

Prototypes to production runs

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Company Punch & Die Tooling list

Round Tools



Size	Sta.		Size	Sta.		Size	Sta.		Size	Sta.
0.041	B		0.199	B		0.443	B		0.984	B
0.043	B		0.201	B		0.453	B		1.000	B
0.047	B		0.203	B		0.460	B		1.015	C
0.063	B		0.206	B		0.469	B		1.031	C
0.064	B		0.209	B		0.484	B		1.062	C
0.067	B		0.213	B		0.490	B		1.078	C
0.070	B		0.218	B		0.500	B		1.093	C
0.076	B		0.221	B		0.504	B		1.109	C
0.079	B		0.228	B		0.516	B		1.125	C
0.081	B		0.234	B		0.531	B		1.140	C
0.086	B		0.238	B		0.547	B		1.156	C
0.090	B		0.242	B		0.551	B		1.172	C
0.093	B		0.246	B		0.562	B		1.187	C
0.098	B		0.250	B		0.578	B		1.203	C
0.100	B		0.253	B		0.594	B		1.218	C
0.104	B		0.257	B		0.598	B		1.250	C
0.106	B		0.265	B		0.609	B		1.265	C
0.110	B		0.272	B		0.625	B		1.281	C
0.113	B		0.277	B		0.633	B		1.312	C
0.116	B		0.281	B		0.641	B		1.344	C
0.120	B		0.290	B		0.656	B		1.375	C
0.122	B		0.295	B		0.672	B		1.381	C
0.125	B		0.297	B		0.687	B		1.406	C
0.128	B		0.302	B		0.703	B		1.421	C
0.131	B		0.308	B		0.719	B		1.437	C
0.133	B		0.312	B		0.734	B		1.468	C
0.138	B		0.316	B		0.750	B		1.484	C
0.144	B		0.323	B		0.766	B		1.500	C
0.150	B		0.328	B		0.775	B		1.540	D
0.152	B		0.332	B		0.781	B		1.575	D
0.154	B		0.339	B		0.787	B		1.625	D
0.159	B		0.344	B		0.797	B		1.650	D
0.160	B		0.348	B		0.805	B		1.750	D
0.161	B		0.358	B		0.812	B		1.888	D
0.166	B		0.368	B		0.828	B		1.969	D
0.172	B		0.375	B		0.843	B		2.000	D
0.177	B		0.380	B		0.859	B		2.062	E
0.180	B		0.386	B		0.875	B		3.000	F
0.185	B		0.390	B		0.891	B		3.031	F
0.187	B		0.397	B		0.906	B			
0.189	B		0.406	B		0.922	B			
0.191	B		0.413	B		0.938	B			
0.194	B		0.422	B		0.953	B			
0.196	B		0.438	B		0.969	B			

Oval Tools



Oval Size	Station		Oval Size	Station		Oval Size	Station
.030 x .250	B		.125 x .625	B		.169 x .250	B
.032 x .250	B		.125 x .750	B		.169 x .331	B
.050 x .230	B		.125 x .875	B		.170 x .800	B
.054 x .750	B		.125 x .875	D		.171 x .375	B
.060 x .180	B		.125 x 1.000	B		.171 x .500	B
.062 x .250	B		.125 x 1.312	C		.172 x .203	B
.062 x .562	B		.125 x 1.500	C		.172 x .250	B
.062 x .750	B		.126 x .189	B		.172 x .343	B
.063 x .125	B		.128 x .189	B		.172 x .406	B
.068 x .125	B		.128 x .203	B		.172 x .437	B
.075 x .348	B		.128 x .218	B		.172 x .625	B
.075 x .425	B		.130 x .250	B		.177 x .281	B
.075 x 1.250	C		.131 x .500	B		.177 x .625	B
.080 x .190	B		.136 x .160	B		.177 x .750	B
.080 x .375	B		.136 x .281	B		.178 x .226	B
.093 x .187	B		.136 x .375	B		.178 x .296	B
.093 x .625	B		.140 x .187	B		.180 x .204	B
.093 x .700	B		.140 x .204	B		.180 x .315	B
.093 x 1.000	B		.140 x .220	B		.180 x .406	B
.093 x 1.000	C		.140 x .250	B		.182 x .250	B
.096 x .125	B		.140 x .450	B		.187 x .234	B
.096 x .196	B		.140 x .650	B		.187 x .250	B
.098 x .500	B		.147 x .177	B		.187 x .312	B
.100 x .200	B		.148 x .200	B		.187 x .375	B
.100 x .250	B		.150 x .275	B		.187 x .437	B
.100 x .380	B		.156 x .187	B		.187 x .500	B
.109 x .380	B		.156 x .203	B		.187 x .562	B
.110 x .185	B		.156 x .250	B		.187 x .625	B
.113 x .125	B		.156 x .281	B		.187 x .750	B
.114 x .163	B		.156 x .310	B		.187 x .875	B
.120 x .170	B		.156 x .312	B		.187 x 1.000	B
.120 x .218	B		.156 x .375	B		.187 x 1.688	D
.121 x .135	B		.156 x .406	B		.188 x .218	B
.125 x .156	B		.156 x .437	B		.193 x .320	B
.125 x .187	B		.156 x .500	B		.196 x .250	B
.125 x .203	B		.156 x .625	B		.196 x .380	B
.125 x .250	B		.156 x .750	B		.196 x .500	B
.125 x .281	B		.161 x .466	B		.196 x .625	B
.125 x .312	B		.161 x .600	B		.202 x .937	B
.125 x .375	B		.163 x .185	B		.203 x .263	B
.125 x .437	B		.166 x .196	B		.203 x .312	B
.125 x .480	B		.166 x .366	B		.203 x .350	B
.125 x .500	B		.169 x .234	B		.203 x .380	B

