

LESSON 6. HERCULES INSPECTION AND MAINTENANCE CONCEPTS

MMS Subcourse No 151 **Nike Missile and Test Equipment**

Lesson Objective **To provide you with a general knowledge of the purpose, types, frequency, and procedures for inspecting a Nike Hercules system and maintenance concepts including MOS.**

Credit Hours **Two**

TEXT

1. INTRODUCTION.

a. The efficiency and adequacy of Nike support maintenance is largely determined by the sufficiency and serviceability of the Nike equipment in the possession of using units, and the rapidity and efficiency with which responsible Nike Ordnance maintenance units respond to user demands.

b. Effective ordnance support for the Nike system is a combination of the maintenance program conducted at the organizational level and the support maintenance provided by the supporting ordnance units. In effect, it is a partnership with both ordnance and the air defense artillery battalion (using unit) having definite responsibilities with regard to the supply and maintenance of TOE equipment. Neglect or inefficiency on the part of either will cast an adverse reflection on the ordnance support effort, impose demands on ordnance support in the form of unwarranted workloads, and reduce the ability of Artillery to perform its mission.

c. The Artillery is responsible for the proper care, operation, and maintenance of their TOE equipment. Supporting Nike maintenance units can materially reduce their workload by assuring that the Artillery is familiar with and are carrying out their maintenance responsibilities. It is essential that Nike

Ordnance support units provide an effective technical assistance service to the Artillery in order that Artillery personnel remain proficient in the accomplishment of their duties. Similarly, supporting Nike Ordnance units must function proficiently in order to be responsive to Artillery's demands for timely and adequate supply of repair parts and prompt repair of unserviceable equipment. Therefore, frequent examinations and constant surveillance of all aspects of these responsibilities are of vital concern to all Ordnance commanders. This is accomplished largely through periodic inspections of Nike Hercules equipment in the hands of the Artillery and the inspection of supply and maintenance procedures and facilities of Artillery and supporting Ordnance units.

d. Inspections of the Nike system and related supply and maintenance operations of the Artillery are a primary responsibility of the supporting Ordnance direct support unit. These inspections will aid the Artillery by insuring their organizational maintenance is being performed properly.

2. CATEGORIES OF MAINTENANCE.

a. **Nike organizational maintenance.** Nike organizational maintenance is that maintenance normally authorized for, the responsibility of, and

performed by the Air Defense Artillery on equipment in its possession. This maintenance consists of functions and repairs within the capabilities of authorized personnel, skills, tools, and test equipment as prescribed in appropriate Department of the Army TOE's or TD's. It usually includes operation, preventive maintenance, inspection, cleaning, servicing, lubricating, testing, and adjusting as prescribed and authorized in TM 9-1400-250-15/3 and the appropriate checks and adjustments technical manuals. This maintenance will include replacement of chassis and certain parts as authorized by technical manuals which have 12 P or 15 P as the last group of digits in the TM number. (Example: TM 9-1430-250-12P/2/2.) (Organizational maintenance was formerly known as first and second echelon maintenance.) Two levels of maintenance on the Nike system are performed by artillery personnel. This maintenance is accomplished by two distinct skill levels of personnel. The operator or user of the equipment carries a 16 series MOS and performs such tasks as: exercising proper care, use, operation, cleaning, preservation, and lubrication and such adjustment, minor repair, and testing and parts replacement as authorized by the operator and organizational maintenance manuals, tools, and parts list. The other level of organizational maintenance is performed by three specially trained maintenance mechanics assigned to each battery. These MOS are: Defense Acquisition Radar Mechanic (24P), Hercules Fire Control Mechanic (24Q) and Hercules Electronics Mechanic (24U). The TOE authorizes these additional skilled mechanics tools and the 12P or 15P manual authorizes additional parts for the performance of maintenance beyond the capabilities and facilities of the operator level. Maintenance exceeding the authorized organizational category may be performed by organizational maintenance personnel when authorized by the direct support commanders. The Nike direct support commanders should be assured the Artillery has the capability to perform this maintenance before authorization is given.

(1) Missile. Organizational maintenance of the missile electronic guidance section does not include component repair and extends only to replacement of the complete set of those plug-in type parts and/or subassemblies provided as organizational repair parts. The organizational maintenance on missile mechanical items extends only to replacement of parts not requiring the use of special tools or skills beyond those associated with normal missile assembly, servicing, and checkout.

