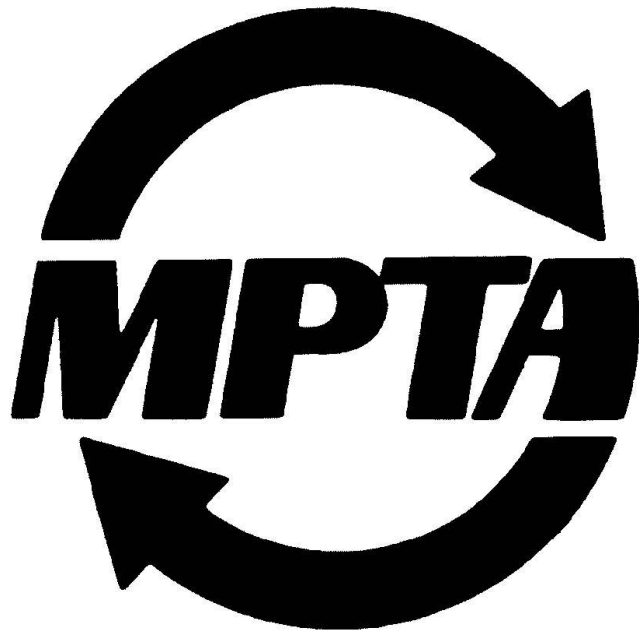


MPTA-B9i-2020

TAPER-LOCKING BUSHING
&
MATING HUB STANDARD



MPTA STANDARD

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Abstract

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

Copyright Statement

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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 to or comments about this publication are welcome. They should be emailed to Mechanical Power Transmission Association at www.mpta.org.

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.

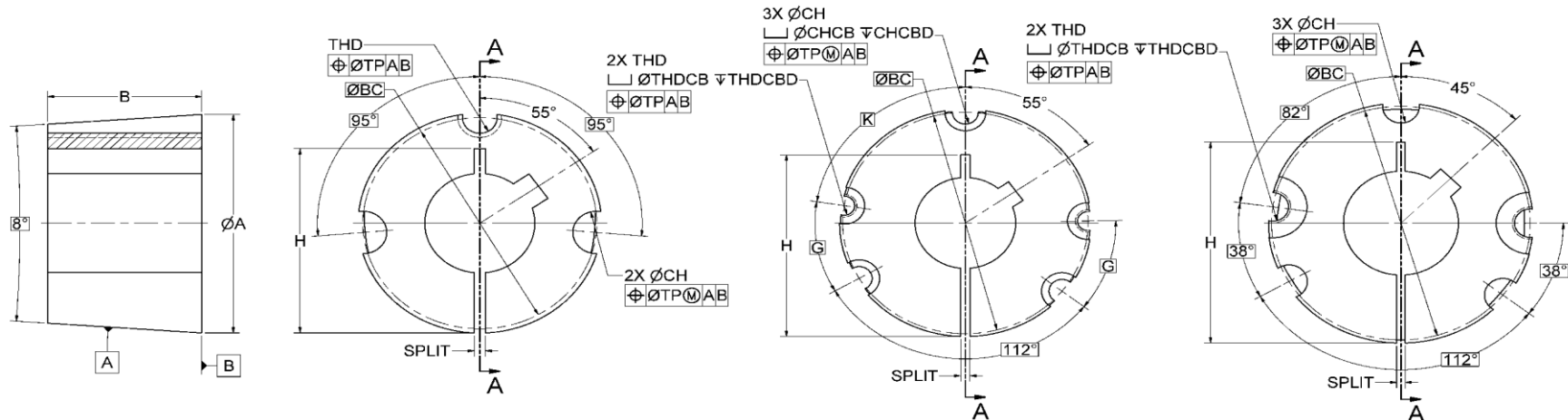
The bushing system described in this standard is limited to systems having the following characteristics:

- ... No external flange
- ... No external key
- ... Nominal 8-degree included taper angle
- ... Split through entire bushing

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Table 1 – Dimensional Data for Detachable Bushings



