

Nominal pitch = 80.0 TPI actual pitch = 80.000 TPI				
speed	A	B	C	D
1	50	70	49	48
1	49	63	45	48
1	50	60	42	48
1	49	56	40	48

Nominal pitch = 72.0 TPI actual pitch = 72.000 TPI				
speed	A	B	C	D
1	50	63	49	48

Nominal pitch = 64.0 TPI actual pitch = 64.000 TPI				
speed	A	B	C	D
1	50	56	49	48

Nominal pitch = 56.0 TPI actual pitch = 56.000 TPI				
speed	A	B	C	D
1	70	63	45	48
1	70	60	50	56
1	70	56	40	48
1	50	63	42	32
1	60	60	50	48
1	50	60	40	32
1	50	56	49	42
1	50	56	42	36
1	50	48	27	27
1	45	48	40	36

Nominal pitch = 48.0 TPI actual pitch = 48.000 TPI				
speed	A	B	C	D
1	70	60	50	48
1	50	63	49	32
1	50	56	49	36
1	50	48	49	42
1	50	42	49	48
1	50	48	42	36

Nominal pitch = 44.0 TPI actual pitch = 44.000 TPI				
speed	A	B	C	D
1	50	56	49	33
1	50	48	42	33

Nominal pitch = 40.0 TPI actual pitch = 40.000 TPI				
speed	A	B	C	D
1	70	63	42	32
1	70	60	60	48
1	70	48	60	60
1	70	60	50	40
1	70	60	45	36
1	70	60	40	32
1	70	56	49	42
1	70	56	42	36
2	50	70	49	48
1	63	60	50	36
1	60	63	49	32
1	63	48	50	45
1	63	45	50	48
2	49	63	45	48
1	63	48	40	36
1	56	60	50	32
1	60	56	49	36
2	50	60	42	48
1	60	48	49	42
1	60	42	49	48
1	60	48	42	36
1	56	48	50	40
1	56	40	50	48
2	49	56	40	48
1	49	56	45	27
1	56	48	45	36
1	50	42	49	40
1	50	40	49	42
1	50	45	42	32
1	50	40	42	36
1	50	36	42	40
1	49	42	45	36
1	49	36	45	42
1	49	42	40	32
1	42	36	40	32

(continued)

Nominal pitch = 40.0 TPI actual pitch = 40.000 TPI				
speed	A	B	C	D
1	42	32	40	36

Nominal pitch = 36.0 TPI actual pitch = 36.000 TPI				
speed	A	B	C	D
1	70	60	50	36
1	70	48	50	45
1	70	45	50	48
1	70	48	40	36
2	50	63	49	48
1	50	56	49	27
1	56	48	50	36
1	56	36	50	48
1	50	42	49	36
1	50	36	49	42
1	50	48	42	27

Nominal pitch = 32.0 TPI actual pitch = 32.000 TPI				
speed	A	B	C	D
1	70	60	50	32
1	70	48	50	40
1	70	40	50	48
1	70	48	45	36
1	70	48	40	32
1	63	48	50	36
1	63	36	50	48
2	50	56	49	48
1	56	48	50	32
1	56	32	50	48
1	50	42	49	32
1	50	32	49	42
1	50	36	42	32
1	50	32	42	36

Nominal pitch = 28.0 TPI actual pitch = 28.000 TPI				
speed	A	B	C	D
1	70	63	60	32
2	70	63	45	48
2	70	60	50	56
1	70	56	60	36
1	70	36	60	56
1	70	48	60	42
1	70	42	60	48
2	70	56	40	48
1	70	56	45	27
1	70	42	50	40
1	70	40	50	42
1	70	42	45	36
1	70	36	45	42
1	70	42	40	32
1	63	56	50	27
1	63	42	50	36
1	63	36	50	42
2	50	63	42	32
2	60	60	50	48
1	60	48	60	36
1	60	36	60	48
1	60	45	50	32
1	60	32	50	45
1	60	40	50	36
1	60	36	50	40
2	50	60	40	32
1	60	48	45	27
2	50	56	49	42
2	50	56	42	36
1	56	42	50	32
1	56	32	50	42
2	50	48	27	27
1	50	32	36	27
1	50	27	36	32
2	45	48	40	36

(continued)

Nominal pitch = 28.0 TPI actual pitch = 28.000 TPI				
speed	A	B	C	D
1	45	32	40	27
1	45	27	40	32

