

Height	57.00	inches	Frontal Area	3057.6	sq in
Width	60.00	inches		21.23	sq. ft.
Gnd Clear	5.00	inches		1.973	sq meters
Shape Factor	0.98		Coefficient of Drag	0.290	
			Air Density	0.0125	lb/ft^3
Curb Weight	2765	lbs.		1.202	kg/m^3
Pass. & Cargo Wt.	600	lbs.			
Total Weight	3365	lbs.	Coefficient of rolling rest.	0.010	
	1526	kilograms	Rolling Force	33.65	lbs.
				149.58	Newtons

Road Speed			Rolling Rest. Power		Aerodynam
mph	m/s	km/h	Watts	kW	lbs.
0	0.0	0.0	0.0	0.00	0.00
1	0.4	1.6	66.9	0.07	0.02
2	0.9	3.2	133.7	0.13	0.06
3	1.3	4.8	200.6	0.20	0.14
4	1.8	6.4	267.5	0.27	0.25
5	2.2	8.0	334.4	0.33	0.39
6	2.7	9.7	401.2	0.40	0.56
7	3.1	11.3	468.1	0.47	0.76
8	3.6	12.9	535.0	0.53	0.99
9	4.0	14.5	601.8	0.60	1.25
10	4.5	16.1	668.7	0.67	1.55
11	4.9	17.7	735.6	0.74	1.87
12	5.4	19.3	802.4	0.80	2.23
13	5.8	20.9	869.3	0.87	2.61
14	6.3	22.5	936.2	0.94	3.03
15	6.7	24.1	1003.1	1.00	3.48
16	7.2	25.7	1069.9	1.07	3.96
17	7.6	27.4	1136.8	1.14	4.47
18	8.0	29.0	1203.7	1.20	5.01
19	8.5	30.6	1270.5	1.27	5.58
20	8.9	32.2	1337.4	1.34	6.19
21	9.4	33.8	1404.3	1.40	6.82
22	9.8	35.4	1471.1	1.47	7.48
23	10.3	37.0	1538.0	1.54	8.18
24	10.7	38.6	1604.9	1.60	8.91
25	11.2	40.2	1671.8	1.67	9.67
26	11.6	41.8	1738.6	1.74	10.45
27	12.1	43.5	1805.5	1.81	11.27
28	12.5	45.1	1872.4	1.87	12.12
29	13.0	46.7	1939.2	1.94	13.01
30	13.4	48.3	2006.1	2.01	13.92
31	13.9	49.9	2073.0	2.07	14.86
32	14.3	51.5	2139.8	2.14	15.84
33	14.8	53.1	2206.7	2.21	16.84
34	15.2	54.7	2273.6	2.27	17.88

35	15.6	56.3	2340.5	2.34	18.94
36	16.1	57.9	2407.3	2.41	20.04
37	16.5	59.5	2474.2	2.47	21.17
38	17.0	61.2	2541.1	2.54	22.33
39	17.4	62.8	2607.9	2.61	23.52
40	17.9	64.4	2674.8	2.67	24.74
41	18.3	66.0	2741.7	2.74	26.00
42	18.8	67.6	2808.5	2.81	27.28
43	19.2	69.2	2875.4	2.88	28.59
44	19.7	70.8	2942.3	2.94	29.94
45	20.1	72.4	3009.2	3.01	31.32
46	20.6	74.0	3076.0	3.08	32.72
47	21.0	75.6	3142.9	3.14	34.16
48	21.5	77.2	3209.8	3.21	35.63
49	21.9	78.9	3276.6	3.28	37.13
50	22.4	80.5	3343.5	3.34	38.66
51	22.8	82.1	3410.4	3.41	40.22
52	23.2	83.7	3477.2	3.48	41.82
53	23.7	85.3	3544.1	3.54	43.44
54	24.1	86.9	3611.0	3.61	45.09
55	24.6	88.5	3677.9	3.68	46.78
56	25.0	90.1	3744.7	3.74	48.50
57	25.5	91.7	3811.6	3.81	50.24
58	25.9	93.3	3878.5	3.88	52.02
59	26.4	95.0	3945.3	3.95	53.83
60	26.8	96.6	4012.2	4.01	55.67
61	27.3	98.2	4079.1	4.08	57.54
62	27.7	99.8	4145.9	4.15	59.45
63	28.2	101.4	4212.8	4.21	61.38
64	28.6	103.0	4279.7	4.28	63.34
65	29.1	104.6	4346.6	4.35	65.34
66	29.5	106.2	4413.4	4.41	67.36
67	30.0	107.8	4480.3	4.48	69.42
68	30.4	109.4	4547.2	4.55	71.51
69	30.8	111.0	4614.0	4.61	73.63
70	31.3	112.7	4680.9	4.68	75.78
71	31.7	114.3	4747.8	4.75	77.96
72	32.2	115.9	4814.6	4.81	80.17
73	32.6	117.5	4881.5	4.88	82.41
74	33.1	119.1	4948.4	4.95	84.68
75	33.5	120.7	5015.3	5.02	86.99
76	34.0	122.3	5082.1	5.08	89.32
77	34.4	123.9	5149.0	5.15	91.69
78	34.9	125.5	5215.9	5.22	94.09
79	35.3	127.1	5282.7	5.28	96.51
80	35.8	128.7	5349.6	5.35	98.97
81	36.2	130.4	5416.5	5.42	101.46
82	36.7	132.0	5483.3	5.48	103.98
83	37.1	133.6	5550.2	5.55	106.54
84	37.6	135.2	5617.1	5.62	109.12
85	38.0	136.8	5684.0	5.68	111.73