Oval Tools



Oval Size	Station		Oval Size	Station		Oval Size	Station
.205 x .400	B		.250 X 1.125	C		.406 X .656	B
.209 x .437	B		.250 X 1.250	C		.422 X .940	C
.210 x .500	B		.250 X 1.250	D		.437 x .500	B
.213 x .375	B		.250 X 1.500	D		.437 X .625	B
.218 x .278	B		.250 X 3.000	F		.437 X .656	B
.218 x .300	B		.257 X .500	B		.437 X 2.000	E
.218 x .312	B		.265 X .406	B		.460 X 2.125	E
.218 x .325	B		.266 X .360	B		.465 X .562	B
.218 x .343	B		.270 X .840	B		.468 X .500	B
.218 x .375	B		.276 X .394	B		.476 X .630	B
.218 x .406	B		.281 X .375	B		.500 X .875	B
.218 x .418	B		.281 X .390	B		.500 X 1.000	B
.218 x .437	B		.281 X .406	B		.500 X 1.130	C
.218 x .472	B		.281 X .500	B		.500 X 1.312	C
.218 x .500	B		.281 X .531	B		.500 X 1.500	C
.218 x .687	B		.281 X .562	B		.504 x .700	B
.218 x .750	B		.281 X .656	B		.505 x .552	B
.218 x 1.000	B		.281 X .750	B		.512 x .708	B
.218 x 1.000	C		.281 X 1.000	B		.512 x 2.125	E
.218 x 1.500	C		.290 x 1.790	D		.520 X 1.000	C
.218 x 2.000	C		.296 X .437	B		.562 X 1.080	C
.228 x .406	B		.297 X .500	B		.562 X 1.250	C
.230 x .312	B		.312 X .375	B		.570 X .625	B
.231 x .375	B		.312 X .500	B		.625 X .860	B
.234 x .343	B		.312 X .625	B		.625 X 2.000	E
.234 x .437	B		.312 X .750	B		.688 X .938	B
.234 x .750	B		.312 X 1.000	C		.700 X .950	B
.236 x .787	B		.312 X 1.250	C		1.260 x 1.386	F
.241 x .437	B		.325 X .415	B			
.244 x .285	B		.340 X 1.500	C			
.246 X .343	B		.343 X .500	B			
.250 x .312	B		.354 X .750	B			
.250 x .375	B		.360 X .575	B			
.250 x .406	B		.365 X 1.302	C			
.250 x .437	B		.375 X .500	B			
.250 x .450	B		.375 X .625	B			
.250 x .500	B		.375 X .750	B			
.250 x .625	b		.375 X .850	B			
.250 x .750	B		.375 X 1.500	C			
.250 x .812	B		.375 X 2.000	E			
.250 x 1.000	B		.376 X .437	B			
.250 x 1.070	B		.387 X .500	B			
.250 X 1.100	C		.406 X .531	B			

Rect Tools



Rect Size	Station		Rect Size	Station		Rect Size	Station
.031 x .380	B		.095 x .275	B		.169 x .250	B
.032 x .125	B		.100 x .100	B		.175 x .175	B
.040 x .160	B		.100 x .276	B		.187 x .187	B
.040 x .180	B		.100 x .295	B		.187 x .485	B
.040 x .240	B		.100 x .437	B		.187 x .985	B
.043 x .500	B		.102 x .250	B		.187 x 1.000	B
.043 x 1.000	B		.106 x .136	B		.187 x 1.000	C
.050 x .375	B		.107 x .312	B		.187 x 1.250	C
.050 x .500	B		.109 x .600	B		.187 x 1.500	C
.058 x .129	B		.125 x .125	B		.187 x 1.500	D
.060 x .375	B		.125 x .150	B		.187 x 1.750	D
.060 x .500	D		.125 x .250	B		.187 x 2.500	F
.060 x 1.625	D		.125 x .312	B		.187 x 3.500	H
.062 x .062	B		.125 x .375	B		.189 x .520	B
.062 x .125	B		.125 x .500	B		.190 x .310	B
.062 x .156	B		.125 x .500	D		.190 x .330	B
.062 x .218	B		.125 x .560	B		.200 x .200	B
.062 x .500	B		.125 x .625	B		.200 x .270	B
.062 x .625	B		.125 x .750	B		.200 x .580	B
.062 x .750	B		.125 x .875	B		.203 x 1.062	C
.062 x .906	B		.125 x 1.000	C		.215 x .215	B
.062 x 1.000	B		.125 x 1.000	D		.218 x .218	B
.062 x 1.000	C		.125 x 1.500	D		.218 x .330	B
.062 x 1.000	D		.125 x 2.000	E		.218 x .750	B
.063 x .500	B		.125 x 2.750	F		.218 x 1.085	C
.065 x .375	B		.130 x .330	B		.220 x 2.688	F
.065 x .385	B		.130 x .385	B		.222 x .512	B
.066 x .600	B		.132 x .507	B		.224 x .494	B
.070 x .260	B		.140 x .390	B		.228 x .585	B
.070 x .295	B		.140 x .812	B		.230 x .230	B
.075 x .330	B		.141 x .141	B		.230 x .540	B
.075 x .519	B		.141 x .342	B		.236 x .606	B
.077 x .750	B		.142 x .239	B		.240 x .410	B
.080 x .359	B		.150 x .150	B		.245 x .616	B
.080 x .375	B		.150 x .260	B		.250 x .250	B
.085 x .210	B		.150 x .806	B		.250 x .372	B
.090 x .150	B		.150 x 1.375	C		.250 x .500	B
.090 x .375	B		.152 x .437	B		.250 x .540	B
.090 x .560	B		.156 x .281	B		.250 x .625	B
.090 x .910	B		.156 x .750	B		.250 x .630	B
.093 x .750	B		.156 x 1.000	C		.250 x .680	B
.093 x 1.200	C		.160 x .340	B		.250 x 1.000	C
.093 x 1.200	D		.160 x .810	B		.250 x 1.000	D

