



REPLY TO  
ATTENTION OF

DEPARTMENT OF THE ARMY  
HEADQUARTERS III CORPS AND FORT HOOD  
FORT HOOD, TEXAS 76544-5000

MCXI-PMS-HC (40)  
23 September 1996

MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: Command Emphasis on Hearing Conservation

1. All soldiers and civilians at Fort Hood must make a commitment to reduce noise induced hearing loss. Noise induced hearing loss is almost entirely preventable, whether as a result of workplace noise, military training exercises or recreational activities. A noise induced hearing loss represents a needless loss in terms of personal suffering, job performance and compensation costs. Hearing loss reduces combat readiness. On the battlefield, good hearing is an essential attribute of the effective soldier.
2. All commanders and supervisors must:
  - a. Enforce the use of hearing protection by all personnel working in noise-hazardous areas.
  - b. Direct personnel to properly maintain their hearing protection.
  - c. Strongly encourage the wearing of the earplug case with ear plugs on the top left pocket of the Battle Dress Uniform.
  - d. Require personnel to report for hearing tests as scheduled by the Soldier Medical Readiness Center.
3. Point of contact for the Hearing Conservation Program is MAJ Babeu, 286-7204.

//signed//

THOMAS A. SCHWARTZ  
Lieutenant General, USA  
Commanding

DISTRIBUTION:  
IAW FH Form 1853: A

Medical Services  
**HEARING CONSERVATION**

---

**HISTORY.** This is the first printing of Fort Hood regulation 40-8.

**SUMMARY.** This regulation provides guidance for the management of the Hearing Conservation Program, as outlined in DA Pamphlet 40-501.

**APPLICABILITY.** Policy outlined in this regulation is applicable to military and civilian personnel assigned to Fort Hood units, tenant activities, Department of Defense Contractors, and transient personnel, working in noise-hazardous areas on Fort Hood.

**SUPPLEMENTATION.** Supplementation is prohibited except on approval by the Medical Department Activity.

**CHANGES.** Changes to this regulation are not official unless authenticated by the Directorate of Information Management.

**SUGGESTED IMPROVEMENTS.** The proponent for this regulation is the Medical Department Activity, Preventive Medicine Department. Users are invited to send comments and suggested improvements to MEDDAC, ATTN: MCXI-PMS-HC, Fort Hood, Texas 76544.

---

**Table of Contents**

<b>Description</b>	<b>Para</b>	<b>Page</b>
<b>Overview</b>		
Purpose .....	1a.....	3
References.....	1b.....	3
Abbreviations and Terms .....	1c.....	3
<b>General</b>		
Hearing Conservation.....	2a.....	4
<b>Responsibilities</b>		
Installation Medical Authority (IMA).....	3a.....	4
Directorate of Civilian Personnel.....	3b.....	4
Assistant Chief of Staff, G1, Safety Office.....	3c.....	5
Unit Commanders/Supervisors/Activity Directors .....	3d .....	6
Supervisors/Activity Directors.....	3e.....	6
<b>Procedures</b>		
Detection of Noise-hazardous Areas .....	4a.....	6
Evaluation of Suspected Noise-hazardous Areas.....	4b.....	7
Record Keeping and Scheduling Appointments .....	4c.....	7
Frequency of Testing .....	4d .....	7
Audiometric Testing .....	4e.....	8

<b>Description</b>	<b>Para</b>	<b>Page</b>
Utilization of Hearing Protective Devices .....	4f .....	8
Procurement of Hearing Protective Devices .....	4g .....	9
Hearing Education Program .....	4h .....	9
Hearing Protection for Visitors.....	4i .....	9
Appendix A .....		9
Appendix B.....		15
Appendix C.....		16
Glossary .....		17

**OVERVIEW**

1

Purpose To establish and outline policies for the prevention of hearing loss among military and civilian personnel working on Fort Hood.

1a

- References
- AR 40-5, Preventive Medicine
  - AR 385-10, The Army Safety Program
  - AR 40-501, Standards of Physical Fitness
  - DA Pamphlet 40-50, Hearing Conservation
  - ANSI S3.6-1989, Specifications for Audiometers
  - OSHA 29 CFR 1910.95, Occupational Noise Exposure

1b

Abbreviations and Terms Abbreviations and terms are defined in the glossary.

1c

**GENERAL**

2

Hearing Conservation DA Pamphlet 40-501, Hearing Conservation defines noise-hazardous areas as any work area where workers are likely to be exposed to sound levels greater than 86dBA for a steady-state noise, or impulse noise level greater than 140 dBA. .

Appendix A of this regulation contains a listing of commonly used noise-hazardous equipment.

High noise levels associated with modern civilian and military equipment used by the Army are hazards that could result in adverse effects on the hearing welfare of personnel and their ability to perform safely and efficiently.

