SHOP CHARTS

INCH TAP DRILLS

UNC / UNF, #0 to 1/2 in. Drill designation with decimal inches.

LAVIGNE LABS

SIZE – TPI	SERIES	TAP DRILL	DECIMAL IN	HARD MAT.	DECIMAL IN	CLOSE CLEAR.	DECIMAL IN	FREE CLEAR.	DECIMAL IN
#0-80	UNF	#56	ø0.0465	#55	ø0.052	#52	ø0.0635	#50	ø0.07
#1-64	UNC	#53	ø0.0595	#53	ø0.0595	#48	ø0.076	#46	ø0.081
#1-72	UNF	#53	ø0.0595	1/16	ø0.0625	#48	ø0.076	#46	ø0.081
#2-56	UNC	#50	ø0.07	#50	ø0.07	#43	ø0.089	#41	ø0.096
#2-64	UNF	#50	ø0.07	#49	ø0.073	#43	ø0.089	#41	ø0.096
#3-48	UNC	#47	ø0.0785	#46	ø0.081	#37	ø0.104	#35	ø0.11
#3-56	UNF	#45	ø0.082	#45	ø0.082	#37	ø0.104	#35	ø0.11
#4-40	UNC	#43	ø0.089	#43	ø0.089	#32	ø0.116	#30	ø0.1285
#4-48	UNF	#42	ø0.0935	3/32	ø0.0938	#32	ø0.116	#30	ø0.1285
#5-40	UNC	#38	ø0.1015	#37	ø0.104	#30	ø0.1285	#29	ø0.136
#5-44	UNF	#37	ø0.104	#36	ø0.1065	#30	ø0.1285	#29	ø0.136
#6-32	UNC	#36	ø0.1065	#34	ø0.111	#27	ø0.144	#25	ø0.1495
#6-40	UNF	#33	ø0.113	#32	ø0.116	#27	ø0.144	#25	ø0.1495
#8-32	UNC	#29	ø0.136	#29	ø0.136	#18	ø0.1695	#16	ø0.177
#8-36	UNF	#29	ø0.136	#28	ø0.1405	#18	ø0.1695	#16	ø0.177
#10-24	UNC	#25	ø0.1495	#23	ø0.154	#9	ø0.196	#7	ø0.201
#10-32	UNF	#21	ø0.159	#19	ø0.166	#9	ø0.196	#7	ø0.201
#12-24	UNC	#16	ø0.177	#15	ø0.18	#2	ø0.221	#1	ø0.228
#12-28	UNF	#14	ø0.182	#13	ø0.185	#2	ø0.221	#1	ø0.228
1/4-20	UNC	#7	ø0.201	#4	ø0.209	F	ø0.257	H	ø0.266
1/4-28	UNF	#3	ø0.213	7/32	ø0.2188	F	ø0.257	H	ø0.266

SIZE – TPI	SERIES	TAP DRILL	DECIMAL IN	HARD MAT.	DECIMAL IN	CLOSE CLEAR.	DECIMAL IN	FREE CLEAR.	DECIMAL IN
5/16-18	UNC	F	ø0.257	17/64	ø0.2656	P	ø0.323	Q	ø0.332
5/16-24	UNF	I	ø0.272	J	ø0.277	P	ø0.323	Q	ø0.332
3/8-16	UNC	5/16	ø0.3125	P	ø0.323	W	ø0.386	X	ø0.397
3/8-24	UNF	Q	ø0.332	R	ø0.339	W	ø0.386	X	ø0.397
7/16-14	UNC	U	ø0.368	V	ø0.377	29/64	ø0.4531	15/32	ø0.4688
7/16-20	UNF	25/64	ø0.3906	X	ø0.397	29/64	ø0.4531	15/32	ø0.4688
1/2-13	UNC	27/64	ø0.4219	7/16	ø0.4375	33/64	ø0.5156	17/32	ø0.5312
1/2-20	UNF	29/64	ø0.4531	29/64	ø0.4531	33/64	ø0.5156	17/32	ø0.5312

Tap drill in the red column is the standard (about 75%) drill; the hard-material column is the next size up. Close and free are clearance-hole fits.

HOW TO USE

How to pick an inch tap drill:

1. **Find the thread.** Locate the screw size and threads per inch (for example 1/4-20 UNC) in the Size – TPI column.
2. **Read the tap drill.** Use the Tap drill column for the drill designation (number, letter or fraction) and the Decimal in column for its diameter (1/4-20: #7, 0.201 in).
3. **Adjust for hard material.** For hard or tough material use the Hard mat. column, the next drill size up.
4. **Drill, then tap.** Drill to the full thread depth plus a few threads, deburr, then cut the thread with a tap and cutting fluid.