QTL Taper Bushings

JA - S

QTL Taper bushings are made of GGG40 ductile iron, and the surface is phosphated. They are fixed with UNC bolts of 12.9 grade, and packed into boxes individually.

Among QTL Taper bushings, type JA-E with inner bores and keyways in inches can be sold off-the-shelf based on the stock with immediate delivery. Type F-S are produced made-to-order with prompt delivery.

QTL Taper bushings in metric dimensions can be produced as well.

QTL Taper Bushing

The QTL bushings are commonly used throughout the industry for convenience and design flexibility. They are made of quality gray or ductile iron and are easily installed by tightening cap screws.

The bushing is inserted into the components that compress the bore of the bushing, gripping the shafts so that no external keys are required. QTL bushings can be easily re-moved by using the cap screws as well.

Double-drilled holes are furnished in QTL bush-ings for mounting the component in the conventional or reverse positions. This allows cap screws to be installed through the hub or bushing flange, whichever is more convenient. No matter which way the component is installed, cap screws are always inserted from the outside where they can be easily assembled.

QTL bushings are available in stock for all popular bores within the range of each bushing size.



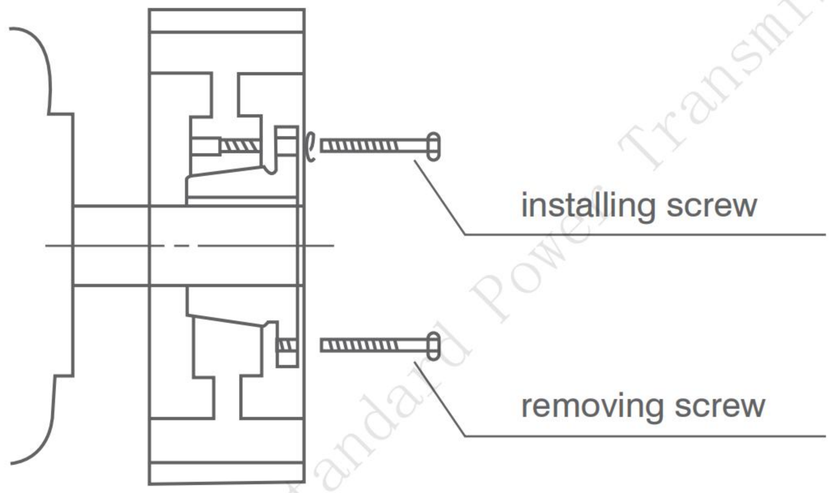
Some power transmission products that may use QTL bushings are pulleys, sprockets, sheaves, couplings, unlimited-fans, inpellers, and/or other products that need to be shaft mounted.

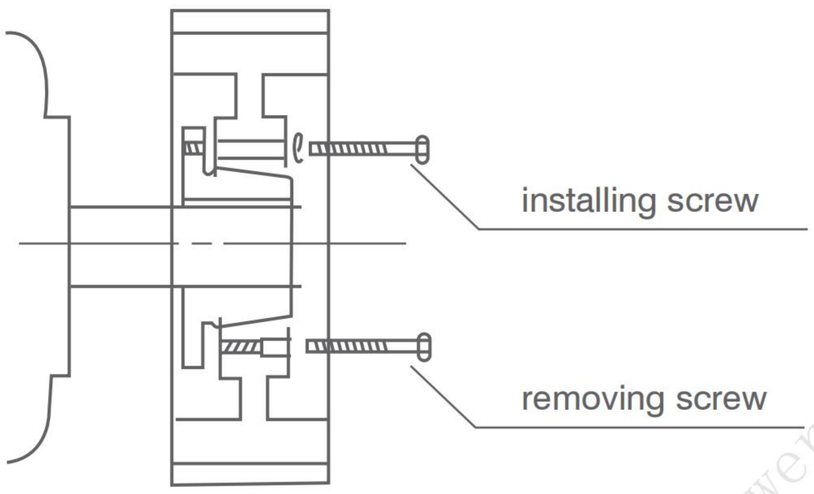
TYPICAL INSTALLATION OF QTL BUSHING ON A MOTOR SHAFT

Reverse Mounting:
Make sure the small end of taper bushing toward the motor as shown in diagram below.