- Noise levels from hand or shoulder fired weapons, artillery, power generators, combat vehicles, construction equipment, and helicopters, etc., are of such high intensity that they can cause permanent hearing loss in individuals not using suitable hearing protective devices.
- Without adequate hearing protection, continued exposure to hazardous noise results in further deterioration of hearing acuity.
  - Individuals may not perceive a permanent hearing loss until it interferes with their ability to understand speech.
  - Noise-induced hearing loss is a painless, bloodless, and sightless disability.
  - By the time the individual recognizes the problem, irreversible damage has been done.

An effective Hearing Conservation Program will prevent further deterioration of an individual's hearing ability due to noise exposure.

More than one-half of all combat arms troops and a significant number of civil service employees lose some degree of hearing before completing their military or civil service careers.

(continued on next page)

Hearing Conservation (continued)

Unprotected ears exposed to loud noises are partially desensitized so they cannot readily detect sounds essential to survival in a combat situation (such as, the sound of footsteps in grass, movements in movements in brush, the clink of metallic objects).

Hearing loss may require a permanent profile change that frequently prevents an individual from working in their primary military occupational specialty (MOS) or job assignment.

- The result is costly reclassification and disqualification for reenlistment or retention in federal service.

2a

**RESPONSIBILITIES**

3

Installation Medical Authority (IMA)

The IMA will

- Appoint an audiologist to act as the Hearing Conservation Officer according to DA Pamphlet 40-501.
- Appoint the Industrial Hygiene Section, US Army Medical Department Activity (USAMEDDAC) to complete responsibilities outlined in AR 40-5 and DA Pamphlet 40-501.

The Hearing Conservation Officer will

- Make necessary arrangements for obtaining technical assistance from the Bio-Acoustics Division, US Army Center for Health Promotion and Preventive Medicine, Aberdeen Proving Ground, Maryland.
- Ensure that all persons operating audiometers are trained in the techniques of Audiometry.
- Ensure that all audiometers are calibrated to ANSI S3.6-1989 standards annually.
- Ensure that proper sound attenuation booths are utilized for audiometric testing.

3a

Directorate of Civilian Personnel

The Directorate of Civilian Personnel will

- Include Occupational Health on in- and out-processing checklists for new, transferring, or terminating personnel (this alerts the IMA of the audiometric evaluations required for these personnel).
- Inform the IMA and safety officer of all workers' compensation claims for hearing loss.

3b

Assistant Chief of Staff, G1, Safety Office

The Assistant Chief of Staff, G1, Safety Office will

- Inform the Industrial Hygiene Section, Preventive Medicine Service, of suspected noise-hazardous areas.
- Report failure to comply with the provisions of this regulation through the chain of command and to MEDDAC.

(continued on next page)

Assistant Chief  
of Staff, G1  
Safety Office

- Review the Hearing Conservation Program, including posting of noise-hazardous areas and equipment during scheduled safety inspections.
- Review unit standing operating procedure and availability of hearing protective devices.
- Include noise hazard abatement projects in the hazard abatement plan.

3c

Unit  
Commanders/  
Supervisors/  
Activity  
Directors

Unit Commanders/Supervisors/Activity Directors will

- Appoint and oversee a Unit Hearing Conservation Officer.
- Inspect helmets and/or noise muffs according to DA Pamphlet 40-501.
- Prepare unit SOP detailing the Hearing Conservation Program.
- Purchase new equipment that generates the lowest noise levels feasible per DA Pamphlet 40-501.
- Notify the Preventive Medicine Service, Industrial Hygiene Section, of suspected hazardous-noise levels or changes in hazardous-noise levels in their work areas.
- Ensure that noise-exposed personnel under their supervision
  - Are provided hearing protection and audiometric evaluations.
  - Are provided annual Hearing Conservation training according to DA Pamphlet 40-501.
- Follow recommendations from audiometric examinations, medical evaluations, and noise surveys.
- Wear hearing protection.
- Report for scheduled medical exams.
- Notify soldiers and civilians of their exposure measurements.
- Commanders/Supervisors will temporarily reassign personnel to work in a non-noise hazardous area when follow-up tests are required according to DA Pamphlet 40-501.
- Ensure that all soldiers and noise-exposed civilians under their supervision retain a pair of preformed earplugs as an item of individual equipment.
- Preformed earplugs must be fit by medically trained personnel.
- Initial issue preformed earplugs will be issued to all noise-exposed personnel through the appropriate Hearing Conservation Center during inprocessing, or the Birthmonth Medical Annual Review (BMAR).
- Ensure that noise-hazardous areas and equipment are marked with proper danger signs and decals according to DA Pamphlet 40-501.

(continued on next page)

---

Unit  
Commanders/  
Supervisors/  
Activity  
Directors

Monitor the use of engineering controls, according to DA Pamphlet 40-501.

Refer military personnel under their supervision to their servicing Troop Medical Clinic, and civilian personnel to Occupational Health for hearing problems or complaints associated with the wear of hearing protection.

Will consider initiating disciplinary action when the required use of hearing protection is deliberately ignored.

Ensure that the responsibility to enforce the use of personal protective equipment (i.e., hearing protection) is included in supervisor's performance standards where applicable.