86	38.4	138.4	5750.8	5.75	114.38
87	38.9	140.0	5817.7	5.82	117.05
88	39.3	141.6	5884.6	5.88	119.76
89	39.8	143.2	5951.4	5.95	122.50
90	40.2	144.8	6018.3	6.02	125.26
91	40.7	146.5	6085.2	6.09	128.06
92	41.1	148.1	6152.0	6.15	130.89
93	41.6	149.7	6218.9	6.22	133.75
94	42.0	151.3	6285.8	6.29	136.65
95	42.5	152.9	6352.7	6.35	139.57
96	42.9	154.5	6419.5	6.42	142.52
97	43.4	156.1	6486.4	6.49	145.51
98	43.8	157.7	6553.3	6.55	148.52
99	44.3	159.3	6620.1	6.62	151.57
100	44.7	160.9	6687.0	6.69	154.65
101	45.2	162.5	6753.9	6.75	157.75
102	45.6	164.2	6820.7	6.82	160.89
103	46.0	165.8	6887.6	6.89	164.06
104	46.5	167.4	6954.5	6.95	167.27
105	46.9	169.0	7021.4	7.02	170.50
106	47.4	170.6	7088.2	7.09	173.76
107	47.8	172.2	7155.1	7.16	177.05
108	48.3	173.8	7222.0	7.22	180.38
109	48.7	175.4	7288.8	7.29	183.74
110	49.2	177.0	7355.7	7.36	187.12

input value

calculated value

Prius EPA mpg ratings

EPA City Avg

EPA Hwy A

Gasoline Energy Content	33.00 kW/gal
Powertrain Efficiency	0.900
ICE Thermal Efficiency	0.330
Overall Conversion Efficiency	29.7 %

Aerodynamic Drag Force and Power		
Newton's	Watts	kW
0.00	0.0	0.00
0.07	0.0	0.00
0.27	0.2	0.00
0.62	0.8	0.00
1.10	2.0	0.00
1.72	3.8	0.00
2.47	6.6	0.01
3.37	10.5	0.01
4.40	15.7	0.02
5.57	22.4	0.02
6.87	30.7	0.03
8.32	40.9	0.04
9.90	53.1	0.05
11.62	67.5	0.07
13.47	84.3	0.08
15.47	103.7	0.10
17.60	125.9	0.13
19.87	151.0	0.15
22.27	179.2	0.18
24.82	210.8	0.21
27.50	245.9	0.25
30.32	284.6	0.28
33.27	327.2	0.33
36.37	373.9	0.37
39.60	424.8	0.42
42.97	480.2	0.48
46.47	540.1	0.54
50.11	604.9	0.60
53.90	674.6	0.67
57.81	749.5	0.75
61.87	829.8	0.83
66.06	915.5	0.92
70.39	1007.0	1.01
74.86	1104.4	1.10
79.47	1207.9	1.21

Total Force and Power at zero grade				
lbs.	Newton's	Watts	kW	hp
33.65	149.58	0.0	0.00	0.00
33.67	149.65	66.9	0.07	0.09
33.71	149.86	134.0	0.13	0.18
33.79	150.20	201.4	0.20	0.27
33.90	150.68	269.4	0.27	0.36
34.04	151.30	338.2	0.34	0.45
34.21	152.06	407.9	0.41	0.55
34.41	152.95	478.6	0.48	0.64
34.64	153.98	550.7	0.55	0.74
34.90	155.15	624.2	0.62	0.84
35.20	156.46	699.4	0.70	0.94
35.52	157.90	776.5	0.78	1.04
35.88	159.48	855.5	0.86	1.15
36.26	161.20	936.8	0.94	1.26
36.68	163.06	1020.5	1.02	1.37
37.13	165.05	1106.8	1.11	1.48
37.61	167.18	1195.8	1.20	1.60
38.12	169.45	1287.8	1.29	1.73
38.66	171.86	1382.9	1.38	1.85
39.23	174.40	1481.3	1.48	1.99
39.84	177.08	1583.3	1.58	2.12
40.47	179.90	1688.9	1.69	2.26
41.13	182.86	1798.4	1.80	2.41
41.83	185.95	1911.9	1.91	2.56
42.56	189.18	2029.7	2.03	2.72
43.32	192.55	2151.9	2.15	2.88
44.10	196.06	2278.8	2.28	3.05
44.92	199.70	2410.4	2.41	3.23
45.77	203.48	2547.0	2.55	3.41
46.66	207.40	2688.7	2.69	3.60
47.57	211.45	2835.9	2.84	3.80
48.51	215.65	2988.5	2.99	4.01
49.49	219.98	3146.9	3.15	4.22
50.49	224.45	3311.1	3.31	4.44
51.53	229.05	3481.5	3.48	4.67

