts & Accessories for Double Feed Indexable Porting Tools

Part Number	Insert "F" Standard	Insert "F" Unhoned	Torx Screw	Torx Wrench	Insert "H" Unhoned Coated	Insert "H" Unhoned Coated	Insert "H" Honed Coated	Torx Screw	Torx Wrench
367-3056	C-187-BD	C-187-CC	056-1115	056-2025 T-5	J-312-FF	J-312-FE	J-312-GF	056-1020	056-2028 T-8
367-3075	C-250-BD	C-250-CC	056-1017	056-2017 T-7	J-375-FF	J-375-FE	J-375-GF	056-1033	056-2033 T-10
367-3087	C-312-BD	C-312-CC	056-1020	056-2028 T-8	J-375-FF	J-375-FE	J-375-GF	056-1033	056-2033 T-10
367-4106	C-375-BD	C-375-CC	056-1018	056-2015 T-15	J-500-FF	J-500-FE	J-500-GF	056-1834	056-2015 T-15
367-4131	C-375-BD	C-375-CC	056-1018	056-2015 T-15	J-501-FF	J-501-FE	J-501-GF	056-1834	056-2015 T-15

Sizes and special configurations not listed call 1-888-434-4370 for price and availability.

Protected under Greenfield Industries US Patent No. 5957633, "Multiple Function Inserts for Port Cutting Tool".

Double Feed Indexable Porting Tool with Spade Blade Insert



Thread	Tube		Part Number	A Small Diameter	B Spotface Diameter	C Bore Length	D Head Length	E Shank Diameter
	No.	O.D.						
9/16-18	6	.375	467-3056	.509	.979	.628	2.09	.750
3/4-16	8	.500	467-3075	.689	1.297	.736	2.38	.750
7/8-14	10	.625	467-3087	.806	1.348	.851	2.43	.750
1-1/16-12	12	.750	467-4106	.981	1.642	.954	2.44	1.000
1-5/16-12	16	1.000	467-4131	1.231	1.939	.954	2.75	1.000

Application information can be found on METCUT's Spade Blade Brochure.

Spade Blades, Inserts & Accessories for Double Feed Indexable Porting

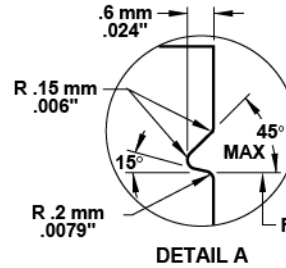
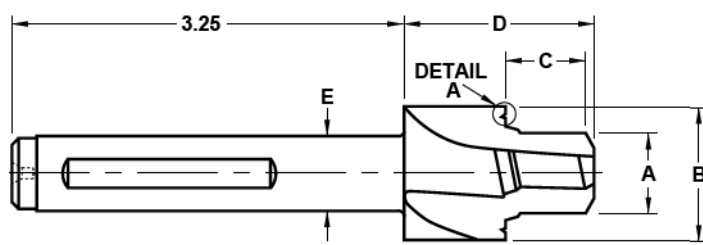
Part Number	Blade		Locating Pin	Torx Screw	Torx Wrench	Seat Insert "H"	Torx Screw	Torx Wrench
	Multi Layer (TiN/TiCN)	TiALN						
467-3056	7F0-0509G	7F0-0509A	SP-2	056-1014	056-2017 T-7	J312-FF	056-1020	056-2028 T-8
467-3075	7F0-0689G	7F0-0689A	SP-2	056-1014	056-2017 T-7	J375-FF	056-1033	056-2033 T-10
467-3087	7F1-0806G	7F1-0806A	SP-3	056-1020	056-2028 T-8	J375-FF	056-1033	056-2033 T-10
467-4106	7F2-0981G	7F2-0981A	SP-4	056-1018	056-2015 T-15	J500-FF	056-1834	056-2015 T-15
467-4131	7F2-1231G	7F2-1231A	SP-4	056-1018	056-2015 T-15	J501-FF	056-1834	056-2015 T-15

Sizes and special configurations not listed call 1-888-434-4370 for price and availability.

Protected under Greenfield Industries US Patent No. 5957633, "Multiple Function Inserts for Port Cutting Tool".

