

PRECISION LINE

STANDARD LINE

METRIC LINE

# AMERICAN CARBIDE TOOLING







# SPECIAL SHAPES



Rev. 1.0

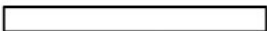
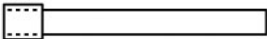
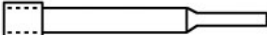
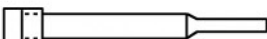
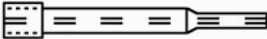
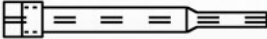


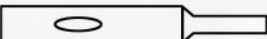





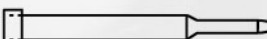
***This catalog showcases the very basic shapes and configurations we manufacture every day. Our customers often have very specialized needs and we meet those needs with special attention, giving our care and expert craftsmanship to every component we craft. We would be pleased to quote your next "special" component. For any shape not listed, just send us your fully dimensioned print and we will happily prepare a quotation for you.***



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## AMERICAN CARBIDE TOOLING

American Carbide Tooling is a Division of Penn United Technology Inc.

Phone: 724-352-1500 Fax: 724-352-1799

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LOCATING DEVICES CAN BE ADDED AT EXTRA COST AT TIME OF MANUFACTURE.  
ALL LOCATING DEVICES WILL BE PARALLEL TO THE LONGEST DIMENSION.

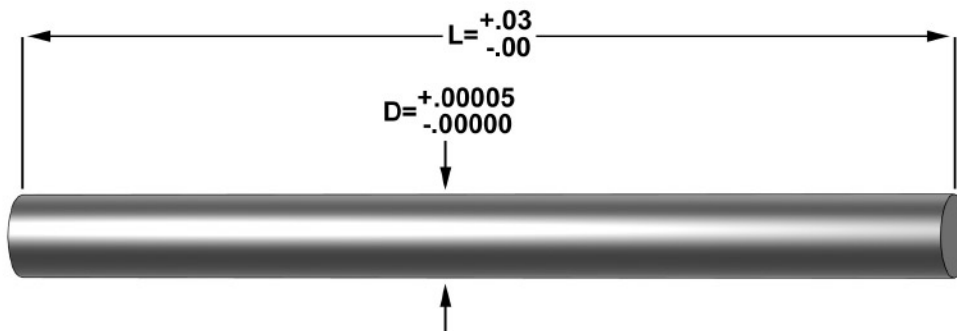
**PRECISION LINE**

# SOLID CARBIDE ROUNDS

(NOMINAL SIZES)



Rev. 1.0



TYPE	BODY DIA. D	OVERALL LENGTH											
		L											
		1 <sup>1/2</sup>	1 <sup>3/4</sup>	2	2 <sup>1/4</sup>	2 <sup>1/2</sup>	2 <sup>3/4</sup>	3	3 <sup>1/4</sup>	3 <sup>1/2</sup>	3 <sup>3/4</sup>	4	
P - 1RF	0.0625	•	•	•	•	•	•	•	•	•	•	•	
P - 2RF	0.1250	•	•	•	•	•	•	•	•	•	•	•	
P - 3RF	0.1875	•	•	•	•	•	•	•	•	•	•	•	
P - 4RF	0.2500	•	•	•	•	•	•	•	•	•	•	•	
P - 5RF	0.3125	•	•	•	•	•	•	•	•	•	•	•	
P - 6RF	0.3750	•	•	•	•	•	•	•	•	•	•	•	
P - 7RF	0.4375	•	•	•	•	•	•	•	•	•	•	•	
P - 8RF	0.5000	•	•	•	•	•	•	•	•	•	•	•	
P - 9RF	0.6250	•	•	•	•	•	•	•	•	•	•	•	
P - 10RF	0.7500	•	•	•	•	•	•	•	•	•	•	•	

When ordering please specify as follows:

Quantity	Catalog Number	L
12	P - 1RF	3 <sup>1/4</sup> "

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

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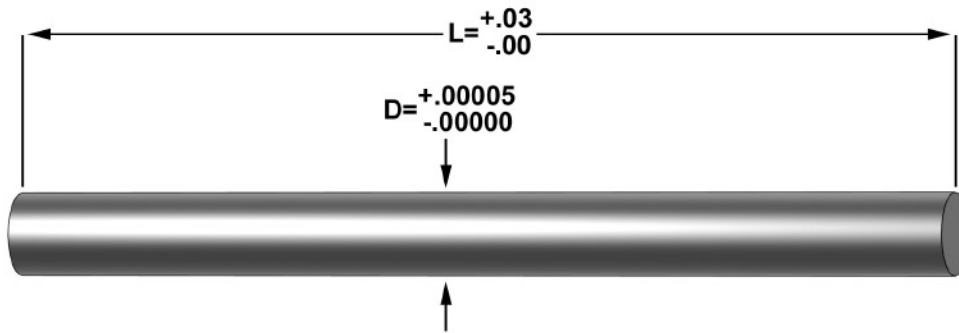
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**SOLID CARBIDE ROUNDS**  
(DECIMAL SIZES)

Rev. 1.0



TYPE	BODY DIA. D	OVERALL LENGTH											
		L											
		1 <sup>1/2</sup>	1 <sup>3/4</sup>	2	2 <sup>1/4</sup>	2 <sup>1/2</sup>	2 <sup>3/4</sup>	3	3 <sup>1/4</sup>	3 <sup>1/2</sup>	3 <sup>3/4</sup>	4	
P - 1RD	0.0300 - 0.0449	•	•	•	•	•	•	•	•	•	•	•	
P - 2RD	0.0450 - 0.0649	•	•	•	•	•	•	•	•	•	•	•	
P - 3RD	0.0650 - 0.0879	•	•	•	•	•	•	•	•	•	•	•	
P - 4RD	0.0880 - 0.1249	•	•	•	•	•	•	•	•	•	•	•	
P - 5RD	0.1251 - 0.1409	•	•	•	•	•	•	•	•	•	•	•	
P - 6RD	0.1410 - 0.1569	•	•	•	•	•	•	•	•	•	•	•	
P - 7RD	0.1570 - 0.1729	•	•	•	•	•	•	•	•	•	•	•	
P - 8RD	0.1730 - 0.1874	•	•	•	•	•	•	•	•	•	•	•	
P - 9RD	0.1876 - 0.2049	•	•	•	•	•	•	•	•	•	•	•	
P - 10RD	0.2050 - 0.2199	•	•	•	•	•	•	•	•	•	•	•	
P - 11RD	0.2200 - 0.2359	•	•	•	•	•	•	•	•	•	•	•	
P - 12RD	0.2360 - 0.2499	•	•	•	•	•	•	•	•	•	•	•	
P - 13RD	0.2501 - 0.2669	•	•	•	•	•	•	•	•	•	•	•	
P - 14RD	0.2670 - 0.2829	•	•	•	•	•	•	•	•	•	•	•	
P - 15RD	0.2830 - 0.2979	•	•	•	•	•	•	•	•	•	•	•	
P - 16RD	0.2980 - 0.3124	•	•	•	•	•	•	•	•	•	•	•	
P - 17RD	0.3126 - 0.3439	•	•	•	•	•	•	•	•	•	•	•	
P - 18RD	0.3440 - 0.3749	•	•	•	•	•	•	•	•	•	•	•	

When ordering please specify as follows:

Quantity	Catalog Number	L	D
12	P - 1RD	3 <sup>1/4</sup> "	0.0430

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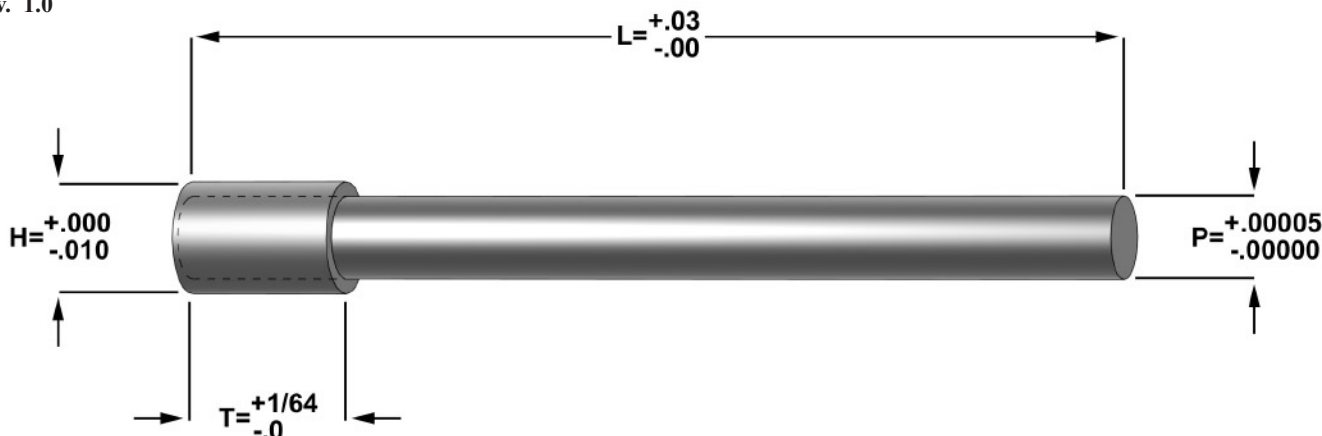
PRECISION LINE

# SOLID CARBIDE QUILLS

(MACHINABLE BRAZED STEEL HEAD)



Rev. 1.0



TYPE	HEAD DIA. H	HEAD THICKNESS T	OVERALL LENGTH												POINT DIA.	
			L												P	
			1 <sup>1/2</sup>	1 <sup>3/4</sup>	2	2 <sup>1/4</sup>	2 <sup>1/2</sup>	2 <sup>3/4</sup>	3	3 <sup>1/4</sup>	3 <sup>1/2</sup>	3 <sup>3/4</sup>	4	MIN	MAX	
P - 1Q	0.125	3/16"	●	●	●	●	●	●	●	●	●	●	●	0.0450	0.0649	
P - 2Q	0.125	3/16"	●	●	●	●	●	●	●	●	●	●	●	0.0650	0.0879	
P - 3Q	0.171	3/16"	●	●	●	●	●	●	●	●	●	●	●	0.0880	0.1249	
P - 4Q	0.171	3/16"	●	●	●	●	●	●	●	●	●	●	●	0.1250	0.1250	
P - 5Q	0.203	1/4"	●	●	●	●	●	●	●	●	●	●	●	0.1251	0.1409	
P - 6Q	0.218	1/4"	●	●	●	●	●	●	●	●	●	●	●	0.1410	0.1569	
P - 7Q	0.234	1/4"	●	●	●	●	●	●	●	●	●	●	●	0.1570	0.1729	
P - 8Q	0.250	1/4"	●	●	●	●	●	●	●	●	●	●	●	0.1730	0.1874	
P - 9Q	0.296	1/2"	●	●	●	●	●	●	●	●	●	●	●	0.1875	0.1875	
P - 10Q	0.296	1/2"	●	●	●	●	●	●	●	●	●	●	●	0.1876	0.2049	
P - 11Q	0.340	1/2"	●	●	●	●	●	●	●	●	●	●	●	0.2050	0.2199	
P - 12Q	0.340	1/2"	●	●	●	●	●	●	●	●	●	●	●	0.2200	0.2359	
P - 13Q	0.340	1/2"	●	●	●	●	●	●	●	●	●	●	●	0.2360	0.2499	
P - 14Q	0.340	1/2"	●	●	●	●	●	●	●	●	●	●	●	0.2500	0.2500	
P - 15Q	0.400	1/2"	●	●	●	●	●	●	●	●	●	●	●	0.2501	0.2669	
P - 16Q	0.400	1/2"	●	●	●	●	●	●	●	●	●	●	●	0.2670	0.2829	
P - 17Q	0.400	1/2"	●	●	●	●	●	●	●	●	●	●	●	0.2830	0.2979	
P - 18Q	0.400	1/2"	●	●	●	●	●	●	●	●	●	●	●	0.2980	0.3124	
P - 19Q	0.400	1/2"	●	●	●	●	●	●	●	●	●	●	●	0.3125	0.3125	
P - 20Q	0.460	1/2"	●	●	●	●	●	●	●	●	●	●	●	0.3126	0.3439	
P - 21Q	0.460	1/2"	●	●	●	●	●	●	●	●	●	●	●	0.3440	0.3749	
P - 22Q	0.460	1/2"	●	●	●	●	●	●	●	●	●	●	●	0.3750	0.3750	
P - 23Q	0.562	1/2"	●	●	●	●	●	●	●	●	●	●	●	0.4375	0.4375	
P - 24Q	0.625	1/2"	●	●	●	●	●	●	●	●	●	●	●	0.5000	0.5000	
P - 25Q	0.750	1/2"	●	●	●	●	●	●	●	●	●	●	●	0.6250	0.6250	
P - 26Q	0.875	1/2"	●	●	●	●	●	●	●	●	●	●	●	0.7500	0.7500	

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	P - 1Q	3 <sup>1/4</sup> "	.0473

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

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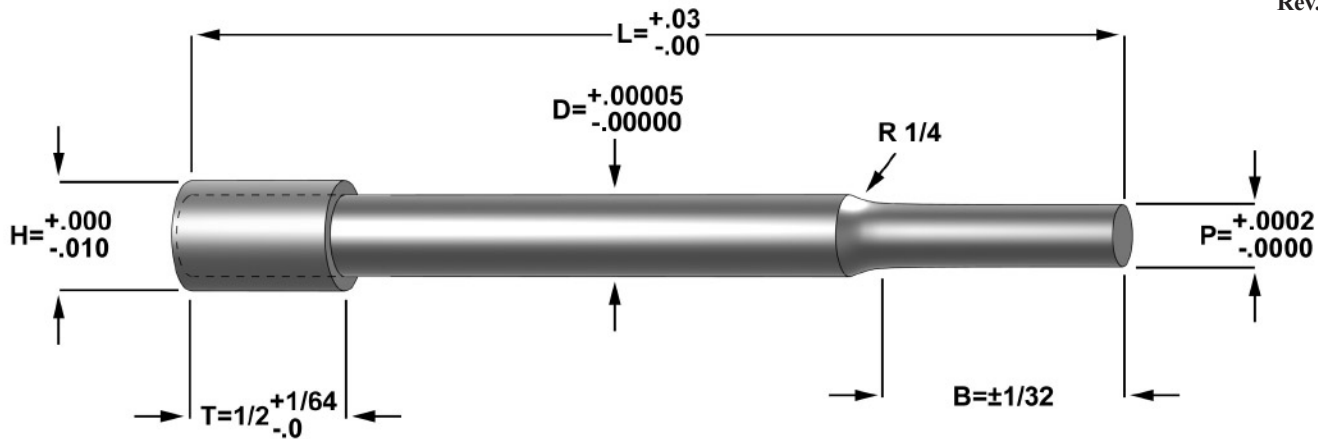


# SOLID CARBIDE PUNCHES

(MACHINABLE BRAZED STEEL HEAD)



Rev. 1.0



.0002 CONCENTRICITY T.I.R. POINT TO BODY



TYPE	BODY DIA. D	HEAD DIA. H	POINT LENGTH B	OVERALL LENGTH L										1- 2P	
														ROUND	
				2	2 1/4	2 1/2	2 3/4	3	3 1/4	3 1/2	3 3/4	4		MIN	MAX
P-1P-12	0.1250	0.171	5/16"	•	•	•	•	•	•	•	•	•		0.0310	0.0609
P-2P-12	0.1250	0.171	3/4"	•	•	•	•	•	•	•	•	•		0.0610	0.1250
P-1P-18	0.1875	0.296	5/16"	•	•	•	•	•	•	•	•	•		0.0310	0.0609
P-2P-18	0.1875	0.296	3/4"	•	•	•	•	•	•	•	•	•		0.0610	0.1875
P-1P-25	0.2500	0.340	3/4"	•	•	•	•	•	•	•	•	•		0.0600	0.1259
P-2P-25	0.2500	0.340	7/8"	•	•	•	•	•	•	•	•	•		0.1260	0.2500
P-1P-31	0.3125	0.400	7/8"	•	•	•	•	•	•	•	•	•		0.1250	0.2499
P-2P-31	0.3125	0.400	7/8"	•	•	•	•	•	•	•	•	•		0.2500	0.3125
P-1P-37	0.3750	0.460	7/8"	•	•	•	•	•	•	•	•	•		0.1870	0.3139
P-2P-37	0.3750	0.460	7/8"	•	•	•	•	•	•	•	•	•		0.3140	0.3750
P-1P-43	0.4375	0.562	7/8"	•	•	•	•	•	•	•	•	•		0.3140	0.3749
P-2P-43	0.4375	0.562	7/8"	•	•	•	•	•	•	•	•	•		0.3750	0.4375
P-1P-50	0.5000	0.625	7/8"	•	•	•	•	•	•	•	•	•		0.3750	0.4379
P-2P-50	0.5000	0.625	7/8"	•	•	•	•	•	•	•	•	•		0.4380	0.5000
P-1P-62	0.6250	0.750	7/8"	•	•	•	•	•	•	•	•	•		0.4380	0.5299
P-2P-62	0.6250	0.750	7/8"	•	•	•	•	•	•	•	•	•		0.5300	0.6250
P-1P-75	0.7500	0.875	7/8"	•	•	•	•	•	•	•	•	•		0.5300	0.6299
P-2P-75	0.7500	0.875	7/8"	•	•	•	•	•	•	•	•	•		0.6300	0.7500

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	P - 1P - 16	3 1/4"	.0473

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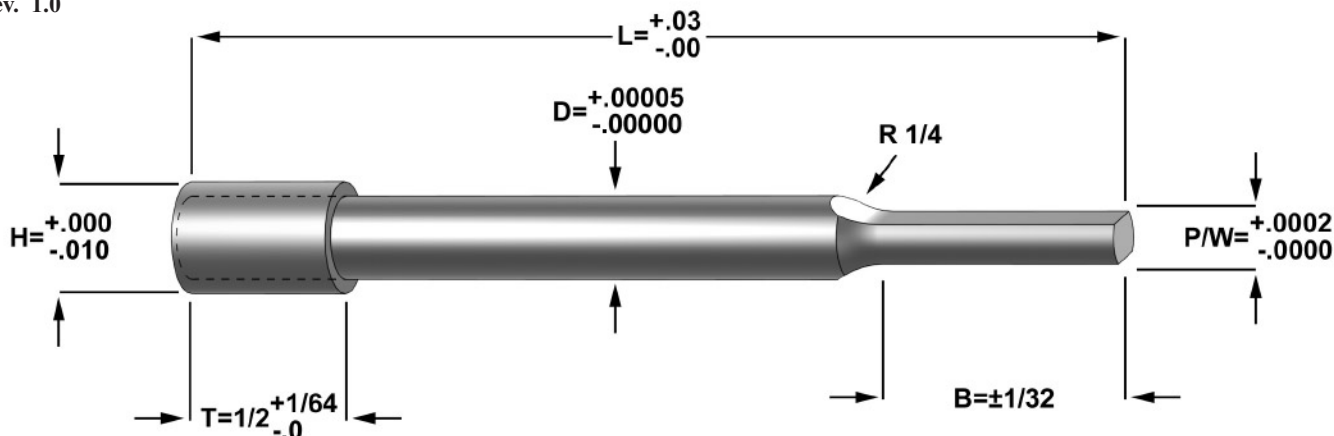
PRECISION LINE

# SOLID CARBIDE PUNCHES

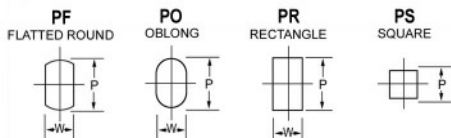
(MACHINABLE BRAZED STEEL HEAD)



Rev. 1.0



.0003 CONCENTRICITY T.I.R. POINT TO BODY



TYPE	PF PO PR PS	BODY DIA. D	HEAD DIA. H	POINT LENGTH B	OVERALL LENGTH																PF				PO				PR				PS			
					L																FLATTED ROUND				OBLONG				RECTANGLE				SQUARE			
					2	2 1/4	2 1/2	2 3/4	3	3 1/4	3 1/2	3 3/4	4	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX					
P ( ) -18		0.1875	0.296	7/8"	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•									
P ( ) -25		0.2500	0.340	7/8"	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•									
P ( ) -31		0.3125	0.400	7/8"	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•									
P ( ) -37		0.3750	0.460	7/8"	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•									
P ( ) -43		0.4375	0.562	7/8"	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•									
P ( ) -50		0.5000	0.625	7/8"	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•									
P ( ) -62		0.6250	0.750	7/8"	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•									
P ( ) -75		0.7500	0.875	7/8"	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•									

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	P - PF - 16	3 1/4"	.0998
Quantity	Catalog Number	L	Point Dimensions
6	P - PF - 16	3 1/4"	W = .1300 P = .0176

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

.003" - .015" radii can be ground at extra cost at time of manufacture.

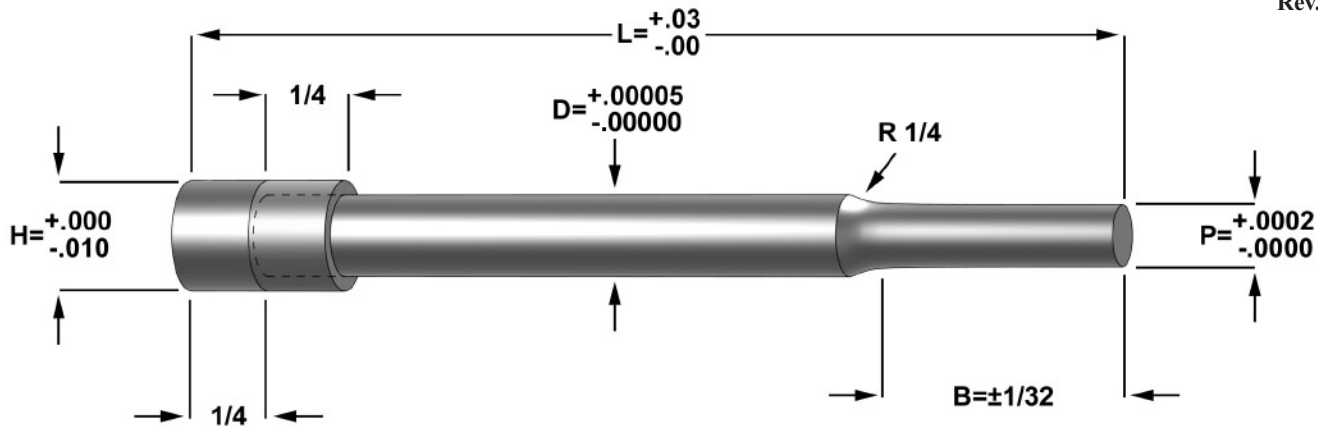


# SOLID CARBIDE PUNCHES

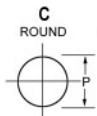
(SOLID CARBIDE HEAD - STEEL COLLAR)



Rev. 1.0



.0002 CONCENTRICITY T.I.R. POINT TO BODY



TYPE	BODY DIA. D	HEAD DIA. H	POINT LENGTH B	OVERALL LENGTH L										1- 2C	
														ROUND	
				2	2 1/4	2 1/2	2 3/4	3	3 1/4	3 1/2	3 3/4	4		MIN	MAX
P-1C-18	0.1875	0.296	5/16"	•	•	•	•	•	•	•	•	•		0.0310	0.0609
P-2C-18	0.1875	0.296	3/4"	•	•	•	•	•	•	•	•	•		0.0610	0.1875
P-1C-25	0.2500	0.340	3/4"	•	•	•	•	•	•	•	•	•		0.0600	0.1259
P-2C-25	0.2500	0.340	7/8"	•	•	•	•	•	•	•	•	•		0.1260	0.2500
P-1C-31	0.3125	0.400	7/8"	•	•	•	•	•	•	•	•	•		0.1250	0.2499
P-2C-31	0.3125	0.400	7/8"	•	•	•	•	•	•	•	•	•		0.2500	0.3125
P-1C-37	0.3750	0.460	7/8"	•	•	•	•	•	•	•	•	•		0.1870	0.3139
P-2C-37	0.3750	0.460	7/8"	•	•	•	•	•	•	•	•	•		0.3140	0.3750
P-1C-43	0.4375	0.562	7/8"	•	•	•	•	•	•	•	•	•		0.3140	0.3749
P-2C-43	0.4375	0.562	7/8"	•	•	•	•	•	•	•	•	•		0.3750	0.4375
P-1C-50	0.5000	0.625	7/8"	•	•	•	•	•	•	•	•	•		0.3750	0.4379
P-2C-50	0.5000	0.625	7/8"	•	•	•	•	•	•	•	•	•		0.4380	0.5000
P-1C-62	0.6250	0.750	7/8"	•	•	•	•	•	•	•	•	•		0.4380	0.5299
P-2C-62	0.6250	0.750	7/8"	•	•	•	•	•	•	•	•	•		0.5300	0.6250
P-1C-75	0.7500	0.875	7/8"	•	•	•	•	•	•	•	•	•		0.5300	0.6299
P-2C-75	0.7500	0.875	7/8"	•	•	•	•	•	•	•	•	•		0.6300	0.7500

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	P - 1C -18	3 1/4"	.0473

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

## AMERICAN CARBIDE TOOLING

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LOCATING DEVICES CAN BE ADDED AT EXTRA COST AT TIME OF MANUFACTURE.  
ALL LOCATING DEVICES WILL BE PARALLEL TO THE LONGEST DIMENSION.

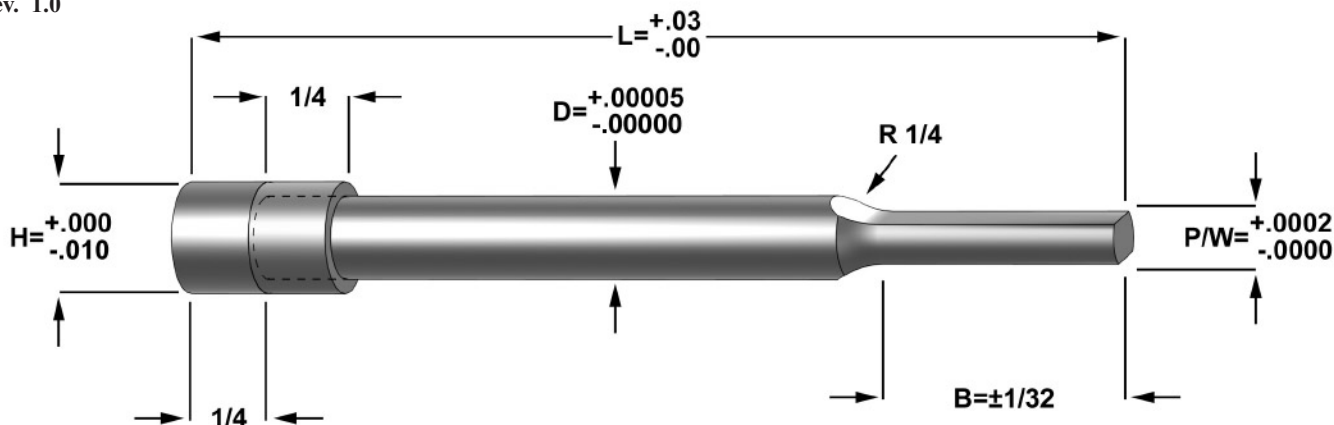
PRECISION LINE

# SOLID CARBIDE PUNCHES

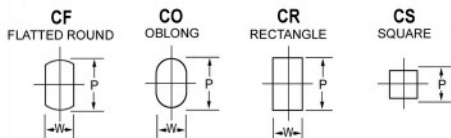
(SOLID CARBIDE HEAD - STEEL COLLAR)



Rev. 1.0



.0003 CONCENTRICITY T.I.R. POINT TO BODY



TYPE	CF CO CR CS	BODY DIA. D	HEAD DIA. H	POINT LENGTH B	OVERALL LENGTH																CF				CO				CR				CS			
					L																FLATTED ROUND				OBLONG				RECTANGLE				SQUARE			
																					W		P		W		P		W/P		P					
					2	2 1/4	2 1/2	2 3/4	3	3 1/4	3 1/2	3 3/4	4	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX					
P ( ) -18		0.1875	0.296	7/8"	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•									
P ( ) -25		0.2500	0.340	7/8"	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•									
P ( ) -31		0.3125	0.400	7/8"	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•									
P ( ) -37		0.3750	0.460	7/8"	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•									
P ( ) -43		0.4375	0.562	7/8"	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•									
P ( ) -50		0.5000	0.625	7/8"	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•									
P ( ) -62		0.6250	0.750	7/8"	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•									
P ( ) -75		0.7500	0.875	7/8"	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•									

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	P - CF - 16	3 1/4"	.0998
Quantity	Catalog Number	L	Point Dimensions
6	P - CF - 16	3 1/4"	W = .1300 P = .0176

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

.003" - .015" radii can be ground at extra cost at time of manufacture.

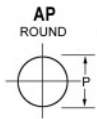
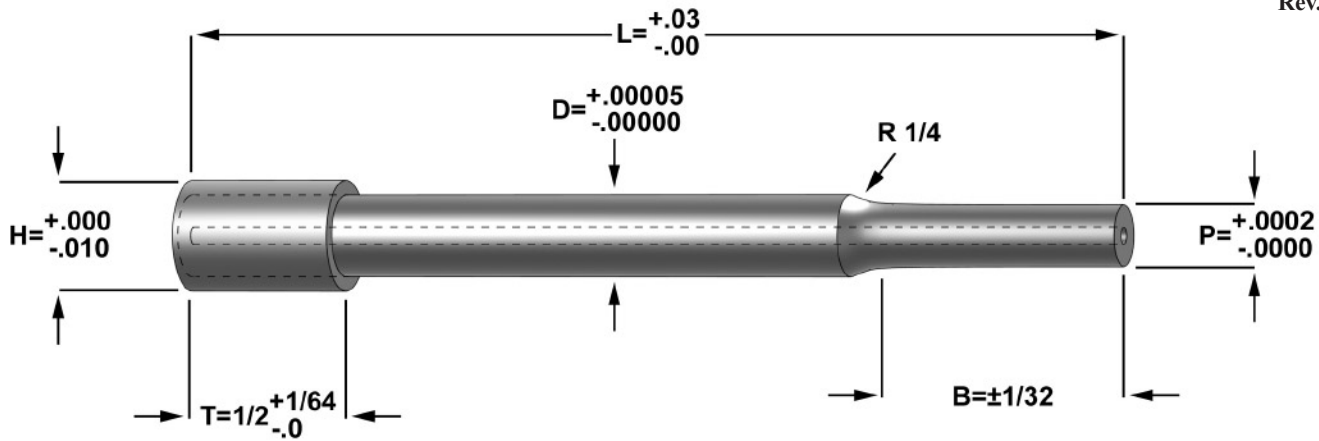


# SOLID CARBIDE PUNCHES

(AIR HOLE - MACHINABLE BRAZED STEEL HEAD)



Rev. 1.0



.0002 CONCENTRICITY T.I.R. POINT TO BODY  
(AIRHOLE WILL NOT BE CONCENTRIC TO BODY OR POINT)

TYPE	BODY DIA. D	HEAD DIA. H	POINT LENGTH B	AIR HOLE DIA.	OVERALL LENGTH L										1- 2AP	
															ROUND	
															P	
					2	2 1/4	2 1/2	2 3/4	3	3 1/4	3 1/2	3 3/4	4		MIN	MAX
P-1AP-18	0.1875	0.296	3/4"	3/64"	•	•	•	•	•	•	•	•	•		0.0930	0.1259
P-2AP-18	0.1875	0.296	7/8"	3/64"	•	•	•	•	•	•	•	•	•		0.1260	0.1875
P-1AP-25	0.2500	0.340	3/4"	3/64"	•	•	•	•	•	•	•	•	•		0.0930	0.1259
P-2AP-25	0.2500	0.340	7/8"	3/64"	•	•	•	•	•	•	•	•	•		0.1260	0.2500
P-1AP-31	0.3125	0.400	7/8"	3/64"	•	•	•	•	•	•	•	•	•		0.1250	0.2499
P-2AP-31	0.3125	0.400	7/8"	3/64"	•	•	•	•	•	•	•	•	•		0.2500	0.3125
P-1AP-37	0.3750	0.460	7/8"	5/64"	•	•	•	•	•	•	•	•	•		0.1870	0.3139
P-2AP-37	0.3750	0.460	7/8"	5/64"	•	•	•	•	•	•	•	•	•		0.3140	0.3750
P-1AP-43	0.4375	0.562	7/8"	7/64"	•	•	•	•	•	•	•	•	•		0.3140	0.3749
P-2AP-43	0.4375	0.562	7/8"	7/64"	•	•	•	•	•	•	•	•	•		0.3750	0.4375
P-1AP-50	0.5000	0.625	7/8"	9/64"	•	•	•	•	•	•	•	•	•		0.3750	0.4379
P-2AP-50	0.5000	0.625	7/8"	9/64"	•	•	•	•	•	•	•	•	•		0.4380	0.5000
P-1AP-62	0.6250	0.750	7/8"	9/64"	•	•	•	•	•	•	•	•	•		0.4380	0.5299
P-2AP-62	0.6250	0.750	7/8"	9/64"	•	•	•	•	•	•	•	•	•		0.5300	0.6250

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	P - 1AP -18	3 1/4"	.1125

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

## AMERICAN CARBIDE TOOLING

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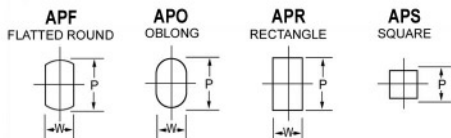
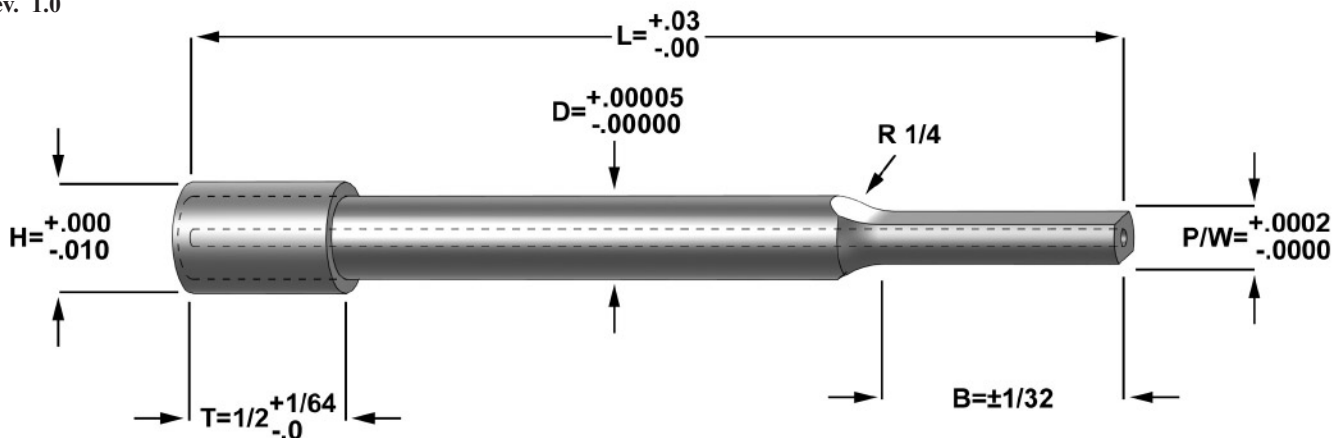
PRECISION LINE

# SOLID CARBIDE PUNCHES





(AIR HOLE - MACHINABLE BRAZED STEEL HEAD)



Rev. 1.0



.0003 CONCENTRICITY T.I.R. POINT TO BODY  
(AIRHOLE WILL NOT BE CONCENTRIC TO BODY OR POINT)

																												
TYPE	APF APO APR APS	BODY DIA. D	HEAD DIA. H	POINT LENGTH B	AIR HOLE DIA.	OVERALL LENGTH										APF				APO				APR		APS		
																FLATTED ROUND				OBLONG				RECTANGLE		SQUARE		
						L										W		P		W		P		W/P		P		
						2	2 <sup>1/4</sup>	2 <sup>1/2</sup>	2 <sup>3/4</sup>	3	3 <sup>1/4</sup>	3 <sup>1/2</sup>	3 <sup>3/4</sup>	4	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
P ( ) -18		0.1875	0.296	7/8"	3/64"	•	•	•	•	•	•	•	•	•	0.1250	0.1775	0.1350	0.1875	0.0930	0.1770	0.1030	0.1875	0.0930	0.1620	0.0930	0.1320		
P ( ) -25		0.2500	0.340	7/8"	3/64"	•	•	•	•	•	•	•	•	•	0.1875	0.2400	0.1975	0.2500	0.0930	0.2400	0.1030	0.2500	0.0930	0.2300	0.0930	0.1760		
P ( ) -31		0.3125	0.400	7/8"	3/64"	•	•	•	•	•	•	•	•	•	0.2500	0.3025	0.2600	0.3125	0.0930	0.3020	0.1030	0.3125	0.0930	0.2980	0.0930	0.2200		
P ( ) -37		0.3750	0.460	7/8"	5/64"	•	•	•	•	•	•	•	•	•	0.3125	0.3650	0.3225	0.3750	0.1250	0.3650	0.1350	0.3750	0.1250	0.3530	0.1250	0.2650		
P ( ) -43		0.4375	0.562	7/8"	7/64"	•	•	•	•	•	•	•	•	•	0.3750	0.4275	0.3850	0.4375	0.1875	0.4270	0.1980	0.4375	0.1875	0.4190	0.1870	0.3090		
P ( ) -50		0.5000	0.625	7/8"	9/64"	•	•	•	•	•	•	•	•	•	0.4375	0.4900	0.4475	0.5000	0.2500	0.4900	0.2600	0.5000	0.2500	0.4320	0.2500	0.3530		
P ( ) -62		0.6250	0.750	7/8"	9/64"	•	•	•	•	•	•	•	•	•	0.5000	0.6150	0.5000	0.6250	0.3750	0.6150	0.3850	0.6250	0.3750	0.5000	0.3750	0.4410		

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	P - APF - 16	3 1/4"	.0998
Quantity	Catalog Number	L	Point Dimensions
6	P - APF - 16	3 1/4"	W = .1300 P = .0176

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

.003" - .015" radii can be ground at extra cost at time of manufacture.

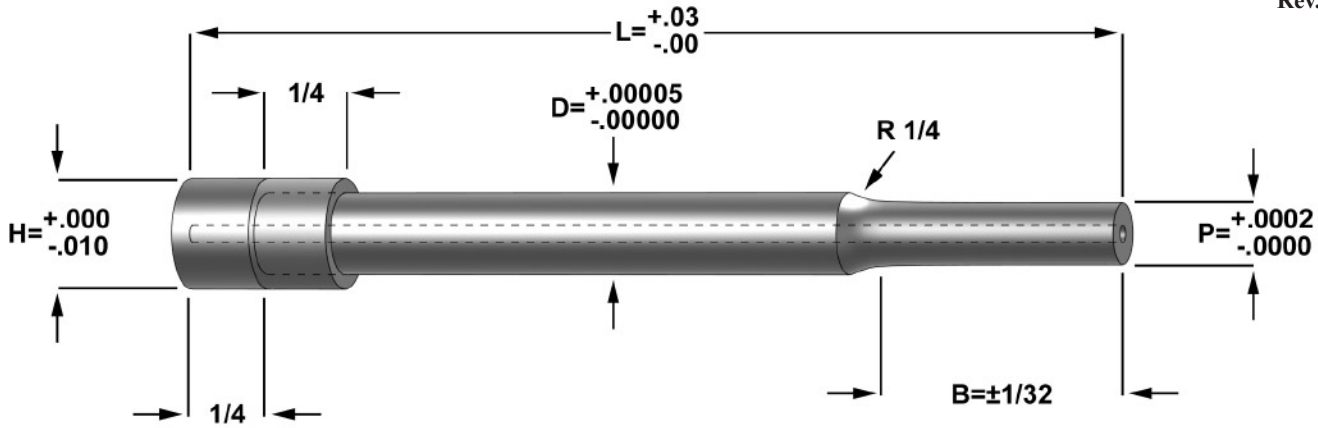


# SOLID CARBIDE PUNCHES

(AIR HOLE - SOLID CARBIDE HEAD - STEEL COLLAR)



Rev. 1.0



.0002 CONCENTRICITY T.I.R. POINT TO BODY  
(AIRHOLE WILL NOT BE CONCENTRIC TO BODY OR POINT)

TYPE	BODY DIA. D	HEAD DIA. H	POINT LENGTH B	AIR HOLE DIA.	OVERALL LENGTH L										1- 2AC	
															ROUND	
															P	
					2	2 1/4	2 1/2	2 3/4	3	3 1/4	3 1/2	3 3/4	4		MIN	MAX
P-1AC-18	0.1875	0.296	3/4"	3/64"	•	•	•	•	•	•	•	•	•		0.0930	0.1259
P-2AC-18	0.1875	0.296	7/8"	3/64"	•	•	•	•	•	•	•	•	•		0.1260	0.1875
P-1AC-25	0.2500	0.340	3/4"	3/64"	•	•	•	•	•	•	•	•	•		0.0930	0.1259
P-2AC-25	0.2500	0.340	7/8"	3/64"	•	•	•	•	•	•	•	•	•		0.1260	0.2500
P-1AC-31	0.3125	0.400	7/8"	3/64"	•	•	•	•	•	•	•	•	•		0.1250	0.2499
P-2AC-31	0.3125	0.400	7/8"	3/64"	•	•	•	•	•	•	•	•	•		0.2500	0.3125
P-1AC-37	0.3750	0.460	7/8"	5/64"	•	•	•	•	•	•	•	•	•		0.1870	0.3130
P-2AC-37	0.3750	0.460	7/8"	5/64"	•	•	•	•	•	•	•	•	•		0.3140	0.3750
P-1AC-43	0.4375	0.562	7/8"	7/64"	•	•	•	•	•	•	•	•	•		0.3250	0.3749
P-2AC-43	0.4375	0.562	7/8"	7/64"	•	•	•	•	•	•	•	•	•		0.3750	0.4375
P-1AC-50	0.5000	0.625	7/8"	9/64"	•	•	•	•	•	•	•	•	•		0.3750	0.4379
P-2AC-50	0.5000	0.625	7/8"	9/64"	•	•	•	•	•	•	•	•	•		0.4380	0.5000
P-1AC-62	0.6250	0.750	7/8"	9/64"	•	•	•	•	•	•	•	•	•		0.5000	0.5740
P-2AC-62	0.6250	0.750	7/8"	9/64"	•	•	•	•	•	•	•	•	•		0.5750	0.6250

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	P - 1AC -18	3 1/4"	.1125

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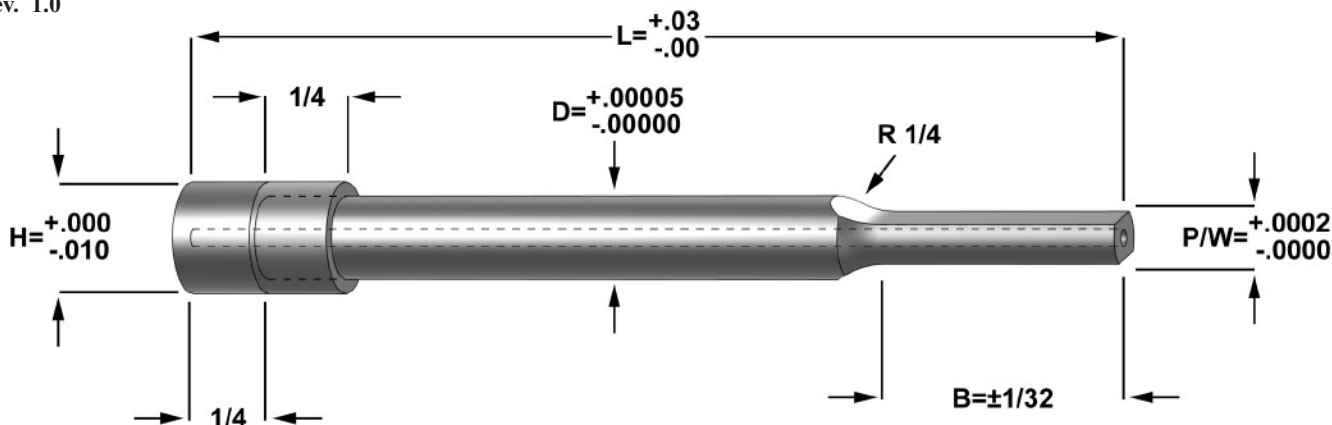
PRECISION LINE

# SOLID CARBIDE PUNCHES

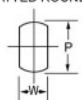
(AIR HOLE - SOLID CARBIDE HEAD - STEEL COLLAR)



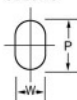
Rev. 1.0



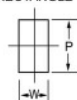
ACF  
FLATTED ROUND



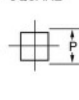
ACO  
OBLONG



ACR  
RECTANGLE



ACS  
SQUARE



.0003 CONCENTRICITY T.I.R. POINT TO BODY  
(AIRHOLE WILL NOT BE CONCENTRIC TO BODY OR POINT)

TYPE	ACF ACO ACR ACS	BODY DIA. D	HEAD DIA. H	POINT LENGTH B	AIR HOLE DIA.	OVERALL LENGTH																		ACF				ACO				ACR				ACS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
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P ( ) -18		0.1875	0.296	7/8"	3/64"	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•</

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	P - ACF - 16	3 1/4"	.0998
Quantity	Catalog Number	L	Point Dimensions
6	P - ACF - 16	3 1/4"	W = .1300 P = .0176

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

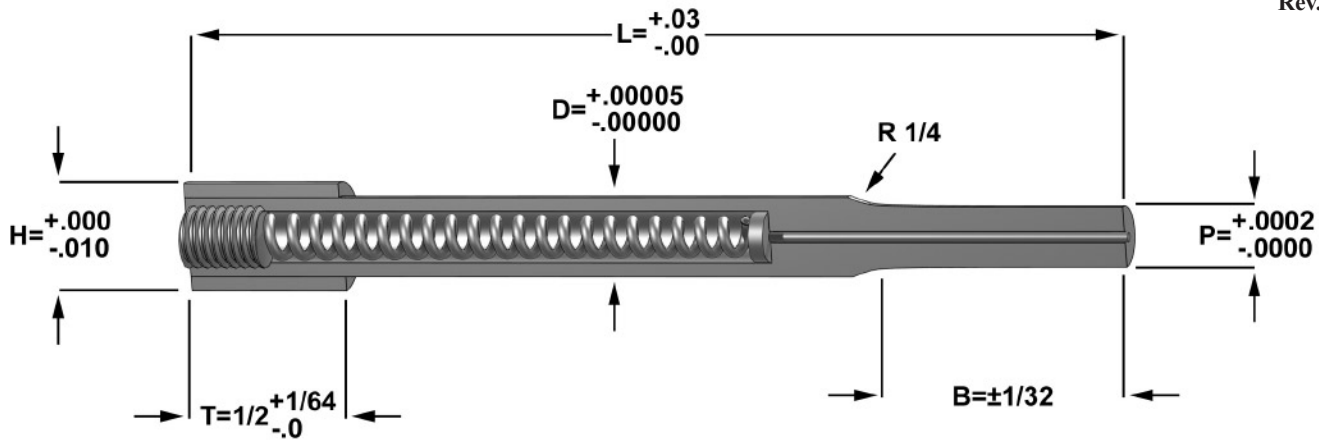
.003" - .015" radii can be ground at extra cost at time of manufacture.

