AEROSPACE RECOMMENDED PRACTICE

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Superseding ARP210

Definition of Commonly Used Day Types (Atmospheric Ambient Temperature Characteristics Versus Pressure Altitude)

RATIONALE

ARP210 has been upgraded to a full aerospace standard AS210. Therefore, ARP210 is now out of date.

CANCELLATION NOTICE

This document has been declared "CANCELLED" as of December 2014. By this action, this document will remain listed in the Numerical Section of the Aerospace Standards Index. Cancelled specifications are available from SAE.

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1. SCOPE

"Hot Day", "Tropical Day", "Standard Day", "Polar Day" and "Cold Day" are part of the lexicon of the aircraft industry. These terms are generally understood to refer to specific, generally accepted characteristics of atmospheric temperature versus pressure altitude. There are also other, less well-known days, defined by their frequency of occurrence, such as "1% Hot Day", "10% Cold Day", or "Highest Recorded Day". These temperature characteristics have their origins in multiple sources, including U.S. military specifications which are no longer in force.

1.1 Purpose

This document is intended to preserve the commonly used day types in an accessible form for future use, make recommendations for their consistent usage, and collect the data in a single format.

1.2 Field of Application

These day types find their most frequent application in aircraft and propulsion system computer simulations. They do not impose any requirements on system design, but rather form a common frame of reference for defining the conditions under which various types of analyses are to be performed. Day types provide both a convenient mechanism for setting up computer program input and a convenient shorthand for discussing operational environment. For example, an airframe company might request engine data on a Hot Day to determine hot-day aircraft payload or range capability.

Except for Standard Day, the source data for this document covers a pressure altitude range from sea level to either 100000 ft (30.48 km) or 30 km (98425 ft), depending on the source. All tables in Section 5 have been extended to -2000 ft. (The ambient pressure at -2000 ft is higher than the highest barometer reading ever recorded at sea level.) The tables in Appendix A have not been extended.

2. REFERENCES

2.1 Applicable Documents

There are no other publications which form a part of this document. In the event of conflict between the text of this document and references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

2.2 Applicable References

The following documents contain material relevant to the subject area of this document, but do not form a part of this document. While some of the military specifications listed are no longer in force, they are still available from various document services.

	U.S. Standard Atmosphere, 1976
MIL-STD-210	Climatic Extremes for Military Equipment, 1 June, 1953
MIL-STD-210A	Climatic Extremes for Military Equipment, 2 August, 1957
MIL-STD-210A	Change Notice 1, Climatic Extremes for Military Equipment, 30 November, 1958
MIL-STD-210B	Climatic Extremes for Military Equipment, 15 December, 1973
MIL-STD-210C	Climatic Information to Determine Design and Test Requirements for Military Systems and Equipment, 9 January, 1987
MIL-HDBK-310	Global Climatic Data for Developing Military Products, 23 June, 1997
MIL-STD-3013	Glossary of Definitions, Ground Rules, and Mission Profiles to Define Air Vehicle Performance Capability, 14 February, 2003

3. DEFINITIONS

Day type	A named characteristic of ambient air temperature as a function of pressure altitude
Standard Day	The day type derived from U.S. Standard Atmosphere, 1976
Cold Day	The day type derived from MIL-STD-210A “Cold Atmosphere”
Hot Day	The day type derived from MIL-STD-210A “Hot Atmosphere”
Polar Day	The day type derived from MIL-STD-210A “Polar Atmosphere”
Tropical Day	The day type derived from MIL-STD-210A “Tropical Atmosphere”
1% Hot (Cold) Day	The day types derived from MIL-STD-210C / MIL-HDBK-310 “Frequency of Occurrence. Temperatures (1-percent values)”
5% Hot (Cold) Day	The day types derived from MIL-STD-210C / MIL-HDBK-310 “Frequency of Occurrence. Temperatures (5-percent values)”
10% Hot (Cold) Day	The day types derived from MIL-STD-210C / MIL-HDBK-310 “Frequency of Occurrence. Temperatures (10-percent values)”
20% Hot (Cold) Day	The day types derived from MIL-STD-210C / MIL-HDBK-310 “Frequency of Occurrence. Temperatures (20-percent values)”
Highest Recorded Day	The day type derived from MIL-STD-210C / MIL-HDBK-310 “Highest Recorded”
Lowest Recorded Day	The day type derived from MIL-STD-210C / MIL-HDBK-310 “Lowest Recorded”
Geopotential altitude	The equivalent height of an object if gravity were constant at the mean-sea-level, 45-degree-north-latitude, value. (See Appendix C)
Pressure altitude	There is a unique relationship between pressure and geopotential altitude on a standard day. The standard day temperature profile is implicit in the relationship. If the standard day pressure-altitude relationship is used to infer altitude from pressure, the result is called pressure altitude. On a standard day, geopotential altitude and pressure altitude are identical. On a non-standard day, pressure altitude is the standard-day geopotential altitude which corresponds to the local ambient pressure. (See Appendix C)

4. SOURCES AND ANALYSIS

4.1 History

In the altitude range of interest, the standard atmosphere has been unchanged since the publication of the “U.S. Standard Atmosphere, 1976”.

MIL-STD-210 introduced the concept of climatic extremes in 1953. It established an operational ambient temperature range requirement of -65 to 125 °F.

In 1957, MIL-STD-210A introduced Cold, Hot, Polar, and Tropical Day tables of temperature versus altitude. Tropical Day was revised in MIL-STD-210A Change Notice 1. The Polar and Tropical Day tables are hydrodynamically consistent. That is, the pressure at a given altitude is the result of integrating with respect to geopotential altitude while accounting for the density variation with temperature at all lower altitudes (see Appendix C). The Cold and Hot Day tables are not hydrodynamically consistent.

Tables of Highest (Lowest) Recorded temperatures and 1%, 5%, 10% and 20% risk temperatures first appeared in MIL-STD-210B in 1973. There were two sets of tables, one for “Naval Air Environment” and one for “World-wide Air Environment”. Cold, Hot, Polar, and Tropical Day definitions did not appear in MIL-STD-210B.

MIL-STD-210C, issued in 1987, eliminated the separate “Naval Air Environment” tables, and revised and extended all the other tables to at least 30 km pressure altitude.

MIL-HDBK-310 replaced MIL-STD-210C in 1997. The climatic temperature data in MIL-HDBK-310 is the same as that in MIL-STD-210C.

MIL-STD-3013, published in 2003, provides a table of Standard Day conditions to 150,000 ft altitude, and re-publishes Polar and Tropical Day tables with more significant digits than the MIL-STD-210A versions. Tropical Day in MIL-STD-3013 reverts to the original MIL-STD-210A table; not to Change Notice 1.

4.2 Accuracy, Precision, and Round-off

Computers make very precise calculations, carrying a large number of significant digits through all calculations. This is absolutely necessary for repeatability. However, the results may well only be accurate to 2 or 3 significant digits. The results of calculations are generally rounded off in documentation; sometimes rigorously to the number of significant digits justified by the accuracy of the underlying data, but more often to an arbitrary fixed number of places after the decimal point. And in the era before the advent of calculators, digital computers, and spreadsheets, human errors crept into the published tabulations.

The source materials for this document exhibit all these issues in the columns of data that are rendered in different units. There are obvious errors; small, unexplained discrepancies; unjustified significant digits; and imprecise conversions among units. A computer program which enters the tables with altitude in meters and reads temperature in °C is going to produce slightly different results from one which enters the tables with altitude in feet and reads temperature in °F, for example.

There are two sets of tables in this document. Those in the appendices repeat the data as given in the source documents, but with the correction of apparent typographical errors. All such corrections are footnoted. The tables in Section 5, on the other hand, are modified to improve their repeatability. This typically involves adding significant digits that are not mathematically justified. Section 5 also provides recommendations for using the tables in computer programs.

In analyzing the tables to identify typographical errors and inaccuracies, a number of attempts were made to “reverse engineer” the tables. For example, one can assume temperatures in °C are exact, convert to °F and °R, and compare to the values in the source tables. One may then assume °F is exact, and repeat the process. No combination of assumptions, conversions, and round-off was found to exactly reproduce the tables. The approaches described in 4.3 and 4.4 produced the fewest discrepancies between calculated results and the source tables.

4.3 Days Derived from MIL-STD-210A

The MIL-STD-210A source tables have columns for pressure altitude in feet, geopotential altitude in feet, and temperature in °F, °R, and °C. (As well as other parameters that are not relevant to the purpose of this document.) Due to roundoff, the temperature conversions are not exact. With some exceptions, the temperatures in the tables can be reproduced by assuming °F is exact and applying the conversions

$$°R = °F + 459.7 \quad \text{(Inexact; the exact conversion is 459.67)}$$

$$°C = (°F - 32) / 1.8 \quad \text{(Exact)}$$

and rounding to the nearest tenth of a degree. Some of the exceptions are typographical errors, and are noted below. Many of the exceptions are discrepancies of ±0.1 °C, and are unexplained.

The temperature characteristics are piece-wise linear with respect to geopotential altitude. The end points of the various linear regimes will be referred to as altitude break points in the following discussion. It is important to note that the temperature characteristics are not piecewise linear with respect to pressure altitude. Thus one may use linear interpolation between the altitude break points with respect to geopotential altitude and match the table values with good accuracy (±0.2 °F), but linear interpolation between the altitude break points with respect to pressure altitude introduces errors of up to 3.9 °F. (Where error is defined as the difference between the results of linear interpolation and the temperatures tabulated in the original source documents.)

In the tables in this document, a column has been added for pressure altitude in meters.

4.3.1 Cold Day

Appendix A1, Cold Day, is derived from Table II, “Cold Atmosphere”, of MIL-STD-210A. Two of the temperatures in the table are apparent typographical errors, and are corrected and footnoted in Appendix A.1.

The Cold Day temperature characteristic has altitude break points at geopotential altitudes of 0, 3000, 10000, 28000, 42000, 52000, 62000, 71000, and 94900 ft. These correspond to pressure altitudes of 0, 3311, 10744, 30715, 42377, 50583, 61087, 73055, and 100000 ft, respectively. Using linear interpolation between the altitude break points with respect to pressure altitude introduces errors of up to 2.4 °F.

4.3.2 Hot Day

Appendix A.2, Hot Day, is derived from Table III, “Hot Atmosphere”, of MIL-STD-210A. Two of the temperatures in the table are apparent typographical errors, and are corrected and footnoted in Appendix A2.

The Hot Day temperature characteristic has altitude break points at geopotential altitudes of 0, 40000, 51000, 68000, and 105000 ft. These correspond to pressure altitudes of 0, 39400, 50400, 66400, and 100000 ft, respectively. Using linear interpolation between the altitude break points with respect to pressure altitude introduces errors of up to 2.9 °F.

4.3.3 Polar Day

Appendix A.3, Polar Day, is derived from Table IV, “Polar Atmosphere”, of MIL-STD-210A. There are no apparent typographical errors.

The Polar Day temperature characteristic has altitude break points at geopotential altitudes of 0, 3112, 9173, 28225, 83363, and 96249 ft. These correspond to pressure altitudes of -319, 3243, 9882, 30065, 86092, and 100000 ft, respectively. Note that the temperature characteristic is very nearly piecewise linear with respect to pressure altitude. Using linear interpolation between the altitude break points with respect to pressure altitude introduces errors of only up to 0.3 °F.

4.3.4 Tropical Day

Appendix A.4, Tropical Day, is derived from Table V, “Tropical Atmosphere”, of MIL-STD-210A as revised by Change Notice 1. One of the temperatures in the table is an apparent typographical error, and is corrected and footnoted in Appendix A.4.

The Tropical Day temperature characteristic has altitude break points at geopotential altitudes of 0, 55000, 70000, and 100745 ft. These correspond to pressure altitudes of 0, 53595, 69620, and 100000 ft, respectively. The revision of Change Notice 1 changed the temperatures and geopotential altitudes above 69620 ft pressure altitude. Using linear interpolation between the altitude break points with respect to pressure altitude introduces errors of up to 3.9 °F.

4.4 Days Derived from MIL-STD-210C, MIL-HDBK-310

The MIL-STD-210C and MIL-HDBK-310 source tables have columns for pressure altitude in meters, pressure altitude in feet, and temperature in °C and °F. (As well as other parameters that are not relevant to the purpose of this document.) All temperatures are rounded to the nearest whole degree. Altitude in feet is rounded to 3 significant digits. With three exceptions, the temperatures in the tables can be reproduced by assuming °C is exact and applying the conversions

$$°F = 1.8(°C) + 32. \quad \text{(Exact)}$$

$$°R = 1.8(°C + 273.15) \quad \text{(Exact)}$$

and rounding to the nearest degree.

The source tables are much shorter than those of MIL-STD-210A, eliminating much of the concern about method of interpolation – there is little incentive to abbreviate the tables. The degree of roundoff in altitude expressed in feet does imply, however, that one will no doubt get slightly different temperatures out of the tables, depending on whether they are entered with altitude in feet or in meters.

In the tables in this document, a column has been added for temperature in °R.

4.4.1 Highest Recorded Day

Appendix A.5, Highest Recorded Day, is derived from 5.3.1.1.1, “Highest Recorded”, of MIL-HDBK-310. One of the temperatures in the table is an apparent typographical error, and is corrected and footnoted in Appendix A.5.

4.4.2 Lowest Recorded Day

Appendix A.6, Lowest Recorded Day, is derived from 5.3.1.2.1, “Lowest Recorded”, of MIL-HDBK-310.

