Aircraft Manufacturer Short Brothers

Aircraft Engine Manufacturer Pratt and Whitney Canada (PT6A-65R)

No. of Engines 2 Engine Rating 1,424 SHP

Min. T/O Wt. 16.6 k-lb * Min. T/O Dist. @ Min. T/O Wt. 2,010 ft

* Min. T/O Dist. @ Min. T/O Wt. With Abort Dist. 2,440 ft

Max. T/O Wt. Peace-Time 17.2 k-lb Max. T/O Wt. War-Time 27.1 k-lb

* Min. T/O Dist. @ Max. T/O Wt. War-Time 3,960 ft

* Min. T/O Dist. @ Max. T/O Wt. War-Time With Abort Dist. †

Min. Ldg. Wt. 16.6 k-lb Max. Ldg. Wt. 26.5 k-lb

* Min. Ldg. Dist. @ Min. Ldg. Wt. 2,080 ft

* Min. Ldg. Dist. @ Max. Ldg. Wt. 2,360 ft

* These distances are at 59°F, at sea level, with zero runway gradient, and on a clean dry runway surface.

ACN

	Rigid Pavement Subgrades				Flexible Pavement Subgrades			
Weight	High A	Medium B	Low C	Ultra Low D	High A	Medium B	Low C	Very Low D
17	6	6	6	6	6	6	6	7
27	10	10	10	10	10	10	11	11

Figure A-242. Short Brothers 360

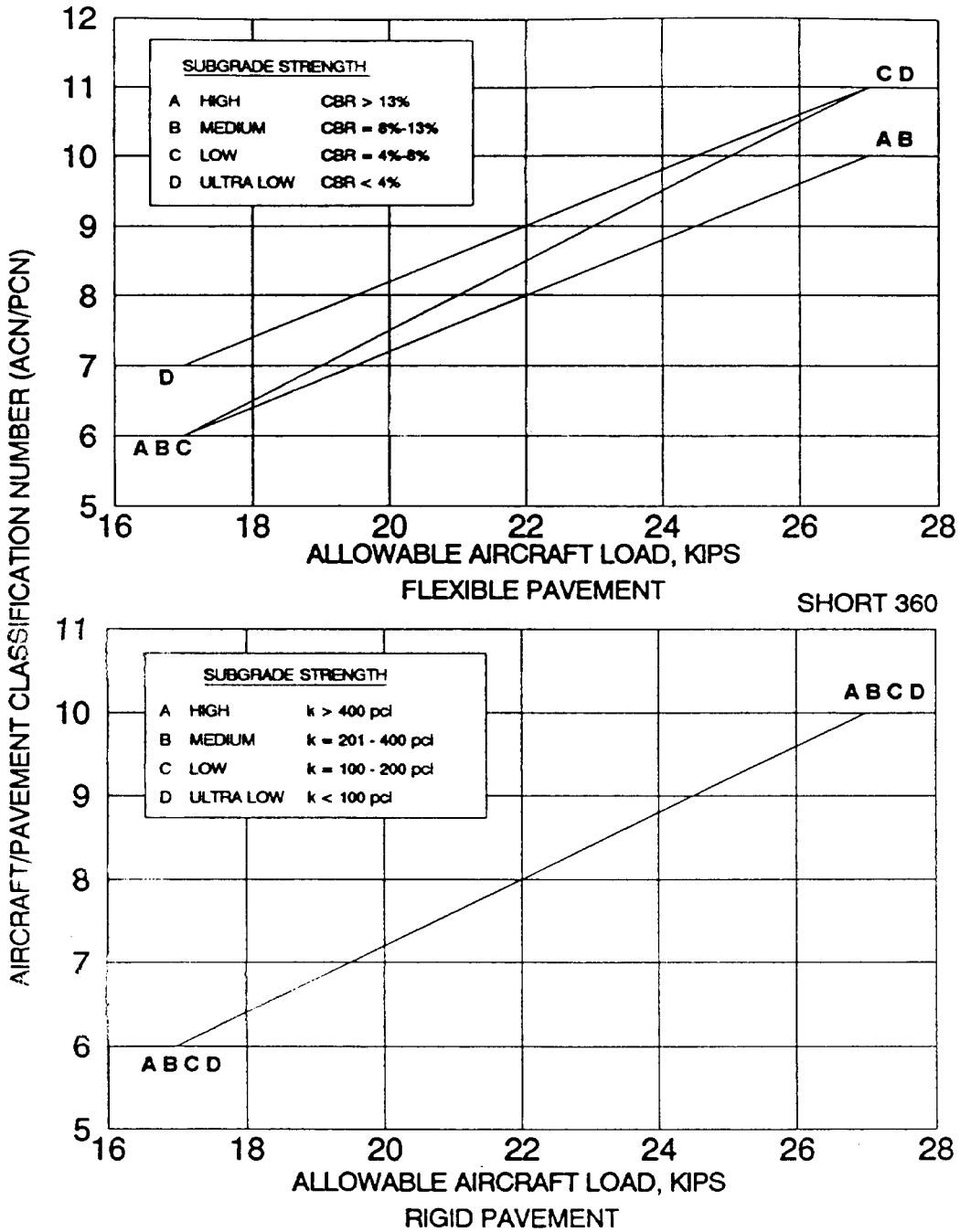

Figure A-243. Short Brothers 360, ACN/PCN Curves

Aircraft Manufacturer Convair Division - General Dynamics

Aircraft Engine Manufacturer Pratt and Whitney (R2800)

No. of Engines 2 Engine Rating 2,400 BHP

Min. T/O Wt. 30.9 k-lb * Min. T/O Dist. @ Min. T/O Wt. 2,600 ft

* Min. T/O Dist. @ Min. T/O Wt. With Abort Dist. †

Max. T/O Wt. Peace-Time 42.5 k-lb Max. T/O Wt. War-Time 42.5 k-lb

* Min. T/O Dist. @ Max. T/O Wt. War-Time 4,280 ft

* Min. T/O Dist. @ Max. T/O Wt. War-Time With Abort Dist. †

Min. Ldg. Wt. 38.6 k-lb Max. Ldg. Wt. 39.8 k-lb

* Min. Ldg. Dist. @ Min. Ldg. Wt. 3,850 ft

* Min. Ldg. Dist. @ Max. Ldg. Wt. 3,900 ft

* These distances are at 59°F, at sea level, with zero runway gradient, and on a clean dry runway surface.