# SOLID CARBIDE PUNCHES

(EJECTOR - MACHINABLE BRAZED STEEL HEAD)



Rev. 1.0



.0002 CONCENTRICITY T.I.R. POINT TO BODY  
SPRING, EJECTOR PIN AND SET SCREW INCLUDED  
(EJECTOR WILL NOT BE CONCENTRIC TO BODY OR POINT)

TYPE	BODY DIA. D	HEAD DIA. H	POINT LENGTH B	OVERALL LENGTH L										1- 2EP	
														ROUND	
				2	2 1/4	2 1/2	2 3/4	3	3 1/4	3 1/2	3 3/4	4		MIN	MAX
P-1EP-18	0.1875	0.296	3/4"	•	•	•	•	•	•	•	•	•		0.0930	0.1259
P-2EP-18	0.1875	0.296	7/8"	•	•	•	•	•	•	•	•	•		0.1260	0.1875
P-1EP-25	0.2500	0.340	3/4"	•	•	•	•	•	•	•	•	•		0.0930	0.1259
P-2EP-25	0.2500	0.340	7/8"	•	•	•	•	•	•	•	•	•		0.1260	0.2500
P-1EP-31	0.3125	0.400	7/8"	•	•	•	•	•	•	•	•	•		0.1250	0.2499
P-2EP-31	0.3125	0.400	7/8"	•	•	•	•	•	•	•	•	•		0.2500	0.3125
P-1EP-37	0.3750	0.460	7/8"	•	•	•	•	•	•	•	•	•		0.1870	0.3139
P-2EP-37	0.3750	0.460	7/8"	•	•	•	•	•	•	•	•	•		0.3140	0.3750
P-1EP-43	0.4375	0.562	7/8"	•	•	•	•	•	•	•	•	•		0.3140	0.3749
P-2EP-43	0.4375	0.562	7/8"	•	•	•	•	•	•	•	•	•		0.3750	0.4375
P-1EP-50	0.5000	0.625	7/8"	•	•	•	•	•	•	•	•	•		0.3750	0.4379
P-2EP-50	0.5000	0.625	7/8"	•	•	•	•	•	•	•	•	•		0.4380	0.5000
P-1EP-62	0.6250	0.750	7/8"	•	•	•	•	•	•	•	•	•		0.4380	0.5299
P-2EP-62	0.6250	0.750	7/8"	•	•	•	•	•	•	•	•	•		0.5300	0.6250

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	P - 1EP -18	3 1/4"	.1125

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

## AMERICAN CARBIDE TOOLING

American Carbide Tooling is a Division of Penn United Technology Inc.

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email: [act\\_sales@pennunited.com](mailto:act_sales@pennunited.com) [www.pennunited.com](http://www.pennunited.com)





LOCATING DEVICES CAN BE ADDED AT EXTRA COST AT TIME OF MANUFACTURE.  
ALL LOCATING DEVICES WILL BE PARALLEL TO THE LONGEST DIMENSION.

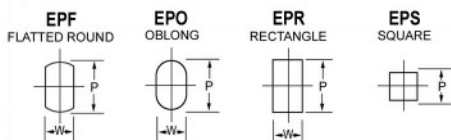
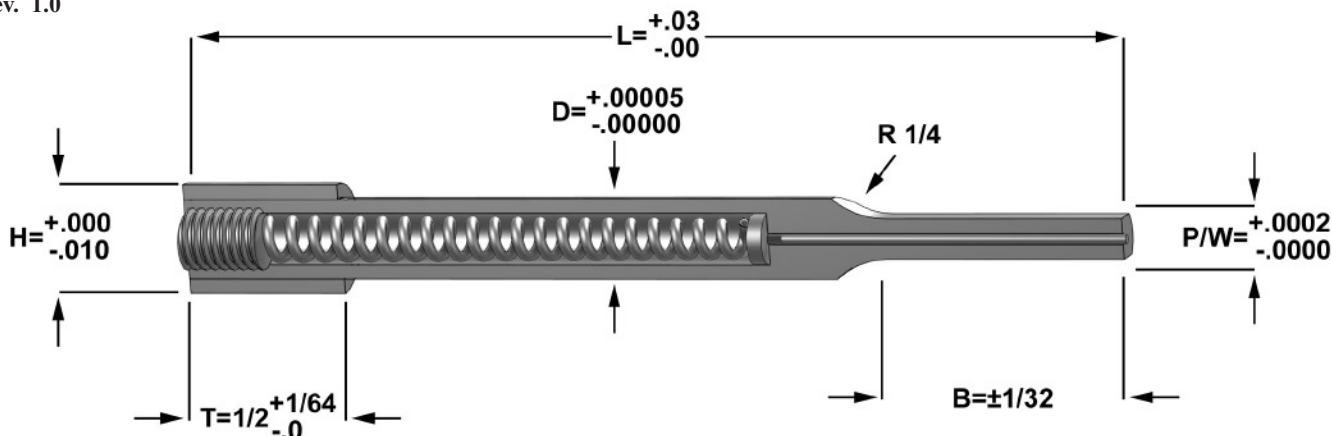
PRECISION LINE

# SOLID CARBIDE PUNCHES





(EJECTOR - MACHINABLE BRAZED STEEL HEAD)



Rev. 1.0



.0003 CONCENTRICITY T.I.R. POINT TO BODY  
SPRING, EJECTOR PIN AND SET SCREW INCLUDED  
(EJECTOR WILL NOT BE CONCENTRIC TO BODY OR POINT)

																										
TYPE  EPF EPO EPR EPS	BODY DIA. D	HEAD DIA. H	POINT LENGTH B	OVERALL LENGTH										EPF				EPO				EPR		EPS		
														FLATTED ROUND				OBLONG				RECTANGLE		SQUARE		
				L										W		P		W		P		W/P		P		
				2	2 <sup>1/4</sup>	2 <sup>1/2</sup>	2 <sup>3/4</sup>	3	3 <sup>1/4</sup>	3 <sup>1/2</sup>	3 <sup>3/4</sup>	4	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
P ( ) -18	0.1875	0.296	7/8"	•	•	•	•	•	•	•	•	•	0.1250	0.1775	0.1350	0.1875	0.0930	0.1770	0.1030	0.1875	0.0930	0.1620	0.0930	0.1320		
P ( ) -25	0.2500	0.340	7/8"	•	•	•	•	•	•	•	•	•	0.1875	0.2400	0.1975	0.2500	0.0930	0.2400	0.1030	0.2500	0.0930	0.2300	0.0930	0.1760		
P ( ) -31	0.3125	0.400	7/8"	•	•	•	•	•	•	•	•	•	0.2500	0.3025	0.2600	0.3125	0.0930	0.3020	0.1030	0.3125	0.0930	0.2980	0.0930	0.2200		
P ( ) -37	0.3750	0.460	7/8"	•	•	•	•	•	•	•	•	•	0.3125	0.3650	0.3225	0.3750	0.1250	0.3650	0.1350	0.3750	0.1250	0.3530	0.1250	0.2650		
P ( ) -43	0.4375	0.562	7/8"	•	•	•	•	•	•	•	•	•	0.3750	0.4275	0.3850	0.4375	0.1875	0.4270	0.1980	0.4375	0.1875	0.4190	0.1870	0.3090		
P ( ) -50	0.5000	0.625	7/8"	•	•	•	•	•	•	•	•	•	0.4375	0.4900	0.4475	0.5000	0.2500	0.4900	0.2600	0.5000	0.2500	0.4320	0.2500	0.3530		
P ( ) -62	0.6250	0.750	7/8"	•	•	•	•	•	•	•	•	•	0.5000	0.6150	0.5100	0.6250	0.3750	0.6150	0.3850	0.6250	0.3750	0.5000	0.3750	0.4410		

When ordering please specify as follows:

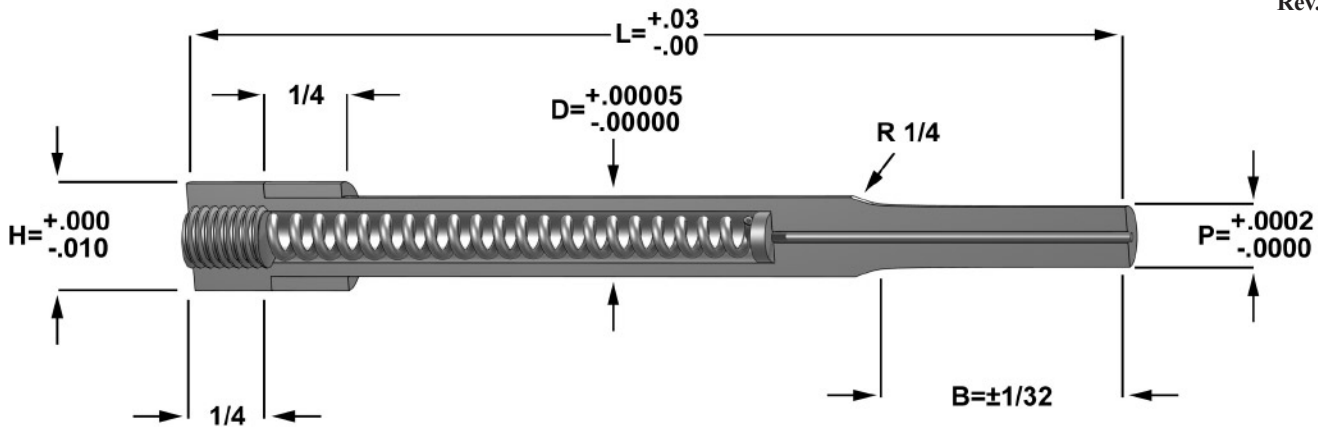
Quantity	Catalog Number	L	P
12	P - EPF - 16	3 1/4"	.0998
Quantity	Catalog Number	L	Point Dimensions
6	P - EPF - 16	3 1/4"	W = .1300 P = .0176

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

.003"-.015" radii can be ground at extra cost at time of manufacture

**SOLID CARBIDE PUNCHES**  
(EJECTOR - SOLID CARBIDE HEAD - STEEL COLLAR)

Rev. 1.0



.0002 CONCENTRICITY T.I.R. POINT TO BODY  
SPRING, EJECTOR PIN AND SET SCREW INCLUDED  
(EJECTOR WILL NOT BE CONCENTRIC TO BODY OR POINT)

TYPE	BODY DIA. D	HEAD DIA. H	POINT LENGTH B	OVERALL LENGTH L										1- 2EC	
														ROUND	
														P	
				2	2 1/4	2 1/2	2 3/4	3	3 1/4	3 1/2	3 3/4	4		MIN	MAX
P-1EC-18	0.1875	0.296	3/4"	•	•	•	•	•	•	•	•	•	•	0.0930	0.1259
P-2EC-18	0.1875	0.296	7/8"	•	•	•	•	•	•	•	•	•	•	0.1260	0.1875
P-1EC-25	0.2500	0.340	3/4"	•	•	•	•	•	•	•	•	•	•	0.0930	0.1259
P-2EC-25	0.2500	0.340	7/8"	•	•	•	•	•	•	•	•	•	•	0.1260	0.2500
P-1EC-31	0.3125	0.400	7/8"	•	•	•	•	•	•	•	•	•	•	0.1250	0.2499
P-2EC-31	0.3125	0.400	7/8"	•	•	•	•	•	•	•	•	•	•	0.2500	0.3125
P-1EC-37	0.3750	0.460	7/8"	•	•	•	•	•	•	•	•	•	•	0.1870	0.3139
P-2EC-37	0.3750	0.460	7/8"	•	•	•	•	•	•	•	•	•	•	0.3140	0.3750
P-1EC-43	0.4375	0.562	7/8"	•	•	•	•	•	•	•	•	•	•	0.3140	0.3749
P-2EC-43	0.4375	0.562	7/8"	•	•	•	•	•	•	•	•	•	•	0.3750	0.4375
P-1EC-50	0.5000	0.625	7/8"	•	•	•	•	•	•	•	•	•	•	0.3750	0.4379
P-2EC-50	0.5000	0.625	7/8"	•	•	•	•	•	•	•	•	•	•	0.4380	0.5000
P-1EC-62	0.6250	0.750	7/8"	•	•	•	•	•	•	•	•	•	•	0.4380	0.5299
P-2EC-62	0.6250	0.750	7/8"	•	•	•	•	•	•	•	•	•	•	0.5300	0.6250

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	P - 1EC -18	3 1/4"	.1125

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

.003"-.015" radii can be ground at extra cost at time of manufacture

**AMERICAN CARBIDE TOOLING**

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LOCATING DEVICES CAN BE ADDED AT EXTRA COST AT TIME OF MANUFACTURE.  
ALL LOCATING DEVICES WILL BE PARALLEL TO THE LONGEST DIMENSION.

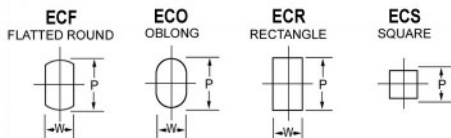
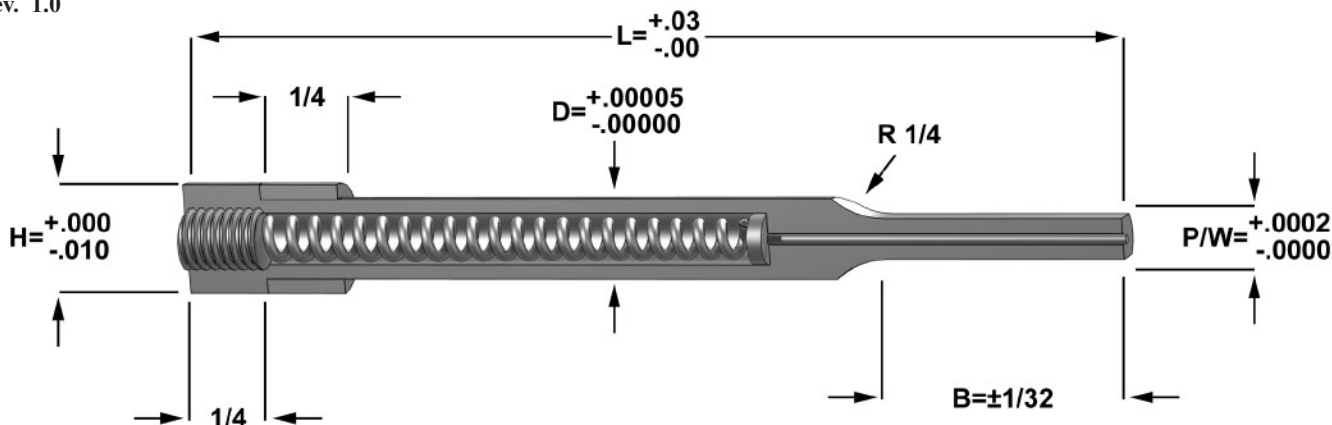
PRECISION LINE

# SOLID CARBIDE PUNCHES

(EJECTOR - SOLID CARBIDE HEAD - STEEL COLLAR)



Rev. 1.0



.0003 CONCENTRICITY T.I.R. POINT TO BODY  
SPRING, EJECTOR PIN AND SET SCREW INCLUDED  
(EJECTOR WILL NOT BE CONCENTRIC TO BODY OR POINT)

													O				O				O		O		
TYPE ECF ECO ECR ECS	BODY DIA. D	HEAD DIA. H	POINT LENGTH B	OVERALL LENGTH										ECF				ECO				ECR		ECS	
														FLATTED ROUND				OBLONG				RECTANGLE		SQUARE	
				L										W		P		W		P		W/P		P	
				2	2 1/4	2 1/2	2 3/4	3	3 1/4	3 1/2	3 3/4	4	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	
P ( ) -18	0.1875	0.296	7/8"	•	•	•	•	•	•	•	•	•	0.1250	0.1775	0.1350	0.1875	0.0930	0.1770	0.1030	0.1875	0.0930	0.1620	0.0930	0.1320	
P ( ) -25	0.2500	0.340	7/8"	•	•	•	•	•	•	•	•	•	0.1875	0.2400	0.1975	0.2500	0.0930	0.2400	0.1030	0.2500	0.0930	0.2300	0.0930	0.1760	
P ( ) -31	0.3125	0.400	7/8"	•	•	•	•	•	•	•	•	•	0.2500	0.3025	0.2600	0.3125	0.0930	0.3020	0.1030	0.3125	0.0930	0.2980	0.0930	0.2200	
P ( ) -37	0.3750	0.460	7/8"	•	•	•	•	•	•	•	•	•	0.3125	0.3650	0.3225	0.3750	0.1250	0.3650	0.1350	0.3750	0.1250	0.3530	0.1250	0.2650	
P ( ) -43	0.4375	0.562	7/8"	•	•	•	•	•	•	•	•	•	0.3750	0.4275	0.3850	0.4375	0.1875	0.4270	0.1980	0.4375	0.1875	0.4190	0.1870	0.3090	
P ( ) -50	0.5000	0.625	7/8"	•	•	•	•	•	•	•	•	•	0.4375	0.4900	0.4475	0.5000	0.2500	0.4900	0.2600	0.5000	0.2500	0.4320	0.2500	0.3530	
P ( ) -62	0.6250	0.750	7/8"	•	•	•	•	•	•	•	•	•	0.5000	0.6150	0.5100	0.6250	0.3750	0.6150	0.3850	0.6250	0.3750	0.5000	0.3750	0.4410	

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	P - ECF - 16	3 1/4"	.0998
Quantity	Catalog Number	L	Point Dimensions
6	P - ECF - 16	3 1/4"	W = .1300 P = .0176

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

.003"-.015" radii can be ground at extra cost at time of manufacture

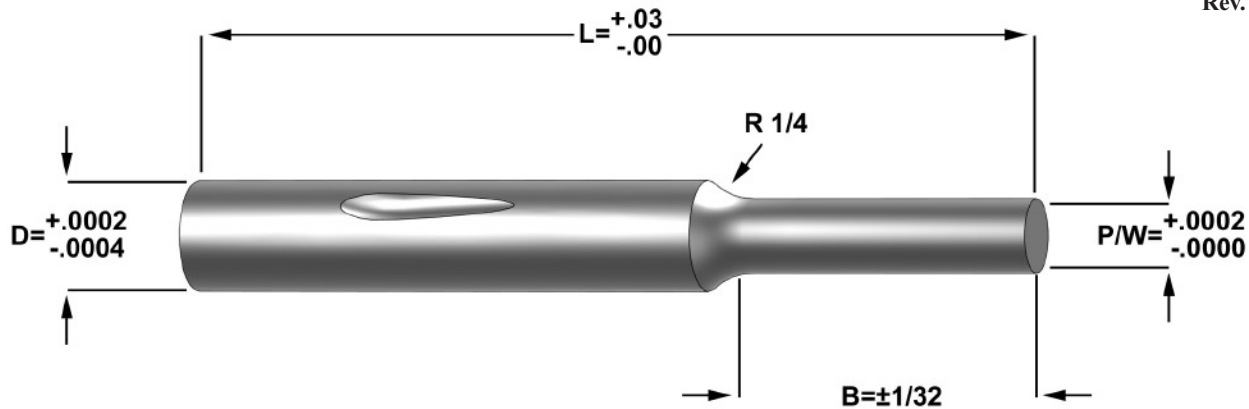


# SOLID CARBIDE PUNCHES

(BALL LOCK - LIGHT DUTY)



Rev. 1.0



.0002 CONCENTRICITY T.I.R. POINT TO BODY

TYPE	BODY DIA. D	POINT LENGTH B										1- 2- 3B	
			OVERALL LENGTH L									ROUND	
												P	
			2	2 1/4	2 1/2	2 3/4	3	3 1/4	3 1/2	3 3/4	4	MIN	MAX
P-1B-25	0.250	3/8"	•	•	•	•	•	•	•	•	0.0600	0.0900	
P-2B-25	0.250	3/8"	•	•	•	•	•	•	•	•	0.0901	0.1250	
P-3B-25	0.250	3/8"	•	•	•	•	•	•	•	•	0.1251	0.2500	
P-1B-37	0.375	1/2"	•	•	•	•	•	•	•	•	0.1870	0.2500	
P-2B-37	0.375	1/2"	•	•	•	•	•	•	•	•	0.2501	0.3130	
P-3B-37	0.375	1/2"	•	•	•	•	•	•	•	•	0.3131	0.3750	
P-1B-50	0.500	5/8"	•	•	•	•	•	•	•	•	0.2500	0.3250	
P-2B-50	0.500	5/8"	•	•	•	•	•	•	•	•	0.3251	0.4000	
P-3B-50	0.500	5/8"	•	•	•	•	•	•	•	•	0.4001	0.5000	

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	P - 1B -25	3 1/4"	.0788

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

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LOCATING DEVICES CAN BE ADDED AT EXTRA COST AT TIME OF MANUFACTURE.  
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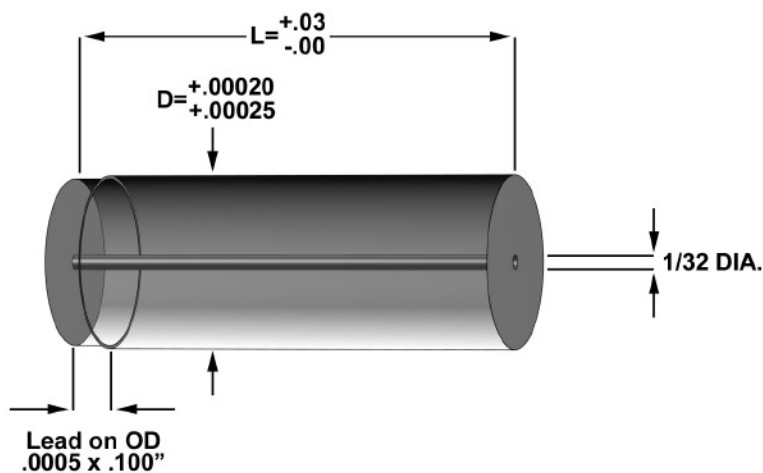
**PRECISION LINE**

# **SOLID CARBIDE DIE INSERTS**

**(WIRE EDM - WITH START HOLE)**



Rev. 1.0



STARHOLE WILL NOT BE CONCENTRIC TO BODY

TYPE	BODY DIA. D	OVERALL LENGTH L	
		1	1 <sup>1/4</sup>
P-DTW-18	0.1875	•	•
P-DTW-25	0.2500	•	•
P-DTW-31	0.3125	•	•
P-DTW-37	0.3750	•	•
P-DTW-50	0.5000	•	•
P-DTW-62	0.6250	•	•
P-DTW-75	0.7500	•	•
P-DTW-87	0.8750	•	•
P-DTW-100	1.0000	•	•

When ordering please specify as follows:

Quantity	Catalog Number	L
12	P - DTW - 18	1 <sup>1/4</sup> "

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

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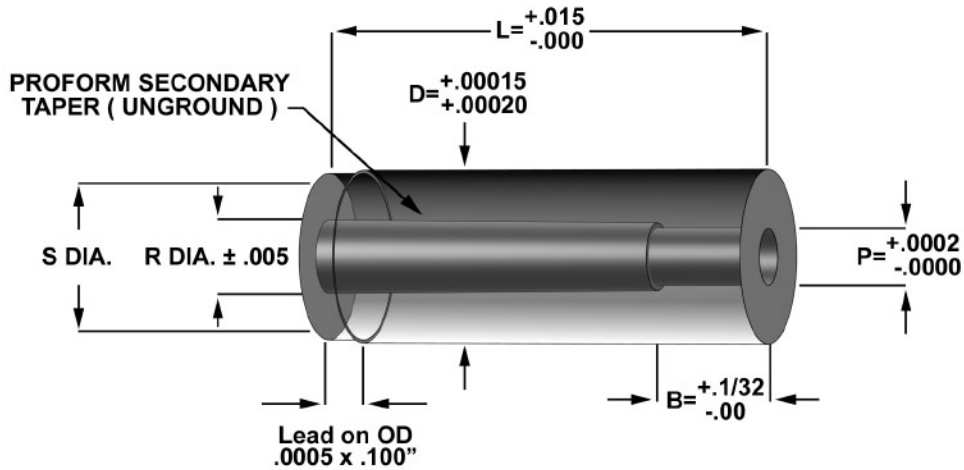
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# SOLID CARBIDE DIE INSERTS

## (COUNTERBORE TYPE)



Rev. 1.0



.0002 CONCENTRICITY O.D. and I.D.  
.0018 per inch per side taper in "P".

TYPE	BODY DIA. D	RELIEF DIA. R	MIN. WEAR LAND B	MIN. SLUG HOLE DIA. S	OVERALL LENGTH L		INSIDE DIA. P	
					1	1 <sup>1/4</sup>		
							MIN	MAX
P-1DC-18	0.1875	0.080	1/8"	3/32"	•	•	0.0520	0.0619
P-2DC-18	0.1875	0.090	1/8"	3/32"	•	•	0.0620	0.0700
P-3DC-18	0.1875	0.100	1/8"	1/8"	•	•	0.0701	0.0770
P-4DC-18	0.1875	0.108	3/16"	9/64"	•	•	0.0771	0.0870
P-5DC-18	0.1875	0.114	3/16"	9/64"	•	•	0.0871	0.0920
P-1DC-25	0.2500	0.080	1/8"	3/32"	•	•	0.0520	0.0619
P-2DC-25	0.2500	0.090	1/8"	1/8"	•	•	0.0620	0.0700
P-3DC-25	0.2500	0.100	1/8"	9/64"	•	•	0.0701	0.0770
P-4DC-25	0.2500	0.108	3/16"	9/64"	•	•	0.0771	0.0870
P-5DC-25	0.2500	0.114	3/16"	5/32"	•	•	0.0871	0.0920
P-6DC-25	0.2500	0.125	3/16"	11/64"	•	•	0.0921	0.1080
P-7DC-25	0.2500	0.144	3/16"	3/16"	•	•	0.1081	0.1240
P-8DC-25	0.2500	0.159	1/4"	13/64"	•	•	0.1241	0.1400
P-1DC-31	0.3125	0.090	1/8"	1/8"	•	•	0.0620	0.0700
P-2DC-31	0.3125	0.100	1/8"	9/64"	•	•	0.0701	0.0770
P-3DC-31	0.3125	0.108	3/16"	9/64"	•	•	0.0771	0.0870
P-4DC-31	0.3125	0.114	3/16"	5/32"	•	•	0.0871	0.0920
P-5DC-31	0.3125	0.125	3/16"	11/64"	•	•	0.0921	0.1080
P-6DC-31	0.3125	0.144	3/16"	3/16"	•	•	0.1081	0.1240
P-7DC-31	0.3125	0.159	1/4"	13/64"	•	•	0.1241	0.1400
P-8DC-31	0.3125	0.209	1/4"	15/64"	•	•	0.1401	0.1800
P-9DC-31	0.3125	0.219	1/4"	15/64"	•	•	0.1801	0.1950
P-1DC-37	0.3750	0.090	1/8"	1/8"	•	•	0.0620	0.0700
P-2DC-37	0.3750	0.100	1/8"	9/64"	•	•	0.0701	0.0770
P-3DC-37	0.3750	0.108	3/16"	9/64"	•	•	0.0771	0.0870
P-4DC-37	0.3750	0.114	3/16"	5/32"	•	•	0.0871	0.0920
P-5DC-37	0.3750	0.125	3/16"	11/64"	•	•	0.0921	0.1080
P-6DC-37	0.3750	0.144	3/16"	3/16"	•	•	0.1081	0.1240
P-7DC-37	0.3750	0.159	1/4"	13/64"	•	•	0.1241	0.1400
P-8DC-37	0.3750	0.209	1/4"	15/64"	•	•	0.1401	0.1800
P-9DC-37	0.3750	0.219	1/4"	17/64"	•	•	0.1801	0.1950

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	P - 1CD -18	1 1/4"	.0587

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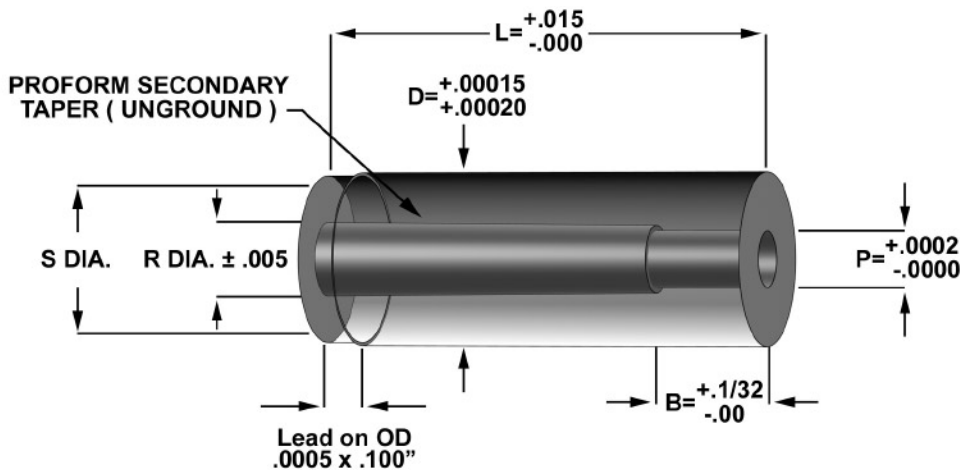
LOCATING DEVICES CAN BE ADDED AT EXTRA COST AT TIME OF MANUFACTURE.  
ALL LOCATING DEVICES WILL BE PARALLEL TO THE LONGEST DIMENSION.

**PRECISION LINE**

# SOLID CARBIDE DIE INSERTS (COUNTERBORE TYPE)



Rev. 1.0



.0002 CONCENTRICITY O.D. and I.D.  
.0018 per inch per side taper in "P".

TYPE	BODY DIA. D	RELIEF DIA. R	MIN. WEAR LAND B	MIN. SLUG HOLE DIA. S	OVERALL LENGTH L		INSIDE DIA. P	
					1	1 1/4	MIN	MAX
P-1DC-43	0.4375	0.219	1/4"	17/64"	•	•	0.1650	0.2000
P-2DC-43	0.4375	0.269	3/8"	5/16"	•	•	0.2001	0.2480
P-3DC-43	0.4375	0.319	3/8"	23/64"	•	•	0.2481	0.3000
P-1DC-50	0.5000	0.219	1/4"	17/64"	•	•	0.1560	0.2000
P-2DC-50	0.5000	0.269	3/8"	5/16"	•	•	0.2010	0.2480
P-3DC-50	0.5000	0.319	3/8"	23/64"	•	•	0.2480	0.3000
P-1DC-62	0.6250	0.399	3/8"	7/16"	•	•	0.2600	0.3100
P-2DC-62	0.6250	0.399	3/8"	7/16"	•	•	0.3101	0.3750
P-3DC-62	0.6250	0.469	3/8"	1/2"	•	•	0.3750	0.4500
P-1DC-75	0.7500	0.530	3/8"	9/16"	•	•	0.3125	0.5100
P-1DC-87	0.8750	0.535	3/8"	9/16"	•	•	0.3750	0.5150
P-1DC-100	1.0000	0.695	3/8"	23/32"	•	•	0.3750	0.6750

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	P - 1CD -18	1 1/4"	.0587

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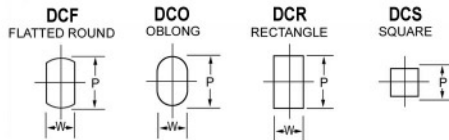
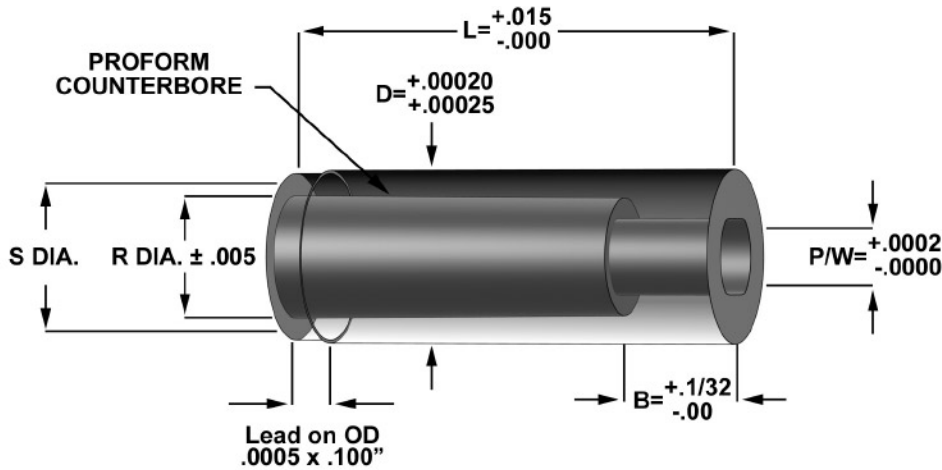
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# SOLID CARBIDE DIE INSERTS

## (COUNTERBORE TYPE)



Rev. 1.0



.0002 CONCENTRICITY O.D. and I.D.  
.0018 per inch per side taper in "P"  
.006 -.008 - standard corner radius.

TYPE	DCF DCO DCR DCS	BODY DIA. D	RELIEF DIA. R	MIN. WEAR LAND B	MIN. SLUG HOLE DIA. S	OVERALL LENGTH L	DCF				DCO				DCR	DCS
							FLATTED ROUND				OBLONG				RECT.	SQUARE
							W		P		W		P		DIAG.	DIAG.
							1	1 <sup>1/4</sup>	MIN	MAX	MIN	MAX	MIN	MAX	MAX	MAX
P-( )-37		0.3750	0.219	1/4"	17/64"	• •	0.062	0.185	0.065	0.195	0.062	0.185	0.065	0.195	0.195	0.195
P-( )-50		0.5000	0.319	1/4"	23/64"	• •	0.062	0.255	0.077	0.275	0.062	0.255	0.077	0.275	0.290	0.290
P-( )-62		0.6250	0.469	1/4"	7/16"	• •	0.093	0.338	0.108	0.365	0.093	0.338	0.108	0.365	0.365	0.365
P-( )-75		0.7500	0.530	1/4"	17/32"	• •	0.125	0.402	0.140	0.437	0.125	0.402	0.140	0.437	0.437	0.437
P-( )-87		0.8750	0.613	1/4"	5/8"	• •	0.125	0.505	0.140	0.520	0.125	0.505	0.140	0.520	0.540	0.540
P-( )-100		1.0000	0.695	1/4"	47/64"	• •	0.188	0.642	0.202	0.650	0.188	0.642	0.202	0.650	0.650	0.650

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	P - DCF - 16	1 1/4"	.0998
Quantity	Catalog Number	L	Point Dimensions
6	P - DCF - 16	1 1/4"	W = .1300 P = .0176

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

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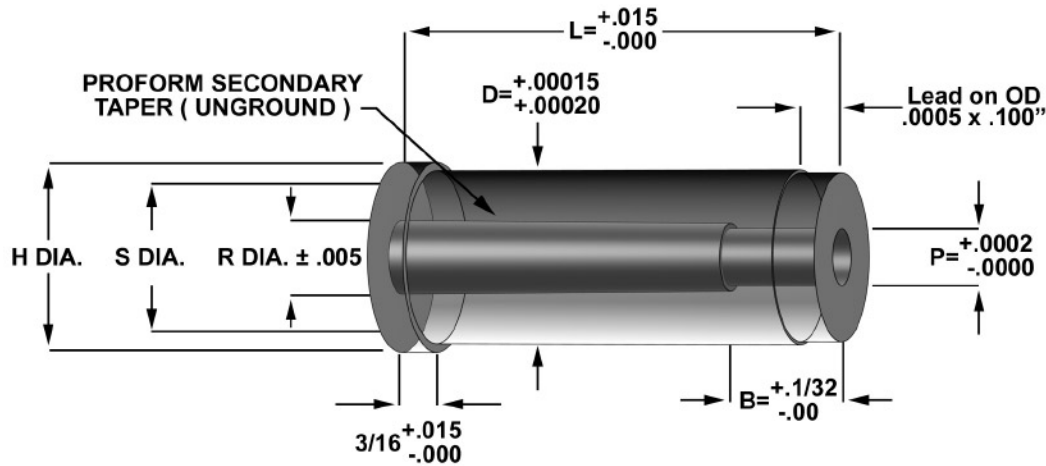
**PRECISION LINE**

# SOLID CARBIDE DIE INSERTS

(SOLID CARBIDE HEAD - COUNTERBORE TYPE)



Rev. 1.0



.0002 CONCENTRICITY O.D. and I.D.  
.0018 per inch per side taper in "P".

TYPE	BODY DIA. D	HEAD DIA. H	RELIEF DIA. R	MIN. WEAR LAND B	MIN. SLUG HOLE DIA. S	OVERALL LENGTH L		INSIDE DIA. P	
						1	1 <sup>1/4</sup>	MIN	MAX
P-1CDC-18	0.1875	0.296	0.080	1/8"	3/32"	•	•	0.0520	0.0619
P-2CDC-18	0.1875	0.296	0.090	1/8"	3/32"	•	•	0.0620	0.0700
P-3CDC-18	0.1875	0.296	0.100	1/8"	1/8"	•	•	0.0701	0.0770
P-4CDC-18	0.1875	0.296	0.108	3/16"	9/64"	•	•	0.0771	0.0870
P-5CDC-18	0.1875	0.296	0.114	3/16"	9/64"	•	•	0.0871	0.0920
P-1CDC-25	0.2500	0.340	0.080	1/8"	3/32"	•	•	0.0520	0.0619
P-2CDC-25	0.2500	0.340	0.090	1/8"	1/8"	•	•	0.0620	0.0700
P-3CDC-25	0.2500	0.340	0.100	1/8"	9/64"	•	•	0.0701	0.0770
P-4CDC-25	0.2500	0.340	0.108	3/16"	9/64"	•	•	0.0771	0.0870
P-5CDC-25	0.2500	0.340	0.114	3/16"	5/32"	•	•	0.0871	0.0920
P-6CDC-25	0.2500	0.340	0.125	3/16"	11/64"	•	•	0.0921	0.1080
P-7CDC-25	0.2500	0.340	0.144	3/16"	3/16"	•	•	0.1081	0.1240
P-8CDC-25	0.2500	0.340	0.159	1/4"	13/64"	•	•	0.1241	0.1400
P-1CDC-31	0.3125	0.400	0.090	1/8"	1/8"	•	•	0.0620	0.0700
P-2CDC-31	0.3125	0.400	0.100	1/8"	9/64"	•	•	0.0701	0.0770
P-3CDC-31	0.3125	0.400	0.108	3/16"	9/64"	•	•	0.0771	0.0870
P-4CDC-31	0.3125	0.400	0.114	3/16"	5/32"	•	•	0.0871	0.0920
P-5CDC-31	0.3125	0.400	0.125	3/16"	11/64"	•	•	0.0921	0.1080
P-6CDC-31	0.3125	0.400	0.144	3/16"	3/16"	•	•	0.1081	0.1240
P-7CDC-31	0.3125	0.400	0.159	1/4"	13/64"	•	•	0.1241	0.1400
P-8CDC-31	0.3125	0.400	0.209	1/4"	15/64"	•	•	0.1401	0.1800
P-9CDC-31	0.3125	0.400	0.219	1/4"	15/64"	•	•	0.1801	0.1950
P-1CDC-37	0.3750	0.460	0.090	1/8"	1/8"	•	•	0.0620	0.0700
P-2CDC-37	0.3750	0.460	0.100	1/8"	9/64"	•	•	0.0701	0.0770
P-3CDC-37	0.3750	0.460	0.108	3/16"	9/64"	•	•	0.0771	0.0870
P-4CDC-37	0.3750	0.460	0.114	3/16"	5/32"	•	•	0.0871	0.0920
P-5CDC-37	0.3750	0.460	0.125	3/16"	11/64"	•	•	0.0921	0.1080
P-6CDC-37	0.3750	0.460	0.144	3/16"	3/16"	•	•	0.1081	0.1240
P-7CDC-37	0.3750	0.460	0.159	1/4"	13/64"	•	•	0.1241	0.1400
P-8CDC-37	0.3750	0.460	0.209	1/4"	15/64"	•	•	0.1401	0.1800
P-9CDC-37	0.3750	0.460	0.219	1/4"	17/64"	•	•	0.1801	0.1950

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	P - 1CDC -18	1 1/4"	.0587

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

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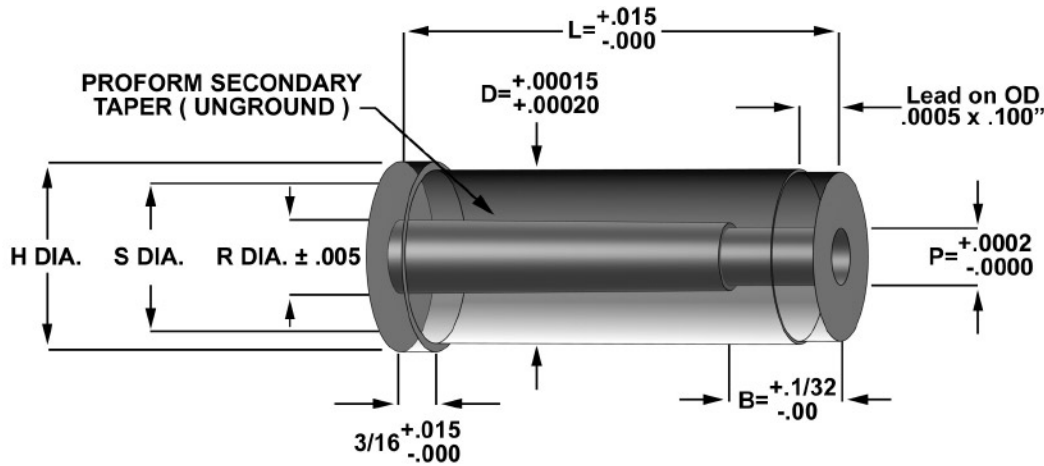


# SOLID CARBIDE DIE INSERTS

(SOLID CARBIDE HEAD - COUNTERBORE TYPE)



Rev. 1.0



.0002 CONCENTRICITY O.D. and I.D.  
.0018 per inch per side taper in "P".

