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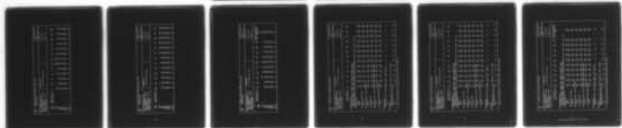
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**USAF BIOENVIRONMENTAL NOISE DATA  
HANDBOOK,**  
  
**Volume 114.**  
  
**MB-1 Compressor, Reciprocating, Power Driven,**

9 Technical rept.,

10 Nick A. Farinacci

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AEROSPACE MEDICAL RESEARCH LABORATORY  
AEROSPACE MEDICAL DIVISION  
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This technical report has been reviewed and is approved for publication.

**FOR THE COMMANDER**

  
HENNING E. VON GIERKE  
Director  
Biodynamics and Bionics Division  
Aerospace Medical Research Laboratory

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) The MB-1 Compressor is an electric motor-driven air compressor designed to furnish a source of high and low pressure for aircraft servicing. This report provides measured data defining the bioacoustic environments produced by this unit operating inside a large aircraft hanger at normal rated/loaded conditions. Near-field data are reported for 37 locations in a wide variety of physical and psychoacoustic measures: overall and band sound pressure levels, C-weighted and A-weighted sound levels, preferred speech interference level, perceived		

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noise level, and limiting times for total daily exposure of personnel with and without standard Air Force ear protectors. Refer to Volume 1 of this handbook, "USAF Bioenvironmental Noise Data Handbook, Vol. 1: Organization, Content and Application", AMRL-TR-75-50(1) 1975, for discussion of the objective and design of the handbook, the types of data presented, measurement procedures, instrumentation, data processing, definitions of quantities, symbols, equations, applications, limitations, etc. ↑

## PREFACE

This report was prepared by the Biodynamic Environment Branch, Aerospace Medical Research Laboratory, under Project/Task 723104, Measurement and Prediction of Noise Environments of Air Force Operations.

The author acknowledges the efforts of Mr. Robert T. England and Mr. Robert G. Powell who conducted the field measurements, and Mr. John N. Cole who established the data analysis requirements and assisted in the preparation of this report. Mr. Henry Mohlman and Mr. David Eilerman of the University of Dayton assisted in the mechanics of data processing, and Mrs. Norma Peachey typed and prepared the graphics.

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## INTRODUCTION

The MB-1 Compressor is an electric motor-driven air compressor designed to furnish a source of high and low pressure for aircraft servicing.

This volume provides measured data defining the bioacoustic environments produced by this unit. Such data are essential to evaluate ear protection requirements, limiting personnel exposure times, voice communication capabilities, and annoyance problems associated with operations of the MB-1 compressor.

This volume is one of a series published by the Aerospace Medical Research Laboratory (AMRL) under the same report number (AMRL-TR-75-50) as a multi-volume handbook that quantifies the noise environments produced at flight/ground crew locations and in surrounding communities by operations of Air Force aircraft and ground support equipment. The far-field, community-type, noise data in the handbook describe the noise produced during *ground operations* of aircraft, ground support equipment, and other ground-based equipment or facilities.

Volume 1 of this handbook discusses the objectives and design of the handbook, the types of data presented, measurement procedures, instrumentation, data processing, definitions of quantities, symbols, equations, applications, limitations, etc. Volume 2 provides a method and data for adjusting the handbook's far-field noise data, which are for standard meteorological conditions (15C temperature, 70% rel humidity, 0.760 meters Hg barometric pressure) to derive comparable data for other meteorological conditions. *Refer to Volumes 1 and 2* (references 1 and 2) for such information because it is not repeated in other handbook volumes.

A cumulative index lists those aerospace systems contained in the handbook, and identifies the specific volumes containing each type of environmental noise data available (i.e., inflight/flight crew and passenger noise, near-field/ground crew noise, far-field/community noise). Volume numbers are assigned sequentially as individual volumes are published. This index is periodically updated as individual volumes are published, and is available upon request from AMRL/BBE, Wright-Patterson AFB, OH 45433. Organizations on the distribution list for the handbook will automatically receive a copy of the updated index as it is generated.

