



BULLDOG CUTTING TOOLS

THREAD MILLING

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PROUDLY MADE IN THE USA

SAFETY PRECAUTIONS

Cutting tools may shatter or break, government regulations require the use of safety glasses and other safety equipment at all times in the vicinity of cutting tool use. Additionally, the grinding of cutting tools produces dust that may be hazardous to your health, ensure that proper ventilation is used at all times.

OUR POLICIES

Bulldog Cutting Tools guarantees against any manufacturers defaults in workmanship or materials.

Terms of payment - 2% 10 days net 30

Minimum order - 50.00

Returns - Full credit will be issued for all unused tools within 30 days of the purchase date. All returns must be accompanied by a company issued Return Merchandise Authorization (RMA) number. ALL CUSTOM CARBIDE ORDERS ARE MADE TO ORDER AND ARE NON RETURNABLE.

RECYCLING

Tungsten carbide is a valuable and limited resource. We ask that you recycle your used carbide to reduce the impact on our environment and ensure the longevity of the tungsten resource.

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THREADMILLS UNC/UNF



UNC & UNF

Our premium carbide AlTiN coated thread mills have helical flute geometry. This dramatically reduces cutting pressure which, results in higher feed rates, faster cycle times, better surface finish and accuracy, and lower cost per hole. All threadmills are AlTiN coated.

Part #	Thread	LOC	Cut Dia.	# Flutes	OAL	Shank
2-56THDMLX	2-56	0.125	.065	3	2.0	1/8
4-40THDMLX	4-40	0.180	.085	3	2.0	1/8
6-32THDMLX	6-32	0.218	.100	3	2.0	1/8
8-32THDMLX	8-32	0.250	.115	3	2.0	1/8
8-36THDMLX	8-36	0.250	.115	3	2.0	1/8
10-24THDMLX	10-24	0.312	.120	3	2.0	3/16
10-32THDMLX	10-32	0.312	.120	3	2.0	3/16
1/4-20THDMLX	1/4-20	0.500	.180	3	2.5	3/16
1/4-28THDMLX	1/4-28	0.500	.180	3	2.5	3/16
5/16-18THDMLX	5/16-18	0.625	.240	3	2.5	1/4
5/16-20THDMLX	5/16-20	0.625	.240	3	2.5	1/4
5/16-24THDMLX	5/16-24	0.625	.240	3	2.5	1/4
3/8-16THDMLX	3/8-16	0.750	.290	4	3.0	5/16
3/8-24THDMLX	3/8-24	0.750	.290	4	3.0	5/16
7/16-14THDMLX	7/16-14	0.875	.340	4	3.0	3/8
7/16-20THDMLX	7/16-20	0.875	.340	4	3.0	3/8
1/2-13THDMLX	1/2-13	0.875	.350	4	3.5	3/8
1/2-20THDMLX	1/2-20	0.875	.350	4	3.5	3/8
9/16-12THDMLX	9/16-12	0.875	.370	4	3.5	1/2
9/16-18THDMLX	9/16-18	0.875	.370	4	3.5	1/2
9/16-32THDMLX	9/16-32	1.000	.495	4	3.5	1/2
5/8-11THDMLX	5/8-11	1.250	.470	5	3.5	1/2
5/8-18THDMLX	5/8-18	1.250	.470	5	3.5	1/2
3/4-10THDMLX	3/4-10	1.250	.495	5	3.5	1/2
3/4-16THDMLX	3/4-16	1.250	.495	5	3.5	1/2
7/8-9THDMLX	7/8-9	1.250	.620	5	3.5	5/8
7/8-14THDMLX	7/8-14	1.250	.620	5	3.5	5/8
1-8THDMLX	1-8	1.375	.620	5	4.0	3/4
1-12THDMLX	1-12	1.375	.620	5	4.0	3/4

THREADMILLS METRIC



METRIC

A 2.00 pitch tool can be used to cut any 2.00 pitch thread as long as the threadmill has a long enough flute length (LOC) to complete the thread. A complete line of premium quality solid carbide Metric Threadmills in stock. All threadmills are AlTiN coated.