ACN

	Rigid Pavement Subgrades				Flexible Pavement Subgrades			
Weight	High A	Medium B	Low C	Ultra Low D	High A	Medium B	Low C	Very Low D
39	9	9	10	10	7	8	9	11
40	9	9	10	10	7	8	9	11
43	10	10	11	12	8	9	10	12

Figure A-244. Convair 240

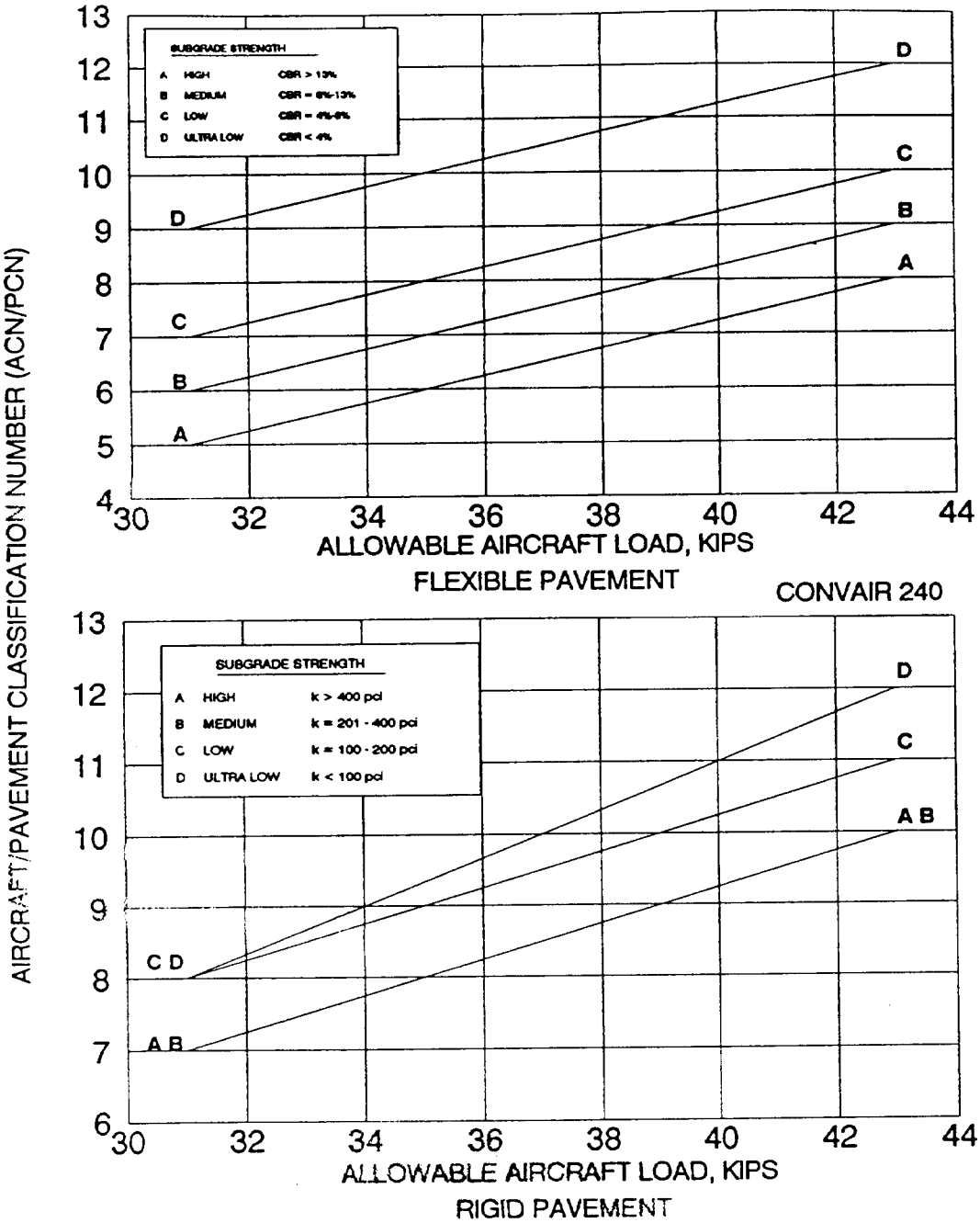

Figure A-245. Convair 240, ACN/PCN Curves

Aircraft Manufacturer Convair Division - General Dynamics

Aircraft Engine Manufacturer Pratt and Whitney (R2800-CB16/17)

No. of Engines 2 Engine Rating 2,400 BHP

Min. T/O Wt. 32.5 k-lb * Min. T/O Dist. @ Min. T/O Wt. 2,600 ft

* Min. T/O Dist. @ Min. T/O Wt. With Abort Dist. †

Max. T/O Wt. Peace-Time 47.0 k-lb Max. T/O Wt. War-Time 47.0 k-lb

* Min. T/O Dist. @ Max. T/O Wt. War-Time 4,600 ft

* Min. T/O Dist. @ Max. T/O Wt. War-Time With Abort Dist. †

Min. Ldg. Wt. 45.0 k-lb Max. Ldg. Wt. 46.5 k-lb

* Min. Ldg. Dist. @ Min. Ldg. Wt. 3,800 ft

* Min. Ldg. Dist. @ Max. Ldg. Wt. 4,000 ft

* These distances are at 59°F, at sea level, with zero runway gradient, and on a clean dry runway surface.

