



Jig Bushes

Tri-Ard Derby Ltd

PP. HEADLESS TYPE. PRESS FIT BS 1098 PT. 2 1977/ISO 4247/DIN 179A

This type of bush is normally used for all jigs where an economical bush is required.

They also afford the minimum spacing between bushes.

PH. HEADED TYPE. PRESS FIT. BS1098 PT. 2 1977/ISO 4247/DIN 172A

This range is the same as type PP but headed. The head is convenient for pressing the bush home.

The head is also useful when it is desired to feed down to a dead stop.

RD. FIXED AND SLIP RENEWABLE.

These two features are incorporated on one bush, which is used in conjunction with liner bushes, and is held in place by a lock screw, tenon or stop pin.

The bush is a slide fit in its corresponding liner.

The removable fixed feature of the bush is normally used on high production work, when the bush can be easily and quickly replaced with a minimum loss of production.

The removable slip feature of the bush is used when more than one operation is carried out, when the bush is instantly removable after each operation.

LP. HEADLESS LINER TYPE.

This range is for use in conjunction with Renewable Fixed and Slip type bushes.

LH. HEADED LINER TYPE.

This range is the same as the plain liner but headed.

The shallow head can be left standing proud or countersunk flush.



STANDARD INCREMENT BORE SIZES FOR METRIC JIG BUSH RANGE

From 1.0mm to 3mm in steps of 0.05mm.

From 3mm to 14mm in steps of 0.1mm and including all 0.25mm and 0.75mm sizes.

From 14mm to 33mm in steps of 0.25mm.

From 33mm to 51mm in steps of 0.5mm.

From 51mm to 100mm in steps of 1.0mm.

Note:- ALL other sizes are regarded as specials.

Bushes with a bore size above 48mm are not stock items.

These bushes are manufactured against customer's order only.

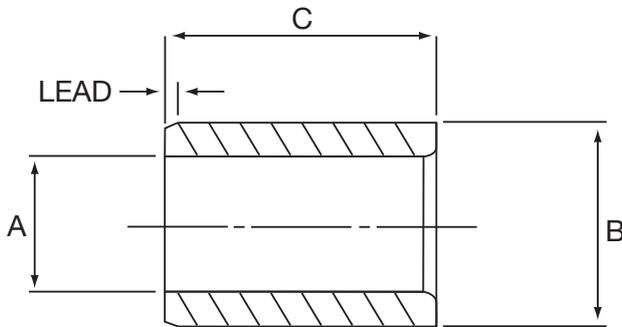
Concentricity is .02mm on drilled or ground bores up to 1.4mm.

I.S.O. Limits for Reference in connection with Drill Bushes Unit = 0.001mm												Limits for Bores * of Reamer Bushes	
Nominal Sizes		H6 Hole		F7 Hole		n6 Shaft		m6 Shaft		h13 shaft		High+	Low+
Over	Up to	High+	Low	High+	Low+	High+	Low+	High+	Low+	High	Low-	High+	Low+
-	3	6	0	16	6	10	4	8	2	0	140	18	11
3	6	8	0	22	10	16	8	12	4	0	180	23	15
6	10	9	0	28	13	19	10	15	6	0	220	27	18
10	18	11	0	34	16	23	12	18	7	0	270	31	21
18	30	13	0	41	20	28	15	21	8	0	330	38	25
30	50	16	0	50	25	33	17	25	9	0	390	46	30
50	80	19	0	60	30	39	20	30	11	0	460	-	-
80	120	22	0	71	36	45	23	35	13	0	540	-	-

Plain Jig Bushes



BS 1098 PT. 2 1977/ISO 4247/DIN 179A



Nitrided bushes for longer life can be supplied.
Price on application.

**TO ORDER STATE
QTY, TYPE, BORE SIZE AND LENGTH
EXAMPLE:- 5, PP15E 10mm**

All dimensions in millimetres

A Dia. F7 Limits (Drills) * Limits(Reamers)		B Dia. n6 Limits	Length C and Bush Reference					
			Short		Long		Extra Long	
From	Up to		C	Ref.	C	Ref.	C	Ref.
-	1	3	6	PP3A	9	PP3C	-	-
1.05	1.8	4	6	PP4A	9	PP4C	-	-
1.85	2.6	5	6	PP5A	9	PP5C	-	-
2.65	3.3	6	8	PP6B	12	PP6E	16	PP6F
3.4	4	7	8	PP7B	12	PP7E	16	PP7F
4.1	5	8	8	PP8B	12	PP8E	16	PP8F
5.1	6	10	10	PP10D	16	PP10F	20	PP10H
6.1	8	12	10	PP12D	16	PP12F	20	PP12H
8.1	10	15	12	PP15E	20	PP15H	25	PP15J
10.1	12	18	12	PP18E	20	PP18H	25	PP18J
12.1	15	22	16	PP22F	28	PP22K	36	PP22N
15.25	18	26	16	PP26F	28	PP26K	36	PP26N
18.25	22	30	20	PP30H	36	PP30N	45	PP30R
22.25	26	35	20	PP35H	36	PP35N	45	PP35R
26.25	30	42	25	PP42J	45	PP42R	56	PP42S
30.25	35	48	25	PP48J	45	PP48R	56	PP48S
35.50	42	55	30	PP55L	56	PP55S	67	PP55T
42.50	48	62	30	PP62L	56	PP62S	67	PP62T
48.50	55	70	30	PP70L	56	PP70S	67	PP70T
56	63	78	35	PP78M	67	PP78T	78	PP78W
64	70	85	35	PP85M	67	PP85T	78	PP85W
71	78	95	40	PP95P	78	PP95W	105	PP95Y
79	85	105	40	PP105P	78	PP105W	105	PP105Y
86	95	115	45	PP115R	89	PP115X	112	PP115Z
96	105	125	45	PP125R	89	PP125X	112	PP125Z

ORDERING INSTRUCTIONS State quantity, ref and bore size.

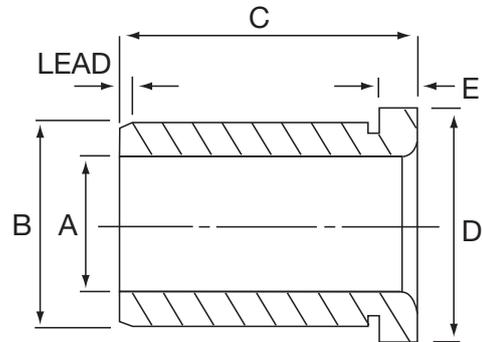
NOTE See page 1 for table showing ISO Limits for Jig Bushes and standard bore sizes. *(Also Reamer Limits.)

Bushes with a bore size above 48mm are not stock items.
Price and delivery on application.

BS 1098 PT. 2 1977/ISO 4247/DIN 172A

Nitrided bushes for longer life can be supplied.
Price on application.