Rect Tools



Rect Size	Station		Rect Size	Station		Rect Size	Station
.250 x 1.500	D		.375 x .500	B		.562 x .562	B
.250 x 1.750	D		.375 x .563	B		.562 x .687	B
.250 x 2.000	E		.375 x .625	B		.562 x .718	B
.250 x 2.500	F		.375 x .875	B		.562 x .925	C
.253 x .253	B		.380 x .961	C		.562 x 1.000	C
.255 x .430	B		.382 x .768	B		.585 x .715	B
.264 x .299	B		.390 x .615	B		.590 x .590	B
.270 x .295	B		.400 x .600	B		.593 x 1.020	C
.270 x .616	B		.400 x .707	B		.607 x .615	B
.275 x .300	B		.406 x .406	B		.608 x .608	B
.275 x .650	B		.406 x .812	B		.615 x .750	B
.281 x .281	B		.410 x .600	B		.625 x .625	B
.281 x .531	B		.418 x .707	B		.625 x .750	B
.281 x .625	B		.423 x .614	B		.625 x 1.100	C
.292 x .340	B		.437 x .437	B		.648 x 1.095	C
.299 x .646	B		.437 x .875	B		.650 x .900	C
.300 x .470	B		.437 x .875	C		.655 x .812	C
.300 x .525	B		.440 x .500	B		.687 x .750	C
.300 x .600	B		.440 x .740	B		.689 x 1.750	D
.300 x .815	B		.448 x .625	B		.705 x .705	C
.312 x .312	B		.449 x .806	B		.709 x .787	C
.312 x .474	B		.450 x .850	B		.709 x 1.687	D
.312 x .500	B		.468 x .875	B		.720 x .780	C
.312 x .625	B		.470 x .590	B		.725 x .830	C
.312 x .656	B		.480 x 1.075	C		.750 x .750	C
.312 x .705	B		.500 x .500	B		.750 x 1.062	C
.312 x 1.250	C		.500 x .500	D		.750 x 1.062	D
.320 x .990	C		.500 x .600	B		.770 x .770	C
.325 x .325	B		.500 x .750	C		.827 x .827	C
.330 x .548	B		.500 x .850	C		.843 x .890	C
.335 x .335	B		.500 x 1.715	D		.846 x 1.750	D
.335 x .656	B		.500 x 2.500	F		.861 x 1.018	C
.340 x .460	B		.505 x .552	B		.866 x 1.190	C
.330 x .812 BL	B		.520 x .750	B		.875 x .875	C
.344 x .875	B		.531 x .531	B		.890 x 1.000	C
.345 x .345	C		.531 x .625	B		.895 x .895	C
.350 x .730	B		.531 x .660	B		.953 x .953	C
.353 x .353	B		.531 x .750	B		.968 x .968	C
.355 x .500	B		.531 x .937	C		.970 x .970	C
.360 x .600	B		.540 x .560	B		1.000 x 1.000	C
.360 x 1.000	C		.540 x 1.000	C		1.000 x 1.000	D
.366 x 1.440	C		.550 x 1.000	C		1.250 x 1.500	D
.375 x .375	B		.552 x .650	B		2.000 x 2.000	E
.375 x .406	B		.560 x .680	B			

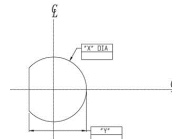
Radius Corner Rect.



	Rect Size	Cnr Rad	Station		Rect Size	Cnr Rad	Station	
	.120 x .280	0.039	B		.600 x .750	0.125	C	
	.180 x .400	0.06	B		.615 x 1.156	0.062	C	
	.225 x .375	0.020	B		.660 x .660	0.062	C	
	.230 x .280	0.030	B		.690 x 1.000	0.062	C	
	.315 x .315	0.078	B		.700 x .926	0.030	C	
	.350 x .470	0.032	B		.710 x 1.741	0.011	D	Blanking
	.390 x .760	0.060	B		.800 x 1.100	0.140	C	
	.400 x .760	0.080	B		.860 x 1.100	0.062	C	
	.406 x .750	0.062	B		.875 x 1.125	0.125	C	
	.440 x .485	0.062	B		.900 x 1.200	0.234	C	
	.450 x .750	0.060	B		.900 x 1.250	0.060	C	
	.450 x .750	0.120	B		.906 x 1.218	0.187	C	
	.500 x .500	0.062	B					
	.500 x .625	0.030	B					
	.500 x .844	0.062	C					
	.526 x .526	0.050	B					
	.531 x 1.125	0.100	C					
	.561 x 1.241	0.060	C					
	.562 x 1.032	0.093	C					
	.570 x 1.250	0.060	C	Blanking				
	.580 x .660	0.060	B					
	.593 x .937	0.062	C					

Single D Tools

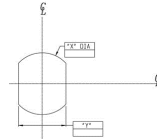
X = Dia. Y = Width



X-Dims.	Y-Dims.	Station	X-Dims.	Y-Dims.	Station	X-Dims.	Y-Dims.	Station
0.144	0.129	B	0.455	0.432	B	0.780	0.700	B
0.195	0.175	B	0.475	0.448	B	0.820	0.760	B
0.250	0.220	B	0.503	0.475	B	0.871	0.841	B
0.252	0.234	B	0.505	0.437	B	0.887	0.827	B
0.252	0.242	B	0.505	0.478	B	1.010	0.969	C
0.254	0.238	B	0.516	0.488	B	1.012	0.950	C
0.264	0.234	B	0.545	0.490	B	1.031	0.968	C
0.265	0.234	B	0.568	0.536	B	1.130	1.081	C
0.283	0.266	B	0.580	0.555	B	1.150	1.100	C
0.316	0.294	B	0.585	0.564	B	1.255	1.206	C
0.325	0.298	B	0.625	0.390	B	1.260	1.225	C
0.344	0.281	B	0.625	0.588	B	1.282	1.203	C
0.375	0.343	B	0.630	0.572	B	1.390	1.330	C
0.377	0.270	B	0.635	0.595	B			
0.377	0.359	B	0.656	0.546	B			
0.378	0.346	B	0.656	0.609	B			
0.380	0.352	B	0.682	0.559	B			
0.382	0.348	B	0.700	0.667	B			
0.390	0.335	B	0.713	0.682	B			
0.390	0.355	B	0.757	0.732	B			
0.437	0.421	B	0.760	0.700	B			
0.443	0.410	B	0.762	0.724	B			

