U.S. Department of Transportation
Federal Aviation Administration

Advisory Circular

Subject: Measured or Estimated (Uncertificated) Airplane Noise Levels

Date: 2/12/86 **AC No:** 36-2C
Initiated by: AEE-110 **Change:**

1. PURPOSE. This circular provides estimates of noise levels or measured noise levels from airplanes not certificated to FAR Part 36.

2. CANCELLATION. Advisory Circular 36-2B, Measured or Estimated (Uncertificated) Airplane Noise Levels, dated September 6, 1984, is cancelled.

3. BACKGROUND.

a. Advisory Circular (AC) 36-1D "Noise Levels for U.S. Certificated and Foreign Aircraft," was published 11/4/85, and lists the results of significant noise certification actions. To supplement that tabulation this circular provides estimates or measurements 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.

4. NOISE LEVELS

a. The noise levels were measured or estimated for each airplane as they might occur during type certification tests conducted under FAR Part 36. However, it should be specifically noted that the estimated levels were not derived from actual tests, and the measured noise levels contained in this circular were obtained from tests which were made for purposes other than type certification. Noise levels are also presented on rotary-wing aircraft which have been estimated or measured and processed according to ICAO Annex 16 standards.

b. Many of 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.

c. Appendix I shows the measured or estimated noise levels for domestic turbojet powered airplanes; Appendix IA shows measured or

estimated levels for foreign turbojet powered airplanes. Appendix II shows the measured or estimated levels for large transport category aircraft. These appendices include tabulations of engine type, thrust or equivalent shaft horsepower and gross weight for various aircraft as well as the measured or estimated Effective Perceived Noise Level in decibels (EPNdB) for each aircraft. Appendix III shows the noise levels for propeller driven small airplanes. This appendix includes a tabulation of the engine type, horsepower and gross weight for the various aircraft along with the measured or estimated A-weighted sound level in decibels (dBA) compared to a FAR Part 36, Appendix F tests. Appendix IV contains the levels of civil supersonic airplanes. Appendix V shows the noise levels for rotary-wing aircraft. This appendix includes a tabulation of the engine type, horsepower or equivalent shaft horsepower, rotor size and aircraft weight along with the measured or estimated EPNL for level flyover at 500 feet altitude, takeoff, and sideline. For all information listed, except for some aircraft in Appendix V, standard sea level, 77°F, 70% relative humidity conditions have been assumed.

d. Charts have been included following each appendix so that the appropriate FAR Part 36 noise level limits for takeoff, sideline, and approach can be calculated for each airplane for comparison purposes. A chart for calculating the ICAO Annex 16 limits for rotary-wing aircraft has been included for Appendix V.

5. REVISIONS. The airplane noise level listing of this Advisory Circular will be revised and updated periodically.

John E. Wesler
Director of Environment and Energy

APPENDIX I
MEASURED OR ESTIMATED NOISE LEVELS FROM UNCERTIFICATED AIRPLANES

TURBOJET POWERED AIRCRAFT

AIRCRAFT MANUFACTURER AND TYPE	GR. WGT. 1000 LBS.	ENGINES NO. MODEL	ENGINES THRUST 1000 LBS.	TAKEOFF M/EST EPNDB	SIDELINE M/EST. EPNDB	APPROACH M/EST. EPNDB	FLAPS (TO/APP)	NOTES
BOEING B-707-100	258.0	4 JT3C-6	13.5	113.0	109.0	111.0		1
BOEING B-707-100B	258.0	4 JT3D-1	17.0	108.7	101.3	116.0	20/50	1
BOEING B-707-100B	258.0	4 JT3D-3	18.0	107.1	101.7	116.0	20/50	1
BOEING B-707-200	248.0	4 JT4A-3	16.8	105.0	111.0	110.0		1
BOEING B-707-300	312.0	4 JT4A-11	17.5	109.5	110.0	109.6	30/50	1
BOEING B-707-300B/C	333.6	4 JT3D-3B	18.0	113.0	102.1	118.5	14/50	1
BOEING B-707-300B/C	333.6	4 JT3D-7	19.0	112.1	102.5	120.4	14/50	1
BOEING B-707-400	316.0	4 R.CO. MK 508	17.5	116.0	112.0	112.0		1
BOEING B-720	230.0	4 JT3C-7	12.0	108.0	109.0	108.0		1
BOEING B-720B	234.0	4 JT3D-1	17.0	104.7	101.6	115.5	20/50	1
BOEING B-720B	234.0	4 JT3D-3	18.0	102.8	102.0	115.5	20/50	1

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BOEING B-727-100	160.5	3 JT8D-1	14.0	97.2	99.2	110.1	5/40	1
BOEING B-727-100	169.5	3 JT8D-7	14.0	99.2	100.0	110.1	5/40	1
BOEING B-727-100	169.5	3 JT8D-7/7A/7B	14.0	99.2	100.0	110.1	5/40	1
BOEING B-727-100	169.5	3 JT8D-9	14.5	98.3	100.0	108.4	5/40	1
BOEING B-727-100C	169.5	3 JT8D-7/7A/7B	14.0	99.2	100.0	110.1	5/40	1
BOEING B-727-200	172.5	3 JT8D-7	14.0	102.2	100.4	111.0	15/40	1
BOEING B-727-200	172.5	3 JT8D-7/7A/7B	14.0	102.2	100.4	111.0	15/40	1
BOEING B-727-200	172.5	3 JT8D-9	14.5	101.2	100.4	109.5	15/40	1
BOEING B-737-100	103.5	2 JT8D-7/7A/7B	14.0	93.0	101.6	108.3	1/40	1
BOEING B-737-100	109.0	2 JT8D-7/7A/7B	14.0	94.6	101.3	108.3	1/40	1
BOEING B-737-100	110.7	2 JT8D-9/9A	14.5	93.7	100.6	111.5	1/40	1

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TURBOJET POWERED AIRCRAFT

AIRCRAFT MANUFACTURER AND TYPE	GR. WGT. 1000 LBS.	ENGINES NO. MODEL	ENGINES THRUST 1000 LBS.	TAKEOFF M/EST EPNDB	SIDELINE M/EST. EPNDB	APPROACH M/EST. EPNDB	FLAPS (TO/APP)	NOTES
BOEING B-737-200	100.5	2 JT8D-7/7A/7B	14.0	92.1	101.7	108.3	1/40	1
BOEING B-737-200	103.5	2 JT8D-7/7A/7B	14.0	93.0	101.6	108.5	1/40	1
BOEING B-737-200	103.5	2 JT8D-9/9A	14.5	91.4	100.9	111.5	1/40	1
BOEING B-737-200	109.0	2 JT8D-7/7A/7B	14.0	94.7	101.3	108.5	1/40	1
BOEING B-737-200	110.7	2 JT8D-9/9A	14.5	93.7	100.6	111.6	1/40	1
BOEING B-737-200	114.5	2 JT8D-9/9A	14.5	94.9	100.5	111.8	1/40	1
BOEING B-737-200/ADV.	115.5	2 JT8D-15/15A	15.5	94.4	103.1	111.7	1/40	1
GATES LEARJET 23	12.5	2 CJ-610-1	2.9	96.1	103.4	96.7		1
GENERAL DYNAMICS CV 880 22	184.0	4 CJ-805-3	11.2	115.0	109.0	106.0		1
GENERAL DYNAMICS CV 880 22M	193.0	4 CJ-805-3B	11.7	117.0	109.0	106.0		1
GENERAL DYNAMICS CV 990A	253.0	4 CJ-805-23	16.1	110.0	111.0	112.0		1

APPENDIX I
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TURBOJET POWERED AIRCRAFT

