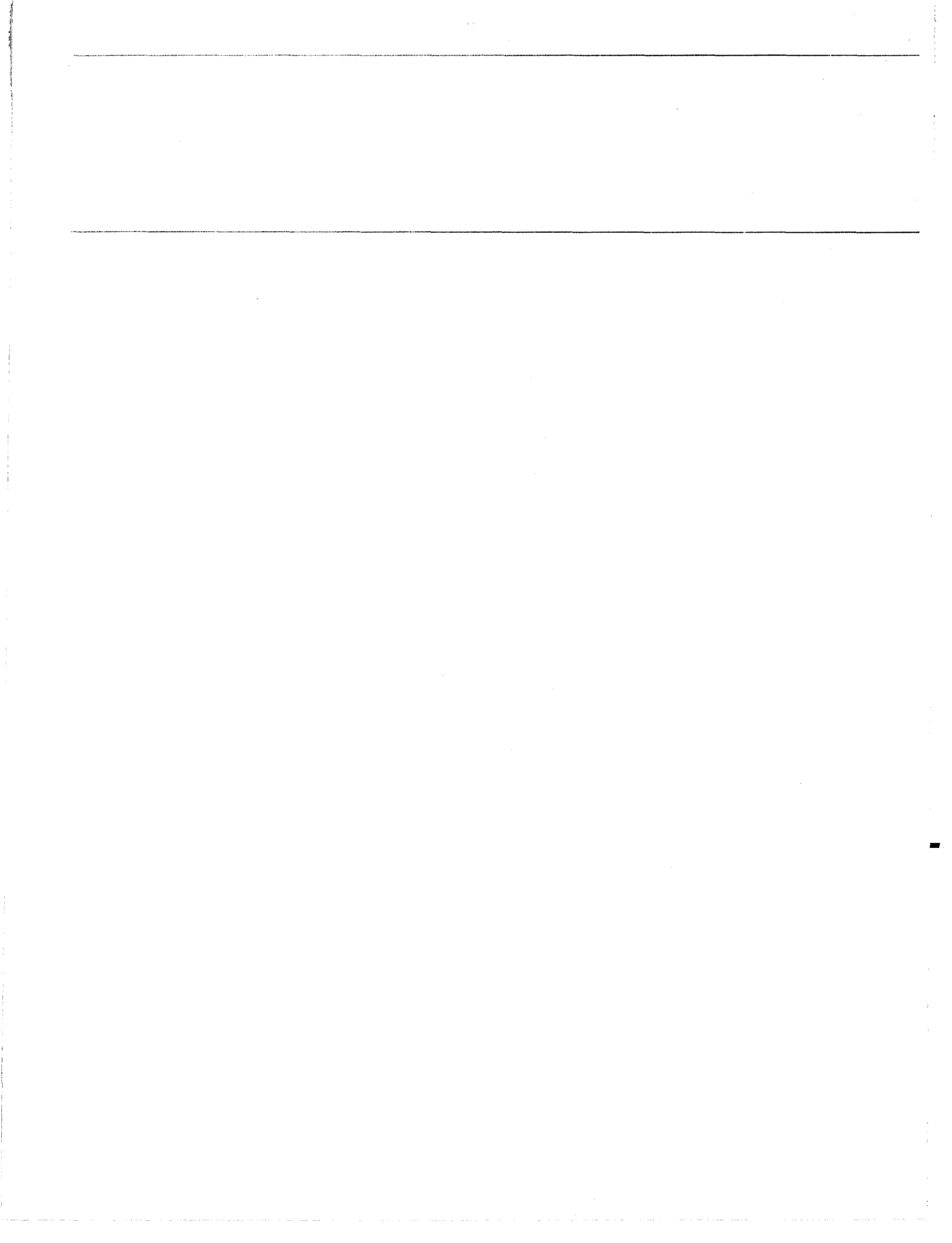


July 1989

# ARMY MAINTENANCE

## General Support Maintenance Units Not Prepared to Perform Wartime Missions







United States  
General Accounting Office  
Washington, D.C. 20548

**National Security and  
International Affairs Division**

B-226358

July 17, 1989

The Honorable John O. Marsh, Jr.  
The Secretary of the Army

Dear Mr. Secretary:

Army maintenance is a key ingredient in the readiness of U.S. defense forces. This report shows that the Army's general support maintenance units are not prepared to perform wartime missions.

The report contains recommendations to you. As you know, 31 U.S.C. 720 requires the head of a federal agency to submit a written statement on actions taken on our recommendations to the House Committee on Government Operations and the Senate Committee on Governmental Affairs not later than 60 days after the date of the report. A written statement must also be submitted to the House and Senate Committees on Appropriations with an agency's first request for appropriations made more than 60 days after the date of the report.

We are sending copies of this report to the Chairmen of the above Committees; the Secretary of Defense; the Director, Office of Management and Budget; and the Chairmen, House and Senate Committees on Armed Services.

GAO staff members who made major contributions to this report are listed in appendix III.

Sincerely yours,

Richard Davis  
Director, Army Issues

# Executive Summary

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## Purpose

Efficient, effective, and economical maintenance of equipment is essential to the readiness of U.S. forces. The Army spends over \$5 billion annually on maintenance and supply operations to ensure that its units and their equipment are ready to perform in wartime. General support maintenance, one of the Army's four maintenance levels, provides important repair support to sustain critical combat and combat-support equipment. GAO evaluated the management and operation of the general support maintenance program to determine how well the Army was preparing active general support units to perform their wartime missions.

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## Background

Force readiness is highly dependent upon the quality and timeliness of equipment maintenance, the success of which is measured by how long equipment remains in operation and how quickly it can be restored to service. General support maintenance, which is performed in fixed or semi-fixed facilities, includes providing repaired or rebuilt pieces of equipment to the supply system for future use and backup support to lower level direct support units. Its fundamental purpose is to support the Army's supply system through the repair of equipment and components. In their direct support backup role, general support units perform direct support-level repairs (such as removing and replacing an engine) on reparable items, components, or end items as necessary to return them quickly to the user or to the supply system in ready condition.

In wartime, general support maintenance will be performed primarily by military maintenance personnel. However, in peacetime, such maintenance is primarily performed by civilians. Currently there are 9 active Army general support maintenance companies and about 100 civilian maintenance activities in the United States that are authorized to perform general support maintenance. The Army, for a number of years, has performed studies and assessed ways to improve the training and proficiency of military general support maintenance units and personnel.

For general support maintenance units to operate effectively and meet mission needs, the Army wants them to (1) know the types of equipment they will be required to repair in wartime, (2) have peacetime work loads aligned with their wartime missions, and (3) spend a sufficient amount of time performing "hands-on" general support-level repairs.

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## Results in Brief

The Army's active general support maintenance units are not effectively preparing in peacetime for their wartime missions. In most cases, these

general support units did not know what units they would be supporting or the equipment they would be expected to repair in wartime. Additionally, most military units and personnel were not repairing the types of equipment they would be expected to repair in wartime. These problems are compounded by the fact that, contrary to Army standards, general support maintenance personnel generally spend less than 50 percent of their time on maintenance functions. Finally, the Army has no method or system for evaluating the training or proficiency of general support maintenance personnel or units.

In view of these conditions, GAO believes that the Army does not have assurance that active general support maintenance units could perform effectively in wartime.

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## Principal Findings

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### Wartime Mission Guidance Provided to Units Is Inadequate

Unit commanders had not been provided with sufficient wartime mission guidance for them to establish training programs that would prepare general support units for their wartime missions. As a result, maintenance managers did not know what combat or combat-support units the general support units would be working for or what equipment they would be expected to repair in wartime. The Army has also been concerned about problems in this area and has initiated certain actions to improve wartime mission guidance.