Nominal pitch = 27.0 TPI actual pitch = 27.000 TPI				
speed	A	B	C	D
1	70	60	50	27
1	70	45	50	36
1	70	36	50	45
1	70	48	40	27
2	50	63	49	36
1	56	48	50	27
1	56	27	50	48
1	50	42	49	27
1	50	27	49	42
1	50	36	42	27
1	50	27	42	36

Nominal pitch = 24.0 TPI actual pitch = 24.000 TPI				
speed	A	B	C	D
2	70	60	50	48
1	70	48	60	36
1	70	36	60	48
1	70	45	50	32
1	70	32	50	45
1	70	40	50	36
1	70	36	50	40
1	70	48	45	27
1	70	36	40	32
1	70	32	40	36
2	50	63	49	32
1	63	48	50	27
1	63	27	50	48
2	50	56	49	36
1	56	36	50	32
1	56	32	50	36
2	50	48	49	42
2	50	42	49	48
2	50	48	42	36
1	50	32	42	27
1	50	27	42	32

Nominal pitch = 20.0 TPI actual pitch = 20.000 TPI				
speed	A	B	C	D
1	70	56	63	27
1	70	27	63	56
1	70	42	63	36
1	70	36	63	42
2	70	63	42	32
2	70	60	60	48
2	70	48	60	60
2	70	60	50	40
2	70	60	45	36
1	70	45	60	32
1	70	32	60	45
1	70	40	60	36
1	70	36	60	40
2	70	60	40	32
2	70	56	49	42
2	70	56	42	36
1	70	42	56	32
1	70	32	56	42
1	70	36	48	32
1	70	32	48	36
1	70	40	45	27
1	70	27	45	40
1	70	32	36	27
1	70	27	36	32
2	63	60	50	36
2	60	63	49	32
2	63	48	50	45
2	63	45	50	48
1	63	40	50	27
1	63	27	50	40
2	63	48	40	36
1	63	36	45	27
1	63	27	45	36
1	63	32	40	27
1	63	27	40	32

(continued)

Nominal pitch = 20.0 TPI actual pitch = 20.000 TPI				
speed	A	B	C	D
2	56	60	50	32
2	60	56	49	36
1	60	36	56	32
1	60	32	56	36
2	60	48	49	42
2	60	42	49	48
2	60	48	42	36
1	60	32	42	27
1	60	27	42	32
2	56	48	50	40
2	56	40	50	48
2	49	56	45	27
2	56	48	45	36
1	56	32	45	27
1	56	27	45	32
2	50	42	49	40
2	50	40	49	42
2	50	45	42	32
2	50	40	42	36
2	50	36	42	40
2	49	42	45	36
2	49	36	45	42
2	49	42	40	32
2	42	36	40	32
2	42	32	40	36

Nominal pitch = 18.0 TPI actual pitch = 18.000 TPI				
speed	A	B	C	D
2	70	60	50	36
1	70	48	60	27
1	70	27	60	48
2	70	48	50	45
2	70	45	50	48
1	70	40	50	27
1	70	27	50	40
2	70	48	40	36
1	70	36	45	27
1	70	27	45	36
1	70	32	40	27
1	70	27	40	32
1	63	36	50	27
1	63	27	50	36
2	50	56	49	27
2	56	48	50	36
2	56	36	50	48
1	56	32	50	27
1	56	27	50	32
2	50	42	49	36
2	50	36	49	42
2	50	48	42	27

Nominal pitch = 16.0 TPI actual pitch = 16.000 TPI				
speed	A	B	C	D
2	70	60	50	32
1	70	36	60	32
1	70	32	60	36
2	70	48	50	40
2	70	40	50	48
2	70	48	45	36
2	70	48	40	32
1	70	32	45	27
1	70	27	45	32
2	63	48	50	36
2	63	36	50	48
1	63	32	50	27
1	63	27	50	32
2	56	48	50	32
2	56	32	50	48
2	50	42	49	32
2	50	32	49	42
2	50	36	42	32
2	50	32	42	36

Nominal pitch = 14.0 TPI actual pitch = 14.000 TPI				
speed	A	B	C	D
2	70	63	60	32
2	70	56	60	36
2	70	36	60	56
2	70	48	60	42
2	70	42	60	48
2	70	56	45	27
2	70	42	50	40
2	70	40	50	42
2	70	42	45	36
2	70	36	45	42
2	70	42	40	32
2	63	56	50	27
2	63	42	50	36
2	63	36	50	42
2	60	48	60	36
2	60	36	60	48
1	60	32	60	27
1	60	27	60	32
2	60	45	50	32
2	60	32	50	45
2	60	40	50	36
2	60	36	50	40
2	60	48	45	27
2	56	42	50	32
2	56	32	50	42
2	50	32	36	27
2	50	27	36	32
2	45	32	40	27
2	45	27	40	32

