

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.

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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

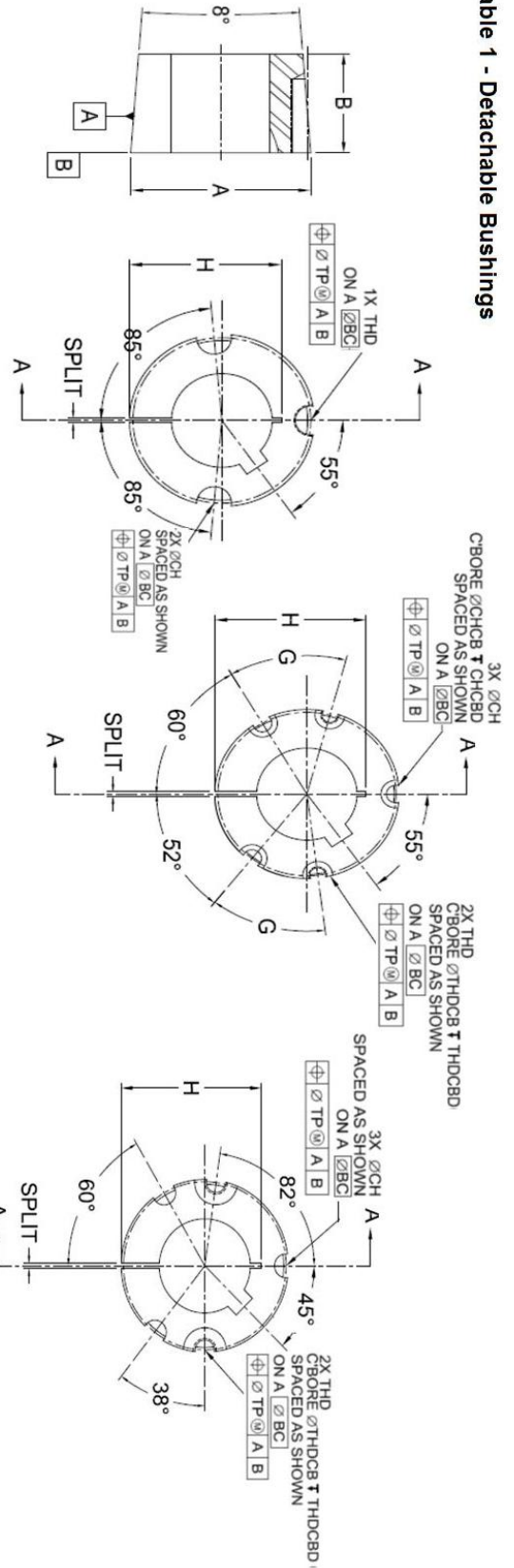
This standard is intended to provide dimensions and tolerances, which will permit bushings made by one manufacturer to be used to mount sheaves or other products made by a different manufacturer.

