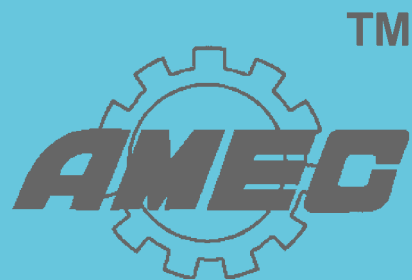




BUSHING

(IN STOCK)



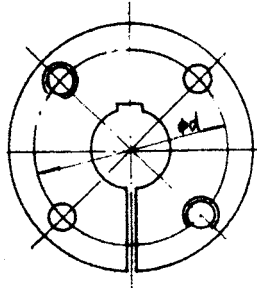
BUSHING

Hand QD bushing B.1 TO B.2
QD Bushing and Sheaves installation & removal B.3
Taper lock bushing B.4

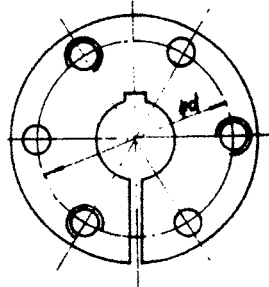


BUSHING

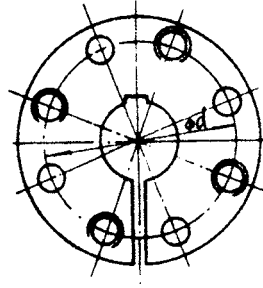
H and QD Bushings



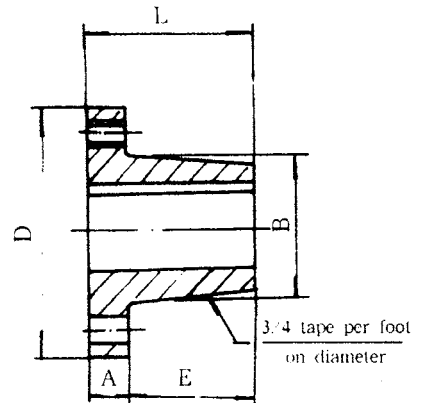
Bushing
H



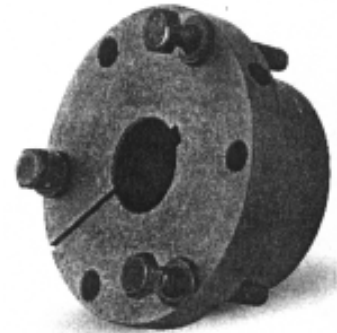
Bushing
JA to J



Bushing
M



Bushing	A	B	D	E	L	ΦBolt Required	Cap Screws Grade 5	List Price
H	1/4	1.625	2 1/2	1	1 1/4	2	2 1/4 x 3/4	9.60
JA	5/16	1.375	2	1 1/16	1	1.665	3-10 x 1	10.90
SH	7/16	1.871	2 11/16	7/8	1 5/16	2 1/4	3 1/4 x 1 3/8	14.90
SDS	7/16	2.187	3 1/8	7/8	1 5/16	2 11/16	3 1/4 x 1 3/8	17.30
SD	7/16	2.187	3 1/8	1 3/8	1 13/16	2 11/16	3 1/4 x 1 7/8	20.80
SK	9/16	2.812	3 7/8	1 3/8	1 15/16	3 5/16	3 5/16 x 2	26.80
SF	5/8	3.125	4 5/8	1 7/16	2 1/16	3 7/8	3 3/8 x 2	33.00
E	7/8	3.843	6	1 7/8	2 3/4	5	3 1/2 x 2 3/4	70.00
F	1	4.437	6 5/8	2 3/4	3 3/4	5 5/8	3 9/16 x 3 5/8	124.00
J	1 1/8	5.148	7 1/4	3 1/2	4 5/8	6 1/4	3 5/8 x 4 1/2	154.00
M	1 1/4	6.500	9	5 1/2	6 3/4	7 7/8	4 3/4 x 6 3/4	308.00