### Peacetime Work Load Not Keyed to Expected Wartime Role

GAO found that, contrary to Army doctrine, peacetime work loads of general support military units were not oriented toward the repair of the high priority, force modernization equipment that units will be expected to repair in wartime. Rather, some units, partially because of insufficient training, experience, tools, and test equipment, were (1) working on older, lower priority equipment and (2) performing large amounts of lower level maintenance repair. For example, at two of the units GAO visited, the general support work load consisted primarily of equipment repairs on the M151 1/4-ton truck and the M880 1/4-ton truck, both of which are being replaced by newer, more modern equipment. At these same two units, the majority of their work load consisted of lower level direct support maintenance. Higher priority equipment maintenance was not assigned to general support military units but to civilian maintenance activities.

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### Units May Not Be Spending Enough Time on General Support Maintenance Activities

General support maintenance personnel may not be spending sufficient amounts of time performing the general support-level tasks necessary for them to obtain the training and to develop the proficiency needed to fulfill their wartime roles. The Army expects the majority of such training and proficiency to be obtained at the general support unit through on-the-job training. The Army's standard is that 50 percent of maintenance personnel's time will be spent performing maintenance work. However, with few exceptions, the reported use of military general support mechanics was notably lower than the Army's standard of 50 percent of their available time. For example, at one location the reported average for a 6-month period was 37 percent of available time.

According to maintenance managers, other demands on the time of maintenance personnel, such as military training, temporary duties, and post details, have contributed to the less-than-acceptable utilization rates and have prevented units from performing fully their peacetime missions. Although some of these activities are unavoidable, the Army considers time spent doing activities unrelated to maintenance as nonproductive.

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### Better Methods Needed for Documenting and Evaluating Maintenance Proficiency

The Army does not have a system that adequately evaluates the proficiency of either individuals or units to perform general support-level maintenance. Without such a system, Army maintenance managers at all levels lack the necessary information to evaluate the capability of general support maintenance units. Army training policy requires all commanders and leaders to (1) ensure that soldiers attain and maintain skill proficiency and (2) continuously evaluate the status of individual and unit training.

At the units GAO visited, maintenance managers told GAO that they use various tests and programs to evaluate individual and unit proficiency. Although these proficiency evaluation techniques are consistent with Army training policy and regulations, they do not provide an adequate evaluation of the proficiency of general support maintenance mechanics or units because they do not include assessments of many general support-level maintenance tasks.

For example, skill qualification tests, which measure individual proficiency in performing critical tasks related to the soldier's primary occupational specialty, primarily tested direct support-level maintenance tasks but contained very few test questions covering general support-level tasks. These tasks differ significantly in that direct support work,

for example, simply involves removing and replacing an engine, whereas general support work involves repairing or overhauling an engine as necessary.

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## Recommendations

GAO recommends that the Secretary of the Army take several actions, including the following:

- Provide adequate wartime mission guidance to general support maintenance unit commanders indicating the units and types of equipment they will be expected to support in wartime.
- Direct installation maintenance managers to create opportunities for training general support maintenance units by assigning them general support tasks. As these units become proficient, assign them more of the higher priority force modernization equipment they will be expected to repair in wartime.
- Curtail non-maintenance activities that result in general support maintenance personnel's spending less-than-acceptable amounts of time performing "hands-on" general support maintenance repairs.
- Develop methods for evaluating general support maintenance proficiency, including (1) the testing of individual soldiers performing actual general support-level repairs and (2) the addition of general support-level maintenance tasks to soldier job books and soldier manuals.

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## Agency Comments

The Department of Defense agreed with all of GAO's findings and recommendations (see app. II). In its comments, the Department provided additional information and clarification on (1) the total number of civilian maintenance activities authorized to perform general support repairs and (2) the factors to be considered when computing personnel utilization percentages. GAO revised its report to include the Department's comments, where appropriate.

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**Abbreviations**

CONUS	Continental United States
DCSLOG	Deputy Chief of Staff for Logistics
DOD	Department of Defense
DOL	Director of Logistics
DS	direct support
FORSCOM	Forces Command
GAO	U.S. General Accounting Office
GS	general support
HEMCO	heavy equipment maintenance company
IGS	intermediate general support
LEMCO	light equipment maintenance company
USAREUR	United States Army, Europe

# Introduction

The Army spends over \$5 billion annually to support maintenance and supply operations so that Army units are operationally ready to perform their assigned wartime missions. To achieve this, the Army must ensure that military units retain a maintenance support capability and that their personnel have the skills needed to provide high quality and timely equipment maintenance repairs in peacetime.

The Army has four levels of equipment maintenance, ranging from the very basic preventive maintenance performed at the unit level to the industrial type of maintenance performed at the depot level. Intermediate maintenance at the general support (GS) and direct support (DS) levels provides important interim repair and replacement of equipment on components and end items. Items repaired at the GS-level are generally returned to the supply system for ready exchange to replace unserviceable equipment.

## Army Maintenance System and Doctrine

Military maintenance policy, which is set by the Department of Defense (DOD), generally requires that all weapons and equipment be maintained in a state of operational readiness that meets the mission requirements of the operating, strategic, or tactical elements at the least total cost consistent with readiness and sustainability goals.

Overall management of Army maintenance activities is centered in the Army's Office of the Deputy Chief of Staff for Logistics (DCSLOG). DCSLOG is responsible for policy development and the supervision of logistics organizations, operations, and systems worldwide including logistics readiness, planning, policies, and resource determination. Major Army commands, such as U.S. Forces Command (FORSCOM) and U.S. Army, Europe (USAREUR), are responsible for implementing these maintenance policies and practices.

The major commands are required by regulation to perform management oversight of maintenance activities and emphasize the importance of maintenance to the overall readiness of their forces. Major commands should ensure that commanders at all levels are accountable for conducting maintenance operations and reporting the results to higher headquarters. Commanders should ensure that maintenance operations at all levels within their commands are properly supervised; training programs are established; and timely and accurate cost, readiness, and maintenance data is provided to management.

Army maintenance policy requires that maintenance be performed at the lowest authorized level. Starting in fiscal year 1985, the Army attempted to change its maintenance system from a four-level system to a three-level system, but it continued to retain four levels by keeping distinct direct and general support maintenance units. In September 1988, the Army reaffirmed the four-level system as the Army's official maintenance structure to better align doctrine with reality. The four maintenance levels are as follows:

- Organizational level: At this level, equipment operators and unit mechanics perform preventive maintenance; make minor repairs; replace modules and parts; and inspect, lubricate, clean, and preserve equipment.
- Direct support level: Repair at this level is intended to be performed at forward-deployed areas during wartime. It consists of the replacement of unserviceable parts, major subassemblies, and modules. Maintenance personnel also isolate equipment malfunctions and perform light body repairs. DS repairs include removing and replacing engines, transmissions, or water pumps.
- General support level: Maintenance at this level is performed in fixed or semi-fixed facilities. Components are repaired and rebuilt in support of the theater supply system and lower maintenance levels. Heavy body repairs are made to major equipment, and technical assistance is provided to lower level units. GS-level repairs include repairing or rebuilding engines or transmissions as necessary.
- Depot level: At this level, the life of equipment is extended through restorative maintenance, such as the complete overhaul of components (engines and transmissions) and end items (trucks, tanks, etc.).