ACN

	Rigid Pavement Subgrades				Flexible Pavement Subgrades			
Weight	High A	Medium B	Low C	Ultra Low D	High A	Medium B	Low C	Very Low D
45	8	9	10	11	7	7	9	12
46	8	9	10	11	7	8	10	12
47	9	10	11	12	7	8	10	13

Figure A-246. Convair 340

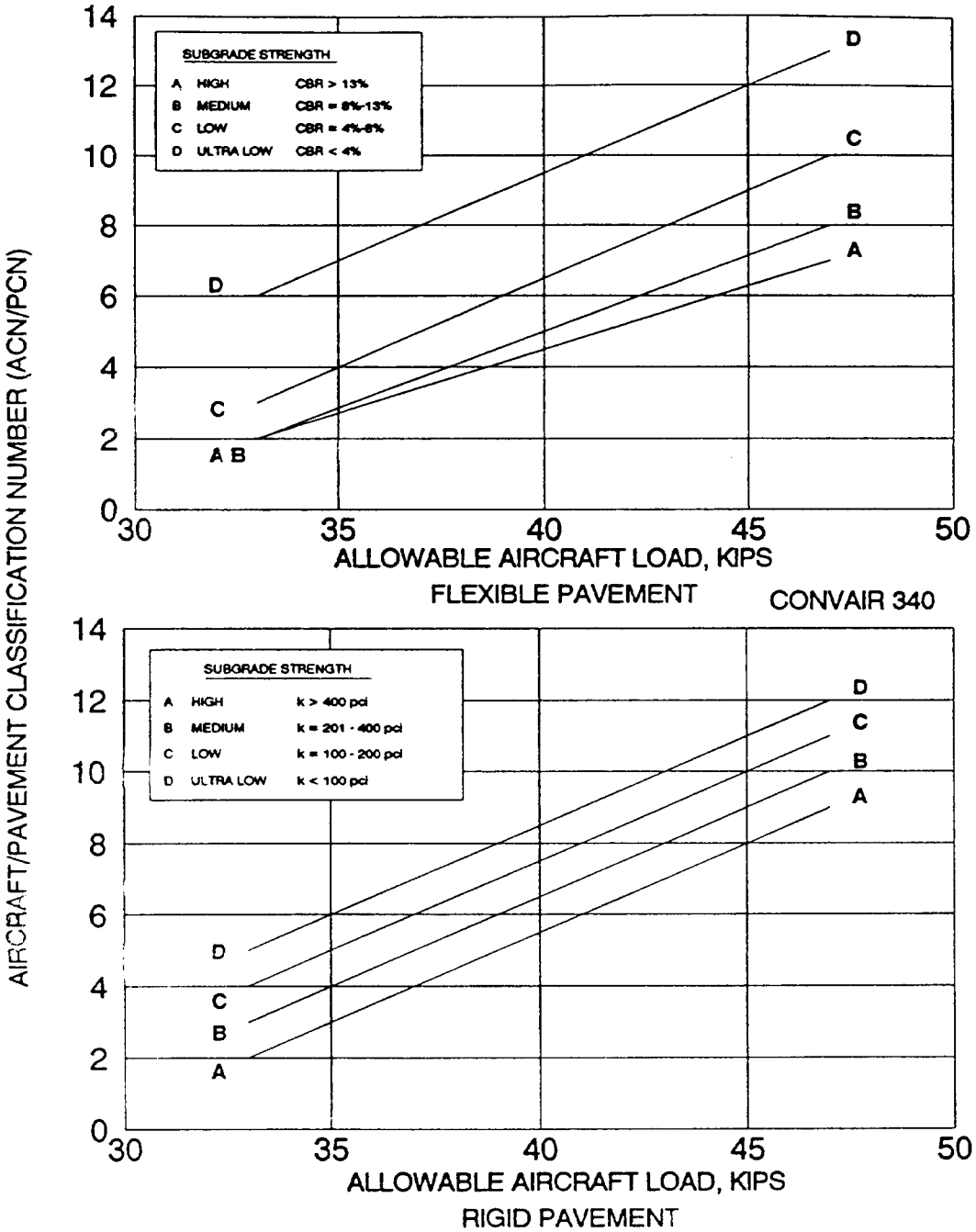

Figure A-247. Convair 340, ACN/PCN Curves

Aircraft Manufacturer Convair Division - General Dynamics

Aircraft Engine Manufacturer Pratt and Whitney (R2800-CB16/17)

No. of Engines 2 Engine Rating 2,400 BHP

Min. T/O Wt. 33.5 k-lb * Min. T/O Dist. @ Min. T/O Wt. 2,600 ft

* Min. T/O Dist. @ Min. T/O Wt. With Abort Dist. †

Max. T/O Wt. Peace-Time 49.1 k-lb Max. T/O Wt. War-Time 49.7 k-lb

* Min. T/O Dist. @ Max. T/O Wt. War-Time 4,800 ft

* Min. T/O Dist. @ Max. T/O Wt. War-Time With Abort Dist. †

Min. Ldg. Wt. 47.0 k-lb Max. Ldg. Wt. 47.7 k-lb

* Min. Ldg. Dist. @ Min. Ldg. Wt. 4,000 ft

* Min. Ldg. Dist. @ Max. Ldg. Wt. 4,100 ft

* These distances are at 59°F, at sea level, with zero runway gradient, and on a clean dry runway surface.

ACN

	Rigid Pavement Subgrades				Flexible Pavement Subgrades			
Weight	High A	Medium B	Low C	Ultra Low D	High A	Medium B	Low C	Very Low D
47	9	10	11	12	7	8	10	13
48	9	10	11	12	7	8	10	13
49	9	10	11	12	8	9	11	13
50	10	11	12	13	8	9	11	14