Double D Tools

X = Dia. Y = Width

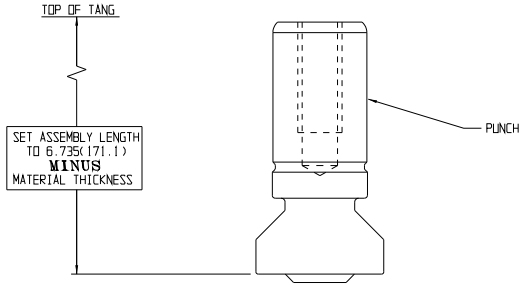


X-Dims.	Y-Dims.	Station	X-Dims.	Y-Dims.	Station	X-Dims.	Y-Dims.	Station
0.180	0.120	B	0.500	0.468	B	0.875	0.770	B
0.230	0.130	B	0.515	0.450	B	0.875	0.797	B
0.265	0.219	B	0.564	0.502	B	0.875	0.812	B
0.312	0.250	B	0.597	0.535	B	0.880	0.755	B
0.323	0.250	B	0.625	0.540	B	1.000	0.875	B
0.328	0.265	B	0.625	0.580	B	1.093	1.030	C
0.340	0.270	B	0.631	0.571	B	1.125	1.000	C
0.344	0.250	B	0.638	0.600	B	1.130	1.058	C
0.350	0.316	B	0.640	0.540	B	1.140	1.090	C
0.360	0.330	B	0.642	0.552	B	1.187	1.030	C
0.375	0.203	B	0.687	0.625	B	1.250	1.150	C
0.378	0.335	B	0.689	0.572	B	1.320	1.120	C
0.380	0.300	B	0.716	0.657	B	1.357	1.156	C
0.386	0.315	B	0.750	0.672	B	1.370	1.173	C
0.394	0.325	B	0.755	0.635	B	1.375	1.156	C
0.401	0.351	B	0.765	0.640	B	1.380	1.200	C
0.406	0.312	B	0.781	0.640	B			
0.437	0.375	B	0.781	0.687	B			
0.442	0.400	B	0.815	0.700	B			
0.453	0.385	B	0.850	0.670	B			
0.476	0.423	B	0.866	0.758	B			
0.500	0.375	B	0.845	0.840	B			

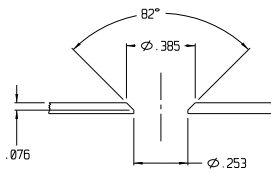
Countersink Tools

CUSTOMER: ELECTRONIC SHEET METAL		 MATE PRECISION TOOLING	DEDICATED ROUND DOWN COUNTERSINK SET-UP INSTRUCTIONS		B/C B5-29
ACCOUNT #: 232004			MACHINE MODEL: MOT2	STATION: 112 B	
ETCH #: 01100113			MATERIAL TYPE: MILD STEEL		THICKNESS: .089
DATE: 01/14/10			DESIGNED BY: TEW		SCALE: NONE
DESIGNED BY: TEW			SCALE: NONE		MATERIAL TYPE: MILD STEEL

1. SHUT HEIGHTS AND MATERIAL THICKNESS VARIATIONS REQUIRE OVERALL LENGTH TO BE ADJUSTED/SHIMMED TO SUIT FORM.
2. FORMING SHOULD BE THE LAST OPERATION PERFORMED.

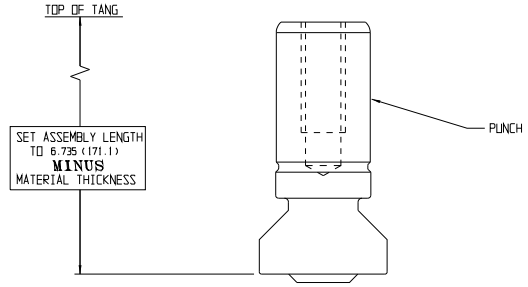


APPROXIMATE PRE-PIERCE = \varnothing .309

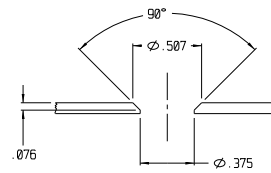


CUSTOMER: ELECTRONIC SHEET METAL CRAFTS		 MATE PRECISION TOOLING	DEDICATED ROUND DOWN COUNTERSINK SET-UP INSTRUCTIONS		B/C B5-29
ACCOUNT #: 232004			MACHINE MODEL: MOT2	STATION: 112 B	
ETCH #: 01100114			MATERIAL TYPE: MS		THICKNESS: .089
DATE: 1/14/10			DESIGNED BY: DPS		SCALE: NONE
DESIGNED BY: DPS			SCALE: NONE		MATERIAL TYPE: MS

1. SHUT HEIGHTS AND MATERIAL THICKNESS VARIATIONS REQUIRE OVERALL LENGTH TO BE ADJUSTED/SHIMMED TO SUIT FORM.
2. FORMING SHOULD BE THE LAST OPERATION PERFORMED.

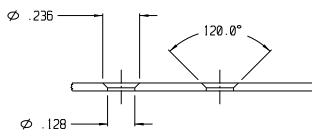
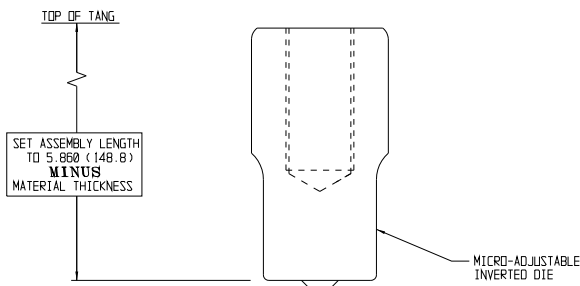