**TO ORDER STATE
QTY, TYPE, BORE SIZE AND LENGTH
EXAMPLE:- 5, PH18E 10.1mm**



All dimensions in millimetres

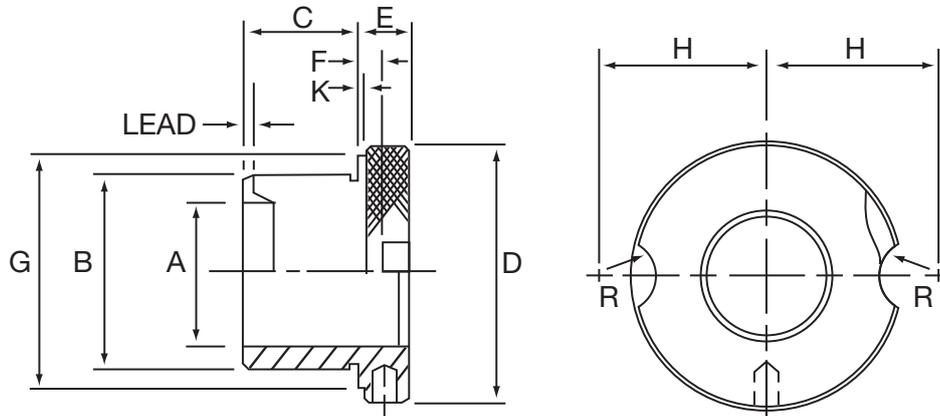
A Dia. F7 Limits (Drills) * Limits (Reamers)		B Dia. n6 Limits	Length C and Bush Reference						D Dia. h13 Limits	E Length
From	Up to		Short		Long		Extra Long			
			C	Ref.	C	Ref.	C	Ref.		
-	1	3	6	PH3A	9	PH3C	-	-	6	2
1.05	1.8	4	6	PH4A	9	PH4C	-	-	7	
1.85	2.6	5	6	PH5A	9	PH5C	-	-	8	
2.65	3.3	6	8	PH6B	12	PH6E	16	PH6F	9	2.5
3.4	4	7	8	PH7B	12	PH7E	16	PH7F	10	
4.1	5	8	8	PH8B	12	PH8E	16	PH8F	11	
5.1	6	10	10	PH10D	16	PH10F	20	PH10H	13	3
6.1	8	12	10	PH12D	16	PH12F	20	PH12H	15	
8.1	10	15	12	PH15E	20	PH15H	25	PH15J	18	
10.1	12	18	12	PH18E	20	PH18H	25	PH18J	22	4
12.1	15	22	16	PH22F	28	PH22K	36	PH22N	26	
15.25	18	26	16	PH26F	28	PH26K	36	PH26N	30	
18.25	22	30	20	PH30H	36	PH30N	45	PH30R	34	5
22.25	26	35	20	PH35H	36	PH35N	45	PH35R	39	
26.25	30	42	25	PH42J	45	PH42R	56	PH42S	46	
30.25	35	48	25	PH48J	45	PH48R	56	PH48S	52	6
35.50	42	55	30	PH55L	56	PH55S	67	PH55T	59	
42.50	48	62	30	PH62L	56	PH62S	67	PH62T	66	
48.50	55	70	30	PH70L	56	PH70S	67	PH70T	74	6
56	63	78	35	PH78M	67	PH78T	78	PH78W	82	
64	70	85	35	PH85M	67	PH85T	78	PH85W	90	
71	78	95	40	PH95P	78	PH95W	105	PH95Y	100	6
79	85	105	40	PH105P	78	PH105W	105	PH105Y	110	
86	95	115	45	PH115R	89	PH115X	112	PH115Z	120	
96	105	125	45	PH125R	89	PH125X	112	PH125Z	130	6

ORDERING INSTRUCTIONS State quantity, ref and bore size.

NOTE See page 1 for table showing ISO Limits for Jig Bushes and standard bore sizes. *(Also Reamer Limits.)
Bushes with a bore size above 48mm are not stock items.
Price and delivery on application.

BS 1098 PT. 2 1977/ISO 4247

Nitrided bushes for longer life can be supplied, price on application.



All dimensions in millimetres

A Dia. F7 Limits (Drills) * Limits(Reamers)		B dia. m6 Limits	Length C and Bush Reference						D dia. h13 Limits	G dia. +0 - 0.25	E Length	F Thick- ness	K Length	H	R Rad
From	Up to		Short		Long		Extra Long								
			C	Ref.	C	Ref.	C	Ref.							
1.0	4	8	10	RD8D	16	RD8F	-	-	15	12	8	3	11.5	7	
3.7	6	10	12	RD10E	20	RD10H	25	RD10J	18	15			13		
5.7	8	12	12	RD12E	20	RD12H	25	RD12J	22	18			16		
7.7	10	15	16	RD15F	28	RD15K	36	RD15N	26	22	10	4	18	8.5	
9.6	12	18	16	RD18F	28	RD18K	36	RD18N	30	26			20		
11.5	15	22	20	RD22H	36	RD22N	45	RD22R	34	30			23.5		
14.5	18	26	20	RD26H	36	RD26N	45	RD26R	39	35	12	5.5	26	10.5	
17.5	22	30	25	RD30J	45	RD30R	56	RD30S	46	42			29.5		
21.5	26	35	25	RD35J	45	RD35R	56	RD35S	52	46			32.5		
25.5	30	42	30	RD42L	56	RD42S	67	RD42T	59	53	16	7	36	12.5	
29	35	48	30	RD48L	56	RD48S	67	RD48T	66	60			41		
34	42	55	30	RD55L	56	RD55S	67	RD55T	74	68			45		
41	48	62	35	RD62M	67	RD62T	78	RD62W	82	76	16	7	49	12.5	
47	55	70	35	RD70M	67	RD70T	78	RD70W	90	84			53		
53	63	78	40	RD78P	78	RD78W	105	RD78Y	100	94			58		
61	70	85	40	RD85P	78	RD85W	105	RD85Y	110	104	16	7	63	12.5	
68	78	95	45	RD95R	89	RD95X	112	RD95Z	120	114			68		
76	85	105	45	RD105R	89	RD105X	112	RD105Z	130	124			73		

ORDERING INSTRUCTIONS State quantity, ref and bore size.

NOTE See page 1 for table showing ISO Limits for Jig Bushes and standard bore sizes. *(Also Reamer Limits.)

Bushes with a bore size above 48mm are not stock items.

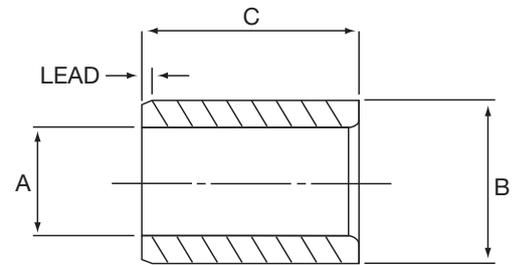
Price and delivery on application.

BS 1098 PT. 2 1977/ISO 4247/DIN 179A DIN 172A

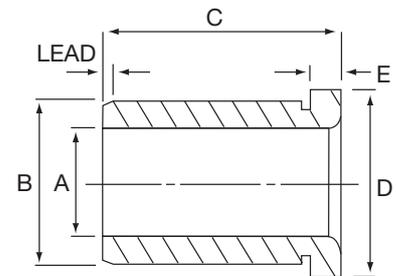
TO ORDER STATE:- QTY AND REF.