Figure A-248. Convair 440

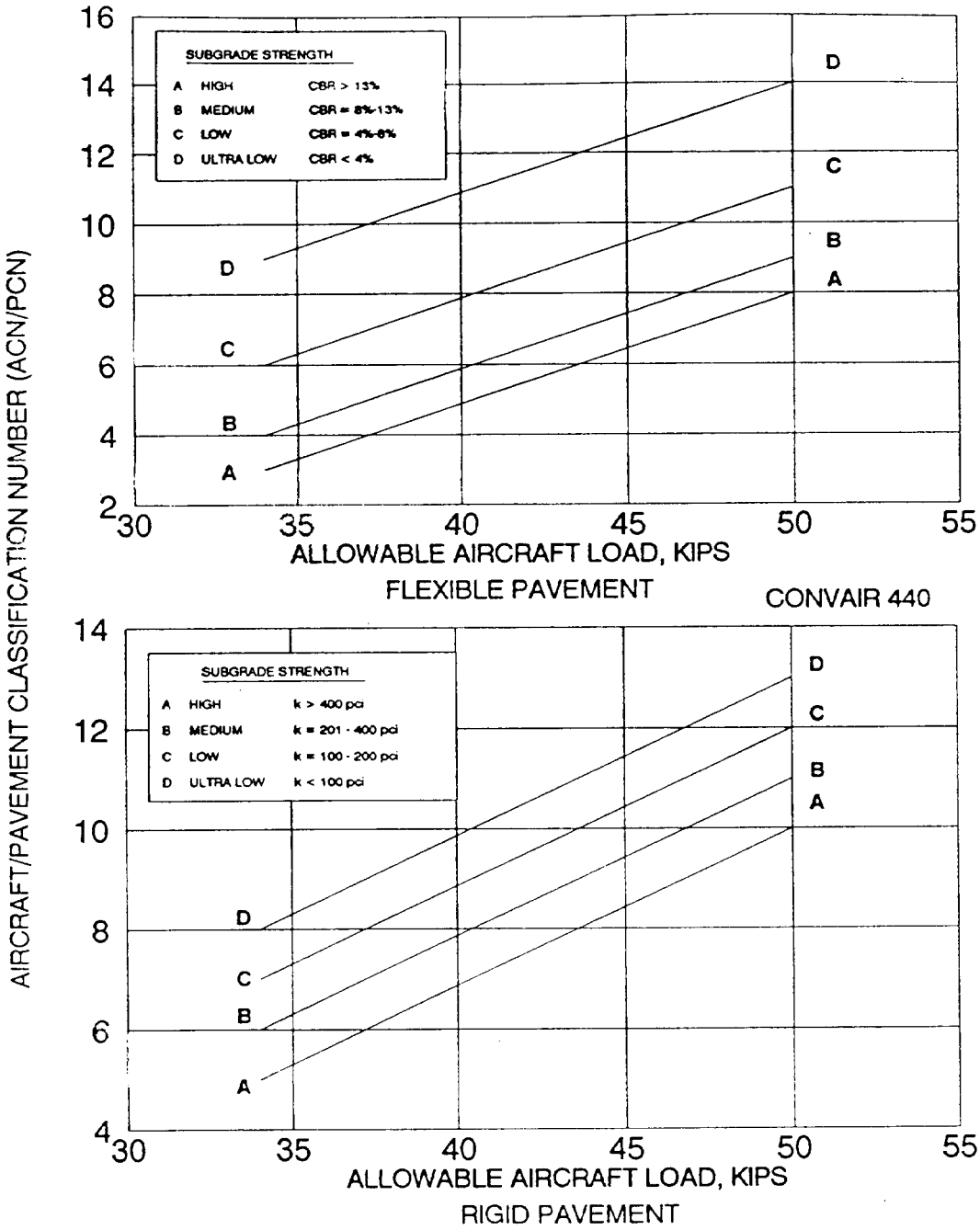

Figure A-249. Convair 440, ACN/PCN Curves

Aircraft Manufacturer Allison Division of GM/Convair

Aircraft Engine Manufacturer Allison (501-D13)

No. of Engines 2 Engine Rating 3,750 ESHP

Min. T/O Wt. 33.5 k-lb * Min. T/O Dist. @ Min. T/O Wt. †

* Min. T/O Dist. @ Min. T/O Wt. With Abort Dist. †

Max. T/O Wt. Peace-Time 54.6 k-lb Max. T/O Wt. War-Time 58.1 k-lb

* Min. T/O Dist. @ Max. T/O Wt. War-Time 4,400 ft

* Min. T/O Dist. @ Max. T/O Wt. War-Time With Abort Dist. †

Min. Ldg. Wt. 50.0 k-lb Max. Ldg. Wt. 52.0 k-lb

* Min. Ldg. Dist. @ Min. Ldg. Wt. †

* Min. Ldg. Dist. @ Min. Ldg. Wt. 4,260 ft

* These distances are at 59°F, at sea level, with zero runway gradient, and on a clean dry runway surface.

ACN

	Rigid Pavement Subgrades				Flexible Pavement Subgrades			
Weight	High A	Medium B	Low C	Ultra Low D	High A	Medium B	Low C	Very Low D
50	10	11	12	13	8	9	11	14
52	11	12	13	14	9	10	12	14
55	11	12	13	14	9	11	13	15
58	12	13	14	15	10	12	14	16

