

## Appendix D Aircraft Tire Database

This appendix contains the information on the tires and wheels required in the landing gear analysis. Table D.1 contains the tire information, and Table D.2 contains the wheel information.

Table D.1, Aircraft tire data, contains the following for 100 tires: (from Ref. 23.)

1. Item number
2. Size (Outside diameter x section width — rim diameter)
3. Ply. This is an index of the tire strength, and does not necessarily represent the number of cord plies in the tire.
4. Speed in mph. The maximum speed to which the tire is qualified
5. Load in pounds. The maximum load for the ply rating of the tire.
6. Max braking in pounds. The maximum steady braking which may be applied to a tire during landing.
7. Inflation pressure in psf. This is the inflation pressure required to support the rated load.
8. Tire weight in pounds. This is the calculated weight of approved construction, not the maximum weight.
9. Maximum inflated outside diameter in inches
10. Maximum inflated width in inches
11. Aspect ratio, the ratio of the tire section height to the tire section width

Table D.2, Aircraft Wheel data, contains the following for 100 wheels:

1. Item number
2. Size
3. Width in inches
4. Diameter in inches

Table D.1 Aircraft tire data (1 of 4) [24]

<b>Item</b>	<b>Size</b>	<b>Ply</b>	<b>Speed (mph)</b>	<b>Load (lb)</b>	<b>Inflation Press. (psi)</b>	<b>Max Braking (lb)</b>	<b>Weight (in)</b>	<b>Dia. (in)</b>	<b>Width (in)</b>	<b>Rad. (in)</b>	<b>Aspect Ratio</b>
1	32x11.5-15	12.0	210.0	11200.0	120.0	16800.0	64.1	32.0	11.5	13.5	0.742
2	32x11.5-15	12.0	210.0	11200.0	120.0	16800.0	70.6	32.0	11.5	13.5	0.742
3	32x11.5-15	12.0	225.0	11200.0	120.0	16800.0	69.7	32.0	11.5	13.5	0.742
4	37x13.0-16	20.0	210.0	22200.0	165.0	33300.0	110.2	37.0	13.0	15.4	0.821
5	37x14.0-14	24.0	225.0	25000.0	160.0	37500.0	110.8	37.0	14.0	15.1	0.825
6	37x14.0-14	24.0	225.0	25000.0	160.0	37500.0	106.4	37.0	14.0	15.1	0.825
7	40x15.5-16	26.0	235.0	36300.0	180.0	54450.0	138.8	40.0	15.5	16.1	0.778
8	40x15.5-16	26.0	235.0	36300.0	180.0	54450.0	147.4	40.0	15.5	16.1	0.778
9	44.5x16.5-18	30.0	225.0	42500.0	195.0	63750.0	196.3	44.5	16.5	18.4	0.807
10	44.5x16.5-18	30.0	225.0	42500.0	195.0	63750.0	193.8	44.5	16.5	18.4	0.807
11	49x19.0-20	32.0	235.0	51900.0	195.0	77800.0	269.1	49.0	19.0	20.3	0.767
12	49x19.0-20	32.0	235.0	51900.0	195.0	77800.0	270.4	49.0	19.0	20.3	0.767
13	50x20.0-20	26.0	200.0	41800.0	150.0	62700.0	249.7	50.0	20.0	20.6	0.754
14	50x20.0-20	26.0	210.0	41800.0	150.0	62700.0	230.1	50.0	20.0	20.6	0.754
15	50x20.0-20	32.0	225.0	53800.0	190.0	80700.0	276.8	50.0	20.0	20.6	0.754
16	50x20.0-20	32.0	225.0	53800.0	190.0	80700.0	254.1	50.0	20.0	20.6	0.754
17	50x20.0-20	34.0	225.0	57000.0	205.0	85500.0	293.8	50.0	20.0	20.6	0.754
18	52x20.5-20	34.0	225.0	57800.0	185.0	86700.0	297.6	52.0	20.5	21.3	0.786
19	52x20.5-23	26.0	235.0	55000.0	165.0	82500.0	261.7	52.0	20.5	21.3	0.711
20	52x20.5-23	26.0	235.0	55000.0	165.0	82500.0	285.4	52.0	20.5	21.3	0.711
21	52x20.5-23	28.0	235.0	59500.0	180.0	98250.0	300.2	52.0	20.5	21.3	0.711
22	52x20.5-23	28.0	235.0	59500.0	180.0	89250.0	294.3	52.0	20.5	21.3	0.711
23	52x20.5-23	28.0	235.0	59500.0	180.0	89250.0	286.8	52.0	20.5	21.3	0.711
24	50x20.5-23	30.0	235.0	63700.0	195.0	95550.0	306.4	52.0	20.5	21.3	0.711
25	50x21.0-20	28.0	210.0	46700.0	150.0	70050.0	290.4	50.0	21.0	20.2	0.719
26	50x21.0-20	30.0	210.0	49000.0	160.0	73500.0	307.3	50.0	21.0	20.2	0.719

