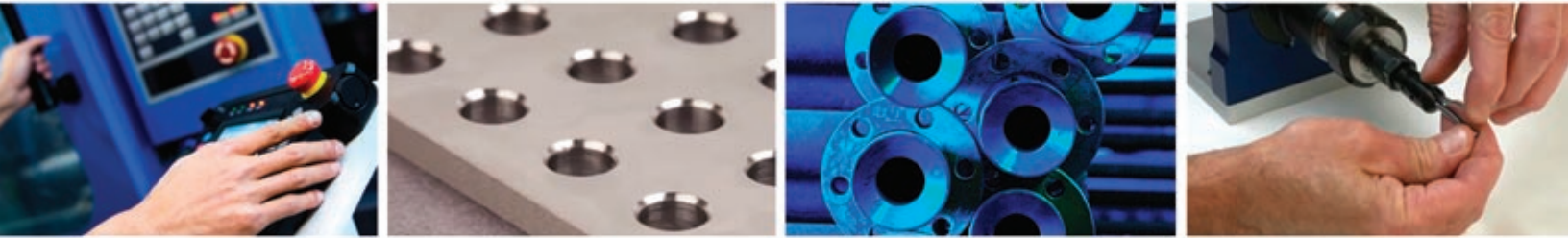
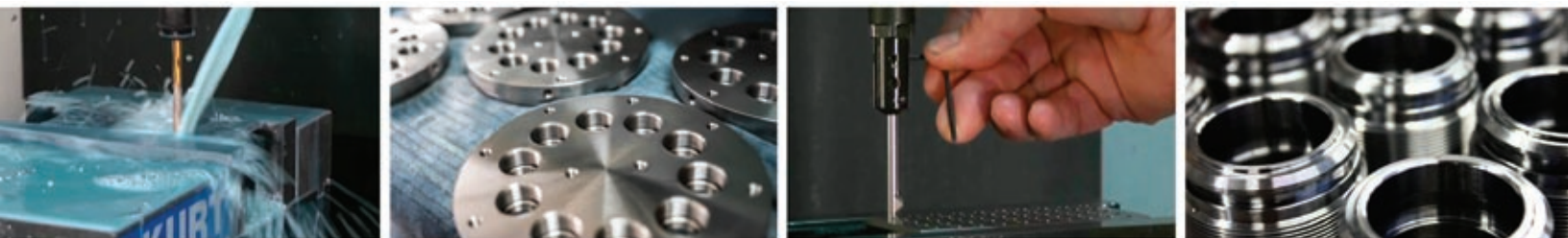


PRODUCT CATALOG



MICHIGAN **DEBURRING** TOOL



Modular Deburring Tools for Small Holes, 1.45 to 6.45mm (.057" to .255")



- Simple to use
- Eliminates pre-sets
- Customs available
- Lower cost per hole
- In-machine adjustments
- Quick change components

AutoLock Deburring Tools for Larger Holes, 6.4 to 26.0mm (.253" to 1.022")



- Simple to use
- Smooth operation
- Exceptional wear resistance
- Lower cost per hole
- In-machine adjustments

Product Catalog Contents

Deburring Tools Overview	3
Modular: Standard Deburring Tool Selection, Range A-C.....	4
Modular: Standard Deburring Tool Selection, Range D-E	5
Modular: Standard Deburring Tool Selection, Range F-G.....	6
AutoLock: Standard Deburring Tool Selection, Range H-J ₁	7
AutoLock: Standard Deburring Tool Selection, Range J ₂ -J ₆	8-9
Blade Selection for Modular & AutoLock Tools	10
Custom Deburring Tools.....	11
Contact & Ordering Information	11

