

SECTION B

MOLD COMPONENTS

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SECTION B

MOLD COMPONENTS

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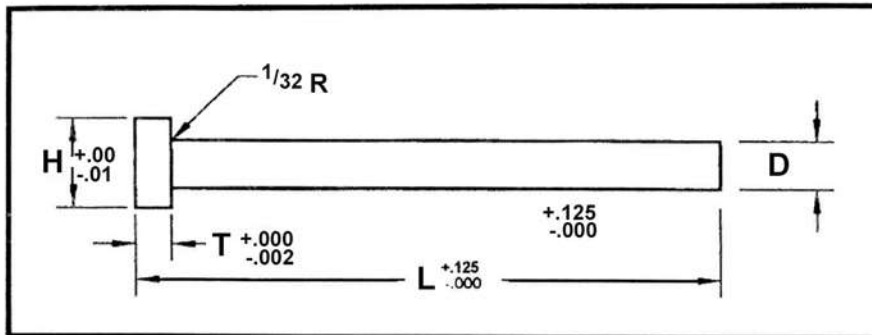
Ejector Pins - Nitrided

STRAIGHT TYPE INCH DIMENSION

EPN SERIES

TC Ejector Pins are precision ground to provide exceptional diameter tolerances on all standard pins. The surface is nitrided and polished to minimize wear. Additional standard lengths are available. Specials can be quoted per print. Call for details and a competitive quotation.

HIGH QUALITY
COMPETITIVE PRICING



Diameter (D) Tolerance:
3/64 thru 7/16 - .0003 to - .0006
15/32 thru 1 - .0003 to - .0008
Oversize Pins - .0003 to - .001

Material: H-13 Hotwork Tool Steel

Core Hardness: 40 - 45 Rc

Surface Hardness: Nitrided to 65 - 75 Rc

Surface Finish: 4 - 10 RMS

D	H	T	L = 6"		L = 10"		L = 14"		L = 18"		L = 25"	L = 39"
Nominal Pin Diam.	Head Diam.	Head Thick	D Standard	D Standard	D 0.005 *Oversize	D Standard	D 0.005 *Oversize	D Standard	D 0.005 *Oversize	D Standard	D Standard	D Standard
3/64	1/4	1/8	EPN03-06	-	-	-	-	-	-	-	-	-
1/16	1/4	1/8	EPN05-06	EPN05-10	-	-	-	-	-	-	-	-
5/64	1/4	1/8	EPN06-06	EPN06-10	-	-	-	-	-	-	-	-
3/32	1/4	1/8	EPN07-06	EPN07-10	-	-	-	-	-	-	-	-
7/64	1/4	1/8	EPN08-06	EPN08-10	-	-	-	-	-	-	-	-
1/8	1/4	1/8	EPN09-06	EPN09-10	EPN09-10 OS	EPN09-14	EPN09-14 OS	EPN09-18	-	EPN09-25	-	-
9/64	1/4	1/8	EPN10-06	EPN10-10	-	EPN10-14	-	-	-	-	-	-
5/32	9/32	5/32	EPN11-06	EPN11-10	EPN11-10 OS	EPN11-14	EPN11-14 OS	EPN11-18	-	EPN11-25	-	-
11/64	11/32	3/16	EPN12-06	EPN12-10	-	EPN12-14	-	-	-	-	-	-
3/16	3/8	3/16	EPN13-06	EPN13-10	EPN13-10 OS	EPN13-14	EPN13-14 OS	EPN13-18	-	EPN13-25	EPN13-39	-
13/64	3/8	3/16	EPN14-06	EPN14-10	-	EPN14-14	-	-	-	-	-	-
7/32	13/32	3/16	EPN15-06	EPN15-10	EPN15-10 OS	EPN15-14	-	EPN15-18	-	EPN15-25	-	-
15/64	13/32	3/16	EPN16-06	EPN16-10	-	EPN16-14	-	-	-	-	-	-
1/4	7/16	3/16	EPN17-06	EPN17-10	EPN17-10 OS	EPN17-14	EPN17-14 OS	EPN17-18	EPN17-18 OS	EPN17-25	EPN17-39	-
17/64	7/16	1/4	EPN18-06	EPN18-10	-	EPN18-14	-	-	-	-	-	-
9/32	7/16	1/4	EPN19-06	EPN19-10	EPN19-10 OS	EPN19-14	-	EPN19-18	-	EPN19-25	-	-
19/64	1/2	1/4	EPN20-06	EPN20-10	-	EPN20-14	-	-	-	-	-	-
5/16	1/2	1/4	EPN21-06	EPN21-10	EPN21-10 OS	EPN21-14	EPN21-14 OS	EPN21-18	EPN21-18 OS	EPN21-25	EPN21-39	-
21/64	9/16	1/4	EPN22-06	EPN22-10	-	EPN22-14	-	EPN22-18	-	EPN22-25	-	-
11/32	9/16	1/4	EPN23-06	EPN23-10	-	EPN23-14	-	EPN23-18	-	EPN23-25	-	-
23/64	5/8	1/4	EPN24-06	EPN24-10	-	EPN24-14	-	EPN24-18	-	EPN24-25	-	-
3/8	5/8	1/4	EPN25-06	EPN25-10	EPN25-10 OS	EPN25-14	EPN25-14 OS	EPN25-18	EPN25-18 OS	EPN25-25	EPN25-39	-
13/32	11/16	1/4	EPN27-06	EPN27-10	EPN27-10 OS	EPN27-14	-	EPN27-18	-	EPN27-25	-	-
7/16	11/16	1/4	EPN29-06	EPN29-10	EPN29-10 OS	EPN29-14	EPN29-14 OS	EPN29-18	-	EPN29-25	EPN29-39	-
15/32	3/4	1/4	EPN31-06	EPN31-10	EPN31-10 OS	EPN31-14	-	EPN31-18	-	EPN31-25	-	-
1/2	3/4	1/4	EPN33-06	EPN33-10	EPN33-10 OS	EPN33-14	EPN33-14 OS	EPN33-18	-	EPN33-25	EPN33-39	-
9/16	13/16	1/4	EPN35-06	EPN35-10	-	EPN35-14	-	EPN35-18	-	EPN35-25	-	-
5/8	7/8	1/4	EPN37-06	EPN37-10	-	EPN37-14	-	EPN37-18	-	EPN37-25	EPN37-39	-
11/16	15/16	1/4	EPN39-06	EPN39-10	-	EPN39-14	-	EPN39-18	-	EPN39-25	-	-
3/4	1	1/4	EPN41-06	EPN41-10	-	EPN41-14	-	EPN41-18	-	EPN41-25	EPN41-39	-
7/8	1-1/8	1/4	EPN45-06	EPN45-10	-	EPN45-14	-	EPN45-18	-	EPN45-25	-	-
1	1-1/4	1/4	EPN47-06	EPN47-10	-	EPN47-14	-	EPN47-18	-	EPN47-25	EPN47-39	-

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Tooling Components, Inc.

Ejector Step Pins - Nitrided

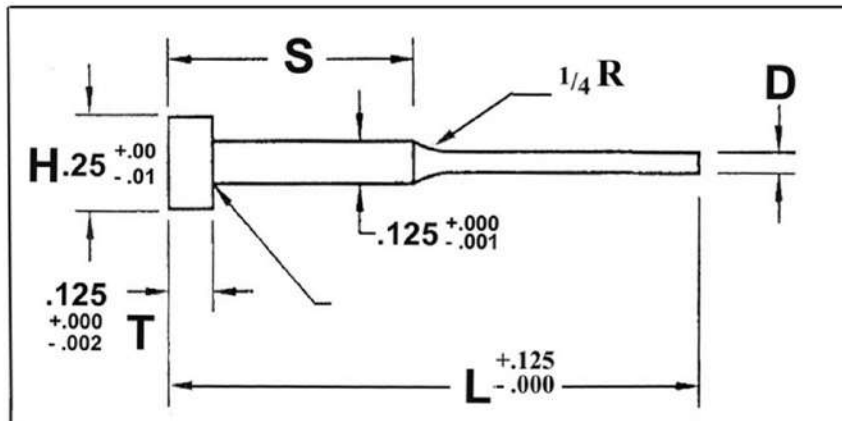
Shoulder Type

Inch Dimension

ESP SERIES

TC Ejector Step Pins are precision ground from premium hot-work tool steel. The surface is nitrided and polished to minimize wear and reduce flashing. Additional non-stock sizes are available. Specials can be quoted per print. Call for details and a competitive quotation.

HIGH QUALITY
COMPETITIVE PRICING



Diameter (D) Tolerance:
All diameters + .000 to - .001

Material: H-13 Hotwork Tool Steel

Core Hardness: 40 - 45 Rc

Surface Hardness: Nitrided to 65 - 75 Rc

Surface Finish: 4 - 10 RMS

D	H	T	S	L = 4"	L = 6"	L = 10"		L = 14"
Nominal Pin Diam.	Head Diam.	Head Thick.	Shoulder Length	D Standard	D Standard	D Standard	* Oversize .005	D Standard
1/32	1/4	1/8	1/2	-	ESP02-05-06	-	-	-
1/32	1/4	1/8	2	-	ESP02-20-06	-	-	-
3/64	1/4	1/8	1/2	ESP03-05-04	ESP03-05-06	ESP03-05-10	ESP03-05-10 OS	ESP03-05-14
3/64	1/4	1/8	2	-	ESP03-20-06	ESP03-20-10	ESP03-20-10 OS	ESP03-20-14
3/64	1/4	1/8	3	-	-	ESP03-30-10	-	-
3/64	1/4	1/8	4	-	-	ESP03-40-10	-	-
1/16	1/4	1/8	1/2	ESP05-05-04	ESP05-05-06	ESP05-05-10	ESP05-05-10 OS	ESP05-05-14
1/16	1/4	1/8	2	-	ESP05-20-06	ESP05-20-10	ESP05-20-10 OS	ESP05-20-14
1/16	1/4	1/8	3	-	-	ESP05-30-10	-	-
1/16	1/4	1/8	4	-	-	ESP05-40-10	-	-
5/64	1/4	1/8	1/2	ESP06-05-04	ESP06-05-06	ESP06-05-10	ESP06-05-10 OS	ESP06-05-14
5/64	1/4	1/8	2	-	ESP06-20-06	ESP06-20-10	ESP06-20-10 OS	ESP06-20-14
5/64	1/4	1/8	3	-	-	ESP06-30-10	-	-
5/64	1/4	1/8	4	-	-	ESP06-40-10	-	-
3/32	1/4	1/8	1/2	ESP07-05-04	ESP07-05-06	ESP07-05-10	ESP07-05-10 OS	ESP07-05-14
3/32	1/4	1/8	2	-	ESP07-20-06	ESP07-20-10	ESP07-20-10 OS	ESP07-20-14
3/32	1/4	1/8	3	-	-	ESP07-30-10	-	-
3/32	1/4	1/8	4	-	-	ESP07-40-10	-	-
7/64	1/4	1/8	1/2	-	ESP08-05-06	ESP08-05-10	ESP08-05-10 OS	ESP08-05-14
7/64	1/4	1/8	2	-	ESP08-20-06	ESP08-20-10	ESP08-20-10 OS	ESP08-20-14
7/64	1/4	1/8	3	-	-	ESP08-30-10	-	-
7/64	1/4	1/8	4	-	-	ESP08-40-10	-	-

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Ejector Pins - Hardened Thru

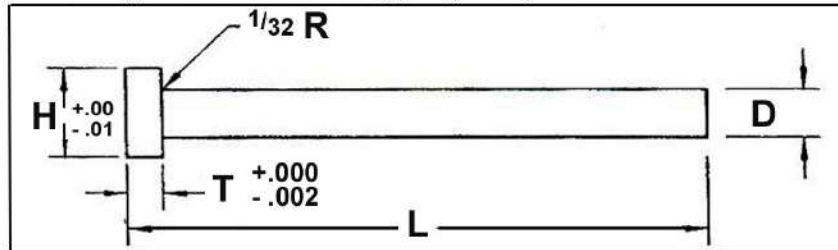
Straight Type

Inch Dimension

RHX SERIES

TC Hardened Thru Ejector Pins have a high core hardness (50-55 Rc) combined with the addition of a special Ion nitrided surface.

Pin diameters are precision ground to a .0003 tolerance, the tightest tolerance available in the industry. RHX pins are compatible with PCS "P" type and DME "THX" type ejector pins.



Tolerances

Pin Diam.(D): -.0005 to -.0008

Head Diam. (H): +.000 -.010

Head Thick. (T): +.000 -.002

Length (L): +.375 -.000

Material: H13 Hotwork Steel

Core Hardness: 50 -55 Rc

Surface: ION Nitrided 65-74 Rc

* "RHXP" Pins provide an optional (H) Head Diameter

D		H	T	L = 6"	L = 10"		L = 14"	
Nominal Pin Diam.	Decimal Equiv.	Head Diam.	Head Thick	D Standard	D Standard	D * Oversize +.005	D Standard	D * Oversize +.005
1/32	.0313	1/8	1/8	*RHXP02-06	-	-	-	-
3/64	.0469	5/32	1/8	*RHXP03-06	-	-	-	-
3/64	.0469	1/4	1/8	RHX03-06	-	-	-	-
1/16	.0625	3/16	1/8	*RHXP05-06	-	-	-	-
1/16	.0625	1/4	1/8	RHX05-06	RHX05-10	RHX05-10 OS	-	-
5/64	.0781	13/64	1/8	*RHXP06-06	-	-	-	-
5/64	.0781	1/4	1/8	RHX06-06	RHX06-10	RHX06-10 OS	-	-
3/32	.0938	7/32	1/8	*RHXP07-06	*RHXP07-10	-	-	-
3/32	.0938	1/4	1/8	RHX07-06	RHX07-10	RHX07-10 OS	-	-
7/64	.1094	15/64	1/8	*RHXP08-06	-	-	-	-
7/64	.1094	1/4	1/8	RHX08-06	RHX08-10	RHX08-10 OS	-	-
1/8	.1250	1/4	1/8	RHX09-06	RHX09-10	RHX09-10 OS	RHX09-14	RHX09-14 OS
9/64	.1406	1/4	1/8	RHX10-06	RHX10-10	RHX10-10 OS	RHX10-14	-
5/32	.1563	9/32	5/32	RHX11-06	RHX11-10	RHX11-10 OS	RHX11-14	RHX11-14 OS
11/64	.1719	11/32	3/16	RHX12-06	RHX12-10	RHX12-10 OS	RHX12-14	-
3/16	.1875	3/8	3/16	RHX13-06	RHX13-10	RHX13-10 OS	RHX13-14	RHX13-14 OS
13/64	.2031	3/8	3/16	RHX14-06	RHX14-10	-	RHX14-14	-
7/32	.2188	13/32	3/16	RHX15-06	RHX15-10	RHX15-10 OS	RHX15-14	-
15/64	.2344	13/32	3/16	RHX16-06	RHX16-10	-	RHX16-14	-
1/4	.2500	7/16	3/16	RHX17-06	RHX17-10	RHX17-10 OS	RHX17-14	RHX17-14 OS
17/64	.2656	7/16	1/4	RHX18-06	RHX18-10	-	RHX18-14	-
9/32	.2813	7/16	1/4	RHX19-06	RHX19-10	RHX19-10 OS	RHX19-14	-
19/64	.2969	1/2	1/4	RHX20-06	RHX20-10	-	RHX20-14	-
5/16	.3125	1/2	1/4	RHX21-06	RHX21-10	RHX21-10 OS	RHX21-14	RHX21-14 OS
21/64	.3281	9/16	1/4	RHX22-06	RHX22-10	-	RHX22-14	-
11/32	.3438	9/16	1/4	RHX23-06	RHX23-10	RHX23-10 OS	RHX23-14	-
23/64	.3594	5/8	1/4	RHX24-06	RHX24-10	-	RHX24-14	-
3/8	.3750	5/8	1/4	RHX25-06	RHX25-10	RHX25-10 OS	RHX25-14	RHX25-14 OS
25/64	.3906	37/64	1/4	RHX26-06	RHX26-10	-	-	-
13/32	.4063	11/16	1/4	RHX27-06	RHX27-10	RHX27-10 OS	RHX27-14	-
27/64	.4219	11/16	1/4	RHX28-06	RHX28-10	-	-	-
7/16	.4375	11/16	1/4	RHX29-06	RHX29-10	RHX29-10 OS	RHX29-14	RHX29-14 OS
29/64	.4531	45/64	1/4	RHX30-06	RHX30-10	-	-	-
15/32	.4688	3/4	1/4	RHX31-06	RHX31-10	RHX31-10 OS	RHX31-14	-
31/64	.4844	3/4	1/4	RHX32-06	RHX32-10	-	-	-
1/2	.5000	3/4	1/4	RHX33-06	RHX33-10	RHX33-10 OS	RHX33-14	RHX33-14 OS

Ejector Step Pins - Hardened Thru

Shoulder Type

Inch Dimension

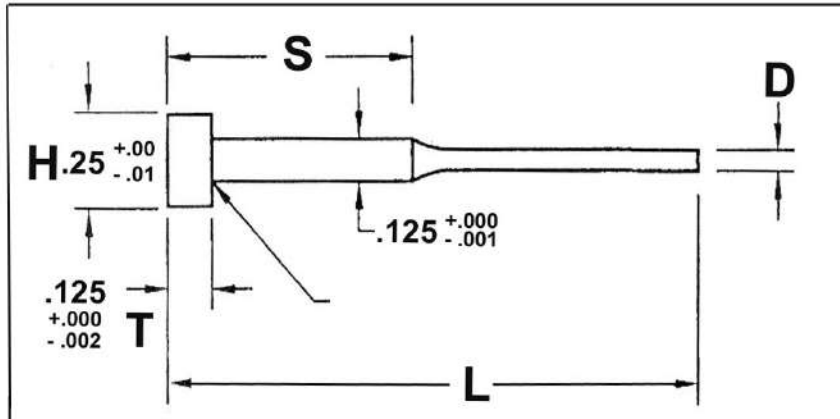
RHX SERIES

TC Hardened Thru Ejector Pins have a high core hardness (50-55 Rc) combined with the addition of a special Ion nitrided surface.

RHX pins work well in high temperature or die casting applications.

Pin diameters are precision ground to a .0003 tolerance, the tightest tolerance available in the industry. RHX pins are compatible with

PCS "SP" type step pins.



Tolerances

Pin Diam.(D): -.0005 to -.0008

Head Diam. (H): +.000 -.010

Head Thick. (T): +.000 -.002

Length (L): +.375 -.000

Shoulder Diam.: 1/8 +.000-.001

Material: H13 Hotwork Steel

Core Hardness: 50 -55 Rc

Surface: ION Nitrided 65-74 Rc

D		H	T	S	L = 6"	L = 10"		L = 14"	
Nominal Pin Diam.	Decimal Equiv.	Head Diam.	Head Thick.	Shoulder Length	D Standard	D Standard	* Oversize +.005	D Standard	* Oversize +.005
1/32	.03125	1/4	1/8	1/2	RHX02-05-06	-	-	-	-
1/32	.03125	1/4	1/8	2	RHX02-20-06	-	-	-	-
1/32	.03125	1/4	1/8	3	-	RHX02-30-10	RHX02-30-10 OS	-	-
1/32	.03125	1/4	1/8	4	-	RHX02-40-10	RHX02-40-10 OS	-	-
3/64	.0469	1/4	1/8	1/2	RHX03-05-06	-	-	-	-
3/64	.0469	1/4	1/8	2	RHX03-20-06	RHX03-20-10	RHX03-20-10 OS	-	-
3/64	.0469	1/4	1/8	3	-	RHX03-30-10	RHX03-30-10 OS	-	-
3/64	.0469	1/4	1/8	4	-	RHX03-40-10	RHX03-40-10 OS	-	-
1/16	.0625	1/4	1/8	1/2	RHX05-05-06	RHX05-05-10	RHX05-05-10 OS	-	-
1/16	.0625	1/4	1/8	2	RHX05-20-06	RHX05-20-10	RHX05-20-10 OS	RHX05-20-14	RHX05-20-14 OS
1/16	.0625	1/4	1/8	3	-	RHX05-30-10	RHX05-30-10 OS	-	-
1/16	.0625	1/4	1/8	4	-	RHX05-40-10	RHX05-40-10 OS	-	-
5/64	.0781	1/4	1/8	1/2	RHX06-05-06	RHX06-05-10	RHX06-05-10 OS	-	-
5/64	.0781	1/4	1/8	2	RHX06-20-06	RHX06-20-10	RHX06-20-10 OS	RHX06-20-14	RHX06-20-14 OS
5/64	.0781	1/4	1/8	3	-	RHX06-30-10	RHX06-30-10 OS	-	-
5/64	.0781	1/4	1/8	4	-	RHX06-40-10	RHX06-40-10 OS	-	-
3/32	.0938	1/4	1/8	1/2	RHX07-05-06	RHX07-05-10	RHX07-05-10 OS	-	-
3/32	.0938	1/4	1/8	2	RHX07-20-06	RHX07-20-10	RHX07-20-10 OS	RHX07-20-14	RHX07-20-14 OS
3/32	.0938	1/4	1/8	3	-	RHX07-30-10	RHX07-30-10 OS	-	-
3/32	.0938	1/4	1/8	4	-	RHX07-40-10	RHX07-40-10 OS	-	-
7/64	.1094	1/4	1/8	1/2	RHX08-05-06	RHX08-05-10	RHX08-05-10 OS	-	-
7/64	.1094	1/4	1/8	2	RHX08-20-06	RHX08-20-10	RHX08-20-10 OS	RHX08-20-14	RHX08-20-14 OS
7/64	.1094	1/4	1/8	3	-	RHX08-30-10	RHX08-30-10 OS	-	-
7/64	0.1094	1/4	1/8	4	-	RHX08-40-10	RHX08-40-10 OS	-	-

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Tooling Components, Inc.

Metric Ejector Pins - Nitrided

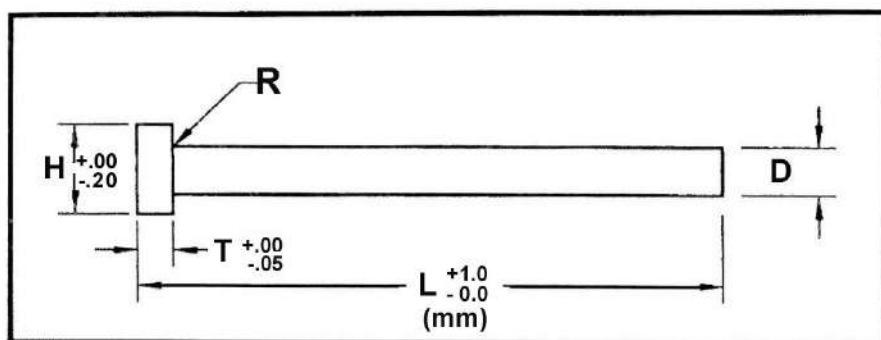
Straight Type

European (DIN) Metric Dimension

MEP SERIES

TC Metric Ejector Pins are precision ground to provide exceptional diameter tolerances on all standard pins. The surface is nitrided and polished to minimize wear. MEP series pins are manufactured to DIN standards. Additional standard diameters and lengths are available. Call customer service for availability and a competitive quotation.

**HIGH QUALITY
COMPETITIVE PRICING**



Diameter (D) Tolerance:
All diameters = g6

Material: H-13 Hotwork Tool Steel

Core Hardness: 40 - 45 Rc

Surface Hardness: Nitrided to 65 - 75 Rc

Surface Finish: 4 - 10 RMS

EUROPEAN (DIN) STANDARD

D	H	T	L= 125mm	L= 160mm	L= 200mm	L= 250mm	L= 400mm	L= 500mm	L= 630mm
Pin Diam.	Head Diam.	Head Thick.	(4.92")	(6.30")	(7.87")	(9.84")	(15.75")	(19.69")	(24.80")
2	4	2	MEP020-125	MEP020-160	MEP020-200	MEP020-250	-	-	-
2.5	5	2	MEP025-125	MEP025-160	MEP025-200	MEP025-250	-	-	-
3	6	3	MEP030-125	MEP030-160	MEP030-200	MEP030-250	MEP030-400	MEP030-500	-
3.5	7	3	MEP035-125	MEP035-160	MEP035-200	MEP035-250	MEP035-400	-	-
4	8	3	MEP040-125	MEP040-160	MEP040-200	MEP040-250	MEP040-400	MEP040-500	-
4.5	8	3	MEP045-125	MEP045-160	MEP045-200	MEP045-250	MEP045-400	-	-
5	10	3	MEP050-125	MEP050-160	MEP050-200	MEP050-250	MEP050-400	MEP050-500	MEP050-630
6	12	5	MEP060-125	MEP060-160	MEP060-200	MEP060-250	MEP060-400	MEP060-500	MEP060-630
8	14	5	MEP080-125	MEP080-160	MEP080-200	MEP080-250	MEP080-400	MEP080-500	MEP080-630
10	16	5	MEP100-125	MEP100-160	MEP100-200	MEP100-250	MEP100-400	MEP100-500	MEP100-630
12	20	7	MEP120-125	MEP120-160	MEP120-200	MEP120-250	MEP120-400	MEP120-500	MEP120-630
14	22	7	MEP140-125	MEP140-160	MEP140-200	MEP140-250	MEP140-400	MEP140-500	MEP140-630
16	22	7	MEP160-125	MEP160-160	MEP160-200	MEP160-250	MEP160-400	MEP160-500	MEP160-630
18	26	7	-	MEP180-160	MEP180-200	MEP180-250	MEP180-400	MEP180-500	MEP180-630
20	26	8	-	MEP200-160	MEP200-200	MEP200-250	MEP200-400	MEP200-500	MEP200-630
25	32	10	-	-	MEP250-200	MEP250-250	MEP250-400	MEP250-500	MEP250-630

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TC
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Metric Ejector Pins - Nitrided

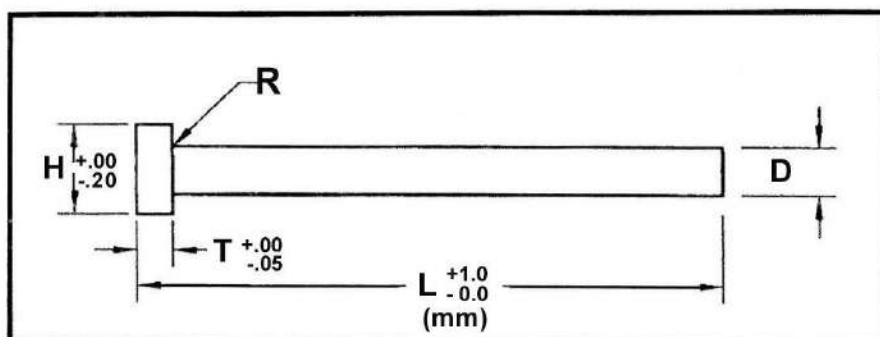
Straight Type

Japanese (JIS) Metric Dimension

MJP SERIES

TC Metric Ejector Pins are precision ground to provide exceptional diameter tolerances on all standard pins. The surface is nitrided and polished to minimize wear. MJP series pins are manufactured to JIS standards. Additional standard diameters and lengths are available. Call customer service for availability and a competitive quotation.

HIGH QUALITY
COMPETITIVE PRICING



Diameter (D) Tolerance:
1.5mm thru 12mm - .01mm to - .02
14mm thru 20mm - .01mm to - .03

Material: H-13 Hotwork Tool Steel

Core Hardness: 40 - 45 Rc

Surface Hardness: Nitrided to 65-75 Rc

Surface Finish: 4 - 10 RMS

JAPANESE (JIS) STANDARD

D	H	T	L=150mm	L=200mm	L=250mm	L=300mm	L=350mm	L=400mm	L=500mm	L=600mm
Pin Diam.	Head Diam.	Head Thick.	(5.91")	(7.87")	(9.84")	(11.81")	(13.78")	(15.75")	(19.69")	(23.62")
1.5	6	4	MJP015-150	MJP015-200	-	-	-	-	-	-
2	6	4	MJP020-150	MJP020-200	MJP020-250	MJP020-300	-	-	-	-
2.5	6	4	MJP025-150	MJP025-200	MJP025-250	MJP025-300	-	-	-	-
3	6	4	MJP030-150	MJP030-200	MJP030-250	MJP030-300	MJP030-350	-	-	-
3.5	7	4	MJP035-150	MJP035-200	MJP035-250	MJP035-300	MJP035-350	-	-	-
4	8	6	MJP040-150	MJP040-200	MJP040-250	MJP040-300	MJP040-350	-	-	-
4.5	8	6	MJP045-150	MJP045-200	MJP045-250	MJP045-300	MJP045-350	-	-	-
5	9	6	MJP050-150	MJP050-200	MJP050-250	MJP050-300	MJP050-350	MJP050-400	MJP050-500	MJP050-600
6	10	6	MJP060-150	MJP060-200	MJP060-250	MJP060-300	MJP060-350	MJP060-400	MJP060-500	MJP060-600
8	13	8	MJP080-150	MJP080-200	MJP080-250	MJP080-300	MJP080-350	MJP080-400	MJP080-500	MJP080-600
10	15	8	MJP100-150	MJP100-200	MJP100-250	MJP100-300	MJP100-350	MJP100-400	MJP100-500	MJP100-600
12	17	8	MJP120-150	MJP120-200	MJP120-250	MJP120-300	MJP120-350	MJP120-400	MJP120-500	MJP120-600
14	19	8	MJP140-150	MJP140-200	MJP140-250	MJP140-300	MJP140-350	MJP140-400	MJP140-500	MJP140-600
16	21	8	MJP160-150	MJP160-200	MJP160-250	MJP160-300	MJP160-350	MJP160-400	MJP160-500	MJP160-600
18	23	8	MJP180-150	MJP180-200	MJP180-250	MJP180-300	MJP180-350	MJP180-400	MJP180-500	MJP180-600
20	25	8	MJP200-150	MJP200-200	MJP200-250	MJP200-300	MJP200-350	MJP200-400	MJP200-500	MJP200-600

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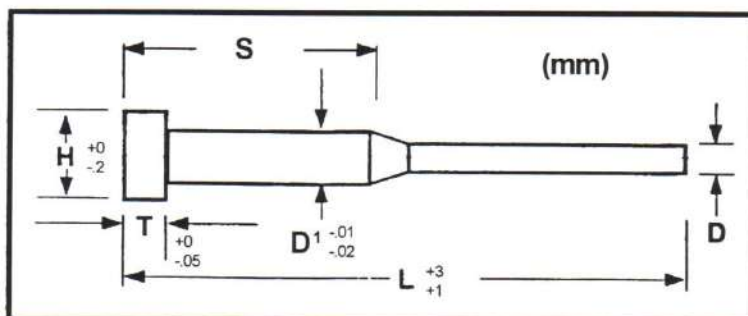
Metric Ejector Step Pins - Nitrided

Shoulder Type

MESP - MJSP SERIES

European (DIN) And Japanese (JIS) Metric Dimensions

TC Metric Ejector Step Pins are made to the same exacting requirements as standard TC pins. They are offered in both European and Japanese metric dimension. Additional sizes are available. Call for availability and pricing.



