MPTA-B9i-2013

TAPER-LOCK BUSHING & MATING HUB STANDARD

(1008, 1108, 1210, 1215, 1310, 1610, 1615, 2012, 2517, 2525, 3020, 3030, 3525, 3535, 4030, 4040, 4535, 4545, 5040, 5050, 6050, 7060, 8065, 10085, 120100)

MPTA Standard

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Abstract

This standard defines the general dimensions and tolerances for Taper-Lock detachable bushings and mating hubs.

Copyright Position Statement

Foreword

This Foreword is provided for informational purposes only and is not to be construed to be part of any technical specification.

This standard is a revision of TL-1-2000 Guideline and is formatted for consistency with other MPTA documents.

Suggestions for the improvement of, or comments on this publication are welcome. They should be mailed to Mechanical Power Transmission Association, 5672 Strand Ct. Suite 2, Naples, FL 34110 on your company letterhead.

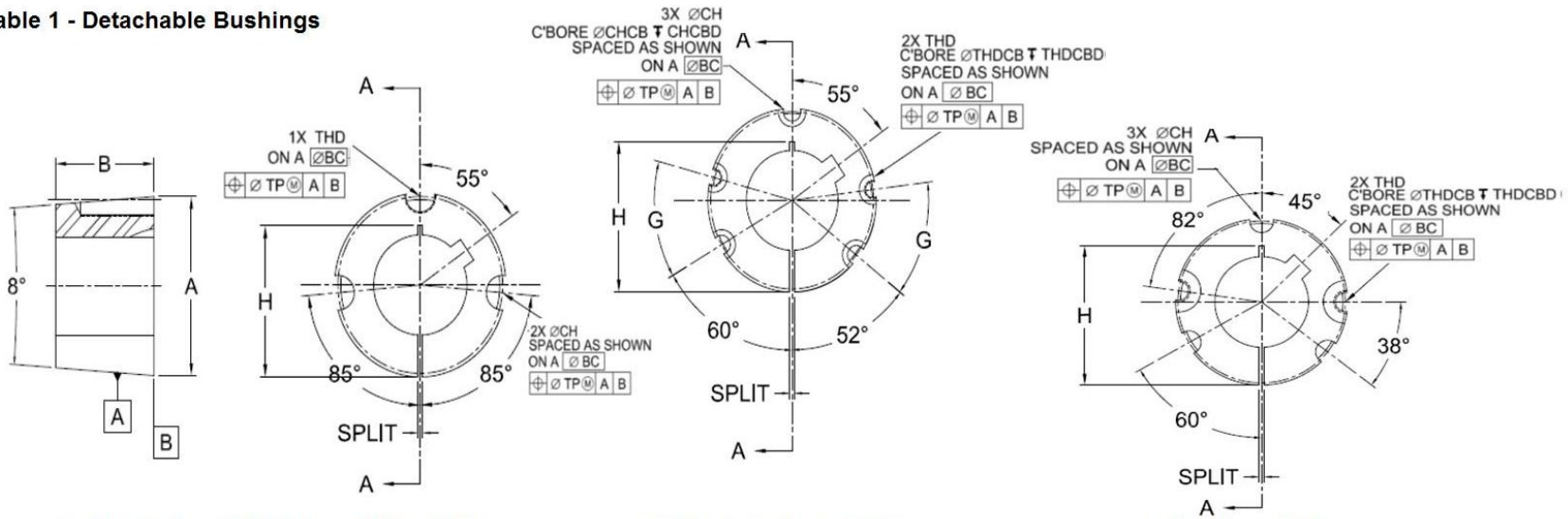
Scope

This standard is intended to provide dimensions and tolerances, which will permit bushings made by one manufacturer to be used to mount sheaves or other products made by a different manufacturer.

The bushing system described in this standard is limited to systems having the following characteristics:

…No external flange
…No external key
…A nominal 8 degree taper angle
…Split through entire bushing

Table 1 - Detachable Bushings



Section A-A **Bushings: 1008 - 3030** **Bushings: 3525 - 5050** **Bushing: 6050**

Dimensions for 1008 thru 6050 TAPER-LOCK® Bushings (Ref. Figures Above)