3d

---

Supervisors/  
Activity  
Directors

Supervisors/Activity Directors will

- Include in the employee job description, where applicable, the requirement to wear personal protective equipment (i.e., hearing protection).

3e

**PROCEDURES**

4

---

Detection of  
Noise-hazardous  
Areas

Civilian personnel and military supervisors will assume the existence of a noise hazard if

- Employees report head noises or ringing of the ears after working in noisy area.
- Verbal communication is hampered due to presence of background noise.

4a

---

Evaluation of  
Suspected  
Noise-  
hazardous  
Areas

The Preventive Medicine Service, Industrial Hygiene Section will

- Conduct surveys of new noise hazard areas or operations throughout the installation.
- Conduct surveys of operations which have changes in exposure status.
- Conduct appropriate analysis of a suspected noise hazardous workplace.

The Hearing Conservation Officer will

- Ensure maximum use of the Hearing Evaluation Automated Recording System, ("HEARS").
- Notify supervisors of individuals sustaining a permanent hearing loss which may be a hazard to the individual and others.
- Report standard threshold shift (STS) according to DA Pamphlet 40-501.

In cases involving civilian personnel where individual hearing loss is so severe that it creates a safety hazard, a worksite evaluation will be conducted.

- The worksite evaluation will

(continued on next page)

Detection of Noise-Hazardous Areas

- Include a noise survey of the individual’s work area.
- Be conducted by the Hearing Conservation Officer, Industrial Hygienist and Post Safety Officer.
- Notification will be sent to the AFGE, Local 1920 (by the Hearing Conservation Officer) for appropriate representation at the worksite evaluation.
- Recommendations will be made regarding necessary safety precautions to ensure that the employee can work in that environment.
- Results of the worksite evaluation will be provided to the employee, supervisor, AFGE, Local 1920 and the Directorate.
- If the Directorate is unable to comply with the worksite evaluation safety recommendations, the Hearing Conservation Officer will send notification to the supervisor and the Directorate recommending removal of the individual from the worksite.

The profiling process outlined in AR 40-501 will be used to determine whether a soldier’s hearing loss is severe enough to warrant removal from a noise-hazardous MOS.

4b

Record Keeping and Scheduling Appointments

Annual hearing test will be scheduled by the appropriate Soldier Medical Readiness Center as part of the birth month medical review.

Newly arrived soldiers be tested at Soldier Medical Readiness Centers as part of inprocessing.

Occupational Health, MEDDAC, will schedule the audiometric testing of occupational exposed civilian personnel.

- The appropriate medical authority will evaluate personnel exhibiting significant threshold shifts.

The Hearing Conservation Center will schedule military and civilian personnel for clinical evaluation as needed.

- The patient needing that service will return to the supervisor with the appointment slip.
- The supervisor and the appropriate personnel section will reassign the patient to work in a non-noise hazardous capacity until the completion of the evaluation according to DA Pamphlet 40-501.

4c

Frequency of Testing

A pre-employment audiogram will be obtained for all civilian employees during their medical in-processing.

Routine audiograms and evaluations will be conducted annually for

- All military regardless of work areas, and
- For civilians working in noise-hazardous areas as identified by the Industrial Hygiene Section.

A pre-transfer evaluation will be conducted for all civilian employees transferring from a non-noise hazardous area to a noise-hazardous area.

4d

---

Audiometric Testing Additional audiometric tests, evaluation and/or treatment will be recommended and scheduled when necessary, as outlined in DA Pamphlet 40-501.

Personnel performing audiometric testing will be fully trained in the techniques of Audiometry by the audiologist.

4e

---

Utilization of Hearing Protective Devices All personnel, civilian and military, will wear hearing protective devices when in a noise-hazardous area and/or near a noise-hazardous operation.

All personnel will

- Wear hearing protective devices when firing weapons.
- Ensure hearing protection is in serviceable order prior to each use.

All ranges will post noise hazard warning signs.

4f

---

Procurement of Hearing Protective Devices Civilian and military personnel will be provided hearing protection devices when employed in noise-hazardous areas.

- Military and civilian personnel employed in noise-hazardous areas will obtain initial issue of preformed earplugs from the hearing conservation centers
- Appropriate noise reducing earmuffs and yellow foam disposable earplugs, NSN 6515-00-137-6345, may be used instead of preformed earplugs.

Replacement of preformed earplugs may be performed by the hearing conservation centers providing the Directorate/Unit reimburses the centers.

Hearing conservation centers will provide preformed earplug fitting training to unit personnel to allow fitting at unit level.

Noise reducing earmuffs may be obtained through the servicing Direct Medical Support Offices for military units, and the Directorate of Logistics Property Book Office for civilians.

4g

---

Hearing Education Program Each Unit Commander/Civilian Supervisor will ensure that their personnel receive annual training in the area of noise hazards, hearing loss, and the proper use of hearing protective devices, which can be provided through the Hearing Conservation Section, MEDDAC.

4h

---

Hearing Protection for Visitors Civilian Supervisors and/or Commanders will have temporary hearing protection available for visitors at all noise-hazardous areas (including the firing ranges).