Port Contour Cutters in Metric Sizes – ISO 6149-1, SAE J2244/1

High Speed Steel, Straight Shank, *With Groove*



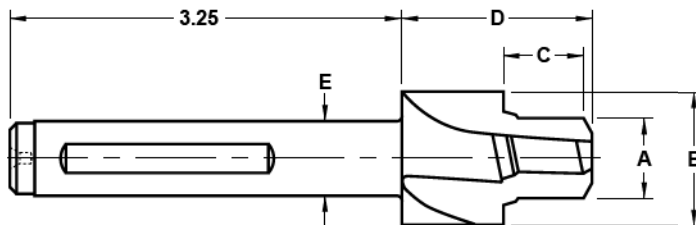
Metric Sizes

Thread Size	Part Number	A Small Diameter	B Spotface Diameter*	C Bore Length	D Head Length	E Shank Dia.	F Groove Diameter	Pre-Drill Diameter/Length
M 8 x 1	169-0008	7.035 (.277)	17 (.669)	11.5 (.4528)	44.45 (1.75)	12.7 (.500)	14 (.551)	(D x .589)
M 10 x 1	169-0010	9.042 (.356)	20 (.787)	11.5 (.4528)	44.45 (1.75)	19.05 (.750)	16 (.6299)	(P x .589)
M 12 x 1.5	169-0012	10.541 (.415)	23 (.9055)	14 (.5512)	44.45 (1.75)	19.05 (.750)	19 (.748)	(W x .681)
M 14 x 1.5	169-0014	12.522 (.493)	25 (.9843)	14 (.5512)	44.45 (1.75)	19.05 (.750)	21 (.8268)	(.45 x .681)
M 16 x 1.5	169-0016	14.528 (.572)	28 (1.1024)	15.5 (.6102)	50.8 (2.00)	19.05 (.750)	24 (.9449)	(.54 x .740)
M 18 x 1.5	169-0018	16.535 (.651)	30 (1.1811)	17 (.6693)	50.8 (2.00)	19.05 (.750)	26 (1.0236)	(.62 x .809)
M 22 x 1.5	169-0022	20.523 (.808)	34 (1.3386)	18 (.7087)	50.8 (2.00)	19.05 (.750)	29 (1.1417)	(.78 x .849)
M 27 x 2	169-0027	25.019 (.985)	40 (1.578)	22 (.8661)	57.15 (2.25)	25.4 (1.00)	34 (1.3386)	(.95 x 1.01)
M 33 x 2	169-0033	31.013 (1.221)	49 (1.9291)	22 (.8661)	57.15 (2.25)	25.4 (1.00)	43 (1.6929)	(1.17 x 1.01)
M 42 x 2	169-0042	40.030 (1.576)	60 (2.3622)	22.5 (.8858)	57.15 (2.25)	31.75 (1.25)	52 (2.0472)	(1.54 x 1.03)
M 48 x 2	169-0048	46.025 (1.812)	66 (2.5984)	25 (.9843)	57.15 (2.25)	31.75 (1.25)	57 (2.2441)	(1.78 x 1.13)

Inches are shown in parentheses; all other dimensions are in millimeters.

* Includes groove.

High Speed Steel, Straight Shank, *without Groove*



Metric Sizes

Thread Size	Part Number	A Small Diameter	B Spotface Diameter	C Bore Length	D Head Length	E Shank Dia.	Pre-Drill Diameter/Length
M 8 x 1	169-1008	7.035 (.277)	14 (.5512)	11.5 (.4528)	44.45 (1.75)	12.7 (.500)	(D x .589)
M 10 x 1	169-1010	9.042 (.356)	16 (.6299)	11.5 (.4528)	44.45 (1.75)	19.05 (.750)	(P x .589)
M 12 x 1.5	169-1012	10.541 (.415)	19 (.748)	14 (.5512)	44.45 (1.75)	19.05 (.750)	(W x .681)
M 14 x 1.5	169-1014	12.522 (.493)	21 (.8268)	14 (.5512)	44.45 (1.75)	19.05 (.750)	(.45 x .681)
M 16 x 1.5	169-1016	14.528 (.572)	24 (.9449)	15.5 (.6102)	50.8 (2.00)	19.05 (.750)	(.54 x .740)
M 18 x 1.5	169-1018	16.535 (.651)	26 (1.0236)	17 (.6693)	50.8 (2.00)	19.05 (.750)	(.62 x .809)
M 22 x 1.5	169-1022	20.523 (.808)	29 (1.1417)	18 (.7087)	50.8 (2.00)	19.05 (.750)	(.78 x .849)
M 27 x 2	169-1027	25.019 (.985)	34 (1.3386)	22 (.8661)	57.15 (2.25)	25.4 (1.00)	(.95 x 1.01)
M 33 x 2	169-1033	31.013 (1.221)	43 (1.6929)	22 (.8661)	57.15 (2.25)	25.4 (1.00)	(1.17 x 1.01)
M 42 x 2	169-1042	40.030 (1.576)	52 (2.0472)	22.5 (.8858)	57.15 (2.25)	31.75 (1.25)	(1.54 x 1.03)
M 48 x 2	169-1048	46.025 (1.812)	57 (2.2441)	25 (.9843)	57.15 (2.25)	31.75 (1.25)	(1.78 x 1.13)

