

STEMIA

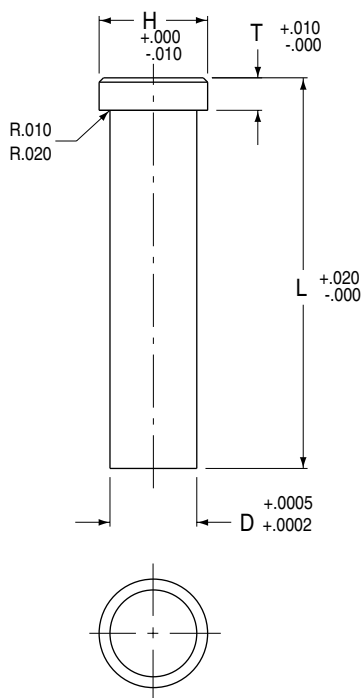
Punch & Die



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Material M-2 H.S.S.

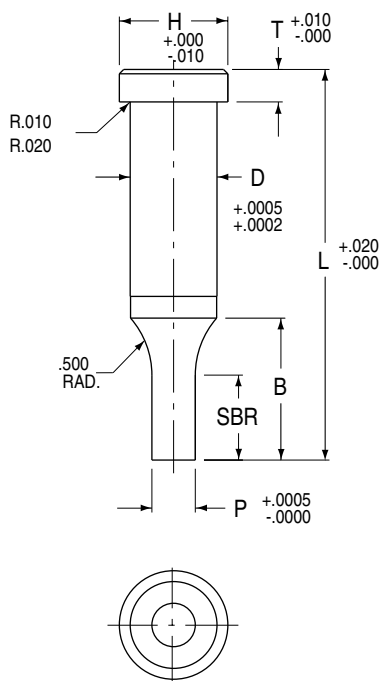


HEAD TYPE BLANK PUNCHES

CAT.NO.	D	H	T	L - LENGTHS								
				1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.50	4.00
SPB-18	.1875	.312	.125						-	-	-	-
SPB-25	.250	.375	.125							-	-	-
SPB-31	.3125	.437	.125									-
SPB-37	.375	.500	.188	-								
SPB-50	.500	.625	.188	-	-							
SPB-62	.625	.750	.250	-	-							
SPB-75	.750	.875	.250	-	-	-						
SPB-87	.875	1.000	.250	-	-	-						
SPB-100	1.000	1.125	.250	-	-	-	-					

TO ORDER SPECIFY: QUANTITY, CAT. NO., LENGTH
ALSO AVAILABLE IN EJECTOR TYPE

Material M2-H.S.S.



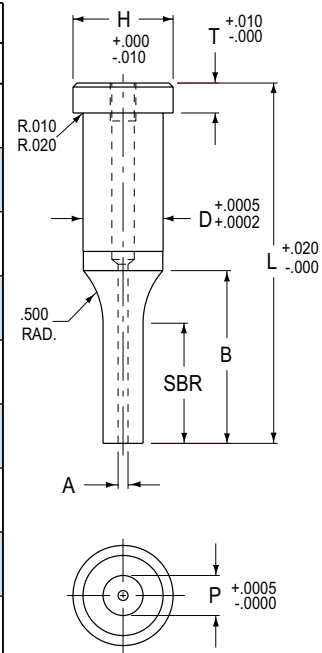
HEAD TYPE ROUND PUNCHES

CAT.NO.	D	H	T	B	P	L - LENGTHS									
						1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.50	4.00	
SP-18	.1875	.312	.125	.437	.062 -.186						-	-	-	-	
SP-25	.250	.375	.125	.500	.062 -.249							-	-	-	
SP-31	.3125	.437	.125	.562	.093 -.311									-	
SP-37	.375	.500	.188	.625	.125 -.374	-									
SP-50	.500	.625	.188	.812	.187 -.499	-	-								
SP-62	.625	.750	.250	.937	.375 -.624	-	-								
SP-75	.750	.875	.250	1.063	.500 -.749	-	-	-							
SP-87	.875	1.000	.250	1.187	.562 -.874	-	-	-							
SP-100	1.000	1.125	.250	1.250	.687 -.999	-	-	-	-						

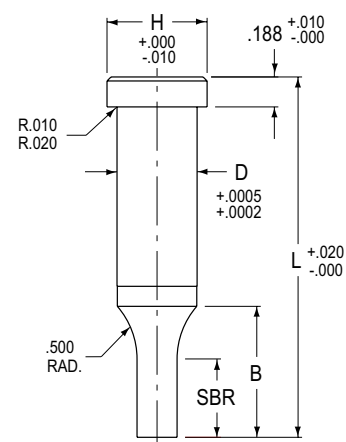
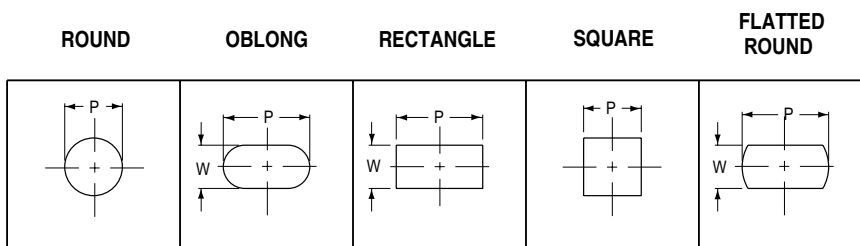
TO ORDER SPECIFY: QUANTITY, CAT. NO., LENGTH, P DIMENSION,
B OR SBR LENGTH

HEAD TYPE EJECTOR ROUND PUNCHES

CAT.NO.	D	H	T	SBR	A	P	L - LENGTHS							
							1.75	2.00	2.25	2.50	2.75	3.00	3.50	4.00
SPE-18	.1875	.312	.125	.312	.025	.062 - .186					-	-	-	-
SPE-25	.250	.375	.125	.375	.032	.093 - .249						-	-	-
SPE-31	.3125	.437	.125	.500	.047	.125 - .311								-
SPE-37	.375	.500	.188	.625	.047	.187 - .374								
SPE-50	.500	.625	.188	.750	.063	.250 - .499	-							
SPE-62	.625	.750	.250	.875	.063	.375 - .624	-							
SPE-75	.750	.875	.250	1.000	.063	.500 - .749	-	-						
SPE-87	.875	1.000	.250	1.000	.063	.562 - .874	-	-	-					
SPE-100	1.000	1.125	.250	1.125	.093	.687 - .999	-	-	-					

Material M2-H.S.S.**TO ORDER SPECIFY: QUANTITY, CAT. NO., LENGTH, P DIMENSION, B OR SBR LENGTH****HEAD TYPE PUNCHES - HEAD .188" THICK****Material M2-H.S.S.**

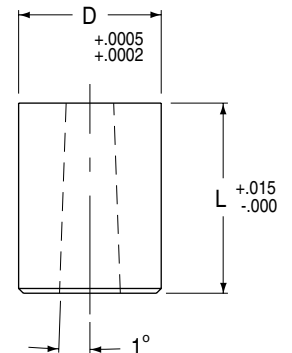
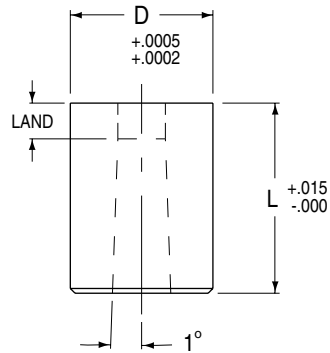
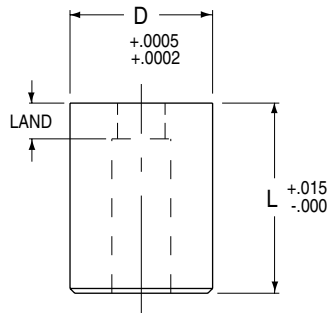
SPT - SOLID PUNCHES
SPTE - EJECTOR PUNCHES



Material M-2 H.S.S

DIES

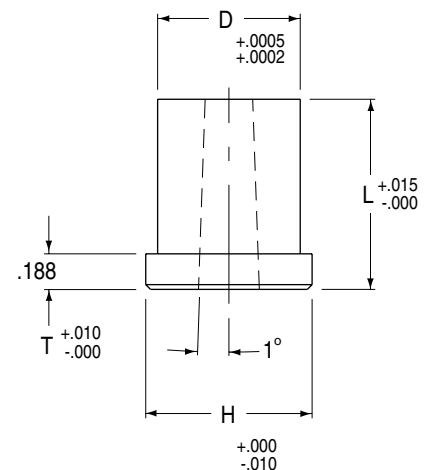
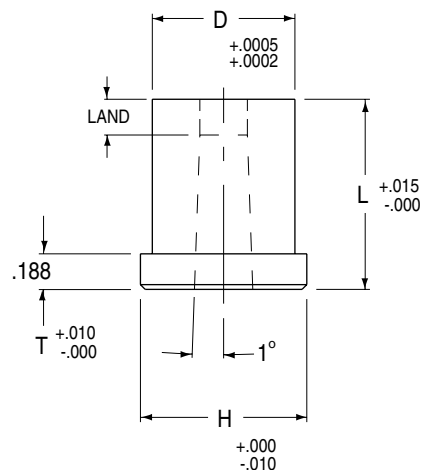
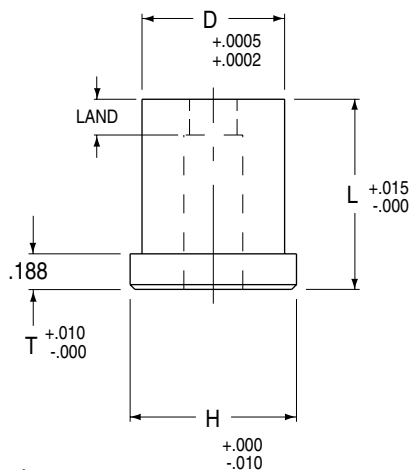
N D	N D W L	N D W T
DRILLED BACK HOLE	TAPER AND LAND	TAPER ONLY



Material M2-H.S.S.

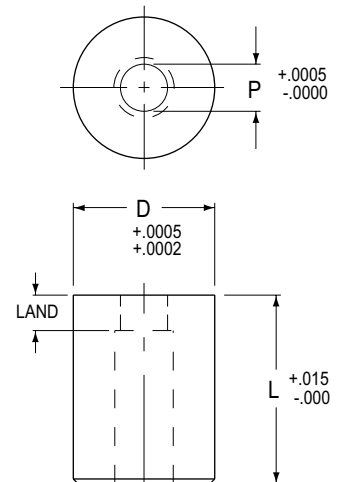
HEAD TYPE DIES

D H	D H W L	D H W T
DRILLED BACK HOLE	TAPER AND LAND	TAPER ONLY

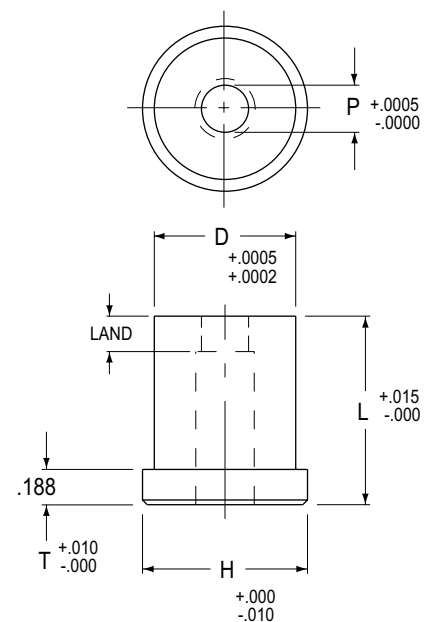


ROUND DIES

CAT.NO.	D	LAND (Min.)	P	L - LENGTHS						
				.750	.875	1.000	1.125	1.250	1.375	1.500
ND-25	.250	.156	.062 -.125							-
ND-37	.375	.156	.062 -.195							-
ND-50	.500	.188	.125 -.285							
ND-62	.625	.188	.125 -.345							
ND-75	.750	.188	.187 -.437							
ND-87	.875	.250	.312 -.562							
ND-100	1.000	.250	.375 -.625							
ND-125	1.250	.312	.500 -.787							
ND-150	1.500	.312	.625 - 1.035							

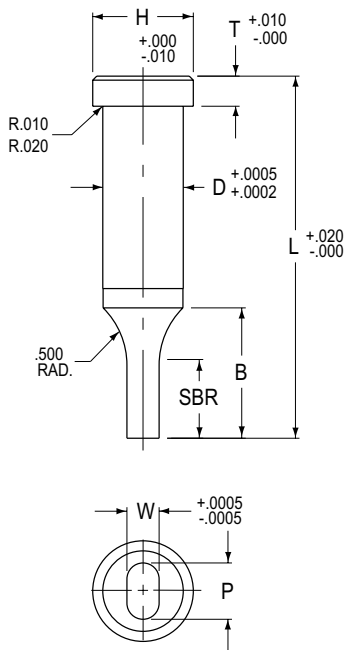
Material M-2 H.S.S**HEAD TYPE ROUND DIES**

CAT.NO.	D	H	LAND (Min.)	P	L - LENGTHS					
					.875	1.000	1.125	1.250	1.375	1.500
DH-25	.250	.375	.156	.062 -.125						-
DH-37	.375	.500	.156	.062 -.195						-
DH-50	.500	.625	.188	.125 -.285						
DH-62	.625	.750	.188	.125 -.345						
DH-75	.750	.875	.188	.187 -.437						
DH-87	.875	1.000	.250	.312 -.562						
DH-100	1.000	1.125	.250	.375 -.625						
DH-125	1.250	1.375	.312	.500 -.787						
DH-150	1.500	1.625	.312	.625 - 1.035						

Material M2-H.S.S.

TO ORDER SPECIFY: QUANTITY, CAT. NO., LENGTH, P DIMENSION

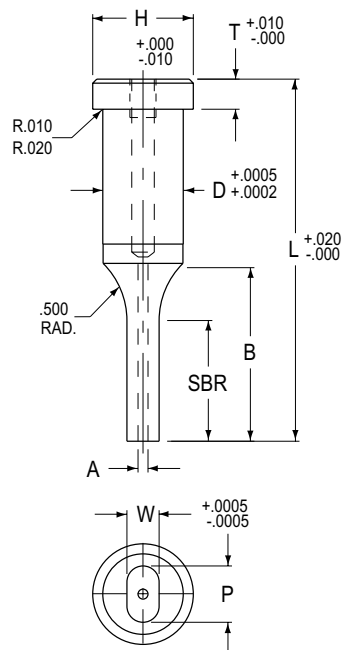
Material M2-H.S.S.



HEAD TYPE OBLONG PUNCHES

CAT.NO.	D	H	T	B	MIN. W	MAX. P	L - LENGTHS									
							1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.50	4.00	
SPO-18	.1875	.312	.125	.437	.062	.187						-	-	-		
SPO-25	.250	.375	.125	.500	.062	.249							-	-	-	
SPO-31	.3125	.437	.125	.562	.093	.312									-	
SPO-37	.375	.500	.188	.625	.125	.374	-									
SPO-50	.500	.625	.188	.812	.187	.499	-	-								
SPO-62	.625	.750	.250	.937	.250	.624	-	-								
SPO-75	.750	.875	.250	1.063	.312	.749	-	-	-							
SPO-87	.875	1.000	.250	1.187	.312	.874	-	-	-							
SPO-100	1.000	1.125	.250	1.250	.375	.999	-	-	-	-						

Material M2-H.S.S.