AIRCRAFT MANUFACTURER AND TYPE	GR. WGT. 1000 LBS.	ENGINES NO. MODEL	ENGINES THRUST 1000 LBS.	TAKEOFF M/EST EPNDB	SIDELINE M/EST. EPNDB	APPROACH M/EST. EPNDB	FLAPS (TO/APP)	NOTES
LOCKHEED 1329 JETSTAR	42.0	4 JT12A-8	3.3	106.6	103.3	107.5		1
MCDONNELL DOUGLAS DC-08-20	276.0	4 JT4A-3	15.8	105.0	107.0	112.0		1,2,5
MCDONNELL DOUGLAS DC-08-30	315.0	4 JT4A-9	16.8	109.0	107.0	112.0		1,2,5
MCDONNELL DOUGLAS DC-08-40	315.0	4 RCO. 12	17.5	111.0	108.0	115.0		1,2,5
MCDONNELL DOUGLAS DC-08-50	300.0	4 JT3D-1	17.0	106.0	102.0	114.0		1,2,5
MCDONNELL DOUGLAS DC-08-50	315.0	4 JT3D-3B	18.0	108.0	103.0	114.0		1,2,5
MCDONNELL DOUGLAS DC-08-55	325.0	4 JT3D-3B	18.0	109.0	103.0	115.0		1,2,5
MCDONNELL DOUGLAS DC-08-61	328.0	4 JT3D-3B	18.0	110.0	103.0	115.0		1,2,5
MCDONNELL DOUGLAS DC-08-62	335.0	4 JT3D-3B	18.0	110.0	103.0	114.0		1,2,5
MCDONNELL DOUGLAS DC-08-62	350.0	4 JT3D-3B	18.0	111.0	103.0	114.0		1,2,5
MCDONNELL DOUGLAS DC-08-62	350.0	4 JT3D-7	19.0	111.0	103.0	114.0		1,2,5

APPENDIX 1
MEASURED OR ESTIMATED NOISE LEVELS FROM UNCERTIFICATED AIRPLANES

TURBOJET POWERED AIRCRAFT

AIRCRAFT MANUFACTURER AND TYPE	GR. WGT. 1000 LBS.	ENGINES NO. MODEL	ENGINES THRUST 1000 LBS.	TAKEOFF M/EST EPNDB	SIDELINE M/EST. EPNDB	APPROACH M/EST. EPNDB	FLAPS (TO/APP)	NOTES
MCDONNELL DOUGLAS DC-08-63	350.0	4 JT3D-3B	18.0	111.0	103.0	114.0		1,2,5
MCDONNELL DOUGLAS DC-08-63	355.0	4 JT3D-7	19.0	111.0	103.0	114.0		1,2,5
MCDONNELL DOUGLAS DC-09-10	90.7	2 JT8D-7	14.0	91.3	100.9	105.5		1,2,4,5,6,8
MCDONNELL DOUGLAS DC-09-20	98.0	2 JT8D-11	15.0	96.2	103.2	103.7		1,2,3,5
MCDONNELL DOUGLAS DC-09-30	103.0	2 JT8D-7	14.0	94.8	100.5	105.7	0/50	
MCDONNELL DOUGLAS DC-09-30	105.0	2 JT8D-7	14.0	95.4	100.4	105.7		1,2,4,5,7,8
MCDONNELL DOUGLAS DC-09-30	108.0	2 JT8D-15	15.5	95.6	102.3	103.7	0/50	1,2,4,5
MCDONNELL DOUGLAS DC-09-30	108.0	2 JT8D-7	14.0	96.2	100.3	105.7		1,2,4,5,7,8
MCDONNELL DOUGLAS DC-09-30	108.0	2 JT8D-9	14.5	98.4	101.4	103.9		1,2,4,5,7
MCDONNELL DOUGLAS DC-09-30	110.0	2 JT8D-15	15.5	96.4	102.3	103.7	0/50	1,2,4,5
MCDONNELL DOUGLAS DC-09-30	110.0	2 JT8D-9	14.5	99.2	101.4	104.0		1,2,4,5,7

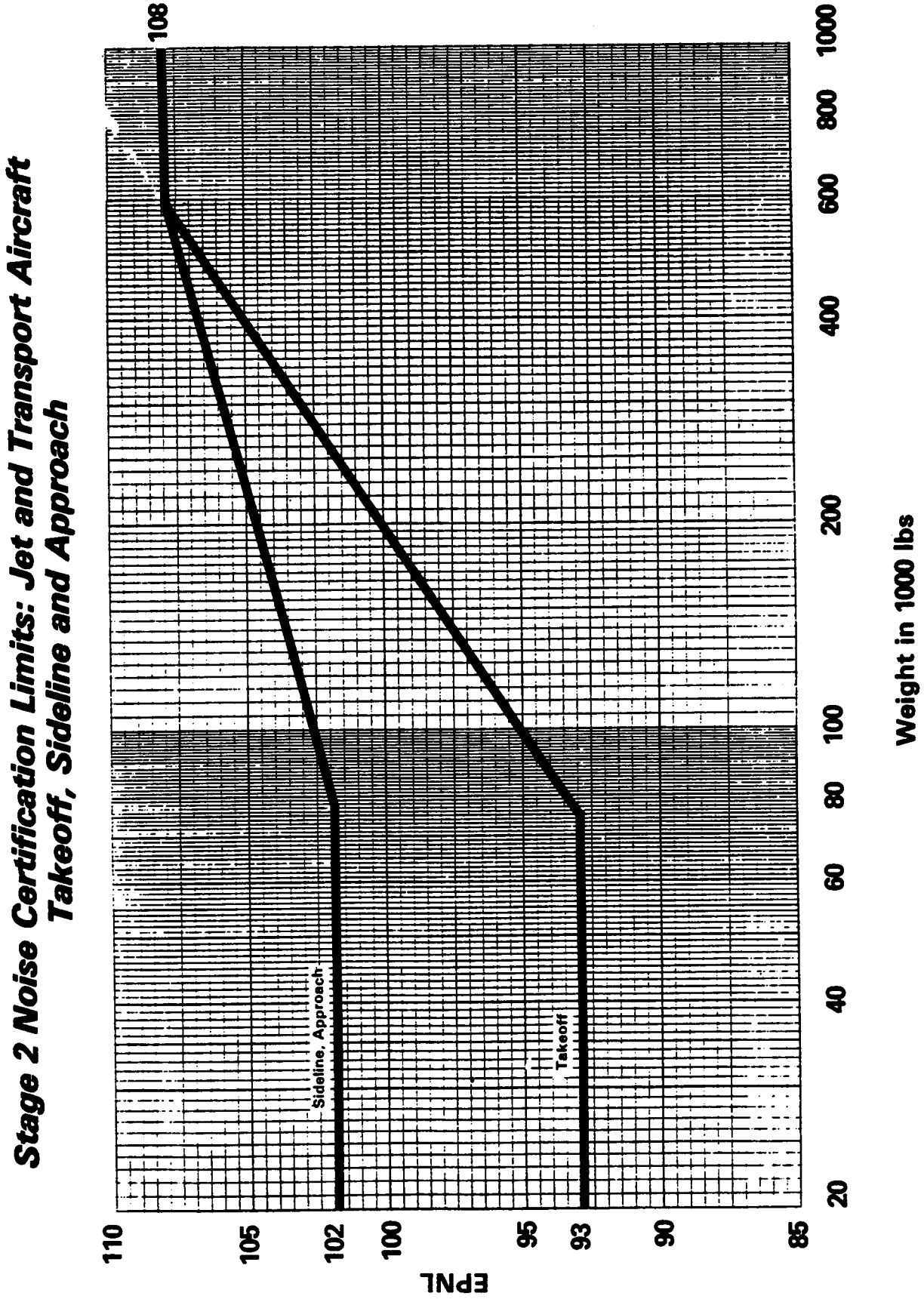
APPENDIX 1
MEASURED OR ESTIMATED NOISE LEVELS FROM UNCERTIFICATED AIRPLANES

TURBOJET POWERED AIRCRAFT

AIRCRAFT MANUFACTURER AND TYPE	GR. WGT. 1000 LBS.	ENGINES NO. MODEL	ENGINES THRUST 1000 LBS.	TAKEOFF M/EST EPNDB	SIDELINE M/EST. EPNDB	APPROACH M/EST. EPNDB	FLAPS (TO/APP)	NOTES
MCDONNELL DOUGLAS DC-09-30	114.0	2 JT8D-9	14.5	101.0	101.2	104.1		1,2,4,5,7
MCDONNELL DOUGLAS DC-09-40	114.0	2 JT8D-11	15.0	100.1	102.0	104.1		1,2,4,5
ROCKWELL SABRE 40A	19.4	2 JT12A-8	3.3	100.3	100.2	98.5		1

