

# TAP – DRILL RECOMMENDATIONS



## Inch Sizes (all measurements in inches)

Tap Size and Pitch	Cutting Taps		Forming Taps	
	Drill Size	Decimal Equiv.	Drill Size	Decimal Equiv.
0-80	3/64	.0469	54	.0550
1-64	53	.0595	51	.0670
1-72	53	.0595	51	.0670
2-56	50	.0700	5/64	.0781
2-64	50	.0700	47	.0785
3-48	47	.0785	43	.0890
3-56	46	.0810	2.30	.0905
4-40	43	.0890	38	.1015
4-48	42	.0935	2.60	.1024
5-40	38	.1015	33	.1130
5-44	37	.1040	2.90	.1142
6-32	36	.1065	1/8	.1250
6-40	33	.1130	3.25	.1280
8-32	29	.1360	25	.1495
8-36	29	.1360	24	.1520
10-24	26	.1470	11/64	.1719
10-32	21	.1590	16	.1770
12-24	16	.1770	8	.1990
12-28	15	.1800	7	.2010
1/4-20	7	.2010	1	.2280
1/4-28	3	.2130	15/64	.2340
5/16-18	F	.2570	L	.2900
5/16-24	I	.2720	M	.2950
3/8-16	5/16	.3125	S	.3480
3/8-24	Q	.3320	T	.3580
7/16-14	U	.3680	Y	.4040
7/16-20	25/64	.3906	Z	.4130
1/2-13	27/64	.4219	15/32	.4682
1/2-20	29/64	.4531	12.25	.4823
9/16-12	31/64	.4844	17/32	.5312
9/16-18	33/64	.5156	13.50	.5315
5/8-11	17/32	.5312	14.75	.5807
5/8-18	37/64	.5781	15.25	.6004
3/4-10	21/32	.6562	45/64	.7031
3/4-16	11/16	.6875	23/32	.7188
7/8-9	49/64	.7656	*	*
7/8-14	13/16	.8125	*	*
1-8	7/8	.8750	*	*
1-12	59/64	.9219	*	*
1-1/8 - 7	63/64	.9844	*	*
1-1/8 - 12	1 3/64	1.0469	*	*
1-1/4 - 7	1 7/64	1.1094	*	*
1-1/4 - 12	1 11/64	1.1719	*	*
1-3/8 - 6	1 7/32	1.2188	*	*
1-3/8 - 12	1 19/64	1.2969	*	*
1-1/2 - 6	1 11/32	1.3438	*	*
1-1/2 - 12	1 27/64	1.4219	*	*

\* Contact Technical Service for recommendations.  
Hole sizes shown may not suit UNJ and MJ hole requirements.

## Metric Sizes (measurements in millimeters and inches)

Tap Size and Pitch mm	Cutting Taps		Forming Taps	
	Drill Size mm	Dec. Equiv. in	Drill Size mm/in	Dec. Equiv. in
M1.6 x 0.35	1.25	.0492	1.45	.0571
M1.8 x 0.35	1.45	.0571	1.65	.0650
M2 x 0.40	1.60	.0630	1.80	.0709
M2.2 x 0.45	1.75	.0689	2.00	.0787
M2.5 x 0.45	2.05	.0807	2.30	.0906
M3 x 0.50	2.50	.0984	7/64	.1094
M3.5 x 0.60	2.90	.1142	3.20	.1260
M4 x 0.70	3.30	.1299	3.70	.1476
M4.5 x 0.75	3.70	.1476	4.10	.1614
M5 x 0.80	4.20	.1654	14	.1820
M6 x 1.00	5.00	.1969	7/32	.2188
M7 x 1.00	6.00	.2362	F	.2570
M8 x 1.25	6.70	.2638	7.40	.2913
M8 x 1.00	7.00	.2756	19/64	.2969
M10 x 1.50	8.50	.3346	U	.3680
M10 x 1.25	8.70	.3425	9.40	.3701
M12 x 1.75	10.20	.4016	11.20	.4409
M12 x 1.25	10.80	.4252	11.50	.4528
M14 x 2.00	12.00	.4724	33/64	.5156
M16 x 2.00	14.00	.5512	19/32	.5938
M16 x 1.50	14.50	.5709	15.25	.6004
M18 x 2.50	15.50	.6102	39/64	.6094
M18 x 1.50	16.50	.6496	17.25	.6791
M20 x 2.50	17.50	.6890	*	*
M20 x 1.50	18.50	.7283	*	*
M22 x 2.50	19.50	.7677	*	*
M22 x 1.50	20.50	.8071	*	*
M24 x 3.00	21.00	.8268	*	*
M24 x 2.00	22.00	.8661	*	*
M27 x 3.00	24.00	.9449	*	*
M27 x 2.00	25.00	.9843	*	*
M30 x 3.50	26.50	1.0433	*	*
M30 x 2.00	28.00	1.1024	*	*
M33 x 3.50	29.50	1.1614	*	*
M33 x 2.00	31.00	1.2205	*	*
M36 x 4.00	32.00	1.2598	*	*
M36 x 3.00	33.00	1.2992	*	*
M39 x 4.00	35.00	1.3780	*	*
M39 x 3.00	36.00	1.4173	*	*