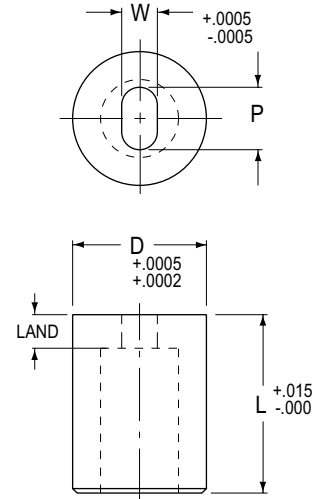
HEAD TYPE EJECTOR OBLONG PUNCHES

CAT.NO.	D	H	T	SBR	A	MIN. W	MAX. P	L - LENGTHS							
								1.75	2.00	2.25	2.50	2.75	3.00	3.50	4.00
SPEO-18	.1875	.312	.125	.312	.025	.062	.187					-	-	-	-
SPEO-25	.250	.375	.125	.375	.032	.093	.249						-	-	-
SPEO-31	.3125	.437	.125	.500	.047	.125	.312								-
SPEO-37	.375	.500	.188	.625	.047	.187	.374								
SPEO-50	.500	.625	.188	.750	.063	.187	.499	-							
SPEO-62	.625	.750	.250	.875	.063	.250	.624	-							
SPEO-75	.750	.875	.250	1.000	.063	.312	.749	-	-						
SPEO-87	.875	1.000	.250	1.000	.063	.375	.874	-	-	-					
SPEO-100	1.000	1.125	.250	1.125	.093	.375	.999	-	-	-					

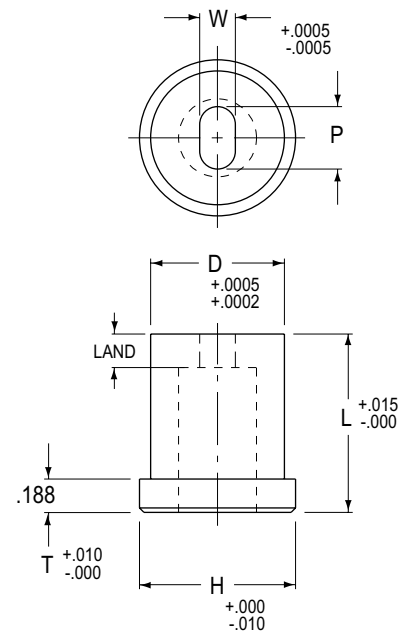
TO ORDER SPECIFY: QUANTITY, CAT. NO., LENGTH, W & P DIMENSIONS, B OR SBR LENGTH

OBLONG DIES

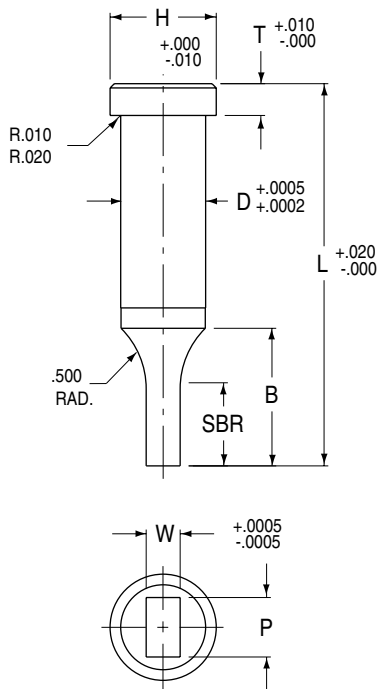
CAT.NO.	D	LAND (Min.)	MIN. W	MAX. P	L - LENGTHS						
					.750	.875	1.000	1.125	1.250	1.375	1.500
NDO-25	.250	.156	-	-							-
NDO-37	.375	.156	.062	.195							-
NDO-50	.500	.188	.062	.285							
NDO-62	.625	.188	.093	.345							
NDO-75	.750	.188	.125	.435							
NDO-87	.875	.250	.156	.545							
NDO-100	1.000	.250	.187	.655							
NDO-125	1.250	.312	.250	.780							
NDO-150	1.500	.312	.312	1.035							

Material M-2 H.S.S.**HEAD TYPE OBLONG DIES**

CAT.NO.	D	H	LAND (Min.)	MIN. W	MAX. P	L - LENGTHS					
						.875	1.000	1.125	1.250	1.375	1.500
DHO-25	.250	.375	.156	-	-						-
DHO-37	.375	.500	.156	.062	.195						-
DHO-50	.500	.625	.188	.062	.285						
DHO-62	.625	.750	.188	.093	.345						
DHO-75	.750	.875	.188	.125	.435						
DHO-87	.875	1.000	.250	.156	.545						
DHO-100	1.000	1.125	.250	.187	.655						
DHO-125	1.250	1.375	.312	.250	.780						
DHO-150	1.500	1.625	.312	.312	1.035						

Material M2-H.S.S.**TO ORDER SPECIFY: QUANTITY, CAT. NO., LENGTH, W & P DIMENSIONS**

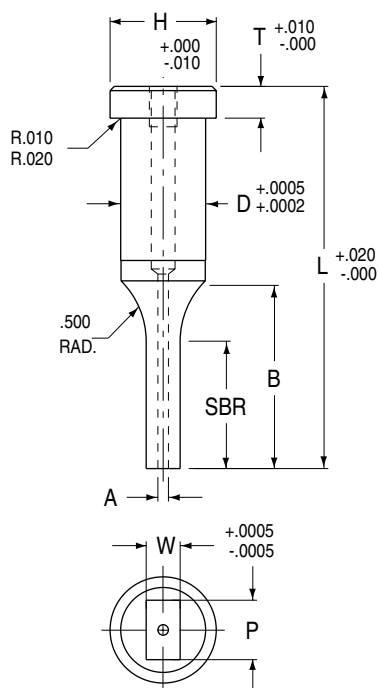
Material M2-H.S.S.



HEAD TYPE RECTANGULAR PUNCHES

CAT.NO.	D	H	T	B	MIN. W	MAX. P	L - LENGTHS								
							1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.50	4.00
SPR-18	.1875	.312	.125	.437	.062	.141						-	-	-	-
SPR-25	.250	.375	.125	.500	.062	.208							-	-	-
SPR-31	.3125	.437	.125	.562	.093	.250									-
SPR-37	.375	.500	.188	.625	.125	.282	-								
SPR-50	.500	.625	.188	.812	.187	.375	-	-							
SPR-62	.625	.750	.250	.937	.250	.500	-	-							
SPR-75	.750	.875	.250	1.063	.312	.625	-	-	-						
SPR-87	.875	1.000	.250	1.187	.312	.750	-	-	-						
SPR-100	1.000	1.125	.250	1.250	.375	.875	-	-	-	-					

Material M2-H.S.S.



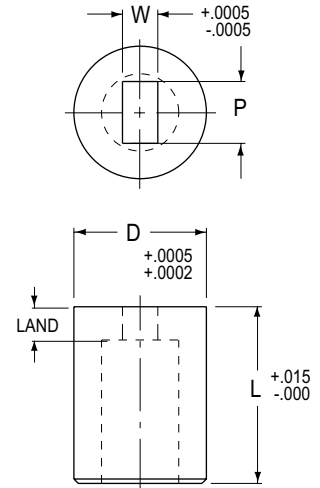
HEAD TYPE EJECTOR RECTANGULAR PUNCHES

CAT.NO.	D	H	T	SBR	A	MIN. W	MAX. P	L - LENGTHS								
								1.75	2.00	2.25	2.50	2.75	3.00	3.50	4.00	
SPER-18	.1875	.312	.125	.312	.025	.062	.141						-	-	-	-
SPER-25	.250	.375	.125	.375	.032	.093	.208							-	-	-
SPER-31	.3125	.437	.125	.500	.047	.125	.250									-
SPER-37	.375	.500	.188	.625	.047	.187	.282									
SPER-50	.500	.625	.188	.750	.063	.187	.375	-								
SPER-62	.625	.750	.250	.875	.063	.250	.500	-								
SPER-75	.750	.875	.250	1.000	.063	.312	.625	-	-							
SPER-87	.875	1.000	.250	1.000	.063	.375	.750	-	-	-						
SPER-100	1.000	1.125	.250	1.125	.093	.375	.875	-	-	-						

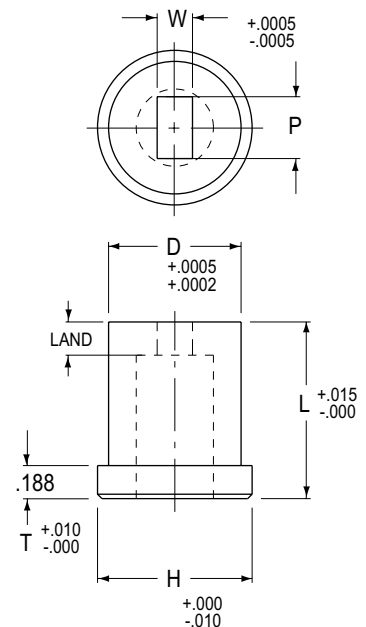
TO ORDER SPECIFY: QUANTITY, CAT. NO., LENGTH, W & P DIMENSIONS, B OR SBR LENGTH

RECTANGULAR DIES

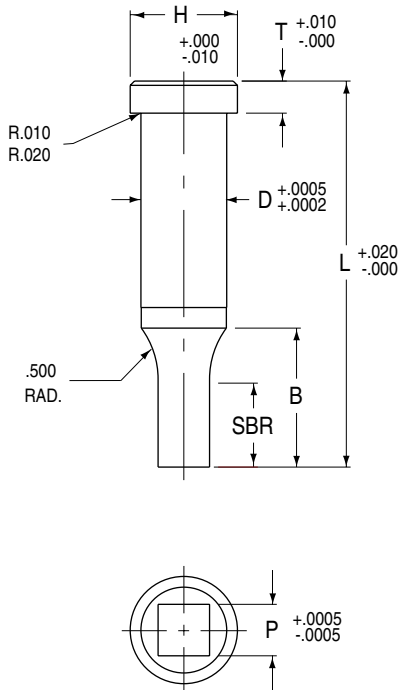
CAT.NO.	D	LAND (Min.)	MIN. W	MAX. P	L - LENGTHS						
					.750	.875	1.000	1.125	1.250	1.375	1.500
NDR-25	.250	.156	—	—							—
NDR-37	.375	.156	.062	.187							—
NDR-50	.500	.188	.062	.220							
NDR-62	.625	.188	.093	.250							
NDR-75	.750	.188	.125	.355							
NDR-87	.875	.250	.156	.475							
NDR-100	1.000	.250	.187	.600							
NDR-125	1.250	.312	.250	.710							
NDR-150	1.500	.312	.312	.925							

Material M-2 H.S.S.**HEAD TYPE RECTANGULAR DIES**

CAT.NO.	D	H	LAND (Min.)	MIN. W	MAX. P	L - LENGTHS					
						.875	1.000	1.125	1.250	1.375	1.500
DHR-25	.250	.375	.156	—	—						—
DHR-37	.375	.500	.156	.062	.187						—
DHR-50	.500	.625	.188	.062	.220						
DHR-62	.625	.750	.188	.093	.250						
DHR-75	.750	.875	.188	.125	.355						
DHR-87	.875	1.000	.250	.156	.475						
DHR-100	1.000	1.125	.250	.187	.600						
DHR-125	1.250	1.375	.312	.250	.710						
DHR-150	1.500	1.625	.312	.312	.925						

Material M2-H.S.S.**TO ORDER SPECIFY: QUANTITY, CAT. NO., LENGTH, W & P DIMENSIONS**

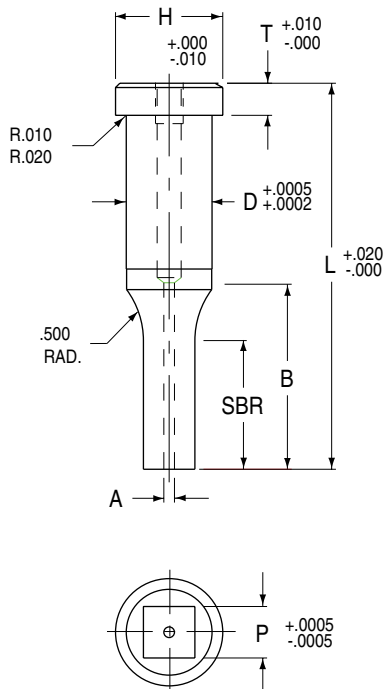
Material M2-H.S.S.



HEAD TYPE SQUARE PUNCHES

CAT.NO.	D	H	T	B	P	L - LENGTHS								
						1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.50	4.00
SPS-18	.1875	.312	.125	.437	.062 -.131						-	-	-	-
SPS-25	.250	.375	.125	.500	.062 -.176							-	-	-
SPS-31	.3125	.437	.125	.562	.093 -.220									-
SPS-37	.375	.500	.188	.625	.125 -.265	-								
SPS-50	.500	.625	.188	.812	.187 -.353	-	-							
SPS-62	.625	.750	.250	.937	.250 -.441	-	-							
SPS-75	.750	.875	.250	1.063	.312 -.530	-	-	-						
SPS-87	.875	1.000	.250	1.187	.375 -.618	-	-	-						
SPS-100	1.000	1.125	.250	1.250	.437 -.706	-	-	-	-					

Material M2-H.S.S.