To assemble, place cap screws into bushing flange through drilled holes. Finger tighten the screws into the hub. Slip assembled unit into desired position on shaft, small taper end first. Tighten all cap screws to specified wrench torque.

To remove, simply draw cap screws. As they are loosened up, the grip between bushing and hub will be released.





Conventional Mounting:
Make the bushing flange toward the motor as shown in diagram above.

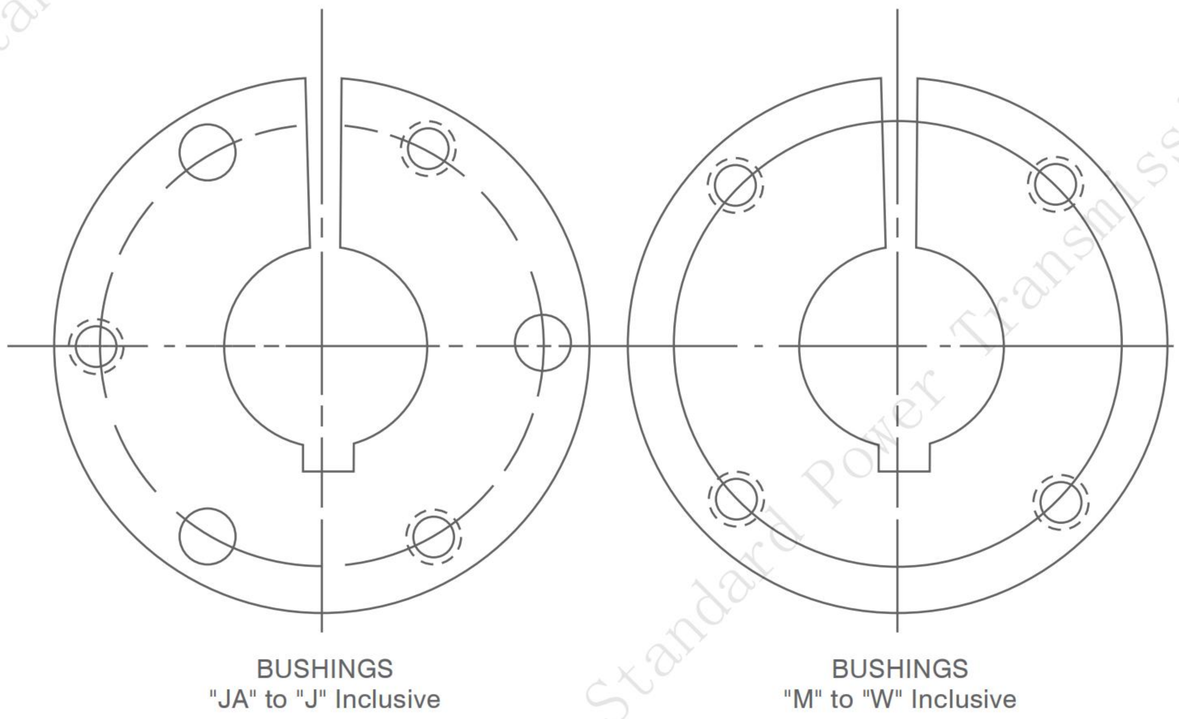
To assemble, place QTL bushing in the hub and insert cap screws into the hub through drilled holes. Finger tighten cap screws into holes in bushing flange. Slip assemble unit into desired position on shaft, flange end first.Tighten all cap screws to specified wrench torque.

To remove, simply draw cap screws. As they are loosened up, the grip between bushing and hub will be released.