NOTES

1. THRUST CUTBACK USED
2. NOISE LEVELS DO NOT INCLUDE APPLICATION OF FAR PART 36 AMENDMENTS 8 OR 9
3. ZERO PERCENT OVERSPEED
4. SIX PERCENT OVERSPEED
5. NO ACOUSTIC ENGINE NACELLE TREATMENT
6. ALSO APPLICABLE TO -14/-15/-15F AIRCRAFT
7. ALSO APPLICABLE TO -31/-32/-32F AIRCRAFT
8. ALSO APPLICABLE TO -7A ENGINES


Stage 2 Noise Certification Limits: Jet and Transport Aircraft
Takeoff, Sideline and Approach
EPNL
110
105
102
100
95
93
90
85
108
Sideline, Approach
Takeoff
20
40
60
80
100
200
400
600
800
1000
Weight in 1000 lbs

EQUATIONS FOR THE CALCULATION OF NOISE CERTIFICATION LIMITS AT TAKEOFF, SIDELINE, AND APPROACH STAGE 2*

	Takeoff Limits EPNdB	Sideline Limits EPNdB	Approach Limits EPNdB
Up to and including 75,000 lbs	93	102	102
Over 75,000 lbs to 600,000 lbs	61.86+16.61 log M	89.54+6.64 log M	89.54+6.64 log M
Over 600,000 lbs	108	108	108

M = Maximum Takeoff Mass in 1000 lbs

*More stringent noise certification limits exist for aircraft for which application for type certificate was dated on or after November 5, 1976 (Stage 3).

APPENDIX 1A
MEASURED OR ESTIMATED NOISE LEVELS FROM FOREIGN UNCERTIFICATED AIRPLANES

TURBOJET POWERED AIRCRAFT

AIRCRAFT MANUFACTURER AND TYPE	GR. WGT. 1000 LBS.	ENGINES			TAKEOFF	SIDELINE	APPROACH	NOTES
		ENGINE MODEL	NO. ENG.	THRUST 1000 LBS.	M/EST. EPNDB	M/EST. EPNDB	M/EST EPNDB	
BAC 1-11 SRS. 200	79.0	SPEY MK506	2	10.4	96.7	104.7	99.5	1
BAC 1-11 SRS. 300/400	98.9	SPEY MK511	2	11.4	94.2	102.4	102.4	
BAC 1-11 SRS. 500	104.5	SPEY MK512	2	12.6	101.8	108.0	105.7	
BAC HS125-1A	21.2	VIPER 521	2	3.1	95.3	100.9	105.9	1
BAC HS125-1A-522	21.2	VIPER 522	2	3.3	93.5	102.5	105.4	1
BAC HS125-1A/S-522	21.7	VIPER 522	2	3.3	94.3	102.5	105.4	1
BAC HS125-3A	21.7	VIPER 522	2	3.3	94.3	102.5	105.5	1
BAC HS125-3A/RA	22.7	VIPER 522	2	3.3	95.2	102.5	105.6	1
BAC HS125-400A	23.3	VIPER 522	2	3.3	95.7	102.5	105.6	1
BAC HS125-600A	25.5	VIPER 601	2	3.7	97.1	103.6	101.9	1
BAC SUPER VC10	335.0	RCO. 43	4	21.8	110.1	113.5	115.1	

APPENDIX 1A
MEASURED OR ESTIMATED NOISE LEVELS FROM FOREIGN UNCERTIFICATED AIRPLANES

TURBOJET POWERED AIRCRAFT

AIRCRAFT MANUFACTURER AND TYPE	GR. WGT. 1000 LBS.	ENGINES			TAKEOFF	SIDELINE	APPROACH	NOTES
		ENGINE MODEL	NO. ENG.	THRUST 1000 LBS.	M/EST. EPNDB	M/EST. EPNDB	M/EST EPNDB	
BAC VC10 SRS. 1100	314.0	RCO. 42	4	20.4	110.2	113.2	114.8	
HAWKER SIDDELEY COMET 4	162.0	RA29 MK524	4	10.5	103.0	104.0	112.0	1
HAWKER SIDDELEY COMET 4B	158.0	RA29 MK525	4	10.5	102.0	104.0	112.0	1
HAWKER SIDDELEY COMET 4C	162.0	RA29 MK525B	4	10.5	103.0	104.0	112.0	1
HAWKER SIDDELEY HS125 SERIES 1A	19.6	VIPER 521	2	3.0	88.0	99.0	103.0	1
HAWKER SIDDELEY HS125 SERIES 3	21.0	VIPER 522	2	3.4	89.0	99.0	104.0	1
HAWKER SIDDELEY HS125-400	23.3	VIPER 522	2	3.4	90.0	99.0	104.0	1
HAWKER SIDDELEY HS125-600	25.0	VIPER 601-22	2	3.8	89.0	99.0	105.0	1
HAWKER SIDDELEY TRIDENT 1	115.0	RB163 MK505-5	3	10.1	100.0	100.0	108.0	1
HAWKER SIDDELEY TRIDENT 1E	130.0	RB163 MK511-5	3	11.4	108.0	106.0	109.0	1
HAWKER SIDDELEY TRIDENT 2E	143.5	RB163 MK512-5	3	12.0	108.0	106.0	109.0	1

APPENDIX 1A
MEASURED OR ESTIMATED NOISE LEVELS FROM FOREIGN UNCERTIFICATED AIRPLANES

TURBOJET POWERED AIRCRAFT

AIRCRAFT MANUFACTURER AND TYPE	GR. WGT. 1000 LBS.	ENGINES			TAKEOFF	SIDELINE	APPROACH	NOTES
		ENGINE MODEL	NO. ENG.	THRUST 1000 LBS.	M/EST. EPNDB	M/EST. EPNDB	M/EST EPNDB	
HAWKER SIDDELEY TRIDENT 3B	150.0	RB163 MK512-5	4	11.4	104.0	105.0	110.0	1,2
IAI 1121 COMMODORE	18.5	CJ610-5	2	3.0	100.9	104.2	107.0	
IAI 1123 WESTWIND	20.7	CJ610-9	2	3.1	100.9	105.0	106.0	
MBB HFB 320 HANSA	20.2	CJ610-5	2	3.0	100.9	105.0	106.0	
SUD-AVIATION CARAVELLE 10R	114.6	JT8D-7	2	14.0	97.0	102.0	107.5	1
SUD-AVIATION CARAVELLE III	101.4	RA29 MK527	2	11.4	104.0	109.0	110.0	1
SUD-AVIATION CARAVELLE VIN	105.8	RA29 MK531	2	12.2	104.0	111.0	106.5	1
SUD-AVIATION CARAVELLE VIR	110.2	AVON 533R	2	12.6	104.0	111.0	107.0	1
VFW-FOKKER VFW 614	44.0	M45H MK501	2	7.2	90.5	92.2	97.1	1