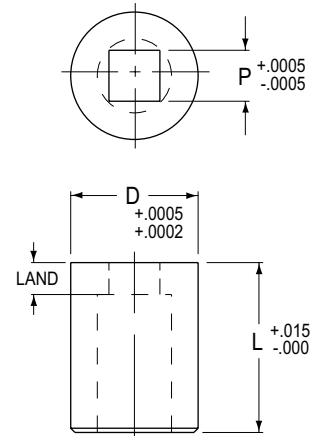
HEAD TYPE EJECTOR SQUARE PUNCHES

CAT.NO.	D	H	T	SBR	A	P	L - LENGTHS							
							1.75	2.00	2.25	2.50	2.75	3.00	3.50	4.00
SPES-18	.1875	.312	.125	.312	.025	.062 -.131					-	-	-	-
SPES-25	.250	.375	.125	.375	.032	.093 -.176						-	-	-
SPES-31	.3125	.437	.125	.500	.047	.125 -.220								-
SPES-37	.375	.500	.188	.625	.047	.187 -.265								
SPES-50	.500	.625	.188	.750	.063	.187 -.353	-							
SPES-62	.625	.750	.250	.875	.063	.250 -.441	-							
SPES-75	.750	.875	.250	1.000	.063	.312 -.530	-	-						
SPES-87	.875	1.000	.250	1.000	.063	.375 -.618	-	-	-					
SPES-100	1.000	1.125	.250	1.125	.093	.437 -.706	-	-	-					

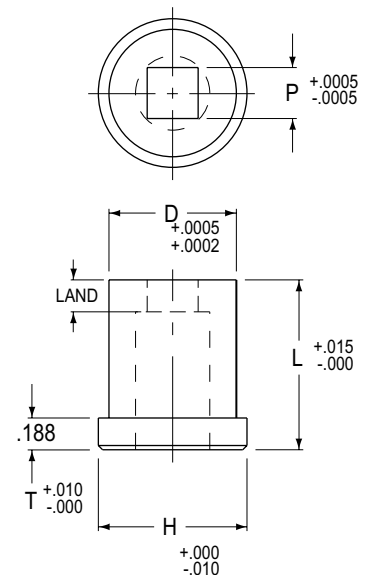
TO ORDER SPECIFY: QUANTITY, CAT. NO., LENGTH, P DIMENSION, B OR SBR LENGTH

SQUARE DIES

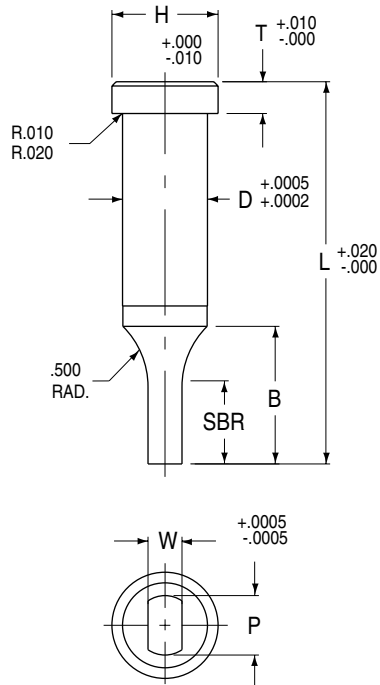
CAT.NO.	D	LAND (Min.)	P	L - LENGTHS						
				.750	.875	1.000	1.125	1.250	1.375	1.500
NDS-25	.250	.156	-							-
NDS-37	.375	.156	.062 -.131							-
NDS-50	.500	.188	.062 -.195							
NDS-62	.625	.188	.093 -.205							
NDS-75	.750	.188	.125 -.285							
NDS-87	.875	.250	.156 -.375							
NDS-100	1.000	.250	.187 -.410							
NDS-125	1.250	.312	.250 -.550							
NDS-150	1.500	.312	.312 -.740							

Material M-2 H.S.S.**HEAD TYPE SQUARE DIES**

CAT.NO.	D	H	LAND (Min.)	P	L - LENGTHS					
					.875	1.000	1.125	1.250	1.375	1.500
DHS-25	.250	.375	.156	-						-
DHS-37	.375	.500	.156	.062 -.144						-
DHS-50	.500	.625	.188	.062 -.195						
DHS-62	.625	.750	.188	.093 -.205						
DHS-75	.750	.875	.188	.125 -.285						
DHS-87	.875	1.000	.250	.156 -.375						
DHS-100	1.000	1.125	.250	.187 -.410						
DHS-125	1.250	1.375	.312	.250 -.550						
DHS-150	1.500	1.625	.312	.312 -.740						

Material M2-H.S.S.**TO ORDER SPECIFY:** QUANTITY, CAT. NO., LENGTH, P DIMENSION

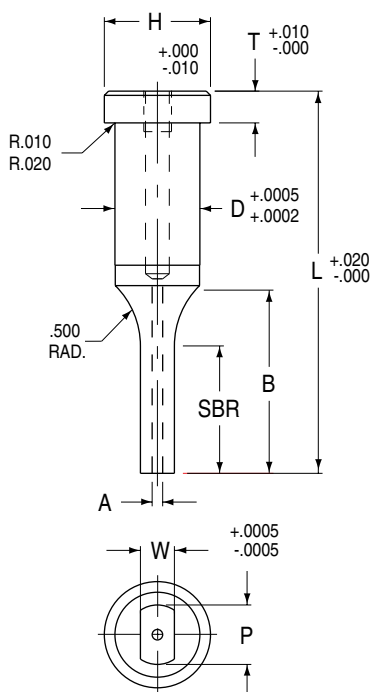
Material M2-H.S.S.



HEAD TYPE FLATTED ROUND PUNCHES

CAT.NO.	D	H	T	B	MIN. W	MAX. P	L - LENGTHS								
							1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.50	4.00
SPFR-18	.1875	.312	.125	.437	.062	.187						-	-	-	-
SPFR-25	.250	.375	.125	.500	.062	.249							-	-	-
SPFR-31	.3125	.437	.125	.562	.093	.312									-
SPFR-37	.375	.500	.188	.625	.125	.374	-								
SPFR-50	.500	.625	.188	.812	.187	.499	-	-							
SPFR-62	.625	.750	.250	.937	.250	.624	-	-							
SPFR-75	.750	.875	.250	1.063	.312	.749	-	-	-						
SPFR-87	.875	1.000	.250	1.187	.312	.874	-	-	-						
SPFR-100	1.000	1.125	.250	1.250	.375	.999	-	-	-	-					

Material M2-H.S.S.



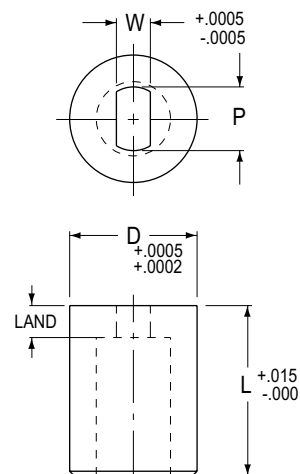
HEAD TYPE EJECTOR FLATTED ROUND PUNCHES

CAT.NO.	D	H	T	SBR	A	MIN. W	MAX. P	L - LENGTHS							
								1.75	2.00	2.25	2.50	2.75	3.00	3.50	4.00
SPEFR-18	.1875	.312	.125	.312	.025	.062	.187					-	-	-	-
SPEFR-25	.250	.375	.125	.375	.032	.093	.249						-	-	-
SPEFR-31	.3125	.437	.125	.500	.047	.125	.312								-
SPEFR-37	.375	.500	.188	.625	.047	.187	.374								
SPEFR-50	.500	.625	.188	.750	.063	.187	.499	-							
SPEFR-62	.625	.750	.250	.875	.063	.250	.624	-							
SPEFR-75	.750	.875	.250	1.000	.063	.312	.749	-	-						
SPEFR-87	.875	1.000	.250	1.000	.063	.375	.874	-	-	-					
SPEFR-100	1.000	1.125	.250	1.125	.093	.375	.999	-	-	-					

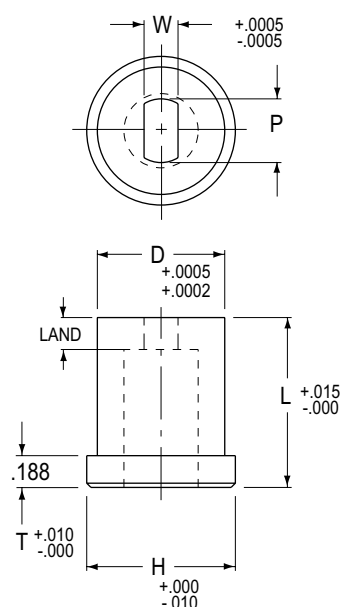
TO ORDER SPECIFY: QUANTITY, CAT. NO., LENGTH, W & P DIMENSIONS,
B OR SBR LENGTH

FLATTED ROUND DIES

CAT.NO.	D	LAND (Min.)	MIN. W	MAX. P	L - LENGTHS						
					.750	.875	1.000	1.125	1.250	1.375	1.500
NDFR-25	.250	.156	-	-							-
NDFR-37	.375	.156	.062	.195							-
NDFR-50	.500	.188	.062	.285							
NDFR-62	.625	.188	.093	.345							
NDFR-75	.750	.188	.125	.435							
NDFR-87	.875	.250	.156	.545							
NDFR-100	1.000	.250	.187	.655							
NDFR-125	1.250	.312	.250	.780							
NDFR-150	1.500	.312	.312	1.035							

Material M-2 H.S.S.**HEAD TYPE FLATTED ROUND DIES**

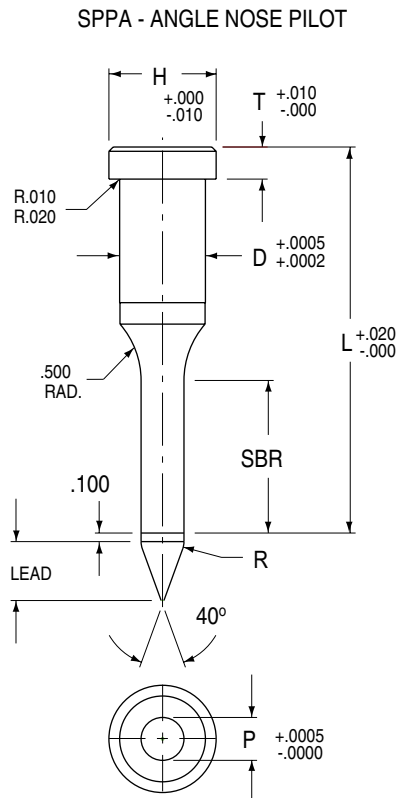
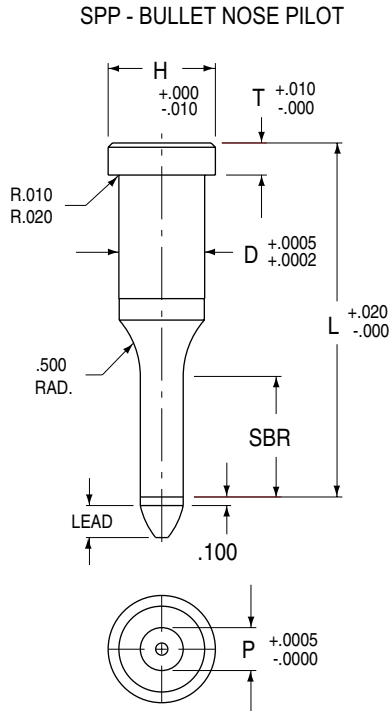
CAT.NO.	D	H	LAND (Min.)	MIN. W	MAX. P	L - LENGTHS					
						.875	1.000	1.125	1.250	1.375	1.500
DHFR-25	.250	.375	.156	-	-						-
DHFR-37	.375	.500	.156	.062	.195						-
DHFR-50	.500	.625	.188	.062	.285						
DHFR-62	.625	.750	.188	.093	.345						
DHFR-75	.750	.875	.188	.125	.435						
DHFR-87	.875	1.000	.250	.156	.545						
DHFR-100	1.000	1.125	.250	.187	.655						
DHFR-125	1.250	1.375	.312	.250	.780						
DHFR-150	1.500	1.625	.312	.312	1.035						

Material M2-H.S.S.

TO ORDER SPECIFY: QUANTITY, CAT. NO., LENGTH, W & P DIMENSIONS

Material M2-H.S.S.

HEAD TYPE PILOT PUNCHES - (SPP AND SPPA)

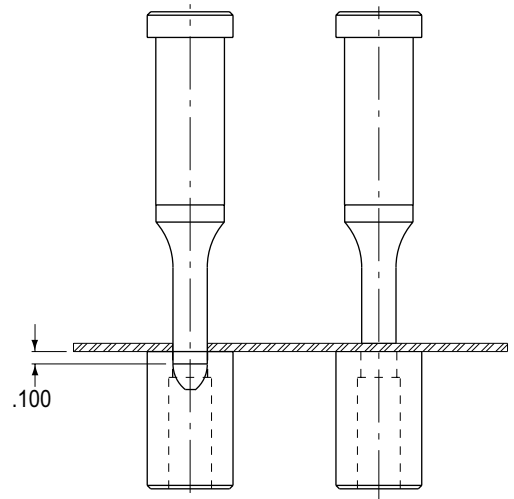


CAT.NO.	D	H	T	SBR	P	L - LENGTHS									
						1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.50	4.00	
SPP-18	.1875	.312	.125	.625	.062 -.1875						-	-	-	-	
SPP-25	.250	.375	.125	.750	.062 -.250							-	-	-	
SPP-31	.3125	.437	.125	.812	.093 -.3125									-	
SPP-37	.375	.500	.188	.875	.125 -.375	-									
SPP-50	.500	.625	.188	1.063	.187 -.500	-	-								
SPP-62	.625	.750	.250	1.187	.375 -.625	-	-								
SPP-75	.750	.875	.250	1.250	.500 -.750	-	-	-							
SPP-87	.875	1.000	.250	1.250	.562 -.875	-	-	-							
SPP-100	1.000	1.125	.250	1.375	.687 - 1.000	-	-	-	-						

BULLET NOSE PILOT	
P-DIA.	LEAD
.062 - .077	.062
.078 - .171	.125
.172 - .295	.187
.296 - .405	.250
.406 - .514	.312
.515 - .639	.375
.640 - .935	.437
.936 - .999	.500
1.000	.562

ANGLE NOSE PILOT	
P-DIA.	LEAD
.062 - .1875	.1875
.062 - .250	.250
.093 - .3125	.3125
.125 - .375	.375
.187 - .500	.500
.375 - .625	.625
.500 - .750	.750
.562 - .875	.875
.687 - 1.000	1.000

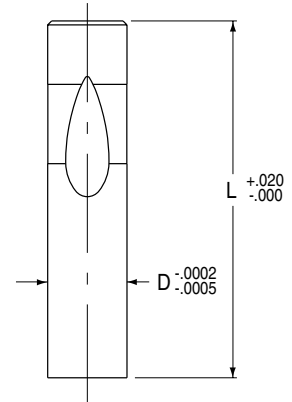
EXTENDED LENGTHS AND P-DIMENSIONS
AVAILABLE



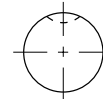
TO ORDER SPECIFY: QUANTITY, CAT. NO., LENGTH, P DIMENSION,
SBR LENGTH

BALL-LOCK BLANK PUNCHES**LIGHT DUTY**

CAT.NO.	D	L - LENGTHS						
		2.00	2.25	2.50	2.75	3.00	3.50	4.00
BLB-25	.250							-
BLB-37	.375							
BLB-50	.500							
BLB-62	.625							
BLB-75	.750	-						
BLB-87	.875	-						
BLB-100	1.000	-	-					
BLB-125	1.250	-	-					

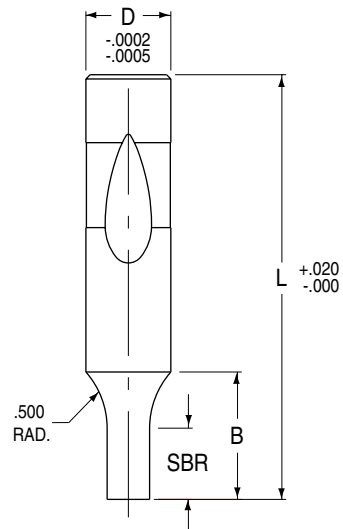
Material M2-H.S.S.**HEAVY DUTY**

CAT.NO.	D	L - LENGTHS						
		2.50	2.75	3.00	3.50	4.00	4.50	5.00
HBLB-37	.375						-	-
HBLB-50	.500							
HBLB-62	.625							
HBLB-75	.750							
HBLB-87	.875	-						
HBLB-100	1.000	-	-					
HBLB-125	1.250	-	-					



TO ORDER SPECIFY: QUANTITY, CAT. NO., LENGTH
ALSO AVAILABLE IN EJECTOR TYPE

Material M2-H.S.S.