- Yellow foam disposable earplugs, NSN 6515-00-137-6345, may be used for this purpose. (Refer to Appendix B for NSN information.)

4i

---

**APPENDIX A  
COMMONLY USED NOISE-HAZARDOUS EQUIPMENT**

This appendix contains a list of commonly used noise-hazardous equipment. Noise first becomes hazardous to hearing sensitivity at 85 dBA for continuous noise (steady-state), and at 140 dBP for impulse noise (i.e. gunshot). This list is intended to be used as a quick reference, and will not take the place of actual noise surveys.

<u>EQUIPMENT</u>	<u>TYPE NOISE</u>	<u>LEVEL dBA</u>
A-10, Attk Airplane (pilot).....	steady-state.....	96-99
AH-64, Attack Helicopter.....	steady-state.....	87
Air chisel.....	steady-state.....	125
Air conditioner, 36,000 BTU.....	steady-state.....	71-73
Air drill.....	steady-state.....	92
Air grinder.....	steady-state.....	96-101
Air sanders.....	steady-state.....	94-98
Air wrench.....	steady-state.....	90-98
Aircraft cargo loader.....	steady-state.....	85-87
Arc welder (mobile vehicle).....	steady-state.....	86-97
Armored Carrier, M113.....	steady-state.....	117
B&D 1/2 inch drill.....	steady-state.....	93-97
B&D 3/4 inch drill.....	steady-state.....	93-97
B&D 6" portable grinder.....	steady-state.....	95-100
B&D angle sander.....	steady-state.....	110
B&D bench grinder.....	steady-state.....	107
B&D grinder.....	steady-state.....	105
B&D shorty drill.....	steady-state.....	87
Baker 4,000.....	steady-state.....	85-107
Baker forklift.....	steady-state.....	85-90
Bandsaw model ML (metal)s.....	steady-state.....	92-94
Bandsaw Doall, Metal 26.....	steady-state.....	96
Bandsaw, Crob.....	steady-state.....	114
Bandsaw, Delta-Milwaukee 20.....	steady-state.....	110
Bandsaw, Moak.....	steady-state.....	100
Baumfolder, 333.....	steady-state.....	91
Baumfolder, Bell & Howell.....	steady-state.....	85
Binder, Martinez, EB.....	steady-state.....	92
Black & Decker, Sander/Metal.....	steady-state.....	96
Blower pumps, sewer TX, plants.....	steady-state.....	90-109
Bradley fighting vehicle.....	steady-state.....	116
Bridge erection boat.....	steady-state.....	87
C5A, Cargo Airplane, crew.....	steady-state.....	89-94
C141, Cargo Airplane.....	steady-state.....	92
C-141A, Cargo Airplane.....	steady-state.....	91
Card processor, Univac 1004.....	steady-state.....	92
Card processor, Univac 1005.....	steady-state.....	93
Card reader, GE.....	steady-state.....	92
Carrier, MI 14A1.....	steady-state.....	109
CAT 933.....	steady-state.....	95
CAT 966B.....	steady-state.....	96
CAT 988.....	steady-state.....	96

<u>EQUIPMENT</u>	<u>TYPE NOISE</u>	<u>LEVEL dBA</u>
CAT D7 (Dozer) .....	steady-state.....	100
CAT D8 (Dozer) .....	steady-state.....	103
CAT D9 (Dozer) .....	steady-state.....	89
CH 47C Chinook.....	steady-state.....	110
CH 47D Chinook .....	steady-state.....	104
Chain sharpener.....	steady-state.....	86-89
Chainsaw, Homelite Super 77 .....	steady-state .....	125
Chainsaw, McCulloch MAG10-10 .....	steady-state.....	108
Charparral .....	impulse .....	146 dBP
Chipping Hammer, MC121 .....	steady-state.....	118
Circular Saw, Delta-Rockwell .....	steady-state.....	104
Clark fork lift.....	steady-state.....	86-91
Claymorette mine on M113 PC .....	impulse .....	148 dBP
Clayton dynamometer .....	steady-state.....	110
Collator, Didde-Glaser, Inc. ....	steady-state.....	92
Combat field feeding system .....	steady-state.....	89-96
Construction Saw, Dewalt .....	steady-state.....	96
Conveyor, Link Belt Co.....	steady-state.....	104
Crane, 220 HP Diesel, 100 ton .....	steady-state.....	101
Crane, 22BM .....	steady-state.....	99
Crane, Crawler Shovel .....	steady-state.....	101
Crane, Drag Line, LS-6B .....	steady-state.....	101
Crane, Hanson, H446A, 5 ton .....	steady-state.....	91
Crane, Rough Terrain, 20 ton.....	steady-state.....	101
Cross-cut saw, Automatic 1-H.....	steady-state.....	94
Cross-cut saw, Dewalt .....	steady-state.....	100
Crusher, Eagle, Diesel 5157B.....	steady-state.....	95
Crusher, Eagle, Roll 5230B.....	steady-state.....	105
Crusher, Pioneer Jaw 54VDE.....	steady-state.....	109
CUC-V (Driver's position).....	steady-state.....	70-86
Cutoff/Rip Combination Saw.....	steady-state.....	112
Cutoff Saw, Dewalt GE .....	steady-state.....	107
Cutoff Saw, Dewalt GL .....	steady-state.....	112
Cutoff Saw, Porter 43-20J .....	steady-state.....	98
Disintegrator Size 10BC.....	steady-state.....	100
Ditcher, Parsons 624V1 .....	steady-state.....	104
Ditcher, Pow-R, Vermcer Co.....	steady-state.....	99
Dragon.....	impulse .....	184 dBP
Drill, 3/8 inch Skil .....	steady-state.....	103
Drill, Rock, Gardiner Denver .....	steady-state.....	112
Drill, Rock, Ingersoll-Rand .....	steady-state.....	116
Electric duct joiner hammer .....	steady-state.....	96-110
Evinrude Skeeter, Snowmobile.....	steady-state.....	87
F10000, Rg-r Refrigeration unit .....	steady-state.....	90-92
Folding machine, Dexter, 5R23.....	steady-state.....	93
Forklift, 6K.....	steady-state.....	95
Forklift, 10K.....	steady-state.....	100
Generator, 1.5KW.....	steady-state.....	98