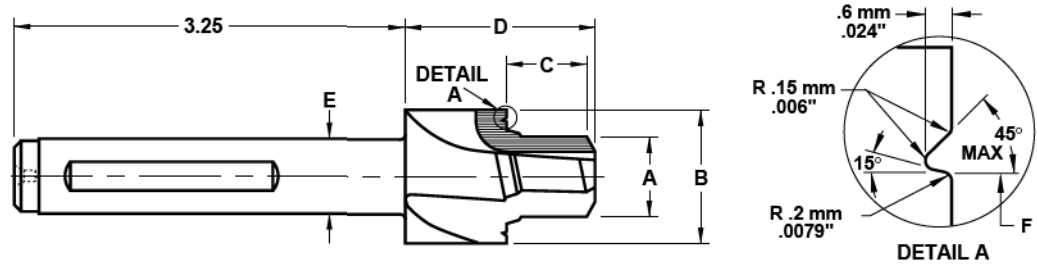
Inches are shown in parentheses; all other dimensions are in millimeters.

Metric Indexable models are available price on application (POA)
ISO-6149 & SAE J2244 (1980-1993) Specifications available as (POA)

Port Contour Cutters in Metric Sizes – ISO 6149-1, SAE J2244/1

Tungsten Carbide Tipped, Straight Shank, *With Groove*

Metric Sizes



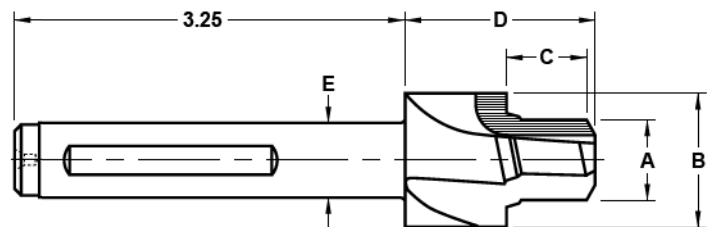
Thread Size	Part Number	A Small Diameter	B Spotface Diameter*	C Bore Length	D Head Length	E Shank Dia.	F Groove Diameter	Pre-Drill Diameter/Length
M 8 x 1	269-0008	7.035 (.277)	17 (.669)	11.5 (.4528)	44.45 (1.75)	12.7 (.500)	14 (.5512)	(D x .589)
M 10 x 1	269-0010	9.042 (.356)	20 (.787)	11.5 (.4528)	44.45 (1.75)	19.05 (.750)	16 (.6299)	(P x .589)
M 12 x 1.5	269-0012	10.541 (.415)	23 (.9055)	14 (.5512)	44.45 (1.75)	19.05 (.750)	19 (.7480)	(W x .681)
M 14 x 1.5	269-0014	12.522 (.493)	25 (.9843)	14 (.5512)	44.45 (1.75)	19.05 (.750)	21 (.8268)	(.45 x .681)
M 16 x 1.5	269-0016	14.528 (.572)	28 (1.1024)	15.5 (.6102)	50.8 (2.00)	19.05 (.750)	24 (.9449)	(.54 x .740)
M 18 x 1.5	269-0018	16.535 (.651)	30 (1.1811)	17 (.6693)	50.8 (2.00)	19.05 (.750)	26 (1.0236)	(.62 x .809)
M 22 x 1.5	269-0022	20.523 (.808)	34 (1.3386)	18 (.7087)	50.8 (2.00)	19.05 (.750)	29 (1.1417)	(.78 x .849)
M 27 x 2	269-0027	25.019 (.985)	40 (1.578)	22 (.8661)	57.15 (2.25)	25.4 (1.00)	34 (1.3386)	(.95 x 1.01)
M 33 x 2	269-0033	31.013 (1.221)	49 (1.9291)	22 (.8661)	57.15 (2.25)	25.4 (1.00)	43 (1.6929)	(1.17 x 1.01)
M 42 x 2	269-0042	40.030 (1.576)	60 (2.3622)	22.5 (.8858)	57.15 (2.25)	31.75 (1.25)	52 (2.0472)	(1.54 x 1.03)
M 48 x 2	269-0048	46.025 (1.812)	66 (2.5984)	25 (.9843)	57.15 (2.25)	31.75 (1.25)	57 (2.2441)	(1.78 x 1.13)
M 60 x 2	269-0060	58.013 (2.284)	79 (2.9921)	27.5 (1.0827)	57.15 (2.25)	38.1 (1.50)	67 (2.6378)	(2.25 x 1.22)