Diameter (D) Tolerance:

All diameters = g6

Material: H-13 Hotwork Tool Steel

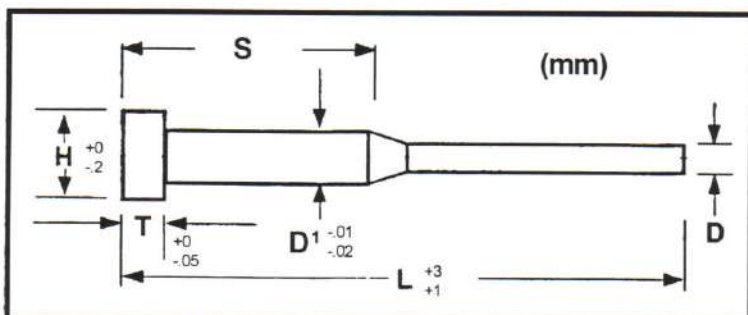
Core Hardness: 40 - 45 Rc

Surface Hardness: Nitrided to 65 - 75 Rc

Surface Finish: 4 - 10 RMS

MESP SERIES EUROPEAN (DIN) STANDARD

D	H	T	D1	S	L= 100mm	L= 125mm	L= 160mm	L= 200mm	L= 250mm
Pin Diam.	Head Diam.	Head Thick.	Shld. Diam.	Shld. Length					
1.0	4	2	2	50	MESP010-50-100	MESP010-50-125	MESP010-50-160	-	-
1.0	4	2	2	75	-	-	-	MESP010-75-200	MESP010-75-250
1.5	6	3	3	50	MESP015-50-100	MESP015-50-125	MESP015-50-160	-	-
1.5	6	3	3	75	-	-	-	MESP015-75-200	MESP015-75-250
2.0	6	3	3	50	MESP020-50-100	MESP020-50-125	MESP020-50-160	-	-
2.0	6	3	3	75	-	-	-	MESP020-75-200	MESP020-75-250
2.5	6	3	3	50	MESP025-50-100	MESP025-50-125	MESP025-50-160	-	-
2.5	6	3	3	75	-	-	-	MESP025-75-200	MESP025-75-250



Diameter (D) Tolerance:

All diameters = -.01mm to -.02mm

Material: H-13 Hotwork Tool Steel

Core Hardness: 40 - 45 Rc

Surface Hardness: Nitrided to 65 - 75 Rc

Surface Finish: 4 - 10 RMS

MJSP SERIES JAPANESE (JIS) STANDARD

D	H	T	D1	S	L= 100mm		L= 150mm		L= 200mm
Pin Diam.	Head Diam.	Head Thick.	Shld. Diam.	Shld. Length	(3.94")		(5.91")		(7.87")
1.0	6	4	3	50	MJSP010-50-100		MJSP010-50-150		-
1.0	6	4	3	70	-		MJSP010-70-150		-
1.5	6	4	3	50	MJSP015-50-100		MJSP015-50-150		-
1.5	6	4	3	70	-		MJSP015-70-150		MJSP015-70-200
2.0	8	6	4	50	MJSP020-50-100		MJSP020-50-150		-
2.0	8	6	4	70	-		MJSP020-70-150		MJSP020-70-200
2.5	8	6	4	50	MJSP025-50-100		MJSP025-50-150		-
2.5	8	6	4	70	-		MJSP025-70-150		MJSP025-70-200

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Tooling Components, Inc.

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Straight Ejector Pins

M2 Material

Hardened-Through .0003" Tolerance

SOD - DOD SERIES

				TOLERANCES																									
				D							H	T	L																
				STOCK OVERSIZE DIAMETERS		NON-STANDARD OVERSIZE .0001\" DIAMETERS					+.000\" - .010\"	+.000\" - .002\"	+.375\" - .000\"																
-.0005\" -.0008\" (See actual dia. below)		+.0000\" - .0003\"																											
*Type SOD															*Type DOD														
Standard Oversize Diameters															Decimal Oversize Diameters														
D H T			STANDARD												MADE-TO-ORDER NON-STANDARD .0001\" INCREMENTS OVERSIZED DIAMETERS														
NOMINAL PIN DIA.	HEAD DIA.	HEAD THICK	CAT. NO.	ACTUAL PIN DIAMETER				LENGTH			CAT. NO.	D +.0000\" - .0003 DIA. RANGE	NET PRICE EACH																
				+.0005\"	+.001\"	+.002\"	+.005\"	L-6\"	L-8\"	L-10\"			L-6\"	L-8\"	L-10\"														
1/32\"	1/4\"	1/8\"	SOD-02	.0313\" .0310\"	.0318\" .0315\"	.0328\" .0325\"	.0358\" .0355\"	-06	-	-	DOD-02	.0309\" - .0463\"	-06	-	-														
3/64\"			SOD-03	.0469\" .0466\"	.0474\" .0471\"	.0484\" .0481\"	.0514\" .0511\"	-06	-08	-	DOD-03	.0465\" - .0619\"	-06	-08	-														
1/16\"			SOD-05	.0625\" .0622\"	.0630\" .0627\"	.0640\" .0637\"	.0670\" .0667\"	-06	-08	-	DOD-05	.0621\" - .0775\"	-06	-08	-														
5/64\"			SOD-06	.0781\" .0778\"	.0786\" .0783\"	.0796\" .0793\"	.0826\" .0823\"	-06	-08	-	DOD-06	.0777\" - .0932\"	-06	-08	-														
3/32\"			SOD-07	.0938\" .0935\"	.0943\" .0940\"	.0953\" .0950\"	.0983\" .0980\"	-06	-08	-	DOD-07	.0934\" - .1088\"	-06	-08	-														
7/64\"			SOD-08	.1094\" .1091\"	.1099\" .1096\"	.1109\" .1106\"	.1139\" .1136\"	-06	-08	-	DOD-08	.1090\" - .1244\"	-06	-08	-														
1/8\"			SOD-09	.1250\" .1247\"	.1255\" .1252\"	.1265\" .1262\"	.1295\" .1292\"	-06	-08	-	DOD-09	.1246\" - .1400\"	-06	-08	-														
9/64\"			SOD-10	.1406\" .1403\"	.1411\" .1408\"	.1421\" .1418\"	.1451\" .1448\"	-06	-08	-	DOD-10	.1402\" - .1557\"	-06	-08	-														
5/32\"			9/32\"	5/32\"	SOD-11	.1563\" .1560\"	.1568\" .1565\"	.1578\" .1575\"	.1608\" .1605\"	-06	-08	-	DOD-11	.1559\" - .1713\"	-06	-08	-												
11/64\"			11/32\"	3/16\"	SOD-12	.1719\" .1716\"	.1724\" .1721\"	.1734\" .1731\"	.1764\" .1761\"	-06	-08	-	DOD-12	.1715\" - .1869\"	-06	-08	-												
3/16\"	3/8\"	SOD-13	.1875\" .1872\"		.1880\" .1877\"	.1890\" .1887\"	.1920\" .1917\"	-06	-08	-10	DOD-13	.1871\" - .2025\"	-06	-08	-10														
13/64\"		SOD-14	.2031\" .2028\"		.2036\" .2033\"	.2046\" .2043\"	.2076\" .2073\"	-06	-08	-10	DOD-14	.2027\" - .2182\"	-06	-08	-10														
7/32\"	13/32\"	SOD-15	.2188\" .2185\"		.2193\" .2190\"	.2203\" .2200\"	.2233\" .2230\"	-06	-08	-10	DOD-15	.2184\" - .2338\"	-06	-08	-10														
15/64\"		SOD-16	.2344\" .2341\"		.2349\" .2346\"	.2359\" .2356\"	.2389\" .2386\"	-06	-08	-10	DOD-16	.2340\" - .2494\"	-06	-08	-10														
1/4\"	7/16\"	SOD-17	.2500\" .2497\"		.2505\" .2502\"	.2515\" .2512\"	.2545\" .2542\"	-06	-08	-10	DOD-17	.2496\" - .2544\"	-06	-08	-10														
9/32\"	7/16\"	1/4\"	SOD-19	.2812\" .2809\"	.2817\" .2814\"	.2827\" .2824\"	.2857\" .2854\"	-06	-	-10	DOD-19	.2808\" - .2856\"	-06	-	-10														
5/16\"	1/2\"		SOD-21	.3125\" .3122\"	.3130\" .3127\"	.3140\" .3137\"	.3170\" .3167\"	-06	-	-10	DOD-21	.3121\" - .3169\"	-06	-	-10														
11/32\"	9/16\"		SOD-23	.3438\" .3435\"	.3443\" .3440\"	.3453\" .3450\"	.3483\" .3480\"	-06	-	-10	DOD-23	.3434\" - .3482\"	-06	-	-10														
3/8\"			SOD-25	.3750\" .3747\"	.3755\" .3752\"	.3765\" .3762\"	.3795\" .3792\"	-06	-	-10	DOD-25	.3746\" - .3794\"	-06	-	-10														
How to order:				PREFIX OVERSIZE LENGTH							PREFIX (D) DIAMETER LENGTH																		
Examples				SOD-09+.0005-08							DOD-11-D.1575-06																		

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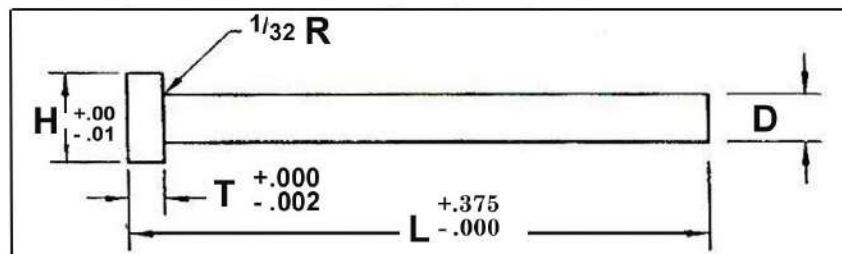
Tooling Components, Inc.

Ejector Pins M2 Material

Hardened Through

EPT SERIES

TC Through Hardened Ejector Pins are an ideal choice for those who prefer a consistent core to surface hardness. EPT pins can be used as an ejector or core pin when form grinding is required. Pin characteristics provide an excellent high polish finish and resist rust and corrosion. The diameters are precision ground to close tolerance. Call for other sizes, specials, or a competitive quotation.



Diameter (D) Tolerance:
All Sizes - .0005 to - .0008
*See actual diameters below

Material: M2 High Speed Steel

Hardness: 60 - 63 Rc

Surface Finish: 4 - 10 RMS

D		H	T	L = 6"	L = 8"	L = 10"
Nominal Pin Diam.	Actual Pin Diam.	Head Diam.	Head Thick	CATALOG NUMBER	CATALOG NUMBER	CATALOG NUMBER
1/32	.0305/.0308	1/4	1/8	EPT02-06	-	-
3/64	.0461/.0464	1/4	1/8	EPT03-06	-	-
1/16	.0617/.0620	1/4	1/8	EPT05-06	EPT05-08	-
5/64	.0773/.0776	1/4	1/8	EPT06-06	EPT06-08	-
3/32	.0930/.0933	1/4	1/8	EPT07-06	EPT07-08	-
7/64	.1086/.1089	1/4	1/8	EPT08-06	EPT08-08	-
1/8	.1242/.1245	1/4	1/8	EPT09-06	EPT09-08	-
9/64	.1398/.1401	1/4	1/8	EPT10-06	EPT10-08	-
5/32	.1555/.1558	9/32	5/32	EPT11-06	EPT11-08	-
11/64	.1711/.1714	11/32	3/16	EPT12-06	EPT12-08	-
3/16	.1867/.1870	3/8	3/16	EPT13-06	EPT13-08	EPT13-10
13/64	.2023/.2026	3/8	3/16	EPT14-06	EPT14-08	EPT14-10
7/32	.2180/.2183	13/32	3/16	EPT15-06	EPT15-08	EPT15-10
15/64	.2336/.2339	13/32	3/16	EPT16-06	EPT16-08	EPT16-10
1/4	.2492/.2495	7/16	3/16	EPT17-06	EPT17-08	EPT17-10
9/32	.2804/.2807	7/16	1/4	EPT19-06	EPT19-08	EPT19-10
5/16	.3117/.3120	1/2	1/4	EPT21-06	EPT21-08	EPT21-10
11/32	.3430/.3433	9/16	1/4	EPT23-06	EPT23-08	EPT23-10
3/8	.3742/.3745	5/8	1/4	EPT25-06	EPT25-08	EPT25-10

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Tooling Components, Inc.

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Core Pins - Through Hard

Inch Dimension

CPS - CPH SERIES

TC Core Pins are available in two hardness ranges, Standard (CPS) and High (CPH) series. They are finish ground and through hardened to meet industry standards. Core pins may be relieved or reground. Specials quoted per print. Call for details and a competitive quotation.

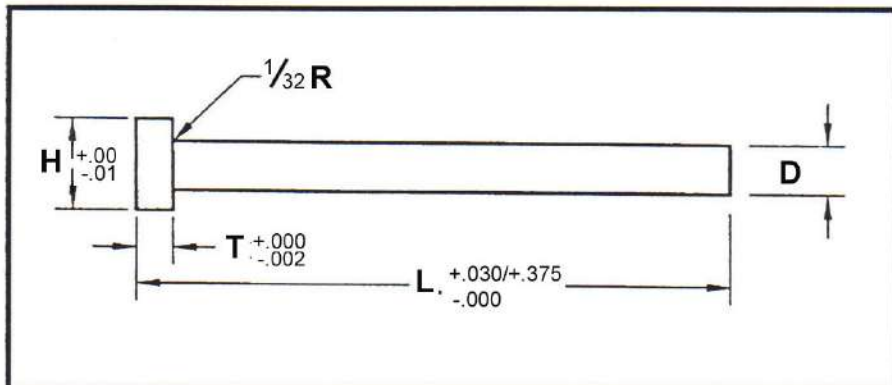
HIGH QUALITY
COMPETITIVE PRICING

Tolerances:
Diameter (D) All sizes + .001 - .000

STANDARD HARDNESS (CPS)
Through Hardened: 30 - 35 Rc

HIGH HARDNESS (CPH)
Through Hardened: 50 - 55 Rc

Material: H-13 Hotwork Tool Steel



*** STANDARD HARDNESS ***

D	H	T	L=3"	L=6"	L=10"
Nominal Pin Diam.	Head Diam.	Head Thick.	HARDENED TO 30 - 35 Rc		
3/32	1/4	1/8	CPS07-03	CPS07-06	CPS07-10
7/64	1/4	1/8	CPS08-03	CPS08-06	CPS08-10
1/8	1/4	1/8	CPS09-03	CPS09-06	CPS09-10
9/64	1/4	1/8	CPS10-03	CPS10-06	CPS10-10
5/32	9/32	5/32	CPS11-03	CPS11-06	CPS11-10
11/64	11/32	3/16	CPS12-03	CPS12-06	CPS12-10
3/16	3/8	3/16	CPS13-03	CPS13-06	CPS13-10
13/64	3/8	3/16	CPS14-03	CPS14-06	CPS14-10
7/32	13/32	3/16	CPS15-03	CPS15-06	CPS15-10
1/4	7/16	3/16	CPS17-03	CPS17-06	CPS17-10
9/32	7/16	1/4	CPS19-03	CPS19-06	CPS19-10
5/16	1/2	1/4	CPS21-03	CPS21-06	CPS21-10
11/32	9/16	1/4	CPS23-03	CPS23-06	CPS23-10
3/8	5/8	1/4	CPS25-03	CPS25-06	CPS25-10
13/32	11/16	1/4	CPS27-03	CPS27-06	CPS27-10
7/16	11/16	1/4	CPS29-03	CPS29-06	CPS29-10
15/32	3/4	1/4	CPS31-03	CPS31-06	CPS31-10
1/2	3/4	1/4	CPS33-03	CPS33-06	CPS33-10
9/16	13/16	1/4	-	CPS35-06	CPS35-10
5/8	7/8	1/4	-	CPS37-06	CPS37-10
3/4	1	1/4	-	CPS41-06	CPS41-10

*** HIGH HARDNESS ***

D	H	T	L=3"	L=6"	L=10"
Nominal Pin Diam.	Head Diam.	Head Thick.	HARDENED TO 50 - 55 Rc		
3/32	1/4	1/8	CPH07-03	CPH07-06	CPH07-10
7/64	1/4	1/8	CPH08-03	CPH08-06	CPH08-10
1/8	1/4	1/8	CPH09-03	CPH09-06	CPH09-10
9/64	1/4	1/8	CPH10-03	CPH10-06	CPH10-10
5/32	9/32	5/32	CPH11-03	CPH11-06	CPH11-10
11/64	11/32	3/16	CPH12-03	CPH12-06	CPH12-10
3/16	3/8	3/16	CPH13-03	CPH13-06	CPH13-10
13/64	3/8	3/16	CPH14-03	CPH14-06	CPH14-10
7/32	13/32	3/16	CPH15-03	CPH15-06	CPH15-10
1/4	7/16	3/16	CPH17-03	CPH17-06	CPH17-10
9/32	7/16	1/4	CPH19-03	CPH19-06	CPH19-10
5/16	1/2	1/4	CPH21-03	CPH21-06	CPH21-10
11/32	9/16	1/4	CPH23-03	CPH23-06	CPH23-10
3/8	5/8	1/4	CPH25-03	CPH25-06	CPH25-10
13/32	11/16	1/4	CPH27-03	CPH27-06	CPH27-10
7/16	11/16	1/4	CPH29-03	CPH29-06	CPH29-10
15/32	3/4	1/4	CPH31-03	CPH31-06	CPH31-10
1/2	3/4	1/4	CPH33-03	CPH33-06	CPH33-10
9/16	13/16	1/4	-	CPH35-06	CPH35-10
5/8	7/8	1/4	-	CPH37-06	CPH37-10
3/4	1	1/4	-	CPH41-06	CPH41-10

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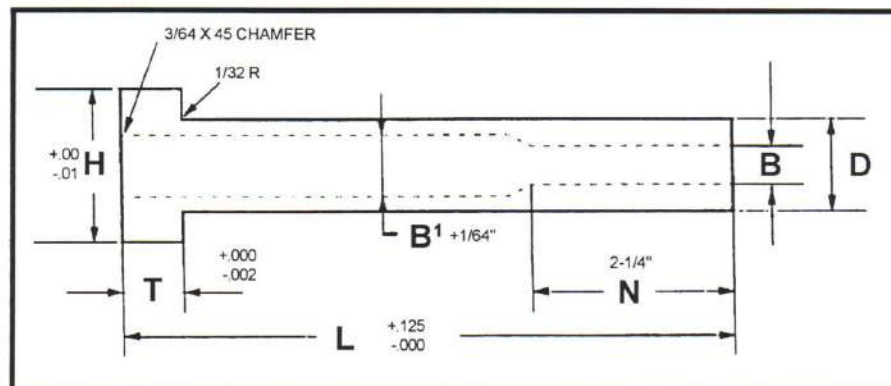
Ejector Sleeves - Nitrided

Inch Dimension

ES / ESO SERIES
(Oversize)

TC Ejector Sleeves are precision ground and polished to reduce wear and friction. Both the inner and outer diameters are nitrided to prevent scoring and allow closer pin fitting. Oversize sleeves are available. Specials can be quoted per print. Metric Ejector Sleeves are also available upon request. Call for details and a quotation.

**HIGH QUALITY
COMPETITIVE PRICING**



Tolerance:
I.D. (B) + .0005 to - .0000
O.D. (D) + .000 to - .001
Concentric (I.D. to O.D.) .002 TIR

Material: High Grade Tool Steel

Core Hardness: 40 - 45 Rc

Surface Hardness: Nitrided to 65 - 74 Rc

Surface Finish: 4 - 10 RMS

- ** Bearing Length (N) = 1-3/4" for ES13 and ES15
- ** Bearing Length (N) = 2-1/4" for ES17 and Larger

B	D	H	T	L = 3"	L = 4"	L = 5"	L = 6"	L = 7"	L = 8"	L = 9"	L = 10"	L = 11"	L = 12"
Nominal I.D.	O.D.	Head Diam.	Head Thick.										
3/32	3/16	3/8	3/16	ES13-03	ES13-04	ES13-05	ES13-06	ES13-07	-	-	-	-	-
1/8	7/32	13/32	3/16	ES15-03	ES15-04	ES15-05	ES15-06	ES15-07	-	-	-	-	-
5/32	1/4	7/16	3/16	-	ES17-04	ES17-05	ES17-06	ES17-07	ES17-08	ES17-09	ES17-10	-	-
3/16	5/16	1/2	1/4	-	ES21-04	ES21-05	ES21-06	ES21-07	ES21-08	ES21-09	ES21-10	ES21-11	ES21-12
7/32	11/32	9/16	1/4	-	ES23-04	ES23-05	ES23-06	ES23-07	ES23-08	ES23-09	ES23-10	-	-
1/4	3/8	5/8	1/4	-	ES25-04	ES25-05	ES25-06	ES25-07	ES25-08	ES25-09	ES25-10	ES25-11	ES25-12
5/16	7/16	11/16	1/4	-	ES29-04	ES29-05	ES29-06	ES29-07	ES29-08	ES29-09	ES29-10	ES29-11	ES29-12
3/8	1/2	3/4	1/4	-	ES33-04	ES33-05	ES33-06	ES33-07	ES33-08	ES33-09	ES33-10	ES33-11	ES33-12
7/16	5/8	7/8	1/4	-	ES37-04	ES37-05	ES37-06	ES37-07	ES37-08	ES37-09	ES37-10	ES37-11	ES37-12
1/2	11/16	15/16	1/4	-	ES39-04	ES39-05	ES39-06	ES39-07	ES39-08	ES39-09	ES39-10	ES39-11	ES39-12
9/16	3/4	1	1/4	-	ES41-04	ES41-05	ES41-06	ES41-07	ES41-08	ES41-09	ES41-10	ES41-11	ES41-12
5/8	7/8	1-1/8	1/4	-	ES45-04	ES45-05	ES45-06	ES45-07	ES45-08	ES45-09	ES45-10	ES45-11	ES45-12
3/4	1	1-1/4	1/4	-	ES47-04	ES47-05	ES47-06	ES47-07	ES47-08	ES47-09	ES47-10	ES47-11	ES47-12

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Oversize Ejector Sleeves

Standard OD (Outside Diameter) + .005 Oversize

* Call for price and availability *

B	D	H	T	L = 3"	L = 4"	L = 5"	L = 6"	L = 7"	L = 8"	L = 9"	L = 10"	L = 11"	L = 12"
Nominal I.D.	O.D.	Head Diam.	Head Thick.										
3/32	.1925	3/8	3/16	-	ESO13-04	ESO13-05	ESO13-06	ESO13-07	ESO13-08	ESO13-09	ESO13-10	ESO13-11	ESO13-12
1/8	.2238	13/32	3/16	-	ESO15-04	ESO15-05	ESO15-06	ESO15-07	ESO15-08	ESO15-09	ESO15-10	ESO15-11	ESO15-12
5/32	.2550	7/16	3/16	-	ESO17-04	ESO17-05	ESO17-06	ESO17-07	ESO17-08	ESO17-09	ESO17-10	ESO17-11	ESO17-12
3/16	.3175	1/2	1/4	-	ESO21-04	ESO21-05	ESO21-06	ESO21-07	ESO21-08	ESO21-09	ESO21-10	ESO21-11	ESO21-12
1/4	.3800	5/8	1/4	-	ESO25-04	ESO25-05	ESO25-06	ESO25-07	ESO25-08	ESO25-09	ESO25-10	ESO25-11	ESO25-12
5/16	.4425	11/16	1/4	-	ESO29-04	ESO29-05	ESO29-06	ESO29-07	ESO29-08	ESO29-09	ESO29-10	ESO29-11	ESO29-12
3/8	.5050	3/4	1/4	-	ESO33-04	ESO33-05	ESO33-06	ESO33-07	ESO33-08	ESO33-09	ESO33-10	ESO33-11	ESO33-12

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Return Pins - Core Pin Retainers Sleeve Extensions

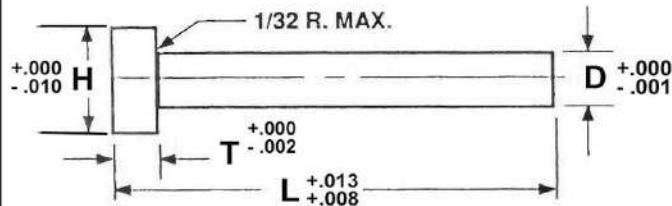
RETURN PINS

RP SERIES

Case Hardness: Nitrided to 65 - 80 Rc

Material: H-13 Tool Steel

Surface Finish: 4 - 5 RMS

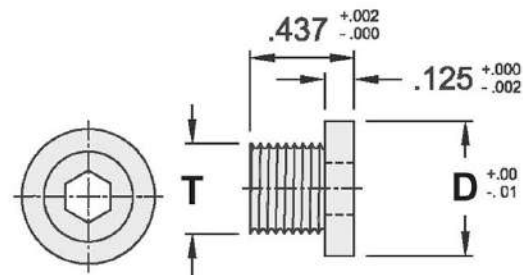
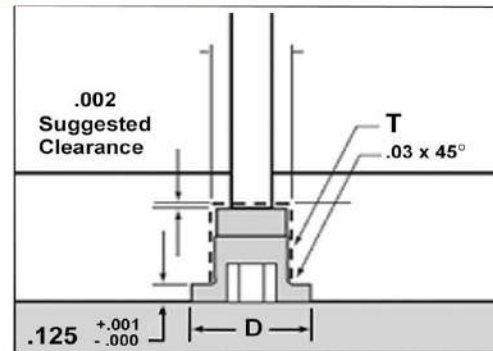


TC Return Pins are precision ground to close tolerance. The surface is nitrided and polished to minimize wear.

L	D=1/2"	L	D=5/8"	L	D=3/4"
Overall Length	H=3/4" T=1/4"	Overall Length	H=7/8" T=1/4"	Overall Length	H= 1" T=1/4"
3-9/16	RP-5356	4-1/16	RP-6406	4-15/16	RP-7493
4-1/16	RP-5406	4-9/16	RP-6456	5-7/16	RP-7543
4-9/16	RP-5456	5-1/16	RP-6506	5-15/16	RP-7593
5-1/16	RP-5506	5-9/16	RP-6556	6-7/16	RP-7643
5-9/16	RP-5556	6-1/16	RP-6606	6-15/16	RP-7693
6-1/16	RP-5606	6-9/16	RP-6656	7-7/16	RP-7743
6-9/16	RP-5656	7-1/16	RP-6706	7-15/16	RP-7793
-	-	7-9/16	RP-6756	8-7/16	RP-7843
-	-	8-1/16	RP-6806	8-15/16	RP-7893
-	-	-	-	9-7/16	RP-7943

CORE PIN RETAINERS

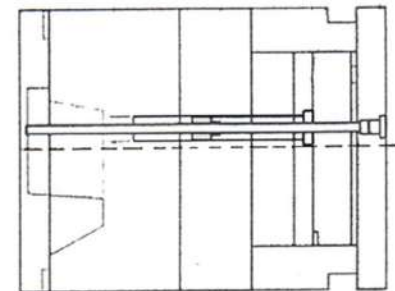
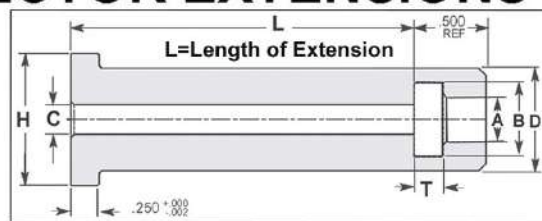
CPR SERIES (Steel)



CATALOG NUMBER	D	T	HEX	Recommended Pin Size Diameters
CPR-056	.56	3/8-24	3/16	3/32 Thru 5/32
CPR-068	.68	1/2-20	1/4	11/64 Thru 9/32
CPR-093	.93	3/4-16	3/8	5/16 Thru 7/16
CPR-106	1.06	7/8-14	3/8	15/32 Thru 9/16
CPR-131	1.31	1 1/8-12	3/8	5/8 Thru 3/4

SLEEVE EJECTOR EXTENSIONS

SLX SERIES



* Note: Add length to end of part number i.e. SLX15-030

CATALOG NUMBER	Nominal Sleeve ID	Body D +.000 -.002	A +.002 -.000	B +.005 -.000	T +.002 -.000	C +.03 -.00	H +.000 -.010	* L = Length of Extension +.005 -.000				
								2.00	2.50	3.00	3.50	4.00
SLX13-	3/32	.625	.193	.385	.188	.17	.875	020	025	030	035	040
SLX15-	1/8	.625	.224	.416	.188	.17	.875	020	025	030	035	040
SLX17-	5/32	.625	.255	.448	.188	.17	.875	020	025	030	035	040
SLX21-	3/16	.875	.318	.510	.251	.22	1.125	020	025	030	035	040
SLX23-	7/32	.875	.349	.570	.251	.25	1.125	020	025	030	035	040
SLX25-	1/4	.875	.380	.630	.251	.28	1.125	020	025	030	035	040
SLX29-	5/16	1.000	.443	.698	.251	.34	1.250	020	025	030	035	040
SLX33-	3/8	1.000	.505	.760	.251	.41	1.250	020	025	030	035	040

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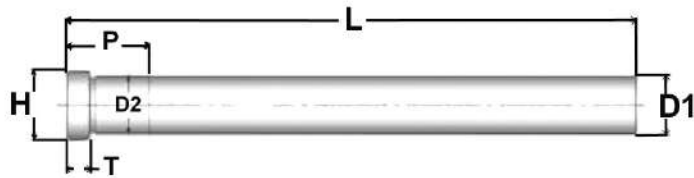


Tooling Components, Inc.