84.21	1317.6	1.32
89.09	1433.8	1.43
94.11	1556.7	1.56
99.27	1686.3	1.69
104.56	1823.0	1.82
109.99	1966.8	1.97
115.56	2118.1	2.12
121.27	2276.8	2.28
127.11	2443.4	2.44
133.09	2617.8	2.62
139.21	2800.4	2.80
145.46	2991.3	2.99
151.86	3190.7	3.19
158.39	3398.7	3.40
165.06	3615.6	3.62
171.86	3841.5	3.84
178.80	4076.6	4.08
185.89	4321.1	4.32
193.10	4575.2	4.58
200.46	4839.1	4.84
207.95	5113.0	5.11
215.58	5397.0	5.40
223.35	5691.3	5.69
231.26	5996.1	6.00
239.30	6311.6	6.31
247.48	6638.0	6.64
255.80	6975.5	6.98
264.25	7324.2	7.32
272.85	7684.4	7.68
281.58	8056.1	8.06
290.45	8439.7	8.44
299.45	8835.2	8.84
308.59	9243.0	9.24
317.88	9663.0	9.66
327.29	10095.6	10.10
336.85	10541.0	10.54
346.54	10999.2	11.00
356.37	11470.5	11.47
366.34	11955.1	11.96
376.45	12453.2	12.45
386.69	12964.9	12.96
397.07	13490.5	13.49
407.59	14030.0	14.03
418.24	14583.8	14.58
429.04	15151.9	15.15
439.97	15734.6	15.73
451.03	16332.1	16.33
462.24	16944.5	16.94
473.58	17572.0	17.57
485.06	18214.8	18.21
496.68	18873.1	18.87

52.59	233.80	3658.1	3.66	4.90
53.69	238.68	3841.1	3.84	5.15
54.82	243.70	4030.8	4.03	5.40
55.98	248.85	4227.4	4.23	5.67
57.17	254.14	4430.9	4.43	5.94
58.39	259.58	4641.6	4.64	6.22
59.65	265.14	4859.7	4.86	6.51
60.93	270.85	5085.4	5.09	6.82
62.24	276.69	5318.8	5.32	7.13
63.59	282.67	5560.1	5.56	7.45
64.97	288.79	5809.6	5.81	7.79
66.37	295.05	6067.3	6.07	8.13
67.81	301.44	6333.5	6.33	8.49
69.28	307.97	6608.4	6.61	8.86
70.78	314.64	6892.2	6.89	9.24
72.31	321.45	7185.0	7.18	9.63
73.87	328.39	7487.0	7.49	10.04
75.47	335.47	7798.4	7.80	10.45
77.09	342.69	8119.4	8.12	10.88
78.74	350.04	8450.1	8.45	11.33
80.43	357.54	8790.8	8.79	11.78
82.15	365.17	9141.7	9.14	12.25
83.89	372.94	9502.9	9.50	12.74
85.67	380.84	9874.6	9.87	13.24
87.48	388.88	10257.0	10.26	13.75
89.32	397.06	10650.2	10.65	14.28
91.19	405.38	11054.6	11.05	14.82
93.10	413.84	11470.2	11.47	15.38
95.03	422.43	11897.2	11.90	15.95
96.99	431.16	12335.8	12.34	16.54
98.99	440.03	12786.2	12.79	17.14
101.01	449.04	13248.7	13.25	17.76
103.07	458.18	13723.2	13.72	18.40
105.16	467.46	14210.2	14.21	19.05
107.28	476.88	14709.7	14.71	19.72
109.43	486.43	15221.9	15.22	20.40
111.61	496.13	15747.0	15.75	21.11
113.82	505.96	16285.2	16.29	21.83
116.06	515.92	16836.7	16.84	22.57
118.33	526.03	17401.6	17.40	23.33
120.64	536.27	17980.2	17.98	24.10
122.97	546.65	18572.6	18.57	24.90
125.34	557.17	19179.0	19.18	25.71
127.74	567.83	19799.6	19.80	26.54
130.16	578.62	20434.7	20.43	27.39
132.62	589.55	21084.2	21.08	28.26
135.11	600.62	21748.5	21.75	29.15
137.63	611.82	22427.8	22.43	30.06
140.19	623.17	23122.2	23.12	30.99
142.77	634.65	23831.9	23.83	31.95
145.38	646.26	24557.0	24.56	32.92

508.44	19547.1	19.55
520.33	20236.9	20.24
532.36	20942.8	20.94
544.53	21664.9	21.66
556.83	22403.4	22.40
569.27	23158.5	23.16
581.86	23930.4	23.93
594.57	24719.2	24.72
607.43	25525.2	25.53
620.42	26348.6	26.35
633.55	27189.4	27.19
646.82	28048.0	28.05
660.22	28924.4	28.92
673.77	29818.9	29.82
687.45	30731.7	30.73
701.26	31662.9	31.66
715.22	32612.7	32.61
729.31	33581.3	33.58
743.54	34569.0	34.57
757.91	35575.8	35.58
772.42	36601.9	36.60
787.06	37647.6	37.65
801.84	38713.1	38.71
816.76	39798.4	39.80
831.81	40903.9	40.90