All dimensions in millimetres

A dia. F7 Limits	B dia. n6 Limits	Length C and Bush Reference					
		Short		Long		Extra Long	
		C	Ref.	C	Ref.	C	Ref.
8	12	10	LP12D	16	LP12F	-	-
10	15	12	LP15E	20	LP15H	25	LP15J
12	18	12	LP18E	20	LP18H	25	LP18J
15	22	16	LP22F	28	LP22K	36	LP22N
18	26	16	LP26F	28	LP26K	36	LP26N
22	30	20	LP30H	36	LP30N	45	LP30R
26	35	20	LP35H	36	LP35N	45	LP35R
30	42	25	LP42J	45	LP42R	56	LP42S
35	48	25	LP48J	45	LP48R	56	LP48S
42	55	30	LP55L	56	LP55S	67	LP55T
48	62	30	LP62L	56	LP62S	67	LP62T
55	70	30	LP70L	56	LP70S	67	LP70T
62	78	35	LP78M	67	LP78T	78	LP78W
70	85	35	LP85M	67	LP85T	78	LP85W
78	95	40	LP95P	78	LP95W	105	LP95Y
85	105	40	LP105P	78	LP105W	105	LP105Y
95	115	45	LP115R	89	LP115X	112	LP115Z
105	125	45	LP125R	89	LP125X	112	LP125Z



Plain



Headed

A dia. F7 Limits	B dia. n6 Limits	Length C and Bush Reference						D dia. h13 Limits	E Length
		Short		Long		Extra Long			
		C	Ref.	C	Ref.	C	Ref.		
8	12	10	LH12D	16	LH12F	-	-	15	3
10	15	12	LH15E	20	LH15H	25	LH15J	18	
12	18	12	LH18E	20	LH18H	25	LH18J	22	
15	22	16	LH22F	28	LH22K	36	LH22N	26	4
18	26	16	LH26F	28	LH26K	36	LH26N	30	
22	30	20	LH30H	36	LH30N	45	LH30R	34	
26	35	20	LH35H	36	LH35N	45	LH35R	39	5
30	42	25	LH42J	45	LH42R	56	LH42S	46	
35	48	25	LH48J	45	LH48R	56	LH48S	52	
42	55	30	LH55L	56	LH55S	67	LH55T	59	6
48	62	30	LH62L	56	LH62S	67	LH62T	66	
55	70	30	LH70L	56	LH70S	67	LH70T	74	
62	78	35	LH78M	67	LH78T	78	LH78W	82	6
70	85	35	LH85M	67	LH85T	78	LH85W	90	
78	95	40	LH95P	78	LH95W	105	LH95Y	100	
85	105	40	LH105P	78	LH105W	105	LH105Y	110	6
95	115	45	LH115R	89	LH115X	112	LH115Z	120	
105	125	45	LH125R	89	LH125X	112	LH125Z	130	

FITTING INSTRUCTIONS Bore or Ream to dimension 'B' H6 limits when bush will be suitable press fit.

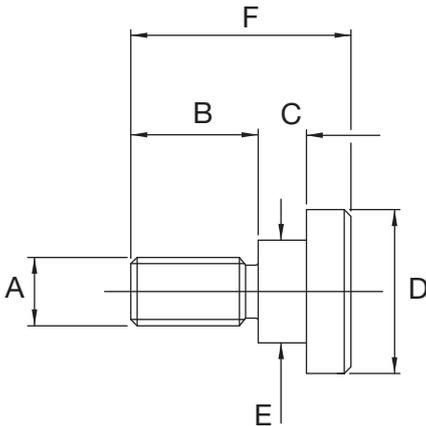
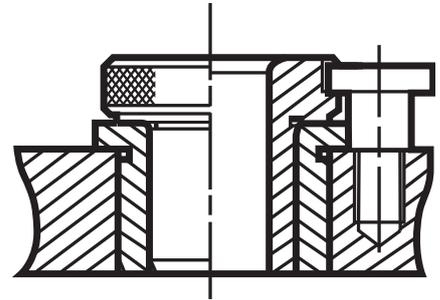
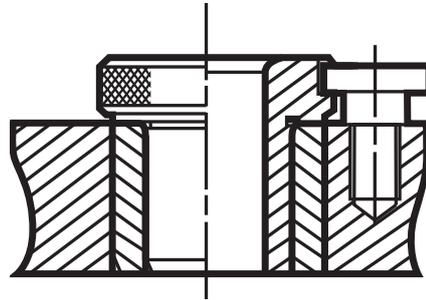
NOTE See page 1 for table showing ISO limits for liner bushes.

Bushes with a bore size above 62mm are not stock items. These bushes are manufactured against customer's order only.

BS 1098 PT. 2 1977/ISO 4247

BUSH HEAD FLUSH

BUSH HEAD PROUD



WHEN BUSH HEAD IS FLUSH

All dimensions in millimetres

For use with Bushes	F	C	B	D	E	A	Screw Ref.
RD8 - RD10	15	3	9	13	7.5	M5	MS5
RD12 - RD18	18	4	10	16	9.5	M6	MS6
RD22 - RD42	22	5.5	11.5	20	12.0	M8	MS8
RD4S - RD105	32	7	18.5	24	15.0	M10	MS10

WHEN BUSH HEAD IS PROUD

For use with Bushes	F	C	B	D	E	A	Screw Ref.
RD8 - RD10	18	6	9	13	7.5	M5	LMS5
RD12 - RD18	22	8	10	16	9.5	M6	LMS6
RD22 - RD42	27	10.5	11.5	20	12.0	M8	LMS8
RD48 - RD105	38	13	18.5	24	15.0	M10	LMS10

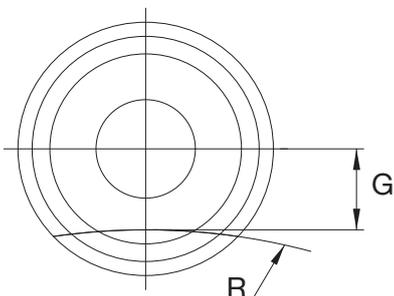
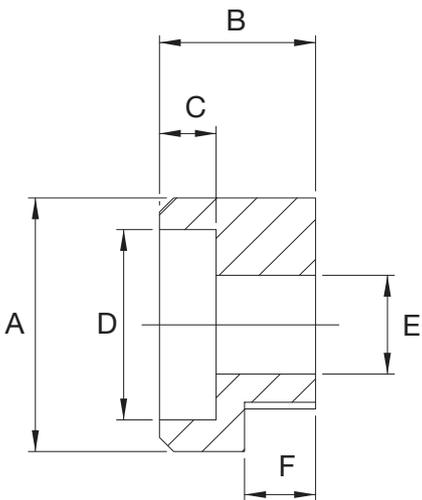
Tenons

WHEN BUSH HEAD IS FLUSH

For use with Bushes	B	F	C	A	D	E	R	G	Size of Fixing Screw	Tenon Ref.
RD8 - RD10	8	3	4	13	10	5.1	9.5	3.7	M5	DMS5
RD12 - RD18	10	4	5	16	12	6.1	15	4.7	M6	DMS6
RD22 - RD42	12	5.5	5	20	15	8.1	30	6.2	M8	DMS8
RD48 - RD105	16	7	7	24	18	10.1	80	7.5	M10	DMS10

WHEN BUSH HEAD IS PROUD

For use with Bushes	B	F	C	A	D	E	R	G	Size of Fixing Screw	Tenon Ref.
RD8 - RD10	11	6	4	13	10	5.1	9.5	3.7	M5	DLMS5
RD12 - RD18	14	8	5	16	12	6.1	15	4.7	M6	DLMS6
RD22 - RD42	17	10.5	5	20	15	8.1	30	6.2	M8	DLMS8
RD48 - RD105	22	13	7	24	18	10.1	80	7.5	M10	DLMS10