<u>EQUIPMENT</u>	<u>TYPE NOISE</u>	<u>LEVEL dBA</u>
Generator, 60KW .....	steady-state .....	94-102
Grade-All, Warner & Swasey G600 .....	steady-state .....	96
Grader.....	steady-state.....	96
Grader, CAT 12 .....	steady-state.....	108
Grader, CAT 120 .....	steady-state.....	99
Grader, CAT WABCO.....	steady-state.....	106
Grenade Launcher, 40mm .....	impulse .....	154 dBP
Grenade Launcher, XM182,40mm .....	impulse .....	150 dBP
Grenade Simulator, M116-indoor.....	impulse .....	178 dBP
Grenade Simulator, M116A .....	impulse .....	146 dBP
Grenade, Hand M-26 (25ft).....	impulse .....	171 dBP
Grenade, Hand, M116A1 (75).....	impulse .....	142 dBP
Grinder, Dayton Power 17853 .....	steady-state.....	95
Grinder, Toolline .....	steady-state.....	92
Gun, 175mm .....	impulse .....	170 dBP
Gun, M41, 90mm.....	impulse .....	181 dBP
Gun, M68, mounted, 105mm(13ft).....	impulse .....	179 dBP
Gun, mounted, 20mm .....	impulse .....	145 dBP
Gun, Tank, 105mm (13ft) .....	impulse .....	179 dBP
Gun, Tank, 152mm.....	impulse .....	188 dBP
Gun, Tank, 152mm XM625 .....	impulse .....	189 dBP
Gun, Tank, 152mm, XM657E1 .....	impulse .....	191 dBP
Gun, Tank, M48A2,90mm,(12ft) .....	impulse .....	187 dBP
Gun, Tank, M48A3, 90mm .....	impulse .....	181 dBP
Gun, Vulcan, XM197, 20mm.....	impulse .....	159 dBP
Gun, Vulcan, M61A1, 20mm.....	impulse .....	153 dBP
HMMV-ambulance .....	steady-state.....	79-97
Hobart mixer/grinder .....	steady-state.....	86-90
Hose maker .....	steady-state.....	96
Hough, H100.....	steady-state.....	98
Hough, H120.....	steady-state.....	100
Hough, H400.....	steady-state.....	95
Hough, H70.....	steady-state.....	93
Hough, HM .....	steady-state.....	91
Hough, HOG.....	steady-state.....	98
Hough, TD300 .....	steady-state.....	100
Howitzer, 105mm (gunner pos).....	impulse .....	189 dBP
Howitzer, 155mm, Medium M1A2E3 .....	impulse .....	185 dBP
Howitzer, M198 .....	impulse .....	179 dBP
Howitzer, self-propelled, M110A2.....	impulse .....	112 dBP
Hystor, 1,500 lb. forklift .....	steady-state.....	70-97
Impact, wrench .....	steady-state.....	95-107
International, INT TD 30 .....	steady-state.....	103
International, Travelall D-1000.....	steady-state.....	71
Jointer, GE.....	steady-state.....	100
Jointer, Oliver 166CD .....	steady-state.....	87
Jointer, Powermatic 50.....	steady-state.....	86
Keypunch, IBM 26.....	steady-state.....	86