Bushing	Bore Range (in.)	Keyseat (in.)
H	3/8, 7/16, 1/2, 9/16	1/8 x 1/16
	5/8, 1 1/16, 3/4, 13/16, 7/8	3/16 x 3/32
	15/16, 1, 1 1/16, 1 1/8, 1 3/16, 1 1/4	1/4 x 1/8
	15/16, 1 3/8	5/16 x 1/16*
	1 7/16, 1 1/2	3/8 x 1/16*
JA	1/2, 9/16	1/8 x 1/16
	5/8, 1 1/16, 3/4, 13/16, 7/8	3/16 x 3/32
	15/16, 1	1/4 x 1/8
	1 1/16, 1 1/8, 1 3/16	1/4 x 1/16*
	1 1/4	No Key
SH	1/2, 9/16	1/8 x 1/16
	5/8, 1 1/16, 3/4, 13/16, 7/8	3/16 x 3/32
	15/16, 1, 1 1/16, 1 1/8, 1 3/16, 1 1/4	1/4 x 1/8
	15/16, 1 3/8	5/16 x 5/32
	1 7/16, 1 1/2, 1 9/16, 1 5/8	3/8 x 1/16*
1 11/16	No Key	
SDS	1/2, 9/16	1/8 x 1/16
	5/8, 1 1/16, 3/4, 13/16, 7/8	3/16 x 3/32
	15/16, 1, 1 1/16, 1 1/8, 1 3/16, 1 1/4	1/4 x 1/8
	15/16, 1 3/8	5/16 x 5/32
	1 7/16, 1 1/2, 1 9/16, 1 5/8, 1 11/16	3/8 x 3/16*
	1 3/4	3/8 x 1/8*
	1 13/16	1/2 x 1/8*
1 7/8, 1 15/16	1/2 x 1/16*	
2	No Key	

Bushing	Bore Range (in.)	Keyseat (in.)
SD	1/2, 9/16	1/8 x 1/16
	5/8, 1 1/16, 3/4, 13/16, 7/8	3/16 x 3/32
	15/16, 1, 1 1/16, 1 1/8, 1 3/16, 1 1/4	1/4 x 1/8
	15/16, 1 3/8	5/16 x 5/32
	1 7/16, 1 1/2, 1 9/16, 1 5/8, 1 11/16	3/8 x 3/16
	1 3/4	3/8 x 1/8*
	1 13/16	1/2 x 1/8*
1 7/8, 1 15/16	1/2 x 1/16*	
2	No Key	
SK	1/2, 9/16	1/8 x 1/16
	5/8, 1 1/16, 3/4, 13/16, 7/8	3/16 x 3/32
	15/16, 1, 1 1/16, 1 1/8, 1 3/16, 1 1/4	1/4 x 1/8
	15/16, 1 3/8	5/16 x 5/32
	1 7/16, 1 1/2, 1 9/16, 1 5/8, 1 11/16, 1 3/4	3/8 x 3/16
	1 13/16, 1 7/8, 1 15/16, 2, 2 1/16, 2 1/8	1/2 x 1/4
	2 13/16, 2 1/4	1/2 x 1/8*
2 5/16, 2 3/8, 2 7/16, 2 1/2	5/8 x 1/16*	
2 5/8, 2 9/16	No Key	
SF	1/2, 9/16	1/8 x 1/16
	5/8, 1 1/16, 3/4, 13/16, 7/8	3/16 x 3/32
	15/16, 1, 1 1/16, 1 1/8, 1 3/16, 1 1/4	1/4 x 1/8
	15/16, 1 3/8	5/16 x 5/32
	1 7/16, 1 1/2, 1 9/16, 1 5/8, 1 11/16, 1 3/4	3/8 x 3/16
	1 13/16, 1 7/8, 1 15/16, 2, 2 1/16	1/2 x 1/4
	2 1/8, 2 13/16, 2 1/4	1/2 x 1/4
	2 5/16, 2 3/8, 2 7/16, 2 1/2	5/8 x 3/16*
	2 5/8, 2 11/16, 2 3/4, 2 9/16	5/8 x 1/16*
	2 13/16,	3/4 x 1/16*
	2 7/8, 2 15/16	No Key