BALL-LOCK ROUND PUNCHES

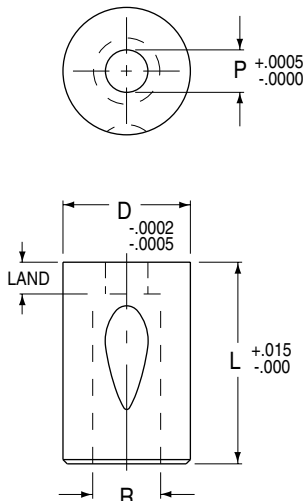
LIGHT DUTY

CAT.NO.	D	B	P	L - LENGTHS						
				2.00	2.25	2.50	2.75	3.00	3.50	4.00
BL-25	.250	.500	.062 -.249							-
BL-37	.375	.625	.125 -.374							
BL-50	.500	.750	.187 -.499							
BL-62	.625	.875	.375 -.624							
BL-75	.750	.937	.500 -.749	-						
BL-87	.875	.937	.562 -.874	-						
BL-100	1.000	.937	.687 -.999	-	-					
BL-125	1.250	.937	.937 - 1.249	-	-					

HEAVY DUTY

CAT.NO.	D	B	P	L - LENGTHS						
				2.50	2.75	3.00	3.50	4.00	4.50	5.00
HBL-37	.375	.687	.125 -.374						-	-
HBL-50	.500	.812	.187 -.499							
HBL-62	.625	.937	.375 -.624							
HBL-75	.750	1.063	.500 -.749							
HBL-87	.875	1.187	.562 -.874	-						
HBL-100	1.000	1.312	.687 -.999	-	-					
HBL-125	1.250	1.312	.937 - 1.249	-	-					

Material M2-H.S.S.



BALL-LOCK ROUND DIES

CAT.NO.	D	R	LAND (Min.)	P	L - LENGTHS
DB-50	.500	.250	.188	.062 -.187	1.187
DB-62	.625	.312	.188	.093 -.250	1.187
DB-75	.750	.375	.188	.125 -.312	1.187
DB-87	.875	.437	.250	.187 -.375	1.187
DB-100	1.000	.562	.250	.312 -.500	1.187
DB-125	1.250	.687	.312	.437 -.625	1.187
DB-150	1.500	.812	.312	.562 -.750	1.187
DB-175	1.750	1.000	.312	.625 -.937	1.187

TO ORDER SPECIFY: QUANTITY, CAT. NO., LENGTH, P DIMENSION

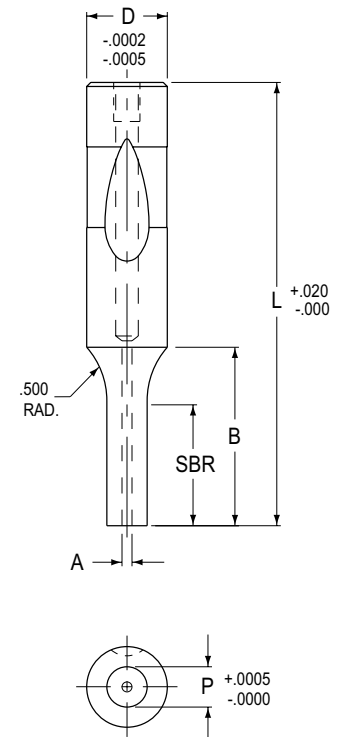
BALL-LOCK EJECTOR ROUND PUNCHES **LIGHT DUTY**

Material M2-H.S.S.

CAT.NO.	D	A	SBR	P	L - LENGTHS						
					2.00	2.25	2.50	2.75	3.00	3.50	4.00
BLE-25	.250	.032	.500	.093 -.249							-
BLE-37	.375	.047	.625	.187 -.374							
BLE-50	.500	.063	.750	.250 -.499							
BLE-62	.625	.063	.875	.375 -.624							
BLE-75	.750	.063	.937	.500 -.749	-						
BLE-87	.875	.063	.937	.562 -.874	-						
BLE-100	1.000	.093	1.000	.687 -.999	-	-					
BLE-125	1.250	.093	1.000	.937 - 1.249	-	-					

HEAVY DUTY

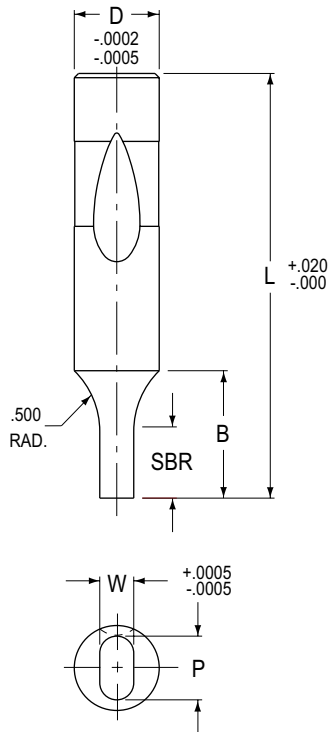
CAT.NO.	D	A	SBR	P	L - LENGTHS						
					2.50	2.75	3.00	3.50	4.00	4.50	5.00
HBLE-37	.375	.047	.625	.187 -.374						-	-
HBLE-50	.500	.063	.750	.250 -.499							
HBLE-62	.625	.063	.875	.375 -.624							
HBLE-75	.750	.063	1.000	.500 -.749							
HBLE-87	.875	.093	1.000	.562 -.874	-						
HBLE-100	1.000	.093	1.125	.687 -.999	-	-					
HBLE-125	1.250	.093	1.125	.937 - 1.249	-	-					



TO ORDER SPECIFY: QUANTITY, CAT. NO., LENGTH, P DIMENSION,
B OR SBR LENGTH

BALL-LOCK OBLONG PUNCHES LIGHT DUTY

Material M2-H.S.S



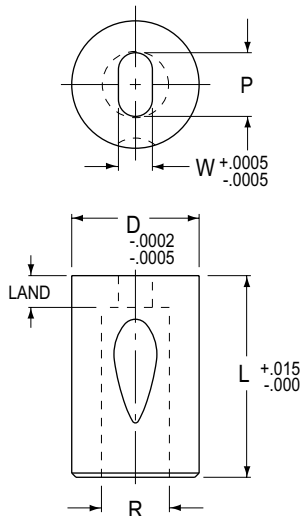
CAT.NO.	D	B	MIN. W	MAX. P	L - LENGTHS						
					2.00	2.25	2.50	2.75	3.00	3.50	4.00
BLO-25	.250	.500	.062	.249							-
BLO-37	.375	.625	.125	.374							
BLO-50	.500	.750	.187	.499							
BLO-62	.625	.875	.250	.624							
BLO-75	.750	.937	.312	.749	-						
BLO-87	.875	.937	.312	.874	-						
BLO-100	1.000	.937	.375	.999	-	-					
BLO-125	1.250	.937	.500	1.249	-	-					

HEAVY DUTY

CAT.NO.	D	B	MIN. W	MAX. P	L - LENGTHS						
					2.50	2.75	3.00	3.50	4.00	4.50	5.00
HBLO-37	.375	.687	.125	.374						-	-
HBLO-50	.500	.812	.187	.499							
HBLO-62	.625	.937	.250	.624							
HBLO-75	.750	1.063	.312	.749							
HBLO-87	.875	1.187	.312	.874	-						
HBLO-100	1.000	1.312	.375	.999	-	-					
HBLO-125	1.250	1.312	.500	1.249	-	-					

Material M2-H.S.S.

BALL-LOCK OBLONG DIES



CAT.NO.	D	R	LAND (Min.)	MIN. W	MAX. P	L - LENGTHS
DBO-50	.500	.250	.188	.062	.195	1.187
DBO-62	.625	.312	.188	.093	.285	1.187
DBO-75	.750	.375	.188	.125	.345	1.187
DBO-87	.875	.437	.250	.125	.405	1.187
DBO-100	1.000	.562	.250	.187	.535	1.187
DBO-125	1.250	.687	.312	.187	.655	1.187
DBO-150	1.500	.812	.312	.250	.755	1.187
DBO-175	1.750	1.000	.312	.250	.955	1.187

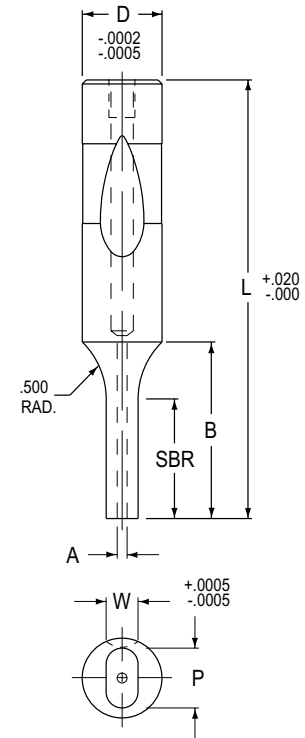
TO ORDER SPECIFY: QUANTITY, CAT. NO., LENGTH, W & P DIMENSIONS

BALL-LOCK EJECTOR OBLONG PUNCHES**LIGHT DUTY**

CAT.NO.	D	A	SBR	MIN. W	MAX. P	L - LENGTHS						
						2.00	2.25	2.50	2.75	3.00	3.50	4.00
BLEO-25	.250	.032	.500	.093	.249							-
BLEO-37	.375	.047	.625	.187	.374							
BLEO-50	.500	.063	.750	.187	.499							
BLEO-62	.625	.063	.875	.250	.624							
BLEO-75	.750	.063	.937	.312	.749	-						
BLEO-87	.875	.063	.937	.375	.874	-						
BLEO-100	1.000	.093	1.000	.375	.999	-	-					
BLEO-125	1.250	.093	1.000	.500	1.249	-	-					

HEAVY DUTY

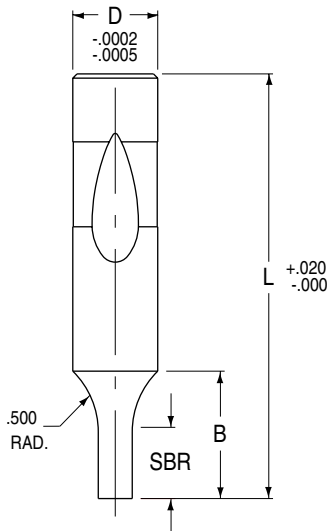
CAT.NO.	D	A	SBR	MIN. W	MAX. P	L - LENGTHS						
						2.50	2.75	3.00	3.50	4.00	4.50	5.00
HBLEO-37	.375	.047	.625	.187	.374						-	-
HBLEO-50	.500	.063	.750	.187	.499							
HBLEO-62	.625	.063	.875	.250	.624							
HBLEO-75	.750	.063	1.000	.312	.749							
HBLEO-87	.875	.063	1.000	.375	.874	-						
HBLEO-100	1.000	.093	1.125	.375	.999	-	-					
HBLEO-125	1.250	.093	1.125	.500	1.249	-	-					

Material M2-H.S.S.

**TO ORDER SPECIFY: QUANTITY, CAT. NO., LENGTH, W & P DIMENSIONS,
B OR SBR LENGTH**

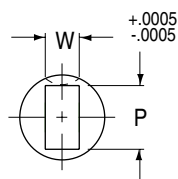
Material M2-H.S.S

BALL-LOCK RECTANGULAR PUNCHES
LIGHT DUTY



CAT.NO.	D	B	MIN. W	MAX. P	L - LENGTHS						
					2.00	2.25	2.50	2.75	3.00	3.50	4.00
BLR-25	.250	.500	.062	.208							-
BLR-37	.375	.625	.125	.282							
BLR-50	.500	.750	.187	.375							
BLR-62	.625	.875	.250	.500							
BLR-75	.750	.937	.312	.625	-						
BLR-87	.875	.937	.312	.750	-						
BLR-100	1.000	.937	.375	.875	-	-					
BLR-125	1.250	.937	.500	1.000	-	-					

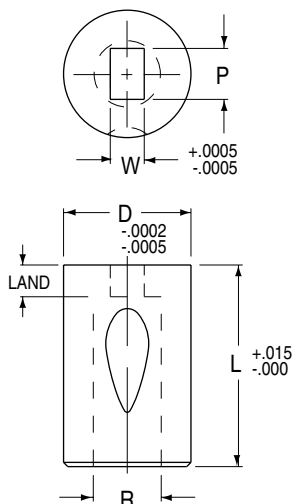
HEAVY DUTY



CAT.NO.	D	B	MIN. W	MAX. P	L - LENGTHS						
					2.50	2.75	3.00	3.50	4.00	4.50	5.00
HBLR-37	.375	.687	.125	.282						-	-
HBLR-50	.500	.812	.187	.375							
HBLR-62	.625	.937	.250	.500							
HBLR-75	.750	1.063	.312	.625							
HBLR-87	.875	1.187	.312	.750	-						
HBLR-100	1.000	1.312	.375	.875	-	-					
HBLR-125	1.250	1.312	.500	1.000	-	-					

Material M2-H.S.S.

BALL-LOCK RECTANGULAR DIES



CAT.NO.	D	R	LAND (Min.)	MIN. W	MAX. P	L - LENGTHS
DBR-50	.500	.250	.188	.062	.195	1.187
DBR-62	.625	.312	.188	.093	.265	1.187
DBR-75	.750	.375	.188	.125	.325	1.187
DBR-87	.875	.437	.250	.125	.385	1.187
DBR-100	1.000	.562	.250	.187	.495	1.187
DBR-125	1.250	.687	.312	.187	.605	1.187
DBR-150	1.500	.812	.312	.250	.715	1.187
DBR-175	1.750	1.000	.312	.250	.915	1.187

TO ORDER SPECIFY: QUANTITY, CAT. NO., LENGTH, W & P DIMENSIONS

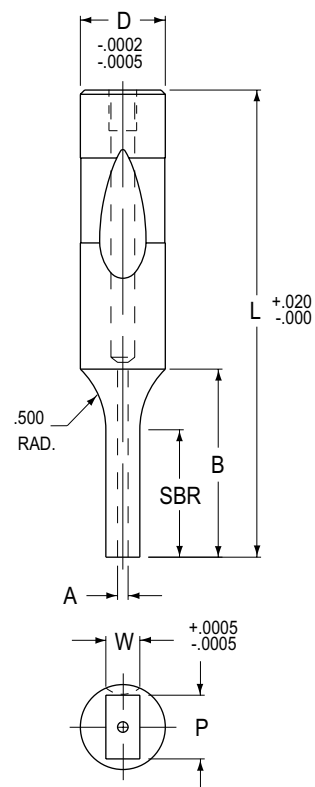
Material M2-H.S.S.