<u>EQUIPMENT</u>	<u>TYPE NOISE</u>	<u>LEVEL dBA</u>
LACV-30 Ton.....	steady-state.....	96
Launcher, M20a, 35" Rocket.....	impulse .....	171 dBP
Light Infantry Assault Weapon .....	impulse .....	180 dBP
Liquid Distributor, Universal .....	steady-state.....	91
Loader, AC 645M.....	steady-state.....	98
Loader, Euclid, 128 HP.....	steady-state.....	100
Loader, Hough, H90 CM.....	steady-state.....	104
Logistic Vehicle System .....	steady-state.....	85-90
Lull 7 C1-31 .....	steady-state.....	92
M1059 smoke generator mounted.....	steady-state.....	73-104
M151 Jeep.....	steady-state.....	61-66
M1911 Pistol.....	impulse .....	161-162 dBP
M1E1 Tank System (firing).....	impulse .....	151 dBP
M60A3 TTS Tank.....	steady-state.....	80-109
M9 ACE Bulldozer .....	steady-state.....	93-112
M915A1 Truck tractor .....	steady-state.....	78-88
Machine Gun, 50 cal.....	impulse .....	160 dBP
Machine Gun, M60.....	impulse .....	165 dBP
Metal cutter.....	steady-state.....	96-107
Metal shearer .....	steady-state.....	74-94
Minigun, 20mm .....	impulse .....	155 dBP
Minigun, 7.62mm .....	impulse .....	146 dBP
Mitre Saw, Rockwell Electric.....	steady-state.....	95
MK19 Grenade Launch Simulator.....	impulse .....	126 dBP
MLRS crew compartment.....	steady-state.....	108
Mortar, 81mm.....	impulse .....	178 dBP
Moto-ski, 399, Snowmobile.....	steady-state.....	92
Moto-ski, 500, Snowmobile.....	steady-state.....	87
Moto-ski, Zephyr, Snowmobile.....	steady-state.....	87
Multipurpose 4x4 fire truck.....	steady-state.....	73-94
Nailer, Bostich N2 .....	impulse .....	142 dBP
Nailer, Duo-fast CN 137 .....	steady-state.....	104
North American routermatic .....	steady-state.....	99-104
Offset Press, Multilith 1250.....	steady-state.....	86
Offset Press, Multilith 2550.....	steady-state.....	87
Oster pipe and belt threader .....	steady-state.....	88-89
Panel Saw, Black & Decker.....	steady-state.....	114
Paper Shredder, Model 22.....	steady-state.....	96
Paper Shredder, S.E. #3 .....	steady-state.....	110
Pinsetting machine.....	steady-state.....	92-106
Pipe Threader, Ridgid 300 .....	steady-state.....	93
Planer, Buss Machine Works.....	steady-state.....	104
Planer, Craftsman 112.....	steady-state.....	98
Planer, Newman 600.....	steady-state.....	105
Planer, Oliver 361.....	steady-state.....	90
Planer, Powermatic .....	steady-state.....	103
Planer, Rockwell Motor.....	steady-state.....	100

<u>EQUIPMENT</u>	<u>TYPE NOISE</u>	<u>LEVEL dBA</u>
Pneumatic Hammer.....	steady-state.....	132
Polaris Mustang, Snowmobile.....	steady-state.....	84
Polaris TX, Snowmobile.....	steady-state.....	91
Poulan multi-purpose saw.....	steady-state.....	94-112
Power Saw, Delta.....	steady-state.....	94
Power Saw, Newman-surfacer.....	steady-state.....	100
Printer, GE.....	steady-state.....	93
Printer, High speed, Honeywell.....	steady-state.....	103
Pulverizer, Paper.....	steady-state.....	101
R.T. FORKLIFT.....	steady-state.....	85-98
Radial Saw, Delta.....	steady-state.....	96
Radial Saw, Dewalt.....	steady-state.....	108
Raider 400 Snowmobile.....	steady-state.....	77
Reciprocating saw.....	steady-state.....	90-98
Recovery Vehicle, A-Wing M88.....	steady-state.....	94
Recovery Vehicle, M88.....	steady-state.....	116
Rifle, M14, 7.62mm, Automatic.....	impulse.....	159 dBP
Rifle, M16, 5.56 Automatic.....	impulse.....	156 dBP
Rifle, M16, blanks w/suppressor.....	impulse.....	143-147 dBP
Rifle, Recoilless, M18, 57mm.....	impulse.....	174 dBP
Rifle, Recoilless, M40A1, 106mm.....	impulse.....	188 dBP
Rifle, Recoilless, M67, 90mm.....	impulse.....	181dBP
Rip Saw Atlas, 3090.....	steady-state.....	97
Rip Saw, Delta.....	steady-state.....	100
Rip Saw, G.B. Diekl.....	steady-state.....	96
Rip Saw, Wabach.....	steady-state.....	97
Rip Saw, Yates American B.....	steady-state.....	102
Rivet Gun, BR Goodrich.....	steady-state.....	101
Rivet hammer.....	steady-state.....	94-107
Rockwell overarm router/sander.....	steady-state.....	93-97
Rockwell port, bench grinder.....	steady-state.....	90-110
Roller, Roll-O-Packer.....	steady-state.....	111
Rough terrain forklift, 6,000 lb.....	steady-state.....	78-83
Router, Black & Decker.....	steady-state.....	118
Router, Rockwell 150B.....	steady-state.....	100
Ryan sod cutter 7 h.p.....	steady-state.....	92-94
Sandblasting cabinet.....	steady-state.....	98
Sander, Black & Decker.....	steady-state.....	92
Sander, Disk.....	steady-state.....	100
Sander, Reliance, Type GS.....	steady-state.....	90
Shaper, Delta.....	steady-state.....	94
Shaper, Master, Type PA.....	steady-state.....	104
Ski-Doo 300 Snowmobile.....	steady-state.....	90
Ski-Doo Alpine 399 Snowmobile.....	steady-state.....	80
Ski-Doo Elan, Snowmobile.....	steady-state.....	80
Ski-Doo Nordic 375 Snowmobile.....	steady-state.....	86
Ski-doo Olympique, Snowmobile.....	steady-state.....	90
Ski-Doo TNT, Snowmobile.....	steady-state.....	92
Ski-Whiz, Snowmobile.....	steady-state.....	86