TYPE	BODY DIA. D	HEAD DIA. H	RELIEF DIA. R	MIN. WEAR LAND B	MIN. SLUG HOLE DIA. S	OVERALL LENGTH L		INSIDE DIA. P	
						1	1 1/4	MIN	MAX
P-1CDC-43	0.4375	0.562	0.219	1/4"	17/64"	•	•	0.1560	0.2000
P-2CDC-43	0.4375	0.562	0.269	3/8"	5/16"	•	•	0.2001	0.2480
P-3CDC-43	0.4375	0.562	0.319	3/8"	23/64"	•	•	0.2481	0.3000
P-1CDC-50	0.5000	0.625	0.219	1/4"	17/64"	•	•	0.1560	0.2000
P-2CDC-50	0.5000	0.625	0.269	3/8"	5/16"	•	•	0.2010	0.2480
P-3CDC-50	0.5000	0.625	0.319	3/8"	23/64"	•	•	0.2480	0.3000
P-1CDC-62	0.6250	0.750	0.399	3/8"	7/16"	•	•	0.2600	0.3100
P-2CDC-62	0.6250	0.750	0.399	3/8"	7/16"	•	•	0.3100	0.3750
P-3CDC-62	0.6250	0.750	0.469	3/8"	1/2"	•	•	0.3750	0.4500
P-1CDC-75	0.7500	0.875	0.530	3/8"	9/16"	•	•	0.3125	0.5100
P-1CDC-87	0.8750	1.000	0.535	3/8"	9/16"	•	•	0.3750	0.5150
P-1CDC-100	1.0000	1.125	0.695	3/8"	23/32"	•	•	0.3750	0.6750

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	P - 1CDC -18	1 1/4"	.0587

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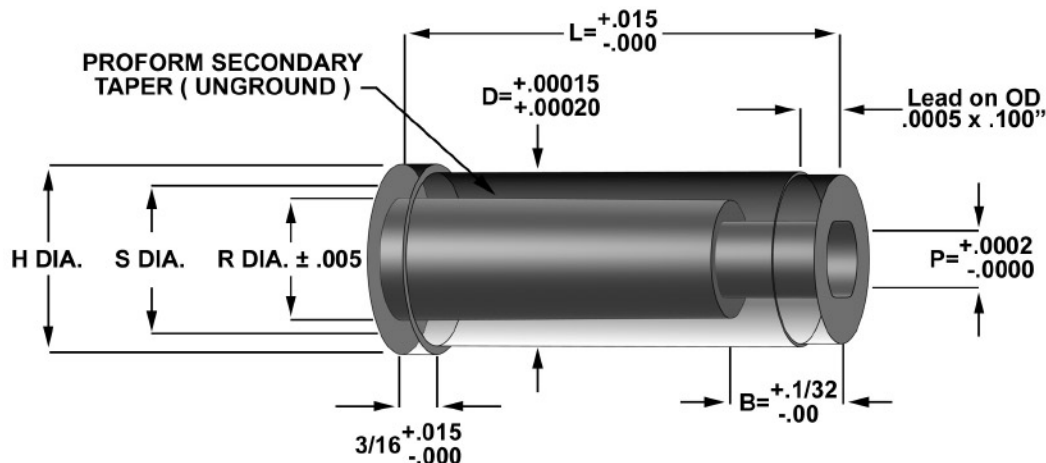
PRECISION LINE

# SOLID CARBIDE DIE INSERTS

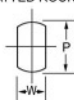
(SOLID CARBIDE HEAD - COUNTERBORE TYPE)



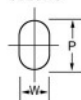
Rev. 1.0



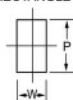
CDCF  
FLATTED ROUND



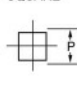
CDCO  
OBLONG



CDCR  
RECTANGLE



CDCS  
SQUARE



.0002 CONCENTRICITY O.D. and I.D.  
.0018 per inch per side taper in "P"  
.006 -.008 - standard corner radius.

TYPE	BODY DIA. D	RELIEF DIA. R	MIN. WEAR LAND B	MIN. SLUG HOLE DIA. S	OVERALL LENGTH L	CDCF				CDCO				CDCR	CDCS
						FLATTED ROUND				OBLONG				RECT.	SQUARE
						W		P		W		P		DIAG.	DIAG.
						1	1 1/4	MIN	MAX	MIN	MAX	MIN	MAX	MAX	MAX
P-(-)-37	0.375	0.219	1/4"	17/64"	• •	0.062	0.185	0.065	0.195	0.062	0.185	0.065	0.195	0.195	0.195
P-(-)-50	0.500	0.319	1/4"	23/64"	• •	0.062	0.255	0.077	0.275	0.062	0.255	0.077	0.275	0.290	0.290
P-(-)-62	0.625	0.469	1/4"	7/16"	• •	0.093	0.338	0.108	0.365	0.093	0.338	0.108	0.365	0.365	0.365
P-(-)-75	0.750	0.530	1/4"	17/32"	• •	0.125	0.402	0.140	0.437	0.125	0.402	0.140	0.437	0.437	0.437
P-(-)-87	0.875	0.613	1/4"	5/8"	• •	0.125	0.505	0.140	0.520	0.125	0.505	0.140	0.520	0.540	0.540
P-(-)-100	1.000	0.695	1/4"	47/64"	• •	0.188	0.642	0.202	0.650	0.188	0.642	0.202	0.650	0.650	0.650

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	P - CDCF - 16	1 1/4"	.0998
Quantity	Catalog Number	L	Point Dimensions
6	P - CDCF - 16	1 1/4"	W = .1300 P = .0176

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

## AMERICAN CARBIDE TOOLING

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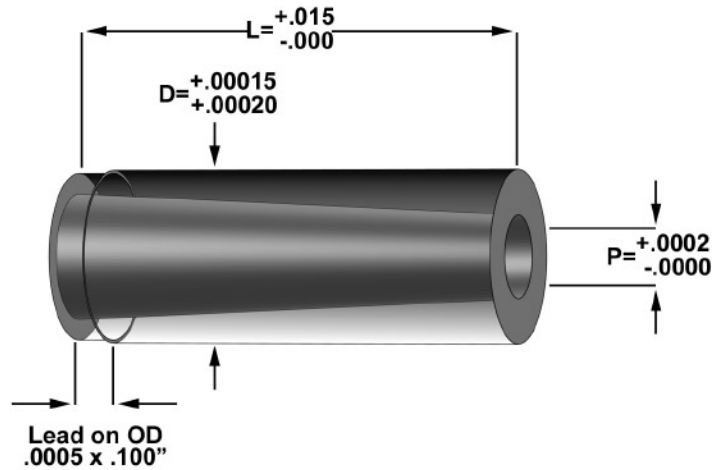
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# SOLID CARBIDE DIE INSERTS

(FULL LENGTH TAPER)



Rev. 1.0



.0002 CONCENTRICITY O.D. and I.D.  
.0018 per inch per side taper in "P".

TYPE	BODY DIA. D	MIN. SLUG HOLE DIA. S	OVERALL LENGTH L		INSIDE DIA. P	
			1	1 <sup>1/4</sup>	MIN	MAX
P-1DT-18	0.1875	3/32"	•	•	0.0300	0.0519
P-2DT-18	0.1875	3/32"	•	•	0.0520	0.0749
P-3DT-18	0.1875	7/64"	•	•	0.0750	0.0969
P-1DT-25	0.2500	3/32"	•	•	0.0300	0.0519
P-2DT-25	0.2500	3/32"	•	•	0.0520	0.0749
P-3DT-25	0.2500	7/64"	•	•	0.0750	0.0969
P-4DT-25	0.2500	9/64"	•	•	0.0970	0.1199
P-5DT-25	0.2500	11/64"	•	•	0.1200	0.1560
P-1DT-31	0.3125	3/32"	•	•	0.0300	0.0519
P-2DT-31	0.3125	7/64"	•	•	0.0520	0.0749
P-3DT-31	0.3125	9/64"	•	•	0.0750	0.0969
P-4DT-31	0.3125	5/32"	•	•	0.0970	0.1199
P-5DT-31	0.3125	7/32"	•	•	0.1200	0.2060
P-1DT-37	0.3750	3/32"	•	•	0.0300	0.0519
P-2DT-37	0.3750	7/64"	•	•	0.0520	0.0749
P-3DT-37	0.3750	9/64"	•	•	0.0750	0.0969
P-4DT-37	0.3750	5/32"	•	•	0.0970	0.1199
P-5DT-37	0.3750	7/32"	•	•	0.1200	0.2060
P-1DT-43	0.4375	17/64"	•	•	0.1560	0.2009
P-2DT-43	0.4375	5/16"	•	•	0.2010	0.2480
P-3DT-43	0.4375	23/64"	•	•	0.2481	0.3360
P-1DT-50	0.5000	7/32"	•	•	0.1560	0.2009
P-2DT-50	0.5000	17/64"	•	•	0.2010	0.2480
P-3DT-50	0.5000	23/64"	•	•	0.2481	0.3360
P-1DT-62	0.6250	27/64"	•	•	0.2600	0.3960
P-1DT-75	0.7500	35/64"	•	•	0.3125	0.5260
P-1DT-87	0.8750	5/8"	•	•	0.3750	0.5900
P-1DT-100	1.0000	45/64"	•	•	0.3750	0.6900

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	P - 1DT -18	1 <sup>1/4</sup> "	.0507

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

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LOCATING DEVICES CAN BE ADDED AT EXTRA COST AT TIME OF MANUFACTURE.  
ALL LOCATING DEVICES WILL BE PARALLEL TO THE LONGEST DIMENSION.

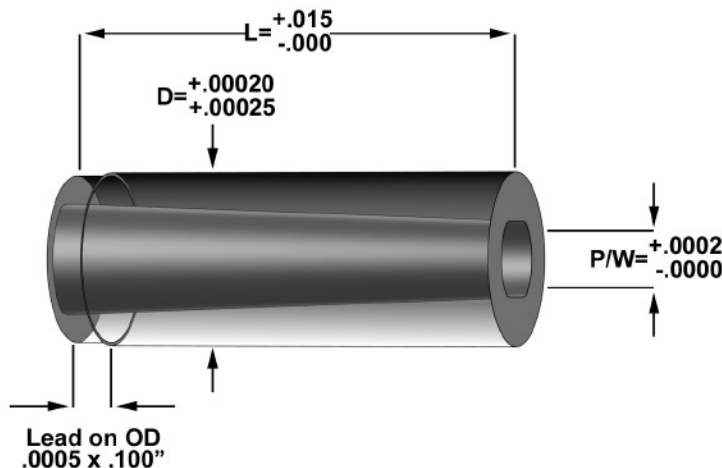
PRECISION LINE

# SOLID CARBIDE DIE INSERTS

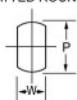
(FULL LENGTH TAPER)



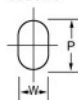
Rev. 1.0



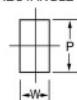
DTF  
FLATTED ROUND



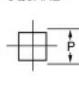
DTO  
OBLONG



DTR  
RECTANGLE



DTS  
SQUARE



.0003-.0004 CONCENTRICITY O.D. and I.D.  
.0018 per inch per side taper in "P".  
.006 - .008 - standard corner radius.

TYPE DTF DTO DTR DTS	BODY DIA. D	OVERALL LENGTH L	DTF				DTO				DTR	DTS
			FLATTED ROUND				OBLONG				RECT.	SQUARE
			W		P		W		P		DIAG.	DIAG.
			1	1 1/4	MIN	MAX	MIN	MAX	MIN	MAX	MAX	MAX
P-( )-37	0.375	• •	0.062	0.185	0.065	0.195	0.062	0.185	0.065	0.195	0.195	0.195
P-( )-50	0.500	• •	0.062	0.255	0.077	0.275	0.062	0.255	0.077	0.275	0.290	0.290
P-( )-62	0.625	• •	0.093	0.338	0.108	0.365	0.093	0.338	0.108	0.365	0.365	0.365
P-( )-75	0.750	• •	0.125	0.402	0.140	0.437	0.125	0.402	0.140	0.437	0.437	0.437
P-( )-87	0.875	• •	0.125	0.505	0.140	0.520	0.125	0.505	0.140	0.520	0.540	0.540
P-( )-100	1.000	• •	0.188	0.642	0.202	0.650	0.188	0.642	0.188	0.650	0.650	0.650

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	P - DTF - 16	1 1/4"	.0998
Quantity	Catalog Number	L	Point Dimensions
6	P - DTF - 16	1 1/4"	W = .1300 P = .0176

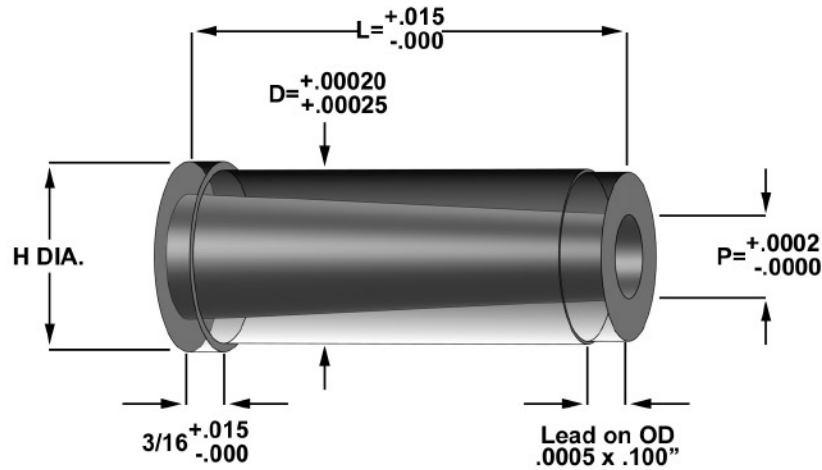
Any dimension not listed above can be ground to customer specification. Please ask for quotation.

# SOLID CARBIDE DIE INSERTS

(SOLID CARBIDE HEAD - FULL LENGTH TAPER)



Rev. 1.0



.0002 CONCENTRICITY O.D. and I.D.  
.0018 per inch per side taper in "P".



TYPE	BODY DIA. D	HEAD DIA. H	MIN. SLUG HOLE DIA. S	OVERALL LENGTH L		INSIDE DIA. P	
				1	1 1/4	MIN	MAX
P-1CDT-18	0.1875	0.296	3/32"	•	•	0.0300	0.0519
P-2CDT-18	0.1875	0.296	3/32"	•	•	0.0520	0.0749
P-3CDT-18	0.1875	0.296	7/64"	•	•	0.0750	0.0969
P-1CDT-25	0.2500	0.340	3/32"	•	•	0.0300	0.0519
P-2CDT-25	0.2500	0.340	3/32"	•	•	0.0520	0.0749
P-3CDT-25	0.2500	0.340	7/64"	•	•	0.0750	0.0969
P-4CDT-25	0.2500	0.340	9/64"	•	•	0.0970	0.1199
P-5CDT-25	0.2500	0.340	11/64"	•	•	0.1200	0.1560
P-1CDT-31	0.3125	0.400	3/32"	•	•	0.0300	0.0519
P-2CDT-31	0.3125	0.400	7/64"	•	•	0.0520	0.0749
P-3CDT-31	0.3125	0.400	9/64"	•	•	0.0750	0.0969
P-4CDT-31	0.3125	0.400	5/32"	•	•	0.0970	0.1199
P-5CDT-31	0.3125	0.400	7/32"	•	•	0.1200	0.2060
P-1CDT-37	0.3750	0.460	3/32"	•	•	0.0300	0.0519
P-2CDT-37	0.3750	0.460	7/64"	•	•	0.0520	0.0749
P-3CDT-37	0.3750	0.460	9/64"	•	•	0.0750	0.0969
P-4CDT-37	0.3750	0.460	5/32"	•	•	0.0970	0.1199
P-5CDT-37	0.3750	0.460	7/32"	•	•	0.1200	0.2060
P-1CDT-43	0.4375	0.562	17/64"	•	•	0.1560	0.2009
P-2CDT-43	0.4375	0.562	5/16"	•	•	0.2010	0.2480
P-3CDT-43	0.4375	0.438	23/64"	•	•	0.2481	0.3360
P-1CDT-50	0.5000	0.625	7/32"	•	•	0.1560	0.2009
P-2CDT-50	0.5000	0.625	17/64"	•	•	0.2010	0.2480
P-3CDT-50	0.5000	0.625	23/64"	•	•	0.2481	0.3360
P-1CDT-62	0.6250	0.750	27/64"	•	•	0.2600	0.3960
P-1CDT-75	0.7500	0.875	35/64"	•	•	0.3125	0.5260
P-1CDT-87	0.8750	1.000	5/8"	•	•	0.3750	0.5900
P-1CDT-100	1.0000	1.125	45/64"	•	•	0.3750	0.6900

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	P - 1CDT -18	1 1/4"	.0507

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

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LOCATING DEVICES CAN BE ADDED AT EXTRA COST AT TIME OF MANUFACTURE.  
ALL LOCATING DEVICES WILL BE PARALLEL TO THE LONGEST DIMENSION.

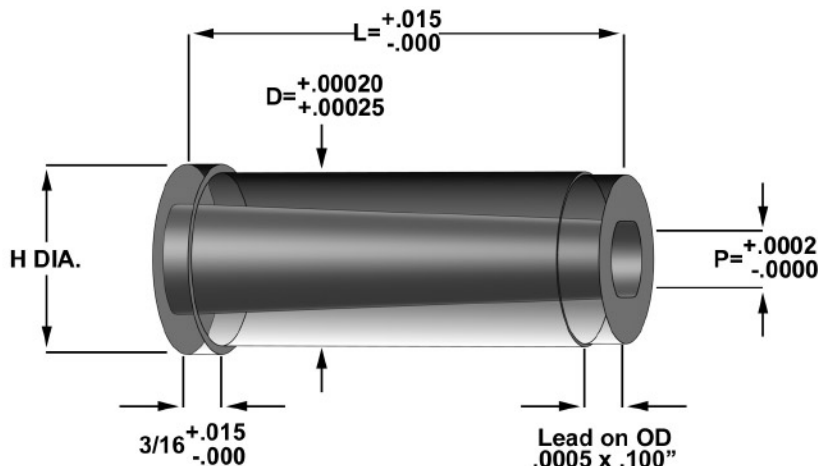
PRECISION LINE

# SOLID CARBIDE DIE INSERTS

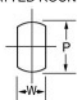
(SOLID CARBIDE HEAD - FULL LENGTH TAPER)



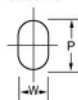
Rev. 1.0



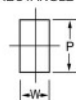
CDTF  
FLATTED ROUND



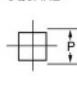
CDTO  
OBLONG



CDTR  
RECTANGLE



CDTS  
SQUARE



.0003-.0004 CONCENTRICITY O.D. and I.D.  
.0018 per inch per side taper in "P".  
.006 - .008 - standard corner radius.

TYPE CDTF CDTO CDTR CDTS	BODY DIA. D	HEAD DIA. H	OVERALL LENGTH L	CDTF				CDTO				CDTR	CDTS
				FLATTED ROUND				OBLONG				RECT.	SQUARE
				W		P		W		P		DIAG.	DIAG.
				1	1 1/4	MIN	MAX	MIN	MAX	MIN	MAX	MAX	MAX
P-( )-37	0.375	0.460	• •	0.062	0.185	0.065	0.195	0.062	0.185	0.065	0.195	0.195	0.195
P-( )-50	0.500	0.625	• •	0.062	0.255	0.077	0.275	0.062	0.255	0.077	0.275	0.290	0.290
P-( )-62	0.625	0.750	• •	0.093	0.338	0.108	0.365	0.093	0.338	0.108	0.365	0.365	0.365
P-( )-75	0.750	0.875	• •	0.125	0.402	0.140	0.437	0.125	0.402	0.140	0.437	0.437	0.437
P-( )-87	0.875	1.000	• •	0.125	0.505	0.140	0.520	0.125	0.505	0.140	0.520	0.540	0.540
P-( )-100	1.000	1.125	• •	0.188	0.642	0.202	0.650	0.188	0.642	0.202	0.650	0.650	0.650

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	P - CDTF - 16	1 1/4"	.0998
Quantity	Catalog Number	L	Point Dimensions
6	P - CDTF - 16	1 1/4"	W = .1300 P = .0176

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

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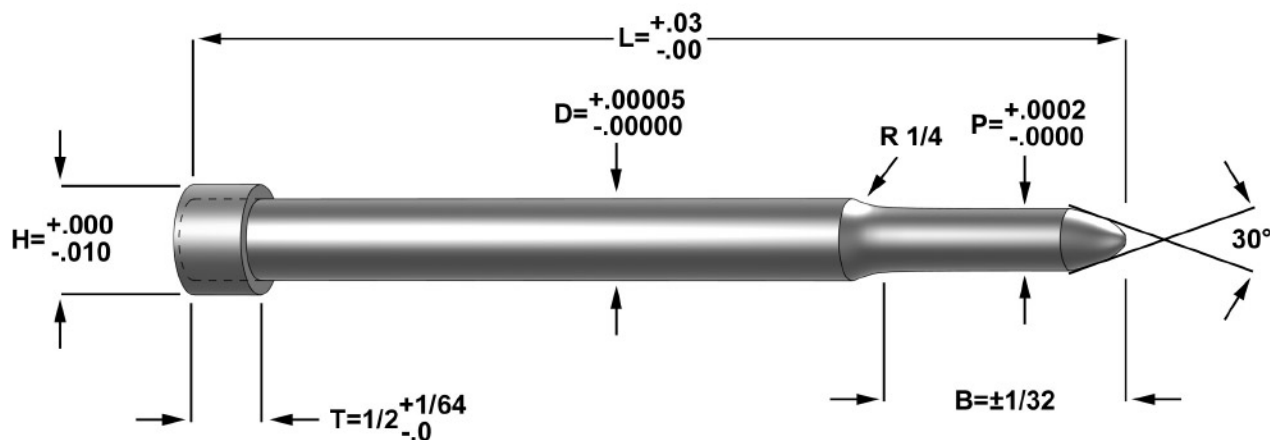


# SOLID CARBIDE PILOTS

(MACHINABLE BRAZED STEEL HEAD)



Rev. 1.0



.0003 CONCENTRICITY ( except head )

TYPE	BODY DIA. D	HEAD DIA. H	POINT LENGTH B	OVERALL LENGTH										1- 2PNS	
				L										ROUND	
				2	2 1/4	2 1/2	2 3/4	3	3 1/4	3 1/2	3 3/4	4		MIN	MAX
P-2PNS-18	0.1875	0.296	3/4"	•	•	•	•	•	•	•	•	•		0.0610	0.1875
P-1PNS-25	0.2500	0.340	3/4"	•	•	•	•	•	•	•	•	•		0.0600	0.1259
P-2PNS-25	0.2500	0.340	1"	•	•	•	•	•	•	•	•	•		0.1260	0.2500
P-1PNS-31	0.3125	0.400	1"	•	•	•	•	•	•	•	•	•		0.1250	0.2499
P-2PNS-31	0.3125	0.400	1"	•	•	•	•	•	•	•	•	•		0.2500	0.3125
P-1PNS-37	0.3750	0.460	1"	•	•	•	•	•	•	•	•	•		0.1870	0.3139
P-2PNS-37	0.3750	0.460	1"	•	•	•	•	•	•	•	•	•		0.3140	0.3750
P-1PNS-43	0.4375	0.562	1"	•	•	•	•	•	•	•	•	•		0.3140	0.3749
P-2PNS-43	0.4375	0.562	1"	•	•	•	•	•	•	•	•	•		0.3750	0.4375
P-1PNS-50	0.5000	0.625	1"	•	•	•	•	•	•	•	•	•		0.3750	0.4379
P-2PNS-50	0.5000	0.625	1"	•	•	•	•	•	•	•	•	•		0.4380	0.5000
P-1PNS-62	0.6250	0.750	1"	•	•	•	•	•	•	•	•	•		0.4380	0.5299
P-2PNS-62	0.6250	0.750	1"	•	•	•	•	•	•	•	•	•		0.5300	0.6250
P-1PNS-75	0.7500	0.875	1"	•	•	•	•	•	•	•	•	•		0.5300	0.6299
P-2PNS-75	0.7500	0.875	1"	•	•	•	•	•	•	•	•	•		0.6300	0.7500

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	P - 2PNS -18	1 1/4"	.0507

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

## AMERICAN CARBIDE TOOLING

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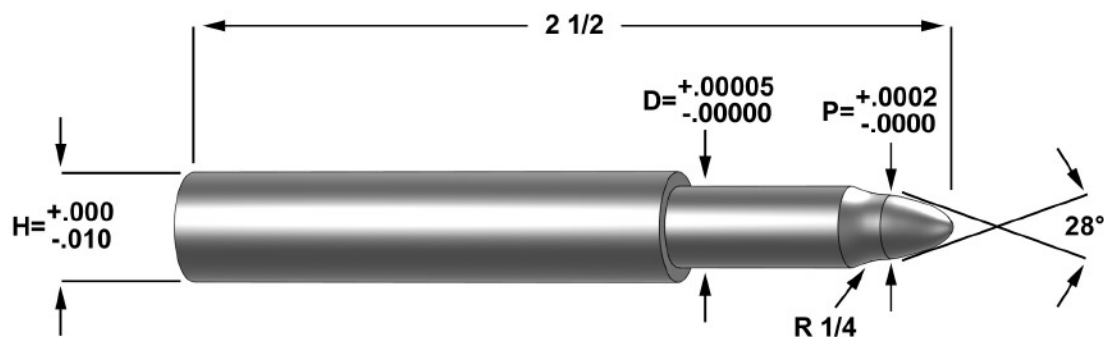
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# SOLID CARBIDE PILOTS



Rev. 1.0



TYPE	BODY DIA. D	HEAD DIA. H	1- 2PNSP	
			ROUND	
			P	
			MIN	MAX
P-1PNSP	0.1875	19/64"	0.0610	0.1875
P-2PNSP	0.2500	11/32"	0.0610	0.2500
P-3PNSP	0.3125	13/32"	0.1250	0.3125
P-4PNSP	0.3750	17/32"	0.1870	0.3750

When ordering please specify as follows:

Quantity	Catalog Number	P
12	P - 1PNSP -18	.0507

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

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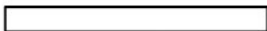
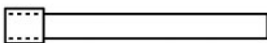
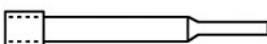



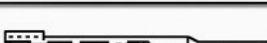

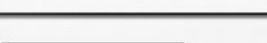


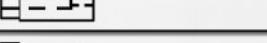

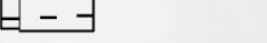

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24-25	<b>Solid Carbide Die Inserts - Full Length Taper</b>	
26-27	<b>Solid Carbide Die Inserts - Full Length Taper - with Solid Carbide Head</b>	
28-29	<b>Solid Carbide Pilots and Pilots with Machinable Brazed Steel Heads</b>	
A1-A4	<b>Locating Devices and Equations</b>	
B	<b>Delivery Options</b>	

## AMERICAN CARBIDE TOOLING

American Carbide Tooling is a Division of Penn United Technology Inc.

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email: [act\\_sales@pennunited.com](mailto:act_sales@pennunited.com) [www.pennunited.com](http://www.pennunited.com)





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ALL LOCATING DEVICES WILL BE PARALLEL TO THE LONGEST DIMENSION.

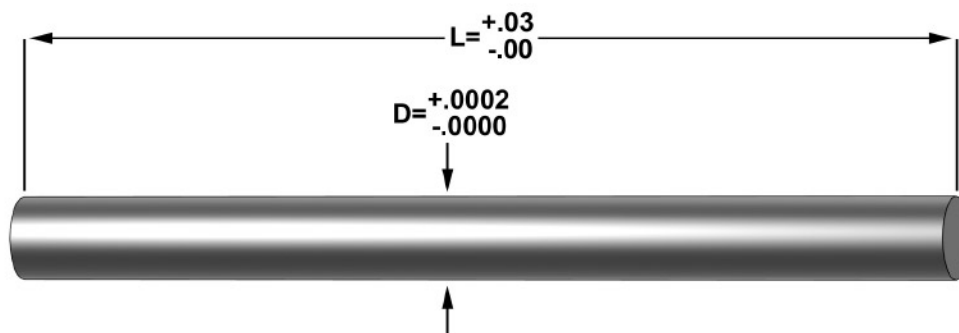
**STANDARD LINE**

# SOLID CARBIDE ROUNDS

(NOMINAL SIZES)



Rev. 1.0



TYPE	BODY DIA. D	OVERALL LENGTH												
		L												
		1 <sup>1/2</sup>	1 <sup>3/4</sup>	2	2 <sup>1/4</sup>	2 <sup>1/2</sup>	2 <sup>3/4</sup>	3	3 <sup>1/4</sup>	3 <sup>1/2</sup>	3 <sup>3/4</sup>	4		
S - 1RF	0.0625	•	•	•	•	•	•	•	•	•	•	•	•	•
S - 2RF	0.1250	•	•	•	•	•	•	•	•	•	•	•	•	•
S - 3RF	0.1875	•	•	•	•	•	•	•	•	•	•	•	•	•
S - 4RF	0.2500	•	•	•	•	•	•	•	•	•	•	•	•	•
S - 5RF	0.3125	•	•	•	•	•	•	•	•	•	•	•	•	•
S - 6RF	0.3750	•	•	•	•	•	•	•	•	•	•	•	•	•
S - 7RF	0.4375	•	•	•	•	•	•	•	•	•	•	•	•	•
S - 8RF	0.5000	•	•	•	•	•	•	•	•	•	•	•	•	•
S - 9RF	0.6250	•	•	•	•	•	•	•	•	•	•	•	•	•
S - 10RF	0.7500	•	•	•	•	•	•	•	•	•	•	•	•	•

When ordering please specify as follows:

Quantity	Catalog Number	L
12	S - 1RF	3 <sup>1/4</sup> "

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

## AMERICAN CARBIDE TOOLING

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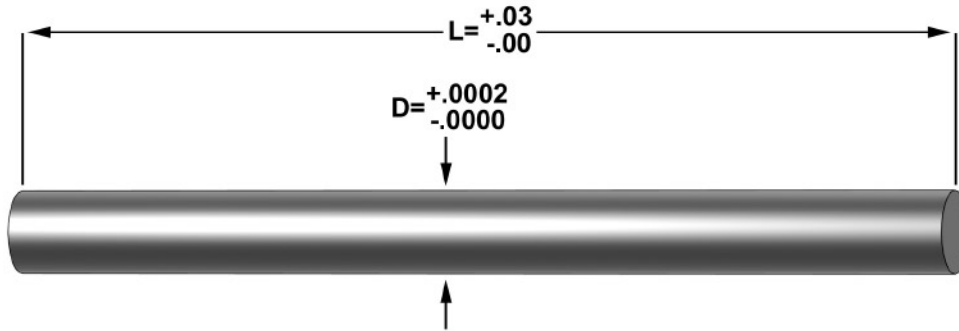
Phone: 724-352-1500 Fax: 724-352-1799

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**SOLID CARBIDE ROUNDS**  
(DECIMAL SIZES)

Rev. 1.0



TYPE	BODY DIA. D	OVERALL LENGTH											
		L											
		1 <sup>1/2</sup>	1 <sup>3/4</sup>	2	2 <sup>1/4</sup>	2 <sup>1/2</sup>	2 <sup>3/4</sup>	3	3 <sup>1/4</sup>	3 <sup>1/2</sup>	3 <sup>3/4</sup>	4	
S - 1RD	0.0300 - 0.0449	•	•	•	•	•	•	•	•	•	•	•	
S - 2RD	0.0450 - 0.0649	•	•	•	•	•	•	•	•	•	•	•	
S - 3RD	0.0650 - 0.0879	•	•	•	•	•	•	•	•	•	•	•	
S - 4RD	0.0880 - 0.1249	•	•	•	•	•	•	•	•	•	•	•	
S - 5RD	0.1251 - 0.1409	•	•	•	•	•	•	•	•	•	•	•	
S - 6RD	0.1410 - 0.1569	•	•	•	•	•	•	•	•	•	•	•	
S - 7RD	0.1570 - 0.1729	•	•	•	•	•	•	•	•	•	•	•	
S - 8RD	0.1730 - 0.1874	•	•	•	•	•	•	•	•	•	•	•	
S - 9RD	0.1876 - 0.2049	•	•	•	•	•	•	•	•	•	•	•	
S - 10RD	0.2050 - 0.2199	•	•	•	•	•	•	•	•	•	•	•	
S - 11RD	0.2200 - 0.2359	•	•	•	•	•	•	•	•	•	•	•	
S - 12RD	0.2360 - 0.2499	•	•	•	•	•	•	•	•	•	•	•	
S - 13RD	0.2501 - 0.2669	•	•	•	•	•	•	•	•	•	•	•	
S - 14RD	0.2670 - 0.2829	•	•	•	•	•	•	•	•	•	•	•	
S - 15RD	0.2830 - 0.2979	•	•	•	•	•	•	•	•	•	•	•	
S - 16RD	0.2980 - 0.3124	•	•	•	•	•	•	•	•	•	•	•	
S - 17RD	0.3126 - 0.3439	•	•	•	•	•	•	•	•	•	•	•	
S - 18RD	0.3440 - 0.3749	•	•	•	•	•	•	•	•	•	•	•	

When ordering please specify as follows:

Quantity	Catalog Number	L	D
12	S - 1RD	3 <sup>1/4</sup> "	0.0430

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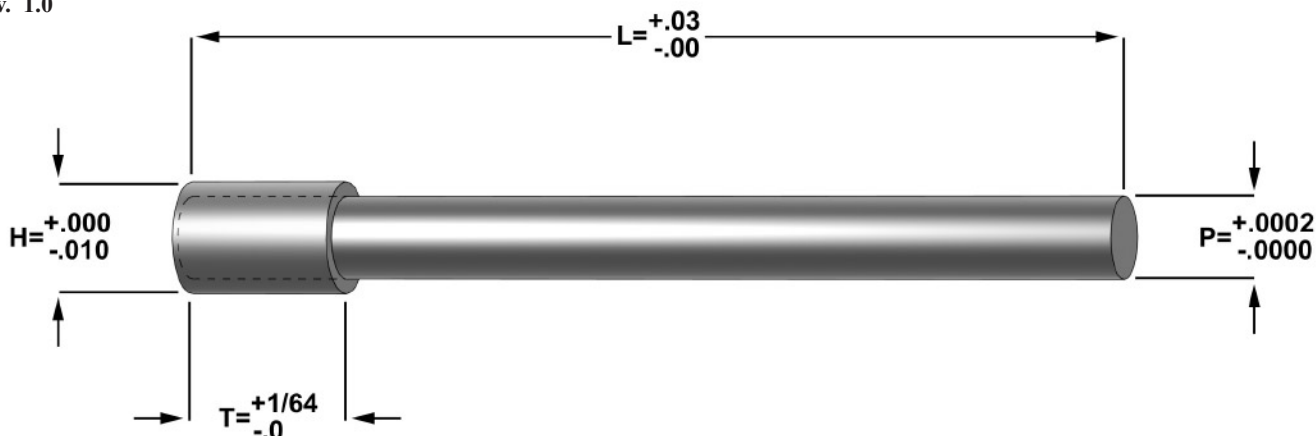
**STANDARD LINE**

# SOLID CARBIDE QUILLS

(MACHINABLE BRAZED STEEL HEAD)



Rev. 1.0



TYPE	HEAD DIA. H	HEAD THICKNESS T	OVERALL LENGTH												POINT DIA.	
			L												P	
			1 <sup>1/2</sup>	1 <sup>3/4</sup>	2	2 <sup>1/4</sup>	2 <sup>1/2</sup>	2 <sup>3/4</sup>	3	3 <sup>1/4</sup>	3 <sup>1/2</sup>	3 <sup>3/4</sup>	4	MIN	MAX	
S - 1Q	0.125	3/16"	•	•	•	•	•	•	•	•	•	•	•	0.0450	0.0649	
S - 2Q	0.125	3/16"	•	•	•	•	•	•	•	•	•	•	•	0.0650	0.0879	
S - 3Q	0.171	3/16"	•	•	•	•	•	•	•	•	•	•	•	0.0880	0.1249	
S - 4Q	0.171	3/16"	•	•	•	•	•	•	•	•	•	•	•	0.1250	0.1250	
S - 5Q	0.203	1/4"	•	•	•	•	•	•	•	•	•	•	•	0.1251	0.1409	
S - 6Q	0.218	1/4"	•	•	•	•	•	•	•	•	•	•	•	0.1410	0.1569	
S - 7Q	0.234	1/4"	•	•	•	•	•	•	•	•	•	•	•	0.1570	0.1729	
S - 8Q	0.250	1/4"	•	•	•	•	•	•	•	•	•	•	•	0.1730	0.1874	
S - 9Q	0.296	1/2"	•	•	•	•	•	•	•	•	•	•	•	0.1875	0.1875	
S - 10Q	0.296	1/2"	•	•	•	•	•	•	•	•	•	•	•	0.1876	0.2049	
S - 11Q	0.340	1/2"	•	•	•	•	•	•	•	•	•	•	•	0.2050	0.2199	
S - 12Q	0.340	1/2"	•	•	•	•	•	•	•	•	•	•	•	0.2200	0.2359	
S - 13Q	0.340	1/2"	•	•	•	•	•	•	•	•	•	•	•	0.2360	0.2499	
S - 14Q	0.340	1/2"	•	•	•	•	•	•	•	•	•	•	•	0.2500	0.2500	
S - 15Q	0.400	1/2"	•	•	•	•	•	•	•	•	•	•	•	0.2501	0.2669	
S - 16Q	0.400	1/2"	•	•	•	•	•	•	•	•	•	•	•	0.2670	0.2829	
S - 17Q	0.400	1/2"	•	•	•	•	•	•	•	•	•	•	•	0.2830	0.2979	
S - 18Q	0.400	1/2"	•	•	•	•	•	•	•	•	•	•	•	0.2980	0.3124	
S - 19Q	0.400	1/2"	•	•	•	•	•	•	•	•	•	•	•	0.3125	0.3125	
S - 20Q	0.460	1/2"	•	•	•	•	•	•	•	•	•	•	•	0.3126	0.3439	
S - 21Q	0.460	1/2"	•	•	•	•	•	•	•	•	•	•	•	0.3440	0.3749	
S - 22Q	0.460	1/2"	•	•	•	•	•	•	•	•	•	•	•	0.3750	0.3750	
S - 23Q	0.562	1/2"	•	•	•	•	•	•	•	•	•	•	•	0.4375	0.4375	
S - 24Q	0.625	1/2"	•	•	•	•	•	•	•	•	•	•	•	0.5000	0.5000	
S - 25Q	0.750	1/2"	•	•	•	•	•	•	•	•	•	•	•	0.6250	0.6250	
S - 26Q	0.875	1/2"	•	•	•	•	•	•	•	•	•	•	•	0.7500	0.7500	

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	S - 1Q	3 <sup>1/4</sup> "	.0473

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## AMERICAN CARBIDE TOOLING

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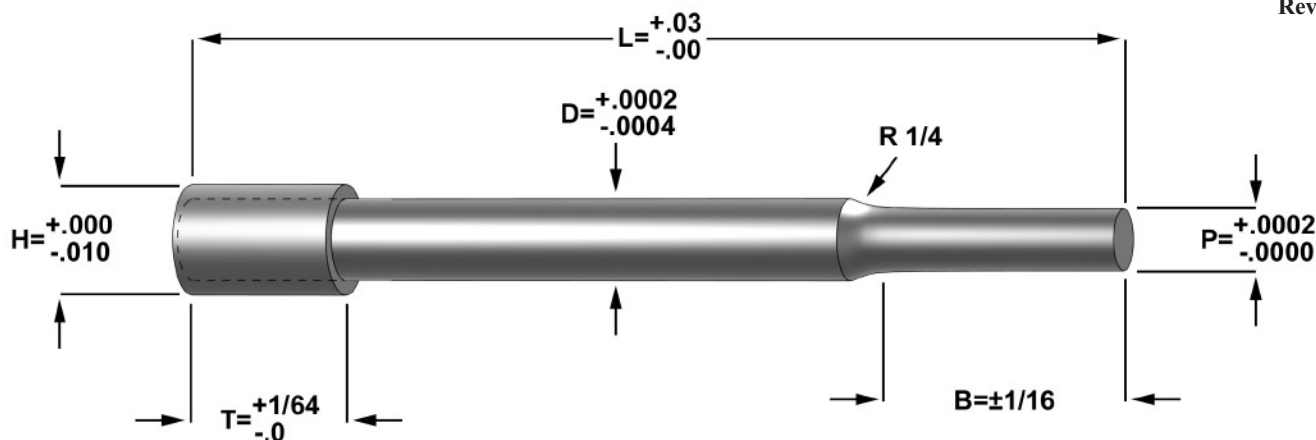
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**SOLID CARBIDE PUNCHES**  
(MACHINABLE BRAZED STEEL HEAD)

Rev. 1.0



.0002 CONCENTRICITY T.I.R. POINT TO BODY



TYPE	BODY DIA. D	HEAD DIA. H	POINT LENGTH B	OVERALL LENGTH L										1- 2P	
														ROUND	
				2	2 1/4	2 1/2	2 3/4	3	3 1/4	3 1/2	3 3/4	4		MIN	MAX
S-1P-12	0.1250	0.171	5/16"	•	•	•	•	•	•	•	•	•		0.0310	0.0609
S-2P-12	0.1250	0.171	3/4"	•	•	•	•	•	•	•	•	•		0.0610	0.1250
S-1P-18	0.1875	0.296	5/16"	•	•	•	•	•	•	•	•	•		0.0310	0.0609
S-2P-18	0.1875	0.296	3/4"	•	•	•	•	•	•	•	•	•		0.0610	0.1875
S-1P-25	0.2500	0.340	3/4"	•	•	•	•	•	•	•	•	•		0.0600	0.1259
S-2P-25	0.2500	0.340	7/8"	•	•	•	•	•	•	•	•	•		0.1260	0.2500
S-1P-31	0.3125	0.400	7/8"	•	•	•	•	•	•	•	•	•		0.1250	0.2499
S-2P-31	0.3125	0.400	7/8"	•	•	•	•	•	•	•	•	•		0.2500	0.3125
S-1P-37	0.3750	0.460	7/8"	•	•	•	•	•	•	•	•	•		0.1870	0.3139
S-2P-37	0.3750	0.460	7/8"	•	•	•	•	•	•	•	•	•		0.3140	0.3750
S-1P-43	0.4375	0.562	7/8"	•	•	•	•	•	•	•	•	•		0.3140	0.3749
S-2P-43	0.4375	0.562	7/8"	•	•	•	•	•	•	•	•	•		0.3750	0.4375
S-1P-50	0.5000	0.625	7/8"	•	•	•	•	•	•	•	•	•		0.3750	0.4379
S-2P-50	0.5000	0.625	7/8"	•	•	•	•	•	•	•	•	•		0.4380	0.5000
S-1P-62	0.6250	0.750	7/8"	•	•	•	•	•	•	•	•	•		0.4380	0.5299
S-2P-62	0.6250	0.750	7/8"	•	•	•	•	•	•	•	•	•		0.5300	0.6250
S-1P-75	0.7500	0.875	7/8"	•	•	•	•	•	•	•	•	•		0.5300	0.6299
S-2P-75	0.7500	0.875	7/8"	•	•	•	•	•	•	•	•	•		0.6300	0.7500

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	S - 1P - 16	3 1/4"	.0473

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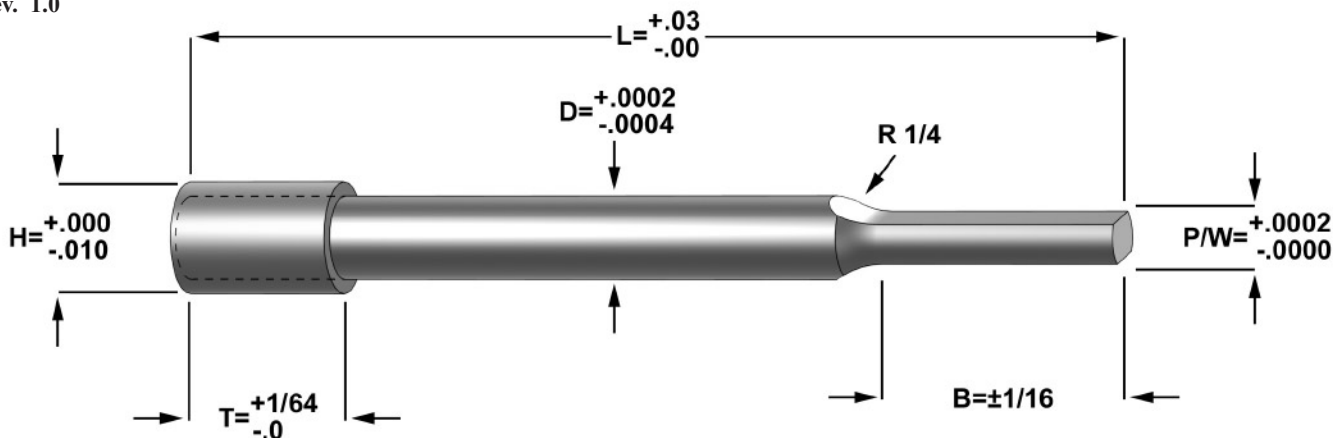
STANDARD LINE

# SOLID CARBIDE PUNCHES

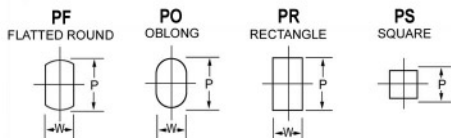
(MACHINABLE BRAZED STEEL HEAD)



Rev. 1.0



.0003 CONCENTRICITY T.I.R. POINT TO BODY



TYPE  PF PO PR PS	BODY DIA. D	HEAD DIA. H	POINT LENGTH B	OVERALL LENGTH  L										PF				PO				PR		PS									
														FLATTED ROUND				OBLONG				RECTANGLE		SQUARE									
				W		P		W		P		W/P		P																			
				2	2 1/4	2 1/2	2 3/4	3	3 1/4	3 1/2	3 3/4	4	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX									
S( )-18	0.1875	0.296	7/8"	•	•	•	•	•	•	•	•	•	•	0.1250	0.1775	0.1350	0.1875	0.0930	0.1770	0.1030	0.1875	0.0930	0.1620	0.0930	0.1320								
S( )-25	0.2500	0.340	7/8"	•	•	•	•	•	•	•	•	•	•	0.1875	0.2400	0.1975	0.2500	0.0930	0.2400	0.1030	0.2500	0.0930	0.2300	0.0930	0.1760								
S( )-31	0.3125	0.400	7/8"	•	•	•	•	•	•	•	•	•	•	0.2500	0.3025	0.2600	0.3125	0.0930	0.3020	0.1030	0.3125	0.0930	0.2980	0.0930	0.2200								
S( )-37	0.3750	0.460	7/8"	•	•	•	•	•	•	•	•	•	•	0.3125	0.3650	0.3225	0.3750	0.1250	0.3650	0.1350	0.3750	0.1250	0.3530	0.1250	0.2650								
S( )-43	0.4375	0.562	7/8"	•	•	•	•	•	•	•	•	•	•	0.3750	0.4275	0.3850	0.4375	0.1875	0.4270	0.1980	0.4375	0.1875	0.4190	0.1875	0.3090								
S( )-50	0.5000	0.625	7/8"	•	•	•	•	•	•	•	•	•	•	0.4375	0.4900	0.4475	0.5000	0.2500	0.4900	0.2600	0.5000	0.2500	0.4320	0.2500	0.3530								
S( )-62	0.6250	0.750	7/8"	•	•	•	•	•	•	•	•	•	•	0.5000	0.6150	0.5100	0.6250	0.3750	0.6150	0.3850	0.6250	0.3750	0.5000	0.3750	0.4410								
S( )-75	0.7500	0.875	7/8"	•	•	•	•	•	•	•	•	•	•	0.6250	0.7400	0.6350	0.7500	0.4370	0.7400	0.4470	0.7500	0.4370	0.6090	0.4370	0.5300								

When ordering please specify as follows:

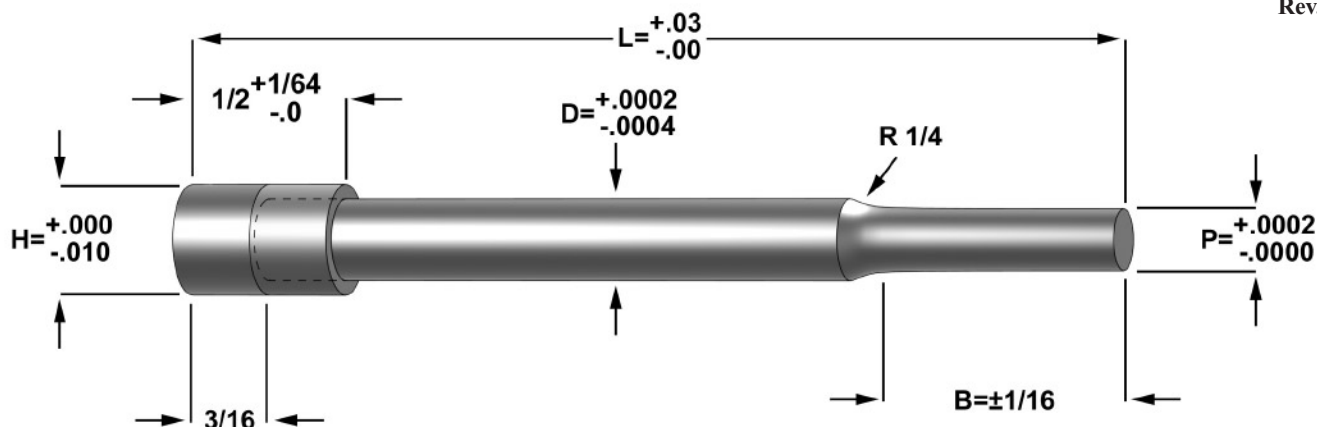
Quantity	Catalog Number	L	P
12	S - PF - 16	3 1/4"	.0998
Quantity	Catalog Number	L	Point Dimensions
6	S - PF - 16	3 1/4"	W = .1300 P = .0176

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

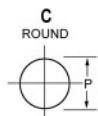
.003" - .015" radii can be ground at extra cost at time of manufacture.