148.03	658.02	25297.9	25.30	33.91
150.70	669.91	26054.6	26.05	34.93
153.41	681.94	26827.3	26.83	35.96
156.15	694.11	27616.3	27.62	37.02
158.91	706.42	28421.7	28.42	38.10
161.71	718.86	29243.7	29.24	39.20
164.54	731.44	30082.4	30.08	40.32
167.40	744.16	30938.2	30.94	41.47
170.30	757.01	31811.0	31.81	42.64
173.22	770.00	32701.2	32.70	43.84
176.17	783.13	33608.9	33.61	45.05
179.16	796.40	34534.4	34.53	46.29
182.17	809.81	35477.7	35.48	47.56
185.22	823.35	36439.1	36.44	48.85
188.30	837.03	37418.7	37.42	50.16
191.40	850.85	38416.8	38.42	51.50
194.54	864.80	39433.5	39.43	52.86
197.71	878.90	40469.0	40.47	54.25
200.92	893.13	41523.4	41.52	55.66
204.15	907.49	42597.1	42.60	57.10
207.41	922.00	43690.2	43.69	58.57
210.70	936.64	44802.7	44.80	60.06
214.03	951.42	45935.0	45.94	61.58
217.39	966.34	47087.3	47.09	63.12
220.77	981.39	48259.6	48.26	64.69

wg      Test Data  
 mph      mpg

Grade percent	1.00
Grade Climbing Force	33.65
	149.58

Energy Consumption at zero grade			
Wh/mile	gal/100 miles	l/100 km	mpg
66.90	0.683	1.604	146.50
66.90	0.683	1.604	146.50
66.99	0.684	1.607	146.30
67.15	0.685	1.610	145.96
67.36	0.687	1.615	145.50
67.64	0.690	1.622	144.90
67.98	0.694	1.630	144.18
68.38	0.698	1.640	143.34
68.84	0.702	1.651	142.38
69.36	0.708	1.663	141.31
69.94	0.714	1.677	140.13
70.59	0.720	1.693	138.85
71.30	0.727	1.710	137.47
72.06	0.735	1.728	136.00
72.89	0.744	1.748	134.46
73.78	0.753	1.770	132.83
74.74	0.763	1.792	131.14
75.75	0.773	1.817	129.38
76.83	0.784	1.842	127.57
77.96	0.795	1.870	125.71
79.16	0.808	1.898	123.81
80.42	0.821	1.929	121.87
81.74	0.834	1.960	119.90
83.13	0.848	1.994	117.90
84.57	0.863	2.028	115.89
86.08	0.878	2.064	113.86
87.64	0.894	2.102	111.83
89.27	0.911	2.141	109.79
90.96	0.928	2.181	107.75
92.72	0.946	2.224	105.71
94.53	0.964	2.267	103.68
96.40	0.984	2.312	101.67
98.34	1.003	2.358	99.67
100.34	1.024	2.406	97.68
102.40	1.045	2.456	95.72

Total Force and Power at specific		
lbs.	Newtons	Watts
67.30	299.17	0.0
67.32	299.24	133.8
67.36	299.44	267.7
67.44	299.79	402.0
67.55	300.27	536.9
67.69	300.89	672.5
67.86	301.64	809.1
68.06	302.54	946.7
68.29	303.57	1085.7
68.55	304.74	1226.1
68.85	306.04	1368.1
69.17	307.49	1512.0
69.53	309.07	1658.0
69.91	310.79	1806.1
70.33	312.64	1956.7
70.78	314.63	2109.8
71.26	316.77	2265.7
71.77	319.03	2424.6
72.31	321.44	2586.5
72.88	323.98	2751.8
73.49	326.67	2920.7
74.12	329.48	3093.1
74.78	332.44	3269.5
75.48	335.53	3449.9
76.21	338.76	3634.6
76.97	342.13	3823.7
77.75	345.64	4017.4
78.57	349.28	4215.9
79.42	353.06	4419.3
80.31	356.98	4628.0
81.22	361.04	4842.0
82.16	365.23	5061.5
83.14	369.56	5286.7
84.14	374.03	5517.8
85.18	378.64	5755.0

104.52	1.066	2.507	93.77
106.70	1.089	2.559	91.86
108.94	1.112	2.613	89.97
111.25	1.135	2.668	88.10
113.61	1.159	2.725	86.27
116.04	1.184	2.783	84.46
118.53	1.209	2.843	82.69
121.08	1.235	2.904	80.95
123.69	1.262	2.966	79.24
126.37	1.289	3.031	77.56
129.10	1.317	3.096	75.92
131.90	1.346	3.163	74.31
134.76	1.375	3.232	72.73
137.68	1.405	3.302	71.19
140.66	1.435	3.373	69.68
143.70	1.466	3.446	68.20
146.80	1.498	3.521	66.76
149.97	1.530	3.597	65.35
153.20	1.563	3.674	63.98
156.48	1.597	3.753	62.63
159.83	1.631	3.833	61.32
163.24	1.666	3.915	60.04
166.72	1.701	3.998	58.79
170.25	1.737	4.083	57.57
173.85	1.774	4.169	56.38
177.50	1.811	4.257	55.22
181.22	1.849	4.346	54.08
185.00	1.888	4.437	52.98
188.84	1.927	4.529	51.90
192.75	1.967	4.622	50.85
196.71	2.007	4.718	49.82
200.74	2.048	4.814	48.83
204.82	2.090	4.912	47.85
208.97	2.132	5.012	46.90
213.18	2.175	5.113	45.97
217.46	2.219	5.215	45.07
221.79	2.263	5.319	44.19
226.18	2.308	5.424	43.33
230.64	2.353	5.531	42.49
235.16	2.399	5.640	41.68
239.74	2.446	5.749	40.88
244.38	2.493	5.861	40.11
249.08	2.541	5.973	39.35
253.84	2.590	6.088	38.61
258.67	2.639	6.203	37.89
263.55	2.689	6.321	37.19
268.50	2.740	6.439	36.50
273.51	2.791	6.559	35.83
278.58	2.842	6.681	35.18
283.71	2.895	6.804	34.55
288.91	2.948	6.929	33.92