BALL-LOCK EJECTOR RECTANGULAR PUNCHES**LIGHT DUTY**

CAT.NO.	D	A	SBR	MIN. W	MAX. P	L - LENGTHS							
						2.00	2.25	2.50	2.75	3.00	3.50	4.00	
BLER-25	.250	.032	.500	.093	.208								-
BLER-37	.375	.047	.625	.187	.282								
BLER-50	.500	.063	.750	.187	.375								
BLER-62	.625	.063	.875	.250	.500								
BLER-75	.750	.063	.937	.312	.625	-							
BLER-87	.875	.063	.937	.375	.750	-							
BLER-100	1.000	.093	1.000	.375	.875	-	-						
BLER-125	1.250	.093	1.000	.500	1.000	-	-						

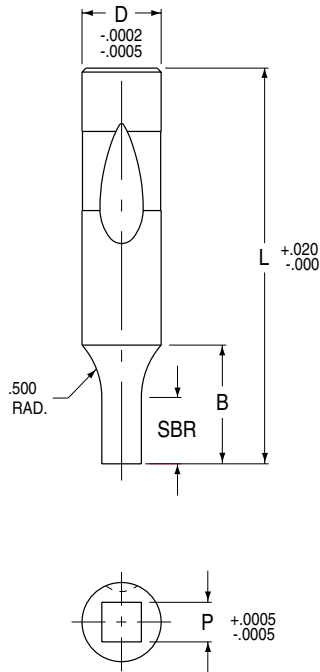
HEAVY DUTY

CAT.NO.	D	A	SBR	MIN. W	MAX. P	L - LENGTHS							
						2.50	2.75	3.00	3.50	4.00	4.50	5.00	
HBLER-37	.375	.047	.625	.187	.282						-	-	
HBLER-50	.500	.063	.750	.187	.375								
HBLER-62	.625	.063	.875	.250	.500								
HBLER-75	.750	.063	1.000	.312	.625								
HBLER-87	.875	.063	1.000	.375	.750	-							
HBLER-100	1.000	.093	1.125	.375	.875	-	-						
HBLER-125	1.250	.093	1.125	.500	1.000	-	-						



TO ORDER SPECIFY: QUANTITY, CAT. NO., LENGTH, W & P DIMENSIONS,
B OR SBR LENGTH

Material M2-H.S.S



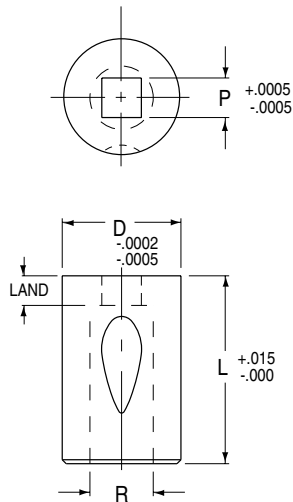
BALL-LOCK SQUARE PUNCHES
LIGHT DUTY

CAT.NO.	D	B	P	L - LENGTHS						
				2.00	2.25	2.50	2.75	3.00	3.50	4.00
BLS-25	.250	.500	.062 -.176							-
BLS-37	.375	.625	.125 -.265							
BLS-50	.500	.750	.187 -.353							
BLS-62	.625	.875	.250 -.441							
BLS-75	.750	.937	.312 -.530	-						
BLS-87	.875	.937	.375 -.618	-						
BLS-100	1.000	.937	.437 -.706	-	-					
BLS-125	1.250	.937	.500 -.875	-	-					

HEAVY DUTY

CAT.NO.	D	B	P	L - LENGTHS						
				2.50	2.75	3.00	3.50	4.00	4.50	5.00
HBLS-37	.375	.687	.125 -.265						-	-
HBLS-50	.500	.812	.187 -.353							
HBLS-62	.625	.937	.250 -.441							
HBLS-75	.750	1.063	.312 -.530							
HBLS-87	.875	1.187	.375 -.618	-						
HBLS-100	1.000	1.312	.437 -.706	-	-					
HBLS-125	1.250	1.312	.500 -.875	-	-					

Material M2-H.S.S.



BALL-LOCK SQUARE DIES

CAT.NO.	D	R	LAND (Min.)	P	L - LENGTHS
DBS-50	.500	.250	.188	.062 -.155	1.187
DBS-62	.625	.312	.188	.093 -.195	1.187
DBS-75	.750	.375	.188	.125 -.245	1.187
DBS-87	.875	.437	.250	.125 -.285	1.187
DBS-100	1.000	.562	.250	.156 -.375	1.187
DBS-125	1.250	.687	.312	.187 -.455	1.187
DBS-150	1.500	.812	.312	.250 -.535	1.187
DBS-175	1.750	1.000	.312	.312 -.675	1.187

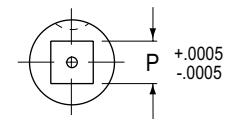
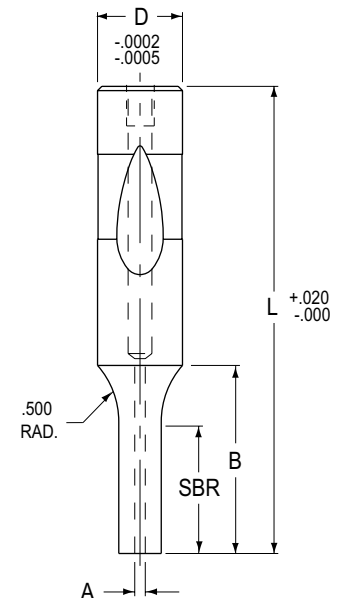
TO ORDER SPECIFY: QUANTITY, CAT. NO., LENGTH, P DIMENSION

BALL-LOCK EJECTOR SQUARE PUNCHES**Material M2-H.S.S.****LIGHT DUTY**

CAT.NO.	D	A	SBR	P	L - LENGTHS						
					2.00	2.25	2.50	2.75	3.00	3.50	4.00
BLES-25	.250	.032	.500	.093 -.176							-
BLES-37	.375	.047	.625	.125 -.265							
BLES-50	.500	.063	.750	.187 -.353							
BLES-62	.625	.063	.875	.250 -.441							
BLES-75	.750	.063	.937	.312 -.530	-						
BLES-87	.875	.063	.937	.375 -.618	-						
BLES-100	1.000	.093	1.000	.375 -.706	-	-					
BLES-125	1.250	.093	1.000	.500 -.875	-	-					

HEAVY DUTY

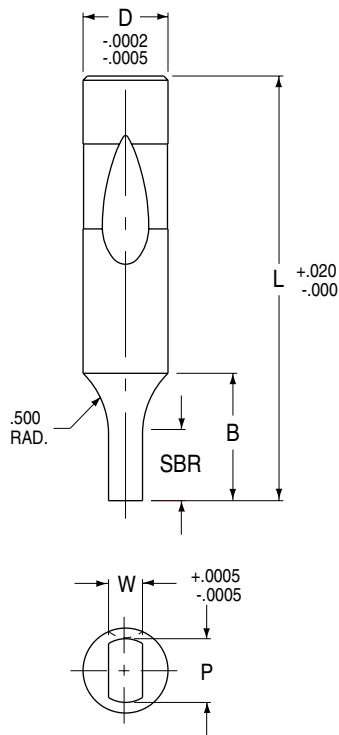
CAT.NO.	D	A	SBR	P	L - LENGTHS						
					2.50	2.75	3.00	3.50	4.00	4.50	5.00
HBLES-37	.375	.047	.625	.125 -.265						-	-
HBLES-50	.500	.063	.750	.187 -.353							
HBLES-62	.625	.063	.875	.250 -.441							
HBLES-75	.750	.063	1.000	.312 -.530							
HBLES-87	.875	.063	1.000	.375 -.618	-						
HBLES-100	1.000	.093	1.125	.375 -.706	-	-					
HBLES-125	1.250	.093	1.125	.500 -.875	-	-					

**TO ORDER SPECIFY:** QUANTITY, CAT. NO., LENGTH, P DIMENSION, B OR SBR LENGTH

Material M2-H.S.S

BALL-LOCK FLATTED ROUND PUNCHES

LIGHT DUTY



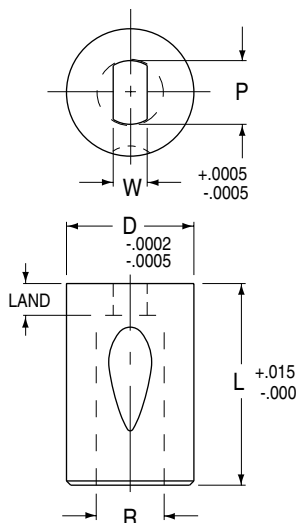
CAT.NO.	D	B	MIN. W	MAX. P	L - LENGTHS						
					2.00	2.25	2.50	2.75	3.00	3.50	4.00
BLFR-25	.250	.500	.062	.249							-
BLFR-37	.375	.625	.125	.374							
BLFR-50	.500	.750	.187	.499							
BLFR-62	.625	.875	.250	.624							
BLFR-75	.750	.937	.312	.749	-						
BLFR-87	.875	.937	.312	.874	-						
BLFR-100	1.000	.937	.375	.999	-	-					
BLFR-125	1.250	.937	.500	1.249	-	-					

HEAVY DUTY

CAT.NO.	D	B	MIN. W	MAX. P	L - LENGTHS						
					2.50	2.75	3.00	3.50	4.00	4.50	5.00
HBLFR-37	.375	.687	.125	.374						-	-
HBLFR-50	.500	.812	.187	.499							
HBLFR-62	.625	.937	.250	.624							
HBLFR-75	.750	1.063	.312	.749							
HBLFR-87	.875	1.187	.312	.874	-						
HBLFR-100	1.000	1.312	.375	.999	-	-					
HBLFR-125	1.250	1.312	.500	1.249	-	-					

Material M2-H.S.S.

BALL-LOCK FLATTED ROUND DIES



CAT.NO.	D	R	LAND (Min.)	MIN. W	MAX. P	L - LENGTHS
DBFR-50	.500	.250	.188	.062	.195	1.187
DBFR-62	.625	.312	.188	.093	.285	1.187
DBFR-75	.750	.375	.188	.125	.345	1.187
DBFR-87	.875	.437	.250	.125	.405	1.187
DBFR-100	1.000	.562	.250	.187	.535	1.187
DBFR-125	1.250	.687	.312	.187	.655	1.187
DBFR-150	1.500	.812	.312	.250	.755	1.187
DBFR-175	1.750	1.000	.312	.250	.955	1.187

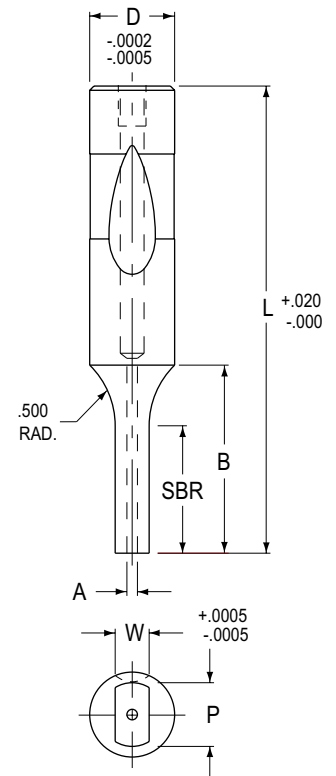
TO ORDER SPECIFY: QUANTITY, CAT. NO., LENGTH, W & P DIMENSIONS

BALL-LOCK EJECTOR FLATTED ROUND PUNCHES**Material M2-H.S.S.****LIGHT DUTY**

CAT.NO.	D	A	SBR	MIN. W	MAX. P	L - LENGTHS							
						2.00	2.25	2.50	2.75	3.00	3.50	4.00	
BLEFR-25	.250	.032	.500	.093	.249								-
BLEFR-37	.375	.047	.625	.187	.374								
BLEFR-50	.500	.063	.750	.187	.499								
BLEFR-62	.625	.063	.875	.250	.624								
BLEFR-75	.750	.063	.937	.312	.749	-							
BLEFR-87	.875	.063	.937	.375	.874	-							
BLEFR-100	1.000	.093	1.000	.375	.999	-	-						
BLEFR-125	1.250	.093	1.000	.500	1.249	-	-						

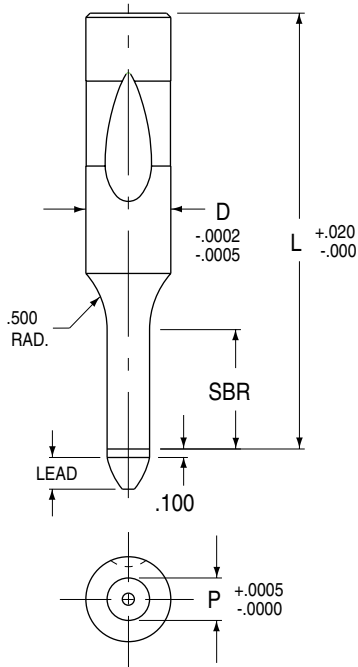
HEAVY DUTY

CAT.NO.	D	A	SBR	MIN. W	MAX. P	L - LENGTHS							
						2.50	2.75	3.00	3.50	4.00	4.50	5.00	
HBLEFR-37	.375	.047	.625	.187	.374						-	-	
HBLEFR-50	.500	.063	.750	.187	.499								
HBLEFR-62	.625	.063	.875	.250	.624								
HBLEFR-75	.750	.063	1.000	.312	.749								
HBLEFR-87	.875	.063	1.000	.375	.874	-							
HBLEFR-100	1.000	.093	1.125	.375	.999	-	-						
HBLEFR-125	1.250	.093	1.125	.500	1.249	-	-						

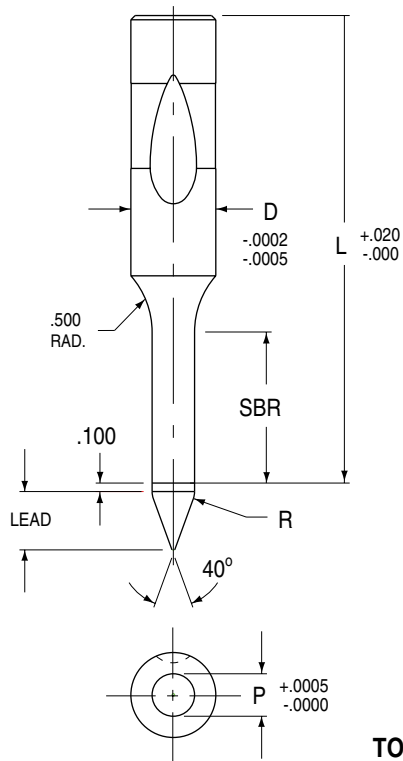
**TO ORDER SPECIFY: QUANTITY, CAT. NO., LENGTH, W & P DIMENSIONS, B OR SBR LENGTH**

Material M2-H.S.S.

BLP/HBLP - BULLET NOSE PILOT



BLPA/HBLPA - ANGLE NOSE PILOT



BALL-LOCK PILOT PUNCHES

LIGHT DUTY

CAT.NO.	D	SBR	P	L - LENGTHS						
				2.00	2.25	2.50	2.75	3.00	3.50	4.00
BLP-25	.250	.625	.062 -.250							-
BLP-37	.375	.750	.125 -.375							
BLP-50	.500	1.000	.187 -.500							
BLP-62	.625	1.125	.375 -.625	-						
BLP-75	.750	1.250	.500 -.750	-						
BLP-87	.875	1.312	.562 -.875	-						
BLP-100	1.000	1.375	.687 - 1.000	-	-					
BLP-125	1.250	1.375	.937 - 1.250	-	-					

HEAVY DUTY

CAT.NO.	D	SBR	P	L - LENGTHS						
				2.50	2.75	3.00	3.50	4.00	4.50	5.00
HBLP-37	.375	.750	.125 -.375						-	-
HBLP-50	.500	1.000	.187 -.500							
HBLP-62	.625	1.125	.375 -.625							
HBLP-75	.750	1.250	.500 -.750							
HBLP-87	.875	1.312	.562 -.875	-						
HBLP-100	1.000	1.375	.687 - 1.000	-	-					
HBLP-125	1.250	1.375	.937 - 1.250	-	-					

BULLET NOSE PILOT

P-DIA.	LEAD
.062 -.077	.062
.078 -.171	.125
.172 -.295	.187
.296 -.405	.250
.406 -.514	.312
.515 -.639	.375
.640 -.935	.437
.936 -.999	.500
1.000	.562