QTL Taper Bushings

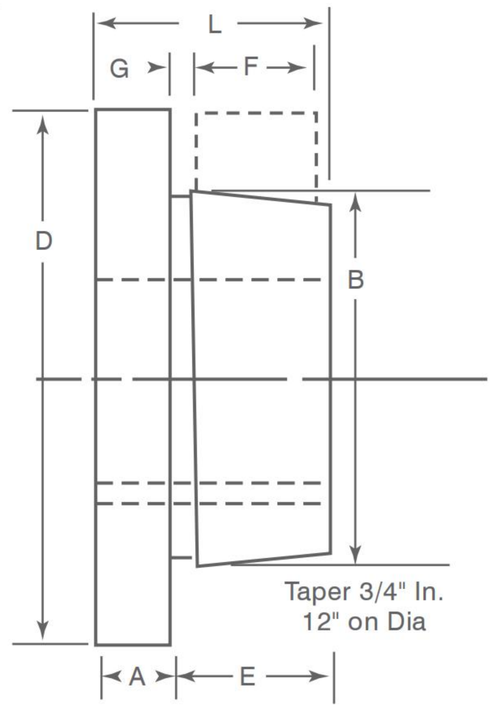
The "QTL" Bushing easily fits over the taper hub. A tight press can be produced on the shaft by tightening the cap screws.The bushing is easily removeable from the hub by using the pull-up bolts as jack bushing in the holes tapped in the rim of the bushing. All hubs, from "JA" to "J", are drilled for REVERSE MOUNTING.





BUSHINGS
"JA" to "J" Inclusive

BUSHINGS
"M" to "W" Inclusive



STOCK QTL BUSHINGS DIMENSIONS

Bushing	DIMENSIONS (Inches) A	B	D	E	* F	** G	L	Bolt Circle	Cap Screws Required	STOCK BORE RANGE Minimum	MAXIMUM Standard Keyway	MAXIMUM Shallow Keyway	Average Weight (Approx)
JA	5/16	1.375	2	11/16	9/16	0.20	1	1.656	3-10x1	3/8	1	1 3/16	0.9
SH	7/16	1.871	2 11/16	7/8	13/16	0.23	1 5/16	2 1/4	3-1/4x13/8	1/2	1 3/8	1 5/8	1.0
SDS	7/16	2.187	3 1/8	7/8	3/4	0.23	1 5/16	2 11/16	3-1/4x13/8	1/2	1 5/8	1 15/16	1.0
SD	7/16	2.187	3 1/8	1 3/8	1 3/4	0.23	1 13/16	2 11/16	3-1/4x17/8	1/2	1 5/8	1 15/16	1.5
SK	9/16	2.812	3 7/8	13/8	1 1/4	0.23	1 15/16	3 5/16	3-5/16x2	1/2	2 1/8	2 1/2	2.0
SF	5/8	3.125	4 5/8	1 7/16	1 1/4	0.23	2 1/16	3 7/8	3-3/8x2	1/2	2 1/4	2 7/8	4.0
E	7/8	3.834	6	1 7/8	1 5/8	0.28	2 3/4	5	3-1/2x2 3/4	7/8	2 7/8	3 1/2	10.5
F	1	4.437	6 5/8	2 3/4	2 1/2	0.34	3 3/4	5 5/8	3-9/16x3 5/8	1	3 1/4	3 15/16	15
J	1 1/8	5.148	7 1/4	3 1/2	3 3/16	0.31	4 5/8	6 1/4	3-5/8x4 1/2	1 1/2	3 13/16	4 1/2	23
M	1 1/4	6.494	9	5 1/2	5 3/16	0.34	6 3/4	7 7/8	4-3/4x6 3/4	2	4 11/16	5 1/2	55
N	1 1/2	6.992	10	6 5/8	6 1/4	0.56	8 1/8	8 1/2	4-7/8x8	2 7/16	5 1/16	5 7/8	73
P+	1 3/4	8.242	11 3/4	7 5/8	7 1/4	0.63	9 3/8	10	4-1x9 1/2	2 15/16	5 13/16	7	120
W+	2	10.437	15	9 3/8	9	0.69	11 3/8	12 3/4	4-1 1/8x11 1/2	4	7 1/2	8 1/2	250
S+	3 1/4	12.125	17 3/4	12 1/2	12	0.75	15 3/4	15	5-1 1/4x15 1/2	6	8 1/4	10	400