<u>EQUIPMENT</u>	<u>TYPE NOISE</u>	<u>LEVEL dBA</u>
Smoke/Decon Gen. system M383E.....	steady-state.....	90-97
Sno-Jet, Snowmobile.....	steady-state.....	99
Stapler, Senco M11.....	steady-state.....	94
Stapling gun, Bostich II.....	steady-state.....	105
Street Sweeper.....	steady-state.....	88
Surgical Equipment cleaner.....	steady-state.....	94
Surfacer, Newman.....	steady-state.....	100
Sun 690 gen/alternator tester.....	steady-state.....	75-101
Sweeper, Elgin 475.....	steady-state.....	97
Sweeper, Street, Wayne 475.....	steady-state.....	88
Swing Saw, Olivier 136.....	steady-state.....	90
Table Saw, Atlas 3160.....	steady-state.....	89
Table Saw, Bench.....	steady-state.....	108
Table Saw, Delta 100.....	steady-state.....	90
Tabke Saw, Northfield.....	steady-state.....	105
Table Saw, Oliver 290.....	steady-state.....	104
Table Saw, Tannewitz, Type J.....	steady-state.....	107
Table Top Saw, Northfield.....	steady-state.....	105
Tank, Abrams, M1A1.....	steady-state.....	108
Tank, M60.....	steady-state.....	108
Thors bench grinder.....	steady-state.....	86-89
TOW.....	impulse.....	170 dBP
Tractor, CAT 830MB.....	steady-state.....	102
Tractor, D7E.....	steady-state.....	106
Tractor, Diesel Int. Har. TD-15.....	steady-state.....	95
Tractor, Ford, Selecto-speed.....	steady-state.....	96
Tractor, Int. Haverstor I2504.....	steady-state.....	87
Tractor, Int. Harvestor I2656.....	steady-state.....	90
Truck, 5 Ton.....	steady-state.....	96
Truck, Cargo M656.....	steady-state.....	102
Truck, Cargo, 1 1/4 Ton.....	steady-state.....	90
Truck, International F2000 DYT.....	steady-state.....	95
Truck, Kennworth, W923.....	steady-state.....	92
Truck, Mack F785T.....	steady-state.....	91
Turbine engine - UH1 (shop).....	steady-state.....	116-120
U21A UTE.....	steady-state.....	98
Vacuum cleaner (bowling alley).....	steady-state.....	98-102
Verifier, IBM 56.....	steady-state.....	85
VIPER.....	impulse.....	182 dBP
Water Pump.....	steady-state.....	98
Water purification unit.....	steady-state.....	93-101
Welding Machine, Wilson BAZ00.....	steady-state.....	99
Wissota bench grinder.....	steady-state.....	88-102
Xerox, Copyflo Printer.....	steady-state.....	77

**APPENDIX B  
ORDERING EARPLUGS**

The following are the nomenclatures and NSN for ordering earplugs and earplug cases from Federal Supply Catalog C-6515 IL, 1 Feb 77, page 129, Medical and Surgical Instruments, Equipment, and Supplies.

a. Preformed Earplugs.

(1) Plug, Ear, Hearing Protection, Single-Flange, 24s.

NSN 6515-00-442-4765 (extra small, white)  
 NSN 6515-00-467-0085 (small, green)  
 NSN 6515-00-467-0089 (medium, international orange)  
 NSN 6515-00-442-4807 (large, blue)  
 NSN 6515-00-442-4813 (extra-large, red)

(2) Plug, Ear, Hearing Protection, Triple-Flange, 24s.

NSN 6515-00-442-4818 (regular, international orange)  
 NSN 6515-00-442-4821 (small, green)  
 NSN 6515-00-467-0092 (large, blue)

b. Earplug Case:

Case, Earplug, Plastic

NSN 6515-00-299-8287 (C-6515-IL, page 45)

c. Hand-Formed Earplugs:

(1) Plug, Ear, Hearing Protection Universal Size, Yellow, 400s

NSN 6515-00-137-6345

(2) Plug, Ear, Silicone Rubber, Hearing Protection, Cylindrical, Disposable, 48s and 200s

NSN 6515-00-135-2612  
 NSN 6515-00-133-5416

(3) Plug, Ear, Cotton, Impregnated, Disposable, 100s

NSN 6515-00-721-9092

d. Ear Canal Caps

(1) Plug, Ear, Plastic, Hearing Protection, Universal Size, Single Flange.