Angle Pins

Flat Head - Radius Head

AP - APD SERIES



Flat and Radius Head Angle Pins

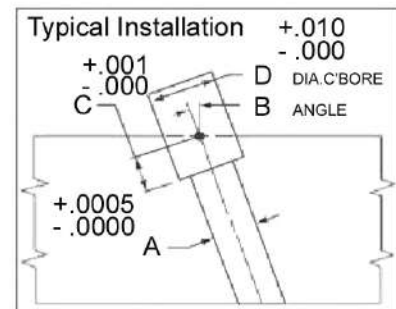
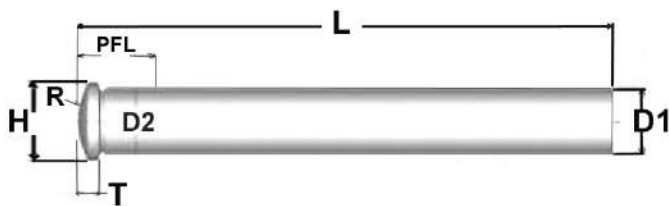
Premium H-13 Steel

Nitrided Surface Hardness 65-74 Rc

Core Hardness 30-35 Rc

AP Series - Flat Head

PART NUMBER	Nominal Pin Dia.	D1	D2	H	PFL	T	L
		Pin Dia. + .0000 - .0005	P.F. Dia. + .0005 - .0000	Head Dia. + .000 - .010	P.F. Length + .000 - .062	Head Thick. + .000 - .005	Pin Length + .00 - .12
AP37-06	3/8	.3740	.376	1/2	.875	.250	6
AP37-10	3/8	.3740	.376	1/2	1.375	.250	10
AP50-06	1/2	.4990	.501	5/8	.875	.250	6
AP50-10	1/2	.4990	.501	5/8	1.375	.250	10
AP62-06	5/8	.6240	.626	3/4	.875	.250	6
AP62-10	5/8	.6240	.626	3/4	1.375	.250	10
AP75-10	3/4	.7490	.751	7/8	1.375	.250	10



APD Series - Radius Head

PART NUMBER	Nominal Pin Dia.	D1	D2	H	PFL	T	R	L
		Pin Dia. + .0000 - .0005	P.F. Dia. + .0005 - .0000	Head Dia. + .000 - .010	P.F. Length + .00 - .06	Head Thick. + .000 - .005	Head Radius	Pin Length + .00 - .50
APD37-06	3/8	.3740	.376	1/2	.875	.250	.375	6
APD37-10	3/8	.3740	.376	1/2	1.375	.250	.375	10
APD50-06	1/2	.4990	.501	5/8	.875	.250	.500	6
APD50-10	1/2	.4990	.501	5/8	1.375	.250	.500	10
APD62-06	5/8	.6240	.626	3/4	.875	.250	.625	6
APD62-10	5/8	.6240	.626	3/4	1.375	.250	.625	10
APD75-10	3/4	.7490	.751	7/8	1.375	.312	.750	10
APD75-14	3/4	.7490	.751	7/8	1.375	.312	.750	14
APD100-10	1	.9990	1.001	1 1/8	1.375	.312	1.000	10
APD100-14	1	.9990	1.001	1 1/8	1.375	.312	1.000	14

Machining / Installation

Counterbore Dimensions

*A Dia.	B Angle (Degrees)	C C'bore Depth	D C'bore Depth
.3765	10	.256	.562
	15	.264	
	20	.275	
.5015	10	.258	.688
	15	.268	
	20	.283	
.6265	10	.260	.812
	15	.273	
	20	.291	
.7515	10	.324	.938
	15	.339	
	20	.361	
1.0015	10	.328	1.188
	15	.348	
	20	.377	

To install on a specific angle, use the chart to determine counterbore depth.

The angle pin can be cut to length as required to obtain desired travel on the slide.

*Note: *A Dimension specified will provide approximately .001 clearance with D2 press fit.

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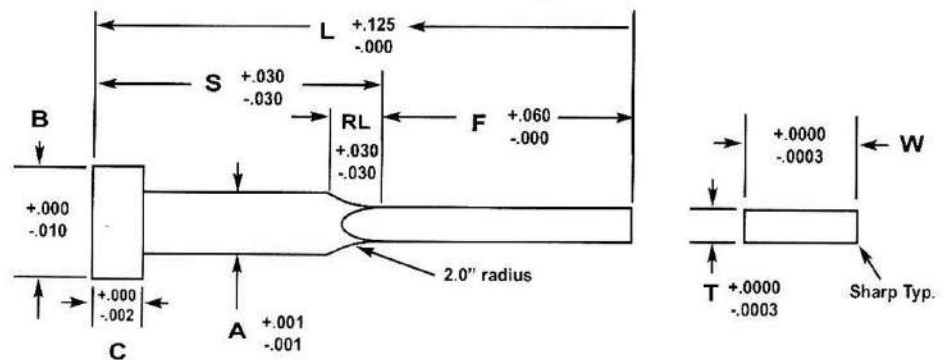
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Ejector Blades - Inch - Metric

Made in the "USA"

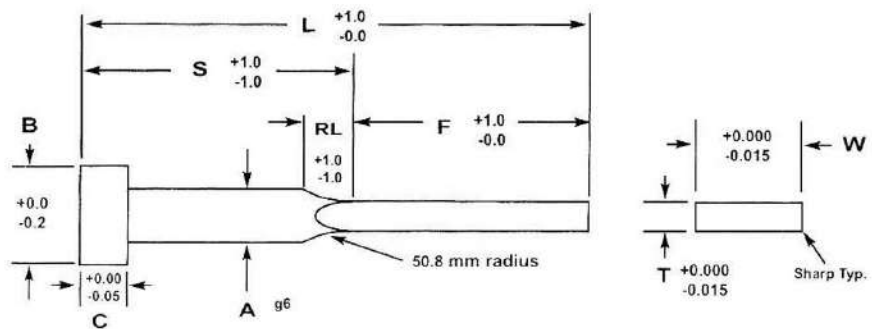
M-2 Steel - Inch

EB SERIES



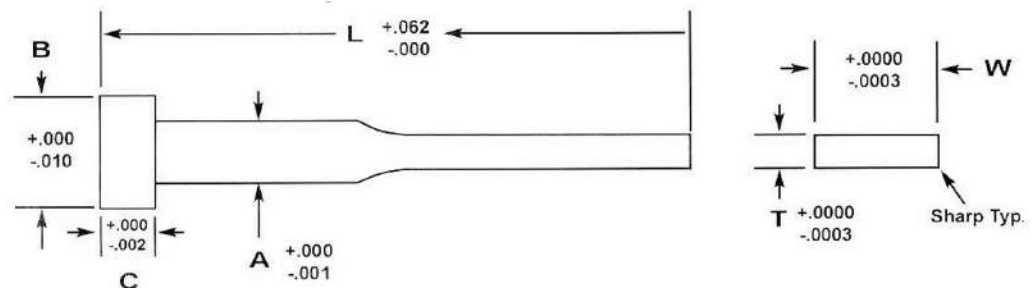
M-2 Steel - Metric

BM SERIES



H-13 Steel - Inch

B SERIES



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Tooling Components, Inc.

Ejector Blades Inch

EB SERIES

Pin Dia A	Head		Blade		Lengths			Catalog Number
	Dia B	Thick C	Thick T	Width W	Shank S	Blade F	Overall L	
5/32	9/32	5/32	.0320	.1400	1	5	6	EB1531006
					1-1/2	5-1/2	7	EB1531507
					2	5	7	EB1532007
					2-1/2	5-1/2	8	EB1532508
					3	5	8	EB1533008
					4	6	10	EB1534010
Radius Length = .495 Ref					5	5	10	EB1535010
5/32	9/32	5/32	.0460	.1400	1	5	6	EB1541006
					1-1/2	5-1/2	7	EB1541507
					2	5	7	EB1542007
					2-1/2	5-1/2	8	EB1542508
					3	5	8	EB1543008
					4	6	10	EB1544010
Radius Length = .470 Ref					5	5	10	EB1545010
3/16	3/8	3/16	.0200	.1720	1	5	6	EB1821006
					1-1/2	5-1/2	7	EB1821507
					2	5	7	EB1822007
					2-1/2	5-1/2	8	EB1822508
					3	5	8	EB1823008
					4	6	10	EB1824010
Radius Length = .575 Ref					5	5	10	EB1825010
3/16	3/8	3/16	.0240	.1720	1	5	6	EB1811006
					1-1/2	5-1/2	7	EB1811507
					2	5	7	EB1812007
					2-1/2	5-1/2	8	EB1812508
					3	5	8	EB1813008
					4	6	10	EB1814010
Radius Length = .564 Ref					5	5	10	EB1815010
3/16	3/8	3/16	.0320	.1720	1	5	6	EB1831006
					1-1/2	5-1/2	7	EB1831507
					2	5	7	EB1832007
					2-1/2	5-1/2	8	EB1832508
					3	5	8	EB1833008
					4	6	10	EB1834010
Radius Length = .550 Ref					5	5	10	EB1835010
3/16	3/8	3/16	.0460	.1720	1	5	6	EB1841006
					1-1/2	5-1/2	7	EB1841507
					2	5	7	EB1842007
					2-1/2	5-1/2	8	EB1842508
					3	5	8	EB1843008
					4	6	10	EB1844010
Radius Length = .525 Ref					5	5	10	EB1845010
3/16	3/8	3/16	.0620	.1720	1	5	6	EB1861006
					1-1/2	5-1/2	7	EB1861507
					2	5	7	EB1862007
					2-1/2	5-1/2	8	EB1862508
					3	5	8	EB1863008
					4	6	10	EB1864010
Radius Length = .495 Ref					5	5	10	EB1865010
7/32	13/32	3/16	.0200	.2000	1	5	6	EB2121006
					1-1/2	5-1/2	7	EB2121507
					2	5	7	EB2122007
					2-1/2	5-1/2	8	EB2122508
					3	5	8	EB2123008
					4	6	10	EB2124010
Radius Length = .625 Ref					5	5	10	EB2125010

Pin Dia A	Head		Blade		Lengths			Catalog Number
	Dia B	Thick C	Thick T	Width W	Shank S	Blade F	Overall L	
7/32	13/32	3/16	.0320	.2000	1	5	6	EB2131006
					1-1/2	5-1/2	7	EB2131507
					2	5	7	EB2132007
					2-1/2	5-1/2	8	EB2132508
					3	5	8	EB2133008
					4	6	10	EB2134010
Radius Length = .605 Ref					5	5	10	EB2135010
7/32	13/32	3/16	.0460	.2000	1	5	6	EB2141006
					1-1/2	5-1/2	7	EB2141507
					2	5	7	EB2142007
					2-1/2	5-1/2	8	EB2142508
					3	5	8	EB2143008
					4	6	10	EB2144010
Radius Length = .585 Ref					5	5	10	EB2145010
7/32	13/32	3/16	.0620	.2000	1	5	6	EB2161006
					1-1/2	5-1/2	7	EB2161507
					2	5	7	EB2162007
					2-1/2	5-1/2	8	EB2162508
					3	5	8	EB2163008
					4	6	10	EB2164010
Radius Length = .560 Ref					5	5	10	EB2165010
1/4	7/16	3/16	.0200	.2340	1	5	6	EB2521006
					1-1/2	5-1/2	7	EB2521507
					2	5	7	EB2522007
					2-1/2	5-1/2	8	EB2522508
					3	5	8	EB2523008
					4	6	10	EB2524010
Radius Length = .670 Ref					5	5	10	EB2525010
1/4	7/16	3/16	.0320	.2340	1	5	6	EB2531006
					1-1/2	5-1/2	7	EB2531507
					2	5	7	EB2532007
					2-1/2	5-1/2	8	EB2532508
					3	5	8	EB2533008
					4	6	10	EB2534010
Radius Length = .655 Ref					5	5	10	EB2535010
1/4	7/16	3/16	.0460	.2340	1	5	6	EB2541006
					1-1/2	5-1/2	7	EB2541507
					2	5	7	EB2542007
					2-1/2	5-1/2	8	EB2542508
					3	5	8	EB2543008
					4	6	10	EB2544010
Radius Length = .635 Ref					5	5	10	EB2545010
1/4	7/16	3/16	.0620	.2340	1	5	6	EB2561006
					1-1/2	5-1/2	7	EB2561507
					2	5	7	EB2562007
					2-1/2	5-1/2	8	EB2562508
					3	5	8	EB2563008
					4	6	10	EB2564010
Radius Length = .610 Ref					5	5	10	EB2565010
9/32	7/16	1/4	.0320	.2640	1	5	6	EB2831006
					1-1/2	5-1/2	7	EB2831507
					2	5	7	EB2832007
					2-1/2	5-1/2	8	EB2832508
					3	5	8	EB2833008
					4	6	10	EB2834010
Radius Length = .695 Ref					5	5	10	EB2835010

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	Dia B	Thick C	Thick T	Width W	Shank S	Blade F	Overall L	
1/16	1/4	1/8	.0200	.0460	1	5	6	EB0621006
					1-1/2	5-1/2	7	EB0621507
					2	5	7	EB0622007
					2-1/2	5-1/2	8	EB0622508
					3	5	8	EB0623008
					3-1/2	4-1/2	8	EB0623508
Radius Length = .290 Ref					4	6	10	EB0624010
1/16	1/4	1/8	.0240	.0460	1	5	6	EB0611006
					1-1/2	5-1/2	7	EB0611507
					2	5	7	EB0612007
					2-1/2	5-1/2	8	EB0612508
					3	5	8	EB0613008
					3-1/2	4-1/2	8	EB0613508
Radius Length = .275 Ref					4	6	10	EB0614010
1/16	1/4	1/8	.0320	.0460	1	5	6	EB0631006
					1-1/2	5-1/2	7	EB0631507
					2	5	7	EB0632007
					2-1/2	5-1/2	8	EB0632508
					3	5	8	EB0633008
					3-1/2	4-1/2	8	EB0633508
Radius Length = .245 Ref					4	6	10	EB0634010
5/64	1/4	1/8	.0200	.0620	1	5	6	EB0721006
					1-1/2	5-1/2	7	EB0721507
					2	5	7	EB0722007
					2-1/2	5-1/2	8	EB0722508
					3	5	8	EB0723008
					3-1/2	4-1/2	8	EB0723508
Radius Length = .340 Ref					4	6	10	EB0724010
5/64	1/4	1/8	.0240	.0620	1	5	6	EB0711006
					1-1/2	5-1/2	7	EB0711507
					2	5	7	EB0712007
					2-1/2	5-1/2	8	EB0712508
					3	5	8	EB0713008
					3-1/2	4-1/2	8	EB0713508
Radius Length = .322 Ref					4	6	10	EB0714010
5/64	1/4	1/8	.0320	.0620	1	5	6	EB0731006
					1-1/2	5-1/2	7	EB0731507
					2	5	7	EB0732007
					2-1/2	5-1/2	8	EB0732508
					3	5	8	EB0733008
					3-1/2	4-1/2	8	EB0733508
Radius Length = .305 Ref					4	6	10	EB0734010
3/32	1/4	1/8	.0200	.0780	1	5	6	EB0921006
					1-1/2	5-1/2	7	EB0921507
					2	5	7	EB0922007
					2-1/2	5-1/2	8	EB0922508
					3	5	8	EB0923008
					3-1/2	4-1/2	8	EB0923508
Radius Length = .380 Ref					4	6	10	EB0924010
3/32	1/4	1/8	.0240	.0780	1	5	6	EB0911006
					1-1/2	5-1/2	7	EB0911507
					2	5	7	EB0912007
					2-1/2	5-1/2	8	EB0912508
					3	5	8	EB0913008
					3-1/2	4-1/2	8	EB0913508
Radius Length = .368 Ref					4	6	10	EB0914010

Pin Dia A	Head		Blade		Lengths			Catalog Number
	Dia B	Thick C	Thick T	Width W	Shank S	Blade F	Overall L	
3/32	1/4	1/8	.0320	.0780	1	5	6	EB0931006
					1-1/2	5-1/2	7	EB0931507
					2	5	7	EB0932007
					2-1/2	5-1/2	8	EB0932508
					3	5	8	EB0933008
					3-1/2	4-1/2	8	EB0933508
Radius Length = .345 Ref					4	6	10	EB0934010
3/32	1/4	1/8	.0460	.0780	1	5	6	EB0941006
					1-1/2	5-1/2	7	EB0941507
					2	5	7	EB0942007
					2-1/2	5-1/2	8	EB0942508
					3	5	8	EB0943008
					3-1/2	4-1/2	8	EB0943508
Radius Length = .305 Ref					4	6	10	EB0944010
1/8	1/4	1/8	.0200	.1000	1	5	6	EB1221006
					1-1/2	5-1/2	7	EB1221507
					2	5	7	EB1222007
					2-1/2	5-1/2	8	EB1222508
					3	5	8	EB1223008
					4	6	10	EB1224010
Radius Length = .460 Ref					5	5	10	EB1225010
1/8	1/4	1/8	.0240	.1000	1	5	6	EB1211006
					1-1/2	5-1/2	7	EB1211507
					2	5	7	EB1212007
					2-1/2	5-1/2	8	EB1212508
					3	5	8	EB1213008
					4	6	10	EB1214010
Radius Length = .444 Ref					5	5	10	EB1215010
1/8	1/4	1/8	.0320	.1000	1	5	6	EB1231006
					1-1/2	5-1/2	7	EB1231507
					2	5	7	EB1232007
					2-1/2	5-1/2	8	EB1232508
					3	5	8	EB1233008
					4	6	10	EB1234010
Radius Length = .430 Ref					5	5	10	EB1235010
1/8	1/4	1/8	.0460	.1000	1	5	6	EB1241006
					1-1/2	5-1/2	7	EB1241507
					2	5	7	EB1242007
					2-1/2	5-1/2	8	EB1242508
					3	5	8	EB1243008
					4	6	10	EB1244010
Radius Length = .395 Ref					5	5	10	EB1245010
5/32	9/32	5/32	.0200	.1400	1	5	6	EB1521006
					1-1/2	5-1/2	7	EB1521507
					2	5	7	EB1522007
					2-1/2	5-1/2	8	EB1522508
					3	5	8	EB1523008
					4	6	10	EB1524010
Radius Length = .520 Ref					5	5	10	EB1525010
5/32	9/32	5/32	.0240	.1400	1	5	6	EB1511006
					1-1/2	5-1/2	7	EB1511507
					2	5	7	EB1512007
					2-1/2	5-1/2	8	EB1512508
					3	5	8	EB1513008
					4	6	10	EB1514010
Radius Length = .508 Ref					5	5	10	EB1515010

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	Dia B	Thick C	Thick T	Width W	Shank S	Blade F	Overall L	
9/32	7/16	1/4	.0460	.2640	1	5	6	EB2841006
					1-1/2	5-1/2	7	EB2841507
					2	5	7	EB2842007
					2-1/2	5-1/2	8	EB2842508
					3	5	8	EB2843008
					4	6	10	EB2844010
Radius Length = .675 Ref					5	5	10	EB2845010
9/32	7/16	1/4	.0620	.2640	1	5	6	EB2861006
					1-1/2	5-1/2	7	EB2861507
					2	5	7	EB2862007
					2-1/2	5-1/2	8	EB2862508
					3	5	8	EB2863008
					4	6	10	EB2864010
Radius Length = .655 Ref					5	5	10	EB2865010
5/16	1/2	1/4	.0320	.2970	1	5	6	EB3131006
					1-1/2	5-1/2	7	EB3131507
					2	5	7	EB3132007
					2-1/2	5-1/2	8	EB3132508
					3	5	8	EB3133008
					4	6	10	EB3134010
Radius Length = .740 Ref					5	5	10	EB3135010
5/16	1/2	1/4	.0460	.2970	1	5	6	EB3141006
					1-1/2	5-1/2	7	EB3141507
					2	5	7	EB3142007
					2-1/2	5-1/2	8	EB3142508
					3	5	8	EB3143008
					4	6	10	EB3144010
Radius Length = .720 Ref					5	5	10	EB3145010
5/16	1/2	1/4	.0620	.2970	1	5	6	EB3161006
					1-1/2	5-1/2	7	EB3161507
					2	5	7	EB3162007
					2-1/2	5-1/2	8	EB3162508
					3	5	8	EB3163008
					4	6	10	EB3164010
Radius Length = .700 Ref					5	5	10	EB3165010
5/16	1/2	1/4	.0780	.2970	1	5	6	EB3171006
					1-1/2	5-1/2	7	EB3171507
					2	5	7	EB3172007
					2-1/2	5-1/2	8	EB3172508
					3	5	8	EB3173008
					4	6	10	EB3174010
Radius Length = .675 Ref					5	5	10	EB3175010
3/8	5/8	1/4	.0320	.3590	1	5	6	EB3731006
					1-1/2	5-1/2	7	EB3731507
					2	5	7	EB3732007
					2-1/2	5-1/2	8	EB3732508
					3	5	8	EB3733008
					4	6	10	EB3734010
Radius Length = .810 Ref					5	5	10	EB3735010
3/8	5/8	1/4	.0460	.3590	1	5	6	EB3741006
					1-1/2	5-1/2	7	EB3741507
					2	5	7	EB3742007
					2-1/2	5-1/2	8	EB3742508
					3	5	8	EB3743008
					4	6	10	EB3744010
Radius Length = .800 Ref					5	5	10	EB3745010
3/8	5/8	1/4	.0620	.3590	1	5	6	EB3761006
					1-1/2	5-1/2	7	EB3761507
					2	5	7	EB3762007
					2-1/2	5-1/2	8	EB3762508
					3	5	8	EB3763008
					4	6	10	EB3764010
Radius Length = .780 Ref					5	5	10	EB3765010

Pin Dia A	Head Dia B Thick C		Blade Thick T Width W		Lengths Shank S Blade F Overall L			Catalog Number
3/8	5/8	1/4	.0780	.3590	1	5	6	EB3771006
					1-1/2	5-1/2	7	EB3771507
					2	5	7	EB3772007
					2-1/2	5-1/2	8	EB3772508
					3	5	8	EB3773008
					4	6	10	EB3774010
Radius Length = .760 Ref					5	5	10	EB3775010
7/16	11/16	1/4	.0320	.4200	1	5	6	EB4331006
					1-1/2	5-1/2	7	EB4331507
					2	5	7	EB4332007
					2-1/2	5-1/2	8	EB4332508
					3	5	8	EB4333008
					4	6	10	EB4334010
Radius Length = .880 Ref					5	5	10	EB4335010
7/16	11/16	1/4	.0460	.4200	1	5	6	EB4341006
					1-1/2	5-1/2	7	EB4341507
					2	5	7	EB4342007
					2-1/2	5-1/2	8	EB4342508
					3	5	8	EB4343008
					4	6	10	EB4344010
Radius Length = .865 Ref					5	5	10	EB4345010
7/16	11/16	1/4	.0620	.4200	1	5	6	EB4361006
					1-1/2	5-1/2	7	EB4361507
					2	5	7	EB4362007
					2-1/2	5-1/2	8	EB4362508
					3	5	8	EB4363008
					4	6	10	EB4364010
Radius Length = .850 Ref					5	5	10	EB4365010
7/16	11/16	1/4	.0780	.4200	1	5	6	EB4371006
					1-1/2	5-1/2	7	EB4371507
					2	5	7	EB4372007
					2-1/2	5-1/2	8	EB4372508
					3	5	8	EB4373008
					4	6	10	EB4374010
Radius Length = .830 Ref					5	5	10	EB4375010
1/2	3/4	1/4	.0320	.4840	1	5	6	EB5031006
					1-1/2	5-1/2	7	EB5031507
					2	5	7	EB5032007
					2-1/2	5-1/2	8	EB5032508
					3	5	8	EB5033008
					4	6	10	EB5034010
Radius Length = .940 Ref					5	5	10	EB5035010
1/2	3/4	1/4	.0460	.4840	1	5	6	EB5041006
					1-1/2	5-1/2	7	EB5041507
					2	5	7	EB5042007
					2-1/2	5-1/2	8	EB5042508
					3	5	8	EB5043008
					4	6	10	EB5044010
Radius Length = .930 Ref					5	5	10	EB5045010
1/2	3/4	1/4	.0620	.4840	1	5	6	EB5061006
					1-1/2	5-1/2	7	EB5061507
					2	5	7	EB5062007
					2-1/2	5-1/2	8	EB5062508
					3	5	8	EB5063008
					4	6	10	EB5064010
Radius Length = .910 Ref					5	5	10	EB5065010
1/2	3/4	1/4	.0780	.4840	1	5	6	EB5071006
					1-1/2	5-1/2	7	EB5071507
					2	5	7	EB5072007
					2-1/2	5-1/2	8	EB5072508
					3	5	8	EB5073008
					4	6	10	EB5074010
Radius Length = .895 Ref					5	5	10	EB5075010

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	Dia B	Thick C	Thick T	Width W	Shank S	Blade F	Overall L	
4.0	8	3	1.00	3.50	30	95	125	BM04010030
					40	85	125	BM04010040
					50	110	160	BM04010050
					63	97	160	BM04010063
					80	120	200	BM04010080
					90	110	200	BM04010090
					Radius Length = 12.14 Ref			
4.0	8	3	1.20	3.50	30	95	125	BM04012030
					40	85	125	BM04012040
					50	110	160	BM04012050
					63	97	160	BM04012063
					80	120	200	BM04012080
					90	110	200	BM04012090
					Radius Length = 11.73 Ref			
4.2	8	3	0.80	3.80	30	95	125	BM04208030
					40	85	125	BM04208040
					50	110	160	BM04208050
					63	97	160	BM04208063
					80	120	200	BM04208080
					90	110	200	BM04208090
					Radius Length = 12.91 Ref			
4.2	8	3	1.00	3.80	30	95	125	BM04210030
					40	85	125	BM04210040
					50	110	160	BM04210050
					63	97	160	BM04210063
					80	120	200	BM04210080
					90	110	200	BM04210090
					Radius Length = 12.53 Ref			
4.2	8	3	1.20	3.80	30	95	125	BM04212030
					40	85	125	BM04212040
					50	110	160	BM04212050
					63	97	160	BM04212063
					80	120	200	BM04212080
					90	110	200	BM04212090
					Radius Length = 12.14 Ref			
5.0	10	3	1.00	4.50	30	95	125	BM05010030
					40	85	125	BM05010040
					50	110	160	BM05010050
					63	97	160	BM05010063
					80	120	200	BM05010080
					90	110	200	BM05010090
					Radius Length = 13.98 Ref			

Pin Dia A	Head		Blade		Lengths			Catalog Number
	Dia B	Thick C	Thick T	Width W	Shank S	Blade F	Overall L	
5.0	10	3	1.20	4.50	30	95	125	BM05012030
					40	85	125	BM05012040
					50	110	160	BM05012050
					63	97	160	BM05012063
					80	120	200	BM05012080
					90	110	200	BM05012090
					Radius Length = 13.64 Ref			
5.0	10	3	1.50	4.50	30	95	125	BM05015030
					40	85	125	BM05015040
					50	110	160	BM05015050
					63	97	160	BM05015063
					80	120	200	BM05015080
					90	110	200	BM05015090
					Radius Length = 13.10 Ref			
6.0	12	5	1.00	5.50	30	95	125	BM06010030
					40	85	125	BM06010040
					50	110	160	BM06010050
					63	97	160	BM06010063
					80	120	200	BM06010080
					90	110	200	BM06010090
					Radius Length = 15.59 Ref			
6.0	12	5	1.20	5.50	30	95	125	BM06012030
					40	85	125	BM06012040
					50	110	160	BM06012050
					63	97	160	BM06012063
					80	120	200	BM06012080
					90	110	200	BM06012090
					Radius Length = 15.29 Ref			
6.0	12	5	1.50	5.50	30	95	125	BM06015030
					40	85	125	BM06015040
					50	110	160	BM06015050
					63	97	160	BM06015063
					80	120	200	BM06015080
					90	110	200	BM06015090
					Radius Length = 14.81 Ref			
6.0	12	5	2.00	5.50	30	95	125	BM06020030
					40	85	125	BM06020040
					50	110	160	BM06020050
					63	97	160	BM06020063
					80	120	200	BM06020080
					90	110	200	BM06020090
					Radius Length = 13.98 Ref			

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Dia A	Dia B	Thick C	Thick T	Width W	Shank S	Blade F	Overall L	
8.0	14	5	1.00	7.50	30	95	125	BM08010030
					40	85	125	BM08010040
					50	110	160	BM08010050
					63	97	160	BM08010063
					80	120	200	BM08010080
					90	110	200	BM08010090
					Radius Length = 18.36 Ref			
8.0	14	5	1.20	7.50	30	95	125	BM08012030
					40	85	125	BM08012040
					50	110	160	BM08012050
					63	97	160	BM08012063
					80	120	200	BM08012080
					90	110	200	BM08012090
					100	100	200	BM08012100
Radius Length = 18.10 Ref				125	125	250	BM08012125	
8.0	14	5	1.50	7.50	30	95	125	BM08015030
					40	85	125	BM08015040
					50	110	160	BM08015050
					63	97	160	BM08015063
					80	120	200	BM08015080
					90	110	200	BM08015090
					100	100	200	BM08015100
Radius Length = 17.71 Ref				125	125	250	BM08015125	
8.0	14	5	2.00	7.50	30	95	125	BM08020030
					40	85	125	BM08020040
					50	110	160	BM08020050
					63	97	160	BM08020063
					80	120	200	BM08020080
					90	110	200	BM08020090
					100	100	200	BM08020100
Radius Length = 17.04 Ref				125	125	250	BM08020125	
10.0	16	5	1.00	9.50	30	95	125	BM10010030
					40	85	125	BM10010040
					50	110	160	BM10010050
					63	97	160	BM10010063
					80	120	200	BM10010080
					90	110	200	BM10010090
					Radius Length = 20.71 Ref			

