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Piston Travel (inches)

	MC5 & 49	MC6	MC7-8 MC40,45,90-93	MC101
Stroke	1.375	1.500	1.635	1.835
Rod Length	2.510	2.510	2.510	2.628
Degrees				
0	0.000	0.000	0.000	0.000
1	0.000	0.000	0.000	0.000
2	0.001	0.001	0.001	0.001
3	0.001	0.001	0.001	0.002
4	0.002	0.002	0.003	0.003
5	0.003	0.004	0.004	0.005
6	0.005	0.005	0.006	0.007
7	0.007	0.007	0.008	0.009
8	0.009	0.009	0.011	0.012
9	0.011	0.012	0.013	0.015
10	0.013	0.015	0.016	0.019
11	0.016	0.018	0.020	0.023
12	0.019	0.021	0.024	0.027
13	0.022	0.025	0.028	0.032
14	0.026	0.029	0.032	0.037
15	0.030	0.033	0.037	0.042
16	0.034	0.038	0.042	0.048
17	0.038	0.042	0.047	0.054
18	0.043	0.047	0.053	0.060
19	0.047	0.053	0.059	0.067
20	0.052	0.058	0.065	0.074
21	0.058	0.064	0.071	0.082
22	0.063	0.070	0.078	0.089
23	0.069	0.077	0.085	0.098
24	0.075	0.083	0.093	0.106
25	0.081	0.090	0.100	0.115
26	0.088	0.098	0.108	0.124
27	0.094	0.105	0.117	0.133
28	0.101	0.113	0.125	0.143
29	0.108	0.121	0.134	0.153
30	0.116	0.129	0.143	0.163
31	0.123	0.137	0.152	0.174
32	0.131	0.146	0.162	0.185
33	0.139	0.154	0.172	0.196
34	0.147	0.164	0.182	0.207
35	0.156	0.173	0.192	0.219
36	0.164	0.182	0.203	0.231
37	0.173	0.192	0.213	0.243
38	0.182	0.202	0.224	0.256
39	0.191	0.212	0.235	0.269
40	0.200	0.222	0.247	0.282
41	0.209	0.233	0.258	0.295
42	0.219	0.243	0.270	0.308
43	0.229	0.254	0.282	0.322
44	0.239	0.265	0.295	0.336
45	0.249	0.276	0.307	0.350
46	0.259	0.288	0.319	0.364
47	0.270	0.299	0.332	0.379
48	0.280	0.311	0.345	0.394
49	0.291	0.323	0.358	0.408
50	0.301	0.335	0.371	0.423
51	0.312	0.347	0.385	0.439
52	0.323	0.359	0.398	0.454
53	0.335	0.371	0.412	0.470
54	0.346	0.384	0.426	0.485
55	0.357	0.396	0.440	0.501
56	0.369	0.409	0.454	0.517
57	0.380	0.422	0.468	0.533
58	0.392	0.434	0.482	0.549
59	0.404	0.447	0.496	0.565

Piston Travel vs. Crank Rotation

HT = (r + c) - (r cos (a)) - SQRT(c^2 - (r sin (a))^2)
r = s/2
dtor = PI/180
a = d x dtor

HT = The height of piston
r = The stroke divided by 2
c = The rod length
a = The crank angle in radians
d = The crank angle in degrees