Inches are shown in parentheses; all other dimensions are in millimeters.

* Includes groove.

Tungsten Carbide Tipped, Straight Shank, *Without Groove*

Metric Sizes



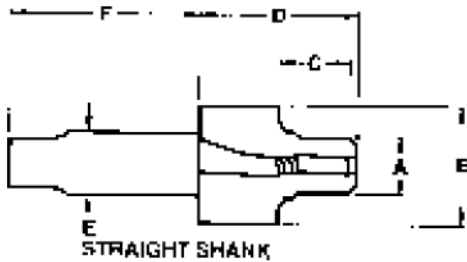
Thread Size	Part Number	A Small Diameter	B Spotface Diameter	C Bore Length	D Head Length	E Shank Dia.	Pre-Drill Diameter/Length
M 8 x 1	269-1008	7.035 (.277)	14 (.5512)	11.5 (.4528)	44.45 (1.75)	12.7 (.500)	(D x .589)
M 10 x 1	269-1010	9.042 (.356)	16 (.6299)	11.5 (.4528)	44.45 (1.75)	19.05 (.750)	(P x .589)
M 12 x 1.5	269-1012	10.541 (.415)	19 (.748)	14 (.5512)	44.45 (1.75)	19.05 (.750)	(W x .681)
M 14 x 1.5	269-1014	12.522 (.493)	21 (.8268)	14 (.5512)	44.45 (1.75)	19.05 (.750)	(.45 x .681)
M 16 x 1.5	269-1016	14.528 (.572)	24 (.9449)	15.5 (.6102)	50.8 (2.00)	19.05 (.750)	(.54 x .740)
M 18 x 1.5	269-1018	16.535 (.651)	26 (1.0236)	17 (.6693)	50.8 (2.00)	19.05 (.750)	(.62 x .809)
M 22 x 1.5	269-1022	20.523 (.808)	29 (1.1417)	18 (.7087)	50.8 (2.00)	19.05 (.750)	(.78 x .849)
M 27 x 2	269-1027	25.019 (.985)	34 (1.3386)	22 (.8661)	57.15 (2.25)	25.4 (1.00)	(.95 x 1.01)
M 33 x 2	269-1033	31.013 (1.221)	43 (1.6929)	22 (.8661)	57.15 (2.25)	25.4 (1.00)	(1.17 x 1.01)
M 42 x 2	269-1042	40.030 (1.576)	52 (2.0472)	22.5 (.8858)	57.15 (2.25)	31.75 (1.25)	(1.54 x 1.03)
M 48 x 2	269-1048	46.025 (1.812)	57 (2.2441)	25 (.9843)	57.15 (2.25)	31.75 (1.25)	(1.78 x 1.13)
M 60 x 2	269-1060	58.013 (2.284)	67 (2.6378)	27.5 (1.0827)	57.15 (2.25)	38.1 (1.50)	(2.25 x 1.22)

Inches shown in parentheses; all other dimensions are in millimeters.