*shallow keyseat-keystock
is supplied with bushing



BUSHING

H and QD Bushings

Bushing	Bore Range (in.)	Keyseat (in.)
E	7/8, 15/16 1, 1 1/16, 1 1/8, 1 3/16, 1 1/4 1 5/16, 1 3/8, 1 7/16, 1 1/2, 1 9/16, 1 5/8, 1 11/16, 1 3/4 1 13/16, 1 7/8, 1 15/16, 2, 2 1/16 2 1/8, 2 3/16, 2 1/4 2 5/16, 2 3/8, 2 7/16, 2 1/2, 2 9/16, 2 5/8 2 11/16, 2 3/4 2 13/16, 2 7/8, 2 15/16, 3, 3 1/16 3 1/8, 3 3/16, 3 1/4 3 5/16, 3 3/8, 3 7/16 3 1/2	3/16 x 3/32 1/4 x 1/8 5/16 x 5/32 3/8 x 3/16 1/2 x 1/4 1/2 x 1/4 5/8 x 5/16 5/8 x 5/16 3/4 x 1/8* 3/4 x 1/8* 7/8 x 1/16* No Key
F	1, 1 1/16, 1 1/8, 1 3/16, 1 1/4 1 5/16, 1 3/8, 1 7/16, 1 1/2, 1 9/16, 1 5/8, 1 11/16, 1 3/4 1 13/16, 1 7/8, 1 15/16, 2, 2 1/16 2 1/8, 2 3/16, 2 1/4 2 5/16, 2 3/8, 2 7/16, 2 1/2, 2 9/16, 2 5/8 2 11/16, 2 3/4 2 13/16, 2 7/8, 2 15/16, 3, 3 1/16 3 1/8, 3 3/16, 3 1/4 3 5/16, 3 3/8, 3 7/16, 3 1/2, 3 9/16 3 5/8, 3 11/16, 3 3/4 3 7/8, 3 15/16 4	1/4 x 1/8 5/16 x 5/32 3/8 x 3/16 1/2 x 1/4 1/2 x 1/4 5/8 x 5/16 5/8 x 5/16 3/4 x 3/8 3/4 x 3/8 7/8 x 3/16* 7/8 x 3/16* 1 x 1/8* No Key
J	1 7/16, 1 1/2, 1 9/16, 1 5/8, 1 11/16, 1 3/4 1 7/8, 1 15/16, 2, 2 1/16 2 1/8, 2 3/16, 2 1/4 2 5/16, 2 3/8, 2 7/16, 2 1/2, 2 9/16, 2 5/8 2 11/16, 2 3/4, 2 13/16 2 7/8, 2 15/16, 3, 3 1/16 3 1/8, 3 3/16, 3 1/4 3 5/16, 3 3/8, 3 7/16, 3 1/2, 3 9/16 3 5/8, 3 11/16, 3 3/4 3 13/16, 3 7/8, 3 15/16 4, 4 1/8, 4 3/16, 4 1/4, 4 3/8, 4 7/16, 4 1/2	3/8 x 3/16 1/2 x 1/4 1/2 x 1/4 5/8 x 5/16 5/8 x 5/16 3/4 x 3/8 3/4 x 3/8 7/8 x 7/16 7/8 x 7/16 1 x 3/8* 1 x 3/8*
M	1 15/16, 2, 2 1/16, 2 1/8 2 3/16, 2 1/4, 2 5/16 2 3/8, 2 7/16, 2 1/2, 2 9/16, 2 5/8 2 11/16, 2 3/4, 2 13/16 2 7/8, 2 15/16, 3, 3 1/16 3 1/8, 3 3/16, 3 1/4, 3 5/16 3 3/8, 3 7/16, 3 1/2, 3 9/16 3 5/8, 3 11/16, 3 3/4 3 13/16, 3 7/8, 3 15/16 4, 4 1/8, 4 3/16, 4 1/4, 4 3/8, 4 7/16, 4 1/2 4 5/8, 4 11/16, 4 3/4, 4 13/16 4 7/8, 4 15/16 5, 5 3/16, 5 1/4, 5 3/8, 5 7/16, 5 1/2	1/2 x 1/4 1/2 x 1/4 5/8 x 5/16 5/8 x 5/16 3/4 x 3/8 3/4 x 3/8 7/8 x 7/16 7/8 x 7/16 1 x 1/2 1 x 1/2 1 1/4 x 5/8 1 1/4 x 3/4* 1 1/4 x 3/4*
N	CALL FOR AVAILABILITY	
P	CALL FOR AVAILABILITY	