(2) Ground guidance equipment. Organizational maintenance is limited to those repairs and replacements which can be accomplished by tools, test equipment, and repair parts authorized for the Artillery.

(3) Extent of repair. The degree or extent of repairs, replacements, and maintenance performed by the Artillery is limited to that specified and authorized by the appropriate technical publication (TOE or TD and the 12 P or 15 P manual). Unserviceable organizational repair parts are repaired or replaced by direct exchange with the Nike direct support platoon (fig 1), except for those having no reclaimable value (expendable-nonrecoverable).

b. **Nike direct support maintenance.** Direct support maintenance is the maintenance authorized and performed by the Nike direct support platoon (fig 1) in direct support of the Artillery battalion. This category is normally limited to maintenance consisting of repair or replacement of unserviceable parts, subassemblies, or assemblies. This category of maintenance is authorized by appropriate technical publications (TOE's or TD, repair parts, and special tool list) to be performed by specially trained units in direct support of Nike air defense artillery battalions. This category of maintenance is authorized a larger assortment of parts, subassemblies, and assemblies, and more precise tools and test equipment than is provided to the Artillery. Nike direct support organizations repair assemblies and subassemblies and repair the overflow from the organizational category within limits imposed by specified authorization of tools, parts, and test equipment. They also support organizational maintenance by providing technical assistance, mobile repair crews, and repair parts, when necessary.

c. **Nike general support maintenance.**

(1) General support maintenance is that level of maintenance authorized by appropriate technical publications to be performed by units organized as semimobile or permanent shops to serve the lower categories of maintenance. The principal function of general support maintenance is to repair assemblies and subassemblies for return to stock.

(2) General support embraces all assistance within the combat zone or communications zone required to back up the direct support unit. General support maintenance units are provided to receive the overflow of unserviceable materiel from a number of direct support units. These units do not normally have direct contact with Artillery and provide supply support only for organic shop operations. Their mission is to evacuate unserviceable materiel in volume from the direct support unit for repair and return it to stock with a minimum of delay and expense of evacuation and to permit the rapid displacement of the direct support unit. General support maintenance in the zone of the interior,