Part #	Thread	LOC	Cut Dia.	# of Flutes	OAL	Shank
M4-0.70THDMLX	M4-0.70	0.250	.120	3	2.0	1/8
M4-5-0.75THDMLX	M4.5-0.75	0.250	.120	3	2.0	1/8
M5-0.80THDMLX	M5-0.80	0.312	.120	3	2.0	3/16
M6-1.00THDMLX	M6-1.00	0.500	.170	3	2.5	3/16
M8-0.75THDMLX	M8-0.75	0.625	.235	3	2.5	1/4
M8-1.00THDMLX	M8-1.00	0.625	.235	3	2.5	1/4
M8-1.25THDMLX	M8-1.25	0.625	.235	3	2.5	1/4
M10-1.00THDMLX	M10-1.00	0.750	.300	4	3.0	5/16
M10-1.25THDMLX	M10-1.25	0.750	.300	4	3.0	5/16
M10-1.50THDMLX	M10-1.50	0.750	.300	4	3.0	5/16
M12-1.00THDMLX	M12-1.00	0.875	.360	4	3.5	3/8
M12-1.25THDMLX	M12-1.25	0.875	.360	4	3.5	3/8
M12-1.50THDMLX	M12-1.50	0.875	.360	4	3.5	3/8
M12-1.75THDMLX	M12-1.75	0.875	.360	4	3.5	3/8
M14-1.50THDMLX	M14-1.50	0.875	.360	4	3.5	3/8
M16-2.00THDMLX	M16-2.00	1.250	.470	5	3.5	1/2
M18-1.50THDMLX	M18-1.50	1.250	.470	5	3.5	1/2
M18-2.50THDMLX	M18-2.50	1.250	.470	5	3.5	1/2
M20-3.00THDMLX	M20-3.00	1.250	.470	5	3.5	5/8

**ALL TOOLS ARE MADE FROM PREMIUM AMERICAN CARBIDE BLANKS
AND GROUND IN THE USA
EXPERIENCE THE DIFFERENCE IN AMERICAN MADE**

THREADMILLS VARIABLE FLUTE



VARIABLE FLUTE

Our Variable Index Threadmill increases production and reduces chatter/harmonics in difficult to machine materials. All threadmills are AITiN coated.

SOLID

Part #	Thread	LOC	Cut Dia.	# of Flutes	OAL	Shank
10-32VARI-THDMLX	10-32	0.312	.120	3	2.0	3/16
1/4-20VARI-THDMLX	1/4-20	0.500	.180	3	2.0	3/16
1/4-28VARI-THDMLX	1/4-28	0.500	.180	3	2.0	3/16
5/16-18VARI-THDMLX	5/16-18	0.625	.235	3	2.5	1/4
5/16-24VARI-THDMLX	5/16-24	0.625	.235	3	2.5	1/4
3/8-16VARI-THDMLX	3/8-16	0.750	.290	4	3.0	5/16
3/8-24VARI-THDMLX	3/8-24	0.750	.290	4	3.0	5/16
7/16-14VARI-THDMLX	7/16-14	0.875	.340	4	3.0	3/8
7/16-20VARI-THDMLX	7/16-20	0.875	.340	4	3.0	3/8
1/2-13VARI-THDMLX	1/2-13	0.875	.350	4	3.0	3/8
3/4-16VARI-THDMLX	3/4-16	1.250	.495	4	3.5	1/2

COOLANT THRU for blind hole chip evacuation Variable Index, AITiN coated.



Part #	Thread	LOC	Cut Dia.	# of Flutes	OAL	Shank
10-32COOLTHRU	10-32	0.312	.120	3	2.375	3/16
1/4-20COOLTHRU	1/4-20	0.500	.180	3	2.375	3/16
1/4-28COOLTHRU	1/4-28	0.500	.180	3	2.375	3/16
5/16-18COOLTHRU	5/16-18	0.625	.235	3	2.375	1/4
5/16-24COOLTHRU	5/16-24	0.625	.235	3	2.375	1/4
3/8-16COOLTHRU	3/8-16	0.750	.290	4	3.0	5/16
3/8-24COOLTHRU	3/8-24	0.750	.290	4	3.0	5/16
7/16-14COOLTHRU	7/16-14	0.875	.340	4	3.0	3/8
7/16-20COOLTHRU	7/16-20	0.875	.340	4	3.0	3/8
1/2-13COOLTHRU	1/2-13	0.875	.350	4	3.0	3/8
3/4-16COOLTHRU	3/4-16	1.250	.495	4	3.0	1/2

THREADMILLS NPT/NPTF



NPT & NPTF

The taper is ground on the tool eliminating the need to taper ream the hole. Helical flutes relieve cutting forces created by threadmilling. All threadmills are AlTiN coated.