NOTES

1. THRUST CUTBACK USED
2. NOISE LEVELS DO NOT INCLUDE APPLICATION OF FAR PART 36 AMENDMENTS 8 OR 9

APPENDIX II
MEASURED OR ESTIMATED NOISE LEVELS FROM UNCERTIFICATED AIRPLANES

LARGE TRANSPORT CATEGORY AIRCRAFT

AIRCRAFT MANUFACTURER AND TYPE	GR. WGT. 1000 LBS.	ENGINES NO. MODEL	ENGINES SHP	TAKEOFF M/EST EPNDB	SIDELINE M/EST EPNDB	APPROACH M/EST EPNDB	NOTES
AEROSPATIALE NORD 262C	22.9	2 BASTAN VII	1065	90.0	92.0	99.0	1
FOKKER F-27 MK.200	43.5	2 MK532-7	2050	90.6	102.0	100.3	1
FOKKER F-27 MK.400/600	43.5	2 MK532-7R	2140	89.0	92.5	99.0	1
LOCKHEED L-100-50	170.0	4 501-D22A	4200	99.8	93.5	98.2	1
LOCKHEED L-188	116.0	4 501-D13	3750	95.0	93.0	99.0	1
LOCKHEED L-400	84.0	2 501-D22A	4591	92.7	91.7	97.5	1

See Appendix 1 for Charts and Equations for calculation of Noise Certification Limits

APPENDIX III
MEASURED OR ESTIMATED NOISE LEVELS FROM UNCERTIFICATED AIRPLANES

PROPELLER DRIVEN SMALL AIRPLANES

AIRCRAFT MANUFACTURER AND TYPE	GR. WGT.	ENGINES		PROPELLER	FLYOVER
		NO. MODEL	HP		M/EST DBA
BEECH 23	2300	O-320-D2B [1]	160	HC-82XL-6F	70.0
BEECH 35	2550	E-185-11 [1]	165	B-215-107	71.0
BEECH 35-33	2900	IO-470-J [1]	225	BHC-92ZF-1D1	79.0
BEECH 35-A33	3000	IO-470-K [1]	225	F-12	81.0
BEECH 35-B33	3000	IO-470-K [1]	225	BHC-92ZF-1D1	78.0
BEECH 35-C33	3050	IO-470-K [1]	225	MCC.2A36C23-CD	80.0
BEECH 35-C33A	3300	IO-520-B [1]	285	MCC.2A36C23-CP	86.0
BEECH 35S	3300	IO-520-BA [1]	285	MCC.2A36C23	86.0
BEECH 36	3600	IO-520-B [1]	285	MCC.2A36C23-CP	83.0
BEECH 56TC	5990	TIO-541-E1B4 [2]	380	HC-F3YR-2	82.0

APPENDIX III
MEASURED OR ESTIMATED NOISE LEVELS FROM UNCERTIFICATED AIRPLANES

PROPELLER DRIVEN SMALL AIRPLANES

AIRCRAFT MANUFACTURER AND TYPE	GR. WGT.	ENGINES		PROPELLER	FLYOVER
		NO. MODEL	HP		M/EST DBA
BEECH 58	5400	2 IO-520C	285	PHC-J3YF-2F/FC7663-2R	82.0
BEECH 60	6725	2 TIO-541-E1A4	320	HC-F3YR-2	87.0
BEECH 65	7700	2 IGSO-480-A1A6	320	HC-93Z20-2C1	90.0
BEECH 95-A55	4880	2 IO-470L	260	MCC.2AF34C55-D78FF-0	83.0
BEECH 95-B55	5100	2 IO-470L	260	BHC-C2YF-2CHR/FC8465-6	84.0
BEECH 95-B55	5100	2 IO-470L	260	PHC-3YF-2F/FC-7663-2R	78.0
BEECH 95-D55	5300	2 IO-520C	285	MCC.3AF32C75	83.0
BEECH 95-E55	5300	2 IO-520C	285	PHC-C3YF-2/FC7663-2R	81.0
BEECH A23-24	2550	1 IO-360-A2B	200	MCC.1B235/BFA7762	78.0
BEECH A24R	2750	1 IO-360-A1B	200	MCC.2D34C9-N	74.0

APPENDIX III
MEASURED OR ESTIMATED NOISE LEVELS FROM UNCERTIFICATED AIRPLANES

PROPELLER DRIVEN SMALL AIRPLANES

AIRCRAFT MANUFACTURER AND TYPE	GR. WGT.	ENGINES NO. MODEL	HP	PROPELLER	FLYOVER M/EST DBA
BEECH A60	6775	2 TIO-541-E1A4	323	HC-F3YR-2	86.0
BEECH A60	6775	2 TIO-541-E1A4	380	HC-F3YR-2	90.0
BEECH B24R	2750	1 IO-360-A1B6	200	HC-M2YR-1BF/F7666-2R	72.0
BEECH C 18 S	7850	2 R-985-AN-1	400	HAM.2D-30-237	86.0
BEECH C23	2450	1 O-320-D2B	180	SENS.76EM8S5-0-60	70.0
BEECH C35	2700	1 E-225-8	185	B-215-107	74.0
BEECH D35	2725	1 E-225-8	185	HC-A2X20-4A1	70.0
BEECH D95A	4200	2 IO-360-B1B	180	HC-92WK-2B	78.0
BEECH E35	2725	1 E-225-8	185	B-215-107	75.0
BEECH F33	3050	1 IO-470-K	225	MCC.2A36C23	80.0

APPENDIX III
MEASURED OR ESTIMATED NOISE LEVELS FROM UNCERTIFICATED AIRPLANES

PROPELLER DRIVEN SMALL AIRPLANES

AIRCRAFT MANUFACTURER AND TYPE	GR. WGT.	ENGINES		PROPELLER	FLYOVER
		NO. MODEL	HP		M/EST DBA
BEECH F33A	3400	1 IO-520-B	285	MCC.2A36C23	81.0
BEECH F35	2750	1 E-225-8	185	B-215-107	73.0
BEECH G35	2775	1 E-225-8	185	B-215-107	70.0
BEECH G50	7150	2 IGSO-480-A1A6	230	HC-93Z20-2C1	89.0
BEECH V35	3400	1 IO-520-B	285	MCC.2A36C23-CP	80.0
BEECH V35	3400	1 TSIO-520-D	285	PHC-A3VF-4	83.0
BEECH V35B	3400	1 IO-520-BA	285	MCC.3A32C76/S82NB-2	78.0
BEECH V35B	3400	1 TSIO-520-D	285	MCC.2A32C76	83.0
BELLANCA 7 ECA	1650	1 O-200-A	100	MCC.1A100ACM6948	69.0
BELLANCA 7 GCAA	1650	1 O-320-A2B	150	MCC.1A170/7448	76.0

APPENDIX III
MEASURED OR ESTIMATED NOISE LEVELS FROM UNCERTIFICATED AIRPLANES

PROPELLER DRIVEN SMALL AIRPLANES

AIRCRAFT MANUFACTURER AND TYPE	GR. WGT.	ENGINES		PROPELLER	FLYOVER
		NO MODEL	HP		M/EST DBA
BELLANCA 7 GCB	1650	1 O-320-A2B	150	MCC.1A170/7448	70.0
BELLANCA 8 GCBC	2150	1 O-360-A2A	180	MCC.1A200FA/7846	79.0
BELLANCA(CHAMPION) 7ECA	1650	1 O-235-K2C	115	SEN. 74DM6S8-1-56	68.8
BELLANCA(CHAMPION) 7GCAA	1650	1 O-320-A2B/-A2D	150	SEN. 74DM6S8-1-56	68.8
BELLANCA(CHAMPION) 7GCBC	1650	1 O-320-A2B/-A2D	150	SEN. 74DM6S8-1-56	68.8
BELLANCA(CHAMPION) 7GCBC SEAPLANE	1800	1 O-320	150	MCC. 1A175GMA/8040	70.3
BELLANCA(CHAMPION) 8GCBC	2150	1 O-360-C1A/-C1E	180	HTZ. HC-C2YR-1BF/F7666A	72.9
BELLANCA(CHAMPION) 8GCBC	2150	1 O-360-C2A/-C2E	180	MCC. 1A200/HFA	72.8
BELLANCA(CHAMPION) 8GCBC SEAPLANE	2150	1 O-360	180	MCC. 1A200/HFA	72.8
BELLANCA(CHAMPION) 8KCAB	1800	1 AEIO-320-E1B	150	HTZ. HC-C2YL-4(F)/(F)C7663-4	70.0

