READ THESE INSTRUCTIONS CAREFULLY BEFORE STARTING INSTALLATION

PRECISION PULLEY & IDLER

OPERATION & MAINTENANCE

QD® BUSHING

INSTALLATION

Follow all instructions carefully. This is necessary to insure satisfactory performance of both pulley and bushings. For units that have had the shaft installed at the factory, retighten the capscrews with a torque wrench set at the proper value, as stated in Table 1.

1. Before installing the bushing, polish the following components:
   - Surface of shaft.
   - Bore of the bushing.
   - Tapered inside diameter of the QD hub.
   - Tapered outside diameter of the QD bushing.

Remove all burrs and foreign material; any particles left on the mating surfaces may cause improper installation. Do not lubricate mating surfaces.

2. If pulley is to be keyed to shaft, make sure both shaft and bushing keyways are clean, smooth, and free from burrs. Check key size with both shaft and bushing keyways. Keys should be placed into the shaft keyways at this time. Pulley bushing keyways require alignment of both shaft keyways for proper bushing to hub installation.
3. Place shaft into pulley and locate the desire position. Be careful not to damage the bore of the hubs.
4. Carefully insert a wedge in the bushing split and tap lightly to expand the bushing. Use caution as excessive expansion will cause the bushing to split. Slip bushings onto shaft and into hubs with the drilled holes of the bushings lined up with the threaded holes of the hub.
5. Place capscrews, including locking washers, into the unthreaded holes of each bushing and hand tighten capscrews into the threaded holes of the hub.
6. Remove the wedge from the bushing split.
7. Tighten capscrews in each bushing slightly so that bushings are snug in hubs.
8. Using an accurate torque wrench and the recommended torque from Table 1, tighten capscrews alternately and evenly in one bushing only. Use the numbered sequence on the bushing flange capscrew heads in the Diagrams, starting with 1 first, 2 second, etc., with all capscrews being used until the specified torque no longer turns the capscrews.

Diagram A

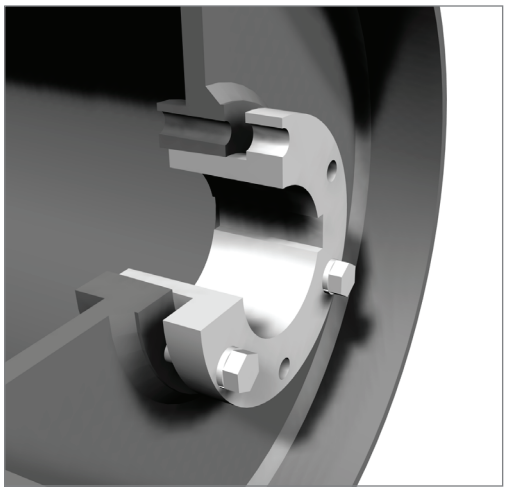


Table 1

Recommended QD Capscrew Torque

HUB	#	Diameter (UNRC)	Length	Torque (in lbs)	Torque (N - M)
SH	3	1/4	1 1/4	108	12
SDS	3	1/4	1 1/4	108	12
SK	3	5/16	1 1/2	200	23
SF	3	3/8	2	360	41
E	3	1/2	2 1/2	720	81
F	3	9/16	2 1/2	900	102
JS	3	5/8	2 1/2	1,620	183
MS	4	3/4	3	2,700	305
NS	4	7/8	3 1/2	3,600	407
PS	4	1	3 1/2	5,400	610
WS	4	1 1/8	4	7,200	814

It is recommended to use a hammer and a heavy steel or bronze bar, drift on the face of the bushing, starting opposite the split. Avoid drifting outside of the bolt circle. This will aid in seating of the shallow taper of a QD bushing.

Do not exceed recommended torque from Table 1 in attempt to pull bushing flange flush with hub face – there should be clearance when tightened. If bushing flange is pulled flush with hub face while tightening capscrews to recommended torque, check for undersized shaft.

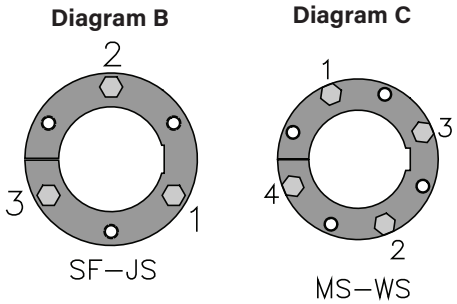
9. Repeat for the second bushing.