Model - Bore x Stroke = Displacement

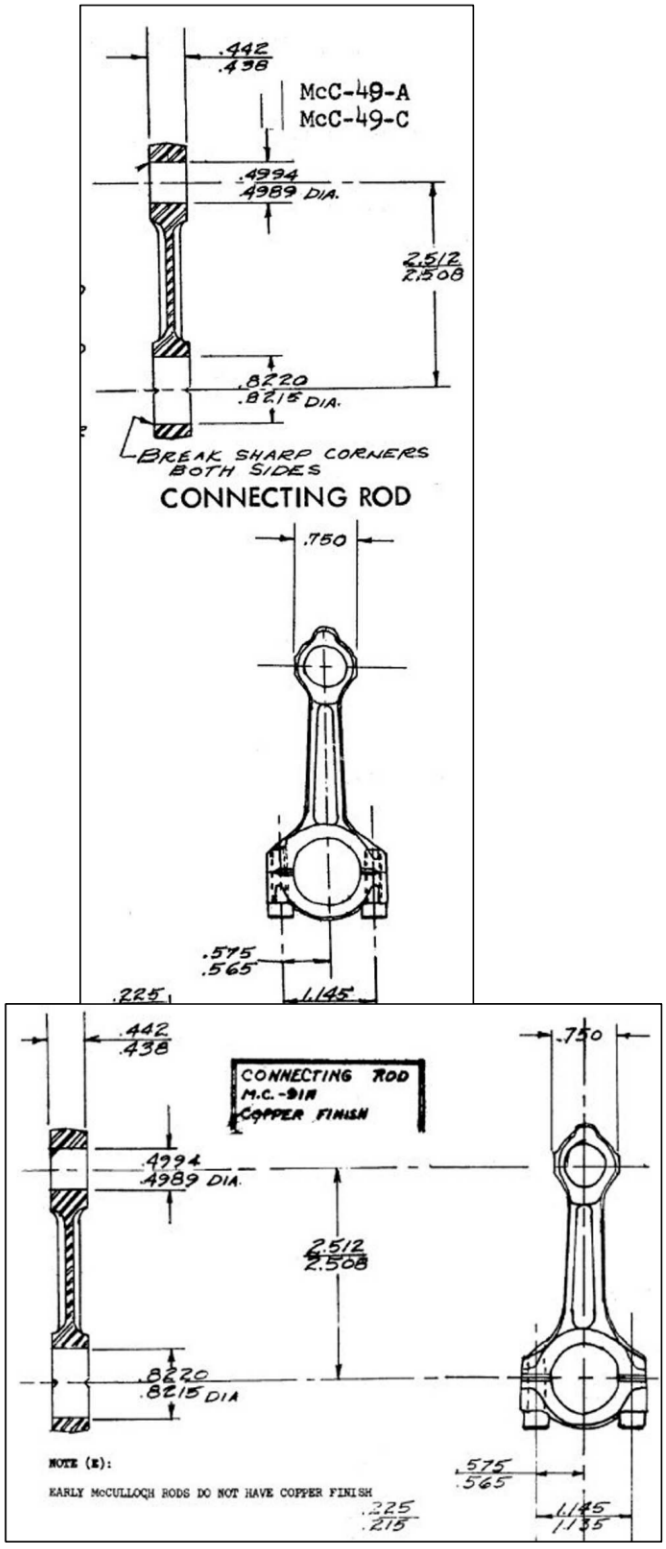
MC2 - 2.165 x 1.635 = 6.05
MC5 - 2.125 x 1.375 = 4.9
MC6 - 2.125 x 1.500 = 5.3
MC7 - 2.165 x 1.635 = 6.05
MC8 & 9 - 2.165 x 1.635 = 6.05
MC10 - 2.125 x 1.500 = 5.3
MC20 - 2.125 x 1.635 = 5.8
MC30 - 2.165 x 1.635 = 6.05
MC40 & 45 - 2.165 x 1.635 = 6.05
MC70 - 2.217 x 1.835 = 7.08
MC75 - 2.250 x 1.835 = 7.29
MC49 - 2.125 x 1.375 = 4.9
MC90,91,2,3 - 2.165 x 1.635 = 6.05
MC100 - 2.250 x 1.835 = 7.29
MC101 - 2.280 x 1.835 = 7.5

		Nominal
Most 80-100cc	**Rod**	2.510
Most 100cc	**Stroke**	1.635
MC6	**Stroke**	1.500
MC5 & MC49	**Stroke**	1.375