Imperial and Metric Bore Sizes with Decimal Equivalents for Imperial Range BS 1098 PT1 1967 and Metric Sizes for Metric Range ISO 4247

Dec. Equiv.	Eng.	m/m	Dec. Equiv.	Eng.	m/m	Dec. Equiv.	Eng.	m/m	Dec. Equiv.	Eng.	m/m	Dec. Equiv.	Eng.	m/m	Dec. Equiv.	Eng.	m/m	Dec. Equiv.	Eng.	m/m
.0469	3/64		.1299		3.3	.2559		6.5	.3819		9.7	.5079		12.9	.8268		21.00	1.2205		31.00
.0472		1.2	.1339		3.4	.2598		6.6	.3839		9.75	.5118		13.00	.8366		21.25	1.2303		31.25
.0492		1.25	.1378		3.5	.2638		6.7	.3858		9.8	.5157		13.1	.8465		21.50	1.2402		31.50
.0512		1.3	.1406	9/64		.2656	17/64		.3898		9.9	.5197		13.2	.8563		21.75	1.250	11/4	
.0532		1.35	.1417		3.6	.2657		6.75	.3906	25/64		.5217		13.25	.8661		22.00	1.2598		32.00
.0551		1.4	.1457		3.7	.2677		6.8	.3937		10.00	.5236		13.3	.8750	7/8		1.2697		32.25
.0571		1.45	.1476		3.75	.2717		6.9	.3976		10.1	.5276		13.4	.8760		22.25	1.2795		32.50
.0591		1.5	.1496		3.8	.2756		7.00	.4016		10.2	.5315		13.5	.8858		22.50	1.2894		32.75
.0610		1.55	.1535		3.9	.2795		7.1	.4035		10.25	.5354		13.6	.8957		22.75	1.2992		33.00
.0625	1/16		.1562	5/32		.2812	9/32		.4055		10.3	.5394		13.7	.9055		23.00	1.3125	15/16	
.0630		1.6	.1575		4.0	.2835		7.2	.4062	13/32		.5413		13.75	.9154		23.25	1.3189		33.50
.0650		1.65	.1614		4.1	.2854		7.25	.4094		10.4	.5433		13.8	.9252		23.50	1.3386		34.00
.0669		1.7	.1654		4.2	.2874		7.3	.4134		10.5	.5472		13.9	.9350		23.75	1.3583		34.50
.0689		1.75	.1673		4.25	.2913		7.4	.4173		10.6	.5512		14.00	.9375	15/16		1.3750	13/8	
.0709		1.8	.1693		4.3	.2953		7.5	.4213		10.7	.5610		14.25	.9449		24.00	1.3780		35.00
.0728		1.85	.1719	11/64		.2969	19/64		.4219	27/64		.5625	9/16		.9547		24.25	1.3976		35.50
.0748		1.9	.1732		4.4	.2992		7.6	.4232		10.75	.5709		14.5	.9646		24.50	1.4173		36.00
.0768		1.95	.1772		4.5	.3032		7.7	.4252		10.8	.5807		14.75	.9744		24.75	1.4370		36.50
.0781	5/64		.1811		4.6	.3051		7.75	.4291		10.9	.5906		15.00	.9843		25.00	1.4375	17/16	
.0787		2.00	.1850		4.7	.3071		7.8	.4331		11.00	.6004		15.25	.9941		25.25	1.4567		37.00
.0807		2.05	.1870		4.75	.3110		7.9	.4370		11.1	.6102		15.5	1.000	1		1.4764		37.50
.0827		2.1	.1875	3/16		.3125	5/16		.4375	7/16		.6201		15.75	1.0039		25.50	1.4961		38.00
.0846		2.15	.1890		4.8	.3150		8.00	.4409		11.2	.6250	5/8		1.0138		25.75	1.5000	11/2	
.0866		2.2	.1929		4.9	.3189		8.1	.4429		11.25	.6299		16.00	1.0236		26.00	1.5157		38.50
.0886		2.25	.1968		5.00	.3228		8.2	.4449		11.3	.6398		16.25	1.0335		26.25	1.5354		39.00
.0906		2.3	.2008		5.1	.3248		8.25	.4488		11.4	.6496		16.5	1.0433		26.50	1.5551		39.50
.0925		2.35	.2031	13/64		.3268	21/64	8.3	.4528		11.5	.6594		16.75	1.0531		26.75	1.5625	19/16	
.0938	3/32		.2047		5.2	.3281		.4531	29/64		.6693		17.00	1.0625	11/16		1.5748			40.00
.0945		2.4	.2067		5.25	.3307		8.4	.4567		11.6	.6791		17.25	1.0630		27.00	1.5945		40.50
.0965		2.45	.2087		5.3	.3346		8.5	.4606		11.7	.6875	11/16		1.0728		27.25	1.6142		41.00
.0984		2.5	.2126		5.4	.3386		8.6	.4626		11.75	.6890		17.5	1.0827		27.50	1.6250	15/8	
.1004		2.55	.2165		5.5	.3425		8.7	.4646		11.8	.6988		17.75	1.0925		27.75	1.6339		41.50
.1024		2.6	.2188	7/32		.3438	11/32		.4685		11.9	.7087		18.00	1.1024		28.00	1.6535		42.00
.1043		2.65	.2205		5.6	.3445		8.75	.4688	15/32		.7185		18.25	1.1122		28.25	1.6732		42.50
.1063		2.7	.2244		5.7	.3465		8.8	.4724		12.00	.7283		18.5	1.1220		28.50	1.6875	111/16	
.1083		2.75	.2264		5.75	.3504		8.9	.4764		12.1	.7382		18.75	1.1250	11/8		1.6929		43.00
.1094	7/64		.2283		5.8	.3543		9.00	.4803		12.2	.7480		19.00	1.1319		28.75	1.7126		43.50
.1102		2.8	.2323		5.9	.3583		9.1	.4823		12.25	.7500	3/4		1.1417		29.00	1.7323		44.00
.1122		2.85	.2344	15/64		.3594	23/64		.4843		12.3	.7579		19.25	1.1516		29.25	1.750	13/4	
.1142		2.9	.2362		6.00	.3622		9.2	.4844	31/64		.7677		19.5	1.1614		29.50	1.7520		44.50
.1161		2.95	.2402		6.1	.3642		9.25	.4882		12.4	.7776		19.75	1.1713		29.75	1.7717		45.00
.1181		3.00	.2441		6.2	.3661		9.3	.4921		12.5	.7874		20.00	1.1811		30.00	1.7913		45.50
.1220		3.1	.2461		6.25	.3701		9.4	.4961		12.6	.7972		20.25	1.1875	13/16		1.8110		46.00
.1250	1/8		.2480		6.3	.3740		9.5	.5000	1/2	12.7	.8071		20.5	1.1909		30.25	1.8307		46.50
.1260		3.2	.2500	1/4		.3750	3/8		.5020		12.75	.8125	13/16		1.2008		30.50	1.8504		47.00
.1280		3.25	.2520		6.4	.3780		9.6	.5039		12.8	.8169		20.75	1.2106		30.75	1.8701		47.50
																		1.8898		48.00

Imperial Range



HEADLESS TYPE. PRESS FIT BS 1098 PT. 1 1967

This type of bush is normally used for all jigs where an economical bush is required. They also afford the minimum spacing between bushes.