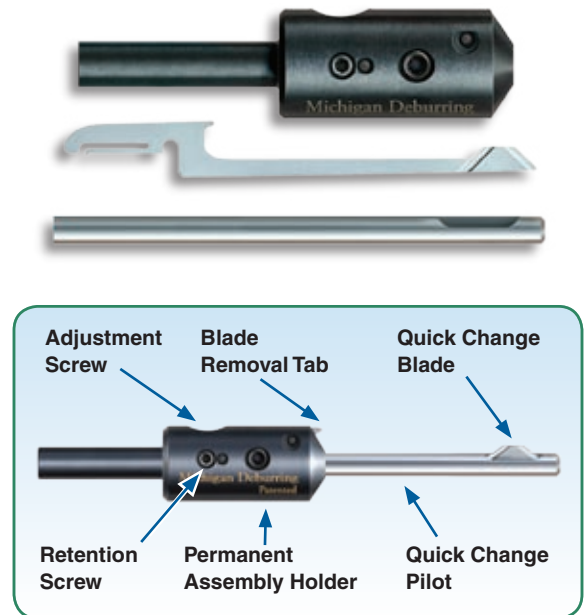
Deburring Tools to Fit Any Application

Michigan Deburring is committed to excellence, efficiency and cost-effective solutions for your hole deburring needs.

Modular Deburring Tools

Our patented, three-piece Modular Deburring Tools for small holes provide great solutions for high volume hole deburring applications. By combining a Permanent Assembly Holder with replaceable Pilots and Blades, these tools offer both toughness and value to the user. Because the workings of the tool are designed into the Assembly Holder, replacement components are much simpler, quicker to install and less expensive.

The unique Modular Deburring Tools design also allows for simple tool customization for applications where optimum performance cannot be met with standard tooling. Both Pilots and Blades are easily customized to best suit application requirements, and, at a fraction of the cost of the competition.



AutoLock Deburring Tools

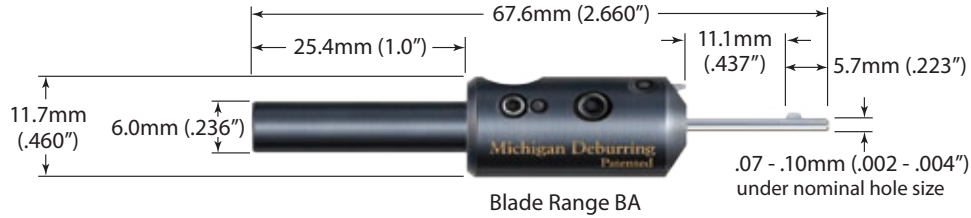
Our two-piece AutoLock Tools for larger holes offer the same great value as our original modular design. Precision designed and built, these tools offer new, unique features and benefits.

An Ion Nitride surface treatment, combined with a second wear resistant treatment, provides a smoother operation and exceptional wear resistance. As with our Modular Tools, the AutoLock screw serves to adjust and remove the blade while keeping it steady during usage.



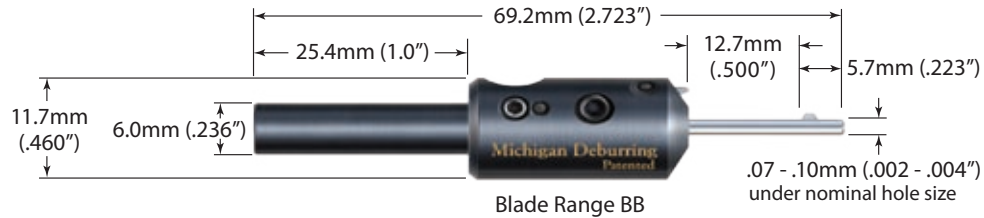
Standard Modular Deburring Tool Selection, Range A-C

Tool Range A - For holes 1.45mm to 1.75mm (.057" to .069")