86.24	383.38	5998.5
87.34	388.26	6248.5
88.47	393.28	6505.0
89.63	398.43	6768.4
90.82	403.73	7038.8
92.04	409.16	7316.4
93.30	414.73	7601.4
94.58	420.43	7893.9
95.89	426.28	8194.2
97.24	432.26	8502.4
98.62	438.38	8818.7
100.02	444.63	9143.3
101.46	451.02	9476.4
102.93	457.56	9818.2
104.43	464.22	10168.8
105.96	471.03	10528.5
107.52	477.97	10897.3
109.12	485.05	11275.6
110.74	492.27	11663.5
112.39	499.63	12061.1
114.08	507.12	12468.7
115.80	514.75	12886.4
117.54	522.52	13314.5
119.32	530.42	13753.0
121.13	538.47	14202.3
122.97	546.65	14662.4
124.84	554.97	15133.7
126.75	563.42	15616.1
128.68	572.01	16110.0
130.64	580.75	16615.5
132.64	589.61	17132.8
134.66	598.62	17662.1
136.72	607.76	18203.5
138.81	617.04	18757.3
140.93	626.46	19323.7
143.08	636.02	19902.8
145.26	645.71	20494.8
147.47	655.54	21099.8
149.71	665.51	21718.2
151.98	675.61	22350.0
154.29	685.86	22995.4
156.62	696.24	23654.7
158.99	706.75	24328.0
161.39	717.41	25015.5
163.81	728.20	25717.4
166.27	739.13	26433.8
168.76	750.20	27165.0
171.28	761.41	27911.2
173.84	772.75	28672.4
176.42	784.23	29449.0
179.03	795.85	30241.0

294.16	3.001	7.055	33.32
299.48	3.056	7.182	32.73
304.86	3.110	7.311	32.15
310.30	3.166	7.442	31.59
315.80	3.222	7.573	31.04
321.36	3.279	7.707	30.50
326.98	3.336	7.842	29.97
332.67	3.394	7.978	29.46
338.42	3.453	8.116	28.96
344.22	3.512	8.255	28.47
350.09	3.572	8.396	28.00
356.02	3.633	8.538	27.53
362.02	3.694	8.682	27.07
368.07	3.755	8.827	26.63
374.19	3.818	8.974	26.19
380.36	3.881	9.122	25.77
386.60	3.945	9.272	25.35
392.90	4.009	9.423	24.95
399.26	4.074	9.575	24.55
405.69	4.139	9.729	24.16
412.17	4.205	9.885	23.78
418.72	4.272	10.042	23.41
425.32	4.340	10.200	23.04
431.99	4.408	10.360	22.69
438.72	4.476	10.522	22.34

181.68	807.60	31048.7
184.35	819.50	31872.3
187.06	831.53	32711.9
189.80	843.69	33567.7
192.56	856.00	34440.0
195.36	868.44	35328.8
198.19	881.02	36234.5
201.05	893.74	37157.1
203.95	906.60	38096.8
206.87	919.59	39053.9
209.82	932.72	40028.5
212.81	945.99	41020.8
215.82	959.39	42030.9
218.87	972.93	43059.2
221.95	986.61	44105.7
225.05	1000.43	45170.6
228.19	1014.39	46254.2
231.36	1028.48	47356.6
234.57	1042.71	48477.9
237.80	1057.08	49618.5
241.06	1071.58	50778.4
244.35	1086.23	51957.8
247.68	1101.01	53157.0
251.04	1115.92	54376.1
254.42	1130.98	55615.3

%  
lbs.  
Newtons

Grade perc  
Grade Clim

d grade		Energy Consumption at specified grade				Total Force
kW	hp	Wh/mile	gal/100 miles	l/100 km	mpg	lbs.
0.00	0.00	133.77	1.365	3.208	73.27	201.90
0.13	0.18	133.77	1.365	3.208	73.27	201.92
0.27	0.36	133.86	1.366	3.210	73.22	201.96
0.40	0.54	134.02	1.367	3.214	73.13	202.04
0.54	0.72	134.23	1.370	3.219	73.02	202.15
0.67	0.90	134.51	1.372	3.226	72.87	202.29
0.81	1.08	134.85	1.376	3.234	72.68	202.46
0.95	1.27	135.25	1.380	3.243	72.47	202.66
1.09	1.46	135.71	1.385	3.255	72.22	202.89
1.23	1.64	136.23	1.390	3.267	71.94	203.15
1.37	1.83	136.81	1.396	3.281	71.64	203.45
1.51	2.03	137.46	1.402	3.297	71.30	203.77
1.66	2.22	138.17	1.410	3.313	70.94	204.13
1.81	2.42	138.93	1.418	3.332	70.54	204.51
1.96	2.62	139.76	1.426	3.352	70.13	204.93
2.11	2.83	140.65	1.435	3.373	69.68	205.38
2.27	3.04	141.61	1.445	3.396	69.21	205.86
2.42	3.25	142.62	1.455	3.420	68.72	206.37
2.59	3.47	143.70	1.466	3.446	68.21	206.91
2.75	3.69	144.83	1.478	3.473	67.67	207.48
2.92	3.92	146.03	1.490	3.502	67.12	208.09
3.09	4.15	147.29	1.503	3.532	66.54	208.72
3.27	4.38	148.61	1.516	3.564	65.95	209.38
3.45	4.62	150.00	1.530	3.597	65.34	210.08
3.63	4.87	151.44	1.545	3.632	64.72	210.81
3.82	5.13	152.95	1.561	3.668	64.08	211.57
4.02	5.39	154.51	1.577	3.706	63.43	212.35
4.22	5.65	156.14	1.593	3.745	62.77	213.17
4.42	5.92	157.83	1.610	3.785	62.10	214.02
4.63	6.20	159.59	1.628	3.827	61.42	214.91
4.84	6.49	161.40	1.647	3.871	60.73	215.82
5.06	6.78	163.27	1.666	3.916	60.03	216.76
5.29	7.09	165.21	1.686	3.962	59.32	217.74
5.52	7.40	167.21	1.706	4.010	58.62	218.74
5.76	7.71	169.27	1.727	4.059	57.90	219.78