APPENDIX III
MEASURED OR ESTIMATED NOISE LEVELS FROM UNCERTIFICATED AIRPLANES

PROPELLER DRIVEN SMALL AIRPLANES

AIRCRAFT MANUFACTURER AND TYPE	GR. WGT.	ENGINES NO. MODEL	ENGINES HP	PROPELLER	FLYOVER M/EST DBA
BELLANCA(CHAMPION) 8KCAB	1800	1 AEIO-320-E2B	150	SEN. 74DM6S8-0	69.2
BELLANCA(CHAMPION) 8KCAB	1800	1 AEIO-360-H1A	180	HTZ. HC-C2YR-4CF/FC7666A-2	67.2
BELLANCA(VIKING) 17-30A	3325	1 IO-520-K	225	HTZ. HC-C2YF-1BF/F8475-6	77.5
BELLANCA(VIKING) 17-30A	3325	1 IO-520-K	225	HTZ. HC-C3YF-1RF/F8468-8R	77.5
BELLANCA(VIKING) 17-30A	3325	1 IO-520-K	225	MCC. D3A32C90/82NC-4	77.5
BELLANCA(VIKING) 17-30A	3325	1 IO-520-K	225	MCC. D3A34C401/90DFA-12	77.5
CESSNA 150D	1600	1 O-200-A	100	MCC.1A101	67.0
CESSNA 170	2200	1 C-145-2	145	MCC.1A170/DM7656	73.0
CESSNA 170A	2200	1 O-340-A1A	170	HC-82XL-1D/8433-12	70.0
CESSNA 170B	2200	1 C-145-2	145	MCC.1A170/DM7656	75.0

APPENDIX III
MEASURED OR ESTIMATED NOISE LEVELS FROM UNCERTIFICATED AIRPLANES

PROPELLER DRIVEN SMALL AIRPLANES

AIRCRAFT MANUFACTURER AND TYPE	GR. WGT.	ENGINES		PROPELLER	FLYOVER
		NO. MODEL	HP		M/EST DBA
CESSNA 172	2300	1 O-300-A	145	MCC.1A172/EM7653	72.0
CESSNA 175	2350	1 GA-350-C2	180	MCC.2A31C21/84S-6	86.0
CESSNA 175A	2350	1 O-360-A1D	180	HC-C2YK-1	72.0
CESSNA 175B	2350	1 O-360-A1D	180	MCC.2D36C14/78KM-4	74.0
CESSNA 177	2500	1 O-360-A1F6	180	MCC.2D34C202	74.0
CESSNA 180	2800	1 O-470-J	225	HC-82XF-1-DB	74.0
CESSNA 180	2800	1 O-470-J	225	HC-82XF-1C	78.0
CESSNA 182H	2800	1 O-470-R	230	MCC.2A34C50	74.0
CESSNA 182P	2950	1 O-470-R	230	MCC.2A34C203	78.0
CESSNA 210	3800	1 IO-470-E	260	MCC.D2A36C33	77.0

APPENDIX III
MEASURED OR ESTIMATED NOISE LEVELS FROM UNCERTIFICATED AIRPLANES

PROPELLER DRIVEN SMALL AIRPLANES

AIRCRAFT MANUFACTURER AND TYPE	GR. WGT.	ENGINES NO.	ENGINES MODEL	ENGINES HP	PROPELLER	FLYOVER M/EST DBA
CESSNA 310C	4830	2	IO-470-D	260	HC-A2XF-2	84.0
CESSNA 310F	4830	2	IO-470-D	260	HC-A2XF-2	81.0
CESSNA 310N	5200	2	IO-470-V	260	MCC.D3AF32C80/82NC-4	80.0
CESSNA 310Q	5300	2	IO-470-VO	260	MCC.3AF32C87/82NC-4	81.0
CESSNA 310Q	5300	2	IO-470-VO	260	MCC.D3AF32C71/84JF-3	86.0
CESSNA 320	5200	2	TSIO-520-B	285	3AF32C87/82NC-4	73.9
CESSNA 320A	5200	2	TSIO-470-B	260	HC-A2XF-2	82.0
CESSNA 320C	5200	2	TSIO-470-D	260	MCC.D2AF34C54	83.0
CESSNA 320E	5300	2	TSIO-520-B	285	3AF32C87/82NC-4	74.2
CESSNA 320F	5300	2	TSIO-520-B	285	3AF32C87/82NC-4	74.5

APPENDIX III
MEASURED OR ESTIMATED NOISE LEVELS FROM UNCERTIFICATED AIRPLANES

PROPELLER DRIVEN SMALL AIRPLANES

AIRCRAFT MANUFACTURER AND TYPE	GR. WGT.	ENGINES		PROPELLER	FLYOVER
		NO. MODEL	HP		M/EST DBA
CESSNA 337F	4630	2 IO-360-C	210	MCC.D2AF34C	85.0
CESSNA 340	5975	2 TSIO-520-K	285	MCC.3AF32C87/82NC-4	83.0
CESSNA 401	6300	2 TSIO-520-E	300	MCC.3AF32C87	79.0
CESSNA 414	6350	2 TSIO-520-J	310	MCC.3AF32C93	82.0
CESSNA 421	7450	2 GTSIO-520-D	375	MCC.3AF34C92	83.0
CESSNA 421B	7450	2 GTSIO-520-H	375	MCC.3AF34C92	81.0
CESSNA A185F	3350	1 IO-520-D	285	MCC.D2A34C58/90AT-9.5	82.0
CESSNA A188B	4000	1 IO-520-D	285	MCC.D2A34C58/90AT-8	85.0
CESSNA F150J	1600	1 O-240-A	130	MCC.1A135/BRM7150	72.5
CESSNA F150L	1600	1 O-200-A	100	MCC.1A101/HCM6948	69.0

APPENDIX III
MEASURED OR ESTIMATED NOISE LEVELS FROM UNCERTIFICATED AIRPLANES

PROPELLER DRIVEN SMALL AIRPLANES

AIRCRAFT MANUFACTURER AND TYPE	GR. WGT.	ENGINES		PROPELLER	FLYOVER
		NO. MODEL	HP		M/EST DBA
CESSNA F172L	2300	1 O-320-E2D	150	MCC.1C160/CTM7553	74.0
CESSNA F177RG	2800	1 IO-360-A1B6	200	MCC.B2D34C206/78TA	76.0
CESSNA FR172F	2220	1 IO-360-D	210	MCC.D2A34C67L	81.0
CESSNA FR172G	2220	1 IO-360-D	210	MCC.D2A34C67L	77.0
CESSNA FRA-150L	1600	1 O-240-A	130	MCC.1A135/BRM7150	73.0
CESSNA T207	3800	1 TSIO-520-G	285	MCC.D2A34C78-L	82.0
CESSNA T210G	3400	1 TSIO-520-C	285	MCC.D3A32C88/82NC-2	78.0
CESSNA T210L	3800	1 TSIO-520-H	285	MCC.D3A32C88/82NC-2	82.0
CESSNA T310P	5400	2 TSIO-520-B	285	MCC.3AF32C87/82NC-4	74.7
CESSNA T310P	5400	2 TSIO-520-B	285	MCC.D2AF34C71L	82.0