HEADED TYPE. PRESS FIT. BS 1098 PT. 1 1967

This range is the same as the plain type but headed. The head is convenient for pressing the bush home.

The head is also useful when it is desired to feed down to a dead stop.



FIXED AND SLIP RENEWABLE. BS 1098 PT. 1 1967

These two features are incorporated on one bush, which is used in conjunction with liner bushes, and is held in place by a lock screw.

The bush is a slide fit in its corresponding liner.

The removable fixed feature of the bush is normally used on high production work, when the bush can be easily and quickly replaced with a minimum loss of production. The removable slip feature of the bush is used when more than one operation is carried out, when the bush is instantly removable after each operation.



HEADLESS LINER TYPE. BS 1098 PT. 1 1967

This range is for use in conjunction with Renewable Fixed and Slip type bushes.

The reference system used matches up with the corresponding slip bush.

For example a PL3 Liner bush suits an RPS3 Slip bush and so on.



HEADED LINER TYPE. BS 1098 PT. 1 1967

This range is the same as the plain liner but headed.

The shallow head can be left standing proud or counterbored flush.

FITTING INSTRUCTIONS FOR IMPERIAL BUSHES

Recommended limits, shown below to which receiving holes should be bored or reamed so that bushes are a suitable press fit.

BS1916 H6 LIMITS

Dimensions in inches

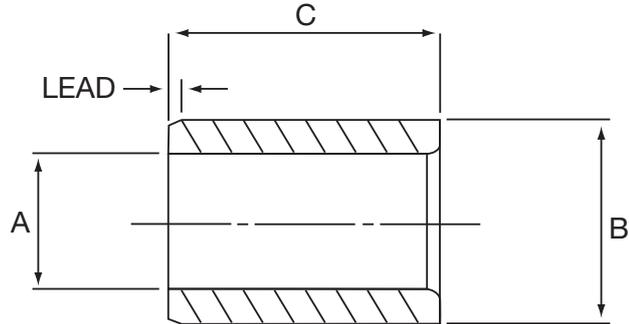
BORE	.120 to .240	.240 to .710	.710 to 1.190	1.190 to 1.970	1.970 to 3.150
LIMITS	-.0000 +.0003	-.0000 +.0004	-.0000 +.0005	-.0000 +.0006	-.0000 +.0007

Concentricity is .0008" on drilled or ground bores up to .055".

Imperial bushes including metric bores.

Nitrided bushes for longer life can be supplied.
Price on application.

**TO ORDER STATE
QTY, TYPE, BORE SIZE AND LENGTH**
EXAMPLE:- 5, P6 3/8" x 3/4" lg



A dia Range		B O.D.	Length C and Reference													
mm	Imp.		1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 3/8"	1 1/2"	1 3/4"	2"	2 1/4"	2 1/2"
1.2 to 2.35	3/64 to 3/32	.2035 .2038	PB1	PB1	PB1	PB1										
2.4 to 3.5	7/64 to 9/64	.2505 .2508	P2	P2	P2	P2										
3.6 to 4.75	5/32 to 3/16	.3131 .3135		P3	P3	P3	P3	P3								
4.8 to 6.3	13/64 to 1/4	.4068 .4072		PB4	PB4	PB4	PB4	PB4								
6.4 to 7.9	17/64 to 5/16	.5006 .5010		P5	P5	P5	P5	P5								
8.0 to 10.3	21/64 to 13/32	.6257 .6262				P6	P6	P6	P6	P6						
10.4 to 12.6	27/64 to 1/2	.7507 .7512				P7	P7	P7	P7	P7						
12.75 to 15.75	9/16 to 5/8	.8757 .8762						P8	P8	P8	P8	P8				
16 to 19	11/16 to 3/4	1.0009 1.0015				P9		P9	P9	P9	P9	P9				
19.25 to 22	13/16 to 7/8	1.1884 1.1890						PB9	PB9	PB9	PB9	PB9	PB9			
22.25 to 25.25	15/16 to 1	1.3759 1.3765						P10	P10	P10	P10	P10	P10			
25.5 to 30	11/16 to 13/16	1.5635 1.5642							PB10	PB10	PB10	PB10	PB10	PB10	PB10	
30.25 to 34.5	11/4 to 13/8	1.7510 1.7517							P11	P11	P11	P11	P11	P11	P11	
35 to 39.5	17/16 to 19/16	2.0010 2.0017							PB11	PB11	PB11	PB11	PB11	PB11		PB11
40 to 44	15/8 to 13/4	2.2512 2.2520							P12	P12	P12	P12	P12	P12		P12

References shaded price on application

NOTE All bores of the 32nd and 64th sizes over 1/2" diameter are now considered special. Standard bore sizes see chart page 7.

OVERSIZE BUSHES +.010"/+.015" on 'B' diameter can be supplied for finish grinding. State O/S if required after ref.
Price on application.

REAM LIMITS If required state R after ref. Price on application.

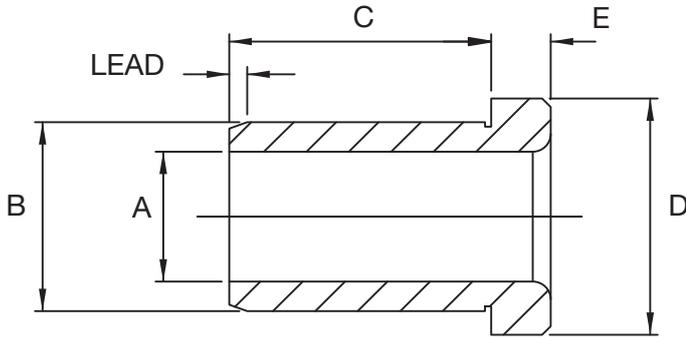
SPECIAL BUSHES PRICE ON APPLICATION.

FITTING INSTRUCTIONS Bore or Ream hole to dimension 'B' use H6 Limit (page 8) when the Bush will be a suitable press fit.

Headed Bushes



BS 1098 PT. 1 1967



Imperial bushes including metric bores.

Nitrided bushes for longer life can be supplied.
Price on application.

**TO ORDER STATE
QTY, TYPE, BORE SIZE AND LENGTH
EXAMPLE:- 5, S6 3/8" x 3/4" lg**

A dia Range		B O.D.	Length C and Reference														Head	
mm	Imp.		1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 3/8"	1 1/2"	1 3/4"	2"	2 1/4"	2 1/2"	D	E
1.2 to 2.35	3/64 to 3/32	.2035 .2038	SB1	SB1	SB1	SB1											5/16	3/32
2.4 to 3.5	7/64 to 9/64	.2505 .2508	S2	S2	S2	S2											5/16	1/8
3.6 to 4.75	5/32 to 3/16	.3131 .3135		S3	S3	S3	S3	S3									3/8	1/8
4.8 to 6.3	13/64 to 1/4	.4068 .4072		SB4	SB4	SB4	SB4	SB4									9/16	3/16
6.4 to 7.9	17/64 to 5/16	.5006 .5010		S5	S5	S5	S5	S5									5/8	3/16
8.0 to 10.3	21/64 to 13/32	.6257 .6262				S6	S6	S6	S6	S6							3/4	3/16
10.4 to 12.6	27/64 to 1/2	.7507 .7512				S7	S7	S7	S7	S7							15/16	1/4
12.75 to 15.75	9/16 to 5/8	.8757 .8762						S8	S8	S8	S8	S8					1 1/8	1/4
16 to 19	11/16 to 3/4	1.0009 1.0015				S9		S9	S9	S9	S9	S9					1 1/4	5/16
19.25 to 22	13/16 to 7/8	1.1884 1.1890						SB9	SB9	SB9	SB9	SB9	SB9				1 7/16	5/16
22.25 to 25.25	15/16 to 1	1.3759 1.3765						S10	S10	S10	S10	S10	S10				1 5/8	5/16
25.5 to 30	11/16 to 13/16	1.5635 1.5642							SB10	SB10	SB10	SB10	SB10	SB10	SB10		1 13/16	3/8
30.25 to 34.5	11/4 to 13/8	1.7510 1.7517							S11	S11	S11	S11	S11	S11	S11		2	3/8
35 to 39.5	17/16 to 19/16	2.0010 2.0017							SB11	SB11	SB11	SB11	SB11	SB11		SB11	2 1/4	3/8
40 to 44	15/8 to 13/4	2.2512 2.2520							S12	S12	S12	S12	S12	S12		S12	2 1/2	3/8

