

# PCI

## CONVEYOR PULLEYS

- Standard Duty ■ Medium Duty ■ Heavy Duty Drum
- Mine Duty Drum ■ Heavy Duty Wing ■ Mine Duty Wing
- Stainless Steel ■ Take-Up Frames & Covers
- Pulley Axles ■ Lagging ■ Hubs
- Bushings



## Hub Selection

When choosing a hub and bushing system, it is important to understand the different design features and the effects they have on conveyor pulley applications. Consider a design that minimizes end disk prestressing, grips the shaft firmly, is easily removed, and is not adversely affected by the bending moments on the pulley shaft.

## XT<sup>®</sup> Hubs and Bushings

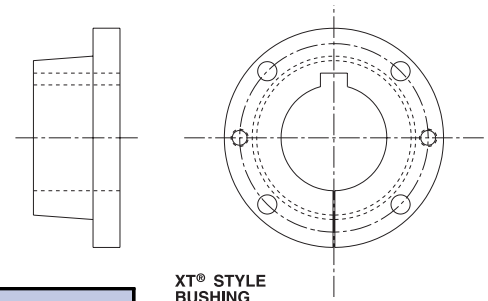
The XT<sup>®</sup> Hub and Bushing system was specifically designed for use in conveyor pulleys with two hubs.

The XT<sup>®</sup> design has a steep taper angle, 2" taper per foot, which minimizes the end disk deflection or prestressing that occurs when bushings are installed. The reduction in end disk prestressing reduces the likelihood of end disk fatigue.

A steep taper angle will reduce the clamping pressure on the shaft, but the XT<sup>®</sup> design compensates by increasing the number and size of the bolts used to install the bushing.

The taper angle on the XT<sup>®</sup> design is self-locking, which alleviates bolt breakage experienced on bushings with a taper angle greater than 2" taper per foot.

The holes used to install and remove the bushing are spaced equally around the bushing split and keyway. Upon installation, this balances the load required at each bolt location, which provides consistent contact pressure on the shaft. During removal, the equally spaced jack-screws eliminate the chance of bushing breakage. The steep taper angle requires less force to remove the bushing, further reducing the chance of bushing breakage (see picture below).

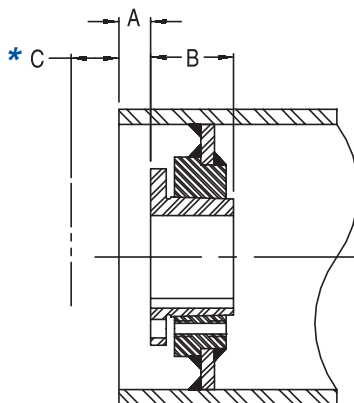


XT <sup>®</sup> Style	MAX. BORE WITH:		DIMENSIONS					
	FULL KEYWAY	SHALLOW KEYWAY	A	B	C	D	E	F
XT15	1-1/4	1-1/2	.750	1.125	.437	1.562	1.125	.000
XT20	1-11/16	2	.625	1.406	.844	.750	1.406	.875
XT25	2-3/16	2-7/16	.500	1.875	1.500	1.187	1.875	1.000
XT30	2-11/16	2-15/16	.625	2.062	1.156	1.062	2.062	.750
XT35	2-15/16	3-7/16	.625	2.469	1.437	1.812	2.469	.250
XT40	3-7/16	3-15/16	.937	2.812	1.437	1.687	2.812	.687
XT45	3-15/16	4-7/16	.937	3.312	1.719	1.437	3.312	1.250
XT50	4-15/16	-	.937	3.750	2.031	2.000	3.750	1.000
XT60	6	-	.937	4.125	2.125	.937	4.125	2.125
XT70	7	-	1.125	4.687	2.500	1.125	4.687	2.500
XT80	8	-	1.125	5.125	3.062	1.125	5.125	3.062
XT100	10	-	1.125	6.187	3.062	1.125	6.187	3.062
XT120	12	-	1.125	7.062	3.062	1.125	7.062	3.062

## Hub Sizing

To select a hub size, choose the smallest hub that will allow the shaft size determined per ANSI/CEMA B105.1-1992. Torsional loading and shallow keyways may also affect hub sizing.