APPROXIMATE PRE-PIERCE = \varnothing .429



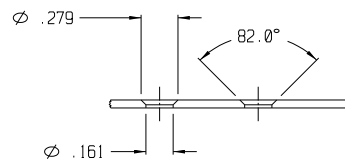
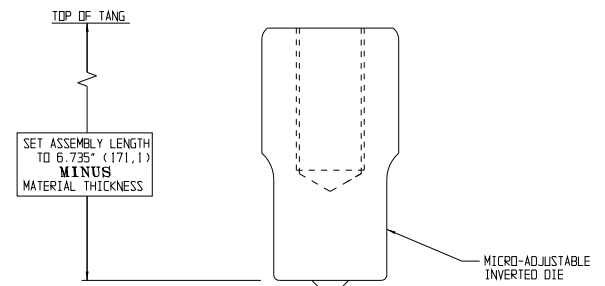
CUSTOMER: ELECTRONIC SHEET METAL		 MATE PRECISION TOOLING	DEDICATED ROUND DOWN COUNTERSINK SET-UP INSTRUCTIONS		B329-01
ACCOUNT #: 232004			MACHINE MODEL: C-20	STATION: B	
ETCH #: 02081140			MATERIAL TYPE: MILD STEEL		THICKNESS: .189
DATE: 2/22/08			DESIGNED BY: LMW		SCALE: NONE
DESIGNED BY: LMW			SCALE: NONE		MATERIAL TYPE: MILD STEEL

1. SHUT HEIGHTS AND MATERIAL THICKNESS VARIATIONS REQUIRE OVERALL LENGTH TO BE ADJUSTED/SHIMMED TO SUIT FORM.
2. FORMING SHOULD BE THE LAST OPERATION PERFORMED.




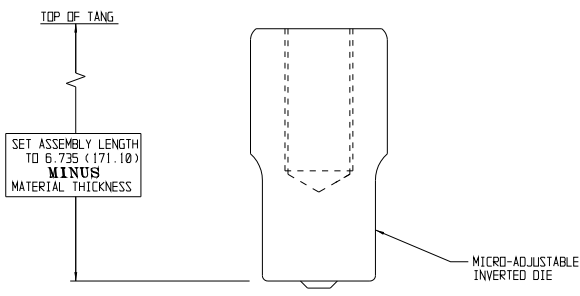
CUSTOMER: ELECTRONIC SHEET METAL		 MATE PRECISION TOOLING	DEDICATED ROUND DOWN COUNTERSINK SET-UP INSTRUCTIONS		B329-01
ACCOUNT #: 232004			MACHINE MODEL: MOT2	STATION: B	
ETCH #: 03140113			MATERIAL TYPE: ALUMINUM		THICKNESS: .080
DATE: 3/20/14			DESIGNED BY: LMW		SCALE: NONE
DESIGNED BY: LMW			SCALE: NONE		MATERIAL TYPE: ALUMINUM

1. SHUT HEIGHTS AND MATERIAL THICKNESS VARIATIONS REQUIRE OVERALL LENGTH TO BE ADJUSTED/SHIMMED TO SUIT FORM.
2. FORMING SHOULD BE THE LAST OPERATION PERFORMED.



Countersink Tools


CUSTOMER: ELECTRONIC SHEET METAL		 MATE PRECISION TOOLING	DEDICATED ROUND DOWN COUNTERSINK SET-UP INSTRUCTIONS	B329-01
ORDER #: 116-01-01			MACHINE MODEL: MDT2	STATION: B
ETCH #: 04050141			MATERIAL TYPE: ALUM.	THICKNESS: .063
DATE: 4/26/05			DESIGNED BY: LMW	
SCALE: NONE		1. SHUT HEIGHTS AND MATERIAL THICKNESS VARIATIONS REQUIRE OVERALL LENGTH TO BE ADJUSTED/SHIMMED TO SUIT FORM. 2. FORMING SHOULD BE THE LAST OPERATION PERFORMED.		



TOP OF TANG

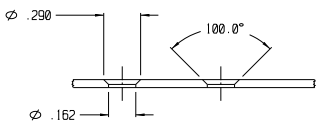
SET ASSEMBLY LENGTH TO 6.735 (171.10) MINUS MATERIAL THICKNESS


MICRO-ADJUSTABLE INVERTED DIE

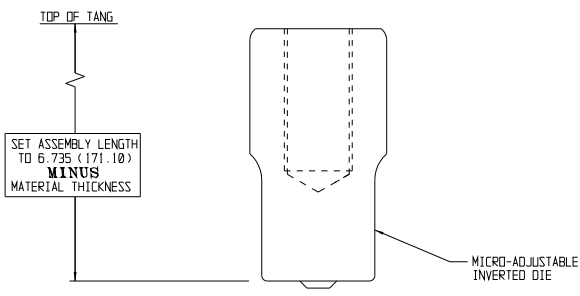


BLANK DIE

APPROXIMATE PRE-PIERCE = .203 DIA.




CUSTOMER: ELECTRONIC SHEET METAL		 MATE PRECISION TOOLING	DEDICATED ROUND DOWN COUNTERSINK SET-UP INSTRUCTIONS	B329-01
ORDER #: 116-01-01			MACHINE MODEL: MDT 2	STATION: B
ETCH #: 04050142			MATERIAL TYPE: ALUMINUM	THICKNESS: .063
DATE: 04-26-05			DESIGNED BY: JES	
SCALE: NONE		1. SHUT HEIGHTS AND MATERIAL THICKNESS VARIATIONS REQUIRE OVERALL LENGTH TO BE ADJUSTED/SHIMMED TO SUIT FORM. 2. FORMING SHOULD BE THE LAST OPERATION PERFORMED.		



TOP OF TANG

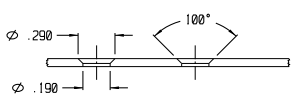
SET ASSEMBLY LENGTH TO 6.735 (171.10) MINUS MATERIAL THICKNESS


MICRO-ADJUSTABLE INVERTED DIE

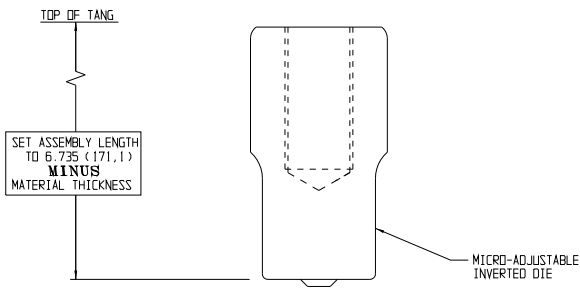


BLANK DIE

*APPROXIMATE PRE-PIERCE IS .208 DIA.



