

Appendix I (continued)

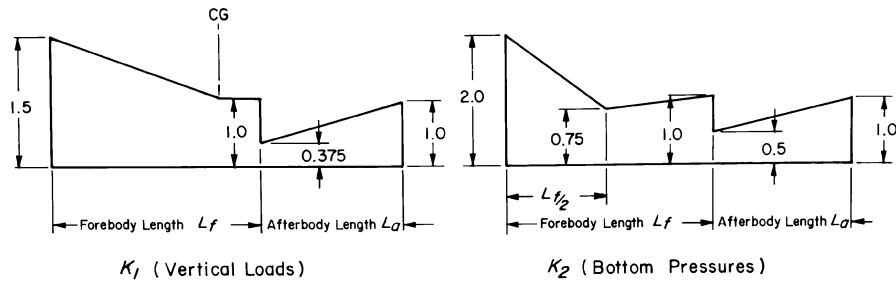


FIGURE 2. Hull station weighing factor.

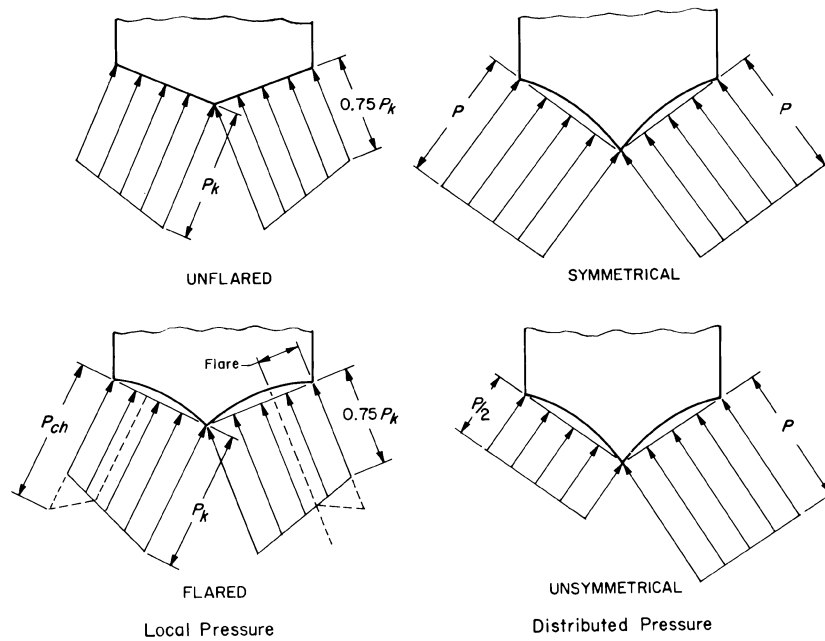


FIGURE 3. Transverse pressure distributions.

[Amdt. 23-45, 58 FR 42167, Aug. 6, 1993; 58 FR 51970, Oct. 5, 1993]

APPENDIX J TO PART 23—HIRF ENVIRONMENTS AND EQUIPMENT HIRF TEST LEVELS

This appendix specifies the HIRF environments and equipment HIRF test levels for electrical and electronic systems under §23.1308. The field strength values for the HIRF environments and equipment HIRF

test levels are expressed in root-mean-square units measured during the peak of the modulation cycle.

(a) HIRF environment I is specified in the following table:

TABLE I.—HIRF ENVIRONMENT I

Frequency	Field strength (volts/meter)	
	Peak	Average
10 kHz–2 MHz .....	50	50
2 MHz–30 MHz .....	100	100
30 MHz–100 MHz .....	50	50
100 MHz–400 MHz .....	100	100
400 MHz–700 MHz .....	700	50
700 MHz–1 GHz .....	700	100
GHz–2 GHz .....	2,000	200
2 GHz–6 GHz .....	3,000	200
6 GHz–8 GHz .....	1,000	200
8 GHz–12 GHz .....	3,000	300
12 GHz–18 GHz .....	2,000	200
18 GHz–40 GHz .....	600	200

In this table, the higher field strength applies at the frequency band edges.