4.4.3 1% Hot Day

Appendix A.7, 1% Hot Day, is derived from 5.3.1.1.2, “Frequency of Occurrence. Temperatures (1-percent values)”, of MIL-HDBK-310.

4.4.4 1% Cold Day

Appendix A.8, 1% Cold Day, is derived from 5.3.1.2.2, “Frequency of Occurrence. Temperatures (1-percent values)”, of MIL-HDBK-310.

4.4.5 5% Hot Day, 10% Hot Day, 20% Hot Day

Appendices A.9, 5% Hot Day, A10, 10% Hot Day, and A11, 20% Hot Day are derived from Table XIX, “Supplementary High Temperature Values for the Worldwide Air Environment”, of MIL-HDBK-310. There is one discrepancy between the 5% Hot days in MIL-HDBK-310 and MIL-STD-210C. There appears to be a typographical error in MIL-STD-210C, but the “correction” of the error in MIL-HDBK-310 appears to be erroneous. The errors are corrected and footnoted in Appendix A.9.

Note that there is no entry at 0 altitude for 20% Hot Day in MIL-HDBK-310.

4.4.6 5% Cold Day, 10% Cold Day, 20% Cold Day

Appendices A.12, 5% Cold Day, A.13, 10% Cold Day, and A.14, 20% Cold Day are derived from Table XX, “Supplementary Low Temperature Values for the Worldwide Air Environment”, of MIL-HDBK-310. There is one possible typographical error; the temperatures given at sea level for the 5% Cold Day may be inconsistent. Due to conversion and round-off issues, it is impossible to be certain.

4.5 Standard Day

U.S. Standard Atmosphere, 1976 is the most common source for all information pertaining to a Standard Day. Standard Day temperatures and pressures from -2000 ft to 100000 ft geopotential altitude are reproduced here for convenient reference.

Appendix A.15, Standard Day, presents Standard Day temperatures and pressures versus pressure altitude (which is the same as geopotential altitude on a Standard Day). Standard Day temperature (T) is piecewise linear with respect to pressure altitude (H), and may be calculated with the following equations:

Up to 36089 ft	T = 288.15 * (1. – 6.87558E-6 * H) K T = 518.67 * (1. – 6.87558E-6 * H) °R
36089 ft to 65617 ft	T = 216.65 K T = 389.97 °R
65617 ft to 104987 ft	T = 216.65 *(1. + 1.40688E-6 * (H – 65616.8)) K T = 389.97 *(1. + 1.40688E-6 * (H – 65616.8)) °R
104987 ft to 150000 ft	T = 228.65 *(1. + 3.73252E-6 * (H – 104986.88)) K T = 411.57 *(1. + 3.73252E-6 * (H – 104986.88)) °R

The temperatures in °R in Appendix A.15 are calculated via these equations and rounded to the nearest hundredth of a degree. Temperature conversions are as follows:

°F = °R – 459.67 (Exact)

°C = °R / 1.8 – 273.15 (Exact)

with the results rounded to the nearest hundredth of a degree.

Standard Day pressure may be calculated with the following equations:

Up to 36089 ft	P = 14.696 * (1.- 6.87558E-6 * H)^5.25591 lbf/in^2 P = 101.325 * (1.- 6.87558E-6 * H)^5.25591 kN/m^2
36089 ft to 65617 ft	P = 14.696 * 0.22336 * EXP(-4.80637E-5 * (H - 36089.24)) lbf/in^2 P = 101.325 * 0.22336 * EXP(-4.80637E-5 * (H - 36089.24)) kN/m^2
65617 ft to 104987 ft	P = 14.696 * 0.0540322*(1. + 1.40688E-6 * (H-65616.8))^-34.1634 lbf/in^2 P = 101.325 * 0.0540322*(1 .+ 1.40688E-6 * (H-65616.8))^-34.1634 kN/m^2
104987 ft to 150000 ft	P = 14.696*0.00856649*(1+3.73252E-6*(H-104986.88))^-12.2012 lbf/in^2 P = 101.325*0.00856649*(1+3.73252E-6*(H-104986.88))^-12.2012 kN/m^2

A column has been added to Appendix A15 for pressure altitude in meters, rounded to the nearest meter.

5. RECOMMENDATIONS

For the purposes of this document, it is less important that these day types be used with high precision than that they be used in a consistent manner by all parties. The source materials themselves are not particularly precise or consistent: altitudes converted from meters to feet are rounded to three significant digits; a conversion constant from Fahrenheit to Rankine of 459.7 is apparently used, rather than the exact value of 459.67; temperatures are rounded to the nearest 10^{th} of a degree in some tables, nearest degree in others; some sources tabulate data for 500 ft altitude increments, some for 2 km altitude increments. The tables in this section have been modified to make them more consistent with one another, and more consistent with the results a computer program would obtain using exact unit conversions.

The general recommendations for all users are

a. For Standard Day, use the equations of 4.5 in computer programs

b. For all other days, adopt the tables in this section for use in computer programs

c. Use linear interpolation with respect to pressure altitude

d. Take altitude in ft and temperature in °F as exact; use exact conversions within computer programs to obtain other units if required

Plots of ambient temperature versus altitude for the various days are provided for reference in Appendix B.

5.1 Days Derived from MIL-STD-210A

Tables 1 through 4 present Cold Day, Hot Day, Polar Day, and Tropical Day in abbreviated form. Data is given at a sufficient number of altitudes to allow linear interpolation with respect to pressure altitude with an error of no greater than ±0.2 °F. (Where error is defined as the difference between the results of linear interpolation and the temperatures tabulated in the original source documents.) Temperature in °F is taken as exact in the source tables. The other temperatures are obtained by applying the conversions

$$°R = °F + 459.7$$

$$°C = (°F - 32) / 1.8$$

and rounding to the nearest tenth of a degree. With two exceptions, footnoted in the tables, these conversions result in the same temperatures given in the source tables at these pressure altitudes. Pressure altitude in feet is taken as exact and pressure altitude in meters is rounded to the nearest meter. The tables have been extended to -2000 ft pressure altitude, assuming the same temperature values as at 0 altitude for Cold, Hot, and Tropical Day, and the same value as at -319.2 ft pressure altitude for Polar Day.

TABLE 1 - ABBREVIATED COLD DAY BASED ON MIL-STD-210A TABLE II

Pressure Altitude ft	Pressure Altitude m	Temperature °F	Temperature °R	Temperature °C
-2000	-610	-60.0	399.7	-51.1
0	0	-60.0	399.7	-51.1
3311	1009	-15.0	444.7	-26.1
10744	3275	-15.0	444.7	-26.1
15000	4572	-29.1	430.6	-33.9
20000	6096	-46.1	413.6	-43.4
25000	7620	-63.9	395.8	-53.3
30715	9362	-85.0	374.7	-65.0
42377	12917	-85.0	374.7	-65.0
45000	13716	-98.6	361.1	-72.6
48500	14783	-117.2	342.5	-82.9
50000	15240	-122.9	336.8	-86.1
50583	15418	-125.0	334.7	-87.2
61087	18619	-125.0	334.7	-87.2
65000	19812	-113.2	346.5	-80.7
67500	20574	-106.5	353.2	-76.9
70000	21336	-100.5	359.2	-73.6
73055	22267	-94.0	365.7	-70.0
75000	22860	-94.5	365.2	-70.3
80000	24384	-95.9	363.8	-71.1
85000	25908	-97.8	361.9	-72.1
90000	27432	-99.7	360.0	-73.2
95000	28956	-101.7	358.0	-74.3
100000	30480	-103.9	355.8	-75.5

TABLE 2 - ABBREVIATED HOT DAY BASED ON MIL-STD-210A TABLE III

Pressure Altitude ft	Pressure Altitude m	Temperature °F	Temperature °R	Temperature °C	Notes
-2000	-610	103.0	562.7	39.4	
0	0	103.0	562.7	39.4	
5000	1524	83.7	543.4	28.7	
10000	3048	63.9	523.6	17.7	
15000	4572	44.9	504.6	7.2	
20000	6096	25.5	485.2	-3.6	
25000	7620	6.7	466.4	-14.0	
30000	9144	-12.3	447.4	-24.6	
32500	9906	-21.3	438.4	-29.6	
35000	10668	-30.1	429.6	-34.5	
39400	12009	-45.0	414.7	-42.8	
45000	13716	-42.6	417.1	-41.5	
47500	14478	-41.4	418.3	-40.8	
48500	14783	-40.9	418.8	-40.5	
50000	15240	-40.2	419.5	-40.1	
50400	15362	-40.0	419.7	-40.0	
65000	19812	-37.2	422.5	-38.4	1
66400	20239	-37.0	422.7	-38.3	
70000	21336	-34.7	425.0	-37.1	
75000	22860	-31.2	428.5	-35.1	
80000	24384	-27.7	432.0	-33.1	
85000	25908	-23.8	435.9	-31.0	
90000	27432	-19.8	439.9	-28.8	
95000	28956	-15.9	443.8	-26.6	
100000	30480	-11.6	448.1	-24.2	

NOTE: 1 Temperature in °C is -38.5 in the source table

TABLE 3 - ABBREVIATED POLAR DAY BASED ON MIL-STD-210A TABLE IV

Pressure Altitude ft	Pressure Altitude m	Temperature °F	Temperature °R	Temperature °C
-2000	-610	-16.6	443.1	-27.0
-319.2	-97	-16.6	443.1	-27.0
0	0	-15.7	444.0	-26.5
3243	988	-5.8	453.9	-21.0
9882	3012	-9.4	450.3	-23.0
20000	6096	-38.0	421.7	-38.9
30065	9164	-67.0	392.7	-55.0
86092	26241	-81.4	378.3	-63.0
100000	30480	-81.4	378.3	-63.0

TABLE 4 - ABBREVIATED TROPICAL DAY BASED ON MIL-STD-210A, CHANGE NOTICE 1, TABLE V

Pressure Altitude ft	Pressure Altitude m	Temperature °F	Temperature °R	Temperature °C	Notes
-2000	-610	89.8	549.5	32.1	
0	0	89.8	549.5	32.1	
20000	6096	12.3	472.0	-10.9	1
35000	10668	-45.6	414.1	-43.1	
40000	12192	-64.6	395.1	-53.7	
45000	13716	-82.8	376.9	-63.8	
50000	15240	-100.1	359.6	-73.4	
53595	16336	-112.0	347.7	-80.0	
60000	18288	-98.0	361.7	-72.2	
69620	21220	-76.0	383.7	-60.0	
100000	30480	-35.4	424.3	-37.5	

NOTE: 1 Temperature in °C is -11.0 in the source table

5.2 Days Derived from MIL-STD-210C / MIL-HDBK-310

Tables 5 and 6 provide Highest and Lowest Recorded Day; Tables 7 and 8 present 1% Hot and 1% Cold Day; Tables 9 through 11 give 5%, 10%, and 20% Hot Day; and Tables 12 through 14 show 5%, 10%, and 20% Cold Day. These tables are virtually identical to the source tables given in the appendices. The only modifications are:

a. Table 11 has been linearly extrapolated to 0 altitude.

b. Temperatures in °C have been assumed to be exact, and temperatures in °F and °R were obtained by conversion. Altitudes in m have been assumed to be exact, and altitudes in ft were obtained by conversion.

c. All tables have been extended to -2000 ft, assuming the same temperature values as at 0 altitude.

d. Altitudes in feet are rounded to the nearest foot; temperatures in °F and °R are rounded to the nearest 10^{th} of a degree. While the addition of significant digits is not justified mathematically, it is more consistent with the results a computer program would obtain using exact unit conversions.