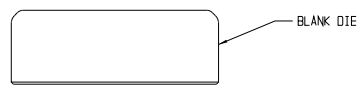
CUSTOMER: ELECTRONIC SHEET METAL		 MATE PRECISION TOOLING	DEDICATED ROUND DOWN COUNTERSINK SET-UP INSTRUCTIONS	B329-01
ACCOUNT #: 232004			MACHINE MODEL: MOTORUM	STATION: B
ETCH #: 05152800			MATERIAL TYPE: ALUMINUM	THICKNESS: .050
DATE: 5/4/15			DESIGNED BY: LMW	
SCALE: NONE		1. SHUT HEIGHTS AND MATERIAL THICKNESS VARIATIONS REQUIRE OVERALL LENGTH TO BE ADJUSTED/SHIMMED TO SUIT FORM. 2. FORMING SHOULD BE THE LAST OPERATION PERFORMED.		



TOP OF TANG

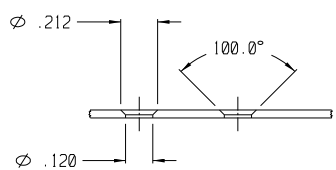
SET ASSEMBLY LENGTH TO 6.735 (171.1) MINUS MATERIAL THICKNESS


MICRO-ADJUSTABLE INVERTED DIE

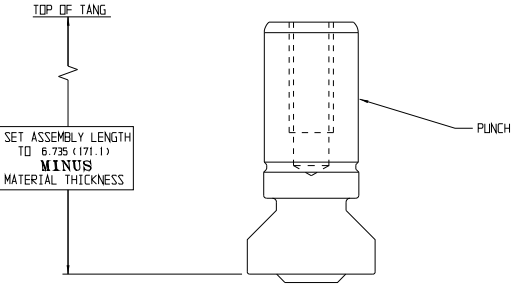


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APPROXIMATE PRE-PIERCE = .156 DIA.



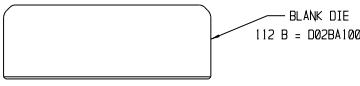
CUSTOMER: ELECTRONIC SHEET METAL		 MATE PRECISION TOOLING	DEDICATED ROUND DOWN COUNTERSINK SET-UP INSTRUCTIONS	B/C B5-29
MACHINE MODEL: MDT2			STATION: 112-B	
MATERIAL TYPE: AL			THICKNESS: .080	
DATE: 5/4/15			DESIGNED BY: LMW	
SCALE: NONE		1. SHUT HEIGHTS AND MATERIAL THICKNESS VARIATIONS REQUIRE OVERALL LENGTH TO BE ADJUSTED/SHIMMED TO SUIT FORM. 2. FORMING SHOULD BE THE LAST OPERATION PERFORMED.		



TOP OF TANG

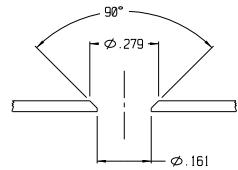
SET ASSEMBLY LENGTH TO 6.735 (171.1) MINUS MATERIAL THICKNESS

PUNCH




BLANK DIE
112 B = D02BA10048

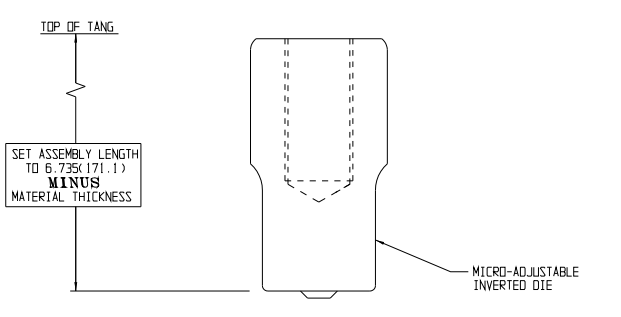
APPROXIMATE PRE-PIERCE = Ø .211



Countersink Tools

CUSTOMER: ELECTRONIC SM		 MATE PRECISION TOOLING	DEDICATED ROUND DOWN COUNTERSINK SET-UP INSTRUCTIONS		B329-01	
ACCOUNT #: 232004			MACHINE MODEL: MOT2	STATION: 112B		
ETCH #: 07071004			MATERIAL TYPE: ALUMINUM		THICKNESS: .063	
DATE: 7/12/07			DESIGNED BY: JRS		SCALE: NONE	

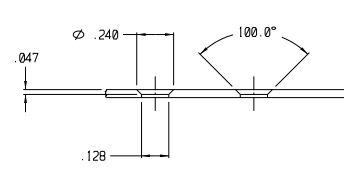
1. SHUT HEIGHTS AND MATERIAL THICKNESS VARIATIONS REQUIRE OVERALL LENGTH TO BE ADJUSTED/SHIMMED TO SUIT FORM.
2. FORMING SHOULD BE THE LAST OPERATION PERFORMED.




TOP OF TANG

SET ASSEMBLY LENGTH TO 6.735 (171.1) MINUS MATERIAL THICKNESS

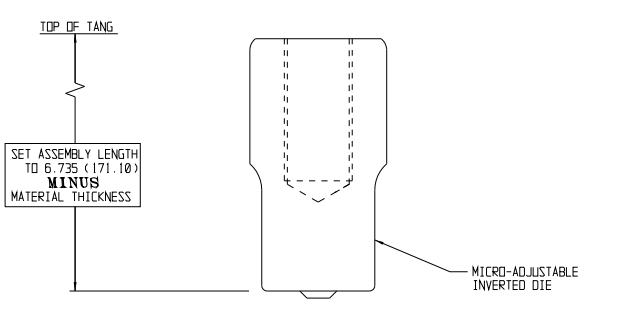
MICRO-ADJUSTABLE INVERTED DIE



BLANK DIE

CUSTOMER: ELECTRONIC SHEET METAL		 MATE PRECISION TOOLING	DEDICATED ROUND DOWN COUNTERSINK SET-UP INSTRUCTIONS		B329-01	
ACCOUNT #: 232004			MACHINE MODEL: MOT2	STATION: B		
ETCH #: 08070108			MATERIAL TYPE: ALUM.		THICKNESS: .080	
DATE: 8/17/07			DESIGNED BY: LMW		SCALE: NONE	

1. SHUT HEIGHTS AND MATERIAL THICKNESS VARIATIONS REQUIRE OVERALL LENGTH TO BE ADJUSTED/SHIMMED TO SUIT FORM.
2. FORMING SHOULD BE THE LAST OPERATION PERFORMED.

