

ATTACHMENT 1

FedEx Flight 1478 Flight History Data

DCA02MA054
FedEx Flight 1478 Flight Data

FDR Time (sec)	Total Seconds	Coordinated Universal Time (hh:mm:ss)	Radio Altitude (ft)	Distance To Runway (ft)	Roll Angle (deg)	Pressure Altitude (ft)	Vertical Speed (fpm)	Terrain Clearance Rate (fpm)	Absolute Value Roll Angle (deg)	Eastern Daylight Time (hh:mm:ss)	Computed Airspeed (kt)	Distance to Runway (nm)
7072.02	34516.06	9:35:16.06	1888.87	37499.819	0.18	1926.30			0.18	5:35:16.06	196.54	6.172
7072.14	34516.18	9:35:16.18	1886.34	37461.198	0.22	1925.08	610.00	1266.00	0.22	5:35:16.18	196.52	6.165
7072.27	34516.31	9:35:16.31	1884.02	37422.456	0.26	1923.81	586.15	1070.31	0.26	5:35:16.31	196.50	6.159
7072.39	34516.43	9:35:16.43	1882.36	37383.690	0.3	1922.66	575.00	827.00	0.30	5:35:16.43	196.49	6.153
7072.52	34516.56	9:35:16.56	1881.20	37344.952	0.34	1921.45	558.46	535.38	0.34	5:35:16.56	196.48	6.146
7072.64	34516.68	9:35:16.68	1880.81	37306.240	0.38	1920.36	545.00	196.00	0.38	5:35:16.68	196.48	6.140
7072.77	34516.81	9:35:16.81	1881.23	37267.534	0.42	1919.19	540.00	-192.00	0.42	5:35:16.81	196.48	6.133
7072.89	34516.93	9:35:16.93	1882.48	37228.829	0.46	1918.15	520.00	-626.50	0.46	5:35:16.93	196.48	6.127
7073.02	34517.06	9:35:17.06	1884.87	37190.128	0.49	1917.01	526.15	-1102.15	0.49	5:35:17.06	196.48	6.121
7073.14	34517.18	9:35:17.18	1887.88	37151.436	0.53	1915.99	510.00	-1508.50	0.53	5:35:17.18	196.49	6.114
7073.27	34517.31	9:35:17.31	1891.71	37112.756	0.57	1914.88	512.31	-1763.54	0.57	5:35:17.31	196.49	6.108
7073.39	34517.43	9:35:17.43	1895.44	37074.081	0.61	1913.87	505.00	-1868.50	0.61	5:35:17.43	196.49	6.102
7073.52	34517.56	9:35:17.56	1899.39	37035.417	0.65	1912.77	507.69	-1819.85	0.65	5:35:17.56	196.50	6.095
7073.64	34517.68	9:35:17.68	1902.63	36996.765	0.69	1911.76	505.00	-1622.50	0.69	5:35:17.68	196.50	6.089
7073.77	34517.81	9:35:17.81	1905.38	36958.118	0.73	1910.64	516.92	-1270.62	0.73	5:35:17.81	196.50	6.083
7073.89	34517.93	9:35:17.93	1906.92	36919.488	0.78	1909.62	510.00	-769.50	0.78	5:35:17.93	196.50	6.076
7074.02	34518.06	9:35:18.06	1907.20	36880.866	0.82	1908.50	516.92	-126.00	0.82	5:35:18.06	196.50	6.070
7074.14	34518.18	9:35:18.18	1906.18	36842.259	0.87	1907.46	520.00	508.50	0.87	5:35:18.18	196.50	6.063
7074.27	34518.31	9:35:18.31	1903.96	36803.667	0.92	1906.31	530.77	1023.23	0.92	5:35:18.31	196.50	6.057
7074.39	34518.43	9:35:18.43	1901.13	36765.083	0.96	1905.26	525.00	1418.00	0.96	5:35:18.43	196.50	6.051
7074.52	34518.56	9:35:18.56	1897.46	36726.519	1.01	1904.10	535.38	1690.62	1.01	5:35:18.56	196.50	6.044
7074.64	34518.68	9:35:18.68	1893.77	36687.967	1.06	1903.03	535.00	1844.00	1.06	5:35:18.68	196.50	6.038
7074.77	34518.81	9:35:18.81	1889.71	36649.425	1.11	1901.86	540.00	1874.31	1.11	5:35:18.81	196.51	6.032
7074.89	34518.93	9:35:18.93	1886.14	36610.903	1.16	1900.79	535.00	1785.50	1.16	5:35:18.93	196.51	6.025
7075.02	34519.06	9:35:19.06	1882.72	36572.393	1.21	1899.62	540.00	1579.85	1.21	5:35:19.06	196.52	6.019
7075.14	34519.18	9:35:19.18	1880.04	36533.900	1.26	1898.55	535.00	1342.00	1.26	5:35:19.18	196.53	6.013
7075.27	34519.31	9:35:19.31	1877.58	36495.423	1.31	1897.39	535.38	1132.62	1.31	5:35:19.31	196.53	6.006
7075.39	34519.43	9:35:19.43	1875.68	36456.961	1.36	1896.33	530.00	950.00	1.36	5:35:19.43	196.54	6.000
7075.52	34519.56	9:35:19.56	1873.95	36418.516	1.41	1895.20	521.54	798.00	1.41	5:35:19.56	196.54	5.994
7075.64	34519.68	9:35:19.68	1872.61	36380.083	1.46	1894.17	515.00	673.50	1.46	5:35:19.68	196.54	5.987
7075.77	34519.81	9:35:19.81	1871.35	36341.673	1.5	1893.08	503.08	577.85	1.50	5:35:19.81	196.53	5.981
7075.89	34519.93	9:35:19.93	1870.33	36303.284	1.54	1892.09	495.00	511.00	1.54	5:35:19.93	196.52	5.975
7076.02	34520.06	9:35:20.06	1869.31	36264.917	1.59	1891.04	484.62	472.62	1.59	5:35:20.06	196.51	5.968
7076.14	34520.18	9:35:20.18	1868.40	36226.565	1.62	1890.10	470.00	454.50	1.62	5:35:20.18	196.49	5.962
7076.27	34520.31	9:35:20.31	1867.42	36188.238	1.66	1889.10	461.54	452.77	1.66	5:35:20.31	196.46	5.956
7076.39	34520.43	9:35:20.43	1866.49	36149.928	1.69	1888.21	445.00	465.50	1.69	5:35:20.43	196.43	5.950
7076.52	34520.56	9:35:20.56	1865.42	36111.644	1.72	1887.28	429.23	493.38	1.72	5:35:20.56	196.39	5.943
7076.64	34520.68	9:35:20.68	1864.34	36073.379	1.75	1886.44	420.00	537.50	1.75	5:35:20.68	196.35	5.937
7076.77	34520.81	9:35:20.81	1863.05	36035.142	1.77	1885.57	401.54	596.77	1.77	5:35:20.81	196.31	5.931
7076.89	34520.93	9:35:20.93	1861.71	35996.922	1.79	1884.78	395.00	670.50	1.79	5:35:20.93	196.27	5.924
7077.02	34521.06	9:35:21.06	1860.07	35958.722	1.81	1883.96	378.46	756.00	1.81	5:35:21.06	196.23	5.918
7077.14	34521.18	9:35:21.18	1858.48	35920.544	1.83	1883.22	370.00	796.00	1.83	5:35:21.18	196.19	5.912
7077.27	34521.31	9:35:21.31	1856.86	35882.386	1.84	1882.45	355.38	745.38	1.84	5:35:21.31	196.15	5.905
7077.39	34521.43	9:35:21.43	1855.65	35844.251	1.85	1881.75	350.00	608.00	1.85	5:35:21.43	196.12	5.899
7077.52	34521.56	9:35:21.56	1854.83	35806.128	1.86	1881.01	341.54	378.46	1.86	5:35:21.56	196.09	5.893
7077.64	34521.68	9:35:21.68	1854.70	35768.023	1.86	1880.35	330.00	61.50	1.86	5:35:21.68	196.07	5.887
7077.77	34521.81	9:35:21.81	1855.45	35729.935	1.86	1879.64	327.69	-345.69	1.86	5:35:21.81	196.04	5.880
7077.89	34521.93	9:35:21.93	1857.14	35691.859	1.86	1879.00	320.00	-842.00	1.86	5:35:21.93	196.02	5.874
7078.02	34522.06	9:35:22.06	1860.20	35653.807	1.86	1878.31	318.46	-1413.23	1.86	5:35:22.06	196.00	5.868
7078.14	34522.18	9:35:22.18	1863.93	35615.762	1.86	1877.68	315.00	-1865.50	1.86	5:35:22.18	195.98	5.862
7078.27	34522.31	9:35:22.31	1868.37	35577.744	1.85	1877.01	309.23	-2049.69	1.85	5:35:22.31	195.96	5.855
7078.39	34522.43	9:35:22.43	1872.31	35539.738	1.85	1876.39	310.00	-1970.00	1.85	5:35:22.43	195.94	5.849
7078.52	34522.56	9:35:22.56	1875.82	35501.750	1.84	1875.72	309.23	-1618.15	1.84	5:35:22.56	195.90	5.843
7078.64	34522.68	9:35:22.68	1877.82	35463.785	1.83	1875.10	310.00	-1003.50	1.83	5:35:22.68	195.87	5.837
7078.77	34522.81	9:35:22.81	1878.08	35425.839	1.82	1874.43	309.23	-115.85	1.82	5:35:22.81	195.82	5.830
7078.89	34522.93	9:35:22.93	1876.01	35387.919	1.81	1873.82	305.00	1034.50	1.81	5:35:22.93	195.78	5.824
7079.02	34523.06	9:35:23.06	1870.74	35350.025	1.8	1873.15	309.23	2430.00	1.80	5:35:23.06	195.72	5.818
7079.14	34523.18	9:35:23.18	1863.32	35312.146	1.79	1872.53	310.00	3710.50	1.79	5:35:23.18	195.66	5.812
7079.27	34523.31	9:35:23.31	1853.33	35274.299	1.77	1871.86	309.23	4610.77	1.77	5:35:23.31	195.59	5.805
7079.39	34523.43	9:35:23.43	1843.06	35236.481	1.76	1871.24	310.00	5133.50	1.76	5:35:23.43	195.53	5.799
7079.52	34523.56	9:35:23.56	1831.65	35198.692	1.75	1870.56	313.85	5268.46	1.75	5:35:23.56	195.46	5.793
7079.64	34523.68	9:35:23.68	1821.60	35160.927	1.73	1869.94	310.00	5025.50	1.73	5:35:23.68	195.40	5.787
7079.77	34523.81	9:35:23.81	1812.07	35123.185	1.72	1869.26	313.85	4395.23	1.72	5:35:23.81	195.33	5.781
7079.89	34523.93	9:35:23.93	1805.30	35085.473	1.7	1868.64	310.00	3388.00	1.70	5:35:23.93	195.27	5.774
7080.02	34524.06	9:35:24.06	1800.92	35047.784	1.68	1867.96	313.85	2018.77	1.68	5:35:24.06	195.22	5.768

DCA02MA054
FedEx Flight 1478 Flight Data

FDR Time (sec)	Total Seconds	Coordinated Universal Time (hh:mm:ss)	Radio Altitude (ft)	Distance To Runway (ft)	Roll Angle (deg)	Pressure Altitude (ft)	Vertical Speed (fpm)	Terrain Clearance Rate (fpm)	Absolute Value Roll Angle (deg)	Eastern Daylight Time (hh:mm:ss)	Computed Airspeed (kt)	Distance to Runway (nm)
7080.14	34524.18	9:35:24.18	1799.63	35010.120	1.67	1867.34	310.00	645.50	1.67	5:35:24.18	195.17	5.762
7080.27	34524.31	9:35:24.31	1800.66	34972.483	1.65	1866.65	318.46	-472.62	1.65	5:35:24.31	195.12	5.756
7080.39	34524.43	9:35:24.43	1803.33	34934.867	1.63	1866.02	315.00	-1336.50	1.63	5:35:24.43	195.09	5.750
7080.52	34524.56	9:35:24.56	1807.53	34897.270	1.61	1865.33	318.46	-1938.46	1.61	5:35:24.56	195.06	5.743
7080.64	34524.68	9:35:24.68	1812.10	34859.686	1.59	1864.70	315.00	-2286.00	1.59	5:35:24.68	195.03	5.737
7080.77	34524.81	9:35:24.81	1817.24	34822.127	1.57	1864.00	323.08	-2371.85	1.57	5:35:24.81	195.00	5.731
7080.89	34524.93	9:35:24.93	1821.65	34784.589	1.55	1863.35	325.00	-2203.00	1.55	5:35:24.93	194.98	5.725
7081.02	34525.06	9:35:25.06	1825.52	34747.065	1.53	1862.64	327.69	-1785.69	1.53	5:35:25.06	194.96	5.719
7081.14	34525.18	9:35:25.18	1828.11	34709.563	1.51	1861.97	335.00	-1297.00	1.51	5:35:25.18	194.94	5.712
7081.27	34525.31	9:35:25.31	1829.98	34672.079	1.49	1861.24	336.92	-862.62	1.49	5:35:25.31	194.91	5.706
7081.39	34525.43	9:35:25.43	1830.95	34634.609	1.47	1860.56	340.00	-483.50	1.47	5:35:25.43	194.89	5.700
7081.52	34525.56	9:35:25.56	1831.30	34597.161	1.45	1859.81	346.15	-162.00	1.45	5:35:25.56	194.86	5.694
7081.64	34525.68	9:35:25.68	1831.09	34559.736	1.43	1859.11	350.00	103.50	1.43	5:35:25.68	194.83	5.688
7081.77	34525.81	9:35:25.81	1830.42	34522.325	1.41	1858.34	355.38	311.54	1.41	5:35:25.81	194.80	5.682
7081.89	34525.93	9:35:25.93	1829.49	34484.942	1.4	1857.61	365.00	464.00	1.40	5:35:25.93	194.76	5.676
7082.02	34526.06	9:35:26.06	1828.27	34447.572	1.38	1856.82	364.62	561.69	1.38	5:35:26.06	194.73	5.669
7082.14	34526.18	9:35:26.18	1826.99	34410.232	1.36	1856.07	375.00	641.50	1.36	5:35:26.18	194.70	5.663
7082.27	34526.31	9:35:26.31	1825.40	34372.907	1.35	1855.26	373.85	731.54	1.35	5:35:26.31	194.66	5.657
7082.39	34526.43	9:35:26.43	1823.74	34335.610	1.33	1854.50	380.00	829.50	1.33	5:35:26.43	194.63	5.651
7082.52	34526.56	9:35:26.56	1821.71	34298.327	1.32	1853.67	383.08	937.85	1.32	5:35:26.56	194.60	5.645
7082.64	34526.68	9:35:26.68	1819.60	34261.072	1.3	1852.89	390.00	1055.50	1.30	5:35:26.68	194.57	5.639
7082.77	34526.81	9:35:26.81	1817.04	34223.840	1.29	1852.05	387.69	1182.00	1.29	5:35:26.81	194.55	5.633
7082.89	34526.93	9:35:26.93	1814.40	34186.627	1.27	1851.26	395.00	1319.00	1.27	5:35:26.93	194.52	5.626
7083.02	34527.06	9:35:27.06	1811.24	34149.437	1.26	1850.41	392.31	1459.85	1.26	5:35:27.06	194.50	5.620
7083.14	34527.18	9:35:27.18	1808.17	34112.270	1.24	1849.62	395.00	1534.50	1.24	5:35:27.18	194.48	5.614
7083.27	34527.31	9:35:27.31	1804.94	34075.132	1.22	1848.77	392.31	1489.85	1.22	5:35:27.31	194.46	5.608
7083.39	34527.43	9:35:27.43	1802.29	34038.014	1.2	1847.98	395.00	1327.50	1.20	5:35:27.43	194.43	5.602
7083.52	34527.56	9:35:27.56	1800.03	34000.912	1.18	1847.13	392.31	1043.54	1.18	5:35:27.56	194.40	5.596
7083.64	34527.68	9:35:27.68	1798.74	33963.841	1.16	1846.34	395.00	642.50	1.16	5:35:27.68	194.37	5.590
7083.77	34527.81	9:35:27.81	1798.48	33926.786	1.13	1845.48	396.92	120.46	1.13	5:35:27.81	194.33	5.584
7083.89	34527.93	9:35:27.93	1799.52	33889.755	1.11	1844.69	395.00	-520.50	1.11	5:35:27.93	194.29	5.578
7084.02	34528.06	9:35:28.06	1802.27	33852.740	1.08	1843.84	392.31	-1267.85	1.08	5:35:28.06	194.25	5.571
7084.14	34528.18	9:35:28.18	1806.16	33815.758	1.05	1843.04	400.00	-1946.00	1.05	5:35:28.18	194.19	5.565
7084.27	34528.31	9:35:28.31	1811.41	33778.786	1.01	1842.18	396.92	-2422.62	1.01	5:35:28.31	194.13	5.559
7084.39	34528.43	9:35:28.43	1816.81	33741.839	0.98	1841.38	400.00	-2699.00	0.98	5:35:28.43	194.07	5.553
7084.52	34528.56	9:35:28.56	1822.81	33704.916	0.94	1840.50	406.15	-2770.62	0.94	5:35:28.56	194.00	5.547
7084.64	34528.68	9:35:28.68	1828.09	33668.012	0.9	1839.69	405.00	-2642.00	0.90	5:35:28.68	193.93	5.541
7084.77	34528.81	9:35:28.81	1833.10	33631.134	0.85	1838.79	415.38	-2308.62	0.85	5:35:28.81	193.85	5.535
7084.89	34528.93	9:35:28.93	1836.65	33594.273	0.81	1837.95	420.00	-1775.00	0.81	5:35:28.93	193.78	5.529
7085.02	34529.06	9:35:29.06	1838.92	33557.432	0.76	1837.02	429.23	-1050.46	0.76	5:35:29.06	193.70	5.523
7085.14	34529.18	9:35:29.18	1839.56	33520.613	0.71	1836.14	440.00	-321.00	0.71	5:35:29.18	193.62	5.517
7085.27	34529.31	9:35:29.31	1838.96	33483.817	0.66	1835.18	443.08	276.46	0.66	5:35:29.31	193.55	5.511
7085.39	34529.43	9:35:29.43	1837.48	33447.041	0.61	1834.27	455.00	744.00	0.61	5:35:29.43	193.48	5.505
7085.52	34529.56	9:35:29.56	1835.14	33410.289	0.56	1833.26	466.15	1076.31	0.56	5:35:29.56	193.41	5.499
7085.64	34529.68	9:35:29.68	1832.59	33373.552	0.51	1832.31	475.00	1277.00	0.51	5:35:29.68	193.35	5.493
7085.77	34529.81	9:35:29.81	1829.68	33336.834	0.45	1831.25	489.23	1344.00	0.45	5:35:29.81	193.29	5.487
7085.89	34529.93	9:35:29.93	1827.12	33300.135	0.4	1830.26	495.00	1279.50	0.40	5:35:29.93	193.24	5.481
7086.02	34530.06	9:35:30.06	1824.76	33263.455	0.35	1829.16	507.69	1087.85	0.35	5:35:30.06	193.19	5.474
7086.14	34530.18	9:35:30.18	1823.02	33226.789	0.3	1828.13	515.00	873.50	0.30	5:35:30.18	193.15	5.468
7086.27	34530.31	9:35:30.31	1821.47	33190.141	0.24	1826.99	526.15	711.69	0.24	5:35:30.31	193.12	5.462
7086.39	34530.43	9:35:30.43	1820.27	33153.512	0.19	1825.93	530.00	602.00	0.19	5:35:30.43	193.09	5.456
7086.52	34530.56	9:35:30.56	1819.09	33116.895	0.14	1824.76	540.00	546.46	0.14	5:35:30.56	193.06	5.450
7086.64	34530.68	9:35:30.68	1818.00	33080.298	0.09	1823.67	545.00	543.50	0.09	5:35:30.68	193.04	5.444
7086.77	34530.81	9:35:30.81	1816.71	33043.725	0.04	1822.48	549.23	594.46	0.04	5:35:30.81	193.03	5.438
7086.89	34530.93	9:35:30.93	1815.31	33007.158	0	1821.37	555.00	698.00	0.00	5:35:30.93	193.01	5.432
7087.02	34531.06	9:35:31.06	1813.47	32970.623	-0.06	1820.16	558.46	851.08	0.06	5:35:31.06	192.99	5.426
7087.14	34531.18	9:35:31.18	1811.47	32934.097	-0.11	1819.05	555.00	998.00	0.11	5:35:31.18	192.98	5.420
7087.27	34531.31	9:35:31.31	1809.10	32897.593	-0.16	1817.83	563.08	1097.08	0.16	5:35:31.31	192.96	5.414
7087.39	34531.43	9:35:31.43	1806.80	32861.112	-0.21	1816.71	560.00	1148.50	0.21	5:35:31.43	192.93	5.408
7087.52	34531.56	9:35:31.56	1804.31	32824.651	-0.27	1815.50	558.46	1151.08	0.27	5:35:31.56	192.90	5.402
7087.64	34531.68	9:35:31.68	1802.09	32788.213	-0.32	1814.38	560.00	1106.50	0.32	5:35:31.68	192.87	5.396
7087.77	34531.81	9:35:31.81	1799.90	32751.794	-0.38	1813.17	558.46	1013.08	0.38	5:35:31.81	192.83	5.390
7087.89	34531.93	9:35:31.93	1798.16	32715.402	-0.44	1812.05	560.00	871.50	0.44	5:35:31.93	192.79	5.384
7088.02	34532.06	9:35:32.06	1796.67	32679.028	-0.51	1810.84	558.46	686.31	0.51	5:35:32.06	192.74	5.378
7088.14	34532.18	9:35:32.18	1795.64	32642.681	-0.57	1809.71	565.00	516.00	0.57	5:35:32.18	192.68	5.372