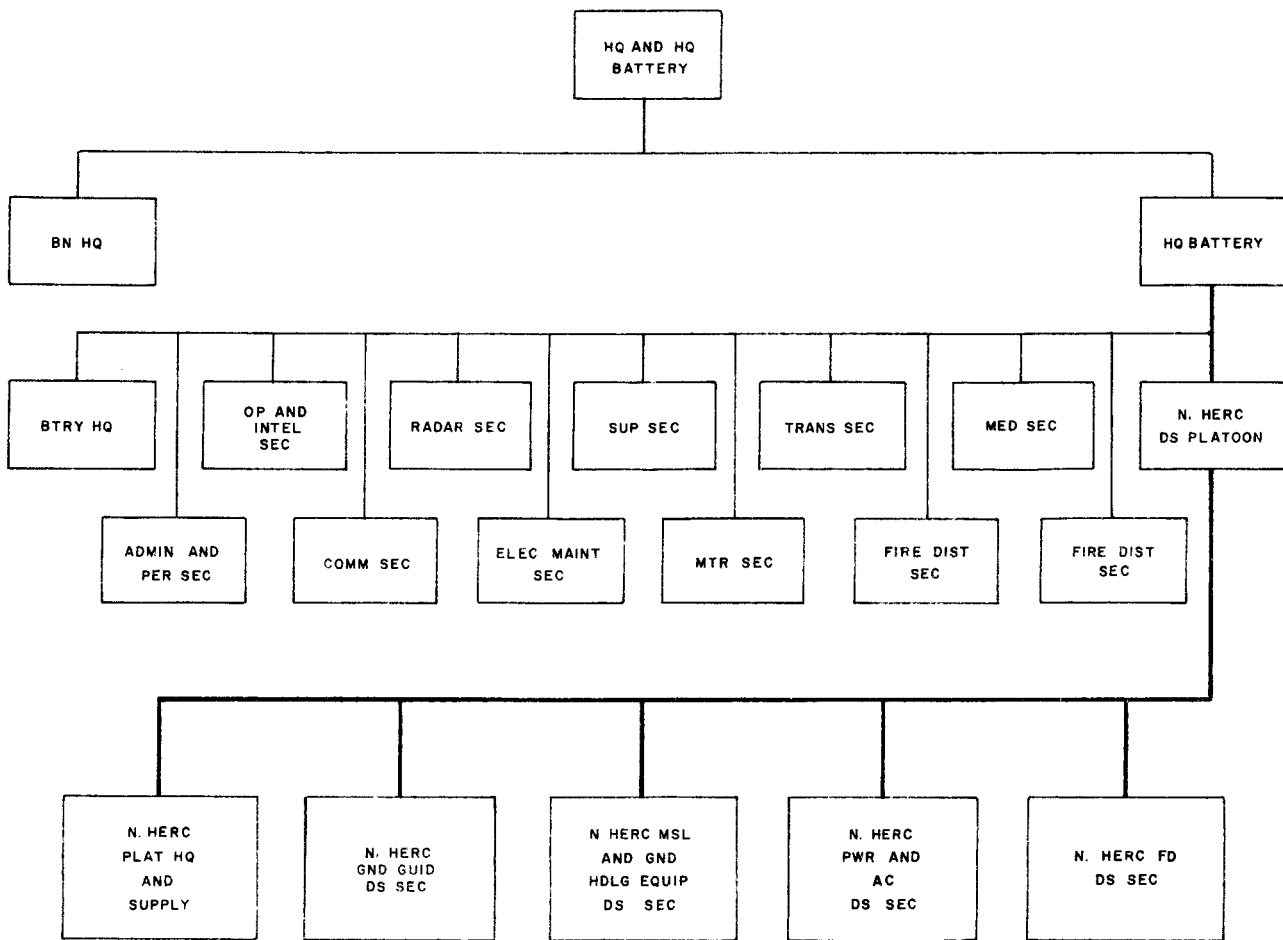


Figure 1. Headquarters and Headquarters Battery Air Defense Artillery Battalion.

if not provided by TOE's, is performed at post-ordnance level. This is usually accomplished by employment of wage board (WB) civilian personnel who possess skills equivalent to those discussed in paragraph 6.

d. Nike depot maintenance. Depot maintenance is that degree of maintenance authorized for rebuilding major items, assemblies, parts, accessories, tools, and test equipment. It normally supports supply on a rebuild and return-to-stock basis. This maintenance is performed on materiel that requires a major overhaul or the complete rebuild of parts, subassemblies, assemblies, and/or the end item, as required. An end item is a combination of components, assemblies, and/or parts which is ready for its intended use. Such maintenance is intended to increase stocks of serviceable equipment or to support lower categories of maintenance by the use of more extensive shop equipment and personnel of higher technical skills than are available in organizational or support maintenance activities.

3. MAINTENANCE ASSISTANCE AND INSTRUCTION TEAM (MAIT) PROGRAM.

a. Technical assistance is available to each category of maintenance through the Maintenance Assistance and Instruction Team (MAIT) program. Its primary purpose is to provide commanders a tool for assisting subordinate units in maintaining materiel and their units at a high state of readiness. Each team is organized from personnel resources with the technical expertise needed to assist commanders in identifying and solving maintenance problems which contribute to unacceptable materiel readiness conditions.

b. It is the responsibility of commanders at all levels to utilize MAIT and other sources available to identify and solve maintenance problems, thereby maintaining their units at a high state of readiness at all times.

c. Maintenance Assistance and Instruction Teams operate and make visits in accordance with procedures as outlined in AR 750-51. No visit is conducted unannounced. Prior arrangements are made with the unit to be visited so that proper team composition may be determined and the unit to be visited can be notified seven working days in advance. Visits are arranged as outlined below.

(1) Command directed based upon determination that assistance is required.

(2) Requested by units requiring assistance and instruction.

(3) Requested by an organization desiring assistance and instruction for its subordinate units.

d. MAIT's are organized to provide assistance and instruction in all phases of maintenance and supply and in the general areas of management, training, publications, shop layout and production, and quality control.

e. Emphasis of the visit will be to identify underlying problems in areas needing improvements and provide the "what to do" and "how to do" in those areas. No rating or score will be made of a unit. The team chief will advise the unit commander on recommended follow up actions and provide a list of problem areas.

