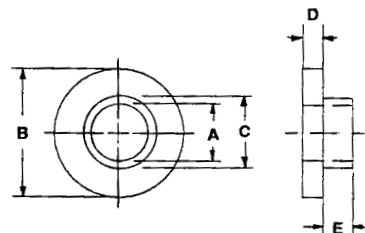


## MOLDED SHOULDER WASHERS, INSULATORS and STANDOFFS

\*Available in the following materials:

Material Code No.	Material Name
-18	Nylon 6/6, (natural)
-78	Nylon 6/6, (black)

\*Available in other materials. See materials list in index.  
Other sizes available on request.  
Also, see MACHINED SHOULDER WASHERS on pages 203-222.



### MOLDED NYLON SHOULDER WASHERS

Part No. DN212 - (Size Code No.) - (Material Code No.)

Size Code No.	A I.D.	B Flange O.D.	C Shank O.D.	D Flange Thk.	E Shank Thk.	Size Code No.	A I.D.	B Flange O.D.	C Shank O.D.	D Flange Thk.	E Shank Thk.
-1000	.045	.181	.120	.047	.075	-2600	.102	.250	.140	.047	.040
-1005	.055	.125	.080	.030	.060	-27	.102	.250	.169	.031	.062
-1006	.055	.300	.087	.035	.052	-28	.109	.200	.138	.031	.047
-1	.061	.105	.084	.047	.047	-29	.110	.242	.135	.047	.156
-2	.063	.187	.119	.031	.078	-30	.111	.250	.124	.047	.016
-3	.063	.187	.119	.031	.187	-3000	.112	.280	.150	.042	.185
-4	.075	.197	.118	.031	.281	-34	.112	.350	.300	.016	.171
-7	.080	.518	.305	.031	.047	-37	.113	.250	.143	.047	.047
-7000	.085	.182	.125	.078	.031	-38	.114	.240	.135	.062	.047
-10	.089	.187	.119	.031	.016	-39	.114	.240	.138	.062	.047
-1010	.090	.187	.131	.030	.030	-3901	.114	.240	.138	.130	.047
-1012	.090	.187	.119	.030	.020	-3900	.114	.312	.150	.045	.100
-1013	.090	.187	.120	.047	.250	-4100	.115	.235	.147	.047	.040
-1014	.090	.235	.120	.032	.250	-43	.115	.200	.140	.031	.031
-1015	.091	.312	.126	.063	.062	-44	.115	.203	.140	.047	.031
-11	.093	.195	.120	.031	.062	-45	.115	.216	.135	.047	.031
-12	.093	.200	.120	.031	.062	-46	.115	.218	.135	.047	.031
-13	.093	.205	.125	.031	.078	-4600	.115	.234	.145	.025	.031
-14	.093	.205	.125	.031	.109	-47	.115	.234	.147	.047	.047
-15	.093	.205	.125	.031	.187	-48	.115	.235	.137	.047	.031
-16	.093	.228	.122	.032	.032	-49	.115	.235	.140	.047	.094
-1600	.093	.250	.122	.031	.025	-50	.115	.235	.145	.047	.094
-1601	.093	.250	.140	.031	.040	-51	.115	.235	.145	.047	.125
-1602	.093	.250	.154	.031	.031	-52	.115	.235	.145	.047	.250
-17	.093	.281	.158	.094	.125	-5201	.115	.235	.145	.250	.093
-1701	.093	.307	.154	.065	.025	-5202	.115	.235	.147	.095	.035
-1700	.093	.375	.187	.062	.031	-5203	.115	.240	.134	.047	.027
-18	.093	.289	.215	.062	.062	-53	.115	.240	.139	.047	.031
-19	.095	.189	.119	.062	.031	-54	.115	.242	.140	.047	.109
-20	.095	.250	.187	.047	.672	-55	.115	.242	.140	.047	.125
-21	.095	.260	.154	.016	.016	-56	.115	.250	.143	.031	.062
-2100	.093	.187	.156	.156	.206	-57	.115	.250	.145	.047	.109
-22	.097	.312	.160	.047	.016	-58	.115	.250	.145	.047	.140
-2200	.098	.228	.140	.039	.088	-59	.115	.250	.145	.047	.171
-23	.098	.240	.150	.031	.031	-590	.115	.250	.145	.047	.296
-2300	.098	.250	.140	.030	.065	-60	.115	.250	.150	.171	.218
-2301	.100	.203	.156	.040	.281	-61	.115	.250	.156	.047	.047
-24	.100	.250	.114	.047	.031	-6100	.115	.252	.140	.047	.047
-25	.100	.250	.114	.047	.094						
-26	.100	.228	.138	.047	.031						

(continued next page)

Some of these shoulder washers may be molded or stamped, so tolerances will vary from tolerances listed to left. Please call for quote.

**.045 I.D. to .115 I.D.**

Tolerance on all dimensions:  
+/- .015

MOLDED SHOULDER WASHERS, INSULATORS and STANDOFFS (continued)

Part No. DN212 - (Size Code No.) - (Material Code No.)