ANGLE NOSE PILOT

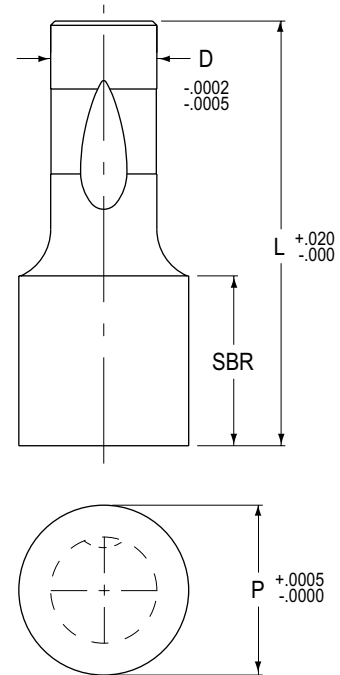
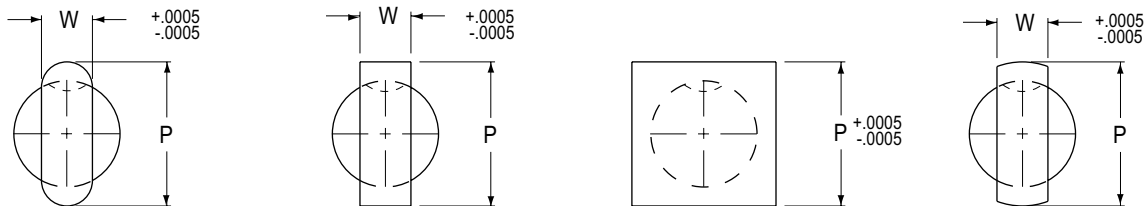
P-DIA.	LEAD
.062 -.250	.250
.125 -.375	.375
.187 -.500	.500
.375 -.625	.625
.500 -.750	.750
.562 -.875	.875
.687 - 1.000	1.000
.937 - 1.250	1.250

TO ORDER SPECIFY: QUANTITY, CAT. NO., LENGTH, P DIMENSION, SBR LENGTH

BALL-LOCK KNOB TYPE PUNCHES

CAT.NO.	D	SBR	P	L - LENGTHS		
				3.00	3.50	4.00
HBLK-37	.375	.875	.376 - .750			
HBLK-50	.500	.875	.501 - 1.000			
HBLK-62	.625	1.000	.626 - 1.250			
HBLK-75	.750	1.000	.751 - 1.500			
HBLK-87	.875	1.000	.876 - 1.625			
HBLK-100	1.000	1.000	1.001 - 1.750			
HBLK-125	1.250	1.000	1.251 - 2.000			

TO ORDER SPECIFY: QUANTITY, CAT. NO., LENGTH, P DIMENSION
ALSO AVAILABLE IN EJECTOR TYPE

Material M2-H.S.S.**SHAPES****OBLONG**

CAT. NO.	D
HBLKO-37	.375
HBLKO-50	.500
HBLKO-62	.625
HBLKO-75	.750
HBLKO-87	.875
HBLKO-100	1.000
HBLKO-125	1.250

RECTANGLE

CAT. NO.	D
HBLKR-37	.375
HBLKR-50	.500
HBLKR-62	.625
HBLKR-75	.750
HBLKR-87	.875
HBLKR-100	1.000
HBLKR-125	1.250

SQUARE

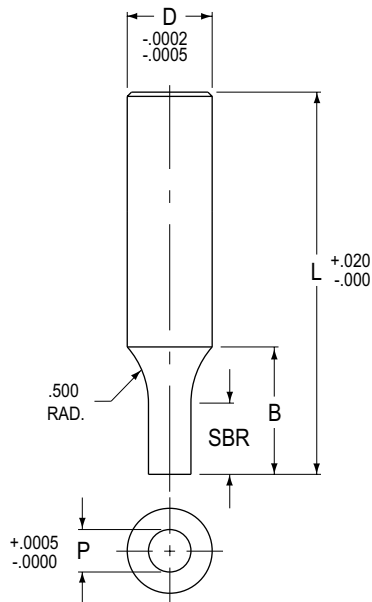
CAT. NO.	D
HBLKS-37	.375
HBLKS-50	.500
HBLKS-62	.625
HBLKS-75	.750
HBLKS-87	.875
HBLKS-100	1.000
HBLKS-125	1.250

FLATTED ROUND

CAT. NO.	D
HBLKFR-37	.375
HBLKFR-50	.500
HBLKFR-62	.625
HBLKFR-75	.750
HBLKFR-87	.875
HBLKFR-100	1.000
HBLKFR-125	1.250

TO ORDER SPECIFY: QUANTITY, CAT. NO., LENGTH, P & W DIMENSIONS
ALSO AVAILABLE IN EJECTOR TYPE

Material M2-H.S.S.



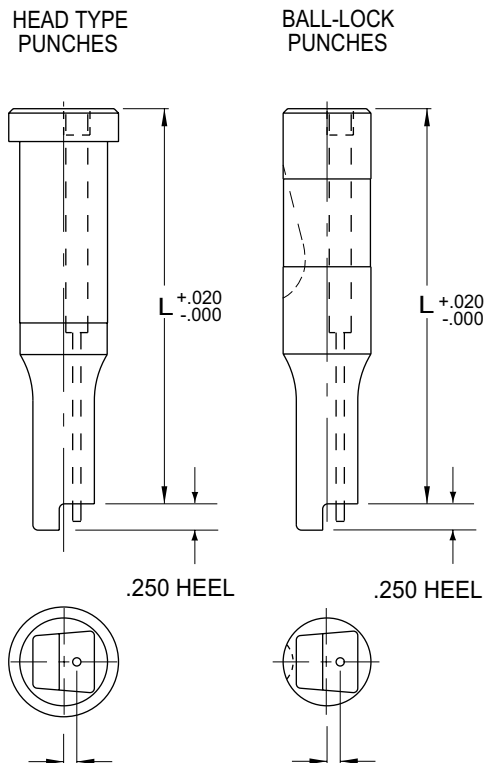
HEADLESS ROUND PUNCHES

CAT.NO.	D	B	P	L - LENGTHS							
				2.00	2.25	2.50	2.75	3.00	3.50	4.00	
X-25	.250	.500	.062 -.249						-	-	
X-37	.375	.625	.125 -.374								
X-50	.500	.750	.187 -.499								
X-62	.625	.875	.375 -.624								
X-75	.750	.937	.500 -.749	-							
X-87	.875	.937	.562 -.874	-	-						
X-100	1.000	.937	.687 -.999	-	-						
X-125	1.250	.937	.937 - 1.249	-	-						

TO ORDER SPECIFY: QUANTITY, CAT. NO., LENGTH, P DIMENSION,
B OR SBR LENGTH

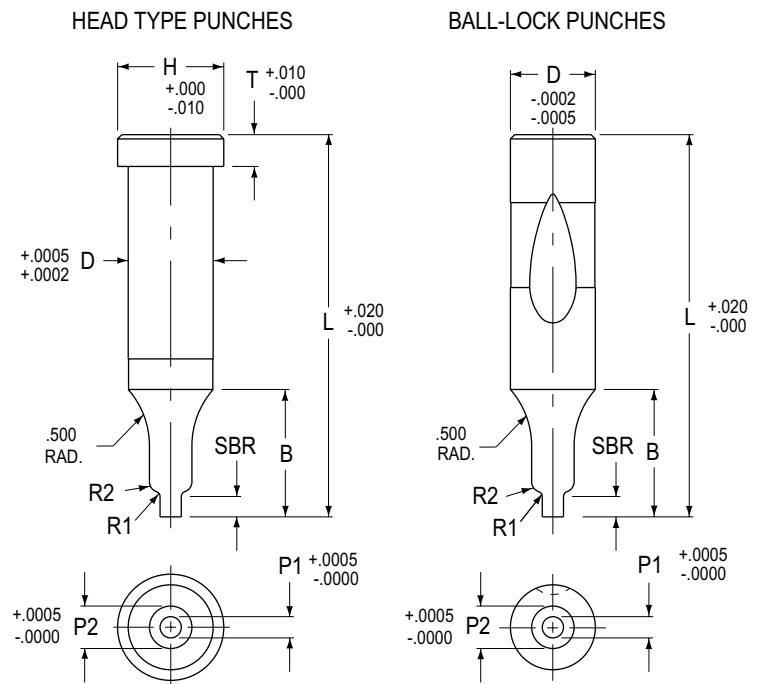
Material M2-H.S.S.

OFFSET EJECTOR PUNCHES



Material M2-H.S.S.

EXTRUSION PUNCHES

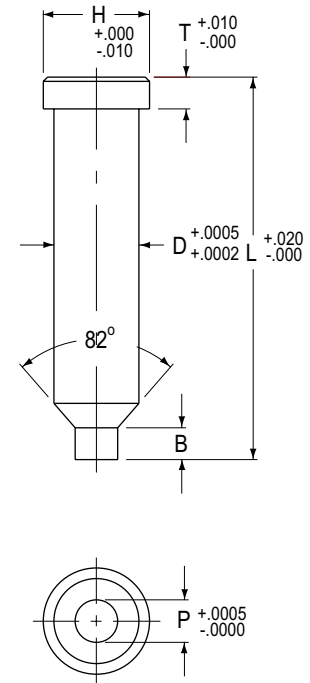


TO ORDER SPECIFY: QUANTITY, LENGTH, BODY DIA,
P1 AND P2 DIMENSIONS,
R1 AND R2 DIMENSIONS,
B AND SBR LENGTHS
ALSO AVAILABLE IN EJECTOR TYPE

HEAD TYPE COUNTERSINK PUNCHES

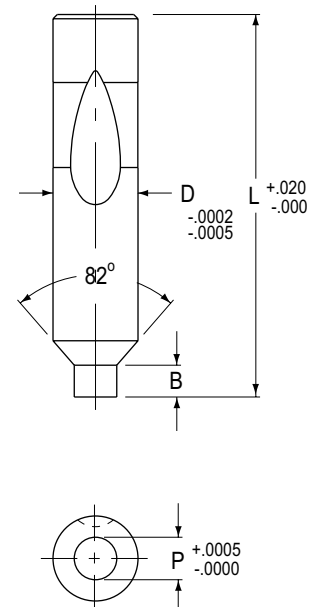
CAT.NO.	D	H	T	B	P	L - LENGTHS								
						1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.50	4.00
SPC-25	.250	.375	.125	.125	.062 -.125							-	-	-
SPC-31	.3125	.437	.125	.125	.076 -.140								-	-
SPC-37	.375	.500	.188	.156	.090 -.187	-								
SPC-50	.500	.625	.188	.187	.141 -.250	-	-							
SPC-62	.625	.750	.250	.187	.200 -.281	-	-							
SPC-75	.750	.875	.250	.250	.264 -.359	-	-	-						
SPC-87	.875	1.000	.250	.250	.311 -.406	-	-	-						
SPC-100	1.000	1.125	.250	.250	.374 -.500	-	-	-	-					

TO ORDER SPECIFY: QUANTITY, CAT. NO., LENGTH, P DIMENSION, B LENGTH

Material M2-H.S.S.**BALL-LOCK COUNTERSINK PUNCHES**

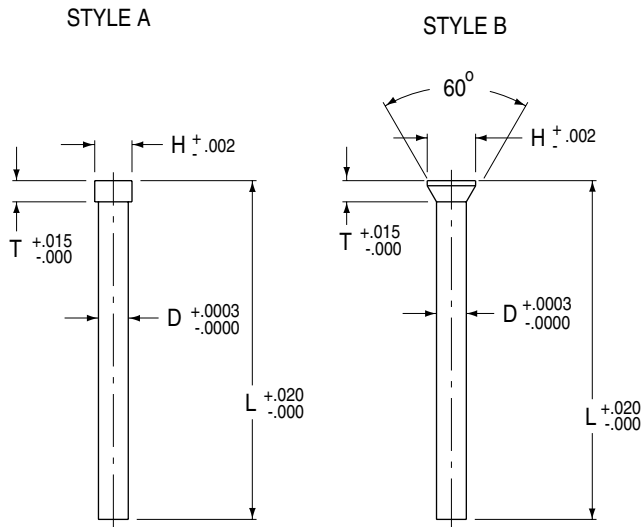
LIGHT DUTY	HEAVY DUTY				L - LENGTHS							
CAT.NO.	CAT.NO.	D	B	P	2.00	2.25	2.50	2.75	3.00	3.50	4.00	
BLC-25	—	.250	.125	.062 -.125								-
BLC-37	HBLC-37	.375	.156	.090 -.187	-							
BLC-50	HBLC-50	.500	.187	.141 -.250	-	-						
BLC-62	HBLC-62	.625	.187	.200 -.281	-	-						
BLC-75	HBLC-75	.750	.250	.264 -.359	-	-						
BLC-87	HBLC-87	.875	.250	.311 -.406	-	-	-					
BLC-100	HBLC-100	1.000	.250	.374 -.500	-	-	-					

TO ORDER SPECIFY: QUANTITY, CAT. NO., LENGTH, P DIMENSION, B LENGTH

Material M2-H.S.S.

PERFORATOR PUNCHES

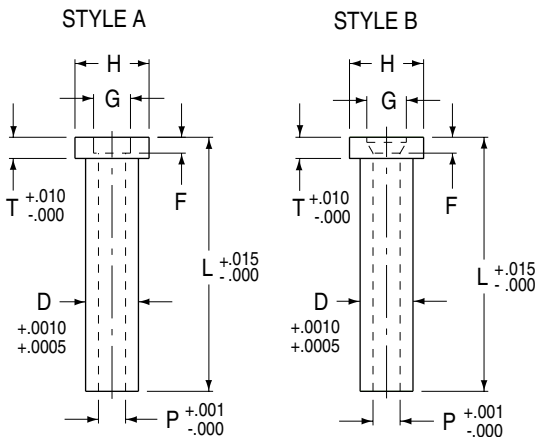
Material M2-H.S.S.



CAT.NO.	D .001 INCREMENTS	T	H	L
P-2	.056 - .070	.093	.100	2.500
P-3	.071 - .085	.093	.115	2.500
P-4	.086 - .100	.093	.130	2.750
P-5	.101 - .115	.093	.145	2.750
P-6	.116 - .130	.093	.160	2.750
P-7	.131 - .145	.093	.175	2.750
P-8	.146 - .160	.093	.195	2.750
P-9	.161 - .175	.125	.205	3.000
P-10	.176 - .189	.125	.220	3.000
P-11	.190 - .205	.125	.235	3.000
P-12	.206 - .220	.125	.250	3.000
P-13	.221 - .235	.125	.265	3.000
P-14	.236 - .250	.125	.280	3.000
P-15	.251 - .265	.125	.295	3.500
P-16	.266 - .280	.125	.310	3.500
P-17	.281 - .295	.125	.325	3.500
P-18	.296 - .310	.125	.340	3.500
P-19	.311 - .325	.125	.355	3.500
P-20	.326 - .340	.125	.370	3.500

Material M2-H.S.S.

