Fast Access Drill Size Table, Version 1.0

By R. G. Sparber

When I was first starting out in machining, life was simple. I had a box of fractional drill bits and it was easy to find the one closest to the needed hole diameter. As I learned more, my choices became more complex. Before long I had added number drills, letter drills, and metric.

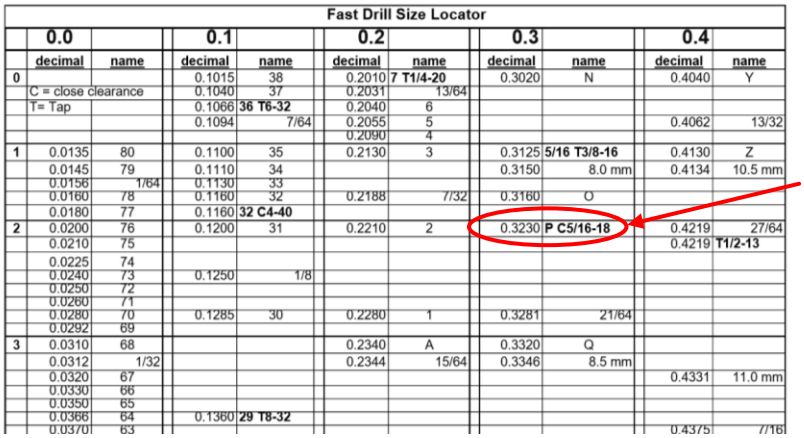
My need didn't change: find the closest drill size. It then occurred to me that thinking about drills as belonging to different sets was slowing me down. I needed a way to go from a known decimal inch diameter hole to the closest drill bit.

The solution came from software: use an index system.

Across the top of the table is the first digit. Down the left side is the second digit. This is enough to get me to a small set of possible drill bit sizes.

0.0	0.1	0.2	0.3	0.4
0				
1				
2				
3				
4				
5			0.3543 9.0 mm 0.3580 T 0.3594 23/64	
6				
7				
8				
9				

For example, say I need a hole 0.3577 inches in diameter. I read across the top until I find 0.3. Then down the side for 5. This takes me to a small group of drill sizes. I really don't care that they are from different systems. All that matters is that they are near my target. Looking at the three choices, I find that a "T" drill is the best choice.



Fast Drill Size Locator

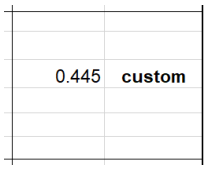
	0.0		0.1		0.2		0.3		0.4	
	decimal	name	decimal	name	decimal	name	decimal	name	decimal	name
0			0.1015	38	0.2010	7 T1/4-20	0.3020	N	0.4040	Y
	C = close clearance		0.1040	37	0.2031	13/64				
	T= Tap		0.1066	36 T6-32	0.2040	6				
			0.1094	7/64	0.2055	5			0.4062	13/32
					0.2090	4				
1	0.0135	80	0.1100	35	0.2130	3	0.3125	5/16 T3/8-16	0.4130	Z
	0.0145	79	0.1110	34			0.3150	8.0 mm	0.4134	10.5 mm
	0.0156	1/64	0.1130	33						
	0.0160	78	0.1160	32	0.2188	7/32	0.3160	O		
	0.0180	77	0.1160	32 C4-40						
2	0.0200	76	0.1200	31	0.2210	2	0.3230	P C5/16-18	0.4219	27/64
	0.0210	75							0.4219	T1/2-13
	0.0225	74								
	0.0240	73	0.1250	1/8						
	0.0250	72								
	0.0260	71								
	0.0280	70	0.1285	30	0.2280	1	0.3281	21/64		
	0.0292	69								
3	0.0310	68			0.2340	A	0.3320	Q		
	0.0312	1/32			0.2344	15/64	0.3346	8.5 mm		
	0.0320	67							0.4331	11.0 mm
	0.0330	66								
	0.0350	65								
	0.0366	64	0.1360	29 T8-32						
	0.0370	63							0.4375	7/16

Not willing to let good enough alone, I added the tap and clearance drill sizes from 2-56 to ½-13.

For example, read across to 0.3 and then down to 2. The decimal value is 0.3230 and the name is P C5/16-18. This means that it is a letter drill called "P" plus is the Clearance hole for a 5/16-18 screw.

If you go to 0.31 you will find an example of a tap hole where I use "T".

I do also have a separate table of just tap and clearance drills. It is stuck on my toolbox next to my drill press. Best used when the screw size is known.



0.445	custom

One thing that I found rather strange was the lack of drill sizes in the 0.44 category. I can buy a custom drill 0.445 but would have to part with almost $100. However, since drills rarely cut perfect holes, it didn't take me long to locate an old bit that gave me close to this value.

Murphy's Law: when I pick up a piece of paper, it is often wrong side up. This was easy to solve: print the drill table on both sides of the paper.

The final step was to use "card stock" as my paper and run it through my laminator. It is then stiff enough to survive in my shop and easy to clean of grease.

You can find a .pdf of the table at

https://rick.sparber.org/FastAccessDrillSizeTable.pdf.

Acknowledgments
Thanks to Stuart Winsor for all of the SAE drill numbers.

I welcome your comments and questions.

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