6.00	8.04	171.39	1.749	4.110	57.19	220.84
6.25	8.38	173.57	1.771	4.163	56.47	221.94
6.51	8.72	175.81	1.794	4.216	55.75	223.07
6.77	9.07	178.12	1.817	4.272	55.03	224.23
7.04	9.44	180.48	1.841	4.328	54.30	225.42
7.32	9.81	182.91	1.866	4.387	53.58	226.64
7.60	10.19	185.40	1.892	4.446	52.86	227.90
7.89	10.58	187.95	1.918	4.507	52.15	229.18
8.19	10.98	190.56	1.944	4.570	51.43	230.49
8.50	11.40	193.24	1.972	4.634	50.72	231.84
8.82	11.82	195.97	2.000	4.700	50.01	233.22
9.14	12.26	198.77	2.028	4.767	49.31	234.62
9.48	12.70	201.63	2.057	4.835	48.61	236.06
9.82	13.16	204.55	2.087	4.905	47.92	237.53
10.17	13.63	207.53	2.117	4.977	47.23	239.03
10.53	14.11	210.57	2.148	5.050	46.55	240.56
10.90	14.61	213.67	2.180	5.124	45.87	242.12
11.28	15.11	216.84	2.212	5.200	45.20	243.72
11.66	15.63	220.07	2.245	5.278	44.54	245.34
12.06	16.17	223.35	2.279	5.356	43.88	246.99
12.47	16.71	226.70	2.313	5.437	43.23	248.68
12.89	17.27	230.11	2.348	5.519	42.59	250.40
13.31	17.85	233.59	2.383	5.602	41.96	252.14
13.75	18.44	237.12	2.419	5.687	41.33	253.92
14.20	19.04	240.72	2.456	5.773	40.72	255.73
14.66	19.65	244.37	2.493	5.861	40.11	257.57
15.13	20.29	248.09	2.531	5.950	39.51	259.44
15.62	20.93	251.87	2.570	6.040	38.91	261.35
16.11	21.60	255.71	2.609	6.133	38.33	263.28
16.62	22.27	259.62	2.649	6.226	37.75	265.24
17.13	22.97	263.58	2.689	6.321	37.18	267.24
17.66	23.68	267.61	2.730	6.418	36.62	269.26
18.20	24.40	271.69	2.772	6.516	36.07	271.32
18.76	25.14	275.84	2.814	6.615	35.53	273.41
19.32	25.90	280.05	2.857	6.716	35.00	275.53
19.90	26.68	284.33	2.901	6.819	34.47	277.68
20.49	27.47	288.66	2.945	6.923	33.95	279.86
21.10	28.28	293.05	2.990	7.028	33.44	282.07
21.72	29.11	297.51	3.035	7.135	32.94	284.31
22.35	29.96	302.03	3.082	7.243	32.45	286.58
23.00	30.82	306.61	3.128	7.353	31.97	288.89
23.65	31.71	311.25	3.176	7.464	31.49	291.22
24.33	32.61	315.95	3.224	7.577	31.02	293.59
25.02	33.53	320.71	3.272	7.691	30.56	295.99
25.72	34.47	325.54	3.321	7.807	30.11	298.41
26.43	35.43	330.42	3.371	7.924	29.66	300.87
27.17	36.41	335.37	3.422	8.043	29.22	303.36
27.91	37.41	340.38	3.473	8.163	28.79	305.88
28.67	38.43	345.45	3.525	8.285	28.37	308.44
29.45	39.48	350.58	3.577	8.408	27.96	311.02
30.24	40.54	355.78	3.630	8.532	27.55	313.63