SECTION A-A

BUSHINGS: 1008 - 3030

BUSHINGS: 3525 - 5050

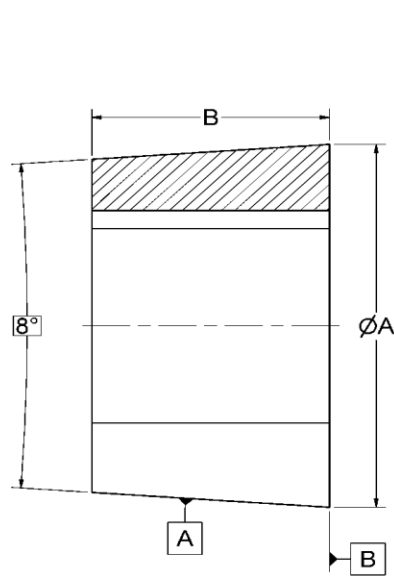
BUSHINGS: 6050

DIMENSIONS FOR 1008 THRU 6050 TAPER-LOCKING BUSHINGS (REF. FIGURES ABOVE)

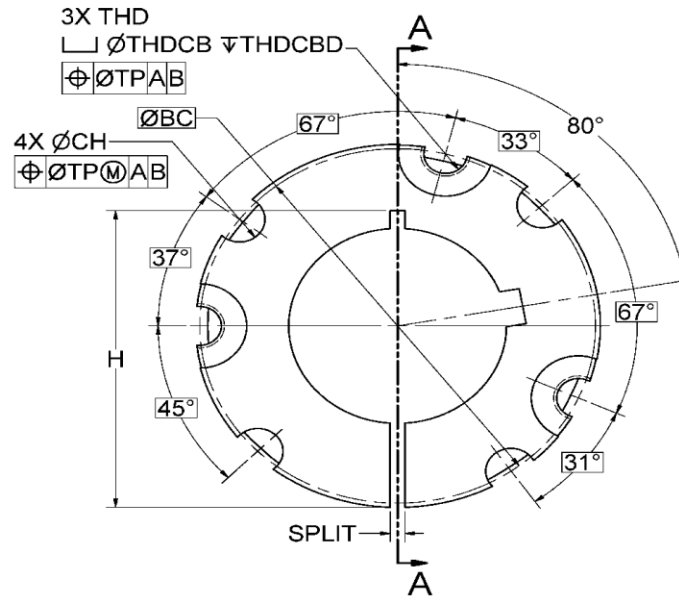
BUSHING NO.	LARGE END DIA	LENGTH +/- 1/32	HOLE SPACING	HOLE SPACING	INSTALLATION SCREWS				BOLT CIRCLE	THREADED HOLE INFO				CLEARANCE HOLE INFO				TRUE POSITION	SPLIT INFO		MAX SPLIT DEPTH		
					QTY	SIZE	MIN THREAD LENGTH	TYPE		QTY	THREAD SIZE	MIN DEPTH	C'BORE DIA +/- .005	C'BORE DEPTH -0/+1/8	QTY	HOLE SIZE +/- .005	MIN DEPTH		C'BORE DIA +/- .005	C'BORE DEPTH -0/+1/32		MIN SPLIT	MAX SPLIT
"A"	"B"	"G"	"K"	"BC"	"THD"	"THDCB"	"THDCBD"	"CH"	"CHCB"	"CHCBD"	"TP"	"H"											
1008	1.376 / 1.382	.87	NONE	NONE	2	1/4-20NC x 1/2	FULL	OPSS	1.328	1	1/4-20NC	.844	NONE	NONE	2	.266	.469	NONE	NONE	.004	.040	.130	1.16
1108	1.501 / 1.507	.87	NONE	NONE	2	1/4-20NC x 1/2	FULL	OPSS	1.453	1	1/4-20NC	.844	NONE	NONE	2	.266	.469	NONE	NONE	.004	.040	.130	1.25
1210	1.868 / 1.874	1.00	NONE	NONE	2	3/8-16NC x 5/8	FULL	OPSS	1.750	1	3/8-16NC	.969	NONE	NONE	2	.391	.500	NONE	NONE	.008	.040	.130	1.41
1215	1.868 / 1.874	1.50	NONE	NONE	2	3/8-16NC x 5/8	FULL	OPSS	1.750	1	3/8-16NC	1.469	NONE	NONE	2	.391	.500	NONE	NONE	.008	.040	.130	1.41
1310	1.994 / 2.000	1.00	NONE	NONE	2	3/8-16NC x 5/8	FULL	OPSS	1.875	1	3/8-16NC	.969	NONE	NONE	2	.391	.500	NONE	NONE	.008	.040	.130	1.53
1610	2.243 / 2.249	1.00	NONE	NONE	2	3/8-16NC x 5/8	FULL	OPSS	2.125	1	3/8-16NC	.969	NONE	NONE	2	.391	.500	NONE	NONE	.008	.040	.130	1.81
1615	2.243 / 2.249	1.50	NONE	NONE	2	3/8-16NC x 5/8	FULL	OPSS	2.125	1	3/8-16NC	1.469	NONE	NONE	2	.391	.484	NONE	NONE	.008	.040	.130	1.81
2012	2.743 / 2.749	1.25	NONE	NONE	2	7/16-14NC x 7/8	FULL	OPSS	2.625	1	7/16-14NC	1.219	NONE	NONE	2	.453	.703	NONE	NONE	.008	.040	.130	2.25