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

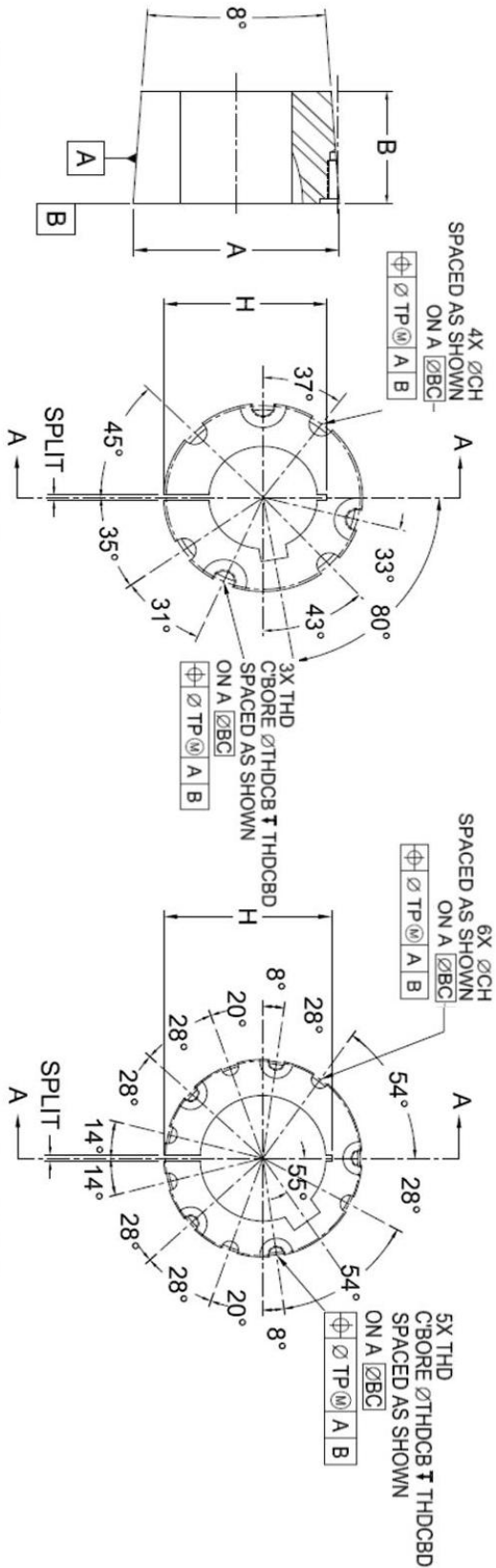
Dimensions for 1008 thru 6050 TAPER-LOCK® Bushings (Ref. Figures Above)

Bushing No.	Large End Dia.	Length (+/- 1/32)	Hole Spacing	Qty.	Installation Screws			Threaded Hole Info.			Clearance Hole Info.			True Position (+/-)	Split Info.						
					Size	Min. Thread Length	Type	Bolt Circle Qty.	Thread Size	Depth (min.)	C/Bore Dia.	C/Bore Depth (-0/+1/8)	Qty.		Hole Size (min.)	Depth (min.)	C/Bore Dia.	C/hole depth (-0/+1/32)	Min Split (in)	Max Split Depth (in) (Max.)	
1008	A	1.376 / 1.382	0.87	2	1/4-20UNC x 1/2	Full	OPSS	1.33	1	1/4-20NC	27/32	None	None	2	17/64	15/32	None	0.004	0.040	0.130	1.16
1108	A	1.501 / 1.507	0.87	2	1/4-20UNC x 1/2	Full	OPSS	1.45	1	1/4-20NC	27/32	None	None	2	17/64	15/32	None	0.004	0.040	0.130	1.25
1210	A	1.868 / 1.874	1.00	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	0.008	0.040	0.130	1.41
1215	A	1.868 / 1.874	1.50	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	0.008	0.040	0.130	1.41
1310	A	1.994 / 2.000	1.00	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	0.008	0.040	0.130	1.53
1610	A	2.243 / 2.249	1.00	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	0.008	0.040	0.130	1.81
1615	A	2.243 / 2.249	1.50	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	0.008	0.040	0.130	1.81
2012	A	2.743 / 2.749	1.25	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	0.008	0.040	0.130	2.25
2517	A	3.368 / 3.374	1.75	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	0.008	0.040	0.130	2.84
2525	A	3.368 / 3.374	2.50	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	0.008	0.040	0.130	2.84
3020	A	4.243 / 4.249	2.00	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	0.008	0.040	0.130	3.50
3030	A	4.243 / 4.249	3.00	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	0.008	0.040	0.130	3.50
3525	A	4.990 / 4.996	2.50	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	0.008	0.050	0.200	4.00
3535	A	4.990 / 4.996	3.50	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	0.008	0.050	0.200	4.00
4030	A	5.740 / 5.746	3.00	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	0.008	0.050	0.200	4.63
4040	A	5.740 / 5.746	4.00	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	0.008	0.050	0.200	4.63
4535	A	6.365 / 6.371	3.50	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	0.008	0.070	0.200	5.13
4545	A	6.365 / 6.371	4.50	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	0.008	0.070	0.200	5.13
5040	A	6.990 / 6.996	4.00	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	0.008	0.070	0.200	5.63
5050	A	6.990 / 6.996	5.00	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	0.008	0.070	0.200	5.63
6050	A	9.238 / 9.244	5.00	3	1-1/4-7NC x 3-1/2	Full	HHCS	9.00	2	1-1/4-7NC	3-1/4	2-3/8	5/16	3	1-9/32	3-1/8	None	0.016	0.070	0.200	7.75