Size Code No.	A I.D.	B Flange O.D.	C Shank O.D.	D Flange Thk.	E Shank Thk.	Size Code No.	A I.D.	B Flange O.D.	C Shank O.D.	D Flange Thk.	E Shank Thk.
-6101	.115	.252	.140	.047	.156	-1023	.125	.290	.205	.060	.090
-62	.115	.312	.149	.062	.062	-1024	.125	.312	.185	.058	.312
-63	.115	.312	.149	.062	.094	-1025	.125	.375	.190	.040	.070
-64	.115	.312	.187	.062	.016	-1030	.125	.375	.253	.050	.300
-6400	.115	.312	.250	.125	.187	-1031	.125	.438	.350	.062	.050
-6401	.115	.315	.150	.030	.031	-1032	.125	.750	.375	.062	.500
-66	.115	.368	.146	.078	.203	-104	.126	.265	.157	.031	.031
-67	.115	.370	.145	.078	.203	-106	.126	.250	.186	.047	.171
-71	.116	.200	.135	.078	.031	-108	.126	.315	.185	.031	.047
-710	.116	.210	.143	.042	.033	-109	.127	.312	.170	.062	.047
-712	.116	.239	.139	.020	.050	-1100	.128	.312	.185	.031	.078
-714	.116	.250	.150	.030	.020	-111	.128	.312	.187	.047	.094
-72	.116	.250	.150	.031	.016	-1110	.130	.234	.164	.025	.063
-7201	.116	.250	.150	.031	.062	-113	.130	.250	.195	.031	.125
-7202	.116	.250	.150	.063	.032	-114	.130	.312	.154	.031	.312
-73	.116	.250	.185	.031	.047	-1140	.132	.400	.200	.032	.380
-74	.116	.250	.185	.062	.047	-1141	.132	.308	.183	.045	.067
-75	.116	.312	.185	.031	.047	-1142	.133	.349	.260	.050	.060
-76	.116	.316	.158	.047	.094	-116	.135	.296	.235	.031	.218
-77	.116	.375	.193	.078	.156	-117	.135	.438	.250	.031	.140
-78	.116	.378	.194	.078	.156	-118	.136	.313	.219	.031	.031
-79	.116	.378	.255	.031	.125	-119	.136	.375	.195	.047	.109
-7901	.118	.197	.144	.027	.046	-120	.136	.375	.248	.062	.094
-7902	.118	.210	.141	.032	.039	-1200	.137	.385	.250	.051	.072
-7903	.118	.244	.157	.040	.177	-121	.138	.293	.218	.047	.187
-800	.118	.250	.135	.050	.120	-122	.138	.375	.240	.062	.109
-82	.118	.250	.139	.047	.125	-123	.138	.375	.250	.094	.062
-83	.118	.250	.143	.031	.062	-1230	.138	.500	.240	.062	.109
-8300	.118	.256	.173	.055	.453	-124	.139	.250	.186	.031	.031
-8301	.120	.200	.135	.078	.052	-125	.139	.310	.183	.062	.016
-85	.120	.202	.145	.016	.047	-134	.140	.250	.187	.062	.031
-86	.120	.210	.145	.016	.047	-136	.140	.252	.186	.031	.031
-8600	.120	.224	.154	.028	.090	-137	.140	.260	.190	.062	.047
-8601	.120	.224	.154	.028	.155	-138	.140	.290	.170	.047	.031
-8602	.120	.250	.185	.031	.050	-139	.140	.290	.170	.047	.047
-860	.120	.250	.187	.031	.031	-1390	.140	.290	.170	.047	.125
-88	.120	.224	.154	.031	.062	-140	.140	.290	.170	.047	.250
-89	.120	.224	.154	.031	.437	-1400	.140	.290	.170	.047	.296
-90	.120	.250	.138	.047	.062	-1401	.140	.290	.170	.234	.375
-900	.120	.250	.150	.050	.090	-1402	.140	.290	.210	.047	.600
-9000	.120	.255	.145	.040	.070	-141	.140	.295	.234	.031	.218
-91	.120	.253	.136	.047	.078	-142	.140	.312	.170	.047	.062
-9100	.120	.255	.145	.040	.070	-143	.140	.312	.185	.031	.031
-92	.120	.291	.154	.062	.234	-1430	.140	.312	.187	.035	.027
-93	.120	.312	.170	.062	.062	-1431	.140	.325	.220	.047	.750
-94	.120	.312	.203	.047	.031	-145	.140	.324	.204	.062	.031
-940	.120	.625	.248	.062	.027	-146	.140	.340	.250	.078	.047
-960	.123	.312	.187	.063	.031	-147	.140	.349	.248	.047	.062
-99	.122	.230	.142	.016	.047	-1470	.140	.350	.200	.090	.100
-101	.124	.313	.219	.031	.031	-148	.140	.375	.185	.016	.094
-1011	.125	.230	.150	.040	.030	-149	.140	.375	.185	.031	.094
-102	.125	.240	.185	.031	.094	-150	.140	.375	.185	.062	.031
-1021	.125	.243	.199	.060	.100	-151	.140	.375	.199	.218	.078
-1020	.125	.250	.156	.047	.250						
-1022	.125	.260	.158	.032	.437						

(continued next page)

Tolerance on all dimensions:  
+/- .015

**.115 I.D. to .140 I.D.**

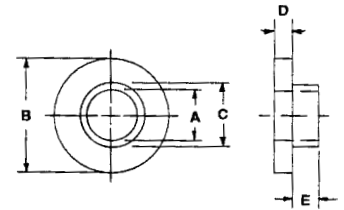
Some of these shoulder washers may be molded or stamped, so tolerances will vary from tolerances listed to left. Please call for quote.

**MOLDED SHOULDER WASHERS, INSULATORS and STANDOFFS (continued)**

\*Available in other materials. See materials list in index.  
Other sizes available on request.  
Also, see MACHINED SHOULDER WASHERS on pages 203-222.

\*Available in the following materials:

Material Code No.	Material Name
-18	Nylon 6/6, (natural)
-78	Nylon 6/6, (black)