**SOLID CARBIDE PUNCHES**  
(SOLID CARBIDE HEAD - STEEL COLLAR)

Rev. 1.0



.0002 CONCENTRICITY T.I.R. POINT TO BODY



TYPE	BODY DIA. D	HEAD DIA. H	POINT LENGTH B	OVERALL LENGTH L										1- 2C	
														ROUND	
														P	
				2	2 1/4	2 1/2	2 3/4	3	3 1/4	3 1/2	3 3/4	4		MIN	MAX
S-1C-18	0.1875	0.296	5/16"	•	•	•	•	•	•	•	•	•		0.0310	0.0609
S-2C-18	0.1875	0.296	3/4"	•	•	•	•	•	•	•	•	•		0.0610	0.1875
S-1C-25	0.2500	0.340	3/4"	•	•	•	•	•	•	•	•	•		0.0600	0.1259
S-2C-25	0.2500	0.340	7/8"	•	•	•	•	•	•	•	•	•		0.1260	0.2500
S-1C-31	0.3125	0.400	7/8"	•	•	•	•	•	•	•	•	•		0.1250	0.2499
S-2C-31	0.3125	0.400	7/8"	•	•	•	•	•	•	•	•	•		0.2500	0.3125
S-1C-37	0.3750	0.460	7/8"	•	•	•	•	•	•	•	•	•		0.1870	0.3139
S-2C-37	0.3750	0.460	7/8"	•	•	•	•	•	•	•	•	•		0.3140	0.3750
S-1C-43	0.4375	0.562	7/8"	•	•	•	•	•	•	•	•	•		0.3140	0.3749
S-2C-43	0.4375	0.562	7/8"	•	•	•	•	•	•	•	•	•		0.3750	0.4375
S-1C-50	0.5000	0.625	7/8"	•	•	•	•	•	•	•	•	•		0.3750	0.4379
S-2C-50	0.5000	0.625	7/8"	•	•	•	•	•	•	•	•	•		0.4380	0.5000
S-1C-62	0.6250	0.750	7/8"	•	•	•	•	•	•	•	•	•		0.4380	0.5299
S-2C-62	0.6250	0.750	7/8"	•	•	•	•	•	•	•	•	•		0.5300	0.6250
S-1C-75	0.7500	0.875	7/8"	•	•	•	•	•	•	•	•	•		0.5300	0.6299
S-2C-75	0.7500	0.875	7/8"	•	•	•	•	•	•	•	•	•		0.6300	0.7500

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	S - 1C -18	3 1/4"	.0473

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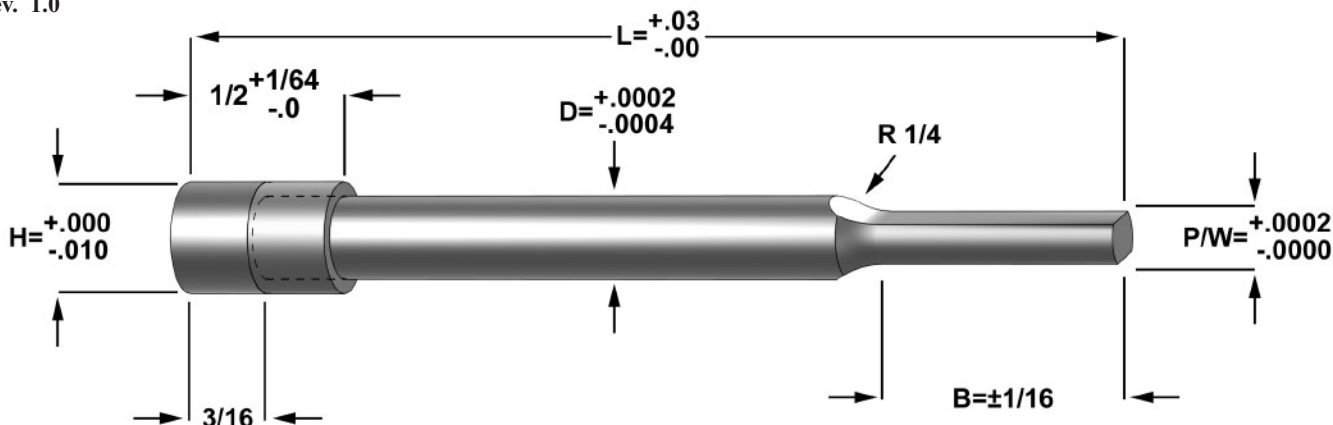
STANDARD LINE

# SOLID CARBIDE PUNCHES

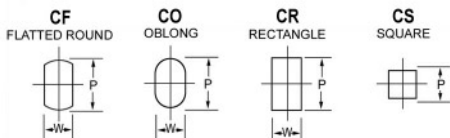
(SOLID CARBIDE HEAD - STEEL COLLAR)



Rev. 1.0



.0003 CONCENTRICITY T.I.R. POINT TO BODY



TYPE	CF CO CR CS	BODY DIA. D	HEAD DIA. H	POINT LENGTH B	OVERALL LENGTH												CF				CO				CR				CS			
																	FLATTED ROUND				OBLONG				RECTANGLE				SQUARE			
					L												W		P		W		P		W/P		P					
					2	2 1/4	2 1/2	2 3/4	3	3 1/4	3 1/2	3 3/4	4	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX					
S( )-18		0.1875	0.296	7/8"	•	•	•	•	•	•	•	•	•	•	0.1250	0.1775	0.1350	0.1875	0.0930	0.1770	0.1030	0.1875	0.0930	0.1620	0.0930	0.1320						
S( )-25		0.2500	0.340	7/8"	•	•	•	•	•	•	•	•	•	•	0.1875	0.2400	0.1975	0.2500	0.0930	0.2400	0.1030	0.2500	0.0930	0.2300	0.0930	0.1760						
S( )-31		0.3125	0.400	7/8"	•	•	•	•	•	•	•	•	•	•	0.2500	0.3025	0.2600	0.3125	0.0930	0.3020	0.1030	0.3125	0.0930	0.2980	0.0930	0.2200						
S( )-37		0.3750	0.460	7/8"	•	•	•	•	•	•	•	•	•	•	0.3125	0.3650	0.3225	0.3750	0.1250	0.3650	0.1350	0.3750	0.1250	0.3530	0.1250	0.2650						
S( )-43		0.4375	0.562	7/8"	•	•	•	•	•	•	•	•	•	•	0.3750	0.4275	0.3850	0.4375	0.1875	0.4270	0.1980	0.4375	0.1875	0.4190	0.1870	0.3090						
S( )-50		0.5000	0.625	7/8"	•	•	•	•	•	•	•	•	•	•	0.4375	0.4900	0.4475	0.5000	0.2500	0.4900	0.2600	0.5000	0.2500	0.4320	0.2500	0.3530						
S( )-62		0.6250	0.750	7/8"	•	•	•	•	•	•	•	•	•	•	0.5000	0.6150	0.5000	0.6250	0.3750	0.6150	0.3850	0.6250	0.3750	0.5000	0.3750	0.4410						
S( )-75		0.7500	0.875	7/8"	•	•	•	•	•	•	•	•	•	•	0.6250	0.7400	0.6350	0.7500	0.4370	0.7400	0.4470	0.7500	0.4370	0.6090	0.4370	0.5300						

When ordering please specify as follows:

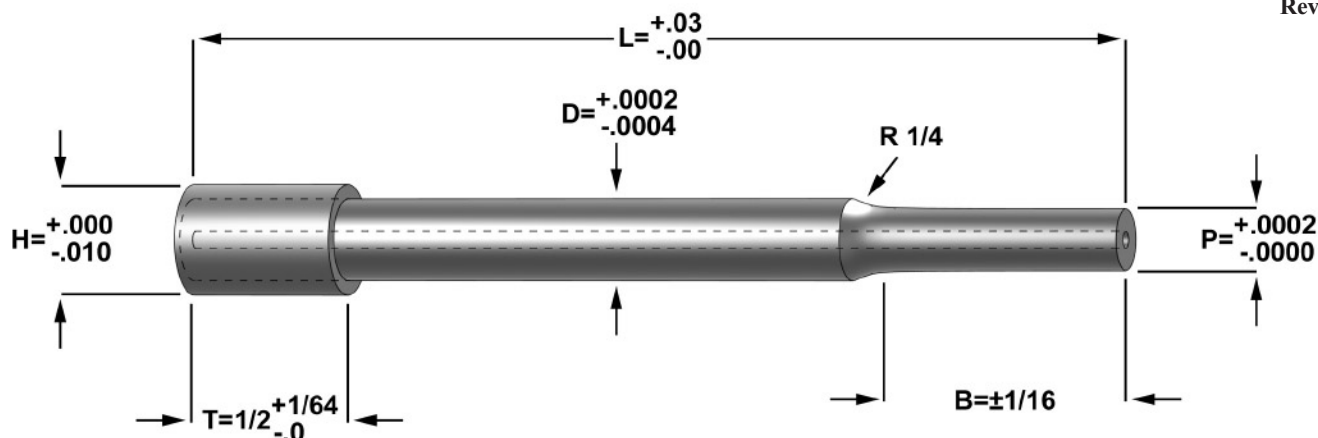
Quantity	Catalog Number	L	P
12	S - CF - 16	3 1/4"	.0998
Quantity	Catalog Number	L	Point Dimensions
6	S - CF - 16	3 1/4"	W = .1300 P = .0176

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

.003" - .015" radii can be ground at extra cost at time of manufacture.

**SOLID CARBIDE PUNCHES**  
(AIR HOLE - MACHINABLE BRAZED STEEL HEAD)

Rev. 1.0

.0002 CONCENTRICITY T.I.R. POINT TO BODY  
(AIRHOLE WILL NOT BE CONCENTRIC TO BODY OR POINT)

TYPE	BODY DIA. D	HEAD DIA. H	POINT LENGTH B	AIR HOLE DIA.	OVERALL LENGTH L										1- 2AP	
															ROUND	
															P	
					2	2 1/4	2 1/2	2 3/4	3	3 1/4	3 1/2	3 3/4	4	MIN	MAX	
S-1AP-18	0.1875	0.296	3/4"	3/64"	•	•	•	•	•	•	•	•	•	0.0930	0.1259	
S-2AP-18	0.1875	0.296	7/8"	3/64"	•	•	•	•	•	•	•	•	•	0.1260	0.1875	
S-1AP-25	0.2500	0.340	3/4"	3/64"	•	•	•	•	•	•	•	•	•	0.0930	0.1259	
S-2AP-25	0.2500	0.340	7/8"	3/64"	•	•	•	•	•	•	•	•	•	0.1260	0.2500	
S-1AP-31	0.3125	0.400	7/8"	3/64"	•	•	•	•	•	•	•	•	•	0.1250	0.2499	
S-2AP-31	0.3125	0.400	7/8"	3/64"	•	•	•	•	•	•	•	•	•	0.2500	0.3125	
S-1AP-37	0.3750	0.460	7/8"	5/64"	•	•	•	•	•	•	•	•	•	0.1870	0.3139	
S-2AP-37	0.3750	0.460	7/8"	5/64"	•	•	•	•	•	•	•	•	•	0.3140	0.3750	
S-1AP-43	0.4375	0.562	7/8"	7/64"	•	•	•	•	•	•	•	•	•	0.3140	0.3749	
S-2AP-43	0.4375	0.562	7/8"	7/64"	•	•	•	•	•	•	•	•	•	0.3750	0.4375	
S-1AP-50	0.5000	0.625	7/8"	9/64"	•	•	•	•	•	•	•	•	•	0.3750	0.4379	
S-2AP-50	0.5000	0.625	7/8"	9/64"	•	•	•	•	•	•	•	•	•	0.4380	0.5000	
S-1AP-62	0.6250	0.750	7/8"	9/64"	•	•	•	•	•	•	•	•	•	0.4380	0.5299	
S-2AP-62	0.6250	0.750	7/8"	9/64"	•	•	•	•	•	•	•	•	•	0.5300	0.6250	

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	S - 1AP -18	3 1/4"	.1125

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

**AMERICAN CARBIDE TOOLING**

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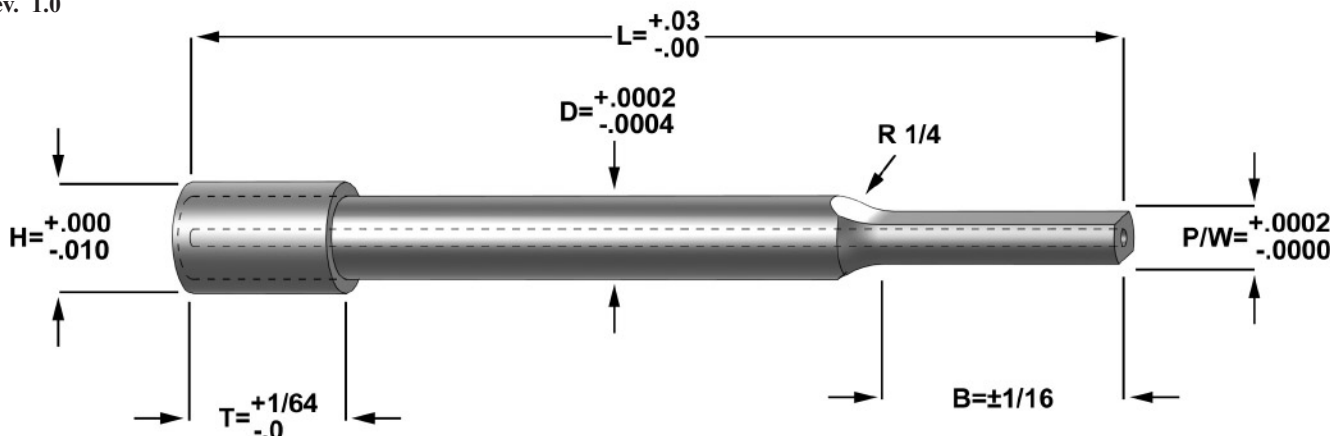
**STANDARD LINE**

# SOLID CARBIDE PUNCHES

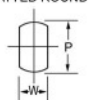
(AIR HOLE - MACHINABLE BRAZED STEEL HEAD)



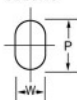
Rev. 1.0



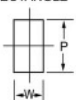
APF  
FLATTED ROUND



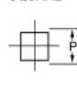
APO  
OBLONG



APR  
RECTANGLE



APS  
SQUARE



.0003 CONCENTRICITY T.I.R. POINT TO BODY  
(AIRHOLE WILL NOT BE CONCENTRIC TO BODY OR POINT)

TYPE APF APO APR APS	BODY DIA. D	HEAD DIA. H	POINT LENGTH B	AIR HOLE DIA.	OVERALL LENGTH L																APF FLATTED ROUND				APO OBLONG				APR RECTANGLE		APS SQUARE	
																					W		P		W		P		W/P		P	
					2	2 1/4	2 1/2	2 3/4	3	3 1/4	3 1/2	3 3/4	4	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX							
S( ) -18	0.1875	0.296	7/8"	3/64"	•	•	•	•	•	•	•	•	•	•	0.1250	0.1775	0.1350	0.1875	0.0930	0.1770	0.1030	0.1875	0.0930	0.1620	0.0930	0.1320						
S( ) -25	0.2500	0.340	7/8"	3/64"	•	•	•	•	•	•	•	•	•	•	0.1875	0.2400	0.1975	0.2500	0.0930	0.2400	0.1030	0.2500	0.0930	0.2300	0.0930	0.1760						
S( ) -31	0.3125	0.400	7/8"	3/64"	•	•	•	•	•	•	•	•	•	•	0.2500	0.3025	0.2600	0.3125	0.0930	0.3020	0.1030	0.3125	0.0930	0.2980	0.0930	0.2200						
S( ) -37	0.3750	0.460	7/8"	5/64"	•	•	•	•	•	•	•	•	•	•	0.3125	0.3650	0.3225	0.3750	0.1250	0.3650	0.1350	0.3750	0.1250	0.3530	0.1250	0.2650						
S( ) -43	0.4375	0.562	7/8"	7/64"	•	•	•	•	•	•	•	•	•	•	0.3750	0.4275	0.3850	0.4375	0.1875	0.4270	0.1980	0.4375	0.1875	0.4190	0.1870	0.3090						
S( ) -50	0.5000	0.625	7/8"	9/64"	•	•	•	•	•	•	•	•	•	•	0.4375	0.4900	0.4475	0.5000	0.2500	0.4900	0.2600	0.5000	0.2500	0.4320	0.2500	0.3530						
S( ) -62	0.6250	0.750	7/8"	9/64"	•	•	•	•	•	•	•	•	•	•	0.5000	0.6150	0.5000	0.6250	0.3750	0.6150	0.3850	0.6250	0.3750	0.5000	0.3750	0.4410						

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	S - APF - 16	3 1/4"	.0998
Quantity	Catalog Number	L	Point Dimensions
6	S - APF - 16	3 1/4"	W = .1300 P = .0176

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

.003" - .015" radii can be ground at extra cost at time of manufacture.

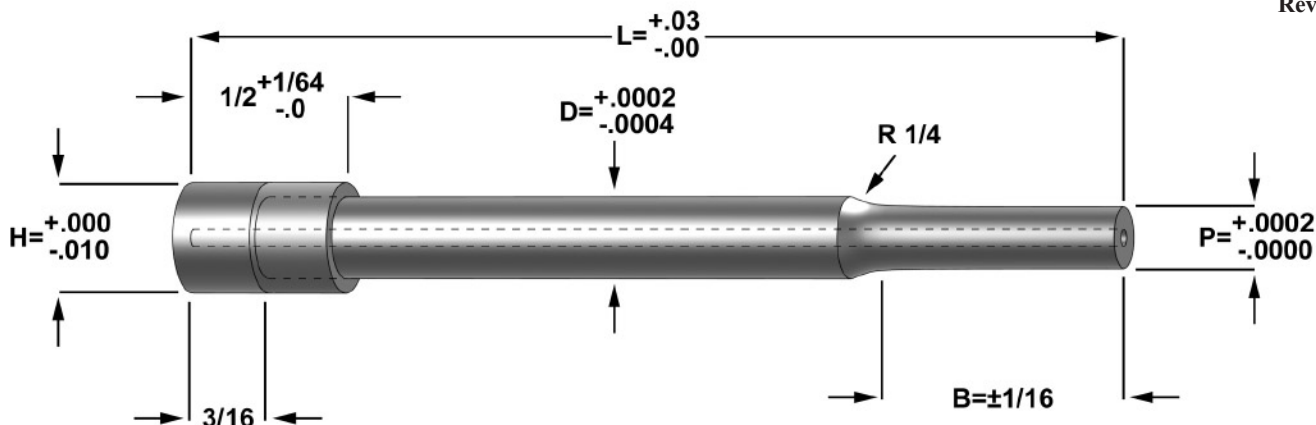


# SOLID CARBIDE PUNCHES

(AIR HOLE - SOLID CARBIDE HEAD - STEEL COLLAR)



Rev. 1.0



.0002 CONCENTRICITY T.I.R. POINT TO BODY  
(AIRHOLE WILL NOT BE CONCENTRIC TO BODY OR POINT)

TYPE	BODY DIA. D	HEAD DIA. H	POINT LENGTH B	AIR HOLE DIA.	OVERALL LENGTH L										1- 2AC	
															ROUND	
															P	
					2	2 1/4	2 1/2	2 3/4	3	3 1/4	3 1/2	3 3/4	4		MIN	MAX
S-1AC-18	0.1875	0.296	3/4"	3/64"	•	•	•	•	•	•	•	•	•		0.0930	0.1259
S-2AC-18	0.1875	0.296	7/8"	3/64"	•	•	•	•	•	•	•	•	•		0.1260	0.1875
S-1AC-25	0.2500	0.340	3/4"	3/64"	•	•	•	•	•	•	•	•	•		0.0930	0.1259
S-2AC-25	0.2500	0.340	7/8"	3/64"	•	•	•	•	•	•	•	•	•		0.1260	0.2500
S-1AC-31	0.3125	0.400	7/8"	3/64"	•	•	•	•	•	•	•	•	•		0.1250	0.2499
S-2AC-31	0.3125	0.400	7/8"	3/64"	•	•	•	•	•	•	•	•	•		0.2500	0.3125
S-1AC-37	0.3750	0.460	7/8"	5/64"	•	•	•	•	•	•	•	•	•		0.1870	0.3130
S-2AC-37	0.3750	0.460	7/8"	5/64"	•	•	•	•	•	•	•	•	•		0.3140	0.3750
S-1AC-43	0.4375	0.562	7/8"	7/64"	•	•	•	•	•	•	•	•	•		0.3250	0.3749
S-2AC-43	0.4375	0.562	7/8"	7/64"	•	•	•	•	•	•	•	•	•		0.3750	0.4375
S-1AC-50	0.5000	0.625	7/8"	9/64"	•	•	•	•	•	•	•	•	•		0.3750	0.4379
S-2AC-50	0.5000	0.625	7/8"	9/64"	•	•	•	•	•	•	•	•	•		0.4380	0.5000
S-1AC-62	0.6250	0.750	7/8"	9/64"	•	•	•	•	•	•	•	•	•		0.5000	0.5740
S-2AC-62	0.6250	0.750	7/8"	9/64"	•	•	•	•	•	•	•	•	•		0.5750	0.6250

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	S - 1AC -18	3 1/4"	.1125

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

## AMERICAN CARBIDE TOOLING

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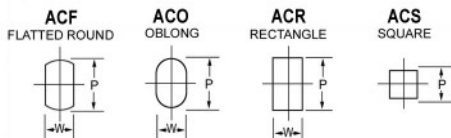
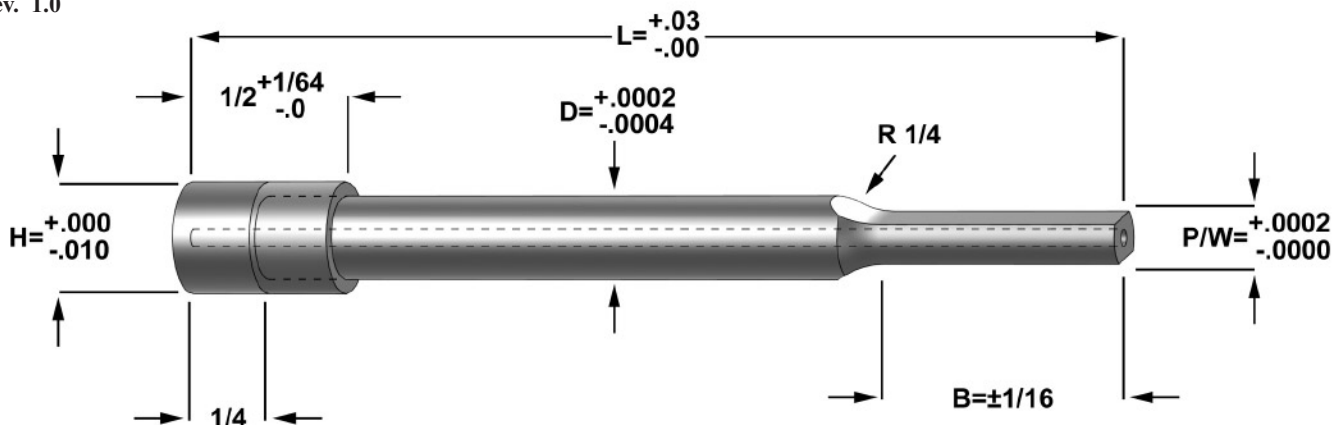
**STANDARD LINE**

# SOLID CARBIDE PUNCHES





(AIR HOLE - SOLID CARBIDE HEAD - STEEL COLLAR)



Rev. 1.0



.0003 CONCENTRICITY T.I.R. POINT TO BODY  
(AIRHOLE WILL NOT BE CONCENTRIC TO BODY OR POINT)

																									
TYPE ACF ACO ACR ACS	BODY DIA. D	HEAD DIA. H	POINT LENGTH B	AIR HOLE DIA.	OVERALL LENGTH L									ACF FLATTED ROUND				ACO OBLONG				ACR RECTANGLE		ACS SQUARE	
														W		P		W		P		W/P		P	
					2	2 1/4	2 1/2	2 3/4	3	3 1/4	3 1/2	3 3/4	4	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
S ( ) -18	0.1875	0.296	7/8"	3/64"	•	•	•	•	•	•	•	•	•	0.1250	0.1775	0.1350	0.1875	0.0930	0.1770	0.1030	0.1875	0.0930	0.1620	0.0930	0.1320
S ( ) -25	0.2500	0.340	7/8"	3/64"	•	•	•	•	•	•	•	•	•	0.1875	0.2400	0.1975	0.2500	0.0930	0.2400	0.1030	0.2500	0.0930	0.2300	0.0930	0.1760
S ( ) -31	0.3125	0.400	7/8"	3/64"	•	•	•	•	•	•	•	•	•	0.2500	0.3025	0.2600	0.3125	0.0930	0.3020	0.1030	0.3125	0.0930	0.2980	0.0930	0.2200
S ( ) -37	0.3750	0.460	7/8"	5/64"	•	•	•	•	•	•	•	•	•	0.3125	0.3650	0.3225	0.3750	0.1250	0.3650	0.1350	0.3750	0.1250	0.3530	0.1250	0.2650
S ( ) -43	0.4375	0.562	7/8"	7/64"	•	•	•	•	•	•	•	•	•	0.3750	0.4275	0.3850	0.4375	0.1875	0.4270	0.1980	0.4375	0.1875	0.4190	0.1870	0.3090
S ( ) -50	0.5000	0.625	7/8"	9/64"	•	•	•	•	•	•	•	•	•	0.4375	0.4900	0.4475	0.5000	0.2500	0.4900	0.2600	0.5000	0.2500	0.4320	0.2500	0.3530
S ( ) -62	0.6250	0.750	7/8"	9/64"	•	•	•	•	•	•	•	•	•	0.5000	0.6150	0.5100	0.6250	0.3750	0.6150	0.3850	0.6250	0.3750	0.5000	0.3750	0.4410

When ordering please specify as follows:

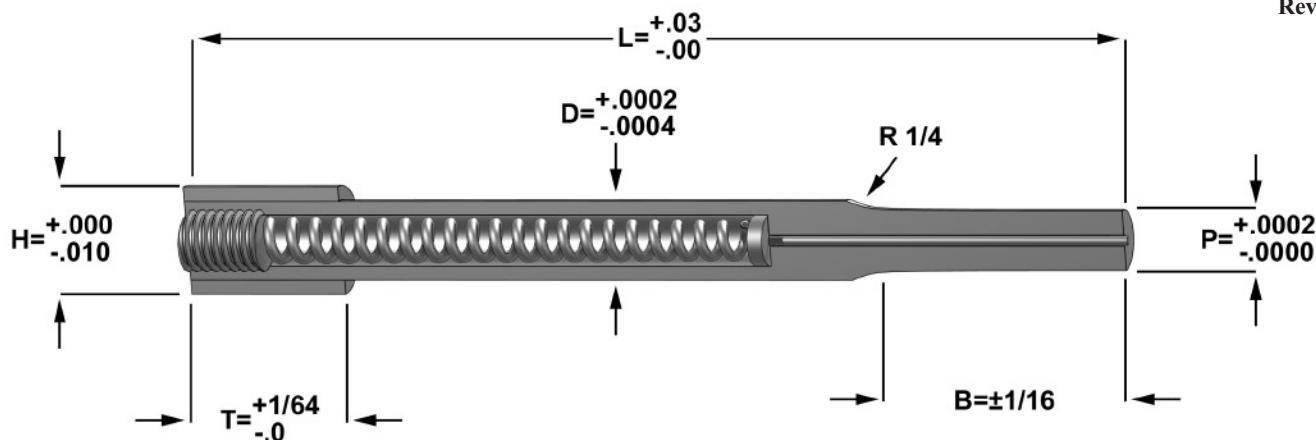
Quantity	Catalog Number	L	P
12	S - ACF - 16	3 1/4"	.0998
Quantity	Catalog Number	L	Point Dimensions
6	S - ACF - 16	3 1/4"	W = .1300 P = .0176

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

.003" - .015" radii can be ground at extra cost at time of manufacture.

**SOLID CARBIDE PUNCHES**  
(EJECTOR - MACHINABLE BRAZED STEEL HEAD)

Rev. 1.0



.0002 CONCENTRICITY T.I.R. POINT TO BODY  
SPRING, EJECTOR PIN AND SET SCREW INCLUDED  
(EJECTOR WILL NOT BE CONCENTRIC TO BODY OR POINT)

TYPE	BODY DIA. D	HEAD DIA. H	POINT LENGTH B	OVERALL LENGTH L										1- 2EP	
														ROUND	
				2	2 1/4	2 1/2	2 3/4	3	3 1/4	3 1/2	3 3/4	4		MIN	MAX
S-1EP-18	0.1875	0.296	3/4"	•	•	•	•	•	•	•	•	•	•	0.0930	0.1259
S-2EP-18	0.1875	0.296	7/8"	•	•	•	•	•	•	•	•	•	•	0.1260	0.1875
S-1EP-25	0.2500	0.340	3/4"	•	•	•	•	•	•	•	•	•	•	0.0930	0.1259
S-2EP-25	0.2500	0.340	7/8"	•	•	•	•	•	•	•	•	•	•	0.1260	0.2500
S-1EP-31	0.3125	0.400	7/8"	•	•	•	•	•	•	•	•	•	•	0.1250	0.2499
S-2EP-31	0.3125	0.400	7/8"	•	•	•	•	•	•	•	•	•	•	0.2500	0.3125
S-1EP-37	0.3750	0.460	7/8"	•	•	•	•	•	•	•	•	•	•	0.1870	0.3139
S-2EP-37	0.3750	0.460	7/8"	•	•	•	•	•	•	•	•	•	•	0.3140	0.3750
S-1EP-43	0.4375	0.562	7/8"	•	•	•	•	•	•	•	•	•	•	0.3140	0.3749
S-2EP-43	0.4375	0.562	7/8"	•	•	•	•	•	•	•	•	•	•	0.3750	0.4375
S-1EP-50	0.5000	0.625	7/8"	•	•	•	•	•	•	•	•	•	•	0.3750	0.4379
S-2EP-50	0.5000	0.625	7/8"	•	•	•	•	•	•	•	•	•	•	0.4380	0.5000
S-1EP-62	0.6250	0.750	7/8"	•	•	•	•	•	•	•	•	•	•	0.4380	0.5299
S-2EP-62	0.6250	0.750	7/8"	•	•	•	•	•	•	•	•	•	•	0.5300	0.6250

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	S - 1EP -18	3 1/4"	.1125

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

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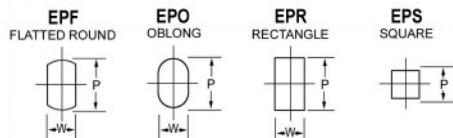
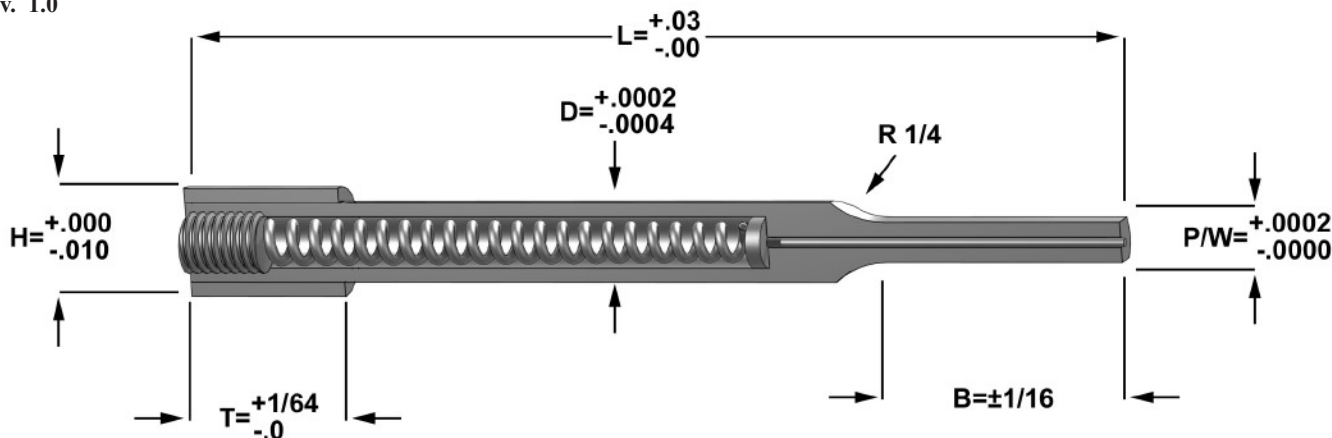
STANDARD LINE

# SOLID CARBIDE PUNCHES

(EJECTOR - MACHINABLE BRAZED STEEL HEAD)



Rev. 1.0



.0003 CONCENTRICITY T.I.R. POINT TO BODY  
SPRING, EJECTOR PIN AND SET SCREW INCLUDED  
(EJECTOR WILL NOT BE CONCENTRIC TO BODY OR POINT)

TYPE  EPF EPO EPR EPS	BODY DIA. D	HEAD DIA. H	POINT LENGTH B	OVERALL LENGTH																EPF				EPO				EPR		EPS	
				L																FLATTED ROUND				OBLONG				RECTANGLE		SQUARE	
																				W		P		W		P		W/P		P	
				2	2 1/4	2 1/2	2 3/4	3	3 1/4	3 1/2	3 3/4	4	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX					
S ( ) -18	0.1875	0.296	7/8"	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•								
S ( ) -25	0.2500	0.340	7/8"	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•								
S ( ) -31	0.3125	0.400	7/8"	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•								
S ( ) -37	0.3750	0.460	7/8"	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•								
S ( ) -43	0.4375	0.562	7/8"	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•								
S ( ) -50	0.5000	0.625	7/8"	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•								
S ( ) -62	0.6250	0.750	7/8"	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•								

When ordering please specify as follows:

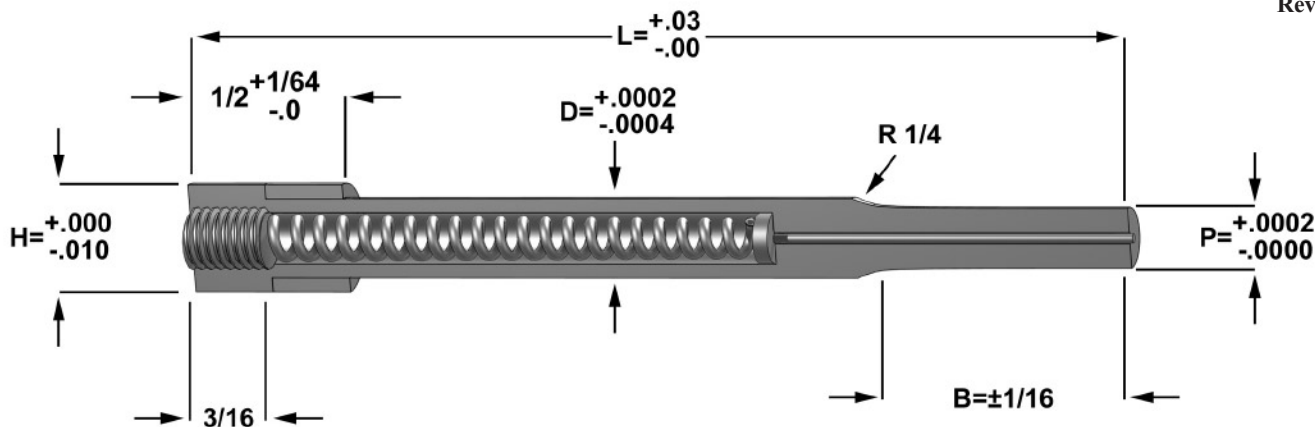
Quantity	Catalog Number	L	P
12	S - EPF - 16	3 1/4"	.0998
Quantity	Catalog Number	L	Point Dimensions
6	S - EPF - 16	3 1/4"	W = .1300 P = .0176

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

.003"-.015" radii can be ground at extra cost at time of manufacture

**SOLID CARBIDE PUNCHES**  
(EJECTOR - SOLID CARBIDE HEAD - STEEL COLLAR)

Rev. 1.0



.0002 CONCENTRICITY T.I.R. POINT TO BODY  
SPRING, EJECTOR PIN AND SET SCREW INCLUDED  
(EJECTOR WILL NOT BE CONCENTRIC TO BODY OR POINT)

TYPE	BODY DIA. D	HEAD DIA. H	POINT LENGTH B	OVERALL LENGTH L										1- 2EC ROUND P	
				2	2 1/4	2 1/2	2 3/4	3	3 1/4	3 1/2	3 3/4	4	MIN	MAX	
S-1EC-18	0.1875	0.296	3/4"	•	•	•	•	•	•	•	•	•	0.0930	0.1259	
S-2EC-18	0.1875	0.296	7/8"	•	•	•	•	•	•	•	•	•	0.1260	0.1875	
S-1EC-25	0.2500	0.340	3/4"	•	•	•	•	•	•	•	•	•	0.0930	0.1259	
S-2EC-25	0.2500	0.340	7/8"	•	•	•	•	•	•	•	•	•	0.1260	0.2500	
S-1EC-31	0.3125	0.400	7/8"	•	•	•	•	•	•	•	•	•	0.1250	0.2499	
S-2EC-31	0.3125	0.400	7/8"	•	•	•	•	•	•	•	•	•	0.2500	0.3125	
S-1EC-37	0.3750	0.460	7/8"	•	•	•	•	•	•	•	•	•	0.1870	0.3139	
S-2EC-37	0.3750	0.460	7/8"	•	•	•	•	•	•	•	•	•	0.3140	0.3750	
S-1EC-43	0.4375	0.562	7/8"	•	•	•	•	•	•	•	•	•	0.3140	0.3749	
S-2EC-43	0.4375	0.562	7/8"	•	•	•	•	•	•	•	•	•	0.3750	0.4375	
S-1EC-50	0.5000	0.625	7/8"	•	•	•	•	•	•	•	•	•	0.3750	0.4379	
S-2EC-50	0.5000	0.625	7/8"	•	•	•	•	•	•	•	•	•	0.4380	0.5000	
S-1EC-62	0.6250	0.750	7/8"	•	•	•	•	•	•	•	•	•	0.4380	0.5299	
S-2EC-62	0.6250	0.750	7/8"	•	•	•	•	•	•	•	•	•	0.5300	0.6250	

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	S - 1EC -18	3 1/4"	.1125

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

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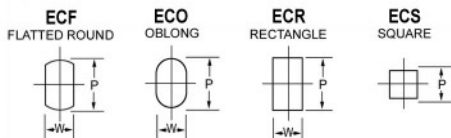
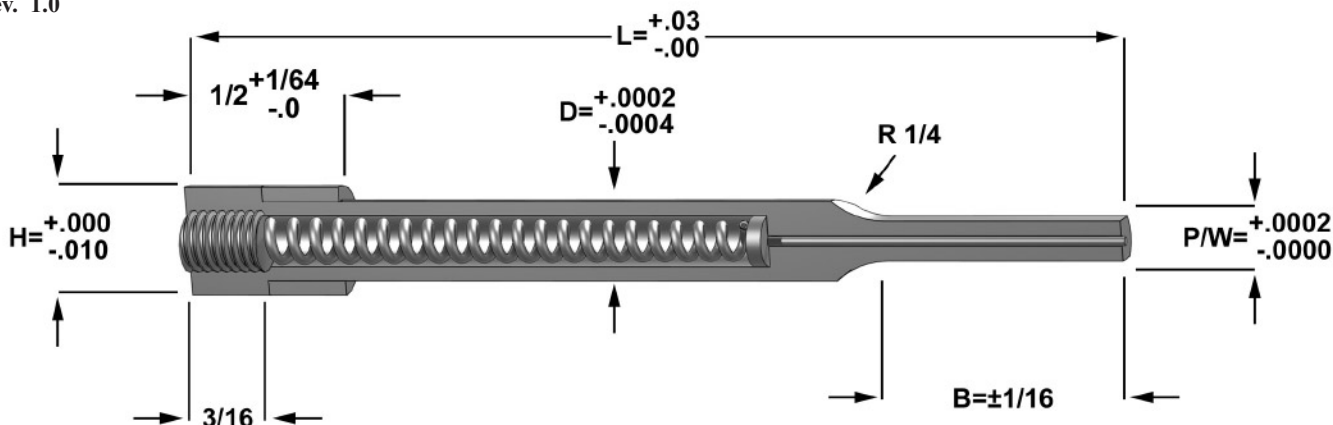
STANDARD LINE