Table D.1 Aircraft tire data (2 of 4) [24]

<b>Item</b>	<b>Size</b>	<b>Ply</b>	<b>Speed (mph)</b>	<b>Load (lb)</b>	<b>Inflation Press. (psi)</b>	<b>Max. Braking (lb)</b>	<b>Weight (in)</b>	<b>Dia. (in)</b>	<b>Width (in)</b>	<b>Rad. (in)</b>	<b>Aspect Ratio</b>
27	24x7.7	14.0	210.0	8200.0	135.0	12300.0	29.4	24.2	7.7	9.8	0.924
28	24x7.7	14.0	225.0	8200.0	135.0	12300.0	26.2	24.2	7.7	9.8	0.924
29	24x7.7	14.0	225.0	8200.0	135.0	12300.0	24.9	24.2	7.7	9.8	0.924
30	24x7.7	16.0	200.0	9725.0	165.0	14590.0	32.1	24.2	7.7	9.8	0.924
31	24x7.7	16.0	210.0	9725.0	165.0	14590.0	34.9	24.2	7.7	9.8	0.924
32	24x7.7	16.0	210.0	9725.0	165.0	14590.0	32.7	24.2	7.7	9.8	0.924
33	24x7.7	16.0	210.0	9700.0	165.0	14550.0	28.7	24.2	7.7	9.8	0.924
34	24x7.7	16.0	225.0	8450.0	135.0	12675.0	26.7	24.2	7.7	9.8	0.924
35	34x9.9	14.0	160.0	14000.0	150.0	21000.0	49.9	33.4	10.2	14.2	0.856
36	34x9.9	14.0	160.0	14000.0	150.0	21000.0	53.2	33.4	10.2	14.2	0.856
37	36x11	20.0	225.0	21000.0	185.0	31500.0	86.9	35.1	11.5	14.7	0.831
38	36x11	22.0	225.0	23300.0	200.0	34950.0	98.1	35.1	11.5	14.7	0.831
39	36x11	22.0	225.0	23300.0	200.0	34950.0	100.5	35.1	11.5	14.7	0.831
40	39x13	14.0	200.0	15000.0	100.0	22500.0	85.4	38.3	13.0	15.8	0.862
41	39x13	14.0	200.0	15000.0	100.0	22500.0	83.6	38.3	13.0	15.8	0.862
42	39x13	16.0	160.0	17200.0	115.0	25800.0	90.1	38.3	13.0	15.8	0.862
43	39x13	16.0	160.0	17200.0	115.0	25800.0	90.5	38.3	13.0	15.8	0.862
44	39x13	16.0	200.0	17200.0	115.0	25800.0	79.5	38.3	13.0	15.8	0.862
45	39x13	16.0	200.0	17200.0	115.0	25800.0	85.5	38.3	13.0	15.8	0.862
46	39x13	16.0	200.0	17200.0	115.0	25800.0	85.5	38.3	13.0	15.8	0.862
47	39x13	16.0	210.0	17200.0	115.0	25800.0	86.5	38.3	13.0	15.8	0.862
48	39x13	16.0	210.0	17200.0	115.0	25800.0	94.2	38.3	13.0	15.8	0.862
49	39x13	16.0	210.0	17200.0	115.0	25800.0	86.8	38.3	13.0	15.8	0.862
50	39x13	16.0	210.0	17200.0	115.0	25800.0	90.7	38.3	13.0	15.8	0.862
51	39x13	16.0	225.0	17200.0	115.0	25800.0	84.3	38.3	13.0	15.8	0.862
52	39x13	16.0	225.0	17200.0	115.0	25800.0	96.0	38.3	13.0	15.8	0.862