**Part No. DN212 - (Size Code No.) - (Material Code No.)**

Size Code No.	A I.D.	B Flange O.D.	C Shank O.D.	D Flange Thk.	E Shank Thk.	Size Code No.	A I.D.	B Flange O.D.	C Shank O.D.	D Flange Thk.	E Shank Thk.
-152	.140	.375	.218	.062	.047	-182	.150	.750	.250	.062	.250
-1520	.140	.375	.245	.060	.050	-183	.152	.750	.359	.094	.062
-153	.140	.375	.250	.094	.062	-1830	.155	.377	.245	.050	.050
-154	.140	.381	.185	.062	.047	-185	.156	.312	.250	.062	.187
-1434	.140	.400	.275	.125	.100	-186	.156	.400	.243	.047	.047
-155	.140	.400	.275	.125	.125	-188	.156	.428	.245	.062	.031
-1550	.140	.450	.170	.047	.280	-189	.156	.437	.245	.062	.031
-156	.140	.468	.248	.062	.047	-190	.156	.500	.250	.094	.031
-157	.140	.470	.312	.078	.281	-1902	.157	.591	.394	.197	.128
-158	.140	.578	.185	.062	.047	-191	.160	.300	.194	.047	.062
-1580	.140	.625	.219	.060	.025	-1912	.160	.300	.194	.047	.125
-160	.141	.257	.187	.062	.031	-1913	.160	.388	.207	.187	.122
-161	.141	.312	.187	.062	.031	-1920	.163	.312	.229	.046	.050
-1610	.141	.320	.182	.050	.065	-1922	.163	.428	.261	.155	.048
-162	.141	.330	.206	.062	.031	-1923	.164	.310	.242	.037	.100
-163	.141	.344	.189	.109	.047	-193	.165	.500	.250	.078	.016
-164	.141	.374	.246	.031	.031	-1930	.166	.545	.316	.075	.335
-1640	.141	.375	.214	.040	.046	-195	.167	.375	.246	.062	.031
-165	.141	.415	.243	.156	.047	-196	.167	.500	.250	.125	.437
-166	.141	.418	.243	.109	.062	-1960	.168	.736	.371	.125	.145
-167	.141	.500	.318	.031	.016	-197	.169	.375	.250	.031	.031
-168	.141	.500	.318	.031	.047	-1970	.169	.385	.250	.030	.050
-169	.142	.265	.205	.031	.156	-198	.169	.562	.312	.125	.031
-1690	.142	.265	.205	.118	.156	-199	.170	.344	.210	.062	.140
-1691	.142	.312	.210	.060	.250	-1991	.170	.625	.427	.050	.035
-170	.143	.313	.175	.031	.031	-1992	.170	.750	.320	.065	.250
-171	.144	.312	.189	.030	.060	-202	.171	.345	.209	.062	.047
-172	.144	.312	.234	.047	.062	-203	.171	.375	.195	.031	.062
-173	.144	.312	.234	.047	.125	-2030	.171	.375	.250	.040	.046
-1730	.145	.290	.200	.047	.165	-2031	.171	.375	.250	.040	.099
-1734	.145	.375	.245	.030	.060	-2032	.171	.375	.250	.040	.250
-174	.145	.375	.250	.062	.062	-204	.171	.375	.250	.062	.031
-175	.145	.385	.240	.062	.031	-2040	.171	.390	.281	.055	.312
-1750	.145	.500	.213	.078	.080	-2041	.171	.500	.243	.031	.031
-176	.145	.500	.275	.094	.047	-2042	.171	.500	.245	.105	.200
-177	.146	.328	.218	.047	.047	-205	.171	.510	.250	.062	.406
-1771	.147	.312	.172	.062	.187	-206	.171	.630	.248	.031	.047
-1770	.147	.375	.187	.062	.032	-208	.172	.625	.310	.062	.047
-178	.147	.500	.230	.062	.031	-2080	.172	.750	.375	.093	.125
-179	.148	.380	.220	.062	.203	-2081	.173	.344	.205	.032	.250
-1790	.150	.230	.190	.025	.100	-209	.173	.344	.205	.062	.375
-1792	.150	.300	.180	.050	.062	-210	.173	.345	.205	.062	.375
-1793	.150	.316	.181	.096	.027	-2101	.174	.375	.250	.063	.030
-180	.150	.375	.244	.078	.047						
-181	.150	.500	.330	.062	.062						

(continued next page)

Some of these shoulder washers may be molded or stamped, so tolerances will vary from tolerances listed to left. Please call for quote.

**.140 I.D. to .174 I.D.**

Tolerance on all dimensions:  
+/- .015

MOLDED SHOULDER WASHERS, INSULATORS and STANDOFFS (continued)

Part No. DN212 - (Size Code No.) - (Material Code No.)

Size Code No.	A I.D.	B Flange O.D.	C Shank O.D.	D Flange Thk.	E Shank Thk.	Size Code No.	A I.D.	B Flange O.D.	C Shank O.D.	D Flange Thk.	E Shank Thk.
-211	.175	.340	.220	.062	.094	-2406	.197	.408	.240	.062	.187
-2110	.175	.344	.235	.063	.085	-2407	.197	.433	.259	.161	.106
-2111	.175	.344	.235	.062	.120	-242	.198	.588	.253	.031	.031
-2112	.175	.513	.312	.063	.187	-2420	.199	.375	.343	.031	.050
-2113	.176	.372	.201	.062	.387	-243	.199	.433	.312	.062	.125
-214	.176	.493	.376	.094	.406	-2433	.199	.437	.274	.062	.050
-2140	.177	.276	.236	.030	.226	-2434	.199	.500	.248	.031	.027
-2141	.180	.370	.242	.031	.346	-2435	.200	.375	.304	.057	.015
-215	.184	.312	.234	.031	.187	-2436	.200	.390	.260	.062	.075
-2150	.184	.630	.265	.070	.310	-2430	.200	.390	.260	.062	.130
-2151	.185	.375	.242	.035	.125	-245	.200	.399	.260	.062	.375
-216	.187	.375	.245	.031	.140	-2451	.200	.421	.281	.050	.160
-2160	.187	.499	.295	.125	.375	-2450	.200	.490	.281	.062	.094
-2161	.188	.350	.240	.067	.180	-2455	.200	.495	.312	.065	.187
-217	.188	.437	.313	.062	.062	-246	.200	.490	.281	.062	.094
-2170	.189	.500	.250	.062	.249	-247	.200	.500	.312	.062	.312
-2171	.189	.750	.490	.095	.779	-2470	.200	.625	.260	.032	.188
-2174	.190	.380	.250	.066	.030	-2471	.200	.625	.375	.062	.025
-218	.190	.488	.250	.125	.156	-2472	.200	.745	.305	.085	.018
-2180	.190	.490	.250	.062	.156	-248	.201	.375	.280	.062	.125
-220	.190	.625	.375	.062	.047	-249	.201	.437	.281	.050	.050
-2205	.190	.750	.315	.094	.797	-2490	.201	.635	.425	.140	.094
-2206	.190	1.000	.562	.075	.085	-250	.201	.635	.425	.140	1.109
-2210	.191	.443	.285	.048	.070	-2501	.202	.433	.310	.079	.315
-2212	.191	.513	.312	.062	.375	-252	.203	.390	.313	.078	.078
-223	.192	.375	.245	.047	.047	-253	.203	.438	.267	.031	.094
-224	.193	.290	.250	.016	.125	-254	.203	.438	.267	.062	.094
-2240	.193	.375	.257	.035	.043	-255	.203	1.000	.298	.062	.062
-2250	.193	.440	.312	.094	.043	-2550	.205	.472	.315	.181	.157
-2255	.193	.490	.310	.031	.031	-256	.205	.620	.312	.047	.047
-227	.193	.500	.318	.031	.047	-2560	.205	1.000	.306	.125	.080
-228	.193	.495	.318	.031	.078	-257	.208	.615	.315	.047	.047
-231	.194	.375	.240	.062	.047	-2570	.215	.488	.250	.125	.156
-2311	.194	.437	.375	.040	.093	-2575	.215	.562	.365	.109	.062
-232	.194	.441	.248	.062	.047	-2576	.216	.635	.380	.042	.090
-2321	.194	.500	.248	.062	.050	-2580	.217	.413	.244	.118	.138
-2322	.194	.500	.373	.096	.099	-2581	.217	.413	.244	.315	.138
-2320	.195	.370	.242	.067	.283	-2582	.218	.320	.250	.039	.126
-2324	.195	.385	.236	.060	.380	-2583	.219	.500	.281	.125	.047
-234	.195	.498	.310	.250	.187	-2586	.219	.625	.281	.040	.163
-2341	.195	.500	.234	.039	.085	-2587	.219	.740	.495	.130	.305
-2340	.195	.500	.300	.175	.075	-2584	.219	.750	.500	.031	.031
-2344	.195	.625	.310	.031	.062	-259	.220	.375	.260	.031	.093
-235	.195	.640	.380	.062	.062	-260	.220	.408	.240	.062	.187
-2360	.196	.380	.254	.065	.055	-2601	.221	.394	.256	.030	.126
-237	.196	.312	.250	.062	.031	-2602	.222	.500	.270	.167	.122
-238	.196	.381	.308	.062	.031	-2603	.223	.390	.303	.025	.139
-2380	.196	.380	.254	.065	.125	-261	.225	.437	.282	.062	.375
-239	.196	.390	.287	.078	.187	-2610	.227	.359	.300	.060	.046
-2399	.196	.432	.256	.065	.115	-262	.230	.395	.299	.078	.109
-2390	.196	.432	.303	.031	.140	-263	.230	.450	.310	.016	.047
-2391	.196	.437	.310	.055	.375	-2630	.234	.500	.282	.031	.094
-2400	.196	.500	.308	.062	.062	-264	.234	.745	.282	.031	.187
-2401	.197	.364	.244	.055	.453						
-2404	.197	.375	.250	.062	.213						