2517	3.368 / 3.374	1.75	NONE	NONE	2	1/2-13NC x 1	FULL	OPSS	3.250	1	1/2-13NC	1.719	NONE	NONE	2	.516	.875	NONE	NONE	.008	.040	.130	2.84
2525	3.368 / 3.374	2.50	NONE	NONE	2	1/2-13NC x 1	FULL	OPSS	3.250	1	1/2-13NC	2.469	NONE	NONE	2	.516	.875	NONE	NONE	.008	.040	.130	2.84
3020	4.243 / 4.249	2.00	NONE	NONE	2	5/8-11NC x 1-1/4	FULL	OPSS	4.000	1	5/8-11NC	1.969	NONE	NONE	2	.641	1.109	NONE	NONE	.008	.040	.130	3.50
3030	4.243 / 4.249	3.00	NONE	NONE	2	5/8-11NC x 1-1/4	FULL	OPSS	4.000	1	5/8-11NC	1.500	NONE	NONE	2	.641	1.109	NONE	NONE	.008	.040	.130	3.56
3525	4.990 / 4.996	2.50	39°	81°	3	1/2-13NC x 1-1/2	FULL	SHCS	4.825	2	1/2-13NC	1.625	.813	.234	3	.516	2.500	.813	.531	.008	.050	.200	4.00
3535	4.990 / 4.996	3.50	39°	81°	3	1/2-13NC x 1-1/2	FULL	SHCS	4.825	2	1/2-13NC	1.625	.813	.234	3	.516	2.500	.813	.531	.008	.050	.200	4.00
4030	5.740 / 5.746	3.00	40°	80°	3	5/8-11NC x 1-3/4	FULL	SHCS	5.540	2	5/8-11NC	1.875	1.000	.234	3	.641	2.750	1.000	.656	.008	.050	.200	4.63
4040	5.740 / 5.746	4.00	40°	80°	3	5/8-11NC x 1-3/4	FULL	SHCS	5.540	2	5/8-11NC	1.875	1.000	.234	3	.641	2.750	1.000	.656	.008	.050	.200	4.63
4535	6.365 / 6.371	3.50	40°	80°	3	3/4-10NC x 2	FULL	SHCS	6.130	2	3/4-10NC	2.125	1.188	.250	3	.766	3.125	1.188	.797	.008	.070	.200	5.13
4545	6.365 / 6.371	4.50	40°	80°	3	3/4-10NC x 2	FULL	SHCS	6.130	2	3/4-10NC	2.125	1.188	.250	3	.766	3.125	1.188	.797	.008	.070	.200	5.13
5040	6.990 / 6.996	4.00	37°	83°	3	7/8-9NC x 2-1/4	FULL	SHCS	6.720	2	7/8-9NC	2.375	1.375	.250	3	.891	3.250	1.375	.922	.008	.070	.200	5.63
5050	6.990 / 6.996	5.00	37°	83°	3	7/8-9NC x 2-1/4	FULL	SHCS	6.720	2	7/8-9NC	2.375	1.375	.250	3	.891	3.250	1.375	.922	.008	.070	.200	5.63
6050	9.238 / 9.244	5.00	NONE	NONE	3	1 1/4-7NC x 3-1/2	3.00	HHCS	9.000	2	1 1/4-7NC	3.250	2.375	.313	3	1.281	3.125	NONE	NONE	.016	.070	.200	7.75