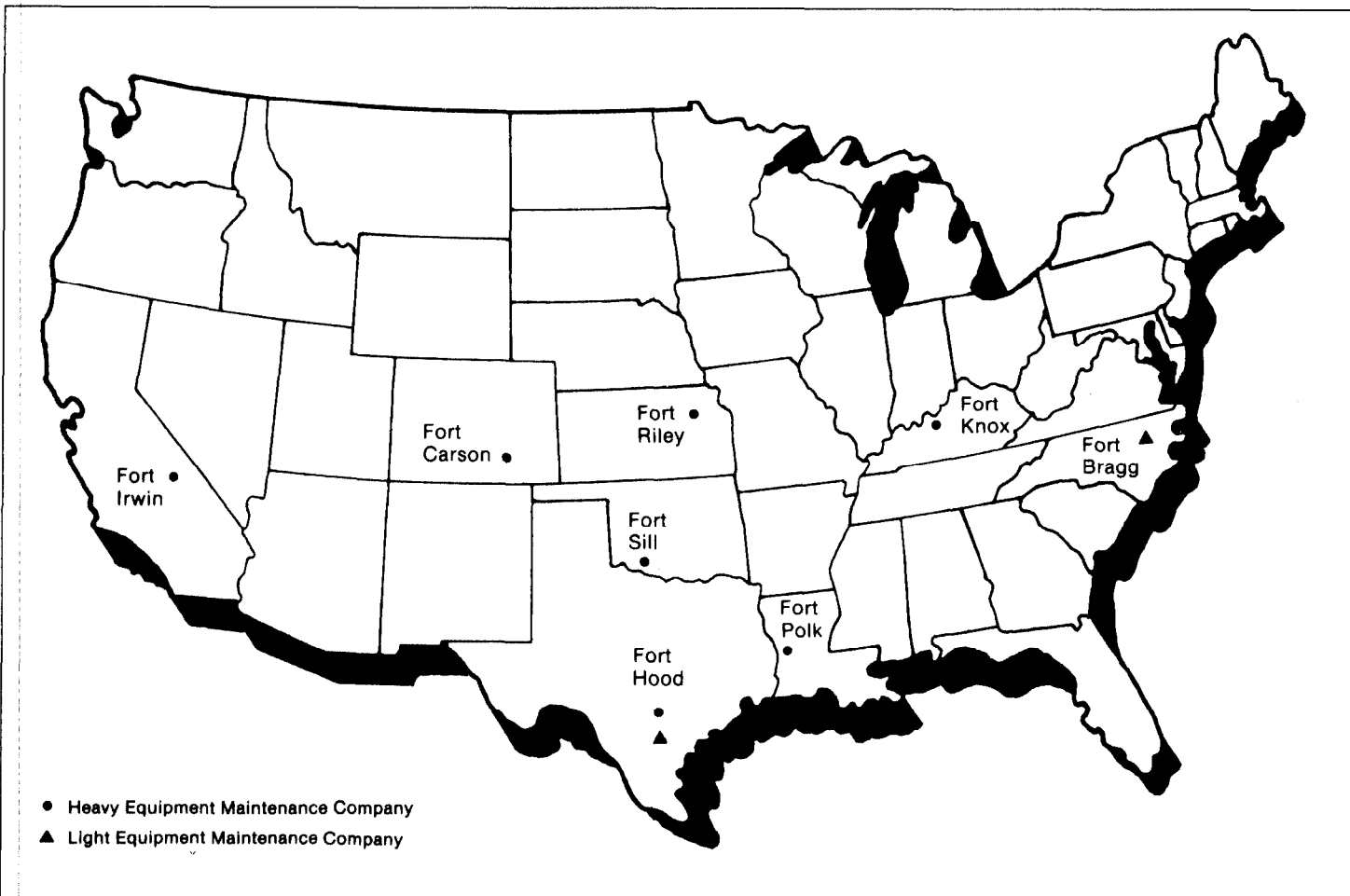
## Maintenance at the General Support Level

GS maintenance units within the United States are assigned peacetime support missions as part of their continuous training. These units are under the operational or technical control of the installation maintenance activity to which they are assigned. However, they continue to function as separate units. In assigning missions to military maintenance units, installation commanders are expected to consider the wartime mission training requirements of units to ensure that they function as they would in wartime. Military GS maintenance personnel may, however, be assigned to civilian maintenance activities to maintain and update the proficiency levels of the military personnel.

## Current Peacetime GS Maintenance Structure

The current GS peacetime maintenance structure includes about 100 civilian maintenance activities in the United States authorized to perform DS and GS maintenance and 11 active military maintenance companies (9 in the United States and 2 in Germany). However, most of the GS maintenance on combat and tactical tracked and wheeled vehicles performed in the United States is performed by 35 civilian maintenance activities and the 9 U.S.-based active units at FORSCOM and Training and Doctrine Command installations. The 11 active military units include 7 heavy equipment maintenance companies (HEMCO) and 4 light equipment maintenance companies (LEMCO). Two of the LEMCOs are in Germany. Figure 1.1 shows the locations of the U.S.-based active GS maintenance units.

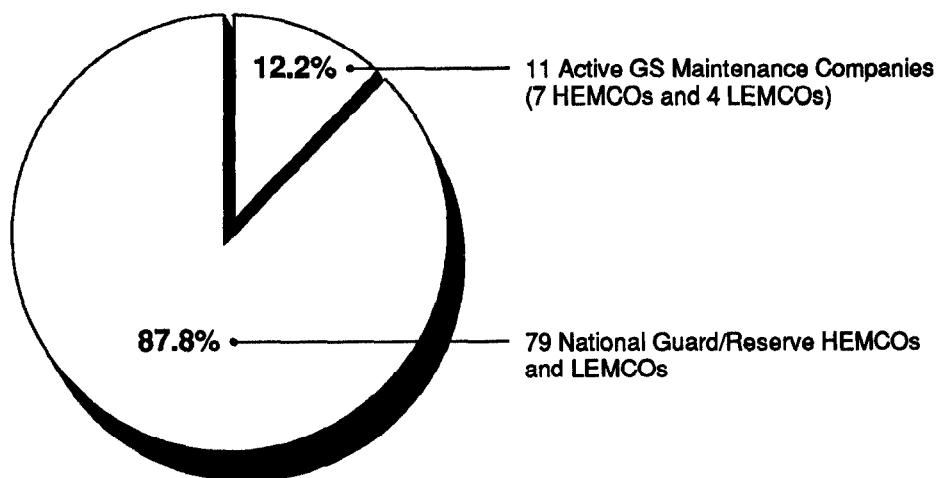
Figure 1.1: Active GS Maintenance Units in the United States



## Deployable Wartime GS Maintenance Structure

In the event of war, the Army is structured to rely heavily on the reserve components—the Army National Guard and the Army Reserves—to provide GS maintenance capability. Civilian maintenance activities are not expected to deploy. Currently, the wartime military GS maintenance structure includes 11 active and 79 reserve component units. This wartime structure is shown in figure 1.2.

Figure 1.2: Deployable Wartime GS Maintenance Structure



## Objectives, Scope, and Methodology

Our overall objective was to evaluate the Army's management and operation of its GS maintenance program to determine whether the Army's planning and training were adequate in preparing units to perform in wartime. In performing our evaluation, we examined (1) wartime mission guidance; (2) maintenance work load practices, including the type of repair work that units perform; (3) personnel use and time spent on maintenance tasks; and (4) maintenance training practices and the skill proficiency of mechanics.

We reviewed general support maintenance at six of the nine active Army GS maintenance units in the United States. We focused on the repair of tracked and wheeled combat and combat-service support equipment. We concentrated on this equipment because of its importance in supporting the war-fighting effort. We also obtained information and data at other Army commands that have direct influence and control over Army maintenance policies and practices. These include

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Army headquarters activities, key Training and Doctrine Command organizations, Forces Command headquarters, and major field commands. (See app. I for a complete listing of the activities we visited.)

At each activity, we interviewed military and civilian personnel involved in GS maintenance operations to obtain information and opinions on GS maintenance. We reviewed relevant documents, including regulations, instructions, and directives; technical manuals; work load plans; inspection, evaluation, and audit reports; maintenance management reports; maintenance work requests; unit training schedules and mechanics' job books; personnel utilization reports; and installation and maintenance unit policies, procedures, and practices for managing maintenance operations.

To determine whether maintenance work loads were compatible with units' wartime missions, we reviewed work load decision documents, work load plans and records, equipment repair documents, and unit war plans and deployment scenarios.

To determine whether military GS maintenance personnel were effectively used—measured by the Army's standard of 50 percent of their available time in a normal workday on maintenance duties—we reviewed manual and automated utilization reports. Using this Army-generated data, we computed utilization rates for the units we visited. Although we discussed variations with local command officials, we did not perform any special tests of the reliability of computer-generated data.