Figure A-250. Convair 580

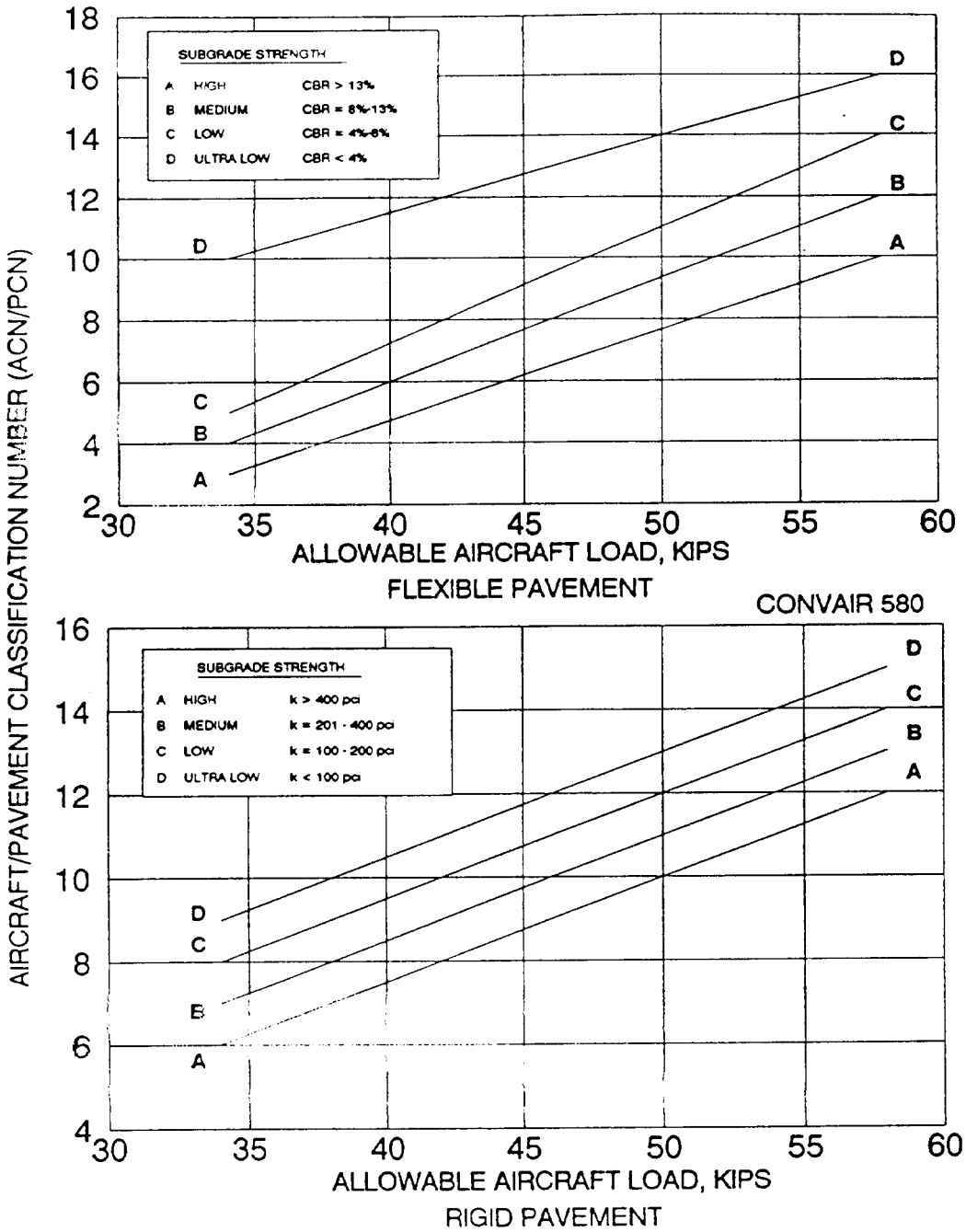

Figure A-251. Convair 580, ACN/PCN Curves

Aircraft Manufacturer Convair Division - General Dynamics

Aircraft Engine Manufacturer Rolls-Royce (Dart 542-4)

No. of Engines 2 Engine Rating 2,750 SHP

Min. T/O Wt. 30.3 k-lb * Min. T/O Dist. @ Min. T/O Wt. 2,500 ft

* Min. T/O Dist. @ Min. T/O Wt. With Abort Dist. †

Max. T/O Wt. Peace-Time 46.2 k-lb Max. T/O Wt. War-Time 46.2 k-lb

* Min. T/O Dist. @ Max. T/O Wt. War-Time 4,600 ft

* Min. T/O Dist. @ Max. T/O Wt. War-Time With Abort Dist. †

Min. Ldg. Wt. 39.5 k-lb Max. Ldg. Wt. 44.0 k-lb

* Min. Ldg. Dist. @ Min. Ldg. Wt. 3,950 ft

* Min. Ldg. Dist. @ Max. Ldg. Wt. 4,350 ft

* These distances are at 59°F, at sea level, with zero runway gradient, and on a clean dry runway surface.

ACN

	Rigid Pavement Subgrades				Flexible Pavement Subgrades			
Weight	High A	Medium B	Low C	Ultra Low D	High A	Medium B	Low C	Very Low D
40	9	9	10	10	7	8	9	11
44	10	10	11	12	8	9	10	12
46	10	10	11	12	9	10	11	13

