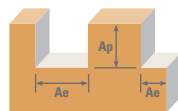


Picatinny Rail Ferrous Recoil Groove Tool

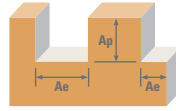


Picatinny Rail Recoil Groove Tool 3 Flute Made to MIL-STD-1913		Hardness		Ae x DC	Ap x DC	Vc (sfm)	DC • in 0.2100	
P	CARBON STEELS 1018, 1040, 1080, 1090, 10L50, 1140, 1212, 12L15, 1525, 1536	≤ 275 Bhn or ≤ 28 HRc	Slot 	0.210	0.118	440 (352-528)	RPM	8004
							Fz	0.0009
							Feed (ipm)	22.99
	ALLOY STEELS 4140, 4150, 4320, 5120, 5150, 8630, 86L20, 50100	≤ 375 Bhn or ≤ 40 HRc	Slot 	0.210	0.118	250 (200-300)	RPM	4548
							Fz	0.0006
							Feed (ipm)	9.79
	TOOL STEELS A2, D2, H13, L2, M2, P20, S7, T15, W2	≤ 375 Bhn or ≤ 40 HRc	Slot 	0.210	0.118	145 (116-174)	RPM	2638
							Fz	0.0005
							Feed (ipm)	4.47
M	STAINLESS STEELS (FREE MACHINING) 303, 416, 420F, 430F, 440F	≤ 275 Bhn or ≤ 28 HRc	Slot 	0.210	0.118	390 (312-468)	RPM	7094
							Fz	0.0007
							Feed (ipm)	17.01
	STAINLESS STEELS (DIFFICULT) 304, 304L, 316, 316L	≤ 275 Bhn or ≤ 28 HRc	Slot 	0.210	0.118	270 (216-324)	RPM	4911
							Fz	0.0006
							Feed (ipm)	9.41
STAINLESS STEELS (PH) 13-8 PH, 15-5 PH, 17-4 PH, Custom 450	≤ 325 Bhn or ≤ 35 HRc	Slot 	0.210	0.118	250 (200-300)	RPM	4548	
						Fz	0.0006	
						Feed (ipm)	8.74	
K	CAST IRONS (LOW & MEDIUM ALLOY) Gray, Malleable, Ductile	≤ 220 Bhn or ≤ 19 HRc	Slot 	0.210	0.118	270 (216-324)	RPM	4911
							Fz	0.0006
							Feed (ipm)	9.41
S	HIGH TEMP ALLOYS (NICKEL, COBALT, IRON BASE) Inconel 601, 617, 625, Incoloy, Monel 400	≤ 300 Bhn or ≤ 32 HRc	Slot 	0.210	0.118	65 (52-78)	RPM	1182
							Fz	0.0005
							Feed (ipm)	2.00
	HIGH TEMP ALLOYS (NICKEL, COBALT, IRON BASE) Inconel 718, X-750, Incoloy, Waspaloy, Hastelloy, Rene	≤ 400 Bhn or ≤ 43 HRc	Slot 	0.210	0.118	49 (39-59)	RPM	891
							Fz	0.0004
							Feed (ipm)	1.05
	TITANIUM ALLOYS Pure Titanium, Ti6Al4V, Ti6Al2Sn4Zr2Mo, Ti4Al4Mo2Sn0.5Si	≤ 350 Bhn or ≤ 38 HRc	Slot 	0.210	0.118	170 (136-204)	RPM	3092
							Fz	0.0006
Feed (ipm)							5.89	
TITANIUM ALLOYS (DIFFICULT) Ti10V2Fe3Al, Ti5Al5V5Mo3Cr, Ti7Al4Mo, Ti3Al8V6Cr4Zr4Mo, Ti6Al6V6Sn, Ti15V3 Cr3Sn3Al	≤ 420 Bhn or ≤ 45 HRc	Slot 	0.210	0.118	60 (48-72)	RPM	1091	
						Fz	0.0006	
						Feed (ipm)	2.09	