APPENDIX III
MEASURED OR ESTIMATED NOISE LEVELS FROM UNCERTIFICATED AIRPLANES

PROPELLER DRIVEN SMALL AIRPLANES

AIRCRAFT MANUFACTURER AND TYPE	GR. WGT.	ENGINES		PROPELLER	FLYOVER
		NO. MODEL	HP		M/EST DBA
CESSNA T310Q	5500	2 TSIO-520-B	285	MCC.3AF32C87/82NC-4	75.2
CESSNA T310R	5500	2 TSIO-520-B	285	MCC.3AF32C87/82NC-4	77.7
CESSNA TU-206-C	3600	1 TSIO-520-C	285	MCC.D3A32C90/82NC	77.0
GRUMMAN AMERICAN AA-1A	1560	1 O-235-C2C	108	MCC.1A105SCM7153	70.0
GRUMMAN AMERICAN AA-5	2200	1 O-320-E2G	150	MCC.1C172BTM7359	72.0
MAULE M-4-210C	2300	1 IO-369-A	195	MCC.D2A34C67	76.0
MAULE M-4-220C	2300	1 6A-350-C1	194	MCC.2A31C21	76.0
MOONEY M 20 C	2575	1 O-360-A1D	180	HC-C2YK-1A/7666-2	75.5
MOONEY M 20 C	2575	1 O-360-A1D	180	MCC.2D34C53A/74E-0	75.5
MOONEY M 20 E	2575	1 IO-360-A1A	200	HC-C2YK-1A/7666-2	74.3

APPENDIX III
MEASURED OR ESTIMATED NOISE LEVELS FROM UNCERTIFICATED AIRPLANES

PROPELLER DRIVEN SMALL AIRPLANES

AIRCRAFT MANUFACTURER AND TYPE	GR. WGT.	ENGINES		PROPELLER	FLYOVER
		NO. MODEL	HP		M/EST DBA
MOONEY M 20 F	2740	1 IO-360-A1A	200	HC-C2YK-1A/7666-2	74.9
MOONEY M 22	3680	1 TIO-541-A1A	310	HC-C2YK-1B/8475-4	80.0
PIPER PA-18-150	1750	1 O-320-A2B	150	M74DM-0-50	72.0
PIPER PA-18-150	1750	1 O-320-A2B	150	M74DM-56	70.0
PIPER PA-22-135	1950	1 O-290-D2	135	M74DM	74.0
PIPER PA-23-160	3800	2 O-320-B1A	160	HC-82XG-2B	75.0
PIPER PA-23-250	5200	2 TIO-540-C1A	250	HC-E2YR-2RB	77.0
PIPER PA-24-250	2800	1 O-540-A1D5	250	HC-A2XK-1	76.0
PIPER PA-24-260	2900	1 IO-540-R1A5	260	HC-E2YR-1B	76.0
PIPER PA-28-140	2150	1 O-320-E2A	150	M74DM-0-60	73.0

APPENDIX III
MEASURED OR ESTIMATED NOISE LEVELS FROM UNCERTIFICATED AIRPLANES

PROPELLER DRIVEN SMALL AIRPLANES

AIRCRAFT MANUFACTURER AND TYPE	GR. WGT.	ENGINES		PROPELLER	FLYOVER
		NO. MODEL	HP		M/EST DBA
PIPER PA-28-151	2325	1 O-320-E3D	150	74DM6-0-58	75.0
PIPER PA-28-180	2400	1 O-360-A3A	180	M76	74.0
PIPER PA-28-180	2400	1 O-360-A4A	180	76EM8S5-0-60	78.0
PIPER PA-28-180	2500	1 IO-360-B1E	180	HC-C2YK-1	73.0
PIPER PA-28-200	2600	1 IO-360-C1C	200	HC-C2YK-1	77.0
PIPER PA-28-235	2900	1 O-540-B4B5	235	HC-C2YK-1	77.0
PIPER PA-30	3600	2 IO-320-C1A	160	HC-E2YL-2B	76.0
PIPER PA-31	6500	2 TIO-540-A1A	310	HC-E2YR-2B	86.0
PIPER PA-31	6500	2 TIO-540-A2B	310	HC-E3YR-2A	81.0

APPENDIX III
MEASURED OR ESTIMATED NOISE LEVELS FROM UNCERTIFICATED AIRPLANES

PROPELLER DRIVEN SMALL AIRPLANES

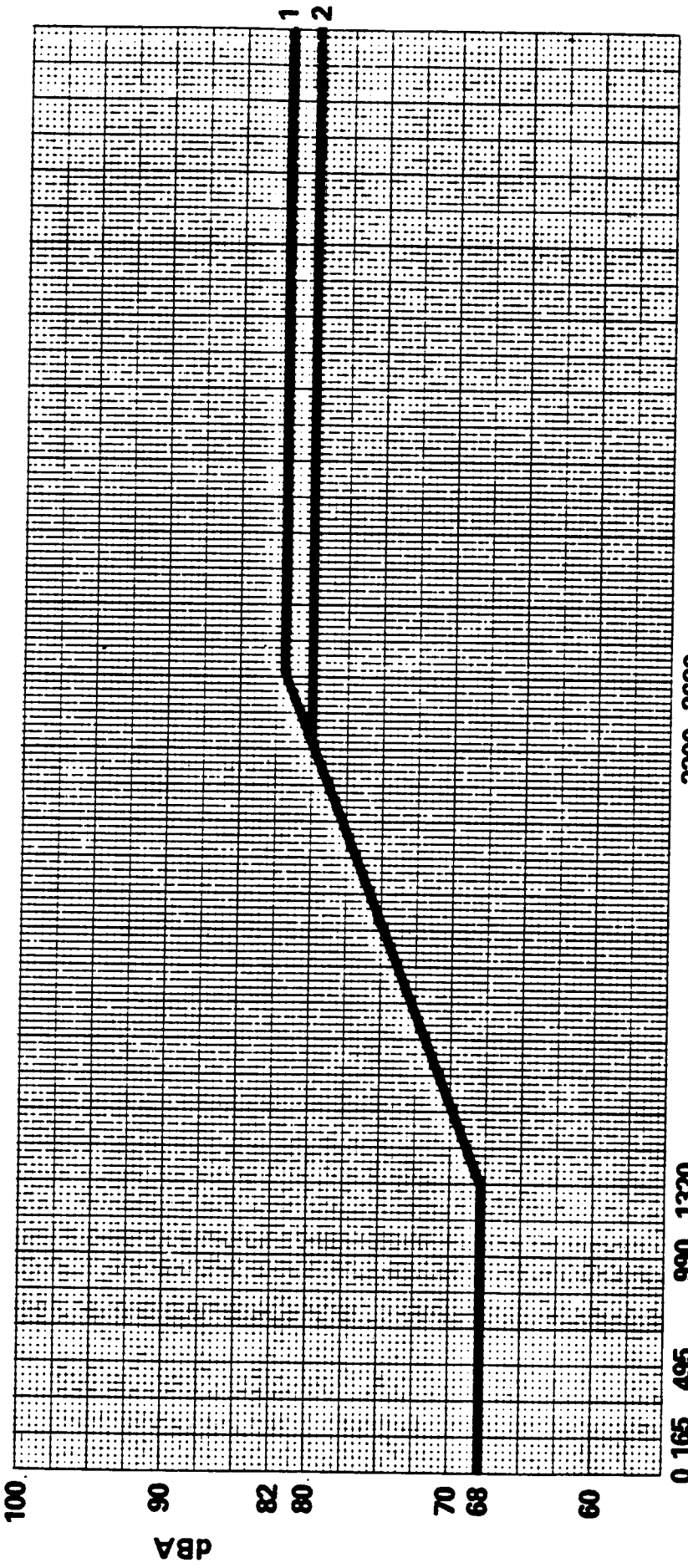
AIRCRAFT MANUFACTURER AND TYPE	GR. WGT.	ENGINES		PROPELLER	FLYOVER
		NO. MODEL	HP		M/EST DBA
PIPER PA-31P	7800	2 TIGO-541-E1A	425	HC-C3YN-2L	85.0
PIPER PA-31P-350	7200	2 TIO/LTIO-540-V2AD	350	HC-I3YR-2UF/FC7854/2LUF/FJC/7854K	80.9
PIPER PA-32-260	3400	1 O-540-E4D5	260	HC-C2YK-1B	81.0
PIPER PA-32-300	3400	1 IO-540-K1A5	300	HC-C2YK-1B	83.0
PIPER PA-34-200	4200	2 IO-360-C1E6	200	HC-C2YK-2	79.0
PIPER PA-34-200T	4570	2 TSIO-360-E/LTS	215	BHC-C2YF-2/FJC8459-8R	77.0
ROCKWELL INT. 112	2550	1 IO-360-C1D6	200	HC-E2YR-1BF/F7666-A	72.0
ROCKWELL INT. 680	6750	2 GSO-480-A1A6	320	HC-83X20-2C/9333	88.0
ROCKWELL INT. 680FL	8500	2 IGSO-540-B1A	360	HC-83Z30-2B/9349-6.5	79.0
TAYLORCRAFT F-19	1500	1 O-200-A	100	MCC. 1A105/SCM6950	68.4

