

Jet-A Fuel Density Variation with Temperature

Bombardier Global Express

Temp °F	Temp °C	Min and Max Density lb./USG based on relative density to water @ 15.5° C x 8.336		Typical Density lb./USG Typ	Lb. Jet-A fuel @ 6,450 USG			Δ γ Max-Min	Δ Wt./Max Fuel Δγ x 6,450
		Min	Max		# Max γ	# Typ γ	# Min γ		
-4	-20.0	6.68	7.19	6.985	46,376	45,053	43,086	0.510	3,290
-3	-19.4	6.677	7.187	6.982	46,354	45,032	43,065	0.510	3,290
-2	-18.9	6.673	7.183	6.979	46,333	45,012	43,043	0.510	3,290
-1	-18.3	6.670	7.180	6.975	46,311	44,991	43,022	0.510	3,290
0	-17.8	6.667	7.177	6.972	46,290	44,970	43,000	0.510	3,290
1	-17.2	6.663	7.173	6.969	46,268	44,949	42,979	0.510	3,290
2	-16.7	6.660	7.170	6.966	46,247	44,929	42,957	0.510	3,290
3	-16.1	6.657	7.167	6.962	46,225	44,908	42,936	0.510	3,290
4	-15.6	6.653	7.163	6.959	46,204	44,887	42,914	0.510	3,290
5	-15.0	6.650	7.160	6.956	46,182	44,866	42,893	0.510	3,290
6	-14.4	6.647	7.157	6.953	46,161	44,845	42,871	0.510	3,290
7	-13.9	6.643	7.153	6.950	46,139	44,825	42,850	0.510	3,290
8	-13.3	6.640	7.150	6.946	46,118	44,804	42,828	0.510	3,290
9	-12.8	6.637	7.147	6.943	46,096	44,783	42,807	0.510	3,290
10	-12.2	6.633	7.143	6.940	46,075	44,762	42,785	0.510	3,290
11	-11.7	6.630	7.140	6.937	46,053	44,742	42,764	0.510	3,290
12	-11.1	6.627	7.137	6.933	46,032	44,721	42,742	0.510	3,290
13	-10.6	6.623	7.133	6.930	46,010	44,700	42,721	0.510	3,290
14	-10.0	6.62	7.13	6.927	45,989	44,679	42,699	0.510	3,290
15	-9.4	6.616	7.127	6.923	45,967	44,655	42,674	0.511	3,293
16	-8.9	6.612	7.123	6.920	45,946	44,631	42,649	0.511	3,297
17	-8.3	6.608	7.120	6.916	45,924	44,607	42,624	0.512	3,300
18	-7.8	6.604	7.117	6.912	45,903	44,583	42,599	0.512	3,304
19	-7.2	6.601	7.113	6.908	45,881	44,559	42,574	0.513	3,307

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20	-6.7	6.597	7.110	6.905	45,860	44,535	42,549	0.513	3,311
21	-6.1	6.593	7.107	6.901	45,838	44,511	42,523	0.514	3,315
22	-5.6	6.589	7.103	6.897	45,817	44,487	42,498	0.514	3,318
23	-5.0	6.585	7.100	6.894	45,795	44,463	42,473	0.515	3,322
24	-4.4	6.581	7.097	6.890	45,774	44,439	42,448	0.516	3,325
25	-3.9	6.577	7.093	6.886	45,752	44,415	42,423	0.516	3,329
26	-3.3	6.573	7.090	6.882	45,731	44,391	42,398	0.517	3,333
27	-2.8	6.569	7.087	6.879	45,709	44,367	42,373	0.517	3,336
28	-2.2	6.566	7.083	6.875	45,688	44,343	42,348	0.518	3,340
29	-1.7	6.562	7.080	6.871	45,666	44,319	42,323	0.518	3,343
30	-1.1	6.558	7.077	6.867	45,645	44,295	42,298	0.519	3,347
31	-0.6	6.554	7.073	6.864	45,623	44,271	42,273	0.519	3,350
32	0.0	6.55	7.07	6.860	45,602	44,247	42,248	0.520	3,354
33	0.6	6.547	7.067	6.857	45,584	44,226	42,226	0.521	3,358
34	1.1	6.543	7.064	6.854	45,566	44,205	42,205	0.521	3,361
35	1.7	6.540	7.062	6.850	45,548	44,185	42,183	0.522	3,365
36	2.2	6.537	7.059	6.847	45,530	44,164	42,162	0.522	3,368
37	2.8	6.533	7.056	6.844	45,512	44,143	42,140	0.523	3,372
38	3.3	6.530	7.053	6.841	45,494	44,122	42,119	0.523	3,375
39	3.9	6.527	7.051	6.837	45,476	44,102	42,097	0.524	3,379
40	4.4	6.523	7.048	6.834	45,458	44,081	42,076	0.524	3,383
41	5.0	6.520	7.045	6.831	45,440	44,060	42,054	0.525	3,386
42	5.6	6.517	7.042	6.828	45,422	44,039	42,033	0.526	3,390
43	6.1	6.513	7.039	6.825	45,404	44,018	42,011	0.526	3,393
44	6.7	6.510	7.037	6.821	45,387	43,998	41,990	0.527	3,397
45	7.2	6.507	7.034	6.818	45,369	43,977	41,968	0.527	3,401
46	7.8	6.503	7.031	6.815	45,351	43,956	41,947	0.528	3,404
47	8.3	6.500	7.028	6.812	45,333	43,935	41,925	0.528	3,408