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1. Cole, John N., *USAF Bioenvironmental Noise Data Handbook, Volume 1: Organization, Content and Application*, AMRL-TR-75-50 (1), Aerospace Medical Research Laboratory, Wright-Patterson Air Force Base, Ohio, 1975.

2. Cole, John N., *USAF Bioenvironmental Noise Data Handbook, Volume 2: Procedure to Evaluate Effects of Non-standard Meteorological Conditions on Far-Field Noise*, AMRL-TR-75-50 (2), AMRL, WPAFB, OH, 1975.



## NEAR-FIELD NOISE

### MEASUREMENTS

A standard MB-1 Compressor was operated inside, and approximately in the center of a large aircraft hanger (167.6 m long × 36.6 m wide × 18.3 m high) on a concrete floor at a normal rated/loaded condition. The hanger walls and ceiling were not acoustically treated. No aircraft were in the vicinity of the unit while being measured. No far-field acoustic data were acquired because of the relatively close proximity of the hanger walls.

Figure 1 identifies 36 noise measurement locations at a height of 1.5 meters above the concrete apron (nominal ear level of ground crew). The 0 degree reference direction passes through the tow bar. These locations are in the acoustic near-field of the source where the sound wave fronts generally do not spherically diverge and the source appears to be spatially distributed (i.e., not a point source). Consequently, these near-field data cannot be extrapolated to longer distances but do properly define the levels at locations close to the unit.

Near-field measurements were also made at ear level at the operator control panel. Table 1 lists the numeric/alphabetic designators used on the data pages in this report to identify the operator measurement location and test conditions. The designator 1/A means operator location 1 and test condition A. Such a descriptor is essential in many handbook volumes that involve multiple combinations of locations/conditions. It is used in this report to maintain format consistency.

### RESULTS

The measured data presented in Table 2 define the sound pressure levels (SPL) produced by the MB-1 unit at the 37 specified, near-field locations. This table includes the overall, 1/3 octave band, and octave band levels. From these data one can calculate the variety of measures in Table 3 which are widely used to assess the effects of noise on personnel and their performance.

For data at other intermediate near-field locations (i.e., for radial distances less than 4 meters) you can interpolate between the 36 measured data points.