TABLE 5 - HIGHEST RECORDED DAY BASED ON MIL-HDBK-310 PARAGRAPH 5.3.1.1.1

Pressure Altitude ft	Pressure Altitude m	Temperature °F	Temperature °R	Temperature °C
-2000	-610	136.4	596.1	58
0	0	136.4	596.1	58
3281	1000	104.0	563.7	40
6562	2000	87.8	547.5	31
13123	4000	66.2	525.9	19
19685	6000	42.8	502.5	6
26247	8000	24.8	484.5	-4
32808	10000	-0.4	459.3	-18
39370	12000	-16.6	443.1	-27
45932	14000	-29.2	430.5	-34
52493	16000	-31.0	428.7	-35
59055	18000	-29.2	430.5	-34
65617	20000	-23.8	435.9	-31
72178	22000	-23.8	435.9	-31
78740	24000	-23.8	435.9	-31
85302	26000	-16.6	443.1	-27
91864	28000	-7.6	452.1	-22
98425	30000	1.4	461.1	-17

TABLE 6 - LOWEST RECORDED DAY BASED ON MIL-HDBK-310 PARAGRAPH 5.3.1.2.1

Pressure Altitude ft	Pressure Altitude m	Temperature °F	Temperature °R	Temperature °C
-2000	-610	-90.4	369.3	-68
0	0	-90.4	369.3	-68
3281	1000	-68.8	390.9	-56
6562	2000	-52.6	407.1	-47
13123	4000	-59.8	399.9	-51
19685	6000	-76.0	383.7	-60
26247	8000	-83.2	376.5	-64
32808	10000	-99.4	360.3	-73
39370	12000	-106.6	353.1	-77
45932	14000	-108.4	351.3	-78
52493	16000	-124.6	335.1	-87
59055	18000	-121.0	338.7	-85
65617	20000	-117.4	342.3	-83
72178	22000	-121.0	338.7	-85
78740	24000	-121.0	338.7	-85
85302	26000	-121.0	338.7	-85
91864	28000	-121.0	338.7	-85
98425	30000	-121.0	338.7	-85

TABLE 7 - 1% HOT DAY BASED ON MIL-HDBK-310 PARAGRAPH 5.3.1.1.2

Pressure Altitude ft	Pressure Altitude m	Temperature °F	Temperature °R	Temperature °C
-2000	-610	120.2	579.9	49
0	0	120.2	579.9	49
3281	1000	102.2	561.9	39
6562	2000	84.2	543.9	29
13123	4000	60.8	520.5	16
19685	6000	39.2	498.9	4
26247	8000	19.4	479.1	-7
32808	10000	-0.4	459.3	-18
39370	12000	-16.6	443.1	-27
45932	14000	-29.2	430.5	-34
52493	16000	-34.6	425.1	-37
59055	18000	-36.4	423.3	-38
65617	20000	-34.6	425.1	-37
72178	22000	-34.6	425.1	-37
78740	24000	-32.8	426.9	-36
85302	26000	-29.2	430.5	-34
91864	28000	-22.0	437.7	-30
98425	30000	-22.0	437.7	-30

TABLE 8 - 1% COLD DAY BASED ON MIL-HDBK-310 PARAGRAPH 5.3.1.2.2

Pressure Altitude ft	Pressure Altitude m	Temperature °F	Temperature °R	Temperature °C
-2000	-610	-77.8	381.9	-61
0	0	-77.8	381.9	-61
3281	1000	-67.0	392.7	-55
6562	2000	-43.6	416.1	-42
13123	4000	-50.8	408.9	-46
19685	6000	-67.0	392.7	-55
26247	8000	-83.2	376.5	-64
32808	10000	-95.8	363.9	-71
39370	12000	-97.6	362.1	-72
45932	14000	-106.6	353.1	-77
52493	16000	-122.8	336.9	-86
59055	18000	-121.0	338.7	-85
65617	20000	-117.4	342.3	-83
72178	22000	-121.0	338.7	-85
78740	24000	-121.0	338.7	-85
85302	26000	-121.0	338.7	-85
91864	28000	-121.0	338.7	-85
98425	30000	-119.2	340.5	-84

TABLE 9 - 5% HOT DAY BASED ON MIL-HDBK-310 TABLE XIX

Pressure Altitude ft	Pressure Altitude m	Temperature °F	Temperature °R	Temperature °C
-2000	-610	114.8	574.5	46
0	0	114.8	574.5	46
3281	1000	100.4	560.1	38
6562	2000	80.6	540.3	27
13123	4000	55.4	515.1	13
19685	6000	33.8	493.5	1
26247	8000	12.2	471.9	-11
32808	10000	-9.4	450.3	-23
39370	12000	-25.6	434.1	-32
45932	14000	-34.6	425.1	-37
52493	16000	-38.2	421.5	-39
59055	18000	-38.2	421.5	-39
65617	20000	-38.2	421.5	-39
72178	22000	-36.4	423.3	-38
78740	24000	-36.4	423.3	-38
85302	26000	-32.8	426.9	-36
91864	28000	-29.2	430.5	-34
98425	30000	-22.0	437.7	-30

TABLE 10 - 10% HOT DAY BASED ON MIL-HDBK-310 TABLE XIX

Pressure Altitude ft	Pressure Altitude m	Temperature °F	Temperature °R	Temperature °C
-2000	-610	113.0	572.7	45
0	0	113.0	572.7	45
3281	1000	98.6	558.3	37
6562	2000	78.8	538.5	26
13123	4000	51.8	511.5	11
19685	6000	30.2	489.9	-1
26247	8000	8.6	468.3	-13
32808	10000	-13.0	446.7	-25
39370	12000	-27.4	432.3	-33
45932	14000	-36.4	423.3	-38
52493	16000	-38.2	421.5	-39
59055	18000	-38.2	421.5	-39
65617	20000	-38.2	421.5	-39
72178	22000	-38.2	421.5	-39
78740	24000	-36.4	423.3	-38
85302	26000	-34.6	425.1	-37
91864	28000	-29.2	430.5	-34
98425	30000	-23.8	435.9	-31

TABLE 11 - 20% HOT DAY BASED ON MIL-HDBK-310 TABLE XIX

Pressure Altitude ft	Pressure Altitude m	Temperature °F	Temperature °R	Temperature °C
-2000	-610	109.4	569.1	43
0	0	109.4	569.1	43
3281	1000	93.2	552.9	34
6562	2000	77.0	536.7	25
13123	4000	50.0	509.7	10
19685	6000	28.4	488.1	-2
26247	8000	6.8	466.5	-14
32808	10000	-14.8	444.9	-26
39370	12000	-34.6	425.1	-37
45932	14000	-40.0	419.7	-40
52493	16000	-40.0	419.7	-40
59055	18000	-40.0	419.7	-40
65617	20000	-40.0	419.7	-40
72178	22000	-40.0	419.7	-40
78740	24000	-38.2	421.5	-39
85302	26000	-34.6	425.1	-37
91864	28000	-31.0	428.7	-35
98425	30000	-25.6	434.1	-32

TABLE 12 - 5% COLD DAY BASED ON MIL-HDBK-310 TABLE XX

Pressure Altitude ft	Pressure Altitude m	Temperature °F	Temperature °R	Temperature °C
-2000	-610	-70.6	389.1	-57
0	0	-70.6	389.1	-57
3281	1000	-65.2	394.5	-54
6562	2000	-36.4	423.3	-38
13123	4000	-45.4	414.3	-43
19685	6000	-61.6	398.1	-52
26247	8000	-77.8	381.9	-61
32808	10000	-92.2	367.5	-69
39370	12000	-94.0	365.7	-70
45932	14000	-104.8	354.9	-76
52493	16000	-121.0	338.7	-85
59055	18000	-115.6	344.1	-82
65617	20000	-115.6	344.1	-82
72178	22000	-119.2	340.5	-84
78740	24000	-119.2	340.5	-84
85302	26000	-119.2	340.5	-84
91864	28000	-117.4	342.3	-83
98425	30000	-117.4	342.3	-83

TABLE 13 - 10% COLD DAY BASED ON MIL-HDBK-310 TABLE XX

Pressure Altitude ft	Pressure Altitude m	Temperature °F	Temperature °R	Temperature °C
-2000	-610	-65.2	394.5	-54
0	0	-65.2	394.5	-54
3281	1000	-63.4	396.3	-53
6562	2000	-32.8	426.9	-36
13123	4000	-38.2	421.5	-39
19685	6000	-59.8	399.9	-51
26247	8000	-77.8	381.9	-61
32808	10000	-86.8	372.9	-66
39370	12000	-88.6	371.1	-67
45932	14000	-103.0	356.7	-75
52493	16000	-119.2	340.5	-84
59055	18000	-112.0	347.7	-80
65617	20000	-113.8	345.9	-81
72178	22000	-117.4	342.3	-83
78740	24000	-117.4	342.3	-83
85302	26000	-117.4	342.3	-83
91864	28000	-115.6	344.1	-82
98425	30000	-113.8	345.9	-81

TABLE 14 - 20% COLD DAY BASED ON MIL-HDBK-310 TABLE XX

Pressure Altitude ft	Pressure Altitude m	Temperature °F	Temperature °R	Temperature °C
-2000	-610	-59.8	399.9	-51
0	0	-59.8	399.9	-51
3281	1000	-61.6	398.1	-52
6562	2000	-27.4	432.3	-33
13123	4000	-34.6	425.1	-37
19685	6000	-54.4	405.3	-48
26247	8000	-74.2	385.5	-59
32808	10000	-83.2	376.5	-64
39370	12000	-85.0	374.7	-65
45932	14000	-99.4	360.3	-73
52493	16000	-117.4	342.3	-83
59055	18000	-110.2	349.5	-79
65617	20000	-106.6	353.1	-77
72178	22000	-110.2	349.5	-79
78740	24000	-115.6	344.1	-82
85302	26000	-115.6	344.1	-82
91864	28000	-113.8	345.9	-81
98425	30000	-110.2	349.5	-79

APPENDIX A - DATA EXTRACTED FROM SOURCE DOCUMENTS (WITH ALTERATIONS AS NOTED)

A.1 COLD DAY

Table A1 provides Cold Day temperature versus pressure altitude based on Table II – Cold Atmosphere of MIL-STD-210A. Two apparent typographical errors in the source table have been corrected, as noted below.

TABLE A1 - COLD DAY TEMPERATURES VERSUS PRESSURE ALTITUDE

Pressure Altitude ft	Pressure Altitude m	Temperature °F	Temperature °R	Temperature °C	Notes
0	0	-60.0	399.7	-51.1	
500	152	-53.3	406.4	-47.4	
1000	305	-46.5	413.2	-43.6	
1500	457	-39.8	419.9	-39.9	
2000	610	-33.0	426.7	-36.1	
2500	762	-26.1	433.6	-32.3	
3000	914	-19.3	440.4	-28.5	
3311	1009	-15.0	444.7	-26.1	
3500	1067	-15.0	444.7	-26.1	
4000	1219	-15.0	444.7	-26.1	
4500	1372	-15.0	444.7	-26.1	
5000	1524	-15.0	444.7	-26.1	
5500	1676	-15.0	444.7	-26.1	
6000	1829	-15.0	444.7	-26.1	
6500	1981	-15.0	444.7	-26.1	
7000	2134	-15.0	444.7	-26.1	
7500	2286	-15.0	444.7	-26.1	
8000	2438	-15.0	444.7	-26.1	
8500	2591	-15.0	444.7	-26.1	
9000	2743	-15.0	444.7	-26.1	
9500	2896	-15.0	444.7	-26.1	
10000	3048	-15.0	444.7	-26.1	
10500	3200	-15.0	444.7	-26.1	
10744	3275	-15.0	444.7	-26.1	
11000	3353	-15.8	443.9	-26.6	
11500	3505	-17.5	442.2	-27.5	
12000	3658	-19.1	440.6	-28.4	
12500	3810	-20.8	438.9	-29.3	
13000	3962	-22.4	437.3	-30.2	
13500	4115	-24.1	435.6	-31.2	
14000	4267	-25.7	434.0	-32.1	
14500	4420	-27.3	432.4	-32.9	
15000	4572	-29.1	430.6	-33.9	
15500	4724	-30.8	428.9	-34.9	
16000	4877	-32.4	427.3	-35.8	

TABLE A1 - COLD DAY TEMPERATURES VERSUS PRESSURE ALTITUDE

Pressure Altitude ft	Pressure Altitude m	Temperature °F	Temperature °R	Temperature °C	Notes
16500	5029	-34.1	425.6	-36.7	
17000	5182	-35.8	423.9	-37.7	
17500	5334	-37.5	422.2	-38.6	
18000	5486	-39.2	420.5	-39.6	
18500	5639	-41.0	418.7	-40.6	
19000	5791	-42.7	417.0	-41.5	
19500	5944	-44.4	415.3	-42.4	
20000	6096	-46.1	413.6	-43.4	
20500	6248	-47.9	411.8	-44.4	
21000	6401	-49.6	410.1	-45.3	
21500	6553	-51.4	408.3	-46.3	
22000	6706	-53.2	406.5	-47.3	
22500	6858	-54.9	404.8	-48.3	
23000	7010	-56.7	403.0	-49.3	
23500	7163	-58.5	401.2	-50.3	
24000	7315	-60.3	399.4	-51.3	
24500	7468	-62.1	397.6	-52.3	
25000	7620	-63.9	395.8	-53.3	
25500	7772	-65.7	394.0	-54.3	
26000	7925	-67.5	392.2	-55.3	
26500	8077	-69.3	390.4	-56.3	
27000	8230	-71.1	388.6	-57.3	
27500	8382	-73.0	386.7	-58.3	
28000	8534	-74.8	384.9	-59.3	
28500	8687	-76.7	383.0	-60.4	
29000	8839	-78.6	381.1	-61.4	
29500	8992	-80.4	379.3	-62.4	
30000	9144	-82.3	377.4	-63.5	
30500	9296	-84.2	375.5	-64.6	
30715	9362	-85.0	374.7	-65.0	
31000	9449	-85.0	374.7	-65.0	
31500	9601	-85.0	374.7	-65.0	
32000	9754	-85.0	374.7	-65.0	
32500	9906	-85.0	374.7	-65.0	
33000	10058	-85.0	374.7	-65.0	
33500	10211	-85.0	374.7	-65.0	
34000	10363	-85.0	374.7	-65.0	
34500	10516	-85.0	374.7	-65.0	
35000	10668	-85.0	374.7	-65.0	
35500	10820	-85.0	374.7	-65.0	