- NOTES:**
- THE STANDARD CONTACT FIT FOR THE TAPER BORE IS 1.6783 ± 0.005 IN/FT OR 70% MINIMUM CONTACT USING THE APPROPRIATE RING GAGE
 - INSTALLATION SCREW TYPES:
 OPSS = OVAL POINT SET SCREW
 SHCS = SOCKET HEAD CAP SCREW
 HHCS = HEX HEAD CAP SCREW (GRADE 5 MINIMUM, PLUS WASHERS)
 - MEASUREMENTS TAKEN BEFORE SPLITTING BUSHING
 - SURFACE FINISH PER MPTA-B4c
 - REFER TO TAPER BUSHING MANUFACTURER'S GUIDELINES FOR INSTALLATION TORQUE AND MAXIMUM BORE SPECIFICATIONS

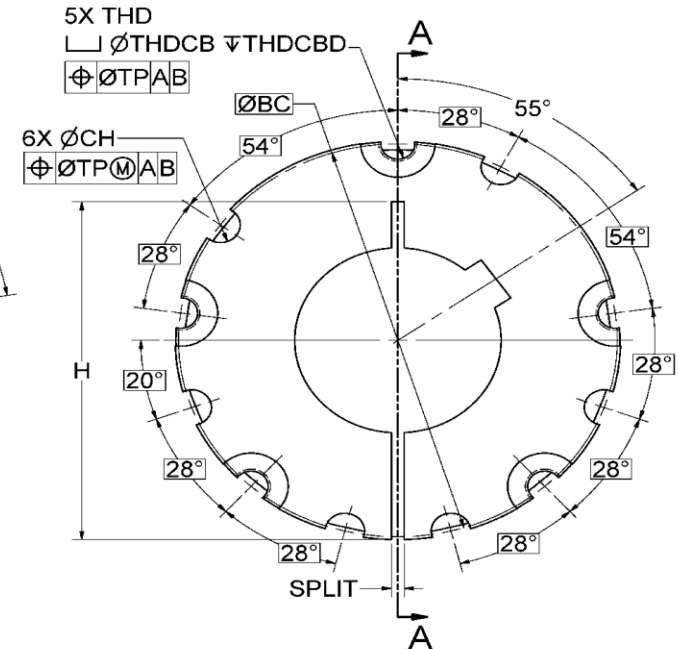
Table 2 – Dimensional Data for Detachable Bushings (CONT.)