Nominal pitch = 13.0 TPI actual pitch = 13.000 TPI				
speed	A	B	C	D
2	70	48	60	39
2	70	39	60	48
2	70	40	50	39
2	70	39	50	40
2	70	39	45	36
2	70	36	45	39
2	70	39	40	32
2	70	32	40	39
2	63	39	50	36
2	63	36	50	39
2	56	39	50	32
2	56	32	50	39

Nominal pitch = 11.0 TPI actual pitch = 11.000 TPI				
speed	A	B	C	D
2	70	48	60	33
2	70	33	60	48
2	70	40	50	33
2	70	33	50	40
2	70	36	45	33
2	70	33	45	36
2	70	33	40	32
2	70	32	40	33
2	63	36	50	33
2	63	33	50	36
2	56	33	50	32
2	56	32	50	33

Nominal pitch = 12.0 TPI actual pitch = 12.000 TPI				
speed	A	B	C	D
2	70	48	60	36
2	70	36	60	48
1	70	32	60	27
1	70	27	60	32
2	70	45	50	32
2	70	32	50	45
2	70	40	50	36
2	70	36	50	40
2	70	48	45	27
2	70	36	40	32
2	70	32	40	36
2	63	48	50	27
2	63	27	50	48
2	56	36	50	32
2	56	32	50	36
2	50	32	42	27
2	50	27	42	32

Nominal pitch = 11.5 TPI actual pitch = 11.506 TPI				
speed	A	B	C	D
2	56	27	33	27

Nominal pitch = 10.0 TPI actual pitch = 10.000 TPI				
speed	A	B	C	D
2	70	56	63	27
2	70	27	63	56
2	70	42	63	36
2	70	36	63	42
2	70	45	60	32
2	70	32	60	45
2	70	40	60	36
2	70	36	60	40
2	70	42	56	32
2	70	32	56	42
2	70	36	48	32
2	70	32	48	36
2	70	40	45	27
2	70	27	45	40
2	70	32	36	27
2	70	27	36	32
2	63	40	50	27
2	63	27	50	40
2	63	36	45	27
2	63	27	45	36
2	63	32	40	27
2	63	27	40	32
2	60	36	56	32
2	60	32	56	36
2	60	32	42	27
2	60	27	42	32
2	56	32	45	27
2	56	27	45	32

Nominal pitch = 9.0 TPI actual pitch = 9.000 TPI				
speed	A	B	C	D
2	70	48	60	27
2	70	27	60	48
2	70	40	50	27
2	70	27	50	40
2	70	36	45	27
2	70	27	45	36
2	70	32	40	27
2	70	27	40	32
2	63	36	50	27
2	63	27	50	36
2	56	32	50	27
2	56	27	50	32

Nominal pitch = 8.0 TPI actual pitch = 8.000 TPI				
speed	A	B	C	D
2	70	36	60	32
2	70	32	60	36
2	70	32	45	27
2	70	27	45	32
2	63	32	50	27
2	63	27	50	32

Nominal pitch = 7.0 TPI actual pitch = 7.000 TPI				
speed	A	B	C	D
2	60	32	60	27
2	60	27	60	32

Nominal pitch = 6.0 TPI actual pitch = 6.000 TPI				
speed	A	B	C	D
2	70	32	60	27
2	70	27	60	32

Nominal pitch = 5.0 TPI actual pitch = 5.062 TPI				
speed	A	B	C	D
2	70	27	60	27

Nominal pitch = 4.5 TPI actual pitch = 4.821 TPI				
speed	A	B	C	D
2	70	27	63	27

Nominal pitch = 4.0 TPI actual pitch = 4.821 TPI				
speed	A	B	C	D
2	70	27	63	27

Nominal pitch = 0.20 mm actual pitch = 0.200025 mm				
speed	A	B	C	D
1	49	60	27	48

Nominal pitch = 0.25 mm actual pitch = 0.249927 mm				
speed	A	B	C	D
1	50	56	27	42
1	50	49	27	48

Nominal pitch = 0.30 mm actual pitch = 0.300038 mm				
speed	A	B	C	D
1	49	60	27	32
1	49	48	27	40

Nominal pitch = 0.35 mm actual pitch = 0.349983 mm				
speed	A	B	C	D
1	48	49	32	39