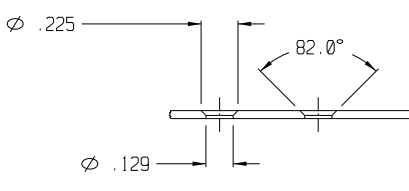


TOP OF TANG

SET ASSEMBLY LENGTH TO 6.735 (171.10) MINUS MATERIAL THICKNESS

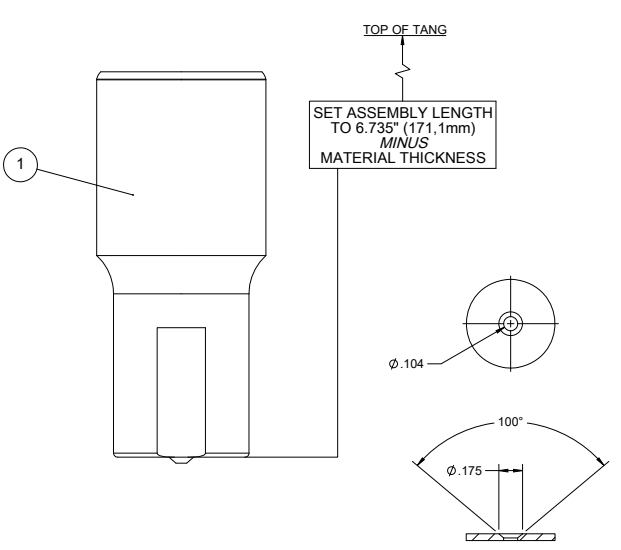
MICRO-ADJUSTABLE INVERTED DIE

APPROXIMATE PRE-PIERCE = .154 DIA.



BLANK DIE

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	XW4BD0B316	UPPER INSERT	1



TOP OF TANG

SET ASSEMBLY LENGTH TO 6.735" (171.1mm) MINUS MATERIAL THICKNESS


1

APPROXIMATE PRE-PIERCE = .125

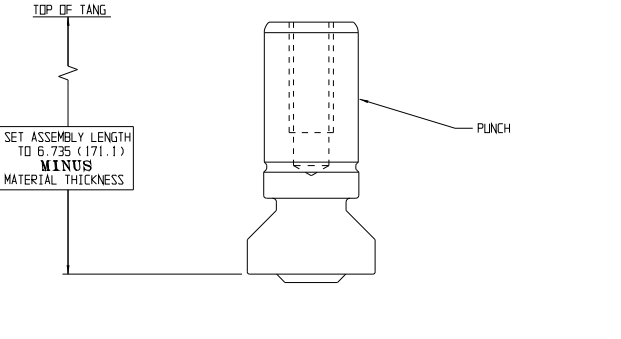
Ø .104

100°

Ø .175

CUSTOMER: ELECTRONIC SHEET METAL		 MATE PRECISION TOOLING	DEDICATED ROUND DOWN COUNTERSINK SET-UP INSTRUCTIONS		B/C B5-29	
ACCOUNT #: 232004			MACHINE MODEL: MOT2	STATION: B		
ETCH #: 09090811			MATERIAL TYPE: GALVANIZED		THICK.: .047-.050	
DATE: 9/24/2009			DESIGNED BY: COS		SCALE: NONE	

1. SHUT HEIGHTS AND MATERIAL THICKNESS VARIATIONS REQUIRE OVERALL LENGTH TO BE ADJUSTED/SHIMMED TO SUIT FORM.
2. FORMING SHOULD BE THE LAST OPERATION PERFORMED.

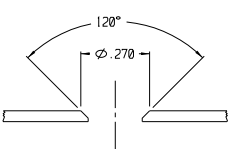


TOP OF TANG

SET ASSEMBLY LENGTH TO 6.735 (171.1) MINUS MATERIAL THICKNESS


PUNCH

APPROXIMATE PRE-PIERCE = Ø .195

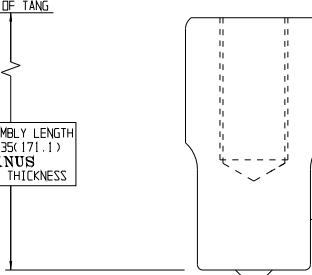


BLANK DIE D02BA1004B

Countersink Tools

CUSTOMER: ELECTRONIC SHEET METAL			DEDICATED ROUND DOWN COUNTERSINK SET-UP INSTRUCTIONS		B329-01
ACCOUNT #: 232004			MACHINE MODEL: M012	STATION: 112B	
ETCH #: 09120841			MATERIAL TYPE: M.S		THICKNESS: .060
DATE: 9/18/12			DESIGNED BY: JRS		SCALE: NONE

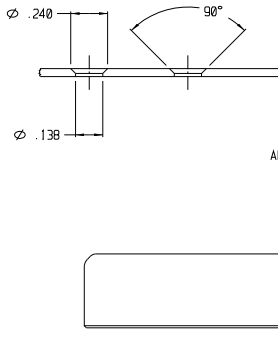
1. SHUT HEIGHTS AND MATERIAL THICKNESS VARIATIONS REQUIRE OVERALL LENGTH TO BE ADJUSTED/SHIMMED TO SUIT FORM.
2. FORMING SHOULD BE THE LAST OPERATION PERFORMED.