Bhn (Brinell) HRc (Rockwell C)
 when recommended speed exceeds your capability, use maximum available and recalculate ipm
 $rpm = Vc \times 3.82 / DC$
 $ipm = Fz \times 3 \times rpm$
 reduce speed and feed for materials harder than listed
 reduce feed and Ae when finish milling (.02 x DC maximum)
 refer to the SGS Tool Wizard® for complete technical information (www.kyocera-sgstool.com)

Picatinny Rail Non-Ferrous Recoil Groove Tool

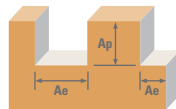
Picatinny Rail
Non-Ferrous Recoil
Groove Tool
3 Flute
Made to MIL-STD-1913



	Hardness	Slot	Ae x DC	Ap x DC	Vc (sfm)	DC • in		
						0.2100		
N	ALUMINUM ALLOYS 2017, 2024, 356, 6061, 7075	≤ 150 Bhn or ≤ 88 HRb	Slot 	0.210	0.118	1600 (1280-1920)	RPM	29105
							Fz	0.0026
							Feed (ipm)	227.89
	ALUMINUM DIE CAST ALLOYS (HIGH SILICONE) A-390, A-392, B-390	≤ 125 Bhn or ≤ 77 HRb	Slot 	0.210	0.118	600 (480-720)	RPM	10914
							Fz	0.0026
							Feed (ipm)	85.46
	COPPER ALLOYS Alum Bronze, C110, Muntz Brass	≤ 140 Bhn or ≤ 3 HRc	Slot 	0.210	0.118	345 (276-414)	RPM	6276
							Fz	0.0022
							Feed (ipm)	40.79
	PLASTICS Polycarbonate, PVC, Polypropylene		Slot 	0.210	0.118	1600 (1280-1920)	RPM	29105
							Fz	0.0044
							Feed (ipm)	380.58

Bhn (Brinell) HRc (Rockwell C) HRb (Rockwell B)
 when recommended speed exceeds your capability, use maximum available and recalculate ipm
 $rpm = Vc \times 3.82 / DC$
 $ipm = Fz \times 3 \times rpm$
 reduce speed and feed for materials harder than listed
 reduce feed and Ae when finish milling (.02 x DC maximum)
 refer to the SGS Tool Wizard® for complete technical information (www.kyocera-sgstool.com)

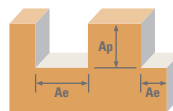
Picatinny Rail Ferrous Dovetail Form Tool