TABLE 1

#### MEASUREMENT LOCATION AND TEST CONDITION FOR OPERATOR NOISE MEASUREMENTS

MB-1 Compressor, Reciprocating, Power Driven  
Wright Patterson AFB, 8 Nov 1972

##### *Measurement Location*

1 Operator Control Panel

##### *Operation*

A Air Tank Fill Cycle

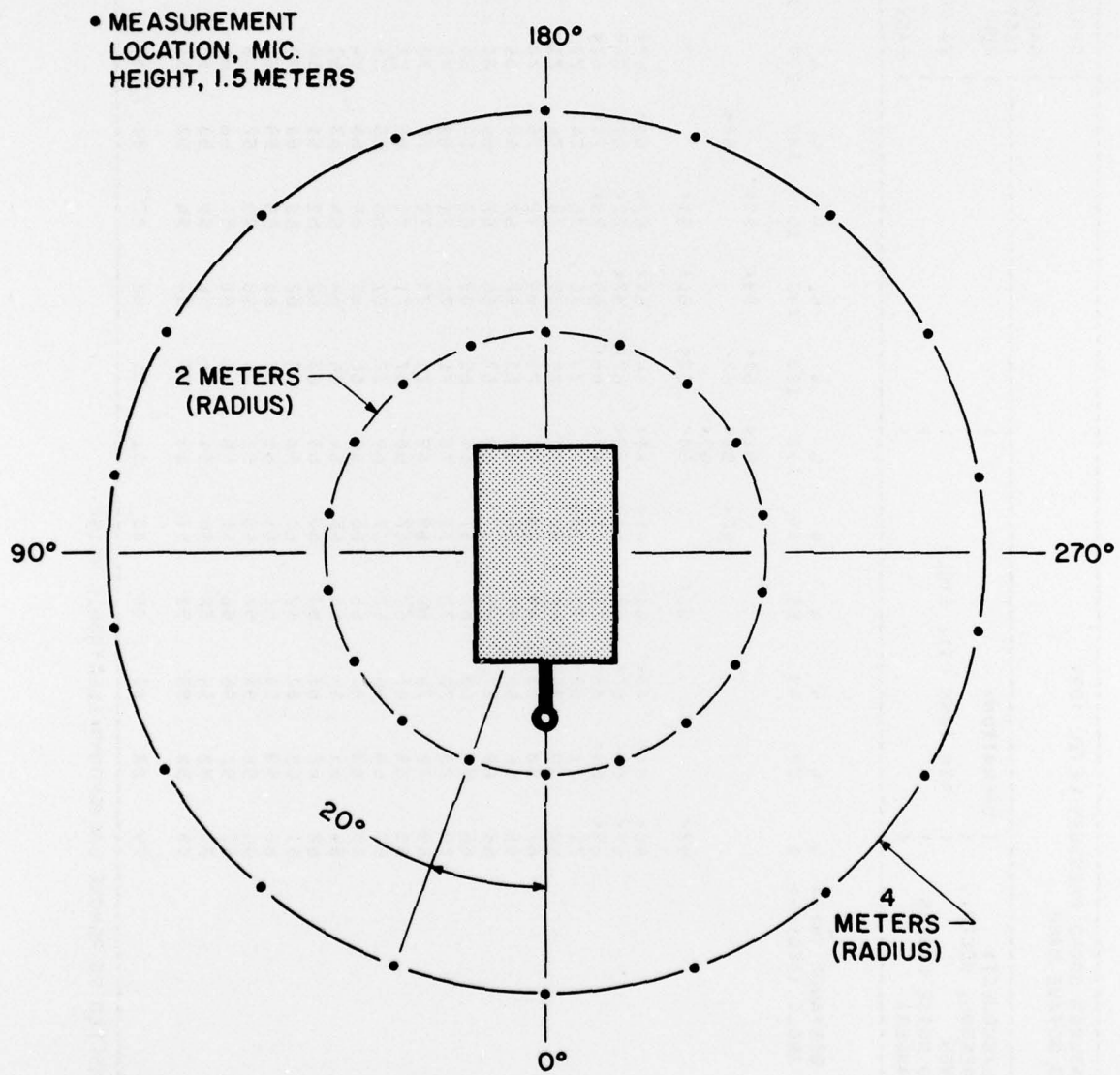


Figure 1. Measurement Locations

TABLE: MEASURED SOUND PRESSURE LEVEL (DB)  
 1/3 OCTAVE BAND

IDENTIFICATION:  
 OMEGA 3.2  
 TEST 71-020-390  
 RUN 01  
 24 FEB 75  
 PAGE F1

NOISE SOURCE/SUBJECT: ( OPERATION:  
 MB-1 COMPRESSOR, RECIP.) ( )  
 POWER DRIVEN ( AIR TANK FILL CYCLE )  
 NEAR FIELD NOISE LEVELS ( )  
 (INSIDE HANGER) ( )

FREQ (HZ)	DISTANCE (M)-->	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
ANGLE (DEG)-->	0	20	40	60	80	100	120	140	160	180	200	220	240						
25																			
31.5																			
40																			
50																			
63																			
80																			
100																			
125																			
160																			
200																			
250																			
315																			
400																			
500																			
630																			
800																			
1000																			
1250																			
1600																			
2000																			
2500																			
3150																			
4000																			
5000																			
6300																			
8000																			
10000																			
OVERALL																			