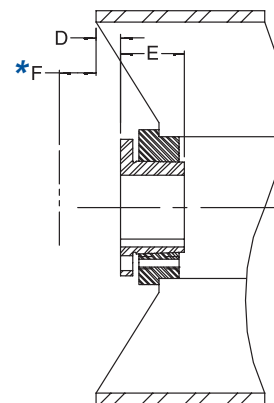
## XT<sup>®</sup> Drum Pulley



\*C = Space required to remove bushing using jackscrews with short hex key or open end wrench.

\*F = Space required to remove bushing using jackscrews with short hex key or open end wrench.

## XT<sup>®</sup> Wing Pulley



### Hub Selection

When choosing a hub and bushing system, it is important to understand the different design features and the effects they have on conveyor pulley applications. Consider a design that minimizes end disk prestressing, grips the shaft firmly, is easily removed, and is not adversely affected by the bending moments on the pulley shaft.

### QD<sup>®</sup> Hubs and Bushings

The QD<sup>®</sup> Hub and Bushing system was designed primarily for use in sprockets and sheaves with one hub and has been widely used in conveyor pulleys due to its availability.

The QD<sup>®</sup> design has a shallow taper angle, 3/4" taper per foot, which causes the end disk to deflect or prestress when bushings are installed.

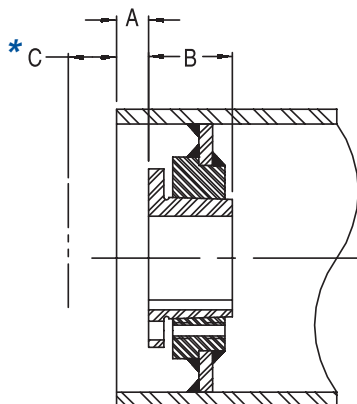
### Hub Sizing

To select a hub size, choose the smallest hub that will allow the shaft size determined per ANSI/CEMA B105.1-1992. Torsional loading and shallow keyways may also affect hub sizing.

QUICK-DETACH HUBS FOR QUICK-DETACH BUSHINGS								
PCI HUB Part #	A	B	C	D	E	F	G***	
							SPACE REQ'D FOR TIGHTENING BUSHING	SPACE REQ'D FOR LOOSENING BUSHING
JA	2.312	.562	.375	.187	2.125*	(3) #10	1.125	1.562
SH	3.000	.812	.500	.312	2.875*	(3) 1/4"	1.562	2.125
SDS	3.625	.750	.437	.312	3.375*	(3) 1/4"	1.562	2.125
SK	4.625	1.250	.375	.875	4.375*	(3) 5/16"	2.312	2.375
SF	5.250	1.250	.375	.875	5.000*	(3) 3/8"	2.437	3.312
E	6.500	1.500	.500	1.000	6.250*	(3) 1/2"	3.187	4.437
FS	6.875	1.750	.500	1.250	6.625*	(3) 9/16"	4.187	5.500
JS	7.625	2.000	.500	1.500	7.250*	(3) 5/8"	3.937	5.500
MS	9.500	2.250	.750	1.500	9.000*	(4) 3/4"	....	....
NS	10.500	2.500	.750	1.750	10.000*	(4) 7/8"	....	....
PS	12.000	3.000	.875	2.125	11.500**	(4) 1"	....	....

QD <sup>®</sup> Style	MAX. BORE WITH:			DIMENSIONS					
	FULL KEYWAY	SHALLOW KEYWAY	NO KEYWAY	A	B	C	D	E	F
JA	1	1-3/16	1-1/4	.687	1.000	.437	.562	1.000	.562
SH	1-3/8	1-5/8	1-11/16	.750	1.312	.812	.625	1.312	.937
SDS	1-5/8	1-15/16	2	.750	1.312	.812	.625	1.312	.937
SK	2-1/8	2-1/2	2-5/8	.812	1.937	1.437	.687	1.937	1.562
SF	2-5/16	2-13/16	2-15/16	.875	2.062	1.375	.750	2.062	1.500
E	2-7/8	3-1/2	-	1.000	2.750	2.062	.875	2.750	2.187
F	3-1/4	3-15/16	4	1.062	3.750	2.937	.937	3.750	3.062
JS	3-7/8	4-1/2	-	1.125	3.375	1.812	1.000	3.375	1.937
MS	4-3/4	5-1/2	-	1.250	4.812	2.250	1.125	4.812	2.375
NS	5	6	-	1.312	6.000	2.750	1.187	6.000	2.875
PS	5-15/16	7	-	1.375	6.500	3.750	1.250	6.500	3.875
WS	8-1/8	8-1/2	-	1.562	7.250	4.125	1.437	7.250	4.250
SS	9-1/2	10	-	1.625	8.750	4.187	1.500	8.750	4.312
ZS	12	-	-	1.562	8.750	4.125	1.437	8.750	4.250