Bushing No.	Large End Dia.	Length (+/- 1/32)	Hole Spacing	Installation Screws				Bolt Circle	Threaded Hole Info.					Clearance Hole Info.					True Position (+/-)	Split Info.		
				Qty.	Size	Min. Thread Length	Type		Qty.	Thread Size	Depth (min.)	C'Bore Dia.	C'Bore Depth (-0/+1/8)	Qty.	Hole Size	Depth (min.)	C'Bore Dia.	C'hole depth (-0/+1/32)		Min Split (in)	Max Split (in)	Split Depth (Max.)
	A	B	G					BC		THD		THDCB	THDCBD		CH	CHD	CHCB	CHCBD	TP			H
1008	1.376 / 1.382	0.87	None	2	1/4-20NC x 1/2	Full	OPSS	1.33	1	1/4-20NC	27/32	None	None	2	17/64	15/32	None	None	0.004	0.040	0.130	1.16
1108	1.501 / 1.507	0.87	None	2	1/4-20NC x 1/2	Full	OPSS	1.45	1	1/4-20NC	27/32	None	None	2	17/64	15/32	None	None	0.004	0.040	0.130	1.25
1210	1.868 / 1.874	1.00	None	2	3/8-16NC x 5/8	Full	OPSS	1.75	1	3/8-16NC	31/32	None	None	2	25/64	1/2	None	None	0.008	0.040	0.130	1.41
1215	1.868 / 1.874	1.50	None	2	3/8-16NC x 5/8	Full	OPSS	1.75	1	3/8-16NC	1-15/32	None	None	2	25/64	1/2	None	None	0.008	0.040	0.130	1.41
1310	1.994 / 2.000	1.00	None	2	3/8-16NC x 5/8	Full	OPSS	1.88	1	3/8-16NC	31/32	None	None	2	25/64	1/2	None	None	0.008	0.040	0.130	1.53
1610	2.243 / 2.249	1.00	None	2	3/8-16NC x 5/8	Full	OPSS	2.13	1	3/8-16NC	31/32	None	None	2	25/64	1/2	None	None	0.008	0.040	0.130	1.81
1615	2.243 / 2.249	1.50	None	2	3/8-16NC x 5/8	Full	OPSS	2.13	1	3/8-16NC	1-15/32	None	None	2	25/64	31/64	None	None	0.008	0.040	0.130	1.81
2012	2.743 / 2.749	1.25	None	2	7/16-14NC x 7/8	Full	OPSS	2.63	1	7/16-14NC	1-7/32	None	None	2	29/64	45/64	None	None	0.008	0.040	0.130	2.25
2517	3.368 / 3.374	1.75	None	2	1/2-13NC x 1	Full	OPSS	3.25	1	1/2-13NC	1-23/32	None	None	2	33/64	7/8	None	None	0.008	0.040	0.130	2.84
2525	3.368 / 3.374	2.50	None	2	1/2-13NC x 1	Full	OPSS	3.25	1	1/2-13NC	2-15/32	None	None	2	33/64	7/8	None	None	0.008	0.040	0.130	2.84
3020	4.243 / 4.249	2.00	None	2	5/8-11NC x 1–1/4	Full	OPSS	4.00	1	5/8-11NC	1-31/32	None	None	2	41/64	1-7/64	None	None	0.008	0.040	0.130	3.50
3030	4.243 / 4.249	3.00	None	2	5/8-11NC x 1–1/4	Full	OPSS	4.00	1	5/8-11NC	1-1/2	None	None	2	41/64	1-7/64	None	None	0.008	0.040	0.130	3.56
3525	4.990 / 4.996	2.50	39°	3	1/2-13NC x 1–1/2	Full	SHCS	4.83	2	1/2-13NC	1-5/8	13/16	15/64	3	33/64	2-1/2	13/16	17/32	0.008	0.050	0.200	4.00
3535	4.990 / 4.996	3.50	39°	3	1/2-13NC x 1–1/2	Full	SHCS	4.83	2	1/2-13NC	1-5/8	13/16	15/64	3	33/64	2-1/2	13/16	17/32	0.008	0.050	0.200	4.00
4030	5.740 / 5.746	3.00	40°	3	5/8-11NC x 1–3/4	Full	SHCS	5.54	2	5/8-11NC	1-7/8	1	15/64	3	41/64	2-3/4	1	21/32	0.008	0.050	0.200	4.63
4040	5.740 / 5.746	4.00	40°	3	5/8-11NC x 1–3/4	Full	SHCS	5.54	2	5/8-11NC	1-7/8	1	15/64	3	41/64	2-3/4	1	21/32	0.008	0.050	0.200	4.63
4535	6.365 / 6.371	3.50	40°	3	3/4-10NC x 2	Full	SHCS	6.13	2	3/4-10NC	2-1/8	1-3/16	1/4	3	49/64	3-1/8	1-3/16	51/64	0.008	0.070	0.200	5.13
4545	6.365 / 6.371	4.50	40°	3	3/4-10NC x 2	Full	SHCS	6.13	2	3/4-10NC	2-1/8	1-3/16	1/4	3	49/64	3-1/8	1-3/16	51/64	0.008	0.070	0.200	5.13
5040	6.990 / 6.996	4.00	37°	3	7/8-9NC x 2–1/4	Full	SHCS	6.72	2	7/8-9NC	2-3/8	1-3/8	1/4	3	57/64	3-1/4	1-3/8	59/64	0.008	0.070	0.200	5.63
5050	6.990 / 6.996	5.00	37°	3	7/8-9NC x 2–1/4	Full	SHCS	6.72	2	7/8-9NC	2-3/8	1-3/8	1/4	3	57/64	3-1/4	1-3/8	59/64	0.008	0.070	0.200	5.63
6050	9.238 / 9.244	5.00	None	3	1–1/4-7NC x 3–1/2	3	HHCS	9.00	2	1–1/4-7NC	3-1/4	2-3/8	5/16	3	1-9/32	3-1/8	None	None	0.016	0.070	0.200	7.75

