

Forming Half Blind Dovetails Using Standard, Oversize and Undersize Guide Bushings

It is possible to use oversize and undersize guide bushings to produce half blind depths of cut that vary from the standard.

The figures in the chart below are approximations, the reason being that manufacturing tolerances on the jig, router, guide bushings and router bits are not taken into account. These can create up to a 1/32" difference.

Do not use the 7° dovetail bit in combination with an undersize guide bushing. You may be forced to lower the dovetail bit beyond its capacity (the length of the carbide blades).

The three charts below contain the same data, arranged in three different ways. Use the chart that feels most comfortable. The color coding is the same in all three charts.

Theoretical Depth of Cut by Guide Bushing and Dovetail Bit

ROUTER BIT	UNDERSIZE .434"	STANDARD .438"	OVERSIZE .442"
3/4" x 7°	(not possible)	3/4"	0.694
5/8" x 9°	0.671	5/8"	0.579
1/2" x 11°	0.537	1/2"	0.463
3/8" x 14°	0.403	3/8"	0.347
1/4" x 20°	0.269	1/4"	0.231

Theoretical Depth of Cut Setting by Decreasing Depth

DEPTH OF CUT POSSIBLE	USE THIS ROUTER BIT	USE THIS GUIDE BUSHING	APPROX. DIFFERENCE
(not possible)		(not possible)	
0.750	3/4" x 7°	0.438	3/4"
0.694		0.442	3/4" less .056
0.671	5/8" x 9°	0.434	5/8" plus .046
0.625		0.438	5/8"
0.579		0.442	5/8" less .046
0.537	1/2" x 11°	0.434	1/2" plus .037
0.500		0.438	1/2"
0.463		0.442	1/2" less .037
0.403	3/8" x 14°	0.434	3/8" plus .028
0.375		0.438	3/8"
0.347		0.442	3/8" less .028
0.269	1/4" x 20°	0.434	1/4" plus .019
0.250		0.438	1/4"
0.231		0.442	1/4" less .019