4. ORGANIZATION OF THE NIKE BATTALION.

There are several organizations which exist for the operation, use, and maintenance of the Nike equipment. It is beyond the scope of this lesson to cover each of these concepts in detail; however, the Headquarters and Headquarters Battery Air Defense Artillery Battalion, which is organized under TOE 44-536, will be covered. Its mission is to provide command, administration, supply, organizational maintenance and operation control for the air defense artillery battalion, Nike Hercules, in its surface to air and surface to surface role. This battalion commands four firing batteries, each battery being supported by the Nike direct support platoon. The organizational chart for this battalion is shown in figure 1. In this organization the Nike Hercules direct support platoon, shown by the heavy lines in figure 1, is organic to the battalion and is responsible for direct support maintenance of the Nike radars, computer, missile, launcher, and handling equipment in the four firing batteries of the battalion. It is also responsible for organizational maintenance of its own shop equipment.

5. NIKE DIRECT SUPPORT PLATOON.

a. The four Nike Hercules missile firing batteries are serviced by the Nike direct support platoon (fig 1). Nike direct support is that ordnance service (maintenance and supply) rendered the Artillery on class VII and IX materiel. The complete missile body with explosives and propellants in one or more packages is considered an ammunition item (class V) and is handled through ammunition supply channels. However, the direct support platoon performs maintenance on missiles (less the warhead). All user needs including maintenance service, supply service inspection, instruction in the proper care and handling, and assistance in operation, where required, are normal direct support functions. The direct support platoon has the capability of supplying parts and performing direct support maintenance for all Nike equipment assigned to the Air Defense Artillery missile battalion. It is equipped and trained to detect and isolate malfunctions and to perform repairs of assemblies and subassemblies in the combat zone immediately adjacent to the units supported. The Nike direct support platoon is provided transportation and its equipment is mounted in such a manner to allow it to make a move simultaneously with the battalion when given a minimum of 4 hours' notice.

b. Execution of the direct support mission through the medium of contact teams is followed to the extent practicable. Direct support platoons are organized and equipped with a supply of fast moving repair parts, organizational replacement items, and support maintenance tools to carry emergency repair service to the battery emplacement. Their repair capability is emergency in nature and includes isolation of failure to chassis-type assemblies and the replacement of unserviceable chassis with serviceable ones. Component repair, except of a minor nature, is performed at the direct support shop.

c. A direct exchange stock is maintained by the direct support platoon. From this stock certain unserviceable subassemblies and chassis in the hands of the Artillery are exchanged directly for a serviceable replacement. Unserviceable materiel not immediately repairable due to lack of time, tools, skills, or volume is evacuated to the general support maintenance unit. A maintenance float based upon known average deadline percentage is provided at the general support level for the replacement of evacuated materiel.

d. Enforcement of organizational maintenance is a command responsibility of all levels. The Nike direct

support platoon unit is delegated the responsibility of performing periodic technical inspections of Nike equipment to insure its adequate care and preservation by the Artillery. It is also the responsibility of the Nike direct support platoon commander, in accordance with the assigned maintenance mission, to advise, assist, and instruct Artillery personnel in proper maintenance and supply discipline and procedures.

6. NIKE HERCULES ORDNANCE PERSONNEL.

a. General. Ordnance, Signal, and Engineer personnel are assigned to the Nike direct support platoon (fig 1). The platoon leader (missile maintenance officer, MOS 4516), supply, administrative, and staff personnel are assigned to the Nike Hercules platoon headquarters. Ordnance trained specialists are assigned to the Nike Hercules ground guidance DS section, and the Nike Hercules missile and handling equipment DS section (fig 1). Engineer trained personnel are assigned to the Nike Hercules power and air-conditioner DS section while Signal trained personnel are assigned to the Nike Hercules fire distribution section.

b. Military occupational specialty (MOS). Ordnance personnel assigned to the direct support platoon have one of the following basic MOS's: 22G20, 22L20, 22M20, 23N20, or a 23U20. Each man holding one of these MOS's must have definite skills, and there exists chains of progression which can lead him to a warrant officer MOS 251B. The prefix digits in the MOS, i.e., 22 or 23, indicates the occupational area and career group. The 22 indicates guided missile electronic maintenance and 23 indicates missile fire control electronic maintenance. The alpha character indicates the state of advancement. The "A" indicates entry level and the "B" through "Y" normally indicate advancement level. "Z" and sometimes other alpha characters in the missile field indicates a capper MOS. A capper MOS is the top progression in the chain for enlisted personnel and this MOS normally supervises two or more advanced specialists. The grade held by each of these MOS should vary with his degree of knowledge, skill, and responsibilities. The last two digits of the MOS indicate these skill levels. The grade held in each level may vary two or three steps within each MOS; i.e., personnel with a 20 skill level MOS may advance from E4 through E6 depending on his knowledge, skills, and duties. When the E6 grade foreman is reached, he has advanced to the 40 skill level and may then advance to warrant officer 251B or remain in the enlisted field and obtain the capper MOS, which is a 23W50 for the Nike Support Maintenance field. The 23W50 may be an E7 or E8 depending upon his level of proficiency and assignment.