References shaded price on application

NOTE All bores of the 32nd and 64th sizes over 1/2" diameter are now considered special. Standard bore sizes see chart page 7.

OVERSIZE BUSHES +.010"/+.015" on 'B' diameter can be supplied for finish grinding. State O/S if required after ref.

Price on application.

REAM LIMITS If required state R after ref. Price on application.

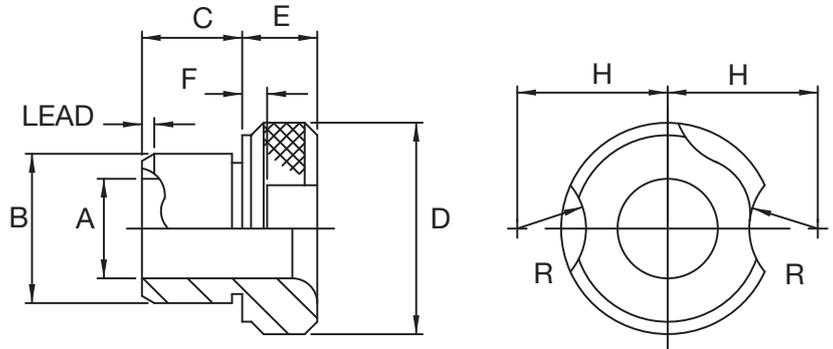
SPECIAL BUSHES PRICE ON APPLICATION.

FITTING INSTRUCTIONS Bore or Ream hole to dimension 'B' use H6 Limit (page 8) when the Bush will be a suitable press fit.

Imperial bushes including metric bores.

Nitrided bushes for longer life can be supplied.
Price on application.

**TO ORDER STATE
QTY, TYPE, BORE SIZE AND LENGTH
EXAMPLE:- 10, RPS3 12mm x 1" lg**



A dia Range		B O.D.	Length C and Reference													
mm	Imp.		5/16"	3/8"	1/2"	3/4"	1"	1 1/4"	1 3/8"	1 1/2"	1 3/4"	2"	2 1/4"	2 1/2"		
1.2 to 4.75	3/64 to 3/16	.3123 to .3125	RPS1	RPS1	RPS1	RPS1										
3.9 to 8.7	5/32 to 11/32	.4997 to .5000	RPS2	RPS2	RPS2	RPS2	RPS2	RPS2								
7.6 to 12.6	19/64 to 1/2	.7496 to .7500			RPS3	RPS3	RPS3	RPS3		RPS3						
12.4 to 19.0	31/64 to 3/4	.9996 to 1.0000				RPS4	RPS4	RPS4	RPS4	RPS4	RPS4	RPS4				
17.5 to 26.75	11/16 to 1 1/16	1.3746 to 1.3750				RPS5	RPS5	RPS5	RPS5	RPS5	RPS5	RPS5	RPS5			
25.25 to 34.5	1 to 1 3/8	1.7496 to 1.7500					RPS6	RPS6	RPS6	RPS6	RPS6	RPS6	RPS6	RPS6		
33.0 to 45.0	1 5/16 to 1 3/4	2.2495 to 2.2500						RPS7	RPS7	RPS7	RPS7	RPS7	RPS7	RPS7		

Ref	Head Dimensions in inches				
	D	E	F	R	H
RPS1	9/16	3/8	1/8	11/32	1/2
RPS2	13/16	3/8	1/8	11/32	5/8
RPS3	1 1/16	3/8	1/8	11/32	3/4
RPS4	1 7/16	7/16	1/8	11/32	59/64
RPS5	1 25/32	7/16	1/8	11/32	17/64
RPS6	2 9/32	1/2	3/16	13/32	1 25/64
RPS7	2 25/32	1/2	3/16	13/32	1 41/64

References shaded price on application

NOTE All bores of the 32nd and 64th sizes over 1/2" diameter are now considered special.

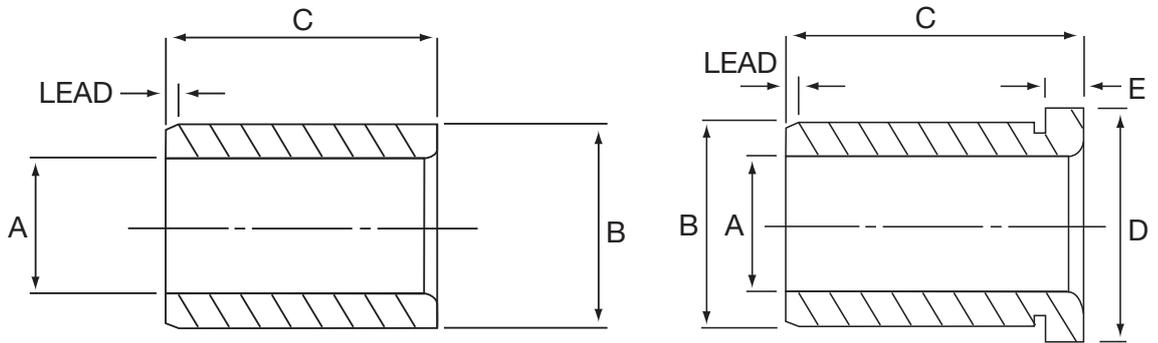
Standard bore sizes see chart page 7.

The above Bushes are used in conjunction with Plain and Headed Liners and Lock Screws, as shown on pages 12 and 13.

REAM LIMITS If required state R after ref. Price on application.

SPECIAL BUSHES PRICE ON APPLICATION.