*Shallow Keyseat-Keystock is supplied with bushing

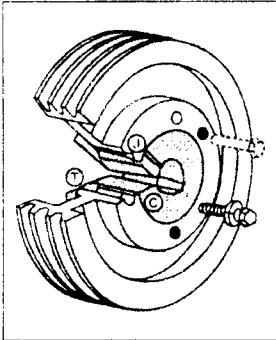
Bushing	Bore Range (mm)	Keyseat (mm)
H	10, 11 14, 15, 16 18, 19, 20, 22 24, 25, 28, 30 32, 35, 38	No Key 5 x 5 6 x 6 8 x 7 10 x 8
JA	15, 16 19, 20 24, 25, 28	5 x 5 6 x 6 8 x 7
SH	20, 22 24, 25, 28, 30 32, 35, 38	6 x 6 8 x 7 10 x 8
SDS	24, 25, 28, 30 32, 35, 38 40, 42	8 x 7 10 x 8 12 x 8
SD	24, 25, 28, 30 32, 35, 38 40, 42	8 x 7 10 x 8 12 x 8
SK	14 24, 25, 28, 30 32, 35, 38 40, 42 45, 48, 50 55 60	5 x 5 8 x 7 10 x 8 12 x 8 14 x 9 16 x 10 18 x 11
SF	28, 30 32, 35, 38 40, 42 45, 48, 50 55 60, 65	8 x 7 10 x 8 12 x 8 14 x 9 16 x 10 18 x 11
E	35, 38 40, 42 45, 48, 50 55 60, 65 70, 75 80	10 x 8 12 x 8 14 x 9 16 x 10 18 x 11 20 x 12 22 x 14
F	42 45, 48, 50 55 60, 65 70, 75 80, 85 90	12 x 8 14 x 9 16 x 10 18 x 11 20 x 12 22 x 14 25 x 14
J	50 55 60, 65 70, 75 80, 85 90, 95 100	14 x 9 16 x 10 18 x 11 20 x 12 22 x 14 25 x 14 28 x 16
M	80 90 100 120	22 x 14 25 x 14 28 x 16 32 x 18



BUSHING

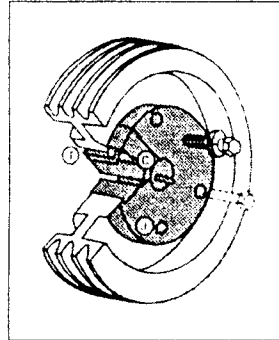
QD Bushings and Sheaves Installation & Removal

QD bushing sizes JA through J can be assembled in either of the two positions shown below. Size M should be assembled in position one.



Position 1

Position One is the conventional or standard mounting.



Position 2

Position Two (Reverse Mounting) may be necessary in some cases, such as mounting small sheaves with blind holes (not drilled through).

Bushing Size	Cap Screw Size & Thread	Foot Pounds Wrench Torque*
H	1/4 - 28	9
JA	No. 10	3
SH	1/4 - 20	6
SDS	1/4 - 20	6
SD	1/4 - 20	6
SK	5/16 - 18	10
SF	3/8 - 16	20
E	1/2 - 13	40
F	9/16 - 12	50
J	5/8 - 11	90
M	3/4 - 12	150

*For Normal Applications. For Severe (Rock-crusher type) applications these values can be increased by a maximum of 50%.

CAUTION:

Excessive cap-screw torque can cause sheave and/or bushing breakage. The use of lubricants can cause sheave breakage.

DO NOT USE LUBRICANTS IN THIS INSTALLATION!

INSTALLATION

1. Make sure the tapered-cone surface of the bushing and the mating bore of the sheave are free of all foreign substances, such as dirt, excess paint accumulations, metal chips, lubricants, etc.
2. For position one or two (whichever applies), line up the unthreaded holes (C) with the threaded holes (T) and insert cap screws with lock washers engaging only two or three threads. (*a)
3. With key in shaft keyway, slide the loosely-assembled unit onto shaft and position for good belt alignment. (*b, *c) **Use no lubricants or anti-seize compound on threads or tapered surfaces.**
4. Carefully tighten the capscrews alternately and progressively until the tapers are seated (at approximately half the recommended torque).
5. Check alignment and sheave runout (wobble) and correct as necessary.
6. Continue careful alternate and progressive tightening of the cap screws to the recommended torque values shown in the table. **Maximum torque should be achieved on each individual bolt only two times in the consecutive tightening.**

Note: When properly mounted, there will be a gap between the bushing flange and sheave after the screws are tightened.

Caution: Use of Lubricants and/or excessive screw torque can cause breakage.

7. Tighten the set screw, when available, to hold the key securely during operation.
- (*a) When mounting a sheave on M size bushing, position the threaded jack-apart hole (J) as far from the bushing saw as possible to reduce the possibility of bushing breakage.
- (*b) When installing large or heavy parts in *Position One*, it may be easier to mount the key and bushing on the shaft first. Then place the sheave on the bushing and align the holes.
- (*c) **Caution:** When mounting on a vertical shaft, provisions must be made, which will positively prevent the sheave and/or bushing from dropping during installation.