To determine the adequacy of training and skill levels and the sufficiency of the Army's evaluation and knowledge of skill levels, we reviewed skill measurement indicators, on-the-job training programs and classroom instruction, and soldier job books. We also documented the Army's policy on maintenance training and obtained opinions on skill level proficiencies required to perform GS maintenance tasks.

We performed our review from January through November 1988 in accordance with generally accepted government auditing standards.

# Improvements Needed to Prepare General Support Maintenance Units for Their Wartime Missions

In most cases, the Army is not effectively preparing active GS maintenance units to perform GS maintenance repairs in wartime. We found that (1) wartime mission guidance was inadequate for units to develop effective training programs, (2) peacetime work loads were not consistent with expected wartime roles, and (3) maintenance personnel were not spending sufficient time on maintenance activities to adequately prepare them for wartime roles.

## Wartime Mission Guidance Provided to Units Is Inadequate

To effectively perform in wartime, units need to train in peacetime to meet their wartime mission requirements. GS maintenance managers did not have adequate wartime mission guidance to establish training programs in peacetime that would prepare their GS units for their wartime missions. As a result, these managers did not know what combat or combat-support units the GS units would be supporting or what equipment they would be expected to repair in wartime.

According to Army policy, wartime mission guidance is provided to GS units through the chain of command. The guidance consists of operational plans, battle books, and other correspondence, such as mission letters. Mission letters should provide specific guidance on the unit's wartime mission. For maintenance units, mission guidance should specify two critical elements: the units to be supported and the weapons systems to be repaired.

Maintenance managers at the units included in our review reported that they had been provided some mission guidance, such as mission letters or battle books. However, in most cases, the guidance, in their view, did not provide information essential for the managers to develop training programs to prepare maintenance personnel for their wartime missions. For example, the guidance stated where the units would be deployed and which other support units they would be deployed with. However, it did not inform them of the type of equipment or the units they would be supporting in wartime. Without this information, the units cannot provide realistic peacetime training programs that are compatible with their wartime missions.

During our review, we attempted to confirm statements made by maintenance managers regarding their need for better wartime mission guidance. In November 1988, we sent a letter to the five battalion commanders responsible for the six units in our review, requesting that they tell us what specific units and equipment the Army wanted them to support in wartime. We received responses from all of the commanders,

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who reaffirmed that they did not know what units or equipment they were scheduled to support.

The Army has also been concerned about problems in this area. For example, during our review FORSCOM was directed by a high level logistics review group to determine, among other things, the adequacy of the Army's wartime mission guidance. To obtain this information, FORSCOM sent questionnaires in May 1988 to 157 active and reserve DS and GS maintenance units, including the six units we visited. FORSCOM's analysis of the questionnaires and other information it obtained from the surveyed units showed the following:

- Most units had received mission guidance, but it was not considered adequate. For example, mission guidance at units we visited included the locations they would deploy to and the other support units they would go with, but not information on the units or equipment they would be supporting.
- Mission-essential task lists had not been approved by the wartime commanders. Since these lists had not been approved, the units, in effect, could not be sure that these lists met their wartime needs.
- All active units were assigned peacetime support missions, but some peacetime missions were not compatible with their wartime missions. For example, some GS units that we reviewed were assigned to perform primarily DS-level repairs instead of the GS-level work that will be required of them in wartime.

As a result of these findings, FORSCOM initiated actions to improve wartime mission guidance for the DS and GS maintenance units. In August 1988, FORSCOM developed more detailed instructions for wartime commanders so that they could provide adequate wartime mission guidance to their units. In addition, a FORSCOM maintenance manager said that FORSCOM will be providing a specific format, called a maintenance unit employment plan, that will show how wartime mission guidance is to be provided to the maintenance units.

Once this is done, FORSCOM plans to provide the units with training opportunities and have them perform GS maintenance repairs compatible with their wartime missions. However, FORSCOM does not expect to complete this plan until 1992.

If the Army can clearly establish each maintenance unit's wartime role, its organizational alignment, and the types of equipment repairs it will



be expected to perform, units will be better able to develop peacetime training plans and programs to parallel their wartime missions.

## Peacetime Work Load Not Keyed to Expected Wartime Roles

Peacetime work loads of GS maintenance companies were not consistent with their expected GS wartime roles. At the units we visited, we found that, contrary to the Army's doctrine, the GS units had not been assigned to repair the high priority force modernization equipment they will be expected to repair in wartime. Rather, because of insufficient training, experience, tools, and test equipment, units we visited were (1) working on older, lower priority equipment and (2) performing large amounts of lower level maintenance repair. As a result, the Army was not providing units with sufficient "hands-on" GS-level maintenance training to adequately prepare them for their wartime roles.

Army doctrine requires that, in preparing for this role, GS maintenance units should be

- capable of supporting the same systems and subsystems in peacetime that they will be required to support in wartime,
- provided their work loads before civilian maintenance activities are assigned their work loads, and
- performing the scope and types of work that not only ensure that a GS maintenance mission capability is maintained but also parallel their wartime roles.

## Some Units Working on Older, Lower Priority Equipment

At the installations we visited, some GS maintenance units were often not repairing the more modern, higher priority equipment, referred to as "force modernization equipment," that the Army expects them to use on the modern battlefield. Instead, because of insufficient training, experience, tools, and test equipment, they were repairing older, lower priority equipment and, in some cases, were primarily repairing obsolete and/or displaced equipment.

None of the maintenance managers at the units we visited knew the types of equipment or the units they would be expected to support in wartime. As a result, they had not established lists of priority equipment repairs that should be done in peacetime to prepare GS maintenance units for what they will be expected to do in wartime. Also, theater commanders had not provided the units with priority lists of equipment requiring repairs in the various theaters.

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All of the units we visited were expected to deploy to Europe in at least one of their wartime scenarios. Because there were no other priority lists of equipment, we compared the equipment being repaired by the units in peacetime to equipment the Army considers high priority for Europe in peacetime and during a transition to war. We compared the equipment assigned in fiscal years 1987 and 1988 to the five HEMCOs in our review with equipment on the U.S. Army, Europe's priority list. Our comparison showed that the HEMCOs were repairing very little of the priority equipment, even when it was available for repair at the units we visited.

For example, three of the five HEMCOs we visited were not performing GS maintenance on combat and tracked vehicles that would be considered the highest priority items, such as the M1 tank family and the M2/M3 Bradley Infantry and Cavalry fighting vehicles, which are listed in table 2.1.

**Table 2.1: Combat and Tracked Vehicles on USAREUR's Maintenance Priority List That Are Repaired by U.S. GS Maintenance HEMCOs in Peacetime**

Type of vehicle	Priority <sup>a</sup>	Fort Riley		Fort Hood		Fort Polk		Fort Sill		Fort Knox		
		556th	DOL <sup>b</sup>	190th	DOL	539th	DOL	225th	DOL	76th	DOL	
M1 tank family												
M1A1, 120-mm	1	No	Yes	Yes <sup>c</sup>	No	No	Yes	No	No	Yes <sup>d</sup>	Yes	
M11P, 105-mm	2	No	Yes	Yes <sup>c</sup>	No	No	Yes	No	No	Yes <sup>d</sup>	Yes	
M1, 105-mm	3	No	Yes	Yes <sup>c</sup>	No	No	Yes	No	No	Yes <sup>d</sup>	Yes	
M2/M3 Bradley fighting vehicle family												
M2A1	4	No	No <sup>e</sup>	Yes <sup>f</sup>	Yes	No	No <sup>e</sup>	No	No <sup>e</sup>	Yes <sup>d</sup>	Yes	
M3A1	5	No	No <sup>e</sup>	Yes <sup>f</sup>	Yes	No	No <sup>e</sup>	No	No <sup>c</sup>	Yes <sup>d</sup>	Yes	
M3	6, 7	No	No <sup>e</sup>	Yes <sup>f</sup>	Yes	No	No <sup>e</sup>	No	No <sup>e</sup>	Yes <sup>d</sup>	Yes	
M2	8	No	No <sup>e</sup>	Yes <sup>f</sup>	Yes	No	No <sup>e</sup>	No	No <sup>c</sup>	Yes <sup>d</sup>	Yes	

<sup>a</sup>The priority list establishes priorities for the allocation of resources (dollars, manpower, and facilities) and the performance of maintenance on assigned equipment. Equipment is assigned a number within its group based on its priority, group number 1 being the highest priority.