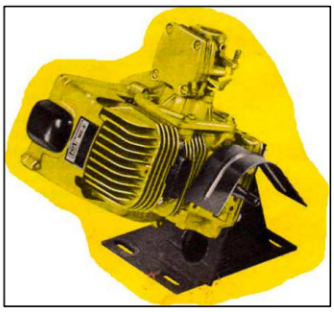
60	0.415	0.460	0.511	0.582
61	0.427	0.474	0.525	0.598
62	0.439	0.487	0.540	0.615
63	0.451	0.500	0.554	0.631
64	0.463	0.513	0.569	0.648
65	0.476	0.527	0.584	0.665
66	0.488	0.540	0.599	0.682
67	0.500	0.554	0.614	0.698
68	0.512	0.567	0.628	0.715
69	0.525	0.581	0.643	0.732
70	0.537	0.594	0.658	0.749
71	0.549	0.608	0.673	0.766
72	0.562	0.622	0.688	0.783
73	0.574	0.635	0.703	0.800
74	0.587	0.649	0.718	0.817
75	0.599	0.663	0.733	0.834
76	0.611	0.676	0.748	0.851
77	0.624	0.690	0.763	0.868
78	0.636	0.704	0.778	0.885
79	0.649	0.717	0.793	0.902
80	0.661	0.731	0.808	0.918
81	0.674	0.744	0.823	0.935
82	0.686	0.758	0.838	0.952
83	0.698	0.772	0.853	0.969
84	0.711	0.785	0.867	0.985
85	0.723	0.798	0.882	1.002
86	0.735	0.812	0.897	1.018
87	0.747	0.825	0.911	1.034
88	0.759	0.838	0.926	1.051
89	0.771	0.852	0.940	1.067
90	0.783	0.865	0.954	1.083
91	0.795	0.878	0.969	1.099
92	0.807	0.891	0.983	1.115
93	0.819	0.904	0.997	1.130
94	0.831	0.916	1.011	1.146
95	0.843	0.929	1.025	1.162
96	0.854	0.942	1.038	1.177
97	0.866	0.954	1.052	1.192
98	0.877	0.967	1.065	1.207
99	0.889	0.979	1.079	1.222
100	0.900	0.991	1.092	1.237
101	0.911	1.004	1.105	1.252
102	0.922	1.016	1.118	1.266
103	0.933	1.027	1.131	1.281
104	0.944	1.039	1.144	1.295
105	0.955	1.051	1.157	1.309
106	0.966	1.062	1.169	1.323
107	0.976	1.074	1.181	1.337
108	0.987	1.085	1.194	1.350
109	0.997	1.096	1.206	1.364
110	1.007	1.107	1.218	1.377
111	1.017	1.118	1.229	1.390
112	1.027	1.129	1.241	1.403
113	1.037	1.140	1.252	1.415
114	1.047	1.150	1.264	1.428
115	1.057	1.161	1.275	1.440
116	1.066	1.171	1.286	1.452
117	1.076	1.181	1.297	1.464
118	1.085	1.191	1.307	1.476
119	1.094	1.201	1.318	1.488
120	1.103	1.210	1.328	1.499
121	1.112	1.220	1.338	1.510
122	1.120	1.229	1.348	1.522
123	1.129	1.239	1.358	1.532
124	1.138	1.248	1.368	1.543
125	1.146	1.257	1.377	1.554
126	1.154	1.265	1.387	1.564
127	1.162	1.274	1.396	1.574
128	1.170	1.282	1.405	1.584
129	1.178	1.291	1.414	1.593