+Consult NSPT for delivery

* F =Length of Mating Bore

** G =Gap Between " QTL " Bushing and Mating Hub

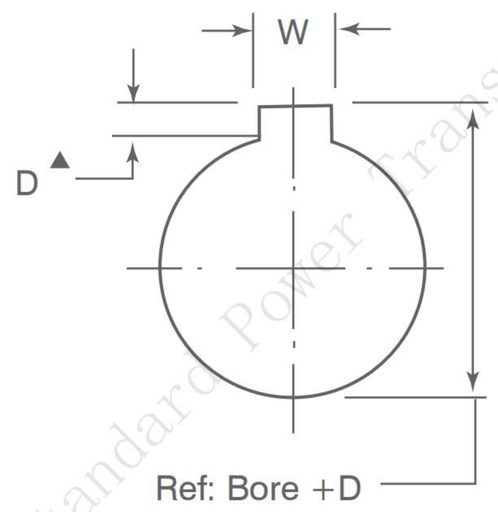
A1 QTL BUSHING DIMENSIONS AND RANGES FOR INNER BORES AND KEYWAY

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KEYS AND KEYWAYS

Bush	Bore	Keyway	Bush	Bore	Keyway	Bush	Bore	Keyway	Bush	Bore	Keyway	Bush	Bore	Keyway	Bush	Bore	Keyway
JA	3/8 7/16	None	SDS SD	1 7/8 1 15/16	1/2x1/16	SF	1 7/16 1 1/2 1 9/16 1 5/8 1 11/16 1 3/4	3/8x3/16	E	2 13/16 2 7/8	3/4x3/8	J	1 1/2 1 9/16 1 5/8 1 11/16 1 3/4	3/8x3/16	M	2 13/16 2 7/8 2 5/16 3 3 1/8 3 3/16 3 1/4	3/4x3/8
	1/2 9/16	1/8x1/16		2	None					2 15/16 3 3 1/8 3 3/16 3 1/4	3/4x1/8		1 13/16 1 7/8 1 15/16 2 2 1/16 2 1/8 2 3/16 2 1/4	1/2x1/4		3 5/16 3 3/8 3 7/16 3 1/2 3 5/8 3 3/4	7/8x7/16
	5/8 11/16 3/4 13/16 7/8	3/16x3/32		1/2 9/16	1/8x1/16					3 5/16 3 3/8 3 7/16 3 1/2	7/8x1/16		2 5/16 2 3/8 2 7/16 2 1/2 2 9/16 2 5/8 2 11/16 2 3/4	5/8x5/16		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	1x1/2
	15/16 1 1 1/16 1 1/8 1 3/16 1 1/4	1/4x1/8		5/8 11/16 3/4 13/16 7/8	3/16x3/32		1 13/16 1 7/8 1 15/16 2 2 1/16 2 1/8 2 3/16 2 1/4	1/2x1/4		1 1 1/16 1 1/8 1 3/16 1 1/4	1/4x1/8		2 13/16 2 7/8 2 15/16 3 3 1/8 3 3/16 3 1/4	3/4x3/8		4 5/8	1 1/4x5/8
	1 5/16 1 3/8	5/16X5/32		1 1/16 1 1/8 1 3/16 1 1/4	1/4x1/8					1 5/16 1 3/8	5/16x5/32		3 5/16 3 3/8 3 7/16 3 1/2 3 5/8 3 3/4	7/8x7/16		4 3/4 4 7/8 4 15/16 5 5 1/4 5 3/8 5 7/16 5 1/2	1 1/4x1/4