TABLE A1 - COLD DAY TEMPERATURES VERSUS PRESSURE ALTITUDE

Pressure Altitude ft	Pressure Altitude m	Temperature °F	Temperature °R	Temperature °C	Notes
36000	10973	-85.0	374.7	-65.0	
36500	11125	-85.0	374.7	-65.0	
37000	11278	-85.0	374.7	-65.0	
37500	11430	-85.0	374.7	-65.0	
38000	11582	-85.0	374.7	-65.0	
38500	11735	-85.0	374.7	-65.0	
39000	11887	-85.0	374.7	-65.0	
39500	12040	-85.0	374.7	-65.0	
40000	12192	-85.0	374.7	-65.0	
40500	12344	-85.0	374.7	-65.0	
41000	12497	-85.0	374.7	-65.0	
41500	12649	-85.0	374.7	-65.0	
42000	12802	-85.0	374.7	-65.0	
42377	12917	-85.0	374.7	-65.0	
42500	12954	-85.6	374.1	-65.3	
43000	13106	-88.2	371.5	-66.8	1
43500	13259	-90.7	369.0	-68.2	
44000	13411	-93.3	366.4	-69.6	
44500	13564	-96.0	363.7	-71.1	
45000	13716	-98.6	361.1	-72.6	
45500	13868	-101.2	358.5	-74.0	2
46000	14021	-103.9	355.8	-75.5	
46500	14173	-106.6	353.1	-77.0	
47000	14326	-109.3	350.4	-78.5	
47500	14478	-112.0	347.7	-80.0	
48000	14630	-114.7	345.0	-81.5	
48500	14783	-117.2	342.5	-82.9	
49000	14935	-119.2	340.5	-84.0	
49500	15088	-121.0	338.7	-85.0	
50000	15240	-122.9	336.8	-86.1	
50500	15392	-124.7	335.0	-87.1	
50583	15418	-125.0	334.7	-87.2	
51000	15545	-125.0	334.7	-87.2	
51500	15697	-125.0	334.7	-87.2	
52000	15850	-125.0	334.7	-87.2	
52500	16002	-125.0	334.7	-87.2	
53000	16154	-125.0	334.7	-87.2	
53500	16307	-125.0	334.7	-87.2	
54000	16459	-125.0	334.7	-87.2	
54500	16612	-125.0	334.7	-87.2	

TABLE A1 - COLD DAY TEMPERATURES VERSUS PRESSURE ALTITUDE

Pressure Altitude ft	Pressure Altitude m	Temperature °F	Temperature °R	Temperature °C	Notes
55000	16764	-125.0	334.7	-87.2	
55500	16916	-125.0	334.7	-87.2	
56000	17069	-125.0	334.7	-87.2	
56500	17221	-125.0	334.7	-87.2	
57000	17374	-125.0	334.7	-87.2	
57500	17526	-125.0	334.7	-87.2	
58000	17678	-125.0	334.7	-87.2	
58500	17831	-125.0	334.7	-87.2	
59000	17983	-125.0	334.7	-87.2	
59500	18136	-125.0	334.7	-87.2	
60000	18288	-125.0	334.7	-87.2	
60500	18440	-125.0	334.7	-87.2	
61000	18593	-125.0	334.7	-87.2	
61087	18619	-125.0	334.7	-87.2	
61500	18745	-123.7	336.0	-86.5	
62000	18898	-122.1	337.6	-85.6	
62500	19050	-120.5	339.2	-84.7	
63000	19202	-119.0	340.7	-83.9	
63500	19355	-117.5	342.2	-83.1	
64000	19507	-116.0	343.7	-82.2	
64500	19660	-114.6	345.1	-81.4	
65000	19812	-113.2	346.5	-80.7	
65500	19964	-111.8	347.9	-79.9	
66000	20117	-110.4	349.3	-79.1	
66500	20269	-109.1	350.6	-78.4	
67000	20422	-107.8	351.9	-77.7	
67500	20574	-106.5	353.2	-76.9	
68000	20726	-105.3	354.4	-76.3	
68500	20879	-104.0	355.7	-75.6	
69000	21031	-102.8	356.9	-74.9	
69500	21184	-101.7	358.0	-74.3	
70000	21336	-100.5	359.2	-73.6	
70500	21488	-99.4	360.3	-73.0	
71000	21641	-98.3	361.4	-72.4	
71500	21793	-97.2	362.5	-71.8	
72000	21946	-96.1	363.6	-71.2	
72500	22098	-95.1	364.6	-70.6	
73000	22250	-94.1	365.6	-70.1	
73055	22267	-94.0	365.7	-70.0	
73500	22403	-94.1	365.6	-70.1	

TABLE A1 - COLD DAY TEMPERATURES VERSUS PRESSURE ALTITUDE

Pressure Altitude ft	Pressure Altitude m	Temperature °F	Temperature °R	Temperature °C	Notes
74000	22555	-94.3	365.4	-70.2	
74500	22708	-94.4	365.3	-70.2	
75000	22860	-94.5	365.2	-70.3	
75500	23012	-94.6	365.1	-70.3	
76000	23165	-94.8	364.9	-70.4	
76500	23317	-94.9	364.8	-70.5	
77000	23470	-95.0	364.7	-70.6	
77500	23622	-95.2	364.5	-70.7	
78000	23774	-95.3	364.4	-70.7	
78500	23927	-95.5	364.2	-70.8	
79000	24079	-95.6	364.1	-70.9	
79500	24232	-95.7	364.0	-71.0	
80000	24384	-95.9	363.8	-71.1	
80500	24536	-96.0	363.7	-71.1	
81000	24689	-96.2	363.5	-71.2	
81500	24841	-96.4	363.3	-71.3	
82000	24994	-96.6	363.1	-71.4	
82500	25146	-96.8	362.9	-71.6	
83000	25298	-97.0	362.7	-71.7	
83500	25451	-97.2	362.5	-71.8	
84000	25603	-97.4	362.3	-71.9	
84500	25756	-97.6	362.1	-72.0	
85000	25908	-97.8	361.9	-72.1	
85500	26060	-98.0	361.7	-72.2	
86000	26213	-98.2	361.5	-72.3	
86500	26365	-98.3	361.4	-72.4	
87000	26518	-98.5	361.2	-72.5	
87500	26670	-98.7	361.0	-72.6	
88000	26822	-98.9	360.8	-72.7	
88500	26975	-99.1	360.6	-72.8	
89000	27127	-99.3	360.4	-72.9	
89500	27280	-99.5	360.2	-73.1	
90000	27432	-99.7	360.0	-73.2	
90500	27584	-99.9	359.8	-73.3	
91000	27737	-100.1	359.6	-73.4	
91500	27889	-100.3	359.4	-73.5	
92000	28042	-100.5	359.2	-73.6	
92500	28194	-100.7	359.0	-73.7	
93000	28346	-100.9	358.8	-73.8	
93500	28499	-101.1	358.6	-73.9	

TABLE A1 - COLD DAY TEMPERATURES VERSUS PRESSURE ALTITUDE

Pressure Altitude ft	Pressure Altitude m	Temperature °F	Temperature °R	Temperature °C	Notes
94000	28651	-101.3	358.4	-74.1	
94500	28804	-101.5	358.2	-74.2	
95000	28956	-101.7	358.0	-74.3	
95500	29108	-101.9	357.8	-74.4	
96000	29261	-102.1	357.6	-74.5	
96500	29413	-102.3	357.4	-74.6	
97000	29566	-102.6	357.1	-74.8	
97500	29718	-102.8	356.9	-74.9	
98000	29870	-103.0	356.7	-75.0	
98500	30023	-103.2	356.5	-75.1	
99000	30175	-103.4	356.3	-75.2	
99500	30328	-103.7	356.0	-75.4	
100000	30480	-103.9	355.8	-75.5	

NOTES:
1 Temperature in °C at 43000 ft pressure altitude is -65.8 in the original table. A temperature of -65.8 °C is not consistent with the entries in °F and °R, and has been corrected to -66.8

2 Temperature in °R at 45500 ft pressure altitude is 368.5 in the original table. A temperature of 368.5 °F is not consistent with the entries in °F and °C, and has been corrected to 358.5

A.2 HOT DAY

Table A2 provides Hot Day temperature versus pressure altitude based on Table III – Hot Atmosphere of MIL-STD-210A. Two apparent typographical errors in the source table have been corrected, as noted below.

TABLE A2 - HOT DAY TEMPERATURES VERSUS PRESSURE ALTITUDE

Pressure Altitude ft	Pressure Altitude m	Temperature °F	Temperature °R	Temperature °C	Notes
0	0	103.0	562.7	39.4	
500	152	101.1	560.8	38.4	
1000	305	99.2	558.9	37.3	
1500	457	97.3	557.0	36.3	
2000	610	95.4	555.1	35.2	
2500	762	93.4	553.1	34.1	
3000	914	91.5	551.2	33.1	
3500	1067	89.6	549.3	32.0	
4000	1219	87.6	547.3	30.9	
4500	1372	85.7	545.4	29.8	
5000	1524	83.7	543.4	28.7	
5500	1676	81.7	541.4	27.6	
6000	1829	79.8	539.5	26.5	
6500	1981	77.8	537.5	25.4	
7000	2134	75.8	535.5	24.3	
7500	2286	73.8	533.5	23.2	
8000	2438	71.8	531.5	22.1	
8500	2591	69.8	529.5	21.0	
9000	2743	67.8	527.5	19.9	
9500	2896	65.8	525.5	18.8	
10000	3048	63.9	523.6	17.7	
10500	3200	62.0	521.7	16.7	
11000	3353	60.2	519.9	15.7	
11500	3505	58.3	518.0	14.6	
12000	3658	56.4	516.1	13.6	
12500	3810	54.5	514.2	12.5	
13000	3962	52.6	512.3	11.4	
13500	4115	50.7	510.4	10.4	
14000	4267	48.8	508.5	9.3	
14500	4420	46.8	506.5	8.2	
15000	4572	44.9	504.6	7.2	
15500	4724	43.0	502.7	6.1	
16000	4877	41.0	500.7	5.0	
16500	5029	39.0	498.7	3.9	
17000	5182	37.1	496.8	2.8	
17500	5334	35.1	494.8	1.7	
18000	5486	33.1	492.8	0.6	
18500	5639	31.2	490.9	-0.5	
19000	5791	29.2	488.9	-1.6	
19500	5944	27.3	487.0	-2.6	

TABLE A2 - HOT DAY TEMPERATURES VERSUS PRESSURE ALTITUDE

Pressure Altitude ft	Pressure Altitude m	Temperature °F	Temperature °R	Temperature °C	Notes
20000	6096	25.5	485.2	-3.6	
20500	6248	23.6	483.3	-4.7	
21000	6401	21.8	481.5	-5.7	
21500	6553	19.9	479.6	-6.7	
22000	6706	18.0	477.7	-7.7	
22500	6858	16.2	475.9	-8.8	
23000	7010	14.3	474.0	-9.8	
23500	7163	12.4	472.1	-10.9	
24000	7315	10.5	470.2	-11.9	
24500	7468	8.6	468.3	-13.0	
25000	7620	6.7	466.4	-14.0	
25500	7772	4.8	464.5	-15.1	
26000	7925	2.9	462.6	-16.2	
26500	8077	1.0	460.7	-17.2	
27000	8230	-1.0	458.7	-18.3	
27500	8382	-2.9	456.8	-19.4	
28000	8534	-4.9	454.8	-20.5	
28500	8687	-6.8	452.9	-21.6	
29000	8839	-8.7	451.0	-22.6	
29500	8992	-10.5	449.2	-23.6	
30000	9144	-12.3	447.4	-24.6	
30500	9296	-14.1	445.6	-25.6	
31000	9449	-15.9	443.8	-26.6	
31500	9601	-17.7	442.0	-27.6	
32000	9754	-19.5	440.2	-28.6	
32500	9906	-21.3	438.4	-29.6	
33000	10058	-23.2	436.5	-30.7	
33500	10211	-25.0	434.7	-31.7	
34000	10363	-26.8	432.9	-32.7	
34500	10516	-28.4	431.3	-33.6	
35000	10668	-30.1	429.6	-34.5	
35500	10820	-31.8	427.9	-35.4	
36000	10973	-33.4	426.3	-36.3	
36500	11125	-35.0	424.7	-37.2	
37000	11278	-36.7	423.0	-38.2	
37500	11430	-38.4	421.3	-39.1	
38000	11582	-40.1	419.6	-40.0	
38500	11735	-41.8	417.9	-41.0	
39000	11887	-43.5	416.2	-41.9	
39400	12009	-45.0	414.7	-42.8	

TABLE A2 - HOT DAY TEMPERATURES VERSUS PRESSURE ALTITUDE

Pressure Altitude ft	Pressure Altitude m	Temperature °F	Temperature °R	Temperature °C	Notes
39500	12040	-45.0	414.7	-42.8	
40000	12192	-44.8	414.9	-42.6	
40500	12344	-44.6	415.1	-42.5	
41000	12497	-44.3	415.4	-42.4	
41500	12649	-44.1	415.6	-42.3	
42000	12802	-43.9	415.8	-42.2	
42500	12954	-43.7	416.0	-42.1	
43000	13106	-43.5	416.2	-41.9	
43500	13259	-43.3	416.4	-41.8	
44000	13411	-43.1	416.6	-41.7	
44500	13564	-42.9	416.8	-41.6	
45000	13716	-42.6	417.1	-41.5	
45500	13868	-42.4	417.3	-41.3	
46000	14021	-42.1	417.6	-41.2	
46500	14173	-41.9	417.8	-41.1	
47000	14326	-41.7	418.0	-40.9	
47500	14478	-41.4	418.3	-40.8	
48000	14630	-41.2	418.5	-40.6	
48500	14783	-40.9	418.8	-40.5	
49000	14935	-40.7	419.0	-40.4	
49500	15088	-40.4	419.3	-40.2	
50000	15240	-40.2	419.5	-40.1	
50400	15362	-40.0	419.7	-40.0	1
50500	15392	-40.0	419.7	-40.0	1
51000	15545	-39.9	419.8	-39.9	
51500	15697	-39.8	419.9	-39.9	
52000	15850	-39.7	420.0	-39.8	
52500	16002	-39.6	420.1	-39.8	
53000	16154	-39.5	420.2	-39.7	
53500	16307	-39.4	420.3	-39.7	
54000	16459	-39.3	420.4	-39.6	
54500	16612	-39.2	420.5	-39.6	
55000	16764	-39.1	420.6	-39.5	
55500	16916	-39.0	420.7	-39.5	
56000	17069	-39.0	420.7	-39.4	
56500	17221	-38.9	420.8	-39.4	
57000	17374	-38.8	420.9	-39.3	
57500	17526	-38.7	421.0	-39.3	
58000	17678	-38.6	421.1	-39.2	
58500	17831	-38.5	421.2	-39.2	