Figure A-252. Convair 600

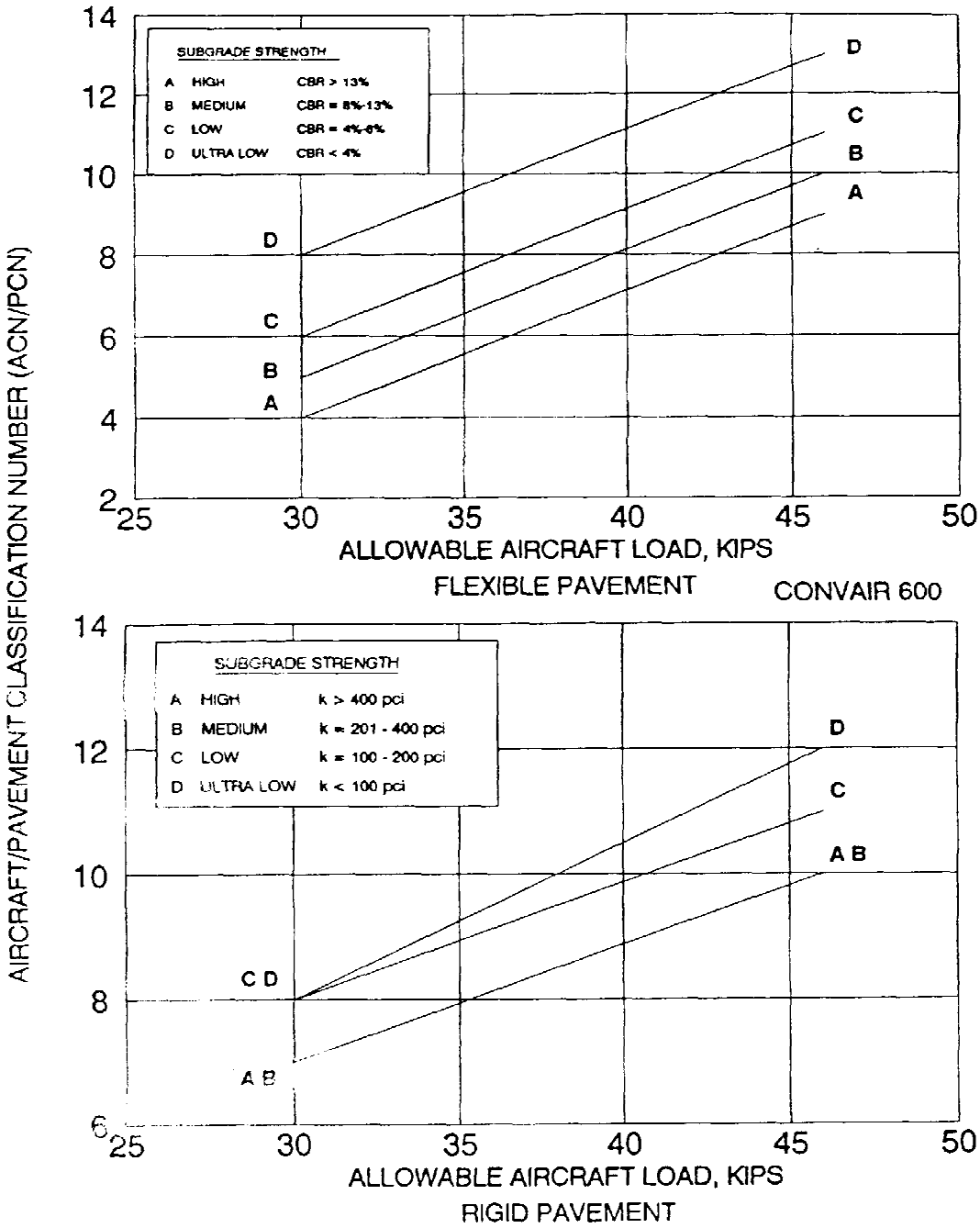

Figure A-253. Convair 600, ACN/PCN Curves

Aircraft Manufacturer Convair Division - General Dynamics

Aircraft Engine Manufacturer Rolls-Royce (Dart 542-4)

No. of Engines 2 Engine Rating 2,750 SHP

Min. T/O Wt. 32.0 k-lb * Min. T/O Dist. @ Min. T/O Wt. †

* Min. T/O Dist. @ Min. T/O Wt. With Abort Dist. †

Max. T/O Wt. Peace-Time 55.0 k-lb Max. T/O Wt. War-Time 55.0 k-lb

* Min. T/O Dist. @ Max. T/O Wt. War-Time 6,000 ft

* Min. T/O Dist. @ Max. T/O Wt. War-Time With Abort Dist. †

Min. Ldg. Wt. 50.0 k-lb Max. Ldg. Wt. 52.0 k-lb

* Min. Ldg. Dist. @ Min. Ldg. Wt. 4,000 ft

* Min. Ldg. Dist. @ Max. Ldg. Wt. 4,400 ft

* These distances are at 59°F, at sea level, with zero runway gradient, and on a clean dry runway surface.

ACN

	Rigid Pavement Subgrades				Flexible Pavement Subgrades			
Weight	High A	Medium B	Low C	Ultra Low D	High A	Medium B	Low C	Very Low D
50	10	11	12	13	8	9	11	14
52	10	11	12	13	9	10	11	14
55	11	12	13	14	9	10	12	15