Metric Indexable models are available price on application (POA)
ISO-6149 & SAE J2444 (1980-1993) Specifications available as (POA)

Port Contour Cutters – MS 33649, NASA MC 240

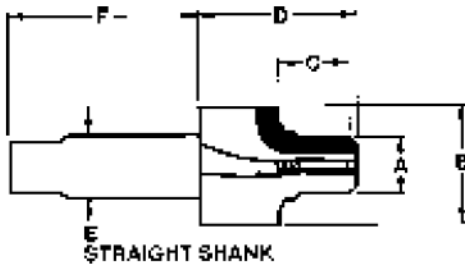
High Speed Steel, Straight Shank



Thread Size	Tube		Part Number	A** Small Diameter	B Spotface Diameter	C Bore Length	D Head Length	E Shank Diameter	F Shank Length	Pre-Drill Diameter/ Length
	No.	O.D.								
5/16 - 24	2	.125	164-0031	.276	.682	.582	1.750	.500	2.00	F x .812
3/8 - 24	3	.187	164-0037	.338	.760	.588	1.750	.500	2.00	O x .812
7/16 - 20	4	.250	164-0043	.393	.838	.661	1.750	.500	2.00	U x .937
1/2 - 20	5	.312	164-0050	.455	.916	.661	1.750	.500	2.00	.44 x .937
9/16 - 18	6	.375	164-0056	.513	.979	.714	1.750	.500	2.00	.48 x .968
5/8 - 18	7	.438	164-0062	.575	1.105	.745	1.750	.500	2.00	.55 x 1.030
3/4 - 16	8	.500	164-0075	.693	1.198	.839	2.000	.750	2.00	.67 x 1.090
7/8 - 14	10	.625	164-0087	.810	1.354	.935	2.000	.750	2.00	.78 x 1.220
1 - 12	11	.688	164-0100	.924	1.500	1.080	2.000	.750	2.00	.90 x 1.410
1 1/16 - 12	12	.750	164-0106	.986	1.635	1.069	2.250	.750	2.00	.95 x 1.410
1 3/16 - 12	14	.875	164-0118	1.111	1.790	1.080	2.250	.750	2.00	1.09 x 1.410
1 5/16 - 12	16	1.000	164-0131	1.236	1.920	1.069	2.250	.750	2.00	1.22 x 1.410
1 5/8 - 12	20	1.250	164-0162	1.549	2.280	1.121	2.250	1.000	2.25	1.53 x 1.470
1 7/8 - 12	24	1.500	164-0187	1.799	2.570	1.132	2.250	1.000	2.25	1.78 x 1.470

All dimensions shown in inches.
**MIL-S-8879C UNJF Class 3B

Tungsten Carbide Tipped, Straight Shank

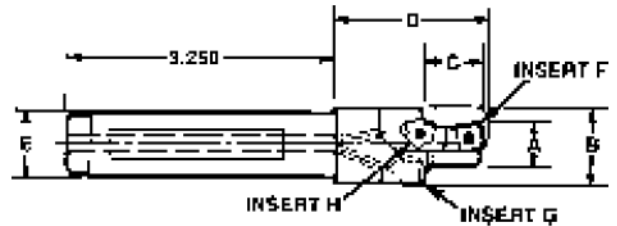


Thread Size	Tube		Part Number	A** Small Diameter	B Spotface Diameter	C Bore Length	D Head Length	E Shank Diameter	F Shank Length	Pre-Drill Diameter/ Length
	No.	O.D.								
5/16 - 24	2	.125	264-0031	.276	.682	.582	1.750	.500	2.00	F x .812
3/8 - 24	3	.187	264-0037	.338	.760	.588	1.750	.500	2.00	O x .812
7/16 - 20	4	.250	264-0043	.393	.838	.661	1.750	.500	2.00	U x .937
1/2 - 20	5	.312	264-0050	.455	.916	.661	1.750	.500	2.00	.44 x .937
9/16 - 18	6	.375	264-0056	.513	.979	.714	1.750	.500	2.00	.48 x .968
5/8 - 18	7	.438	264-0062	.575	1.105	.745	1.750	.500	2.00	.55 x 1.030
3/4 - 16	8	.500	264-0075	.693	1.198	.839	2.000	.750	2.00	.67 x 1.090
7/8 - 14	10	.625	264-0087	.810	1.354	.935	2.000	.750	2.00	.78 x 1.220
1 - 12	11	.688	264-0100	.924	1.500	1.080	2.000	.750	2.00	.90 x 1.410
1 1/16 - 12	12	.750	264-0106	.985	1.635	1.069	2.250	.750	2.00	.95 x 1.410
1 3/16 - 12	14	.875	264-0118	1.111	1.790	1.080	2.250	.750	2.00	1.09 x 1.410
1 5/16 - 12	16	1.000	264-0131	1.236	1.920	1.069	2.250	.750	2.00	1.22 x 1.410
1 5/8 - 12	20	1.250	264-0162	1.549	2.280	1.121	2.250	1.000	2.25	1.53 x 1.470
1 7/8 - 12	24	1.500	264-0187	1.799	2.570	1.132	2.250	1.000	2.25	1.78 x 1.470