TABLE A2 - HOT DAY TEMPERATURES VERSUS PRESSURE ALTITUDE

Pressure Altitude ft	Pressure Altitude m	Temperature °F	Temperature °R	Temperature °C	Notes
59000	17983	-38.4	421.3	-39.1	
59500	18136	-38.3	421.4	-39.0	
60000	18288	-38.2	421.5	-39.0	
60500	18440	-38.1	421.6	-38.9	
61000	18593	-38.0	421.7	-38.9	
61500	18745	-37.9	421.8	-38.8	
62000	18898	-37.8	421.9	-38.8	
62500	19050	-37.7	422.0	-38.7	
63000	19202	-37.6	422.1	-38.7	
63500	19355	-37.5	422.2	-38.6	
64000	19507	-37.4	422.3	-38.6	
64500	19660	-37.3	422.4	-38.5	
65000	19812	-37.2	422.5	-38.5	
65500	19964	-37.1	422.6	-38.4	
66000	20117	-37.1	422.6	-38.4	
66400	20239	-37.0	422.7	-38.3	
66500	20269	-37.0	422.7	-38.3	
67000	20422	-36.7	423.0	-38.1	
67500	20574	-36.4	423.3	-38.0	
68000	20726	-36.1	423.6	-37.8	
68500	20879	-35.8	423.9	-37.6	
69000	21031	-35.5	424.2	-37.5	
69500	21184	-35.1	424.6	-37.3	
70000	21336	-34.7	425.0	-37.1	
70500	21488	-34.4	425.3	-36.9	
71000	21641	-34.0	425.7	-36.7	
71500	21793	-33.7	426.0	-36.5	
72000	21946	-33.3	426.4	-36.3	
72500	22098	-33.0	426.7	-36.1	
73000	22250	-32.6	427.1	-35.9	
73500	22403	-32.3	427.4	-35.7	
74000	22555	-31.9	427.8	-35.5	
74500	22708	-31.6	428.1	-35.3	
75000	22860	-31.2	428.5	-35.1	
75500	23012	-30.8	428.9	-34.9	
76000	23165	-30.5	429.2	-34.7	
76500	23317	-30.1	429.6	-34.5	
77000	23470	-29.8	429.9	-34.3	
77500	23622	-29.5	430.2	-34.1	
78000	23774	-29.1	430.6	-34.0	

TABLE A2 - HOT DAY TEMPERATURES VERSUS PRESSURE ALTITUDE

Pressure Altitude ft	Pressure Altitude m	Temperature °F	Temperature °R	Temperature °C	Notes
78500	23927	-28.8	430.9	-33.8	
79000	24079	-28.4	431.3	-33.6	
79500	24232	-28.0	431.7	-33.4	
80000	24384	-27.7	432.0	-33.1	
80500	24536	-27.3	432.4	-32.9	
81000	24689	-26.9	432.8	-32.7	
81500	24841	-26.5	433.2	-32.5	
82000	24994	-26.1	433.6	-32.3	
82500	25146	-25.8	433.9	-32.1	
83000	25298	-25.4	434.3	-31.9	
83500	25451	-25.0	434.7	-31.7	
84000	25603	-24.6	435.1	-31.4	
84500	25756	-24.2	435.5	-31.2	
85000	25908	-23.8	435.9	-31.0	
85500	26060	-23.4	436.3	-30.8	
86000	26213	-23.0	436.7	-30.6	
86500	26365	-22.6	437.1	-30.4	
87000	26518	-22.2	437.5	-30.1	
87500	26670	-21.8	437.9	-29.9	
88000	26822	-21.3	438.4	-29.6	
88500	26975	-20.9	438.8	-29.4	
89000	27127	-20.5	439.2	-29.2	
89500	27280	-20.1	439.6	-29.0	
90000	27432	-19.8	439.9	-28.8	
90500	27584	-19.4	440.3	-28.6	
91000	27737	-19.1	440.6	-28.4	
91500	27889	-18.7	441.0	-28.2	
92000	28042	-18.3	441.4	-28.0	
92500	28194	-18.0	441.7	-27.8	
93000	28346	-17.6	442.1	-27.5	
93500	28499	-17.2	442.5	-27.3	
94000	28651	-16.8	442.9	-27.1	
94500	28804	-16.4	443.3	-26.9	
95000	28956	-15.9	443.8	-26.6	
95500	29108	-15.5	444.2	-26.4	
96000	29261	-15.1	444.6	-26.2	
96500	29413	-14.7	445.0	-25.9	
97000	29566	-14.3	445.4	-25.7	
97500	29718	-13.8	445.9	-25.5	
98000	29870	-13.4	446.3	-25.2	

TABLE A2 - HOT DAY TEMPERATURES VERSUS PRESSURE ALTITUDE

Pressure Altitude ft	Pressure Altitude m	Temperature °F	Temperature °R	Temperature °C	Notes
98500	30023	-12.9	446.8	-25.0	
99000	30175	-12.5	447.2	-24.7	
99500	30328	-12.0	447.7	-24.5	
100000	30480	-11.6	448.1	-24.2	

NOTE: 1 Temperature in °F at 50400 and 50500 ft pressure altitude is -40.2 in the original table. A temperature of -40.2 °F is not consistent with the entries in °C and °R, and has been corrected to -40.0

A.3 POLAR DAY

Table A3 provides Polar Day temperature versus pressure altitude based on Table IV – Polar Atmosphere of MIL-STD-210A. No typographical errors in the source table have been discovered.

TABLE A3 - POLAR DAY TEMPERATURES VERSUS PRESSURE ALTITUDE

Pressure Altitude ft	Pressure Altitude m	Temperature °F	Temperature °R	Temperature °C	Notes
-319.2	-97	-16.6	443.1	-27.0	
0	0	-15.7	444.0	-26.5	
500	152	-14.2	445.5	-25.6	
1000	305	-12.7	447.0	-24.8	
1500	457	-11.2	448.5	-24.0	
2000	610	-9.6	450.1	-23.1	
2500	762	-8.1	451.6	-22.3	
3000	914	-6.6	453.1	-21.4	
3243	988	-5.8	453.9	-21.0	
3500	1067	-5.9	453.8	-21.1	
4000	1219	-6.2	453.5	-21.2	
4500	1372	-6.5	453.2	-21.4	
5000	1524	-6.7	453.0	-21.5	
5500	1676	-7.0	452.7	-21.7	
6000	1829	-7.3	452.4	-21.8	
6500	1981	-7.5	452.2	-22.0	
7000	2134	-7.8	451.9	-22.1	
7500	2286	-8.1	451.6	-22.3	
8000	2438	-8.4	451.3	-22.4	
8500	2591	-8.6	451.1	-22.6	
9000	2743	-8.9	450.8	-22.7	
9500	2896	-9.2	450.5	-22.9	
9882	3012	-9.4	450.3	-23.0	
10000	3048	-9.7	450.0	-23.2	
10500	3200	-11.1	448.6	-24.0	
11000	3353	-12.5	447.2	-24.7	
11500	3505	-14.0	445.7	-25.6	
12000	3658	-15.4	444.3	-26.3	
12500	3810	-16.8	442.9	-27.1	
13000	3962	-18.2	441.5	-27.9	
13500	4115	-19.6	440.1	-28.7	
14000	4267	-21.0	438.7	-29.4	
14500	4420	-22.4	437.3	-30.2	
15000	4572	-23.8	435.9	-31.0	
15500	4724	-25.3	434.4	-31.8	
16000	4877	-26.7	433.0	-32.6	
16500	5029	-28.1	431.6	-33.4	
17000	5182	-29.5	430.2	-34.2	
17500	5334	-30.9	428.8	-35.0	
18000	5486	-32.3	427.4	-35.7	

TABLE A3 - POLAR DAY TEMPERATURES VERSUS PRESSURE ALTITUDE

Pressure Altitude ft	Pressure Altitude m	Temperature °F	Temperature °R	Temperature °C	Notes
18500	5639	-33.8	425.9	-36.5	
19000	5791	-35.2	424.5	-37.3	
19500	5944	-36.6	423.1	-38.1	
20000	6096	-38.0	421.7	-38.9	
20500	6248	-39.5	420.2	-39.7	
21000	6401	-40.9	418.8	-40.5	
21500	6553	-42.3	417.4	-41.3	
22000	6706	-43.7	416.0	-42.1	
22500	6858	-45.2	414.5	-42.9	
23000	7010	-46.6	413.1	-43.7	
23500	7163	-48.0	411.7	-44.5	
24000	7315	-49.4	410.3	-45.2	
24500	7468	-50.9	408.8	-46.0	
25000	7620	-52.3	407.4	-46.8	
25500	7772	-53.7	406.0	-47.6	
26000	7925	-55.2	404.5	-48.4	
26500	8077	-56.6	403.1	-49.2	
27000	8230	-58.0	401.7	-50.0	
27500	8382	-59.5	400.2	-50.8	
28000	8534	-60.9	398.8	-51.6	
28500	8687	-62.4	397.3	-52.4	
29000	8839	-63.8	395.9	-53.2	
29500	8992	-65.2	394.5	-54.0	
30000	9144	-66.7	393.0	-54.8	
30065	9164	-67.0	392.7	-55.0	
30500	9296	-67.1	392.6	-55.1	
31000	9449	-67.2	392.5	-55.1	
31500	9601	-67.4	392.3	-55.2	
32000	9754	-67.5	392.2	-55.3	
32500	9906	-67.6	392.1	-55.3	
33000	10058	-67.7	392.0	-55.4	
33500	10211	-67.9	391.8	-55.5	
34000	10363	-68.0	391.7	-55.6	
34500	10516	-68.1	391.6	-55.6	
35000	10668	-68.3	391.4	-55.7	
35500	10820	-68.4	391.3	-55.8	
36000	10973	-68.5	391.2	-55.8	
36500	11125	-68.6	391.1	-55.9	
37000	11278	-68.8	390.9	-56.0	
37500	11430	-68.9	390.8	-56.1	

TABLE A3 - POLAR DAY TEMPERATURES VERSUS PRESSURE ALTITUDE

Pressure Altitude ft	Pressure Altitude m	Temperature °F	Temperature °R	Temperature °C	Notes
38000	11582	-69.0	390.7	-56.1	
38500	11735	-69.2	390.5	-56.2	
39000	11887	-69.3	390.4	-56.3	
39500	12040	-69.4	390.3	-56.3	
40000	12192	-69.6	390.1	-56.4	
40500	12344	-69.7	390.0	-56.5	
41000	12497	-69.8	389.9	-56.6	
41500	12649	-70.0	389.7	-56.6	
42000	12802	-70.1	389.6	-56.7	
42500	12954	-70.2	389.5	-56.8	
43000	13106	-70.3	389.4	-56.9	
43500	13259	-70.5	389.2	-56.9	
44000	13411	-70.6	389.1	-57.0	
44500	13564	-70.7	389.0	-57.1	
45000	13716	-70.9	388.8	-57.1	
45500	13868	-71.0	388.7	-57.2	
46000	14021	-71.1	388.6	-57.3	
46500	14173	-71.3	388.4	-57.4	
47000	14326	-71.4	388.3	-57.4	
47500	14478	-71.5	388.2	-57.5	
48000	14630	-71.6	388.1	-57.6	
48500	14783	-71.8	387.9	-57.7	
49000	14935	-71.9	387.8	-57.7	
49500	15088	-72.0	387.7	-57.8	
50000	15240	-72.2	387.5	-57.9	
50500	15392	-72.3	387.4	-57.9	
51000	15545	-72.4	387.3	-58.0	
51500	15697	-72.5	387.2	-58.1	
52000	15850	-72.7	387.0	-58.2	
52500	16002	-72.8	386.9	-58.2	
53000	16154	-72.9	386.8	-58.3	
53500	16307	-73.1	386.6	-58.4	
54000	16459	-73.2	386.5	-58.4	
54500	16612	-73.3	386.4	-58.5	
55000	16764	-73.5	386.2	-58.6	
55500	16916	-73.6	386.1	-58.7	
56000	17069	-73.7	386.0	-58.7	
56500	17221	-73.8	385.9	-58.8	
57000	17374	-74.0	385.7	-58.9	
57500	17526	-74.1	385.6	-58.9	