(continued next page)

Tolerance on all dimensions:  
+/- .015

**.175 I.D. to .234 I.D.**

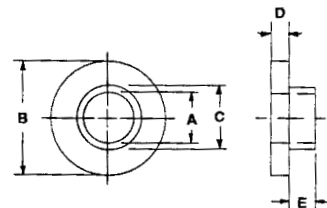
Some of these shoulder washers may be molded or stamped, so tolerances will vary from tolerances listed to left. Please call for quote.

MOLDED SHOULDER WASHERS, INSULATORS and STANDOFFS (continued)

\*Available in other materials. See materials list in index.  
 Other sizes available on request.  
 Also, see MACHINED SHOULDER WASHERS on pages 203-222.

\*Available in the following materials:

<b>Material Code No.</b>	<b>Material Name</b>
-18	Nylon 6/6, (natural)
-78	Nylon 6/6, (black)



**Part No. DN212 - (Size Code No.) - (Material Code No.)**

Size Code No.	A I.D.	B Flange O.D.	C Shank O.D.	D Flange Thk.	E Shank Thk.	Size Code No.	A I.D.	B Flange O.D.	C Shank O.D.	D Flange Thk.	E Shank Thk.
-2640	.236	.355	.315	.020	.177	-2971	.257	.750	.310	.031	.027
-2641	.240	.480	.315	.079	.236	-2972	.257	.940	.560	.090	.060
-2645	.240	.483	.315	.059	.157	-2973	.258	.701	.305	.062	.280
-265	.247	.550	.380	.062	.468	-298	.258	.753	.409	.078	.047
-266	.248	.551	.380	.062	.250	-2980	.258	.760	.410	.078	.047
-2660	.249	.692	.417	.051	.146	-302	.260	.425	.377	.062	.171
-267	.250	.425	.310	.062	.062	-3020	.260	.460	.370	.030	.060
-268	.250	.500	.375	.062	.437	-303	.260	.495	.312	.031	.031
-2680	.250	.500	.375	.125	1.250	-3030	.260	.495	.346	.050	.335
-269	.250	.600	.370	.125	.125	-3031	.260	.500	.360	.062	.160
-2690	.250	.625	.375	.109	.047	-3032	.260	.500	.365	.030	.060
-271	.250	.734	.488	.125	.062	-399	.260	.505	.312	.062	.093
-2710	.250	.740	.375	.156	.468	-3996	.260	.513	.370	.062	.250
-2720	.250	.750	.500	.086	.100	-304	.260	.515	.312	.062	.140
-2721	.250	.765	.481	.126	.216	-3040	.260	.516	.345	.060	.050
-2723	.250	.780	.392	.079	.252	-3041	.260	.540	.370	.065	.937
-2722	.250	.875	.620	.125	.375	-305	.260	.550	.305	.078	.047
-276	.252	.500	.312	.031	.031	-306	.260	.555	.300	.078	.047
-277	.252	.500	.312	.062	.031	-3060	.260	.562	.300	.046	.104
-2771	.253	.375	.312	.030	.060	-307	.260	.562	.300	.047	.047
-2770	.253	.375	.312	.062	.031	-308	.260	.562	.375	.094	.062
-279	.253	.437	.310	.031	.031	-3080	.260	.620	.400	.062	.100
-2790	.253	.438	.307	.094	.026	-309	.260	.625	.375	.125	.812
-280	.253	.615	.310	.031	.047	-310	.260	.620	.400	.125	.750
-2801	.253	.625	.311	.062	.090	-311	.260	.630	.327	.062	.125
-281	.253	.750	.341	.031	.047	-313	.260	.740	.385	.140	.687
-282	.253	.750	.371	.031	.047	-3133	.260	.750	.375	.062	.031
-2820	.253	.830	.452	.100	.250	-3130	.260	1.010	.600	.160	.660
-283	.254	.498	.375	.062	.687	-3131	.261	.513	.312	.062	.375
-284	.254	.630	.375	.062	.187	-3132	.263	.625	.379	.058	.210
-2841	.254	1.125	.419	.250	.100	-3134	.263	.687	.348	.046	.334
-2840	.255	.370	.307	.110	.125	-3136	.263	.687	.359	.375	.375
-285	.255	.464	.312	.016	.078	-314	.265	.492	.318	.031	.078
-286	.255	.467	.312	.047	.125	-3141	.265	.500	.307	.062	.187
-2860	.255	.550	.375	.062	.562	-3142	.265	.500	.345	.040	.076
-288	.255	.560	.375	.062	.422	-3143	.265	.504	.312	.160	.150
-289	.255	.562	.375	.062	.437	-3144	.265	.525	.370	.063	.500
-290	.255	.625	.322	.062	.187	-3145	.265	.750	.375	.095	1.000
-291	.255	.625	.375	.125	.812	-3140	.265	.750	.375	.125	.094
-2910	.255	.710	.338	.190	.110	-3146	.265	.750	.437	.075	.125
-292	.256	.348	.290	.031	.062	-3147	.265	1.500	.615	.120	.250
-2920	.257	.500	.375	.125	.170	-315	.266	.697	.359	.062	.125
-295	.257	.505	.343	.062	.094	-316	.266	.740	.371	.094	.125
-296	.257	.675	.480	.094	.062						
-297	.257	.730	.375	.250	.343						

(continued next page)

Some of these shoulder washers may be molded or stamped, so tolerances will vary from tolerances listed to left. Please call for quote.