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE: MEASURED SOUND PRESSURE LEVEL (DB)  
 1/3 OCTAVE BAND  
 NOISE SOURCE/SUBJECT: ( OPERATION:  
 MB-1 COMPRESSOR, RECIP., ( ) OMEGA 3.2  
 POWER DRIVEN ( ) TEST 71-020-390  
 NEAR FIELD NOISE LEVELS ( AIR TANK FILL CYCLE ) RUN 02  
 (INSIDE HANGER) ( ) 24 FEB 75  
 ( ) PAGE F2

FREQ (HZ)	DISTANCE (M)-->	IDENTIFICATIONS:																		
		4	4	4	4	4	4	4	4	4	4	4	4	2	2	2	2	2	2	2
25		63<	63<	62<	62<	62<	63<	63<	63<	63<	63<	63<	62<	62<	62<	62<	62<	62<	62<	62<
31.5																				
40																				
50																				
63																				
80		63<	63<	62<	62<	62<	63<	63<	63<	63<	63<	63<	62<	62<	62<	62<	62<	62<	62<	62<
100		66<	67<	66<	66<	66<	66<	66<	66<	66<	66<	66<	64<	64<	64<	64<	64<	64<	64<	64<
125		69<	68<	68<	68<	68<	68<	68<	68<	68<	68<	68<	71<	71<	71<	71<	71<	71<	71<	71<
160		71	71	72	71	71	71	71	71	71	71	71	72	72	72	72	72	72	72	72
200		69	70	68	68	68	68	68	68	68	68	68	73	73	73	73	73	73	73	73
250		71	70	69	72	70	72	70	72	73	73	73	72	72	72	72	72	72	72	72
315		65	67	66	67	66	67	66	67	66	66	66	71	72	71	72	73	74	75	77
400		65	65	66	66	66	66	66	66	66	66	66	71	72	72	72	73	74	75	77
500		65	68	70	66	69	69	69	69	69	69	69	71	70	70	69	69	70	69	69
630		69	74	73	71	70	71	70	71	71	71	71	72	72	72	75	75	72	72	72
800		66	67	68	70	68	71	71	74	71	73	73	74	74	74	74	73	74	74	74
1000		67	67	67	68	68	68	68	68	68	68	68	70	70	70	70	71	71	69	69
1250		65	67	66	67	66	66	66	66	66	66	66	69	69	69	69	69	69	68	68
1600		64	64	65	65	65	65	65	65	65	65	65	67	67	67	67	67	67	67	67
2000		61	63	64	64	64	64	64	64	64	64	64	65	65	65	65	65	65	65	65
3150		61	62	63	63	63	63	63	63	63	63	63	64	64	64	64	64	64	64	64
4000		60	62	62	63	61	63	61	63	61	63	61	64	64	64	64	64	64	64	64
5000		58	59	60	59	59	59	59	59	59	59	59	62	62	62	62	62	62	61	61
6300		57	59	59	59	59	59	59	59	59	59	61	61	61	61	61	61	61	61	61
8000		55	57	57	57	57	57	57	57	57	57	58	58	58	58	58	58	58	58	58
10000		53	56	57	57	57	57	57	57	57	57	58	58	58	58	58	58	58	57	57
OVERALL		80	81	81	81	81	81	81	81	81	81	83	83	83	83	83	84	84	84	85

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE: MEASURED SOUND PRESSURE LEVEL (DB)  
**2**  
1/3 OCTAVE BAND

NOISE SOURCE/SUBJECT: ( OPERATION: )  
MB-1 COMPRESSOR, RECIP., ( )  
POWER DRIVEN ( AIR TANK FILL CYCLE )  
NEAR FIELD NOISE LEVELS ( )  
(INSIDE HANGER) ( )