The 23W50, E7 is a Nike maintenance supervisor, while the E8 may be either a Nike maintenance chief or first sergeant.

c. Nike Hercules missile and ground handling equipment DS section personnel. Under TOE 44-536 this section, at full strength, consists of 22 positions which include the following MOS:

MOS	Title
251-B	Air Defense Missile System Repair Technician, Nike

Skills and Knowledges

Must know operation, function, troubleshooting procedures, repair and maintenance of AD missiles and associated ground guidance equipment, including electrical, electronic, mechanical, electromechanical, hydraulic, and hydropneumatic systems. Must know principles and utilization of special electronic test equipment. Must know theory and function of vacuum tubes, transistors, solid state devices, and associated circuits and circuit elements. Must know safety precautions to be utilized in the handling and storing of missiles, propellants, and warheads and in working near high voltages. Must know application of advanced electronic theory and system analysis procedures in diagnosis of complex malfunctions. Must know organizational maintenance responsibilities of supported units. Must know ordnance supply channels for replacement and spare parts. Must be able to act as chief of section, detachment, or team engaged in field and depot maintenance of air defense missile systems.

MOS	Title
23W50	Nike Maintenance Chief

Skills and Knowledges

Must be qualified in a Nike maintenance MOS. Must know capabilities and limitations of maintenance equipment and subordinate personnel in order to establish workloads and repair priorities. Must know administrative procedures, command, and supply channels of unit to which assigned. Must know pertinent technical manuals, regulations, and inspection techniques applicable to Nike launcher control, radars, computers, guidance systems, and associated test equipment. Must know general shop planning and be able to recommend establishment of procedures for receipt, storage, inspection, testing, and repair of Nike

system electrical and mechanical components. Must know technical mission, maintenance responsibilities, and operation of supported and supporting units. Must know function and limitations of missile system contact teams. Must know capabilities and limitations of missile repair shops attached to missile firing battalions. Must be able to organize and direct section maintenance activities to include both shop and contact team maintenance. Must be able to organize and supervise inspection and maintenance teams. Must be able to diagnose and evaluate malfunctions to determine seriousness of malfunction, length of time, tools and parts required to repair equipment or component, and whether such maintenance and repair can be accomplished by direct or general support. Must be able to coordinate maintenance activities of organizational and higher level repair personnel. Must be able to conduct on-the-job training programs. Must be able to apply sound management principles, coordinate repair activities, and maintain a high level of unit cooperation and productivity. Must be able to provide technical guidance to maintenance personnel performing complex repairs on missile equipment. Must be able to supervise modification of equipment and provide on-the-job maintenance training of modified equipment. Must be able to read and utilize TOE, TD, TA, and supply manuals.

MOS	Title
22G	Nike Launcher System Repairman

Skills and Knowledges

22G20. Must know nomenclature, location of components, function, theory, and operating procedures of the Nike launcher system electrical, electronic, and mechanical equipment and associated test equipment. Must know maintenance procedures for all associated field maintenance test equipment and field maintenance special test equipment. Must know inspection and maintenance procedures for Nike launcher system electrical, electronic, and mechanical equipment. Must know repair and replacement procedures. Must be able to adjust and test repaired components or combinations of components. Must be able to apply electrical, electronic, and mechanical theory, and system analysis procedures in diagnosis and isolation of malfunctions, operation, adjustments, and field maintenance repair of mechanical type IV test equipment, except field maintenance electronic test equipment. Must be able to interpret electronic and electrical schematic diagrams, mechanical system diagrams, and understand pertinent technical literature. Must be able to use electrician's and mechanic's common and special handtools.