QUILL BUSHINGS

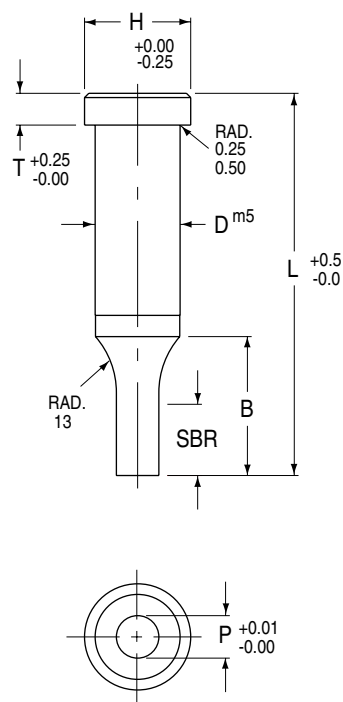


CAT.NO.	D	H	T	G	F	P	L-LENGTHS				
							1.00	1.25	1.50	1.75	2.00
SQ-18	.187	.250	.093	.125	.093	.042 -.060					
SQ-25	.250	.375	.125	.187	.093	.060 -.126					
SQ-31	.3125	.437	.125	.218	.093	.080 -.160					
SQ-37	.375	.500	.125	.250	.125	.161 -.218					
SQ-43	.4375	.562	.125	.281	.125	.200 -.250					
SQ-50	.500	.625	.187	.375	.125	.218 -.341					

TO ORDER SPECIFY: QUANTITY, CAT. NO., LENGTH, STYLE

METRIC HEAD TYPE ROUND PUNCHES**Material M2-H.S.S.**

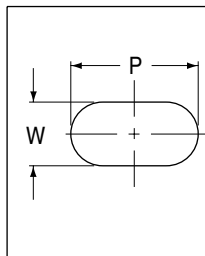
CAT.NO.	D	H	T	B	P	L - LENGTHS					
						50	60	70	80	90	100
MSP-5	5	8	5	10	1.50-4.97					-	-
MSP-6	6	9	5	13	2.00-5.97					-	-
MSP-8	8	11	5	14	3.00-7.97						
MSP-10	10	13	5	18	3.00-9.97						
MSP-13	13	16	5	20	5.00-12.97						
MSP-16	16	19	5	24	10.00-15.97						
MSP-20	20	23	5	25	13.00-19.97	-					
MSP-25	25	28	5	32	17.00-24.97	-					



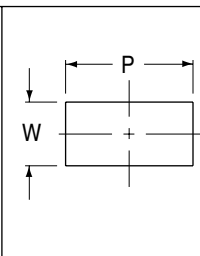
TO ORDER SPECIFY: QUANTITY, CAT. NO., LENGTH, P DIMENSION, B OR SBR LENGTH
 ALSO AVAILABLE WITH LONGER POINT LENGTH AND EJECTOR TYPE

SHAPES

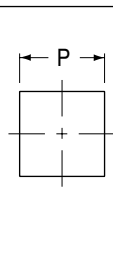
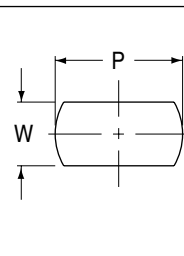
OBLONG



RECTANGLE

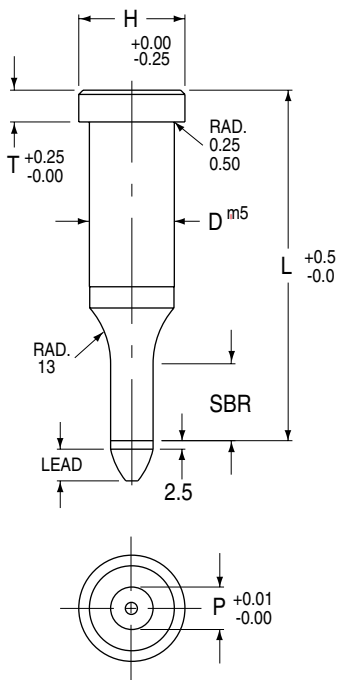


SQUARE

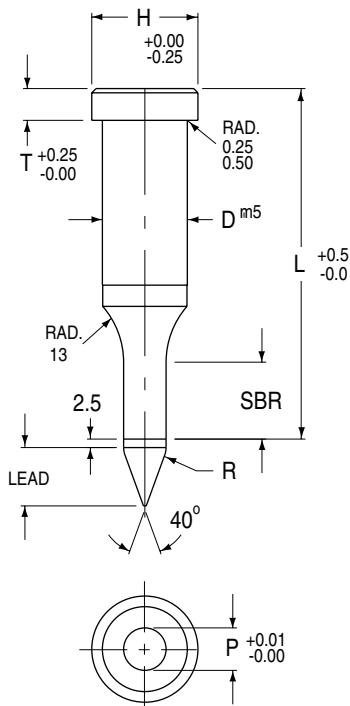
FLATTED
ROUND

Material M2-H.S.S.

MSPP - BULLET NOSE PILOT



MSPPA - ANGLE NOSE PILOT



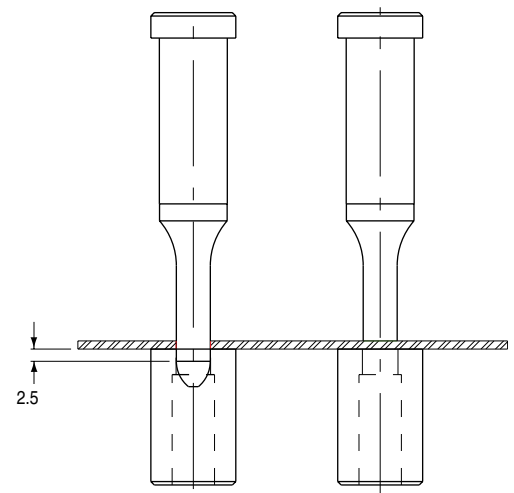
**METRIC HEAD TYPE PILOT PUNCHES
(MSPP AND MSPPA)**

CAT.NO.	D	H	T	SBR	P	L - LENGTHS					
						50	60	70	80	90	100
MSPP-5	5	8	5	13	1.50-5.00				-	-	-
MSPP-6	6	9	5	13	2.00-6.00					-	-
MSPP-8	8	11	5	16	3.00-8.00						
MSPP-10	10	13	5	20	3.00-10.00						
MSPP-13	13	16	5	20	5.00-13.00						
MSPP-16	16	19	5	25	10.00-16.00						
MSPP-20	20	23	5	25	13.00-20.00	-					
MSPP-25	25	28	5	25	17.00-25.00	-					

EXTENDED LENGTHS AND P-DIMENSIONS AVAILABLE

BULLET NOSE PILOT	
P-DIA.	LEAD
3.00 - 6.00	6.00
6.10 - 10.00	8.00
10.10 - 13.00	10.00
13.10 - 16.00	11.00
16.10 - 20.00	12.00
20.10 - 25.00	13.00

ANGLE NOSE PILOT	
P-DIA.	LEAD
3.00 - 6.00	7.00
6.10 - 10.00	8.00
10.10 - 13.00	10.00
13.10 - 16.00	15.00
16.10 - 20.00	20.00
20.10 - 25.00	25.00



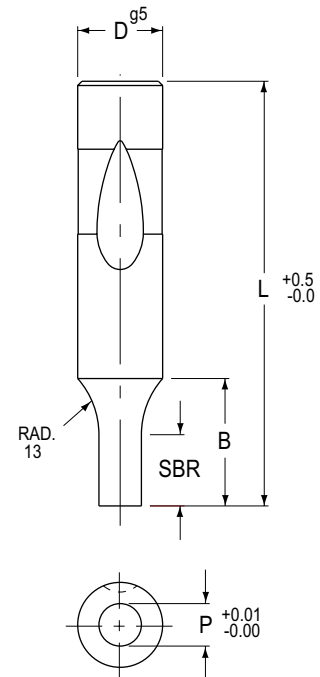
TO ORDER SPECIFY: QUANTITY, CAT. NO., LENGTH, P DIMENSION, SBR LENGTH

METRIC BALL-LOCK ROUND PUNCHES**Material M2-H.S.S.****LIGHT DUTY**

CAT.NO.	D	B	P	L - LENGTHS					
				50	60	70	80	90	100
MBL-6	6	13	2.00-5.97						
MBL-10	10	16	3.00-9.97						
MBL-13	13	20	5.00-12.97						
MBL-16	16	22	10.00-15.97	—					
MBL-20	20	24	13.00-19.97	—					
MBL-25	25	24	17.00-24.97	—	—				

HEAVY DUTY

CAT.NO.	D	B	P	L - LENGTHS					
				60	70	80	90	100	125
MHBL-10	10	16	3.00-9.97						—
MHBL-13	13	20	5.00-12.97						
MHBL-16	16	25	10.00-15.97						
MHBL-20	20	25	13.00-19.97						
MHBL-25	25	32	17.00-24.97	—					
MHBL-32	32	32	22.00-31.97	—					



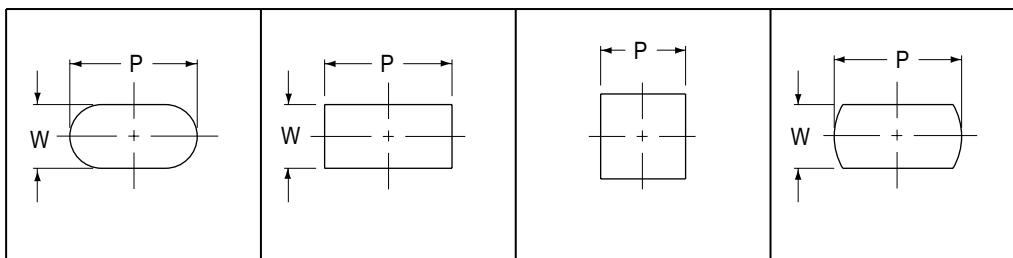
TO ORDER SPECIFY: QUANTITY, CAT. NO., LENGTH, P DIMENSION, B OR SBR LENGTH
 ALSO AVAILABLE WITH LONGER POINT LENGTH AND EJECTOR TYPE

SHAPES

OBLONG

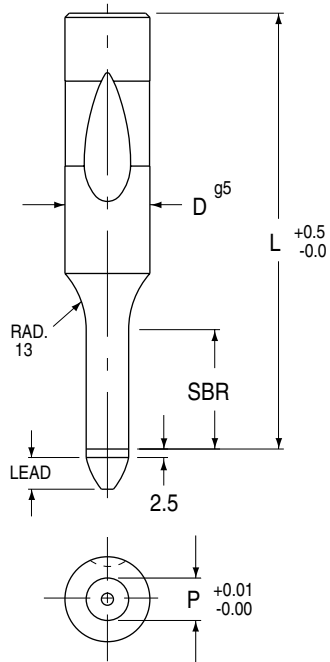
RECTANGLE

SQUARE

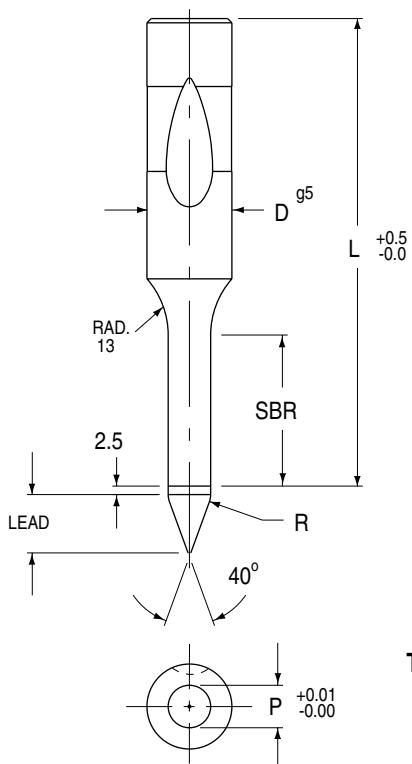
FLATTED
ROUND

Material M2-H.S.S.

MBLP/MHBLP - BULLET NOSE PILOT



MBLPA/MHBLPA - ANGLE NOSE PILOT



**METRIC BALL-LOCK PILOT PUNCHES
(MBLP/MHBLP AND MBLPA/MHBLPA)**

LIGHT DUTY

CAT.NO.	D	SBR	P	L - LENGTHS					
				50	60	70	80	90	100
MBLP-6	6	13	2.00-6.00						
MBLP-10	10	20	3.00-10.00						
MBLP-13	13	20	5.00-13.00						
MBLP-16	16	25	10.00-16.00	—					
MBLP-20	20	25	13.00-20.00	—					
MBLP-25	25	25	17.00-25.00	—	—				

HEAVY DUTY

CAT.NO.	D	SBR	P	L - LENGTHS					
				60	70	80	90	100	125
MHBLP-10	10	20	3.00-10.00						—
MHBLP-13	13	20	5.00-13.00						
MHBLP-16	16	25	10.00-16.00						
MHBLP-20	20	25	13.00-20.00						
MHBLP-25	25	25	17.00-25.00	—					
MHBLP-32	32	32	22.00-32.00	—					

BULLET NOSE PILOT	
P-DIA.	LEAD
3.00 - 6.00	6.00
6.10 - 10.00	8.00
10.10 - 13.00	10.00
13.10 - 16.00	11.00
16.10 - 20.00	12.00
20.10 - 25.00	13.00

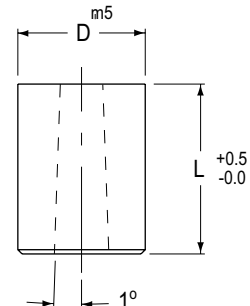
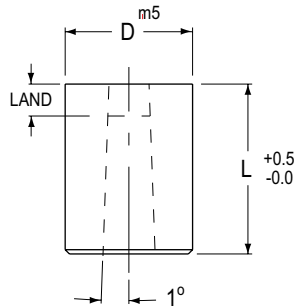
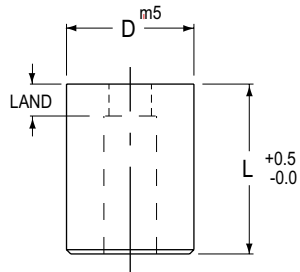
ANGLE NOSE PILOT	
P-DIA.	LEAD
3.00 - 6.00	7.00
6.10 - 10.00	8.00
10.10 - 13.00	10.00
13.10 - 16.00	15.00
16.10 - 20.00	20.00
20.10 - 25.00	25.00

TO ORDER SPECIFY: QUANTITY, CAT. NO., LENGTH, P DIMENSION, SBR LENGTH

Material M2-H.S.S.

METRIC DIES

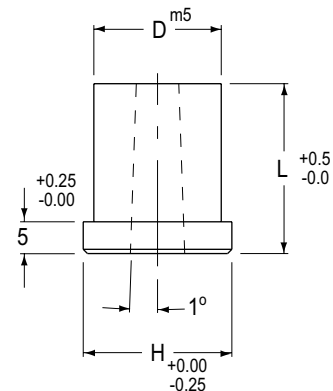
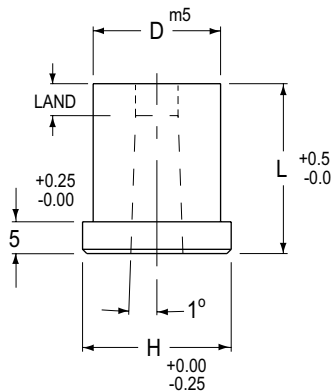
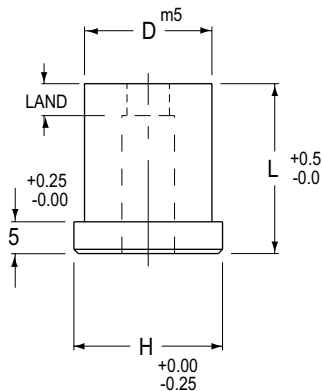
MND	MNDWL	MNDWT
DRILLED BACK HOLE	TAPER AND LAND	TAPER ONLY



Material M-2 H.S.S.

METRIC HEAD TYPE DIES

MDH	MDHWL	MDHWT
DRILLED BACK HOLE	TAPER AND LAND	TAPER ONLY



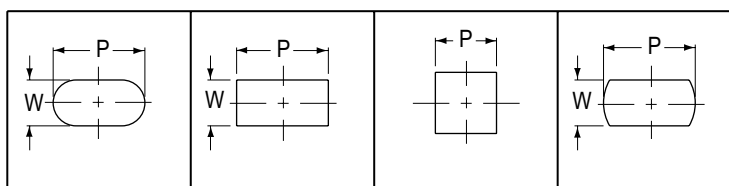
SHAPES

OBLONG

RECTANGLE

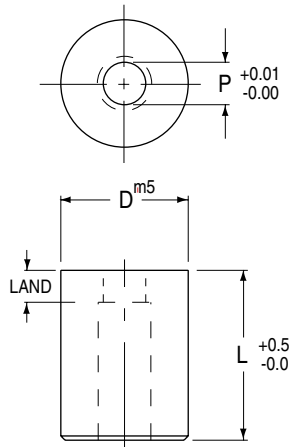
SQUARE

FLATTED
ROUND



Material M2-H.S.S.