# SOLID CARBIDE PUNCHES

(EJECTOR - SOLID CARBIDE HEAD - STEEL COLLAR)



Rev. 1.0



.0003 CONCENTRICITY T.I.R. POINT TO BODY  
SPRING, EJECTOR PIN AND SET SCREW INCLUDED  
(EJECTOR WILL NOT BE CONCENTRIC TO BODY OR POINT)

TYPE  ECF ECO ECR ECS	BODY DIA. D	HEAD DIA. H	POINT LENGTH B	OVERALL LENGTH																ECF				ECO				ECR		ECS	
				L																FLATTED ROUND				OBLONG				RECTANGLE		SQUARE	
																				W		P		W		P		W/P		P	
				2	2 1/4	2 1/2	2 3/4	3	3 1/4	3 1/2	3 3/4	4	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX							
S ( ) -18	0.1875	0.296	7/8"	•	•	•	•	•	•	•	•	•	•	0.1250	0.1775	0.1350	0.1875	0.0930	0.1770	0.1030	0.1875	0.0930	0.1620	0.0930	0.1320						
S ( ) -25	0.2500	0.340	7/8"	•	•	•	•	•	•	•	•	•	•	0.1875	0.2400	0.1975	0.2500	0.0930	0.2400	0.1030	0.2500	0.0930	0.2300	0.0930	0.1760						
S ( ) -31	0.3125	0.400	7/8"	•	•	•	•	•	•	•	•	•	•	0.2500	0.3025	0.2600	0.3125	0.0930	0.3020	0.1030	0.3125	0.0930	0.2980	0.0930	0.2200						
S ( ) -37	0.3750	0.460	7/8"	•	•	•	•	•	•	•	•	•	•	0.3125	0.3650	0.3225	0.3750	0.1250	0.3650	0.1350	0.3750	0.1250	0.3530	0.1250	0.2650						
S ( ) -43	0.4375	0.562	7/8"	•	•	•	•	•	•	•	•	•	•	0.3750	0.4275	0.3850	0.4375	0.1875	0.4270	0.1980	0.4375	0.1875	0.4190	0.1870	0.3090						
S ( ) -50	0.5000	0.625	7/8"	•	•	•	•	•	•	•	•	•	•	0.4375	0.4900	0.4475	0.5000	0.2500	0.4900	0.2600	0.5000	0.2500	0.4320	0.2500	0.3530						
S ( ) -62	0.6250	0.750	7/8"	•	•	•	•	•	•	•	•	•	•	0.5000	0.6150	0.5100	0.6250	0.3750	0.6150	0.3850	0.6250	0.3750	0.5000	0.3750	0.4410						

When ordering please specify as follows:

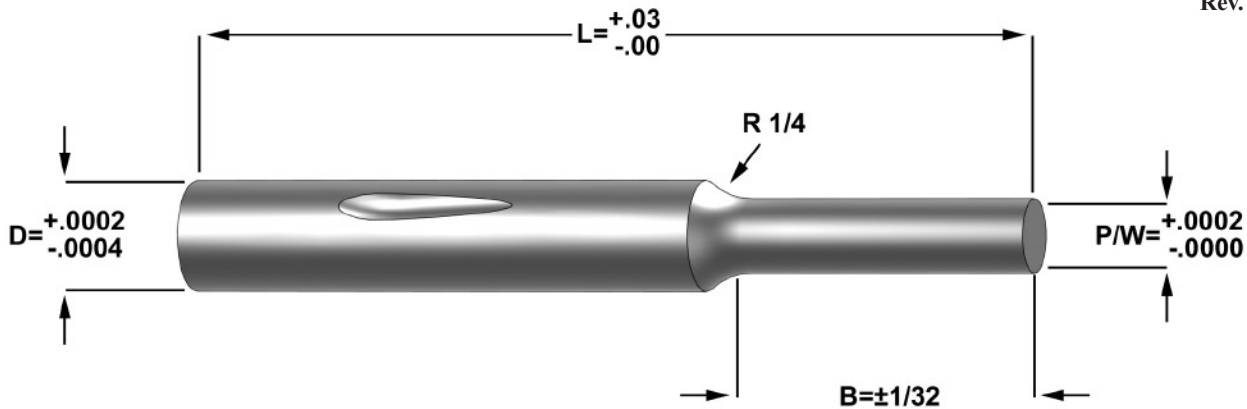
Quantity	Catalog Number	L	P
12	S - ECF - 16	3 1/4"	.0998
Quantity	Catalog Number	L	Point Dimensions
6	S - ECF - 16	3 1/4"	W = .1300 P = .0176

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

.003"- .015" radii can be ground at extra cost at time of manufacture

**SOLID CARBIDE PUNCHES**  
(BALL LOCK - LIGHT DUTY)

Rev. 1.0



.0002 CONCENTRICITY T.I.R. POINT TO BODY

TYPE	BODY DIA. D	POINT LENGTH B											1- 2- 3B	
			OVERALL LENGTH L										ROUND	
													P	
			2	2 1/4	2 1/2	2 3/4	3	3 1/4	3 1/2	3 3/4	4	MIN	MAX	
S-1B-25	0.250	3/8"	•	•	•	•	•	•	•	•	0.0600	0.0900		
S-2B-25	0.250	3/8"	•	•	•	•	•	•	•	•	0.0901	0.1250		
S-3B-25	0.250	3/8"	•	•	•	•	•	•	•	•	0.1251	0.2500		
S-1B-37	0.375	1/2"	•	•	•	•	•	•	•	•	0.1870	0.2500		
S-2B-37	0.375	1/2"	•	•	•	•	•	•	•	•	0.2501	0.3130		
S-3B-37	0.375	1/2"	•	•	•	•	•	•	•	•	0.3131	0.3750		
S-1B-50	0.500	5/8"	•	•	•	•	•	•	•	•	0.2500	0.3250		
S-2B-50	0.500	5/8"	•	•	•	•	•	•	•	•	0.3251	0.4000		
S-3B-50	0.500	5/8"	•	•	•	•	•	•	•	•	0.4001	0.5000		

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	S - 1B -25	3 1/4"	.0788

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

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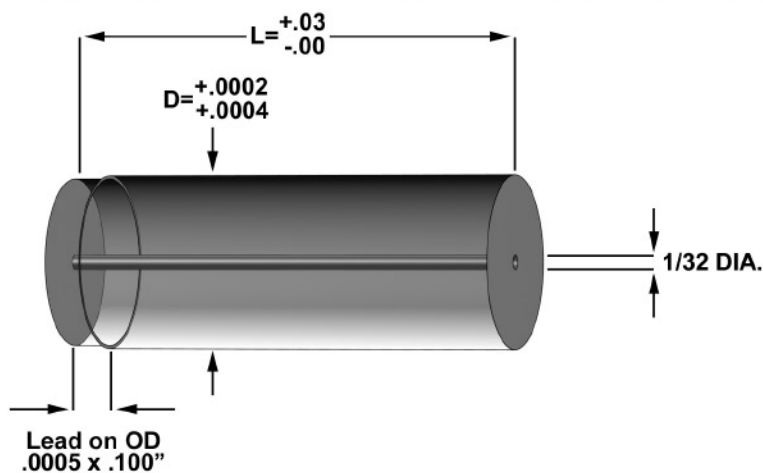
**STANDARD LINE**

# SOLID CARBIDE DIE INSERTS

(WIRE EDM - WITH START HOLE)



Rev. 1.0



STARHOLE WILL NOT BE CONCENTRIC TO BODY

TYPE	BODY DIA. D	OVERALL LENGTH L	
		1	1 <sup>1/4</sup>
S-DTW-18	0.1875	•	•
S-DTW-25	0.2500	•	•
S-DTW-31	0.3125	•	•
S-DTW-37	0.3750	•	•
S-DTW-50	0.5000	•	•
S-DTW-62	0.6250	•	•
S-DTW-75	0.7500	•	•
S-DTW-87	0.8750	•	•
S-DTW-100	1.0000	•	•

When ordering please specify as follows:

Quantity	Catalog Number	L
12	S - DTW - 18	1 <sup>1/4</sup> "

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

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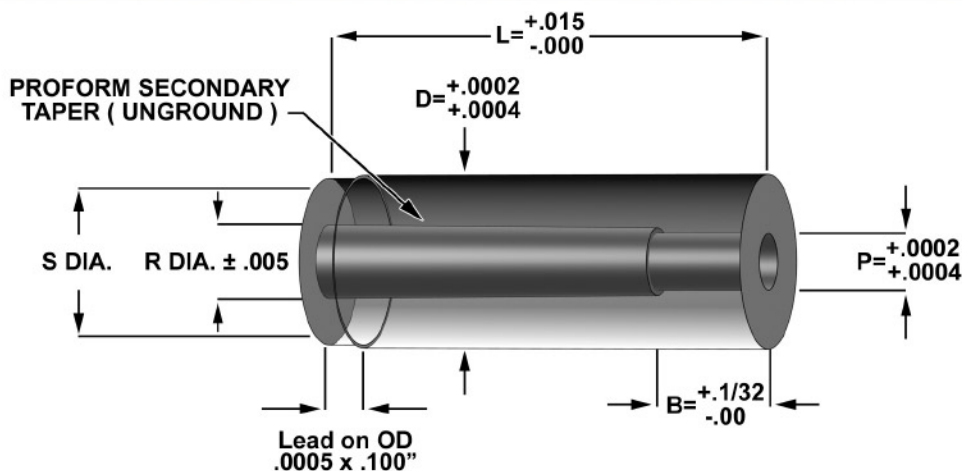
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# SOLID CARBIDE DIE INSERTS

## (COUNTERBORE TYPE)



Rev. 1.0



.0002 CONCENTRICITY O.D. and I.D.  
.0018 per inch per side taper in "P".

TYPE	BODY DIA. D	RELIEF DIA. R	MIN. WEAR LAND B	MIN. SLUG HOLE DIA. S	OVERALL LENGTH L		INSIDE DIA. P	
					1	1 <sup>1/4</sup>	MIN	MAX
S-1DC-18	0.1875	0.080	1/8"	3/32"	•	•	0.0520	0.0619
S-2DC-18	0.1875	0.090	1/8"	3/32"	•	•	0.0620	0.0700
S-3DC-18	0.1875	0.100	1/8"	1/8"	•	•	0.0701	0.0770
S-4DC-18	0.1875	0.108	3/16"	9/64"	•	•	0.0771	0.0870
S-5DC-18	0.1875	0.114	3/16"	9/64"	•	•	0.0871	0.0920
S-1DC-25	0.2500	0.080	1/8"	3/32"	•	•	0.0520	0.0619
S-2DC-25	0.2500	0.090	1/8"	1/8"	•	•	0.0620	0.0700
S-3DC-25	0.2500	0.100	1/8"	9/64"	•	•	0.0701	0.0770
S-4DC-25	0.2500	0.108	3/16"	9/64"	•	•	0.0771	0.0870
S-5DC-25	0.2500	0.114	3/16"	5/32"	•	•	0.0871	0.0920
S-6DC-25	0.2500	0.125	3/16"	11/64"	•	•	0.0921	0.1080
S-7DC-25	0.2500	0.144	3/16"	3/16"	•	•	0.1081	0.1240
S-8DC-25	0.2500	0.159	1/4"	13/64"	•	•	0.1241	0.1400
S-1DC-31	0.3125	0.090	1/8"	1/8"	•	•	0.0620	0.0700
S-2DC-31	0.3125	0.100	1/8"	9/64"	•	•	0.0701	0.0770
S-3DC-31	0.3125	0.108	3/16"	9/64"	•	•	0.0771	0.0870
S-4DC-31	0.3125	0.114	3/16"	5/32"	•	•	0.0871	0.0920
S-5DC-31	0.3125	0.125	3/16"	11/64"	•	•	0.0921	0.1080
S-6DC-31	0.3125	0.144	3/16"	3/16"	•	•	0.1081	0.1240
S-7DC-31	0.3125	0.159	1/4"	13/64"	•	•	0.1241	0.1400
S-8DC-31	0.3125	0.209	1/4"	15/64"	•	•	0.1401	0.1800
S-9DC-31	0.3125	0.219	1/4"	15/64"	•	•	0.1801	0.1950
S-1DC-37	0.3750	0.090	1/8"	1/8"	•	•	0.0620	0.0700
S-2DC-37	0.3750	0.100	1/8"	9/64"	•	•	0.0701	0.0770
S-3DC-37	0.3750	0.108	3/16"	9/64"	•	•	0.0771	0.0870
S-4DC-37	0.3750	0.114	3/16"	5/32"	•	•	0.0871	0.0920
S-5DC-37	0.3750	0.125	3/16"	11/64"	•	•	0.0921	0.1080
S-6DC-37	0.3750	0.144	3/16"	3/16"	•	•	0.1081	0.1240
S-7DC-37	0.3750	0.159	1/4"	13/64"	•	•	0.1241	0.1400
S-8DC-37	0.3750	0.209	1/4"	15/64"	•	•	0.1401	0.1800
S-9DC-37	0.3750	0.219	1/4"	17/64"	•	•	0.1801	0.1950

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	S - 1CD -18	1 1/4"	.0587

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

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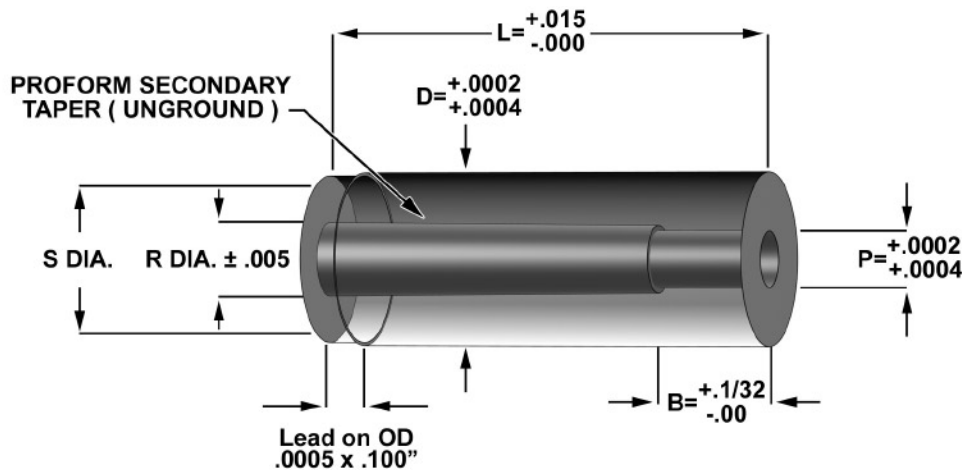
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**STANDARD LINE**

# SOLID CARBIDE DIE INSERTS (COUNTERBORE TYPE)



Rev. 1.0



.0002 CONCENTRICITY O.D. and I.D.  
.0018 per inch per side taper in "P".

TYPE	BODY DIA. D	RELIEF DIA. R	MIN. WEAR LAND B	MIN. SLUG HOLE DIA. S	OVERALL LENGTH L		INSIDE DIA. P	
					1	1 1/4	MIN	MAX
S-1DC-43	0.4375	0.219	1/4"	17/64"	•	•	0.1650	0.2000
S-2DC-43	0.4375	0.269	3/8"	5/16"	•	•	0.2001	0.2480
S-3DC-43	0.4375	0.319	3/8"	23/64"	•	•	0.2481	0.3000
S-1DC-50	0.5000	0.219	1/4"	17/64"	•	•	0.1560	0.2000
S-2DC-50	0.5000	0.269	3/8"	5/16"	•	•	0.2010	0.2480
S-3DC-50	0.5000	0.319	3/8"	23/64"	•	•	0.2480	0.3000
S-1DC-62	0.6250	0.399	3/8"	7/16"	•	•	0.2600	0.3100
S-2DC-62	0.6250	0.399	3/8"	7/16"	•	•	0.3101	0.3750
S-3DC-62	0.6250	0.469	3/8"	1/2"	•	•	0.3750	0.4500
S-1DC-75	0.7500	0.530	3/8"	9/16"	•	•	0.3125	0.5100
S-1DC-87	0.8750	0.535	3/8"	9/16"	•	•	0.3750	0.5150
S-1DC-100	1.0000	0.695	3/8"	23/32"	•	•	0.3750	0.6750

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	S - 1CD -18	1 1/4"	.0587

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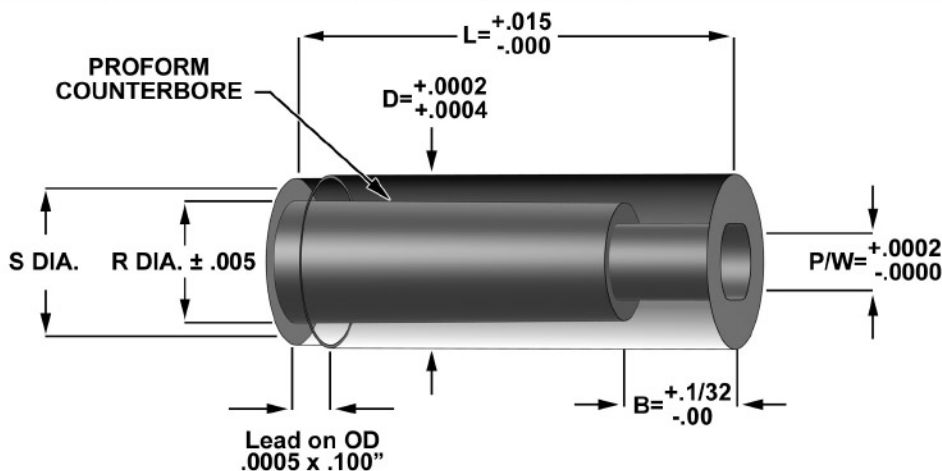
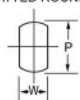
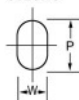
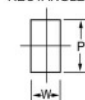
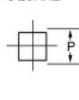
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**SOLID CARBIDE DIE INSERTS**  
(COUNTERBORE TYPE)

Rev. 1.0

DCF  
FLATTED ROUNDDCO  
OBLONGDCR  
RECTANGLEDCS  
SQUARE

.0002 CONCENTRICITY O.D. and I.D.

.0018 per inch per side taper in "P"

.006 -.008 - standard corner radius.

TYPE	BODY DIA. D	RELIEF DIA. R	MIN. WEAR LAND B	MIN. SLUG HOLE DIA. S	OVERALL LENGTH L	DCF				DCO				DCR	DCS
						FLATTED ROUND				OBLONG				RECT.	SQUARE
						W		P		W		P		DIAG.	DIAG.
						1	1 1/4	MIN	MAX	MIN	MAX	MIN	MAX	MAX	MAX
S-(-)-37	0.3750	0.219	1/4"	17/64"	• •	0.062	0.185	0.065	0.195	0.062	0.185	0.065	0.195	0.195	0.195
S-(-)-50	0.5000	0.319	1/4"	23/64"	• •	0.062	0.255	0.077	0.275	0.062	0.255	0.077	0.275	0.290	0.290
S-(-)-62	0.6250	0.469	1/4"	7/16"	• •	0.093	0.338	0.108	0.365	0.093	0.338	0.108	0.365	0.365	0.365
S-(-)-75	0.7500	0.530	1/4"	17/32"	• •	0.125	0.402	0.140	0.437	0.125	0.402	0.140	0.437	0.437	0.437
S-(-)-87	0.8750	0.613	1/4"	5/8"	• •	0.125	0.505	0.140	0.520	0.125	0.505	0.140	0.520	0.540	0.540
S-(-)-100	1.0000	0.695	1/4"	47/64"	• •	0.188	0.642	0.202	0.650	0.188	0.642	0.202	0.650	0.650	0.650

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	S - DCF - 16	1 1/4"	.0998
Quantity	Catalog Number	L	Point Dimensions
6	S - DCF - 16	1 1/4"	W = .1300 P = .0176

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

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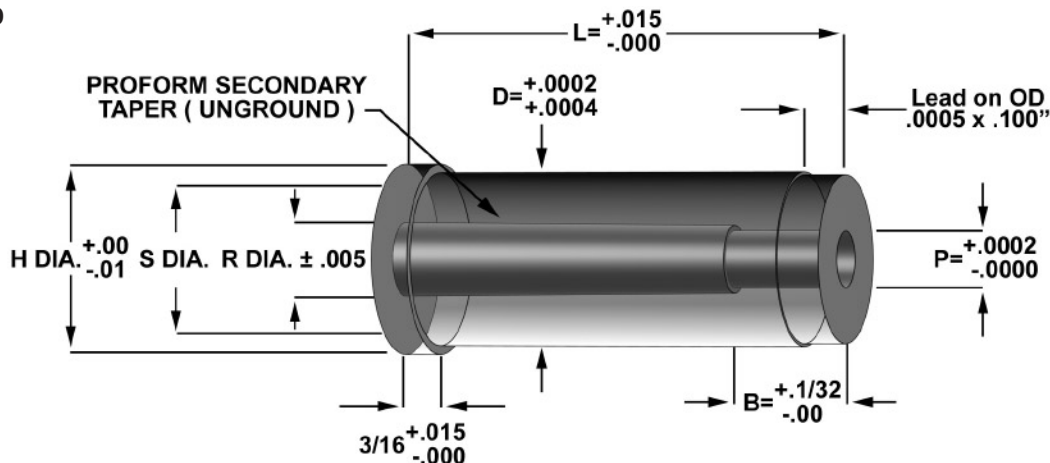
**STANDARD LINE**

# SOLID CARBIDE DIE INSERTS

(SOLID CARBIDE HEAD - COUNTERBORE TYPE)



Rev. 1.0



.0002 CONCENTRICITY O.D. and I.D.  
.0018 per inch side taper in "P".

TYPE	BODY DIA. D	HEAD DIA. H	RELIEF DIA. R	MIN. WEAR LAND B	MIN. SLUG HOLE DIA. S	OVERALL LENGTH L		INSIDE DIA. P	
						1	1 1/4	MIN	MAX
S-1CDC-18	0.1875	0.296	0.080	1/8"	3/32"	•	•	0.0520	0.0619
S-2CDC-18	0.1875	0.296	0.090	1/8"	3/32"	•	•	0.0620	0.0700
S-3CDC-18	0.1875	0.296	0.100	1/8"	1/8"	•	•	0.0701	0.0770
S-4CDC-18	0.1875	0.296	0.108	3/16"	9/64"	•	•	0.0771	0.0870
S-5CDC-18	0.1875	0.296	0.114	3/16"	9/64"	•	•	0.0871	0.0920
S-1CDC-25	0.2500	0.340	0.080	1/8"	3/32"	•	•	0.0520	0.0619
S-2CDC-25	0.2500	0.340	0.090	1/8"	1/8"	•	•	0.0620	0.0700
S-3CDC-25	0.2500	0.340	0.100	1/8"	9/64"	•	•	0.0701	0.0770
S-4CDC-25	0.2500	0.340	0.108	3/16"	9/64"	•	•	0.0771	0.0870
S-5CDC-25	0.2500	0.340	0.114	3/16"	5/32"	•	•	0.0871	0.0920
S-6CDC-25	0.2500	0.340	0.125	3/16"	11/64"	•	•	0.0921	0.1080
S-7CDC-25	0.2500	0.340	0.144	3/16"	3/16"	•	•	0.1081	0.1240
S-8CDC-25	0.2500	0.340	0.159	1/4"	13/64"	•	•	0.1241	0.1400
S-1CDC-31	0.3125	0.400	0.090	1/8"	1/8"	•	•	0.0620	0.0700
S-2CDC-31	0.3125	0.400	0.100	1/8"	9/64"	•	•	0.0701	0.0770
S-3CDC-31	0.3125	0.400	0.108	3/16"	9/64"	•	•	0.0771	0.0870
S-4CDC-31	0.3125	0.400	0.114	3/16"	5/32"	•	•	0.0871	0.0920
S-5CDC-31	0.3125	0.400	0.125	3/16"	11/64"	•	•	0.0921	0.1080
S-6CDC-31	0.3125	0.400	0.144	3/16"	3/16"	•	•	0.1081	0.1240
S-7CDC-31	0.3125	0.400	0.159	1/4"	13/64"	•	•	0.1241	0.1400
S-8CDC-31	0.3125	0.400	0.209	1/4"	15/64"	•	•	0.1401	0.1800
S-9CDC-31	0.3125	0.400	0.219	1/4"	15/64"	•	•	0.1801	0.1950
S-1CDC-37	0.3750	0.460	0.090	1/8"	1/8"	•	•	0.0620	0.0700
S-2CDC-37	0.3750	0.460	0.100	1/8"	9/64"	•	•	0.0701	0.0770
S-3CDC-37	0.3750	0.460	0.108	3/16"	9/64"	•	•	0.0771	0.0870
S-4CDC-37	0.3750	0.460	0.114	3/16"	5/32"	•	•	0.0871	0.0920
S-5CDC-37	0.3750	0.460	0.125	3/16"	11/64"	•	•	0.0921	0.1080
S-6CDC-37	0.3750	0.460	0.144	3/16"	3/16"	•	•	0.1081	0.1240
S-7CDC-37	0.3750	0.460	0.159	1/4"	13/64"	•	•	0.1241	0.1400
S-8CDC-37	0.3750	0.460	0.209	1/4"	15/64"	•	•	0.1401	0.1800
S-9CDC-37	0.3750	0.460	0.219	1/4"	17/64"	•	•	0.1801	0.1950

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	S - 1CDC -18	1 1/4"	.0587

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

## AMERICAN CARBIDE TOOLING

American Carbide Tooling is a Division of Penn United Technology Inc.

Phone: 724-352-1500 Fax: 724-352-1799

email: [act\\_sales@pennunited.com](mailto:act_sales@pennunited.com)

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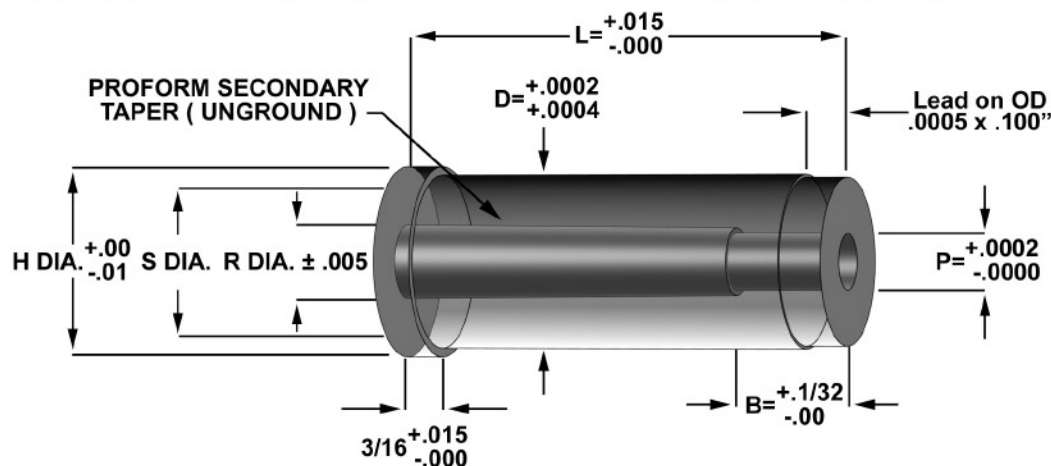


# SOLID CARBIDE DIE INSERTS

(SOLID CARBIDE HEAD - COUNTERBORE TYPE)



Rev. 1.0



.0002 CONCENTRICITY O.D. and I.D.  
.0018 per inch per side taper in "P".

TYPE	BODY DIA. D	HEAD DIA. H	RELIEF DIA. R	MIN. WEAR LAND B	MIN. SLUG HOLE DIA. S	OVERALL LENGTH L		INSIDE DIA. P	
						1	1 1/4	MIN	MAX
S-1CDC-43	0.4375	0.562	0.219	1/4"	17/64"	•	•	0.1560	0.2000
S-2CDC-43	0.4375	0.562	0.269	3/8"	5/16"	•	•	0.2001	0.2480
S-3CDC-43	0.4375	0.562	0.319	3/8"	23/64"	•	•	0.2481	0.3000
S-1CDC-50	0.5000	0.625	0.219	1/4"	17/64"	•	•	0.1560	0.2000
S-2CDC-50	0.5000	0.625	0.269	3/8"	5/16"	•	•	0.2010	0.2480
S-3CDC-50	0.5000	0.625	0.319	3/8"	23/64"	•	•	0.2480	0.3000
S-1CDC-62	0.6250	0.750	0.399	3/8"	7/16"	•	•	0.2600	0.3100
S-2CDC-62	0.6250	0.750	0.399	3/8"	7/16"	•	•	0.3100	0.3750
S-3CDC-62	0.6250	0.750	0.469	3/8"	1/2"	•	•	0.3750	0.4500
S-1CDC-75	0.7500	0.875	0.530	3/8"	9/16"	•	•	0.3125	0.5100
S-1CDC-87	0.8750	1.000	0.535	3/8"	9/16"	•	•	0.3750	0.5150
S-1CDC-100	1.0000	1.125	0.695	3/8"	23/32"	•	•	0.3750	0.6750

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	S - 1CDC -18	1 1/4"	.0587

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LOCATING DEVICES CAN BE ADDED AT EXTRA COST AT TIME OF MANUFACTURE.  
ALL LOCATING DEVICES WILL BE PARALLEL TO THE LONGEST DIMENSION.

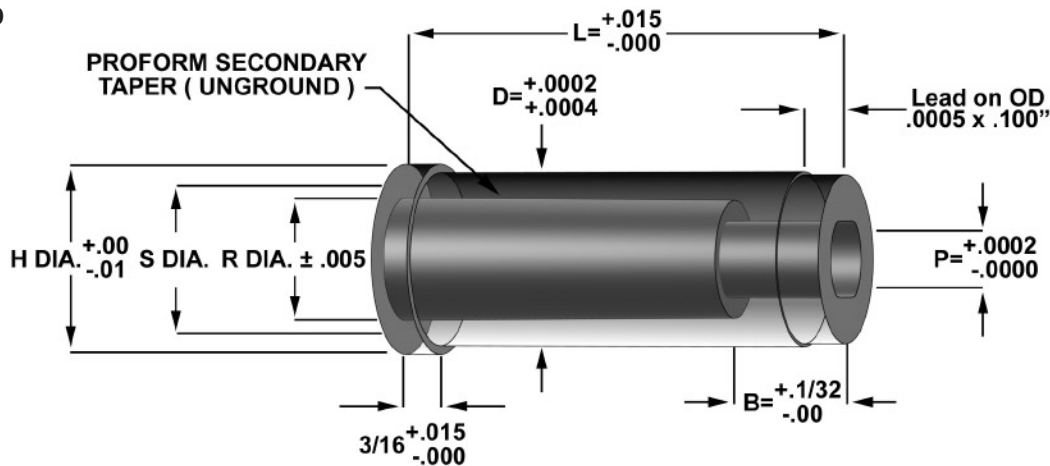
**STANDARD LINE**

# SOLID CARBIDE DIE INSERTS

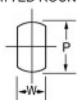
(SOLID CARBIDE HEAD - COUNTERBORE TYPE)



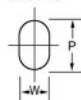
Rev. 1.0



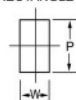
**CDCF**  
FLATTED ROUND



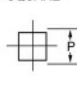
**CDCO**  
OBLONG



**CDCR**  
RECTANGLE



**CDCS**  
SQUARE



.0002 CONCENTRICITY O.D. and I.D.  
.0018 per inch per side taper in "P"  
.006 -.008 - standard corner radius.

TYPE	BODY DIA. D	RELIEF DIA. R	MIN. WEAR LAND B	MIN. SLUG HOLE DIA. S	OVERALL LENGTH L	CDCF FLATTED ROUND				CDCO OBLONG				CDCR RECT. DIAG.	CDCS SQUARE DIAG.
						W	P	W	P	W	P	W	P	MAX	MAX
					1 1/4	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MAX	MAX
S-(-)-37	0.375	0.219	1/4"	17/64"	• •	0.062	0.185	0.065	0.195	0.062	0.185	0.065	0.195	0.195	0.195
S-(-)-50	0.500	0.319	1/4"	23/64"	• •	0.062	0.255	0.077	0.275	0.062	0.255	0.077	0.275	0.290	0.290
S-(-)-62	0.625	0.469	1/4"	7/16"	• •	0.093	0.338	0.108	0.365	0.093	0.338	0.108	0.365	0.365	0.365
S-(-)-75	0.750	0.530	1/4"	17/32"	• •	0.125	0.402	0.140	0.437	0.125	0.402	0.140	0.437	0.437	0.437
S-(-)-87	0.875	0.613	1/4"	5/8"	• •	0.125	0.505	0.140	0.520	0.125	0.505	0.140	0.520	0.540	0.540
S-(-)-100	1.000	0.695	1/4"	47/64"	• •	0.188	0.642	0.202	0.650	0.188	0.642	0.202	0.650	0.650	0.650

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	S - CDCF - 16	1 1/4"	.0998
Quantity	Catalog Number	L	Point Dimensions
6	P - CDCF - 16	1 1/4"	W = .1300 P = .0176

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

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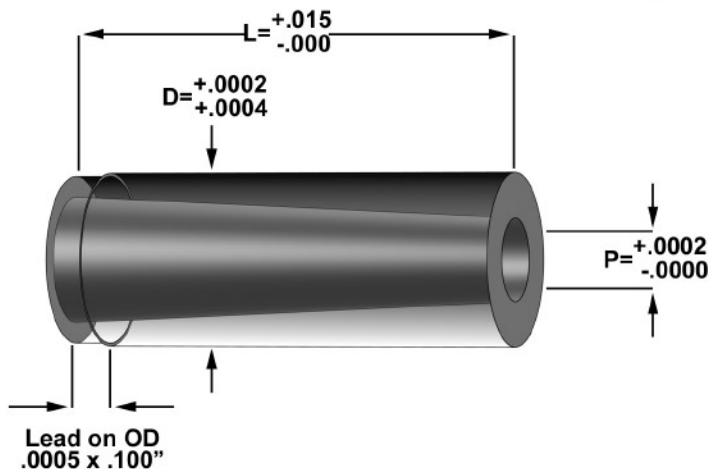


# SOLID CARBIDE DIE INSERTS

## (FULL LENGTH TAPER)



Rev. 1.0



.0002 CONCENTRICITY O.D. and I.D.  
.0018 per inch per side taper in "P".

TYPE	BODY DIA. D	MIN. SLUG HOLE DIA. S	OVERALL LENGTH L		INSIDE DIA. P	
			1	1 1/4	MIN	MAX
S-1DT-18	0.1875	3/32"	•	•	0.0300	0.0519
S-2DT-18	0.1875	3/32"	•	•	0.0520	0.0749
S-3DT-18	0.1875	7/64"	•	•	0.0750	0.0969
S-1DT-25	0.2500	3/32"	•	•	0.0300	0.0519
S-2DT-25	0.2500	3/32"	•	•	0.0520	0.0749
S-3DT-25	0.2500	7/64"	•	•	0.0750	0.0969
S-4DT-25	0.2500	9/64"	•	•	0.0970	0.1199
S-5DT-25	0.2500	11/64"	•	•	0.1200	0.1560
S-1DT-31	0.3125	3/32"	•	•	0.0300	0.0519
S-2DT-31	0.3125	7/64"	•	•	0.0520	0.0749
S-3DT-31	0.3125	9/64"	•	•	0.0750	0.0969
S-4DT-31	0.3125	5/32"	•	•	0.0970	0.1199
S-5DT-31	0.3125	7/32"	•	•	0.1200	0.2060
S-1DT-37	0.3750	3/32"	•	•	0.0300	0.0519
S-2DT-37	0.3750	7/64"	•	•	0.0520	0.0749
S-3DT-37	0.3750	9/64"	•	•	0.0750	0.0969
S-4DT-37	0.3750	5/32"	•	•	0.0970	0.1199
S-5DT-37	0.3750	7/32"	•	•	0.1200	0.2060
S-1DT-43	0.4375	17/64"	•	•	0.1560	0.2009
S-2DT-43	0.4375	5/16"	•	•	0.2010	0.2480
S-3DT-43	0.4375	23/64"	•	•	0.2481	0.3360
S-1DT-50	0.5000	7/32"	•	•	0.1560	0.2009
S-2DT-50	0.5000	17/64"	•	•	0.2010	0.2480
S-3DT-50	0.5000	23/64"	•	•	0.2481	0.3360
S-1DT-62	0.6250	27/64"	•	•	0.2600	0.3960
S-1DT-75	0.7500	35/64"	•	•	0.3125	0.5260
S-1DT-87	0.8750	5/8"	•	•	0.3750	0.5900
S-1DT-100	1.0000	45/64"	•	•	0.3750	0.6900

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	S - 1DT -18	1 1/4"	.0507

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

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LOCATING DEVICES CAN BE ADDED AT EXTRA COST AT TIME OF MANUFACTURE.  
ALL LOCATING DEVICES WILL BE PARALLEL TO THE LONGEST DIMENSION.

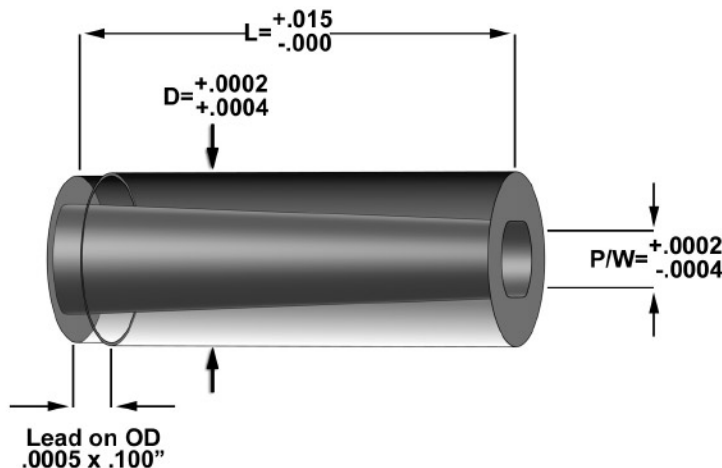
**STANDARD LINE**

# SOLID CARBIDE DIE INSERTS

(FULL LENGTH TAPER)



Rev. 1.0



**DTF**  
FLATTED ROUND



**DTO**  
OBLONG



**DTR**  
RECTANGLE



**DTS**  
SQUARE



.0003-.0004 CONCENTRICITY O.D. and I.D.  
.0018 per inch per side taper in "P".  
.006 - .008 - standard corner radius.

TYPE DTF DTO DTR DTS	BODY DIA. D	OVERALL LENGTH L	DTF				DTO				DTR	DTS
			FLATTED ROUND				OBLONG				RECT.	SQUARE
			W		P		W		P		DIAG.	DIAG.
			1	1 1/4	MIN	MAX	MIN	MAX	MIN	MAX	MAX	MAX
S-(-)-37	0.375	• •	0.062	0.185	0.065	0.195	0.062	0.185	0.065	0.195	0.195	0.195
S-(-)-50	0.500	• •	0.062	0.255	0.077	0.275	0.062	0.255	0.077	0.275	0.290	0.290
S-(-)-62	0.625	• •	0.093	0.338	0.108	0.365	0.093	0.338	0.108	0.365	0.365	0.365
S-(-)-75	0.750	• •	0.125	0.402	0.140	0.437	0.125	0.402	0.140	0.437	0.437	0.437
S-(-)-87	0.875	• •	0.125	0.505	0.140	0.520	0.125	0.505	0.140	0.520	0.540	0.540
S-(-)-100	1.000	• •	0.188	0.642	0.202	0.650	0.188	0.642	0.188	0.650	0.650	0.650

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	S - DTF - 16	1 1/4"	.0998
Quantity	Catalog Number	L	Point Dimensions
6	S - DTF - 16	1 1/4"	W = .1300 P = .0176

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

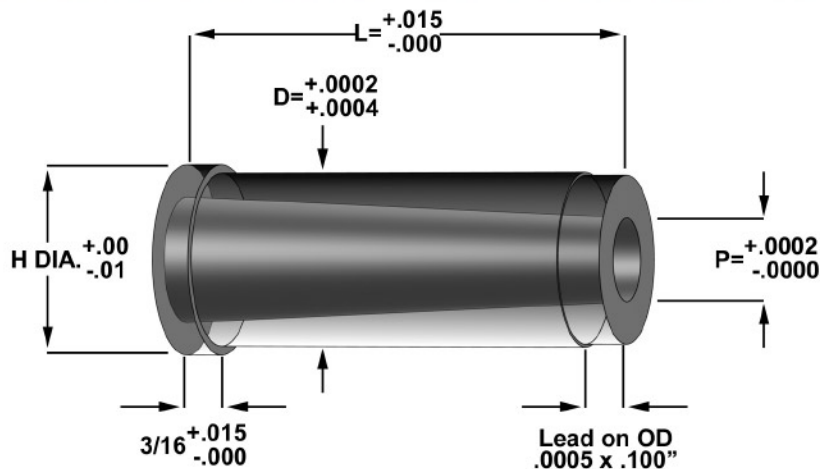


# SOLID CARBIDE DIE INSERTS

(SOLID CARBIDE HEAD - FULL LENGTH TAPER)



Rev. 1.0



.0002 CONCENTRICITY O.D. and I.D.  
.0018 per inch per side taper in "P".



TYPE	BODY DIA. D	HEAD DIA. H	MIN. SLUG HOLE DIA. S	OVERALL LENGTH L		INSIDE DIA. P	
				1	1 1/4	MIN	MAX
S-1CDT-18	0.1875	0.296	3/32"	•	•	0.0300	0.0519
S-2CDT-18	0.1875	0.296	3/32"	•	•	0.0520	0.0749
S-3CDT-18	0.1875	0.296	7/64"	•	•	0.0750	0.0969
S-1CDT-25	0.2500	0.340	3/32"	•	•	0.0300	0.0519
S-2CDT-25	0.2500	0.340	3/32"	•	•	0.0520	0.0749
S-3CDT-25	0.2500	0.340	7/64"	•	•	0.0750	0.0969
S-4CDT-25	0.2500	0.340	9/64"	•	•	0.0970	0.1199
S-5CDT-25	0.2500	0.340	11/64"	•	•	0.1200	0.1560
S-1CDT-31	0.3125	0.400	3/32"	•	•	0.0300	0.0519
S-2CDT-31	0.3125	0.400	7/64"	•	•	0.0520	0.0749
S-3CDT-31	0.3125	0.400	9/64"	•	•	0.0750	0.0969
S-4CDT-31	0.3125	0.400	5/32"	•	•	0.0970	0.1199
S-5CDT-31	0.3125	0.400	7/32"	•	•	0.1200	0.2060
S-1CDT-37	0.3750	0.460	3/32"	•	•	0.0300	0.0519
S-2CDT-37	0.3750	0.460	7/64"	•	•	0.0520	0.0749
S-3CDT-37	0.3750	0.460	9/64"	•	•	0.0750	0.0969
S-4CDT-37	0.3750	0.460	5/32"	•	•	0.0970	0.1199
S-5CDT-37	0.3750	0.460	7/32"	•	•	0.1200	0.2060
S-1CDT-43	0.4375	0.562	17/64"	•	•	0.1560	0.2009
S-2CDT-43	0.4375	0.562	5/16"	•	•	0.2010	0.2480
S-3CDT-43	0.4375	0.438	23/64"	•	•	0.2481	0.3360
S-1CDT-50	0.5000	0.625	7/32"	•	•	0.1560	0.2009
S-2CDT-50	0.5000	0.625	17/64"	•	•	0.2010	0.2480
S-3CDT-50	0.5000	0.625	23/64"	•	•	0.2481	0.3360
S-1CDT-62	0.6250	0.750	27/64"	•	•	0.2600	0.3960
S-1CDT-75	0.7500	0.875	35/64"	•	•	0.3125	0.5260
S-1CDT-87	0.8750	1.000	5/8"	•	•	0.3750	0.5900
S-1CDT-100	1.0000	1.125	45/64"	•	•	0.3750	0.6900

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	S - 1CDT -18	1 1/4"	.0507

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ALL LOCATING DEVICES WILL BE PARALLEL TO THE LONGEST DIMENSION.