All dimensions shown in inches.
**MIL-S-8879C UNJF Class 3B

Port Contour Cutters – MS 33649, NASA MC 240

Indexable, Straight Shank - Through Coolant



Thread Size	Tube		Part Number	A** Small Diameter	B Spotface Diameter	C Bore Length	D Head Length	E Shank Diameter	Pre-Drill Diameter/Length
	No.	O.D.							
7/16-20	4	.250	268-3043	.393	.875	.661	1.687	.750	U x .937
1/2-20	5	.312	268-3050	.455	.916	.661	1.687	.750	.44 x .937
9/16-18	6	.375	268-3056	.513	.979	.714	1.733	.750	48 x .968
3/4-16	8	.500	268-3075	.693	1.198	.839	1.949	.750	.67 x 1.090
7/8-14	10	.625	268-3087	.810	1.354	.935	2.034	.750	.78 x 1.220
1-1/16-12	12	.750	268-4106	.986	1.635	1.069	2.175	1.000	.95 x 1.410
1-3/16-12	14	.875	* 268-4118	1.111	1.790	1.069	2.175	1.000	1.09 x 1.410
1-5/16-12	16	1.000	268-4131	1.236	1.920	1.069	2.175	1.000	1.22 x 1.410
1-5/8-12	20	1.250	268-5162	1.549	2.280	1.121	2.489	1.250	1.53 x 1.470
1-7/8-12	24	1.500	* 268-5187	1.799	2.570	1.132	2.500	1.250	1.78 x 1.470
2-1/4-12	28	1.750	268-8225	2.174	3.020	1.248	2.614	2.000	2.16 x 1.590

All dimensions shown in inches. Inserts included with tool.

*Non-stocked.