NSN 6515-00-392-0726                      Two plugs mounted on a metal adjustable headband enclosed  
 in a plastic tube.

(2) Plug, Ear, Rubber, Hearing Protection, Universal Size, Single Flange.

NSN 6515-00-181-8058                      Two plugs mounted on a metal adjustable headband enclosed in  
 a plastic tube.

**APPENDIX C  
ORDERING EARMUFFS**

The following are the nomenclatures and NSN for ordering earmuffs from the Army Master Data File (AMDF).

- Ear Muffs.
  - Aural Protector, Sound, Type II.
    - NSN 4240-00-022-2946 (AMDF)      Designed to be worn with the suspension system over the back of the head, or under the chin.
    - Aural Protector, Sound, Type I (with communication headset).
      - NSN 5965-00-168-9624 (AMDF)      Model-David Clark 19LB-87, boom-mounted microphone, H-312/AIC.
      - NSN 5965-00-226-7870      Model-David Clark mush-mouth microphone, H-133/AIC

## GLOSSARY

### ABBREVIATIONS

AFGE	American Federation of Government Employees Local 1920
AMDF	Army Master Data File
AR	Army Regulation
DA	Department of the Army
IMA	installation medical authority
NSN	national stock number
USAMEDDAC	United States Army Medical Department Activity

### TERMS

#### **Audiogram**

A medical-legal document of an individual's hearing threshold at certain frequencies when compared to a reference of normal hearing.

#### **Audiometer**

An instrument for measuring hearing threshold. Only audiometers that conform to the requirements and specifications of ANSI Standard S3.6-1989 are used by Department of the Army.

#### **Decibel**

A unit used to express sound pressure level. The dB level of a sound is related to the logarithm of the ration of sound pressure to a reference pressure. The dB has meaning only when the reference quantity is known. The internationally accepted reference pressure in acoustics is 20 micropascals which corresponds to 0 dB. This value is now used in the most current acoustical literature. In the past, other units have been used (that is 20 N/M<sup>2</sup>, 0.0002, microbar, 0.0002 dyne/cm<sup>2</sup>), which are all physically equivalent to 20 micropascals.

#### **dBA**

Sound pressure level measured with a sound level meter meeting requirements of ANSI S1.4 which is set to the A-weighting network.

#### **dBp**

Unit used to express peak sound pressure level of impulse noise equal to 20 times the common logarithm of the ratio of the highest instantaneous sound pressure to a reference pressure of 20 micropascals.

#### **Hazardous noise**

Exposure to sound pressure levels greater than 85 dBA for steady-state noise or exposure to impulse noise levels greater than 140 dBp.

#### **Hazardous noise area**

Any work area where workers are likely to be exposed to sound levels greater than 85 dBA for steady-state noise or impulse noise levels greater than 140 dBp.

#### **Impulse noise**

A short burst of acoustic energy consisting of either a single impulse or a series of impulses. The pressure time history of a single impulse includes a rapid rise to a peak pressure, followed by a somewhat slower decay of the pressure envelope to ambient pressure, both occurring within 1 second. A series of impulses may last longer than 1 second.

**Installation Medical Authority**

The unit surgeon, command chief surgeon, MEDDAC and MEDCEN commanders, and the director of health services or his or her representative who provide medical support at the unit, command or installation concerned.

**Noise**

In the nontechnical sense, any unwanted sound. Noise may be steady, either a pure tone or a complex of tones, or it may consist of one or more impulses. The term is usually applied to sounds having a complex character with numerous separate frequency components extending over a wide range of frequencies and not generated to convey meaning or information.

**Reference audiogram**

The first audiogram obtained (and available) upon entrance to military service or employment with Department of the Army. The term also applies to preplacement, preassignment, entrance, or baseline audiograms.

**Standard threshold shift**

A cumulative shift (over a period of time) in the hearing threshold level of an average of 10 dB or greater at 2000, 3000 and 4000Hz in either ear.

**Steady-state noise**

A periodic or random variation in atmospheric pressure. It may be continuous, intermittent, or fluctuating, with a sound pressure level varying over a wide range, provided such variations have a duration exceeding 1 second.

**Time-weighted average**

That constant noise level in dBA which has the same severity over 8 hours as the exposure to the workday noise. The workday noise environment may or may not last for 8 hours, but the TWA is computed as if the TWA level were present for an 8 hour shift.

The proponent for this regulation is the MEDDAC.

FOR THE COMMANDER:



DANIEL R. ZANINI  
Brigadier General, USA  
Chief of Staff

SCOTT T. LOFGREN  
LTC, SC  
DOIM

DISTRIBUTION:  
IAW FH FORM 1853, S

PLUS: AFZF-IM-ISD-SBP (105)  
AFZF-GT (Reference Library) (2)  
MCXI-PMS-HC (25)