BS 1098 PT.1 1967



TO ORDER STATE REF. AND LENGTH

A Dia.		B Dim.	Length C and Reference											
Size	Limit		5/16"	3/8"	1/2"	3/4"	1"	1 1/4"	1 3/8"	1 1/2"	1 3/4"	2"	2 1/4"	2 1/2"
5/16	+0.002	.5006	PL1	PL1	PL1	PL1								
	+0.004	.5010												
1/2	+0.002	.7507	PL2	PL2	PL2	PL2	PL2	PL2						
	+0.006	.7512												
3/4	+0.003	1.0009			PL3	PL3	PL3	PL3		PL3				
	+0.006	1.0015												
1	+0.003	1.3759				PL4	PL4	PL4	PL4	PL4	PL4	PL4		
	+0.006	1.3765												
1 3/8	+0.004	1.7510				PL5	PL5	PL5	PL5	PL5	PL5	PL5	PL5	
	+0.008	1.7517												
1 3/4	+0.004	2.2512					PL6	PL6	PL6	PL6	PL6	PL6	PL6	PL6
	+0.008	2.2520												
2 1/4	+0.004	2.7512					PL7	PL7	PL7	PL7	PL7	PL7		PL7
	+0.009	2.7520												

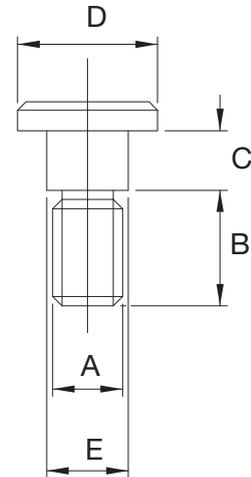
A Dia.		B Dim.	Length C and Reference												D	E
Size	Limit		5/16"	3/8"	1/2"	3/4"	1"	1 1/4"	1 3/8"	1 1/2"	1 3/4"	2"	2 1/4"	2 1/2"		
5/16	+0.002	.5006	SL1	SL1	SL1	SL1									5/8	1/8
	+0.004	.5010														
1/2	+0.002	.7507	SL2	SL2	SL2	SL2	SL2	SL2							7/8	1/8
	+0.006	.7512														
3/4	+0.003	1.0009			SL3	SL3	SL3	SL3		SL3					1 1/8	1/8
	+0.006	1.0015														
1	+0.003	1.3759				SL4	SL4	SL4	SL4	SL4	SL4	SL4			1 1/2	1/8
	+0.006	1.3765														
1 3/8	+0.004	1.7510				SL5	SL5	SL5	SL5	SL5	SL5	SL5	SL5		17/8	1/8
	+0.008	1.7517														
1 3/4	+0.004	2.2512					SL6	SL6	SL6	SL6	SL6	SL6	SL6	SL6	2 3/8	1/8
	+0.008	2.2520														
2 1/4	+0.004	2.7512					SL7	SL7	SL7	SL7	SL7	SL7		SL7	27/8	1/8
	+0.009	2.7520														

OVERSIZE BUSHES +.010"/+.015" on 'B' diameter can be supplied for finish grinding. State O/S if required after ref.

References shaded price on application

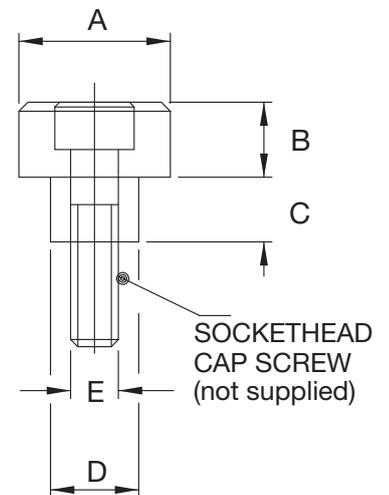
STATE QUANTITY, REFERENCE AND THREAD

B&T Ref	A	B	C	D	E		To suit Bushes Nos.
LSA	BSF 5/16" UNC Whit	3/8"	.135"	5/8"	3/8"	For use when Flush Fitting Liner is used.	RPS1 to RPS5
LSC	BSF 3/8" UNC Whit	5/8"	.197"	3/4"	7/16"	For use when Flush Fitting Liner is used.	RPS6 and RPS7
LSD	BSF 5/16" UNO Whit	3/8"	.260"	5/8"	3/8"	For use when Headed type Liner is used with Head Proud.	RPS1 to RPS5
LSF	BSF 3/8" UNC Whit	5/8"	.322"	3/4"	7/16"	For use when Headed type Liner is used with Head Proud.	RPS 6 and RPS7



Detachable Lock Screws

B&T Ref	A	B	C	D	E		To suit Bushes Nos.
DLSA	5/8"	5/16"	.135"	3/8"	2 BA	For use when Flush Fitting Liner is used.	RPS1 to RPS5
DLSC	3/4"	3/8"	.197"	7/16"	1/4" Whit	For use when Flush Fitting Liner is used.	RPS6 and RPS7
DLSD	5/8"	5/16"	.260"	3/8"	2 BA	For use when Headed type Liner is used with Head Proud.	RPS1 to RPS5
DLSF	3/4"	3/8"	.322"	7/16"	1/4" Whit	For use when Headed type Liner is used with Head Proud.	RPS 6 and RPS7

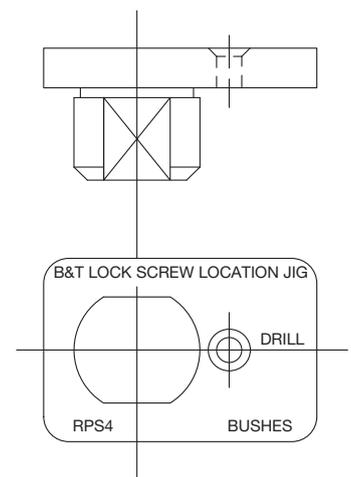


NOTE: These detachable lock screws consist of a separate hardened bush held in place by a socket head screw, because of this they are easier to fit and replace than the solid conventional type lock head screw listed above. Further, the hardened bush can be held against the slip bush and used as a simple jig for locating the screw.

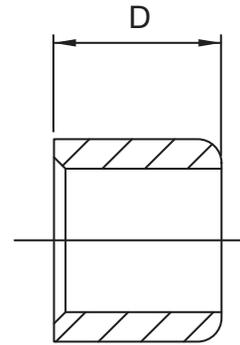
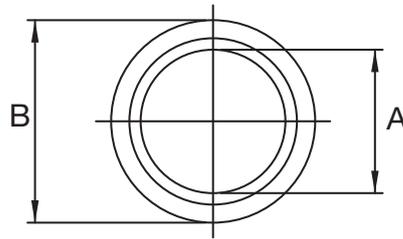
Lock Screw Locating jig

Jig Ref	LJ1	LJ2	LJ3	LJ4	LJ5	LJ6	LJ7
Suitable for Bushes	RPS1	RPS2	RPS3	RPS4	RPS5	RPS6	RPS7

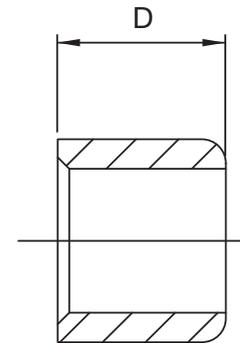
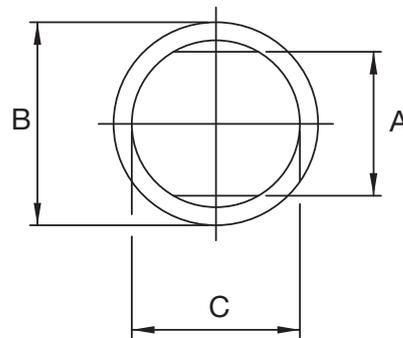
NOTE: These jigs locate the lock screw position accurately and quickly. The spigot fits a bore the same inside diameter as the corresponding liner.