Figure A-254. Convair 640

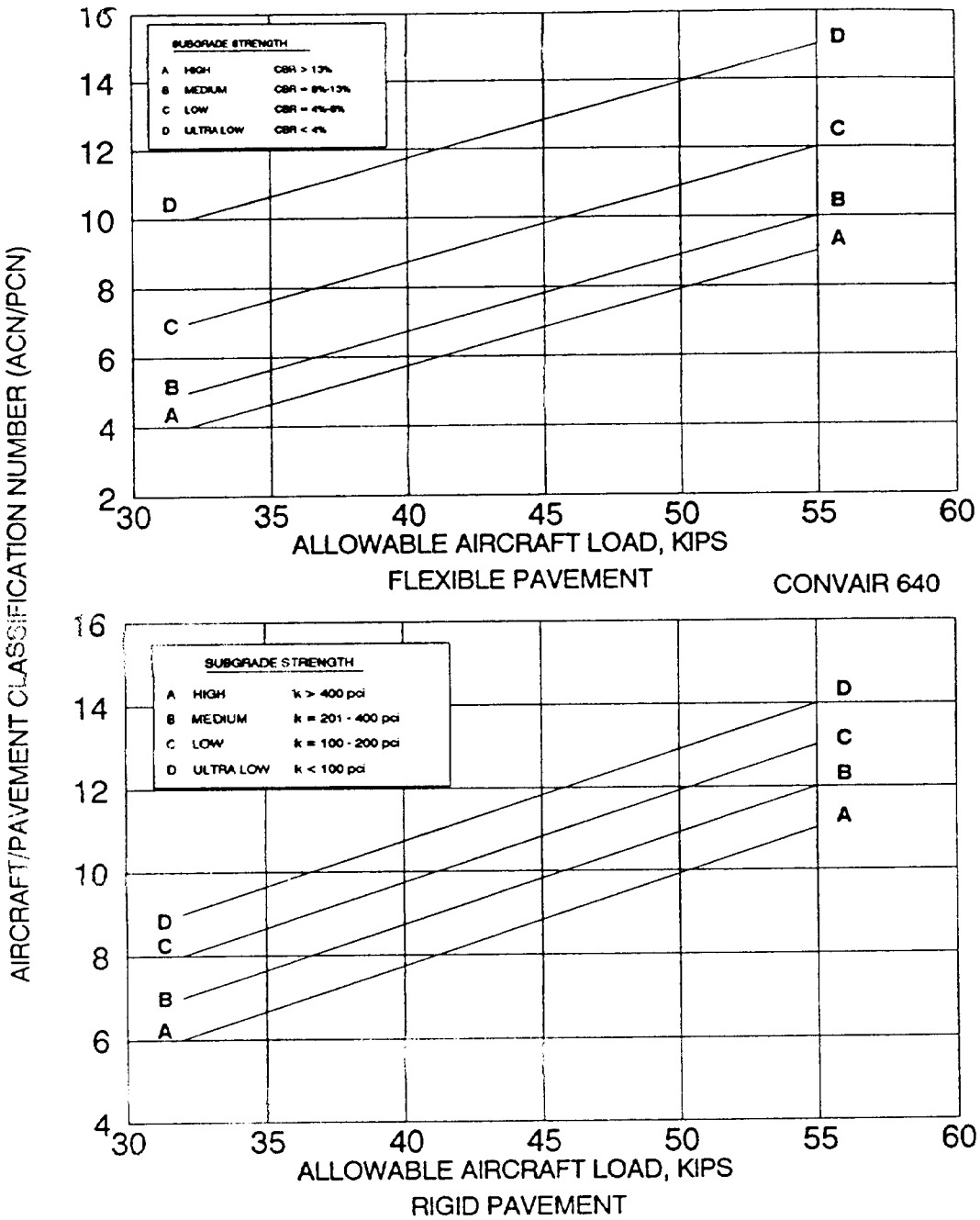

Figure A-255. Convair 640, ACN/PCN Curves

Aircraft Manufacturer McDonnell Douglas

Aircraft Engine Manufacturer Pratt and Whitney (R-1830-S1C3G)

No. of Engines 2 Engine Rating 1,200 BHP

Min. T/O Wt. 18.7 k-lb * Min. T/O Dist. @ Min. T/O Wt. 3,000 ft

* Min. T/O Dist. @ Min. T/O Wt. With Abort Dist. 4,500 ft

Max. T/O Wt. Peace-Time 25.2 k-lb Max. T/O Wt. War-Time 26.9 k-lb

* Min. T/O Dist. @ Max. T/O Wt. War-Time 4,300 ft

* Min. T/O Dist. @ Max. T/O Wt. War-Time With Abort Dist. 6,600

Min. Ldg. Wt. 24.4 k-lb Max. Ldg. Wt. 24.4 k-lb

* Min. Ldg. Dist. @ Min. Ldg. Wt. 3,300 ft

* Min. Ldg. Dist. @ Max. Ldg. Wt. 3,300 ft

* These distances are at 59°F, at sea level, with zero runway gradient, and on a clean dry runway surface.

ACN

	Rigid Pavement Subgrades				Flexible Pavement Subgrades			
Weight	High A	Medium B	Low C	Ultra Low D	High A	Medium B	Low C	Very Low D
24	6	7	7	7	7	7	8	9
25	6	7	7	7	7	7	8	9
27	7	8	8	8	7	7	9	10

Figure A-256. Douglas DC-3

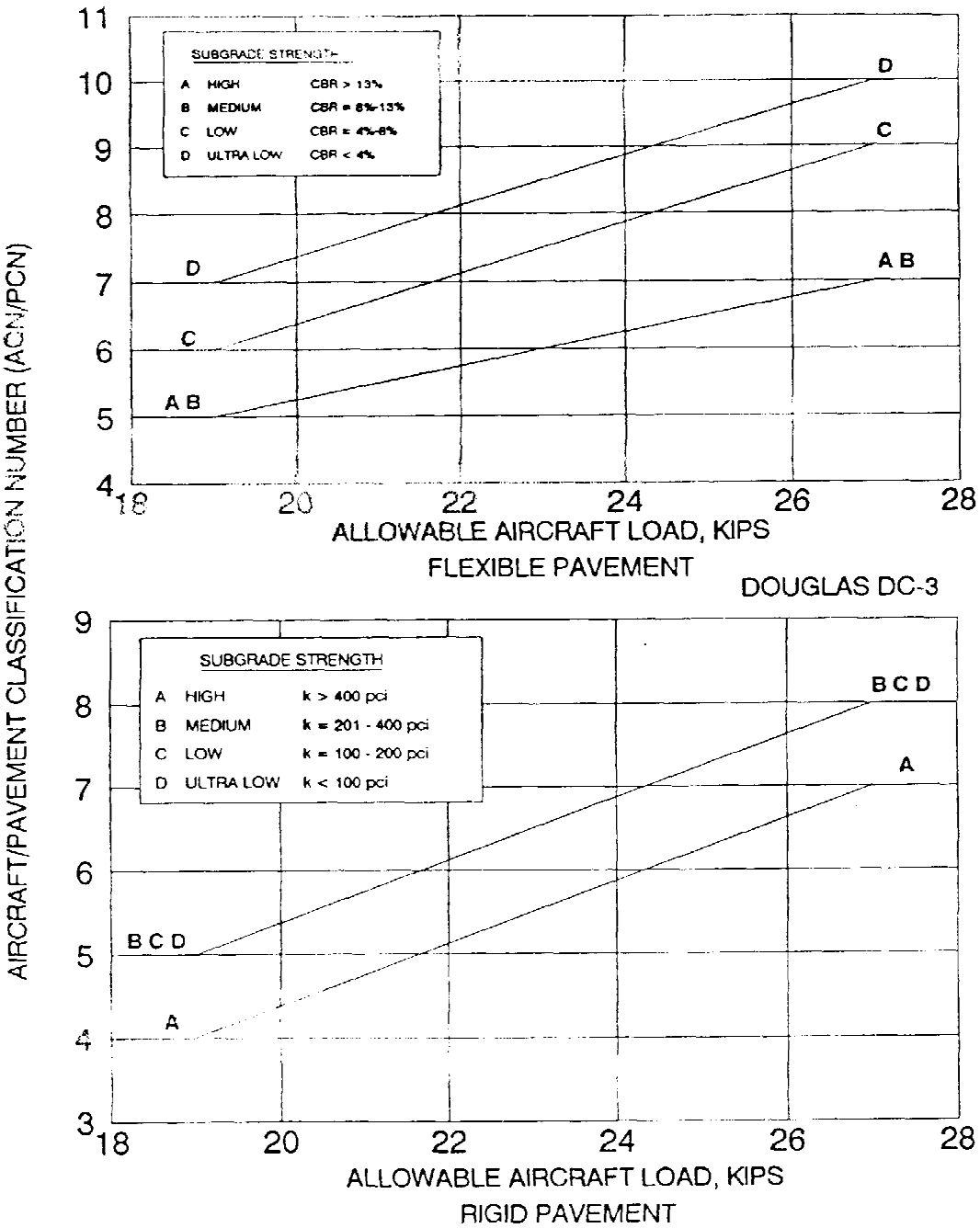

Figure A-257. Douglas DC-3, ACN/PCN Curves

Aircraft Manufacturer Fairchild

Aircraft Engine Manufacturer Rolls-Royce (Dart RDa.7 MK529-7E)