Notes:

1. All dimensions in inches.
2. Installation Screw Types: OPSS = Oval Point Set Screw, SHCS = Socket Head Cap Screw, HHCS = Hex Head Cap Screw (Grade 5 Minimum, plus washers)
3. The standard acceptable contact fit for the taper bore in hub is 1.6783 +/- .005 in/ft on diameter or 70% minimum contact using the appropriate ring gage.
4. Measurements taken before splitting bushing.
5. TAPER-LOCK® is a Registered Trademark of Baldor Electric Company.
6. Surface Finish per MPTA-B4c-2008.
7. Refer to Manufacturer's guidelines for installation torque and maximum bore specification.

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Table 2 - Detachable Bushings - continued.

Section A-A

Bushings: 7060-10085

Bushing: 120100

Dimensions for 7060 thru 120100 TAPER-LOCK® Bushings (Ref. Figures Above)

Bushing No.	Large End Dia.	Length (+/- 1/32)	Hole Spacing	Installation Screws					Threaded Hole Info.						Clearance Hole Info.							Split Info.	
				Qty.	Size	Min. Thread Length	Type	Bolt Circle	Qty.	Thread Size	Depth (min.)	C'Bore Dia.	C'Bore depth (-0/+1/8)	Qty.	Hole Size	Depth (min.)	C'Bore Dia.	C'hole depth (-0/+1/32)	True Position (+/-)	Min Split (in)	Max Split (in)	Split Depth (Max.)
	A	B	G					BC		THD		THDCB	THDCBD		CH	CHD	CHCB	CHCBD	TP			H
7060	10.238 / 10.244	6.00	None	4	1–1/4-7NC x 3–1/2	3	HHCS	10.00	3	1–1/4-7NC	3-1/4	2-3/8	5/16	4	1-9/32	3-1/8	None	None	0.016	0.075	0.250	8.38
8065	11.238 / 11.244	6.50	None	4	1–1/4-7NC x 3–1/2	3	HHCS	11.00	3	1–1/4-7NC	3-1/4	2-3/8	5/16	4	1-9/32	3-1/8	None	None	0.016	0.075	0.250	9.38
10085	14.738 / 14.744	8.50	None	4	1–1/2-6NC x 4	3-1/2	HHCS	14.50	3	1–1/2-6NC	4-3/16	2-7/8	5/16	4	1-17/32	3-3/4	None	None	0.016	0.075	0.250	12.38
120100	17.243 / 17.249	10.00	None	6	1–1/2-6NC x 4	3-1/2	HHCS	17.00	5	1–1/2-6NC	3-7/8	2-7/8	5/16	6	1-17/32	3-3/4	None	None	0.016	0.075	0.250	14.63

Notes:

1. All dimensions in inches.
2. Installation Screw Types: OPSS = Oval Point Set Screw, SHCS = Socket Head Cap Screw, HHCS = Hex Head Cap Screw (Grade 5 Minimum, plus washers)
3. The standard acceptable contact fit for the taper bore in hub is 1.6783 +/- .005 in/ft on diameter or 70% minimum contact using the appropriate ring gage.
4. Measurements taken before splitting bushing.
5. TAPER-LOCK® is a Registered Trademark of Baldor Electric Company.
6. Surface Finish per MPTA-B4c-2008.
7. Refer to Manufacturer's guidelines for installation torque and maximum bore specification.

Table 3: Mating Hubs

Dimensions and Threaded and Clearance Hole Information for 1008 thru 6050 TAPER-LOCK®
Bushing Hubs (Ref. Figures Above)

