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(F)

DATE: 9/21/76



# ADVISORY CIRCULAR

## DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION

**SUBJECT:** ESTIMATED (UNCERTIFICATED) NOISE LEVELS OF AIRCRAFT

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1. PURPOSE. This circular provides estimates of noise levels from airplanes not certificated to FAR Part 36 standards.
  2. BACKGROUND
    - a. Both present and future rulemaking activities require knowledge of the noise levels of aircraft that may be operated in the United States. Advisory Circular (AC 36-1A) was published July 21, 1975, which lists the results of significant noise certification actions. To supplement that tabulation this circular provides estimates of the noise from airplanes not required to meet FAR Part 36 standards.
    - b. Progress in the control and abatement of airplane noise has been, and will continue to be, made. A summary listing of existing airplane noise levels will provide both private and public exposure to this progress, as well as offering a common noise level reference for potential future reductions.
  3. NOISE LEVELS
    - a. The noise levels were estimated for each airplane as they might occur during type certification tests conducted under FAR Part 36. However, it should be specifically noted that these levels do not represent the results of actual tests.
    - b. The estimated levels are presented in Appendix 1. This Appendix includes a tabulation of the engine type, thrust per engine, and maximum takeoff gross weight for the various aircraft. The
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predicted noise in Effective Perceived Noise Level (EPNdB) is compared with the appropriate FAR Part 36, Appendix C, noise level limit (takeoff, sideline, and approach) for each aircraft and configuration. In each case, the Part 36 standard sea level, 77° F, 70 percent relative humidity conditions have been assumed.

- c. These noise levels were obtained from data submitted to the Federal Aviation Administration (FAA) by the manufacturers and from the International Civil Aviation Organization. While the FAA has attempted to verify the reasonableness of these numbers by comparison with those from certified aircraft and (in some instances) by independent measurements, the FAA does not warrant these estimates.

4. REVISIONS

The airplane noise level estimates listed in Appendix 1 will be revised and updated periodically.

  
CHARLES R. FOSTER  
Director of Environmental Quality

APPENDIX 1

ESTIMATED (UNCERTIFICATED) NOISE LEVELS OF AIRCRAFT

Airplane Type	ENGINES			TAKEOFF			SIDELINE		APPROACH	
	Model	No.	Thrust 10 <sup>3</sup> lbs.	Gr. Wgt. 10 <sup>3</sup> lbs.	Estimated EPNdB	Part 36 EPNdB	Estimated EPNdB	Part 36 EPNdB	Estimated EPNdB	Part 36 EPNdB
B-707-100B	JT3D-1	4	17.0	258.0	108.0	102.0	101.5	105.5	116.0	105.5
-300B/C	JT3D-3B	4	18.0	333.6	113.0	104.0	102.0	106.5	118.5	106.5
B-720B	JT3D-1	4	17.0	234.0	104.5	101.0	101.5	105.5	115.5	105.5
B-727-100	JT8D-7	3	14.0	160.5	96.5	98.5	100.0	104.0	110.0	104.0
-200	JT8D-9	3	14.5	172.5	101.0	99.0	100.5	104.5	109.5	104.5
	JT8D-15	3	15.5	190.5	102.0	100.0	102.0	105.0	109.5	105.0
B-737-100/200	JT8D-9	2	14.5	110.7	93.5	96.0	100.5	103.0	111.5	103.0
-200Avd	JT8D-15	2	15.5	115.5	94.5	96.0	103.0	103.5	111.5	103.5
DC-8-30	JT4A-9	4	16.8	315.0	113.0	103.5	109.0	106.0	111.0	106.0
-50	JT3D-3B	4	18.0	315.0	114.0	103.5	106.0	106.0	118.0	106.0
-61	JT3D-3B	4	18.0	235.0	114.5	103.5	103.0	106.5	114.5	106.5
DC-9-10	JT8D-1	2	14.0	90.7	90.0	94.5	102.0	102.5	106.5	102.5
-20	JT8D-9	2	14.5	98.0	90.0	95.0	103.0	103.0	106.5	103.0
-30	JT8D-9	2	15.0	114.0	95.7*	96.0	103.0	103.5	106.1	103.5
CV-880	CJ805-3B	4	11.7	184.0	115.0	99.5	109.0	104.5	106.0	104.5
CV-990	CJ805-23	4	16.1	253.0	110.0	102.0	111.0	105.5	112.0	105.5
BAC 1-11-500	M-512-14	2	12.6	100.0	103.0	95.0	108.5	103.0	102.5	103.0
VC-10	M-540	4	20.4	314.0	110.0*	103.5	113.0	106.0	115.0	106.0
Super VC-10	M-550/B	4	21.8	335.0	110.0*	104.0	113.5	106.5	115.0	106.5
Concorde	O-593/M	4	38.5	400.0	119.5*	105.5	112.0	107.5	116.5	107.5

Note: All EPNdB values shown to nearest 0.5dB.

\*Power cutback after takeoff

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