IDENTIFICATION:  
OMEGA 3.2  
TEST 71-020-390  
RUN 03  
24 FEB 75  
PAGE F3

FREQ (HZ)	2	180	2	200	2	220	2	240	2	260	2	280	2	300	2	320	2	340	2	360	2	OPERATOR LOCATION TEST CONDITION	
25																							64<
31.5					59<																		71<
40		64<	67<	69<	63<	62<	61<	64<	64<	64<	64<	64<	64<	64<	64<	64<	64<	64<	64<	64<	64<	64<	61<
50																							
63																							
80																							
100		67<	70<	66<	65<	66<	66<	66<	66<	66<	66<	66<	66<	66<	66<	66<	66<	66<	66<	66<	66<	66<	66<
125		70<	70<	70<	69<	70<	69<	70<	69<	69<	69<	69<	69<	69<	69<	69<	69<	69<	69<	69<	69<	69<	69<
160		75	76	77	71<	71<	70<	70<	70<	70<	70<	70<	70<	70<	70<	70<	70<	70<	70<	70<	70<	70<	70<
200		76	80	79	71	70	71	70	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71
250		74	76	77	77	77	72	70	68	71	68	69	68	67	67	67	67	67	67	67	67	67	67
315		73	74	76	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71
400		72	71	74	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71
500		71	70	71	68	67	68	67	68	69	69	69	69	69	69	69	69	69	69	69	69	69	69
630		74	71	71	70	74	69	70	71	70	71	70	70	70	70	70	70	70	70	70	70	70	70
800		75	76	73	75	74	73	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72
1000		73	73	73	73	73	73	71	72	71	72	71	71	71	71	71	71	71	71	71	71	71	71
1250		70	69	71	69	71	72	71	72	71	72	71	70	70	70	70	70	70	70	70	70	70	70
1600		68	67	67	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68
2000		66	67	66	66	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67
2500		64	65	64	64	65	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66
3150		65	64	64	64	65	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66
4000		63	62	63	62	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64
5000		61	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
6300		60	59	60	59	61	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62
8000		57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57
10000		57	56	57	57	54	54	57	56	56	56	57	57	58	57	58	57	58	57	58	57	58	54
OVERALL		85	86	86	86	83	82	82	82	82	82	82	82	82	82	82	82	81	81	81	81	81	84

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

MEASURED SOUND PRESSURE LEVEL (DB)											IDENTIFICATION:		
		OCTAVE BAND											
2		20	40	60	80	100	120	140	160	180	200	220	240
NOISE SOURCE/SUBJECT:	( OPERATION:												
MB-1 COMPRESSOR, RECIP.,	(												
POWER DRIVEN	( AIR TANK FILL CYCLE												
NEAR FIELD NOISE LEVELS	(												
(INSIDE HANGER)	(												
FREQ (HZ)	DISTANCE (M)-->	4	4	4	4	4	4	4	4	4	4	4	4
	ANGLE (DEG)-->	0	20	40	60	80	100	120	140	160	180	200	220
	31.5						69	65					
	63	64	74	64	74	65	65	66	65	76	74	73	74
	125	74	73	74	76	75	74	77	77	78	74	75	74
	250	72	72	72	72	75	74	76	77	78	74	72	71
	500	72	73	74	73	74	74	74	74	71	72	76	72
	1000	73	73	72	73	73	74	75	75	74	76	76	72
	2000	68	69	69	70	69	69	69	68	67	67	68	68
	4000	64	64	65	66	65	66	65	64	64	62	63	65
	8000	62	62	60	61	59	61	61	60	58	58	59	60
OVERALL		79	80	80	80	81	81	82	82	82	81	81	80