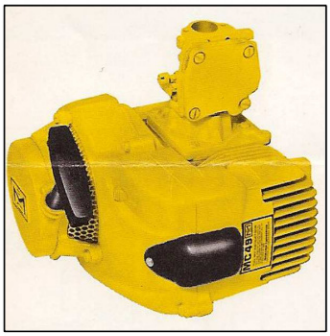


130	1.185	1.299	1.422	1.603
131	1.193	1.307	1.431	1.612
132	1.200	1.315	1.439	1.621
133	1.207	1.322	1.447	1.630
134	1.214	1.330	1.455	1.639
135	1.221	1.337	1.463	1.648
136	1.228	1.344	1.471	1.656
137	1.234	1.351	1.478	1.664
138	1.241	1.358	1.485	1.672
139	1.247	1.365	1.492	1.680
140	1.253	1.371	1.499	1.687
141	1.259	1.378	1.506	1.695
142	1.265	1.384	1.513	1.702
143	1.271	1.390	1.519	1.709
144	1.276	1.396	1.525	1.716
145	1.282	1.402	1.531	1.722
146	1.287	1.407	1.537	1.729
147	1.292	1.412	1.543	1.735
148	1.297	1.418	1.548	1.741
149	1.302	1.423	1.554	1.747
150	1.307	1.428	1.559	1.752
151	1.311	1.432	1.564	1.758
152	1.315	1.437	1.569	1.763
153	1.320	1.441	1.573	1.768
154	1.324	1.446	1.578	1.773
155	1.327	1.450	1.582	1.778
156	1.331	1.454	1.586	1.782
157	1.335	1.458	1.590	1.787
158	1.338	1.461	1.594	1.791
159	1.341	1.465	1.598	1.795
160	1.345	1.468	1.601	1.798
161	1.348	1.471	1.605	1.802
162	1.350	1.474	1.608	1.805
163	1.353	1.477	1.611	1.809
164	1.356	1.479	1.613	1.812
165	1.358	1.482	1.616	1.814
166	1.360	1.484	1.619	1.817
167	1.362	1.486	1.621	1.820
168	1.364	1.488	1.623	1.822
169	1.366	1.490	1.625	1.824
170	1.367	1.492	1.627	1.826
171	1.369	1.494	1.628	1.828
172	1.370	1.495	1.630	1.829
173	1.371	1.496	1.631	1.831
174	1.372	1.497	1.632	1.832
175	1.373	1.498	1.633	1.833
176	1.374	1.499	1.634	1.834
177	1.374	1.499	1.634	1.834
178	1.375	1.500	1.635	1.835
179	1.375	1.500	1.635	1.835
180	1.375	1.500	1.635	1.835
181	1.375	1.500	1.635	1.835
182	1.375	1.500	1.635	1.835
183	1.374	1.499	1.634	1.834
184	1.374	1.499	1.634	1.834
185	1.373	1.498	1.633	1.833
186	1.372	1.497	1.632	1.832
187	1.371	1.496	1.631	1.831
188	1.370	1.495	1.630	1.829
189	1.369	1.494	1.628	1.828
190	1.367	1.492	1.627	1.826
191	1.366	1.490	1.625	1.824
192	1.364	1.488	1.623	1.822
193	1.362	1.486	1.621	1.820
194	1.360	1.484	1.619	1.817
195	1.358	1.482	1.616	1.814
196	1.356	1.479	1.613	1.812
197	1.353	1.477	1.611	1.809
198	1.350	1.474	1.608	1.805
199	1.348	1.471	1.605	1.802

