







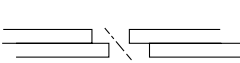
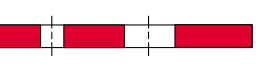



# Tool Selection

## Criteria

- Type of Fastener/Component
- Joint Integrity
- Torque Required
- Tool Orientation and Operator Reference
- Productivity
- Access

### Type of Fastener/Component

Fastener/Component		Recommended Tool Type
Machine Screw/Nut		Shut Off/Impulse/Direct Drive
Thread Rolling/Forming		Shut Off/HLT/Impulse
Self Tapping		Non Shut Off/HLT/Direct Drive
Self Tapping in Plastic/ Thin Materials		Shut Off/HLT
Self Drilling		Non Shut Off/HLT/Direct Drive
Wood Screws		Non Shut Off/Direct Drive
Screws with Adhesive		HLT/Non Shut Off/Impulse
Self Lock Nuts		HLT/Non Shut Off/Impulse
Misaligned Holes		HLT
Variable Size Holes		HLT
Fragile Components		HLT/Low Voltage Screwdrivers

### Joint Integrity

Average	—————→			High	—————→	Excellent
Direct Drive Impact	Non Shut Off	Impulse	Shut Off HLT	Shut Off and FAS	DC Brushless Systems	

# Tool Selection

## Fastener Torque Values

For non metric threads please use the following data as a guide.

### Recommended Maximum Torque Values – UNC Threads

THREAD SIZE	QUALITY P		QUALITY S		QUALITY T	
	Nm	lbf ft	Nm	lbf ft	Nm	lbf ft
1/4"	5.43	4.00	10.3	7.60	11.1	8.19
5/16"	11.2	8.26	21.3	15.71	23.0	16.96
3/8"	19.9	14.68	37.9	27.95	40.9	30.17
7/16"	31.9	23.53	60.7	44.77	65.5	48.31
1/2"	48.8	36.00	92.7	68.37	100	73.76
9/16"	70.4	51.92	134	98.83	144	106
5/8"	97.4	71.84	185	136.45	200	147.5
3/4"	178	131.3	338	249.3	364	268.5
7/8"	279	205.8	530	391	572	422
1"	418	308.3	795	586	858	633
1 1/8"	593	437.4	1126	830	1216	897
1 1/4"	837	617.3	1591	1173	1717	1266
1 3/8"	1096	808.4	2083	1536	2248	1658
1 1/2"	1456	1074	2767	2041	2987	2203

### Recommended Maximum Torque Values – UNF Threads

THREAD SIZE	QUALITY P		QUALITY S		QUALITY T	
	Nm	lbf ft	Nm	lbf ft	Nm	lbf ft
1/4"	6.28	4.63	11.9	8.78	12.9	9.51
5/16"	12.5	9.22	23.8	17.55	25.7	18.96
3/8"	22.7	16.74	43.2	31.9	46.6	34.4
7/16"	35.9	26.5	68.2	50.3	73.6	54.3
1/2"	55.4	40.9	105	77.4	114	84.0
9/16"	79.0	58.3	150	111	162	119
5/8"	111	81.9	210	155	227	167
3/4"	195	144	370	273	399	294
7/8"	309	228	587	433	634	468
1"	459	339	873	644	942	695
1 1/8"	667	492	1267	934	1368	1009
1 1/4"	925	682	1757	1296	1896	1398
1 3/8"	1252	923	2378	1754	2567	1893
1 1/2"	1642	1211	3119	2300	3367	2482

Quality P = approximately ISO 4.6

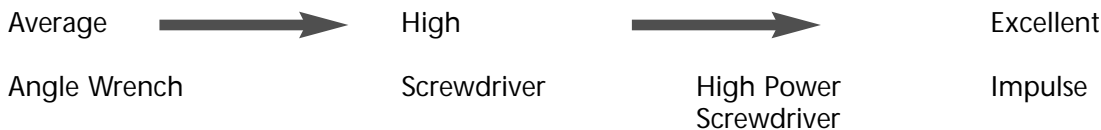
Quality S/T = approximately ISO 8.8

Quality S = ANSI Grade 5

## Tool Orientation and Operator Preference



## Productivity



## Access



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