APPENDIX III
MEASURED OR ESTIMATED NOISE LEVELS FROM UNCERTIFICATED AIRPLANES

PROPELLER DRIVEN SMALL AIRPLANES

AIRCRAFT MANUFACTURER AND TYPE	GR. WGT.	ENGINES NO. MODEL	HP	PROPELLER	FLYOVER M/EST DBA
TAYLORCRAFT F-21	1500	1 O-235-L2C	112	SEN. 72CK-0-50	68.8
TAYLORCRAFT F-21A	1500	1 0235-L2C	112	SEN. 72CK-0-50	68.8
TED SMITH AEROSTAR 601	5700	2 IO-540-P1A5	290	HC-C3YR/C8468-8R	84.0

Noise Certification Limits for Propeller-Driven Aircraft Under 12,500 lbs



1. Airplane Type Certificate Applied For on or After October 10, 1973
2. Airplane Type Certificate Applied For on or After January 1, 1975, or application for a standard or restricted category airworthiness certificate after January 1, 1980

EQUATIONS FOR THE CALCULATION OF NOISE CERTIFICATION LIMITS FOR PROPELLER-DRIVEN AIRCRAFT UNDER 12,500 LBS

Application for Type Certification on or After October 10, 1973:

		LIMIT
Up to and including 1,320 lbs	-	68 dB(A)
Over 1,320 lbs up to and including to 3,630 lbs	-	68 + 1 dB for each 165 lb increment of T.O. weight above 1320 lbs.
Over 3,630 lbs up to and including 12,500 lbs	-	82 dB(A)

Application for Type Certification on or After January 1, 1975 or application for a standard or restricted category airworthiness certificate after January 1, 1980.

Up to and including 1320 lbs.	-	68 dB(A)
Over 1320 lbs. up to and including 3300 lbs.	-	68 + 1dB(A) for each 165 lb. increment of T.O. weight above 1320 lbs.
Over 3300 lbs. up to and including 12500 lbs.	-	80 dB(A)

APPENDIX IV
MEASURED OR ESTIMATED NOISE LEVELS FROM UNCERTIFICATED AIRPLANES

CIVIL SUPERSONIC AIRCRAFT

AIRPLANE	ENGINES			TAKEOFF		SIDELINE	APPROACH
	MODEL	NO.	THRUST 1000 LBS.	GR. WGT. 1000 LBS.	M/EST. EPNDB	M/EST. EPNDB	M/EST. EPNDB
TU-144	NK-144	4	38.6	360.0	110.0	114.0	110.0

APPENDIX V
NOISE DATA SHEET FOR ROTARY WING AIRCRAFT

MANUFACTURER COMMON NAME AND MODEL	MTOW KG LBS	NUMBER ENG ENGINE MAKE AND MODEL	HP PER ENG	VY KT	VH KMH KT	VNE KMH MPH	ROTORS MAIN/TAIL DIAM (M)	NUM BL	RPM	NOISE LEVELS - EPNL FLYOVER 500FT	T/O APP	APP 6 DEG	REFERENCE
AEROSPATIALE	1896	1	592				10.7			87.2	89.2	91.2	WG/B W/P 25
SQUIRREL	4180	LYCOMING					1.86						
AS 350		LYCOMING LTS 101											
AEROSPATIALE	10995	3	1550				18.9	6	207	92.8			A-2
SUP/FRELON	24243	TURBOMECA					4.00	5	990				
SA 321		TURMO 3C											
AEROSPATIALE	11475	3	1570				8.60	6	207	92.0	98.4	98.6	WG/B W/P 25
SUP/FRELON	25302	TURBOMECA					1.60	5	990				
SA 321F		TURMO 3E6											
AEROSPATIALE	5540	2	1435				15.0	4		93.6			A-2
PUMA	12251	TURBOMECA					3.04	5					
SA 330		TURMO 4C											
AEROSPATIALE	7042	2	1575	70	260	260	15.1	4	267	91.4	95.4	95.6	FAA-EE-79-03
PUMA	15532	TURBOMECA			140	161	3.04	5					
SA 330J		TURMO 4C											
AEROSPATIALE	1800	1	590	65	264	264	10.5	3	267	86.1	92.5	89.5	FAA-EE-79-03
GAZELLE	3968	TURBOMECA			142	164	0.70	13					
SA 341G		ASTAZOU 3A											
AEROSPATIALE	1896	1	590				10.5	3		88.2	89.8	95.5	WG/B W/P 25
GAZELLE	4180	TURBOMECA					0.70	13					
SA 342		ASTAZOU 3A											
AEROSPATIALE	2994	1	1050				11.5	4			92.4		WG/B W/P 25
DAUPHIN	6601	TURBOMECA					0.90	13					
SA 360C		ASTAZOU 18A											
AEROSPATIALE	3393	2	650				11.5	4			89.4	94.0	WG/B W/P 25
DAUPHIN 2	7481	TURBOMECA					0.90	13					
SA 365		ASTAZOU ARRIEL											
AEROSPATIALE	8488	2	710	75			11.9	4	365		98.3	96.5	FAA-EE-84-2 (2)
DAUPHIN-2	18716	TURBOMECA			150	202	0.90	13	4706				
SA 365N		ARRIEL 1C											
AGUSTA	2599	2	420		0		10.7	4	385	91.7	92.9	96.0	FAA-AEE-80-16 (1)
	5730	ALLISON			144	182	2.03	2					
A109		250-C20B											
BELL	1814	1	420	52	241	241	11.3	2		85.8	85.9	90.3	FAA-EE-79-03
LONGRANGER	4000	ALLISON			130	150	1.58	2					
206L		250-C20B											

APPENDIX V
NOISE DATA SHEET FOR ROTARY WING AIRCRAFT

MANUFACTURER COMMON NAME AND MODEL	MTOW KG LBS	NUMBER ENG ENGINE MAKE AND MODEL	HP PER ENG	VY KT	VH KMH KT	VNE KMH MPH	ROTORS MAIN/TAIL DIAM (M)	NUM. BL.	RPM	NOISE LEVELS - EPNL FLYOVER 500FT	T/O APP	APP 6 DEG	REFERENCE
BELL	4762	2	645	55	194	185	14.6	2		94.6	91.7	95.7	FAA-EE-79-03
H-1	10500	PRATT + WHITNEY			104	115	2.59	2					
212		PT6T-3											
BELL	1892	1	280							90.3		89.6	FAA-RD-77-94
	2950	AVCO-LYCOMING											
47G		TVO-435-G1A											
BELL	3560	2	575	45			12.1	2	348		87.9	98.2	FAA-EE-84-1 (2)
	7849	LYCOMING			141	162	1.98	2	1881				
BELL 222		LTS101-650C-3											
BOEING	20411	2	3750				18.3	1		97.0	97.0	102.0	MANUFACTURER
	45006	LYCOMING					18.3	1					
VERTOL 234		T55-L-11C											
HUGHES	816	1	190				8.18	3		82.0			A-2
	1799	LYCOMING					1.30	2					
300C		HIO-360-D1A											
HUGHES	1094	1	252				8.03	4		91.1			A-2
	2412	ALLISON					1.30	2					
369A		T63-A-5A											
HUGHES	1157	1	400	50	244		8.03	4		85.8	85.1	87.7	FAA-EE-79-03
	2551	ALLISON			131		1.30	2					
500C		250-C18A											
HUGHES	839	1	420				8.05	5		88.7			A-2
	1849	ALLISON					1.30	2					
500D		250-C20B											
MESSERSCHMITT	2300	2	420	70	241	270	9.82	4		88.4	89.1	91.7	FAA-EE-79-03
	5071	ALLISON			130	167	1.90	2					
BO-105		250-C18											
MIL	3518	2	450					3		89.8		96.5	WG/B W/P 25
	7757	ISOTOV 2						3					
MI 2		GTD-350P											
MIL	42500	2	5500				35.0	5		103.7		107.8	WG/B W/P 25
	93710	SOL					6.30	4					
MI 6A		D-25V/TV-2BM											
MIL	11436	2	1700				21.3	5		97.6		100.0	WG/B W/P 25
	25216	ISOTOV 2					3.91	3					
MI 8		TB-2-117A											