Notes:

- All dimensions in inches.
- Installation Screw Types: OPSS = Oval Point Set Screw, SHCS = Socket Head Cap Screw, HHCS = Hex Head Cap Screw (Grade 5 Minimum), plus washers)
- 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.
- Measurements taken before splitting bushing.
- TAPER-LOCK® is a Registered Trademark of Baldor Electric Company.
- Surface Finish per MPTA-B4c-2008.
- Refer to Manufacturer's guidelines for installation torque and maximum bore specification.

Table 2 - Detachable Bushings - continued.



Section A-A

Bushings: 7060-10085

Bushing: 120100

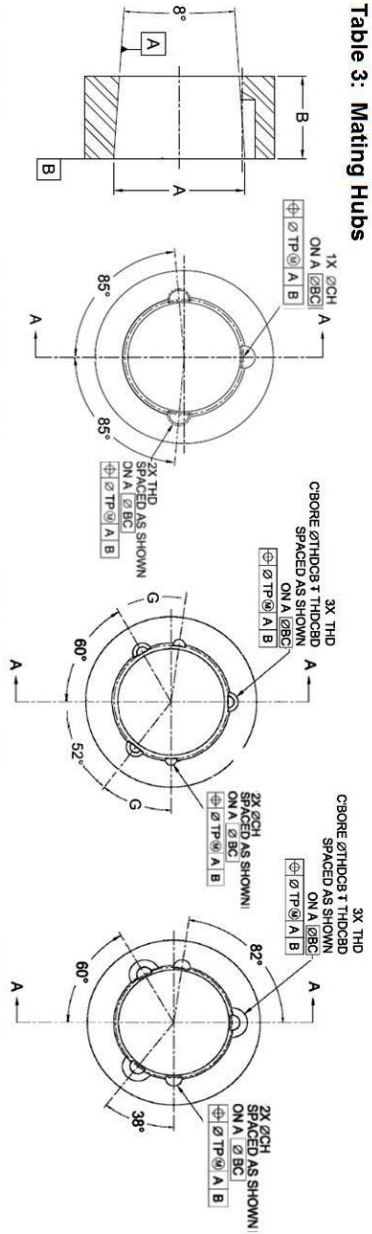
Dimensions for 7060 thru 120100 TAPER-LOCK® Bushings (Ref. Figures Above)

Bushing No.	Large End Dia.	Length (+/-) 1/32	Hole Spacing Qty.	Installation Screws			Threaded Hole Info.			Clearance Hole Info.			Split Info.								
				Size	Min. Thread Length	Type	Bolt Circle	Thread Size	Depth (min.)	C'Bores Dia.	C'Bores depth (-0/+1/8)	Hole Qty.	Hole Size (min.)	C'Bores Dia. (-0/+1/32)	C'Bores depth (Max.)	True Position (+/-)	Min Split (in)	Max Split (in)	Split Depth (Max.)		
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	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	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	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	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