SECTION A-A



BUSHINGS: 7060 - 10085



BUSHINGS: 120100

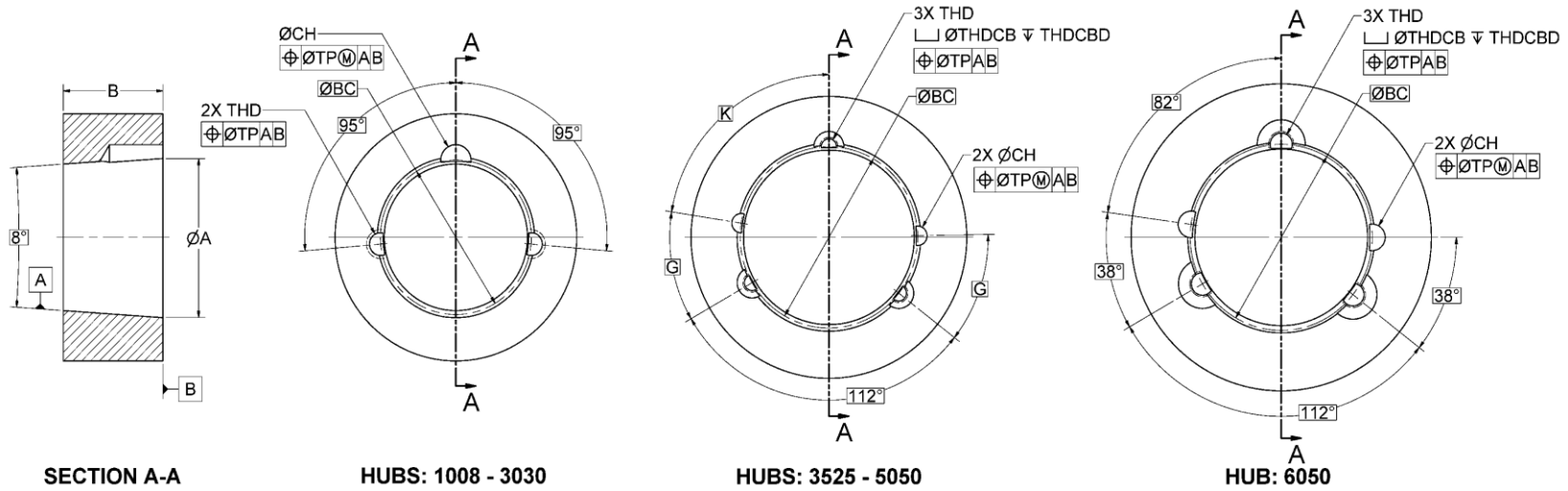
DIMENSIONS FOR 7060 THRU 120100 TAPER-LOCKING BUSHINGS (REF. FIGURES ABOVE)

BUSHING NO.	LARGE END DIA "A"	LENGTH +/- 1/32 "B"	INSTALLATION SCREWS					THREADED HOLE INFO					CLEARANCE HOLE INFO			SPLIT INFO			
			QTY	SIZE	MIN THREAD LENGTH	TYPE	BOLT CIRCLE "BC"	QTY	THREAD SIZE "THD"	MIN DEPTH	C'BORE DIA +/- .005 "THDCB"	C'BORE DEPTH - 0 / +1/8 "THDCBD"	QTY	HOLE SIZE +/- .005 "CH"	MIN DEPTH	TRUE POSITION "TP"	MIN SPLIT	MAX SPLIT	MAX SPLIT DEPTH "H"
7060	10.238 / 10.244	6.00	4	1 1/4-7NC x 3 1/2	3.00	HHCS	10.000	3	1 1/4-7NC	3.250	2.375	.313	4	1.281	3.125	.016	.075	.250	8.38
8065	11.238 / 11.244	6.50	4	1 1/4-7NC x 3 1/2	3.00	HHCS	11.000	3	1 1/4-7NC	3.250	2.375	.313	4	1.281	3.125	.016	.075	.250	9.38
10085	14.738 / 14.744	8.50	4	1 1/2-6NC x 4	3.50	HHCS	14.500	3	1 1/2-6NC	4.188	2.875	.313	4	1.531	3.750	.016	.075	.250	12.38
120100	17.243 / 17.249	10.00	6	1 1/2-6NC x 4	3.50	HHCS	17.000	5	1 1/2-6NC	3.875	2.875	.313	6	1.531	3.750	.016	.075	.250	14.63

NOTES:

1. THE STANDARD CONTACT FIT FOR THE TAPER BORE IS 1.6783 ± 0.005 IN/FT OR 70% MINIMUM CONTACT USING THE APPROPRIATE RING GAGE
2. INSTALLATION SCREW TYPE: HHCS = HEX HEAD CAP SCREW (GRADE 5 MINIMUM, PLUS WASHERS)
3. MEASUREMENTS TAKEN BEFORE SPLITTING BUSHING
4. SURFACE FINISH PER MPTA-B4c
5. REFER TO TAPER BUSHING MANUFACTURER'S GUIDELINES FOR INSTALLATION TORQUE AND MAXIMUM BORE SPECIFICATIONS

