AC NO: 36-1A

DATE: 7/21/75

ADVISORY CIRCULAR

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

SUBJECT: CERTIFICATED AIRPLANE NOISE LEVELS TAD-494.0

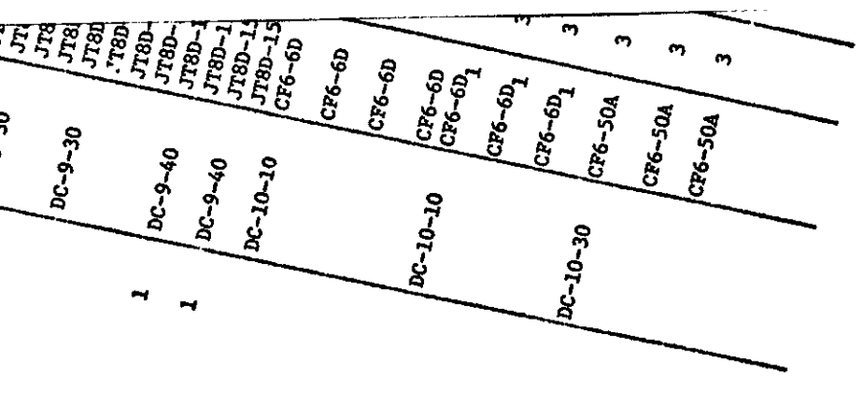
1. PURPOSE. This circular provides noise level data for airplanes certificated under FAR Part 36 since its publication on November 18, 1969.

2. BACKGROUND

   a. Within the agency's regulatory program for airplane noise, both present and future rulemaking require the quantification of airplane noise levels.

   b. Positive 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. Airplane noise levels measured during type certification under FAR Part 36 are presented in Appendix 1. This appendix includes a tabulation of the engine type, gross weight, and flap setting for the various aircraft as well as the measured noise in Effective Perceived Noise Level (EPNdB) compared with the appropriate FAR Part 36, Appendix C, noise level limits (takeoff, sideline, and approach) for each aircraft and configuration. In each case, the measured data have been corrected to sea level, 77° F, 70 percent relative humidity conditions using the procedures of Part 36.



Unlike the earlier AC 36-1, this circular does not contain uncertificated or unverified noise level numbers. Such estimates, however, are often useful since a significant portion of the current in-service fleet was introduced prior to the requirement to meet FAR Part 36. Therefore, a separate advisory circular containing that data is being prepared from manufacturer, International Civil Aviation Organization, and the Federal Aviation Administration.

4. REVISIONS. The airplane noise levels in Appendix 1

5.

APPENDIX 1. CERTIFICATED AIRPLANE NOISE LEVELS

Notes	Airplane	ENGINES: Model	No.	Thrust 10^3 lbs.	TAKEOFF: GR Wgt. 10^3 lbs.	Flap Deg.	Meas. EPNdB	Part 36 EPNdB	SIDELINE: Meas. EPNdB	Part36 EPNdB	APPROACH: Flap Deg.	Meas. EPNdB	Part 36 EPNdB
	DC-10-30	CF6-50C	3	51.0	565.0	10	104.4	107.6	97.3	107.8	50	108.4	107.8
		CF6-50C	3	51.0	555.0	10	104.0	107.5	97.3	107.8	35	103.0	107.7
		CF6-50C	3	51.0	534.4	10	103.2	107.2	97.6	107.7	50	108.2	107.1
		CF6-50C	3	49.4	440.0	10	100.7	105.8	98.5	107.1	35	102.6	107.7
2	DC-10-40	JT9D-20	3	49.4	530.0	10	98.4	107.1	94.3	107.7	50	100.4	107.4
		JT9D-20	3	49.4	484.0	10	95.8	106.5	94.3	107.4	35	105.4	107.4
		JT9D-20	3	42.0	430.0	10	97.0	105.6	95.1	107.1	50	99.2	107.1
		RB211-22C	3	42.0	430:0	10	96.1	105.4	95.0	107.0	35	104.6	107.1
		RB211-22C	3	42.0	416.0	10	97.9	105.6	95.2	107.1	50	98.5	107.0
3,4	L1011-1	RB211-22C	3	42.0	430.0	10	97.7	105.5	95.0	107.0	33	103.8	107.0
3,4		RB211-22C	3	42.0	422.0	10	96.0	105.0	95.2	106.8	33	103.4	107.0
5		RB211-22C	3	42.0	396.0	10	108.0	108.0	101.9	108.0	42	103.4	107.1
		RB211-22C	3	43.5	710.0	10C/B	108.0	108.0	103.3	108.0	33	102.1	107.0
4,6		RB211-22C	3	45.0	735.0	10	108.0	108.0	102.1	108.0	33	101.5	106.8
4,6		JT9D-3Dry	4	47.0	735.0	10	110.3	115.0	102.0	108.0	50	113.6	108.0
5,6	B-747-100	JT9D-3Awet	4	45.0	735.0	10	107.6	112.4	99.5	108.0	30	114.4	108.0
		JT9D-7wet	4	47.0	735.0	10	107.2	110.6	99.5	108.0	30	114.4	108.0
	-100A	JT9D-7wet	4	45.0	773.0	10	112.6	108.0	101.0	108.0	25	109.0	108.0
	-100C	JT9D-3Awet	4	47.0							30	112.3	108.0
	Fixed Lip	JT9D-7wet	4	47.0							30	106.8	108.0
	Fixed Lip	JT9D-7wet	4								30	106.9	108.0
	B-747-200B										30	111.5	