Bushing No.	Large End Dia.	Length (+/- 1/64)	Hole Spacing	Bolt Circle	Threaded Hole Info.					Clearance Hole Info.				True Position
					Qty.	Thread Size	Depth (min.)	C'Bore Dia.	C'Bore Depth (-.000/+1/8)	Qty.	Hole Size	Depth (min.)		
	A	B	G	BC		THD		THDCB	THDCBD		CH			TP
1008	1.376 / 1.382	0.87	None	1.33	2	1/4-20NC	5/8	None	None	1	17/64	11/32		0.004
1108	1.501 / 1.507	0.87	None	1.45	2	1/4-20NC	5/8	None	None	1	17/64	11/32		0.004
1210	1.868 / 1.874	1.00	None	1.75	2	3/8-16NC	7/8	None	None	1	25/64	7/16		0.008
1215	1.868 / 1.874	1.50	None	1.75	2	3/8-16NC	1	None	None	1	25/64	7/16		0.008
1310	1.994 / 2.000	1.00	None	1.88	2	3/8-16NC	7/8	None	None	1	25/64	7/16		0.008
1610	2.243 / 2.249	1.00	None	2.13	2	3/8-16NC	7/8	None	None	1	25/64	7/16		0.008
1615	2.243 / 2.249	1.50	None	2.13	2	3/8-16NC	7/8	None	None	1	25/64	7/16		0.008
2012	2.743 / 2.749	1.25	None	2.63	2	7/16-14NC	1	None	None	1	29/64	21/32		0.008
2517	3.368 / 3.374	1.75	None	3.25	2	1/2-13NC	1-3/16	None	None	1	33/64	13/16		0.008
2525	3.368 / 3.374	2.50	None	3.25	2	1/2-13NC	1-1/4	None	None	1	33/64	7/8		0.008
3020	4.243 / 4.249	2.00	None	4.00	2	5/8-11NC	1-7/16	None	None	1	41/64	1-7/64		0.008
3030	4.243 / 4.249	3.00	None	4.00	2	5/8-11NC	1-1/2	None	None	1	41/64	1-7/64		0.008
3525	4.990 / 4.996	2.50	39°	4.83	3	1/2-13NC	1-1/2	13/16	3/4	2	33/64	1-5/8		0.008
3535	4.990 / 4.996	3.50	39°	4.83	3	1/2-13NC	1-1/2	13/16	3/4	2	33/64	1-5/8		0.008
4030	5.740 / 5.746	3.00	40°	5.54	3	5/8-11NC	1-3/4	1	7/8	2	41/64	1-7/8		0.008
4040	5.740 / 5.746	4.00	40°	5.54	3	5/8-11NC	1-3/4	1	7/8	2	41/64	1-7/8		0.008
4535	6.365 / 3.371	3.50	40°	6.13	3	3/4-10NC	2	1-3/16	1	2	49/64	2-1/8		0.008
4545	6.365 / 3.371	4.50	40°	6.13	3	3/4-10NC	2	1-3/16	1	2	49/64	2-1/8		0.008
5040	6.990 / 6.996	4.00	37°	6.72	3	7/8-9NC	2-1/4	1-3/8	1-1/8	2	57/64	2-3/8		0.008
5050	6.990 / 6.996	5.00	37°	6.72	3	7/8-9NC	2-1/4	1-3/8	1-1/8	2	57/64	2-3/8		0.008
6050	9.238 / 9.244	5.00	None	9.00	3	1–1/4-7NC	3-3/8	2-3/8	5/16	2	1-9/32	3-1/8		0.016

Notes:

1. All dimensions in inches.
2. The standard acceptable contact fit for the taper bore in hub is 1.6783 +/- .005 in/ft on diameter or 70% minimum contact using the appropriate plug gage.
5. TAPER-LOCK® is a Registered Trademark of Baldor Electric Company.
4. Surface Finish per MPTA-B4c-2008.

Table 4: Mating Hubs - cont.

Dimensions and Threaded and Clearance Hole Information for 1008 thru 6050 TAPER-LOCK®

Bushing Hubs (Ref. Figures Above)

Bushing No.	Large End Dia.	Length (+/- 1/64)	Hole Spacing	Bolt Circle	Threaded Hole Info.					Clearance Hole Info.				True Position (+/-)
					Qty.	Thread Size	Depth (min.)	C'Bore Dia.	C'Bore Depth (-.000/+1/8)	Qty.	Hole Size	Depth (min.)		
	A	B	G	BC		THD		THDCB	THDCBD		CH		TP	
7060	10.238 / 10.244	6.00	None	10.00	4	1–1/4-7NC	3-3/8	2-3/8	5/16	3	1-9/32	3-1/8		0.016
8065	11.238 / 11.244	6.50	None	11.00	4	1–1/4-7NC	3-3/8	2-3/8	5/16	3	1-9/32	3-1/8		0.016
10085	14.738 / 14.744	8.50	None	14.50	4	1–1/2-6NC	4	2-7/8	5/16	3	1-17/32	3-3/4		0.016
120100	17.243 / 17.249	10.00	None	17.00	6	1–1/2-6NC	4	2-7/8	5/16	5	1-17/32	3-3/4		0.016

Notes:

1. All dimensions in inches.
2. The standard acceptable contact fit for the taper bore in hub is 1.6783 +/- .005 in/ft on diameter or 70% minimum contact using the appropriate plug gage.
5. TAPER-LOCK® is a Registered Trademark of Baldor Electric Company.
4. Surface Finish per MPTA-B4c-2008.

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