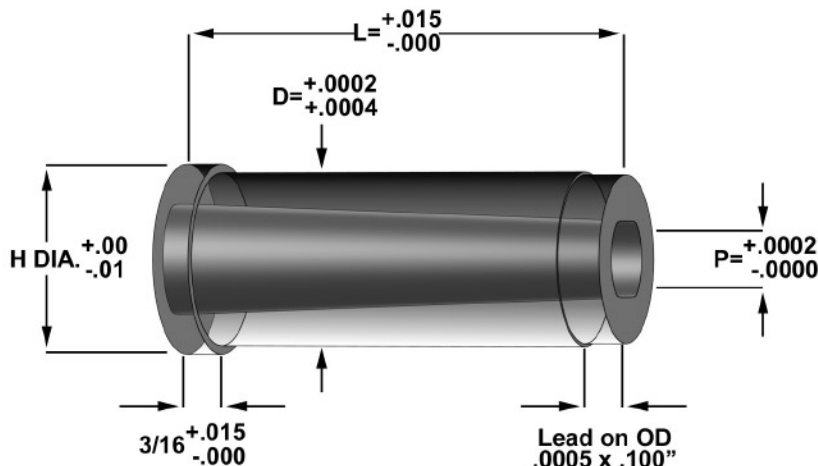
**STANDARD LINE**

# SOLID CARBIDE DIE INSERTS

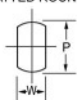
(SOLID CARBIDE HEAD - FULL LENGTH TAPER)



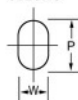
Rev. 1.0



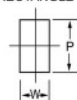
**CDTF**  
FLATTED ROUND



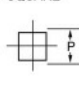
**CDTO**  
OBLONG



**CDTR**  
RECTANGLE



**CDTS**  
SQUARE



.0003-.0004 CONCENTRICITY O.D. and I.D.  
.0018 per inch per side taper in "P".  
.006 - .008 - standard corner radius.

TYPE CDTF CDTO CDTR CDTS	BODY DIA. D	HEAD DIA. H	OVERALL LENGTH L	CDTF				CDTO				CDTR	CDTS
				FLATTED ROUND				OBLONG				RECT.	SQUARE
				W		P		W		P		DIAG.	DIAG.
				1	1 1/4	MIN	MAX	MIN	MAX	MIN	MAX	MAX	MAX
S-( )-37	0.375	0.460	• •	0.062	0.185	0.065	0.195	0.062	0.185	0.065	0.195	0.195	0.195
S-( )-50	0.500	0.625	• •	0.062	0.255	0.077	0.275	0.062	0.255	0.077	0.275	0.290	0.290
S-( )-62	0.625	0.750	• •	0.093	0.338	0.108	0.365	0.093	0.338	0.108	0.365	0.365	0.365
S-( )-75	0.750	0.875	• •	0.125	0.402	0.140	0.437	0.125	0.402	0.140	0.437	0.437	0.437
S-( )-87	0.875	1.000	• •	0.125	0.505	0.140	0.520	0.125	0.505	0.140	0.520	0.540	0.540
S-( )-100	1.000	1.125	• •	0.188	0.642	0.202	0.650	0.188	0.642	0.202	0.650	0.650	0.650

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	S - CDTF - 16	1 1/4"	.0998
Quantity	Catalog Number	L	Point Dimensions
6	S - CDTF - 16	1 1/4"	W = .1300 P = .0176

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

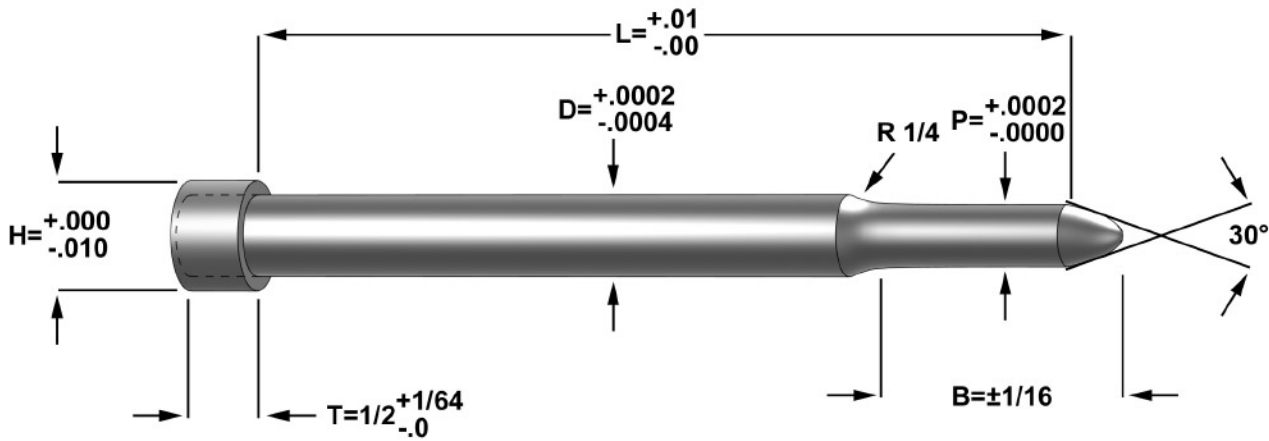


# SOLID CARBIDE PILOTS

(MACHINABLE BRAZED STEEL HEAD)



Rev. 1.0



.0003 CONCENTRICITY ( except head )

TYPE	BODY DIA. D	HEAD DIA. H	POINT LENGTH B	OVERALL LENGTH L										1- 2PNS	
														ROUND	
														P	
				2	2 1/4	2 1/2	2 3/4	3	3 1/4	3 1/2	3 3/4	4		MIN	MAX
S-2PNS-18	0.1875	0.296	3/4"	•	•	•	•	•	•	•	•	•		0.0610	0.1875
S-1PNS-25	0.2500	0.340	3/4"	•	•	•	•	•	•	•	•	•		0.0600	0.1259
S-2PNS-25	0.2500	0.340	1"	•	•	•	•	•	•	•	•	•		0.1260	0.2500
S-1PNS-31	0.3125	0.400	1"	•	•	•	•	•	•	•	•	•		0.1250	0.2499
S-2PNS-31	0.3125	0.400	1"	•	•	•	•	•	•	•	•	•		0.2500	0.3125
S-1PNS-37	0.3750	0.460	1"	•	•	•	•	•	•	•	•	•		0.1870	0.3139
S-2PNS-37	0.3750	0.460	1"	•	•	•	•	•	•	•	•	•		0.3140	0.3750
S-1PNS-43	0.4375	0.562	1"	•	•	•	•	•	•	•	•	•		0.3140	0.3749
S-2PNS-43	0.4375	0.562	1"	•	•	•	•	•	•	•	•	•		0.3750	0.4375
S-1PNS-50	0.5000	0.625	1"	•	•	•	•	•	•	•	•	•		0.3750	0.4379
S-2PNS-50	0.5000	0.625	1"	•	•	•	•	•	•	•	•	•		0.4380	0.5000
S-1PNS-62	0.6250	0.750	1"	•	•	•	•	•	•	•	•	•		0.4380	0.5299
S-2PNS-62	0.6250	0.750	1"	•	•	•	•	•	•	•	•	•		0.5300	0.6250
S-1PNS-75	0.7500	0.875	1"	•	•	•	•	•	•	•	•	•		0.5300	0.6299
S-2PNS-75	0.7500	0.875	1"	•	•	•	•	•	•	•	•	•		0.6300	0.7500

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	S - 2PNS -18	1 1/4"	.0507

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

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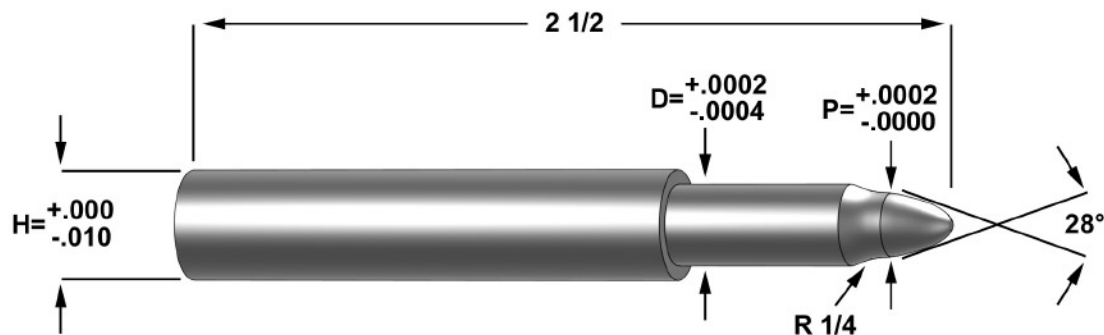
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# SOLID CARBIDE PILOTS



Rev. 1.0



TYPE	BODY DIA. D	HEAD DIA. H	1- 2PNSP	
			ROUND	
			P	
			MIN	MAX
S-1PNSP	0.1875	19/64"	0.0610	0.1875
S-2PNSP	0.2500	11/32"	0.0610	0.2500
S-3PNSP	0.3125	13/32"	0.1250	0.3125
S-4PNSP	0.3750	17/32"	0.1870	0.3750

When ordering please specify as follows:

Quantity	Catalog Number	P
12	S - 1PNSP -18	.0507

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

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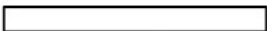
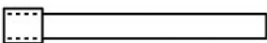
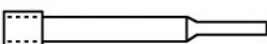



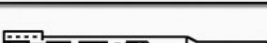

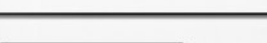


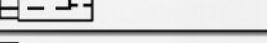
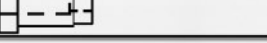


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LOCATING DEVICES CAN BE ADDED AT EXTRA COST AT TIME OF MANUFACTURE.  
ALL LOCATING DEVICES WILL BE PARALLEL TO THE LONGEST DIMENSION.

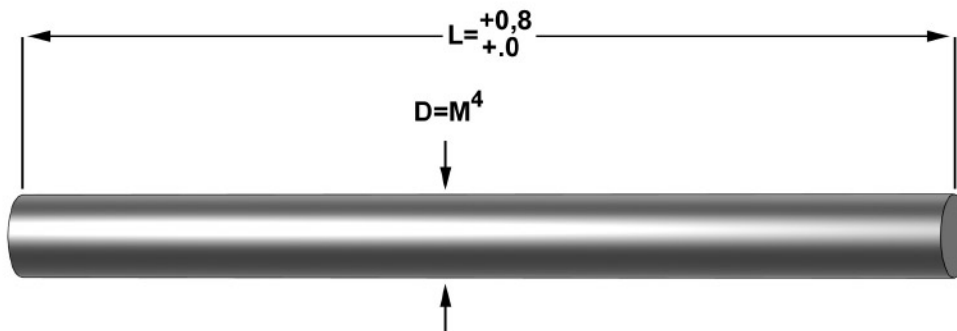
**METRIC LINE**

# SOLID CARBIDE ROUNDS

(NOMINAL SIZES)



Rev. 1.0



TYPE	BODY DIA. D	OVERALL LENGTH						
		L						
		50,0	56,0	63,0	71,0	80,0	90,0	100,0
M - 1RF	2,0	•	•	•	•	•	•	•
M - 2RF	3,0	•	•	•	•	•	•	•
M - 3RF	5,0	•	•	•	•	•	•	•
M - 4RF	6,0	•	•	•	•	•	•	•
M - 5RF	8,0	•	•	•	•	•	•	•
M - 6RF	10,0	•	•	•	•	•	•	•
M - 7RF	11,0	•	•	•	•	•	•	•
M - 8RF	13,0	•	•	•	•	•	•	•
M - 9RF	16,0	•	•	•	•	•	•	•
M - 10RF	19,0	•	•	•	•	•	•	•

When ordering please specify as follows:

Quantity	Catalog Number	L
12	M - 1RF	32,0

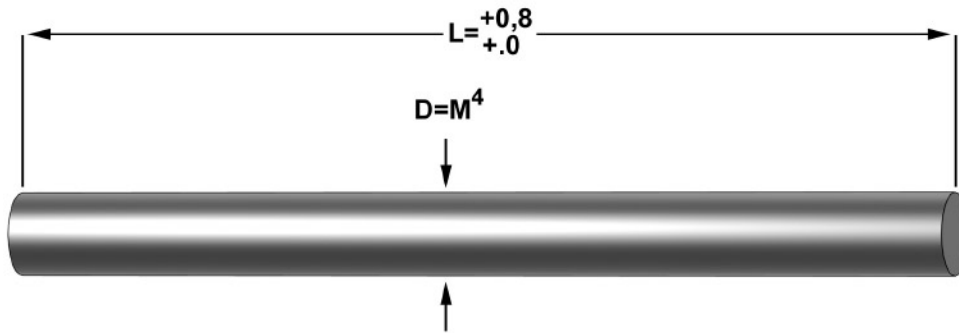
Any dimension not listed above can be ground to customer specification. Please ask for quotation.

# SOLID CARBIDE ROUNDS

(DECIMAL SIZES)



Rev. 1.0



TYPE	BODY DIA. D	OVERALL LENGTH						
		L						
		50,0	56,0	63,0	71,0	80,0	90,0	100,0
M - 1RF	0,762 - 1,140	•	•	•	•	•	•	•
M - 2RF	1,141 - 1,650	•	•	•	•	•	•	•
M - 3RF	1,651 - 2,234	•	•	•	•	•	•	•
M - 4RF	2,235 - 3,175	•	•	•	•	•	•	•
M - 5RF	3,176 - 3,579	•	•	•	•	•	•	•
M - 6RF	3,580 - 3,986	•	•	•	•	•	•	•
M - 7RF	3,987 - 4,393	•	•	•	•	•	•	•
M - 8RF	4,394 - 4,764	•	•	•	•	•	•	•
M - 9RF	4,765 - 5,205	•	•	•	•	•	•	•
M - 10RF	5,206 - 5,586	•	•	•	•	•	•	•
M - 11RF	5,587 - 5,993	•	•	•	•	•	•	•
M - 12RF	5,994 - 6,349	•	•	•	•	•	•	•
M - 13RF	6,350 - 6,779	•	•	•	•	•	•	•
M - 14RF	6,780 - 7,187	•	•	•	•	•	•	•
M - 15RF	7,188 - 7,567	•	•	•	•	•	•	•
M - 16RF	7,568 - 7,938	•	•	•	•	•	•	•
M - 17RF	7,939 - 8,736	•	•	•	•	•	•	•
M - 18RF	8,737 - 9,522	•	•	•	•	•	•	•

When ordering please specify as follows:

Quantity	Catalog Number	L	D
12	M - 1RD	83,0	1,008

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

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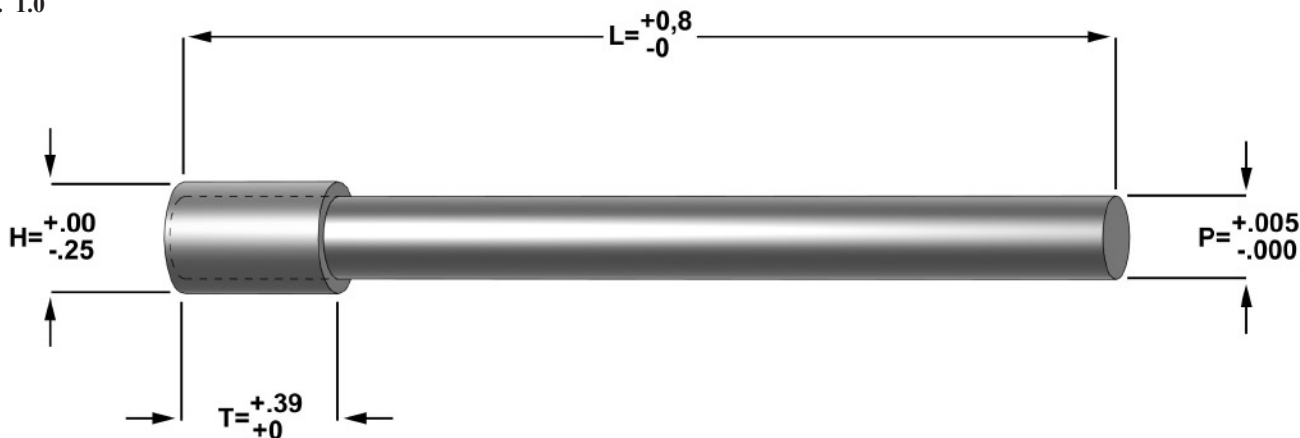
**METRIC LINE**

# SOLID CARBIDE QUILLS

(MACHINABLE BRAZED STEEL HEAD)



Rev. 1.0



TYPE	HEAD DIA. H	HEAD THICKNESS T	OVERALL LENGTH L							POINT DIA. P	
										MIN	MAX
			50,0	56,0	63,0	71,0	80,0	90,0	100,0		
M - 1Q	3,0	5	•	•	•	•	•	•	•	1,143	1,649
M - 2Q	3,0	5	•	•	•	•	•	•	•	1,650	2,234
M - 3Q	4,0	5	•	•	•	•	•	•	•	2,235	3,174
M - 4Q	4,0	5	•	•	•	•	•	•	•	3,175	3,175
M - 5Q	5,0	6	•	•	•	•	•	•	•	3,176	3,579
M - 6Q	6,0	6	•	•	•	•	•	•	•	3,580	3,985
M - 7Q	6,0	6	•	•	•	•	•	•	•	3,986	4,392
M - 8Q	6,0	6	•	•	•	•	•	•	•	4,393	4,762
M - 9Q	8,0	13	•	•	•	•	•	•	•	4,763	4,763
M - 10Q	8,0	13	•	•	•	•	•	•	•	4,764	5,204
M - 11Q	9,0	13	•	•	•	•	•	•	•	5,205	5,585
M - 12Q	9,0	13	•	•	•	•	•	•	•	5,586	5,992
M - 13Q	9,0	13	•	•	•	•	•	•	•	5,993	6,349
M - 14Q	9,0	13	•	•	•	•	•	•	•	6,350	6,350
M - 15Q	10,0	13	•	•	•	•	•	•	•	6,351	6,779
M - 16Q	10,0	13	•	•	•	•	•	•	•	6,780	7,186
M - 17Q	10,0	13	•	•	•	•	•	•	•	7,187	7,567
M - 18Q	10,0	13	•	•	•	•	•	•	•	7,568	7,937
M - 19Q	10,0	13	•	•	•	•	•	•	•	7,938	7,938
M - 20Q	12,0	13	•	•	•	•	•	•	•	7,939	8,735
M - 21Q	12,0	13	•	•	•	•	•	•	•	8,736	9,522
M - 22Q	12,0	13	•	•	•	•	•	•	•	9,525	9,525
M - 23Q	14,0	13	•	•	•	•	•	•	•	11,113	11,113
M - 24Q	16,0	13	•	•	•	•	•	•	•	12,700	12,700
M - 25Q	19,0	13	•	•	•	•	•	•	•	15,875	15,875
M - 26Q	22,0	13	•	•	•	•	•	•	•	19,050	19,050

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	M - 1Q	80,0	1,201

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

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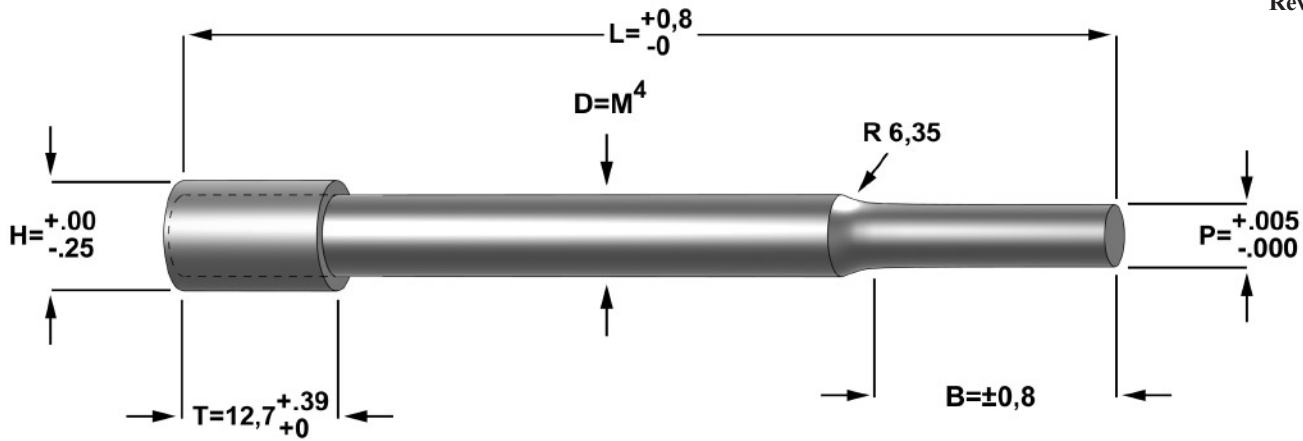
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# SOLID CARBIDE PUNCHES

(MACHINABLE BRAZED STEEL HEAD)



Rev. 1.0



0,005 CONCENTRICITY T.I.R. POINT TO BODY



TYPE	BODY DIA. D	HEAD DIA. H	POINT LENGTH B	OVERALL LENGTH L							1- 2P	
											ROUND	
											P	
				50,0	56,0	63,0	71,0	80,0	90,0	100,0	MIN	MAX
M-1P-3	3,0	4,0	8,0	•	•	•	•	•	•	•	0,787	1,548
M-2P-3	3,0	4,0	19,0	•	•	•	•	•	•	•	1,549	3,175
M-1P-5	5,0	8,0	8,0	•	•	•	•	•	•	•	0,787	1,548
M-2P-5	5,0	8,0	19,0	•	•	•	•	•	•	•	1,549	4,763
M-1P-6	6,0	9,0	19,0	•	•	•	•	•	•	•	1,524	3,199
M-2P-6	6,0	9,0	22,0	•	•	•	•	•	•	•	3,200	6,350
M-1P-8	8,0	10,0	22,0	•	•	•	•	•	•	•	3,175	6,348
M-2P-8	8,0	10,0	22,0	•	•	•	•	•	•	•	6,349	7,938
M-1P-10	10,0	12,0	22,0	•	•	•	•	•	•	•	4,750	7,974
M-2P-10	10,0	12,0	22,0	•	•	•	•	•	•	•	7,975	9,525
M-1P-11	11,0	14,0	22,0	•	•	•	•	•	•	•	7,976	9,523
M-2P-11	11,0	14,0	22,0	•	•	•	•	•	•	•	9,524	11,113
M-1P-13	13,0	16,0	22,0	•	•	•	•	•	•	•	9,525	11,124
M-2P-13	13,0	16,0	22,0	•	•	•	•	•	•	•	11,125	12,700
M-1P-16	16,0	17,0	22,0	•	•	•	•	•	•	•	11,125	13,460
M-2P-16	16,0	17,0	22,0	•	•	•	•	•	•	•	13,461	15,875
M-1P-19	19,0	22,0	22,0	•	•	•	•	•	•	•	13,462	15,999
M-2P-19	19,0	22,0	22,0	•	•	•	•	•	•	•	16,000	19,050

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	M - 1P - 16	80,0	1,201

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

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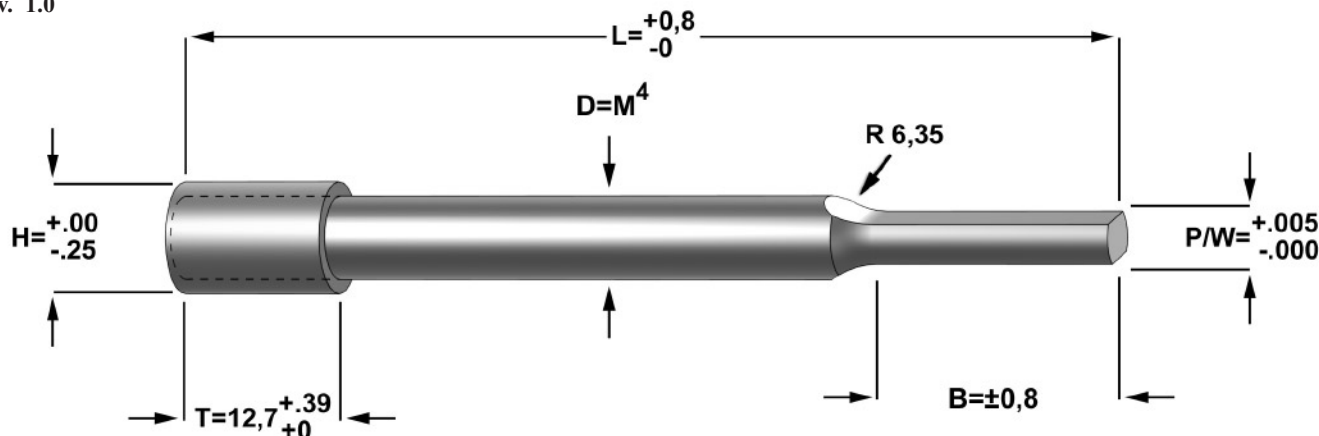


# SOLID CARBIDE PUNCHES

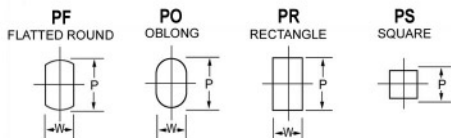
(MACHINABLE BRAZED STEEL HEAD)







Rev. 1.0



0,008 CONCENTRICITY T.I.R. POINT TO BODY



																						
TYPE  PF PO PR PS	BODY DIA. D	HEAD DIA. H	POINT LENGTH B	OVERALL LENGTH  L							PF				PO				PR		PS	
											FLATTED ROUND				OBLONG				RECTANGLE		SQUARE	
				W		P		W		P		W/P		P								
				50,0	56,0	63,0	71,0	80,0	90,0	100,0	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
M( ) -5	5,0	8,0	22,0	●	●	●	●	●	●	3,175	4,509	3,429	4,763	2,362	4,496	2,616	4,763	2,362	4,115	2,362	3,353	
M( ) -6	6,0	9,0	22,0	●	●	●	●	●	●	4,763	6,096	5,017	6,350	2,362	6,096	2,616	6,350	2,362	5,842	2,362	4,470	
M( ) -8	8,0	10,0	22,0	●	●	●	●	●	●	6,350	7,684	6,604	7,938	2,362	7,671	2,616	7,938	2,362	7,569	2,362	5,588	
M( ) -10	10,0	12,0	22,0	●	●	●	●	●	●	7,938	9,271	8,192	9,525	3,175	9,271	3,429	9,525	3,175	8,966	3,175	6,731	
M( ) -11	11,0	14,0	22,0	●	●	●	●	●	●	8,525	10,859	9,779	11,113	4,763	10,846	5,029	11,113	4,763	10,643	4,750	7,849	
M( ) -13	13,0	16,0	22,0	●	●	●	●	●	●	11,113	12,446	11,367	12,700	6,350	12,446	6,604	12,700	6,350	10,973	6,350	8,966	
M( ) -16	16,0	19,0	22,0	●	●	●	●	●	●	12,700	15,621	12,954	15,875	9,525	15,621	9,779	15,875	9,525	12,700	9,525	10,439	
M( ) -19	19,0	22,0	22,0	●	●	●	●	●	●	15,875	18,796	16,129	19,050	11,100	18,796	11,354	19,050	11,100	15,469	11,100	13,462	

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	M - PF - 16	80,0	2,535
Quantity	Catalog Number	L	Point Dimensions
6	M - PF - 16	80,0	W = 3,302 P = 0,447

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

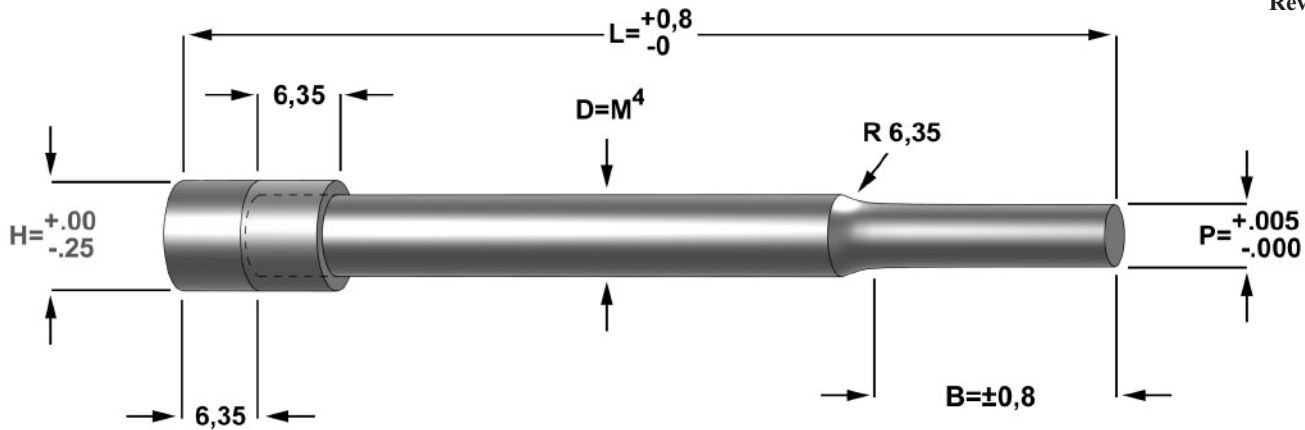
0,076mm - 0,381mm radii can be ground at extra cost at time of manufacture.

# SOLID CARBIDE PUNCHES

(SOLID CARBIDE HEAD - STEEL COLLAR)



Rev. 1.0



0,005 CONCENTRICITY T.I.R. POINT TO BODY



TYPE	BODY DIA. D	HEAD DIA. H	POINT LENGTH B	OVERALL LENGTH L							1- 2C	
											ROUND	
				50,0	56,0	63,0	71,0	80,0	90,0	100,0	MIN	MAX
M-1P-5	5,0	8,0	8,0	•	•	•	•	•	•	•	0,787	1,548
M-2P-5	5,0	8,0	19,0	•	•	•	•	•	•	•	1,549	4,763
M-1P-6	6,0	9,0	19,0	•	•	•	•	•	•	•	1,524	3,199
M-2P-6	6,0	9,0	22,0	•	•	•	•	•	•	•	3,200	6,350
M-1P-8	8,0	10,0	22,0	•	•	•	•	•	•	•	3,175	6,348
M-2P-8	8,0	10,0	22,0	•	•	•	•	•	•	•	6,349	7,938
M-1P-10	10,0	12,0	22,0	•	•	•	•	•	•	•	4,750	7,974
M-2P-10	10,0	12,0	22,0	•	•	•	•	•	•	•	7,975	9,525
M-1P-11	11,0	14,0	22,0	•	•	•	•	•	•	•	7,976	9,523
M-2P-11	11,0	14,0	22,0	•	•	•	•	•	•	•	9,524	11,113
M-1P-13	13,0	16,0	22,0	•	•	•	•	•	•	•	9,525	11,124
M-2P-13	13,0	16,0	22,0	•	•	•	•	•	•	•	11,125	12,700
M-1P-16	16,0	17,0	22,0	•	•	•	•	•	•	•	11,125	13,460
M-2P-16	16,0	17,0	22,0	•	•	•	•	•	•	•	13,461	15,875
M-1P-19	19,0	22,0	22,0	•	•	•	•	•	•	•	13,462	15,999
M-2P-19	19,0	22,0	22,0	•	•	•	•	•	•	•	16,000	19,050

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	M - 1C -18	80,0	1,201

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

**AMERICAN CARBIDE TOOLING**

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LOCATING DEVICES CAN BE ADDED AT EXTRA COST AT TIME OF MANUFACTURE.  
ALL LOCATING DEVICES WILL BE PARALLEL TO THE LONGEST DIMENSION.

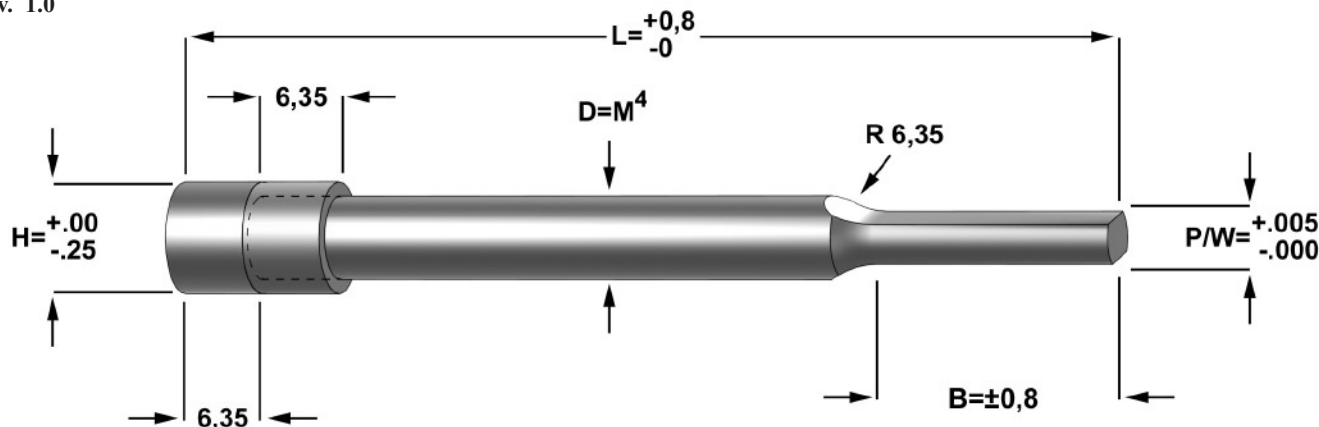
**METRIC LINE**

# SOLID CARBIDE PUNCHES

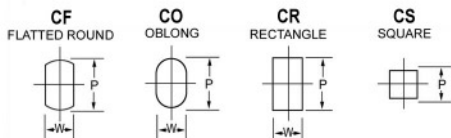
(SOLID CARBIDE HEAD - STEEL COLLAR)







Rev. 1.0



0,008 CONCENTRICITY T.I.R. POINT TO BODY



																						
TYPE  CF CO CR CS	BODY DIA. D	HEAD DIA. H	POINT LENGTH B	OVERALL LENGTH							CF				CO				CR		CS	
											FLATTED ROUND				OBLONG				RECTANGLE		SQUARE	
				L							W		P		W		P		W/P		P	
				50,0	56,0	63,0	71,0	80,0	90,0	100,0	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
M( ) -5	5,0	8,0	22,0	●	●	●	●	●	●	●	3,175	4,509	3,429	4,763	2,362	4,496	2,616	4,763	2,362	4,115	2,362	3,353
M( ) -6	6,0	9,0	22,0	●	●	●	●	●	●	●	4,763	6,096	5,017	6,350	2,362	6,096	2,616	6,350	2,362	5,842	2,362	4,470
M( ) -8	8,0	10,0	22,0	●	●	●	●	●	●	●	6,350	7,684	6,604	7,938	2,362	7,671	2,616	7,938	2,362	7,569	2,362	5,588
M( ) -10	10,0	12,0	22,0	●	●	●	●	●	●	●	7,938	9,271	8,192	9,525	3,175	9,271	3,429	9,525	3,175	8,966	3,175	6,731
M( ) -11	11,0	14,0	22,0	●	●	●	●	●	●	●	8,525	10,859	9,779	11,113	4,763	10,846	5,029	11,113	4,763	10,643	4,750	7,849
M( ) -13	13,0	16,0	22,0	●	●	●	●	●	●	●	11,113	12,446	11,367	12,700	6,350	12,446	6,604	12,700	6,350	10,973	6,350	8,966
M( ) -16	16,0	19,0	22,0	●	●	●	●	●	●	●	12,700	15,621	12,700	15,875	9,525	15,621	9,779	15,875	9,525	12,700	9,525	10,439
M( ) -19	19,0	22,0	22,0	●	●	●	●	●	●	●	15,875	18,796	16,129	19,050	11,100	18,796	11,354	19,050	11,100	15,469	11,100	13,462

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	M - CF - 16	80,0	3,535
Quantity	Catalog Number	L	Point Dimensions
6	M - CF - 16	80,0	W = 3,302 P = 0,447

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

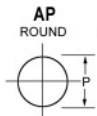
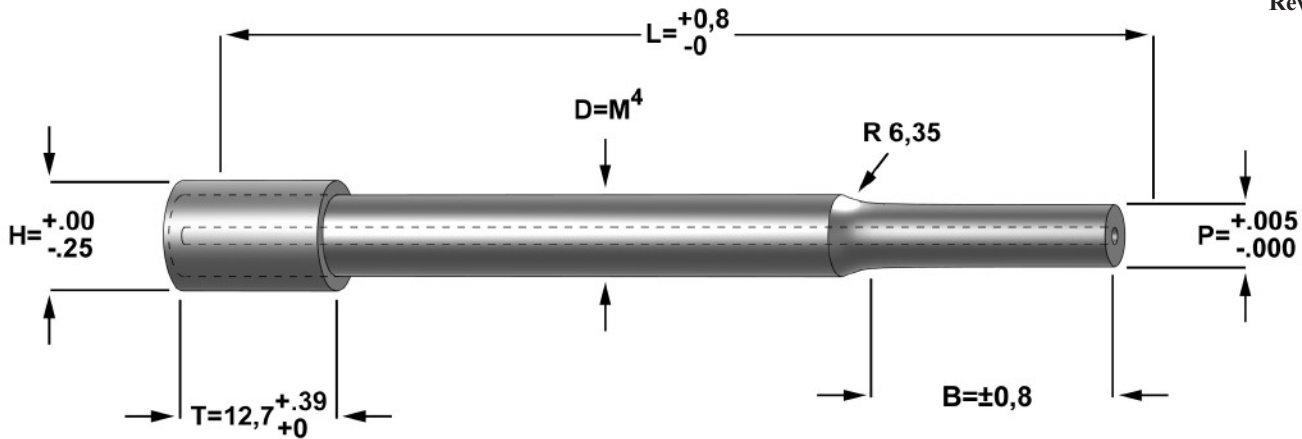
0,076mm - 0,381mm radii can be ground at extra cost at time of manufacture.

# SOLID CARBIDE PUNCHES

(AIR HOLE - MACHINABLE BRAZED STEEL HEAD)



Rev. 1.0



0,005 CONCENTRICITY T.I.R. POINT TO BODY  
(AIRHOLE WILL NOT BE CONCENTRIC TO BODY OR POINT)

TYPE	BODY DIA. D	HEAD DIA. H	POINT LENGTH B	AIR HOLE DIA.	OVERALL LENGTH								1- 2AP	
					L								ROUND	
													P	
					50,0	56,0	63,0	71,0	80,0	90,0	100,0		MIN	MAX
M-1AP-5	5,0	8,0	19,0	1,0	•	•	•	•	•	•	•		2,362	3,199
M-2AP-5	5,0	8,0	22,0	1,0	•	•	•	•	•	•	•		3,200	4,763
M-1AP-6	6,0	9,0	19,0	1,0	•	•	•	•	•	•	•		2,362	3,199
M-2AP-6	6,0	9,0	22,0	1,0	•	•	•	•	•	•	•		3,200	6,350
M-1AP-8	8,0	10,0	22,0	1,0	•	•	•	•	•	•	•		3,175	6,348
M-2AP-8	8,0	10,0	22,0	1,0	•	•	•	•	•	•	•		6,349	7,938
M-1AP-10	10,0	12,0	22,0	2,0	•	•	•	•	•	•	•		4,750	7,974
M-2AP-10	10,0	12,0	22,0	2,0	•	•	•	•	•	•	•		7,975	9,525
M-1AP-11	11,0	14,0	22,0	2,0	•	•	•	•	•	•	•		7,976	9,523
M-2AP-11	11,0	14,0	22,0	2,0	•	•	•	•	•	•	•		9,524	11,113
M-1AP-13	13,0	16,0	22,0	4,0	•	•	•	•	•	•	•		9,525	11,123
M-2AP-13	13,0	16,0	22,0	4,0	•	•	•	•	•	•	•		11,124	12,700
M-1AP-16	16,0	19,0	22,0	4,0	•	•	•	•	•	•	•		11,125	13,460
M-2AP-16	16,0	19,0	22,0	4,0	•	•	•	•	•	•	•		13,461	15,875

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	M - 1AP -18	80,0	2,857

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

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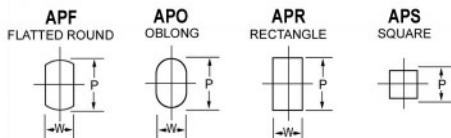
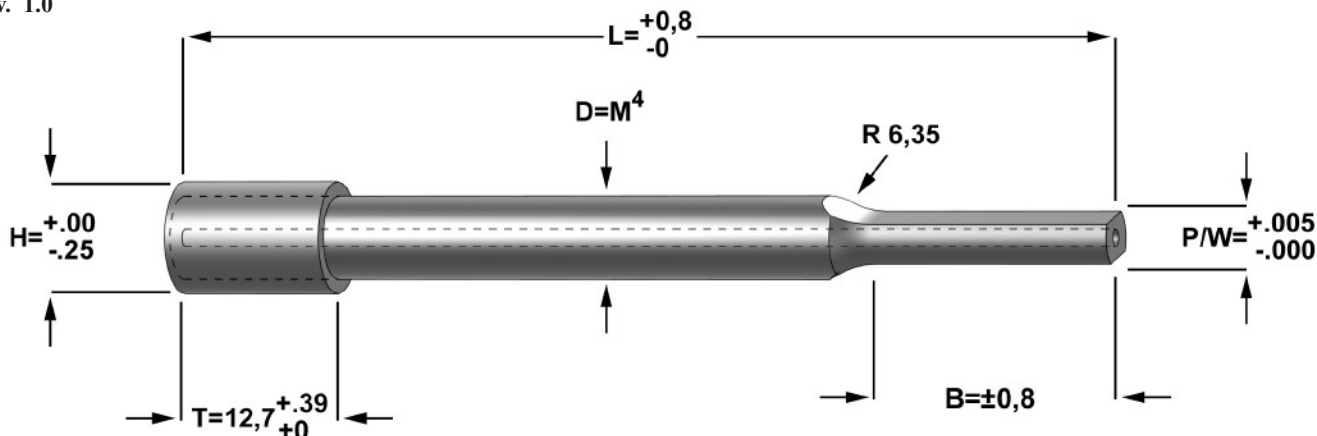
**METRIC LINE**

# SOLID CARBIDE PUNCHES

(AIR HOLE - MACHINABLE BRAZED STEEL HEAD)



Rev. 1.0



0,008 CONCENTRICITY T.I.R. POINT TO BODY  
(AIRHOLE WILL NOT BE CONCENTRIC TO BODY OR POINT)

TYPE APF APO APR APS	BODY DIA. D	HEAD DIA. H	POINT LENGTH B	AIR HOLE DIA.	OVERALL LENGTH								APF				APO				APR		APS	
					L								FLATTED ROUND				OBLONG				RECTANGLE		SQUARE	
													W		P		W		P		W/P		P	
					50,0	56,0	63,0	71,0	80,0	90,0	100,0	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	
M( ) -5	5,0	8,0	22,0	1,0	•	•	•	•	•	•	•	3,175	4,509	3,429	4,763	2,362	4,496	2,616	4,763	2,362	4,115	2,362	3,353	
M( ) -6	6,0	9,0	22,0	1,0	•	•	•	•	•	•	•	4,763	6,096	5,017	6,350	2,362	6,096	2,616	6,350	2,362	5,842	2,362	4,470	
M( ) -8	8,0	10,0	22,0	1,0	•	•	•	•	•	•	•	6,350	7,684	6,604	7,938	2,362	7,671	2,616	7,938	2,362	7,569	2,362	5,588	
M( ) -10	10,0	12,0	22,0	2,0	•	•	•	•	•	•	•	7,938	9,271	8,192	9,525	3,175	9,271	3,429	9,525	3,175	8,966	3,175	6,731	
M( ) -11	11,0	14,0	22,0	3,0	•	•	•	•	•	•	•	9,525	10,859	9,779	11,113	4,763	10,846	5,029	11,113	4,763	10,643	4,750	7,849	
M( ) -13	13,0	16,0	22,0	4,0	•	•	•	•	•	•	•	11,113	12,446	11,367	12,700	6,350	12,446	6,604	12,700	6,350	10,973	6,350	8,966	
M( ) -16	16,0	19,0	22,0	4,0	•	•	•	•	•	•	•	12,700	15,621	12,700	15,875	9,525	15,621	9,779	15,875	9,525	12,700	9,525	11,201	

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	M - APF - 16	80,0	2,535
Quantity	Catalog Number	L	Point Dimensions
6	M - APF - 16	80,0	W = 3,302 P = 0,447

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

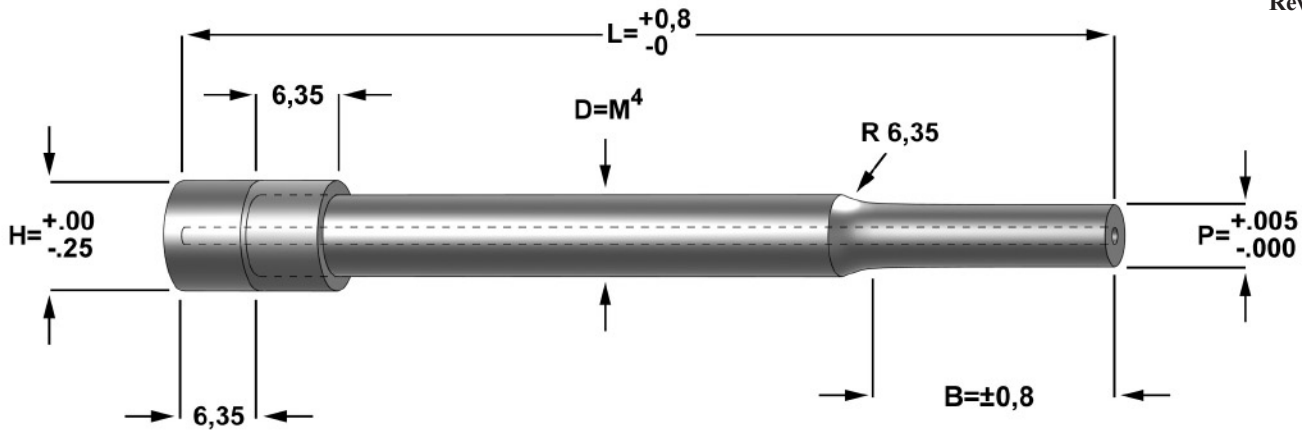
0,076mm - 0,381mm radii can be ground at extra cost at time of manufacture.