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FedEx Flight 1478 Flight Data

FDR Time (sec)	Total Seconds	Coordinated Universal Time (hh:mm:ss)	Radio Altitude (ft)	Distance To Runway (ft)	Roll Angle (deg)	Pressure Altitude (ft)	Vertical Speed (fpm)	Terrain Clearance Rate (fpm)	Absolute Value Roll Angle (deg)	Eastern Daylight Time (hh:mm:ss)	Computed Airspeed (kt)	Distance to Runway (nm)
7088.27	34532.31	9:35:32.31	1794.76	32606.356	-0.64	1808.49	563.08	404.31	0.64	5:35:32.31	192.62	5.366
7088.39	34532.43	9:35:32.43	1794.06	32570.050	-0.71	1807.35	570.00	351.50	0.71	5:35:32.43	192.56	5.360
7088.52	34532.56	9:35:32.56	1793.28	32533.771	-0.79	1806.10	576.92	358.62	0.79	5:35:32.56	192.49	5.354
7088.64	34532.68	9:35:32.68	1792.43	32497.508	-0.87	1804.94	580.00	424.00	0.87	5:35:32.68	192.42	5.348
7088.77	34532.81	9:35:32.81	1791.24	32461.267	-0.96	1803.66	590.77	549.69	0.96	5:35:32.81	192.35	5.342
7088.89	34532.93	9:35:32.93	1789.77	32425.047	-1.04	1802.45	605.00	734.00	1.04	5:35:32.93	192.29	5.336
7089.02	34533.06	9:35:33.06	1787.67	32388.844	-1.13	1801.13	609.23	972.46	1.13	5:35:33.06	192.22	5.331
7089.14	34533.18	9:35:33.18	1785.30	32352.663	-1.22	1799.87	630.00	1184.50	1.22	5:35:33.18	192.16	5.325
7089.27	34533.31	9:35:33.31	1782.45	32316.494	-1.32	1798.48	641.54	1312.15	1.32	5:35:33.31	192.09	5.319
7089.39	34533.43	9:35:33.43	1779.74	32280.349	-1.41	1797.16	660.00	1355.00	1.41	5:35:33.43	192.04	5.313
7089.52	34533.56	9:35:33.56	1776.90	32244.215	-1.51	1795.70	673.85	1311.23	1.51	5:35:33.56	191.98	5.307
7089.64	34533.68	9:35:33.68	1774.54	32208.102	-1.6	1794.32	690.00	1183.50	1.60	5:35:33.68	191.92	5.301
7089.77	34533.81	9:35:33.81	1772.44	32172.006	-1.69	1792.78	710.77	968.31	1.69	5:35:33.81	191.87	5.295
7089.89	34533.93	9:35:33.93	1771.10	32135.925	-1.78	1791.33	725.00	669.50	1.78	5:35:33.93	191.81	5.289
7090.02	34534.06	9:35:34.06	1770.47	32099.865	-1.87	1789.72	743.08	289.85	1.87	5:35:34.06	191.74	5.283
7090.14	34534.18	9:35:34.18	1770.64	32063.810	-1.95	1788.21	755.00	-83.50	1.95	5:35:34.18	191.68	5.277
7090.27	34534.31	9:35:34.31	1771.48	32027.768	-2.04	1786.54	770.77	-387.69	2.04	5:35:34.31	191.61	5.271
7090.39	34534.43	9:35:34.43	1772.72	31991.744	-2.11	1784.97	785.00	-623.00	2.11	5:35:34.43	191.53	5.265
7090.52	34534.56	9:35:34.56	1774.43	31955.735	-2.19	1783.26	789.23	-788.31	2.19	5:35:34.56	191.43	5.259
7090.64	34534.68	9:35:34.68	1776.20	31919.744	-2.25	1781.66	800.00	-884.00	2.25	5:35:34.68	191.34	5.253
7090.77	34534.81	9:35:34.81	1778.17	31883.778	-2.31	1779.92	803.08	-909.69	2.31	5:35:34.81	191.22	5.247
7090.89	34534.93	9:35:34.93	1779.90	31847.829	-2.36	1778.32	800.00	-866.50	2.36	5:35:34.93	191.10	5.241
7091.02	34535.06	9:35:35.06	1781.54	31811.911	-2.41	1776.58	803.08	-756.46	2.41	5:35:35.06	190.96	5.236
7091.14	34535.18	9:35:35.18	1782.81	31776.013	-2.45	1774.99	795.00	-634.50	2.45	5:35:35.18	190.83	5.230
7091.27	34535.31	9:35:35.31	1783.98	31740.145	-2.48	1773.29	784.62	-539.54	2.48	5:35:35.31	190.67	5.224
7091.39	34535.43	9:35:35.43	1784.92	31704.308	-2.51	1771.74	775.00	-471.50	2.51	5:35:35.43	190.51	5.218
7091.52	34535.56	9:35:35.56	1785.86	31668.495	-2.53	1770.10	756.92	-432.00	2.53	5:35:35.56	190.34	5.212
7091.64	34535.68	9:35:35.68	1786.70	31632.714	-2.54	1768.62	740.00	-419.00	2.54	5:35:35.68	190.18	5.206
7091.77	34535.81	9:35:35.81	1787.64	31596.963	-2.54	1767.06	720.00	-434.77	2.54	5:35:35.81	190.00	5.200
7091.89	34535.93	9:35:35.93	1788.60	31561.236	-2.54	1765.68	690.00	-477.50	2.54	5:35:35.93	189.83	5.194
7092.02	34536.06	9:35:36.06	1789.78	31525.537	-2.54	1764.23	669.23	-545.54	2.54	5:35:36.06	189.65	5.188
7092.14	34536.18	9:35:36.18	1790.98	31489.865	-2.53	1762.95	640.00	-600.50	2.53	5:35:36.18	189.49	5.183
7092.27	34536.31	9:35:36.31	1792.31	31454.218	-2.51	1761.62	613.85	-615.23	2.51	5:35:36.31	189.32	5.177
7092.39	34536.43	9:35:36.43	1793.49	31418.591	-2.5	1760.45	585.00	-589.50	2.50	5:35:36.43	189.16	5.171
7092.52	34536.56	9:35:36.56	1794.62	31382.992	-2.47	1759.26	549.23	-521.54	2.47	5:35:36.56	189.00	5.165
7092.64	34536.68	9:35:36.68	1795.45	31347.405	-2.45	1758.21	525.00	-414.50	2.45	5:35:36.68	188.85	5.159
7092.77	34536.81	9:35:36.81	1796.02	31311.845	-2.42	1757.15	489.23	-264.92	2.42	5:35:36.81	188.70	5.153
7092.89	34536.93	9:35:36.93	1796.17	31276.298	-2.4	1756.22	465.00	-75.00	2.40	5:35:36.93	188.56	5.147
7093.02	34537.06	9:35:37.06	1795.84	31240.768	-2.37	1755.28	433.85	151.85	2.37	5:35:37.06	188.41	5.142
7093.14	34537.18	9:35:37.18	1795.11	31205.258	-2.34	1754.47	405.00	368.00	2.34	5:35:37.18	188.27	5.136
7093.27	34537.31	9:35:37.31	1793.95	31169.764	-2.31	1753.64	383.08	535.38	2.31	5:35:37.31	188.12	5.130
7093.39	34537.43	9:35:37.43	1792.64	31134.287	-2.28	1752.92	360.00	656.00	2.28	5:35:37.43	187.98	5.124
7093.52	34537.56	9:35:37.56	1791.06	31098.821	-2.25	1752.19	336.92	726.46	2.25	5:35:37.56	187.82	5.118
7093.64	34537.68	9:35:37.68	1789.56	31063.380	-2.23	1751.55	320.00	750.50	2.23	5:35:37.68	187.66	5.112
7093.77	34537.81	9:35:37.81	1787.99	31027.957	-2.2	1750.90	300.00	724.15	2.20	5:35:37.81	187.49	5.107
7093.89	34537.93	9:35:37.93	1786.69	30992.547	-2.18	1750.33	285.00	651.50	2.18	5:35:37.93	187.33	5.101
7094.02	34538.06	9:35:38.06	1785.54	30957.162	-2.16	1749.74	272.31	532.15	2.16	5:35:38.06	187.14	5.095
7094.14	34538.18	9:35:38.18	1784.71	30921.798	-2.15	1749.22	260.00	413.00	2.15	5:35:38.18	186.97	5.089
7094.27	34538.31	9:35:38.31	1784.00	30886.453	-2.13	1748.68	249.23	326.31	2.13	5:35:38.31	186.77	5.083
7094.39	34538.43	9:35:38.43	1783.46	30851.134	-2.12	1748.19	245.00	272.50	2.12	5:35:38.43	186.59	5.077
7094.52	34538.56	9:35:38.56	1782.91	30815.837	-2.1	1747.68	235.38	251.08	2.10	5:35:38.56	186.39	5.072
7094.64	34538.68	9:35:38.68	1782.39	30780.558	-2.1	1747.22	230.00	263.00	2.10	5:35:38.68	186.20	5.066
7094.77	34538.81	9:35:38.81	1781.72	30745.306	-2.09	1746.73	226.15	307.85	2.09	5:35:38.81	186.00	5.060
7094.89	34538.93	9:35:38.93	1780.95	30710.071	-2.08	1746.28	225.00	385.50	2.08	5:35:38.93	185.82	5.054
7095.02	34539.06	9:35:39.06	1779.88	30674.857	-2.08	1745.80	221.54	493.85	2.08	5:35:39.06	185.63	5.048
7095.14	34539.18	9:35:39.18	1778.68	30639.659	-2.07	1745.37	215.00	599.00	2.07	5:35:39.18	185.46	5.043
7095.27	34539.31	9:35:39.31	1777.22	30604.479	-2.07	1744.90	216.92	676.62	2.07	5:35:39.31	185.28	5.037
7095.39	34539.43	9:35:39.43	1775.76	30569.314	-2.06	1744.48	210.00	727.00	2.06	5:35:39.43	185.12	5.031
7095.52	34539.56	9:35:39.56	1774.14	30534.167	-2.06	1744.03	207.69	747.69	2.06	5:35:39.56	184.96	5.025
7095.64	34539.68	9:35:39.68	1772.66	30499.032	-2.05	1743.61	210.00	741.50	2.05	5:35:39.68	184.81	5.020
7095.77	34539.81	9:35:39.81	1771.13	30463.908	-2.05	1743.17	203.08	707.08	2.05	5:35:39.81	184.66	5.014
7095.89	34539.93	9:35:39.93	1769.84	30428.797	-2.04	1742.77	200.00	644.00	2.04	5:35:39.93	184.53	5.008
7096.02	34540.06	9:35:40.06	1768.63	30393.700	-2.03	1742.35	193.85	556.15	2.03	5:35:40.06	184.39	5.002
7096.14	34540.18	9:35:40.18	1767.67	30358.611	-2.02	1741.97	190.00	480.00	2.02	5:35:40.18	184.26	4.996
7096.27	34540.31	9:35:40.31	1766.71	30323.535	-2	1741.57	184.62	443.08	2.00	5:35:40.31	184.12	4.991

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FedEx Flight 1478 Flight Data

FDR Time (sec)	Total Seconds	Coordinated Universal Time (hh:mm:ss)	Radio Altitude (ft)	Distance To Runway (ft)	Roll Angle (deg)	Pressure Altitude (ft)	Vertical Speed (fpm)	Terrain Clearance Rate (fpm)	Absolute Value Roll Angle (deg)	Eastern Daylight Time (hh:mm:ss)	Computed Airspeed (kt)	Distance to Runway (nm)
7096.39	34540.43	9:35:40.43	1765.82	30288.466	-1.99	1741.20	185.00	445.50	1.99	5:35:40.43	184.00	4.985
7096.52	34540.56	9:35:40.56	1764.76	30253.415	-1.96	1740.82	175.38	488.77	1.96	5:35:40.56	183.86	4.979
7096.64	34540.68	9:35:40.68	1763.62	30218.376	-1.94	1740.48	170.00	570.50	1.94	5:35:40.68	183.74	4.973
7096.77	34540.81	9:35:40.81	1762.12	30183.351	-1.91	1740.13	161.54	693.23	1.91	5:35:40.81	183.61	4.968
7096.89	34540.93	9:35:40.93	1760.41	30148.339	-1.88	1739.80	165.00	854.50	1.88	5:35:40.93	183.48	4.962
7097.02	34541.06	9:35:41.06	1758.13	30113.343	-1.84	1739.46	156.92	1052.77	1.84	5:35:41.06	183.35	4.956
7097.14	34541.18	9:35:41.18	1755.66	30078.355	-1.8	1739.16	150.00	1236.00	1.80	5:35:41.18	183.23	4.950
7097.27	34541.31	9:35:41.31	1752.70	30043.390	-1.75	1738.83	152.31	1365.69	1.75	5:35:41.31	183.11	4.945
7097.39	34541.43	9:35:41.43	1749.81	30008.428	-1.7	1738.53	150.00	1443.00	1.70	5:35:41.43	183.01	4.939
7097.52	34541.56	9:35:41.56	1746.64	29973.479	-1.65	1738.21	147.69	1466.31	1.65	5:35:41.56	182.91	4.933
7097.64	34541.68	9:35:41.68	1743.77	29938.540	-1.59	1737.91	150.00	1436.00	1.59	5:35:41.68	182.82	4.927
7097.77	34541.81	9:35:41.81	1740.83	29903.611	-1.53	1737.58	152.31	1352.77	1.53	5:35:41.81	182.75	4.922
7097.89	34541.93	9:35:41.93	1738.40	29868.684	-1.47	1737.26	160.00	1216.00	1.47	5:35:41.93	182.69	4.916
7098.02	34542.06	9:35:42.06	1736.17	29833.755	-1.4	1736.90	166.15	1028.31	1.40	5:35:42.06	182.65	4.910
7098.14	34542.18	9:35:42.18	1734.51	29798.826	-1.33	1736.56	170.00	830.50	1.33	5:35:42.18	182.63	4.904
7098.27	34542.31	9:35:42.31	1733.11	29763.895	-1.26	1736.16	184.62	649.85	1.26	5:35:42.31	182.62	4.899
7098.39	34542.43	9:35:42.43	1732.13	29728.958	-1.19	1735.77	195.00	488.00	1.19	5:35:42.43	182.62	4.893
7098.52	34542.56	9:35:42.56	1731.38	29694.010	-1.11	1735.32	207.69	346.15	1.11	5:35:42.56	182.64	4.887
7098.64	34542.68	9:35:42.68	1730.94	29659.056	-1.05	1734.87	225.00	221.50	1.05	5:35:42.68	182.67	4.881
7098.77	34542.81	9:35:42.81	1730.68	29624.089	-0.97	1734.34	244.62	116.31	0.97	5:35:42.81	182.70	4.876
7098.89	34542.93	9:35:42.93	1730.62	29589.112	-0.9	1733.82	260.00	30.00	0.90	5:35:42.93	182.74	4.870
7099.02	34543.06	9:35:43.06	1730.71	29554.118	-0.83	1733.20	286.15	-37.85	0.83	5:35:43.06	182.78	4.864
7099.14	34543.18	9:35:43.18	1730.87	29519.122	-0.76	1732.59	305.00	-82.00	0.76	5:35:43.18	182.81	4.858
7099.27	34543.31	9:35:43.31	1731.09	29484.112	-0.69	1731.88	327.69	-101.08	0.69	5:35:43.31	182.84	4.852
7099.39	34543.43	9:35:43.43	1731.28	29449.096	-0.63	1731.16	360.00	-95.00	0.63	5:35:43.43	182.86	4.847
7099.52	34543.56	9:35:43.56	1731.41	29414.076	-0.57	1730.34	378.46	-61.85	0.57	5:35:43.56	182.87	4.841
7099.64	34543.68	9:35:43.68	1731.42	29379.051	-0.52	1729.52	410.00	-4.50	0.52	5:35:43.68	182.86	4.835
7099.77	34543.81	9:35:43.81	1731.25	29344.034	-0.46	1728.57	438.46	79.85	0.46	5:35:43.81	182.84	4.829
7099.89	34543.93	9:35:43.93	1730.87	29309.016	-0.42	1727.64	465.00	189.00	0.42	5:35:43.93	182.81	4.824
7100.02	34544.06	9:35:44.06	1730.17	29274.007	-0.37	1726.57	493.85	322.15	0.37	5:35:44.06	182.77	4.818
7100.14	34544.18	9:35:44.18	1729.27	29239.030	-0.33	1725.53	520.00	453.50	0.33	5:35:44.18	182.71	4.812
7100.27	34544.31	9:35:44.31	1728.05	29204.070	-0.29	1724.34	549.23	563.08	0.29	5:35:44.31	182.64	4.806
7100.39	34544.43	9:35:44.43	1726.74	29169.136	-0.26	1723.19	575.00	651.50	0.26	5:35:44.43	182.57	4.801
7100.52	34544.56	9:35:44.56	1725.19	29134.231	-0.23	1721.89	600.00	718.15	0.23	5:35:44.56	182.49	4.795
7100.64	34544.68	9:35:44.68	1723.66	29099.350	-0.21	1720.63	630.00	763.50	0.21	5:35:44.68	182.42	4.789
7100.77	34544.81	9:35:44.81	1721.96	29064.494	-0.19	1719.21	655.38	786.46	0.19	5:35:44.81	182.34	4.783
7100.89	34544.93	9:35:44.93	1720.38	29029.663	-0.17	1717.85	680.00	788.50	0.17	5:35:44.93	182.27	4.778
7101.02	34545.06	9:35:45.06	1718.71	28994.855	-0.15	1716.33	701.54	769.85	0.15	5:35:45.06	182.21	4.772
7101.14	34545.18	9:35:45.18	1717.23	28960.070	-0.14	1714.88	725.00	741.50	0.14	5:35:45.18	182.15	4.766
7101.27	34545.31	9:35:45.31	1715.69	28925.304	-0.13	1713.27	743.08	711.69	0.13	5:35:45.31	182.11	4.761
7101.39	34545.43	9:35:45.43	1714.32	28890.554	-0.12	1711.74	765.00	681.00	0.12	5:35:45.43	182.07	4.755
7101.52	34545.56	9:35:45.56	1712.92	28855.826	-0.11	1710.04	784.62	649.38	0.11	5:35:45.56	182.04	4.749
7101.64	34545.68	9:35:45.68	1711.68	28821.110	-0.11	1708.44	800.00	616.50	0.11	5:35:45.68	182.02	4.743
7101.77	34545.81	9:35:45.81	1710.42	28786.417	-0.11	1706.67	816.92	582.46	0.11	5:35:45.81	182.00	4.738
7101.89	34545.93	9:35:45.93	1709.33	28751.733	-0.11	1705.00	835.00	548.00	0.11	5:35:45.93	181.99	4.732
7102.02	34546.06	9:35:46.06	1708.22	28717.062	-0.11	1703.16	849.23	512.31	0.11	5:35:46.06	181.98	4.726
7102.14	34546.18	9:35:46.18	1707.24	28682.412	-0.11	1701.44	860.00	488.00	0.11	5:35:46.18	181.97	4.721
7102.27	34546.31	9:35:46.31	1706.20	28647.773	-0.12	1699.54	876.92	480.92	0.12	5:35:46.31	181.95	4.715
7102.39	34546.43	9:35:46.43	1705.21	28613.152	-0.13	1697.76	890.00	492.50	0.13	5:35:46.43	181.93	4.709
7102.52	34546.56	9:35:46.56	1704.08	28578.552	-0.14	1695.81	900.00	522.46	0.14	5:35:46.56	181.91	4.703
7102.64	34546.68	9:35:46.68	1702.94	28543.970	-0.15	1693.99	910.00	570.50	0.15	5:35:46.68	181.87	4.698
7102.77	34546.81	9:35:46.81	1701.56	28509.417	-0.17	1691.99	923.08	636.92	0.17	5:35:46.81	181.83	4.692
7102.89	34546.93	9:35:46.93	1700.12	28474.882	-0.2	1690.13	930.00	721.50	0.20	5:35:46.93	181.78	4.686
7103.02	34547.06	9:35:47.06	1698.33	28440.376	-0.23	1688.09	941.54	823.85	0.23	5:35:47.06	181.73	4.681
7103.14	34547.18	9:35:47.18	1696.45	28405.899	-0.26	1686.19	950.00	940.50	0.26	5:35:47.18	181.67	4.675
7103.27	34547.31	9:35:47.31	1694.14	28371.446	-0.3	1684.12	955.38	1067.54	0.30	5:35:47.31	181.60	4.669
7103.39	34547.43	9:35:47.43	1691.73	28337.021	-0.34	1682.18	970.00	1204.50	0.34	5:35:47.43	181.53	4.664
7103.52	34547.56	9:35:47.56	1688.80	28302.626	-0.39	1680.07	973.85	1352.31	0.39	5:35:47.56	181.46	4.658
7103.64	34547.68	9:35:47.68	1685.78	28268.261	-0.44	1678.11	980.00	1510.50	0.44	5:35:47.68	181.40	4.652
7103.77	34547.81	9:35:47.81	1682.14	28233.924	-0.51	1675.98	983.08	1679.08	0.51	5:35:47.81	181.33	4.647
7103.89	34547.93	9:35:47.93	1678.42	28199.612	-0.58	1673.99	995.00	1858.00	0.58	5:35:47.93	181.28	4.641
7104.02	34548.06	9:35:48.06	1673.99	28165.328	-0.66	1671.84	992.31	2045.08	0.66	5:35:48.06	181.22	4.635
7104.14	34548.18	9:35:48.18	1669.57	28131.068	-0.74	1669.84	1000.00	2213.00	0.74	5:35:48.18	181.18	4.630
7104.27	34548.31	9:35:48.31	1664.50	28096.831	-0.83	1667.67	1001.54	2339.08	0.83	5:35:48.31	181.13	4.624
7104.39	34548.43	9:35:48.43	1659.65	28062.612	-0.92	1665.67	1000.00	2425.00	0.92	5:35:48.43	181.10	4.619