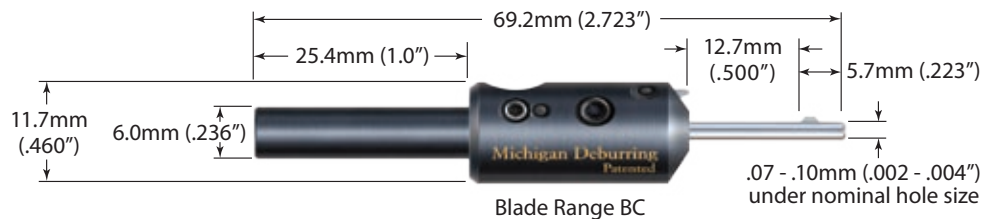
HOLE RANGE – Metric		HOLE RANGE – Inches		FULL ASSEMBLY (Add Blade Suffix - See p.10)	COMPONENTS		
Min.	Max.	Min.	Max.		Holder Number	Pilot Number	Blade Number (Add Suffix - See p.10)
1.45mm	1.55mm	.0570"	.0620"	TA-0570-(_____)	HA-0570	P-0570	BA(_____)
1.60mm	1.65mm	.0625"	.0655"	TA-0625-(_____)	HA-0625	P-0625	BA(_____)
1.70mm	1.75mm	.0670"	.0695"	TA-0670-(_____)	HA-0670	P-0670	BA(_____)

Tool Range B - For holes 1.80mm to 1.95mm (.070" to .078")



HOLE RANGE – Metric		HOLE RANGE – Inches		FULL ASSEMBLY (Add Blade Suffix - See p.10)	COMPONENTS		
Min.	Max.	Min.	Max.		Holder Number	Pilot Number	Blade Number (Add Suffix - See p.10)
1.80mm	1.80mm	.0700"	.0725"	TB-0700-(_____)	HB-0700	P-0700	BB(_____)
1.85mm	1.90mm	.0730"	.0755"	TB-0730-(_____)	HB-0730	P-0730	BB(_____)
1.95mm	1.95mm	.0760"	.0780"	TB-0760-(_____)	HB-0760	P-0760	BB(_____)

Tool Range C - For holes 2.00mm to 2.35mm (.079" to .093")



HOLE RANGE – Metric		HOLE RANGE – Inches		FULL ASSEMBLY (Add Blade Suffix - See p.10)	COMPONENTS		
Min.	Max.	Min.	Max.		Holder Number	Pilot Number	Blade Number (Add Suffix - See p.10)
2.00mm	2.05mm	.0785"	.0815"	TC-0785-(_____)	HC-0785	P-0785	BC(_____)
2.10mm	2.15mm	.0820"	.0855"	TC-0820-(_____)	HC-0820	P-0820	BC(_____)
2.20mm	2.25mm	.0860"	.0885"	TC-0860-(_____)	HC-0860	P-0860	BC(_____)
2.30mm	2.35mm	.0890"	.0930"	TC-0890-(_____)	HC-0890	P-0890	BC(_____)

Standard Modular Deburring Tool Selection, Range D-E

Tool Range D - For holes 2.40mm to 3.15mm (.094" to .124")



HOLE RANGE – Metric		HOLE RANGE – Inches		FULL ASSEMBLY (Add Blade Suffix - See p.10)	Holder Number	Pilot Number	Blade Number (Add Suffix - See p.10)
Min.	Max.	Min.	Max.				
2.40mm	2.45mm	.0935"	.0975"	TD-0935-(_____)	HD-0935	P-0935	BD(_____)
2.50mm	2.55mm	.0980"	.1035"	TD-0980-(_____)	HD-0980	P-0980	BD(_____)
2.60mm	2.70mm	.1040"	.1085"	TD-1040-(_____)	HD-1040	P-1040	BD(_____)
2.75mm	2.85mm	.1090"	.1125"	TD-1090-(_____)	HD-1090	P-1090	BD(_____)
2.90mm	2.95mm	.1130"	.1175"	TD-1130-(_____)	HD-1130	P-1130	BD(_____)
3.00mm	3.05mm	.1180"	.1195"	TD-1180-(_____)	HD-1180	P-1180	BD(_____)
3.10mm	3.15mm	.1200"	.1245"	TD-1200-(_____)	HD-1200	P-1200	BD(_____)

Tool Range E - For holes 3.20mm to 3.95mm (.125" to .155")