(b) HIRF environment II is specified in the following table:

TABLE II.—HIRF ENVIRONMENT II

Frequency	Field strength (volts/meter)	
	Peak	Average
10 kHz–500 kHz .....	20	20
500 kHz–2 MHz .....	30	30
2 MHz–30 MHz .....	100	100
30 MHz–100 MHz .....	10	10
100 MHz–200 MHz .....	30	10
200 MHz–400 MHz .....	10	10
400 MHz–1 GHz .....	700	40
1 GHz–2 GHz .....	1,300	160
2 GHz–4 GHz .....	3,000	120
4 GHz–6 GHz .....	3,000	160
6 GHz–8 GHz .....	400	170
8 GHz–12 GHz .....	1,230	230
12 GHz–18 GHz .....	730	190
18 GHz–40 GHz .....	600	150

In this table, the higher field strength applies at the frequency band edges.

(c) *Equipment HIRF Test Level 1.* (1) From 10 kilohertz (kHz) to 400 megahertz (MHz), use conducted susceptibility tests with continuous wave (CW) and 1 kHz square wave modulation with 90 percent depth or greater. The conducted susceptibility current must start at a minimum of 0.6 milliamperes (mA) at 10 kHz, increasing 20 decibels (dB) per frequency decade to a minimum of 30 mA at 500 kHz.

(2) From 500 kHz to 40 MHz, the conducted susceptibility current must be at least 30 mA.

(3) From 40 MHz to 400 MHz, use conducted susceptibility tests, starting at a minimum of 30 mA at 40 MHz, decreasing 20 dB per frequency decade to a minimum of 3 mA at 400 MHz.

(4) From 100 MHz to 400 MHz, use radiated susceptibility tests at a minimum of 20 volts per meter (V/m) peak with CW and 1 kHz square wave modulation with 90 percent depth or greater.

(5) From 400 MHz to 8 gigahertz (GHz), use radiated susceptibility tests at a minimum of 150 V/m peak with pulse modulation of 4 percent duty cycle with a 1 kHz pulse repetition frequency. This signal must be switched on and off at a rate of 1 Hz with a duty cycle of 50 percent.

(d) *Equipment HIRF Test Level 2.* Equipment HIRF test level 2 is HIRF environment II in table II of this appendix reduced by acceptable aircraft transfer function and attenuation curves. Testing must cover the frequency band of 10 kHz to 8 GHz.

(e) *Equipment HIRF Test Level 3.* (1) From 10 kHz to 400 MHz, use conducted susceptibility tests, starting at a minimum of 0.15 mA at 10 kHz, increasing 20 dB per frequency decade to a minimum of 7.5 mA at 500 kHz.

(2) From 500 kHz to 40 MHz, use conducted susceptibility tests at a minimum of 7.5 mA.

(3) From 40 MHz to 400 MHz, use conducted susceptibility tests, starting at a minimum of 7.5 mA at 40 MHz, decreasing 20 dB per frequency decade to a minimum of 0.75 mA at 400 MHz.

(4) From 100 MHz to 8 GHz, use radiated susceptibility tests at a minimum of 5 V/m.

[Doc. No. FAA–2006–23657, 72 FR 44025, Aug. 6, 2007]

**PART 25—AIRWORTHINESS STANDARDS: TRANSPORT CATEGORY AIRPLANES**

SPECIAL FEDERAL AVIATION REGULATION NO. 13  
SPECIAL FEDERAL AVIATION REGULATION NO. 109

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Sec.

- 25.1 Applicability.
- 25.2 Special retroactive requirements.
- 25.3 Special provisions for ETOPS type design approvals.
- 25.5 Incorporations by reference.

**Subpart B—Flight**

GENERAL

- 25.21 Proof of compliance.
- 25.23 Load distribution limits.
- 25.25 Weight limits.
- 25.27 Center of gravity limits.
- 25.29 Empty weight and corresponding center of gravity.
- 25.31 Removable ballast.
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PERFORMANCE

- 25.101 General.
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- 25.105 Takeoff.
- 25.107 Takeoff speeds.