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FedEx Flight 1478 Flight Data

FDR Time (sec)	Total Seconds	Coordinated Universal Time (hh:mm:ss)	Radio Altitude (ft)	Distance To Runway (ft)	Roll Angle (deg)	Pressure Altitude (ft)	Vertical Speed (fpm)	Terrain Clearance Rate (fpm)	Absolute Value Roll Angle (deg)	Eastern Daylight Time (hh:mm:ss)	Computed Airspeed (kt)	Distance to Runway (nm)
7104.52	34548.56	9:35:48.56	1654.30	28028.417	-1.03	1663.50	1001.54	2469.23	1.03	5:35:48.56	181.06	4.613
7104.64	34548.68	9:35:48.68	1649.35	27994.239	-1.14	1661.51	995.00	2472.50	1.14	5:35:48.68	181.04	4.607
7104.77	34548.81	9:35:48.81	1644.08	27960.081	-1.25	1659.35	996.92	2434.15	1.25	5:35:48.81	181.01	4.602
7104.89	34548.93	9:35:48.93	1639.37	27925.935	-1.37	1657.37	990.00	2355.50	1.37	5:35:48.93	180.99	4.596
7105.02	34549.06	9:35:49.06	1634.53	27891.813	-1.49	1655.24	983.08	2235.69	1.49	5:35:49.06	180.96	4.590
7105.14	34549.18	9:35:49.18	1630.33	27857.705	-1.61	1653.29	975.00	2095.50	1.61	5:35:49.18	180.94	4.585
7105.27	34549.31	9:35:49.31	1626.12	27823.617	-1.74	1651.19	969.23	1945.38	1.74	5:35:49.31	180.91	4.579
7105.39	34549.43	9:35:49.43	1622.55	27789.542	-1.87	1649.28	955.00	1787.00	1.87	5:35:49.43	180.89	4.574
7105.52	34549.56	9:35:49.56	1619.04	27755.485	-2	1647.22	950.77	1620.00	2.00	5:35:49.56	180.85	4.568
7105.64	34549.68	9:35:49.68	1616.15	27721.450	-2.12	1645.35	935.00	1444.50	2.12	5:35:49.68	180.82	4.562
7105.77	34549.81	9:35:49.81	1613.41	27687.434	-2.25	1643.35	923.08	1260.92	2.25	5:35:49.81	180.78	4.557
7105.89	34549.93	9:35:49.93	1611.28	27653.436	-2.37	1641.54	905.00	1068.50	2.37	5:35:49.93	180.75	4.551
7106.02	34550.06	9:35:50.06	1609.40	27619.454	-2.5	1639.59	900.00	868.62	2.50	5:35:50.06	180.71	4.546
7106.14	34550.18	9:35:50.18	1608.03	27585.489	-2.62	1637.83	880.00	683.00	2.62	5:35:50.18	180.68	4.540
7106.27	34550.31	9:35:50.31	1606.89	27551.544	-2.74	1635.95	867.69	524.77	2.74	5:35:50.31	180.64	4.534
7106.39	34550.43	9:35:50.43	1606.10	27517.618	-2.84	1634.23	860.00	396.00	2.84	5:35:50.43	180.61	4.529
7106.52	34550.56	9:35:50.56	1605.46	27483.705	-2.95	1632.41	840.00	295.85	2.95	5:35:50.56	180.59	4.523
7106.64	34550.68	9:35:50.68	1605.01	27449.805	-3.05	1630.75	830.00	224.00	3.05	5:35:50.68	180.56	4.518
7106.77	34550.81	9:35:50.81	1604.62	27415.917	-3.15	1628.97	821.54	181.38	3.15	5:35:50.81	180.54	4.512
7106.89	34550.93	9:35:50.93	1604.28	27382.043	-3.24	1627.35	810.00	167.00	3.24	5:35:50.93	180.53	4.507
7107.02	34551.06	9:35:51.06	1603.89	27348.182	-3.33	1625.62	798.46	180.92	3.33	5:35:51.06	180.51	4.501
7107.14	34551.18	9:35:51.18	1603.46	27314.332	-3.4	1624.03	795.00	217.00	3.40	5:35:51.18	180.49	4.495
7107.27	34551.31	9:35:51.31	1602.88	27280.485	-3.48	1622.33	784.62	268.62	3.48	5:35:51.31	180.48	4.490
7107.39	34551.43	9:35:51.43	1602.20	27246.651	-3.55	1620.77	780.00	338.00	3.55	5:35:51.43	180.46	4.484
7107.52	34551.56	9:35:51.56	1601.28	27212.826	-3.62	1619.08	780.00	422.77	3.62	5:35:51.56	180.44	4.479
7107.64	34551.68	9:35:51.68	1600.23	27179.008	-3.68	1617.53	775.00	525.00	3.68	5:35:51.68	180.41	4.473
7107.77	34551.81	9:35:51.81	1598.84	27145.200	-3.74	1615.86	770.77	643.85	3.74	5:35:51.81	180.37	4.468
7107.89	34551.93	9:35:51.93	1597.28	27111.394	-3.79	1614.31	775.00	778.00	3.79	5:35:51.93	180.33	4.462
7108.02	34552.06	9:35:52.06	1595.28	27077.605	-3.85	1612.63	775.38	926.77	3.85	5:35:52.06	180.27	4.456
7108.14	34552.18	9:35:52.18	1593.19	27043.827	-3.89	1611.08	775.00	1042.50	3.89	5:35:52.18	180.21	4.451
7108.27	34552.31	9:35:52.31	1590.82	27010.066	-3.94	1609.39	780.00	1092.46	3.94	5:35:52.31	180.13	4.445
7108.39	34552.43	9:35:52.43	1588.67	26976.316	-3.99	1607.82	785.00	1075.50	3.99	5:35:52.43	180.05	4.440
7108.52	34552.56	9:35:52.56	1586.52	26942.578	-4.03	1606.12	784.62	991.85	4.03	5:35:52.56	179.94	4.434
7108.64	34552.68	9:35:52.68	1584.84	26908.864	-4.07	1604.53	795.00	841.50	4.07	5:35:52.68	179.84	4.429
7108.77	34552.81	9:35:52.81	1583.49	26875.162	-4.11	1602.80	798.46	624.92	4.11	5:35:52.81	179.71	4.423
7108.89	34552.93	9:35:52.93	1582.80	26841.479	-4.15	1601.20	800.00	341.00	4.15	5:35:52.93	179.59	4.418
7109.02	34553.06	9:35:53.06	1582.81	26807.816	-4.19	1599.44	812.31	-3.23	4.19	5:35:53.06	179.46	4.412
7109.14	34553.18	9:35:53.18	1583.48	26774.177	-4.22	1597.82	810.00	-333.00	4.22	5:35:53.18	179.32	4.406
7109.27	34553.31	9:35:53.31	1584.75	26740.552	-4.26	1596.05	816.92	-588.46	4.26	5:35:53.31	179.18	4.401
7109.39	34553.43	9:35:53.43	1586.30	26706.944	-4.29	1594.40	825.00	-772.00	4.29	5:35:53.43	179.05	4.395
7109.52	34553.56	9:35:53.56	1588.20	26673.357	-4.32	1592.61	826.15	-880.62	4.32	5:35:53.56	178.90	4.390
7109.64	34553.68	9:35:53.68	1590.04	26639.787	-4.35	1590.96	825.00	-917.00	4.35	5:35:53.68	178.77	4.384
7109.77	34553.81	9:35:53.81	1591.94	26606.232	-4.37	1589.15	835.38	-878.31	4.37	5:35:53.81	178.63	4.379
7109.89	34553.93	9:35:53.93	1593.48	26572.688	-4.4	1587.48	835.00	-768.00	4.40	5:35:53.93	178.51	4.373
7110.02	34554.06	9:35:54.06	1594.74	26539.159	-4.42	1585.67	835.38	-583.38	4.42	5:35:54.06	178.39	4.368
7110.14	34554.18	9:35:54.18	1595.44	26505.640	-4.43	1584.00	835.00	-350.50	4.43	5:35:54.18	178.28	4.362
7110.27	34554.31	9:35:54.31	1595.62	26472.135	-4.45	1582.18	840.00	-81.69	4.45	5:35:54.31	178.17	4.357
7110.39	34554.43	9:35:54.43	1595.18	26438.636	-4.46	1580.50	840.00	219.50	4.46	5:35:54.43	178.07	4.351
7110.52	34554.56	9:35:54.56	1593.98	26405.137	-4.47	1578.68	840.00	556.15	4.47	5:35:54.56	177.97	4.346
7110.64	34554.68	9:35:54.68	1592.12	26371.649	-4.47	1577.00	840.00	926.00	4.47	5:35:54.68	177.89	4.340
7110.77	34554.81	9:35:54.81	1589.24	26338.168	-4.47	1575.18	840.00	1329.69	4.47	5:35:54.81	177.81	4.335
7110.89	34554.93	9:35:54.93	1585.71	26304.685	-4.47	1573.50	840.00	1768.00	4.47	5:35:54.93	177.74	4.329
7111.02	34555.06	9:35:55.06	1580.87	26271.202	-4.46	1571.69	835.38	2232.92	4.46	5:35:55.06	177.67	4.324
7111.14	34555.18	9:35:55.18	1575.59	26237.718	-4.46	1570.01	840.00	2641.50	4.46	5:35:55.18	177.60	4.318
7111.27	34555.31	9:35:55.31	1569.24	26204.240	-4.45	1568.19	840.00	2927.54	4.45	5:35:55.31	177.54	4.313
7111.39	34555.43	9:35:55.43	1563.06	26170.759	-4.43	1566.51	840.00	3092.50	4.43	5:35:55.43	177.49	4.307
7111.52	34555.56	9:35:55.56	1556.27	26137.280	-4.42	1564.69	840.00	3134.31	4.42	5:35:55.56	177.43	4.302
7111.64	34555.68	9:35:55.68	1550.16	26103.797	-4.4	1563.01	840.00	3055.00	4.40	5:35:55.68	177.38	4.296
7111.77	34555.81	9:35:55.81	1543.98	26070.320	-4.38	1561.19	840.00	2852.31	4.38	5:35:55.81	177.32	4.291
7111.89	34555.93	9:35:55.93	1538.92	26036.836	-4.36	1559.50	845.00	2528.50	4.36	5:35:55.93	177.27	4.285
7112.02	34556.06	9:35:56.06	1534.39	26003.357	-4.34	1557.67	844.62	2090.31	4.34	5:35:56.06	177.21	4.280
7112.14	34556.18	9:35:56.18	1531.09	25969.875	-4.33	1555.97	850.00	1651.50	4.33	5:35:56.18	177.16	4.274
7112.27	34556.31	9:35:56.31	1528.27	25936.394	-4.31	1554.13	849.23	1298.31	4.31	5:35:56.31	177.10	4.269
7112.39	34556.43	9:35:56.43	1526.22	25902.911	-4.29	1552.42	855.00	1028.50	4.29	5:35:56.43	177.04	4.263
7112.52	34556.56	9:35:56.56	1524.38	25869.432	-4.27	1550.56	858.46	846.46	4.27	5:35:56.56	176.98	4.258

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FedEx Flight 1478 Flight Data

FDR Time (sec)	Total Seconds	Coordinated Universal Time (hh:mm:ss)	Radio Altitude (ft)	Distance To Runway (ft)	Roll Angle (deg)	Pressure Altitude (ft)	Vertical Speed (fpm)	Terrain Clearance Rate (fpm)	Absolute Value Roll Angle (deg)	Eastern Daylight Time (hh:mm:ss)	Computed Airspeed (kt)	Distance to Runway (nm)
7112.64	34556.68	9:35:56.68	1522.89	25835.952	-4.26	1548.84	860.00	748.50	4.26	5:35:56.68	176.92	4.252
7112.77	34556.81	9:35:56.81	1521.29	25802.472	-4.25	1546.96	867.69	737.54	4.25	5:35:56.81	176.85	4.247
7112.89	34556.93	9:35:56.93	1519.67	25768.995	-4.24	1545.22	870.00	811.00	4.24	5:35:56.93	176.79	4.241
7113.02	34557.06	9:35:57.06	1517.58	25735.519	-4.23	1543.32	876.92	965.08	4.23	5:35:57.06	176.72	4.236
7113.14	34557.18	9:35:57.18	1515.34	25702.045	-4.22	1541.55	885.00	1119.00	4.22	5:35:57.18	176.66	4.230
7113.27	34557.31	9:35:57.31	1512.71	25668.572	-4.22	1539.62	890.77	1214.31	4.22	5:35:57.31	176.59	4.225
7113.39	34557.43	9:35:57.43	1510.21	25635.096	-4.22	1537.83	895.00	1250.50	4.22	5:35:57.43	176.53	4.219
7113.52	34557.56	9:35:57.56	1507.55	25601.625	-4.22	1535.87	904.62	1225.85	4.22	5:35:57.56	176.46	4.213
7113.64	34557.68	9:35:57.68	1505.26	25568.153	-4.22	1534.05	910.00	1143.50	4.22	5:35:57.68	176.40	4.208
7113.77	34557.81	9:35:57.81	1503.10	25534.680	-4.23	1532.06	918.46	999.23	4.23	5:35:57.81	176.34	4.202
7113.89	34557.93	9:35:57.93	1501.50	25501.210	-4.23	1530.20	930.00	797.50	4.23	5:35:57.93	176.28	4.197
7114.02	34558.06	9:35:58.06	1500.33	25467.740	-4.24	1528.17	936.92	540.46	4.24	5:35:58.06	176.22	4.191
7114.14	34558.18	9:35:58.18	1499.69	25434.272	-4.25	1526.28	945.00	319.00	4.25	5:35:58.18	176.16	4.186
7114.27	34558.31	9:35:58.31	1499.27	25400.810	-4.26	1524.21	955.38	196.15	4.26	5:35:58.31	176.09	4.180
7114.39	34558.43	9:35:58.43	1498.92	25367.345	-4.27	1522.28	965.00	172.50	4.27	5:35:58.43	176.03	4.175
7114.52	34558.56	9:35:58.56	1498.38	25333.884	-4.28	1520.17	973.85	250.15	4.28	5:35:58.56	175.96	4.169
7114.64	34558.68	9:35:58.68	1497.53	25300.433	-4.28	1518.21	980.00	426.50	4.28	5:35:58.68	175.90	4.164
7114.77	34558.81	9:35:58.81	1496.00	25266.985	-4.29	1516.05	996.92	704.77	4.29	5:35:58.81	175.83	4.158
7114.89	34558.93	9:35:58.93	1493.84	25233.546	-4.3	1514.05	1000.00	1081.00	4.30	5:35:58.93	175.76	4.153
7115.02	34559.06	9:35:59.06	1490.48	25200.111	-4.3	1511.85	1015.38	1549.38	4.30	5:35:59.06	175.69	4.147
7115.14	34559.18	9:35:59.18	1486.50	25166.685	-4.31	1509.80	1025.00	1991.50	4.31	5:35:59.18	175.62	4.142
7115.27	34559.31	9:35:59.31	1481.48	25133.262	-4.31	1507.57	1029.23	2316.92	4.31	5:35:59.31	175.55	4.136
7115.39	34559.43	9:35:59.43	1476.42	25099.852	-4.31	1505.48	1045.00	2528.00	4.31	5:35:59.43	175.48	4.131
7115.52	34559.56	9:35:59.56	1470.75	25066.446	-4.31	1503.20	1052.31	2620.62	4.31	5:35:59.56	175.42	4.125
7115.64	34559.68	9:35:59.68	1465.55	25033.042	-4.3	1501.07	1065.00	2598.00	4.30	5:35:59.68	175.36	4.120
7115.77	34559.81	9:35:59.81	1460.22	24999.652	-4.3	1498.74	1075.38	2458.15	4.30	5:35:59.81	175.30	4.114
7115.89	34559.93	9:35:59.93	1455.82	24966.264	-4.29	1496.58	1080.00	2202.50	4.29	5:35:59.93	175.25	4.109
7116.02	34560.06	9:36:00.06	1451.84	24932.878	-4.28	1494.21	1093.85	1835.54	4.28	5:36:00.06	175.20	4.103
7116.14	34560.18	9:36:00.18	1448.96	24899.493	-4.27	1492.01	1100.00	1439.00	4.27	5:36:00.18	175.16	4.098
7116.27	34560.31	9:36:00.31	1446.64	24866.111	-4.26	1489.60	1112.31	1073.54	4.26	5:36:00.31	175.13	4.092
7116.39	34560.43	9:36:00.43	1445.16	24832.729	-4.25	1487.36	1120.00	737.50	4.25	5:36:00.43	175.10	4.087
7116.52	34560.56	9:36:00.56	1444.22	24799.350	-4.24	1484.91	1130.77	434.31	4.24	5:36:00.56	175.07	4.081
7116.64	34560.68	9:36:00.68	1443.90	24765.965	-4.22	1482.63	1140.00	161.00	4.22	5:36:00.68	175.05	4.076
7116.77	34560.81	9:36:00.81	1444.07	24732.582	-4.21	1480.14	1149.23	-79.85	4.21	5:36:00.81	175.03	4.070
7116.89	34560.93	9:36:00.93	1444.65	24699.194	-4.19	1477.82	1160.00	-290.50	4.19	5:36:00.93	175.01	4.065
7117.02	34561.06	9:36:01.06	1445.67	24665.802	-4.18	1475.29	1167.69	-467.08	4.18	5:36:01.06	174.98	4.059
7117.14	34561.18	9:36:01.18	1446.83	24632.416	-4.16	1472.93	1180.00	-581.00	4.16	5:36:01.18	174.96	4.054
7117.27	34561.31	9:36:01.31	1448.15	24599.021	-4.14	1470.36	1186.15	-609.23	4.14	5:36:01.31	174.93	4.048
7117.39	34561.43	9:36:01.43	1449.25	24565.633	-4.13	1467.96	1200.00	-552.50	4.13	5:36:01.43	174.91	4.043
7117.52	34561.56	9:36:01.56	1450.14	24532.241	-4.11	1465.34	1209.23	-408.92	4.11	5:36:01.56	174.87	4.037
7117.64	34561.68	9:36:01.68	1450.50	24498.855	-4.1	1462.89	1225.00	-181.50	4.10	5:36:01.68	174.84	4.032
7117.77	34561.81	9:36:01.81	1450.21	24465.465	-4.08	1460.23	1227.69	132.92	4.08	5:36:01.81	174.80	4.027
7117.89	34561.93	9:36:01.93	1449.15	24432.082	-4.06	1457.74	1245.00	532.50	4.06	5:36:01.93	174.76	4.021
7118.02	34562.06	9:36:02.06	1446.96	24398.695	-4.04	1455.02	1255.38	1011.69	4.04	5:36:02.06	174.72	4.016
7118.14	34562.18	9:36:02.18	1443.97	24365.315	-4.03	1452.49	1265.00	1491.00	4.03	5:36:02.18	174.68	4.010
7118.27	34562.31	9:36:02.31	1439.84	24331.936	-4.01	1449.72	1278.46	1910.31	4.01	5:36:02.31	174.63	4.005
7118.39	34562.43	9:36:02.43	1435.30	24298.558	-3.99	1447.14	1290.00	2269.50	3.99	5:36:02.43	174.60	3.999
7118.52	34562.56	9:36:02.56	1429.73	24265.183	-3.97	1444.32	1301.54	2568.00	3.97	5:36:02.56	174.56	3.994
7118.64	34562.68	9:36:02.68	1424.12	24231.801	-3.95	1441.69	1315.00	2806.50	3.95	5:36:02.68	174.53	3.988
7118.77	34562.81	9:36:02.81	1417.66	24198.421	-3.92	1438.83	1320.00	2983.38	3.92	5:36:02.81	174.51	3.983
7118.89	34562.93	9:36:02.93	1411.45	24165.042	-3.9	1436.16	1335.00	3101.00	3.90	5:36:02.93	174.49	3.977
7119.02	34563.06	9:36:03.06	1404.61	24131.653	-3.87	1433.25	1343.08	3157.38	3.87	5:36:03.06	174.47	3.972
7119.14	34563.18	9:36:03.18	1398.29	24098.262	-3.85	1430.54	1355.00	3160.50	3.85	5:36:03.18	174.47	3.966
7119.27	34563.31	9:36:03.31	1391.54	24064.862	-3.82	1427.60	1356.92	3114.46	3.82	5:36:03.31	174.46	3.961
7119.39	34563.43	9:36:03.43	1385.50	24031.462	-3.79	1424.86	1370.00	3020.00	3.79	5:36:03.43	174.46	3.955
7119.52	34563.56	9:36:03.56	1379.27	23998.050	-3.76	1421.88	1375.38	2875.38	3.76	5:36:03.56	174.46	3.950
7119.64	34563.68	9:36:03.68	1373.91	23964.633	-3.73	1419.12	1380.00	2683.50	3.73	5:36:03.68	174.47	3.944
7119.77	34563.81	9:36:03.81	1368.62	23931.211	-3.7	1416.12	1384.62	2441.08	3.70	5:36:03.81	174.47	3.939
7119.89	34563.93	9:36:03.93	1364.32	23897.782	-3.67	1413.34	1390.00	2150.50	3.67	5:36:03.93	174.48	3.933
7120.02	34564.06	9:36:04.06	1360.38	23864.342	-3.63	1410.33	1389.23	1816.62	3.63	5:36:04.06	174.49	3.928
7120.14	34564.18	9:36:04.18	1357.36	23830.902	-3.6	1407.54	1395.00	1508.50	3.60	5:36:04.18	174.49	3.922
7120.27	34564.31	9:36:04.31	1354.58	23797.450	-3.56	1404.52	1393.85	1282.62	3.56	5:36:04.31	174.50	3.917
7120.39	34564.43	9:36:04.43	1352.31	23764.004	-3.52	1401.73	1395.00	1135.00	3.52	5:36:04.43	174.50	3.911
7120.52	34564.56	9:36:04.56	1349.99	23730.546	-3.48	1398.71	1393.85	1070.77	3.48	5:36:04.56	174.51	3.906
7120.64	34564.68	9:36:04.68	1347.82	23697.087	-3.44	1395.92	1395.00	1086.00	3.44	5:36:04.68	174.51	3.900