TABLE: MEASURED SOUND PRESSURE LEVEL (DB)		IDENTIFICATION:																			
OCTAVE BAND																					
2		OMEGA 3.2																			
		TEST 71-020-390																			
		RUN 02																			
		24 FEB 75																			
		PAGE J2																			
NOISE SOURCE/SUBJECT:		OPERATION:																			
( MB-1 COMPRESSOR, RECIP.,		(																			
( POWER DRIVEN		( AIR TANK FILL CYCLE																			
( NEAR FIELD NOISE LEVELS		(																			
( (INSIDE HANGER)		(																			
FREQ (HZ)	DISTANCE (M) -->	4	4	4	4	4	4	4	4	4	4	2	2	2	2	2	2	2	2	2	
ANGLE (DEG) -->	260	260	280	300	320	340	340	340	340	340	340	0	0	20	40	60	80	100	120	140	
31.5																					
63																					
125	74	74	73	74	74	74	74	74	74	74	74	76	76	76	75	66	68	68	68	66	67
250	73	74	74	73	75	74	74	74	74	74	74	76	77	76	76	76	78	78	78	77	78
500	72	75	75	73	73	74	74	74	74	74	74	75	76	76	76	76	77	77	77	77	76
1000	72	74	74	74	76	74	74	74	74	74	74	77	76	77	77	77	77	78	78	76	77
2000	68	70	70	70	69	69	69	69	69	69	69	72	73	72	73	73	73	73	73	72	72
4000	64	66	66	67	67	65	65	65	65	65	65	68	68	68	68	68	69	69	69	69	68
8000	60	62	62	62	63	63	63	63	63	63	63	65	65	64	64	64	64	64	64	64	64
OVERALL	79	81	81	81	81	80	80	80	80	80	80	83	83	83	83	83	84	84	84	84	85

TABLE 2		MEASURED SOUND PRESSURE LEVEL (DB)												IDENTIFICATION:				
OCTAVE BAND																		
														OMEGA 3.2				
														TEST 71-020-390				
														RUN 03				
NOISE SOURCE/SUBJECT:		( OPERATION:																
MB-1 COMPRESSOR, RECIP.,		(																
POWER DRIVEN		( AIR TANK FILL CYCLE																
NEAR FIELD NOISE LEVELS		(												24 FEB 75				
(INSIDE HANGER)		(												PAGE J3				
FREQ (HZ)	DISTANCE (M) ->	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	OPERATOR LOCATION
	ANGLE (DEG) ->	160	160	180	190	200	200	220	240	260	260	280	300	300	320	340	340	TEST CONDITION
							69											1/A
31.5								67	67	67	67	67	67	67	67	67	67	72
63								75	75	75	75	74	74	74	73	73	73	68
125		79	82	81	81	81	81	76	74	74	74	75	75	75	75	75	75	75
250		80	80	81	81	81	81	76	74	74	74	75	75	75	75	75	75	80
500		77	75	77	75	77	75	75	76	74	74	75	75	75	75	75	74	78
1000		78	78	77	78	77	77	78	77	77	77	76	77	77	77	77	75	76
2000		71	71	70	71	70	71	71	72	72	72	73	73	73	72	72	72	71
4000		68	67	67	67	67	67	67	69	69	69	69	70	70	69	67	66	66
8000		63	62	63	62	63	62	62	64	65	65	65	65	65	64	64	64	61
OVERALL		85	85	86	83	82	82	82	82	82	82	82	82	82	82	81	81	84