**MIL-S-8879C UNJF Class 3B

Inserts & Accessories for Indexable, Straight Shank Port Contour Cutters

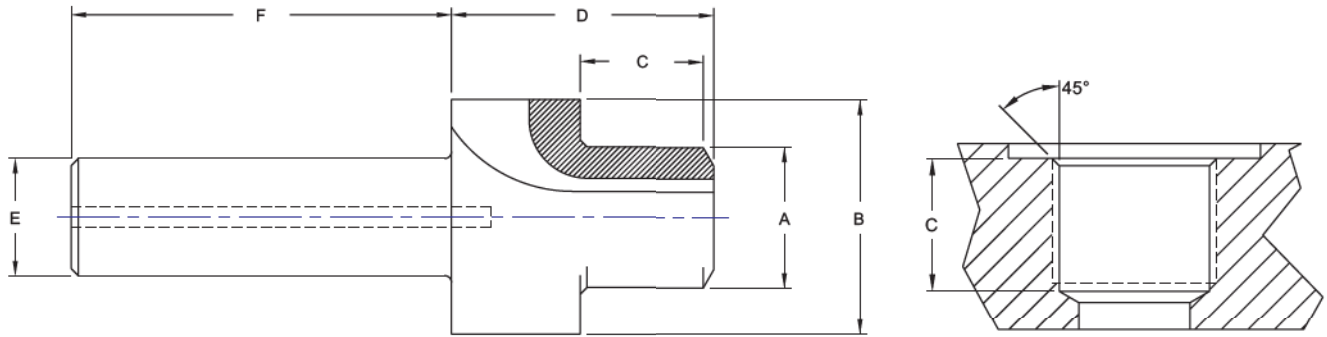
Tool Number	Insert "F&G" Honed Coated	Insert "F&G" Unhoned Uncoated	Torx Screw	Torx Wrench	Insert "H" Honed Coated	Insert "H" Unhoned Uncoated	Torx Screw	Torx Wrench
268-3043	C-250-BD	C-250-CC	056-1017	056-2017 T-7	E-312-GF	E-312-FE	056-1017	056-2017 T-7
268-3050	C-250-BD	C-250-CC	056-1017	056-2017 T-7	E-312-GF	E-312-FE	056-1017	056-2017 T-7
268-3056	C-250-BD	C-250-CC	056-1017	056-2017 T-7	E-375-GF	E-375-FE	056-1020	056-2028 T-8
268-3075	C-312-BD	C-312-CC	056-1020	056-2028 T-8	E-376-GF	E-376-FE	056-1020	056-2028 T-8
268-3087	C-312-BD	C-312-CC	056-1020	056-2028 T-8	E-377-GF	E-377-FE	056-1020	056-2028 T-8
268-4106	C-375-BD	C-375-CC	056-1018	056-2015 T-15	E-378-GF	E-378-FE	056-1018	056-2015 T-15
268-4118	C-375-BD	C-375-CC	056-1018	056-2015 T-15	E-378-GF	E-378-FE	056-1018	056-2015 T-15
268-4131	C-375-BD	C-375-CC	056-1018	056-2015 T-15	E-378-GF	E-378-FE	056-1018	056-2015 T-15
268-5162	C-500-BD	C-500-CC	056-1018	056-2015 T-15	E-378-GF	E-378-FE	056-1018	056-2015 T-15
268-5187	C-500-BD	C-500-CC	056-1018	056-2015 T-15	E-378-GF	E-378-FE	056-1018	056-2015 T-15
268-8225	C-500-BD	C-500-CC	056-1018	056-2015 T-15	E-378-GF	E-378-FE	056-1018	056-2015 T-15

NOTE: Sizes not listed, and special configurations available on request.

NOTE: Insert G is available with 1/64" nose radius (e.g. C-251-BD, C-313-BD, C-376-BD, C-501-BD). Prices on request.

BSPP/BSPF (Rp) BSI BS21

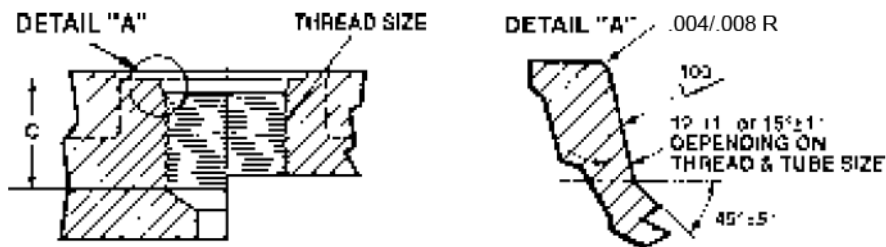
Tungsten Carbide Tipped, Straight Shank



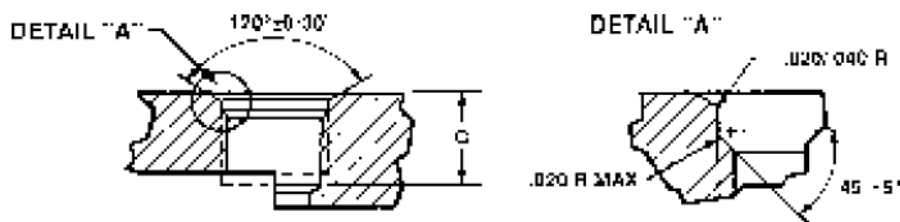
Thread Size	Part Number	A Small Diameter	B Spotface Diameter	C Bore Length	D Head Length	E Shank Diameter	F Shank Length
1/8-28	265-2012	.346	.694	.625	1.750	.500	2.500
1/4-19	265-2025	.465	.891	.830	1.750	.500	2.500
3/8-19	265-2037	.600	1.009	.880	2.000	.500	2.500
1/2-14	265-3050	.748	1.186	1.066	2.250	.750	2.500
3/4-14	265-3075	.964	1.452	1.066	2.250	.750	3.000
1-11	265-3100	1.210	1.820	1.255	2.750	.750	3.000
1-1/4-11	265-4125	1.554	2.249	1.375	3.000	1.000	3.000
1-1/2-11	265-4150	1.771	2.505	1.375	3.000	1.000	3.000
2-11	265-4200	2.249	3.000	1.567	3.250	1.000	3.000
2-1/2-11	265-4250	2.874	3.500	1.849	3.500	1.000	3.250