NPT

Part #	Thread	LOC	Cut Dia.	# of Flutes	OAL	Shank
1/16NPT-THDMLX	1/16-27 NPT	0.437	.245	3	2.5	1/4
1/8NPT-THDMLX	1/8-27 NPT	0.437	.310	4	2.5	5/16
1/4NPT-THDMLX	1/4-18 NPT	0.625	.370	4	3.0	3/8
3/8NPT-THDMLX	3/8-18 NPT	0.625	.370	4	3.0	3/8
1/2NPT-THDMLX	1/2-14 NPT	0.875	.495	4	3.5	1/2
3/4NPT-THDMLX	3/4-14 NPT	0.875	.495	4	3.5	1/2
1NPT-THDMLX	1-11 1/2 NPT	1.125	.620	5	4.0	3/4
2.5NPT-THDMLX	2.5"- 6"-8 NPT	1.500	.995	5	5.0	1.0

NPTF (DRYSEAL)

Part #	Thread	LOC	Cut Dia.	# of Flutes	OAL	Shank
1/16NPTF-THDMLX	1/16-27 NPTF	0.437	.245	3	2.5	1/4
1/8NPTF-THDMLX	1/8-27 NPTF	0.437	.310	4	2.5	5/16
1/4NPTF-THDMLX	1/4-18 NPTF	0.625	.370	4	3.0	3/8
3/8NPTF-THDMLX	3/8-18 NPTF	0.625	.370	4	3.0	3/8
1/2NPTF-THDMLX	1/2-14 NPTF	0.875	.495	4	3.5	1/2
3/4NPTF-THDMLX	3/4-14 NPTF	0.875	.495	4	3.5	1/2
1NPTF-THDMLX	1-11 1/2 NPTF	1.125	.620	5	4.0	3/4
2.5NPTF-THDMLX	2.5"- 6"-8 NPTF	1.500	.995	5	5.0	1.0

THREADMILLS BSPP & BSPT



BSPP & BSPT

We stock British Standard Pipe Parallel and British Standard Pipe Tapered, also known as “Whitworth Threadform”. All threadmills are AlTiN coated.

BSPP (BRITISH STANDARD PIPE PARALLEL)

Part #	Thread	LOC	Cut Dia.	# of Flutes	OAL	Shank
1/16BSPP-THDMLX	1/16-28 BSPP	0.570	.240	3	2.5	1/4
1/8BSPP-THDMLX	1/8-28 BSPP	0.570	.240	3	2.5	1/4
1/4BSPP-THDMLX	1/4-19 BSPP	0.737	.430	4	3.0	7/16
3/8BSPP-THDMLX	3/8-19 BSPP	0.737	.430	4	3.0	7/16
1/2BSPP-THDMLX	1/2-14 BSPP	1.150	.620	5	3.5	5/8
3/4BSPP-THDMLX	3/4-14 BSPP	1.150	.620	5	3.5	5/8
1BSPP-THDMLX	1-11 BSPP	1.365	.745	5	4.0	3/4
2BSPP-THDMLX	2-11 BSPP	1.365	.745	5	4.0	3/4

BSPT (BRITISH STANDARD PIPE TAPER)

Part #	Thread	LOC	CutDia.	# of Flutes	OAL	Shank
1/16BSPT-THDMLX	1/16-28 BSPT	0.393	.240	3	2.5	1/4
1/8BSPT-THDMLX	1/8-28 BSPT	0.393	.240	3	2.5	1/4
1/4BSPT-THDMLX	1/4-19 BSPT	0.580	.430	4	3.0	7/16
3/8BSPT-THDMLX	3/8-19 BSPT	0.580	.430	4	3.0	7/16
1/2BSPT-THDMLX	1/2-14 BSPT	0.787	.620	5	3.5	5/8
3/4BSPT-THDMLX	3/4-14 BSPT	0.787	.620	5	3.5	5/8
1BSPT-THDMLX	1-11 BSPT	1.546	.745	5	4.0	3/4
2BSPT-THDMLX	2-11 BSPT	1.546	.745	5	4.0	3/4

THREADMILLS NPS/NPSF



NPS & NPSF

We now stock National Pipe Straight standard and dryseal. All threadmills are AlTiN coated.