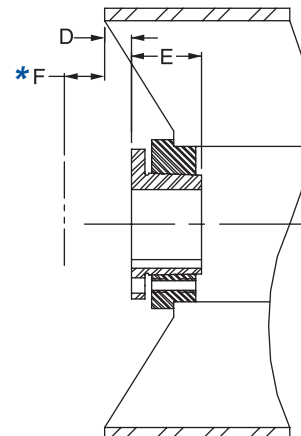
### QD<sup>®</sup> Drum Pulley



\*C = Space required to remove bushing using jackscrews with short hex key or open end wrench.

\*F = Space required to remove bushing using jackscrews with short hex key or open end wrench.

### QD<sup>®</sup> Wing Pulley





# Taper-Lock® Hub Selection

## Taper-Lock®

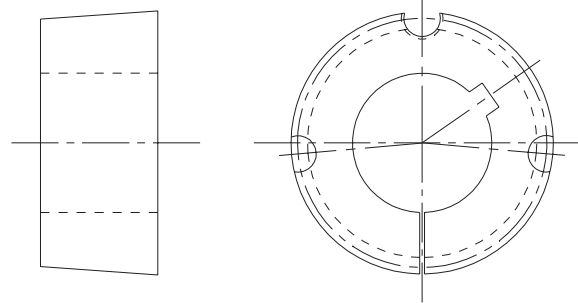
The Taper-Lock® Hub and Bushing system was designed primarily for use in sprockets and sheaves with one hub and has been used in conveyor pulleys due to its availability.

The Taper-Lock® design has a taper angle of 8 degrees, or 1-11/16" taper per foot, which minimizes end disk deflection. However, of all hub and bushing systems, it has the lowest ability to "grip" the shaft.

When a Taper-Lock® bushing is installed, it is flush with the outer surface of the hub providing a clean appearance.

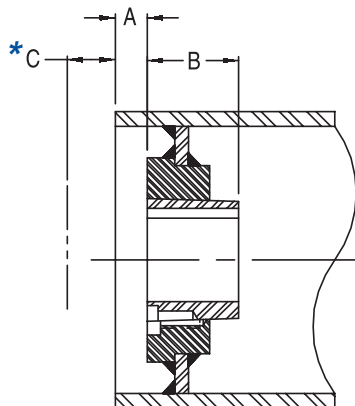
## Hub Sizing

To select a hub size, choose the smallest hub that will allow the shaft size determined per ANSI/CEMA B105.1-1992. Torsional loading and shallow keyways may also affect hub sizing.



TAPER-LOCK® K-Style	TAPERED BUSHING	MAX. BORE WITH:		DIMENSIONS			DIMENSIONS		
		FULL KEYWAY	SHALLOW KEYWAY	A	B	C	D	E	F
K12	1210	1-1/4	-	.750	1.000	.312	1.437	1.000	.000
K16	1610	1-1/2	1-5/8	.750	1.000	.312	1.437	1.000	.000
K20	2012	1-7/8	2	.750	1.250	.625	1.687	1.250	.000
K25	2517	2-1/4	2-1/2	.750	1.750	.875	1.625	1.750	.000
K30	3020	2-3/4	3	.750	2.000	1.312	1.750	2.000	.375
K35	3535	3-1/4	3-15/16	.750	3.500	1.937	2.750	3.500	.000
K40	4040	3-5/8	4-7/16	.750	4.000	2.625	2.750	4.000	.625
K45	4545	4-1/4	4-15/16	.750	4.500	3.312	2.625	4.500	1.500
K50	5050	5	-	.750	5.000	4.062	3.375	5.000	1.500
K60	6050	6	-	2.000	5.000	2.375	3.375	5.000	1.000
K70	7060	7	-	2.000	6.000	2.375	3.250	6.000	1.125
K80	8065	8	-	2.000	6.500	2.375	3.250	6.500	1.125
K100	10085	10	-	2.000	8.500	3.375	4.000	8.500	1.375
K120	120100	12	-	2.000	10.000	3.375	4.000	10.000	1.375

## Taper-Lock® Drum Pulley



\*C = Space required to remove bushing using jackscrews with short hex key or open end wrench.  
\*F = Space required to remove bushing using jackscrews with short hex key or open end wrench.

## Taper-Lock® Wing Pulley