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FedEx Flight 1478 Flight Data

FDR Time (sec)	Total Seconds	Coordinated Universal Time (hh:mm:ss)	Radio Altitude (ft)	Distance To Runway (ft)	Roll Angle (deg)	Pressure Altitude (ft)	Vertical Speed (fpm)	Terrain Clearance Rate (fpm)	Absolute Value Roll Angle (deg)	Eastern Daylight Time (hh:mm:ss)	Computed Airspeed (kt)	Distance to Runway (nm)
7120.77	34564.81	9:36:04.81	1345.26	23663.623	-3.4	1392.91	1389.23	1182.46	3.40	5:36:04.81	174.51	3.895
7120.89	34564.93	9:36:04.93	1342.54	23630.158	-3.36	1390.13	1390.00	1360.00	3.36	5:36:04.93	174.51	3.889
7121.02	34565.06	9:36:05.06	1339.05	23596.692	-3.32	1387.12	1389.23	1613.08	3.32	5:36:05.06	174.51	3.884
7121.14	34565.18	9:36:05.18	1335.31	23563.220	-3.28	1384.35	1385.00	1866.00	3.28	5:36:05.18	174.51	3.878
7121.27	34565.31	9:36:05.31	1330.84	23529.753	-3.24	1381.34	1389.23	2064.92	3.24	5:36:05.31	174.51	3.873
7121.39	34565.43	9:36:05.43	1326.42	23496.279	-3.2	1378.57	1385.00	2208.00	3.20	5:36:05.43	174.50	3.867
7121.52	34565.56	9:36:05.56	1321.45	23462.811	-3.16	1375.58	1380.00	2294.77	3.16	5:36:05.56	174.50	3.861
7121.64	34565.68	9:36:05.68	1316.80	23429.341	-3.12	1372.81	1385.00	2326.00	3.12	5:36:05.68	174.50	3.856
7121.77	34565.81	9:36:05.81	1311.81	23395.865	-3.08	1369.82	1380.00	2301.23	3.08	5:36:05.81	174.49	3.850
7121.89	34565.93	9:36:05.93	1307.37	23362.399	-3.04	1367.05	1385.00	2221.50	3.04	5:36:05.93	174.49	3.845
7122.02	34566.06	9:36:06.06	1302.85	23328.926	-3.01	1364.05	1384.62	2087.08	3.01	5:36:06.06	174.49	3.839
7122.14	34566.18	9:36:06.18	1298.97	23295.452	-2.97	1361.27	1390.00	1938.00	2.97	5:36:06.18	174.49	3.834
7122.27	34566.31	9:36:06.31	1295.08	23261.983	-2.93	1358.26	1389.23	1798.62	2.93	5:36:06.31	174.49	3.828
7122.39	34566.43	9:36:06.43	1291.73	23228.506	-2.9	1355.48	1390.00	1672.00	2.90	5:36:06.43	174.49	3.823
7122.52	34566.56	9:36:06.56	1288.36	23195.034	-2.87	1352.45	1398.46	1555.85	2.87	5:36:06.56	174.50	3.817
7122.64	34566.68	9:36:06.68	1285.46	23161.560	-2.83	1349.66	1395.00	1452.00	2.83	5:36:06.68	174.50	3.812
7122.77	34566.81	9:36:06.81	1282.51	23128.080	-2.8	1346.61	1407.69	1359.23	2.80	5:36:06.81	174.51	3.806
7122.89	34566.93	9:36:06.93	1279.95	23094.597	-2.77	1343.80	1405.00	1278.50	2.77	5:36:06.93	174.51	3.801
7123.02	34567.06	9:36:07.06	1277.34	23061.114	-2.73	1340.74	1412.31	1208.77	2.73	5:36:07.06	174.52	3.795
7123.14	34567.18	9:36:07.18	1275.03	23027.630	-2.7	1337.90	1420.00	1151.00	2.70	5:36:07.18	174.53	3.790
7123.27	34567.31	9:36:07.31	1272.64	22994.139	-2.67	1334.82	1421.54	1106.77	2.67	5:36:07.31	174.53	3.784
7123.39	34567.43	9:36:07.43	1270.49	22960.652	-2.64	1331.97	1425.00	1074.00	2.64	5:36:07.43	174.53	3.779
7123.52	34567.56	9:36:07.56	1268.20	22927.153	-2.61	1328.87	1430.77	1053.69	2.61	5:36:07.56	174.54	3.773
7123.64	34567.68	9:36:07.68	1266.11	22893.659	-2.58	1326.00	1435.00	1046.50	2.58	5:36:07.68	174.53	3.768
7123.77	34567.81	9:36:07.81	1263.83	22860.158	-2.54	1322.89	1435.38	1051.38	2.54	5:36:07.81	174.52	3.762
7123.89	34567.93	9:36:07.93	1261.70	22826.662	-2.51	1320.01	1440.00	1068.50	2.51	5:36:07.93	174.51	3.757
7124.02	34568.06	9:36:08.06	1259.32	22793.167	-2.47	1316.89	1440.00	1098.00	2.47	5:36:08.06	174.50	3.751
7124.14	34568.18	9:36:08.18	1257.06	22759.669	-2.44	1314.01	1440.00	1129.50	2.44	5:36:08.18	174.48	3.746
7124.27	34568.31	9:36:08.31	1254.55	22726.178	-2.4	1310.88	1444.62	1158.46	2.40	5:36:08.31	174.45	3.740
7124.39	34568.43	9:36:08.43	1252.18	22692.691	-2.36	1307.99	1445.00	1182.50	2.36	5:36:08.43	174.42	3.735
7124.52	34568.56	9:36:08.56	1249.58	22659.211	-2.32	1304.85	1449.23	1203.23	2.32	5:36:08.56	174.39	3.729
7124.64	34568.68	9:36:08.68	1247.14	22625.734	-2.28	1301.96	1445.00	1220.50	2.28	5:36:08.68	174.35	3.724
7124.77	34568.81	9:36:08.81	1244.46	22592.263	-2.24	1298.83	1444.62	1233.23	2.24	5:36:08.81	174.32	3.718
7124.89	34568.93	9:36:08.93	1241.98	22558.802	-2.2	1295.93	1450.00	1242.00	2.20	5:36:08.93	174.28	3.713
7125.02	34569.06	9:36:09.06	1239.28	22525.346	-2.15	1292.80	1444.62	1248.00	2.15	5:36:09.06	174.25	3.707
7125.14	34569.18	9:36:09.18	1236.77	22491.900	-2.11	1289.90	1450.00	1253.50	2.11	5:36:09.18	174.22	3.702
7125.27	34569.31	9:36:09.31	1234.04	22458.465	-2.06	1286.76	1449.23	1261.38	2.06	5:36:09.31	174.19	3.696
7125.39	34569.43	9:36:09.43	1231.49	22425.033	-2.01	1283.86	1450.00	1271.50	2.01	5:36:09.43	174.16	3.691
7125.52	34569.56	9:36:09.56	1228.71	22391.612	-1.96	1280.72	1449.23	1284.46	1.96	5:36:09.56	174.13	3.685
7125.64	34569.68	9:36:09.68	1226.11	22358.195	-1.91	1277.82	1450.00	1300.00	1.91	5:36:09.68	174.11	3.680
7125.77	34569.81	9:36:09.81	1223.25	22324.787	-1.86	1274.66	1458.46	1317.69	1.86	5:36:09.81	174.08	3.674
7125.89	34569.93	9:36:09.93	1220.58	22291.396	-1.82	1271.75	1455.00	1338.00	1.82	5:36:09.93	174.04	3.669
7126.02	34570.06	9:36:10.06	1217.63	22258.009	-1.77	1268.58	1463.08	1361.08	1.77	5:36:10.06	174.01	3.663
7126.14	34570.18	9:36:10.18	1214.86	22224.638	-1.72	1265.65	1465.00	1387.00	1.72	5:36:10.18	173.97	3.658
7126.27	34570.31	9:36:10.31	1211.78	22191.278	-1.68	1262.47	1467.69	1417.38	1.68	5:36:10.31	173.92	3.652
7126.39	34570.43	9:36:10.43	1208.88	22157.934	-1.63	1259.53	1470.00	1451.50	1.63	5:36:10.43	173.86	3.647
7126.52	34570.56	9:36:10.56	1205.65	22124.600	-1.59	1256.33	1476.92	1489.85	1.59	5:36:10.56	173.79	3.641
7126.64	34570.68	9:36:10.68	1202.59	22091.289	-1.55	1253.36	1485.00	1531.50	1.55	5:36:10.68	173.72	3.636
7126.77	34570.81	9:36:10.81	1199.17	22058.001	-1.52	1250.14	1486.15	1577.54	1.52	5:36:10.81	173.63	3.630
7126.89	34570.93	9:36:10.93	1195.92	22024.729	-1.48	1247.17	1485.00	1628.00	1.48	5:36:10.93	173.55	3.625
7127.02	34571.06	9:36:11.06	1192.27	21991.475	-1.45	1243.93	1495.38	1680.92	1.45	5:36:11.06	173.45	3.619
7127.14	34571.18	9:36:11.18	1188.81	21958.249	-1.43	1240.94	1495.00	1734.50	1.43	5:36:11.18	173.35	3.614
7127.27	34571.31	9:36:11.31	1184.94	21925.041	-1.4	1237.69	1500.00	1783.38	1.40	5:36:11.31	173.25	3.608
7127.39	34571.43	9:36:11.43	1181.28	21891.855	-1.38	1234.69	1500.00	1829.00	1.38	5:36:11.43	173.15	3.603
7127.52	34571.56	9:36:11.56	1177.23	21858.687	-1.36	1231.44	1500.00	1869.69	1.36	5:36:11.56	173.05	3.597
7127.64	34571.68	9:36:11.68	1173.42	21825.541	-1.34	1228.43	1505.00	1908.00	1.34	5:36:11.68	172.96	3.592
7127.77	34571.81	9:36:11.81	1169.21	21792.412	-1.33	1225.18	1500.00	1941.23	1.33	5:36:11.81	172.86	3.587
7127.89	34571.93	9:36:11.93	1165.27	21759.299	-1.32	1222.19	1495.00	1971.00	1.32	5:36:11.93	172.79	3.581
7128.02	34572.06	9:36:12.06	1160.94	21726.203	-1.31	1218.95	1495.38	1997.08	1.31	5:36:12.06	172.71	3.576
7128.14	34572.18	9:36:12.18	1156.91	21693.118	-1.3	1215.98	1485.00	2017.00	1.30	5:36:12.18	172.64	3.570
7128.27	34572.31	9:36:12.31	1152.51	21660.048	-1.29	1212.76	1486.15	2031.23	1.29	5:36:12.31	172.57	3.565
7128.39	34572.43	9:36:12.43	1148.43	21626.995	-1.29	1209.81	1475.00	2039.00	1.29	5:36:12.43	172.52	3.559
7128.52	34572.56	9:36:12.56	1144.01	21593.953	-1.29	1206.64	1463.08	2040.00	1.29	5:36:12.56	172.45	3.554
7128.64	34572.68	9:36:12.68	1139.94	21560.926	-1.28	1203.72	1460.00	2034.50	1.28	5:36:12.68	172.40	3.548
7128.77	34572.81	9:36:12.81	1135.56	21527.909	-1.28	1200.59	1444.62	2022.92	1.28	5:36:12.81	172.33	3.543

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FedEx Flight 1478 Flight Data

FDR Time (sec)	Total Seconds	Coordinated Universal Time (hh:mm:ss)	Radio Altitude (ft)	Distance To Runway (ft)	Roll Angle (deg)	Pressure Altitude (ft)	Vertical Speed (fpm)	Terrain Clearance Rate (fpm)	Absolute Value Roll Angle (deg)	Eastern Daylight Time (hh:mm:ss)	Computed Airspeed (kt)	Distance to Runway (nm)
7128.89	34572.93	9:36:12.93	1131.55	21494.909	-1.28	1197.71	1440.00	2004.50	1.28	5:36:12.93	172.27	3.538
7129.02	34573.06	9:36:13.06	1127.26	21461.931	-1.27	1194.63	1421.54	1979.54	1.27	5:36:13.06	172.20	3.532
7129.14	34573.18	9:36:13.18	1123.36	21428.968	-1.27	1191.81	1410.00	1949.00	1.27	5:36:13.18	172.13	3.527
7129.27	34573.31	9:36:13.31	1119.22	21396.028	-1.27	1188.78	1398.46	1911.69	1.27	5:36:13.31	172.04	3.521
7129.39	34573.43	9:36:13.43	1115.48	21363.104	-1.27	1186.01	1385.00	1868.50	1.27	5:36:13.43	171.96	3.516
7129.52	34573.56	9:36:13.56	1111.54	21330.208	-1.27	1183.04	1370.77	1818.46	1.27	5:36:13.56	171.86	3.511
7129.64	34573.68	9:36:13.68	1108.02	21297.334	-1.27	1180.33	1355.00	1762.50	1.27	5:36:13.68	171.76	3.505
7129.77	34573.81	9:36:13.81	1104.33	21264.488	-1.27	1177.43	1338.46	1700.31	1.27	5:36:13.81	171.66	3.500
7129.89	34573.93	9:36:13.93	1101.07	21231.665	-1.28	1174.77	1330.00	1632.00	1.28	5:36:13.93	171.56	3.494
7130.02	34574.06	9:36:14.06	1097.69	21198.863	-1.28	1171.93	1310.77	1557.69	1.28	5:36:14.06	171.45	3.489
7130.14	34574.18	9:36:14.18	1094.72	21166.083	-1.29	1169.33	1300.00	1486.00	1.29	5:36:14.18	171.35	3.483
7130.27	34574.31	9:36:14.31	1091.64	21133.332	-1.3	1166.55	1283.08	1423.38	1.30	5:36:14.31	171.24	3.478
7130.39	34574.43	9:36:14.43	1088.90	21100.602	-1.32	1164.02	1265.00	1369.00	1.32	5:36:14.43	171.15	3.473
7130.52	34574.56	9:36:14.56	1086.03	21067.889	-1.34	1161.30	1255.38	1323.69	1.34	5:36:14.56	171.05	3.467
7130.64	34574.68	9:36:14.68	1083.46	21035.204	-1.36	1158.81	1245.00	1286.00	1.36	5:36:14.68	170.96	3.462
7130.77	34574.81	9:36:14.81	1080.73	21002.528	-1.38	1156.15	1227.69	1258.62	1.38	5:36:14.81	170.87	3.457
7130.89	34574.93	9:36:14.93	1078.26	20969.880	-1.41	1153.72	1215.00	1238.50	1.41	5:36:14.93	170.79	3.451
7131.02	34575.06	9:36:15.06	1075.60	20937.243	-1.45	1151.11	1204.62	1227.23	1.45	5:36:15.06	170.70	3.446
7131.14	34575.18	9:36:15.18	1073.17	20904.626	-1.49	1148.74	1185.00	1215.00	1.49	5:36:15.18	170.62	3.440
7131.27	34575.31	9:36:15.31	1070.58	20872.026	-1.54	1146.18	1181.54	1195.85	1.54	5:36:15.31	170.54	3.435
7131.39	34575.43	9:36:15.43	1068.24	20839.448	-1.59	1143.85	1165.00	1169.50	1.59	5:36:15.43	170.45	3.430
7131.52	34575.56	9:36:15.56	1065.78	20806.892	-1.65	1141.35	1153.85	1135.85	1.65	5:36:15.56	170.36	3.424
7131.64	34575.68	9:36:15.68	1063.59	20774.352	-1.71	1139.07	1140.00	1095.00	1.71	5:36:15.68	170.27	3.419
7131.77	34575.81	9:36:15.81	1061.32	20741.834	-1.77	1136.62	1130.77	1047.23	1.77	5:36:15.81	170.17	3.414
7131.89	34575.93	9:36:15.93	1059.33	20709.337	-1.84	1134.38	1120.00	992.00	1.84	5:36:15.93	170.06	3.408
7132.02	34576.06	9:36:16.06	1057.32	20676.869	-1.92	1131.98	1107.69	930.46	1.92	5:36:16.06	169.95	3.403
7132.14	34576.18	9:36:16.18	1055.57	20644.423	-1.99	1129.78	1100.00	872.50	1.99	5:36:16.18	169.84	3.398
7132.27	34576.31	9:36:16.31	1053.78	20611.999	-2.08	1127.42	1089.23	827.08	2.08	5:36:16.31	169.71	3.392
7132.39	34576.43	9:36:16.43	1052.19	20579.604	-2.16	1125.26	1080.00	793.00	2.16	5:36:16.43	169.59	3.387
7132.52	34576.56	9:36:16.56	1050.52	20547.236	-2.25	1122.95	1066.15	770.77	2.25	5:36:16.56	169.46	3.382
7132.64	34576.68	9:36:16.68	1049.00	20514.890	-2.33	1120.82	1065.00	761.00	2.33	5:36:16.68	169.33	3.376
7132.77	34576.81	9:36:16.81	1047.35	20482.567	-2.42	1118.54	1052.31	762.00	2.42	5:36:16.81	169.19	3.371
7132.89	34576.93	9:36:16.93	1045.80	20450.271	-2.51	1116.46	1040.00	775.50	2.51	5:36:16.93	169.07	3.366
7133.02	34577.06	9:36:17.06	1044.07	20417.998	-2.61	1114.21	1038.46	799.38	2.61	5:36:17.06	168.93	3.360
7133.14	34577.18	9:36:17.18	1042.44	20385.747	-2.7	1112.15	1030.00	816.00	2.70	5:36:17.18	168.80	3.355
7133.27	34577.31	9:36:17.31	1040.67	20353.517	-2.8	1109.94	1020.00	812.77	2.80	5:36:17.31	168.67	3.350
7133.39	34577.43	9:36:17.43	1039.10	20321.315	-2.9	1107.90	1020.00	788.00	2.90	5:36:17.43	168.54	3.344
7133.52	34577.56	9:36:17.56	1037.49	20289.129	-3	1105.72	1006.15	743.08	3.00	5:36:17.56	168.41	3.339
7133.64	34577.68	9:36:17.68	1036.13	20256.965	-3.1	1103.71	1005.00	677.50	3.10	5:36:17.68	168.28	3.334
7133.77	34577.81	9:36:17.81	1034.85	20224.828	-3.21	1101.55	996.92	591.23	3.21	5:36:17.81	168.15	3.329
7133.89	34577.93	9:36:17.93	1033.88	20192.707	-3.31	1099.56	995.00	484.00	3.31	5:36:17.93	168.03	3.323
7134.02	34578.06	9:36:18.06	1033.10	20160.607	-3.43	1097.43	983.08	360.00	3.43	5:36:18.06	167.90	3.318
7134.14	34578.18	9:36:18.18	1032.58	20128.523	-3.53	1095.46	985.00	263.50	3.53	5:36:18.18	167.78	3.313
7134.27	34578.31	9:36:18.31	1032.08	20096.467	-3.66	1093.35	973.85	228.46	3.66	5:36:18.31	167.66	3.307
7134.39	34578.43	9:36:18.43	1031.57	20064.425	-3.77	1091.40	975.00	254.50	3.77	5:36:18.43	167.54	3.302
7134.52	34578.56	9:36:18.56	1030.83	20032.405	-3.9	1089.31	964.62	343.85	3.90	5:36:18.56	167.41	3.297
7134.64	34578.68	9:36:18.68	1029.84	20000.400	-4.02	1087.38	965.00	493.50	4.02	5:36:18.68	167.30	3.292
7134.77	34578.81	9:36:18.81	1028.31	19968.411	-4.16	1085.31	955.38	706.62	4.16	5:36:18.81	167.17	3.286
7134.89	34578.93	9:36:18.93	1026.35	19936.436	-4.29	1083.41	950.00	980.00	4.29	5:36:18.93	167.06	3.281
7135.02	34579.06	9:36:19.06	1023.51	19904.477	-4.44	1081.36	946.15	1311.23	4.44	5:36:19.06	166.94	3.276
7135.14	34579.18	9:36:19.18	1020.25	19872.534	-4.58	1079.48	940.00	1627.50	4.58	5:36:19.18	166.83	3.271
7135.27	34579.31	9:36:19.31	1016.19	19840.599	-4.73	1077.45	936.92	1875.23	4.73	5:36:19.31	166.70	3.265
7135.39	34579.43	9:36:19.43	1012.08	19808.680	-4.88	1075.59	930.00	2056.00	4.88	5:36:19.43	166.59	3.260
7135.52	34579.56	9:36:19.56	1007.39	19776.765	-5.04	1073.58	927.69	2166.46	5.04	5:36:19.56	166.46	3.255
7135.64	34579.68	9:36:19.68	1002.97	19744.864	-5.19	1071.74	920.00	2209.50	5.19	5:36:19.68	166.34	3.250
7135.77	34579.81	9:36:19.81	998.24	19712.967	-5.36	1069.76	913.85	2183.54	5.36	5:36:19.81	166.21	3.244
7135.89	34579.93	9:36:19.93	994.06	19681.086	-5.51	1067.93	915.00	2089.00	5.51	5:36:19.93	166.08	3.239
7136.02	34580.06	9:36:20.06	989.88	19649.207	-5.68	1065.97	904.62	1929.23	5.68	5:36:20.06	165.94	3.234
7136.14	34580.18	9:36:20.18	986.39	19617.344	-5.84	1064.16	905.00	1744.50	5.84	5:36:20.18	165.80	3.229
7136.27	34580.31	9:36:20.31	982.99	19585.484	-6.01	1062.21	900.00	1566.46	6.01	5:36:20.31	165.64	3.223
7136.39	34580.43	9:36:20.43	980.20	19553.645	-6.17	1060.42	895.00	1395.00	6.17	5:36:20.43	165.49	3.218
7136.52	34580.56	9:36:20.56	977.54	19521.815	-6.33	1058.48	895.38	1230.46	6.33	5:36:20.56	165.32	3.213
7136.64	34580.68	9:36:20.68	975.39	19490.000	-6.49	1056.69	895.00	1073.00	6.49	5:36:20.68	165.16	3.208
7136.77	34580.81	9:36:20.81	973.40	19458.193	-6.65	1054.76	890.77	921.69	6.65	5:36:20.81	164.99	3.202
7136.89	34580.93	9:36:20.93	971.84	19426.407	-6.8	1052.98	890.00	778.00	6.80	5:36:20.93	164.82	3.197