22G40. Must be qualified as Nike Launcher System Repairman 22G20. Must know general shop planning and be able to recommend establishment of procedures for receipt, storage, inspection, testing, and repair on Nike launcher system electrical, electronic, and mechanical components, and know the capabilities and limitations of maintenance equipment and subordinate personnel in order to establish workload priorities. Must know how to organize and supervise inspection and maintenance teams.

MOS	Title
22M	Nike Missile Repairman

Skills and Knowledges

22M20. Must know nomenclature, function, and operation of Nike missile electronic field maintenance test equipment. Must know organizational and field maintenance of Nike missile test equipment. Must know operation and adjustments of field maintenance mechanical and hydraulic test equipment and the procedures necessary to perform final checkout of repaired Nike missiles. Must know organizational maintenance and inspection procedures pertinent to the Nike missile. Must know organizational maintenance in order to instruct operating and organizational maintenance personnel. Must be able to repair and replace all Nike missile components and structural assemblies. Must be able to apply electronic theory and system analysis in diagnosis and isolation malfunctions. Must be able to understand pertinent technical publications and interpret electronic circuitry diagrams. Must be able to apply modification work orders pertaining to the missile test equipment, organizational maintenance equipment, and Nike missiles. Must be able to use electrician's and mechanic's common handtools.

22M40. Must be qualified as Nike Missile Repairman 22M20. Must know general shop planning, procedures for receipt, storage, inspection, test, and repair of Nike missile components. Must know capabilities and limitations of maintenance equipment and subordinate personnel. Must be able to inspect, instruct, and report on the status of organizational maintenance of Nike missiles.

d. **Miscellaneous personnel in the ground handling DS section.** Additional MOS allotted to this section are Missile Mechanical Repair Apprentice 46A and Power Generation Specialist 52B. The 52B MOS performs organizational and higher level maintenance and repair on portable generator sets and frequency

converters equipped with electric motors, diesel, gasoline, or gas turbine engines.

e. **Nike Hercules ground guidance DS section personnel.** This section is allotted a warrant officer 251B, an enlisted capper MOS 23W, an apprentice 22A, and power generation specialist as described in paragraphs 6c and d. The main work functions of this section, however, are performed by the personnel having the following MOS and skills.

MOS	Title
22L	Nike Test Equipment Repairman

Skills and Knowledges

22L20. Must know operation, inspection, testing, comparison, adjustment, repair, nomenclature, and organizational and field maintenance procedures for Nike electronics shop 1, 2, and 3. Must know how to test, compare, adjust, repair, and perform field maintenance of all chassis and electronic test equipment checked in these shops. Must be able to apply electronic theory and system analysis procedures in diagnosis and isolation of malfunctions. Must be able to apply modification work orders applicable to Nike electronics shops. Must be able to understand pertinent technical publications and use electrician's and mechanic's common and special handtools.

22L40. Must be qualified as Nike Test Equipment Repairman 22L20. Must know general shop planning and procedures for receipt, storage, inspection, testing, and repair of using unit test equipment. Must know capabilities and limitations of maintenance equipment and subordinate personnel in order to establish workloads and repair priorities. Must know administrative procedures and command and supply channels of unit to which assigned.

MOS	Title
23N	Nike Track Radar Repairman

Skills and Knowledges

23N20. Must know nomenclature, construction, components, function, theory, and operating procedures of Nike LOPAR, TTR, TRR, MTR, and computer pertinent to repair or removal of faulty parts, components, and adjustment and alinement of repaired components. Must know operation and adjustment of test equipment. Must know inspection and maintenance procedures for Nike LOPAR, TTR, TRR, MTR, computer, and associated

test equipment. Must be able to apply electronic theory and system analysis procedures for diagnosis and isolation of malfunctions. Must be able to interpret electronic schematic diagrams and understand pertinent technical literature. Must be able to use electrician's common and special handtools.

23N40. Must be qualified as Nike Radar Repairman 23N20. Must know general shop planning and procedures for receipt, storage, inspection, testing, and repair of Nike LOPAR, TTR, TRR, MTR, and computer components, and combination of components. Must know administrative and supply procedures. Must be able to instruct subordinates in on-the-job training programs. Must know capabilities of maintenance equipment and subordinate personnel in order to establish workload priorities.