# SOLID CARBIDE PUNCHES

(AIR HOLE - SOLID CARBIDE HEAD - STEEL COLLAR)



Rev. 1.0



0,005 CONCENTRICITY T.I.R. POINT TO BODY  
(AIRHOLE WILL NOT BE CONCENTRIC TO BODY OR POINT)

TYPE	BODY DIA. D	HEAD DIA. H	POINT LENGTH B	AIR HOLE DIA.	OVERALL LENGTH L								1- 2AC	
													ROUND	
													P	
					50,0	56,0	63,0	71,0	80,0	90,0	100,0		MIN	MAX
M-1AC-5	5,0	8,0	19,0	1,0	•	•	•	•	•	•	•		2,362	3,199
M-2AC-5	5,0	8,0	22,0	1,0	•	•	•	•	•	•	•		3,200	4,763
M-1AC-6	6,0	9,0	19,0	1,0	•	•	•	•	•	•	•		2,362	3,199
M-2AC-6	6,0	9,0	22,0	1,0	•	•	•	•	•	•	•		3,200	6,350
M-1AC-8	8,0	10,0	22,0	1,0	•	•	•	•	•	•	•		3,175	6,348
M-2AC-8	8,0	10,0	22,0	1,0	•	•	•	•	•	•	•		6,349	7,938
M-1AC-10	10,0	12,0	22,0	2,0	•	•	•	•	•	•	•		4,750	7,974
M-2AC-10	10,0	12,0	22,0	2,0	•	•	•	•	•	•	•		7,975	9,525
M-1AC-11	11,0	14,0	22,0	2,0	•	•	•	•	•	•	•		8,255	9,499
M-2AC-11	11,0	14,0	22,0	2,0	•	•	•	•	•	•	•		9,524	11,113
M-1AC-13	13,0	16,0	22,0	4,0	•	•	•	•	•	•	•		9,525	11,123
M-2AC-13	13,0	16,0	22,0	4,0	•	•	•	•	•	•	•		11,124	12,700
M-1AC-16	16,0	19,0	22,0	4,0	•	•	•	•	•	•	•		12,700	14,580
M-2AC-16	16,0	19,0	22,0	4,0	•	•	•	•	•	•	•		14,605	15,875

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	M - 1AC -18	83,0	1,288

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

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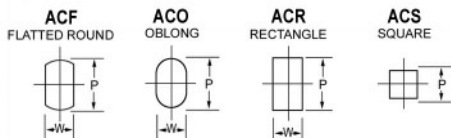
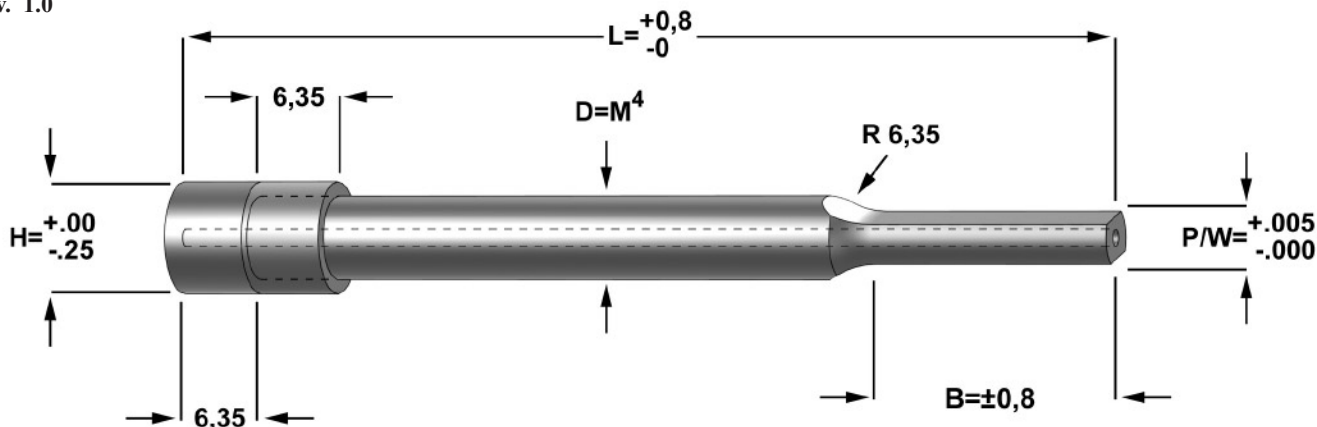
LOCATING DEVICES CAN BE ADDED AT EXTRA COST AT TIME OF MANUFACTURE.  
ALL LOCATING DEVICES WILL BE PARALLEL TO THE LONGEST DIMENSION.

**METRIC LINE**





# SOLID CARBIDE PUNCHES

(AIR HOLE - SOLID CARBIDE HEAD - STEEL COLLAR)

Rev. 1.0



0,008 CONCENTRICITY T.I.R. POINT TO BODY  
(AIRHOLE WILL NOT BE CONCENTRIC TO BODY OR POINT)

																									
TYPE	ACF ACO ACR ACS	BODY DIA. D	HEAD DIA. H	POINT LENGTH B	AIR HOLE DIA.	OVERALL LENGTH								ACF				ACO				ACR		ACS	
						L								FLATTED ROUND				OBLONG				RECTANGLE		SQUARE	
														W		P		W		P		W/P		P	
						50,0	56,0	63,0	71,0	80,0	90,0	100,0	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	
M( ) -5		5,0	8,0	22,0	1,0	•	•	•	•	•	•	•	3,175	4,509	3,429	4,763	2,362	4,496	2,616	4,763	2,362	4,115	2,362	3,353	
M( ) -6		6,0	9,0	22,0	1,0	•	•	•	•	•	•	•	4,763	6,096	5,017	6,350	2,362	6,096	2,616	6,350	2,362	5,842	2,362	4,470	
M( ) -8		8,0	10,0	22,0	1,0	•	•	•	•	•	•	•	6,350	7,684	6,604	7,938	2,362	7,671	2,616	7,938	2,362	7,569	2,362	5,588	
M( ) -10		10,0	12,0	22,0	2,0	•	•	•	•	•	•	•	7,938	9,271	8,192	9,525	3,175	9,271	3,429	9,525	3,175	8,966	3,175	6,731	
M( ) -11		11,0	14,0	22,0	3,0	•	•	•	•	•	•	•	9,525	10,859	9,779	11,113	4,763	10,846	5,029	11,113	4,763	10,643	4,750	7,849	
M( ) -13		13,0	16,0	22,0	4,0	•	•	•	•	•	•	•	11,113	12,446	11,367	12,700	6,350	12,446	6,604	12,700	6,350	10,973	6,350	8,966	
M( ) -16		16,0	19,0	22,0	4,0	•	•	•	•	•	•	•	12,700	15,621	12,954	15,875	9,525	15,621	9,779	15,875	9,525	12,700	9,525	11,201	

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	M - ACF - 16	83,0	2,535
Quantity	Catalog Number	L	Point Dimensions
6	M - ACF - 16	83,0	W = 3,302 P = 0,447

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

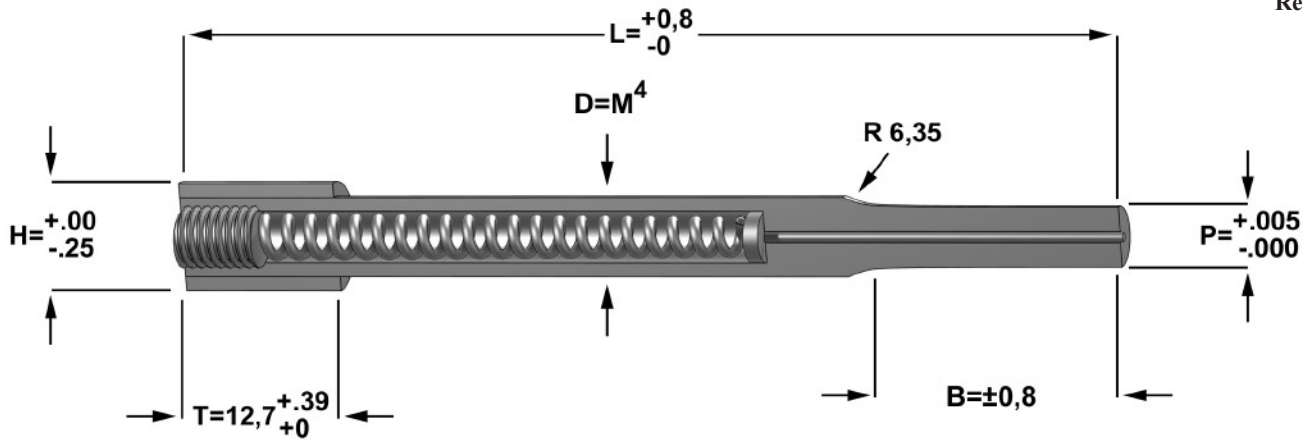
0,076mm - 0,381mm radii can be ground at extra cost at time of manufacture.

# SOLID CARBIDE PUNCHES

(EJECTOR - MACHINABLE BRAZED STEEL HEAD)



Rev. 1.0



0,005 CONCENTRICITY T.I.R. POINT TO BODY

SPRING, EJECTOR PIN AND SET SCREW INCLUDED  
(EJECTOR WILL NOT BE CONCENTRIC TO BODY OR POINT)

TYPE	BODY DIA. D	HEAD DIA. H	POINT LENGTH B	OVERALL LENGTH L								1- 2EP	
												ROUND	
												P	
				50,0	56,0	63,0	71,0	80,0	90,0	100,0		MIN	MAX
M-1EP-5	5,0	8,0	19,0	•	•	•	•	•	•	•		2,362	3,199
M-2EP-5	5,0	8,0	22,0	•	•	•	•	•	•	•		3,200	4,763
M-1EP-6	6,0	9,0	19,0	•	•	•	•	•	•	•		2,362	3,199
M-2EP-6	6,0	9,0	22,0	•	•	•	•	•	•	•		3,200	6,350
M-1EP-8	8,0	10,0	22,0	•	•	•	•	•	•	•		3,175	6,348
M-2EP-8	8,0	10,0	22,0	•	•	•	•	•	•	•		6,349	7,938
M-1EP-10	10,0	12,0	22,0	•	•	•	•	•	•	•		4,750	7,974
M-2EP-10	10,0	12,0	22,0	•	•	•	•	•	•	•		7,975	9,525
M-1EP-11	11,0	14,0	22,0	•	•	•	•	•	•	•		7,976	9,523
M-2EP-11	11,0	14,0	22,0	•	•	•	•	•	•	•		9,524	11,113
M-1EP-13	13,0	16,0	22,0	•	•	•	•	•	•	•		9,525	11,123
M-2EP-13	13,0	16,0	22,0	•	•	•	•	•	•	•		11,124	12,700
M-1EP-16	16,0	19,0	22,0	•	•	•	•	•	•	•		11,125	13,460
M-2EP-16	16,0	19,0	22,0	•	•	•	•	•	•	•		13,461	15,875

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	M - 1EP -18	83,0	2,858

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

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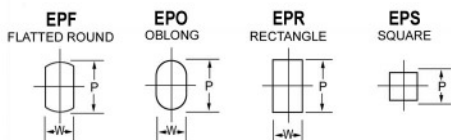
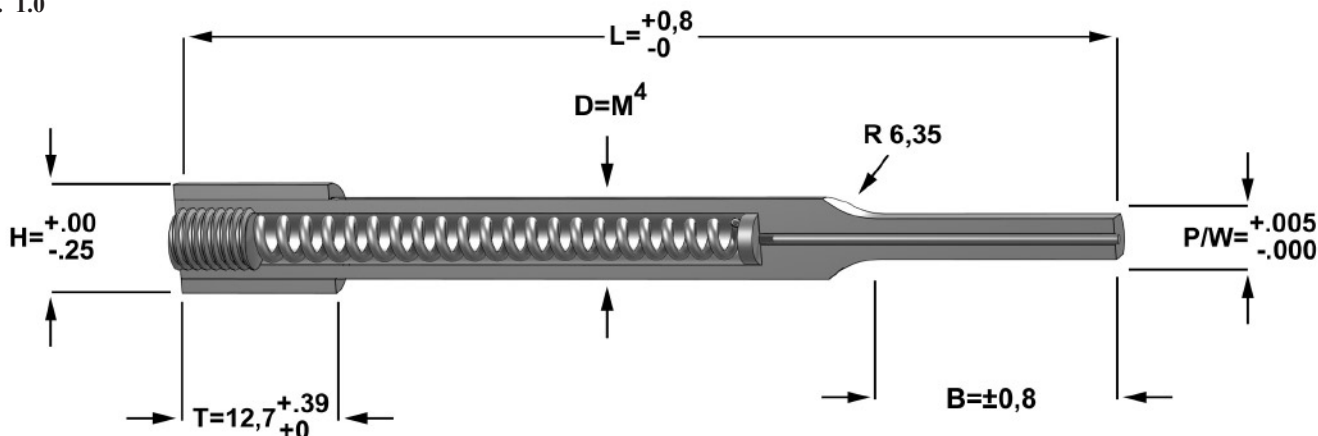
**METRIC LINE**

# SOLID CARBIDE PUNCHES

(EJECTOR - MACHINABLE BRAZED STEEL HEAD)



Rev. 1.0



0,008 CONCENTRICITY T.I.R. POINT TO BODY  
SPRING, EJECTOR PIN AND SET SCREW INCLUDED  
(EJECTOR WILL NOT BE CONCENTRIC TO BODY OR POINT)

TYPE EPF EPO EPR EPS	BODY DIA. D	HEAD DIA. H	POINT LENGTH B	OVERALL LENGTH								EPF				EPO				EPR				EPS			
				L								FLATTED ROUND				OBLONG				RECTANGLE				SQUARE			
												W		P		W		P		W/P		P					
				50,0	56,0	63,0	71,0	80,0	90,0	100,0	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX			
M( ) -5	5,0	8,0	22,0	•	•	•	•	•	•	•	3,175	4,509	3,429	4,763	2,362	4,496	2,616	4,763	2,362	4,115	2,362	3,353					
M( ) -6	6,0	9,0	22,0	•	•	•	•	•	•	•	4,763	6,096	5,017	6,350	2,362	6,096	2,616	6,350	2,362	5,842	2,362	4,470					
M( ) -8	8,0	10,0	22,0	•	•	•	•	•	•	•	6,350	7,684	6,604	7,938	2,362	7,671	2,616	7,938	2,362	7,569	2,362	5,588					
M( ) -10	10,0	12,0	22,0	•	•	•	•	•	•	•	7,938	9,271	8,192	9,525	3,175	9,271	3,429	9,525	3,175	8,966	3,175	6,731					
M( ) -11	11,0	14,0	22,0	•	•	•	•	•	•	•	9,525	10,859	9,779	11,113	4,763	10,846	5,029	11,113	4,763	10,643	4,750	7,849					
M( ) -13	13,0	16,0	22,0	•	•	•	•	•	•	•	11,113	12,446	11,367	12,700	6,350	12,446	6,604	12,700	6,350	10,973	6,350	8,966					
M( ) -16	16,0	19,0	22,0	•	•	•	•	•	•	•	12,700	15,621	12,700	15,621	9,525	15,621	9,779	15,875	9,525	12,700	9,525	11,201					

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	M - EPF - 16	83,0	2,535
Quantity	Catalog Number	L	Point Dimensions
6	M - EPF - 16	83,0	W = 3,302 P = 0,447

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

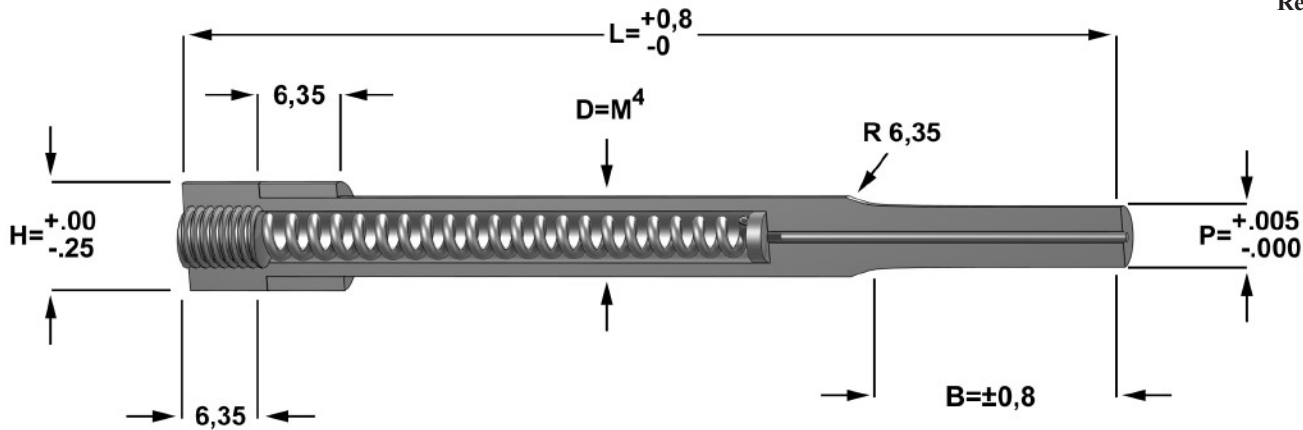
0,076mm-0,381mm radii can be ground at extra cost at time of manufacture

# SOLID CARBIDE PUNCHES

(EJECTOR - SOLID CARBIDE HEAD - STEEL COLLAR)



Rev. 1.0



0,005 CONCENTRICITY T.I.R. POINT TO BODY  
SPRING, EJECTOR PIN AND SET SCREW INCLUDED  
(EJECTOR WILL NOT BE CONCENTRIC TO BODY OR POINT)

TYPE	BODY DIA. D	HEAD DIA. H	POINT LENGTH B	OVERALL LENGTH L								1- 2EC	
												ROUND	
												P	
				50,0	56,0	63,0	71,0	80,0	90,0	100,0		MIN	MAX
M-1EC-5	5,0	8,0	19,0	•	•	•	•	•	•	•		2,362	3,199
M-2EC-5	5,0	8,0	22,0	•	•	•	•	•	•	•		3,200	4,763
M-1EC-6	6,0	9,0	19,0	•	•	•	•	•	•	•		2,362	3,199
M-2EC-6	6,0	9,0	22,0	•	•	•	•	•	•	•		3,200	6,350
M-1EC-8	8,0	10,0	22,0	•	•	•	•	•	•	•		3,175	6,348
M-2EC-8	8,0	10,0	22,0	•	•	•	•	•	•	•		6,349	7,938
M-1EC-10	10,0	12,0	22,0	•	•	•	•	•	•	•		4,750	7,974
M-2EC-10	10,0	12,0	22,0	•	•	•	•	•	•	•		7,975	9,525
M-1EC-11	11,0	14,0	22,0	•	•	•	•	•	•	•		7,976	9,523
M-2EC-11	11,0	14,0	22,0	•	•	•	•	•	•	•		9,524	11,113
M-1EC-13	13,0	16,0	22,0	•	•	•	•	•	•	•		9,525	11,123
M-2EC-13	13,0	16,0	22,0	•	•	•	•	•	•	•		11,124	12,700
M-1EC-16	16,0	19,0	22,0	•	•	•	•	•	•	•		11,125	13,460
M-2EC-16	16,0	19,0	22,0	•	•	•	•	•	•	•		13,461	15,875

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	M - 1EC -18	83,0	2,858

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

## AMERICAN CARBIDE TOOLING

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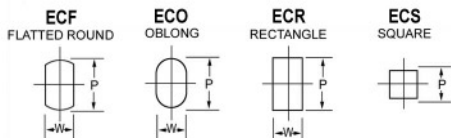
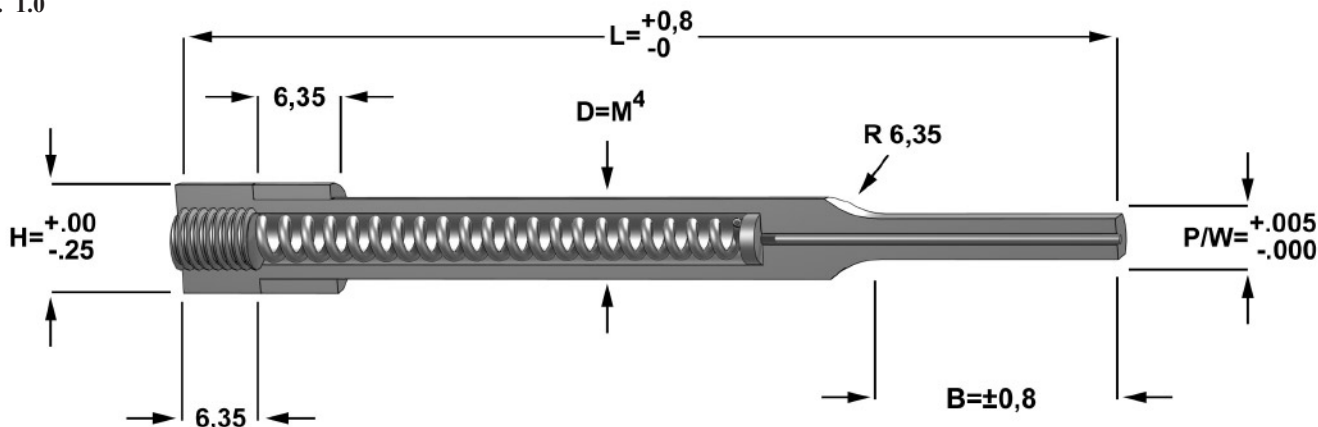
LOCATING DEVICES CAN BE ADDED AT EXTRA COST AT TIME OF MANUFACTURE.  
ALL LOCATING DEVICES WILL BE PARALLEL TO THE LONGEST DIMENSION.

**METRIC LINE**





# SOLID CARBIDE PUNCHES

(EJECTOR - SOLID CARBIDE HEAD - STEEL COLLAR)

Rev. 1.0



0,005 CONCENTRICITY T.I.R. POINT TO BODY  
SPRING, EJECTOR PIN AND SET SCREW INCLUDED  
(EJECTOR WILL NOT BE CONCENTRIC TO BODY OR POINT)

																						
TYPE ECF ECO ECR ECS	BODY DIA. D	HEAD DIA. H	POINT LENGTH B	OVERALL LENGTH							ECF				ECO				ECR		ECS	
				L							FLATTED ROUND				OBLONG				RECTANGLE		SQUARE	
											W		P		W		P		W/P		P	
				50,0	56,0	63,0	71,0	80,0	90,0	100,0	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
M ( ) -5	5,0	8,0	22,0	•	•	•	•	•	•	•	3,175	4,509	3,429	4,763	2,362	4,496	2,616	4,763	2,362	4,115	2,362	3,353
M ( ) -6	6,0	9,0	22,0	•	•	•	•	•	•	•	4,763	6,096	5,017	6,350	2,362	6,096	2,616	6,350	2,362	5,842	2,362	4,470
M ( ) -8	8,0	10,0	22,0	•	•	•	•	•	•	•	6,350	7,684	6,604	7,938	2,362	7,671	2,616	7,938	2,362	7,569	2,362	5,588
M ( ) -10	10,0	12,0	22,0	•	•	•	•	•	•	•	7,938	9,271	8,192	9,525	3,175	9,271	3,429	9,525	3,175	8,966	3,175	6,731
M ( ) -11	11,0	14,0	22,0	•	•	•	•	•	•	•	9,525	10,859	9,779	11,113	4,763	10,846	5,029	11,113	4,763	10,643	4,750	7,849
M ( ) -13	13,0	16,0	22,0	•	•	•	•	•	•	•	11,113	12,446	11,367	12,700	6,350	12,446	6,604	12,700	6,350	10,973	6,350	8,966
M ( ) -16	16,0	19,0	22,0	•	•	•	•	•	•	•	12,700	15,621	12,700	15,621	9,525	15,621	9,779	15,875	9,525	12,700	9,525	11,201

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	M - ECF - 16	83,0	2,535
Quantity	Catalog Number	L	Point Dimensions
6	M - ECF - 16	83,0	W = 3,302 P = 0,447

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

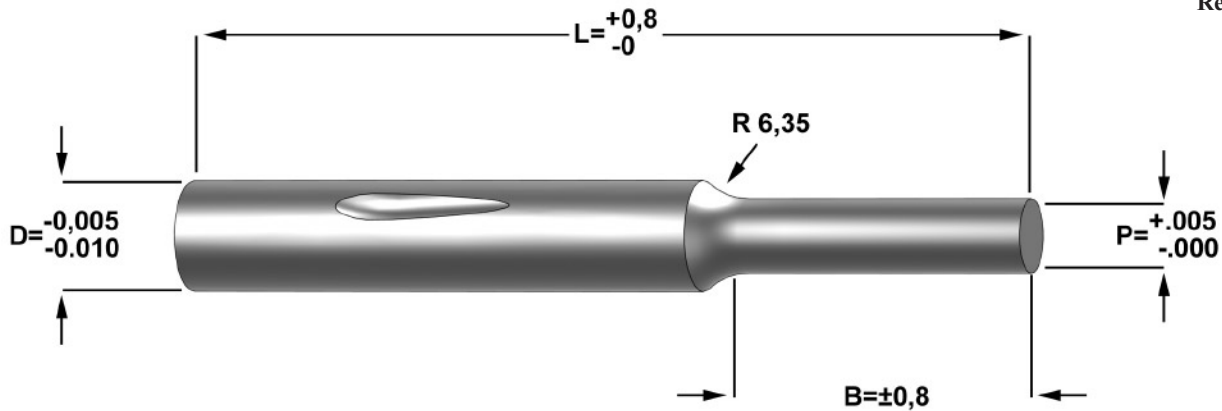
0,076mm-0,381mm radii can be ground at extra cost at time of manufacture

# SOLID CARBIDE PUNCHES

(BALL LOCK - LIGHT DUTY)



Rev. 1.0



0,005 CONCENTRICITY T.I.R. POINT TO BODY

TYPE	BODY DIA. D	POINT LENGTH B	OVERALL LENGTH							1- 2- 3B	
			L							ROUND	
			50,0	56,0	63,0	71,0	80,0	90,0	100,0	MIN	MAX
M-1B-6	6,0	9,0	•	•	•	•	•	•	•	1,524	2,286
M-2B-6	6,0	9,0	•	•	•	•	•	•	•	2,289	3,175
M-3B-6	6,0	9,0	•	•	•	•	•	•	•	3,178	6,350
M-1B-10	10,0	13,0	•	•	•	•	•	•	•	4,750	6,350
M-2B-10	10,0	13,0	•	•	•	•	•	•	•	6,353	7,950
M-3B-10	10,0	13,0	•	•	•	•	•	•	•	7,953	9,525
M-1B-13	13,0	16,0	•	•	•	•	•	•	•	6,350	8,255
M-2B-13	13,0	16,0	•	•	•	•	•	•	•	8,258	10,160
M-3B-13	13,0	16,0	•	•	•	•	•	•	•	10,163	12,700

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	M - 1B -25	83,0	2,002

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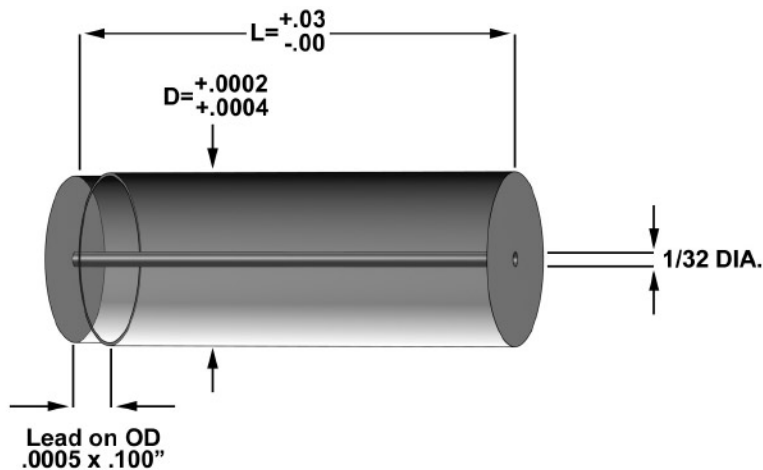
**METRIC LINE**

# **SOLID CARBIDE DIE INSERTS**

**(WIRE EDM - WITH START HOLE)**



Rev. 1.0



STARHOLE WILL NOT BE CONCENTRIC TO BODY

TYPE	BODY DIA. D	OVERALL LENGTH L	
		25,0	31,0
M-DTW-5	5,0	•	•
M-DTW-6	6,0	•	•
M-DTW-8	8,0	•	•
M-DTW-10	10,0	•	•
M-DTW-13	13,0	•	•
M-DTW-16	16,0	•	•
M-DTW-19	19,0	•	•
M-DTW-22	22,0	•	•
M-DTW-25	25,0	•	•

When ordering please specify as follows:

Quantity	Catalog Number	L
12	M - DTW - 18	32,0

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

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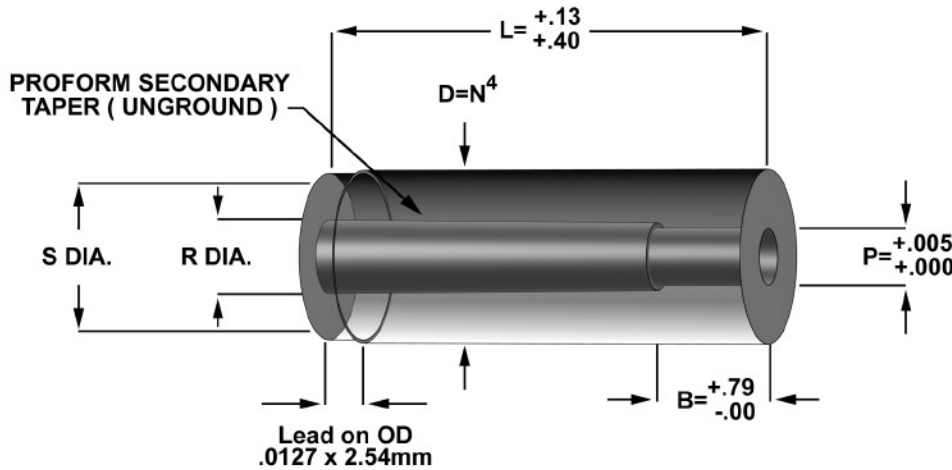
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# SOLID CARBIDE DIE INSERTS

## (COUNTERBORE TYPE)



Rev. 1.0



0,005 CONCENTRICITY O.D. and I.D.  
0,05 per 25 per side taper in "P".

TYPE	BODY DIA. D	RELIEF DIA. R	MIN. WEAR LAND B	MIN. SLUG HOLE DIA. S	OVERALL LENGTH L		INSIDE DIA.	
					25,0	31,0	P	P
							MIN	MAX
M-1DC-5	5,0	2,032	3,175	2,383	•	•	1,321	1,572
M-2DC-5	5,0	2,286	3,175	2,383	•	•	1,575	1,778
M-3DC-5	5,0	2,540	3,175	3,175	•	•	1,781	1,956
M-4DC-5	5,0	2,743	4,763	3,571	•	•	1,958	2,210
M-5DC-5	5,0	2,896	4,763	3,571	•	•	2,212	2,337
M-1DC-6	6,0	2,032	3,175	2,383	•	•	1,321	1,572
M-2DC-6	6,0	2,286	3,175	3,175	•	•	1,575	1,778
M-3DC-6	6,0	2,540	3,175	3,571	•	•	1,781	1,956
M-4DC-6	6,0	2,743	4,763	3,571	•	•	1,958	2,210
M-5DC-6	6,0	2,896	4,763	3,970	•	•	2,212	2,337
M-6DC-6	6,0	3,175	4,763	4,366	•	•	2,339	2,743
M-7DC-6	6,0	3,658	4,763	4,763	•	•	2,746	3,150
M-8DC-6	6,0	4,039	6,350	5,159	•	•	3,152	3,556
M-1DC-8	8,0	2,286	3,175	3,175	•	•	1,575	1,778
M-2DC-8	8,0	2,540	3,175	3,571	•	•	1,781	1,956
M-3DC-8	8,0	2,743	4,763	3,571	•	•	1,958	2,210
M-4DC-8	8,0	2,896	4,763	3,970	•	•	2,212	2,337
M-5DC-8	8,0	3,175	4,763	4,366	•	•	2,339	2,743
M-6DC-8	8,0	3,658	4,763	4,763	•	•	2,746	3,150
M-7DC-8	8,0	4,039	6,350	5,159	•	•	3,152	3,556
M-8DC-8	8,0	5,309	6,350	5,951	•	•	3,559	4,572
M-9DC-8	8,0	5,563	6,350	5,951	•	•	4,575	4,953
M-1DC-10	10,0	2,286	3,175	3,175	•	•	1,575	1,778
M-2DC-10	10,0	2,540	3,175	3,571	•	•	1,781	1,956
M-3DC-10	10,0	2,743	4,763	3,571	•	•	1,958	2,210
M-4DC-10	10,0	2,896	4,763	3,970	•	•	2,212	2,337
M-5DC-10	10,0	3,175	4,763	4,366	•	•	2,339	2,743
M-6DC-10	10,0	3,658	4,763	4,763	•	•	2,746	3,150
M-7DC-10	10,0	4,039	6,350	5,159	•	•	3,152	3,556
M-8DC-10	10,0	5,309	6,350	5,954	•	•	3,559	4,572
M-9DC-10	10,0	5,563	6,350	6,746	•	•	4,575	4,953

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	M - 1CD -18	32,0	14,910

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

## AMERICAN CARBIDE TOOLING

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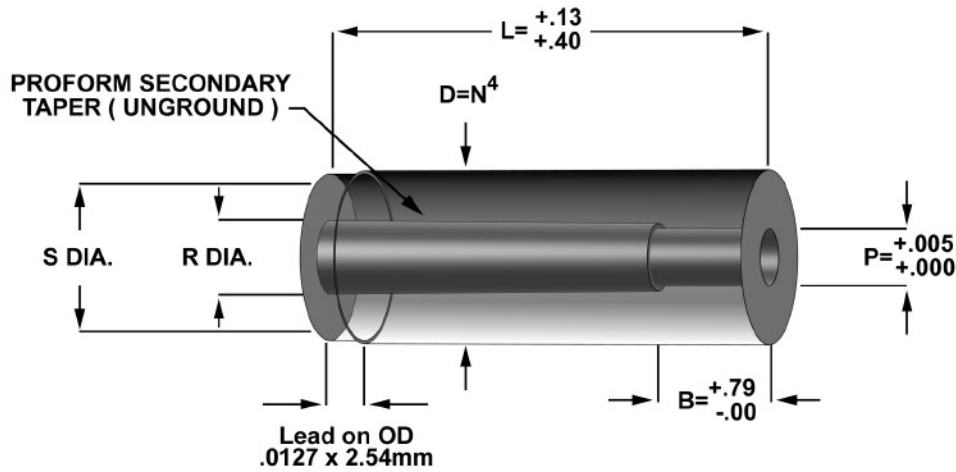
**METRIC LINE**

# SOLID CARBIDE DIE INSERTS

## (COUNTERBORE TYPE)



Rev. 1.0



0,005 CONCENTRICITY O.D. and I.D.  
0,05 per 25 per side taper in "P".

TYPE	BODY DIA. D	RELIEF DIA. R	MIN. WEAR LAND B	MIN. SLUG HOLE DIA. S	OVERALL LENGTH L		INSIDE DIA. P	
					25,0	31,0	MIN	MAX
M-1DC-11	11,0	5,563	6,350	6,746	•	•	4,191	5,080
M-2DC-11	11,0	6,833	9,525	7,938	•	•	5,083	6,299
M-3DC-11	11,0	8,103	9,525	9,129	•	•	6,302	7,620
M-1DC-13	13,0	8,176	6,350	7,746	•	•	3,962	5,080
M-2DC-13	13,0	6,833	9,525	7,938	•	•	5,105	6,299
M-3DC-13	13,0	8,103	9,525	9,129	•	•	6,299	7,620
M-1DC-16	16,0	10,135	9,525	11,113	•	•	6,604	7,874
M-2DC-16	16,0	10,135	9,525	11,113	•	•	7,874	9,525
M-3DC-16	16,0	11,913	9,525	12,700	•	•	9,525	11,430
M-1DC-19	19,0	13,462	9,525	14,288	•	•	7,938	12,954
M-1DC-22	22,0	13,589	9,525	14,288	•	•	9,525	13,081
M-1DC-25	25,0	17,653	9,525	18,256	•	•	9,525	17,145

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	M - 1CD -18	32,0	14,910

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

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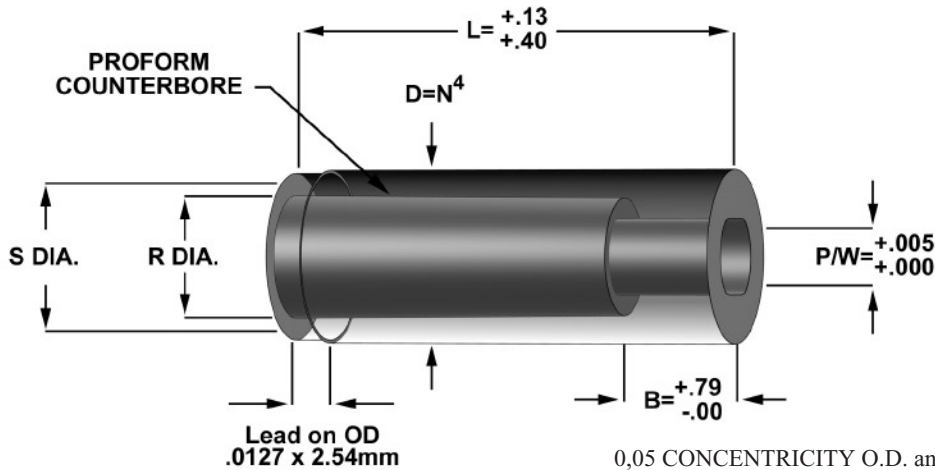
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# SOLID CARBIDE DIE INSERTS

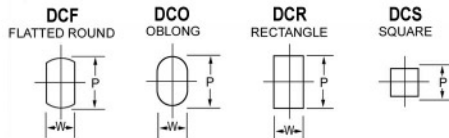
## (COUNTERBORE TYPE)



Rev. 1.0



0,05 CONCENTRICITY O.D. and I.D.  
0,05 per 25 per side taper in "P"  
0,15 - 0,2 - standard corner radius.



TYPE DCF DCO DCR DCS	BODY DIA. D	RELIEF DIA. R	MIN. WEAR LAND B	MIN. SLUG HOLE DIA. S	OVERALL LENGTH L		DCF				DCO				DCR	DCS
							FLATTED ROUND				OBLONG				RECT.	SQUARE
							W		P		W		P		DIAG.	DIAG.
					25,0	31,0	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MAX	MAX
M-(-)10	10,0	5,563	6,350	6,746	•	•	1,575	4,699	1,651	4,953	1,575	0,185	1,651	4,953	4,953	4,953
M-(-)13	13,0	8,103	6,350	9,129	•	•	1,575	6,477	1,956	6,985	1,575	0,255	1,956	6,985	7,366	7,366
M-(-)16	16,0	11,913	6,350	11,113	•	•	2,362	8,585	2,743	9,271	0,093	8,585	2,743	9,271	9,271	9,271
M-(-)19	19,0	13,462	6,350	13,495	•	•	3,175	10,211	3,556	11,100	0,125	10,211	3,556	11,100	11,100	11,100
M-(-)22	22,0	15,570	6,350	15,875	•	•	3,175	12,827	3,556	13,208	0,125	12,827	3,556	13,208	13,716	13,716
M-(-)25	25,0	17,653	6,350	18,654	•	•	4,775	16,307	5,131	16,510	0,188	16,307	5,131	16,510	16,51	16,510

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	M - DCF - 16	32,0	2,535
Quantity	Catalog Number	L	Point Dimensions
6	M - DCF - 16	32,0	W = 3,302 P = 0,447

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

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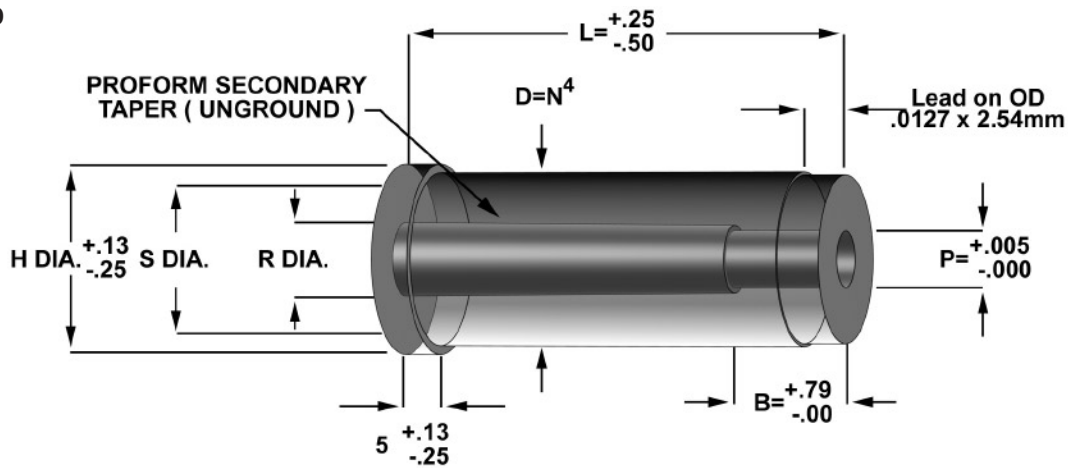
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ALL LOCATING DEVICES WILL BE PARALLEL TO THE LONGEST DIMENSION.

**METRIC LINE**

# SOLID CARBIDE DIE INSERTS

(SOLID CARBIDE HEAD - COUNTERBORE TYPE)

Rev. 1.0



0,05 CONCENTRICITY O.D. and I.D.  
0,05 per 25 per side taper in "P".