Table 3 – Dimensional Data for Mating Hubs



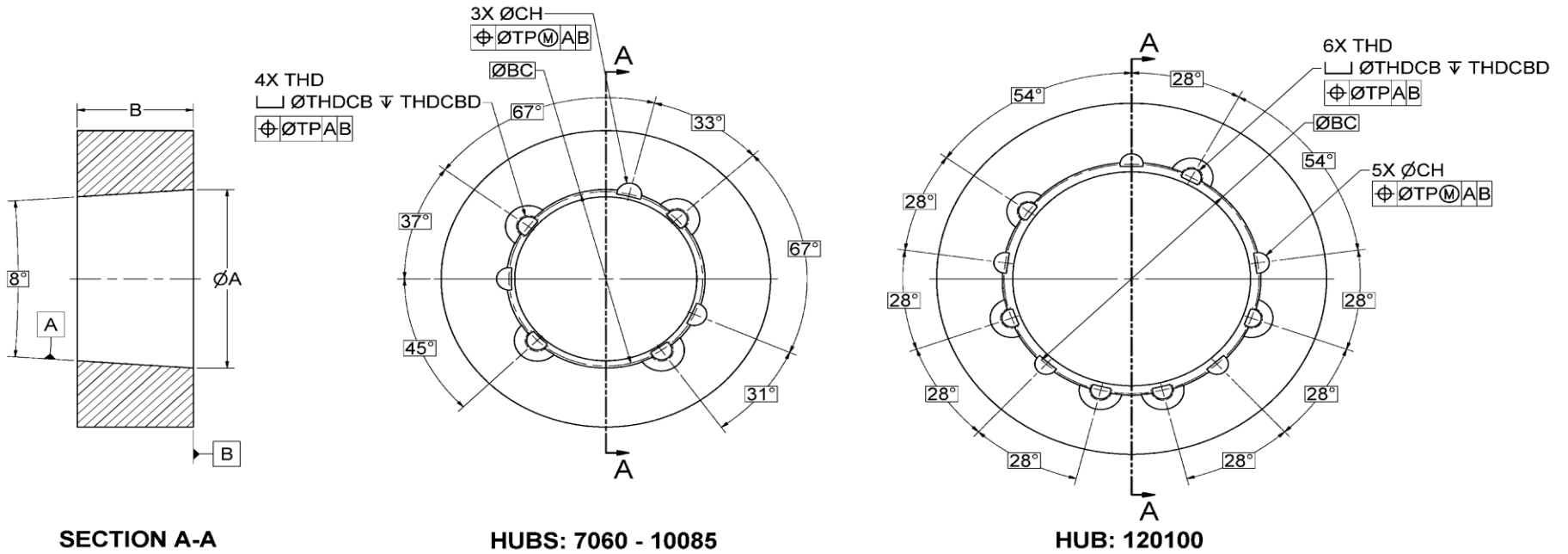
DIMENSIONS FOR 1008 THRU 6050 TAPER-LOCKING BUSHING HUBS (REF. FIGURES ABOVE)

