

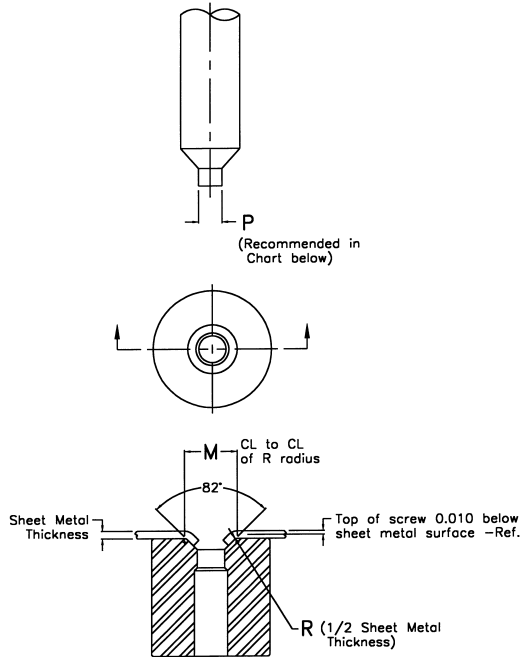
Pierce and Countersink

Material: A2—5% Chrome
Hardness: Rc 60 - 63
Concentricity: Within .0005

How To Order:
Please Specify: Type Number (1 or 2), "M" Dimension (from chart), Sheet Metal Thickness in addition to Standard Round Die Button Description. See Basic Series.

For Punch Ordering Information, please see over.

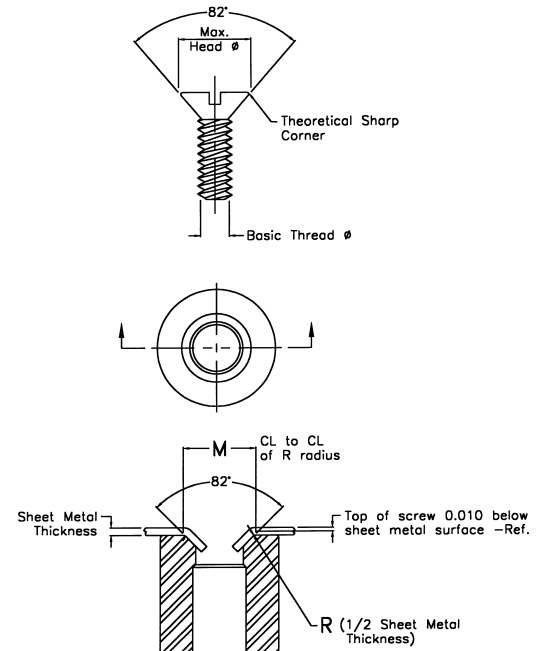
PUNCH



TYPE #1

FOR COINING OPERATIONS

FLAT HEAD MACHINE SCREW



TYPE #2

FOR FORMING OPERATIONS

DIE BUTTON

Flat Head Machine Screws			Punch	Die Button										Recommended Die Button O.D. Size			
Nominal Screw Size	Basic Thread Diameter	Maximum Head Dia. (Sharp)	Recommended Point Dia. P	M Dimension Shown in Table Below										Ball Lock	Press Fit		
				Sheet Metal Gauges in Decimals of an Inch													
				24 (.0239)	22 (.0299)	20 (.0359)	18 (.0478)	16 (.0598)	14 (.0747)	13 (.0897)	12 (.1046)	11 (.1196)	10 (.1345)				
#0	.060	.119	.062	.172	.180	.188	.204	-	-	-	-	-	-	-	3/4	3/4	
#1	.073	.146	.075	.199	.207	.215	.231	.248	-	-	-	-	-	-	3/4	3/4	
#2	.086	.172	.088	.225	.233	.241	.257	.274	.294	-	-	-	-	-	7/8	3/4	
#3	.099	.199	.101	.252	.260	.268	.284	.301	.321	.342	-	-	-	-	7/8	3/4	
#4	.112	.225	.114	.278	.286	.294	.310	.327	.347	.368	.388	-	-	-	7/8	7/8	
#5	.125	.252	.127	.305	.313	.321	.337	.354	.374	.395	.415	.436	-	-	7/8	7/8	
#6	.138	.279	.141	.332	.340	.348	.364	.381	.401	.422	.442	.463	.483	-	1	7/8	
#8	.164	.332	.167	.385	.393	.401	.417	.434	.454	.475	.497	.516	.536	-	1	1	
#10	.190	.385	.194	.438	.446	.454	.470	.487	.507	.528	.548	.569	.589	-	1	1	
#12	.216	.438	.220	.491	.499	.507	.523	.540	.560	.581	.601	.622	.642	-	1 1/4	1 1/4	
1/4	.250	.507	.255	.560	.568	.576	.592	.609	.629	.650	.670	.691	.711	-	1 1/4	1 1/4	
5/16	.3125	.635	.318	.688	.696	.704	.720	.737	.757	.778	.798	.819	.839	-	1 1/2	1 1/2	
3/8	.375	.762	.390	.815	.823	.831	.847	.864	.884	.905	.925	.946	.966	-	1 3/4	1 1/2	
Reference Bend Radius "R" =				.012	.015	.018	.024	.030	.037	.045	.052	.060	.067				