MEASURES OF HUMAN NOISE EXPOSURE													IDENTIFICATION:
3													
NOISE SOURCE/SUBJECT: ( OPERATION:													
MB-1 COMPRESSOR, RECIP.,													OMEGA 3.2
POWER DRIVEN													TEST 71-020-390
NEAR FIELD NOISE LEVELS													RUN 01
(INSIDE HANGER)													24 FEB 75
													PAGE H1
DISTANCE (M)--> 4 4 4 4 4 4 4 4 4 4 4 4 4													4 4 4 4 4 4 4 4 4 4 4 4 4
ANGLE (DEG)--> 0 20 40 60 80 100 120 140 160 180 200 220 240													200 220 240
HAZARD/PROTECTION													
C-WEIGHTED OVERALL SOUND LEVEL (OASLC IN DBC) AT EAR													
A-WEIGHTED OVERALL SOUND LEVEL (OASLA IN DBA) AT EAR													
MAXIMUM PERMISSIBLE TIME (T IN MINUTES) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)													
NO PROTECTION													
OASLC													81 81 81 81 81 81 81 81 81 81 81 81 81
OASLA													77 77 77 77 77 77 77 77 77 77 77 77 77
T													960 960 960 960 960 960 960 960 960 960 960 960 960
MINIMUM OPL EAR MUFFS													
OASLA*													56 56 56 56 56 56 56 56 56 56 56 56 56
T													960 960 960 960 960 960 960 960 960 960 960 960 960
AMERICAN OPTICAL 1700 EAR MUFFS													
OASLA*													51 51 51 51 51 51 51 51 51 51 51 51 51
T													960 960 960 960 960 960 960 960 960 960 960 960 960
V-51R EAR PLUGS													
OASLA*													52 52 52 52 52 52 52 52 52 52 52 52 52
T													960 960 960 960 960 960 960 960 960 960 960 960 960
AMERICAN OPTICAL 1700 EAR MUFFS PLUS V-51R EAR PLUGS													
OASLA*													38 39 38 38 38 38 38 38 38 38 38 38 38
T													960 960 960 960 960 960 960 960 960 960 960 960 960
H-133 GROUND COMMUNICATION UNIT													
OASLA*													49 49 49 49 49 49 49 49 49 49 49 49 49
T													960 960 960 960 960 960 960 960 960 960 960 960 960
COMMUNICATION													
PREFERRED SPEECH INTERFERENCE LEVEL (PSIL IN DB)													
PSIL													71 71 71 71 71 71 71 71 71 71 71 71 71
ANNNOYANCE													
PERCEIVED NOISE LEVEL, TONE CORRECTED (PNLT IN PNDB)													
TONE CORRECTION (C IN DB)													
PNLT													88 89 89 89 89 89 89 89 89 89 89 89 89
C													0 0 0 0 0 0 0 0 0 0 0 0 0

\* BASED ON CALCULATED SPL SPECTRUM UNDER PROTECTIVE DEVICE.

MEASURES OF HUMAN NOISE EXPOSURE											IDENTIFICATION:	
3											OMEGA 3.2	
NOISE SOURCE/SUBJECT: ( OPERATION: )											TEST 71-020-390	
MB-1 COMPRESSOR, RECIP., ( )											RUN 02	
POWER DRIVEN ( AIR TANK FILL CYCLE )											24 FEB 75	
NEAR FIELD NOISE LEVELS ( )											PAGE H2	
( INSIDE HANGER ) ( )												
DISTANCE (M) -> 4 4 4 4 4 4 4 4 4 4 4											2 2 2 2 2 2 2 2 2 2 2	
ANGLE (DEG) -> 260 260 260 260 260 260 260 260 260 260 260											100 120 140	
HAZARD/PROTECTION												
C-WEIGHTED OVERALL SOUND LEVEL (OASLC IN OBC) AT EAR												
A-WEIGHTED OVERALL SOUND LEVEL (OASLA IN DBA) AT EAR												
MAXIMUM PERMISSIBLE TIME (T IN MINUTES) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)												
NO PROTECTION												
OASLC	79	81	81	81	80	83	83	83	83	84	84	85
OASLA	76	78	78	79	77	80	80	81	81	81	80	81
T	960	960	960	960	960	960	960	807	807	807	960	807
MINIMUM QPL EAR MUFFS												
OASLA*	56	57	57	57	56	59	59	58	60	60	60	61
T	960	960	960	960	960	960	960	960	960	960	960	960
AMERICAN OPTICAL 1700 EAR MUFFS												
OASLA*	51	52	52	52	51	54	54	53	55	55	55	56
T	960	960	960	960	960	960	960	960	960	960	960	960
V-51R EAR PLUGS												
OASLA*	52	54	54	55	53	56	56	56	57	57	57	57
T	960	960	960	960	960	960	960	960	960	960	960	960
AMERICAN OPTICAL 1700 EAR MUFFS PLUS V-51R EAR PLUGS												
OASLA*	38	40	40	41	39	42	41	42	43	43	42	43
T	960	960	960	960	960	960	960	960	960	960	960	960
H-133 GROUND COMMUNICATION UNIT												
OASLA*	49	50	50	52	50	53	52	53	53	54	53	54
T	960	960	960	960	960	960	960	960	960	960	960	960
COMMUNICATION												
PREFERRED SPEECH INTERFERENCE LEVEL (PSIL IN DB)												
PSIL	71	73	73	73	72	75	74	75	76	76	75	75
ANNOYANCE												
PERCEIVED NOISE LEVEL, TONE CORRECTED (PNLT IN PNDB)												
TONE CORRECTION (C IN DB)												
PNLT	89	91	91	91	89	92	92	93	94	95	93	93
C	1	1	1	1	0	0	0	1	1	1	0	1