APPENDIX V
NOISE DATA SHEET FOR ROTARY WING AIRCRAFT

MANUFACTURER COMMON NAME AND MODEL	MTOW KG LBS	NUMBER ENG ENGINE MAKE AND MODEL	HP PER ENG.	VY KT	VH KMH KT	VNE KMH MPH	ROTORS MAIN/TAIL DIAM. (M)	NUM BL.	RPM	NOISE LEVELS - EPNL FLYOVER 500FT	T/O APP	APP 6 DEG	REFERENCE
SIKORSKY H-3 S-61	10000 22049	2 GENERAL ELECTRIC T58-GE-10	1400	74	267 144		18.9 3.15	5 5		92.6	95.9	94.0	FAA-EE-79-03
SIKORSKY S-64	19459 42907	2 PRATT WHITNEY JFTD12-5A	4800				22.0 4.88	6 4		97.0		99.0	WG/B W/P 25
SIKORSKY H-53 S-65	16775 36988	2 GENERAL ELECTRIC T64	3780	76	196 170		22.0 4.88	6 4		97.1	95.7	99.9	FAA-EE-79-03
SIKORSKY S-76	4545 10021	2 ALLISON 250-C30	650		146	178	11.9 2.44	4 4	293	89.1	91.3	95.1	FAA-EE-81-16 (1)
SIKORSKY BLACKHAWK UH-60A	9185 20250	2 GENERAL ELECTRIC T700-GE-700	1414		165	224	16.4 3.35	4 4	285	96.9	89.6	96.7	AEE-80-16
WESTLAND W-30 W30-100	5600 12347	2 ROLLS ROYCE R.R. GEM41-1MK510	1120	62	120 120	138	5.24 2.44	4 4	326 1647	93.6	92.8	98.0	MANUFACTURER

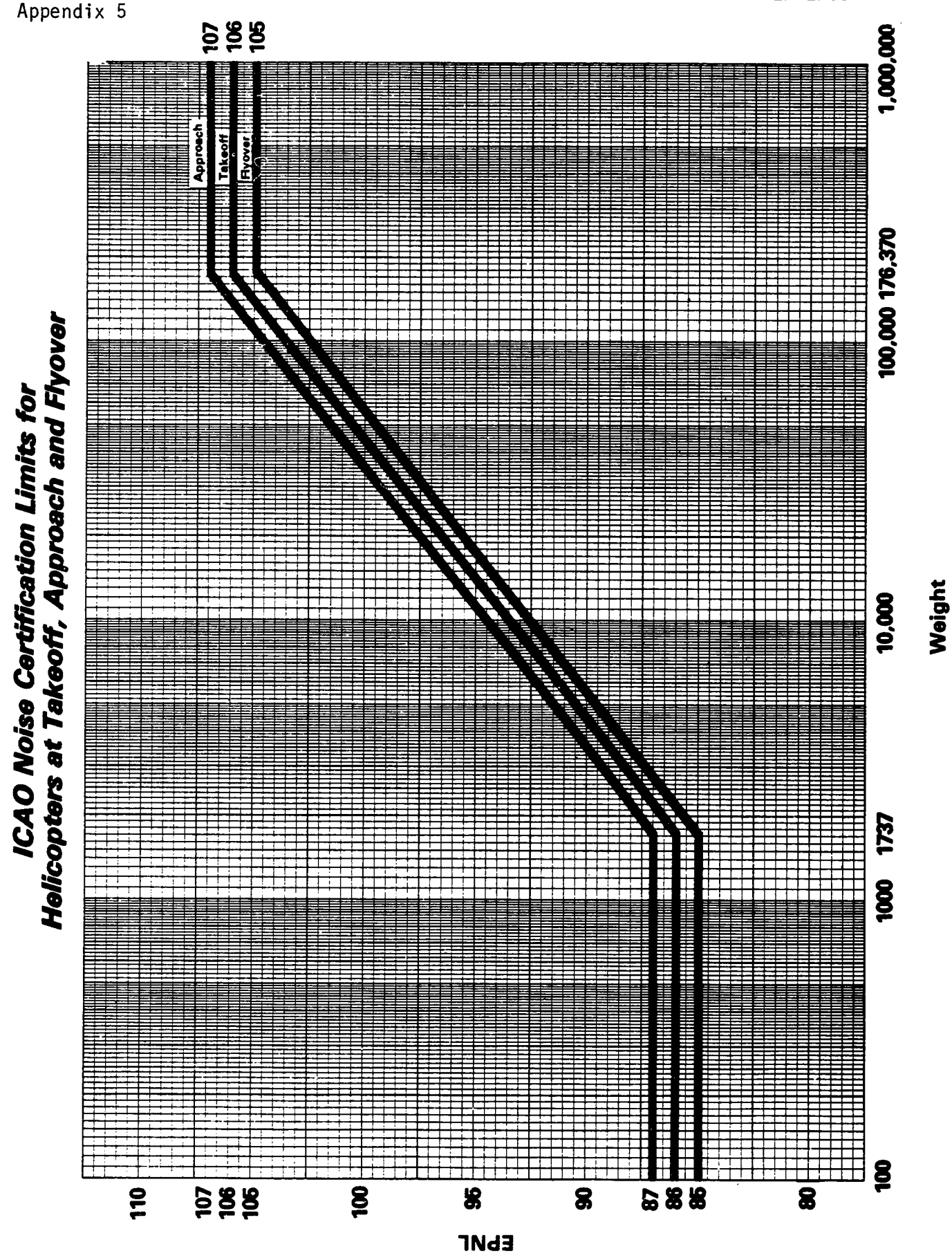
REFERENCES

(1) Data calculated from this report.

(2) Data not corrected to standard reference day nor corrected to reference flight path (as measured data).

A-2 Advisory Circular 36-2 Dated 2/6/78

WG/B W/P 25 ICAO WorkingGroup 12/14/78


ICAO Noise Certification Limits for
Helicopters at Takeoff, Approach and Flyover
Approach
Takeoff
Flyover
107
106
105
110
107
106
105
100
95
90
87
86
85
80
EPNL
100
1000
1737
10,000
100,000
176,370
1,000,000
Weight

EQUATIONS FOR THE CALCULATION OF
ICAO HELICOPTER NOISE STANDARDS
AT TAKEOFF, APPROACH, AND FLYOVER

	Takeoff Limits EPNdB	Approach Limits EPNdB	Flyover Limits EPNdB
Up to and including 1,737 lbs	86	87	85
Over 1,737 lbs to 176,370 lbs	83.61+9.97 log M	84.61+9.97 log M	82.61+9.97 log M
Over 176,370 lbs	106	107	105

M = Maximum Takeoff Mass in 1000 lbs

*U.S. G.P.O.:1993-301-717:80364