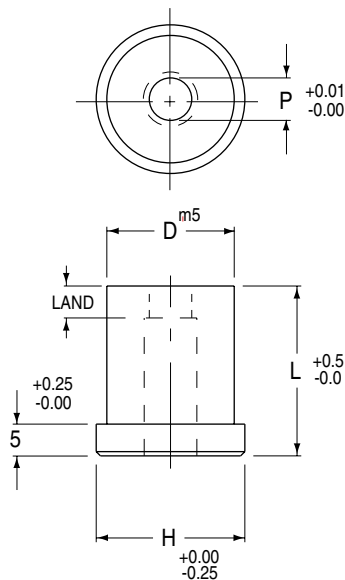
METRIC ROUND DIES



CAT.NO.	D	LAND	P	L - LENGTHS					
				20	22	25	30	32	35
MND-8	8	4	1.50-3.50						
MND-10	10	4	2.00-5.00						
MND-13	13	5	3.00-7.00						
MND-16	16	5	5.00-8.00						
MND-20	20	5	7.00-11.00						
MND-25	25	6	10.00-16.50						
MND-32	32	8	15.00-20.00						
MND-38	38	8	16.00-26.00						

Material M2-H.S.S.

METRIC HEAD TYPE ROUND DIES

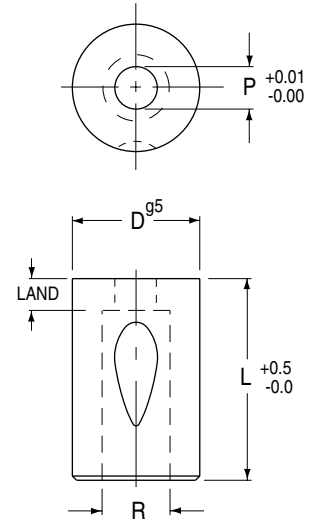


CAT.NO.	D	H	LAND	P	L - LENGTHS					
					20	22	25	30	32	35
MDH-8	8	11	4	1.50-3.50						
MDH-10	10	13	4	2.00-5.00						
MDH-13	13	16	5	3.00-7.00						
MDH-16	16	19	5	5.00-8.00						
MDH-20	20	23	5	7.00-11.00						
MDH-25	25	28	6	10.00-16.50						
MDH-32	32	35	8	15.00-20.00						
MDH-38	38	41	8	16.00-26.00						

TO ORDER SPECIFY: QUANTITY, CAT. NO., LENGTH, P DIMENSION

METRIC BALL-LOCK ROUND DIES

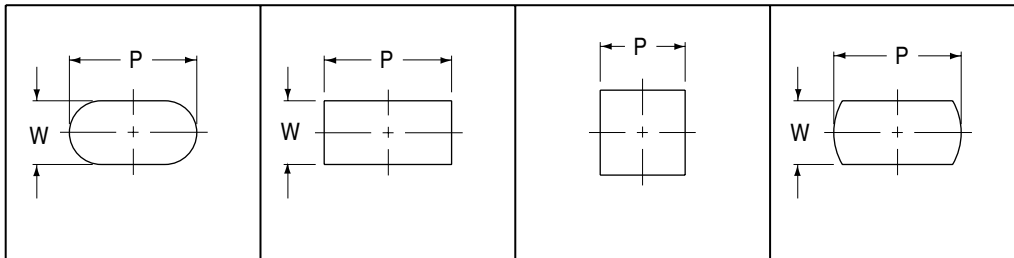
CAT.NO.	D	R	LAND	P	L - LENGTHS
MDB-13	13	6.0	5	3.00-5.00	32
MDB-16	16	9.0	5	3.50-7.50	32
MDB-20	20	12.0	5	5.00-11.00	32
MDB-25	25	17.0	6	10.00-15.50	32
MDB-32	32	21.0	8	12.00-19.50	32
MDB-38	38	27.0	8	15.00-26.00	32

Material M2-H.S.S.**TO ORDER SPECIFY:** QUANTITY, CAT. NO., LENGTH, P DIMENSION**SHAPES**

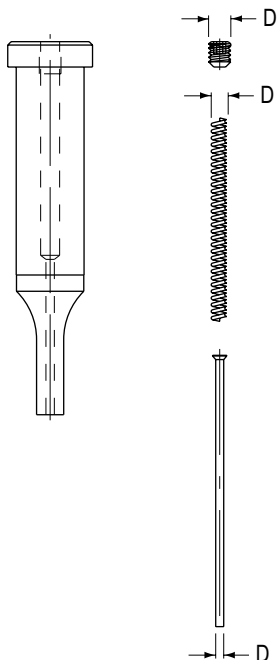
OBLONG

RECTANGLE

SQUARE

FLATTED
ROUND

EJECTOR KITS



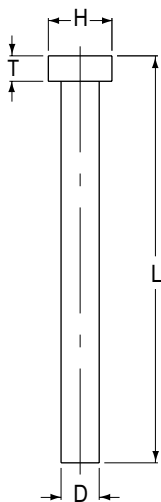
IMPERIAL

CAT.NO.	PIN D	SPRING D	SCREW	PUNCH BODY DIA.
EK025	.025	.090	6-32	18
EK032	.032	.090	6-32	25
EK044	.044	.090	6-32	31 - 37
EK059	.059	.125	8-32	50 - 87
EK090	.090	.168	1/4-20	100 - 125
EK120	.120	.206	5/16-18	LARGE DIA.

METRIC

CAT.NO.	PIN D	SPRING D	SCREW	PUNCH BODY DIA.
MEK06	0.6	2.3	M3	5mm
MEK08	0.8	2.3	M3	6mm
MEK11	1.1	2.3	M3	8-10mm
MEK15	1.5	3.2	M4	13-20mm
MEK23	2.3	4.3	M6	25-32mm
MEK30	3.0	5.1	M8	LARGE DIA.

Material A-2 56-58 Rc

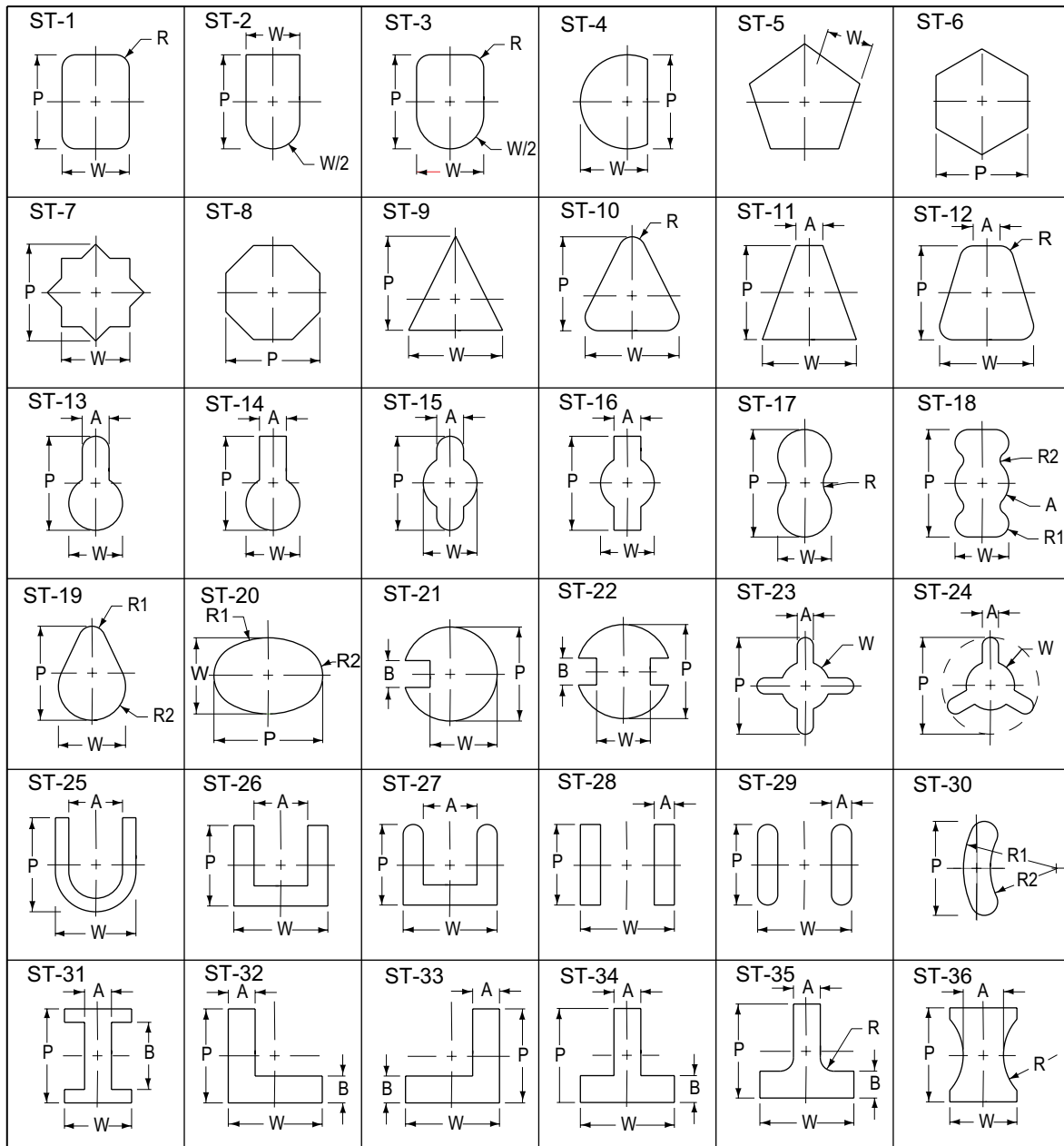


EJECTOR PINS

CAT.NO.	D	H	T	L
EP-09	.093	.156	.078	4.0
EP-12	.125	.218	.093	4.0
EP-18	.187	.312	.140	4.0
EP-25	.250	.437	.187	4.0
EP-31	.312	.500	.250	4.0
EP-37	.375	.625	.250	4.0

SPECIAL SHAPES

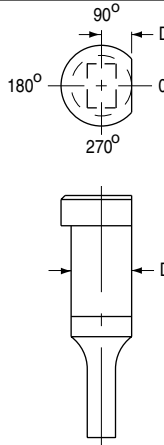
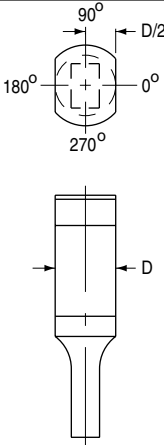
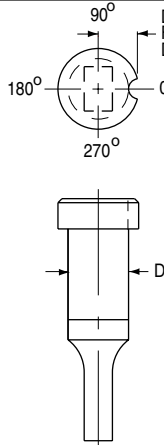
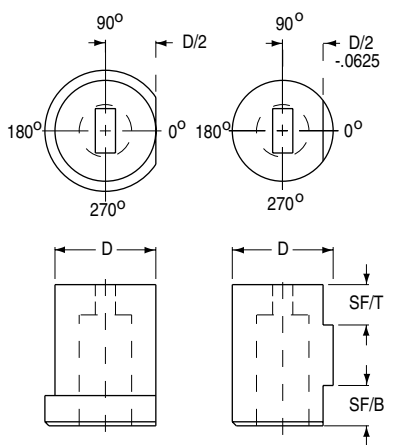
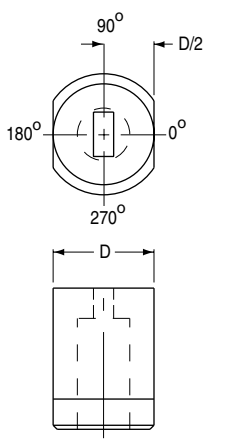
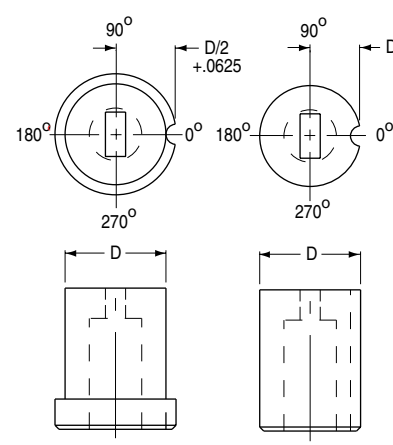
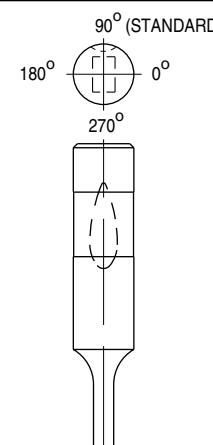
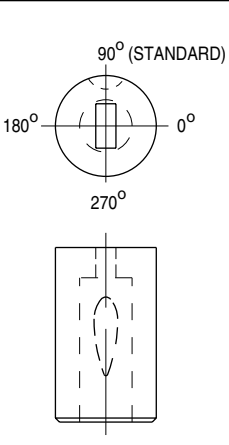
90°

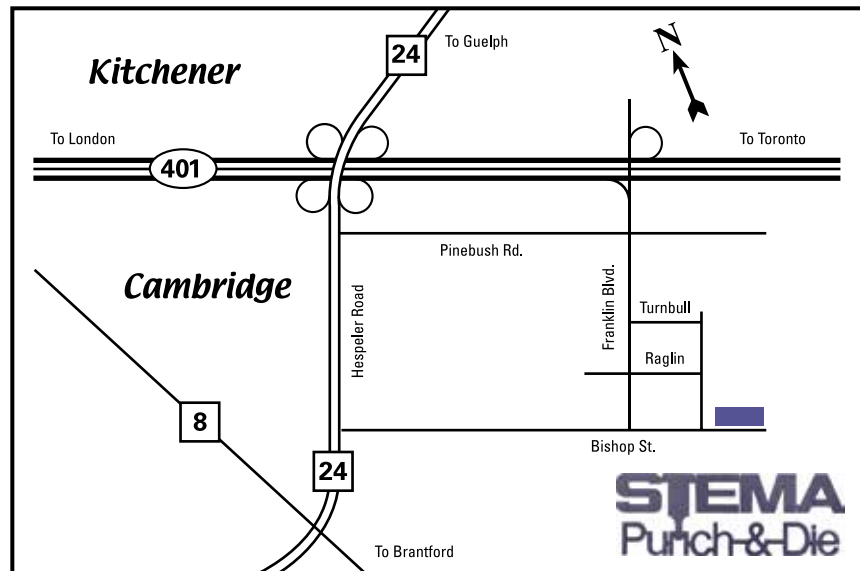


270°

THIS VIEW IS LOOKING
THROUGH THE HEAD OF THE PUNCH
WHICH IS THE SAME AS LOOKING
AT THE TOP OF THE DIE BUTTON

LOCKING METHODS

SF - SINGLE FLAT	DF - DOUBLE FLAT	D12, D18, D25 - DOWEL SLOT
		
 STANDARD SF/T OR SF/B = .250		
BALL-LOCK		
		



STEMA
Punch & Die

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1761 Bishop Street, Cambridge, Ontario N1T 1V3

Telephone: 519-622-1270 Fax: 519-622-2070

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