Page 2

Notes	Airplane	ENGINES			TAKEOFF				SIDELINE		APPROACH			
		Model	No.	Thrust 10^3 lbs.	Gr. Wgt. 10^3 lbs.	Flap Deg.	Meas. EPNdB	Part 36 EPNdB	Meas. EPNdB	Part36 EPNdB	Flap Deg.	Meas. EPNdB	Part 36 EPNdB
	B-747-200 B/C/P	JT9D-7wet	4	47.0	775.0	10	107.0	108.0	98.2	108.0	30	106.2	108.0
											30	106.8	108.0
	Fixed Lip	JT9D-3Awet			773.0	10	107.5	108.0	97.8	108.0	30	106.8	108.0
	B-747-200 B/C/F	CF6-50E	4	52.5	775.0	10	105.3	108.0	98.4	108.0	30	105.0	108.0
					800.0	10	106.1	108.0	98.3	108.0	30	106.1	108.0
	B-727-200 (Quiet Nacelle)	JT8D-15	3	15.5	190.5	5C/B	100.0	99.7	102.2	104.7	30	101.0	104.7
					175.0	5C/B	97.0	99.1	102.3	104.5	40	103.2	104.5
	B-737-200	JT8D-15	2	15.5	115.5	1C/B	94.8	96.1	103.2	103.3	30	103.8	103.3
	(Quiet	JT8D-9	2	14.5	115.5	1C/B	95.4	96.1	100.6	103.3	30	103.8	103.3
	Nacelle)	JT8D-7	2	16.0	117.0		94.0	96.2	104.4	103.3		104.4	103.3
	Cessna 500	JT15D-1	2	2.2	11.5	15	77.7	93.0	86.1	102.0	40	87.7	102.0
	Learjet 35/36	TPE731-2	2	3.5	17.0	8	83.4	93.0	86.7	102.0	40	92.2	102.0
						20	84.0	93.0	86.9	102.0			
	Learjet 24D Modified	CJ610-6	2	2.95	13.5	20	90.1	93.0	97.3	102.0	40	99.1	102.0
	Learjet 24	CJ610-6	2	2.95	13.5	20	91.8	93.0	99.3	102.0	40	100.7	102.0
7		CJ610-6	2	2.95	13.5	20	91.8	93.0	99.3	102.0	40	101.7	102.0
	Learjet 25B/ 25C	CJ610-6	2	2.95	15.0	20	91.3	93.0	97.1	102.0	40	99.6	102.0
	Modified Learjet 25	CJ610-6	2	2.95	15.0	20	94.0	93.0	99.3	102.0	40	100.8	102.0
7		CJ610-6	2	2.95	15.0	20	94.0	93.0	99.3	102.0	40	102.7	102.0
	Lockheed												
9	382E and			4.608									
	382G	501-D22A	4	(eshp)	155.0	17.5	98.4	98.2	93.9	104.1	35	99.1	104.1
8,9, 10	Falcon 10	TFE 731-2	2	3.23	18.30	15	79.6	93.0	86.4	102.0	52	95.3	102.0
8	Airbus 300B	CF6-50A	2	48.4	302.0	20°slats 0	90.2	103.1	95.3	106.0	20°slats 0	101.3	106.0
											20°slats 0	101.6	106.0
	Corvette SN-601	JT-15-D4	2	2.5	13.9	15	80.4	93.0	85.4	102.0	35	89.5	102.0

APPENDIX 1. CERTIFICATED AIRPLANE NOISE LEVELS

Notes	Airplane	ENGINES			TAKEOFF				SIDELINE		APPROACH		
		Model	No.	Thrust 10^3 lbs.	Gr. Wgt. 10^3 lbs.	Flap Deg.	Meas. EPNdB	Part 36 EPNdB	Meas. EPNdB	Part36 EPNdB	Flap Deg.	Meas. EPNdB	Part 36 EPNdB
	Sabreliner NA265-60	JT12A-8	2	3.3	20.0	0	95.0	93.0	100.3	102.0	23.5	98.5	102.0
	Sabreliner NA265-80	CJ700-2D-2	2	4.315	23.3	0	90.7	93.0	91.3	102.0	25	100.2	102.0
		CJ700-2D-2	2	4,315	23.3	15	90.9	93.0	91.5	102.0	-	-	-
	F-28(MK1000)	Spey M555-15	2	9.850	65.0	6C/B	90.0	93.0	99.5	102.0	42	101.2	102.0
	F-28(MK2000)	Spey M555-15	2	9.850	65.0	6C/B	90.0	93.0	99.5	102.0	42	101.8	102.0
	HS-748-2A	Dart MK532-2L	2	2.280 (eshp)	44.5	15C/B	92.5	93.0	96.3	102.0	27.5	103.8	102.0
8	Grumman G-1159	Spey M511-8	2	11.5	62.0	20	90.9	93.0	102.7	102.0	39	98.2	102.0

Notes

1 Engines equipped with P-36 acoustical treatment
2 Center gear retracted
3 Engine flat rated to ISA + 3.8°C
4 Direct lift control on during approach
5 Direct lift control off during approach
6 Engine flat rated to ISA - 2.2°C
7 Modified per ECR 936
8 Power cutback after takeoff
9 eshp = equivalent shaft horsepower
10 82.9 EPNdB (T/O without cutback)
11 Engines equipped with treated Blow-in Doors