<sup>b</sup>The Director of Logistics (DOL) manages the civilian maintenance activity.

<sup>c</sup>The 190th Unit is the only GS military unit that performs transmission repair on the M1 tank. The engine is repaired at the depot.

<sup>d</sup>The military GS unit at Ft. Knox performs limited GS repairs on the M1 tank and the M2/M3 Bradley. In performing these repairs, it uses DOL's tools and test sets since none are available in the GS unit.

<sup>e</sup>While the DOL was not repairing the M2/M3 Bradley Fighting Vehicle, it was performing some repairs on the Multiple Launch Rocket System, which uses the same chassis and drive components as the Bradley Fighting Vehicle.

<sup>f</sup>The 190th Unit repairs the final drive and gearbox; DOL repairs the engine and transmission.

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Furthermore, three of the five HEMCOs were not performing GS maintenance on the newest and highest priority items within the tactical wheeled vehicle group, such as the Heavy Expanded Mobility Tactical truck and the High Mobility Multi-purpose Wheeled Vehicle listed in table 2.2. Two of these HEMCOs were concentrating on the repair of the M151A1 1/4-ton jeep and the M880 1-1/4-ton pickup truck. Both of these vehicles are being replaced by the newer High Mobility Multi-purpose Wheeled Vehicle system.

**Table 2.2: Wheeled Vehicles on USAREUR's Maintenance Priority List That Are Repaired by U.S. GS Maintenance HEMCOs in Peacetime**

Type of vehicle	Priority <sup>a</sup>	Fort Riley		Fort Hood		Fort Polk		Fort Sill		Fort Knox		
		556th	DOL <sup>b</sup>	190th	DOL	539th	DOL	225th	DOL	76th	DOL	
Heavy Expanded Mobility Tactical Trucks												
M977, 10-ton	1	No	Yes	No	Yes	No	Yes	No	Yes	Yes	Yes	Yes
M985, 10-ton	2	No	Yes	No	Yes	No	Yes	No	Yes	Yes	Yes	Yes
M985 with winch, 10-ton	3	No	Yes	No	Yes	No	Yes	No	Yes	Yes	Yes	Yes
M977 with winch, 10-ton	4	No	Yes	No	Yes	No	Yes	No	Yes	Yes	Yes	Yes
M984 with winch, 10-ton wrecker truck	5	No	Yes	No	Yes	No	Yes	No	Yes	Yes	Yes	Yes
High Mobility Multi-purpose Wheeled Vehicle												
M998, 1-1/4 ton <sup>c</sup>	59	Yes	Yes	No	Yes	No	Yes	No	Yes	Yes	Yes	Yes

<sup>a</sup>The priority list establishes priorities for the allocation of resources (dollars, manpower, and facilities) and the performance of maintenance on assigned equipment. Equipment is assigned a number based on its priority, 1 being the highest priority.

<sup>b</sup>The Director of Logistics (DOL) manages the civilian maintenance activity.

<sup>c</sup>This High Mobility Multi-purpose Wheeled Vehicle replaces the lower priority 1/4-ton M151 jeep and the lower priority M880 1-1/4 ton pickup truck.

**Civilian Maintenance Activities Performing the More Complex Repairs**

The Army's maintenance policy requires major Army commanders to preclude civilian maintenance activities from absorbing maintenance work loads that should be performed by the military maintenance units. Contrary to this policy, however, the installations we visited relied extensively on civilian maintenance activities to perform GS maintenance repairs on the higher priority equipment. As a result, some units were not assigned work loads that will enable them to become proficient or to maintain proficiency in GS-level maintenance repairs.

At maintenance activities, the installation materiel maintenance officer assigns maintenance work loads through joint work load agreements

between managers of the military maintenance units and managers of the civilian maintenance activities. Through these agreements, the installation materiel maintenance officer has assigned, in some cases, the higher priority repairs to the civilian maintenance activities. The long-standing reliance on civilian repair capability appears to be driven primarily by the fact that civilian mechanics have more experience, are more efficient, and have higher skill levels than military personnel. As a result, military units have often been excluded from high priority repair actions, thereby limiting their opportunities to develop the skills required to perform GS maintenance.

For example, at Fort Sill, Oklahoma, the 225th HEMCO's assigned work load was limited to repairing lower priority equipment, while the newer, higher priority equipment was being repaired by the civilian maintenance activity. For the 12-month period from June 1987 through May 1988, the 225th HEMCO performed GS-level repairs only 27 percent of the time, and much of this work was low priority. Because the 225th HEMCO was receiving very little training on GS-level repairs, a former company commander considered the unit to be unprepared to carry out its GS maintenance mission if deployed.

A January 1984 study done by the Logistics Management Institute noted that civilians were performing repairs that should be accomplished by military units. The study stated that:

"Army support of combat vehicles is strongly influenced by peacetime considerations. Peacetime support focuses on operating within funding limits and meeting readiness goals at the expense of providing adequate attention to wartime capabilities and what must be done in peacetime to ensure that they are available when needed. Civilian-staffed activities, both in the Continental United States (CONUS) and overseas, currently perform the more complex intermediate repairs, such as major assemblies and components from combat vehicles. As a consequence, Army mechanics (including those from Reserve Components) are given little opportunity to develop the skills to perform those repairs. Yet, they will be the primary repair source in theaters of operations outside Western Europe and CONUS."

Likewise, the Army also has acknowledged in an ongoing study of GS maintenance that:

"Peacetime efficiencies, initiatives, and strength caps all point toward a reliance on a civilian work force. This poses problems when transitioning to war. Logistics must be performed in peace as in war; [sic] Some IGS [intermediate general support] active force structure must be retained."

We agree that extensive reliance on civilian maintenance capability could detract from the wartime proficiency of military units. If maintenance managers put more emphasis on the maintenance training of military units, those units could become better trained and more proficient. At Fort Knox, for example, maintenance managers of the 76th HEMCO were making a concerted effort to improve the training and proficiency of GS-level mechanics. At this activity, higher priority work loads were assigned the military unit through close cooperation with the civilian maintenance activity. The managers were, in effect, using the civilian activity as a training base to ensure that military mechanics were involved with GS repair actions under the supervision of experienced civilian mechanics.

At the time of our visit, this effort was relatively new. It had been initiated by the new battalion commander, who was assigned in the summer of 1988. The thrust of the initiative was to get GS maintenance personnel in the 76th HEMCO trained in and proficient at performing GS-level repairs on higher priority equipment that the unit would likely be expected to repair in wartime. A maintenance manager told us that, as the 76th HEMCO's mechanics became better trained and more proficient, they would be getting exposed more often to different types of equipment repairs.

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### Most GS Units Routinely Assigned Lower Level Maintenance

Army maintenance policy provides for GS maintenance companies to perform some backup DS maintenance. However, when the DS work load of the GS unit far exceeds its GS work load, the opportunity for GS units to become proficiently trained and to maintain their proficiency is greatly lessened. Thus, the unit's ability to perform its GS mission when called upon becomes questionable.

Our review showed that five of the six GS units we visited had performed DS-level work on a routine basis as part of their peacetime missions. Three of the five GS maintenance units had performed DS-level repairs as their primary missions. Most of the GS-level repairs at these three units had been done by the civilian maintenance activity.

For example, as shown in table 2.3, information reported to FORSCOM by the 539th HEMCO at Fort Polk showed that, for fiscal year 1987, only about 22.7 percent of the total maintenance hours reported by the 539th HEMCO had been spent on GS-level repairs.