TOP OF TANG


SET ASSEMBLY LENGTH TO 6.735(171.1) MINUS MATERIAL THICKNESS

MICRO-ADJUSTABLE INVERTED DIE

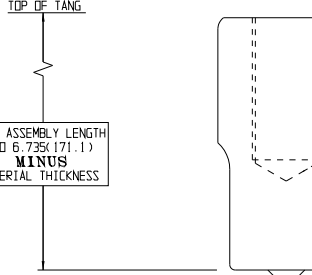


APPROXIMATE PRE-PIERCE = \varnothing .182

BLANK DIE

CUSTOMER: ELECTRONIC SHEET METAL			DEDICATED ROUND DOWN COUNTERSINK SET-UP INSTRUCTIONS		B329-01
ACCOUNT #: 232004			MACHINE MODEL: M012	STATION: 112B	
ETCH #: 09130107			MATERIAL TYPE: M.S		THICKNESS: .049
DATE: 9/11/13			DESIGNED BY: JRS		SCALE: NONE

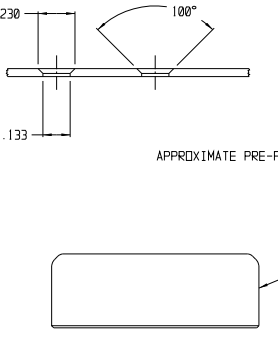
1. SHUT HEIGHTS AND MATERIAL THICKNESS VARIATIONS REQUIRE OVERALL LENGTH TO BE ADJUSTED/SHIMMED TO SUIT FORM.
2. FORMING SHOULD BE THE LAST OPERATION PERFORMED.



TOP OF TANG


SET ASSEMBLY LENGTH TO 6.735(171.1) MINUS MATERIAL THICKNESS

MICRO-ADJUSTABLE INVERTED DIE

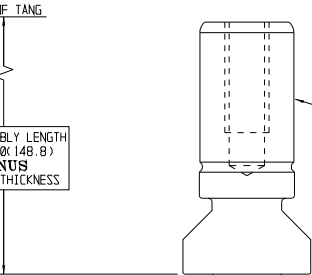


APPROXIMATE PRE-PIERCE = \varnothing .175

BLANK DIE

CUSTOMER: ELECTRONIC SHEET METAL			DEDICATED ROUND DOWN COUNTERSINK SET-UP INSTRUCTIONS		B/C B5-29
ORDER #: 2860140			MACHINE MODEL: C-20	STATION: 112B	
ETCH #: 10044012			MATERIAL TYPE: M.S		THICKNESS: .089
DATE: 10/14/04			DESIGNED BY: JRS		SCALE: NONE

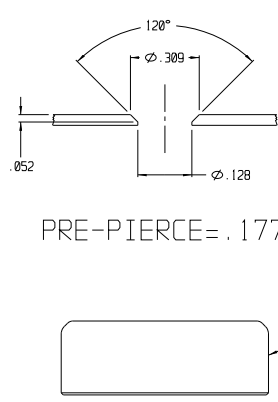
1. SHUT HEIGHTS AND MATERIAL THICKNESS VARIATIONS REQUIRE OVERALL LENGTH TO BE ADJUSTED/SHIMMED TO SUIT FORM.
2. FORMING SHOULD BE THE LAST OPERATION PERFORMED.



TOP OF TANG

SET ASSEMBLY LENGTH TO 5.860(148.8) MINUS MATERIAL THICKNESS

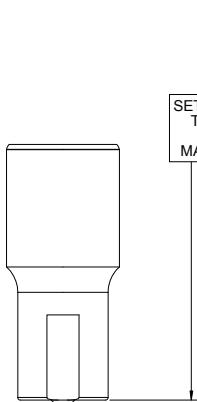
PUNCH



PRE-PIERCE = .177

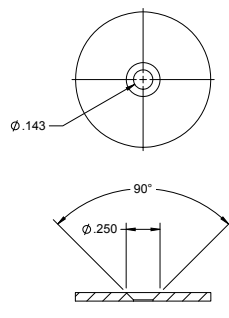
BLANK DIE

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	XW2BD0B316	UPPER INSERT	1




TOP OF TANG

SET ASSEMBLY LENGTH TO 6.735" (171.1mm) MINUS MATERIAL THICKNESS

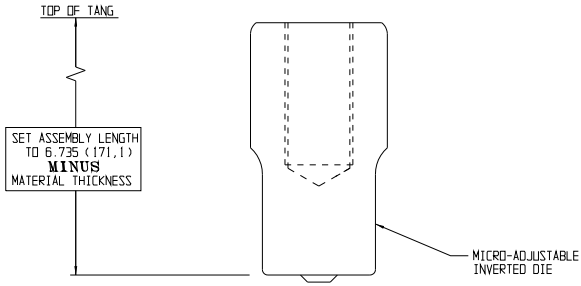


PRE-PIERCE = .188

	CUSTOMER	ELECTRONIC SHEET METAL CRAFTS	TOOL ETCH #	11160106
	ACCOUNT #	232004		XW2BD0B301
	MACHINE	MURATA MOTORUM		112 B STATION COUNTERSINK
	MATERIAL	ALUMINUM .063		DEDICATED ROUND DOWN (INSERT TYPE) UPPER ASSEMBLY
	DATE	11/11/2016	JRS	

CUSTOMER: ELECTRONIC SHEET METAL		 MATE PRECISION TOOLING	DEDICATED ROUND DOWN COUNTERSINK SET-UP INSTRUCTIONS	B329-01
ACCOUNT #: 232004			MACHINE MODEL: M012	STATION: B
ETCH #: 12120119			MATERIAL TYPE: MILD STEEL	THICKNESS: .060
DATE: 12/12/12				
DESIGNED BY: LMW	SCALE: NONE			

1. SHUT HEIGHTS AND MATERIAL THICKNESS VARIATIONS REQUIRE OVERALL LENGTH TO BE ADJUSTED/SHIMMED TO SUIT FORM.
2. FORMING SHOULD BE THE LAST OPERATION PERFORMED.



APPROXIMATE PRE-PIERCE=.178 DIA.