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48	8.9	6.497	7.026	6.808	45,315	43,914	41,904	0.529	3,411
49	9.4	6.493	7.023	6.805	45,297	43,894	41,882	0.529	3,415
50	10.0	6.49	7.02	6.802	45,279	43,873	41,861	0.530	3,419
51	10.6	6.485	7.015	6.800	45,247	43,858	41,828	0.530	3,419
52	11.1	6.480	7.010	6.798	45,215	43,844	41,796	0.530	3,419
53	11.7	6.475	7.005	6.795	45,182	43,829	41,764	0.530	3,419
54	12.2	6.47	7.00	6.793	45,150	43,815	41,732	0.530	3,419
55	12.8	6.468	6.998	6.790	45,137	43,794	41,719	0.530	3,419
56	13.3	6.466	6.996	6.787	45,124	43,774	41,706	0.530	3,419
57	13.9	6.464	6.994	6.783	45,111	43,753	41,693	0.530	3,419
58	14.4	6.462	6.992	6.780	45,098	43,732	41,680	0.530	3,419
59	15.0	6.46	6.99	6.777	45,086	43,712	41,667	0.530	3,419
60	15.6	6.458	6.988	6.773	45,069	43,684	41,651	0.530	3,419
61	16.1	6.455	6.985	6.769	45,053	43,657	41,635	0.530	3,419
62	16.7	6.453	6.983	6.764	45,037	43,629	41,619	0.530	3,419
63	17.2	6.45	6.98	6.760	45,021	43,602	41,603	0.530	3,419
64	17.8	6.446	6.976	6.757	44,995	43,580	41,577	0.530	3,419
65	18.3	6.442	6.972	6.753	44,969	43,558	41,551	0.530	3,419
66	18.9	6.438	6.968	6.750	44,944	43,536	41,525	0.530	3,419
67	19.4	6.434	6.964	6.746	44,918	43,514	41,499	0.530	3,419
68	20.0	6.43	6.96	6.743	44,892	43,492	41,474	0.530	3,419
69	20.6	6.426	6.956	6.740	44,866	43,470	41,448	0.530	3,419
70	21.1	6.422	6.952	6.736	44,840	43,448	41,422	0.530	3,419
71	21.7	6.418	6.948	6.733	44,815	43,427	41,396	0.530	3,419
72	22.2	6.414	6.944	6.729	44,789	43,405	41,370	0.530	3,419
73	22.8	6.410	6.940	6.726	44,763	43,383	41,345	0.530	3,419
74	23.3	6.406	6.936	6.723	44,737	43,361	41,319	0.530	3,419
75	23.9	6.402	6.932	6.719	44,711	43,339	41,293	0.530	3,419