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**Table 2.3: Fiscal Year 1987 Maintenance Hours for the 539th HEMCO**

Type of maintenance	Hours expended	Estimated percentage of total maintenance completed		
		Unit	DS	GS
Automotive				
End items	30,179	10	90	0
Components	10,953	0	0	100
Construction	3,906	10	85	5
Armament (small arms)	4,843	18	77	5
General equipment	688	10	80	10
<b>Total</b>	<b>50,569</b>			

Note: Total hours = 50,569 divided into 11,460 (GS repair hours) = 22.7 percent.

The high percentage of DS-level repairs was performed even though the 539th HEMCO's mission statement provides for the company to perform GS maintenance on conventional heavy equipment end items and components. Recognizing this, maintenance managers at Fort Polk, in January 1988, initiated a program to get more GS maintenance personnel trained to do GS-level maintenance work by training a few of them in the civilian maintenance shops. At the time of our review, only 8 mechanics, out of 78 assigned to tracked and wheeled vehicle repairs, had participated in the program. At the time we completed our effort at Fort Polk in August 1988, maintenance managers said that, if deployed, the 539th HEMCO would not be prepared to perform its GS maintenance mission.

Because GS proficiency is expected to be obtained at the assigned GS unit, if a unit is improperly assigned to DS-level repairs, it is difficult for the maintenance personnel and units to become proficiently trained and/or proficient at repairing equipment that they could be required to repair in wartime. According to various maintenance managers and Army school officials, transferring skills learned from performing DS-level repairs to the performance of GS-level repairs, without GS-level training or experience, would be extremely difficult. They said that, because of the nature of GS-level repairs, the skills are not easily interchangeable without experience and/or training.

**Units Spending  
Insufficient Time  
Performing GS  
Maintenance Repairs**

According to Army data, GS maintenance mechanics are not spending enough time performing the tasks necessary to obtain the training and proficiency needed to fulfill their wartime roles. Because the Army expects the majority of GS-level training and proficiency to be obtained at the unit through on-the-job training, it is important that GS mechanics spend sufficient amounts of time actually performing GS-level repairs.

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In recognition of this, the Army, in its maintenance regulations, has established a 50 percent standard as a measure of the productive use of assigned labor. Soldier mechanics should be spending 50 percent of their total available time on productive maintenance duties. This percentage allows for the performance of soldier duties that civilian maintenance personnel are not expected to do. The rate for civilian mechanics has been established at 85 percent.

At the installations we visited, personnel utilization rates for military GS mechanics were generally lower than the Army's utilization standard of 50 percent of available time. For example, personnel utilization data for the 76th HEMCO at Fort Knox showed that productive personnel utilization rates were considerably less than the Army's standard. Personnel utilization rates for a 6-month period covering January through June 1988 are shown in table 2.4.

**Table 2.4: Six-Month Utilization Data for the 76th HEMCO**

Month	Productive manhours expended		Productive time	Nonproductive time
	Direct percentage	Indirect percentage		
January	20.8	9.5	30.3	69.7
February	30.8	20.0	50.8	49.2
March	14.6	11.0	25.6	74.4
April	20.2	12.4	32.6	67.4
May	24.0	15.4	39.4	60.6
June	5.1	4.7	9.8	90.2
Average	23.2	13.8	37.0	63.0

In another case, as shown in table 2.5, personnel utilization data reported for the 190th HEMCO and the 647th LEMCO at Fort Hood for a 2-month period showed productive personnel utilization rates considerably below the Army's standard. Our analysis was limited to a 2-month period, March 10 through May 11, 1988, because maintenance managers at Fort Hood had not retained personnel utilization reports. Although maintenance managers said that the reports contained some inaccurate information, the data illustrates lower-than-acceptable utilization rates.

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**Table 2.5: Personnel Utilization Rates**  
**Reported for the LEMCO and HEMCO at**  
**Fort Hood**

Unit	Period	Productive manhours expended		Productive time	Nonproductive time
		Direct percentage	Indirect percentage		
190th HEMCO	3/10/88-4/13/88	15.7	5.3	21.0	79.0
190th HEMCO	4/14/88-5/11/88	27.4	9.8	37.2	62.8
647th LEMCO	3/10/88-4/13/88	18.4	10.9	29.3	70.7
647th LEMCO	4/14/88-5/11/88	30.9	15.4	46.3	53.7

The Army has acknowledged that several factors contribute to less-than-acceptable rates and have prevented units from performing peacetime missions. Some of these factors include post details, such as mowing lawns, painting, and maintaining rifle ranges. Others include travel, personnel turnover, medical and dental appointments, and funeral and parade duties. Although some of these activities are unavoidable, the Army considers these types of activities, unrelated to maintenance, as nonproductive time.

The Army recognizes that these activities take away significant amounts of time that otherwise would be available for performing GS maintenance. Maintenance managers at Fort Knox emphasized that mechanics require adequate time to perform GS maintenance in order to become proficient. They expressed concern over whether these soldiers could perform maintenance tasks in wartime if they had not received extensive exposure to that type of work in peacetime.

Maintenance managers for the units we visited could have better managed and controlled non-maintenance activities so that the impact of these activities on performing GS maintenance was minimized. FORSCOM officials have emphasized that, to make better use of its maintenance resources, it needs valid utilization data to ensure that personnel are assigned tasks necessary to attain proficiency in their designated occupations and to ensure that mechanics are productively used.

## Conclusions

Our review showed that (1) wartime mission guidance was inadequate for units to develop effective training programs, (2) peacetime work loads were not always compatible with expected wartime roles, and



(3) maintenance personnel might not have been spending sufficient time on maintenance activities to adequately prepare them for wartime roles.

For units to effectively structure and manage their maintenance operations, the Army wants them to know which units they will be supporting and what specific types of equipment they will be required to repair in wartime. The wartime guidance provided to GS units is not clear or direct on these issues.

Also, units are not currently repairing and rebuilding the high priority force modernization equipment they will be expected to repair in wartime or performing repairs that involve general support maintenance. While some lower level repair is allowed by Army policy, the preponderance of the units' repair work does not involve GS maintenance repairs. Contrary to Army doctrine, Army personnel are not getting sufficient amounts of "hands-on" GS repair experience for mechanics to become proficient in repairing equipment. Similarly, Army personnel are not spending at least 50 percent of their available time on maintenance activities, as called for by Army standards.

## Recommendations

We recommend that the Secretary of the Army take the following actions:

- Provide adequate wartime mission guidance to general support maintenance unit commanders indicating the units and types of equipment they will be expected to support in wartime.
- Direct installation maintenance managers to create opportunities for training general support maintenance units by assigning them general support tasks. As these units become proficient, assign them more of the higher priority force modernization equipment they will be expected to repair in wartime.
- Reevaluate, as appropriate, the work loads assigned to civilian maintenance activities to ensure that general support maintenance units are not denied the opportunity to work on high priority equipment that they will be required to repair in wartime.
- Evaluate the practice of assigning extensive amounts of direct support-level repairs to general support maintenance units, particularly units whose wartime missions require high levels of proficiency in general support-level repairs.
- Curtail non-maintenance activities that result in general support maintenance personnel's spending less-than-acceptable amounts of time performing "hands-on" general support maintenance repairs.

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## **Agency Comments and Our Evaluation**

DOD concurred with our recommendations for improving wartime mission guidance, maintenance work load practices, and personnel utilization. DOD stated that guidance will be provided stressing the need for adequate wartime mission guidance to maintenance unit commanders.

In response to our recommendation that GS maintenance units be assigned high priority GS maintenance repairs that they will be expected to perform in wartime, DOD stated that it will emphasize this policy to its installation maintenance managers.

DOD agreed with our recommendation that work loads assigned to civilian maintenance activities should not deny military units the opportunities to work on high priority equipment. It stated that, when the work is available, units will be provided training on the types of equipment that they will be expected to repair in wartime. It noted, however, that GS units would reasonably expect to work on some older equipment in addition to training on newer items.

In commenting on our recommendation to evaluate the practice of assigning GS units extensive amounts of DS-level repairs, DOD stated that it will emphasize to installation maintenance managers the importance of providing GS-level training work loads.