Pin Dia A	Head		Blade		Lengths			Catalog Number
	Dia B	Thick C	Thick T	Width W	Shank S	Blade F	Overall L	
10.0	16	5	1.20	9.50	30	95	125	BM10012030
					40	85	125	BM10012040
					50	110	160	BM10012050
					63	97	160	BM10012063
					80	120	200	BM10012080
					90	110	200	BM10012090
					Radius Length = 20.48 Ref			
10.0	16	5	1.50	9.50	30	95	125	BM10015030
					40	85	125	BM10015040
					50	110	160	BM10015050
					63	97	160	BM10015063
					80	120	200	BM10015080
					90	110	200	BM10015090
					100	100	200	BM10015100
					125	125	250	BM10015125
					Radius Length = 20.15 Ref			
10.0	16	5	2.00	9.50	30	95	125	BM10020030
					40	85	125	BM10020040
					50	110	160	BM10020050
					63	97	160	BM10020063
					80	120	200	BM10020080
					90	110	200	BM10020090
					100	100	200	BM10020100
					125	125	250	BM10020125
					155	160	315	BM10020155
					Radius Length = 19.57 Ref			
12.0	20	7	2.00	11.50	100	100	200	BM12020100
					125	125	250	BM12020125
					155	160	315	BM12020155
					Radius Length = 21.77 Ref			
12.0	20	7	2.50	11.50	100	100	200	BM12025100
					125	125	250	BM12025125
					155	160	315	BM12025155
					Radius Length = 21.25 Ref			
16.0	22	7	2.00	15.50	100	100	200	BM16020100
					125	125	250	BM16020125
					155	160	315	BM16020155
					Radius Length = 25.49 Ref			
16.0	22	7	2.50	15.50	100	100	200	BM16025100
					125	125	250	BM16025125
					155	160	315	BM16025155
					Radius Length = 25.07 Ref			

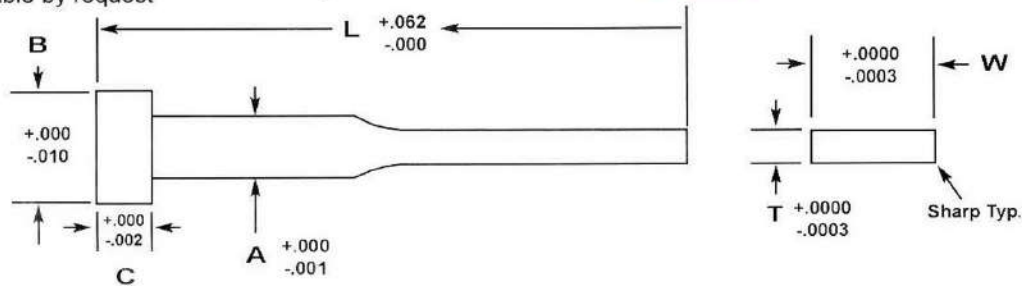
Ejector Blades - Inch

B SERIES

H-13 Steel

- 50-52 Rc Core Hardness
- One piece design for strength & accuracy
- Annealed Heads
- Etched for easy identification
- Special sizes available by request

Interchangeable with
**PCS® "BE" Series
Ejector Blades**



Pin Dia A	Head		Blade		Lengths		Catalog Number
	Dia B	Thick C	Thick T	Width W	Blade F	Overall L	
1/8	1/4	1/8	.0240	.1000	4-3/8	6-3/8	B1252446
					3	5	B1253235
					3	6	B1253236
					4-3/8	6-3/8	B1253246
			.0320	.1000	4-3/8	7-3/8	B1253247
					3	5	B1254635
					3	6	B1254636
					4-3/8	6-3/8	B1254646
5/32	9/32	5/32	.0240	.1400	4-3/8	6-3/8	B1562446
					3	6	B1563236
					4-3/8	6-3/8	B1563246
					4-3/8	8-3/8	B1563248
			.0320	.1400	3	6	B1564636
					4-3/8	6-3/8	B1564646
					4-3/8	8-3/8	B1564648
					4-3/8	8-3/8	B1564648
3/16	3/8	3/16	.0240	.1720	4-3/8	6-3/8	B1872446
					3	6	B1873236
					4-3/8	6-3/8	B1873246
					4-3/8	7-3/8	B1873247
			.0320	.1720	3	6	B1874636
					4-3/8	6-3/8	B1874646
					4-3/8	7-3/8	B1874647
					4-3/8	8-3/8	B1874647
			.0460	.1720	3	6	B1876236
					4-3/8	6-3/8	B1876246
					4-3/8	7-3/8	B1876246
					4-3/8	8-3/8	B1876248
1/4	7/16	3/16	.0320	.2340	3	5	B2503235
					3	6	B2503236
					4-3/8	7-3/8	B2503247
					4-3/8	8-3/8	B2503248
			.0460	.2340	3	5	B2506235
					3	6	B2506236
					4-3/8	6-3/8	B2506246
					4-3/8	8-3/8	B2506248

Pin Dia A	Head		Blade		Lengths		Catalog Number
	Dia B	Thick C	Thick T	Width W	Blade F	Overall L	
1/4	7/16	3/16	.0460	.2340	3	5	B2504635
					3	6	B2504636
					4-3/8	6-3/8	B2504646
					4-3/8	7-3/8	B2504647
			.0620	.2340	4-3/8	8-3/8	B2504648
					4-3/8	10-3/8	B25046410
					3	5	B2506235
					3	6	B2506236
5/16	1/2	1/4	.0620	.2970	4-3/8	6-3/8	B2506246
					4-3/8	8-3/8	B2506248
			.0320	.2970	4-3/8	6-3/8	B3123246
					4-3/8	7-3/8	B3123247
			.0460	.2970	4-3/8	6-3/8	B3124646
					4-3/8	8-3/8	B3124648
			.0620	.2970	4-3/8	6-3/8	B3126246
					4-3/8	7-3/8	B3126247
3/8	5/8	1/4	.0780	.2970	4-3/8	6-3/8	B3127846
					4-3/8	7-3/8	B3127847
					4-3/8	8-3/8	B3127848
			.0320	.3590	4-3/8	6-3/8	B3753246
					4-3/8	7-3/8	B3753247
					4-3/8	9-3/8	B3753249
			.0460	.3590	4-3/8	6-3/8	B3754646
					4-3/8	7-3/8	B3754647
			.0620	.3590	4-3/8	6-3/8	B3756246
					4-3/8	7-3/8	B3756247
			.0780	.3590	4-3/8	6-3/8	B3757846
					4-3/8	7-3/8	B3757847
1/2	3/4	1/4	.0620	.4840	5-3/8	8-3/8	B5006258
					5-3/8	9-3/8	B5007858
					5-3/8	10-3/8	B5007859
					5-3/8	10-3/8	B50078510

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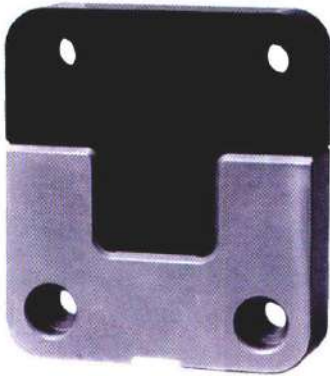
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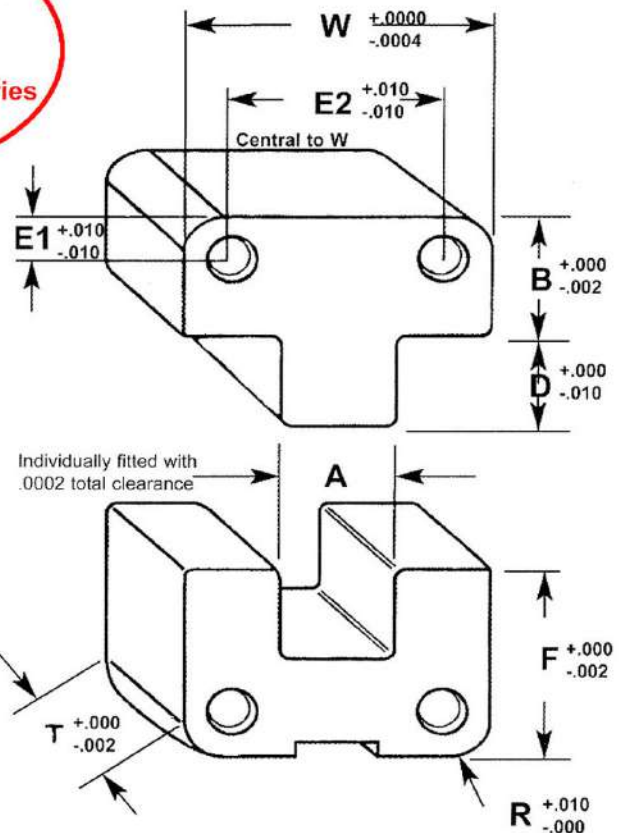
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Tooling Components, Inc.



Interchangeable with
PCS® "PA" Series
Progressive® "SL" Series



- Chamfered Edges
- Lubrication retention pockets
- Under conditions of unequal mold half thermal expansion, side locks will not bind.
- Provides positive and accurate alignment of mold halves from 1/2" to 1-5/8" prior to mold closing.
- Male Side Lock
 - Manufactured from Graphite O-6 Steel
 - Hardened to 60-62 Rc
 - Black Oxide Finish
 - Thickness is relieved on male insert past the parting line
 - Grease Pockets
- Female Side Lock
 - Manufactured from 8620 Steel
 - Hardened to 54-56 Rc
 - Armor-Dense Chrome Plating 70-72 Rc providing excellent wear resistance
 - Notched for easy removal

Mold Size	Suggested Side Lock
8" x 8" - 8" x 12"	PA1000
8" x 12" - 11" x 14"	PA1250 to PA2000
11" x 14" - 14" x 18"	PA3000
14" x 18" - 16" x 26"	PA4000
16" x 26" - 18" x 36"	PA5000
18" x 36" or Larger	PA6000

W	T	A	B	D	Overall Height	E1	E2	F	R	SHCS (4)	Catalog Number
1.000	.375	.500	.875	.530	2.000	.250	.500	1.125	.187	10-32 X 1/2	PA-1000
1.250	.500	.500	.875	.660	2.000	.250	.750	1.125	.187	8-32 X 5/8	PA-1250
1.500	.500	.563	.875	.560	1.750	.250	1.000	.875	.187	8-32 X 5/8	PA-1500
2.000	.500	.750	.875	.660	2.250	.312	1.375	1.375	.250	10-32 X 5/8	PA-2000
3.000	.750	1.250	.875	1.130	2.750	.375	2.250	1.875	.375	1/4-20 X 1	PA-3000
4.000	1.000	1.500	1.375	1.130	3.750	.500	3.000	2.375	.500	3/8-16 X 1-1/4	PA-4000
5.000	1.250	2.000	1.375	1.630	4.250	.625	3.750	2.875	.500	1/2-13 X 1-1/2	PA-5000
6.000	1.500	2.500	1.375	1.630	4.250	.625	4.750	2.875	.500	1/2-13 X 1-3/4	PA-6000

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Note: Side Locks are sold in Male/Female sets only Self-locking screws included

Side Locks

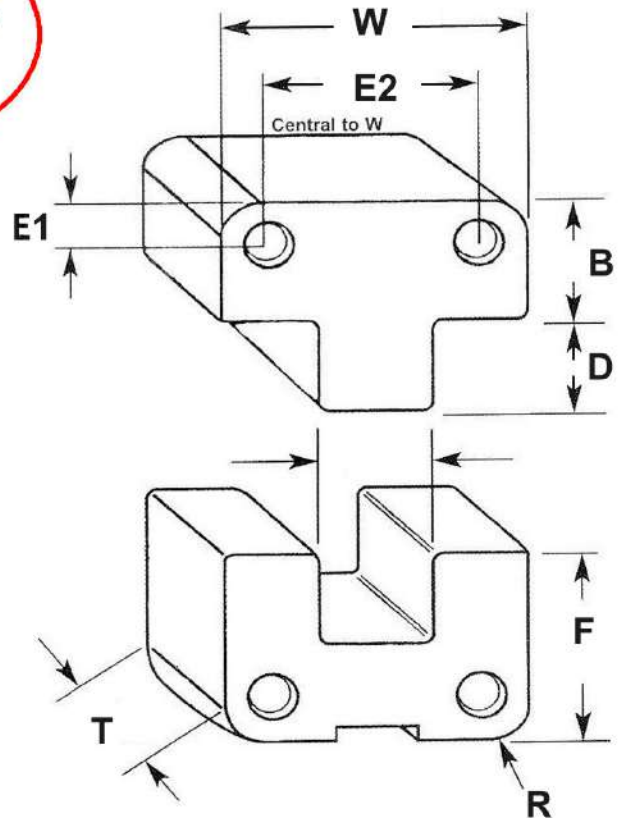
SL SERIES
(Inch)

MSL SERIES
(Metric)

MADE IN THE "USA"



Interchangeable
with Progressive®
"SL" & "SLM"
Series



- Male Side Lock
 - Manufactured from Graphite O-6 Steel
 - Hardened to 58-60 Rc
 - Black Oxide Finish
 - Thickness is relieved on male insert past the parting line
- Female Side Lock
 - Manufactured from A-2 Steel
 - Hardened to 58-60 Rc
 - Titanium Nitride Plating (Surface to 80 Rc)
 - Excellent Wear Resistance
 - Notched for easy removal

Inch Standard

Note: All Dimensions and tolerances are in inches.

W	T	F	B	D	A	E1	E2	R	Overall Height	SHCS		CATALOG NUMBER
										Male (2)	Female (2)	
+0.000 -0.004	+0.00 -0.02	+0.00 -0.02	+0.00 -0.02		.0002 Total	+0.01 -0.01	+0.01 -0.01					
1.250	.490	1.125	.875	.66	.500	.250	.750	.187	2.000	8-32 X 5/8	8-32 X 5/8	SL050 X 125
1.500	.500	.875	.875	.56	.563	.250	1.000	.187	1.750	8-32 X 5/8	8-32 X 5/8	SL050 X 150
2.000	.500	1.375	.875	.66	.750	.312	1.375	.187	2.250	10-32 X 5/8	10-32 X 5/8	SL050 X 200

Metric Standard

Note: All Dimensions and tolerances are in millimeters.

W	T	F	B	D	A	E1	E2	R	Overall Height	SHCS		CATALOG NUMBER
										Male (2)	Female (2)	
+0.00 -0.01	+0.00 -0.05	+0.00 -0.05	+0.00 -0.05		.002/0.005 Per Side	+0.25 -0.25	+0.25 -0.25					
50	16	21.5	21.5	12	17	11	34	5	43	M6-1.0 X 18	M6-1.0 X 18	MSL-16 X 50
75	19	36	36	17	25	18	50	5	72	M10-1.5 X 20	M10-1.5 X 20	MSL-19 X 75
100	19	45	45	23	35	22	70	5	90	M10-1.5 X 20	M10-1.5 X 20	MSL-19 X 100

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Note: Side Locks are sold in Male/Female sets only Self-locking screws included

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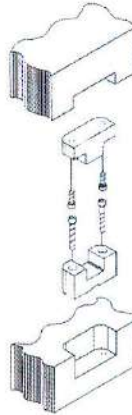
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TL SERIES

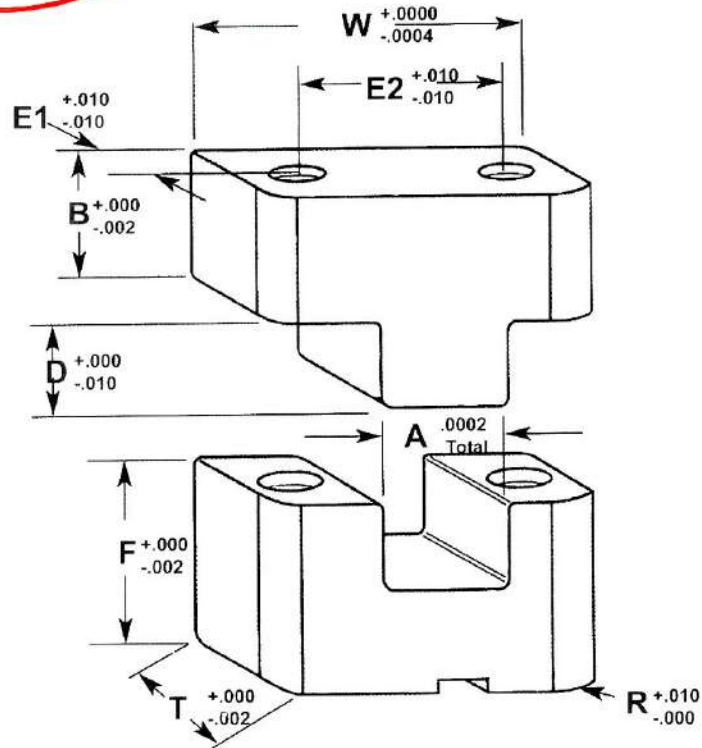
Top Locks

MADE IN THE "USA"

Interchangeable
with PCS®
"TL" Series



- All sharp edges are chamfered
- Self-locking screws are included
- Will not seize under thermal expansion
- Provides positive, accurate alignment
- Special sizes made to your requirements
- Parts are machined symmetrically to the centerline
- Male Top Lock
 - Manufactured from Graphite O-6 Steel
 - Hardened to 60-62 Rc
 - Black Oxide Finish
 - Grease Pockets
- Female Top Lock
 - Manufactured from 8620 Steel
 - Hardened to 54-56 Rc
 - Armor-Dense Chrome Plating 70-72 Rc providing excellent wear resistance
 - Notched for easy removal



External

W	T	D	Overall Height	A	E1	E2	F	R	B	SHCS Male (2)	SHCS Female (2)	Catalog Number
1.0000	.500	.275	.875	.3750	.250	.688	.500	.187	.375	6-32 x 1/2	6-32 x 5/8	TL-1000
1.2500	.625	.375	1.125	.4380	.312	.875	.625	.250	.500	6-32 x 1/2	6-32 x 5/8	TL-1250
1.5000	.875	.500	1.625	.5000	.437	1.000	.875	.250	.750	8-32 x 3/4	8-32 x 3/4	TL-1500
2.0000	1.000	.625	1.875	.7500	.500	1.375	1.125	.375	.750	10-32 x 3/4	10-32 x 1	TL-2000
3.0000	1.125	.750	2.250	1.1250	.562	2.250	1.500	.500	.750	1/4-20 x 3/4	1/4-20 x 1-1/2	TL-3000

Internal

W	T	D	Overall Height	A	E1	E2	F	R	B	SHCS Male (2)	SHCS Female (2)	Catalog Number
1.0000	.500	.275	.875	.3750	.250	.688	.500	.187	.375	6-32 x 1/2	6-32 x 5/8	TL-1000R
1.2500	.625	.375	1.125	.4380	.312	.875	.625	.250	.500	6-32 x 1/2	6-32 x 5/8	TL-1250R
1.5000	.875	.500	1.625	.5000	.437	1.000	.875	.250	.750	8-32 x 3/4	8-32 x 3/4	TL-1500R
2.0000	1.000	.625	1.875	.7500	.500	1.375	1.125	.375	.750	10-32 x 3/4	10-32 x 1	TL-2000R
3.0000	1.125	.750	2.250	1.1250	.562	2.250	1.500	.500	.750	1/4-20 x 3/4	1/4-20 x 1-1/2	TL-3000R

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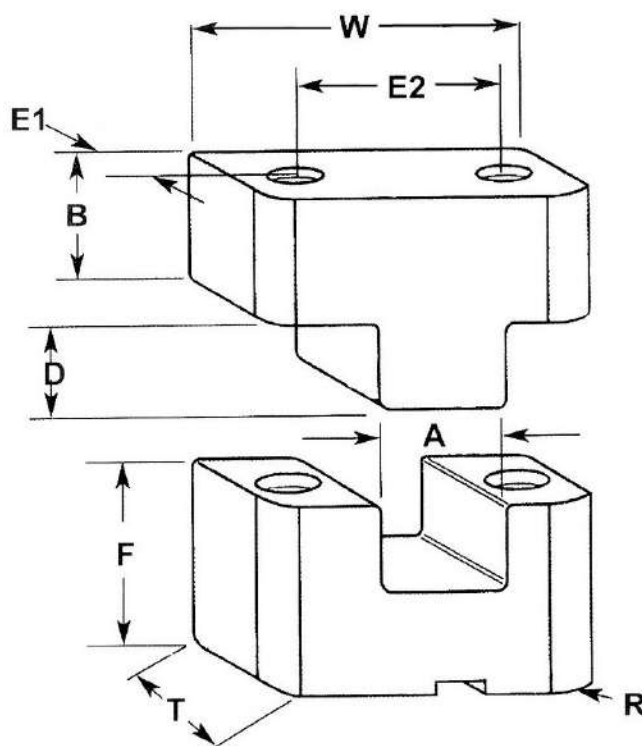
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Top Locks

TL SERIES - TLM SERIES
(Inch) (Metric)

Interchangeable
with Progressive®
"TL" & "TLM"
Series



• Male Side Lock

- Manufactured from Graphite O-6 Steel
- Hardened to 58-60 Rc
- Black Oxide Finish
- Thickness is relieved on male insert past the parting line

• Female Side Lock

- Manufactured from A-2 Steel
- Hardened to 58-60 Rc
- Titanium Nitrite Plating (Surface to 80 Rc)
- Excellent Wear Resistance
- Notched for easy removal

Inch Standard

Note: All Dimensions and tolerances are in inches.

W	T	F	B	D	A	E1	E2	R	Overall Height	SHCS		CATALOG NUMBER
										Male (2)	Female (2)	
+.0000 -.0004	+.000 -.002	+.000 -.002	+.000 -.002		.0002 Total	+.010 -.010	+.010 -.010					
1.250	0.750	.625	.500	.38	.438	.375	.875	.250	1.125	8-32 X 5/8	8-32 X 3/4	TL075 X 125
2.000	1.125	.875	.625	.50	.750	.563	1.375	.375	1.500	1/4-20 X 3/4	1/4-20 X 1	TL112 X 200
3.000	1.750	1.250	.875	.75	1.125	.875	2.250	.500	2.125	5/16-18 X 1	5/16-18 X 1 1/4	TL175 X 300

Metric Standard

Note: All dimensions and tolerances are in millimeters.

W	T	F	B	D	A	E1	E2	R	Overall Height	SHCS		CATALOG NUMBER
										Male (2)	Female (2)	
+.00 -.01	+.00 -.05	+.00 -.05	+.00 -.05		.002/.005 Per Side	+.25 -.25	+.25 -.25					
35	26	25	15	16	11	13	23	8	40	M5 X 16	M5 X 25	TLM26 X 35
45	30	25	15	16	15	15	30	8	40	M6 X 18	M6 X 18	TLMB30 X 45
55	36	30	20	20	20	18	37.5	8	50	M8 X 22	M8 X 35	TLMB36 X 55

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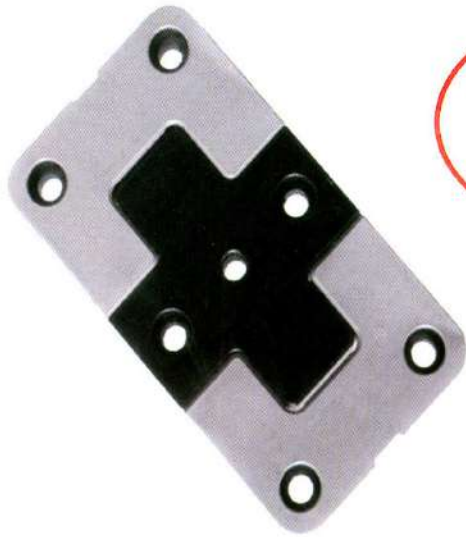


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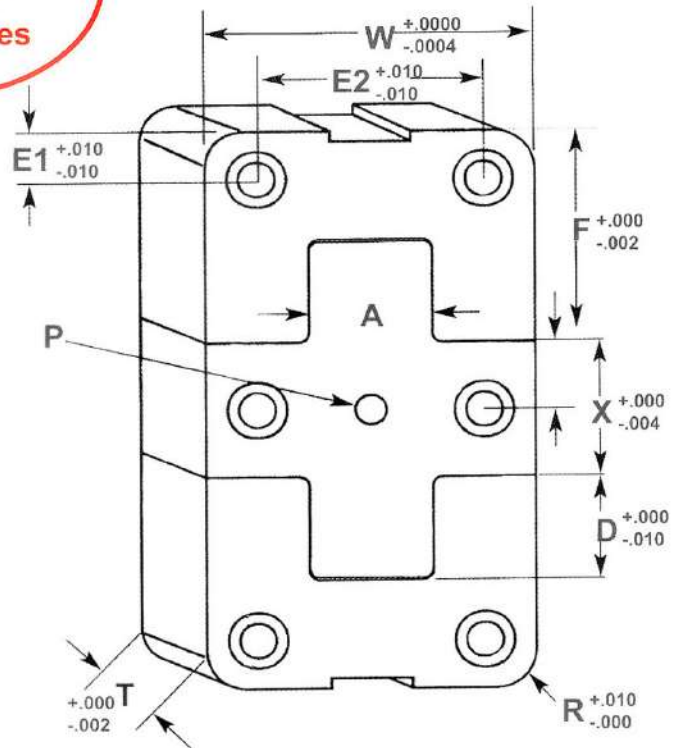
Multi-Plate Locks

MPA SERIES

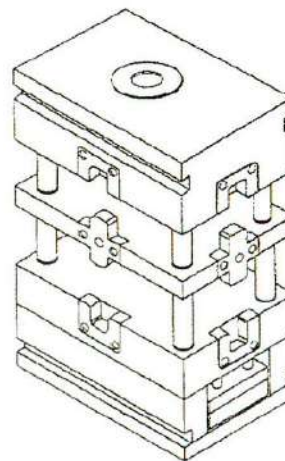
MADE IN THE "USA"



Interchangeable
with PCS®
"MPA" Series



- All sharp edges are chamfered
- Self-locking screws are included
- Will not seize under thermal expansion
- Provides positive, accurate alignment
- Special sizes made to your requirements
- Parts are machined symmetrically to the centerline
- Male Multi-Plate Lock
 - Manufactured from Graphite O-6 Steel
 - Hardened to 60-62 Rc
 - Black Oxide Finish
 - Grease Grooves
- Female Multi-Plate Lock
 - Manufactured from 8620 Steel
 - Hardened to 54-56 Rc
 - Armor-Dense Chrome Plating 70-72 Rc providing excellent wear resistance



W	T	A	D	P	E1	E2	X	F	R	SHCS (6)	Catalog Number
2.0000	.500	.750	.660	.188	.312	1.375	.875	1.375	.250	10-32 x 5/8	MPA- 2870
2.0000	.500	.750	.660	.188	.312	1.375	1.375	1.375	.250	10-32 x 5/8	MPA- 21370
3.0000	.750	1.250	1.130	.251	.375	2.250	.875	1.875	.375	1/4-20 x 1	MPA - 3870
3.0000	.750	1.250	1.130	.251	.375	2.250	1.375	1.875	.375	1/4-20 x 1	MPA - 31370

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Shuttle Mold Locks

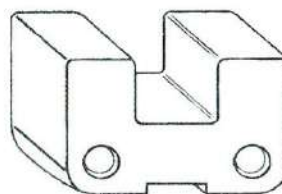
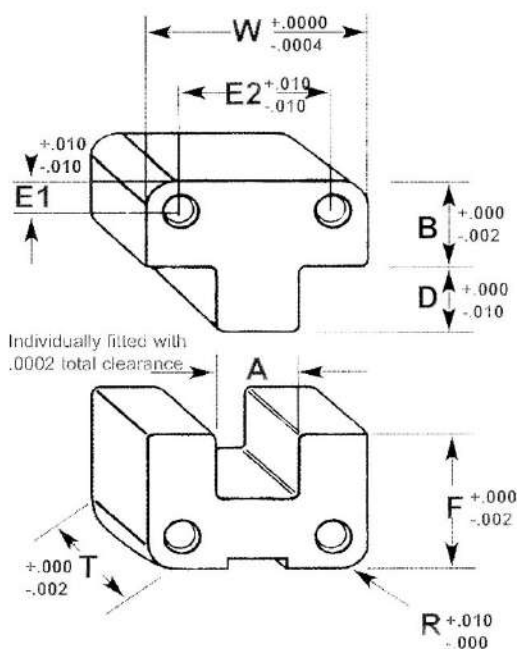
SPA SERIES

MADE IN THE "USA"

Interchangeable
with PCS®
"SPA" Series



- All sharp edges are chamfered
- Self-locking screws are included
- Will not seize under thermal expansion
- Provides positive, accurate alignment
- Special sizes made to your requirements
- Parts are machined symmetrically to the centerline
- Male Shuttle Mold Lock
 - Manufactured from Graphite O-6 Steel
 - Hardened to 60-62 Rc
 - Black Oxide Finish
 - Grease Grooves
- Female Shuttle Mold Lock
 - Manufactured from 8620 Steel
 - Hardened to 54-56 Rc
 - Armor-Dense Chrome Plating 70-72 Rc providing excellent wear resistance



W	T	A	B	D	Overall Height	E1	E2	F	R	SHCS (6)	Catalog Number
1.0000	.375	.5000	.875	.530	2.000	.250	.500	1.125	.187	10-32 x 1/2	SPA - 1000
1.2500	.500	.5000	.875	.660	2.000	.250	.750	1.125	.187	8-32 x 5/8	SPA - 1250
1.5000	.500	.5630	.875	.560	1.750	.250	1.000	.875	.187	8-32 x 5/8	SPA - 1500
2.0000	.500	.7500	.875	.660	2.250	.312	1.375	1.375	.250	10-32 x 5/8	SPA - 2000

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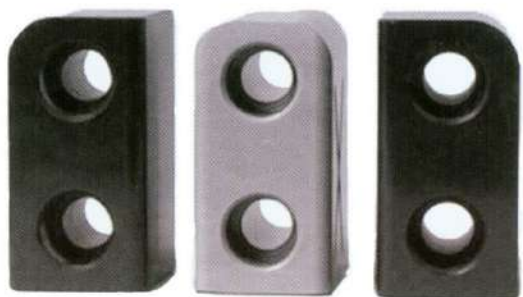
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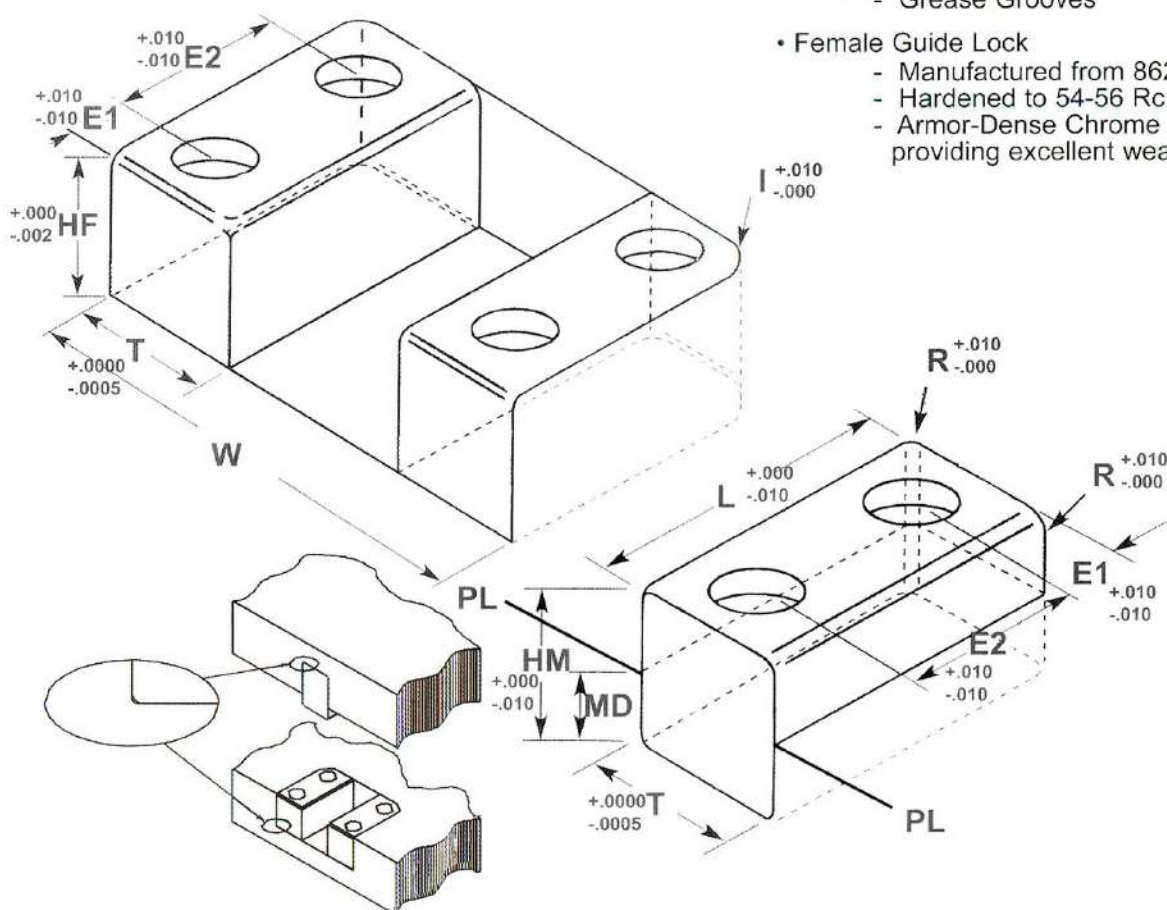
Tooling Components, Inc.