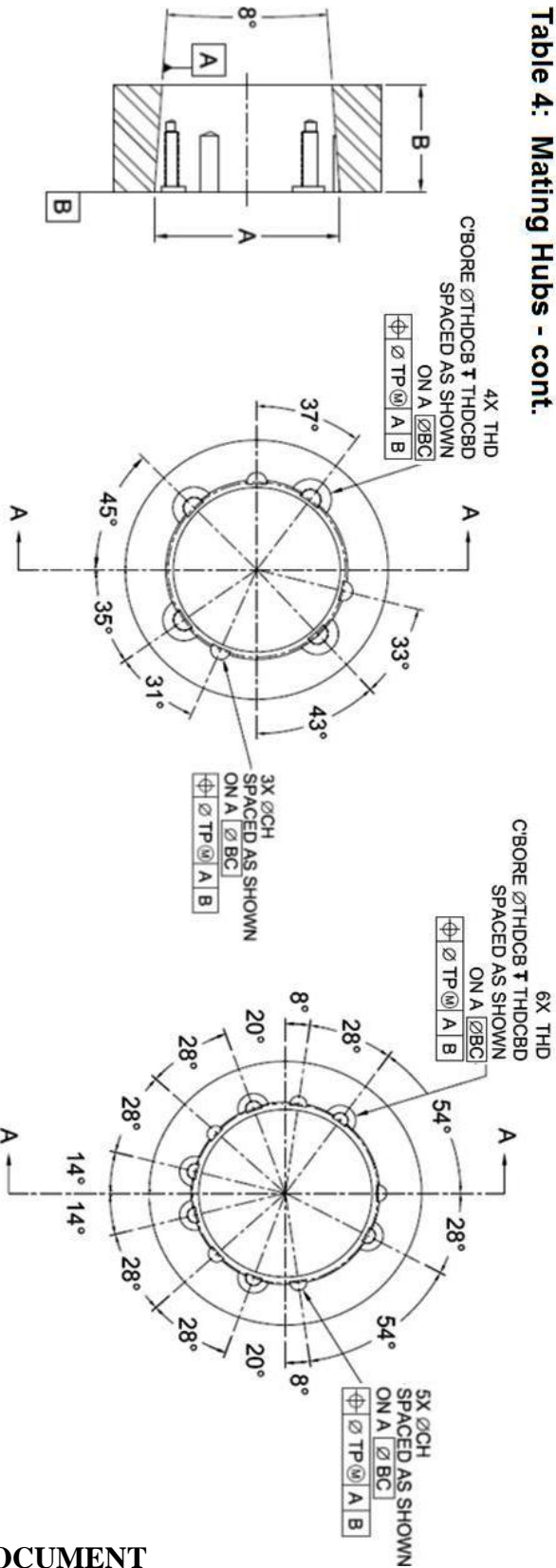


Section A-A Hubs: 1008 - 3030 Hubs: 3525 - 6050
 Dimensions and Threaded and Clearance Hole Information for 1008 thru 6050 TAPER-LOCK®
 Bushing Hubs (Ref. Figures Above)

Bushing No.	Large End Dia. A	Length B	Hole Spacing G	Bolt Circle BC	Threaded Hole Info.				Clearance Hole Info.		True Position (+/-) TP		
					Thread Size THD	Depth (min.)	C/Bore Dia. THDCB	C/Bore Depth (-.000/+1/8) THDCBD	Hole Size CH	Depth (min.)			
1008	1.376 / 1.382	0.87	None	1.33	2	1/4-20NC	5/8	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	1	17/64	11/32	0.004	
1210	1.668 / 1.674	1.00	None	1.75	2	3/8-16NC	7/8	None	1	25/64	7/16	0.008	
1215	1.868 / 1.874	1.50	None	1.75	2	3/8-16NC	7/8	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	1	25/64	7/16	0.008	
1610	2.243 / 2.249	1.00	None	2.13	2	3/8-16NC	7/8	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	1	25/64	7/16	0.008	
2012	2.743 / 2.749	1.25	None	2.63	2	7/16-14NC	1	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	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	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	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	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 / 6.371	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 / 6.371	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:
- All dimensions in inches.
 - 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.
 - TAPER-LOCK® is a Registered Trademark of Baldor Electric Company.
 - Surface Finish per MPTA-B4C-2008.

Table 4: Mating Hubs - cont.



Section A-A

Hubs: 7060 - 10085

Hub: 120100

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

Bushing No.	Large End Dia. A	Length (+/- 1/64) B	Hole Spacing G	Bolt Circle BC	Threaded Hole Info.				Clearance Hole Info.			True Position (+/-) TP	
					Qty.	Thread Size	Depth (min.)	C'Bore Dia. THDCB	C'Bore Depth THDCBD	Qty.	Hole Size CH		Depth (min.)
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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