NPS

Part #	Thread	LOC	Cut Dia.	# of Flutes	OAL	Shank
1/8NPS-THDMLX	1/8-27 NPS	0.570	.240	3	w2.5	1/4
1/4NPS-THDMLX	1/4-18 NPS	0.737	.430	4	3.0	7/16
3/8NPS-THDMLX	3/8-18 NPS	0.737	.430	4	3.0	7/16
1/2NPS-THDMLX	1/2-14 NPS	1.150	.620	5	3.5	5/8
3/4NPS-THDMLX	3/4-14 NPS	1.150	.620	5	3.5	5/8
1NPS-THDMLX	1"-2" -11 1/2 NPS	1.365	.745	5	4.0	3/4
2.5NPS-THDMLX	2.5" - 6" -8 NPS	1.365	.745	5	4.0	3/4

NPSF (DRYSEAL)

Part #	Thread	LOC	Cut Dia.	# of Flutes	OAL	Shank
1/8NPSF-THDMLX	1/8-27 NPSF	0.570	.240	3	2.5	1/4
1/4NPSF-THDMLX	1/4-18 NPSF	0.737	.430	4	3.0	7/16
3/8NPSF-THDMLX	3/8-18 NPSF	0.737	.430	4	3.0	7/16
1/2NPSF-THDMLX	1/2-14 NPSF	1.150	.620	5	3.5	5/8
3/4NPSF-THDMLX	3/4-14 NPSF	1.150	.620	5	3.5	5/8
1NPSF-THDMLX	1"-2" -11 1/2 NPSF	1.365	.745	5	4.0	3/4
2.5NPSF-THDMLX	2.5" - 6" -8 NPSF	1.365	.745	5	4.0	3/4

Due to fluctuating carbide costs, prices subject to change.

THREADMILLS SINGLE PROFILE



Single Profile Vari-Flute

Variable Flute Single Profile Threadmills have several flutes with only one 60 degree thread form. This lowers cutting pressure in difficult applications along with being able to produce many inch and metric thread sizes with one tool. All threadmills are AlTiN coated.

Part #	Cut Dia	LOC	Neck Dia	# of Flutes	Shank	OAL	Thread Range
2-SPTHMLX	.064	5/32	.038	3	1/8	1-1/2	56 - 80
3-SPTHMLX	.072	5/32	.040	3	1/8	1-1/2	48 - 72
4-SPTHMLX	.080	1/8	.045	3	1/8	2	40 - 64
4L-SPTHMLX	.080	1/4	.045	3	1/8	2	40 - 64
6-SPTHMLX	.098	1/4	.050	3	1/8	2	32 - 64
6L-SPTHMLX	.098	3/8	.050	4	1/8	2	32 - 64
8-SPTHMLX	.120	5/16	.070	4	1/8	2	32 - 56
8L-SPTHMLX	.120	1/2	.070	4	1/8	2	32 - 56
10-SPTHMLX	.138	3/8	.075	4	3/16	2	24 - 56
10L-SPTHMLX	.138	5/8	.075	4	3/16	2	24 - 56
12L-SPTHMLX	.160	5/8	.095	4	3/16	2	24 - 56
1/4-SPTHMLX	.180	1/2	.115	4	3/16	2	18 - 56
1/4L-SPTHMLX	.180	3/4	.115	4	3/16	2	18 - 56
5/16-SPTHMLX	.240	1/2	.160	4	1/4	2-1/2	16 - 48
5/16L-SPTHMLX	.240	3/4	.160	4	1/4	2-1/2	16 - 48
3/8-SPTHMLX	.300	3/4	.218	4	3/8	2-1/2	14 - 40
3/8L-SPTHMLX	.300	1	.218	4	3/8	2-1/2	14 - 40
1/2-SPTHMLX	.388	3/4	.250	4	1/2	3	12 - 32
1/2L-SPTHMLX	.388	1-1/4	.250	4	1/2	3	12 - 32
3/4-SPTHMLX	.495	1	.340	6	1/2	3	10 - 32
3/4L-SPTHMLX	.495	1-3/8	.340	6	1/2	3	10 - 32