Guide Locks

Interchangeable with
PCS® "GL" Series



- All sharp edges are chamfered
- Self-locking screws are included
- Will not seize under thermal expansion
- Provides positive, accurate alignment
- Special sizes made to your requirements
- Parts are machined symmetrically to the centerline
- Male Guide Lock
 - Manufactured from Graphite O-6 Steel
 - Hardened to 60-62 Rc
 - Black Oxide Finish
 - Grease Grooves
- Female Guide Lock
 - Manufactured from 8620 Steel
 - Hardened to 54-56 Rc
 - Armor-Dense Chrome Plating 70-72 Rc providing excellent wear resistance



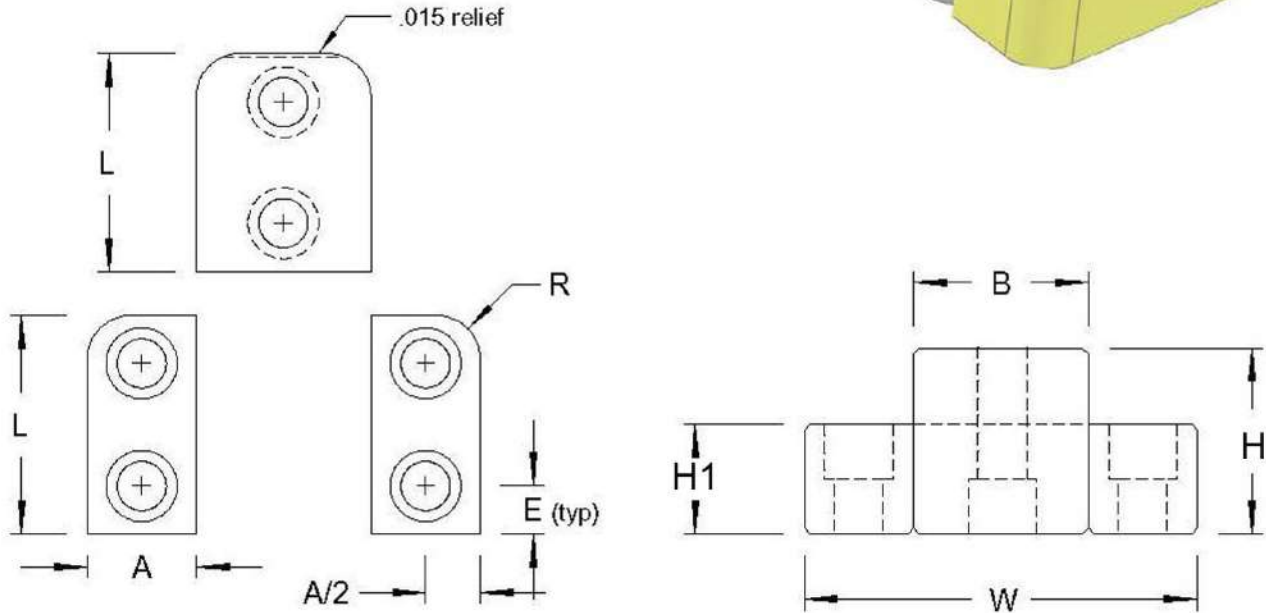
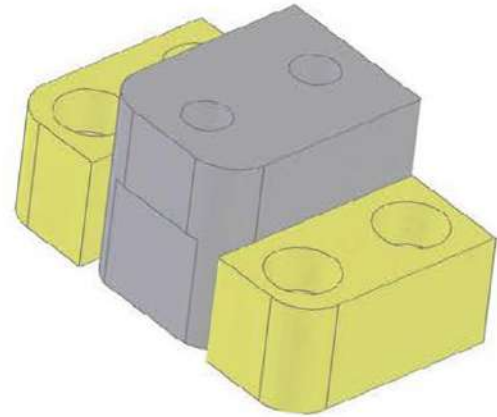
W	L	HM	HF	MD Machine Depth	T	E1	E2	R	SHCS Male (2)	SHCS Female (2)	Catalog Number
1.125	.750	.668	.500	.188	.3750	.200	.350	.125	6-32 x 5/8	6-32 x 1/2	GL-1120
1.500	1.000	.855	.625	.250	.5000	.270	.460	.218	10-32 x 3/4	10-32 x 5/8	GL-1500
2.250	1.500	1.230	.875	.375	.7500	.344	.812	.250	1/4-20 x 1-1/4	1/4-20 x 7/8	GL-2250
3.000	2.000	1.605	1.125	.500	1.0000	.500	1.000	.375	3/8-16 x 1-1/2	3/8-16 x 1	GL-3000
3.750	2.500	1.855	1.375	.500	1.2500	.500	1.500	.375	3/8-16 x 1-3/4	3/8-16 x 1-1/4	GL-3750

Progressive® and PCS® are the property of their respective companies

Guide Locks

GL SERIES

Interchangeable with
Progressive® "GL" Series



Materials: Male 06 hardened to Rc 60-62 Black Oxide coated Female S7 hardened to Rc 50-52 Titanium Nitrided to Rc 80

L +.000 -.010	W	A +.0000 -.0003	B +.0000 -.0003	H +.000 -.010	H1 +.000 -.005	E +.010 -.010	R Pocket Radius	SHCS		Catalog Number
								Male	Female	
1.000	1.500	0.500	0.500	0.85	0.500	0.25	.187	10-32 x 1	10-32 x 5/8	GL-100 X 150
1.500	2.500	0.750	1.000	1.35	0.750	0.31	.250	1/4-20 x 1 1/2	1/4-20 x 7/8	GL-150 X 250
2.000	3.500	1.000	1.500	1.73	1.000	0.44	.375	3/8-16 x 2	3/8-16 x 1 1/4	GL-200 X 350
2.500	4.500	1.250	2.000	2.10	1.250	0.56	.500	1/2-13x2 1/4	1/2-13x1 1/2	GL-250 X 450

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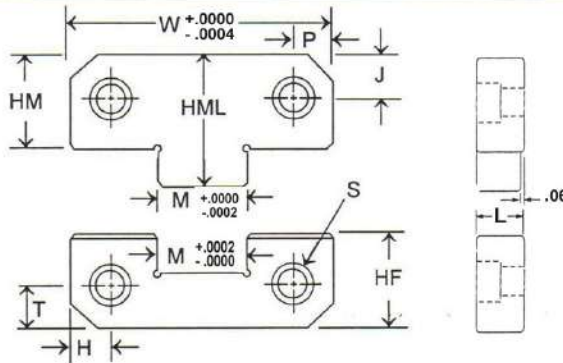


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Interlocks

For Positive Alignment

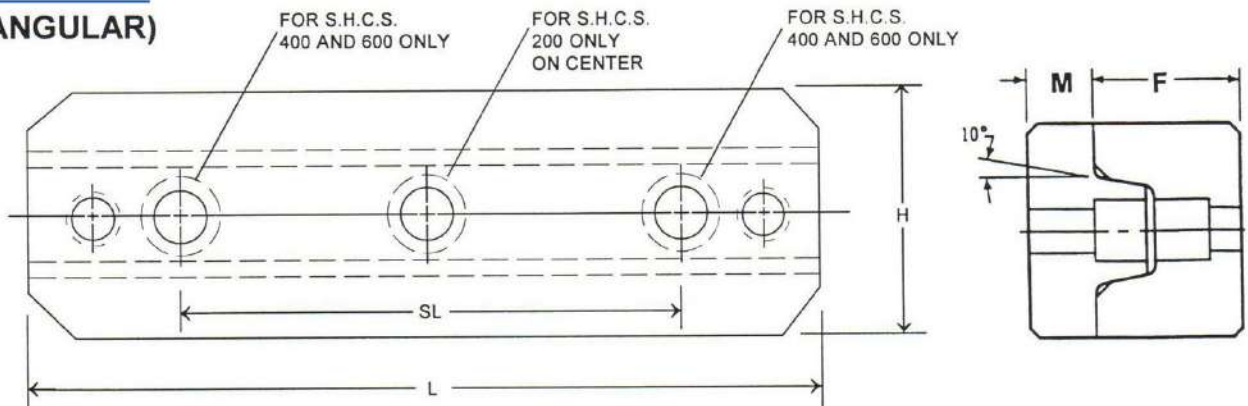
STRAIGHT



*Sold in Male/Female sets only.

CATALOG NUMBER	W	L	HM	HF	M	HML	S	T	H	J	P
	+.0000 -.0004	+.000 -.002	+.0000 -.0008	+.0000 -.0008			USES S.H.C.S.				
SLS-150 X 62	1.500	.620	.870	.870	.500	1.18	1/4 - 20 X 3/4	.281	.281	.437	.281
SLS-200 X 62	2.000	.620	.870	.870	.680	1.18	1/4 - 20 X 3/4	.375	.375	.437	.375
SLS-300 X 75	3.000	.745	1.360	1.370	1.000	1.910	3/8 - 16 X 1	.688	.375	.688	.375
SLS-400 X 75	4.000	.745	1.870	1.870	1.375	2.640	3/8 - 16 X 1	.875	.625	.875	.625
SLS-500 X 112	5.000	1.120	1.870	1.870	1.750	2.640	1/2 - 13 X 1 1/4	.875	.750	.875	.750

TAPERED (RECTANGULAR)



MALE TAPERED INTERLOCKS

CATALOG NUMBER	L	H	M	USES S.H.C.S.	SL
TLM-200	1.980	.999	.312	No. 10	—
TLM-400	3.980	1.249	.375	1/4	2.50
TLM-600	5.980	1.499	.500	5/16	4.00

FEMALE TAPERED INTERLOCKS

CATALOG NUMBER	L	H	F	USES S.H.C.S.	SL
TLF-200	1.980	.999	.69	No. 10	—
TLF-400	3.980	1.249	.87	1/4	2.50
TLF-600	5.980	1.499	.100	5/16	4.00

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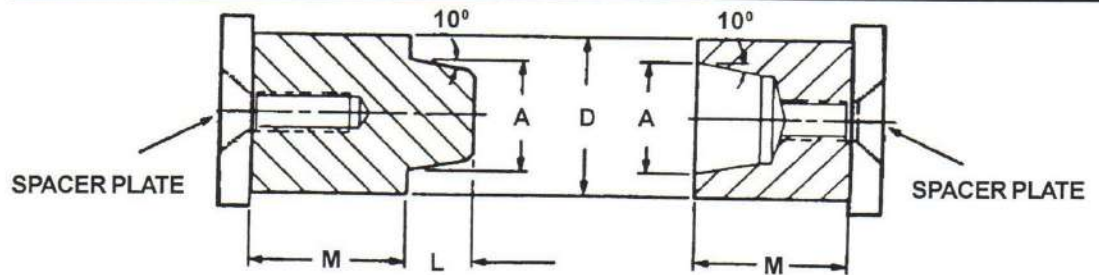


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Interlocks

For
Positive Alignment

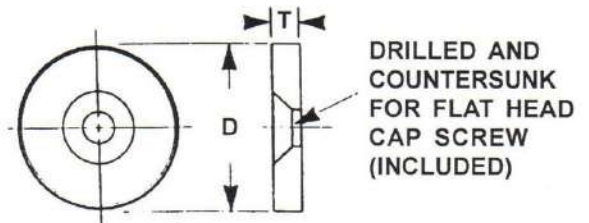
TAPERED (ROUND)



D O.D.	A I.D.	Tap Size	L	M	Catalog Number MALE	Catalog Number FEMALE
1/2	5/16	10-24	1/4	11/16	RLM-0411	RLF-0411
				7/8	RLM-0414	RLF-0414
				1-3/16	RLM-0419	RLF-0419
				1-3/8	RLM-0422	RLF-0422
3/4	1/2	1/4-20	9/32	11/16	RLM-0611	RLF-0611
				7/8	RLM-0614	RLF-0614
				1-3/16	RLM-0619	RLF-0619
				1-3/8	RLM-0622	RLF-0622
1	5/8	1/4-20	11/32	11/16	RLM-0811	RLF-0811
				7/8	RLM-0814	RLF-0814
				1-3/16	RLM-0819	RLF-0819
				1-3/8	RLM-0822	RLF-0822
1-1/2	1	5/16-18	1/2	1-1/8	RLM-1218	RLF-1218
				1-3/8	RLM-1222	RLF-1222
				1-5/8	RLM-1226	RLF-1226
2	1-1/2	5/16-18	1/2	1-1/8	RLM-1618	RLF-1618
				1-3/8	RLM-1622	RLF-1622
				1-5/8	RLM-1626	RLF-1626

SPACER PLATES

Interlock Diam. (D)	D	T	Screw Size	Catalog No. Spacer Plate
1/2	11/16	3/16	10-24	RLP-04
3/4	1	3/16	1/4-20	RLP-06
1	1-3/16	3/16	1/4-20	RLP-08
1-1/2	1-11/16	1/4	5/16-18	RLP-12
2	2-3/16	1/4	5/16-18	RLP-16



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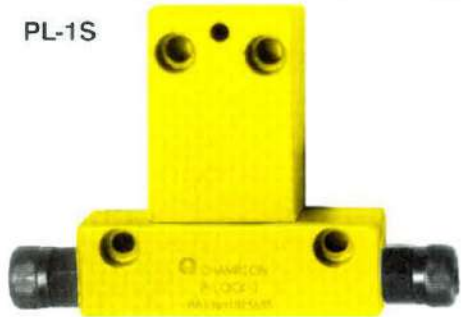
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/// P-LOCKS ///

FOR STRIPPER PLATE MOLDS

- Tough – Durable – Built to Last!
- Positive Locking
- Compact Design

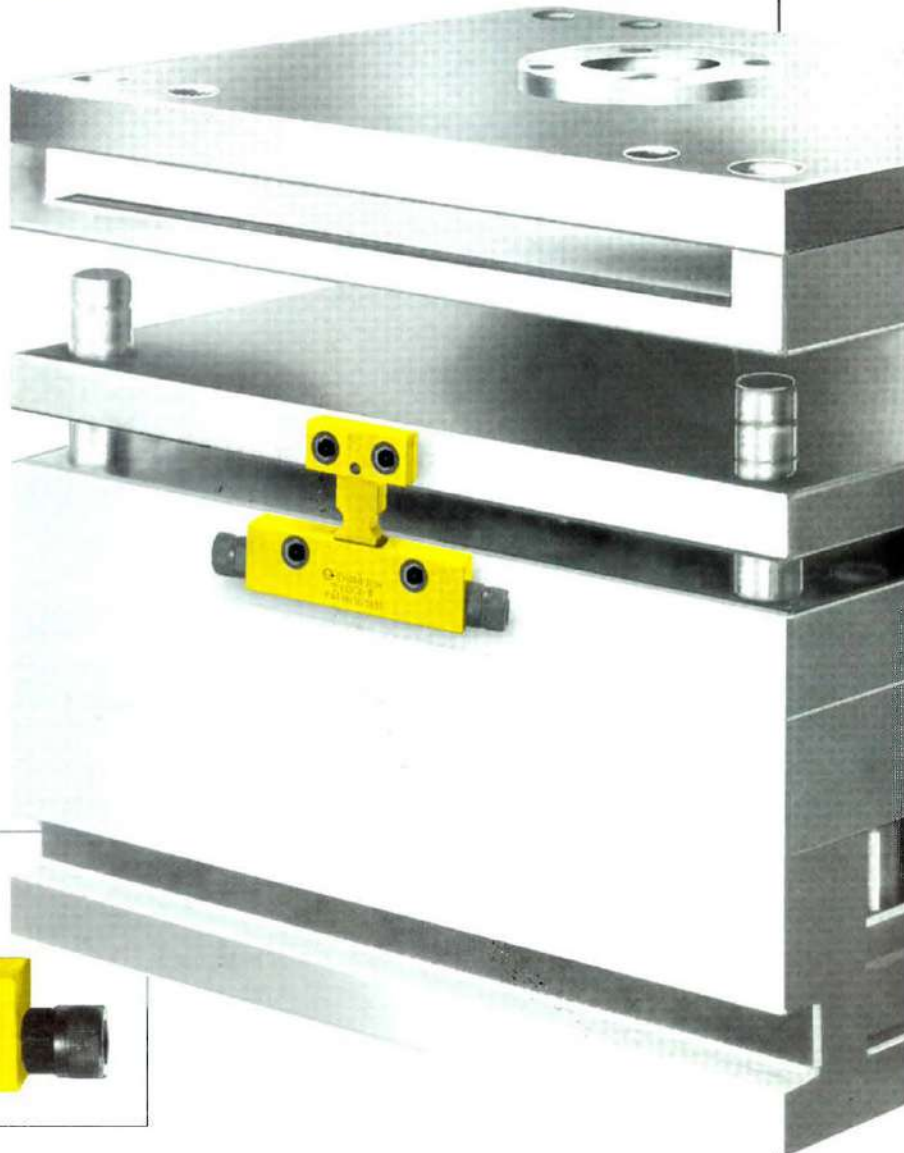
PL-1S



PL-1



PL-2



- P-Locks are designed to hold plates in place until sufficient force is applied to release the springs.
- Precision cast, one-piece body is a simple and compact design that provides positive locking.
- Locks on both sides of the mold work smoothly to prevent malfunctions caused by fatigue.
- P-Locks are available in 3 sizes to accommodate most mold bases.

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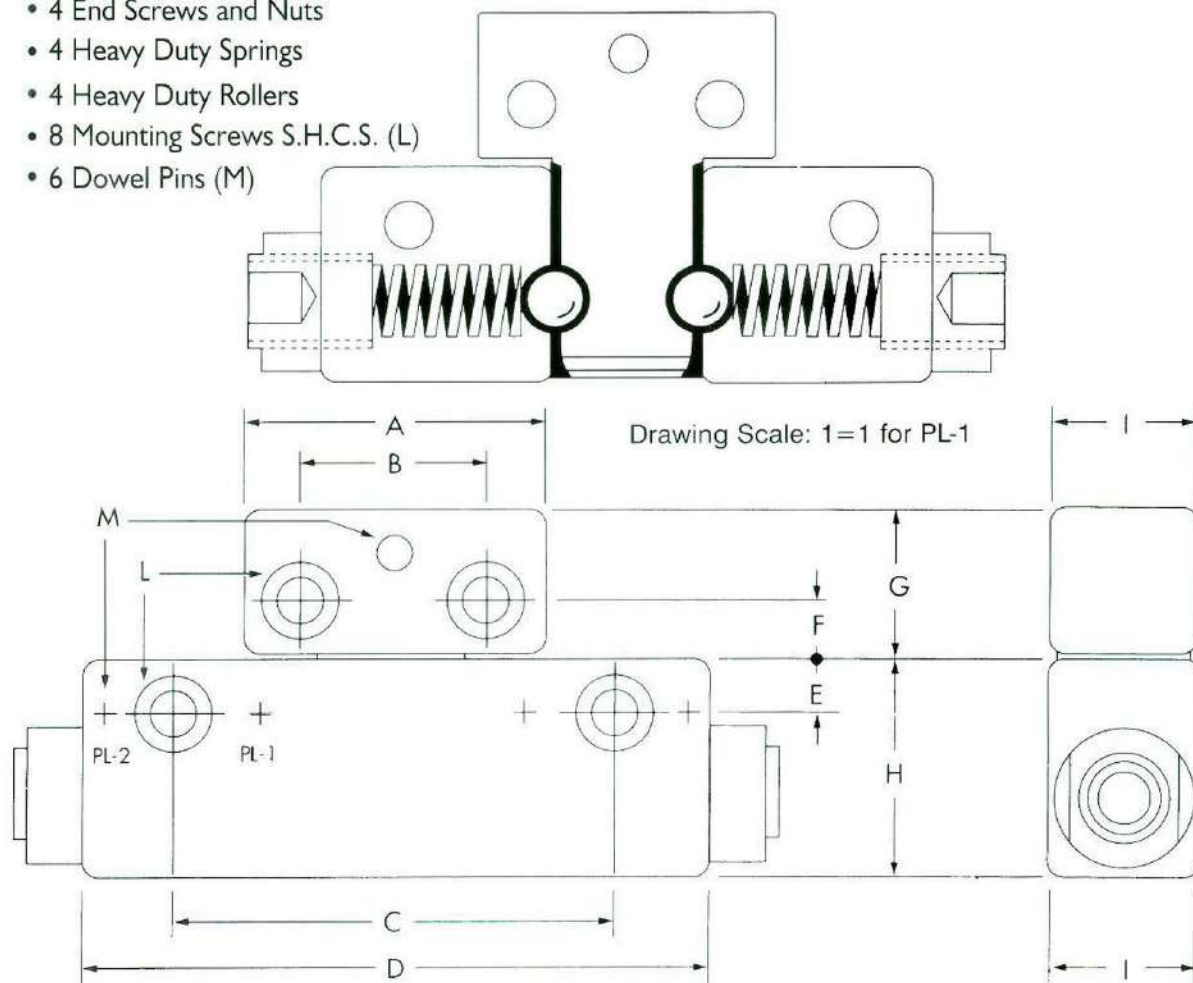
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/// P-LOCKS ///

FOR STRIPPER PLATE MOLDS

COMPLETE P-LOCK ASSEMBLIES INCLUDE:

- 2 Complete P-Locks (2 Tops - 2 Bottoms)
- 4 End Screws and Nuts
- 4 Heavy Duty Springs
- 4 Heavy Duty Rollers
- 8 Mounting Screws S.H.C.S. (L)
- 6 Dowel Pins (M)



SPECIFICATIONS

PRODUCT NO.	A	B	C	D	E	F	G	H	I	L*	M**	K***
PL-1S 	1.575	.984	2.362	3.346	.276	1.890	2.362	1.102	.787	6mm	5mm	600lbs.
PL-1 						.315	.787					600lbs.
PL-2 	2.362	1.378	2.756	5.039	.394	.492	.984	1.299	1.181	10mm	6mm	1100 lbs

Dimensions are metric conversions.

*Mounting screws provided

**Dowel pins provided

***Power required to pull a set of two P-Locks

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Tooling Components, Inc.

Slide-Lock



Superior Slide-Locks are designed to effectively prevent operational slipping of the slide in your mold base.

Slide-Lock components are compact and hold their rated weights without hydraulics or other complicated devices and can be used in multiples to achieve greater weight retention. The simplicity of the Slide-Lock design allows dependable, repetitive mold base slide motion and can help minimize production halts.

QUALITY

High strength tool alloy construction provides durable production life. Slide-Lock components resist wear over many slide cycles.

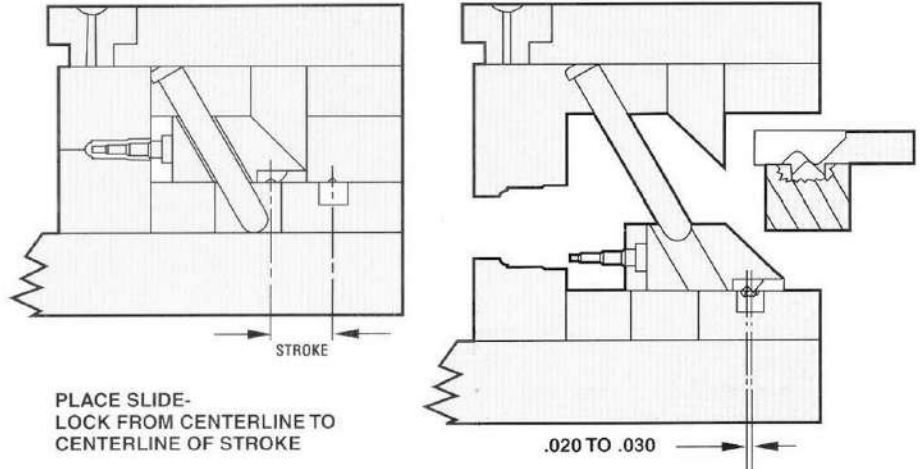
COMPATIBILITY

Superior Slide-Locks are recessed into the slide for neat installation and can also be retrofitted into existing slides. Simple pocket machining is all you need to install Slide-Locks.

OPERATING DATA FOR ALL SLIDE-LOCKS

FEATURES:

- Compact, fits with the mold base.
- No protruding hardware on the mold base exterior.
- Ideal for use in space-confined areas.
- Large flat surface contact provides greater slide retention and positive locking.
- Easily machined into existing slides.
- Mounts with simple socket head cap screws.



PLACE SLIDE-LOCK FROM CENTERLINE TO CENTERLINE OF STROKE

NOTE: SET ANGLE PIN TO RELEASE .020 TO .030" FROM FULL STROKE. SLIDE-LOCK WILL SNAP TO FULL STROKE TO ASSURE RE-ENTRY CLEARANCE.

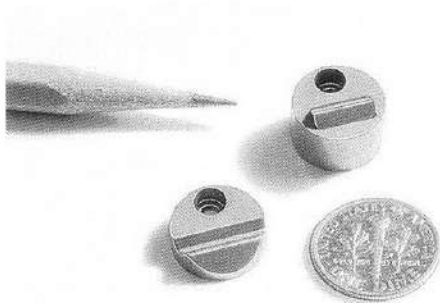
SLK-8A MACHINING DATA

Slide-Lock model SLK-8A is rated to carry a weight of up to 8 pounds. Flat surface contact provides greater positive locking/unlocking action and more dependable operation over ball contact types. Ultra-compact design allows use in very limited installation space.

WHEN ORDERING PLEASE SPECIFY:

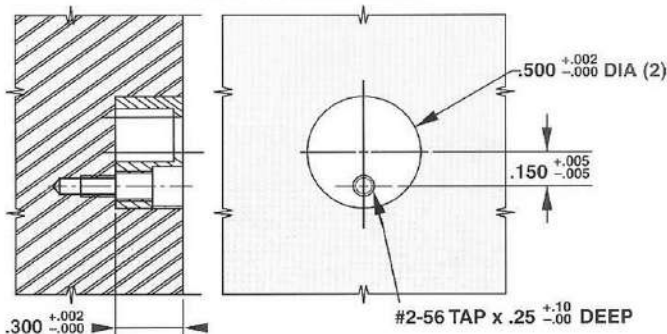
1. Part Number SLK-8A
2. Quantity

NOTE: 1. X, ► Indicates CAD Merge Point.