TABLE A3 - POLAR DAY TEMPERATURES VERSUS PRESSURE ALTITUDE

Pressure Altitude ft	Pressure Altitude m	Temperature °F	Temperature °R	Temperature °C	Notes
58000	17678	-74.2	385.5	-59.0	
58500	17831	-74.4	385.3	-59.1	
59000	17983	-74.5	385.2	-59.2	
59500	18136	-74.6	385.1	-59.2	
60000	18288	-74.7	385.0	-59.3	
60500	18440	-74.9	384.8	-59.4	
61000	18593	-75.0	384.7	-59.4	
61500	18745	-75.1	384.6	-59.5	
62000	18898	-75.3	384.4	-59.6	
62500	19050	-75.4	384.3	-59.7	
63000	19202	-75.5	384.2	-59.7	
63500	19355	-75.6	384.1	-59.8	
64000	19507	-75.8	383.9	-59.9	
64500	19660	-75.9	383.8	-59.9	
65000	19812	-76.0	383.7	-60.0	
65500	19964	-76.2	383.5	-60.1	
66000	20117	-76.3	383.4	-60.2	
66500	20269	-76.4	383.3	-60.2	
67000	20422	-76.5	383.2	-60.3	
67500	20574	-76.7	383.0	-60.4	
68000	20726	-76.8	382.9	-60.4	
68500	20879	-76.9	382.8	-60.5	
69000	21031	-77.1	382.6	-60.6	
69500	21184	-77.2	382.5	-60.7	
70000	21336	-77.3	382.4	-60.7	
70500	21488	-77.4	382.3	-60.8	
71000	21641	-77.6	382.1	-60.9	
71500	21793	-77.7	382.0	-60.9	
72000	21946	-77.8	381.9	-61.0	
72500	22098	-78.0	381.7	-61.1	
73000	22250	-78.1	381.6	-61.2	
73500	22403	-78.2	381.5	-61.2	
74000	22555	-78.3	381.4	-61.3	
74500	22708	-78.5	381.2	-61.4	
75000	22860	-78.6	381.1	-61.4	
75500	23012	-78.7	381.0	-61.5	
76000	23165	-78.8	380.9	-61.6	
76500	23317	-79.0	380.7	-61.7	
77000	23470	-79.1	380.6	-61.7	
77500	23622	-79.2	380.5	-61.8	

TABLE A3 - POLAR DAY TEMPERATURES VERSUS PRESSURE ALTITUDE

Pressure Altitude ft	Pressure Altitude m	Temperature °F	Temperature °R	Temperature °C	Notes
78000	23774	-79.4	380.3	-61.9	
78500	23927	-79.5	380.2	-61.9	
79000	24079	-79.6	380.1	-62.0	
79500	24232	-79.7	380.0	-62.1	
80000	24384	-79.9	379.8	-62.1	
80500	24536	-80.0	379.7	-62.2	
81000	24689	-80.1	379.6	-62.3	
81500	24841	-80.2	379.5	-62.4	
82000	24994	-80.4	379.3	-62.4	
82500	25146	-80.5	379.2	-62.5	
83000	25298	-80.6	379.1	-62.6	
83500	25451	-80.7	379.0	-62.6	
84000	25603	-80.9	378.8	-62.7	
84500	25756	-81.0	378.7	-62.8	
85000	25908	-81.1	378.6	-62.8	
85500	26060	-81.3	378.4	-62.9	
86000	26213	-81.4	378.3	-63.0	
86092	26241	-81.4	378.3	-63.0	
86500	26365	-81.4	378.3	-63.0	
87000	26518	-81.4	378.3	-63.0	
87500	26670	-81.4	378.3	-63.0	
88000	26822	-81.4	378.3	-63.0	
88500	26975	-81.4	378.3	-63.0	
89000	27127	-81.4	378.3	-63.0	
89500	27280	-81.4	378.3	-63.0	
90000	27432	-81.4	378.3	-63.0	
90500	27584	-81.4	378.3	-63.0	
91000	27737	-81.4	378.3	-63.0	
91500	27889	-81.4	378.3	-63.0	
92000	28042	-81.4	378.3	-63.0	
92500	28194	-81.4	378.3	-63.0	
93000	28346	-81.4	378.3	-63.0	
93500	28499	-81.4	378.3	-63.0	
94000	28651	-81.4	378.3	-63.0	
94500	28804	-81.4	378.3	-63.0	
95000	28956	-81.4	378.3	-63.0	
95500	29108	-81.4	378.3	-63.0	
96000	29261	-81.4	378.3	-63.0	
96500	29413	-81.4	378.3	-63.0	
97000	29566	-81.4	378.3	-63.0	

TABLE A3 - POLAR DAY TEMPERATURES VERSUS PRESSURE ALTITUDE

Pressure Altitude ft	Pressure Altitude m	Temperature °F	Temperature °R	Temperature °C	Notes
97500	29718	-81.4	378.3	-63.0	
98000	29870	-81.4	378.3	-63.0	
98500	30023	-81.4	378.3	-63.0	
99000	30175	-81.4	378.3	-63.0	
99500	30328	-81.4	378.3	-63.0	
100000	30480	-81.4	378.3	-63.0	

A.4 TROPICAL DAY

Table A4 provides Tropical Day temperature versus pressure altitude based on Table V – Tropical Atmosphere of MIL-STD-210A and MIL-STD-210A Change Notice 1. One apparent typographical error in the source table has been corrected, as noted below.

TABLE A4 - TROPICAL DAY TEMPERATURES VERSUS PRESSURE ALTITUDE

Pressure Altitude ft	Pressure Altitude m	Temperature °F	Temperature °R	Temperature °C	Notes
0	0	89.8	549.5	32.1	
500	152	87.8	547.5	31.0	
1000	305	85.9	545.6	29.9	
1500	457	84.0	543.7	28.9	
2000	610	82.0	541.7	27.8	
2500	762	80.1	539.8	26.7	
3000	914	78.1	537.8	25.6	
3500	1067	76.2	535.9	24.6	
4000	1219	74.3	534.0	23.5	
4500	1372	72.3	532.0	22.4	
5000	1524	70.4	530.1	21.3	
5500	1676	68.4	528.1	20.2	
6000	1829	66.5	526.2	19.2	
6500	1981	64.6	524.3	18.1	
7000	2134	62.6	522.3	17.0	
7500	2286	60.7	520.4	15.9	
8000	2438	58.7	518.4	14.9	
8500	2591	56.8	516.5	13.8	
9000	2743	54.9	514.6	12.7	
9500	2896	52.9	512.6	11.6	
10000	3048	51.0	510.7	10.5	
10500	3200	49.1	508.8	9.5	
11000	3353	47.1	506.8	8.4	
11500	3505	45.2	504.9	7.3	
12000	3658	43.2	502.9	6.2	
12500	3810	41.3	501.0	5.2	
13000	3962	39.4	499.1	4.1	
13500	4115	37.4	497.1	3.0	
14000	4267	35.5	495.2	1.9	
14500	4420	33.6	493.3	0.9	
15000	4572	31.6	491.3	-0.2	
15500	4724	29.7	489.4	-1.3	
16000	4877	27.8	487.5	-2.4	
16500	5029	25.8	485.5	-3.4	
17000	5182	23.9	483.6	-4.5	

TABLE A4 - TROPICAL DAY TEMPERATURES VERSUS PRESSURE ALTITUDE

Pressure Altitude ft	Pressure Altitude m	Temperature °F	Temperature °R	Temperature °C	Notes
17500	5334	21.9	481.6	-5.6	
18000	5486	20.0	479.7	-6.7	
18500	5639	18.1	477.8	-7.7	
19000	5791	16.1	475.8	-8.8	
19500	5944	14.2	473.9	-9.9	
20000	6096	12.3	472.0	-11.0	
20500	6248	10.3	470.0	-12.0	
21000	6401	8.4	468.1	-13.1	
21500	6553	6.5	466.2	-14.2	
22000	6706	4.5	464.2	-15.3	
22500	6858	2.6	462.3	-16.3	
23000	7010	0.7	460.4	-17.4	
23500	7163	-1.3	458.4	-18.5	
24000	7315	-3.2	456.5	-19.5	
24500	7468	-5.1	454.6	-20.6	
25000	7620	-7.0	452.7	-21.7	
25500	7772	-9.0	450.7	-22.8	
26000	7925	-10.9	448.8	-23.8	
26500	8077	-12.8	446.9	-24.9	
27000	8230	-14.8	444.9	-26.0	
27500	8382	-16.7	443.0	-27.1	
28000	8534	-18.6	441.1	-28.1	1
28500	8687	-20.6	439.1	-29.2	
29000	8839	-22.5	437.2	-30.3	
29500	8992	-24.4	435.3	-31.3	
30000	9144	-26.3	433.4	-32.4	
30500	9296	-28.3	431.4	-33.5	
31000	9449	-30.2	429.5	-34.6	
31500	9601	-32.1	427.6	-35.6	
32000	9754	-34.1	425.6	-36.7	
32500	9906	-36.0	423.7	-37.8	
33000	10058	-37.9	421.8	-38.8	
33500	10211	-39.8	419.9	-39.9	
34000	10363	-41.8	417.9	-41.0	
34500	10516	-43.7	416.0	-42.1	
35000	10668	-45.6	414.1	-43.1	
35500	10820	-47.6	412.1	-44.2	
36000	10973	-49.5	410.2	-45.3	
36500	11125	-51.4	408.3	-46.3	
37000	11278	-53.3	406.4	-47.4	

TABLE A4 - TROPICAL DAY TEMPERATURES VERSUS PRESSURE ALTITUDE

Pressure Altitude ft	Pressure Altitude m	Temperature °F	Temperature °R	Temperature °C	Notes
37500	11430	-55.2	404.5	-48.5	
38000	11582	-57.1	402.6	-49.5	
38500	11735	-59.0	400.7	-50.6	
39000	11887	-60.9	398.8	-51.6	
39500	12040	-62.8	396.9	-52.6	
40000	12192	-64.6	395.1	-53.7	
40500	12344	-66.5	393.2	-54.7	
41000	12497	-68.3	391.4	-55.7	
41500	12649	-70.1	389.6	-56.7	
42000	12802	-72.0	387.7	-57.8	
42500	12954	-73.8	385.9	-58.8	
43000	13106	-75.6	384.1	-59.8	
43500	13259	-77.4	382.3	-60.8	
44000	13411	-79.2	380.5	-61.8	
44500	13564	-81.0	378.7	-62.8	
45000	13716	-82.8	376.9	-63.8	
45500	13868	-84.5	375.2	-64.7	
46000	14021	-86.3	373.4	-65.7	
46500	14173	-88.0	371.7	-66.7	
47000	14326	-89.8	369.9	-67.7	
47500	14478	-91.5	368.2	-68.6	
48000	14630	-93.2	366.5	-69.6	
48500	14783	-94.9	364.8	-70.5	
49000	14935	-96.7	363.0	-71.5	
49500	15088	-98.4	361.3	-72.4	
50000	15240	-100.1	359.6	-73.4	
50500	15392	-101.7	358.0	-74.3	
51000	15545	-103.4	356.3	-75.2	
51500	15697	-105.1	354.6	-76.2	
52000	15850	-106.8	352.9	-77.1	
52500	16002	-108.4	351.3	-78.0	
53000	16154	-110.1	349.6	-78.9	
53500	16307	-111.7	348.0	-79.8	
53595	16336	-112.0	347.7	-80.0	
54000	16459	-111.1	348.6	-79.5	
54500	16612	-110.1	349.6	-78.9	
55000	16764	-109.0	350.7	-78.3	
55500	16916	-107.9	351.8	-77.7	
56000	17069	-106.8	352.9	-77.1	
56500	17221	-105.7	354.0	-76.5	

TABLE A4 - TROPICAL DAY TEMPERATURES VERSUS PRESSURE ALTITUDE

Pressure Altitude ft	Pressure Altitude m	Temperature °F	Temperature °R	Temperature °C	Notes
57000	17374	-104.6	355.1	-75.9	
57500	17526	-103.5	356.2	-75.3	
58000	17678	-102.5	357.2	-74.7	
58500	17831	-101.4	358.3	-74.1	
59000	17983	-100.2	359.5	-73.5	
59500	18136	-99.1	360.6	-72.9	
60000	18288	-98.0	361.7	-72.2	
60500	18440	-96.9	362.8	-71.6	
61000	18593	-95.8	363.9	-71.0	
61500	18745	-94.7	365.0	-70.4	
62000	18898	-93.6	366.1	-69.8	
62500	19050	-92.4	367.3	-69.1	
63000	19202	-91.3	368.4	-68.5	
63500	19355	-90.2	369.5	-67.9	
64000	19507	-89.0	370.7	-67.2	
64500	19660	-87.9	371.8	-66.6	
65000	19812	-86.7	373.0	-65.9	
65500	19964	-85.6	374.1	-65.3	
66000	20117	-84.4	375.3	-64.7	
66500	20269	-83.3	376.4	-64.0	
67000	20422	-82.1	377.6	-63.4	
67500	20574	-81.0	378.7	-62.8	
68000	20726	-79.8	379.9	-62.1	
68500	20879	-78.6	381.1	-61.5	
69000	21031	-77.5	382.2	-60.8	
69500	21184	-76.3	383.4	-60.2	
69620	21220	-76.0	383.7	-60.0	
70000	21336	-75.5	384.2	-59.7	
70500	21488	-74.9	384.8	-59.4	
71000	21641	-74.2	385.5	-59.0	
71500	21793	-73.6	386.1	-58.6	
72000	21946	-72.9	386.8	-58.3	
72500	22098	-72.2	387.5	-57.9	
73000	22250	-71.6	388.1	-57.5	
73500	22403	-70.9	388.8	-57.2	
74000	22555	-70.3	389.4	-56.8	
74500	22708	-69.6	390.1	-56.5	
75000	22860	-69.0	390.7	-56.1	
75500	23012	-68.3	391.4	-55.7	
76000	23165	-67.6	392.1	-55.3	