Port Details

SAE J1926, MS 16142 & ISO 6149 (Metric) Port Detail



MS 33649, NASA MC 240 Port Detail



Port Contour Cutters Application Information

Surface Feet Per Minute and Feet Per Revolution

HSS Cutters			TCT Cutters		
Material	SFM*	IPR**	Material	SFM*	IPR**
Aluminum	200	.009-.012	Aluminum	400	.009-.012
Cast Iron	60	.009-.012	Cast Iron	150	.009-.012
Mild Steel	50	.006-.009	Mild Steel	140	.006-.009

* Based on Small Diameter. ** Based on 3-fluted tool.
All feed and speeds based on uncoated tools.

Recommended Speeds and Feeds For 267 and 268 Series Indexable Port Contour Cutters

The following speed and feed table should be used only as a starting point. Ultimate speeds and feeds depend upon the machine, the set-up, and material conditions

Note: All indexable tooling should be run on rigid spindle machines.

Part Number	Size	Mild Steel		300 Series Stainless Steel		Cast Iron		Aluminum	
		RPM	IPR	RPM	IPR	RPM	IPR	RPM	IPR
267-3043 268-3043	7/16 – 20	2900-3100	.003-.005	2600-2700	.003-.004	2900-3100	.003-.005	4900-5100	.003-.005
267-3050 268-3050	1/2 – 20	2900-3100	.003-.005	2600-2700	.003-.004	2900-3100	.003-.005	4900-5100	.003-.005
267-3056 268-3056	9/16 – 18	2900-3100	.003-.005	2600-2700	.003-.004	2900-3100	.003-.005	4900-5100	.003-.005
267-3075 268-3075	3/4 – 16	2100-2300	.003-.005	1900-2000	.003-.004	1900-2100	.004-.006	4900-5100	.003-.005
267-3087 268-3087	7/8 – 14	1700-1900	.003-.005	1500-1600	.003-.004	1500-1700	.004-.006	4400-4600	.003-.005
267-4106 268-4106	1-1/16 – 12	1500-1700	.004-.006	1350-1450	.004-.005	1300-1500	.005-.007	3700-3900	.004-.006
267-4118 268-4118	1-3/16 – 12	1300-1500	.004-.006	1150-1250	.004-.005	1100-1300	.005-.007	3300-3500	.004-.006
267-4131 268-4131	1-5/16 – 12	1100-1300	.004-.006	1000-1100	.004-.005	900-1100	.005-.007	2900-3100	.004-.006
267-5162 268-5162	1-5/8 – 12	900-1100	.005-.007	800-900	.005-.006	700-900	.006-.008	2400-2600	.005-.007
267-5187 268-5187	1-7/8 – 12	700-900	.005-.007	600-700	.005-.006	500-700	.007-.009	1900-2100	.005-.007
267-8250 268-8225	2-1/2 – 12	500-700	.005-.007	450-550	.005-.006	400-600	.007-.009	1500-1700	.005-.007

For 367 Series Double Feed Indexable Porting Tools

Part Number	Size	Mild Steel		Cast Iron		Aluminum	
		RPM	IPR	RPM	IPR	RPM	IPR
367-3056	9/16 – 18	2900-3100	.006-.010	2900-3100	.006-.010	4900-5100	.006-.010
367-3075	3/4 – 16	2100-2300	.006-.010	1900-2100	.008-.012	4900-5100	.006-.010
367-3087	7/8 – 14	1700-1900	.006-.010	1500-1700	.008-.012	4400-4600	.006-.010
367-4106	1 1/16 – 12	1500-1700	.008-.012	1300-1500	.010-.014	3700-3900	.008-.012
367-4118	1 3/16 – 12	1300-1500	.008-.012	1100-1300	.010-.014	3300-3500	.008-.012

For 467 Series Porting Tools

Please refer to the above 367 series chart for specifying the feed only.
Please refer to the application chart in the Spade Blade Brochure for the speed only.