REMOVAL

1. Loosen and remove all mounting cap screws.
2. Insert cap screws in all threaded jack-screw holds (J).
3. Start with the screws furthest from the bushing saw slot and tighten all jack screws alternately and progressively. Keep turning the screws in small equal amounts until the tapered surfaces disengage.



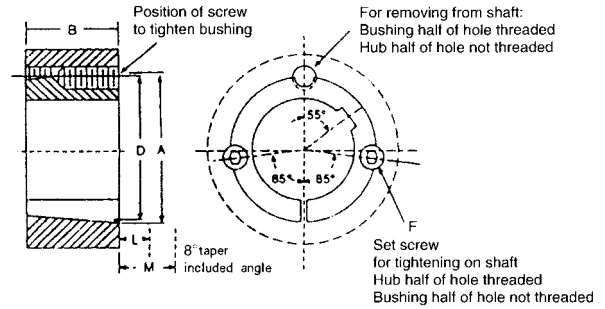
BUSHING

Taper Bushings Dimensions

No.1008 to 3030 Taper Bushing

Bushing Number	Bore	wt.	Bushing Keyseat	shaft Keyseat	List Price
1008	1/2 to 9/16	.27	1/8 x 1/16	1/8 x 1/16	9.88
	5/8 to 7/8	.21	3/16 x 3/32	3/16 x 3/32	
	15/16 to 1	.16	1/4 x 1/16 Δ	1/4 x 1/8	
1108	1/2 to 9/16	.33	1/8 x 1/16	1/8 x 1/16	10.10
	5/8 to 7/8	.27	3/16 x 3/32	3/16 x 3/32	
	15/16 to 1	.22	1/4 x 1/8	1/4 x 1/8	
	11/16 to 1 1/8	.17	1/4 x 1/16 Δ	1/4 x 1/8	
1210	1/2 to 9/16	.61	1/8 x 1/16	1/8 x 1/16	11.06
	5/8 to 7/8	.55	3/16 x 3/32	3/16 x 3/32	
	15/16 to 1 1/4	.49	1/4 x 1/8	1/4 x 1/8	
1215	1/2 to 9/16	.8	1/8 x 1/16	1/8 x 1/16	11.43
	5/8 to 7/8	.7	3/16 x 3/32	3/16 x 3/32	
	15/16 to 1 1/4	.6	1/4 x 1/8	1/4 x 1/8	
1310	1/2 to 9/16	.7	1/8 x 1/16	1/8 x 1/16	11.43
	5/8 to 7/8	.7	3/16 x 3/32	3/16 x 3/32	
	15/16 to 1 1/4	.6	1/4 x 1/8	1/4 x 1/8	
	15/16 to 1 3/8	.6	5/16 x 5/32	5/16 x 5/32	
1610	1/2 to 9/16	.9	1/8 x 1/16	1/8 x 1/16	12.32
	5/8 to 7/8	.8	3/16 x 3/32	3/16 x 3/32	
	15/16 to 1 1/4	.7	1/4 x 1/8	1/4 x 1/8	
	15/16 to 1 3/8	.7	5/16 x 5/32	5/16 x 5/32	
	17/16 to 1 1/2	.6	3/8 x 3/16	3/8 x 3/16	
1615	1/2 to 9/16	1.2	1/8 x 1/16	1/8 x 1/16	13.72
	5/8 to 7/8	1.1	3/16 x 3/32	3/16 x 3/32	
	15/16 to 1 1/4	1.0	1/4 x 1/8	1/4 x 1/8	
	15/16 to 1 3/8	.8	5/16 x 5/32	5/16 x 5/32	
	17/16 to 1 1/2	.7	3/8 x 3/16	3/8 x 3/16	
2012	1/2 to 9/16	1.7	1/8 x 1/16	1/8 x 1/16	14.62
	5/8 to 7/8	1.6	3/16 x 3/32	3/16 x 3/32	
	15/16 to 1 1/4	1.5	1/4 x 1/8 Δ	1/4 x 1/8	
	15/16 to 1 3/8	1.4	5/16 x 5/32	5/16 x 5/32	
	17/16 to 1 3/4	1.2	3/8 x 3/16	3/8 x 3/16	
	1 13/16 to 1 7/8	1.0	1/2 x 1/4	1/2 x 1/4	
2517	1/2 to 9/16	3.5	1/8 x 1/16	1/8 x 1/16	20.75
	5/8 to 7/8	3.4	3/16 x 3/32	3/16 x 3/32	
	15/16 to 1 1/4	3.3	1/4 x 1/8	1/4 x 1/8	
	15/16 to 1 3/8	3.2	5/16 x 5/32	5/16 x 5/32	
	17/16 to 1 3/4	3.0	3/8 x 3/16	3/8 x 3/16	
	1 13/16 to 2 1/4	2.4	1/2 x 1/4	1/2 x 1/4	
	2 5/16 to 2 1/2	1.9	5/8 x 3/16 Δ	5/8 x 5/16	
2525	3/4 to 7/8	4.9	3/16 x 3/32	3/16 x 3/32	29.26
	15/16 to 1 1/4	4.7	1/4 x 1/8	1/4 x 1/8	
	15/16 to 1 3/8	4.5	5/16 x 5/32	5/16 x 5/32	
	17/16 to 1 3/4	4.2	3/8 x 3/16	3/8 x 3/16	
	1 13/16 to 2 1/4	3.3	1/2 x 1/4	1/2 x 1/4	
	2 5/16 to 2 1/2	2.5	5/8 x 3/16 Δ	5/8 x 5/16	
3020	15/16 to 1 1/4	6.5	1/4 x 1/8	1/4 x 1/8	32.41
	15/16 to 1 3/8	6.3	5/16 x 5/32	5/16 x 5/32	
	17/16 to 1 3/4	6.0	3/8 x 3/16	3/8 x 3/16	
	1 13/16 to 2 1/4	5.3	1/2 x 1/4	1/2 x 1/4	
	2 5/16 to 2 3/4	4.5	5/8 x 5/16	5/8 x 5/16	
3030	15/16 to 1 1/4	9.2	1/4 x 1/8	1/4 x 1/8	46.58
	15/16 to 1 3/8	8.9	5/16 x 5/32	5/16 x 5/32	
	17/16 to 1 3/4	8.6	3/8 x 3/16	3/8 x 3/16	
	1 13/16 to 2 1/4	7.6	1/2 x 1/4	1/2 x 1/4	
	2 5/16 to 2 3/4	6.2	5/8 x 5/16	5/8 x 5/16	
2 13/16 to 3	5.0	3/4 x 1/4 Δ	3/4 x 3/8		