HOLE RANGE – Metric		HOLE RANGE – Inches		FULL ASSEMBLY (Add Blade Suffix - See p.10)	Holder Number	Pilot Number	Blade Number (Add Suffix - See p.10)
Min.	Max.	Min.	Max.				
3.20mm	3.25mm	.1250"	.1295"	TE-1250-(_____)	HE-1250	P-1250	BE(_____)
3.30mm	3.45mm	.1300"	.1355"	TE-1300-(_____)	HE-1300	P-1300	BE(_____)
3.50mm	3.55mm	.1360"	.1400"	TE-1360-(_____)	HE-1360	P-1360	BE(_____)
3.60mm	3.65mm	.1405"	.1465"	TE-1405-(_____)	HE-1405	P-1405	BE(_____)
3.70mm	3.85mm	.1470"	.1515"	TE-1470-(_____)	HE-1470	P-1470	BE(_____)
3.90mm	3.95mm	.1520"	.1555"	TE-1520-(_____)	HE-1520	P-1520	BE(_____)

Standard Modular Deburring Tool Selection, Range F-G

Tool Range F - For holes 4.00mm to 4.75mm (.156" to .187")



HOLE RANGE – Metric		HOLE RANGE – Inches		FULL ASSEMBLY (Add Blade Suffix - See p.10)	Holder Number	Pilot Number	Blade Number (Add Suffix - See p.10)
Min.	Max.	Min.	Max.				
4.00mm	4.15mm	.1560"	.1655"	TF-1560-(_____)	HF-1560	P-1560	BF(_____)
4.20mm	4.35mm	.1660"	.1710"	TF-1660-(_____)	HF-1660	P-1660	BF(_____)
4.40mm	4.45mm	.1715"	.1765"	TF-1715-(_____)	HF-1715	P-1715	BF(_____)
4.50mm	4.55mm	.1770"	.1815"	TF-1770-(_____)	HF-1770	P-1770	BF(_____)
4.60mm	4.75mm	.1820"	.1870"	TF-1820-(_____)	HF-1820	P-1820	BF(_____)

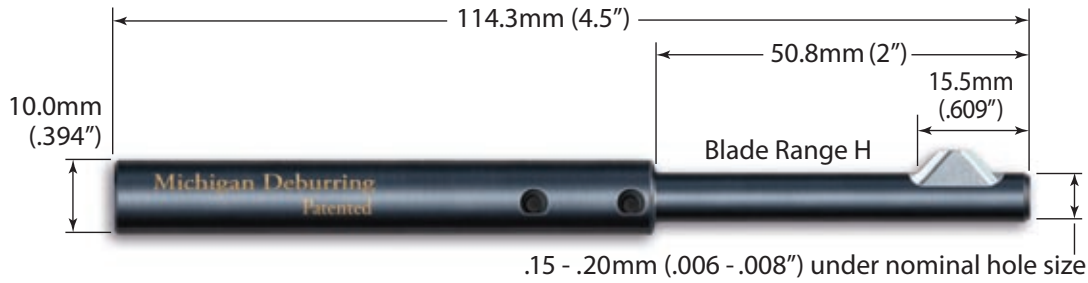
Tool Range G - For holes 4.80mm to 6.45mm (.187" to .255")



HOLE RANGE – Metric		HOLE RANGE – Inches		FULL ASSEMBLY (Add Blade Suffix - See p.10)	Holder Number	Pilot Number	Blade Number (Add Suffix - See p.10)
Min.	Max.	Min.	Max.				
4.80mm	4.95mm	.1875"	.1930"	TG-1875-(_____)	HG-1875	P-1875	BG(_____)
5.00mm	5.15mm	.1935"	.2025"	TG-1935-(_____)	HG-1935	P-1935	BG(_____)
5.20mm	5.25mm	.2030"	.2085"	TG-2030-(_____)	HG-2030	P-2030	BG(_____)
5.30mm	5.45mm	.2090"	.2125"	TG-2090-(_____)	HG-2090	P-2090	BG(_____)
5.50mm	5.55mm	.2130"	.2180"	TG-2130-(_____)	HG-2130	P-2130	BG(_____)
5.60mm	5.75mm	.2185"	.2275"	TG-2185-(_____)	HG-2185	P-2185	BG(_____)
5.80mm	5.95mm	.2280"	.2355"	TG-2280-(_____)	HG-2280	P-2280	BG(_____)
6.00mm	6.15mm	.2360"	.2415"	TG-2360-(_____)	HG-2360	P-2360	BG(_____)
6.20mm	6.35mm	.2420"	.2495"	TG-2420-(_____)	HG-2420	P-2420	BG(_____)
6.40mm	6.45mm	.2500"	.2555"	TG-2500-(_____)	HG-2500	P-2500	BG(_____)