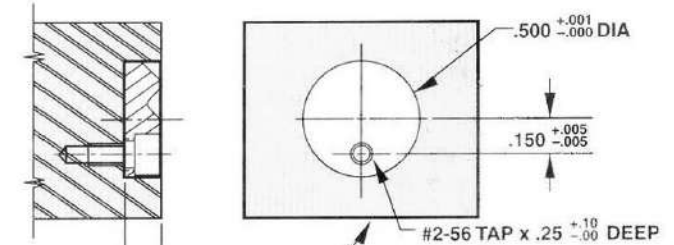


Patent #4,765,585

HOLDER ASSEMBLY



LATCH ASSEMBLY



ALTERNATE METHODS



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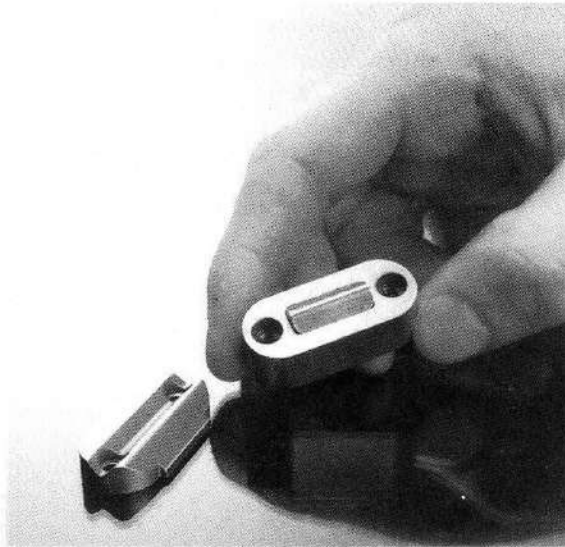
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Slide-Lock

SLK-25A MACHINING DATA



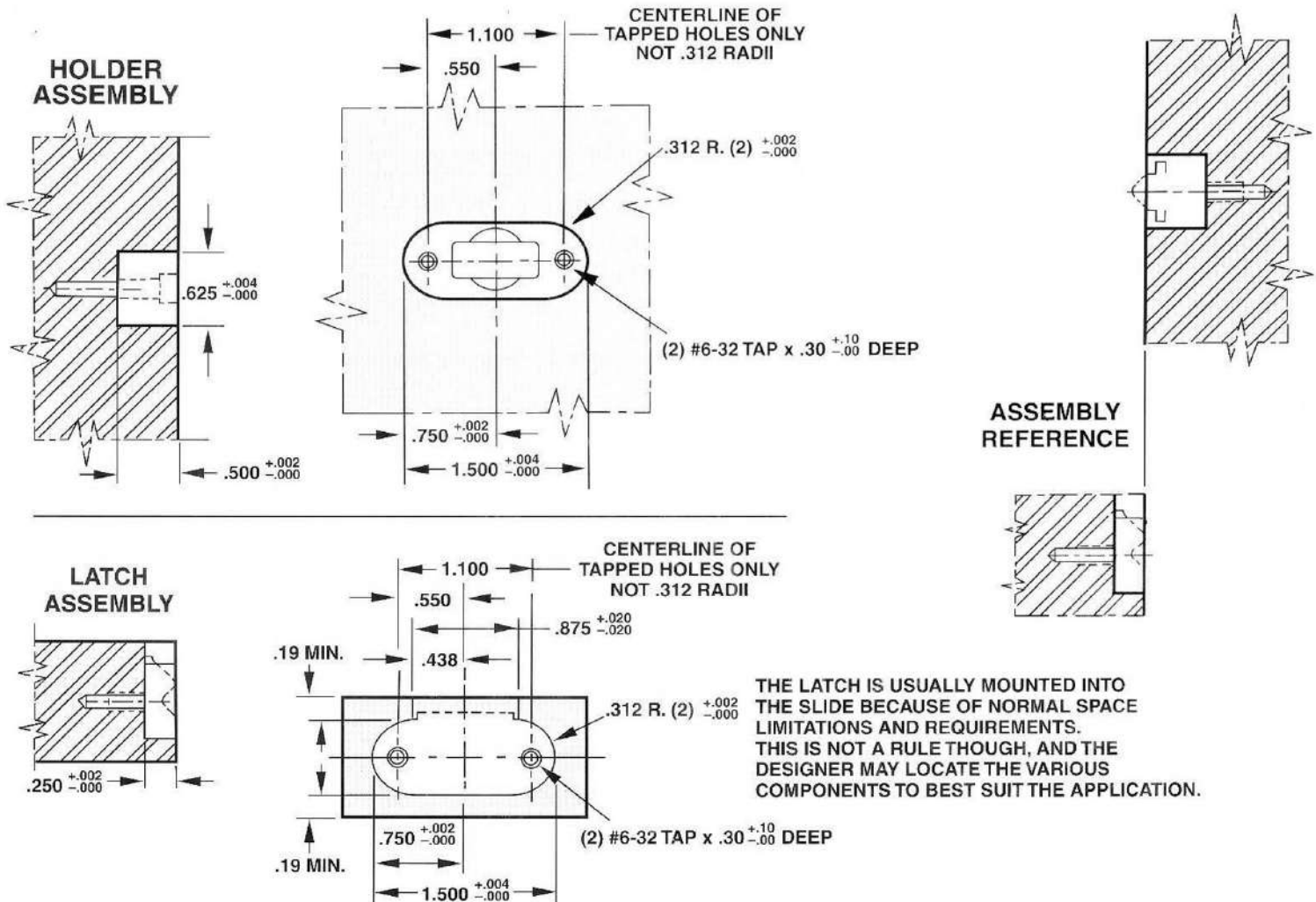
Slide-Lock model SLK-25A is rated to carry a weight of up to 25 pounds. Easily machines into mold base slides and provides a neatly concealed slide-locking mechanism.

Patent #4,765,585

WHEN ORDERING PLEASE SPECIFY:

1. Part Number SLK-25A
2. Quantity

NOTE: 1. X, ► Indicates CAD Merge Point.



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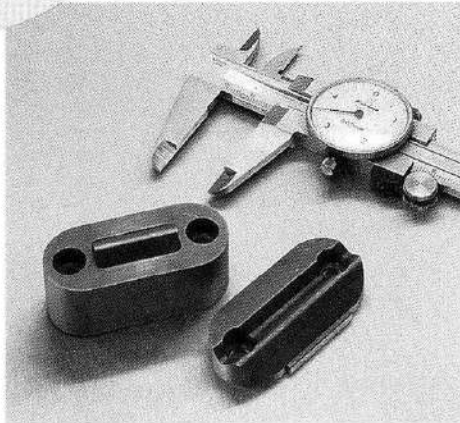
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Slide-Lock



NEW

SLK-50A MACHINING DATA



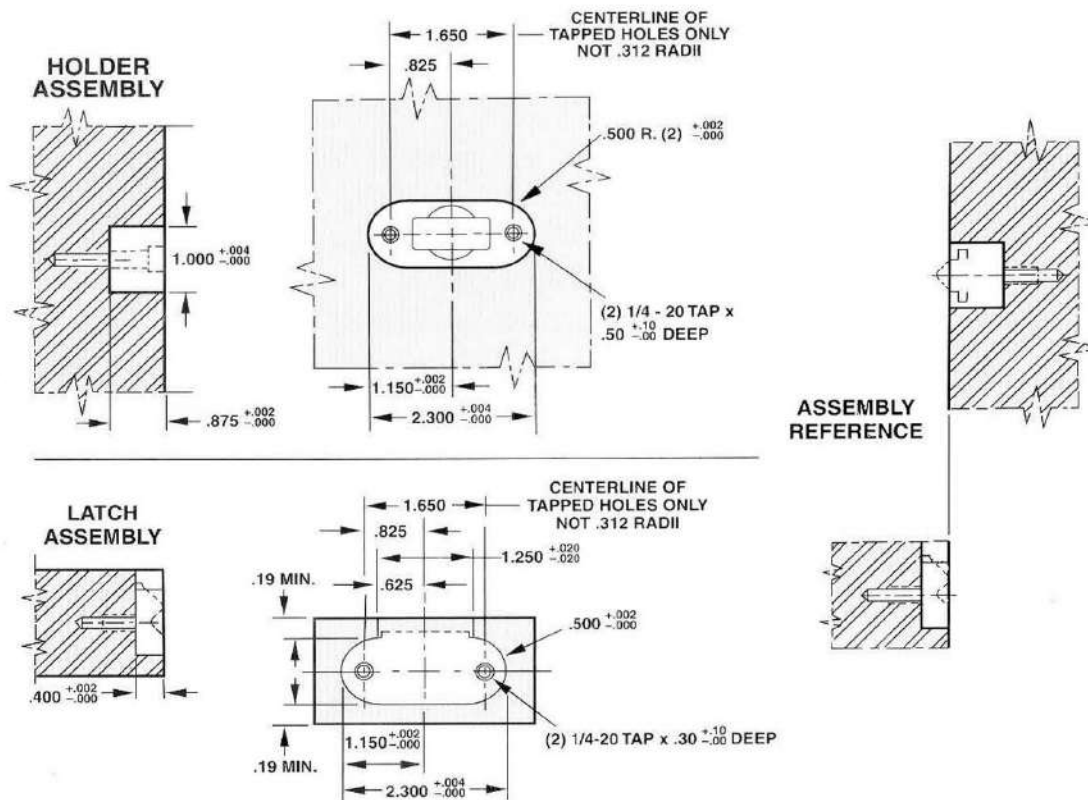
Slide-Lock model SLK-50A is rated to carry a weight of up to 50 pounds. Ideal for die cast mold slide applications. Multiple Slide-Locks can be easily machined and mounted in mold slides for higher load retentions.

Patent #4,765,585

WHEN ORDERING PLEASE SPECIFY:

1. Part Number SLK-50A
2. Quantity

NOTE: 1. X, ► Indicates CAD Merge Point.



THE LATCH IS USUALLY MOUNTED INTO THE SLIDE BECAUSE OF NORMAL SPACE LIMITATIONS AND REQUIREMENTS. THIS IS NOT A RULE THOUGH, AND THE DESIGNER MAY LOCATE THE VARIOUS COMPONENTS TO BEST SUIT THE APPLICATION.

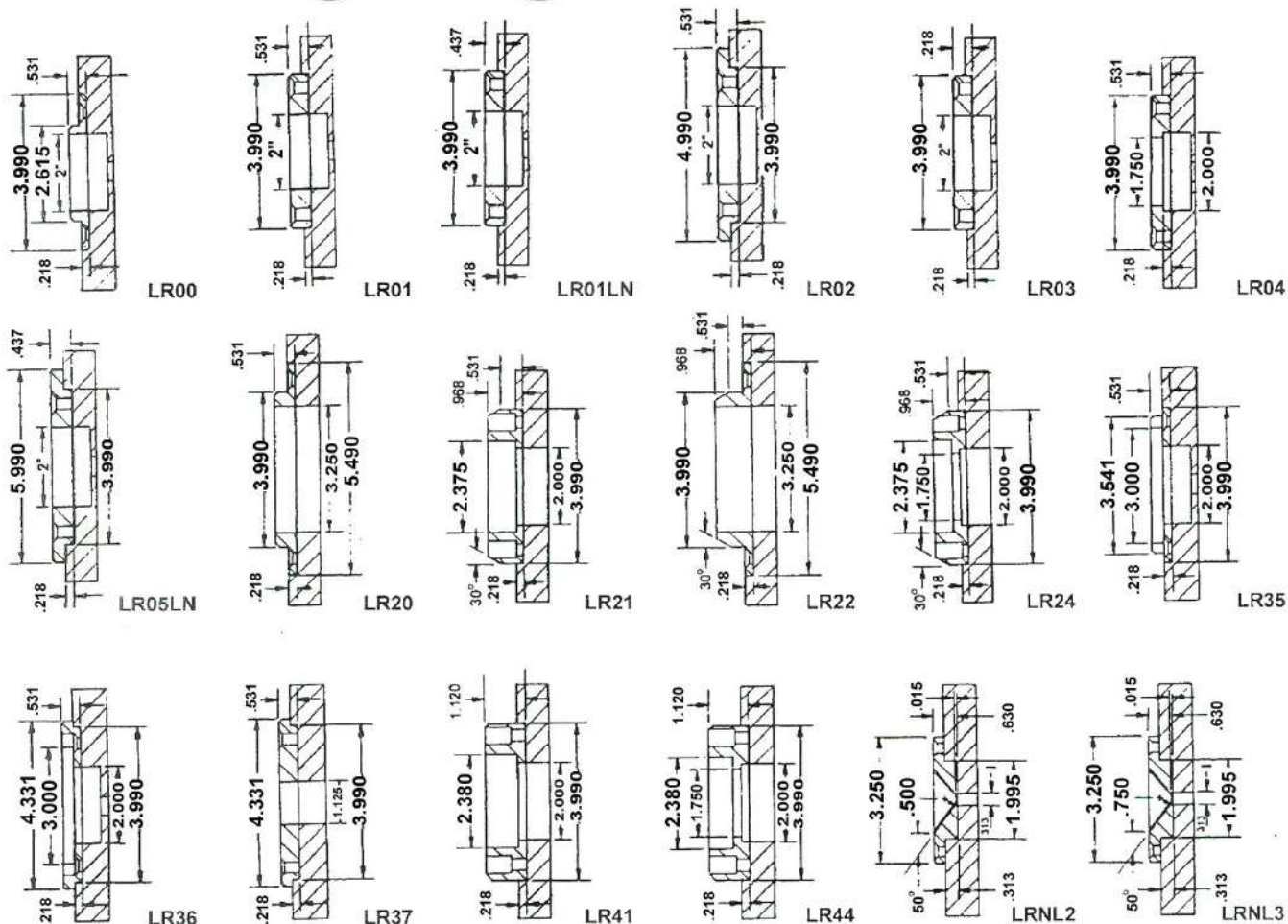
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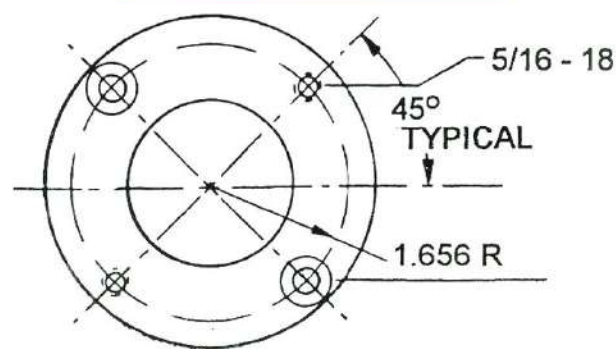
Te
Tooling Components, Inc.

Locating Rings



CATALOG NO.	DIAMETER	DME PART NO.
LR00	2.615	6500
LR01	3.990	6501
LR01LN	3.990	6501LN
LR02	4.990	6502
LR03	2.000	6503
LR04	3.990	6504
LR05LN	5.990	6505LN
LR20	3.990	6520
LR21	3.990	6521
LR22	3.990	6522
LR24	3.990	6524
LR35	3.541	6535
LR36	4.331	6536
LR37	4.331	6537
LR41	3.990	6541
LR44	3.990	6544
LRNL2	3.250	-
LRNL3	3.250	-

** SPECIALS CAN BE QUOTED PER PRINT. **



NOTE: ALL RINGS HAVE A 1.656 R EXCEPT:
 LR 20 & LR 22 R = 2.312
 LRNL2 & LRNL3 R = 1.312
 LR 36 & LR37 R = 1.656 SCREW HOLE AND
 1.750 R TAP HOLE
 LR 35 - NO TAPPED HOLES

SUPPLIED WITH 5/16 - 18 SCREWS
 LRNL SERIES 1/4 -20

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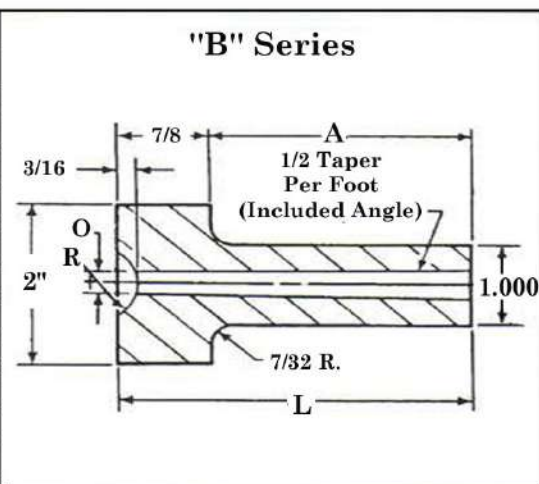
Sprue Bushings

Hardened, Ground & Polished

SERIES
SB"B" SB"U"
SB"A" SB"AR"

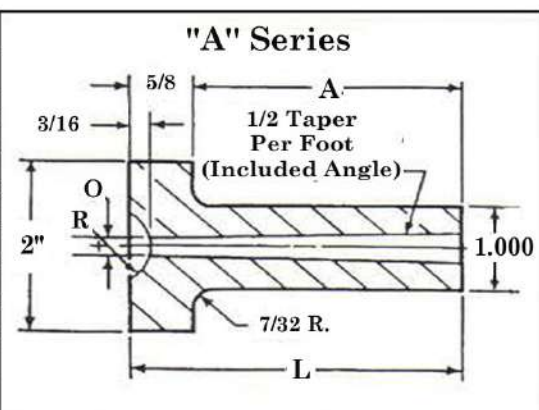
SB"B" SERIES

A	L	O=5/32		O=7/32		O=9/32		O=11/32	
		R=1/2	R=3/4	R=1/2	R=3/4	R=1/2	R=3/4	R=1/2	R=3/4
29/32	1-25/32	SBB-600-051	SBB-600-053	SBB-600-071	SBB-600-073	SBB-600-091	SBB-600-093	SBB-600-111	SBB-600-113
1-13/32	2-9/32	SBB-601-051	SBB-601-053	SBB-601-071	SBB-601-073	SBB-601-091	SBB-601-093	SBB-601-111	SBB-601-113
1-29/32	2-25/32	SBB-602-051	SBB-602-053	SBB-602-071	SBB-602-073	SBB-602-091	SBB-602-093	SBB-602-111	SBB-602-113
2-13/32	3-9/32	SBB-603-051	SBB-603-053	SBB-603-071	SBB-603-073	SBB-603-091	SBB-603-093	SBB-603-111	SBB-603-113
2-29/32	3-25/32	SBB-604-051	SBB-604-053	SBB-604-071	SBB-604-073	SBB-604-091	SBB-604-093	SBB-604-111	SBB-604-113
3-13/32	4-9/32	SBB-605-051	SBB-605-053	SBB-605-071	SBB-605-073	SBB-605-091	SBB-605-093	SBB-605-111	SBB-605-113
3-29/32	4-25/32	SBB-606-051	SBB-606-053	SBB-606-071	SBB-606-073	SBB-606-091	SBB-606-093	SBB-606-111	SBB-606-113
4-13/32	5-9/32	SBB-607-051	SBB-607-053	SBB-607-071	SBB-607-073	SBB-607-091	SBB-607-093	SBB-607-111	SBB-607-113
4-29/32	5-25/32	SBB-608-051	SBB-608-053	SBB-608-071	SBB-608-073	SBB-608-091	SBB-608-093	SBB-608-111	SBB-608-113
5-29/32	6-25/32	-	-	SBB-609-071	SBB-609-073	SBB-609-091	-	-	SBB-609-113
6-29/32	7-25/32	-	-	SBB-610-071	SBB-610-073	SBB-610-091	SBB-610-093	SBB-610-111	SBB-610-113



SB"A" SERIES

A	L	O=5/32		O=7/32		O=9/32		O=11/32	
		R=1/2	R=3/4	R=1/2	R=3/4	R=1/2	R=3/4	R=1/2	R=3/4
1-3/16	1-13/16	SBA-600-051	SBA-600-053	SBA-600-071	SBA-600-073	SBA-600-091	SBA-600-093	SBA-600-111	SBA-600-113
1-11/16	2-5/16	SBA-601-051	SBA-601-053	SBA-601-071	SBA-601-073	SBA-601-091	SBA-601-093	SBA-601-111	SBA-601-113
2-3/16	2-13/16	SBA-602-051	SBA-602-053	SBA-602-071	SBA-602-073	SBA-602-091	SBA-602-093	SBA-602-111	SBA-602-113
2-11/16	3-5/16	SBA-603-051	SBA-603-053	SBA-603-071	SBA-603-073	SBA-603-091	SBA-603-093	SBA-603-111	SBA-603-113
3-3/16	3-13/16	SBA-604-051	SBA-604-053	SBA-604-071	SBA-604-073	SBA-604-091	SBA-604-093	SBA-604-111	SBA-604-113
3-11/16	4-5/16	SBA-605-051	SBA-605-053	SBA-605-071	SBA-605-073	SBA-605-091	SBA-605-093	SBA-605-111	SBA-605-113
4-3/16	4-13/16	SBA-606-051	SBA-606-053	SBA-606-071	SBA-606-073	SBA-606-091	SBA-606-093	SBA-606-111	SBA-606-113



SB"U" SERIES

"U" Series Newbury And Standard

A	L	O=5/32		O=7/32		O=9/32	
		R=1/2	R=3/4	R=1/2	R=3/4	R=1/2	R=3/4
29/32	1-25/32	SBU-600-051	SBU-600-053	SBU-600-071	SBU-600-073	SBU-600-091	SBU-600-093
1-13/32	2-9/32	SBU-601-051	SBU-601-053	SBU-601-071	SBU-601-073	SBU-601-091	SBU-601-093
1-29/32	2-25/32	SBU-602-051	SBU-602-053	SBU-602-071	SBU-602-073	SBU-602-091	SBU-602-093
2-13/32	3-9/32	SBU-603-051	SBU-603-053	SBU-603-071	SBU-603-073	SBU-603-091	SBU-603-093
2-29/32	3-25/32	SBU-604-051	SBU-604-053	SBU-604-071	SBU-604-073	SBU-604-091	SBU-604-093

SB"AR" SERIES

"AR" Series

A	L	O=5/32	O=7/32
1-3/16	1-13/16	SBAR-600-050	SBAR-600-070
1-11/16	2-5/16	SBAR-601-050	SBAR-601-070
2-3/16	2-13/16	SBAR-602-050	SBAR-602-070

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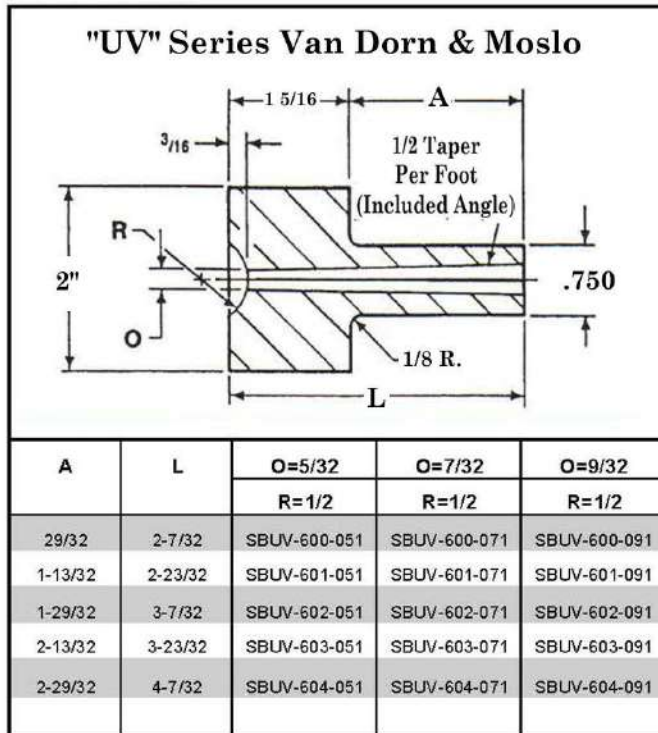
B-37

Sprue Bushings

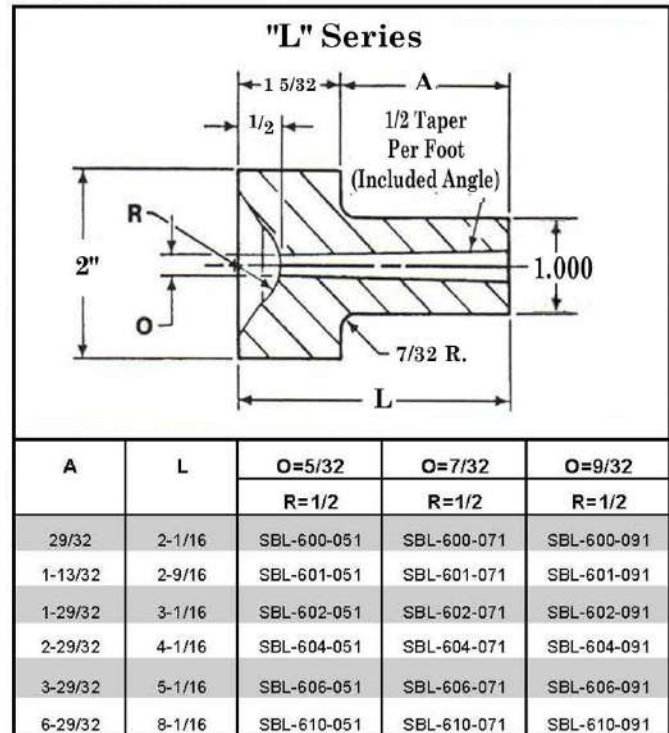
Hardened, Ground & Polished

SERIES
SB"UV" SB"L"
SB"UR" SB"LN"

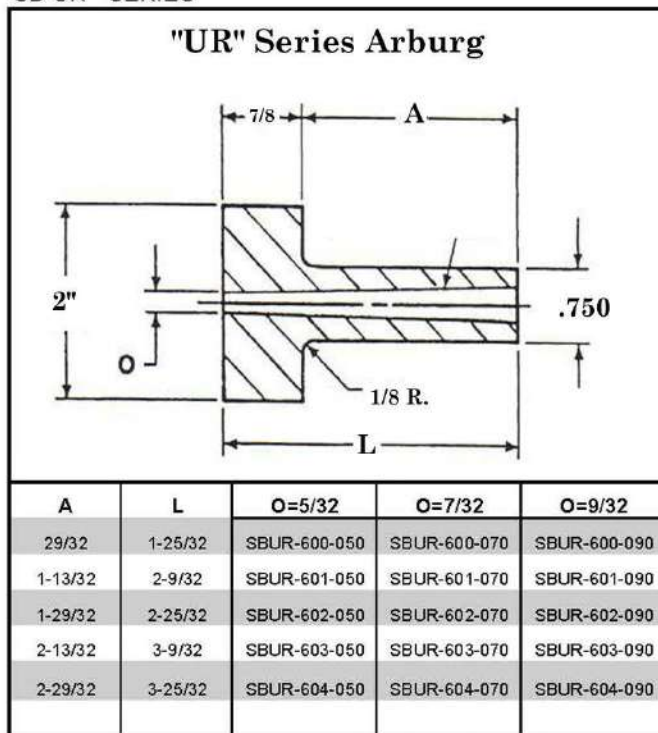
SB"UV" SERIES



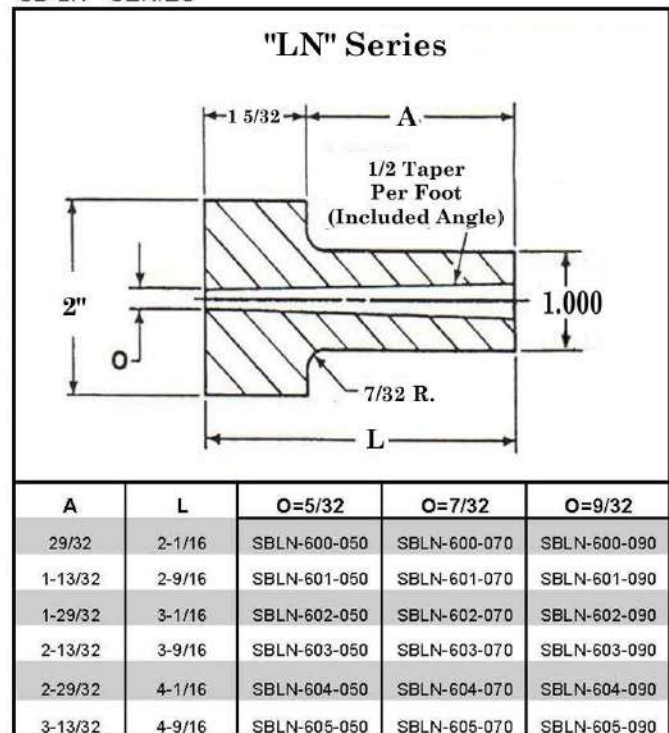
SB"L" SERIES



SB"UR" SERIES



SB"LN" SERIES



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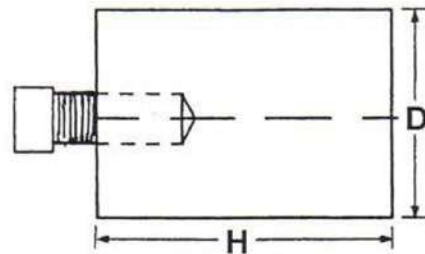
Support Pillars

SPT - SPD - SPDC SERIES

Threaded (Standard line shown) use prefix "SPT"
For Doweled style use prefix "SPD"
For Drilled & C'Bored style use prefix "SPDC"

Both ends finished ground to $\pm .001 - .000$

D DIAMETER	H HEIGHT	CATALOG NUMBER
1	2.5	SPT-1025
	3.0	SPT-1030
	3.5	SPT-1035
	4.0	SPT-1040
	4.5	SPT-1045
1 1/4	2.5	SPT-1225
	3.0	SPT-1230
	3.5	SPT-1235
	4.0	SPT-1240
	4.5	SPT-1245
	5.0	SPT-1250
1 1/2	6.0	SPT-1260
	2.5	SPT-1525
	3.0	SPT-1530
	3.5	SPT-1535
	4.0	SPT-1540
	4.5	SPT-1545
1 3/4	5.0	SPT-1550
	6.0	SPT-1560
	2.5	SPT-1725
	3.0	SPT-1730
	3.5	SPT-1735
	4.0	SPT-1740
	4.5	SPT-1745
	5.0	SPT-1750
	6.0	SPT-1760



D DIAMETER	H HEIGHT	CATALOG NUMBER
2	2.5	SPT-2025
	3.0	SPT-2030
	3.5	SPT-2035
	4.0	SPT-2040
	4.5	SPT-2045
	5.0	SPT-2050
2 1/2	6.0	SPT-2060
	3.0	SPT-2530
	3.5	SPT-2535
	4.0	SPT-2540
	4.5	SPT-2545
	5.0	SPT-2550
3	6.0	SPT-2560
	3.0	SPT-3030
	3.5	SPT-3035
	4.0	SPT-3040
	4.5	SPT-3045
	5.0	SPT-3050
4	6.0	SPT-3060
	8.0	SPT-3080
	5.0	SPT-4050
	6.0	SPT-4060
	8.0	SPT-4080

Note: Up to 2 1/2" diameters require a 3/8-16 x 1SHCS (Included). 3" & 4" diameters are tapped for 5/8-11 SHCS (Not included).