**.236 I.D. to .266 I.D.**

Tolerance on all dimensions:  
+/- .015

MOLDED SHOULDER WASHERS, INSULATORS and STANDOFFS (continued)

Part No. DN212 - (Size Code No.) - (Material Code No.)

Size Code No.	A I.D.	B Flange O.D.	C Shank O.D.	D Flange Thk.	E Shank Thk.	Size Code No.	A I.D.	B Flange O.D.	C Shank O.D.	D Flange Thk.	E Shank Thk.
-317	.266	.740	.375	.094	.343	-334	.335	.872	.617	.125	.500
-318	.266	.750	.380	.094	.078	-3341	.335	.875	.617	.125	.250
-319	.266	.750	.380	.094	.218	-3345	.340	1.250	1.000	.150	.100
-3190	.267	.525	.370	.063	.500	-3347	.340	1.250	1.000	.212	.100
-3192	.268	.700	.375	.225	.187	-3348	.344	.750	.469	.062	.125
-320	.270	.720	.485	.062	.156	-3349	.344	.750	.500	.187	.125
-321	.270	2.111	.603	.125	.703	-335	.349	.502	.399	.031	.125
-3212	.280	.630	.375	.050	.150	-3350	.355	.562	.395	.062	.620
-3214	.281	.750	.500	.125	.250	-3351	.358	.747	.482	.079	.098
-3216	.285	.500	.345	.062	.140	-336	.370	.750	.500	.078	.312
-3210	.285	.500	.375	.125	.125	-3380	.375	.750	.500	.062	.187
-322	.290	.674	.500	.094	.187	-3420	.375	1.000	.500	.125	.750
-323	.295	.625	.375	.062	.031	-345	.375	.725	.445	.156	.156
-324	.306	.825	.445	.094	.406	-347	.375	.743	.443	.062	.187
-3240	.307	.550	.436	.176	.420	-348	.375	.743	.500	.094	.109
-325	.308	.428	.350	.125	.047	-3480	.375	.750	.500	.062	.031
-3251	.308	.445	.343	.077	.058	-349	.375	.750	.500	.062	.125
-3253	.310	.620	.366	.057	.220	-350	.375	.750	.500	.125	.031
-3254	.310	.750	.500	.190	.250	-3500	.375	.750	.500	.125	.062
-3256	.310	.825	.435	.060	.190	-3502	.375	.750	.590	.062	.425
-3250	.310	.825	.435	.060	.325	-352	.375	.875	.500	.062	1.000
-3252	.312	.390	.348	.062	.207	-353	.375	1.005	.500	.062	.312
-3255	.312	.500	.365	.062	.325	-354	.376	.743	.437	.062	.187
-3257	.312	.575	.365	.030	.190	-3540	.376	1.006	.504	.078	.243
-326	.312	.750	.434	.171	.422	-3542	.377	1.160	.495	.128	.060
-3260	.312	1.125	.437	.062	.750	-355	.378	.625	.448	.031	.031
-3262	.315	.492	.370	.055	.630	-3550	.378	.625	.447	.030	.030
-3264	.315	.730	.500	.125	.150	-356	.378	.625	.495	.062	.031
-3266	.315	.750	.505	.078	.250	-357	.378	.750	.498	.031	.156
-3268	.316	.620	.370	.031	.500	-358	.378	.750	.498	.062	.187
-328	.316	.620	.370	.062	.500	-359	.378	.755	.505	.078	.250
-3281	.316	.620	.502	.060	.100	-3590	.379	.875	.626	.062	.204
-3282	.316	.620	.502	.060	.150	-3591	.380	.500	.411	.093	.375
-3283	.316	.698	.400	.065	.748	-3592	.380	.625	.437	.031	.031
-3284	.318	.502	.374	.187	.253	-362	.380	.625	.500	.062	.312
-3280	.318	.562	.400	.030	.030	-3610	.380	.740	.605	.500	.250
-3285	.320	.563	.443	.068	.240	-3611	.380	.750	.506	.062	.360
-3286	.320	.620	.360	.063	.093	-3612	.380	.750	.544	.375	.375
-3287	.320	.620	.360	.375	.125	-363	.380	.980	.556	.125	.250
-3288	.320	.625	.405	.066	.139	-3630	.380	1.250	.480	.045	.125
-3291	.320	.740	.368	.031	.062	-3631	.380	1.952	.484	.125	.625
-3293	.320	.745	.375	.031	.062	-364	.382	1.000	.500	.062	.562
-3294	.320	.752	.505	.060	1.005	-365	.383	.620	.434	.047	.031
-3292	.322	.740	.430	.065	.395	-366	.383	.743	.502	.078	.312
-331	.323	.750	.375	.047	.047	-367	.384	.748	.504	.125	.359
-3311	.324	.600	.485	.025	.500	-370	.385	.570	.470	.062	.375
-3312	.324	.805	.502	.132	.108	-3701	.385	.650	.490	.125	.175
-3314	.325	.468	.375	.047	.218	-3702	.385	.750	.495	.074	.020
-3316	.325	.687	.412	.263	.513	-3704	.385	.750	.528	.060	.593
-3318	.325	1.000	.435	.250	.187	-3706	.385	.755	.510	.500	.156
-332	.328	.687	.437	.125	.125	-3708	.385	.872	.497	.110	.935
-333	.328	.693	.437	.062	.125	-3710	.386	.875	.484	.062	.375
-3331	.335	.551	.413	.059	.335	-3712	.388	.810	.498	.130	.110
-3335	.335	.562	.370	.024	.047						
-3336	.335	.703	.437	.062	.125						

(continued next page)

Tolerance on all dimensions:  
+/- .015

**.266 I.D. to .388 I.D.**

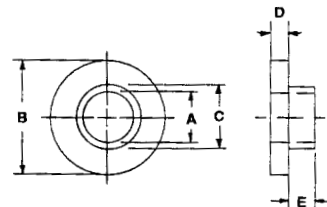
Some of these shoulder washers may be molded or stamped, so tolerances will vary from tolerances listed to left. Please call for quote.