Table D.1 Aircraft tire data (3 of 4) [24]

<b>Item</b>	<b>Size</b>	<b>Ply</b>	<b>Speed (mph)</b>	<b>Load (lb)</b>	<b>Inflation Press. (psi)</b>	<b>Max. Braking (lb)</b>	<b>Weight (in)</b>	<b>Dia. (in)</b>	<b>Width (in)</b>	<b>Rad. (in)</b>	<b>Aspect Ratio</b>
53	39x13	16.0	225.0	17200.0	115.0	25800.0	97.4	38.3	13.0	15.8	0.862
54	39x13	16.0	225.0	17200.0	115.0	25800.0	87.6	38.3	13.0	15.8	0.862
55	39x13	16.0	225.0	17200.0	115.0	25800.0	90.7	38.3	13.0	15.8	0.862
56	39x13	16.0	225.0	17200.0	115.0	25800.0	90.3	38.3	13.0	15.8	0.862
57	40x14	20.0	210.0	22300.0	135.0	33450.0	119.0	39.8	14.0	16.5	0.855
58	40x14	22.0	210.0	25000.0	155.0	37000.0	125.1	39.8	14.0	16.5	0.855
59	40x14	22.0	225.0	25000.0	155.0	37500.0	120.1	39.8	14.0	16.5	0.855
60	40x14	22.0	225.0	25000.0	155.0	37500.0	122.1	39.8	14.0	16.5	0.855
61	40x14	22.0	235.0	25000.0	155.0	37500.0	119.8	39.8	14.0	16.5	0.855
62	40x14	22.0	235.0	25000.0	155.0	37500.0	122.1	39.8	14.0	16.5	0.855
63	40x14	24.0	210.0	27700.0	170.0	41550.0	138.2	39.8	14.0	16.5	0.855
64	40x14	24.0	210.0	27700.0	170.0	41550.0	124.2	39.8	14.0	16.5	0.855
65	40x14	24.0	210.0	27700.0	170.0	41550.0	143.3	39.8	14.0	16.5	0.855
66	40x14	24.0	210.0	27700.0	170.0	41550.0	136.2	39.8	14.0	16.5	0.855
67	40x14	24.0	210.0	27700.0	170.0	41550.0	137.3	39.8	14.0	16.5	0.855
68	40x14	24.0	225.0	27700.0	170.0	41550.0	137.1	39.8	14.0	16.5	0.855
69	40x14	24.0	225.0	27700.0	170.0	41550.0	138.3	39.8	14.0	16.5	0.855
70	40x14	24.0	225.0	27700.0	170.0	41550.0	136.5	39.8	14.0	16.5	0.855
71	40x14	24.0	225.0	27700.0	170.0	41550.0	137.1	39.8	14.0	16.5	0.855
72	40x14	24.0	225.0	27700.0	170.0	41550.0	117.7	39.8	14.0	16.5	0.855
73	46x16	24.0	210.0	35700.0	170.0	53550.0	164.6	45.3	16.0	19.0	0.797
74	46x16	26.0	225.0	38300.0	185.0	57450.0	201.1	45.3	16.0	19.0	0.797
75	46x16	26.0	225.0	38300.0	185.0	57450.0	198.1	45.3	16.0	19.0	0.797
76	46x16	28.0	210.0	41800.0	210.0	62700.0	185.8	45.3	16.0	19.0	0.797
77	46x16	28.0	210.0	41800.0	210.0	62700.0	203.1	45.3	16.0	19.0	0.797
78	46x16	28.0	210.0	41800.0	210.0	62700.0	202.4	45.3	16.0	19.0	0.797