	1 7/16 1 1/2 1 9/16 1 5/8	3/8X1/16		1 5/16 1 3/8	5/16x5/32					1 7/16 1 1/2 1 9/16 1 5/8 1 11/16 1 3/4	3/8x3/16		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	1x1/8	N	2 7/16 2 1/2 2 9/16 2 5/8 2 11/16 2 3/4	5/8x5/16
	1 11/16 1 3/4	3/8x1/8		1 7/16 1 1/2 1 9/16 1 5/8 1 11/16 1 3/4	3/8x3/16		1 13/16 1 7/8 1 15/16 2 2 1/16 2 1/8 2 3/16 2 1/4	1/2x1/4		1 13/16 1 7/8 1 15/16 2 2 1/16 2 1/8 2 3/16 2 1/4	1/2x1/4		2 13/16 2 7/8 2 15/16 3 3 1/8 3 3/16 3 1/4	3/4x3/8		2 13/16 2 7/8 2 15/16 3 3 1/8 3 3/16 3 1/4	3/4x3/8
	1 13/16	1/2x1/8		1 13/16 1 7/8 1 15/16 2 2 1/16 2 1/8 2 3/16 2 1/4	1/2x1/4		2 5/16 2 3/8 2 7/16 2 1/2 2 9/16 2 5/8 2 11/16 2 3/4	5/8x5/16		2 5/16 2 3/8 2 7/16 2 1/2 2 9/16 2 5/8 2 11/16 2 3/4	5/8x5/16		3 5/16 3 3/8 3 7/16 3 1/2 3 5/8 3 3/4	7/8x7/16		3 5/16 3 3/8 3 7/16 3 1/2 3 5/8 3 3/4	7/8x7/16
				2 5/16 2 3/8 2 7/16 2 1/2 2 9/16 2 5/8 2 11/16 2 3/4	5/8x5/16		2 13/16 2 7/8 2 15/16 3 3 1/8 3 3/16 3 1/4	3/4x3/8		3 5/16 3 3/8 3 7/16 3 1/2 3 5/8 3 3/4	7/8x3/16	M	2 2 1/16 2 1/8 2 3/16 2 1/4	1/2x1/4		3 7/8 3 15/16 4 4 1/8 4 3/16 4 1/4 4 3/8	1x1/2
				2 13/16 2 7/8 2 15/16 3 3 1/8 3 3/16 3 1/4	3/4x3/8		3 5/16 3 3/8 3 7/16 3 1/2 3 5/8 3 3/4	7/8x3/16		3 7/8 3 15/16 4	1x1/8		2 5/16 2 3/8 2 7/16 2 1/2 2 9/16 2 5/8 2 11/16 2 3/4	5/8x5/16			
				3 5/16 3 3/8 3 7/16 3 1/2 3 5/8 3 3/4	7/8x3/16		4	None									
				3 7/8 3 15/16 4	1x1/8												
				4	None												