MOLDED SHOULDER WASHERS, INSULATORS and STANDOFFS (continued)

\*Available in other materials. See materials list in index.  
 Other sizes available on request.  
 Also, see MACHINED SHOULDER WASHERS on pages 203-222.

\*Available in the following materials:

<b>Material Code No.</b>	<b>Material Name</b>
-18	Nylon 6/6, (natural)
-78	Nylon 6/6, (black)



Part No. DN212 - (Size Code No.) - (Material Code No.)

Size Code No.	A I.D.	B Flange O.D.	C Shank O.D.	D Flange Thk.	E Shank Thk.	Size Code No.	A I.D.	B Flange O.D.	C Shank O.D.	D Flange Thk.	E Shank Thk.
-3714	.390	.625	.485	.125	.342	-3905	.520	1.000	.666	.125	.625
-3716	.390	.625	.485	.125	.563	-391	.538	1.252	.600	.062	.406
-3718	.390	.745	.495	.062	.440	-392	.550	.790	.625	.047	.422
-374	.390	.750	.577	.094	.109	-3921	.559	1.250	1.000	.047	.563
-3741	.390	.875	.500	.062	1.000	-3920	.562	1.250	.930	.062	.094
-3742	.391	.745	.545	.100	.155	-3922	.562	1.250	.989	.062	.094
-3743	.394	.763	.562	.026	.196	-3924	.563	.800	.655	.055	.100
-3740	.395	.625	.500	.062	.312	-3926	.569	.750	.688	.032	.118
-375	.406	.945	.470	.078	.531	-393	.612	1.064	.787	.062	.062
-3751	.406	.980	.546	.125	.250	-3950	.617	.880	.750	.047	.203
-3750	.413	.570	.491	.039	.783	-395	.627	1.245	.875	.125	.500
-3752	.420	.710	.470	.075	.420	-3953	.630	.750	.708	.031	.140
-376	.430	.750	.500	.187	.047	-3955	.630	1.000	.750	.050	.050
-377	.435	.735	.490	.187	.047	-3956	.630	1.068	.896	.062	.521
-378	.435	1.739	1.095	.203	.203	-3957	.640	.735	.710	.050	.050
-3780	.437	.630	.500	.055	.748	-3958	.645	1.000	.745	.130	.120
-3782	.437	.688	.562	.062	.500	-396	.695	.995	.787	.125	.625
-3784	.438	.875	.531	.062	.375	-3960	.695	.995	.787	.125	1.000
-379	.440	.875	.630	.125	.375	-397	.695	.995	.792	.125	.187
-3790	.453	1.005	.500	.070	.050	-3970	.750	1.130	.880	.062	.313
-3795	.470	.750	.625	.066	.174	-3972	.758	1.130	.880	.062	.313
-381	.471	1.251	.528	.062	.406	-3974	.783	2.065	1.050	.125	.500
-382	.500	.745	.560	.031	.312	-398	.806	2.065	1.050	.125	.500
-3820	.500	.750	.625	.062	.437	-3985	.818	1.250	1.002	.156	.422
-3822	.506	.750	.627	.092	.188	-3986	.827	1.102	.906	.039	.118
-3824	.507	.874	.634	.063	.689	-3987	.870	1.365	1.120	.128	.309
-384	.508	.688	.543	.031	.047	-3980	.885	1.250	.995	.156	.343
-385	.508	1.000	.770	.078	.109	-3988	.887	1.570	1.055	.175	.170
-3851	.509	.750	.617	.062	.250	-3990	.942	1.501	1.248	.133	.238
-3850	.510	.750	.625	.062	.187	-3995	1.015	1.750	1.375	.125	.625
-3853	.510	.865	.600	.045	.455	-4000	1.125	1.650	1.380	.060	.060
-3854	.510	.875	.633	.125	.375	-4005	1.326	1.989	1.743	.129	.305
-3855	.510	1.000	.687	.125	.500						
-3852	.510	1.125	.700	.094	.437						
-386	.510	1.230	.980	.062	.094						
-3860	.515	.745	.556	.031	.050						
-387	.515	1.000	.616	.094	.031						
-3871	.515	1.000	.625	.040	.330						
-3870	.515	1.105	.718	.092	.281						
-388	.515	1.105	.752	.125	.281						
-3880	.515	1.125	.718	.187	.250						
-389	.515	1.125	.740	.062	.094						
-3890	.517	.750	.580	.030	.320						
-390	.520	.825	.620	.062	.500						

Some of these shoulder washers may be molded or stamped, so tolerances will vary from tolerances listed to left. Please call for quote.

**.390 I.D. to 1.326 I.D.**

Tolerance on all dimensions:  
 +/- .015

**MOLDED SHOULDER WASHERS, INSULATORS and STANDOFFS (continued)**

\*Available in the following materials:

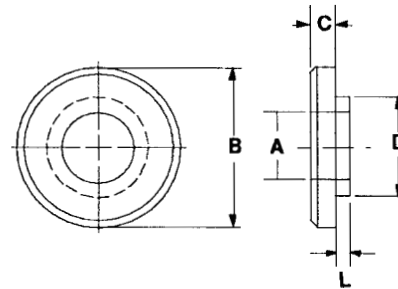
Material Code No.	Material Name
-18	Nylon 6/6, (natural)
-78	Nylon 6/6, (black)

\*Available in other materials. See materials list in index.  
 Other sizes available on request.  
 Also, see MACHINED SHOULDER WASHERS on pages 203-222.

**MOLDED NYLON STANDARD SHOULDER WASHERS**

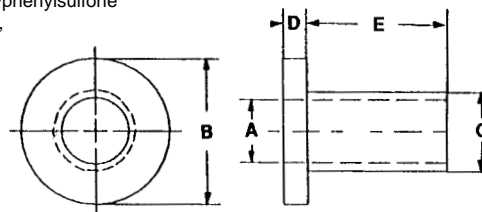
Part No. G1201 - (Size Code No.) - (Material Code No.)