Nominal pitch = 0.40 mm actual pitch = 0.400050 mm				
speed	A	B	C	D
1	63	70	49	48
1	49	70	42	32
1	63	60	49	56
1	63	60	42	48
2	49	60	27	48
1	49	60	45	40
1	49	60	36	32
1	49	56	42	40
1	49	50	45	48
1	49	48	36	40
1	49	45	27	32
1	49	40	27	36

Nominal pitch = 0.45 mm actual pitch = 0.450056 mm				
speed	A	B	C	D
1	49	40	27	32



Nominal pitch = 0.50 mm				
actual pitch = 0.500062 mm				
speed	A	B	C	D
1	63	56	49	48
1	49	56	42	32
1	49	48	36	32
1	49	36	27	32

Nominal pitch = 0.60 mm				
actual pitch = 0.600075 mm				
speed	A	B	C	D
1	63	70	49	32
1	63	60	42	32
1	63	56	49	40
1	63	48	42	40
2	49	60	27	32
2	49	48	27	40
1	49	40	36	32

Nominal pitch = 0.70 mm				
actual pitch = 0.699967 mm				
speed	A	B	C	D
2	48	49	32	39

Nominal pitch = 0.75 mm				
actual pitch = 0.750094 mm				
speed	A	B	C	D
1	63	48	42	32
2	49	48	27	32

Nominal pitch = 0.80 mm				
actual pitch = 0.800100 mm				
speed	A	B	C	D
1	70	60	63	40
1	70	40	63	60
1	70	50	63	48
1	70	48	63	50
2	63	70	49	48
1	70	50	42	32
2	49	70	42	32
2	63	60	49	56
1	63	60	56	32
2	63	60	42	48
1	63	48	56	40
1	63	40	56	48
1	63	42	49	40
1	63	40	49	42
1	63	45	42	32
1	63	40	42	36
1	63	36	42	40
1	60	50	49	32
2	49	60	45	40
2	49	60	36	32
2	49	56	42	40
1	56	40	42	32
1	56	32	42	40
2	49	50	45	48
2	49	48	36	40
1	49	40	48	32
1	49	32	48	40
2	49	45	27	32
2	49	40	27	36

Nominal pitch = 1.00 mm				
actual pitch = 1.000125 mm				
speed	A	B	C	D
2	63	56	49	48
1	63	48	56	32
1	63	32	56	48
1	63	42	49	32
1	63	32	49	42
1	63	36	42	32
1	63	32	42	36
2	49	56	42	32
2	49	48	36	32
2	49	36	27	32

Nominal pitch = 1.25 mm				
actual pitch = 1.250156 mm				
speed	A	B	C	D
1	70	48	63	32
1	70	32	63	48
2	49	48	45	32

Nominal pitch = 1.50 mm				
actual pitch = 1.500187 mm				
speed	A	B	C	D
2	63	48	42	32

Nominal pitch = 1.75 mm				
actual pitch = 1.750219 mm				
speed	A	B	C	D
2	63	48	49	32
2	63	32	49	48

Nominal pitch = 2.00 mm				
actual pitch = 2.000250 mm				
speed	A	B	C	D
2	63	48	56	32
2	63	32	56	48
2	63	42	49	32
2	63	32	49	42
2	63	36	42	32
2	63	32	42	36

Nominal pitch = 2.50 mm				
actual pitch = 2.500313 mm				
speed	A	B	C	D
2	70	48	63	32
2	70	32	63	48

Nominal pitch = 3.00 mm				
actual pitch = 3.000375 mm				
speed	A	B	C	D
2	70	40	63	32
2	70	32	63	40

Nominal pitch = 3.50 mm				
actual pitch = 3.512099 mm				
speed	A	B	C	D
2	70	36	56	27
2	70	27	56	36
2	70	27	42	27
2	60	27	49	27

Nominal pitch = 4.00 mm				
actual pitch = 4.013827 mm				
speed	A	B	C	D
2	70	27	48	27
2	60	27	56	27

Nominal pitch = 4.50 mm				
actual pitch = 4.515556 mm				
speed	A	B	C	D
2	63	27	60	27

Nominal pitch = 5.00 mm				
actual pitch = 5.017284 mm				
speed	A	B	C	D
2	70	27	60	27

Nominal pitch = 5.50 mm				
actual pitch = 5.268148 mm				
speed	A	B	C	D
2	70	27	63	27

Nominal pitch = 6.00 mm				
actual pitch = 5.268148 mm				
speed	A	B	C	D
2	70	27	63	27

Nominal pitch = 8.00 mm				
actual pitch = 7.902222 mm				
speed	A	B	C	D
3	70	27	63	27