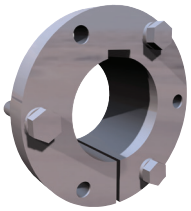
MAINTENANCE

During the first month of operation, inspect bushings and capscrews for proper seating at least once a week and re-torque as necessary. Thereafter inspect the bushings during periodic shutdowns.

REMOVAL

1. Remove all capscrews.
2. Insert the capscrews into all threaded removal holes on bushings.
3. Tighten capscrews alternately and evenly in one bushing only until bushing is loosened in hub. If bushing does not loosen immediately, tap on hub with a soft hammer.
4. Remove bushing from the shaft. The use of a wedge carefully inserted in the split of the flange will expand the bushing to make it easier to slide off the the shaft.
5. Remove the second bushing per steps 1-4.





QD® KEY SIZES

HUB	Bore Range	Keyway		Keystock
		Shaft	Bushing	
SH	5/8-7/8	3/16 x 3/32	3/16 x 3/32	3/16 x 3/16
	15/16 - 1 1/4	1/4 x 1/8	1/4 x 1/8	1/4 x 1/4
	1 5/16 - 1 3/8	5/16 x 5/32	5/16 x 5/32	5/16 x 5/16
	1 7/16 - 1 5/8	3/8 x 3/16	3/8 x 1/16	3/8 x 1/4
SDS	5/8-7/8	3/16 x 3/32	3/16 x 3/32	3/16 x 3/16
	15/16 - 1 1/4	1/4 x 1/8	1/4 x 1/8	1/4 x 1/4
	1 5/16 - 1 3/8	5/16 x 5/32	5/16 x 5/32	5/16 x 5/16
	1 7/16 - 1 5/8	3/8 x 3/16	3/8 x 3/16	3/8 x 3/8
	1 11/16 - 1 3/4	3/8 x 3/16	3/8 x 1/8	3/8 x 5/16
	1 13/16 - 2	NONE	NONE	NONE
SK	15/16 - 1 1/4	1/4 x 1/8	1/4 x 1/8	1/4 x 1/4
	1 5/16 - 1 3/8	5/16 x 5/32	5/16 x 5/32	5/16 x 5/16
	1 7/16 - 1 3/4	3/8 x 3/16	3/8 x 3/16	3/8 x 3/8
	1 13/16 - 2 1/8	1/2 x 1/4	1/2 x 1/4	1/2 x 1/2
	2 3/16 - 2 1/4	1/2 x 1/4	1/2 x 1/8	1/2 x 3/8
	2 5/16 - 2 1/2	5/8 x 5/16	5/8 x 1/16	5/8 x 3/8
SF	15/16 - 1 1/4	1/4 x 1/8	1/4 x 1/8	1/4 x 1/4
	1 5/16 - 1 3/8	5/16 x 5/32	5/16 x 5/32	5/16 x 5/16
	1 7/16 - 1 3/4	3/8 x 3/16	3/8 x 3/16	3/8 x 3/8
	1 13/16 - 2 1/4	1/2 x 1/4	1/2 x 1/4	1/2 x 1/2
	2 5/16	5/8 x 5/16	5/8 x 5/16	5/8 x 5/8