DOD also stated that the need for mechanics to devote at least 50 percent of their available time in performing "hands-on" GS maintenance repairs will be reemphasized.

# Better Methods Needed for Documenting and Evaluating Maintenance Proficiency

The Army does not have a system that adequately evaluates the proficiency of either individuals or units to perform GS-level maintenance. Without such a system, Army maintenance managers at all levels lack the necessary information to evaluate the capability of GS maintenance units.

At the units we visited, maintenance managers told us that they use various tests and programs to evaluate individual and unit proficiency. Although these proficiency evaluation techniques are consistent with Army training policy and regulations, they do not provide sufficient evaluations of the proficiency of GS-level maintenance mechanics or units because they do not include assessments of most GS-level maintenance tasks.

## Army Training Policy

Army training policy provides that a majority of a soldier's maintenance training should be obtained at the unit to which he or she is assigned. This policy is consistent with what we observed at the units we visited in that the majority of the soldier's GS maintenance proficiency is developed through on-the-job training at individual GS units. At the Army's maintenance school located in Aberdeen, Maryland, school officials told us that only very limited GS maintenance training is provided.

Army Regulation 350-1, Army Training, requires all commanders and leaders to ensure that soldiers attain and maintain skill proficiency and to continuously evaluate the status of individual and unit training. Some of the evaluation techniques include skills qualification tests, a commander's personal evaluation, and checklists of individual tasks. Army training policy considers the skills qualification test to be the principal diagnostic tool for Army commanders to use to evaluate individual training.

## Measurement and Documentation of GS-Level Proficiency Are Limited

We found that none of the measurement tools identified above measured or documented the proficiency of GS military maintenance personnel or GS units. Although these assessment methods provided some measure of basic soldiering and DS maintenance skills, they did not include measures of, or documentation for, individual or unit proficiency in performing GS maintenance tasks. GS-level tasks differ from lower level maintenance skills in that they often require special tools and test sets; they are performed in fixed or semi-fixed facilities, which, in wartime, are in the rear of the battle area; and they are primarily repairs of components and end items in support of the supply system.

Our review of evaluative tools used by maintenance managers at the units we visited indicated that these tools did not provide the means to measure the proficiency of GS maintenance personnel and units. The tools generally evaluated or tested common soldier skills, such as first aid training, basic communication skills, and DS maintenance tasks, but they contained very few tests or evaluations covering GS-level tasks. Some of the deficiencies we found are as follows:

- Job books, which list the key tasks expected of a maintenance mechanic, could not be used to demonstrate GS maintenance proficiency because they contained very few GS maintenance tasks.
- Skill qualification tests, which measure individual proficiency in performing critical tasks related to the soldier's primary occupational specialty, primarily tested DS-level maintenance tasks and contained very few tests covering GS-level tasks.
- The Soldier's Manual, which is a field manual listing the critical tasks and performance standards for each skill level of an occupational specialty, could not be used to evaluate the proficiency of GS maintenance tasks because the manual basically contained only direct support maintenance skill requirements.

## Lack of Proficiency Measurement Obscures True Unit Readiness Status

Unit status reports for the maintenance companies we visited rated the units ready to perform GS maintenance, if deployed, even though maintenance managers for three of these companies expressed concern about the units' ability to do so. According to Army Regulation 220-1, Unit Status Reporting, a key indicator in the unit status report is the unit's training rating, which shows the unit's current ability to perform its assigned wartime missions.

In developing this rating, commanders are required to use their knowledge of unit proficiency in performing assigned tasks. Specifically, commanders should lower the unit's training rating if, for example, unit personnel are working on one type of equipment in peacetime but will be required to work on a different type of equipment in wartime.

As we discussed in chapter 2, certain units we visited were not working on the same types of equipment in peacetime that they may be called upon to maintain in wartime. Also, maintenance managers told us that they did not know what types of equipment their GS units will be supporting in wartime. Without the knowledge of the types of equipment to be supported, commanders will have difficulty preparing acceptable

readiness ratings that reflect true unit readiness, particularly if peacetime equipment repairs differ from wartime equipment work loads.

Because certain maintenance units are, for the most part, not working on the higher priority equipment, the Army does not have assurance that unit readiness rating reports are depicting a true picture of a GS maintenance unit's readiness status or proficiency.

Army school officials told us that GS-level maintenance tasks are generally not included in job books, skill qualification tests, and soldiers' manuals because the Army's maintenance population is primarily at the DS level and these measurement tools are keyed mostly to this group. According to a school official's estimate, there are about 27,000 soldiers in the DS maintenance units and about 1,800 soldiers in the Army's nine active general support maintenance companies. In spite of the large concentration of mechanics at the DS level, the Army reemphasized in September 1988 the distinct role of GS-level maintenance. We believe that the Army should develop provisions for evaluating GS maintenance proficiency levels in maintenance skill evaluations.

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## Conclusions

The Army needs to improve its ability to measure and document both individual and unit proficiency at the GS maintenance level. Without this knowledge, Army maintenance managers at all levels cannot exercise the necessary oversight to evaluate the capability of GS maintenance units. The Army's current methods apply primarily to DS-level maintenance tasks. These methods are limited insofar as they do not measure GS maintenance unit proficiency.

Although various tests and programs are used to evaluate individual and unit proficiency, they do not adequately evaluate the proficiency levels of GS-level maintenance mechanics or units because they do not include assessments of most GS-level maintenance tasks. Since a GS maintenance capability is required by Army doctrine, we believe that the Army should develop methods for evaluating the proficiency of GS maintenance mechanics.

Knowledge of individual and unit proficiency is also critical in developing realistic unit status reports. Because maintenance managers did not always know the types of equipment their GS units will be supporting in wartime, unit commanders will have difficulty preparing realistic readiness ratings, particularly if peacetime equipment repairs differ from

wartime equipment work loads. This information should be developed and used to accurately reflect unit readiness status.

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## **Recommendations**

We recommend that the Secretary of the Army take the following actions:

- Develop methods for evaluating general support maintenance proficiency, including (1) the testing of individual soldiers performing actual general support-level repairs and (2) the addition of general support-level maintenance tasks to soldier job books and soldier manuals.
- Ensure that commanders, when developing unit status report ratings, consider (1) the results of individual soldiers' proficiency testing and (2) the compatibility of equipment units work on in peacetime with equipment they will be expected to work on in wartime.

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## **Agency Comments and Our Evaluation**

DOD concurred with both of our recommendations. It stated that methods for evaluating GS maintenance proficiency are needed and will be developed to differentiate skill levels. DOD also stated that the Army expects, in preparing unit status reports, to develop methods that will involve consideration of (1) individual soldier proficiency and (2) the extent of compatibility of equipment repairs in peacetime with expected wartime requirements. The Army expects to develop these methods by the first quarter of calendar year 1990.



# List of Activities Visited

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## Army Maintenance Units in the United States

556th GS HEMCO, Fort Riley, Kansas  
190th GS HEMCO, Fort Hood, Texas  
647th GS LEMCO, Fort Hood, Texas  
225th GS HEMCO, Fort Sill, Oklahoma  
76th GS HEMCO, Fort Knox, Kentucky  
539th GS HEMCO, Fort Polk, Louisiana

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## Headquarters and Other Army Activities

Office of the Assistant Secretary of Defense for Production and Logistics, Washington, D.C.

Office of the Deputy Chief of Staff for Logistics, Washington, D.C.  
Headquarters, U.S. Army Forces Command, Fort McPherson, Georgia  
U.S. Army Depot System Command, Chambersburg, Pennsylvania  
Logistics Center, Fort Lee, Virginia

Ordnance Center and School, Aberdeen Proving Grounds, Maryland



# Comments From the Department of Defense



ASSISTANT SECRETARY OF DEFENSE  
WASHINGTON, D.C. 20301-8000

PRODUCTION AND  
LOGISTICS

(L/MD)

JUN 12 1989

Mr. Frank C. Conahan  
Assistant Comptroller General  
National Security and  
International Affairs Division  
U.S. General Accounting Office  
Washington, DC 20548

Dear Mr. Conahan:

This is the Department of Defense response to the General Accounting Office (GAO) Draft Report, "ARMY MAINTENANCE: General Support Maintenance Units Not Prepared To Perform Wartime Missions," dated April 27, 1989 (GAO Code 393265, OSD Case 7973). The Department concurs with the draft GAO findings and recommendations.