No. of Engines 2 Engine Rating 2,185 ESHP

Min. T/O Wt. 25.4 k-lb * Min. T/O Dist. @ Min. T/O Wt. †

Min. T/O Dist. @ Min. T/O Wt. With Abort Dist. †

Max. T/O Wt. Peace-Time 42.0 k-lb Max. T/O Wt. War-Time 42.0 k-lb

* Min. T/O Dist. @ Max. T/O Wt. War-Time 1,410 ft

* Min. T/O Dist. @ Max. T/O Wt. War-Time With Abort Dist. †

Min. Ldg. Wt. 37.5 k-lb Max. Ldg. Wt. 40.0 k-lb

* Min. Ldg. Dist. @ Min. Ldg. Wt. †

* Min. Ldg. Dist. @ Max. Ldg. Wt. 1,340 ft

* These distances are at 59°F, at sea level, with zero runway gradient, and on a clean dry runway surface.

ACN

	Rigid Pavement Subgrades				Flexible Pavement Subgrades			
Weight	High A	Medium B	Low C	Ultra Low D	High A	Medium B	Low C	Very Low D

Note: Adequate aircraft data is not available to express the relative structural effect of the aircraft.

Figure A-258. Fairchild F-27

Aircraft Manufacturer Fairchild

Aircraft Engine Manufacturer Rolls-Royce (Dart RDa.7 MK532-7)

No. of Engines 2 Engine Rating 2,250 ESHP

Min. T/O Wt. 27.3 k-lb * Min. T/O Dist. @ Min. T/O Wt. †

* Min. T/O Dist. @ Min. T/O Wt. With Abort Dist. †

Max. T/O Wt. Peace-Time 45.5 k-lb Max. T/O Wt. War-Time 45.5 k-lb

* Min. T/O Dist. @ Max. T/O Wt. War-Time 5,730 ft

* Min. T/O Dist. @ Max. T/O Wt. War-Time With Abort Dist. †

Min. Ldg. Wt. 42.2 k-lb Max. Ldg. Wt. 45.0 k-lb

* Min. Ldg. Dist. @ Min. Ldg. Wt. †

* Min. Ldg. Dist. @ Max. Ldg. Wt. 4,360 ft

* These distances are at 59°F, at sea level, with zero runway gradient, and on a clean dry runway surface.

ACN

	Rigid Pavement Subgrades				Flexible Pavement Subgrades			
Weight	High A	Medium B	Low C	Ultra Low D	High A	Medium B	Low C	Very Low D

Note: Adequate aircraft data is not available to express the relative structural effect of the aircraft.

Figure A-259. Fairchild FH-227

Aircraft Manufacturer Grumman Aircraft

Aircraft Engine Manufacturer Rolls-Royce (Dart RDa.7/2 MK529-8E)

No. of Engines 2 Engine Rating 2,190 ESHP

Min. T/O Wt. 25.0 k-lb * Min. T/O Dist. @ Min. T/O Wt. †

* Min. T/O Dist. @ Min. T/O Wt. With Abort Dist. †

Max. T/O Wt. Peace-Time 35.1 k-lb Max. T/O Wt. War-Time 35.1 k-lb

* Min. T/O Dist. @ Max. T/O Wt. War-Time 2,550 ft

* Min. T/O Dist. @ Max. T/O Wt. War-Time With Abort Dist. †

Min. Ldg. Wt. 27.1 k-lb Max. Ldg. Wt. 33.6 k-lb

* Min. Ldg. Dist. @ Min. Ldg. Wt. †

* Min. Ldg. Dist. @ Max. Ldg. Wt. 1,525 ft

* These distances are at 59°F, at sea level, with zero runway gradient, and on a clean dry runway surface.

ACN

	Rigid Pavement Subgrades				Flexible Pavement Subgrades			
Weight	High A	Medium B	Low C	Ultra Low D	High A	Medium B	Low C	Very Low D

Note: Adequate aircraft data is not available to express the relative structural effect of the aircraft.

Figure A-260. Grumman Gulfstream I

Aircraft Manufacturer Glenn L. Martin Co.

Aircraft Engine Manufacturer Pratt and Whitney (R-2800 CB16)

No. of Engines 2 Engine Rating 2,400 HP

Min. T/O Wt. 30.6 k-lb * Min. T/O Dist. @ Min. T/O Wt. †

* Min. T/O Dist. @ Min. T/O Wt. With Abort Dist. †

Max. T/O Wt. Peace-Time 42.8 k-lb Max. T/O Wt. War-Time 42.8 k-lb

* Min. T/O Dist. @ Max. T/O Wt. War-Time 1,780 ft (To 50 ft)

* Min. T/O Dist. @ Max. T/O Wt. War-Time With Abort Dist. †

Min. Ldg. Wt. 33.7 k-lb Max. Ldg. Wt. 41.0 k-lb

* Min. Ldg. Dist. @ Min. Ldg. Wt. †

* Min. Ldg. Dist. @ Max. Ldg. Wt. 1,670 ft (From 50 ft)

* These distances are at 59°F, at sea level, with zero runway gradient, and on a clean dry runway surface.

ACN

	Rigid Pavement Subgrades				Flexible Pavement Subgrades			
Weight	High A	Medium B	Low C	Ultra Low D	High A	Medium B	Low C	Very Low D

Note: Adequate aircraft data is not available to express the relative structural effect of the aircraft.

Figure A-261. Martin 404