DCA02MA054
FedEx Flight 1478 Flight Data

FDR Time (sec)	Total Seconds	Coordinated Universal Time (hh:mm:ss)	Radio Altitude (ft)	Distance To Runway (ft)	Roll Angle (deg)	Pressure Altitude (ft)	Vertical Speed (fpm)	Terrain Clearance Rate (fpm)	Absolute Value Roll Angle (deg)	Eastern Daylight Time (hh:mm:ss)	Computed Airspeed (kt)	Distance to Runway (nm)
7137.02	34581.06	9:36:21.06	970.45	19394.630	-6.96	1051.05	890.77	641.54	6.96	5:36:21.06	164.64	3.192
7137.14	34581.18	9:36:21.18	969.39	19362.867	-7.1	1049.26	895.00	529.50	7.10	5:36:21.18	164.48	3.187
7137.27	34581.31	9:36:21.31	968.41	19331.118	-7.25	1047.32	895.38	454.62	7.25	5:36:21.31	164.30	3.182
7137.39	34581.43	9:36:21.43	967.57	19299.383	-7.39	1045.53	895.00	416.00	7.39	5:36:21.43	164.14	3.176
7137.52	34581.56	9:36:21.56	966.68	19267.656	-7.54	1043.57	904.62	414.46	7.54	5:36:21.56	163.97	3.171
7137.64	34581.68	9:36:21.68	965.78	19235.943	-7.68	1041.77	900.00	448.50	7.68	5:36:21.68	163.82	3.166
7137.77	34581.81	9:36:21.81	964.65	19204.232	-7.83	1039.80	909.23	521.08	7.83	5:36:21.81	163.67	3.161
7137.89	34581.93	9:36:21.93	963.39	19172.533	-7.97	1037.98	910.00	628.50	7.97	5:36:21.93	163.53	3.155
7138.02	34582.06	9:36:22.06	961.72	19140.831	-8.12	1035.99	918.46	771.23	8.12	5:36:22.06	163.38	3.150
7138.14	34582.18	9:36:22.18	959.91	19109.135	-8.27	1034.15	920.00	907.00	8.27	5:36:22.18	163.26	3.145
7138.27	34582.31	9:36:22.31	957.72	19077.434	-8.43	1032.14	927.69	1007.54	8.43	5:36:22.31	163.12	3.140
7138.39	34582.43	9:36:22.43	955.58	19045.735	-8.58	1030.28	930.00	1072.50	8.58	5:36:22.43	163.00	3.135
7138.52	34582.56	9:36:22.56	953.19	19014.035	-8.75	1028.25	936.92	1100.77	8.75	5:36:22.56	162.88	3.129
7138.64	34582.68	9:36:22.68	951.01	18982.331	-8.91	1026.37	940.00	1093.50	8.91	5:36:22.68	162.76	3.124
7138.77	34582.81	9:36:22.81	948.73	18950.621	-9.1	1024.33	941.54	1050.46	9.10	5:36:22.81	162.64	3.119
7138.89	34582.93	9:36:22.93	946.79	18918.905	-9.27	1022.43	950.00	971.50	9.27	5:36:22.93	162.53	3.114
7139.02	34583.06	9:36:23.06	944.93	18887.183	-9.47	1020.37	950.77	858.46	9.47	5:36:23.06	162.41	3.108
7139.14	34583.18	9:36:23.18	943.44	18855.455	-9.67	1018.46	955.00	745.50	9.67	5:36:23.18	162.30	3.103
7139.27	34583.31	9:36:23.31	942.01	18823.722	-9.89	1016.39	955.38	658.62	9.89	5:36:23.31	162.17	3.098
7139.39	34583.43	9:36:23.43	940.82	18791.975	-10.1	1014.47	960.00	596.50	10.10	5:36:23.43	162.06	3.093
7139.52	34583.56	9:36:23.56	939.60	18760.223	-10.34	1012.39	960.00	560.31	10.34	5:36:23.56	161.93	3.088
7139.64	34583.68	9:36:23.68	938.50	18728.458	-10.57	1010.47	960.00	550.00	10.57	5:36:23.68	161.81	3.082
7139.77	34583.81	9:36:23.81	937.28	18696.687	-10.83	1008.39	960.00	564.92	10.83	5:36:23.81	161.68	3.077
7139.89	34583.93	9:36:23.93	936.07	18664.902	-11.08	1006.47	960.00	605.00	11.08	5:36:23.93	161.56	3.072
7140.02	34584.06	9:36:24.06	934.62	18633.099	-11.36	1004.39	960.00	670.62	11.36	5:36:24.06	161.43	3.067
7140.14	34584.18	9:36:24.18	933.13	18601.288	-11.62	1002.47	960.00	744.00	11.62	5:36:24.18	161.31	3.061
7140.27	34584.31	9:36:24.31	931.36	18569.458	-11.91	1000.40	955.38	815.54	11.91	5:36:24.31	161.18	3.056
7140.39	34584.43	9:36:24.43	929.60	18537.621	-12.19	998.49	955.00	883.00	12.19	5:36:24.43	161.06	3.051
7140.52	34584.56	9:36:24.56	927.54	18505.763	-12.49	996.43	950.77	948.46	12.49	5:36:24.56	160.93	3.046
7140.64	34584.68	9:36:24.68	925.52	18473.886	-12.77	994.53	950.00	1011.00	12.77	5:36:24.68	160.81	3.040
7140.77	34584.81	9:36:24.81	923.20	18442.000	-13.08	992.48	946.15	1069.38	13.08	5:36:24.81	160.67	3.035
7140.89	34584.93	9:36:24.93	920.95	18410.094	-13.36	990.59	945.00	1126.00	13.36	5:36:24.93	160.55	3.030
7141.02	34585.06	9:36:25.06	918.40	18378.167	-13.67	988.56	936.92	1177.38	13.67	5:36:25.06	160.42	3.025
7141.14	34585.18	9:36:25.18	915.99	18346.232	-13.95	986.69	935.00	1202.50	13.95	5:36:25.18	160.30	3.019
7141.27	34585.31	9:36:25.31	913.43	18314.281	-14.26	984.67	932.31	1183.38	14.26	5:36:25.31	160.17	3.014
7141.39	34585.43	9:36:25.43	911.19	18282.309	-14.53	982.81	930.00	1122.00	14.53	5:36:25.43	160.05	3.009
7141.52	34585.56	9:36:25.56	908.98	18250.315	-14.83	980.81	923.08	1016.77	14.83	5:36:25.56	159.92	3.004
7141.64	34585.68	9:36:25.68	907.25	18218.306	-15.1	978.97	920.00	868.00	15.10	5:36:25.68	159.80	2.998
7141.77	34585.81	9:36:25.81	905.78	18186.280	-15.38	976.99	913.85	675.23	15.38	5:36:25.81	159.66	2.993
7141.89	34585.93	9:36:25.93	904.90	18154.232	-15.64	975.17	910.00	440.00	15.64	5:36:25.93	159.54	2.988
7142.02	34586.06	9:36:26.06	904.55	18122.168	-15.91	973.21	904.62	164.77	15.91	5:36:26.06	159.41	2.983
7142.14	34586.18	9:36:26.18	904.72	18090.087	-16.15	971.41	900.00	-88.00	16.15	5:36:26.18	159.29	2.977
7142.27	34586.31	9:36:26.31	905.31	18057.982	-16.41	969.46	900.00	-272.77	16.41	5:36:26.31	159.15	2.972
7142.39	34586.43	9:36:26.43	906.10	18025.867	-16.63	967.68	890.00	-391.50	16.63	5:36:26.43	159.03	2.967
7142.52	34586.56	9:36:26.56	907.05	17993.722	-16.87	965.76	886.15	-440.77	16.87	5:36:26.56	158.91	2.961
7142.64	34586.68	9:36:26.68	907.90	17961.565	-17.08	964.00	880.00	-423.50	17.08	5:36:26.68	158.79	2.956
7142.77	34586.81	9:36:26.81	908.63	17929.384	-17.3	962.10	876.92	-336.92	17.30	5:36:26.81	158.66	2.951
7142.89	34586.93	9:36:26.93	909.00	17897.185	-17.49	960.35	875.00	-183.50	17.49	5:36:26.93	158.55	2.946
7143.02	34587.06	9:36:27.06	908.92	17864.961	-17.69	958.48	863.08	36.46	17.69	5:36:27.06	158.42	2.940
7143.14	34587.18	9:36:27.18	908.34	17832.718	-17.86	956.75	865.00	290.50	17.86	5:36:27.18	158.31	2.935
7143.27	34587.31	9:36:27.31	907.13	17800.449	-18.04	954.89	858.46	557.08	18.04	5:36:27.31	158.19	2.930
7143.39	34587.43	9:36:27.43	905.46	17768.162	-18.2	953.19	850.00	835.50	18.20	5:36:27.43	158.08	2.924
7143.52	34587.56	9:36:27.56	903.02	17735.848	-18.36	951.35	849.23	1125.23	18.36	5:36:27.56	157.95	2.919
7143.64	34587.68	9:36:27.68	900.16	17703.514	-18.5	949.65	850.00	1427.50	18.50	5:36:27.68	157.84	2.914
7143.77	34587.81	9:36:27.81	896.39	17671.160	-18.65	947.83	840.00	1740.46	18.65	5:36:27.81	157.71	2.908
7143.89	34587.93	9:36:27.93	892.26	17638.785	-18.77	946.15	840.00	2066.00	18.77	5:36:27.93	157.59	2.903
7144.02	34588.06	9:36:28.06	887.07	17606.383	-18.89	944.33	840.00	2395.85	18.89	5:36:28.06	157.45	2.898
7144.14	34588.18	9:36:28.18	881.78	17573.973	-19	942.66	835.00	2644.50	19.00	5:36:28.18	157.32	2.892
7144.27	34588.31	9:36:28.31	875.84	17541.534	-19.1	940.86	830.77	2742.46	19.10	5:36:28.31	157.17	2.887
7144.39	34588.43	9:36:28.43	870.45	17509.080	-19.18	939.19	835.00	2694.00	19.18	5:36:28.43	157.02	2.882
7144.52	34588.56	9:36:28.56	865.05	17476.611	-19.27	937.38	835.38	2493.23	19.27	5:36:28.56	156.86	2.876
7144.64	34588.68	9:36:28.68	860.76	17444.119	-19.33	935.71	835.00	2146.00	19.33	5:36:28.68	156.70	2.871
7144.77	34588.81	9:36:28.81	857.19	17411.617	-19.39	933.90	835.38	1646.31	19.39	5:36:28.81	156.53	2.866
7144.89	34588.93	9:36:28.93	855.19	17379.092	-19.43	932.22	840.00	1000.50	19.43	5:36:28.93	156.36	2.860
7145.02	34589.06	9:36:29.06	854.72	17346.550	-19.46	930.40	840.00	216.92	19.46	5:36:29.06	156.18	2.855

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FedEx Flight 1478 Flight Data

