

Notes

The Metric threading chart is intended to be used with a South Bend 9" or 10K Model-A lathe, and it assumes that the lathe is equipped with the 47/37 transposing pair.

The chart shows what the QC gearbox setting should be, in TPI, to obtain the various metric threads. It lists any threads that are exact multiples of 0.05 mm which can be cut by using combinations of stud gears in the range from 20 to 48T, and screw/output/gearbox gears in the range from 44 to 60T. The rightmost columns show which metric threads appear on the SBL metric threading chart, and also which are ISO standard metric threads. Note that 46, 54, & 58T screw gears did not generate any metric threads.

To see the chart: Click the tab below labeled "Metric Chart"

The chart assumes that only one of each size gear is available; that is, the same gear never can appear as both a stud and screw gear

A custom chart can be made for a particular set of available change gears by deleting all columns which contain gears which are not on hand. Blank rows then correspond to metric threads which can not be cut without adding to the assortment of gears.

In the interest of limiting the file size, this chart gives only the results and not the cell formulas used to generate the data, or any combinations which did not result in even metric threads. If the multi-megabyte working spreadsheet would be useful, please let me know. I can be reached via my mail form at <<http://bnordgren.org/contactB.html>>

To Use: Find the row for the metric thread desired. Search that row to find cells which have QC setting entries. For each of those, look at the top of the column to see what Stud and Screw gears are needed, until you find a pair that is available. Install those gears along with the metric transposer gear and set the QC plungers for the TPI setting shown.

These files are available at <<http://bnordgren.org/files/metchart2.xls>> and <http://bnordgren.org/files/metchart2.pdf>>

Prepared March 29, 2005 by Brett Nordgren

Revised March 31, 2005 {12.5 TPI entries removed, 13.0 added}

Revised April 20, 2005 {Formatted for pdf}

With thanks to Guy Cadrin who published his similar spreadsheet several years ago.

QC Settings for Cutting Metric Threads

For all Stud gears from 20-54T and Screw Gears 56T - Using 47/37 Transposing Pair

Screw Gear	44	48					50			52	56																60									
Stud Gear	22	24	30	36	42	54	20	30	40	26	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54	24	30	36	42	48	54		
Thread - mm																																				Standards
0.10							224				200																		224						---	---
0.15								224					160			200															224				---	---
0.20							112		224		100						160				200								112				224		SBL	ISO
0.25	112	112								112	80	88	96		112		128		144		160		176	184	192	200				112					SBL	ISO
0.30								112					80			100									160						112				SBL	ISO
0.35	80	80	100				64	96	128	80					80													64	80	96	112	128	144	SBL	ISO	
0.40							56		112		50						80				100							56				112			SBL	ISO
0.45																		80														112			SBL	ISO
0.50	56	56								56	40	44	48		56		64		72		80		88	92	96	100			56						SBL	ISO
0.55												40											80												SBL	---
0.60								56					40			50									80						56				SBL	ISO
0.65														40													80								SBL	---
0.70	40	40	50				32	48	64	40					40														32	40	48	56	64	72	SBL	ISO
0.75				56									32			40			48		56				64			72							SBL	ISO
0.80							28		56		25						40				50							28				56			SBL	ISO
0.85																		40																	---	
0.90																			40													56	SBL	---		
0.95																				40															---	
1.00	28	28								28	20	22	24		28		32		36		40		44	46	48	50			28					SBL	ISO	
1.05				40				32														40									32			48		---
1.10												20												40											SBL	---
1.15																								40											---	
1.20								28				20				25									40						28				SBL	---
1.25			28								16					24					32				40										SBL	ISO
1.30													20													40									SBL	---
1.35																											40								---	
1.40	20	20	25				16	24	32	20					20													16	20	24	28	32	36	SBL	---	
1.50				28										16			20		24		28			32			36							SBL	ISO	
1.60							14		28								20				25							14				28			---	
1.70																		20																	---	
1.75	16	16	20	24	28	36				16					16							24							16						SBL	ISO
1.80																			20														28		---	
1.90																				20															---	
2.00	14	14								14	10	11	12	13	14		16		18		20		22	23	24	25			14					SBL	---	
2.10				20				16														20									16			24		---
2.20												10											20												---	
2.25					28														16									24							SBL	---
2.30																								20											---	
2.40								14					10												20						14				---	
2.45					20																											16			---	
2.50			14							8						12				16						20								SBL	ISO	
2.60													10														20								---	
2.70																											20								---	
2.75											8												16												SBL	---
2.80	10	10					8	12	16	10					10														8	10	12	14	16	18		---
3.00				14									8			10			12			14			16			18						SBL	ISO	
3.15					20																											16			---	
3.20									14									10														14			---	
3.25														8												16									---	
3.40																			10																---	
3.50	8	8	10	12	14	18				8					8						12								8					SBL	ISO	
3.60																		10														14			---	
3.75																8																			---	
3.80																				10															---	
4.00																	8		9		10		11	11.5	12		13							SBL	ISO	
4.20				10				8														10									8		12		---	

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Thread - mm																																				Standards		
4.25																		8																	---	---		
4.40																							10													---	---	
4.50						14												8										12							SBL	ISO		
4.60																								10												---	---	
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4.90					10																												8			---	---	
5.00																				8							10								SBL	ISO		
5.20																											10									---	---	
5.25				8		12																8														---	---	
5.40																												10									---	---
5.50																							8												SBL	ISO		
5.60									8																								8	9			---	---
5.75																								8													---	---
6.00																										8		9								SBL	ISO	
6.25																											8										---	---
6.30						10																												8			---	---
6.50																											8										---	---
6.75																													8								---	---
7.00						9																															---	---

Kane Monroe