	2 3/8 - 2 1/2	5/8 x 5/16	5/8 x 3/16	5/8 x 1/2
	2 9/16 - 2 3/4	5/8 x 5/16	5/8 x 1/16	5/8 x 3/8
	2 13/16 - 2 15/16	NONE	NONE	NONE
E	1 7/16 - 1 3/4	3/8 x 3/16	3/8 x 3/16	3/8 x 3/8
	1 13/16 - 2 1/4	1/2 x 1/4	1/2 x 1/4	1/2 x 1/2
	2 5/16 - 2 3/4	5/8 x 5/16	5/8 x 5/16	5/8 x 5/8
	2 13/16 - 2 7/8	3/4 x 3/8	3/4 x 3/8	3/4 x 3/4
	2 15/16 - 3 1/4	3/4 x 3/8	3/4 x 1/8	3/4 x 1/2
	3 5/16 - 3 1/2	NONE	NONE	NONE
F	1 15/16 - 2 1/4	1/2 x 1/4	1/2 x 1/4	1/2 x 1/2
	2 5/16 - 2 3/4	5/8 x 5/16	5/8 x 5/16	5/8 x 5/8
	2 13/16 - 3 1/4	3/4 x 3/8	3/4 x 3/8	3/4 x 3/4
	3 5/16 - 3 3/4	7/8 x 7/16	7/8 x 3/16	7/8 x 5/8
	3 13/16 - 4	NONE	NONE	NONE
JS	2 15/16 - 3 1/4	3/4 x 3/8	3/4 x 3/8	3/4 x 3/4
	3 5/16 - 3 3/4	7/8 x 7/16	7/8 x 7/16	7/8 x 7/8
	3 13/16	1 x 1/2	1 x 1/2	1 x 1
	3 7/8 - 4	1 x 1/2	1 x 1/4	1 x 3/4
	4 1/16 - 4 1/2	1 x 1/2	1 x 1/8	1 x 5/8
MS	2 15/16 - 3 1/4	3/4 x 3/8	3/4 x 3/8	3/4 x 3/4
	3 5/16 - 3 3/4	7/8 x 7/16	7/8 x 7/16	7/8 x 7/8
	3 13/16 - 4 1/2	1 x 1/2	1 x 1/2	1 x 1
	4 9/16 - 4 3/4	1 1/4 x 5/8	1 1/4 x 5/8	1 1/4 x 1 1/4
	4 13/16 - 5 1/4	1 1/4 x 5/8	1 1/4 x 3/8	1 1/4 x 1
	5 5/16 - 5 1/2	1 1/4 x 5/8	1 1/4 x 1/4	1 1/4 x 7/8
NS	3 7/16 - 3 3/4	7/8 x 7/16	7/8 x 7/16	7/8 x 7/8
	3 13/16 - 4 1/2	1 x 1/2	1 x 1/2	1 x 1
	4 9/16 - 5 1/4	1 1/4 x 5/8	1 1/4 x 5/8	1 1/4 x 1 1/4
	5 5/16 - 5 1/2	1 1/4 x 5/8	1 1/4 x 3/8	1 1/4 x 1
	5 9/16 - 6	1 1/2 x 3/4	1 1/2 x 1/4	1 1/2 x 1
PS	3 15/16 - 4 1/2	1 x 1/2	1 x 1/2	1 x 1
	4 9/16 - 5 1/2	1 1/4 x 5/8	1 1/4 x 5/8	1 1/4 x 1 1/4
	5 9/16 - 6 1/4	1 1/2 x 3/4	1 1/2 x 3/4	1 1/2 x 1 1/2
	6 5/16-6 1/2	1 1/2 x 3/4	1 1/2 x 1/2	1 1/2 x 1 1/4
	6 9/16-7	1 3/4 x 3/4	1 3/4 x 1/4	1 3/4 x 1
WS	5 15/16 - 6 1/2	1 1/2 x 3/4	1 1/2 x 3/4	1 1/2 x 1 1/2
	6 9/16 - 7 1/2	1 3/4 x 3/4	1 3/4 x 3/4	1 3/4 x 1 1/2
	7 9/16 - 8 1/8	2 x 3/4	2 x 3/4	2 x 1 1/2
	8 3/16 - 8 1/2	2 x 3/4	2 x 1/4	2 x 1