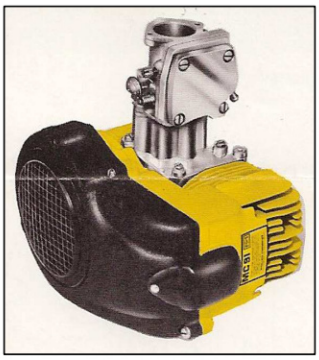








200	1.345	1.468	1.601	1.798
201	1.341	1.465	1.598	1.795
202	1.338	1.461	1.594	1.791
203	1.335	1.458	1.590	1.787
204	1.331	1.454	1.586	1.782
205	1.327	1.450	1.582	1.778
206	1.324	1.446	1.578	1.773
207	1.320	1.441	1.573	1.768
208	1.315	1.437	1.569	1.763
209	1.311	1.432	1.564	1.758
210	1.307	1.428	1.559	1.752
211	1.302	1.423	1.554	1.747
212	1.297	1.418	1.548	1.741
213	1.292	1.412	1.543	1.735
214	1.287	1.407	1.537	1.729
215	1.282	1.401	1.531	1.722
216	1.276	1.396	1.525	1.716
217	1.271	1.390	1.519	1.709
218	1.265	1.384	1.513	1.702
219	1.259	1.378	1.506	1.695
220	1.253	1.371	1.499	1.687
221	1.247	1.365	1.492	1.680
222	1.241	1.358	1.485	1.672
223	1.234	1.351	1.478	1.664
224	1.228	1.344	1.471	1.656
225	1.221	1.337	1.463	1.648
226	1.214	1.330	1.455	1.639
227	1.207	1.322	1.447	1.630
228	1.200	1.315	1.439	1.621
229	1.193	1.307	1.431	1.612
230	1.185	1.299	1.422	1.603
231	1.178	1.291	1.414	1.593
232	1.170	1.282	1.405	1.584
233	1.162	1.274	1.396	1.574
234	1.154	1.265	1.387	1.564
235	1.146	1.257	1.377	1.554
236	1.138	1.248	1.368	1.543
237	1.129	1.239	1.358	1.532
238	1.120	1.229	1.348	1.522
239	1.112	1.220	1.338	1.510
240	1.103	1.210	1.328	1.499
241	1.094	1.201	1.318	1.488
242	1.085	1.191	1.307	1.476
243	1.076	1.181	1.297	1.464
244	1.066	1.171	1.286	1.452
245	1.057	1.161	1.275	1.440
246	1.047	1.150	1.264	1.428
247	1.037	1.140	1.252	1.415
248	1.027	1.129	1.241	1.403
249	1.017	1.118	1.229	1.390
250	1.007	1.107	1.218	1.377
251	0.997	1.096	1.206	1.364
252	0.987	1.085	1.194	1.350
253	0.976	1.074	1.181	1.337
254	0.966	1.062	1.169	1.323
255	0.955	1.051	1.157	1.309
256	0.944	1.039	1.144	1.295
257	0.933	1.027	1.131	1.281
258	0.922	1.016	1.118	1.266
259	0.911	1.003	1.105	1.252
260	0.900	0.991	1.092	1.237
261	0.889	0.979	1.079	1.222
262	0.877	0.967	1.065	1.207
263	0.866	0.954	1.052	1.192
264	0.854	0.942	1.038	1.177
265	0.843	0.929	1.025	1.162
266	0.831	0.916	1.011	1.146
267	0.819	0.904	0.997	1.130
268	0.807	0.891	0.983	1.115
269	0.795	0.878	0.969	1.099