Size Code No.	I.D. A	O.D. B	Thick C	Shank D	Length L	Screw Size
-1	.093	.250	.040	.156	.040	#2
-2	.122	.281	.040	.187	.040	#4
-4	.146	.328	.040	.218	.040	#6
-6	.174	.375	.050	.250	.050	#8
-7	.201	.437	.050	.281	.050	#10
-8	.260	.562	.060	.375	.060	#1/4
-9	.385	.750	.060	.500	.060	#3/8



\*Available in the following materials:

Material Code No.	Material Name	Material Code No.	Material Name
-3	Lexan®	-194	Nylon 46, 30% Glass-filled, Heat Stabilized
-5	Ultem® 1000	-195	Nylon 46, 30% Glass-filled, Flame Retardant, Heat Stabilized
-6	Ultem® 2300, (black)	-226	Radel® A200, Polyethersulfone
-14	ABS	-229	Radel® R5000, Polyphenylsulfone
-35	Noryl®	-231	Radel® R5100 NT15, Polyphenylsulfone
-60	Nylon 6/6, 30% Short Glass-filled		
-77	Ultem® 2300, (natural)		
-90	PEEK™, 30% Short Glass-filled		
-108	Polypropylene, 30% Glass-filled		



**MOLDED SCREW INSULATORS**

Part No. D270 - (Size Code No.) - (Material Code No.)

Size Code No.	A	B	C	D	E	Size Code No.	A	B	C	D	E
-1	.090	.181	.120	.047	.125	-21	.140	.290	.170	.047	.094
-2	.090	.181	.110	.047	.187	-22	.140	.290	.170	.047	.500
-3	.090	.181	.120	.047	.187	-23	.173	.344	.205	.062	.140
-4	.090	.181	.120	.047	.250	-24	.173	.344	.205	.062	.250
-5	.090	.181	.120	.047	.375	-25	.173	.344	.205	.062	.375
-6	.115	.235	.145	.047	.032	-26	.173	.344	.205	.062	.500
-7	.115	.235	.145	.047	.047	-27	.173	.344	.205	.062	.625
-8	.115	.235	.145	.047	.094	-28	.173	.344	.205	.062	.750
-9	.115	.235	.145	.047	.125	-29	.200	.399	.260	.062	.250
-10	.115	.235	.145	.047	.150	-30	.200	.399	.260	.062	.375
-11	.115	.235	.145	.047	.156	-31	.200	.399	.260	.062	.500
-12	.115	.235	.145	.047	.187	-32	.200	.399	.260	.062	.625
-13	.115	.235	.145	.047	.250	-33	.200	.399	.260	.062	.750
-14	.115	.235	.145	.047	.375	-34	.260	.513	.312	.062	.187
-15	.115	.235	.145	.047	.500	-35	.260	.513	.312	.062	.250
-16	.140	.290	.170	.047	.125	-36	.260	.513	.312	.062	.375
-17	.140	.290	.170	.047	.156	-37	.260	.513	.312	.062	.500
-18	.140	.290	.170	.047	.187	-38	.260	.513	.312	.062	.625
-19	.140	.290	.170	.047	.250	-39	.260	.513	.312	.062	.750
-20	.140	.290	.170	.047	.375						

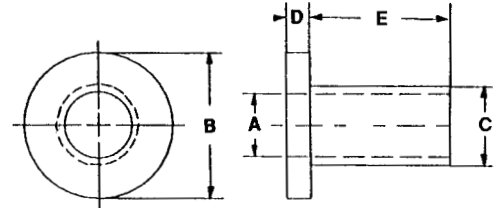
MOLDED SHOULDER WASHERS, INSULATORS and STANDOFFS (continued)

\*Available in the following materials:

Material Code No.	Material Name
-18	Nylon 6/6, (natural)
-78	Nylon 6/6, (black)

\*Available in other materials. See materials list in index.  
Other sizes available on request.  
Also, see MACHINED STANDOFFS on pages 230-235.

## MOLDED NYLON SCREW INSULATORS



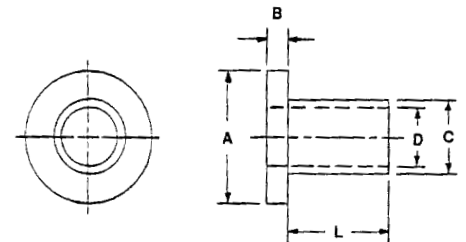
Part No. FN104 - (Size Code No.) - (Material Code No.)

Size Code No.	A	B	C	D	E	Size Code No.	A	B	C	D	E	Size Code No.	A	B	C	D	E
-1	.090	.181	.120	.047	.125	-19	.140	.290	.170	.047	.156	-35	.200	.399	.260	.062	.500
-2	.090	.181	.120	.047	.187	-20	.140	.290	.170	.047	.187	-36	.200	.399	.260	.062	.562
-3	.090	.181	.120	.047	.250	-21	.140	.290	.170	.047	.250	-37	.200	.399	.260	.062	.625
-4	.090	.181	.120	.047	.375	-22	.140	.290	.170	.047	.375	-38	.200	.399	.260	.062	.750
-5	.115	.235	.145	.047	.031	-23	.140	.290	.170	.047	.500	-39	.260	.513	.312	.062	.125
-6	.115	.235	.145	.047	.047	-24	.173	.344	.205	.062	.125	-40	.260	.513	.312	.062	.140
-7	.115	.235	.145	.047	.062	-25	.173	.344	.205	.062	.140	-41	.260	.513	.312	.062	.187
-8	.115	.235	.145	.047	.094	-26	.173	.344	.205	.062	.250	-42	.260	.513	.312	.062	.250
-9	.115	.235	.145	.047	.125	-27	.173	.344	.205	.062	.375	-43	.260	.513	.312	.062	.375
-10	.115	.235	.145	.047	.156	-28	.173	.344	.205	.062	.500	-44	.260	.513	.312	.062	.500
-11	.115	.235	.145	.047	.187	-29	.173	.344	.205	.062	.625	-45	.260	.513	.312	.062	.620
-12	.115	.235	.145	.047	.250	-30	.173	.344	.205	.062	.750	-46	.260	.513	.312	.062	.750
-13	.115	.235	.145	.047	.375	-300	.200	.399	.260	.062	.062	-47	.320	.620	.360	.062	.125
-14	.115	.235	.145	.047	.500	-31	.200	.399	.260	.062	.140	-48	.320	.620	.360	.062	.250
-15	.140	.290	.170	.047	.047	-32	.200	.399	.260	.062	.187	-49	.320	.620	.360	.062	.375
-16	.140	.290	.170	.047	.062	-33	.200	.399	.260	.062	.250	-50	.320	.620	.360	.062	.500
-17	.140	.290	.170	.047	.094	-34	.200	.399	.260	.062	.375	-51	.320	.620	.360	.062	.625
-18	.140	.290	.170	.047	.125												

Tolerance on all dimensions: +/- .015

## MOLDED NYLON METRIC SCREW INSULATORS

ALL DIMENSIONS GIVEN IN MILLIMETERS



Part No. EM300 - (Size Code No.) - (Material Code No.)