\* BASED ON CALCULATED SPL SPECTRUM UNDER PROTECTIVE DEVICE.

TABLE: MEASURES OF HUMAN NOISE EXPOSURE													IDENTIFICATION:
3													OMEGA 3.2
NOISE SOURCE/SUBJECT: ( OPERATION: )													TEST 71-020-390
MB-1 COMPRESSOR, RECIP., ( )													RUN 03
POWER DRIVEN ( AIR TANK FILL CYCLE )													24 FEB 75
NEAR FIELD NOISE LEVELS ( )													PAGE H3
( INSIDE HANGER ) ( )													
DISTANCE (M)--> 2 2 2 2 2 2 2 2 2 2 2 2 2													OPERATOR LOCATION
ANGLE (DEG)--> 160 180 200 220 240 260 280 300 320 340													TEST CONDITION
													1/A
HAZARD/PROTECTION													
C-WEIGHTED OVERALL SOUND LEVEL (OASLC IN DBC) AT EAR													
A-WEIGHTED OVERALL SOUND LEVEL (OASLA IN DBA) AT EAR													
MAXIMUM PERMISSIBLE TIME (T IN MINUTES) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)													
NO PROTECTION													
	OASLC	85	85	86	83	82	82	82	82	82	82	81	84
	OASLA	81	81	81	80	80	80	80	80	80	80	79	80
	T	807	807	807	960	960	960	960	960	960	960	960	960
MINIMUM QPL EAR MUFFS													
	OASLA*	62	63	63	58	58	58	58	58	57	57	56	60
	T	960	960	960	960	960	960	960	960	960	960	960	960
AMERICAN OPTICAL 1700 EAR MUFFS													
	OASLA*	57	58	58	53	53	52	53	52	51	51	51	56
	T	960	960	960	960	960	960	960	960	960	960	960	960
V-51R EAR PLUGS													
	OASLA*	58	57	58	56	56	55	55	55	55	55	54	57
	T	960	960	960	960	960	960	960	960	960	960	960	960
AMERICAN OPTICAL 1700 EAR MUFFS PLUS V-51R EAR PLUGS													
	OASLA*	43	43	43	42	42	41	41	41	42	42	40	42
	T	960	960	960	960	960	960	960	960	960	960	960	960
H-133 GROUND COMMUNICATION UNIT													
	OASLA*	54	54	54	53	53	52	52	53	53	53	51	52
	T	960	960	960	960	960	960	960	960	960	960	960	960
COMMUNICATION													
PREFERRED SPEECH INTERFERENCE LEVEL (PSIL IN DB)													
	PSIL	75	75	75	75	75	74	75	75	75	75	74	75
ANNNOYANCE													
PERCEIVED NOISE LEVEL, TONE CORRECTED (PNLT IN PNOB)													
	PNLT	93	94	93	93	94	92	92	93	92	93	91	92
	C	1	1	0	1	1	0	0	0	0	0	0	0

\* BASED ON CALCULATED SPL SPECTRUM UNDER PROTECTIVE DEVICE.