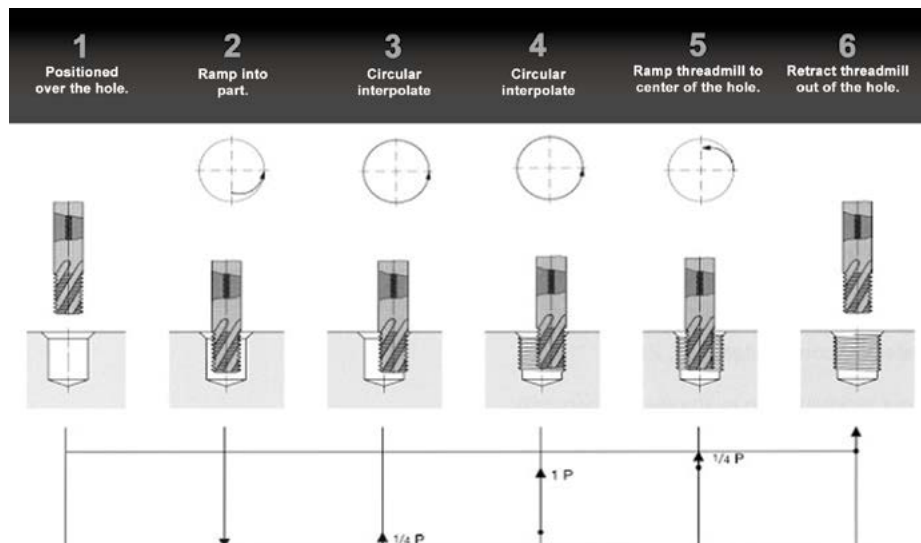
STANDARD THREADMILL TECHNICAL

***** ATTENTION *****

**ALWAYS REDUCE FEEDRATE BY 50% WHEN RAMPING IN TO THE CUT
 MULTIPLE PASSES RECOMMENDED FOR THREADMILLING STEEL
 DO NOT RECUT CHIPS - COOLANT BLAST RECOMMENDED
 A THREADMILL CAN PRODUCE VARIOUS SIZES WITH THE SAME PITCH**

Standard Threadmill Feedrate Calculator (inches/tooth)

MATERIAL	SFM	Tool Cutting Diameter (Feedrate Inches Per Tooth)						
		1/8	3/16	1/4	5/16	3/8	1/2	5/8
Aluminum	800-1400	.0005-.001	.001-.0015	.0015-.0025	.002-.003	.003-.0045	.0035-.0055	.005-.007
Magnesium	800-1400	.0005-.001	.001-.0015	.0015-.0025	.002-.003	.003-.0045	.0035-.0055	.005-.007
Brass	600-800	.0005-.001	.001-.0015	.0015-.0025	.002-.003	.003-.0045	.0035-.0045	.005-.006
Bronze	500-600	.0005-.001	.001-.0015	.0015-.0025	.002-.003	.003-.0045	.0035-.0045	.005-.006
Hard Bronze	200-300	.0004-.0008	.0007-.0012	.001-.002	.001-.002	.0015-.0025	.002-.003	.003-.004
Low Alloy Steel	350-500	.0005-.001	.001-.0015	.0015-.0025	.002-.003	.0025-.0035	.003-.004	.004-.005
High Alloy Steel	250-400	.0003-.0006	.0005-.001	.0008-.0015	.001-.002	.0015-.0025	.002-.003	.003-.004
Stainless	150-250	.0004-.0008	.0006-.001	.001-.0015	.0015-.002	.0015-.0030	.002-.0035	.003-.004
Cast Iron - Soft	250-350	.0004-.0008	.0007-.0013	.0007-.0013	.0015-.002	.002-.003	.002-.004	.003-.005
Cast Iron - Hard	200-300	.0003-.0006	.0005-.001	.0008-.0015	.001-.002	.0015-.0025	.002-.003	.003-.004
Titanium	80-150	.0003-.0006	.0005-.001	.0008-.0015	.001-.002	.0015-.0025	.0015-.0025	.002-.0035



HARDMILL THREADMILL



Hardmill Threadmill

This breakthrough design allows threadmilling in materials hardened up to 62 Rc. The variable flutes, high hardness and heat resistant nACo coating allow you to mill threads in hardened steels that taps cannot cut.