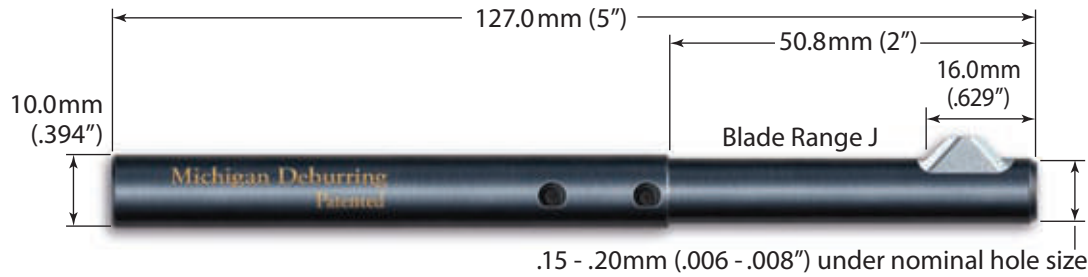
Standard AutoLock Deburring Tool Selection, Range H & J₁

Tool Range H - For holes 6.4mm to 8.2mm (.253" to .324")



HOLE RANGE – Metric			HOLE RANGE – Inches		TOOL NUMBER (Add Blade Suffix - See p. 10)	BLADE NUMBER (Add Blade Suffix - See p. 10)
Nominal	Min.	Max.	Min.	Max.		
6.5mm	6.4mm	6.9mm	.253"	.272"	TH-249-065-(_____)	BH(_____)
7.0mm	6.9mm	7.4mm	.273"	.291"	TH-269-070-(_____)	BH(_____)
7.5mm	7.4mm	7.9mm	.292"	.311"	TH-288-075-(_____)	BH(_____)
8.0mm	7.9mm	8.2mm	.312"	.324"	TH-308-080-(_____)	BH(_____)

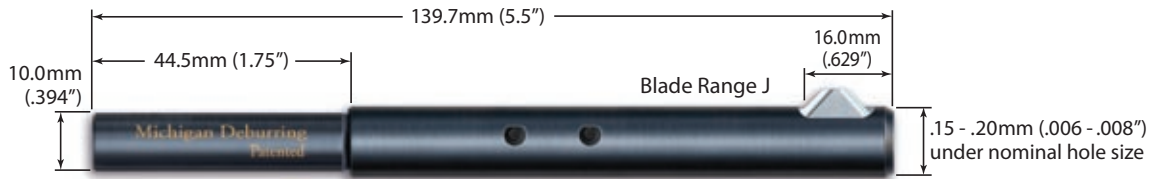
Tool Range J₁ - For holes 8.2mm to 10.2mm (.325" to .403")



HOLE RANGE – Metric			HOLE RANGE – Inches		TOOL NUMBER (Add Blade Suffix - See p. 10)	BLADE NUMBER (Add Blade Suffix - See p. 10)
Nominal	Min.	Max.	Min.	Max.		
8.3mm	8.2mm	8.4mm	.325"	.332"	TJ-320-083-(_____)	BJ(_____)
8.5mm	8.4mm	8.6mm	.333"	.340"	TJ-328-085-(_____)	BJ(_____)
8.7mm	8.6mm	8.9mm	.341"	.351"	TJ-336-087-(_____)	BJ(_____)
9.0mm	8.9mm	9.4mm	.352"	.371"	TJ-347-090-(_____)	BJ(_____)
9.5mm	9.4mm	9.9mm	.372"	.391"	TJ-367-095-(_____)	BJ(_____)
10.0mm	9.9mm	10.2mm	.392"	.403"	TJ-387-100-(_____)	BJ(_____)