1008 thru 3030 sizes



Bshing Number	A	B	CΦ			D	F†	L*		M*	
			Class 20 Gray Iron	Class 30 Gray Iron	Steel			Standard Hex. Key	Short Key‡	Standard Hex. Key	Short Key‡
1008	1.386	7/8	23/8	23/16	115/16	121/64	1/4 x 1/2	1 1/8	5/8	1 1/4	3/4
1108	1.511	7/8	2 1/2	25/16	2 1/16	129/64	1/4 x 1/2	1 1/8	5/8	1 1/4	3/4
1210	17/8	1	35/8	3 1/4	27/8	13/4	3/8 x 5/8	1 3/8	13/16	15/8	1 1/16
1215	17/8	1 1/2	3 1/8	27/8	25/8	13/4	3/8 x 5/8	1 3/8	13/16	15/8	1 1/16
1310	2	1	3 3/4	3 3/8	3	17/8	3/8 x 5/8	1 3/8	13/16	15/8	1 1/16
1610	2 1/4	1	4	3 5/8	3 1/4	2 1/8	3/8 x 5/8	1 3/8	13/16	15/8	1 1/16
1615	2 1/4	1 1/2	3 1/2	3 1/4	3	2 1/8	3/8 x 5/8	1 3/8	13/16	15/8	1 1/16
2012	2 3/4	1 1/4	4 3/4	4 3/8	37/8	2 5/8	7/16 x 7/8	1 9/16	15/16	2	1 3/8
2517	3 3/8	1 3/4	5 1/2	4 7/8	4 3/8	3 1/4	1/2 x 1	1 5/8	1	2 1/4	1 5/8
2525	3 3/8	2 1/2	4 3/4	4 1/2	4 1/4	3 1/4	1/2 x 1	1 5/8	1	2 1/4	1 5/8
3020	4 1/4	2	7	6 1/4	5 5/8	4	5/8 x 1 1/4	1 13/16	13/16	2 11/16	2 1/16
3030	4 1/4	3	6 1/4	5 3/4	5 3/8	4	5/8 x 1 1/4	1 13/16	13/16	2 11/16	2 1/16