TYPE	BODY DIA. D	HEAD DIA. H	RELIEF DIA. R	MIN. WEAR LAND B	MIN. SLUG HOLE DIA. S	OVERALL LENGTH L		INSIDE DIA. P	
						25,0	31,0	MIN	MAX
						•	•	•	•
M-1CDC-5	5,0	8,0	2,032	3,175	2,383	•	•	1,321	1,572
M-2CDC-5	5,0	8,0	2,286	3,175	2,383	•	•	1,575	1,778
M-3CDC-5	5,0	8,0	2,540	3,175	3,175	•	•	1,781	1,956
M-4CDC-5	5,0	8,0	2,743	4,763	3,571	•	•	1,958	2,210
M-5CDC-5	5,0	8,0	2,896	4,763	3,571	•	•	2,212	2,337
M-1CDC-6	6,0	9,0	2,032	3,175	2,383	•	•	1,321	1,572
M-2CDC-6	6,0	9,0	2,286	3,175	3,175	•	•	1,575	1,778
M-3CDC-6	6,0	9,0	2,540	3,175	3,571	•	•	1,781	1,956
M-4CDC-6	6,0	9,0	2,743	4,763	3,571	•	•	1,958	2,210
M-5CDC-6	6,0	9,0	2,896	4,763	3,970	•	•	2,212	2,337
M-6CDC-6	6,0	9,0	3,175	4,763	4,366	•	•	2,339	2,743
M-7CDC-6	6,0	9,0	3,658	4,763	4,763	•	•	2,746	3,150
M-8CDC-6	6,0	9,0	4,039	6,350	5,159	•	•	3,152	3,556
M-1CDC-8	8,0	10,0	2,286	3,175	3,175	•	•	1,575	1,778
M-2CDC-8	8,0	10,0	2,540	3,175	3,571	•	•	1,781	1,956
M-3CDC-8	8,0	10,0	2,743	4,763	3,571	•	•	1,958	2,210
M-4CDC-8	8,0	10,0	2,896	4,763	3,970	•	•	2,212	2,337
M-5CDC-8	8,0	10,0	3,175	4,763	4,366	•	•	2,339	2,743
M-6CDC-8	8,0	10,0	3,658	4,763	4,763	•	•	2,746	3,150
M-7CDC-8	8,0	10,0	4,039	6,350	5,159	•	•	3,152	3,556
M-8CDC-8	8,0	10,0	5,309	6,350	5,951	•	•	3,559	4,572
M-9CDC-8	8,0	10,0	5,563	6,350	5,951	•	•	4,575	4,953
M-1CDC-10	10,0	12,0	2,286	3,175	3,175	•	•	1,575	1,778
M-2CDC-10	10,0	12,0	2,540	3,175	3,571	•	•	1,781	1,956
M-3CDC-10	10,0	12,0	2,743	4,763	3,571	•	•	1,958	2,210
M-4CDC-10	10,0	12,0	2,896	4,763	3,970	•	•	2,212	2,337
M-5CDC-10	10,0	12,0	3,175	4,763	4,366	•	•	2,339	2,743
M-6CDC-10	10,0	12,0	3,658	4,763	4,763	•	•	2,746	3,150
M-7CDC-10	10,0	12,0	4,039	6,350	5,159	•	•	3,152	3,556
M-8CDC-10	10,0	12,0	5,309	6,350	5,954	•	•	3,559	4,572
M-9CDC-10	10,0	12,0	5,563	6,350	6,746	•	•	4,575	4,953

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	M - 1CDC -18	32,0	1,491

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

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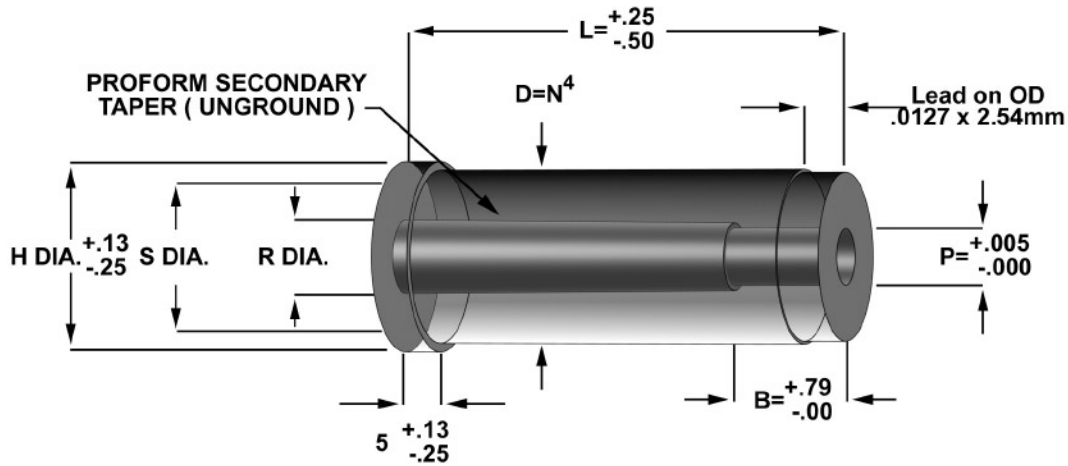
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# SOLID CARBIDE DIE INSERTS

(SOLID CARBIDE HEAD - COUNTERBORE TYPE)



Rev. 1.0



0,05 CONCENTRICITY O.D. and I.D.  
0,05 per 25 per side taper in "P".

TYPE	BODY DIA. D	HEAD DIA. H	RELIEF DIA. R	MIN. WEAR LAND B	MIN. SLUG HOLE DIA. S	OVERALL LENGTH L		INSIDE DIA.	
						25,0	31,0	P MIN	P MAX
M-1CDC-11	11,0	14,0	5,563	6,350	6,746	•	•	4,962	5,080
M-2CDC-11	11,0	14,0	6,833	9,525	7,938	•	•	5,083	6,299
M-3CDC-11	11,0	14,0	8,103	9,525	9,129	•	•	6,302	7,620
M-1CDC-13	13,0	16,0	8,176	6,350	7,746	•	•	3,962	5,080
M-2CDC-13	13,0	16,0	6,833	9,525	7,938	•	•	5,105	6,299
M-3CDC-13	13,0	16,0	8,103	9,525	9,129	•	•	6,299	7,620
M-1CDC-16	16,0	19,0	10,135	9,525	11,113	•	•	6,604	7,874
M-2CDC-16	16,0	19,0	10,135	9,525	11,113	•	•	7,874	9,525
M-3CDC-16	16,0	19,0	11,913	9,525	12,700	•	•	9,525	11,430
M-1CDC-19	19,0	22,0	13,462	9,525	14,288	•	•	7,938	12,954
M-1CDC-22	22,0	25,0	13,589	9,525	14,288	•	•	9,525	13,081
M-1CDC-25	25,0	29,0	17,653	9,525	18,256	•	•	9,525	17,145

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	M - 1CDC -18	32,0	1,491

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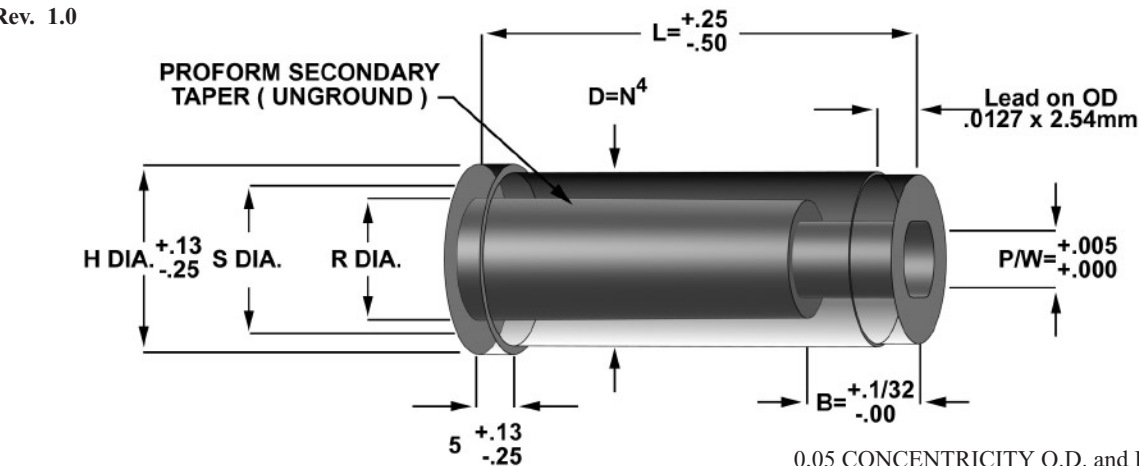
LOCATING DEVICES CAN BE ADDED AT EXTRA COST AT TIME OF MANUFACTURE.  
ALL LOCATING DEVICES WILL BE PARALLEL TO THE LONGEST DIMENSION.

**METRIC LINE**

# SOLID CARBIDE DIE INSERTS

(SOLID CARBIDE HEAD - COUNTERBORE TYPE)

Rev. 1.0

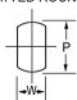


0,05 CONCENTRICITY O.D. and I.D.

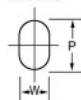
0,05 per 25 per side taper in "P"

0,15 - 0,2 - standard corner radius.

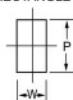
CDCF  
FLATTED ROUND



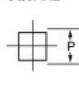
CDCO  
OBLONG



CDCR  
RECTANGLE



CDCS  
SQUARE



TYPE CDCF CDCO CDCR CDCS	BODY DIA. D	RELIEF DIA. R	MIN. WEAR LAND B	MIN. SLUG HOLE DIA. S	OVERALL LENGTH L	CDCF				CDCO				CDCR	CDCS
						FLATTED ROUND				OBLONG				RECT.	SQUARE
						W		P		W		P		DIAG.	DIAG.
						25,0	31,0	MIN	MAX	MIN	MAX	MIN	MAX	MAX	MAX
M-( )-10	10,0	5,563	6,350	6,746	• •	1,575	4,699	1,651	4,953	1,575	0,185	1,651	4,953	4,953	4,953
M-( )-13	13,0	8,103	6,350	9,129	• •	1,575	6,477	1,956	6,985	1,575	0,255	1,956	6,985	7,366	7,366
M-( )-16	16,0	11,913	6,350	11,113	• •	2,362	8,585	2,743	9,271	0,093	8,585	2,743	9,271	9,271	9,271
M-( )-19	19,0	13,462	6,350	13,495	• •	3,175	10,211	3,556	11,100	0,125	10,211	3,556	11,100	11,100	11,100
M-( )-22	22,0	15,570	6,350	15,875	• •	3,175	12,827	3,556	13,208	0,125	12,827	3,556	13,208	13,716	13,716
M-( )-25	25,0	17,653	6,350	18,654	• •	4,775	16,307	5,131	16,510	0,188	16,307	5,131	16,510	16,51	16,510

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	M - CDCF - 16	32,0	2,535
Quantity	Catalog Number	L	Point Dimensions
6	M - CDCF - 16	32,0	W = 3,302 P = 0,447

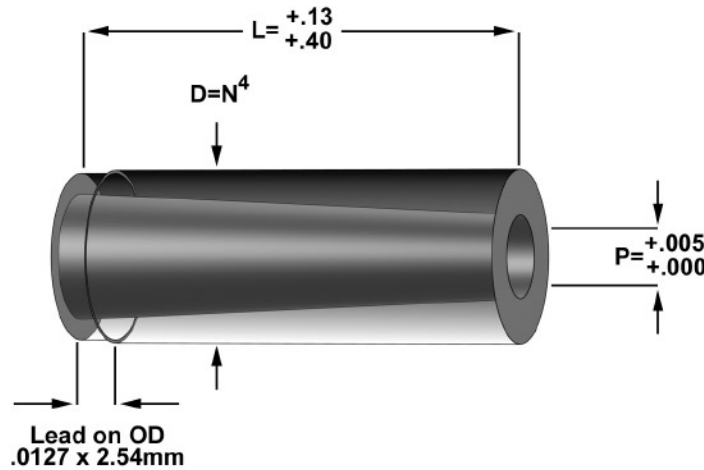
Any dimension not listed above can be ground to customer specification. Please ask for quotation.

# SOLID CARBIDE DIE INSERTS

(FULL LENGTH TAPER)



Rev. 1.0



0,05 CONCENTRICITY O.D. and I.D.  
0,05 per 25 per side taper in "P".

TYPE	BODY DIA. D	MIN. SLUG HOLE DIA. S	OVERALL LENGTH L		INSIDE DIA. P	
			25,0	31,0	MIN	MAX
M-1DT-5	5,0	2,383	•	•	0,762	1,318
M-2DT-5	5,0	2,383	•	•	1,321	1,903
M-3DT-5	5,0	2,779	•	•	1,905	2,461
M-1DT-6	6,0	2,383	•	•	0,762	1,318
M-2DT-6	6,0	2,383	•	•	1,321	1,902
M-3DT-6	6,0	3,571	•	•	1,905	2,461
M-4DT-6	6,0	3,571	•	•	2,464	3,045
M-5DT-6	6,0	4,366	•	•	3,048	3,962
M-1DT-8	8,0	2,383	•	•	0,762	1,318
M-2DT-8	8,0	2,779	•	•	1,321	1,902
M-3DT-8	8,0	3,571	•	•	1,905	2,461
M-4DT-8	8,0	3,970	•	•	2,464	3,045
M-5DT-8	8,0	5,558	•	•	3,048	5,232
M-1DT-10	10,0	2,383	•	•	0,762	1,318
M-2DT-10	10,0	2,779	•	•	1,321	1,902
M-3DT-10	10,0	3,571	•	•	1,905	2,461
M-4DT-10	10,0	3,970	•	•	2,464	3,045
M-5DT-10	10,0	5,558	•	•	3,048	3,063
M-1DT-11	11,0	6,746	•	•	3,962	5,103
M-2DT-11	11,0	7,938	•	•	5,105	6,299
M-3DT-11	11,0	9,129	•	•	6,302	8,534
M-1DT-13	13,0	5,558	•	•	3,962	5,103
M-2DT-13	13,0	6,746	•	•	5,105	6,299
M-3DT-13	13,0	9,129	•	•	6,302	8,534
M-1DT-13	13,0	10,488	•	•	6,604	10,058
M-1DT-13	13,0	13,891	•	•	7,938	13,360
M-1DT-22	22,0	15,875	•	•	9,525	14,986
M-1DT-25	25,0	17,859	•	•	9,525	14,986

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	M - 1DT -18	32,0	1,288

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

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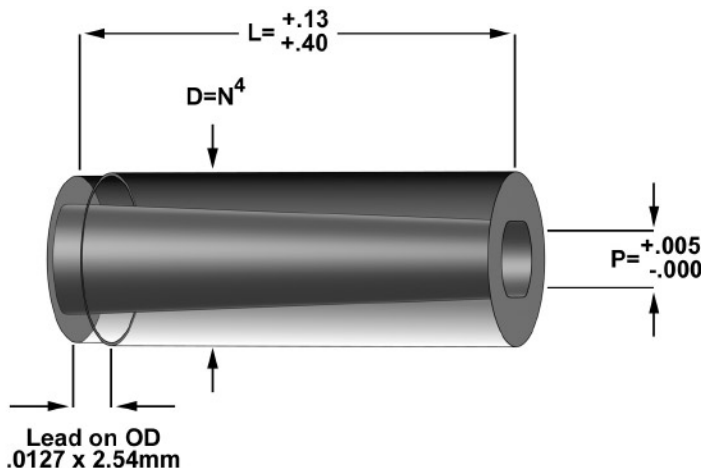
LOCATING DEVICES CAN BE ADDED AT EXTRA COST AT TIME OF MANUFACTURE.  
ALL LOCATING DEVICES WILL BE PARALLEL TO THE LONGEST DIMENSION.

**METRIC LINE**

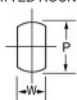
# SOLID CARBIDE DIE INSERTS

(FULL LENGTH TAPER)

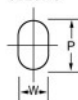
Rev. 1.0



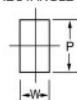
**DTF**  
FLATTED ROUND



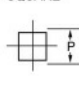
**DTO**  
OBLONG



**DTR**  
RECTANGLE



**DTS**  
SQUARE



0,008 - 0,01 CONCENTRICITY O.D. and I.D.  
0,05 per 25 per side taper in "P".  
0,15 - 0,2 - standard corner radius.

TYPE DTF DTO DTR DTS	BODY DIA. D	OVERALL LENGTH L	DTF				DTO				DTR	DTS
			FLATTED ROUND				OBLONG				RECT.	SQUARE
			W		P		W		P		DIAG.	DIAG.
			25,0	31,0	MIN	MAX	MIN	MAX	MIN	MAX	MAX	MAX
M-( )-10	10,0	• •	1,575	4,699	1,651	4,953	1,575	4,699	1,651	4,953	4,953	4,953
M-( )-13	13,0	• •	1,575	6,477	1,956	6,985	1,575	6,477	1,956	6,985	7,366	7,366
M-( )-16	16,0	• •	2,362	8,585	2,743	9,271	2,362	8,585	2,743	9,271	9,271	9,271
M-( )-19	19,0	• •	3,175	10,211	3,556	11,100	3,175	10,211	3,556	11,100	11,100	11,100
M-( )-22	22,0	• •	3,175	12,827	3,556	13,208	3,175	12,827	3,556	13,208	13,716	13,716
M-( )-25	25,0	• •	4,775	16,307	5,131	16,510	4,775	16,307	4,775	16,510	16,510	16,510

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	M - DTF - 16	32,0	2,535
Quantity	Catalog Number	L	Point Dimensions
6	M - DTF - 16	32,0	W = 3,302 P = 0,447

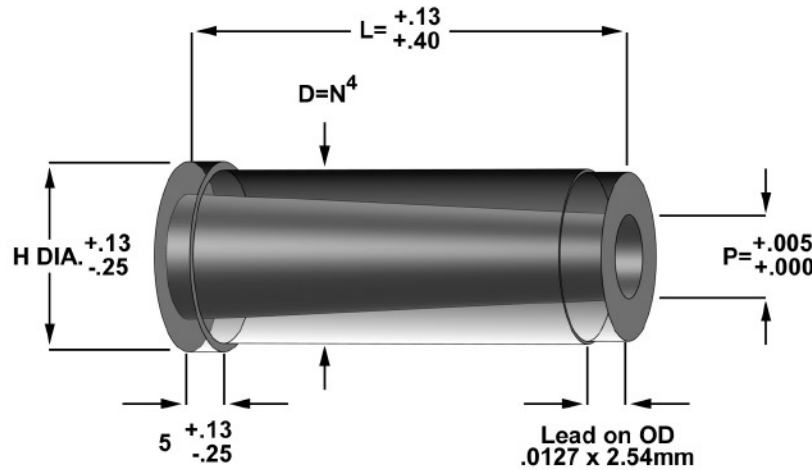
Any dimension not listed above can be ground to customer specification. Please ask for quotation.

# SOLID CARBIDE DIE INSERTS

(SOLID CARBIDE HEAD - FULL LENGTH TAPER)



Rev. 1.0



0,05 CONCENTRICITY O.D. and I.D.  
0,05 per 25 per side taper in "P".



TYPE	BODY DIA. D	HEAD DIA. H	MIN. SLUG HOLE DIA. S	OVERALL LENGTH L		INSIDE DIA. P	
				25,0	31,0	MIN	MAX
M-1CDT-5	5,0	0,296	2,383	•	•	0,762	1,318
M-2CDT-5	5,0	0,296	2,383	•	•	1,321	1,903
M-3CDT-5	5,0	0,296	2,779	•	•	1,905	2,461
M-1CDT-6	6,0	0,34	2,383	•	•	0,762	1,318
M-2CDT-6	6,0	0,34	2,383	•	•	1,321	1,902
M-3CDT-6	6,0	0,34	3,571	•	•	1,905	2,461
M-4CDT-6	6,0	0,34	3,571	•	•	2,464	3,045
M-5CDT-6	6,0	0,34	4,366	•	•	3,048	3,962
M-1CDT-8	8,0	0,4	2,383	•	•	0,762	1,318
M-2CDT-8	8,0	0,4	2,779	•	•	1,321	1,902
M-3CDT-8	8,0	0,4	3,571	•	•	1,905	2,461
M-4CDT-8	8,0	0,4	3,970	•	•	2,464	3,045
M-5CDT-8	8,0	0,4	5,558	•	•	3,048	5,232
M-1CDT-10	10,0	0,46	2,383	•	•	0,762	1,318
M-2CDT-10	10,0	0,46	2,779	•	•	1,321	1,902
M-3CDT-10	10,0	0,46	3,571	•	•	1,905	2,461
M-4CDT-10	10,0	0,46	3,970	•	•	2,464	3,045
M-5CDT-10	10,0	0,46	5,558	•	•	3,048	3,063
M-1CDT-11	11,0	14,0	6,746	•	•	3,962	5,103
M-2CDT-11	11,0	14,0	7,938	•	•	5,105	6,299
M-3CDT-11	11,0	14,0	9,129	•	•	6,302	8,534
M-1CDT-13	13,0	16,0	5,558	•	•	3,962	5,103
M-2CDT-13	13,0	16,0	6,746	•	•	5,105	6,299
M-3CDT-13	13,0	16,0	9,129	•	•	6,302	8,534
M-1CDT-13	13,0	19,0	10,488	•	•	6,604	10,058
M-1CDT-13	13,0	22,0	13,891	•	•	7,938	13,360
M-1CDT-22	22,0	25,0	15,875	•	•	9,525	14,986
M-1CDT-25	25,0	29,0	17,859	•	•	9,525	14,986

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	M - 1CDT -18	32,0	1,288

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

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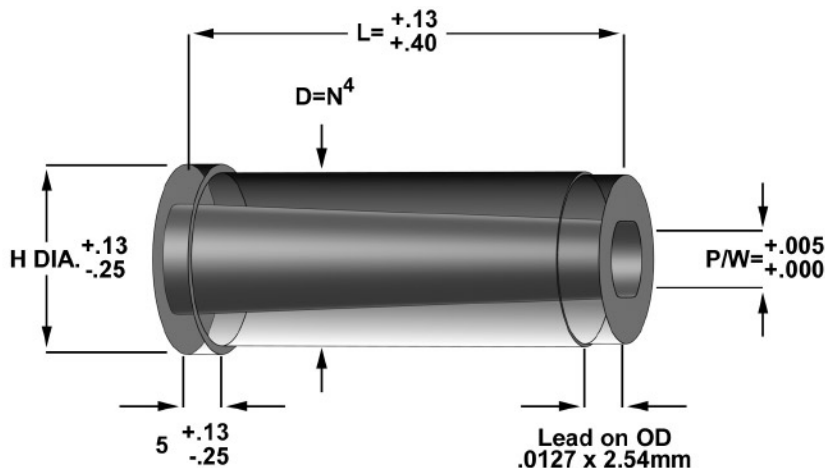
LOCATING DEVICES CAN BE ADDED AT EXTRA COST AT TIME OF MANUFACTURE.  
ALL LOCATING DEVICES WILL BE PARALLEL TO THE LONGEST DIMENSION.

**METRIC LINE**

# SOLID CARBIDE DIE INSERTS

(SOLID CARBIDE HEAD - FULL LENGTH TAPER)

Rev. 1.0



0,008 - 0,01 CONCENTRICITY O.D. and I.D.  
0,05 per 25 per side taper in "P".  
0,15 - 0,2 - standard corner radius.

CDTF  
FLATTED ROUND



CDTO  
OBLONG



CDTR  
RECTANGLE



CDTS  
SQUARE



TYPE CDTF CDTO CDTR CDTS	BODY DIA. D	HEAD DIA. H	OVERALL LENGTH L	CDTF				CDTO				CDTR	CDTS
				FLATTED ROUND				OBLONG				RECT.	SQUARE
				W		P		W		P		DIAG.	DIAG.
				25,0	31,0	MIN	MAX	MIN	MAX	MIN	MAX	MAX	MAX
M-(-)10	10,0	12,0	• •	1,575	4,699	1,651	4,953	1,575	4,699	1,651	4,953	4,953	4,953
M-(-)13	13,0	16,0	• •	1,575	6,477	1,956	6,985	1,575	6,477	1,956	6,985	7,366	7,366
M-(-)16	16,0	19,0	• •	2,362	8,585	2,743	9,271	2,362	8,585	2,743	9,271	9,271	9,271
M-(-)19	19,0	22,0	• •	3,175	10,211	3,556	11,100	3,175	10,211	3,556	11,100	11,100	11,100
M-(-)22	22,0	25,0	• •	3,175	12,827	3,556	13,208	3,175	12,827	3,556	13,208	13,716	13,716
M-(-)25	25,0	29,0	• •	4,775	16,307	5,131	16,510	4,775	16,307	5,131	16,510	16,510	16,510

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	M - CDTF - 16	32,0	2,535
Quantity	Catalog Number	L	Point Dimensions
6	M - CDTF - 16	32,0	W = 3,302 P = 0,447

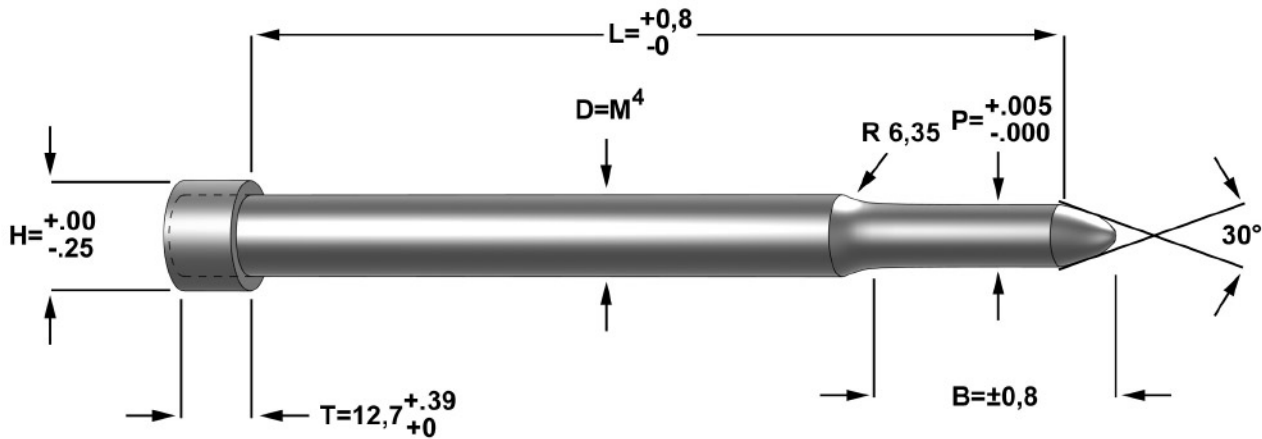
Any dimension not listed above can be ground to customer specification. Please ask for quotation.

# SOLID CARBIDE PILOTS

(MACHINABLE BRAZED STEEL HEAD)



Rev. 1.0



0,008 CONCENTRICITY ( except head )

TYPE	BODY DIA. D	HEAD DIA. H	POINT LENGTH B	OVERALL LENGTH								1- 2PNS	
				L								ROUND	
												P	
				50,0	56,0	63,0	71,0	80,0	90,0	100,0		MIN	MAX
M-2PNS-5	5,0	8,0	19,0	•	•	•	•	•	•	•		1,549	4,763
M-1PNS-6	6,0	9,0	19,0	•	•	•	•	•	•	•		1,524	3,198
M-2PNS-6	6,0	9,0	25,0	•	•	•	•	•	•	•		3,200	6,35
M-1PNS-8	8,0	10,0	25,0	•	•	•	•	•	•	•		3,175	6,347
M-2PNS-8	8,0	10,0	25,0	•	•	•	•	•	•	•		6,350	7,938
M-1PNS-10	10,0	12,0	25,0	•	•	•	•	•	•	•		4,750	7,973
M-2PNS-10	10,0	12,0	25,0	•	•	•	•	•	•	•		7,976	9,525
M-1PNS-11	11,0	14,0	25,0	•	•	•	•	•	•	•		7,976	9,522
M-2PNS-11	11,0	14,0	25,0	•	•	•	•	•	•	•		9,525	11,113
M-1PNS-13	13,0	16,0	25,0	•	•	•	•	•	•	•		9,525	11,123
M-2PNS-13	13,0	16,0	25,0	•	•	•	•	•	•	•		11,125	12,700
M-1PNS-16	16,0	19,0	25,0	•	•	•	•	•	•	•		11,125	13,459
M-2PNS-16	16,0	19,0	25,0	•	•	•	•	•	•	•		13,462	15,875
M-1PNS-19	19,0	22,0	25,0	•	•	•	•	•	•	•		13,462	15,999
M-2PNS-19	19,0	22,0	25,0	•	•	•	•	•	•	•		16,002	19,050

When ordering please specify as follows:

Quantity	Catalog Number	L	P
12	M - 2PNS -18	32,0	1,288

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

## AMERICAN CARBIDE TOOLING

American Carbide Tooling is a Division of Penn United Technology Inc.

Phone: 724-352-1500 Fax: 724-352-1799

email: [act\\_sales@pennunited.com](mailto:act_sales@pennunited.com) [www.pennunited.com](http://www.pennunited.com)

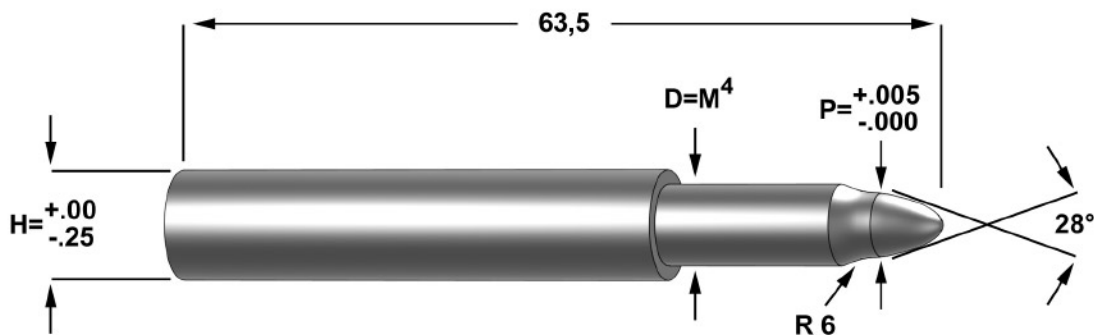




# SOLID CARBIDE PILOTS



Rev. 1.0



TYPE	BODY DIA. D	HEAD DIA. H	1- 2PNSP	
			ROUND	
			P	
			MIN	MAX
M-1PNSP	5,0	8,0	1,549	4,763
M-2PNSP	6,0	9,0	1,549	6,350
M-3PNSP	8,0	10,0	3,175	7,938
M-4PNSP	10,0	13,0	4,750	9,525

When ordering please specify as follows:

Quantity	Catalog Number	P
12	M - 1PNSP -18	1,288

Any dimension not listed above can be ground to customer specification. Please ask for quotation.

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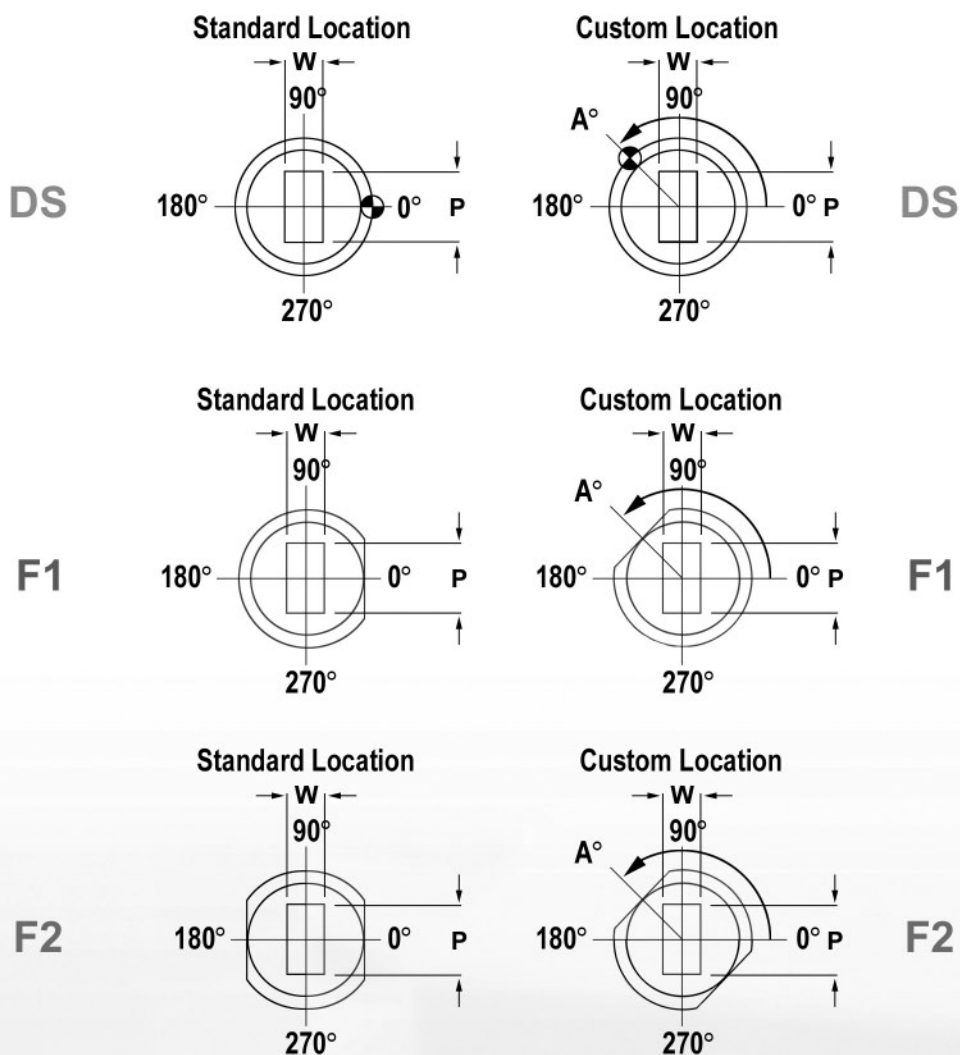
Phone: 724-352-1500 Fax: 724-352-1799

email: [act\\_sales@pennunited.com](mailto:act_sales@pennunited.com)[www.pennunited.com](http://www.pennunited.com)



# LOCATING DEVICES

(REFERENCE and EQUATIONS)



Please specify locating devices by the following designations

DS = Dowel Slot ( .125 Dia. ( 3,18 mm ) )

F1 = Single Flat (  $D - \frac{.0625 (1,59 \text{ mm})}{2}$  )

F2 = Double Flat (  $D - \frac{.0625 (1,59 \text{ mm})}{2}$  )

The standard location of these devices is parallel to the longest dimension of the shape.

Fully dimensioned prints are needed for custom locations. There will be an additional charge for all locating devices.

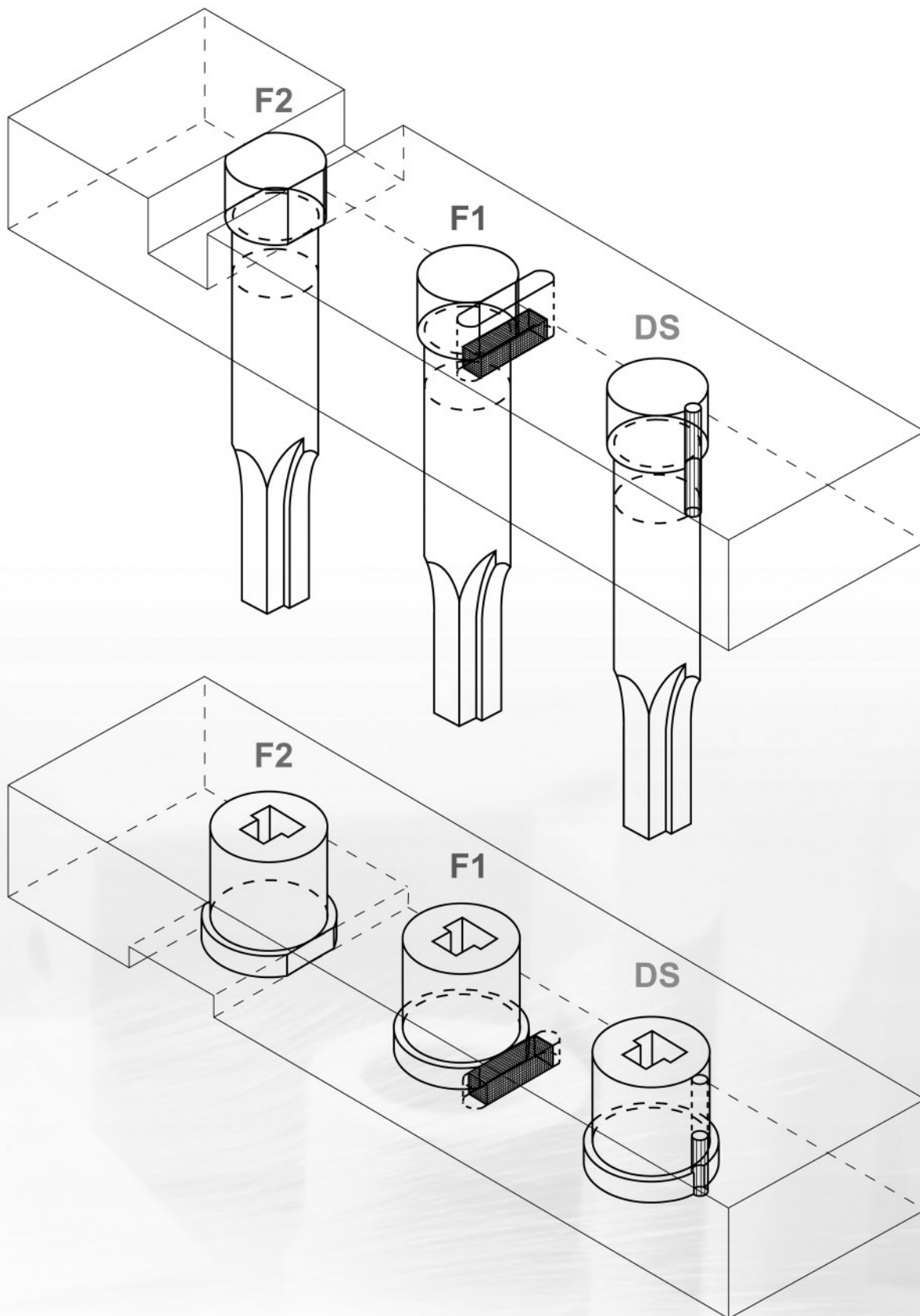


# LOCATING DEVICES

(REFERENCE and EQUATIONS)



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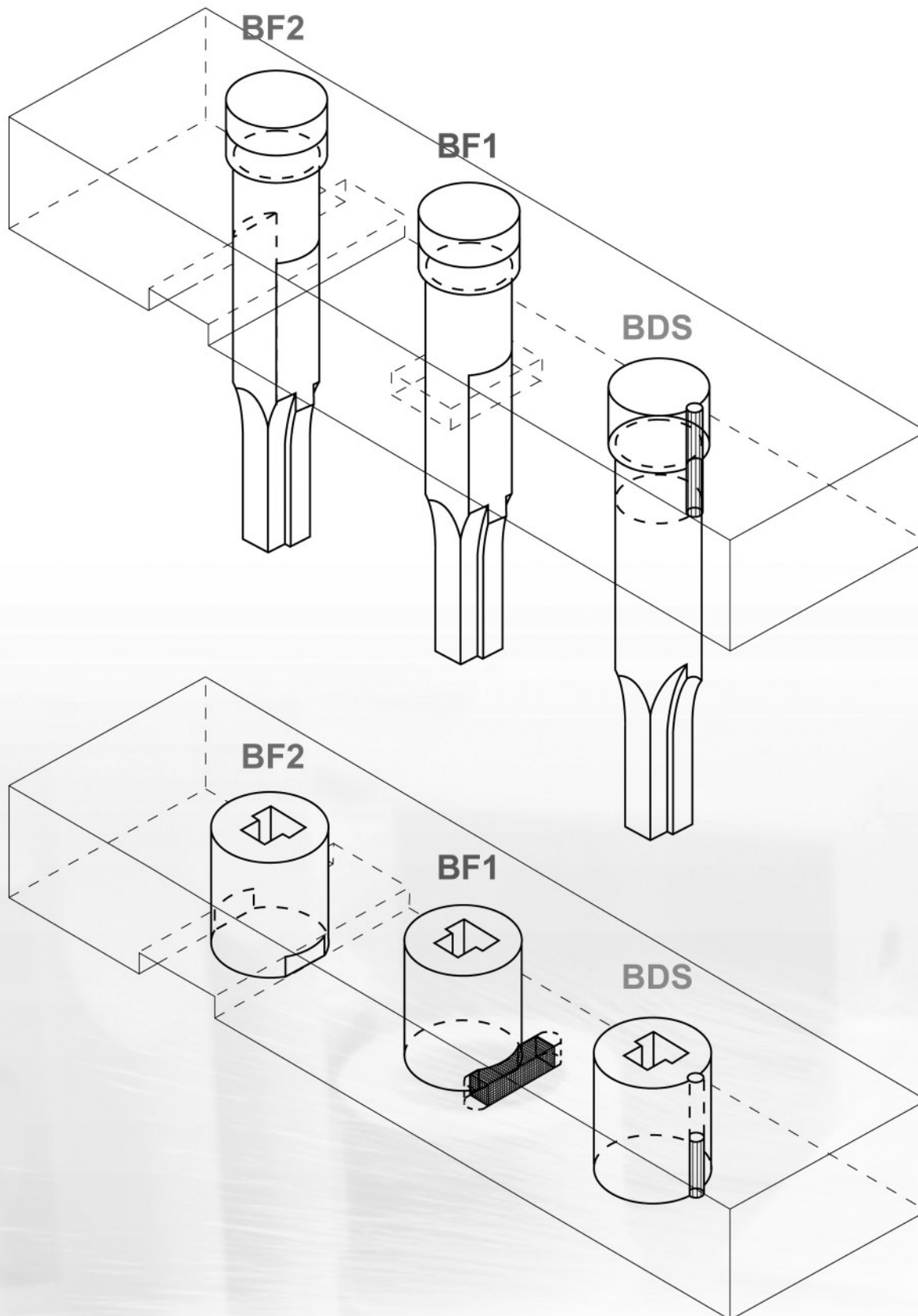


# LOCATING DEVICES

(REFERENCE and EQUATIONS)



Rev. 1.0





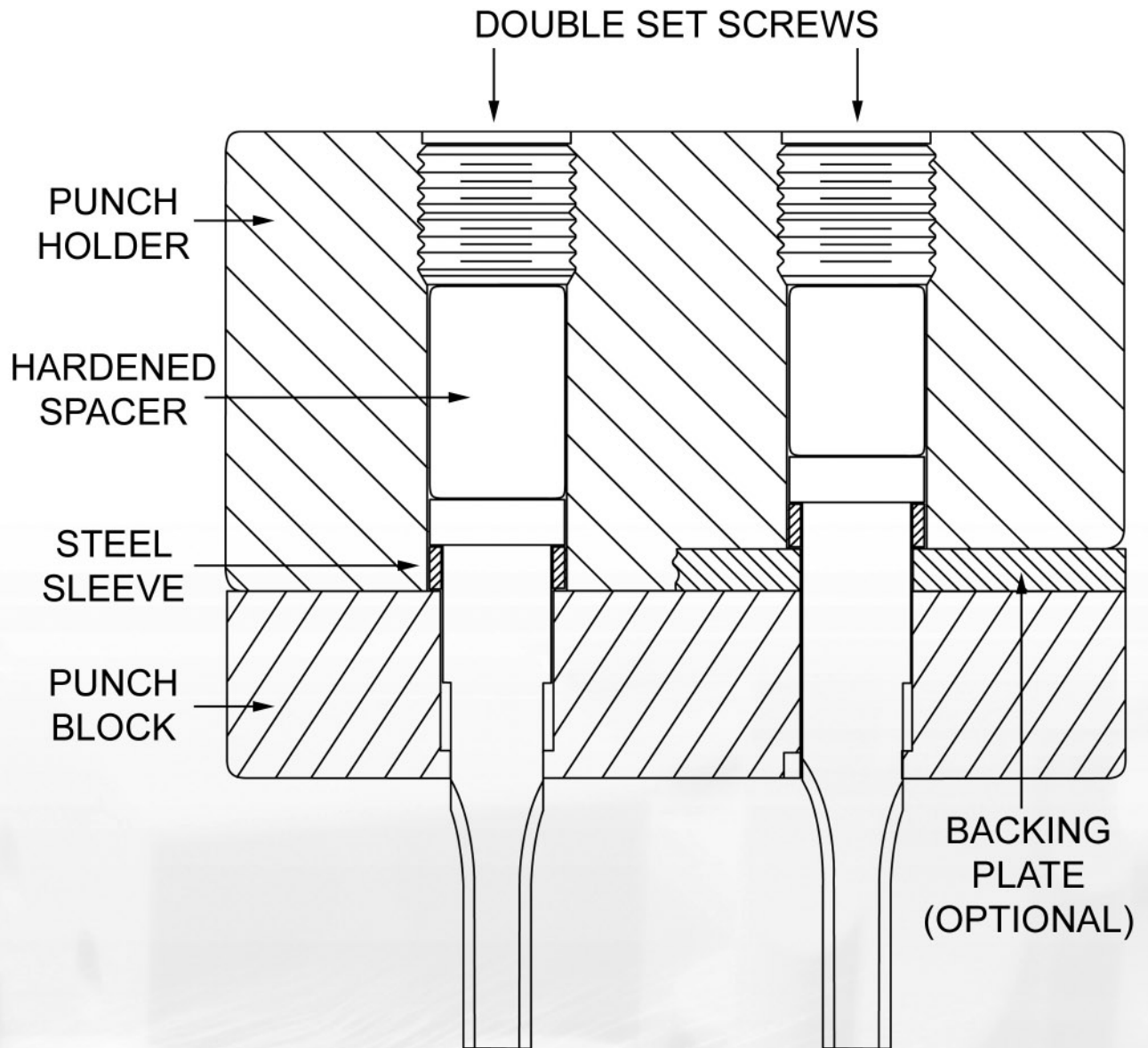


# LOCATING DEVICES

(REFERENCE and EQUATIONS)



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A4



# DELIVERY OPTIONS



Rev. 1.0

## Key benefits of American Carbide Tooling:

- *Proper and accurate tool design reduces die maintenance costs*
- *Design time reduced with the use of standard components*
- *Guaranteed repeatability and interchangeability of components using our stringent ISO & QS certified quality control procedures*
- *We are uniquely able to produce tools with higher productivity and increased tool life using quality Penn United Carbide manufactured at our own facility.*
- *Our experienced staff is dedicated to customer service providing you quick response on quotations and technical questions*
- *Guaranteed 5 working day delivery or shipping is free*
- *No minimum order*
- *Easy ordering - from our website at [www.pennunited.com](http://www.pennunited.com) or call 724-352-1500*

## Price adjustments for rush orders:

5 day ( standard )

4 day + 25%

3 day + 50%

2 day + 75%

1 day + 100%

We accept the following major credit cards:



## AMERICAN CARBIDE TOOLING

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