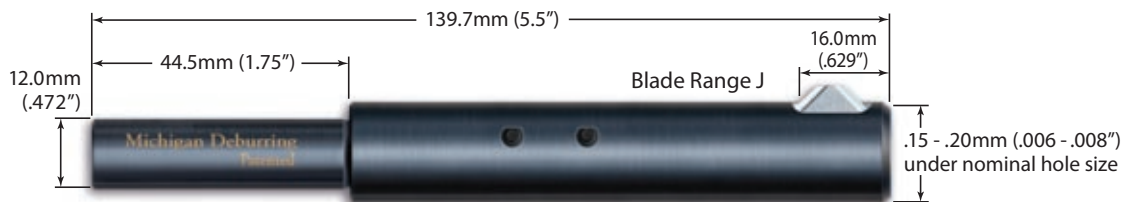
Standard AutoLock Deburring Tool Selection, Range J₂-J₄

Tool Range J₂ & J₃ - For holes 10.2mm to 15.8mm (.404" to .621")



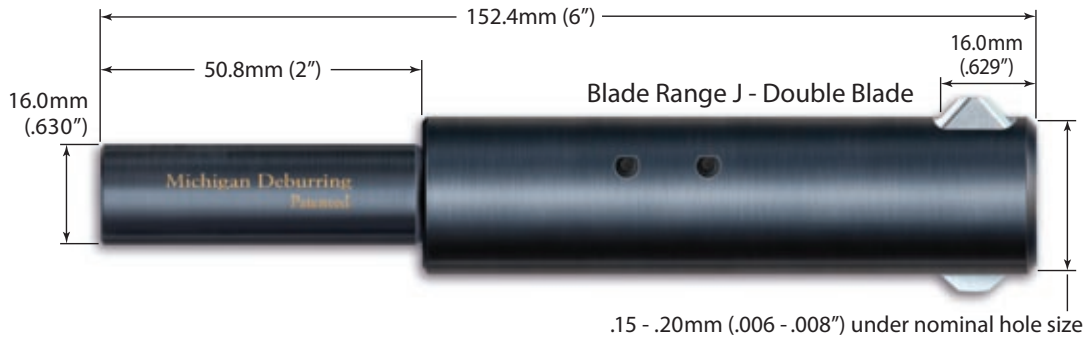
	HOLE RANGE – Metric			HOLE RANGE – Inches		TOOL NUMBER	BLADE NUMBER
	Nominal	Min.	Max.	Min.	Max.	(Add Blade Suffix - See p. 10)	(Add Suffix - See p. 10)
TOOL RANGE J ₂	10.3mm	10.2mm	10.4mm	.404"	.410"	TJ-399-103-(_____)	BJ(_____)
	10.5mm	10.4mm	10.9mm	.411"	.430"	TJ-406-105-(_____)	BJ(_____)
	11.0mm	10.9mm	11.4mm	.431"	.450"	TJ-426-110-(_____)	BJ(_____)
	11.5mm	11.4mm	11.9mm	.451"	.469"	TJ-446-115-(_____)	BJ(_____)
	12.0mm	11.9mm	12.4mm	.470"	.489"	TJ-465-120-(_____)	BJ(_____)
	12.5mm	12.4mm	12.6mm	.490"	.497"	TJ-485-125-(_____)	BJ(_____)
	12.7mm	12.6mm	12.9mm	.498"	.509"	TJ-493-127-(_____)	BJ(_____)
TOOL RANGE J ₃	13.0mm	12.9mm	13.4mm	.510"	.528"	TJ-505-130-(_____)	BJ(_____)
	13.5mm	13.4mm	13.9mm	.529"	.548"	TJ-524-135-(_____)	BJ(_____)
	14.0mm	13.9mm	14.4mm	.549"	.568"	TJ-544-140-(_____)	BJ(_____)
	14.5mm	14.4mm	14.9mm	.569"	.588"	TJ-564-145-(_____)	BJ(_____)
	15.0mm	14.9mm	15.4mm	.589"	.607"	TJ-584-150-(_____)	BJ(_____)
	15.5mm	15.4mm	15.8mm	.608"	.621"	TJ-603-155-(_____)	BJ(_____)