TABLE A4 - TROPICAL DAY TEMPERATURES VERSUS PRESSURE ALTITUDE

Pressure Altitude ft	Pressure Altitude m	Temperature °F	Temperature °R	Temperature °C	Notes
76500	23317	-67.0	392.7	-55.0	
77000	23470	-66.3	393.4	-54.6	
77500	23622	-65.6	394.1	-54.2	
78000	23774	-65.0	394.7	-53.9	
78500	23927	-64.3	395.4	-53.5	
79000	24079	-63.6	396.1	-53.1	
79500	24232	-63.0	396.7	-52.8	
80000	24384	-62.3	397.4	-52.4	
80500	24536	-61.6	398.1	-52.0	
81000	24689	-60.9	398.8	-51.6	
81500	24841	-60.3	399.4	-51.3	
82000	24994	-59.6	400.1	-50.9	
82500	25146	-58.9	400.8	-50.5	
83000	25298	-58.2	401.5	-50.1	
83500	25451	-57.6	402.1	-49.8	
84000	25603	-56.9	402.8	-49.4	
84500	25756	-56.2	403.5	-49.0	
85000	25908	-55.5	404.2	-48.6	
85500	26060	-54.9	404.8	-48.3	
86000	26213	-54.2	405.5	-47.9	
86500	26365	-53.5	406.2	-47.5	
87000	26518	-52.8	406.9	-47.1	
87500	26670	-52.2	407.5	-46.8	
88000	26822	-51.5	408.2	-46.4	
88500	26975	-50.8	408.9	-46.0	
89000	27127	-50.1	409.6	-45.6	
89500	27280	-49.5	410.2	-45.3	
90000	27432	-48.8	410.9	-44.9	
90500	27584	-48.1	411.6	-44.5	
91000	27737	-47.5	412.2	-44.1	
91500	27889	-46.8	412.9	-43.8	
92000	28042	-46.1	413.6	-43.4	
92500	28194	-45.4	414.3	-43.0	
93000	28346	-44.8	414.9	-42.7	
93500	28499	-44.1	415.6	-42.3	
94000	28651	-43.4	416.3	-41.9	
94500	28804	-42.8	416.9	-41.5	
95000	28956	-42.1	417.6	-41.2	
95500	29108	-41.4	418.3	-40.8	
96000	29261	-40.8	418.9	-40.4	

TABLE A4 - TROPICAL DAY TEMPERATURES VERSUS PRESSURE ALTITUDE

Pressure Altitude ft	Pressure Altitude m	Temperature °F	Temperature °R	Temperature °C	Notes
96500	29413	-40.1	419.6	-40.1	
97000	29566	-39.4	420.3	-39.7	
97500	29718	-38.8	420.9	-39.3	
98000	29870	-38.1	421.6	-38.9	
98500	30023	-37.4	422.3	-38.6	
99000	30175	-36.8	422.9	-38.2	
99500	30328	-36.1	423.6	-37.8	
100000	30480	-35.4	424.3	-37.5	

Notes: 1 Temperature in °R at 28000 ft pressure altitude is 441.7 in the original table. A temperature of 441.7 °R is not consistent with the entries in °F and °C, and has been corrected to 441.1.

A.5 HIGHEST RECORDED DAY

Table A5 provides Highest Recorded Day temperature versus pressure altitude based on Paragraph 5.3.1.1.1, “Highest Recorded”, of MIL-HDBK-310, dated 9 January, 1987. One apparent typographical error in the source table has been corrected, as noted below.

TABLE A5 - HIGHEST RECORDED DAY TEMPERATURES VERSUS PRESSURE ALTITUDE

Pressure Altitude ft	Pressure Altitude m	Temperature °F	Temperature °R	Temperature °C	Notes
0	0	136	596	58	
3280	1000	104	564	40	
6560	2000	88	547	31	
13100	4000	66	526	19	
19700	6000	43	502	6	
26200	8000	25	484	-4	
32800	10000	0	459	-18	
39400	12000	-17	443	-27	
45900	14000	-29	430	-34	
52500	16000	-31	429	-35	
59100	18000	-29	430	-34	
65600	20000	-24	436	-31	
72200	22000	-24	436	-31	
78700	24000	-24	436	-31	
85300	26000	-17	443	-27	
91900	28000	-8	452	-22	
98400	30000	1	461	-17	1

Notes: 1 Temperature in °F at 98400 ft pressure altitude is 0 in the original table. A temperature of 0 °F is not consistent with the entry in °C or with the slope of the characteristic.

A.6 LOWEST RECORDED DAY

Table A6 provides Lowest Recorded Day temperature versus pressure altitude based on Paragraph 5.3.1.2.1, “Lowest Recorded”, of MIL-HDBK-310, dated 9 January, 1987. No typographical errors in the source table have been discovered.

TABLE A6 - LOWEST RECORDED DAY TEMPERATURES VERSUS PRESSURE ALTITUDE

Pressure Altitude ft	Pressure Altitude m	Temperature °F	Temperature °R	Temperature °C	Notes
0	0	-90	369	-68	
3280	1000	-69	391	-56	
6560	2000	-53	407	-47	
13100	4000	-60	400	-51	
19700	6000	-76	384	-60	
26200	8000	-83	376	-64	
32800	10000	-99	360	-73	
39400	12000	-107	353	-77	
45900	14000	-108	351	-78	
52500	16000	-125	335	-87	
59100	18000	-121	339	-85	
65600	20000	-117	342	-83	
72200	22000	-121	339	-85	
78700	24000	-121	339	-85	
85300	26000	-121	339	-85	
91900	28000	-121	339	-85	
98400	30000	-121	339	-85	

A.7 1% HOT DAY

Table A7 provides 1% Hot Day temperature versus pressure altitude based on Paragraph 5.3.1.1.2, “Frequency of Occurrence. Temperatures (1-percent values)”, of MIL-HDBK-310, dated 9 January, 1987. No typographical errors in the source table have been discovered.

TABLE A7 - 1% HOT DAY TEMPERATURES VERSUS PRESSURE ALTITUDE

Pressure Altitude ft	Pressure Altitude m	Temperature °F	Temperature °R	Temperature °C	Notes
0	0	120	580	49	
3280	1000	102	562	39	
6560	2000	84	544	29	
13100	4000	61	520	16	
19700	6000	39	499	4	
26200	8000	19	479	-7	
32800	10000	0	459	-18	
39400	12000	-17	443	-27	
45900	14000	-29	430	-34	
52500	16000	-35	425	-37	
59100	18000	-36	423	-38	
65600	20000	-35	425	-37	
72200	22000	-35	425	-37	
78700	24000	-33	427	-36	
85300	26000	-29	430	-34	
91900	28000	-22	438	-30	
98400	30000	-22	438	-30	

A.8 1% COLD DAY

Table A8 provides 1% Cold Day temperature versus pressure altitude based on Paragraph 5.3.1.2.2, “Frequency of Occurrence. Temperatures (1-percent values)”, of MIL-HDBK-310, dated 9 January, 1987. No typographical errors in the source table have been discovered.

TABLE A8 - 1% COLD DAY TEMPERATURES VERSUS PRESSURE ALTITUDE

Pressure Altitude ft	Pressure Altitude m	Temperature °F	Temperature °R	Temperature °C	Notes
0	0	-78	382	-61	
3280	1000	-67	393	-55	
6560	2000	-44	416	-42	
13100	4000	-51	409	-46	
19700	6000	-67	393	-55	
26200	8000	-83	376	-64	
32800	10000	-96	364	-71	
39400	12000	-98	362	-72	
45900	14000	-107	353	-77	
52500	16000	-123	337	-86	
59100	18000	-121	339	-85	
65600	20000	-117	342	-83	
72200	22000	-121	339	-85	
78700	24000	-121	339	-85	
85300	26000	-121	339	-85	
91900	28000	-121	339	-85	
98400	30000	-119	340	-84	

A.9 5% HOT DAY

Table A9 provides 5% Hot Day temperature versus pressure altitude based on Table XIX, “Supplementary High Temperature Values for the Worldwide Air Environment”, of MIL-HDBK-310, dated 9 January, 1987. One apparent typographical error in the source table has been corrected.

TABLE A9 - 5% HOT DAY TEMPERATURES VERSUS PRESSURE ALTITUDE

Pressure Altitude ft	Pressure Altitude m	Temperature °F	Temperature °R	Temperature °C	Notes
0	0	115	574	46	
3280	1000	100	560	38	
6560	2000	81	540	27	
13100	4000	55	515	13	
19700	6000	34	493	1	
26200	8000	12	472	-11	
32800	10000	-9	450	-23	1
39400	12000	-26	434	-32	
45900	14000	-35	425	-37	
52500	16000	-38	421	-39	
59100	18000	-38	421	-39	
65600	20000	-38	421	-39	
72200	22000	-36	423	-38	
78700	24000	-36	423	-38	
85300	26000	-33	427	-36	
91900	28000	-29	430	-34	
98400	30000	-22	438	-30	

Notes: 1 In MIL-STD-210C, the temperatures are given as -23 °C and -19 °F. These are not consistent. In MIL-HDBK-310, the temperatures are given as -28 °C and -19 °F. These are consistent, however the result is that the 5% Hot Day is colder than the 10% and 20% Hot days, which is illogical and inconsistent with the trend at all other altitudes. It appears that the editor of MIL-HDBK-310 took the Fahrenheit value in MIL-STD-210 as correct, when in fact the Centigrade value was correct.

A.10 10% HOT DAY

Table A10 provides 10% Hot Day temperature versus pressure altitude based on Table XIX, “Supplementary High Temperature Values for the Worldwide Air Environment”, of MIL-HDBK-310, dated 9 January, 1987. No typographical errors in the source table have been discovered.

TABLE A10 - 10% HOT DAY TEMPERATURES VERSUS PRESSURE ALTITUDE

Pressure Altitude ft	Pressure Altitude m	Temperature °F	Temperature °R	Temperature °C	Notes
0	0	113	573	45	
3280	1000	99	558	37	
6560	2000	79	538	26	
13100	4000	52	511	11	
19700	6000	30	490	-1	
26200	8000	9	468	-13	
32800	10000	-13	447	-25	
39400	12000	-27	432	-33	
45900	14000	-36	423	-38	
52500	16000	-38	421	-39	
59100	18000	-38	421	-39	
65600	20000	-38	421	-39	
72200	22000	-38	421	-39	
78700	24000	-36	423	-38	
85300	26000	-35	425	-37	
91900	28000	-29	430	-34	
98400	30000	-24	436	-31	

A.11 20% HOT DAY

Table A11 provides 20% Hot Day temperature versus pressure altitude based on Table XIX, “Supplementary High Temperature Values for the Worldwide Air Environment”, of MIL-HDBK-310, dated 9 January, 1987. No typographical errors in the source table have been discovered.

TABLE A11 - 20% HOT DAY TEMPERATURES VERSUS PRESSURE ALTITUDE

Pressure Altitude ft	Pressure Altitude m	Temperature °F	Temperature °R	Temperature °C	Notes
0	0	---	---	---	
3280	1000	93	553	34	
6560	2000	77	537	25	
13100	4000	50	510	10	
19700	6000	28	488	-2	
26200	8000	7	466	-14	
32800	10000	-15	445	-26	
39400	12000	-35	425	-37	
45900	14000	-40	420	-40	
52500	16000	-40	420	-40	
59100	18000	-40	420	-40	
65600	20000	-40	420	-40	
72200	22000	-40	420	-40	
78700	24000	-38	421	-39	
85300	26000	-35	425	-37	
91900	28000	-31	429	-35	
98400	30000	-26	434	-32	

A.12 5% COLD DAY

Table A12 provides 5% Cold Day temperature versus pressure altitude based on Table XX, “Supplementary Low Temperature Values for the Worldwide Air Environment”, of MIL-HDBK-310, dated 9 January, 1987. There is one ambiguous entry in the table which may be a typographical error, as footnoted below.

TABLE A12 - 5% COLD DAY TEMPERATURES VERSUS PRESSURE ALTITUDE

Pressure Altitude ft	Pressure Altitude m	Temperature °F	Temperature °R	Temperature °C	Notes
0	0	-70	389	-57	1
3280	1000	-65	394	-54	
6560	2000	-36	423	-38	
13100	4000	-45	414	-43	
19700	6000	-62	398	-52	
26200	8000	-78	382	-61	
32800	10000	-92	367	-69	
39400	12000	-94	366	-70	
45900	14000	-105	355	-76	
52500	16000	-121	339	-85	
59100	18000	-116	344	-82	
65600	20000	-116	344	-82	
72200	22000	-119	340	-84	
78700	24000	-119	340	-84	
85300	26000	-119	340	-84	
91900	28000	-117	342	-83	
98400	30000	-117	342	-83	

Notes: 1 A value of -57 °C converts to -71 °F (rounded off), so -70 °F may be an error. However, both -70 °F and -71 °F convert to -57 °C (rounded off), so it is not possible to be certain.

A.13 10% COLD DAY

Table A13 provides 10% Cold Day temperature versus pressure altitude based on Table XX, “Supplementary Low Temperature Values for the Worldwide Air Environment”, of MIL-HDBK-310, dated 9 January, 1987. No typographical errors in the source table have been discovered.

TABLE A13 - 10% COLD DAY TEMPERATURES VERSUS PRESSURE ALTITUDE

Pressure Altitude ft	Pressure Altitude m	Temperature °F	Temperature °R	Temperature °C	Notes
0	0	-65	394	-54	
3280	1000	-63	396	-53	
6560	2000	-33	427	-36	
13100	4000	-38	421	-39	
19700	6000	-60	400	-51	
26200	8000	-78	382	-61	
32800	10000	-87	373	-66	
39400	12000	-89	371	-67	
45900	14000	-103	357	-75	
52500	16000	-119	340	-84	
59100	18000	-112	348	-80	
65600	20000	-114	346	-81	
72200	22000	-117	342	-83	
78700	24000	-117	342	-83	
85300	26000	-117	342	-83	
91900	28000	-116	344	-82	
98400	30000	-114	346	-81	

A.14 20% COLD DAY

Table A14 provides 20% Cold Day temperature versus pressure altitude based on Table XX, “Supplementary Low Temperature Values for the Worldwide Air Environment”, of MIL-HDBK-310, dated 9 January, 1987. No typographical errors in the source table have been discovered.