BUSHING NO.	LARGE END DIA "A"	LENGTH +/- 1/64 "B"	HOLE SPACING "G"	HOLE SPACING "K"	BOLT CIRCLE "BC"	THREADED HOLE INFO				CLEARANCE HOLE INFO				
						QTY	THREAD SIZE "THD"	MIN DEPTH	C'BORE DIA +/- .005 "THDCB"	C'BORE DEPTH - 0 / +1/8 "THDCBD"	QTY	HOLE SIZE +/- .005 "CH"	MIN DEPTH	TRUE POSITION "TP"
1008	1.376 / 1.382	.88	NONE	NONE	1.328	2	1/4-20NC	.625	NONE	NONE	1	.266	.344	.004
1108	1.501 / 1.507	.88	NONE	NONE	1.453	2	1/4-20NC	.625	NONE	NONE	1	.266	.344	.004
1210	1.868 / 1.874	1.00	NONE	NONE	1.750	2	3/8-16NC	.875	NONE	NONE	1	.391	.438	.008
1215	1.868 / 1.874	1.50	NONE	NONE	1.750	2	3/8-16NC	1.000	NONE	NONE	1	.391	.438	.008
1310	1.994 / 2.000	1.00	NONE	NONE	1.875	2	3/8-16NC	.875	NONE	NONE	1	.391	.438	.008
1610	2.243 / 2.249	1.00	NONE	NONE	2.125	2	3/8-16NC	.875	NONE	NONE	1	.391	.438	.008
1615	2.243 / 2.249	1.50	NONE	NONE	2.125	2	3/8-16NC	.875	NONE	NONE	1	.391	.438	.008
2012	2.743 / 2.749	1.25	NONE	NONE	2.625	2	7/16-14NC	1.000	NONE	NONE	1	.453	.656	.008
2517	3.368 / 3.374	1.75	NONE	NONE	3.250	2	1/2-13NC	1.188	NONE	NONE	1	.516	.813	.008
2525	3.368 / 3.374	2.50	NONE	NONE	3.250	2	1/2-13NC	1.250	NONE	NONE	1	.516	.875	.008
3020	4.243 / 4.249	2.00	NONE	NONE	4.000	2	5/8-11NC	1.438	NONE	NONE	1	.641	1.109	.008
3030	4.243 / 4.249	3.00	NONE	NONE	4.000	2	5/8-11NC	1.500	NONE	NONE	1	.641	1.109	.008
3525	4.990 / 4.996	2.50	39°	81°	4.825	3	1/2-13NC	1.500	.813	.750	2	.516	1.625	.008
3535	4.990 / 4.996	3.50	39°	81°	4.825	3	1/2-13NC	1.500	.813	.750	2	.516	1.625	.008
4030	5.740 / 5.746	3.00	40°	80°	5.540	3	5/8-11NC	1.750	1.000	.875	2	.641	1.875	.008
4040	5.740 / 5.746	4.00	40°	80°	5.540	3	5/8-11NC	1.750	1.000	.875	2	.641	1.875	.008
4535	6.365 / 6.371	3.50	40°	80°	6.130	3	3/4-10NC	2.000	1.188	1.000	2	.766	2.125	.008
4545	6.365 / 6.371	4.50	40°	80°	6.130	3	3/4-10NC	2.000	1.188	1.000	2	.766	2.125	.008
5040	6.990 / 6.996	4.00	37°	83°	6.720	3	7/8-9NC	2.250	1.375	1.125	2	.891	2.375	.008
5050	6.990 / 6.996	5.00	37°	83°	6.720	3	7/8-9NC	2.250	1.375	1.125	2	.891	2.375	.008
6050	9.238 / 9.244	5.00	NONE	NONE	9.000	3	1 1/4-7NC	3.375	2.375	.313	2	1.281	3.125	.016

NOTES:

1. THE STANDARD CONTACT FIT FOR THE TAPER BORE IS 1.6783 ± 0.005 IN/FT OR 70% MINIMUM CONTACT USING THE APPROPRIATE PLUG GAGE
2. SURFACE FINISH PER MPTA-B4c

Table 4 – Dimensional Data for Mating Hubs (CONT.)



DIMENSIONS FOR 7060 THRU 120100 TAPER-LOCKING BUSHING HUBS (REF. FIGURES ABOVE)

BUSHING NO.	LARGE END DIA "A"	LENGTH +/- 1/64 "B"	BOLT CIRCLE "BC"	THREADED HOLE INFO					CLEARANCE HOLE INFO			TRUE POSITION "TP"
				QTY	THREAD SIZE "THD"	MIN DEPTH	C'BORE DIA +/- .005 "THDCB"	C'BORE DEPTH - 0 / +1/8 "THDCBD"	QTY	HOLE SIZE +/- .005 "CH"	MIN DEPTH	
7060	10.238 / 10.244	6.00	10.000	4	1 1/4-7NC	3.375	2.375	.313	3	1.281	3.125	.016
8065	11.238 / 11.244	6.50	11.000	4	1 1/4-7NC	3.375	2.375	.313	3	1.281	3.125	.016
10085	14.738 / 14.744	8.50	14.500	4	1 1/2-6NC	4.000	2.875	.313	3	1.531	3.750	.016
120100	17.243 / 17.249	10.00	17.000	6	1 1/2-6NC	4.000	2.875	.313	5	1.531	3.750	.016

NOTES:

1. THE STANDARD CONTACT FIT FOR THE TAPER BORE IS 1.6783 ± 0.005 IN/FT OR 70% MINIMUM CONTACT USING THE APPROPRIATE PLUG GAGE
2. SURFACE FINISH PER MPTA-B4c

END OF DOCUMENT