Parting Line 90-95 Durometer

Urethane Springs

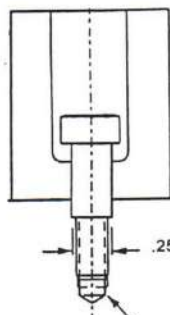
*Reduce sound & tooling wear

*Separate parting lines
in sequence

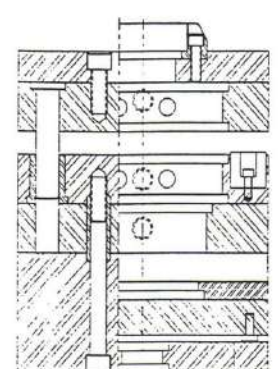
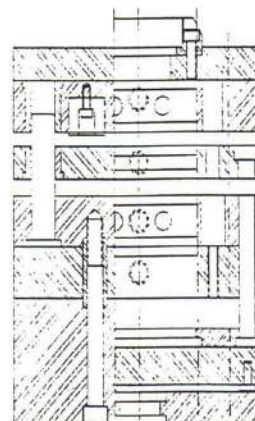
*Cushion parting lines

Catalog Number	OD	LENGTH
PLC-100	1 1/8"	1"
PLC-100-125	1"	1.25"

(Shoulder screw included)



Tap for #10-24
thread



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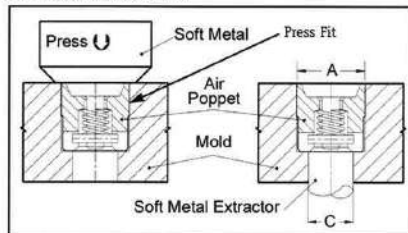


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Air Injector Valves

Installation Guide

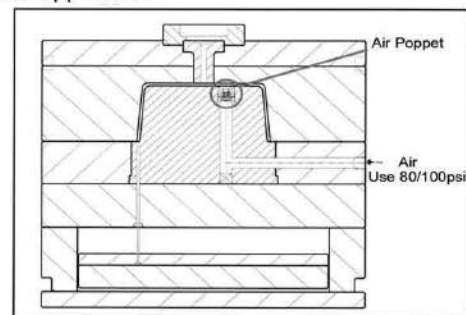


Please note that drawings are for illustration purposes only, some parts may be shown out of scale.

Air Poppets

C	A
3/16	1/4
9/32	3/8
3/8	1/2
9/16	3/4
3/4	1
1	1 1/2

Typical Application

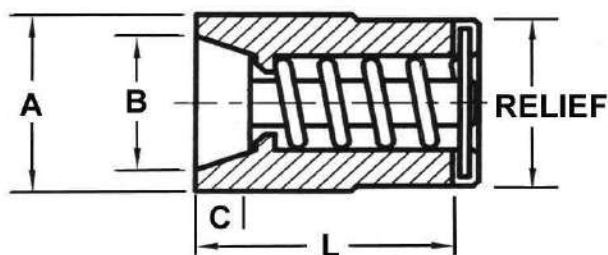


APV SERIES / Air Poppet Valve - Standard Inch

Stainless Steel Material 45 - 50 HRC

Some Inch Sizes are available with oversized bodies +.001/.002/.003 Call for details.

CATALOG NUMBER	Nominal Diameter (INCH)	A	B	C	L
		+0.003 -0.002	+0.005 -0.005	+0.010 -0.010	+0.002 -0.000
APV-025	1/4	.2504	.215	.06	.375
APV-037	3/8	.3754	.325	.07	.375
APV-050	1/2	.5005	.437	.10	.500
APV-062	5/8	.6255	.562	.13	.627
APV-075	3/4	.7505	.656	.15	.750
APV-100	1	1.0006	.875	.20	1.000
APV-150	1 1/2	1.5006	1.312	.30	1.500

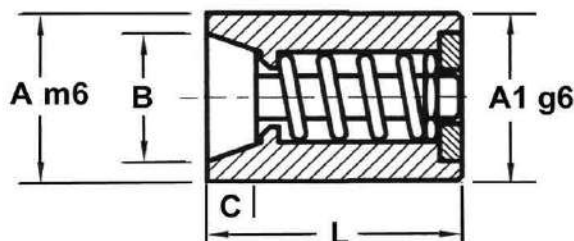


Repair kits are available. Includes Spring and Roll Pin

APVM SERIES / Air Poppet Valve - Standard Metric

Stainless Steel Material 45 - 50 HRC

CATALOG NUMBER	A (mm) Nom. Dia. m6 Tol.	A1 (mm) Relief Dia. g6 Tol.	B (mm)	C (mm)	L (mm)
					+0.05 -0.05
APVM-0612	6	6	5.2	1.5	12
APVM-0812	8	8	6.5	1.5	12
APVM-1012	10	10	8	2.0	12
APVM-1212	12	12	10	2.5	12
APVM-1620	16	16	13	3	20
APVM-2020	20	20	17	3.5	20

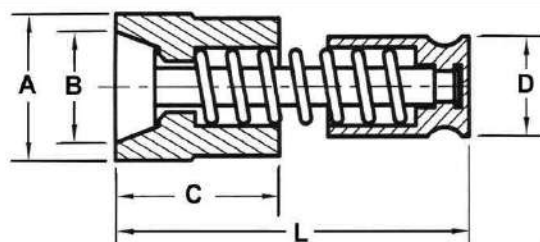


Repair kits are available. Includes Spring and Roll Pin

AV SERIES / Air Valve - Plunger Style Metric

420 Stainless Steel Material 50 - 55 HRC Valve surface coated for lubricity.

CATALOG NUMBER	Nominal Diameter (MM)	A (mm) +0.018 +0.007	B (mm)	C (mm) +0.025 -0.000	D (mm)	L (mm)
AV-08	8	8	6.6	11	6	24
AV-12	12	12	9.7	18	8	34
AV-18	18	18	14.8	22	12	45.5



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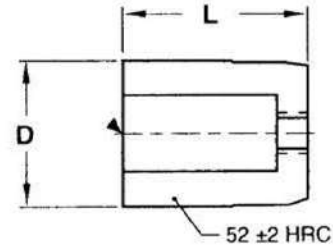
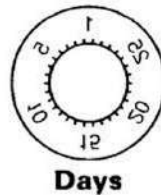
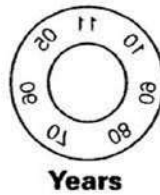
Date Stamps

Compact Height

DC / DCP SERIES



Maximum mold temperature: 450° F (230° C)
Numerical engraving depth: .007" (.2 mm)



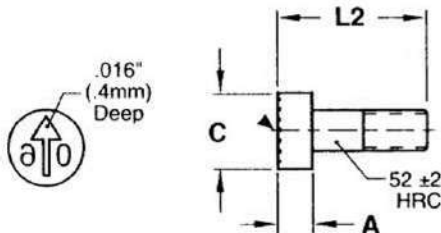
Date Rings

M 420 Stainless Steel

H 50-54 HRC

Catalog Numbers			D		L	
Months	Years	Days	mm	Inch	mm	Inch
DCM04	DCY04-14	DCL04	4	.1574	8	.315
DCM05	DCY05-14	DCL05	5	.1968	8	.315
DCM06	DCY06-14	DCL06	6	.2362	8	.315
DCM08	DCY08-14	DCL08	8	.3149	10	.394
DCM10	DCY10-14	DCL10	10	.3937	12	.472
DCM12	DCY12-14	DCL12	12	.4724	14	.551
DCM16	DCY16-14	DCL16	16	.6299	14	.551
DCM20	DCY20-14	DCL20	20	.7874	16	.630

NOTE: YEAR DATE RINGS HAVE 7 YEARS ON THE RINGS EXCEPT FOR SIZE DCY04 HAS 4 YEARS.
DAY DATE RINGS SIZE DCL04 DOES NOT HAVE TICK MARKS FOR THE DAYS.

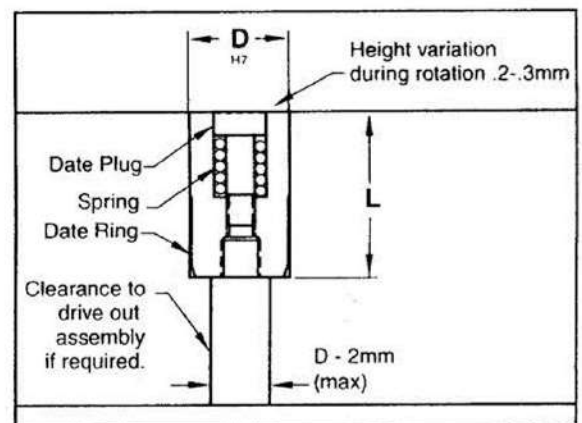


Date Plugs

Catalog Number	D Ref.	C		A		L2		ARROW ONLY
		mm	Inch	mm	Inch	mm	Inch	
DCP04-14	4	2.2	.086	2	.078	8	.315	DCP04-AO
DCP05-14	5	3.1	.122	2	.078	8	.315	DCP05-AO
DCP06-14	6	3.1	.122	2	.078	8	.315	DCP06-AO
DCP08-14	8	4.4	.173	2.5	.098	10	.393	DCP08-AO
DCP10-14	10	5.2	.205	3	.118	12	.472	DCP10-AO
DCP12-14	12	6.2	.244	3	.118	14	.551	DCP12-AO
DCP16-14	16	8.2	.322	3.5	.137	14	.551	DCP16-AO
DCP20-14	20	11	.433	4.5	.177	16	.630	DCP20-AO

FOR OTHER DATE PLUGS, MODIFY CATALOG NUMBER FOR THE YEAR REQUIRED.
EXAMPLE: DCP05-15. PLUGS INCLUDE SPRINGS AND REPLACEMENTS ARE AVAILABLE.

Installation Guidelines:



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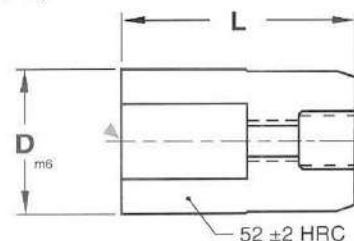
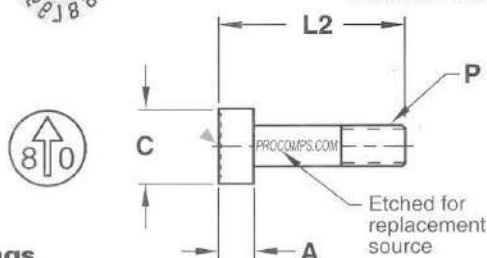
Tooling Components, Inc.

Date Stamps

20-SERIES: 20mm Length and Replacement Plugs



Maximum mold temperature: 450° F (230° C)



Date Rings

Note: All dimensions are in millimeters.

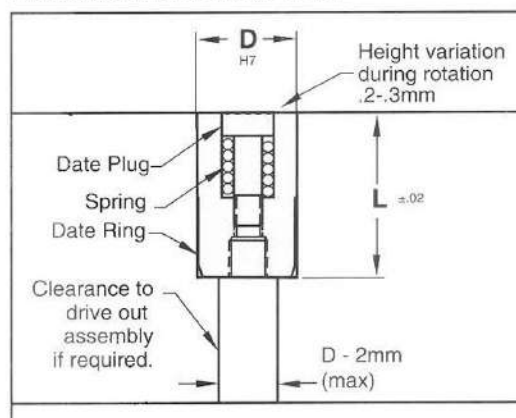
Catalog Number	D	L
DL06	6	20
DL08	8	
DL10	10	
DL16	16	

Engraving Depth:

Numbers: .2mm (.007")

Arrows: .4mm (.015")

Installation Guidelines:



Date Plugs

M 420 Stainless Steel

H 50-54 HRC

Catalog Number	D	C	A	L2	P	Arrow Only
DLP06-14	6	3.1	3.0	13	M1.6x0.20	DLP06-AO
DLP08-14	8	4.6	4.0	14	M2.5x0.35	DLP08-AO
DLP10-14	10	4.6	4.0	14	M2.5x0.35	DLP10-AO
DLP16-14	16	8.2	3.5	14	M3.5x0.60	DLP16-AO

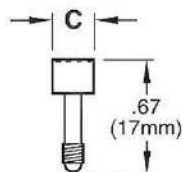
For other date plugs, modify catalog number for the year required.

Example: DLP06-15. Plugs include springs and replacements are available.

Replacement Plugs

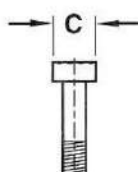
Retro Plugs

To replace plugs previously purchased from Progressive or the PCS®/Cumsa® style plugs.



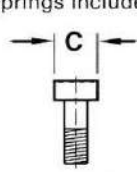
20 Series Plugs

To replace Progressive's 20 Series plugs. Springs included.



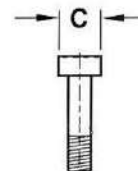
CH- & D-Series Plugs

To replace Progressive's Compact Series plugs or DME® style plugs. Springs included.



RF- & H-Series Plugs

To replace Progressive's RF-Series plugs.



Catalog Number	Corresponding Date Ring (Mth.Version)	C mm
DP32-14	DS06	3.2
DP47-14	DS08	4.7
DP57-14	DS10	5.7
DP67-14	DS12	6.7
DP87-14	DS16	8.7

For Retro Plugs outside of North America, call for availability from local distributors.

Additional plugs are available for different rings, plus some versions are available with raised lettering. Contact Customer Service for pricing and availability.

Catalog Number	Corresponding Date Ring (Mth.Version)	C mm
DLP06-14	DL06	3.1
DLP08-14	DL08	4.6
DLP10-14	DL10	4.6
DLP16-14	DL16	8.2

Catalog Number	Corresponding Date Ring (Mth.Version)	C mm
DCP04-14	DC04	2.2
DCP05-14	DC05	3.1
DCP06-14	DC06	3.1
DCP08-14	DC08	4.4
DCP10-14	DC10	5.2
DCP12-14	DC12	6.2
DCP16-14	DC16	8.2
DCP20-14	DC20	11.0

For D-Series replacements, add "D" to the catalog number.
Ex. DCP16D-15.

Catalog Number	Corresponding Date Ring (Mth.Version)	C mm
DFP03-14	DF03	1.6
DFP04-14	DF04	2.5
DFP05-14	DF05	3.1
DFP06-14	DF06	3.1
DFP08-14	DF08	4.6
DFP10-14	DF10	4.6
DFP12-14	DF12	6.4
DFP16-14	DF16	8.4

For H-Series plugs (6mm/8mm rings only), specify DHP as the prefix.
Ex. DHP06-15.

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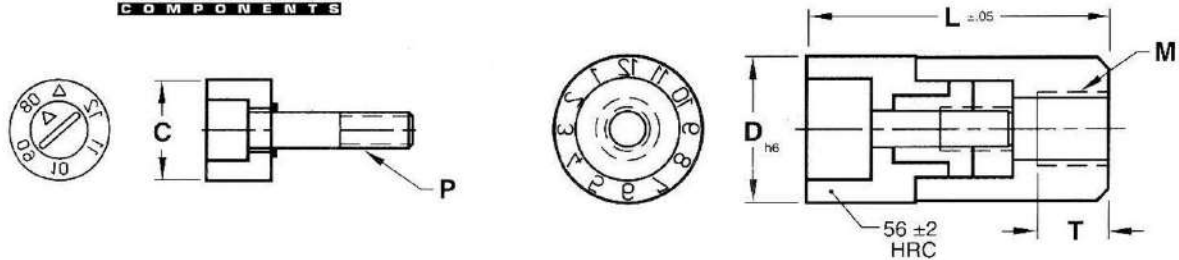


Tooling Components, Inc.

Date Stamps Multi-Daters



Patent No. DE 4415583



M 1.4034 H 54-58 HRC

Note: All dimensions are in millimeters.

Nominal Ring Diam. D	L	M	T	C	S Slot Depth	P	Etching Depth	
							Ring	Plugs
6	17	M3 x 0.5	3	4.2	0.4	M1.6x0.2	0.10	0.10
8	20	M4 x 0.7	4	5.8	0.4	M2.5x0.35	0.12	0.10
10	20	M5 x 0.8	4	7.0	0.4	M2.5x0.35	0.13	0.10
12	25	M6 x 1.0	6	8.5	0.6	M3.0x0.5	0.20	0.20
16	33	M8 x 1.25	8	11.5	0.6	M3.0x0.6	0.25	0.25

To Order: Specify catalog number as shown below for the different style rings and plugs.

Ring Styles: Recessed Lettering



Months
Cat #: DMD-Diam
Ex.: DMD06



Days
Cat #: DMDL-Diam
Ex.: DMDL06



Weeks
Cat #: DMDW-Diam
Ex.: DMDW06

Plug Styles: Recessed Lettering



Year & Months
Cat #: DMDP-Diam — Starting Year*
Ex.: DMDP06-08

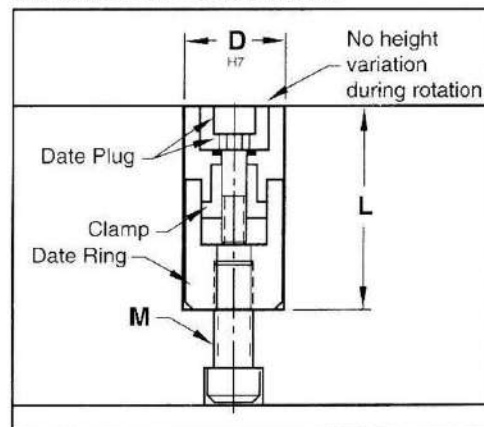


Arrow & 5 years
Cat #: DMDP-Diam — Starting Year* - 5
Ex.: DMDP06-085



Arrow & 11 years
Cat #: DMDP-Diam — Starting Year* - 11
Ex.: DMDP06-0811

Installation Guidelines:



Special configurations are available. Contact Customer Service for more information.

* Where years are specified, any year can be ordered by changing the suffix. Example DMDP10-09 or DMDP06-105.

European dater delivery in 2 weeks maximum, with shorter deliveries subject to availability.

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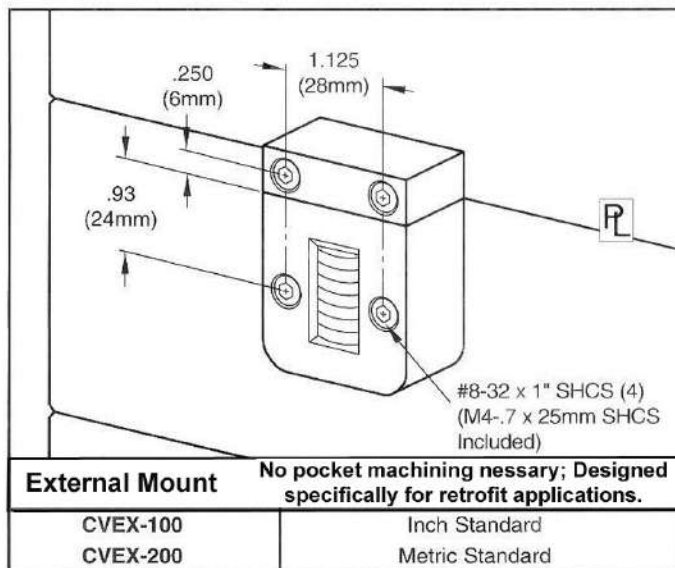
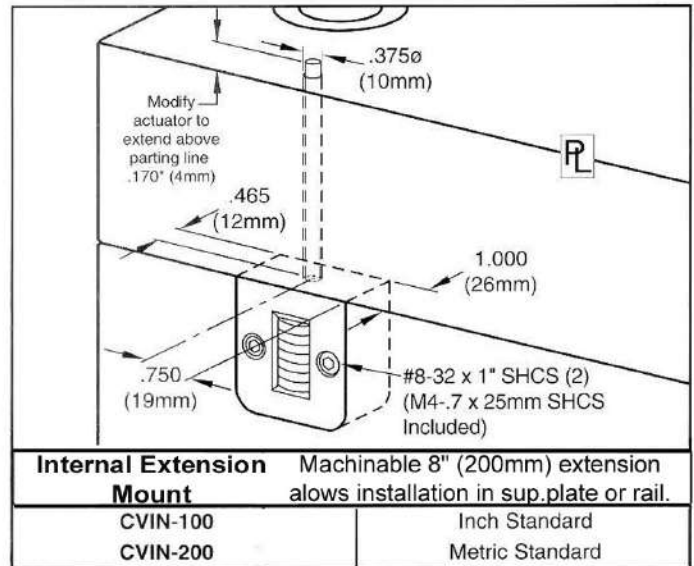
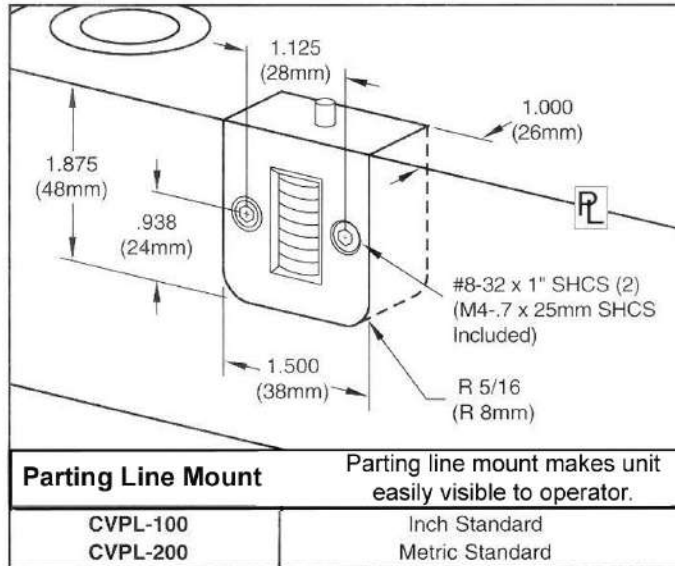
Progressive's CounterView positively monitors mold activity, validates process monitoring data, and assists mold maintenance procedures.

- Maximum operating temperature is 250°F (120°C)
- Counter: Non-resettable mechanical, 7-digit

US Patent No. 5,571,539
Canadian Patent No. 2,166,237
European Patent No. EP726129
Others pending

PROGRESSIVE
COMPONENTS

M Glass-filled Nylon housing



ID Plates for tool identification sold separately. Contact Customer Service for special ID Plates with your company's logo.



Catalog Number	Description
CVID	ID Plate for tool identification (Shown)

All CounterViews (100/200 Series and R-Series shown on the next page) have a unique serial number that allows users to view mold information online at profilecv.com.



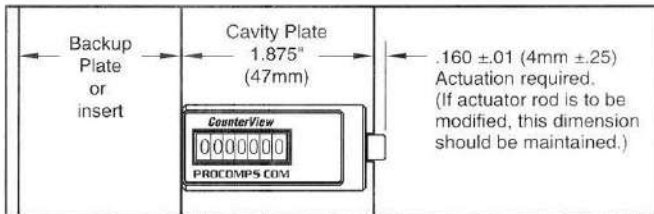
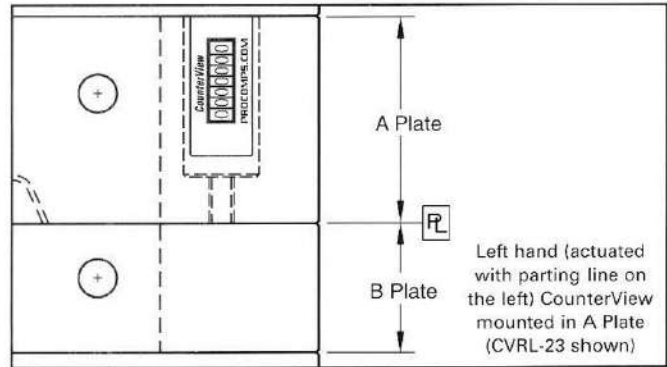
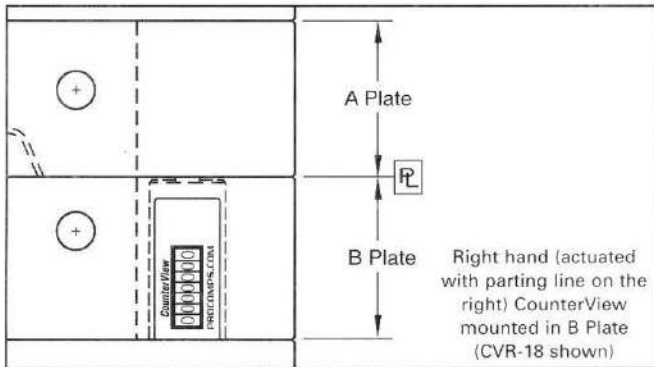
US Patent No. 5,571,539
Canadian Patent No. 2,166,237
European Patent No. EP726129
S.African Patent No. 2005/5337
Asia and others pending



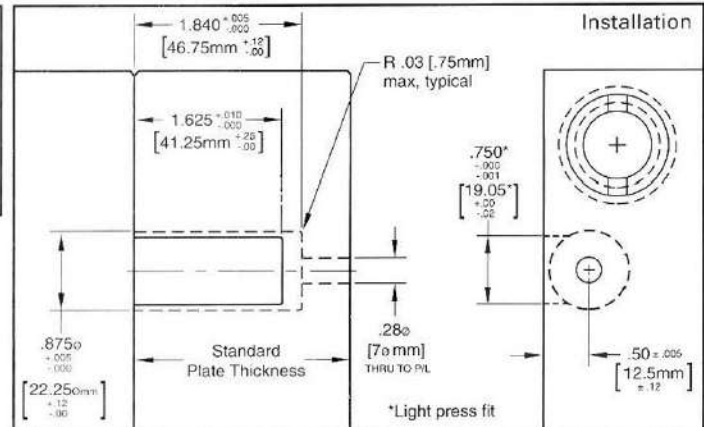
Progressive's CounterView positively monitors mold activity, validates process monitoring data, and assists mold maintenance procedures.

- Maximum operating temperature is 250°F (120°C)
- Counter: Non-resettable mechanical, 7-digit

M Glass-filled Nylon housing



The R-Series CounterView can be installed in the A or B plates with a minimum thickness of 1.875" (47mm). Larger plates utilize a threaded rod (included with each) that is pre-machined to the appropriate length for standard plate thicknesses to provide consistent actuation.



Parting Line at Left



Parting Line at Right



Inch Standard

Catalog Number	Nominal Plate Thickness
CVRL-18	1.875
CVRL-23	2.375
CVRL-28	2.875
CVRL-33	3.375
CVRL-38	3.875
CVRL-43	4.375
CVRL-83	8.375

Metric Standard

Catalog Number	Nominal Plate Thickness
CVRL-56	56
CVRL-66	66
CVRL-76	76
CVRL-96	96
CVRL-116	116
CVRL-196	196

Inch Standard

Catalog Number	Nominal Plate Thickness
CVR-18	1.875
CVR-23	2.375
CVR-28	2.875
CVR-33	3.375
CVR-38	3.875
CVR-43	4.375
CVR-83	8.375

Metric Standard

Catalog Number	Nominal Plate Thickness
CVR-56	56
CVR-66	66
CVR-76	76
CVR-96	96
CVR-116	116
CVR-196	196

Each R-Series CounterView includes the actuator. All except CVR-18 and CVRL-18 require attachment of the actuator rod to the threaded CounterView unit.

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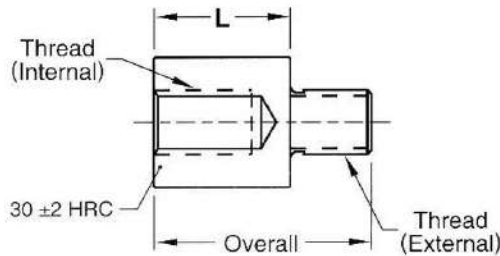
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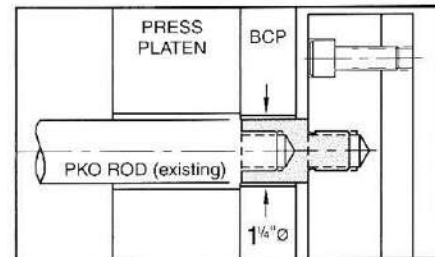
Knock Out Rod Extensions

Hex SERIES



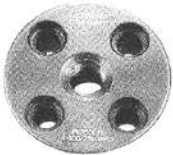
M AISI 4140 Pre-Hard **H** 28-32 HRC **S** Black Oxide

Catalog Number	Thread Internal & External	Overall	L
PH37L10	3/8-16	1.672	1.052
PH50L10	1/2-13		
PH62L10	5/8-11		
PH75L10	3/4-10	1.922	
PH75L10-NT	3/4-10*		
PH37L15	3/8-16	2.172	1.552
PH50L15	1/2-13		
PH62L15	5/8-11		
PH75L15	3/4-10	2.422	
PH75L15-NT	3/4-10*		



"L" DIMENSIONS:
 1.052 = .875 (BCP) + .187 (Stop Pins) - .010
 1.552 = 1.375 (BCP) + .187 (Stop Pins) - .010

*External thread only. Mold maker machines internal thread on "NT" style to suit non-standard applications.



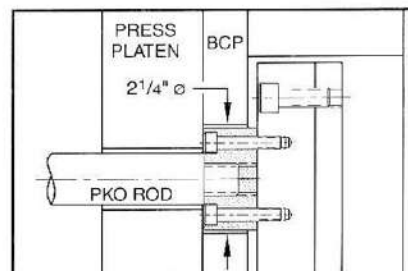
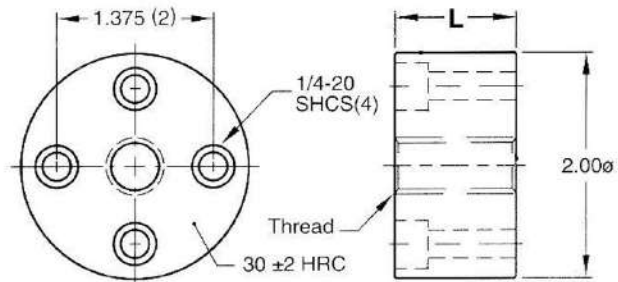
Round SERIES

H 28-32 HRC **S** Black Oxide

M AISI 4140 Pre-Hard Screws included.

Catalog Number	Thread	L
PKP37L10	3/8-16	1.052
PKP50L10	1/2-13	
PKP62L10	5/8-11	
PKP75L10	3/4-10	
PKPL10-NT	No Thread*	
PKP37L15	3/8-16	1.552
PKP50L15	1/2-13	
PKP62L15	5/8-11	
PKP75L15	3/4-10	
PKPL15-NT	No Thread*	

*Mold maker machines thread on "NT" style to suit non-standard applications.