TABLE A14 - 20% COLD DAY TEMPERATURES VERSUS PRESSURE ALTITUDE

Pressure Altitude ft	Pressure Altitude m	Temperature °F	Temperature °R	Temperature °C	Notes
0	0	-60	400	-51	
3280	1000	-62	398	-52	
6560	2000	-27	432	-33	
13100	4000	-35	425	-37	
19700	6000	-54	405	-48	
26200	8000	-74	385	-59	
32800	10000	-83	376	-64	
39400	12000	-85	375	-65	
45900	14000	-99	360	-73	
52500	16000	-117	342	-83	
59100	18000	-110	349	-79	
65600	20000	-107	353	-77	
72200	22000	-110	349	-79	
78700	24000	-116	344	-82	
85300	26000	-116	344	-82	
91900	28000	-114	346	-81	
98400	30000	-110	349	-79	

A.15 STANDARD DAY

Table A15 provides Standard Day temperature and pressure versus pressure altitude calculated using the equations given in 4.2 and in MIL-STD-3013.

TABLE A15 - STANDARD DAY PRESSURES AND TEMPERATURES VERSUS PRESSURE ALTITUDE

Pressure Altitude ft	Pressure Altitude m	Atmospheric Pressure lbf/in2	Atmospheric Pressure kN/m2	Temperature °F	Temperature °R	Temperature °C
-2000	-610	15.79	108.9	66.13	525.8	18.96
-1000	-305	15.23	105.0	62.57	522.24	16.98
0	0	14.696	101.3	59	518.67	15
1000	305	14.17	97.72	55.43	515.1	13.02
2000	610	13.66	94.21	51.87	511.54	11.04
3000	914	13.17	90.81	48.3	507.97	9.06
4000	1219	12.69	87.51	44.74	504.41	7.08
5000	1524	12.23	84.31	41.17	500.84	5.09
6000	1829	11.78	81.20	37.6	497.27	3.11
7000	2134	11.34	78.19	34.04	493.71	1.13
8000	2438	10.92	75.26	30.47	490.14	-0.85
9000	2743	10.50	72.43	26.9	486.57	-2.83
10000	3048	10.11	69.68	23.34	483.01	-4.81
11000	3353	9.720	67.02	19.77	479.44	-6.79
12000	3658	9.346	64.44	16.21	475.88	-8.77
13000	3962	8.984	61.94	12.64	472.31	-10.76
14000	4267	8.633	59.52	9.07	468.74	-12.74
15000	4572	8.294	57.18	5.51	465.18	-14.72
16000	4877	7.965	54.92	1.94	461.61	-16.7
17000	5182	7.647	52.72	-1.62	458.05	-18.68
18000	5486	7.339	50.60	-5.19	454.48	-20.66
19000	5791	7.041	48.55	-8.76	450.91	-22.64
20000	6096	6.753	46.56	-12.32	447.35	-24.62
21000	6401	6.475	44.65	-15.89	443.78	-26.61
22000	6706	6.206	42.79	-19.46	440.21	-28.59
23000	7010	5.947	41.00	-23.02	436.65	-30.57
24000	7315	5.696	39.27	-26.59	433.08	-32.55
25000	7620	5.454	37.60	-30.15	429.52	-34.53
26000	7925	5.220	35.99	-33.72	425.95	-36.51
27000	8230	4.994	34.43	-37.29	422.38	-38.49
28000	8534	4.776	32.93	-40.85	418.82	-40.47
29000	8839	4.567	31.48	-44.42	415.25	-42.46
30000	9144	4.364	30.09	-47.98	411.69	-44.43
31000	9449	4.169	28.74	-51.55	408.12	-46.42
32000	9754	3.981	27.45	-55.12	404.55	-48.4

TABLE A15 - STANDARD DAY PRESSURES AND TEMPERATURES VERSUS PRESSURE ALTITUDE

Pressure Altitude ft	Pressure Altitude m	Atmospheric Pressure lbf/in2	Atmospheric Pressure kN/m2	Temperature °F	Temperature °R	Temperature °C
33000	10058	3.800	26.20	-58.68	400.99	-50.38
34000	10363	3.626	25.00	-62.25	397.42	-52.36
35000	10668	3.458	23.84	-65.82	393.85	-54.34
36000	10973	3.296	22.73	-69.38	390.29	-56.32
36089	11000	3.283	22.63	-69.7	389.97	-56.5
37000	11278	3.142	21.66	-69.7	389.97	-56.5
38000	11582	2.994	20.65	-69.7	389.97	-56.5
39000	11887	2.854	19.68	-69.7	389.97	-56.5
40000	12192	2.720	18.75	-69.7	389.97	-56.5
41000	12497	2.592	17.87	-69.7	389.97	-56.5
42000	12802	2.471	17.04	-69.7	389.97	-56.5
43000	13106	2.355	16.24	-69.7	389.97	-56.5
44000	13411	2.244	15.47	-69.7	389.97	-56.5
45000	13716	2.139	14.75	-69.7	389.97	-56.5
46000	14021	2.039	14.06	-69.7	389.97	-56.5
47000	14326	1.943	13.40	-69.7	389.97	-56.5
48000	14630	1.852	12.77	-69.7	389.97	-56.5
49000	14935	1.765	12.17	-69.7	389.97	-56.5
50000	15240	1.682	11.60	-69.7	389.97	-56.5
51000	15545	1.603	11.05	-69.7	389.97	-56.5
52000	15850	1.528	10.53	-69.7	389.97	-56.5
53000	16154	1.456	10.04	-69.7	389.97	-56.5
54000	16459	1.388	9.569	-69.7	389.97	-56.5
55000	16764	1.323	9.120	-69.7	389.97	-56.5
56000	17069	1.261	8.692	-69.7	389.97	-56.5
57000	17374	1.201	8.284	-69.7	389.97	-56.5
58000	17678	1.145	7.895	-69.7	389.97	-56.5
59000	17983	1.091	7.525	-69.7	389.97	-56.5
60000	18288	1.040	7.172	-69.7	389.97	-56.5
61000	18593	0.9913	6.835	-69.7	389.97	-56.5
62000	18898	0.9448	6.514	-69.7	389.97	-56.5
63000	19202	0.9005	6.209	-69.7	389.97	-56.5
64000	19507	0.8582	5.917	-69.7	389.97	-56.5
65000	19812	0.8180	5.640	-69.7	389.97	-56.5
65617	20000	0.7940	5.475	-69.7	389.97	-56.5
66000	20117	0.7796	5.375	-69.49	390.18	-56.38
67000	20422	0.7430	5.123	-68.94	390.73	-56.08
68000	20726	0.7083	4.883	-68.39	391.28	-55.77
69000	21031	0.6752	4.655	-67.84	391.83	-55.47
70000	21336	0.6436	4.438	-67.3	392.37	-55.17

TABLE A15 - STANDARD DAY PRESSURES AND TEMPERATURES VERSUS PRESSURE ALTITUDE

Pressure Altitude ft	Pressure Altitude m	Atmospheric Pressure lbf/in2	Atmospheric Pressure kN/m2	Temperature °F	Temperature °R	Temperature °C
71000	21641	0.6136	4.231	-66.75	392.92	-54.86
72000	21946	0.5851	4.034	-66.2	393.47	-54.56
73000	22250	0.5579	3.846	-65.65	394.02	-54.25
74000	22555	0.5320	3.668	-65.1	394.57	-53.94
75000	22860	0.5073	3.498	-64.55	395.12	-53.64
76000	23165	0.4838	3.336	-64	395.67	-53.33
77000	23470	0.4615	3.182	-63.45	396.22	-53.03
78000	23774	0.4401	3.035	-62.91	396.76	-52.73
79000	24079	0.4199	2.895	-62.36	397.31	-52.42
80000	24384	0.4005	2.761	-61.81	397.86	-52.12
81000	24689	0.3821	2.634	-61.26	398.41	-51.81
82000	24994	0.3646	2.513	-60.71	398.96	-51.51
83000	25298	0.3478	2.398	-60.16	399.51	-51.2
84000	25603	0.3319	2.288	-59.61	400.06	-50.89
85000	25908	0.3167	2.184	-59.07	400.6	-50.59
86000	26213	0.3023	2.084	-58.52	401.15	-50.29
87000	26518	0.2885	1.989	-57.97	401.7	-49.98
88000	26822	0.2753	1.898	-57.42	402.25	-49.68
89000	27127	0.2628	1.812	-56.87	402.8	-49.37
90000	27432	0.2509	1.730	-56.32	403.35	-49.07
91000	27737	0.2395	1.651	-55.77	403.9	-48.76
92000	28042	0.2286	1.576	-55.23	404.44	-48.46
93000	28346	0.2183	1.505	-54.68	404.99	-48.16
94000	28651	0.2084	1.437	-54.13	405.54	-47.85
95000	28956	0.1990	1.372	-53.58	406.09	-47.54
96000	29261	0.1900	1.310	-53.03	406.64	-47.24
97000	29566	0.1815	1.251	-52.48	407.19	-46.93
98000	29870	0.1733	1.195	-51.93	407.74	-46.63
99000	30175	0.1655	1.141	-51.38	408.29	-46.32
100000	30480	0.1581	1.090	-50.84	408.83	-46.02

APPENDIX B - PLOTS OF ALL DAY TYPES

B.1 STANDARD DAY

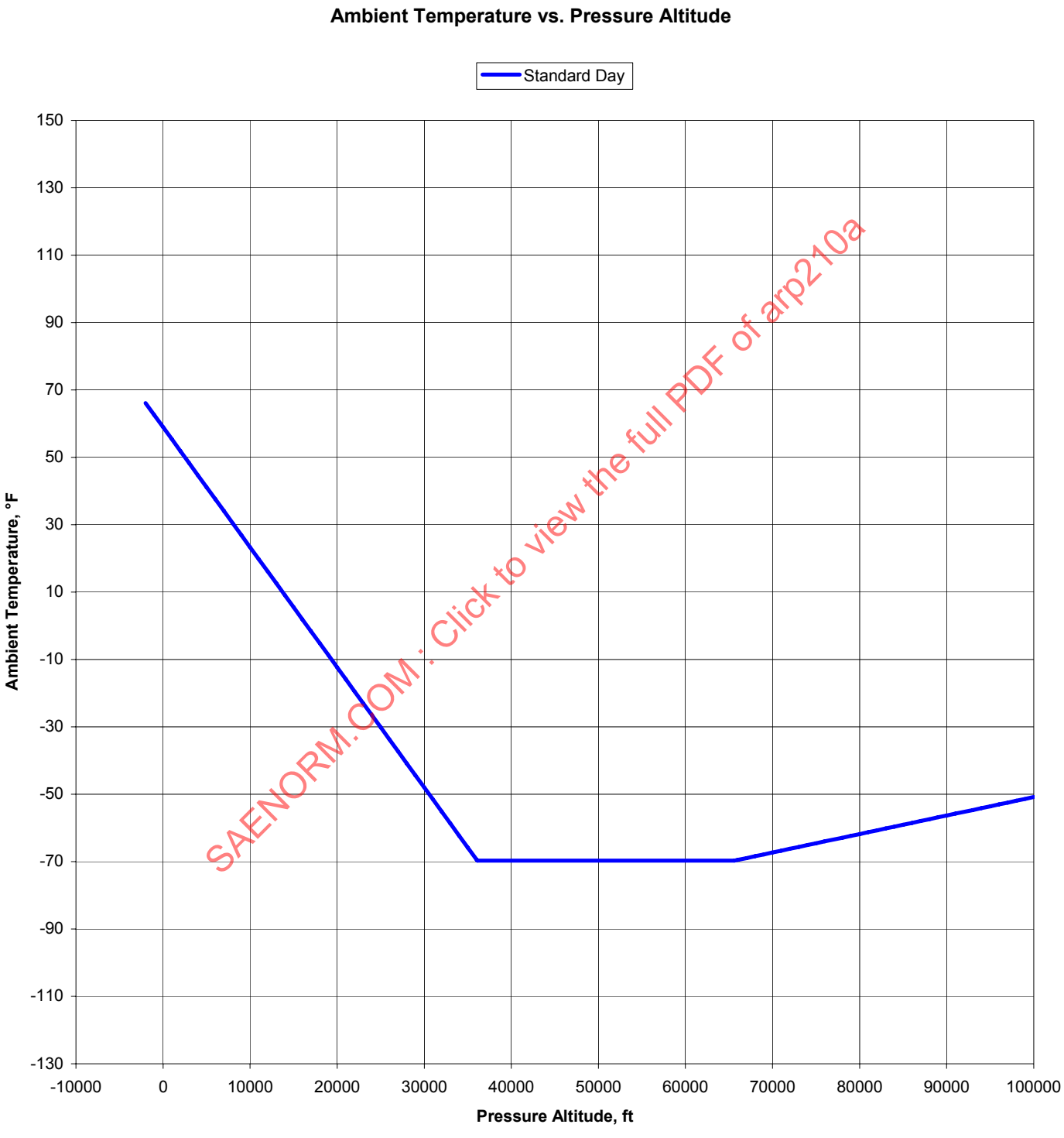

FIGURE B1 - STANDARD DAY TEMPERATURE VERSUS PRESSURE ALTITUDE