Tool Range J₄ - For holes 15.8mm to 18.9mm (.622" to .746")



	HOLE RANGE – Metric			HOLE RANGE – Inches		TOOL NUMBER	BLADE NUMBER
	Nominal	Min.	Max.	Min.	Max.	(Add Blade Suffix - See p. 10)	(Add Blade Suffix - See p. 10)
15.9mm	15.8mm	15.9mm	.622"	.627"	TJ-617-159-(_____)	BJ(_____)	
16.0mm	15.9mm	16.4mm	.628"	.647"	TJ-623-160-(_____)	BJ(_____)	
16.5mm	16.4mm	16.9mm	.648"	.666"	TJ-643-165-(_____)	BJ(_____)	
17.0mm	16.9mm	17.4mm	.667"	.686"	TJ-662-170-(_____)	BJ(_____)	
17.5mm	17.4mm	17.9mm	.687"	.706"	TJ-682-175-(_____)	BJ(_____)	
18.0mm	17.9mm	18.4mm	.707"	.725"	TJ-702-180-(_____)	BJ(_____)	
18.5mm	18.4mm	18.9mm	.726"	.746"	TJ-721-185-(_____)	BJ(_____)	

Tool Range J₅ & J₆ - For holes 18.9mm to 26.0mm (.747" to 1.022")



	HOLE RANGE – Metric			HOLE RANGE – Inches		TOOL NUMBER	BLADE NUMBER
	Nominal	Min.	Max.	Min.	Max.	(Add Blade Suffix - See p.10)	(Add Suffix - See p.10)
TOOL RANGE J ₅	19.0mm	18.9mm	19.4mm	.747"	.766"	TJ-741-190-(_____)	BJ(_____)
	19.5mm	19.4mm	19.9mm	.767"	.785"	TJ-761-195-(_____)	BJ(_____)
	20.0mm	19.9mm	20.4mm	.786"	.805"	TJ-780-200-(_____)	BJ(_____)
	20.5mm	20.4mm	20.9mm	.806"	.825"	TJ-800-205-(_____)	BJ(_____)
	21.0mm	20.9mm	21.4mm	.826"	.844"	TJ-820-210-(_____)	BJ(_____)
	21.5mm	21.4mm	21.9mm	.845"	.864"	TJ-839-215-(_____)	BJ(_____)
	22.0mm	21.9mm	22.4mm	.865"	.884"	TJ-859-220-(_____)	BJ(_____)
TOOL RANGE J ₆	22.5mm	22.4mm	22.9mm	.885"	.904"	TJ-879-225-(_____)	BJ(_____)
	23.0mm	22.9mm	23.4mm	.905"	.923"	TJ-899-230-(_____)	BJ(_____)
	23.5mm	23.4mm	23.9mm	.924"	.943"	TJ-918-235-(_____)	BJ(_____)
	24.0mm	23.9mm	24.4mm	.944"	.963"	TJ-938-240-(_____)	BJ(_____)
	24.5mm	24.4mm	24.9mm	.964"	.982"	TJ-958-245-(_____)	BJ(_____)
	25.0mm	24.9mm	25.3mm	.983"	.998"	TJ-977-250-(_____)	BJ(_____)
	25.4mm	25.3mm	26.0mm	.999"	1.022"	TJ-993-254-(_____)	BJ(_____)

Deburring Tool Blade Suffix & Configuration

R = Rear Cut Only

S = Standard Neutral Rake, Recommended for high carbon, alloy, cast iron

P = Positive Rake, Recommended for stainless, low carbon, aluminum

Tool Range A-C – Blade Suffix & Configuration

Blade Suffix	Front Angle	Rear Angle	Rake Feature
5252S	52° Standard front cut	52° Standard rear cut	S Neutral rake
R52S	R Rear cut only	52° Standard rear cut	S Neutral rake

1. Unless otherwise noted, tool ranges A-C are assembled with blade suffix 5252S.
2. Other configurations available as custom.

