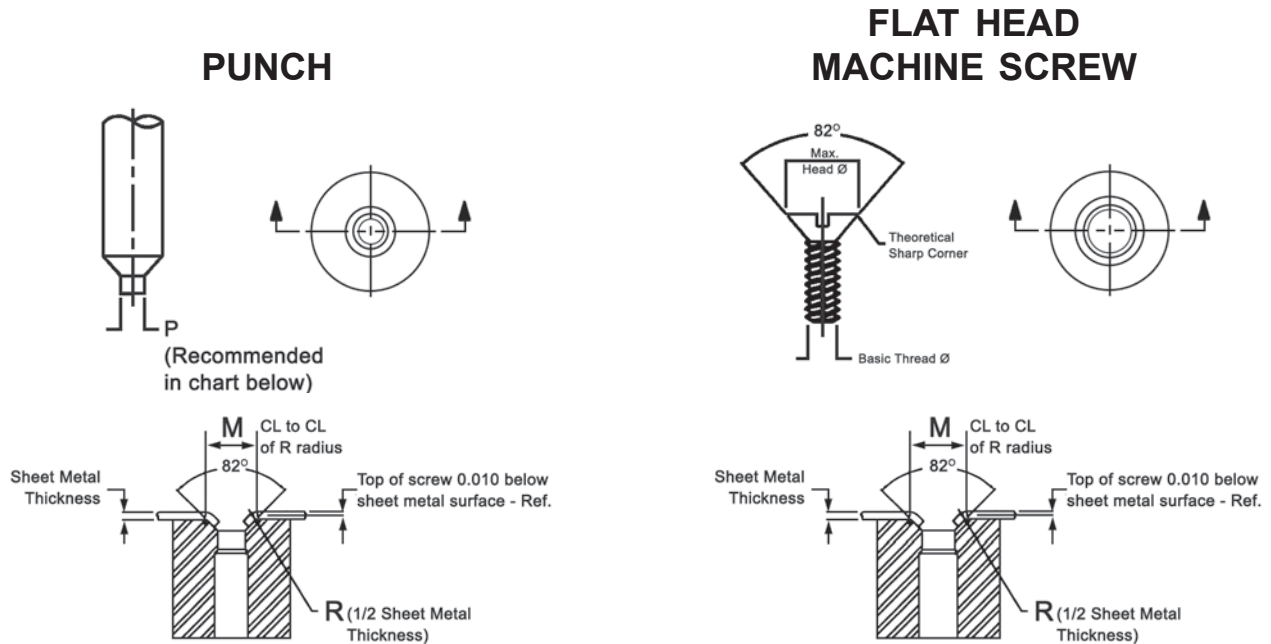


Pierce and Countersink

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 next page.



Flat Head Machine Screws			Punch	Die Button										Recommended Die Button O.D. Size		
				M Dimension Shown in Table Below												
Nominal Screw Size	Basic Thread Dia.	Maximum Head Dia. (Sharp)	Recommended Point Dia. P	Sheet Metal Gauges in Decimals of an Inch										Ball Lock	Press Fit	
				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	7/8
#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	.829	1½	1½	
3/8	.375	.792	.390	.815	.823	.831	.847	.864	.884	.905	.925	.946	.966	1¾	1½	
Reference Bend Radius "R" =				.012	.015	.018	.024	.030	.037	.045	.052	.060	.067	—	—	

NOTE: A 100° Flat Head "Pierce and Countersink" is available on request.

Pierce and Countersink

Material: M2 – High Speed Steel

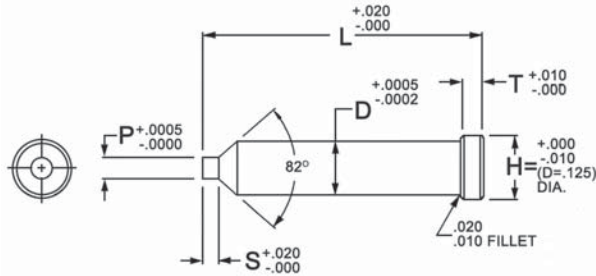
Hardness: Rc 60-63

Concentricity: Within .0005

How to order:

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

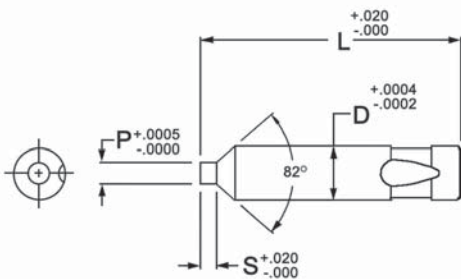
BASIC STYLE



Shank Dia. D	Catalog Number	Overall Length L										Point Range		S	H	T
												P Min	P Max			
1/4	CS25	1.50	1.75	2.00	2.25	2.50	–	–	–	–	.055	.125	1/8	3/8		
5/16	CS31	1.50	1.75	2.00	2.25	2.50	2.75	3.00	–	–	.055	.140	1/8	7/16	1/8	
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	1/4	
3/4	CS75	–	–	–	2.25	2.50	2.75	3.00	3.50	4.00	.265	.359	1/4	7/8		
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

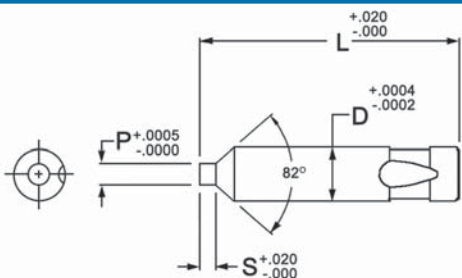
LIGHT DUTY BALL LOCK



Shank Dia. D	Catalog Number	Overall Length L						Point Range		S
								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
						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