MOS	Title
23U	Nike HIPAR-Simulator Repairman

Skills and Knowledges

23U20. Must know nomenclature, location of components, function, theory, and operating procedures of Nike HIPAR, radar target simulator, and associated organizational maintenance equipment and test equipment for isolation of faulty parts or components. Must know operation and adjustment of test equipment. Must know inspection and maintenance procedures for Nike HIPAR, radar target simulator, and associated test equipment. Must be able to apply electronic theory and system analysis procedures for diagnosis and isolation of malfunctions. Must be able to modify equipment in accordance with modification work orders. Must be able to use electrician's common and special handtools.

23U40. Must be qualified as Nike HIPAR-Simulator Repairman 23U20. Must know general shop planning and procedures for receipt, storage, inspection, testing, and repair of Nike HIPAR and radar target simulator. Must know administrative and supply procedures. Must know capabilities of maintenance equipment and subordinate personnel. Must be able to instruct subordinates in on-the-job training programs.

f. **Nike Hercules platoon headquarters and supply personnel.** The platoon is led by a Missile Maintenance Officer 4516. Various other positions are allotted the platoon headquarters which include supply specialists, administrative (clerical) personnel, wheeled vehicle mechanics, and a cook.

7. ARTILLERY BATTALION MAINTENANCE INSPECTIONS.

a. **Purpose of inspections.** Inspections serve many purposes, the most important of which are to assist Artillery commanders in determining the ability of units to perform their assigned missions; inform commanders of the condition of materiel in the hands of troops; inform commanders of the adequacy and efficiency of supply and maintenance operations, and the ability of personnel performing these duties; improve relations and confidence between Artillery and supporting Ordnance units; assist in predicting future maintenance and supply requirements; aid in detecting impending failures in equipment before unserviceability results; aid in determining the need for improvements in training, procedures, organization, or equipment; and provide a basis for making decisions.

b. Types of Inspection.

(1) **Introduction.** Inspections include tactical and training, annual general, command, spot check, and technical inspections. The Command Maintenance Management Inspection (CMMI) has been replaced by the Maintenance Assistance and Instruction Team Program (MAIT). The MAIT, as discussed in para 3, is not to be considered an inspection, rather an aid to commanders in evaluating their maintenance program.

(2) **Tactical and training inspections.** These inspections are used to improve combat efficiency, to determine the state of training and the degree of operational readiness of the inspected units, to remove obstacles to training, and generally to further the Department of the Army training program.

(3) **Annual general inspections.** These inspections, provided for by AR 20-1, are performed by inspectors general acting under the special instructions of major commanders. They are conducted on a yearly basis and cover the administrative, operational, logistic, tactical, and security portions of the unit being inspected. For the unit in the field, the basic purpose of annual general inspections is to insure high standards of discipline, efficiency, and economy.

(4) **Command inspections.** Actually, all inspections are a command function as they are conducted under command authority. However, one characteristic of a command inspection is that the commander personally participates. Command inspections are performed on an annual basis, however, they may be conducted as frequently as the commander believes it to

be necessary. The commander is assisted by an inspection team composed of staff members, technical assistants, or both if appropriate. These inspections may be conducted "formally" by giving advance notice and using an established inspection procedure; or they may be "informal" by inspecting a unit at any opportune time and place without a set procedure. These inspections are a valuable aid in determining the efficiency of the preventive maintenance program; in determining whether mess, supply, administrative and maintenance procedures meet prescribed standards; in determining whether equipment is serviceable and whether it is being used properly; in evaluating the efficiency of operations; in determining whether directives and established procedures are being complied with; and in determining the operational readiness of personnel and equipment. DA Pam 750-1 provides valuable information for the conduct of preventive maintenance inspections. AR 220-1 provides commanders at all levels with a uniform method of evaluating serviceability of equipment issued to units.

(5) **Spot-check inspection.** A spot-check inspection is an informal type of inspection and is not required by Army Regulations, however, it is frequently used by commanders to determine the adequacy and effectiveness of their organizational maintenance. Spot-check inspections are performed by technically qualified personnel and the equipment is inspected wherever it is used (roadside, motor park, training area, etc.). This type of inspection will provide the commander with an indication of the day-to-day condition of his units equipment. It will also provide the following information:

- (a) Availability of required publications.
- (b) Accuracy of supply records and supply procedures.
- (c) Supply economy practices.
- (d) Care of tools and equipment.
- (e) Status of authorized stock levels of equipment and repair parts.