Table D.1 Aircraft tire data (4 of 4) [24]

<b>Item</b>	<b>Size</b>	<b>Ply</b>	<b>Speed (mph)</b>	<b>Load (lb)</b>	<b>Inflation Press. (psi)</b>	<b>Max. Braking (lb)</b>	<b>Weight (in)</b>	<b>Dia. (in)</b>	<b>Width (in)</b>	<b>Rad. (in)</b>	<b>Aspect Ratio</b>
79	46x16	28.0	225.0	41800.0	210.0	62700.0	191.9	45.3	16.0	19.0	0.797
80	46x16	28.0	225.0	41800.0	210.0	62700.0	203.1	45.3	16.0	19.0	0.797
81	46x16	28.0	225.0	41800.0	210.0	62700.0	192.6	45.3	16.0	19.0	0.797
82	46x16	28.0	225.0	41800.0	210.0	62700.0	186.2	45.3	16.0	19.0	0.797
83	46x16	28.0	235.0	41800.0	210.0	62700.0	203.1	45.3	16.0	19.0	0.797
84	46x16	30.0	210.0	44800.0	225.0	67200.0	213.1	45.3	16.0	19.0	0.797
85	46x16	30.0	225.0	44800.0	225.0	67200.0	193.9	45.3	16.0	19.0	0.797
86	46x16	30.0	225.0	44800.0	225.0	67200.0	219.5	45.3	16.0	19.0	0.797
87	49x17	28.0	210.0	43200.0	180.0	64800.0	217.5	48.8	17.3	20.2	0.838
88	49x17	28.0	210.0	43200.0	180.0	64800.0	225.1	48.8	17.3	20.2	0.838
89	49x17	28.0	210.0	43200.0	180.0	64800.0	209.6	48.8	17.3	20.2	0.838
90	49x17	28.0	210.0	43200.0	180.0	64800.0	228.2	48.8	17.3	20.2	0.838
91	49x17	30.0	210.0	46700.0	195.0	70050.0	225.2	48.8	17.3	20.2	0.838
92	49x17	30.0	210.0	46700.0	195.0	70050.0	259.5	48.8	17.3	20.2	0.838
93	49x17	30.0	210.0	46700.0	195.0	70050.0	219.3	48.8	17.3	20.2	0.838
94	49x17	30.0	225.0	46700.0	195.0	70050.0	219.3	48.8	17.3	20.2	0.838
95	49x17	30.0	225.0	46700.0	195.0	70050.0	238.3	48.8	17.3	20.2	0.838
96	49x17	30.0	225.0	46700.0	195.0	70050.0	212.3	48.8	17.3	20.2	0.838
97	49x17	30.0	225.0	46700.0	195.0	70050.0	227.2	48.8	17.3	20.2	0.838
98	49x17	32.0	225.0	50400.0	210.0	75600.0	243.5	48.8	17.3	20.2	0.838
99	49x17	32.0	235.0	50400.0	210.0	75600.0	243.3	48.8	17.3	20.2	0.838
100	50x18	26.0	225.0	41770.0	155.0	62660.0	197.7	49.5	17.5	20.4	0.848

Table D.2 Aircraft wheel data [23]