Picatinny Rail Dovetail Form Tool 5 Flute Made to MIL-STD-1913			Hardness	Ae x DC	Ap x DC	Vc (sfm)	DC • in 0.6050	
P	CARBON STEELS 1018, 1040, 1080, 1090, 10L50, 1140, 1212, 12L15, 1525, 1536	≤ 275 Bhn or ≤ 28 HRc	Profile 	≤ .50	APMX	450 (360-540)	RPM 2841 Fz 0.0032 Feed (ipm) 46.03	
		ALLOY STEELS 4140, 4150, 4320, 5120, 5150, 8630, 86L20, 50100	≤ 375 Bhn or ≤ 40 HRc	Profile 	≤ .50	APMX	260 (208-312)	RPM 1642 Fz 0.0024 Feed (ipm) 19.68
			TOOL STEELS A2, D2, H13, L2, M2, P20, S7, T15, W2	≤ 375 Bhn or ≤ 40 HRc	Profile 	≤ .50	APMX	145 (116-174)
	M	STAINLESS STEELS (FREE MACHINING) 303, 416, 420F, 430F, 440F	≤ 275 Bhn or ≤ 28 HRc	Profile 	≤ .50	APMX	400 (320-480)	RPM 2526 Fz 0.0024 Feed (ipm) 30.28
			STAINLESS STEELS (DIFFICULT) 304, 304L, 316, 316L	≤ 275 Bhn or ≤ 28 HRc	Profile 	≤ .50	APMX	280 (224-336)
		STAINLESS STEELS (PH) 13-8 PH, 15-5 PH, 17-4 PH, Custom 450	≤ 325 Bhn or ≤ 35 HRc	Profile 	≤ .50	APMX	260 (208-312)	RPM 1642 Fz 0.0019 Feed (ipm) 15.42
	K	CAST IRONS (LOW & MEDIUM ALLOY) Gray, Malleable, Ductile	≤ 220 Bhn or ≤ 19 HRc	Profile 	≤ .50	APMX	280 (224-336)	RPM 1768 Fz 0.0029 Feed (ipm) 25.78
			S	HIGH TEMP ALLOYS (NICKEL, COBALT, IRON BASE) Inconel 601, 617, 625, Incoloy, Monel 400	≤ 300 Bhn or ≤ 32 HRc	Profile 	≤ .50	APMX
	HIGH TEMP ALLOYS (NICKEL, COBALT, IRON BASE) Inconel 718, X-750, Incoloy, Waspaloy, Hastelloy, Rene	≤ 400 Bhn or ≤ 43 HRc			Profile 	≤ .50	APMX	60 (48-72)
TITANIUM ALLOYS Pure Titanium, Ti6Al4V, Ti6Al2Sn4Zr2Mo, Ti4Al4Mo2Sn0.5Si	≤ 350 Bhn or ≤ 38 HRc	Profile 		≤ .50	APMX	180 (144-216)	RPM 1137 Fz 0.0021 Feed (ipm) 11.97	
TITANIUM ALLOYS (DIFFICULT) Ti10V2Fe3Al, Ti5Al5V5Mo3Cr, Ti7Al4Mo, Ti3Al8V6Cr4Zr4Mo, Ti6Al6V6Sn, Ti15V3 Cr3Sn3Al	≤ 420 Bhn or ≤ 45 HRc	Profile 		≤ .50	APMX	70 (56-84)	RPM 442 Fz 0.0021 Feed (ipm) 4.65	

Bhn (Brinell) HRc (Rockwell C)
 when recommended speed exceeds your capability, use maximum available and recalculate ipm
 $rpm = Vc \times 3.82 / DC$
 $ipm = Fz \times 5 \times rpm$
 reduce speed and feed for materials harder than listed
 reduce feed and Ae when finish milling (.02 x DC maximum)
 refer to the SGS Tool Wizard® for complete technical information (www.kyocera-sgstool.com)

Picatinny Rail Non-Ferrous Dovetail Form Tool



**Picatinny Rail
Dovetail Form Tool
3 Flute
Made to MIL-STD-1913**

	Hardness	Profile	Ae x DC	Ap x DC	Vc (sfm)	DC • in		
							0.6050	
N	ALUMINUM ALLOYS 2017, 2024, 356, 6061, 7075	≤ 150 Bhn or ≤ 88 HRb	Profile 	≤ .50	APMX	2000 (1600-2400)	RPM	12628
							Fz	0.0056
							Feed (ipm)	211.39
	ALUMINUM DIE CAST ALLOYS (HIGH SILICONE) A-390, A-392, B-390	≤ 125 Bhn or ≤ 77 HRb	Profile 	≤ .50	APMX	750 (600-900)	RPM	4736
							Fz	0.0056
							Feed (ipm)	79.27
	COPPER ALLOYS Alum Bronze, C110, Muntz Brass	≤ 140 Bhn or ≤ 3 HRc	Profile 	≤ .50	APMX	430 (344-516)	RPM	2715
							Fz	0.0046
							Feed (ipm)	37.72
	PLASTICS Polycarbonate, PVC, Polypropylene		Profile 	≤ .50	APMX	2000 (1600-2400)	RPM	12628
							Fz	0.0093
							Feed (ipm)	353.03

Bhn (Brinell) HRc (Rockwell C) HRb (Rockwell B)
 when recommended speed exceeds your capability, use maximum available and recalculate ipm
 $rpm = Vc \times 3.82 / DC$
 $ipm = Fz \times 3 \times rpm$
 reduce speed and feed for materials harder than listed
 reduce feed and Ae when finish milling (.02 x DC maximum)
 refer to the SGS Tool Wizard® for complete technical information (www.kyocera-sgstool.com)