FDR Time (sec)	Total Seconds	Coordinated Universal Time (hh:mm:ss)	Radio Altitude (ft)	Distance To Runway (ft)	Roll Angle (deg)	Pressure Altitude (ft)	Vertical Speed (fpm)	Terrain Clearance Rate (fpm)	Absolute Value Roll Angle (deg)	Eastern Daylight Time (hh:mm:ss)	Computed Airspeed (kt)	Distance to Runway (nm)
7145.14	34589.18	9:36:29.18	855.74	17313.997	-19.47	928.71	845.00	-512.00	19.47	5:36:29.18	156.00	2.850
7145.27	34589.31	9:36:29.31	858.01	17281.427	-19.47	926.87	849.23	-1044.00	19.47	5:36:29.31	155.80	2.844
7145.39	34589.43	9:36:29.43	860.77	17248.844	-19.46	925.17	850.00	-1381.00	19.46	5:36:29.43	155.62	2.839
7145.52	34589.56	9:36:29.56	864.06	17216.244	-19.42	923.31	858.46	-1518.00	19.42	5:36:29.56	155.42	2.833
7145.64	34589.68	9:36:29.68	866.98	17183.631	-19.38	921.58	865.00	-1459.50	19.38	5:36:29.68	155.23	2.828
7145.77	34589.81	9:36:29.81	869.58	17151.012	-19.31	919.70	867.69	-1201.38	19.31	5:36:29.81	155.02	2.823
7145.89	34589.93	9:36:29.93	871.07	17118.380	-19.22	917.95	875.00	-747.50	19.22	5:36:29.93	154.83	2.817
7146.02	34590.06	9:36:30.06	871.31	17085.735	-19.11	916.04	881.54	-108.00	19.11	5:36:30.06	154.62	2.812
7146.14	34590.18	9:36:30.18	870.23	17053.083	-18.99	914.26	890.00	538.50	18.99	5:36:30.18	154.43	2.807
7146.27	34590.31	9:36:30.31	867.94	17020.430	-18.84	912.32	895.38	1059.23	18.84	5:36:30.31	154.22	2.801
7146.39	34590.43	9:36:30.43	865.03	16987.764	-18.67	910.52	900.00	1454.00	18.67	5:36:30.43	154.03	2.796
7146.52	34590.56	9:36:30.56	861.30	16955.102	-18.47	908.56	904.62	1720.15	18.47	5:36:30.56	153.83	2.790
7146.64	34590.68	9:36:30.68	857.58	16922.426	-18.27	906.73	915.00	1861.00	18.27	5:36:30.68	153.65	2.785
7146.77	34590.81	9:36:30.81	853.52	16889.755	-18.02	904.75	913.85	1872.46	18.02	5:36:30.81	153.45	2.780
7146.89	34590.93	9:36:30.93	850.00	16857.082	-17.77	902.90	925.00	1758.50	17.77	5:36:30.93	153.28	2.774
7147.02	34591.06	9:36:31.06	846.70	16824.401	-17.47	900.89	927.69	1524.00	17.47	5:36:31.06	153.09	2.769
7147.14	34591.18	9:36:31.18	844.17	16791.724	-17.18	899.03	930.00	1268.00	17.18	5:36:31.18	152.93	2.764
7147.27	34591.31	9:36:31.31	841.86	16759.038	-16.83	897.01	932.31	1065.23	16.83	5:36:31.31	152.75	2.758
7147.39	34591.43	9:36:31.43	840.03	16726.357	-16.5	895.14	935.00	915.00	16.50	5:36:31.43	152.60	2.753
7147.52	34591.56	9:36:31.56	838.25	16693.666	-16.11	893.11	936.92	818.77	16.11	5:36:31.56	152.44	2.747
7147.64	34591.68	9:36:31.68	836.70	16660.979	-15.74	891.23	940.00	775.50	15.74	5:36:31.68	152.30	2.742
7147.77	34591.81	9:36:31.81	835.00	16628.289	-15.31	889.19	941.54	786.46	15.31	5:36:31.81	152.16	2.737
7147.89	34591.93	9:36:31.93	833.30	16595.590	-14.9	887.32	935.00	850.00	14.90	5:36:31.93	152.03	2.731
7148.02	34592.06	9:36:32.06	831.21	16562.894	-14.45	885.28	941.54	965.08	14.45	5:36:32.06	151.89	2.726
7148.14	34592.18	9:36:32.18	829.03	16530.195	-14.01	883.41	935.00	1091.00	14.01	5:36:32.18	151.77	2.721
7148.27	34592.31	9:36:32.31	826.43	16497.491	-13.53	881.38	936.92	1198.62	13.53	5:36:32.31	151.64	2.715
7148.39	34592.43	9:36:32.43	823.85	16464.785	-13.08	879.51	935.00	1288.00	13.08	5:36:32.43	151.53	2.710
7148.52	34592.56	9:36:32.56	820.91	16432.086	-12.58	877.50	927.69	1358.31	12.58	5:36:32.56	151.40	2.704
7148.64	34592.68	9:36:32.68	818.09	16399.384	-12.11	875.64	930.00	1410.50	12.11	5:36:32.68	151.29	2.699
7148.77	34592.81	9:36:32.81	814.96	16366.684	-11.6	873.64	923.08	1443.23	11.60	5:36:32.81	151.16	2.694
7148.89	34592.93	9:36:32.93	812.05	16333.992	-11.14	871.79	925.00	1458.50	11.14	5:36:32.93	151.05	2.688
7149.02	34593.06	9:36:33.06	808.89	16301.302	-10.63	869.80	918.46	1454.77	10.63	5:36:33.06	150.92	2.683
7149.14	34593.18	9:36:33.18	806.01	16268.627	-10.16	867.96	920.00	1439.50	10.16	5:36:33.18	150.80	2.677
7149.27	34593.31	9:36:33.31	802.94	16235.959	-9.66	865.97	918.46	1418.77	9.66	5:36:33.31	150.67	2.672
7149.39	34593.43	9:36:33.43	800.16	16203.306	-9.21	864.14	915.00	1390.50	9.21	5:36:33.43	150.54	2.667
7149.52	34593.56	9:36:33.56	797.22	16170.668	-8.72	862.16	913.85	1356.92	8.72	5:36:33.56	150.41	2.661
7149.64	34593.68	9:36:33.68	794.59	16138.044	-8.28	860.33	915.00	1316.50	8.28	5:36:33.68	150.29	2.656
7149.77	34593.81	9:36:33.81	791.84	16105.434	-7.82	858.34	918.46	1269.69	7.82	5:36:33.81	150.15	2.651
7149.89	34593.93	9:36:33.93	789.40	16072.833	-7.4	856.50	920.00	1217.00	7.40	5:36:33.93	150.03	2.645
7150.02	34594.06	9:36:34.06	786.89	16040.253	-6.95	854.50	923.08	1158.00	6.95	5:36:34.06	149.90	2.640
7150.14	34594.18	9:36:34.18	784.68	16007.681	-6.55	852.65	925.00	1104.50	6.55	5:36:34.18	149.79	2.635
7150.27	34594.31	9:36:34.31	782.38	15975.124	-6.13	850.63	932.31	1062.46	6.13	5:36:34.31	149.67	2.629
7150.39	34594.43	9:36:34.43	780.32	15942.576	-5.75	848.75	940.00	1033.00	5.75	5:36:34.43	149.56	2.624
7150.52	34594.56	9:36:34.56	778.11	15910.037	-5.35	846.69	950.77	1015.85	5.35	5:36:34.56	149.46	2.618
7150.64	34594.68	9:36:34.68	776.09	15877.514	-5	844.78	955.00	1010.50	5.00	5:36:34.68	149.37	2.613
7150.77	34594.81	9:36:34.81	773.89	15845.000	-4.62	842.69	964.62	1018.15	4.62	5:36:34.81	149.28	2.608
7150.89	34594.93	9:36:34.93	771.81	15812.489	-4.29	840.73	980.00	1038.00	4.29	5:36:34.93	149.20	2.602
7151.02	34595.06	9:36:35.06	769.50	15779.987	-3.93	838.59	987.69	1068.92	3.93	5:36:35.06	149.13	2.597
7151.14	34595.18	9:36:35.18	767.29	15747.495	-3.62	836.58	1005.00	1100.50	3.62	5:36:35.18	149.08	2.592
7151.27	34595.31	9:36:35.31	764.85	15715.007	-3.28	834.38	1015.38	1126.15	3.28	5:36:35.31	149.03	2.586
7151.39	34595.43	9:36:35.43	762.57	15682.528	-2.98	832.32	1030.00	1144.50	2.98	5:36:35.43	148.99	2.581
7151.52	34595.56	9:36:35.56	760.06	15650.048	-2.67	830.05	1047.69	1155.23	2.67	5:36:35.56	148.96	2.576
7151.64	34595.68	9:36:35.68	757.74	15617.572	-2.39	827.93	1060.00	1159.00	2.39	5:36:35.68	148.94	2.570
7151.77	34595.81	9:36:35.81	755.24	15585.099	-2.09	825.61	1070.77	1156.15	2.09	5:36:35.81	148.93	2.565
7151.89	34595.93	9:36:35.93	752.95	15552.626	-1.82	823.43	1090.00	1146.50	1.82	5:36:35.93	148.93	2.560
7152.02	34596.06	9:36:36.06	750.50	15520.150	-1.55	821.03	1107.69	1129.38	1.55	5:36:36.06	148.93	2.554
7152.14	34596.18	9:36:36.18	748.27	15487.668	-1.3	818.79	1120.00	1115.50	1.30	5:36:36.18	148.95	2.549
7152.27	34596.31	9:36:36.31	745.87	15455.190	-1.04	816.33	1135.38	1109.08	1.04	5:36:36.31	148.97	2.544
7152.39	34596.43	9:36:36.43	743.64	15422.699	-0.82	814.03	1150.00	1112.00	0.82	5:36:36.43	149.01	2.538
7152.52	34596.56	9:36:36.56	741.21	15390.207	-0.58	811.51	1163.08	1122.92	0.58	5:36:36.56	149.05	2.533
7152.64	34596.68	9:36:36.68	738.92	15357.708	-0.38	809.16	1175.00	1142.50	0.38	5:36:36.68	149.09	2.528
7152.77	34596.81	9:36:36.81	736.39	15325.203	-0.17	806.58	1190.77	1170.92	0.17	5:36:36.81	149.14	2.522
7152.89	34596.93	9:36:36.93	733.97	15292.685	0.02	804.18	1200.00	1207.50	0.02	5:36:36.93	149.20	2.517
7153.02	34597.06	9:36:37.06	731.26	15260.148	0.2	801.55	1213.85	1252.62	0.20	5:36:37.06	149.26	2.512
7153.14	34597.18	9:36:37.18	728.66	15227.605	0.35	799.09	1230.00	1300.00	0.35	5:36:37.18	149.32	2.506

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FedEx Flight 1478 Flight Data

FDR Time (sec)	Total Seconds	Coordinated Universal Time (hh:mm:ss)	Radio Altitude (ft)	Distance To Runway (ft)	Roll Angle (deg)	Pressure Altitude (ft)	Vertical Speed (fpm)	Terrain Clearance Rate (fpm)	Absolute Value Roll Angle (deg)	Eastern Daylight Time (hh:mm:ss)	Computed Airspeed (kt)	Distance to Runway (nm)
7153.27	34597.31	9:36:37.31	725.74	15195.044	0.51	796.41	1236.92	1345.85	0.51	5:36:37.31	149.39	2.501
7153.39	34597.43	9:36:37.43	722.96	15162.464	0.64	793.92	1245.00	1390.50	0.64	5:36:37.43	149.45	2.495
7153.52	34597.56	9:36:37.56	719.85	15129.872	0.76	791.19	1260.00	1433.54	0.76	5:36:37.56	149.53	2.490
7153.64	34597.68	9:36:37.68	716.90	15097.268	0.86	788.65	1270.00	1475.00	0.86	5:36:37.68	149.59	2.485
7153.77	34597.81	9:36:37.81	713.62	15064.651	0.96	785.88	1278.46	1514.77	0.96	5:36:37.81	149.66	2.479
7153.89	34597.93	9:36:37.93	710.52	15032.022	1.04	783.30	1290.00	1553.50	1.04	5:36:37.93	149.73	2.474
7154.02	34598.06	9:36:38.06	707.07	14999.375	1.11	780.49	1296.92	1589.54	1.11	5:36:38.06	149.80	2.469
7154.14	34598.18	9:36:38.18	703.83	14966.722	1.16	777.87	1310.00	1618.50	1.16	5:36:38.18	149.86	2.463
7154.27	34598.31	9:36:38.31	700.29	14934.056	1.21	775.02	1315.38	1636.62	1.21	5:36:38.31	149.93	2.458
7154.39	34598.43	9:36:38.43	697.00	14901.378	1.24	772.37	1325.00	1643.50	1.24	5:36:38.43	149.99	2.452
7154.52	34598.56	9:36:38.56	693.45	14868.688	1.27	769.47	1338.46	1638.00	1.27	5:36:38.56	150.05	2.447
7154.64	34598.68	9:36:38.68	690.21	14835.992	1.3	766.78	1345.00	1622.50	1.30	5:36:38.68	150.11	2.442
7154.77	34598.81	9:36:38.81	686.75	14803.283	1.32	763.85	1352.31	1594.62	1.32	5:36:38.81	150.17	2.436
7154.89	34598.93	9:36:38.93	683.64	14770.562	1.33	761.13	1360.00	1556.00	1.33	5:36:38.93	150.23	2.431
7155.02	34599.06	9:36:39.06	680.37	14737.835	1.35	758.16	1370.77	1507.38	1.35	5:36:39.06	150.29	2.426
7155.14	34599.18	9:36:39.18	677.45	14705.096	1.37	755.41	1375.00	1462.00	1.37	5:36:39.18	150.35	2.420
7155.27	34599.31	9:36:39.31	674.35	14672.350	1.38	752.41	1384.62	1432.15	1.38	5:36:39.31	150.41	2.415
7155.39	34599.43	9:36:39.43	671.51	14639.587	1.4	749.62	1395.00	1417.50	1.40	5:36:39.43	150.47	2.409
7155.52	34599.56	9:36:39.56	668.44	14606.823	1.43	746.60	1393.85	1417.38	1.43	5:36:39.56	150.53	2.404
7155.64	34599.68	9:36:39.68	665.58	14574.041	1.46	743.79	1405.00	1432.50	1.46	5:36:39.68	150.59	2.399
7155.77	34599.81	9:36:39.81	662.41	14541.253	1.5	740.73	1412.31	1463.08	1.50	5:36:39.81	150.66	2.393
7155.89	34599.93	9:36:39.93	659.39	14508.459	1.54	737.90	1415.00	1508.50	1.54	5:36:39.93	150.72	2.388
7156.02	34600.06	9:36:40.06	655.99	14475.653	1.6	734.83	1416.92	1567.38	1.60	5:36:40.06	150.78	2.382
7156.14	34600.18	9:36:40.18	652.75	14442.842	1.66	731.99	1420.00	1623.50	1.66	5:36:40.18	150.84	2.377
7156.27	34600.31	9:36:40.31	649.14	14410.018	1.73	728.90	1426.15	1662.46	1.73	5:36:40.31	150.91	2.372
7156.39	34600.43	9:36:40.43	645.77	14377.189	1.8	726.05	1425.00	1686.50	1.80	5:36:40.43	150.97	2.366
7156.52	34600.56	9:36:40.56	642.10	14344.354	1.89	722.96	1426.15	1692.92	1.89	5:36:40.56	151.03	2.361
7156.64	34600.68	9:36:40.68	638.74	14311.508	1.97	720.11	1425.00	1683.50	1.97	5:36:40.68	151.09	2.355
7156.77	34600.81	9:36:40.81	635.15	14278.656	2.07	717.01	1430.77	1657.38	2.07	5:36:40.81	151.16	2.350
7156.89	34600.93	9:36:40.93	631.92	14245.792	2.17	714.16	1425.00	1615.00	2.17	5:36:40.93	151.22	2.345
7157.02	34601.06	9:36:41.06	628.54	14212.917	2.28	711.08	1421.54	1557.69	2.28	5:36:41.06	151.28	2.339
7157.14	34601.18	9:36:41.18	625.55	14180.035	2.38	708.23	1425.00	1497.00	2.38	5:36:41.18	151.34	2.334
7157.27	34601.31	9:36:41.31	622.42	14147.143	2.5	705.15	1421.54	1442.77	2.50	5:36:41.31	151.41	2.328
7157.39	34601.43	9:36:41.43	619.63	14114.232	2.6	702.31	1420.00	1396.00	2.60	5:36:41.43	151.47	2.323
7157.52	34601.56	9:36:41.56	616.69	14081.310	2.72	699.24	1416.92	1356.00	2.72	5:36:41.56	151.54	2.317
7157.64	34601.68	9:36:41.68	614.05	14048.376	2.82	696.41	1415.00	1322.50	2.82	5:36:41.68	151.60	2.312
7157.77	34601.81	9:36:41.81	611.24	14015.424	2.93	693.34	1416.92	1296.00	2.93	5:36:41.81	151.67	2.307
7157.89	34601.93	9:36:41.93	608.69	13982.454	3.03	690.51	1415.00	1276.00	3.03	5:36:41.93	151.74	2.301
7158.02	34602.06	9:36:42.06	605.95	13949.473	3.13	687.45	1412.31	1262.77	3.13	5:36:42.06	151.81	2.296
7158.14	34602.18	9:36:42.18	603.45	13916.473	3.22	684.63	1410.00	1250.00	3.22	5:36:42.18	151.88	2.290
7158.27	34602.31	9:36:42.31	600.77	13883.461	3.31	681.57	1412.31	1234.62	3.31	5:36:42.31	151.95	2.285
7158.39	34602.43	9:36:42.43	598.34	13850.431	3.39	678.75	1410.00	1215.50	3.39	5:36:42.43	152.02	2.279
7158.52	34602.56	9:36:42.56	595.76	13817.390	3.47	675.69	1412.31	1192.62	3.47	5:36:42.56	152.09	2.274
7158.64	34602.68	9:36:42.68	593.43	13784.330	3.53	672.86	1415.00	1167.00	3.53	5:36:42.68	152.14	2.269
7158.77	34602.81	9:36:42.81	590.96	13751.264	3.6	669.79	1416.92	1137.23	3.60	5:36:42.81	152.20	2.263
7158.89	34602.93	9:36:42.93	588.75	13718.187	3.65	666.95	1420.00	1105.00	3.65	5:36:42.93	152.25	2.258
7159.02	34603.06	9:36:43.06	586.43	13685.104	3.7	663.88	1416.92	1069.38	3.70	5:36:43.06	152.30	2.252
7159.14	34603.18	9:36:43.18	584.36	13652.015	3.74	661.03	1425.00	1037.50	3.74	5:36:43.18	152.34	2.247
7159.27	34603.31	9:36:43.31	582.16	13618.920	3.78	657.94	1426.15	1013.08	3.78	5:36:43.31	152.37	2.241
7159.39	34603.43	9:36:43.43	580.17	13585.820	3.82	655.08	1430.00	997.50	3.82	5:36:43.43	152.40	2.236
7159.52	34603.56	9:36:43.56	578.03	13552.714	3.85	651.98	1430.77	989.54	3.85	5:36:43.56	152.43	2.230
7159.64	34603.68	9:36:43.68	576.05	13519.609	3.87	649.12	1430.00	990.00	3.87	5:36:43.68	152.45	2.225
7159.77	34603.81	9:36:43.81	573.88	13486.504	3.9	646.01	1435.38	998.77	3.90	5:36:43.81	152.47	2.220
7159.89	34603.93	9:36:43.93	571.85	13453.400	3.92	643.13	1440.00	1015.50	3.92	5:36:43.93	152.49	2.214
7160.02	34604.06	9:36:44.06	569.60	13420.291	3.94	640.01	1440.00	1040.77	3.94	5:36:44.06	152.51	2.209
7160.14	34604.18	9:36:44.18	567.46	13387.182	3.95	637.13	1440.00	1069.50	3.95	5:36:44.18	152.53	2.203
7160.27	34604.31	9:36:44.31	565.07	13354.068	3.97	634.01	1440.00	1101.23	3.97	5:36:44.31	152.55	2.198
7160.39	34604.43	9:36:44.43	562.80	13320.955	3.99	631.13	1440.00	1134.50	3.99	5:36:44.43	152.58	2.192
7160.52	34604.56	9:36:44.56	560.27	13287.843	4.01	628.01	1440.00	1170.00	4.01	5:36:44.56	152.62	2.187
7160.64	34604.68	9:36:44.68	557.85	13254.725	4.03	625.13	1440.00	1208.00	4.03	5:36:44.68	152.65	2.181
7160.77	34604.81	9:36:44.81	555.15	13221.602	4.05	622.02	1435.38	1247.54	4.05	5:36:44.81	152.70	2.176
7160.89	34604.93	9:36:44.93	552.57	13188.473	4.07	619.15	1435.00	1289.00	4.07	5:36:44.93	152.74	2.171
7161.02	34605.06	9:36:45.06	549.68	13155.338	4.09	616.05	1430.77	1332.46	4.09	5:36:45.06	152.79	2.165
7161.14	34605.18	9:36:45.18	546.95	13122.199	4.11	613.19	1430.00	1368.50	4.11	5:36:45.18	152.84	2.160
7161.27	34605.31	9:36:45.31	543.93	13089.060	4.14	610.10	1426.15	1392.00	4.14	5:36:45.31	152.89	2.154

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FedEx Flight 1478 Flight Data