Part #	Thread	LOC	Cut Dia	# of Flutes	OAL	Shank
10-24HRD-THDMLX	10-24	.312	.120	3	2	3/16
10-32HRD-THDMLX	10-32	.312	.120	3	2	3/16
1/4-20HRD-THDMLX	1/4-20	.500	.180	3	2 1/2	3/16
1/4-28HRD-THDMLX	1/4-28	.500	.180	3	2 1/2	3/16
5/16-18HRD-THDMLX	5/16-18	.625	.235	3	2 1/2	1/4
5/16-24HRD-THDMLX	5/16-24	.625	.235	3	2 1/2	1/4
3/8-16HRD-THDMLX	3/8-16	.750	.290	4	3	5/16
3/8-24HRD-THDMLX	3/8-24	.750	.290	4	3	5/16
7/16-14HRD-THDMLX	7/16-14	.875	.340	4	3	3/8
7/16-20HRD-THDMLX	7/16-20	.875	.340	4	3	3/8
1/2-13HRD-THDMLX	1/2-13	.875	.350	4	3 1/2	3/8
5/8-11HRD-THDMLX	5/8-11	1.25	.470	4	3 1/2	1/2
3/4-16HRD-THDMLX	3/4-16	1.25	.495	4	3 1/2	1/2
3/4-10HRD-THDMLX	3/4-10	1.25	.495	4	3 1/2	1/2

HARDMILL THREADMILL TECHNICAL

HARDMILL THREADMILLING RECOMMENDATIONS

- Hardmill Threadmills should be run with air blast not coolant.
- Always cut feedrate by 50% when ramping in to the cut.
- Evacuate chips properly while milling. Recutting chips will damage cutter.
- Hardmill Threadmilling requires several small radial cuts or "step overs".
- We recommend 7 passes for fine threads and 9 passes for coarse threads.
- Thread interpolation should spiral from bottom of thread in upward direction.

HOW TO CALCULATE HARDMILL THREADMILL RADIAL PASSES

EXAMPLE THREAD = 1/4-28

MAJOR THREAD DIAMETER YOU ARE CUTTING = .250

MINOR HOLE DIAMETER = .213

.250 - .213 = .037 TOTAL STOCK BEING REMOVED

.037 / 2 = .0185 STOCK PER SIDE BEING REMOVED

MULTIPLY .0185 x RECOMMENDED PERCENTAGES FOR APPROXIMATE RADIAL DEPTH OF CUT. ROUND NUMBERS WHERE NECESSARY.

(RADIAL DEPTH OF CUT IN X OR Y)

1ST PASS = .0185 X 23% = .0045 (add any leftover to first pass)

2ND PASS = .0185 X 23% = .004

3RD PASS = .0185 X 16% = .003

4TH PASS = .0185 X 16% = .003

5TH PASS = .0185 X 11% = .002

6TH PASS = .0185 X 11% = .002

7TH PASS = FREE PASS

Hardmill Threadmill Recommendations (Rockwell C)						
	Material		Material		Material	
	Under 55 HRC Hardened Steel		55 - 60 HRC Hardened Steel		60 - 65 HRC Hardened Steel	
TOOL DIAMETER	SFM	FEED PER TOOTH	SFM	FEED PER TOOTH	SFM	FEED PER TOOTH
0.150	600/700	.0006/.002	350/400	.0005-.0015	175/225	.0005-.001
0.180						
0.235		.001-.0025		.001-.002		.0008/.0018
0.285						
0.305		.0015-.003		.0012-.0025		.001/.002
0.335						
0.350						
0.495						

NOTES:

NOTES:



**ALL BULLDOG CUTTING TOOLS ARE MADE FROM PREMIUM SUBMICRON
AMERICAN CARBIDE BLANKS AND GROUND IN THE USA
EXPERIENCE THE DIFFERENCE IN AMERICAN MADE**

MADE IN THE USA

Bulldog Cutting Tools produces 100% of our products in the United States of America, with American materials. That is not going to change. We make this commitment because we believe that American manufacturing is essential to keep our country's economy strong, and to maintain a stable platform for those entering into the workforce for years to come. This dedication to American manufacturing can be seen in the value of the cutting tools that we produce on a daily basis; and in the passion that our employees put into making the highest quality, most reliable and cost efficient products possible. That is the American way. It is our promise to keep manufacturing in the United States and to make sure that there will always be a manufacturer for an American made solid carbide cutting tool.



DISTRIBUTOR:



BULLDOG CUTTING TOOLS

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