A2 BORES AND KEYWAY

Bush	Bore	Keyway	Bush	Bore	Keyway	Bush	Bore	Keyway	Bush	Bore	Keyway
N	4 7/16 4 1/2	1x1/2	P	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	1x1/2	P	6 5/8 6 3/4 6 7/8 7	1 3/4x1/8	W	6 5/8 6 3/4 6 7/8 7 7 1/4 7 3/8 7 1/2	1 3/4x7/8
	4 5/8 4 3/4 4 7/8 4 15/16 5	1 1/4x5/8					4 4 1/8 4 3/16 4 1/4 4 3/8 4 7/16 4 1/2	1x1/2		7 5/8 7 3/4 7 7/8 8 8 1/4 8 3/8 8 1/2	2x1/4
	5 1/4 5 3/8 5 7/16 5 1/2	1 1/4x1/4		4 5/8 4 3/4 4 7/8 4 15/16 5 5 1/4 5 3/8 5 7/16 5 1/2	1 1/4x5/8	W	4 5/8 4 3/4 4 7/8 4 15/16 5 5 1/4 5 3/8 5 7/16 5 1/2	1 1/4x5/8			
	5 5/8 5 3/4 5 7/8	1 1/2x1/4		5 5/8 5 3/4	1 1/2x3/4						
P	2 15/16 3 3 1/8 3 3/16 3 1/4	3/4x3/8		5 7/8 5 15/16 6 6 1/4 6 3/8 6 1/2	1 1/2x1/4		5 5/8 5 3/4 5 7/8 5 15/16 6 6 1/4 6 3/8 6 1/2	1 1/2x3/4			
	3 5/16 3 3/8 3 7/16 3 1/2 3 5/8 3 3/4	7/8x7/16									



ISO STANDARD METHOD
FOR MEASURING KEYSEAT
DEPTH

▲ Depth measured at center line

BORE RANGE FOR QTL BUSHING

Bush. No.	Min. Bore	Max.Bore with:		
		Full Keyway	Shallow Keyway	No Keyway
JA	3/8	1	1 3/16	1 1/4
SH	1/2	1 3/8	1 5/8	1 11/16
SDS	1/2	1 5/8	1 15/16	2
SD	1/2	1 5/8	1 15/16	2
SK	1/2	2 1/8	2 1/2	2 5/8、2 9/16
SF	1/2	2 1/4	2 7/8	2 15/16
E	7/8	2 7/8	3 1/2	—
F	1	3 1/4	3 15/16	4
J	1 1/2	3 13/16	4 1/2	—
M	2	4 11/16	5 1/2	—
N	2 7/16	5 1/16	5 7/8	—
P	2 15/16	5 13/16	7	—
W	4	7/12	8 1/2	—
S	6	8 1/4	10	—

SHALLOW KEY DIMENSION

Key Seat	Key	Key Seat	Key
3/8x1/16	3/8x1/4	7/8x3/16	7/8x5/8
3/8x1/8	3/8x5/16	1x1/16	1x9/16
1/2x1/32	1/2x9/32	1x1/8	1x5/8
1/2x1/16	1/2x5/16	1 1/4x1/4	1 1/4x3/4
1/2x1/8	1/2x3/8	1 1/4x1/4	1 1/4x7/8
5/8x1/16	5/8x3/8	1 1/2x1/8	1 1/2x1
5/8x3/16	5/8x1/2	1 3/4x3/8	1 3/4x3/4
3/4x1/8	3/4x1/2	1 3/4x3/8	1 3/4x1
7/8x1/16	7/8x1/2	2x5/16	2x1

Dimensions:inch

STANDARD KEYWAY & KEY DIMEMSION

Bores	Key Seat	Key
1/2-9/16	1/8x1/16	1/8x1/8
5/8-7/8	3/16x3/32	3/16x3/16
15/16-1 1/4	1/4x1/8	1/4x1/4
1 5/16-1 3/8	5/16x5/32	5/16x5/16
1 7/16-1 3/4	3/8x3/16	3/8x3/8
1 13/16-2 1/4	1/2x1/4	1/2x1/2
2 5/16-2 3/4	5/8x5/16	5/8x5/8
2 13/16-3 1/4	3/4x3/8	3/4x3/4
3 5/16-3 3/4	7/8x7/16	7/8x7/8
3 13/16-4 1/2	1x1/2	1x1
4 9/16-5 1/2	1 1/4x5/8	1 1/4x1 1/4
5 9/16-6 1/2	1 1/2x3/4	1 1/2x1 1/2
6 9/16-7 1/2	1 3/4x7/8	1 3/4x1 3/4

Dimensions:inch