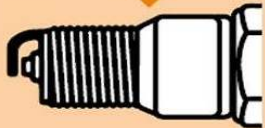
## Pipe Tap Sizes (measurements in millimeters and inches)

Pipe Tap Size	Nominal		NPT & NPTF		
	Without Reamer	With Reamer	NPSM	NPSC	NPSF
1/16-27	C .242	A .234	—	.250	D .246
1/8-27	Q .332	21/64	T .358	Q .332	R .339
1/4-18	7/16	27/64	15/32	7/16	7/16
3/8-18	9/16	9/16	.603 (special)	37/64	37/64
1/2-14	45/64	11/16	19 mm	18 mm	18 mm
3/4-14	29/32	57/64	61/64	59/64	59/64
1 – 11-1/2	1 9/64	1 1/8	1 13/64	1 5/32	1 5/32
1-1/4 – 11-1/2	1 31/64	1 15/32	1 35/64	1 1/2	—
1-1/2 – 11-1/2	1 23/32	1 45/64	1 25/32	1 47/64	—
2 – 11-1/2	2 3/16	2 11/64	2 1/4	2 13/64	—

Flat seat plugs:



Conical seat plugs:



## TORQUE SETTING SPECIFICATIONS

Spark Plug Type (thread diameter)		Cast Iron Cylinder Head	Aluminium Cylinder Head
Flat Seat Type (with gasket)	18mmØ	35 – 45 Nm (25.3 – 32.5 lb-ft)	35 – 40 Nm (25.3 – 28.9 lb-ft)
	14mmØ	25 – 35 Nm (18.0 – 25.3 lb-ft)	25 – 30 Nm (18.0 – 21.6 lb-ft)
	12mmØ	15 – 25 Nm (10.8 – 18.0 lb-ft)	15 – 20 Nm (10.8 – 14.5 lb-ft)
	10mmØ	10 – 15 Nm (7.2 – 10.8 lb-ft)	10 – 12 Nm (7.2 – 8.7 lb-ft)
	8mmØ	–	8 – 10 Nm (5.8 – 7.2 lb-ft)
Conical Seat Type (without gasket)	18mmØ	20 – 30 Nm (14.5 – 21.6 lb-ft)	20 – 30 Nm (14.5 – 21.6 lb-ft)
	14mmØ	15 – 25 Nm (10.8 – 18.0 lb-ft)	10 – 20 Nm (7.2 – 14.5 lb-ft)

## Wrench Conversion Chart

Standard SAE US Wrench Size (inches)	Metric Wrench Size (mm)	Standard SAE US Wrench Size (inches)	Metric Wrench Size (mm)
1/8	3.18	29/32	23.02
5/32	3.97	15/16	23.81
	4		24
3/16	4.76	31/32	24.61
	5		25
13/64	5.16	1	25.4
7/32	5.56		26
15/64	6.05	1 1/16	26.99
	6		27
1/4	6.35	1 1/8	28
17/64	6.75		28.58
	7		29
9/32	7.14	1 3/16	30
5/16	7.94		30.16
	8		31
11/32	8.73	1 1/4	31.75
	9		32
3/8	9.53		33
	10	1 5/16	33.34
	11		34
7/16	11.11	1 3/8	34.93
15/32	11.91		35
	12		36
1/2	12.7	1 7/16	36.51
	13		38
17/32	13.49	1 1/2	38.1
	14		39
9/16	14.29	1 9/16	39.69
	15		40
19/32	15.08		41
5/8	15.88	1 5/8	41.28
	16	1 11/16	42.86
21/32	16.67	1 3/4	44.45
	17		46
11/16	17.46	1 13/16	46.04
	18	1 7/8	47.63
	19	1 15/16	49.21
3/4	19.05		50
25/32	19.84	2	50.8
	20		51
13/16	20.64	2 1/8	53.96
	21		54
	22	2 1/4	57.15
7/8	22.23	2 3/8	60.33
	23	2 1/2	63.5