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76	24.4	6.398	6.928	6.716	44,686	43,317	41,267	0.530	3,419
77	25.0	6.39	6.93	6.710	44,699	43,280	41,216	0.540	3,483
78	25.6	6.387	6.927	6.707	44,677	43,262	41,194	0.540	3,483
79	26.1	6.383	6.923	6.704	44,656	43,244	41,173	0.540	3,483
80	26.7	6.380	6.920	6.702	44,634	43,226	41,151	0.540	3,483
81	27.2	6.377	6.917	6.699	44,613	43,208	41,130	0.540	3,483
82	27.8	6.373	6.913	6.696	44,591	43,190	41,108	0.540	3,483
83	28.3	6.370	6.910	6.693	44,570	43,172	41,087	0.540	3,483
84	28.9	6.367	6.907	6.691	44,548	43,154	41,065	0.540	3,483
85	29.4	6.363	6.903	6.688	44,527	43,136	41,044	0.540	3,483
86	30.0	6.36	6.90	6.685	44,505	43,118	41,022	0.540	3,483
87	30.6	6.357	6.897	6.682	44,487	43,097	41,001	0.541	3,487
88	31.1	6.353	6.894	6.678	44,469	43,076	40,979	0.541	3,490
89	31.7	6.350	6.892	6.675	44,451	43,055	40,958	0.542	3,494
90	32.2	6.347	6.889	6.672	44,433	43,034	40,936	0.542	3,497
91	32.8	6.343	6.886	6.669	44,415	43,013	40,915	0.543	3,501
92	33.3	6.340	6.883	6.665	44,398	42,991	40,893	0.543	3,504
93	33.9	6.337	6.881	6.662	44,380	42,970	40,872	0.544	3,508
94	34.4	6.333	6.878	6.659	44,362	42,949	40,850	0.544	3,512
95	35.0	6.330	6.875	6.656	44,344	42,928	40,829	0.545	3,515
96	35.6	6.327	6.872	6.652	44,326	42,907	40,807	0.546	3,519
97	36.1	6.323	6.869	6.649	44,308	42,886	40,786	0.546	3,522
98	36.7	6.320	6.867	6.646	44,290	42,865	40,764	0.547	3,526
99	37.2	6.317	6.864	6.642	44,272	42,843	40,743	0.547	3,530
100	37.8	6.313	6.861	6.639	44,254	42,822	40,721	0.548	3,533
101	38.3	6.310	6.858	6.636	44,236	42,801	40,700	0.548	3,537
102	38.9	6.307	6.856	6.633	44,218	42,780	40,678	0.549	3,540
103	39.4	6.303	6.853	6.629	44,200	42,759	40,657	0.549	3,544

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104	40.0	6.30	6.85	6.626	44,183	42,738	40,635	0.550	3,548
105	40.6	6.297	6.847	6.622	44,161	42,714	40,614	0.550	3,548
106	41.1	6.293	6.843	6.619	44,140	42,690	40,592	0.550	3,548
107	41.7	6.290	6.840	6.615	44,118	42,667	40,571	0.550	3,548
108	42.2	6.287	6.837	6.611	44,097	42,643	40,549	0.550	3,548
109	42.8	6.283	6.833	6.608	44,075	42,619	40,528	0.550	3,548
110	43.3	6.280	6.830	6.604	44,054	42,596	40,506	0.550	3,548
111	43.9	6.277	6.827	6.600	44,032	42,572	40,485	0.550	3,548
112	44.4	6.273	6.823	6.597	44,011	42,549	40,463	0.550	3,548
113	45.0	6.270	6.820	6.593	43,989	42,525	40,442	0.550	3,548
114	45.6	6.267	6.817	6.589	43,968	42,501	40,420	0.550	3,548
115	46.1	6.263	6.813	6.586	43,946	42,478	40,399	0.550	3,548
116	46.7	6.260	6.810	6.582	43,925	42,454	40,377	0.550	3,548
117	47.2	6.257	6.807	6.578	43,903	42,430	40,356	0.550	3,548
118	47.8	6.253	6.803	6.575	43,882	42,407	40,334	0.550	3,548
119	48.3	6.250	6.800	6.571	43,860	42,383	40,313	0.550	3,548
120	48.9	6.247	6.797	6.567	43,839	42,359	40,291	0.550	3,548
121	49.4	6.243	6.793	6.564	43,817	42,336	40,270	0.550	3,548
122	50.0	6.24	6.79	6.560	43,796	42,312	40,248	0.550	3,548

= Baseline Temperature/Density Conditions
 Numbers in Bold = Fixed Values from Original GAC Document

Avg Decrease / 10°F @ Typ Density: 217
 Avg Decrease / 5°C @ Typ Density: 196