31.05	41.62	361.03	3.684	8.658	27.15	316.28
31.87	42.72	366.35	3.738	8.786	26.75	318.95
32.71	43.85	371.73	3.793	8.915	26.37	321.66
33.57	45.00	377.17	3.848	9.045	25.99	324.40
34.44	46.17	382.67	3.904	9.177	25.61	327.16
35.33	47.36	388.23	3.961	9.311	25.25	329.96
36.23	48.57	393.85	4.018	9.445	24.88	332.79
37.16	49.81	399.54	4.077	9.582	24.53	335.65
38.10	51.07	405.29	4.135	9.720	24.18	338.55
39.05	52.35	411.09	4.194	9.859	23.84	341.47
40.03	53.66	416.96	4.254	10.000	23.51	344.42
41.02	54.99	422.89	4.315	10.142	23.18	347.41
42.03	56.34	428.89	4.376	10.286	22.85	350.42
43.06	57.72	434.94	4.438	10.431	22.53	353.47
44.11	59.12	441.06	4.500	10.577	22.22	356.55
45.17	60.55	447.23	4.563	10.726	21.91	359.65
46.25	62.00	453.47	4.627	10.875	21.61	362.79
47.36	63.48	459.77	4.691	11.026	21.32	365.96
48.48	64.98	466.13	4.756	11.179	21.03	369.17
49.62	66.51	472.56	4.822	11.333	20.74	372.40
50.78	68.07	479.04	4.888	11.488	20.46	375.66
51.96	69.65	485.59	4.954	11.645	20.18	378.95
53.16	71.26	492.19	5.022	11.804	19.91	382.28
54.38	72.89	498.86	5.090	11.964	19.65	385.64
55.62	74.55	505.59	5.159	12.125	19.39	389.02

Percent	5.00	%
Driving Force	168.25	lbs.
	747.92	Newtons

Force and Power at specified grade			
Newtons	Watts	kW	hp
897.50	0.0	0.00	0.00
897.57	401.3	0.40	0.54
897.78	802.7	0.80	1.08
898.12	1204.5	1.20	1.61
898.60	1606.8	1.61	2.15
899.22	2009.9	2.01	2.69
899.98	2414.0	2.41	3.24
900.87	2819.1	2.82	3.78
901.90	3225.5	3.23	4.32
903.07	3633.4	3.63	4.87
904.38	4042.9	4.04	5.42
905.82	4454.3	4.45	5.97
907.40	4867.7	4.87	6.53
909.12	5283.4	5.28	7.08
910.98	5701.4	5.70	7.64
912.97	6122.0	6.12	8.21
915.10	6545.4	6.55	8.77
917.37	6971.7	6.97	9.35
919.78	7401.2	7.40	9.92
922.32	7834.0	7.83	10.50
925.00	8270.3	8.27	11.09
927.82	8710.2	8.71	11.68
930.77	9154.1	9.15	12.27
933.87	9602.0	9.60	12.87
937.10	10054.1	10.05	13.48
940.47	10510.7	10.51	14.09
943.97	10971.9	10.97	14.71
947.62	11437.8	11.44	15.33
951.40	11908.8	11.91	15.96
955.32	12384.9	12.38	16.60
959.37	12866.4	12.87	17.25
963.57	13353.4	13.35	17.90
967.90	13846.1	13.85	18.56
972.36	14344.7	14.34	19.23
976.97	14849.4	14.85	19.91

Energy Consumption at specified grade			
Wh/mile	gal/100 miles	l/100 km	mpg
401.25	4.094	9.623	24.43
401.25	4.094	9.623	24.43
401.34	4.095	9.625	24.42
401.50	4.096	9.629	24.41
401.71	4.099	9.634	24.40
401.99	4.102	9.641	24.38
402.33	4.105	9.649	24.36
402.73	4.109	9.658	24.34
403.19	4.114	9.669	24.31
403.71	4.119	9.682	24.28
404.29	4.125	9.696	24.24
404.94	4.132	9.711	24.20
405.65	4.139	9.728	24.16
406.41	4.147	9.747	24.12
407.24	4.155	9.767	24.07
408.13	4.164	9.788	24.01
409.09	4.174	9.811	23.96
410.10	4.184	9.835	23.90
411.18	4.195	9.861	23.84
412.31	4.207	9.888	23.77
413.51	4.219	9.917	23.70
414.77	4.232	9.947	23.63
416.09	4.245	9.979	23.55
417.48	4.260	10.012	23.48
418.92	4.274	10.047	23.40
420.43	4.290	10.083	23.31
421.99	4.306	10.120	23.23
423.62	4.322	10.159	23.14
425.31	4.339	10.200	23.04
427.07	4.357	10.242	22.95
428.88	4.376	10.285	22.85
430.75	4.395	10.330	22.75
432.69	4.415	10.377	22.65
434.69	4.435	10.425	22.55
436.75	4.456	10.474	22.44