Round Bore



Elongated Bore



REF ROUND	REF ELON	BORE / ACROSS FLAT A	O.D B	LENGTH D
RMB1	EMB1	19MM	30MM	22MM
RMB2	EMB2	22MM	32MM	22MM
RMB3	EMB3	25MM	36MM	25MM
RMB4	EMB4	3/4"	1 1/16"	7/8"
RMB5	EMB5	3/4"	1 1/8"	7/8"
RMB6	EMB6	3/4"	1 3/16"	7/8"
RMB7	EMB7	7/8"	1 1/16"	7/8"
RMB8	EMB8	7/8"	1 1/4"	7/8"
RMB9	EMB9	1"	1 3/8"	1"
RMB10	EMB10	1"	1 7/16"	1"
RMB11	EMB11	3/4"	1 1/4"	7/8"
RMB12	EMB12	21MM	38MM	27MM
RMB13	EMB13	19MM	30MM	27MM

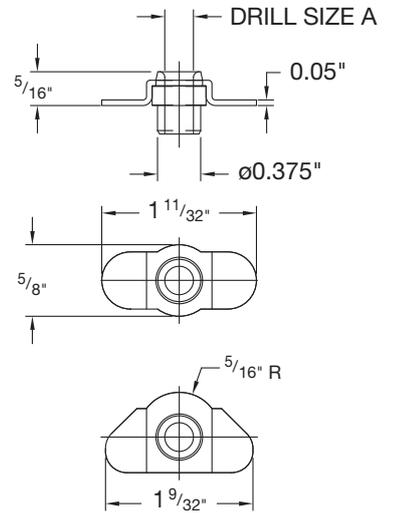
NOTE Bushes to meet non-standard or individual specifications can be economically produced to special order.

FOUNDRY PINS

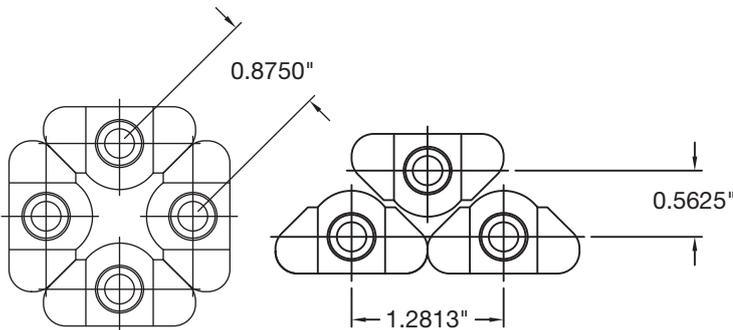
We will be pleased to quote for the manufacture of Foundry Pins to meet your own requirements.

B&T Anchor Bush is a two-piece assembly consisting of a hardened steel bush with a bore to suit the appropriate drill size and a low carbon steel anchor which is either welded or riveted to the drill template. This strap only holds the bush firmly in place and has no influence on location which is obtained from a spigot on the bush machined concentric with the bore. Thus Anchor Bushes can be spaced accurately, when desired, by Jig Boring the template. On many applications, however, marking out and either punching or drilling the locating holes is sufficiently accurate. B&T Anchor Bushes are made in Standard and Corner types and by using a combination of the two various hole patterns can be made up as shown on the following pages.

Standard Type Ref. AB1



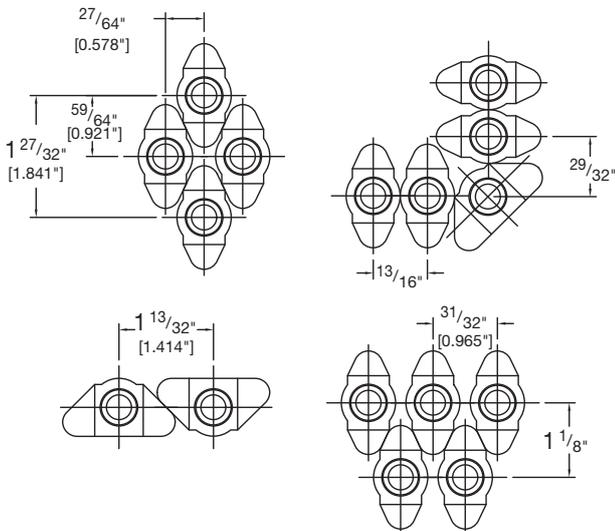
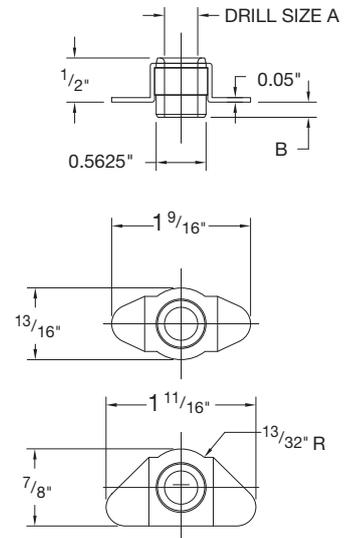
Minimum Patterns



AB1

A Bore	C O.D.	B Length
3/64" to 9/32"	.375" +.000"	.050" .125" .187"
1.2mm to 7.1mm	-.004"	.250" .375"

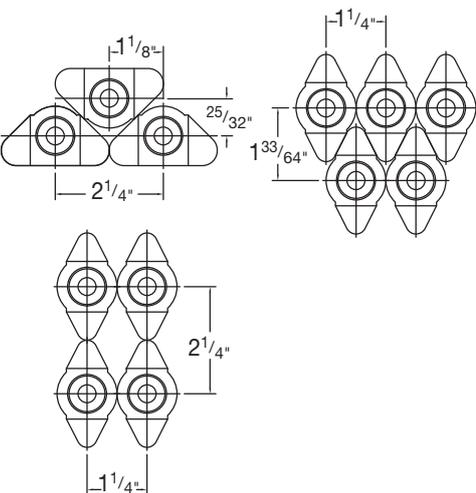
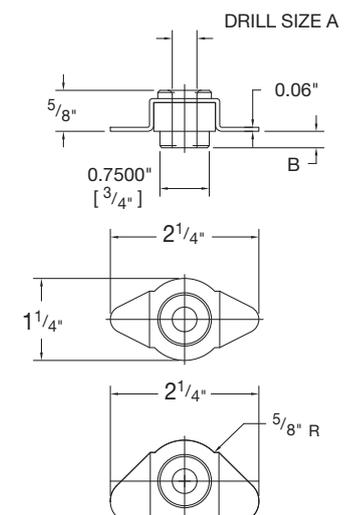
Standard Type Ref. AB2



AB2

A Bore	C O.D.	B Length
9/32" to 29/64"	.5625" +.000"	.050" .125" .187"
7.2mm to 11.5mm	-.004"	.250" .375"

Standard Type Ref. AB3



AB3

A Bore	C O.D.	B Length
29/64" to 5/8"	.750" +.000"	.050" .125" .187"
11.6mm to 15.75mm	-.004"	.250" .375"



The above photograph illustrates a wide range of hardened and ground special components to customer drawings. We would welcome the opportunity to offer quotations for any precision cylindrical type components, upon receipt of your enquiry details.

USA Standard Bushings

We can offer drill bushes manufactured to the American Standard Institute specifications. These are supplied through a facility in the U.S.A. The range is available with bores from .0135" to 1.7/8" diam's.

A range of thin wall bushes are also available. The thin walls allows flexibility where close fitting is required.

Nitride Bushes

For longer life requirements, all bushes, U.S.A. standards and British standard bushes, are available in nitrided material. This process gives a hardness of 67-69 Rockwell C. Price and delivery upon application.