FDR Time (sec)	Total Seconds	Coordinated Universal Time (hh:mm:ss)	Radio Altitude (ft)	Distance To Runway (ft)	Roll Angle (deg)	Pressure Altitude (ft)	Vertical Speed (fpm)	Terrain Clearance Rate (fpm)	Absolute Value Roll Angle (deg)	Eastern Daylight Time (hh:mm:ss)	Computed Airspeed (kt)	Distance to Runway (nm)
7161.39	34605.43	9:36:45.43	541.13	13055.909	4.17	607.26	1420.00	1402.00	4.17	5:36:45.43	152.93	2.149
7161.52	34605.56	9:36:45.56	538.09	13022.752	4.2	604.19	1416.92	1398.92	4.20	5:36:45.56	152.97	2.143
7161.64	34605.68	9:36:45.68	535.33	12989.596	4.23	601.36	1415.00	1383.00	4.23	5:36:45.68	153.00	2.138
7161.77	34605.81	9:36:45.81	532.40	12956.435	4.26	598.31	1407.69	1353.69	4.26	5:36:45.81	153.03	2.132
7161.89	34605.93	9:36:45.93	529.77	12923.274	4.29	595.50	1405.00	1311.00	4.29	5:36:45.93	153.05	2.127
7162.02	34606.06	9:36:46.06	527.05	12890.113	4.33	592.47	1398.46	1257.23	4.33	5:36:46.06	153.05	2.121
7162.14	34606.18	9:36:46.18	524.62	12856.953	4.36	589.68	1395.00	1215.50	4.36	5:36:46.18	153.05	2.116
7162.27	34606.31	9:36:46.31	522.01	12823.794	4.4	586.68	1384.62	1202.31	4.40	5:36:46.31	153.04	2.111
7162.39	34606.43	9:36:46.43	519.58	12790.647	4.43	583.91	1385.00	1219.00	4.43	5:36:46.43	153.01	2.105
7162.52	34606.56	9:36:46.56	516.83	12757.500	4.47	580.92	1380.00	1265.08	4.47	5:36:46.56	152.98	2.100
7162.64	34606.68	9:36:46.68	514.15	12724.372	4.5	578.18	1370.00	1340.00	4.50	5:36:46.68	152.94	2.094
7162.77	34606.81	9:36:46.81	511.02	12691.251	4.53	575.22	1366.15	1445.08	4.53	5:36:46.81	152.89	2.089
7162.89	34606.93	9:36:46.93	507.87	12658.143	4.55	572.50	1360.00	1579.00	4.55	5:36:46.93	152.83	2.083
7163.02	34607.06	9:36:47.06	504.10	12625.047	4.58	569.56	1356.92	1739.54	4.58	5:36:47.06	152.77	2.078
7163.14	34607.18	9:36:47.18	500.33	12591.970	4.59	566.87	1345.00	1884.50	4.59	5:36:47.18	152.70	2.072
7163.27	34607.31	9:36:47.31	496.03	12558.912	4.61	563.96	1343.08	1982.77	4.61	5:36:47.31	152.63	2.067
7163.39	34607.43	9:36:47.43	491.96	12525.867	4.62	561.29	1335.00	2034.00	4.62	5:36:47.43	152.56	2.061
7163.52	34607.56	9:36:47.56	487.55	12492.840	4.62	558.42	1324.62	2037.69	4.62	5:36:47.56	152.49	2.056
7163.64	34607.68	9:36:47.68	483.56	12459.833	4.62	555.78	1320.00	1994.50	4.62	5:36:47.68	152.41	2.051
7163.77	34607.81	9:36:47.81	479.44	12426.850	4.6	552.94	1310.77	1903.38	4.60	5:36:47.81	152.33	2.045
7163.89	34607.93	9:36:47.93	475.90	12393.881	4.58	550.33	1305.00	1766.50	4.58	5:36:47.93	152.26	2.040
7164.02	34608.06	9:36:48.06	472.47	12360.930	4.55	547.53	1292.31	1583.54	4.55	5:36:48.06	152.18	2.034
7164.14	34608.18	9:36:48.18	469.67	12327.998	4.52	544.96	1285.00	1399.50	4.52	5:36:48.18	152.11	2.029
7164.27	34608.31	9:36:48.31	466.98	12295.085	4.47	542.19	1278.46	1242.92	4.47	5:36:48.31	152.04	2.024
7164.39	34608.43	9:36:48.43	464.75	12262.191	4.42	539.66	1265.00	1115.00	4.42	5:36:48.43	151.97	2.018
7164.52	34608.56	9:36:48.56	462.55	12229.317	4.35	536.93	1260.00	1016.31	4.35	5:36:48.56	151.90	2.013
7164.64	34608.68	9:36:48.68	460.66	12196.455	4.28	534.44	1245.00	945.00	4.28	5:36:48.68	151.85	2.007
7164.77	34608.81	9:36:48.81	458.70	12163.611	4.2	531.75	1241.54	904.15	4.20	5:36:48.81	151.79	2.002
7164.89	34608.93	9:36:48.93	456.92	12130.781	4.12	529.29	1230.00	890.00	4.12	5:36:48.93	151.74	1.996
7165.02	34609.06	9:36:49.06	454.96	12097.970	4.02	526.64	1223.08	904.62	4.02	5:36:49.06	151.69	1.991
7165.14	34609.18	9:36:49.18	453.11	12065.165	3.92	524.22	1210.00	924.00	3.92	5:36:49.18	151.65	1.986
7165.27	34609.31	9:36:49.31	451.09	12032.367	3.81	521.61	1204.62	932.77	3.81	5:36:49.31	151.61	1.980
7165.39	34609.43	9:36:49.43	449.23	11999.588	3.7	519.22	1195.00	930.00	3.70	5:36:49.43	151.58	1.975
7165.52	34609.56	9:36:49.56	447.24	11966.809	3.58	516.65	1186.15	917.08	3.58	5:36:49.56	151.56	1.969
7165.64	34609.68	9:36:49.68	445.46	11934.037	3.47	514.28	1185.00	893.00	3.47	5:36:49.68	151.54	1.964
7165.77	34609.81	9:36:49.81	443.60	11901.277	3.35	511.74	1172.31	857.54	3.35	5:36:49.81	151.52	1.959
7165.89	34609.93	9:36:49.93	441.98	11868.518	3.24	509.41	1165.00	811.50	3.24	5:36:49.93	151.51	1.953
7166.02	34610.06	9:36:50.06	440.34	11835.758	3.12	506.90	1158.46	756.00	3.12	5:36:50.06	151.49	1.948
7166.14	34610.18	9:36:50.18	438.91	11803.005	3.01	504.60	1150.00	715.50	3.01	5:36:50.18	151.47	1.943
7166.27	34610.31	9:36:50.31	437.37	11770.258	2.9	502.12	1144.62	707.54	2.90	5:36:50.31	151.46	1.937
7166.39	34610.43	9:36:50.43	435.91	11737.511	2.8	499.84	1140.00	732.00	2.80	5:36:50.43	151.44	1.932
7166.52	34610.56	9:36:50.56	434.20	11704.770	2.71	497.39	1130.77	789.23	2.71	5:36:50.56	151.41	1.926
7166.64	34610.68	9:36:50.68	432.44	11672.036	2.62	495.13	1130.00	880.00	2.62	5:36:50.68	151.38	1.921
7166.77	34610.81	9:36:50.81	430.27	11639.313	2.54	492.71	1116.92	1002.92	2.54	5:36:50.81	151.34	1.916
7166.89	34610.93	9:36:50.93	427.95	11606.596	2.47	490.48	1115.00	1158.50	2.47	5:36:50.93	151.30	1.910
7167.02	34611.06	9:36:51.06	425.04	11573.892	2.41	488.09	1103.08	1344.92	2.41	5:36:51.06	151.25	1.905
7167.14	34611.18	9:36:51.18	421.99	11541.200	2.37	485.89	1100.00	1521.00	2.37	5:36:51.18	151.19	1.899
7167.27	34611.31	9:36:51.31	418.40	11508.526	2.32	483.52	1093.85	1659.23	2.32	5:36:51.31	151.13	1.894
7167.39	34611.43	9:36:51.43	414.88	11475.865	2.3	481.35	1085.00	1758.50	2.30	5:36:51.43	151.07	1.889
7167.52	34611.56	9:36:51.56	410.94	11443.222	2.28	479.02	1075.38	1818.46	2.28	5:36:51.56	151.00	1.883
7167.64	34611.68	9:36:51.68	407.26	11410.597	2.27	476.87	1075.00	1840.00	2.27	5:36:51.68	150.93	1.878
7167.77	34611.81	9:36:51.81	403.31	11377.992	2.27	474.57	1061.54	1822.15	2.27	5:36:51.81	150.86	1.873
7167.89	34611.93	9:36:51.93	399.78	11345.404	2.27	472.46	1055.00	1765.50	2.27	5:36:51.93	150.79	1.867
7168.02	34612.06	9:36:52.06	396.16	11312.836	2.29	470.18	1052.31	1672.15	2.29	5:36:52.06	150.72	1.862
7168.14	34612.18	9:36:52.18	393.02	11280.286	2.31	468.09	1045.00	1570.50	2.31	5:36:52.18	150.65	1.857
7168.27	34612.31	9:36:52.31	389.81	11247.749	2.34	465.85	1033.85	1481.08	2.34	5:36:52.31	150.58	1.851
7168.39	34612.43	9:36:52.43	387.00	11215.231	2.37	463.79	1030.00	1405.00	2.37	5:36:52.43	150.52	1.846
7168.52	34612.56	9:36:52.56	384.09	11182.731	2.41	461.57	1024.62	1341.69	2.41	5:36:52.56	150.45	1.840
7168.64	34612.68	9:36:52.68	381.51	11150.244	2.45	459.52	1025.00	1292.00	2.45	5:36:52.68	150.39	1.835
7168.77	34612.81	9:36:52.81	378.79	11117.776	2.5	457.32	1015.38	1254.92	2.50	5:36:52.81	150.33	1.830
7168.89	34612.93	9:36:52.93	376.33	11085.314	2.54	455.30	1010.00	1230.50	2.54	5:36:52.93	150.27	1.824
7169.02	34613.06	9:36:53.06	373.69	11052.871	2.59	453.11	1010.77	1219.38	2.59	5:36:53.06	150.21	1.819
7169.14	34613.18	9:36:53.18	371.26	11020.440	2.63	451.10	1005.00	1215.00	2.63	5:36:53.18	150.15	1.814
7169.27	34613.31	9:36:53.31	368.63	10988.021	2.68	448.92	1006.15	1212.00	2.68	5:36:53.31	150.09	1.808
7169.39	34613.43	9:36:53.43	366.21	10955.614	2.72	446.91	1005.00	1212.00	2.72	5:36:53.43	150.03	1.803

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FedEx Flight 1478 Flight Data

FDR Time (sec)	Total Seconds	Coordinated Universal Time (hh:mm:ss)	Radio Altitude (ft)	Distance To Runway (ft)	Roll Angle (deg)	Pressure Altitude (ft)	Vertical Speed (fpm)	Terrain Clearance Rate (fpm)	Absolute Value Roll Angle (deg)	Eastern Daylight Time (hh:mm:ss)	Computed Airspeed (kt)	Distance to Runway (nm)
7169.52	34613.56	9:36:53.56	363.58	10923.220	2.76	444.73	1006.15	1213.38	2.76	5:36:53.56	149.96	1.798
7169.64	34613.68	9:36:53.68	361.14	10890.838	2.8	442.72	1005.00	1217.00	2.80	5:36:53.68	149.90	1.792
7169.77	34613.81	9:36:53.81	358.49	10858.468	2.84	440.55	1001.54	1223.08	2.84	5:36:53.81	149.83	1.787
7169.89	34613.93	9:36:53.93	356.03	10826.111	2.88	438.53	1010.00	1231.00	2.88	5:36:53.93	149.76	1.782
7170.02	34614.06	9:36:54.06	353.34	10793.771	2.91	436.35	1006.15	1240.62	2.91	5:36:54.06	149.69	1.776
7170.14	34614.18	9:36:54.18	350.84	10761.456	2.94	434.32	1015.00	1249.50	2.94	5:36:54.18	149.62	1.771
7170.27	34614.31	9:36:54.31	348.13	10729.165	2.98	432.13	1010.77	1253.54	2.98	5:36:54.31	149.55	1.766
7170.39	34614.43	9:36:54.43	345.62	10696.898	3	430.10	1015.00	1255.00	3.00	5:36:54.43	149.48	1.760
7170.52	34614.56	9:36:54.56	342.91	10664.650	3.03	427.89	1020.00	1251.69	3.03	5:36:54.56	149.42	1.755
7170.64	34614.68	9:36:54.68	340.42	10632.425	3.06	425.85	1020.00	1244.50	3.06	5:36:54.68	149.36	1.750
7170.77	34614.81	9:36:54.81	337.74	10600.225	3.08	423.63	1024.62	1233.69	3.08	5:36:54.81	149.30	1.745
7170.89	34614.93	9:36:54.93	335.31	10568.044	3.11	421.58	1025.00	1219.00	3.11	5:36:54.93	149.25	1.739
7171.02	34615.06	9:36:55.06	332.70	10535.880	3.13	419.35	1029.23	1200.92	3.13	5:36:55.06	149.20	1.734
7171.14	34615.18	9:36:55.18	330.34	10503.741	3.16	417.29	1030.00	1184.00	3.16	5:36:55.18	149.16	1.729
7171.27	34615.31	9:36:55.31	327.80	10471.621	3.18	415.06	1029.23	1170.92	3.18	5:36:55.31	149.12	1.723
7171.39	34615.43	9:36:55.43	325.47	10439.519	3.2	412.99	1035.00	1163.00	3.20	5:36:55.43	149.09	1.718
7171.52	34615.56	9:36:55.56	322.96	10407.436	3.23	410.75	1033.85	1159.85	3.23	5:36:55.56	149.06	1.713
7171.64	34615.68	9:36:55.68	320.64	10375.365	3.25	408.68	1035.00	1160.50	3.25	5:36:55.68	149.04	1.708
7171.77	34615.81	9:36:55.81	318.11	10343.319	3.27	406.43	1038.46	1166.77	3.27	5:36:55.81	149.02	1.702
7171.89	34615.93	9:36:55.93	315.76	10311.285	3.3	404.35	1040.00	1176.50	3.30	5:36:55.93	149.01	1.697
7172.02	34616.06	9:36:56.06	313.18	10279.270	3.32	402.10	1038.46	1190.77	3.32	5:36:56.06	148.99	1.692
7172.14	34616.18	9:36:56.18	310.77	10247.274	3.34	400.02	1040.00	1202.50	3.34	5:36:56.18	148.97	1.686
7172.27	34616.31	9:36:56.31	308.16	10215.296	3.36	397.76	1043.08	1206.46	3.36	5:36:56.31	148.95	1.681
7172.39	34616.43	9:36:56.43	305.75	10183.332	3.38	395.68	1040.00	1202.50	3.38	5:36:56.43	148.93	1.676
7172.52	34616.56	9:36:56.56	303.17	10151.398	3.4	393.42	1043.08	1190.77	3.40	5:36:56.56	148.91	1.671
7172.64	34616.68	9:36:56.68	300.83	10119.476	3.41	391.33	1045.00	1171.50	3.41	5:36:56.68	148.88	1.665
7172.77	34616.81	9:36:56.81	298.35	10087.580	3.42	389.07	1043.08	1144.62	3.42	5:36:56.81	148.84	1.660
7172.89	34616.93	9:36:56.93	296.13	10055.708	3.43	386.98	1045.00	1110.00	3.43	5:36:56.93	148.80	1.655
7173.02	34617.06	9:36:57.06	293.82	10023.861	3.44	384.71	1047.69	1067.54	3.44	5:36:57.06	148.75	1.650
7173.14	34617.18	9:36:57.18	291.76	9992.033	3.45	382.62	1045.00	1030.50	3.45	5:36:57.18	148.70	1.644
7173.27	34617.31	9:36:57.31	289.58	9960.241	3.45	380.36	1043.08	1006.62	3.45	5:36:57.31	148.64	1.639
7173.39	34617.43	9:36:57.43	287.59	9928.468	3.45	378.28	1040.00	995.00	3.45	5:36:57.43	148.57	1.634
7173.52	34617.56	9:36:57.56	285.43	9896.732	3.45	376.02	1043.08	997.38	3.45	5:36:57.56	148.50	1.629
7173.64	34617.68	9:36:57.68	283.40	9865.020	3.44	373.94	1040.00	1012.50	3.44	5:36:57.68	148.43	1.624
7173.77	34617.81	9:36:57.81	281.15	9833.338	3.43	371.69	1038.46	1040.77	3.43	5:36:57.81	148.36	1.618
7173.89	34617.93	9:36:57.93	278.98	9801.681	3.42	369.62	1035.00	1082.00	3.42	5:36:57.93	148.28	1.613
7174.02	34618.06	9:36:58.06	276.52	9770.061	3.41	367.38	1033.85	1135.85	3.41	5:36:58.06	148.20	1.608
7174.14	34618.18	9:36:58.18	274.14	9738.465	3.4	365.33	1025.00	1191.00	3.40	5:36:58.18	148.13	1.603
7174.27	34618.31	9:36:58.31	271.45	9706.905	3.38	363.12	1020.00	1238.77	3.38	5:36:58.31	148.05	1.598
7174.39	34618.43	9:36:58.43	268.90	9675.370	3.37	361.09	1015.00	1279.00	3.37	5:36:58.43	147.98	1.592
7174.52	34618.56	9:36:58.56	266.05	9643.865	3.36	358.90	1010.77	1312.15	3.36	5:36:58.56	147.91	1.587
7174.64	34618.68	9:36:58.68	263.38	9612.385	3.34	356.90	1000.00	1338.00	3.34	5:36:58.68	147.85	1.582
7174.77	34618.81	9:36:58.81	260.44	9580.935	3.33	354.75	992.31	1356.46	3.33	5:36:58.81	147.79	1.577
7174.89	34618.93	9:36:58.93	257.70	9549.504	3.32	352.78	985.00	1367.50	3.32	5:36:58.93	147.74	1.572
7175.02	34619.06	9:36:59.06	254.73	9518.103	3.31	350.66	978.46	1371.69	3.31	5:36:59.06	147.69	1.566
7175.14	34619.18	9:36:59.18	251.98	9486.728	3.3	348.72	970.00	1373.50	3.30	5:36:59.18	147.66	1.561
7175.27	34619.31	9:36:59.31	249.00	9455.376	3.29	346.64	960.00	1375.38	3.29	5:36:59.31	147.62	1.556
7175.39	34619.43	9:36:59.43	246.25	9424.038	3.29	344.74	950.00	1378.00	3.29	5:36:59.43	147.59	1.551
7175.52	34619.56	9:36:59.56	243.26	9392.724	3.29	342.69	946.15	1380.92	3.29	5:36:59.56	147.57	1.546
7175.64	34619.68	9:36:59.68	240.49	9361.435	3.29	340.82	935.00	1385.00	3.29	5:36:59.68	147.55	1.541
7175.77	34619.81	9:36:59.81	237.48	9330.158	3.29	338.81	927.69	1389.69	3.29	5:36:59.81	147.53	1.536
7175.89	34619.93	9:36:59.93	234.69	9298.901	3.29	336.96	925.00	1395.00	3.29	5:36:59.93	147.51	1.530
7176.02	34620.06	9:37:00.06	231.65	9267.662	3.3	334.98	913.85	1399.38	3.30	5:37:00.06	147.49	1.525
7176.14	34620.18	9:37:00.18	228.87	9236.442	3.31	333.16	910.00	1392.00	3.31	5:37:00.18	147.47	1.520
7176.27	34620.31	9:37:00.31	225.92	9205.247	3.32	331.19	909.23	1363.38	3.32	5:37:00.31	147.44	1.515
7176.39	34620.43	9:37:00.43	223.29	9174.064	3.33	329.39	900.00	1313.50	3.33	5:37:00.43	147.41	1.510
7176.52	34620.56	9:37:00.56	220.60	9142.907	3.34	327.44	900.00	1242.46	3.34	5:37:00.56	147.38	1.505
7176.64	34620.68	9:37:00.68	218.30	9111.774	3.35	325.65	895.00	1149.50	3.35	5:37:00.68	147.34	1.500
7176.77	34620.81	9:37:00.81	216.05	9080.660	3.36	323.71	895.38	1035.23	3.36	5:37:00.81	147.29	1.494
7176.89	34620.93	9:37:00.93	214.25	9049.565	3.37	321.92	895.00	900.00	3.37	5:37:00.93	147.25	1.489
7177.02	34621.06	9:37:01.06	212.64	9018.495	3.38	319.99	890.77	744.92	3.38	5:37:01.06	147.20	1.484
7177.14	34621.18	9:37:01.18	211.45	8987.450	3.39	318.21	890.00	593.50	3.39	5:37:01.18	147.15	1.479
7177.27	34621.31	9:37:01.31	210.45	8956.423	3.4	316.29	886.15	462.92	3.40	5:37:01.31	147.11	1.474
7177.39	34621.43	9:37:01.43	209.75	8925.421	3.4	314.51	890.00	352.50	3.40	5:37:01.43	147.07	1.469
7177.52	34621.56	9:37:01.56	209.17	8894.438	3.4	312.59	886.15	263.54	3.40	5:37:01.56	147.03	1.464