Tool Range D-J – Blade Suffix & Configuration

Blade Suffix	Front Angle	Rear Angle	Rake Feature
4545P	45° Standard front cut	45° Standard rear cut	P Positive rake
4560P	45° Standard front cut	60° Aggressive rear cut	P Positive rake
6060P	60° Aggressive front cut	60° Aggressive rear cut	P Positive rake
R45P	R Rear cut only	45° Standard rear cut	P Positive rake
R60P	R Rear cut only	60° Aggressive rear cut	P Positive rake
4545S	45° Standard front cut	45° Standard rear cut	S Neutral rake
4560S	45° Standard front cut	60° Aggressive rear cut	S Neutral rake
6060S	60° Aggressive front cut	60° Aggressive rear cut	S Neutral rake
R45S	R Rear cut only	45° Standard rear cut	S Neutral rake
R60S	R Rear cut only	60° Aggressive rear cut	S Neutral rake

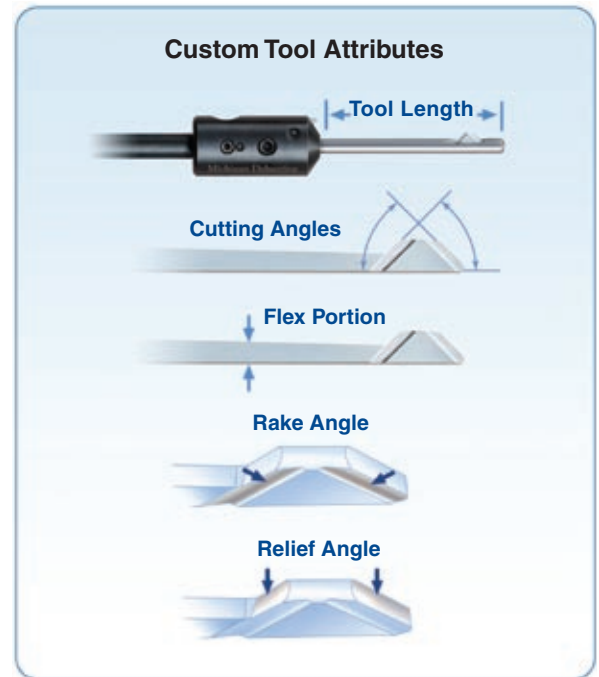
1. Unless otherwise noted, tool ranges D-J are assembled with blade suffix 4545P.
2. Other configurations available as custom.

Are Custom Tools Right For Your Application?

While standard tools work well for a wide range of typical hole deburring needs, it is often advantageous and cost-efficient to customize a tool for your application. In some cases, customizing is necessary when workpiece requirements exceed standard tool capabilities, but many high volume or dedicated operations can also benefit from custom tooling.

After thoroughly evaluating your application, Michigan Deburring can configure custom tool attributes to optimize performance, productivity and value. In many cases, the cost of custom tools is equal to or even less than the cost of standards.

For more information or for a quotation, please contact Michigan Deburring Tool or visit us online.



TECNIMETAL

Via degli Andreani, 9 - 40037 Sasso Marconi (BO) - Italy

Tel: +39 051 735744 - Fax: +39 051 735808

E-mail: info@tecnimetal-tm.com

MICHIGAN

DEBURRING

TOOL

TECNIMETAL

Via degli Andreani, 9 - 40037 Sasso Marconi (BO) - Italy

Tel: +39 051 735744 - Fax: +39 051 735808

E-mail: info@tecnimetal-tm.com