Size Code No.	L	A	B	C	D	Size Code No.	L	A	B	C	D	Size Code No.	L	A	B	C	D
-1	3	4,2	1,0	3,0	2,1	-12	9	6,2	1,0	4,0	3,1	-23	9	10,2	2,0	7,0	5,1
-2	4	4,2	1,0	3,0	2,1	-13	10	6,2	1,0	4,0	3,1	-24	4	12,2	2,0	8,0	6,1
-3	5	4,2	1,0	3,0	2,1	-14	3	8,4	1,5	6,0	4,1	-25	6	12,2	2,0	8,0	6,1
-4	6	4,2	1,0	3,0	2,1	-15	4	8,4	1,5	6,0	4,1	-26	8	12,2	2,0	8,0	6,1
-5	2	6,2	1,0	4,0	3,1	-16	5	8,4	1,5	6,0	4,1	-27	10	12,2	2,0	8,0	6,1
-6	3	6,2	1,0	4,0	3,1	-17	7	8,4	1,5	6,0	4,1	-28	12	12,2	2,0	8,0	6,1
-7	4	6,2	1,0	4,0	3,1	-18	9	8,4	1,5	6,0	4,1	-29	4	14,2	2,5	10,0	8,1
-8	5	6,2	1,0	4,0	3,1	-19	3	10,2	2,0	7,0	5,1	-30	6	14,2	2,5	10,0	8,1
-9	6	6,2	1,0	4,0	3,1	-20	4	10,2	2,0	7,0	5,1	-31	8	14,2	2,5	10,0	8,1
-10	7	6,2	1,0	4,0	3,1	-21	5	10,2	2,0	7,0	5,1	-32	10	14,2	2,5	10,0	8,1
-11	8	6,2	1,0	4,0	3,1	-22	7	10,2	2,0	7,0	5,1	-33	12	14,2	2,5	10,0	8,1

Tolerance on all dimensions: +/- .13mm

MOLDED SHOULDER WASHERS, INSULATORS and STANDOFFS (continued)

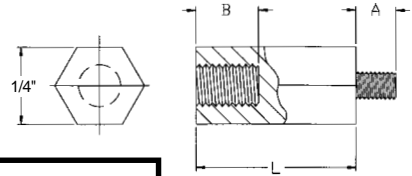
Available in the following materials:

Material Code No.	Material Name
-18	Nylon 6/6, (natural)
-78	Nylon 6/6, (black)

\*Available in other materials. See materials list in index.  
Other sizes available on request.  
Also, see MACHINED STANDOFFS on pages 230-235.

MOLDED NYLON HEX MALE-FEMALE STANDOFFS

1/4" AF - Part No. EN172 - (Size Code No.) - (Material Code No.)



Size Code No.	Length	Thread	Size Code No.	Length	Thread	Size Code No.	Length	Thread	Size Code No.	Length	Thread
-1	1/4	4-40	-11	1 1/2	4-40	-210	15/16	6-32	-33	1/2	8-32
-100	5/16	4-40	-12	1 5/8	4-40	-22	1	6-32	-34	5/8	8-32
-2	3/8	4-40	-13	1 3/4	4-40	-23	1 1/8	6-32	-35	3/4	8-32
-3	1/2	4-40	-15	2	4-40	-24	1 1/4	6-32	-36	7/8	8-32
-300	.600	4-40	-16	1/4 *	6-32	-240	1 5/16	6-32	-37	1	8-32
-4	5/8	4-40	-160	17/64	6-32	-25	1 3/8	6-32	-38	1 1/8	8-32
-5	3/4	4-40	-17	3/8	6-32	-26	1 1/2	6-32	-39	1 1/4	8-32
-6	7/8	4-40	-18	1/2	6-32	-27	1 5/8	6-32	-40	1 3/8	8-32
-7	1	4-40	-180	9/16	6-32	-28	1 3/4	6-32	-41	1 1/2	8-32
-8	1 1/8	4-40	-19	5/8	6-32	-30	2	6-32	-42	1 5/8	8-32
-9	1 1/4	4-40	-20	3/4	6-32	-31	1/4 **	8-32	-43	1 3/4	8-32
-10	1 3/8	4-40	-21	7/8	6-32	-32	3/8 ***	8-32	-45	2	8-32

Depth of thread in 1/4" body lengths is 3/16" minimum.

Thread	A	B
4-40	3/16	3/16
6-32	1/4	1/4
8-32	3/8	3/8

\* B = 7/32".  
\*\* B = .200.  
\*\*\* B = .270.

MOLDED NYLON SPECIAL SNAP-IN STANDOFF

Part No. EN180 - (Size Code No.) - (Material Code No.)



Size Code No.	Panel Thk.	Hole Size	L	O.D.	I.D.	Size Code No.	Panel Thk.	Hole Size	L	O.D.	I.D.
-1	.062	.187	.945	.250	.106	-3	.062	.234	.375	.281	.153
-10	.062	.187	.187	.250	.125	-4	.062	.234	.375	.281	.169
-2	.062	.234	.250	.281	.153	-5	.062	.234	.500	.281	.169

MOLDED NYLON STACKABLE SNAP-IN STANDOFF

Part No. EN184 - (Size Code No.) - (Material Code No.) Also available in UL94-VO Nylon.

Size Code No.	Screw Size	B	C	L	Mount Hole	Size Code No.	Screw Size	B	C	L	Mount Hole
-1	#4	.260	.125	.125	.187	-14	#6	.312	.156	.625	.234
-2	#4	.260	.125	.187	.187	-15	#6	.312	.156	.750	.234
-3	#4	.260	.125	.250	.187	-16	#6	.312	.156	.875	.234
-4	#4	.260	.125	.312	.187	-17	#6	.312	.156	1.000	.234
-5	#4	.260	.125	.375	.187	-18	#8	.312	.169	.250	.234
-6	#4	.260	.125	.437	.187	-19	#8	.312	.169	.312	.234
-7	#4	.260	.125	.500	.187	-20	#8	.312	.169	.375	.234
-8	#4	.260	.125	.625	.187	-21	#8	.312	.169	.437	.234
-9	#6	.312	.156	.250	.234	-22	#8	.312	.169	.500	.234
-10	#6	.312	.156	.312	.234	-23	#8	.312	.169	.625	.234
-11	#6	.312	.156	.375	.234	-24	#8	.312	.169	.750	.234
-12	#6	.312	.156	.437	.234	-25	#8	.312	.169	.875	.234
-13	#6	.312	.156	.500	.234	-26	#8	.312	.169	1.000	.234