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FDR Time (sec)	Total Seconds	Coordinated Universal Time (hh:mm:ss)	Radio Altitude (ft)	Distance To Runway (ft)	Roll Angle (deg)	Pressure Altitude (ft)	Vertical Speed (fpm)	Terrain Clearance Rate (fpm)	Absolute Value Roll Angle (deg)	Eastern Daylight Time (hh:mm:ss)	Computed Airspeed (kt)	Distance to Runway (nm)
7177.64	34621.68	9:37:01.68	208.78	8863.468	3.39	310.82	885.00	195.50	3.39	5:37:01.68	147.00	1.459
7177.77	34621.81	9:37:01.81	208.46	8832.522	3.38	308.92	876.92	148.62	3.38	5:37:01.81	146.98	1.454
7177.89	34621.93	9:37:01.93	208.22	8801.589	3.37	307.16	880.00	122.50	3.37	5:37:01.93	146.97	1.449
7178.02	34622.06	9:37:02.06	207.96	8770.663	3.35	305.27	872.31	117.69	3.35	5:37:02.06	146.97	1.443
7178.14	34622.18	9:37:02.18	207.67	8739.755	3.33	303.54	865.00	146.00	3.33	5:37:02.18	146.98	1.438
7178.27	34622.31	9:37:02.31	207.20	8708.854	3.31	301.68	858.46	215.54	3.31	5:37:02.31	147.00	1.433
7178.39	34622.43	9:37:02.43	206.55	8677.960	3.27	299.97	855.00	324.50	3.27	5:37:02.43	147.03	1.428
7178.52	34622.56	9:37:02.56	205.52	8647.079	3.23	298.14	844.62	475.38	3.23	5:37:02.56	147.07	1.423
7178.64	34622.68	9:37:02.68	204.19	8616.199	3.19	296.47	835.00	666.50	3.19	5:37:02.68	147.11	1.418
7178.77	34622.81	9:37:02.81	202.24	8585.325	3.14	294.68	826.15	898.62	3.14	5:37:02.81	147.15	1.413
7178.89	34622.93	9:37:02.93	199.90	8554.458	3.09	293.05	815.00	1172.00	3.09	5:37:02.93	147.19	1.408
7179.02	34623.06	9:37:03.06	196.69	8523.598	3.03	291.31	803.08	1481.08	3.03	5:37:03.06	147.24	1.403
7179.14	34623.18	9:37:03.18	193.15	8492.738	2.96	289.72	795.00	1769.00	2.96	5:37:03.18	147.28	1.398
7179.27	34623.31	9:37:03.31	188.84	8461.892	2.89	288.03	780.00	1992.00	2.89	5:37:03.31	147.33	1.393
7179.39	34623.43	9:37:03.43	184.54	8431.052	2.82	286.49	770.00	2150.00	2.82	5:37:03.43	147.36	1.388
7179.52	34623.56	9:37:03.56	179.68	8400.218	2.73	284.84	761.54	2241.69	2.73	5:37:03.56	147.40	1.383
7179.64	34623.68	9:37:03.68	175.14	8369.392	2.65	283.35	745.00	2268.50	2.65	5:37:03.68	147.43	1.377
7179.77	34623.81	9:37:03.81	170.31	8338.572	2.56	281.76	733.85	2229.23	2.56	5:37:03.81	147.47	1.372
7179.89	34623.93	9:37:03.93	166.06	8307.764	2.47	280.31	725.00	2125.00	2.47	5:37:03.93	147.50	1.367
7180.02	34624.06	9:37:04.06	161.82	8276.957	2.37	278.76	715.38	1956.46	2.37	5:37:04.06	147.53	1.362
7180.14	34624.18	9:37:04.18	158.33	8246.163	2.27	277.36	700.00	1748.00	2.27	5:37:04.18	147.56	1.357
7180.27	34624.31	9:37:04.31	155.04	8215.376	2.16	275.85	696.92	1516.62	2.16	5:37:04.31	147.60	1.352
7180.39	34624.43	9:37:04.43	152.52	8184.595	2.06	274.49	680.00	1262.50	2.06	5:37:04.43	147.63	1.347
7180.52	34624.56	9:37:04.56	150.38	8153.815	1.95	273.02	678.46	985.85	1.95	5:37:04.56	147.67	1.342
7180.64	34624.68	9:37:04.68	149.01	8123.047	1.84	271.69	665.00	687.00	1.84	5:37:04.68	147.71	1.337
7180.77	34624.81	9:37:04.81	148.22	8092.286	1.73	270.27	655.38	365.08	1.73	5:37:04.81	147.74	1.332
7180.89	34624.93	9:37:04.93	148.17	8061.526	1.63	268.97	650.00	21.50	1.63	5:37:04.93	147.78	1.327
7181.02	34625.06	9:37:05.06	148.92	8030.778	1.52	267.58	641.54	-342.92	1.52	5:37:05.06	147.81	1.322
7181.14	34625.18	9:37:05.18	150.29	8000.031	1.42	266.31	635.00	-685.00	1.42	5:37:05.18	147.84	1.317
7181.27	34625.31	9:37:05.31	152.40	7969.302	1.31	264.96	623.08	-975.23	1.31	5:37:05.31	147.86	1.312
7181.39	34625.43	9:37:05.43	154.83	7938.579	1.22	263.73	615.00	-1214.00	1.22	5:37:05.43	147.87	1.307
7181.52	34625.56	9:37:05.56	157.86	7907.869	1.12	262.41	609.23	-1398.46	1.12	5:37:05.56	147.87	1.301
7181.64	34625.68	9:37:05.68	160.92	7877.171	1.03	261.21	600.00	-1532.50	1.03	5:37:05.68	147.87	1.296
7181.77	34625.81	9:37:05.81	164.42	7846.498	0.94	259.94	586.15	-1613.08	0.94	5:37:05.81	147.85	1.291
7181.89	34625.93	9:37:05.93	167.70	7815.836	0.87	258.77	585.00	-1641.50	0.87	5:37:05.93	147.82	1.286
7182.02	34626.06	9:37:06.06	171.21	7785.199	0.79	257.53	572.31	-1618.15	0.79	5:37:06.06	147.77	1.281
7182.14	34626.18	9:37:06.18	174.31	7754.579	0.73	256.41	560.00	-1550.00	0.73	5:37:06.18	147.73	1.276
7182.27	34626.31	9:37:06.31	177.43	7723.989	0.67	255.21	553.85	-1442.31	0.67	5:37:06.31	147.66	1.271
7182.39	34626.43	9:37:06.43	180.02	7693.417	0.62	254.12	545.00	-1296.00	0.62	5:37:06.43	147.60	1.266
7182.52	34626.56	9:37:06.56	182.43	7662.869	0.58	252.96	535.38	-1109.54	0.58	5:37:06.56	147.53	1.261
7182.64	34626.68	9:37:06.68	184.20	7632.345	0.54	251.90	530.00	-885.00	0.54	5:37:06.68	147.46	1.256
7182.77	34626.81	9:37:06.81	185.54	7601.849	0.52	250.77	521.54	-620.77	0.52	5:37:06.81	147.38	1.251
7182.89	34626.93	9:37:06.93	186.18	7571.372	0.5	249.75	510.00	-317.00	0.50	5:37:06.93	147.31	1.246
7183.02	34627.06	9:37:07.06	186.13	7540.918	0.48	248.65	507.69	21.69	0.48	5:37:07.06	147.23	1.241
7183.14	34627.18	9:37:07.18	185.44	7510.488	0.48	247.65	500.00	345.50	0.48	5:37:07.18	147.16	1.236
7183.27	34627.31	9:37:07.31	184.10	7480.081	0.48	246.57	498.46	617.08	0.48	5:37:07.31	147.09	1.231
7183.39	34627.43	9:37:07.43	182.43	7449.698	0.48	245.58	495.00	835.00	0.48	5:37:07.43	147.02	1.226
7183.52	34627.56	9:37:07.56	180.26	7419.333	0.5	244.52	489.23	1000.15	0.50	5:37:07.56	146.95	1.221
7183.64	34627.68	9:37:07.68	178.04	7388.991	0.51	243.55	485.00	1112.00	0.51	5:37:07.68	146.88	1.216
7183.77	34627.81	9:37:07.81	175.50	7358.673	0.53	242.49	489.23	1170.92	0.53	5:37:07.81	146.81	1.211
7183.89	34627.93	9:37:07.93	173.15	7328.379	0.56	241.52	485.00	1176.00	0.56	5:37:07.93	146.75	1.206
7184.02	34628.06	9:37:08.06	170.70	7298.102	0.59	240.47	484.62	1131.69	0.59	5:37:08.06	146.68	1.201
7184.14	34628.18	9:37:08.18	168.54	7267.849	0.62	239.49	490.00	1079.50	0.62	5:37:08.18	146.61	1.196
7184.27	34628.31	9:37:08.31	166.26	7237.619	0.66	238.44	484.62	1050.92	0.66	5:37:08.31	146.54	1.191
7184.39	34628.43	9:37:08.43	164.17	7207.408	0.69	237.46	490.00	1045.50	0.69	5:37:08.43	146.48	1.186
7184.52	34628.56	9:37:08.56	161.86	7177.219	0.73	236.41	484.62	1065.69	0.73	5:37:08.56	146.41	1.181
7184.64	34628.68	9:37:08.68	159.65	7147.049	0.77	235.43	490.00	1108.50	0.77	5:37:08.68	146.35	1.176
7184.77	34628.81	9:37:08.81	157.10	7116.895	0.81	234.37	489.23	1176.46	0.81	5:37:08.81	146.29	1.171
7184.89	34628.93	9:37:08.93	154.56	7086.760	0.86	233.40	485.00	1268.00	0.86	5:37:08.93	146.24	1.166
7185.02	34629.06	9:37:09.06	151.57	7056.641	0.9	232.35	484.62	1381.85	0.90	5:37:09.06	146.19	1.161
7185.14	34629.18	9:37:09.18	148.59	7026.540	0.95	231.39	480.00	1486.50	0.95	5:37:09.18	146.15	1.156
7185.27	34629.31	9:37:09.31	145.22	6996.456	0.99	230.35	480.00	1558.62	0.99	5:37:09.31	146.12	1.151
7185.39	34629.43	9:37:09.43	142.02	6966.384	1.04	229.40	475.00	1599.00	1.04	5:37:09.43	146.09	1.147
7185.52	34629.56	9:37:09.56	138.54	6936.329	1.09	228.39	466.15	1607.54	1.09	5:37:09.56	146.06	1.142
7185.64	34629.68	9:37:09.68	135.37	6906.285	1.14	227.47	460.00	1583.50	1.14	5:37:09.68	146.04	1.137

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FedEx Flight 1478 Flight Data

FDR Time (sec)	Total Seconds	Coordinated Universal Time (hh:mm:ss)	Radio Altitude (ft)	Distance To Runway (ft)	Roll Angle (deg)	Pressure Altitude (ft)	Vertical Speed (fpm)	Terrain Clearance Rate (fpm)	Absolute Value Roll Angle (deg)	Eastern Daylight Time (hh:mm:ss)	Computed Airspeed (kt)	Distance to Runway (nm)
7185.77	34629.81	9:37:09.81	132.06	6876.259	1.19	226.48	456.92	1526.77	1.19	5:37:09.81	146.02	1.132
7185.89	34629.93	9:37:09.93	129.18	6846.244	1.24	225.59	445.00	1438.00	1.24	5:37:09.93	146.00	1.127
7186.02	34630.06	9:37:10.06	126.33	6816.239	1.3	224.64	438.46	1318.62	1.30	5:37:10.06	145.99	1.122
7186.14	34630.18	9:37:10.18	123.95	6786.252	1.36	223.78	430.00	1190.00	1.36	5:37:10.18	145.97	1.117
7186.27	34630.31	9:37:10.31	121.64	6756.282	1.42	222.87	420.00	1066.62	1.42	5:37:10.31	145.95	1.112
7186.39	34630.43	9:37:10.43	119.74	6726.330	1.48	222.04	415.00	949.00	1.48	5:37:10.43	145.93	1.107
7186.52	34630.56	9:37:10.56	117.92	6696.395	1.54	221.16	406.15	838.62	1.54	5:37:10.56	145.91	1.102
7186.64	34630.68	9:37:10.68	116.45	6666.476	1.61	220.36	400.00	733.50	1.61	5:37:10.68	145.88	1.097
7186.77	34630.81	9:37:10.81	115.08	6636.576	1.68	219.51	392.31	635.08	1.68	5:37:10.81	145.84	1.092
7186.89	34630.93	9:37:10.93	113.99	6606.699	1.74	218.74	385.00	542.50	1.74	5:37:10.93	145.80	1.087
7187.02	34631.06	9:37:11.06	113.00	6576.839	1.81	217.91	383.08	456.46	1.81	5:37:11.06	145.76	1.082
7187.14	34631.18	9:37:11.18	112.25	6546.996	1.88	217.16	375.00	378.50	1.88	5:37:11.18	145.71	1.077
7187.27	34631.31	9:37:11.31	111.57	6517.177	1.95	216.34	378.46	310.62	1.95	5:37:11.31	145.65	1.073
7187.39	34631.43	9:37:11.43	111.07	6487.376	2.02	215.58	380.00	251.50	2.02	5:37:11.43	145.60	1.068
7187.52	34631.56	9:37:11.56	110.63	6457.598	2.09	214.77	373.85	203.08	2.09	5:37:11.56	145.53	1.063
7187.64	34631.68	9:37:11.68	110.30	6427.845	2.16	214.01	380.00	164.50	2.16	5:37:11.68	145.47	1.058
7187.77	34631.81	9:37:11.81	110.01	6398.109	2.22	213.18	383.08	134.77	2.22	5:37:11.81	145.39	1.053
7187.89	34631.93	9:37:11.93	109.78	6368.398	2.28	212.40	390.00	115.50	2.28	5:37:11.93	145.32	1.048
7188.02	34632.06	9:37:12.06	109.55	6338.711	2.34	211.55	392.31	105.23	2.34	5:37:12.06	145.24	1.043
7188.14	34632.18	9:37:12.18	109.35	6309.043	2.39	210.76	395.00	103.00	2.39	5:37:12.18	145.16	1.038
7188.27	34632.31	9:37:12.31	109.12	6279.405	2.44	209.88	406.15	105.69	2.44	5:37:12.31	145.07	1.033
7188.39	34632.43	9:37:12.43	108.89	6249.787	2.48	209.06	410.00	114.00	2.48	5:37:12.43	144.98	1.029
7188.52	34632.56	9:37:12.56	108.61	6220.194	2.52	208.15	420.00	128.31	2.52	5:37:12.56	144.88	1.024
7188.64	34632.68	9:37:12.68	108.31	6190.631	2.55	207.31	420.00	148.00	2.55	5:37:12.68	144.78	1.019
7188.77	34632.81	9:37:12.81	107.94	6161.100	2.58	206.37	433.85	173.54	2.58	5:37:12.81	144.67	1.014
7188.89	34632.93	9:37:12.93	107.53	6131.594	2.59	205.50	435.00	204.00	2.59	5:37:12.93	144.56	1.009
7189.02	34633.06	9:37:13.06	107.01	6102.126	2.6	204.54	443.08	240.46	2.60	5:37:13.06	144.44	1.004
7189.14	34633.18	9:37:13.18	106.45	6072.690	2.61	203.64	450.00	280.50	2.61	5:37:13.18	144.33	0.999
7189.27	34633.31	9:37:13.31	105.75	6043.290	2.6	202.65	456.92	324.46	2.60	5:37:13.31	144.20	0.995
7189.39	34633.43	9:37:13.43	105.00	6013.922	2.59	201.73	460.00	370.50	2.59	5:37:13.43	144.08	0.990
7189.52	34633.56	9:37:13.56	104.09	5984.598	2.57	200.73	461.54	420.00	2.57	5:37:13.56	143.95	0.985
7189.64	34633.68	9:37:13.68	103.15	5955.311	2.55	199.79	470.00	472.50	2.55	5:37:13.68	143.83	0.980
7189.77	34633.81	9:37:13.81	102.01	5926.061	2.52	198.77	470.77	527.54	2.52	5:37:13.81	143.69	0.975
7189.89	34633.93	9:37:13.93	100.83	5896.848	2.48	197.81	480.00	586.50	2.48	5:37:13.93	143.57	0.970
7190.02	34634.06	9:37:14.06	99.43	5867.677	2.44	196.77	480.00	647.08	2.44	5:37:14.06	143.43	0.966
7190.14	34634.18	9:37:14.18	98.03	5838.544	2.4	195.80	485.00	703.00	2.40	5:37:14.18	143.30	0.961
7190.27	34634.31	9:37:14.31	96.41	5809.453	2.34	194.74	489.23	747.69	2.34	5:37:14.31	143.16	0.956
7190.39	34634.43	9:37:14.43	94.84	5780.392	2.3	193.76	490.00	781.50	2.30	5:37:14.43	143.04	0.951
7190.52	34634.56	9:37:14.56	93.10	5751.374	2.24	192.68	498.46	804.46	2.24	5:37:14.56	142.90	0.947
7190.64	34634.68	9:37:14.68	91.47	5722.392	2.19	191.68	500.00	816.50	2.19	5:37:14.68	142.77	0.942
7190.77	34634.81	9:37:14.81	89.70	5693.441	2.13	190.59	503.08	816.92	2.13	5:37:14.81	142.64	0.937
7190.89	34634.93	9:37:14.93	88.08	5664.526	2.07	189.58	505.00	807.00	2.07	5:37:14.93	142.52	0.932
7191.02	34635.06	9:37:15.06	86.38	5635.653	2.02	188.47	512.31	786.46	2.02	5:37:15.06	142.39	0.928
7191.14	34635.18	9:37:15.18	84.86	5606.806	1.96	187.44	515.00	760.50	1.96	5:37:15.18	142.28	0.923
7191.27	34635.31	9:37:15.31	83.27	5577.994	1.91	186.32	516.92	734.31	1.91	5:37:15.31	142.16	0.918
7191.39	34635.43	9:37:15.43	81.85	5549.213	1.86	185.29	515.00	706.50	1.86	5:37:15.43	142.06	0.913
7191.52	34635.56	9:37:15.56	80.38	5520.463	1.81	184.17	516.92	678.46	1.81	5:37:15.56	141.96	0.909
7191.64	34635.68	9:37:15.68	79.08	5491.739	1.77	183.15	510.00	649.50	1.77	5:37:15.68	141.87	0.904
7191.77	34635.81	9:37:15.81	77.74	5463.045	1.73	182.04	512.31	619.85	1.73	5:37:15.81	141.79	0.899
7191.89	34635.93	9:37:15.93	76.56	5434.371	1.69	181.02	510.00	589.00	1.69	5:37:15.93	141.72	0.894
7192.02	34636.06	9:37:16.06	75.36	5405.723	1.65	179.93	503.08	557.54	1.65	5:37:16.06	141.65	0.890
7192.14	34636.18	9:37:16.18	74.31	5377.088	1.62	178.94	495.00	522.00	1.62	5:37:16.18	141.59	0.885
7192.27	34636.31	9:37:16.31	73.27	5348.479	1.59	177.89	484.62	481.38	1.59	5:37:16.31	141.54	0.880
7192.39	34636.43	9:37:16.43	72.40	5319.883	1.57	176.93	480.00	435.00	1.57	5:37:16.43	141.51	0.876
7192.52	34636.56	9:37:16.56	71.57	5291.315	1.55	175.92	466.15	383.08	1.55	5:37:16.56	141.47	0.871
7192.64	34636.68	9:37:16.68	70.92	5262.747	1.53	175.01	455.00	326.00	1.53	5:37:16.68	141.45	0.866
7192.77	34636.81	9:37:16.81	70.35	5234.200	1.51	174.04	447.69	262.15	1.51	5:37:16.81	141.43	0.861
7192.89	34636.93	9:37:16.93	69.96	5205.660	1.49	173.17	435.00	194.00	1.49	5:37:16.93	141.43	0.857
7193.02	34637.06	9:37:17.06	69.70	5177.140	1.47	172.25	424.62	120.92	1.47	5:37:17.06	141.43	0.852
7193.14	34637.18	9:37:17.18	69.58	5148.628	1.45	171.42	415.00	61.50	1.45	5:37:17.18	141.43	0.847
7193.27	34637.31	9:37:17.31	69.51	5120.122	1.43	170.52	415.38	30.00	1.43	5:37:17.31	141.45	0.843
7193.39	34637.43	9:37:17.43	69.46	5091.623	1.41	169.72	400.00	25.50	1.41	5:37:17.43	141.46	0.838
7193.52	34637.56	9:37:17.56	69.35	5063.136	1.39	168.83	410.77	49.38	1.39	5:37:17.56	141.48	0.833
7193.64	34637.68	9:37:17.68	69.15	5034.656	1.37	168.03	400.00	99.50	1.37	5:37:17.68	141.50	0.829
7193.77	34637.81	9:37:17.81	68.77	5006.182	1.35	167.13	415.38	178.15	1.35	5:37:17.81	141.52	0.824

DCA02MA054
FedEx Flight 1478 Flight Data

FDR Time (sec)	Total Seconds	Coordinated Universal Time (hh:mm:ss)	Radio Altitude (ft)	Distance To Runway (ft)	Roll Angle (deg)	Pressure Altitude (ft)	Vertical Speed (fpm)	Terrain Clearance Rate (fpm)	Absolute Value Roll Angle (deg)	Eastern Daylight Time (hh:mm:ss)	Computed Airspeed (kt)	Distance to Runway (nm)
7193.89	34637.93	9:37:17.93	68.20	4977.713	1.33	166.30	415.00	284.00	1.33	5:37:17.93	141.54	0.819
7194.02	34638.06	9:37:18.06	67.30	4949.257	1.3	165.35	438.46	415.85	1.30	5:37:18.06	141.55	0.815
7194.14	34638.18	9:37:18.18	66.19	4920.806	1.28	164.46	445.00	553.50	1.28	5:37:18.18	141.56	0.810
7194.27	34638.31	9:37:18.31	64.72	4892.360	1.26	163.44	470.77	680.77	1.26	5:37:18.31	141.56	0.805
7194.39	34638.43	9:37:18.43	63.12	4863.932	1.25	162.46	490.00	798.50	1.25	5:37:18.43	141.54	0.801
7194.52	34638.56	9:37:18.56	61.16	4835.515	1.24	161.34	516.92	905.54	1.24	5:37:18.56	141.52	0.796
7194.64	34638.68	9:37:18.68	59.15	4807.102	1.24	160.27	535.00	1003.50	1.24	5:37:18.68	141.48	0.791
7194.77	34638.81	9:37:18.81	56.79	4778.713	1.26	159.04	567.69	1090.15	1.26	5:37:18.81	141.43	0.786
7194.89	34638.93	9:37:18.93	54.45	4750.341	1.29	157.86	590.00	1168.00	1.29	5:37:18.93	141.37	0.782
7195.02	34639.06	9:37:19.06	51.78	4721.992	1.34	156.52	618.46	1232.77	1.34	5:37:19.06	141.30	0.777
7195.14	34639.18	9:37:19.18	49.26	4693.660	1.42	155.25	635.00	1262.00	1.42	5:37:19.18	141.22	0.772
7195.27	34639.31	9:37:19.31	46.58	4665.351	1.53	153.83	655.38	1235.08	1.53	5:37:19.31	141.13	0.768
7195.39	34639.43	9:37:19.43	44.27	4637.066	1.67	152.49	670.00	1154.00	1.67	5:37:19.43	141.04	0.763
7195.52	34639.56	9:37:19.56	42.07	4608.798	1.86	151.04	669.23	1016.77	1.86	5:37:19.56	140.94	0.759
7195.64	34639.68	9:37:19.68	40.42	4580.565	2.08	149.68	680.00	824.50	2.08	5:37:19.68	140.84	0.754
7195.77	34639.81	9:37:19.81	39.17	4552.351	2.38	148.25	660.00	576.92	2.38	5:37:19.81	140.72	0.749
7195.89	34639.93	9:37:19.93	38.62	4524.188	2.71	146.95	650.00	274.50	2.71	5:37:19.93	140.62	0.745
7196.02	34640.06	9:37:20.06	38.78	4496.044	3.13	145.60	623.08	-74.77	3.13	5:37:20.06	140.49	0.740
7196.14	34640.18	9:37:20.18	39.48	4467.945	3.59	144.42	590.00	-347.50	3.59	5:37:20.18	140.38	0.735
7196.27	34640.31	9:37:20.31	40.46	4439.891	4.16	143.24	544.62	-450.92	4.16	5:37:20.31	140.25	0.731
7196.39	34640.43	9:37:20.43	41.23	4411.860	4.77	142.23	505.00	-386.50	4.77	5:37:20.43	140.12	0.726