(6) **Technical inspections.** These inspections are performed on major items of equipment to determine their physical condition and, if necessary, to recommend corrective action. Technical inspections are always performed by qualified maintenance personnel. Technical inspection of equipment is normally performed

under the following circumstances:

(a) Upon acceptance of the equipment from the factory.

(b) Upon receipt of equipment at each level down to the user or operator.

(c) When there is a change of command, to prevent erroneous fixing of responsibility.

(d) Whenever equipment is turned in to a support shop for repair or modification.

8. **SUMMARY.** This lesson covered the categories of maintenance for the Nike system and some of the duties and responsibilities of personnel trained to discharge these duties. At the organizational level there are the 16

series MOS's which are the crewmen or operators of the Nike system and the 24P, Q, and U who are the maintenance mechanics. These personnel are trained to perform organizational maintenance on the fire control, missile, and launcher equipment. The enlisted support maintenance personnel are assigned to the direct support platoon and hold MOS's 22A, 22G, 22L, 22M, 23N, 23U, and 23W. Also assigned to this platoon are the Warrant Officer 251B, Air Defense Missile System Repair Technician, Nike and the MOS 4516 Missile Maintenance Officer. This lesson also dealt with inspections and the Maintenance and Assistance Instruction Team (MAIT). Inspections are a valuable tool for informing commanders as to the condition of their men and materiel, while MAIT provides expert and valuable assistance in correcting any supply or maintenance problem.

EXERCISES FOR LESSON 6

1. Which would be a primary cause of unwarranted workloads being imposed on a Nike direct support maintenance unit?
 - A. Inadequate organizational maintenance
 - B. Inadequate supply of direct support repair parts
 - C. Untrained ordnance personnel
 - D. Inadequate general support
2. Under which condition should a Nike direct support commander authorize the Artillery to perform maintenance which falls within the direct support category?
 - A. Never
 - B. When the DS sections are overworked
 - C. When the Artillery has the capability
 - D. When the artillery wants to perform the maintenance
3. Which is NOT a function of Nike organizational maintenance?
 - A. Inspecting
 - B. Adjusting
 - C. Replacing parts
 - D. Rebuild
4. What should be done with overflow work at the Nike direct support level?
 - A. Backlogged
 - B. Evacuated to general support
 - C. Evacuated to depot
 - D. Performed by organizational
5. Which maintenance should be performed by the Artillery on the electronic guidance section of the Nike Hercules missile?
 - A. Component repair
 - B. Components requiring special tools
 - C. Plug-in type replacement parts or subassemblies
 - D. Replacement of parts associated with assembly, servicing, and checkout
6. Which MOS is the Artillery's Hercules fire control mechanic?
 - A. 23N
 - B. 24P
 - C. 24Q
 - D. 24U
7. Which category of maintenance has the primary mission to evacuate unserviceable materiel, repair it, and return it to stock?
 - A. Organizational
 - B. Direct support
 - C. General support
 - D. Depot
8. Which technical assistance is provided under the provision of Army Regulation 750-51?
 - A. Manufacturer's representatives
 - B. Maintenance assistance and instruction team
 - C. Regional maintenance representatives
 - D. Contract field technicians
9. Most component repair performed by the Nike direct support platoon is performed at which location?
 - A. Nike installation
 - B. Emergency contact unit
 - C. Electronic shop 3
 - D. Direct support shop
10. What is indicated by the prefix digits of the enlisted personnel MOS?
 - A. Occupational area and career group
 - B. Skill level and job specialty
 - C. Advancement level
 - D. Entry level
11. The 23U MOS is responsible for support maintenance on which equipment?
 - A. HIPAR and radar target simulator
 - B. LOPAR and computer
 - C. TTR, TRR, and MTR
 - D. Launcher electrical and mechanical

12. Which MOS personnel should be used to operate electronic shop 3?
- A. 23N20
 - B. 23U20
 - C. 22L20
 - D. 22G20
13. What is the main purpose of MAIT?
- A. Insure materiel readiness
 - B. Inspect supply procedures
 - C. Inspect maintenance procedures
 - D. Rate unit maintenance activities
14. What type inspection is performed upon receipt of new equipment from the manufacturer?
- A. Tactical
 - B. Technical
 - C. Command
 - D. Acceptance
15. Which inspection covers administrative, logistic, and security aspects of unit operations?
- A. Command
 - B. Tactical
 - C. Technical
 - D. Annual general