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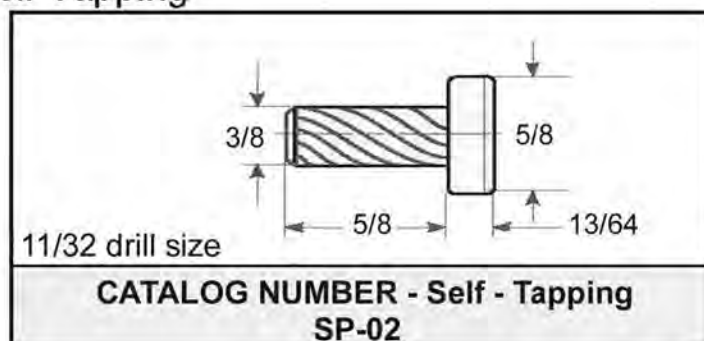
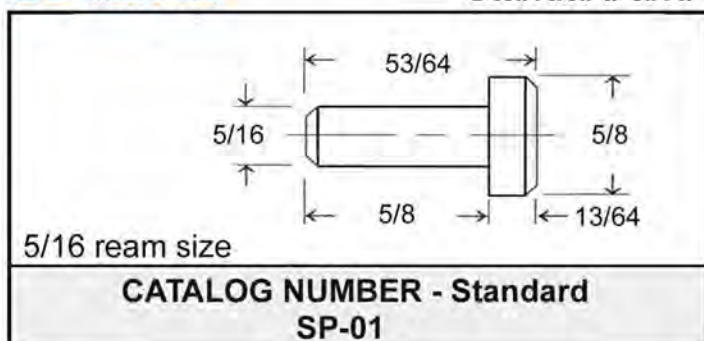


Tooling Components, Inc.

Stop Pins

SP SERIES

Standard and Self-Tapping



Stop Buttons

SB SERIES

Standard and Hardened

Standard			For 1/4-20 Nylock Scr.	Hardened		
CATALOG NUMBER	T	D		D	T	CATALOG NUMBER
SB-Q18	3/16	1.0		1.0	3/16	SB-03
SB-Q25	1/4	1.0		1.0	1/4	SB-04
SB-Q37	3/8	1.0		1.0	3/8	SB-06
SB-Q50	1/2	1.0		1.0	1/2	SB-08
SB-Q62	5/8	1.0		1.0	5/8	SB-10
SB-Q75	3/4	1.0		1.0	3/4	SB-12
SB-Q100	1	1.0		1.0	1	SB-16

(T) Thickness has .010 to .020 grindstock. 1/4-20 FHCS included.

Shoulder Plates

RLP SERIES

Hardened

Hardened				Drilled & C'sunk for F.H.C.S.	Hardened			
CATALOG NUMBER	T +0 -.002	D	FHCS (Included)		FHCS (Included)	D	T +.0005	CATALOG NUMBER
RLP-04	3/16	11/16	10-24		10-24	11/16	3/16	SD-05
RLP-06	3/16	1	1/4-20		10-24	1	3/16	SD-07
RLP-08	3/16	1 3/16	1/4-20		1/4-20	1 3/16	3/16	SD-10
RLP-12	1/4	1 11/16	5/16-18		1/4-20	1 11/16	1/4	SD-15
RLP-16	1/4	2 3/16	5/16-18					

Stop Discs

SD SERIES

Stop Spacers

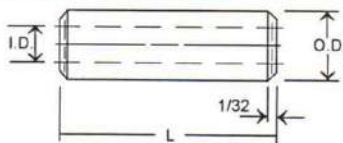
SS SERIES

Hardened

Hardened				Drilled and C'bored for S.H.C.S.
CATALOG NUMBER	T +0 -.002	D	SHCS (Included)	
SS-05	1/2	1	1/4-20	
SS-15	1/2	1 3/16	1/4-20	
SS-20	1/2	1 11/16	1/4-20	
SS-25	1	1 11/16	1/4-20	

Dowel Pins - Grease

Tubular Dowels



NOM. DIA.	O.D. +-.0002	I.D.	L STANDARD LENGTHS *						
			3/8	1/2	7/8	1 3/8	1 7/8	2 3/8	2 7/8
3/8	.3752	.260	*		*				
5/8	.6252	.385		*		*	*	*	
3/4	.7502	.510	*	*		*	*	*	*
7/8	.8752	.635		*				*	*

Dowel Pins



LENGTH	DIAMETER													LENGTH
	1/16	3/32	1/8	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1	
3/16	*	*												3/16
1/4	*	*												1/4
5/16	*	*												5/16
3/8	*	*	*											3/8
7/16	*	*												7/16
1/2	*	*	*	*	*	*	*							1/2
5/8	*	*	*	*	*	*	*							5/8
3/4	*	*	*	*	*	*	*		*					3/4
7/8	*	*	*	*	*	*	*		*					7/8
1	*	*	*	*	*	*	*	*	*	*				1
1 1/4			*	*	*	*	*	*	*	*				1 1/4
1 1/2			*	*	*	*	*	*	*	*				1 1/2
1 3/4			*	*	*	*	*	*	*	*				1 3/4
2			*	*	*	*	*	*	*	*	*	*	*	2
2 1/4						*	*	*	*	*				2 1/4
2 1/2						*	*	*	*	*	*	*	*	2 1/2
3						*	*	*	*	*	*	*	*	3
3 1/2									*	*	*	*	*	3 1/2
4										*	*	*	*	4
4 1/2										*	*	*	*	4 1/2
5											*	*	*	5
6											*	*	*	6

Grease (White) Lithium

Catalog #	
40-1001	1/2 lb. Tube
40-1002	35 lb. Pail
40-1003	14 oz. Cartridge

- * Fortified with extreme pressure additives
- * Excellent for close tolerance, high unit pressure applications
- * Dropping point of 500° F, Freeze point of 10 F°
- * Rust and oxidation inhibitors added



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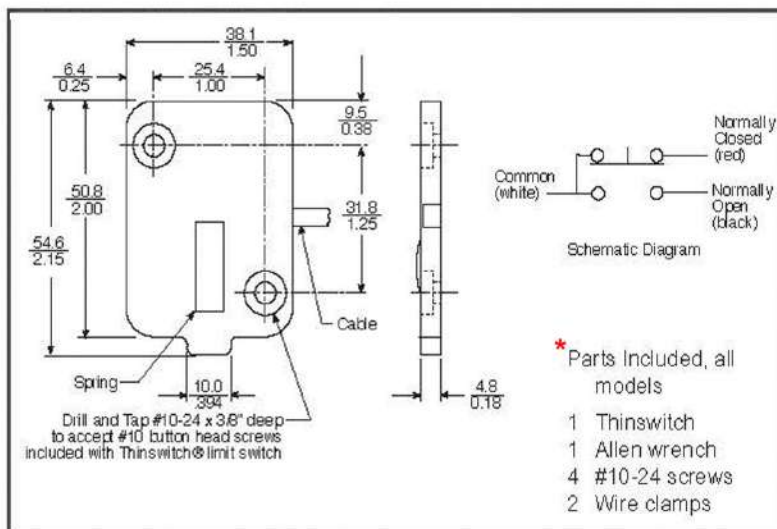
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Thinswitch® Limit Switch

- U.S. Patent No. 5,446,252



General Description

Smartflow® Thinswitch® Limit Switch is specially designed to verify ejector plate return before permitting the mold to close in injection molding machines. This small switch is thin enough to fit inside the ejector housing. It can also be used for core slides, or any place space is limited.

The Thinswitch® Limit Switch has been tested for reliability over 10 million cycles without failure. Two switches can be used in series for larger molds to ensure the ejector plate return, preventing costly mold damage.

Features and Benefits

- **Over 10 million cycle life** provides long dependable service.
- **175°F (79.4°C) standard temperature rating** allows installation into most molding applications.
- **250°F (121°C) high temperature unit** is available for higher temperature needs.
- **Adjustable operating point** allows actuation between .187" and .250" from the base.
- **In stock** to provide same-day delivery in most cases.
- **3/16" thick** design fits snugly behind the ejector plate in the space provided by the rest buttons.
- **Stripped and tinned 6 ft. wire leads** make the switch ready to install without modification.
- **Included mounting hardware** installs the Thinswitch® limit switch easily.

*Manufactured by Burger Engineering Inc.

Rated Current vs. Steel Temperature					
T-222			HT-291		
Amps	°F	°C	Amps	°F	°C
5.0	85	29.4	5.0	100	37.7
4.0	120	49.0	4.5	155	68.3
3.0	155	68.3	4.0	210	98.8
2.0	175	79.4	3.5	250	121.1

The Thinswitch® Limit Switch is designed for use in very low power mold protection control circuits. It is not intended to switch heavy loads in power applications.

(Model Number)

BSW-T222 Standard Thinswitch®
(175°F / 79.4°C max.)

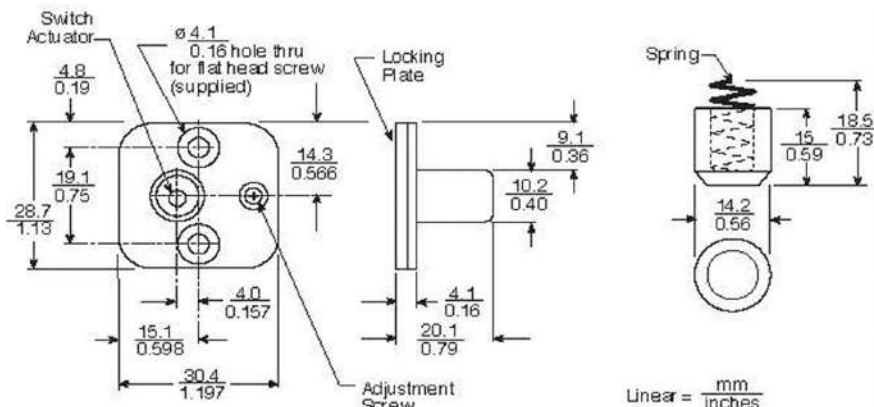
BSW-HT291 High Temperature Thinswitch®
(250°F / 121°C max.)

Smartlock® Slide Retainer And Limit Switch

patent pending



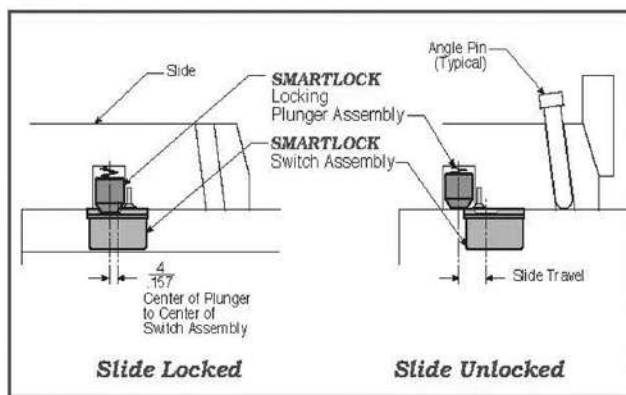
U.S. Patent No. 6,126,429



General Description

Smartflow® **SMARTLOCK**® slide retainer and limit switch is designed for injection molders to provide switching and a slide detent in one unique package. The **SMARTLOCK**® locking function prevents premature slide movement during molded part ejection while the SPDT switch is simultaneously actuated.

The **SMARTLOCK**® slide retainer and limit switch has been tested for reliability over 10 million cycles without failure. Two or more switches may be used for larger molds, or molds with multiple slides. Increased safety and prevention of mold damage result when the **SMARTLOCK**® slide lock and limit switch is installed in a mold.



Features and Benefits

- **Over 10 million cycle life** provides long dependable service.
- **25 pounds holding force:** adjustable for optimum operation.
- **175°F (79.4°C) standard temperature rating** allows installation into most molding applications.
- **250°F (121°C) HIGH TEMPERATURE UNIT** provides additional application flexibility.
- **Superior flush mount switch** shielded from damage by mounting inside a protective milled pocket.
- **Stripped and tinned 6 ft. wire leads** make the switch ready to install without modification.
- **Included mounting screws and wire clips** help install the **SMARTLOCK**® Switch neatly and easily.
- Greater Break Away (holding) Force can be achieved by adding one or more EZ-Lock™ Slide Retainers.

Rated Currents vs. Steel Temperature					
SL-222-CP			SL-291-CP		
Amps	°F	°C	Amps	°F	°C
5.0	85	29.4	5.0	100	37.7
4.0	120	49.0	4.5	155	68.3
3.0	155	68.3	4.0	210	98.8
2.0	175	79.4	3.5	250	121.1

Switching.....SPDT
 The SmartLock® switch is designed for use in very low power mold protection control circuits. It is not intended to switch heavy loads in power applications.

(Model Number)

BSW-SL222 Standard SmartLock® slide retainer and limit switch (175°F / 79.4°C max.)

BSW-SL291 High Temperature SMARTLOCK® slide retainer and limit switch (250°F / 121°C max.)

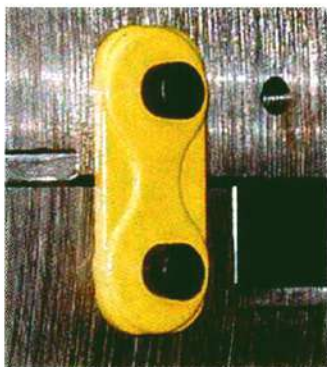
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Te
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Mold Safety Strap



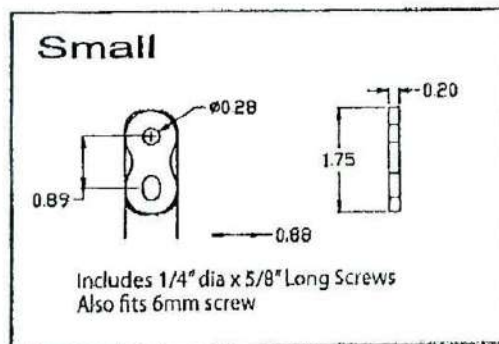
- * CAST METAL FOR STRENGTH AND DURABILITY
- * YELLOW POWDER COATED FINISH FOR HIGH VISIBILITY AND CORROSION RESISTANCE
- * SAFELY HOLDS MOLD CLOSED DURING TRANSFER, STORAGE, INSTALLATION AND REMOVAL FROM PRESS

SMALL - Fits Molds 5 to 110 Ton

PART NUMBER: MSS-10S

Sold in Packs of (2) two Safety Straps

Includes (4) 1/4" Dia. X 5/8" Long Screws
Also fits 6mm Screw Size

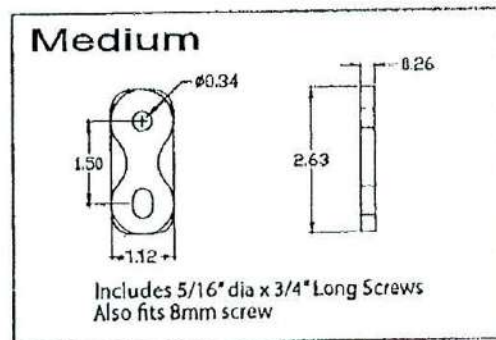


MEDIUM - Fits Molds 75 to 220 Ton

PART NUMBER: MSS-20M

Sold in Packs of (2) two Safety Straps

Includes (4) 5/16" Dia. X 3/4" Long Screws
Also fits 8mm Screw Size

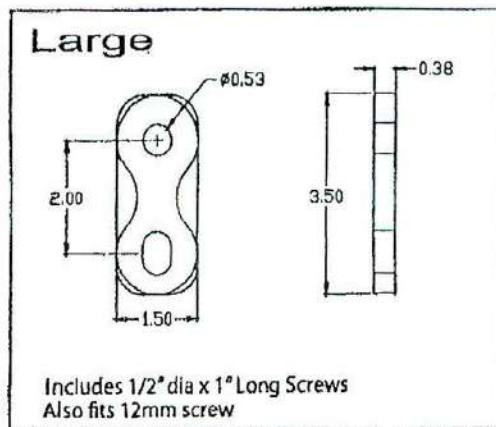


LARGE - Fits Molds 180 to 500 Ton

PART NUMBER: MSS-30L

Sold in Packs of (2) two Safety Straps

Includes (4) 1/2" Dia. X 1" Long Screws
Also fits 12mm Screw Size



O-Rings / Cord - BUNA-N - EPDM - VITON

- * Large Inventory
- * Competitive pricing
- * Call or e-mail for price and availability



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Mold Building Materials

Copper Alloys

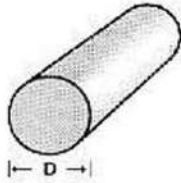
Specifications and Comparisons

	Thermal Conductivity at 68°F Btu/ft/hr/ft ² /°F	Thermal Diffusivity at 68°F ft ² /hr	Brinell Hardness 3,000 kg	Density lbs/cu. in.	Tensile Strength ksi	Yield Strength ksi	Compressive Strength ksi	Coefficient of Expansion in/in/°F x10 ⁶	Elongation % in 2"
940 / 150 (C18000)	125	2.32	210 (94R _b)	.315	100	75	80	9.7	13
18 (C95400)	36	0.97	192 (92R _b)	.269	105	52	38	9.0	14
21W (C95900)	25	0.62	286 (29R _c)	.260	110	60	61	9.0	1
Aluminum QC7	80	2.44	167 (500 kg)	.101	78	74	65	12.8	7
Beryllium Copper-0.5%	125	2.74	157-210 (500 kg)	.319	110	90	90	9.8	10
Beryllium Copper-2%	60	1.16	300-380	.297	175	150	150	9.7	7
Tool Steel P20	20	0.39	265-345	.284	150	125	125	7.1	20
Tool Steel H13	17	0.31	350-530	.284	250	200	225	6.1	15
Stainless Steel 316	7	0.16	150-190	.284	82	36	80	6.5	69

Application Recommendations

Material	Chemical Comp.	Characteristics	Recommended Applications
940 (C18000)	Cu 96.4 Ni 2.5 Si 0.7 Cr 0.4	Very high thermal conductivity, resistance to corrosion and wear, moderate hardness	Mold cores, cavities, sprue bushings, hot runner systems, core pins, ejector pins, sleeves, blow pins
18 (C95400)	Cu 85.5 Al 10.5 Fe 3.5 Other 0.5 (max.)	Good bearing qualities, resistance to wear, abrasion, fatigue, deformation and corrosion	Slides, gibs, wear plates, mold locking devices, sleeve bearings, guide pin bushings, guide rails
21W (C95900)	Cu 80.2 Al 12.8 Fe 4.5 Other 2.5 (max.)	Hard alloy with good bearing qualities, resistance to wear, abrasion, fatigue, deformation and corrosion	Lifter blades, slides, gibs, wear plates, ejector sleeves and bushings, guide pin and leader pin bushings

Aluminum Bronze 940 (C18000)

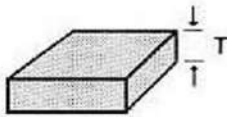


Note: Sprue Bushings & Core Pins available
call for price & delivery.



ROUND ROD

DIAMETER (inches)	WEIGHT (pounds per foot)	NOMINAL (inches)	DIAMETER (inches)	WEIGHT (pounds per foot)	NOMINAL (inches)
1/4	.21	.263	1-3/4	9.12	1.750
3/8	.44	.385	2	11.89	2.00
15/32	.66	.468	2-1/4	15.08	2.250
1/2	.84	.532	2-1/2	18.61	2.500
19/32	1.05	.594	2-3/4	22.51	2.750
5/8	1.28	.658	3	26.79	3.00
3/4	1.82	.783	3-1/8	29.07	3.125
7/8	2.27	.875	3-1/4	31.48	3.250
1	2.97	1.00	3-1/2	36.49	3.500
1-1/8	3.76	1.125	3-5/8	39.13	3.625
1-1/4	4.66	1.250	4	47.67	4.00
1-3/8	5.62	1.375	4-1/2	60.48	4.500
1-1/2	6.69	1.500	5-1/8	78.23	5.125



PLATE

Round bar or plate,
will cut to size any piece of material.

THICKNESS (INCHES)	THICKNESS TOLERANCE	NOMINAL THICKNESS
1/2	+.038	.536
3/4	+.048	.786
1	+.060	1.036
1-1/2	+.060	1.550
2	+.060	2.050
2-1/2	+.060	2.550
3	+.060	3.050
3-1/2	+.060	3.530
4	+.060	4.030

ELASTIC MODULUS	Melting Point (Solidus)	Electrical Conductivity (minimum)	Density	Thermal Expansion	Thermal Conductivity
18,500 KSI 130 Gpa	~1900°F ~1040°C	45% IACS 3.6 uQ-cm	.320 lb/in³ 8.85 g/cm³	9.72x10⁻⁶ in/in/°F 1.75x10⁻⁶ /°C	120 BTU/hr.ft.°F 210 W/m K

Weight of Plate=.316# / cubic inch

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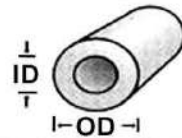
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Aluminum Bronze 18 (C95400)

Hollow Aluminum Bronze Bar



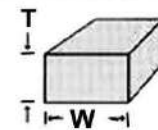
I.D.	Nominal O.D.	Approx. wt.	I.D.	Nominal O.D.	Approx. wt.
3/4x	1-1/4	39	2-1/2x	3	110
	1-1/2	61		3-1/4	162
	1-3/4	87		3-1/2	224
	2	117		3-3/4	283
1x	1-1/2	49		4	343
	1-3/4	75		4-1/2	479
	2	104		5	631
	2-1/4	138		6	984
	2-1/2	181	2-3/4x	3-1/4	121
	3	270		3-1/2	182
1-1/4x	1-3/4	59		3-3/4	240
	2	88		4	307
	2-1/8	105		4-1/4	375
	2-1/4	126		4-1/2	444
	2-1/2	166	3x	3-1/2	143
	2-3/4	208		3-3/4	199
	3	253		4	260
	3-1/2	363		4-1/4	327
1-1/2x	1-7/8	51		4-1/2	397
	2	67		5	556
	2-1/4	101		5-1/2	705
	2-3/8	124		6	897
	2-1/2	145		7	1286
	2-3/4	187	3-1/4x	3-3/4	150
	3	233		4	211
	3-1/4	289		4-1/4	231
	3-1/2	341		4-1/2	349
	3-3/4	397		5	495
	4	462	3-1/2x	4	163
	4-1/2	598		4-1/4	281
1-3/4x	2-1/8	60		4-1/2	296
	2-1/4	78		5	445
	2-1/2	119		5-1/2	617
	2-3/4	163		6	795
	3	209	3-3/4x	4-3/4	317
	3-1/4	258	4x	4-1/2	184
	3-1/2	319		4-3/4	258
	3-3/4	377		5	332
	4	438		5-1/2	502
2x	2-3/8	73		6	680
	2-1/2	92		7	1080
	2-3/4	135		8	1543
	2-7/8	157	4-1/4x	5	273
	3	182	4-1/2x	5	209
	3-1/4	230		5-1/4	287
	3-1/2	292		5-1/2	376
	3-3/4	349		6	551
	4	412		6-1/2	761
	4-1/2	546	5x	5-1/2	224
	5	696		5-3/4	324
	6	1036		6	409
2-1/4x	2-5/8	80		7	812
	2-3/4	103		8	1277
	3	150	5-1/2x	6-1/2	448
	3-1/4	198	6x	7	485
	3-1/2	262		8	949
	3-3/4	313	6-1/2x	7-1/2	525
	4	380		7-3/4	543
			7x	8	561

Copper	85.5%
Aluminum	10.5%
Iron	3.5%

Round Extruded Aluminum Bronze Rod 12' Mill Lengths



Nominal O.D.	Approx. wt.	Nominal O.D.	Approx. wt.	Nominal O.D.	Approx. wt.
1/2	10	3	294	5	803
3/4	22		344	5-1/4	881
1	35	3-104	401	5-1/2	970
1-1/4	54	3-1/2	456	5-3/4	1067
1-4/2	75				
1-5/8	87			6	1147
1-3/4	101			6-1/4	1235
2	133	4	514	6-1/2	1330
2-1/4	165	4-1/4	586	7	1538
2-1/2	207	4-1/2	658	8	2003
2-3/4	249	4-3/4	733	9	2569



Rectangular Aluminum Bronze Bar

Thickness - Width (Inches)	Thickness - Width (Inches)	Thickness - Width (Inches)
1/4x	5/8x	1-1/4x
1	3	3
1-1/4	4	3-1/2
1-1/2	5	4
2	6	5
2-1/2	12	6
3		12
4	3/4	
6	1	
12	1-1/2	
	1-3/4	
3/8x	2	1-1/2
1	2-1/2	1-3/4
1-1/2	3	2
2	3-1/2	2-1/2
2-1/2	4	3
3	5	3-1/2
3-1/2	6	4
4	12	5
5		6
6		12
12		
1/2x	1x	
1	1-1/4	
1-1/4	1-1/2	
1-1/2	1-3/4	
1-3/4	2	
2	2-1/2	
2-1/2	3	
3	3-1/2	
3-1/2	4	
4	5	
5	6	
6	12	
8		
12		
5/8x	1-1/4x	
1	1-1/2	
1-1/2	2	
2-1/2	2-1/2	
		2-1/2x
		3
		4
		5
		6
		3x
		3

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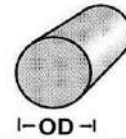
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Aluminum Bronze 21 (C95900)

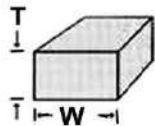
Density (lbs/in ³)	.260
Specific Gravity	7.21
Specific Heat (Btu/lb °F)	.09
Coefficient of Thermal Expansion (in/in/°F)	9.0 x 10 ⁻⁶
Electrical Conductivity (% IACS)	10
Electrical Resistivity (Microhms-Meter @ 68°F)	172
Thermal Conductivity (Btu/sq. ft./ft./hr./°F @ 68°F)	22.5
Magnetic Permeability	1

Copper	85.5%
Aluminum	10.5%
Iron	3.5%

Round Extruded Aluminum Bronze Rod 12' Mill Lengths



Nominal Size	Cast Size	Lbs/lb
1	1.063	0.24
1-1/2	1.563	0.51
2	2.063	0.89
2-1/2	2.563	1.37
3	3.063	1.95
3-1/2	3.594	2.69
4	4.094	3.49
4-1/2	4.625	4.45
5	5.125	5.47
6	6.188	7.97
7	7.188	10.75
8	8.188	13.95



Rectangular Aluminum Bronze Bar 12' Mill Lengths

Nominal Size	Cast Size	Lbs/lb	Nominal Size	Cast Size	Lbs/lb
1/4x 1	0.313 x 1.063	0.09	1x 1-1/4	1.063 x 1.313	0.36
1-1/4	0.313 x 1.313	0.11	1-1/2	1.063 x 1.563	0.43
1-1/2	0.313 x 1.563	0.13	1-3/4	1.063 x 1.813	0.50
2	0.313 x 2.063	0.17	2	1.063 x 2.063	0.57
2-1/2	0.313 x 2.563	0.21	2-1/2	1.063 x 2.563	0.71
3	0.313 x 3.063	0.25	3	1.063 x 3.063	0.85
4	0.313 x 4.063	0.33	3-1/2	1.063 x 3.563	0.98
3/8x 1	0.438 x 1.063	0.12	4	1.063 x 4.063	1.12
1-1/2	0.438 x 1.563	0.18	4-1/2	1.063 x 4.563	1.33
2	0.438 x 2.063	0.23	5	1.063 x 5.063	1.40
2-1/2	0.438 x 2.563	0.29	5-1/2	1.063 x 5.563	1.60
3	0.438 x 3.063	0.35	6	1.063 x 6.063	1.68
4	0.438 x 4.063	0.46	1-1/4x 1-1/4	1.313 x 1.313	0.41
5	0.438 x 5.063	0.60	1-1/2	1.313 x 1.563	0.53
6	0.438 x 6.063	0.69	1-3/4	1.313 x 1.813	0.62
1/2x 1/2	0.563 x 0.563	0.08	2	1.313 x 2.063	0.70
1	0.563 x 1.063	0.16	2-1/2	1.313 x 2.563	0.87
1-1/2	0.563 x 1.563	0.23	3	1.313 x 3.063	1.06
1-3/4	0.563 x 1.813	0.27	3-1/2	1.313 x 3.563	1.23
2	0.563 x 2.063	0.30	4	1.313 x 4.063	1.42
2-1/2	0.563 x 2.563	0.38	5	1.313 x 5.063	1.48
3	0.563 x 3.063	0.45	6	1.313 x 6.063	2.07
3-1/2	0.563 x 3.563	0.54	1-1/2x 1-1/2	1.563 x 1.563	0.64
4	0.563 x 4.063	0.59	2	1.563 x 2.063	0.84
5	0.563 x 5.063	0.77	2-1/2	1.563 x 2.563	1.04
6	0.563 x 6.063	0.89	3	1.563 x 3.063	1.24
5/8x 1	0.688 x 1.063	0.19	3-1/2	1.563 x 3.563	1.48
1-1/2	0.688 x 1.563	0.28	4	1.563 x 4.063	1.65
2	0.688 x 2.063	0.37	5	1.563 x 5.063	2.10
2-1/2	0.688 x 2.563	0.46	1-3/4x 1-3/4	1.813 x 1.813	0.88
3	0.688 x 3.063	0.55	2	1.813 x 2.063	0.98
3-1/2	0.688 x 3.563	0.66	2-1/2	1.813 x 2.563	1.22
4	0.688 x 4.063	0.73	3	1.813 x 3.063	1.46
6	0.688 x 6.063	1.08	3-1/2	1.813 x 3.563	1.72
3/4x 3/4	0.813 x 0.813	0.17	4	1.813 x 4.063	1.96
1	0.813 x 1.063	0.22	5	1.813 x 5.063	2.44
1-1/2	0.813 x 1.563	0.33	2x 2	2.063 x 2.063	1.11
1-3/4	0.813 x 1.813	0.38	2-1/2	2.063 x 2.563	1.38
2	0.813 x 2.063	0.44	3	2.063 x 3.063	1.64
2-1/2	0.813 x 2.563	0.54	4	2.063 x 4.063	2.18
3	0.813 x 3.063	0.65	5	2.063 x 5.063	2.72
3-1/2	0.813 x 3.563	0.78	6	2.063 x 6.063	3.25
4	0.813 x 4.063	0.86	2-1/2x 2-1/2	2.563 x 2.563	1.71
4-1/2	0.813 x 4.563	1.02	3	2.563 x 3.063	2.04
5	0.813 x 5.063	1.10	3-1/2	2.563 x 3.563	1.95
5-1/2	0.813 x 5.563	1.25	4	2.563 x 4.063	2.71
6	0.813 x 6.063	1.28	5	2.563 x 5.063	3.45
1x 1	1.063 x 1.063	0.29	3x 3	3.063 x 3.063	2.44

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