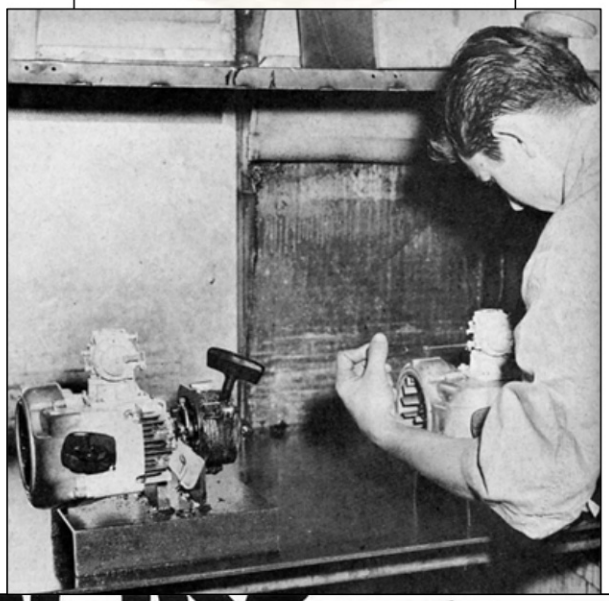






270	0.783	0.865	0.954	1.083
271	0.771	0.852	0.940	1.067
272	0.759	0.838	0.926	1.051
273	0.747	0.825	0.911	1.034
274	0.735	0.812	0.897	1.018
275	0.723	0.798	0.882	1.002
276	0.711	0.785	0.867	0.985
277	0.698	0.772	0.853	0.969
278	0.686	0.758	0.838	0.952
279	0.674	0.744	0.823	0.935
280	0.661	0.731	0.808	0.918
281	0.649	0.717	0.793	0.902
282	0.636	0.704	0.778	0.885
283	0.624	0.690	0.763	0.868
284	0.611	0.676	0.748	0.851
285	0.599	0.663	0.733	0.834
286	0.587	0.649	0.718	0.817
287	0.574	0.635	0.703	0.800
288	0.562	0.622	0.688	0.783
289	0.549	0.608	0.673	0.766
290	0.537	0.594	0.658	0.749
291	0.525	0.581	0.643	0.732
292	0.512	0.567	0.628	0.715
293	0.500	0.554	0.614	0.698
294	0.488	0.540	0.599	0.682
295	0.476	0.527	0.584	0.665
296	0.463	0.513	0.569	0.648
297	0.451	0.500	0.554	0.631
298	0.439	0.487	0.540	0.615
299	0.427	0.474	0.525	0.598
300	0.415	0.460	0.511	0.582
301	0.404	0.447	0.496	0.565
302	0.392	0.434	0.482	0.549
303	0.380	0.422	0.468	0.533
304	0.369	0.409	0.454	0.517
305	0.357	0.396	0.440	0.501
306	0.346	0.384	0.426	0.485
307	0.335	0.371	0.412	0.470
308	0.323	0.359	0.398	0.454
309	0.312	0.347	0.385	0.439
310	0.301	0.335	0.371	0.423
311	0.291	0.323	0.358	0.408
312	0.280	0.311	0.345	0.394
313	0.269	0.299	0.332	0.379
314	0.259	0.288	0.319	0.364
315	0.249	0.276	0.307	0.350
316	0.239	0.265	0.295	0.336
317	0.229	0.254	0.282	0.322
318	0.219	0.243	0.270	0.308
319	0.209	0.233	0.258	0.295
320	0.200	0.222	0.247	0.282
321	0.191	0.212	0.235	0.269
322	0.182	0.202	0.224	0.256
323	0.173	0.192	0.213	0.243
324	0.164	0.182	0.203	0.231
325	0.155	0.173	0.192	0.219
326	0.147	0.164	0.182	0.207
327	0.139	0.154	0.172	0.196
328	0.131	0.146	0.162	0.185
329	0.123	0.137	0.152	0.174
330	0.116	0.129	0.143	0.163
331	0.108	0.121	0.134	0.153
332	0.101	0.113	0.125	0.143
333	0.094	0.105	0.117	0.133
334	0.088	0.098	0.108	0.124
335	0.081	0.090	0.100	0.115
336	0.075	0.083	0.093	0.106
337	0.069	0.077	0.085	0.097
338	0.063	0.070	0.078	0.089
339	0.058	0.064	0.071	0.082







340	0.052	0.058	0.065	0.074
341	0.047	0.053	0.059	0.067
342	0.043	0.047	0.053	0.060
343	0.038	0.042	0.047	0.054
344	0.034	0.038	0.042	0.048
345	0.030	0.033	0.037	0.042
346	0.026	0.029	0.032	0.037
347	0.022	0.025	0.028	0.032
348	0.019	0.021	0.024	0.027
349	0.016	0.018	0.020	0.023
350	0.013	0.015	0.016	0.019
351	0.011	0.012	0.013	0.015
352	0.009	0.009	0.011	0.012
353	0.007	0.007	0.008	0.009
354	0.005	0.005	0.006	0.007
355	0.003	0.004	0.004	0.005
356	0.002	0.002	0.003	0.003
357	0.001	0.001	0.001	0.002
358	0.001	0.001	0.001	0.001
359	0.000	0.000	0.000	0.000
360	0.000	0.000	0.000	0.000