<b>Item</b>	<b>Size</b>	<b>Width (in)</b>	<b>Dia. (in)</b>	<b>Item</b>	<b>Size</b>	<b>Width (in)</b>	<b>Dia. (in)</b>
1	32x11.5-15	9.0	15.0	27	24x7.7	5.5	10.0
2	32x11.5-15	9.0	15.0	28	24x7.7	5.5	10.0
3	32x11.5-15	9.0	15.0	29	24x7.7	5.5	10.0
4	36x11	9.0	16.0	30	24x7.7	5.5	10.0
5	37x14.0-14	11.0	14.0	31	24x7.7	5.5	10.0
6	37x14.0-14	11.0	14.0	32	24x7.7	5.5	10.0
7	40x15.5-16	10.0	16.0	33	24x7.7	5.5	10.0
8	40x15.5-16	10.0	16.0	34	24x7.7	5.5	10.0
9	44x16	13.3	18.0	35	34x9.9	8.0	16.0
10	44x16	13.3	18.0	36	34x9.9	8.0	16.0
11	49x17	13.3	20.0	37	36x11	9.0	16.0
12	49x17	13.3	20.0	38	36x11	9.0	16.0
13	50x20.0-20	16.3	20.0	39	36x11	9.0	16.0
14	50x20.0-20	16.3	20.0	40	39x13	10.0	16.0
15	50x20.0-20	16.3	20.0	41	39x13	10.0	16.0
16	50x20.0-20	16.3	20.0	42	39x13	10.0	16.0
17	50x20.0-20	16.3	20.0	43	39x13	10.0	16.0
18	50x20.0-20	16.3	20.0	44	39x13	10.0	16.0
19	50x20.5-23	13.0	23.0	45	39x13	10.0	16.0
20	50x20.5-23	13.0	23.0	46	39x13	10.0	16.0
21	50x20.5-23	13.0	23.0	47	39x13	10.0	16.0
22	50x20.5-23	13.0	23.0	48	39x13	10.0	16.0
23	50x20.5-23	13.0	23.0	49	39x13	10.0	16.0
24	50x20.5-23	13.0	23.0	50	39x13	10.0	16.0
25	49x17	13.3	20.0	51	39x13	10.0	16.0
26	49x17	13.3	20.0	52	39x13	10.0	16.0

Table D.2 Aircraft wheel data [23] (cont'd)

<b>Item</b>	<b>Size</b>	<b>Width (in)</b>	<b>Dia. (in)</b>	<b>Item</b>	<b>Size</b>	<b>Width (in)</b>	<b>Dia. (in)</b>
53	39x13	10.0	16.0	77	46x16	13.3	20.0
54	39x13	10.0	16.0	78	46x16	13.3	20.0
55	39x13	10.0	16.0	79	46x16	13.3	20.0
56	39x13	10.0	16.0	80	46x16	13.3	20.0
57	40x14	11.0	16.0	81	46x16	13.3	20.0
58	40x14	11.0	16.0	82	46x16	13.3	20.0
59	40x14	11.0	16.0	83	46x16	13.3	20.0
60	40x14	11.0	16.0	84	46x16	13.3	20.0
61	40x14	11.0	16.0	85	46x16	13.3	20.0
62	40x14	11.0	16.0	86	46x16	13.3	20.0
63	40x14	11.0	16.0	87	49x17	13.3	20.0
64	40x14	11.0	16.0	88	49x17	13.3	20.0
65	40x14	11.0	16.0	89	49x17	13.3	20.0
66	40x14	11.0	16.0	90	49x17	13.3	20.0
67	40x14	11.0	16.0	91	49x17	13.3	20.0
68	40x14	11.0	16.0	92	49x17	13.3	20.0
69	40x14	11.0	16.0	93	49x17	13.3	20.0
70	40x14	11.0	16.0	94	49x17	13.3	20.0
71	40x14	11.0	16.0	95	49x17	13.3	20.0
72	40x14	11.0	16.0	96	49x17	13.3	20.0
73	46x16	13.3	20.0	97	49x17	13.3	20.0
74	46x16	13.3	20.0	98	49x17	13.3	20.0
75	46x16	13.3	20.0	99	49x17	13.3	20.0
76	46x16	13.3	20.0	100	50x18	14.3	20.0