Note: A 100 Degree Flat Head "Pierce and Countersink" is Available on Request

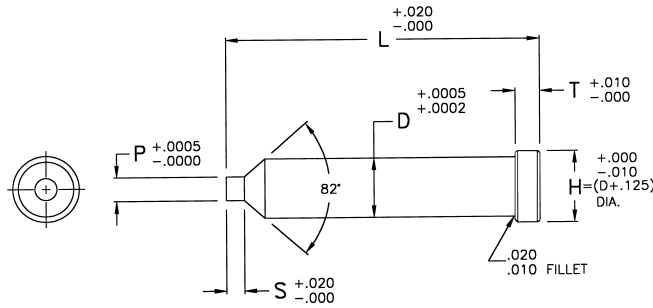
Pierce and Countersink Punches

Material: M2—High Speed Steel
Hardness: Rc 60 - 63
Concentricity: Within .0005

How to Order:

Please Specify: Quantity, Catalog Number, Overall Length, Point Dimensions and Material.

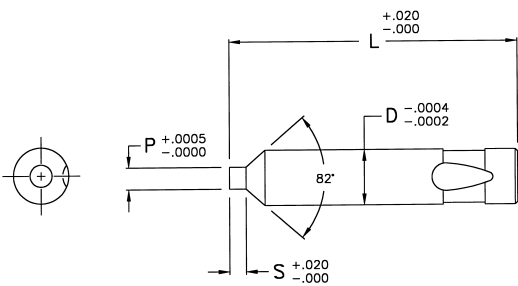
BASIC STYLE



Shank Dia. D	Catalog Number	Overall Length L								Point Range		S	H	T	
		1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.50	P Min	P Max				
1/4	CS25	1.50	1.75	2.00	2.25	2.50					.055	.125	1/8	3/8	1/8
5/16	CS31	1.50	1.75	2.00	2.25	2.50	2.75	3.00			.055	.140	1/8	7/16	
3/8	CS37		1.75	2.00	2.25	2.50	2.75	3.00			.090	.187	5/32	1/2	3/16
1/2	CS50			2.00	2.25	2.50	2.75	3.00	3.50		.140	.250	3/16	5/8	
5/8	CS62			2.00	2.25	2.50	2.75	3.00	3.50		.203	.281	3/16	3/4	
3/4	CS75				2.25	2.50	2.75	3.00	3.50	4.00	.265	.359	1/4	7/8	1/4
1	CS100					2.50	2.75	3.00	3.50	4.00	.312	.406	5/16	1 1/8	

EXAMPLE: 23 CS62 L 2.50 P .250 M2

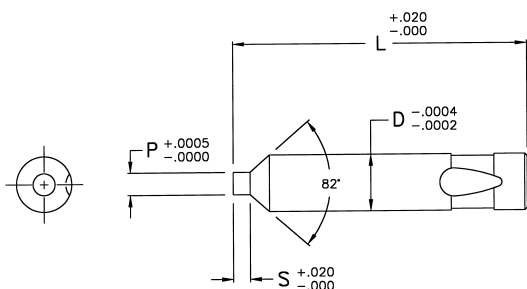
LIGHT DUTY BALL LOCK



Shank Dia. D	Catalog Number	Overall Length L					Point Range		S
		2.00	2.25	2.50	2.75	3.00	P Min	P Max	
1/4	LBCS25	2.00	2.25	2.50	2.75	3.00	.055	.125	1/8
3/8	LBCS37	2.00	2.25	2.50	2.75	3.00	.090	.187	5/32
1/2	LBCS50	2.00	2.25	2.50	2.75	3.00	.140	.250	3/16
5/8	LBCS62	2.00	2.25	2.50	2.75	3.00	.203	.281	3/16
3/4	LBCS75	2.00	2.25	2.50	2.75	3.00	.265	.359	1/4
7/8	LBCS87	2.00	2.25	2.50	2.75	3.00	.312	.406	5/16

EXAMPLE: 11 LBCS75 L 3.00 P .310 M2

HEAVY DUTY BALL LOCK



Shank Dia. D	Catalog Number	Overall Length L				Point Range		S
		2.50	3.00	3.50	4.00	P Min	P Max	
1/2	HBCS50	2.50	3.00	3.50	4.00	.140	.250	3/16
5/8	HBCS62	2.50	3.00	3.50	4.00	.203	.281	3/16
3/4	HBCS75	2.50	3.00	3.50	4.00	.265	.359	1/4
7/8	HBCS87	2.50	3.00	3.50	4.00	.312	.406	5/16

EXAMPLE: 6 HBCS75 L 3.00 P .310 M2