981.71	15360.3	15.36	20.59
986.60	15877.7	15.88	21.28
991.61	16401.8	16.40	21.99
996.77	16932.7	16.93	22.70
1002.06	17470.6	17.47	23.42
1007.49	18015.6	18.02	24.15
1013.06	18568.1	18.57	24.89
1018.77	19128.1	19.13	25.64
1024.61	19695.8	19.70	26.40
1030.59	20271.5	20.27	27.17
1036.71	20855.3	20.86	27.96
1042.97	21447.4	21.45	28.75
1049.36	22048.0	22.05	29.55
1055.89	22657.2	22.66	30.37
1062.56	23275.3	23.28	31.20
1069.36	23902.5	23.90	32.04
1076.31	24538.8	24.54	32.89
1083.39	25184.6	25.18	33.76
1090.61	25839.9	25.84	34.64
1097.96	26505.0	26.51	35.53
1105.45	27180.1	27.18	36.43
1113.09	27865.3	27.87	37.35
1120.85	28560.8	28.56	38.29
1128.76	29266.9	29.27	39.23
1136.80	29983.6	29.98	40.19
1144.98	30711.3	30.71	41.17
1153.30	31449.9	31.45	42.16
1161.76	32199.9	32.20	43.16
1170.35	32961.2	32.96	44.18
1179.08	33734.2	33.73	45.22
1187.95	34519.0	34.52	46.27
1196.95	35315.8	35.32	47.34
1206.10	36124.7	36.12	48.42
1215.38	36946.0	36.95	49.53
1224.80	37779.8	37.78	50.64
1234.35	38626.4	38.63	51.78
1244.04	39485.8	39.49	52.93
1253.87	40358.4	40.36	54.10
1263.84	41244.2	41.24	55.29
1273.95	42143.5	42.14	56.49
1284.19	43056.4	43.06	57.72
1294.57	43983.2	43.98	58.96
1305.09	44924.0	44.92	60.22
1315.74	45879.0	45.88	61.50
1326.54	46848.3	46.85	62.80
1337.47	47832.2	47.83	64.12
1348.54	48830.9	48.83	65.46
1359.74	49844.5	49.84	66.82
1371.08	50873.2	50.87	68.19
1382.56	51917.3	51.92	69.59
1394.18	52976.8	52.98	71.01

438.87	4.478	10.525	22.33
441.05	4.500	10.577	22.22
443.29	4.523	10.631	22.11
445.60	4.546	10.686	22.00
447.96	4.571	10.743	21.88
450.39	4.595	10.801	21.76
452.88	4.621	10.861	21.64
455.43	4.647	10.922	21.52
458.04	4.673	10.985	21.40
460.72	4.701	11.049	21.27
463.45	4.729	11.115	21.15
466.25	4.757	11.182	21.02
469.11	4.786	11.250	20.89
472.03	4.816	11.320	20.76
475.01	4.847	11.392	20.63
478.05	4.878	11.465	20.50
481.15	4.909	11.539	20.37
484.32	4.942	11.615	20.24
487.55	4.974	11.692	20.10
490.83	5.008	11.771	19.97
494.18	5.042	11.852	19.83
497.59	5.077	11.933	19.70
501.07	5.112	12.017	19.56
504.60	5.148	12.101	19.42
508.20	5.185	12.188	19.29
511.85	5.222	12.275	19.15
515.57	5.260	12.365	19.01
519.35	5.299	12.455	18.87
523.19	5.338	12.547	18.73
527.10	5.378	12.641	18.59
531.06	5.418	12.736	18.46
535.09	5.460	12.833	18.32
539.17	5.501	12.931	18.18
543.32	5.544	13.030	18.04
547.53	5.587	13.131	17.90
551.81	5.630	13.233	17.76
556.14	5.674	13.337	17.62
560.53	5.719	13.443	17.49
564.99	5.765	13.550	17.35
569.51	5.811	13.658	17.21
574.09	5.857	13.768	17.07
578.73	5.905	13.879	16.94
583.43	5.953	13.992	16.80
588.19	6.001	14.106	16.66
593.02	6.051	14.222	16.53
597.90	6.100	14.339	16.39
602.85	6.151	14.458	16.26
607.86	6.202	14.578	16.12
612.93	6.254	14.699	15.99
618.06	6.306	14.822	15.86
623.26	6.359	14.947	15.73

1405.94	54052.0	54.05	72.46
1417.83	55143.1	55.14	73.92
1429.86	56250.2	56.25	75.40
1442.03	57373.5	57.37	76.91
1454.33	58513.2	58.51	78.44
1466.78	59669.5	59.67	79.99
1479.36	60842.6	60.84	81.56
1492.07	62032.7	62.03	83.15
1504.93	63239.9	63.24	84.77
1517.92	64464.5	64.46	86.41
1531.05	65706.6	65.71	88.08
1544.32	66966.3	66.97	89.77
1557.73	68244.0	68.24	91.48
1571.27	69539.7	69.54	93.22
1584.95	70853.7	70.85	94.98
1598.77	72186.1	72.19	96.76
1612.72	73537.2	73.54	98.58
1626.81	74907.0	74.91	100.41
1641.04	76295.9	76.30	102.27
1655.41	77703.9	77.70	104.16
1669.92	79131.3	79.13	106.07
1684.56	80578.2	80.58	108.01
1699.34	82044.8	82.04	109.98
1714.26	83531.4	83.53	111.97
1729.31	85038.1	85.04	113.99

628.51	6.413	15.073	15.59
633.83	6.467	15.201	15.46
639.21	6.522	15.330	15.33
644.65	6.577	15.460	15.20
650.15	6.633	15.592	15.08
655.71	6.690	15.725	14.95
661.33	6.748	15.860	14.82
667.02	6.806	15.996	14.69
672.77	6.864	16.134	14.57
678.57	6.924	16.274	14.44
684.44	6.983	16.414	14.32
690.37	7.044	16.557	14.20
696.37	7.105	16.700	14.07
702.42	7.167	16.846	13.95
708.54	7.229	16.992	13.83
714.71	7.292	17.140	13.71
720.95	7.356	17.290	13.59
727.25	7.420	17.441	13.48
733.61	7.485	17.594	13.36
740.04	7.551	17.748	13.24
746.52	7.617	17.903	13.13
753.07	7.684	18.060	13.01
759.67	7.751	18.219	12.90
766.34	7.819	18.379	12.79
773.07	7.888	18.540	12.68