Unshaded keysizes are FULL Depth Keys

Keys are provided for shaded cells only, (non-standard key sizes)

QD® METRIC KEY SIZES

METRIC DIMENSIONS (mm)						DIMENSIONS CONVERTED TO ENGLISH UNITS (in)				
HUB	Bore	Shaft	Bushing	Keystock	Length	HUB	Bore	Key Width	Key Height	Length
SF	20	6 x 3.5	6 x 2.8	6 x 6	53	SF	0.787	0.236	0.236	2 1/16
	25 - 30	8 x 4	8 x 3.3	8 x 7			0.984 - 1.181	0.315	0.276	
	35	10 x 5	10 x 3.3	10 x 8			1.378	0.394	0.315	
	40	12 x 5	12 x 3.3	12 x 8			1.575	0.472	0.315	
	45 - 50	14 x 5.5	14 x 3.8	14 x 9			1.772 - 1.969	0.551	0.354	
	55	16 x 6	16 x 4.3	16 x 10			2.165	0.63	0.394	
	60	18 x 7	18 x 4.4	18 x 11			2.362	0.709	0.433	
	65 - 75	None	None	None			2.559 - 2.953	None	None	
E	20	6 x 3.5	6 x 2.8	6 x 6	70	E	0.787	0.236	0.236	2 3/4
	25 - 30	8 x 4	8 x 3.3	8 x 7			0.984 - 1.181	0.315	0.276	
	35	10 x 5	10 x 3.3	10 x 8			1.378	0.394	0.315	
	40	12 x 5	12 x 3.3	12 x 8			1.575	0.472	0.315	
	45 - 50	14 x 5.5	14 x 3.8	14 x 9			1.772 - 1.969	0.551	0.354	
	55	16 x 6	16 x 4.3	16 x 10			2.165	0.63	0.394	
	60 - 65	18 x 7	18 x 4.4	18 x 11			2.362 - 2.559	0.709	0.433	
	70	20 x 7.5	20 x 4.9	20 x 12			2.756	0.787	0.472	
	75 -90	None	None	None			2.953 - 3.543	None	None	
F	25 - 30	8 x 4	8 x 3.3	8 x 7	95	F	0.984 - 1.181	0.315	0.276	3 3/4
	35	10 x 5	10 x 3.3	10 x 8			1.378	0.394	0.315	
	40	12 x 5	12 x 3.3	12 x 8			1.575	0.472	0.315	
	45 - 50	14 x 5.5	14 x 3.8	14 x 9			1.772 - 1.969	0.551	0.354	
	55	16 x 6	16 x 4.3	16 x 10			2.165	0.63	0.394	
	60 - 65	18 x 7	18 x 4.4	18 x 11			2.362 - 2.559	0.709	0.433	
	70 - 75	20 x 7.5	20 x 4.9	20 x 12			2.756 - 2.953	0.787	0.472	
	80 - 85	22 x 9	22 x 5.4	22 x 14			3.150 - 3.346	0.866	0.551	
	90	25 x 9	25 x 5.4	25 x 14			3.543	0.984	0.551	
	95 - 100	None	None	None			3.740 - 3.937	None	None	
JS	35	10 x 5	10 x 3.3	10 x 8	85	JS	1.378	0.394	0.315	3 3/8
	40	12 x 5	12 x 3.3	12 x 8			1.575	0.472	0.315	
	45 - 50	14 x 5.5	14 x 3.8	14 x 9			1.772 - 1.969	0.551	0.354	
	55	16 x 6	16 x 4.3	16 x 10			2.165	0.63	0.394	
	60 - 65	18 x 7	18 x 4.4	18 x 11			2.362 - 2.559	0.709	0.433	
	70 - 75	20 x 7.5	20 x 4.9	20 x 12			2.756 - 2.953	0.787	0.472	
	80 - 85	22 x 9	22 x 5.4	22 x 14			3.150 - 3.346	0.866	0.551	
	90 - 95	25 x 9	25 x 5.4	25 x 14			3.543 - 3.740	0.984	0.551	
	100 - 110	28 x 10	28 x 6.4	28 x 16			3.937 - 4.331	1.102	0.63	
MS	65	18 x 7	18 x 4.4	18 x 11	122	MS	2.559	0.709	0.433	4 13/16
	70 - 75	20 x 7.5	20 x 4.9	20 x 12			2.756 - 2.953	0.787	0.472	
	80 - 85	22 x 9	22 x 5.4	22 x 14			3.150 - 3.346	0.866	0.551	
	90 - 95	25 x 9	25 x 5.4	25 x 14			3.543 - 3.740	0.984	0.551	
	100 - 110	28 x 10	28 x 6.4	28 x 16			3.937 - 4.331	1.102	0.63	
	115 -130	32 x 11	32 x 7.4	32 x 18			4.528 - 5.118	1.26	0.709	
NS	100 - 110	28 x 10	28 x 6.4	28 x 16	152	NS	3.937 - 4.331	1.102	0.63	6
	115 -130	32 x 11	32 x 7.4	32 x 18			4.528 - 5.118	1.26	0.709	
	135-140	36 x 12	36 x 8.4	36 x 20			5.312 - 5.512	1.417	0.787	
PS	150	36 x 12	36 x 8.4	36 x 20	165	PS	5.906	1.417	0.787	6 1/2
	160	40 x 13	40 x 9.4	40 x 22			6.299	1.575	0.866	
WS	170	40 x 13	40 x 9.4	40 x 22	184	WS	6.693	1.575	0.866	7 1/4
	180	45 x 15	45 x 10.4	45 x 25			7.087	1.772	0.984	

CORPORATE OFFICE • P.O. Box 287 • Pella, IA 50219
800.247.1228 • 641.628.3115 • 641.628.3658 FAX