

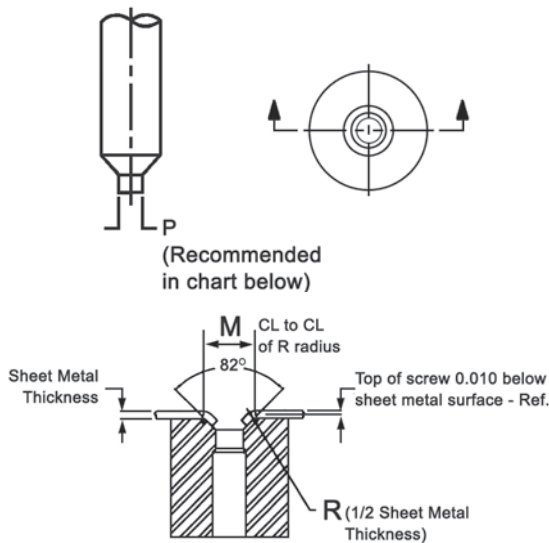
Pierce and Countersink

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

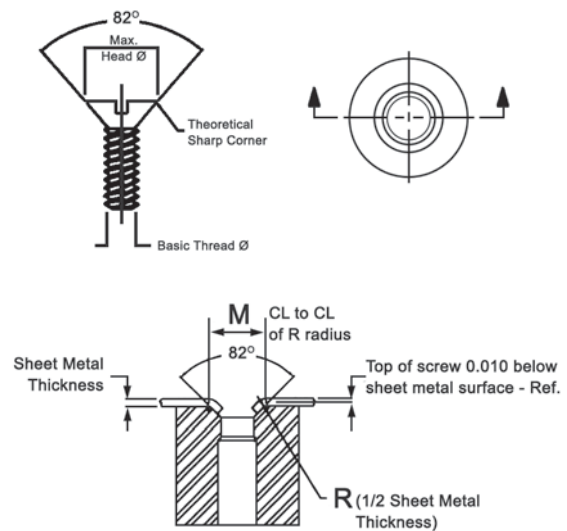
How to order:
Please specify: Type Number (1 or 2), "M" Dimension (from chart), Sheet Metal Thickness in addition to Standard Round Die Button Description.
 See Basic Series.

For Punch Ordering Information, please see next page.

PUNCH



FLAT HEAD MACHINE SCREW



| Flat Head Machine Screws | | | Punch Recommended Point Dia. P | Die Button | | | | | | | | | | Recommended Die Button O.D. Size | |
|-----------------------------|-------------------------|---------------------------------|---|---|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|--|--------------|
| Nominal Screw Size | Basic Thread Dia. | Maximum Head Dia. (Sharp) | | 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 | 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

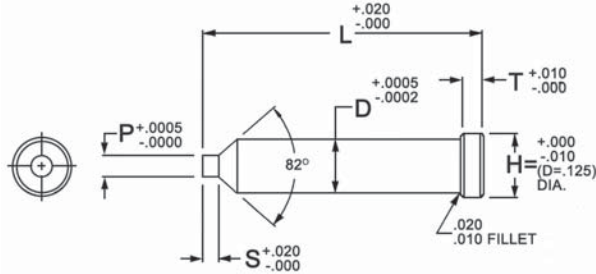
Hardness: Rc 60-63

Concentricity: Within .0005

How to order:

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

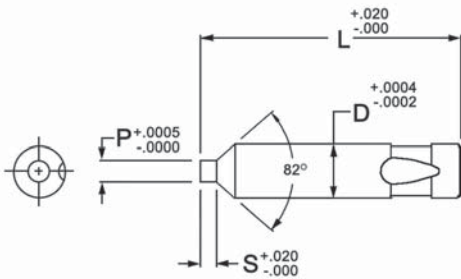
BASIC STYLE



| 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 | 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 | 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

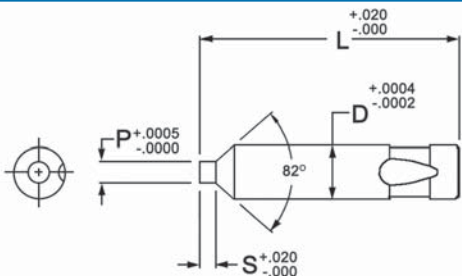
LIGHT DUTY BALL LOCK



| 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