The detailed DoD comments on each finding and recommendation are provided in the enclosure. The Department appreciates the opportunity to comment on the draft report.

Sincerely,

A handwritten signature in cursive script, appearing to read "Jack Katzen".

Jack Katzen

Enclosure

GAO DRAFT REPORT - DATED APRIL 27, 1989  
(GAO CODE 393265) OSD CASE 7973

"ARMY MAINTENANCE: GENERAL SUPPORT MAINTENANCE UNITS NOT PREPARED TO  
PERFORM WARTIME MISSIONS"

DEPARTMENT OF DEFENSE COMMENTS

\* \* \* \* \*

FINDINGS

- **FINDING A: Background. General Support Maintenance.** The GAO observed that force readiness is highly dependent upon the quality and timeliness of equipment maintenance, the success of which is measured by how long equipment remains in operation and how quickly it can be restored to service. The GAO explained that the general support maintenance role, performed in fixed or semi-fixed facilities, includes providing repaired or rebuilt pieces of equipment to the supply system for future use and backup support to lower level direct support units. According to the GAO, its fundamental purpose is to support the Army supply system through the repair of equipment and components. The GAO indicated that, in the direct support role, general support units perform direct support-level repairs on repairable items, components, or end items, as necessary, to return them quickly to the user or to the supply system in ready condition (such as removing and replacing an engine).

The GAO noted that, in wartime, support maintenance will be performed primarily by military maintenance personnel. The GAO further noted, however, that in peacetime, such maintenance is primarily performed by civilians. According to the GAO, there are currently nine active Army general support maintenance companies and 35 civilian maintenance activities in the United States that perform general support maintenance. The GAO pointed out that, for a number of years, the Army has performed studies and assessed ways to improve the training and proficiency of military general support maintenance units and personnel.

The GAO observed that, for general support maintenance units to operate effectively and meet mission needs, the Army wants them to (1) know the types of equipment they will be required to repair in wartime, (2) have peacetime work loads aligned with

Enclosure

their wartime missions, and (3) spend a sufficient amount of time performing "hands-on" general support-level repairs. (pp. 2-3, pp. 10-15/GAO Draft Report)

**DOD RESPONSE:** Concur. Army Regulation 750-1, "Army Materiel Maintenance Policies," now lists 100 Table of Distribution Activities authorized direct support and general support equipment maintenance missions, rather than the 35 shown in the Finding.

- **FINDING B: Wartime Mission Guidance Provided To Units Is Inadequate.** The GAO found unit commanders have not been provided with sufficient wartime mission guidance for them to establish training programs that would prepare general support units for their wartime missions. The GAO observed that, as a result, maintenance managers do not know what combat or combat-support units the general support units would be working for or what equipment they would be expected to repair in wartime. The GAO did note that the Army has also been concerned about the problems in this area and has initiated certain actions to improve wartime mission guidance. The GAO concluded that, if the Army can clearly establish each maintenance unit's wartime role, its organizational alignments, and what type of equipment repair it will be expected to perform, the units will be better able to develop peacetime training plans and programs to parallel their wartime mission. In summary, however, the GAO concluded that the wartime guidance currently provided the general support unit is inadequate. (pp. 3-4, pp. 18-21/GAO Draft Report)

**DOD RESPONSE:** Concur.

- **FINDING C: Peacetime Work Load Not Keyed To Expected Wartime Role.** The GAO found that, contrary to Army doctrine, peacetime work loads of general support military units were not oriented toward the repair of the more modern, higher priority items (referred to as "force modernization equipment") that the Army expects them to repair in wartime. The GAO observed that some units, partially because of insufficient training, experience, tools, and test equipment, were (1) working on older, lower priority equipment and (2) performing large amounts of lower level maintenance repair. The GAO cited, as an example, that at two of the units it visited, the general support work load consisted primarily of equipment repairs on the M151 1/4-ton truck and the M880 1/4-ton truck, both of which are being replaced by newer, more modern equipment. According to the GAO, the majority of work load at these same two units consisted of

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Now on pp. 3, 15-21.

lower level direct support maintenance. The GAO concluded that, despite the Army maintenance policy requiring major Army commanders to preclude civilian maintenance activities from absorbing work loads intended to be performed by the military maintenance unit, the higher priority equipment maintenance is generally going to civilian maintenance activities, not general support military units. (p. 4, pp. 21-29/GAO Draft Report)

**DOD RESPONSE:** Concur. General support units should train on the types of equipment they can expect to repair in wartime. This must be balanced against the requirement to accomplish repairs on equipment that is currently in need of repair. It is reasonable to expect general support units to accomplish some work on older equipment in addition to training on newer items.

- **FINDING D: Units May Not Be Spending Enough Time On General Support Maintenance Activities.** The GAO found that general support maintenance personnel may not be spending sufficient amounts of time performing the kinds of general support-level tasks necessary for them to obtain the training and to develop the proficiency needed to fulfill their wartime roles. The GAO pointed out that the Army expects the majority of such training and proficiency to be obtained at the general support unit through on-the-job training. The GAO cited the Army standards that 50 percent of maintenance personnel time will be spent performing maintenance work. The GAO observed that, with few exceptions, the reported use of military general support mechanics was notably lower than the Army standard of 50 percent of their available time. For example, at one location the GAO visited, the reported average for a 6-month period showed that only 37 percent of the available time was spent on performing maintenance work.

According to the GAO, maintenance managers advised them that other demands on the time of maintenance personnel, such as military training, leave, temporary duties, and post details have contributed to the less-than-acceptable utilization rates and have prevented units from performing fully their peacetime missions. The GAO emphasized that, although some of these activities are unavoidable, the Army considers these types of activities unrelated to maintenance (i.e., as nonproductive time). The GAO also concluded that the maintenance managers for the units it visited could have better managed and controlled non-maintenance activities so that the impact of these activities on performing general support maintenance was minimized. (p. 5, pp. 30-33/GAO Draft Report)

Now on pp. 4, 21-23.

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**DOD RESPONSE:** Concur. The 50 percent goal contained in Army Regulation 750-1, however, is a percentage of available time. Annual and sick leave is not considered as available time.

- **FINDING E: Better Methods Needed For Documenting And Evaluating Maintenance Proficiency.** The GAO reported that the Army does not have a system that adequately evaluates the proficiency of either individuals or units to perform general support-level maintenance. The GAO explained that, without such a system, Army maintenance managers at all levels lack the necessary information to evaluate the capability of general support maintenance units.

According to the GAO, Army training policy requires all commanders to (1) ensure that soldiers attain and maintain skill proficiency and (2) continuously evaluate the status of individual and unit training. The GAO reported that, according to the maintenance managers at the activities it visited, various tests and programs are used to evaluate individual and unit proficiency. The GAO pointed out, however, that although these proficiency evaluation techniques are consistent with the Army training policy and regulations, they do not provide an adequate evaluation of the proficiency of general support maintenance mechanics or units because they do not include assessments of many general support-level maintenance tasks.

The GAO found, for example, that the skill qualification tests (which measure individual proficiency in performing critical tasks related to the soldier's primary occupational specialty) primarily tested direct support-level maintenance and contained very few test questions covering general support-level tasks. According to the GAO, these tasks differ significantly in that direct support work for example, would simply involve removing and replacing an engine, whereas general support work would involve repairing and overhauling an engine, as necessary. The GAO concluded that the Army needs to improve its ability to measure and document both unit and individual proficiency at the general support maintenance level. (pp. 5-6, pp. 35-38/GAO Draft Report)

**DOD RESPONSE:** Concur. The ability to measure and document both unit and individual proficiency at the general support level needs to be improved.

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**RECOMMENDATIONS**

- **RECOMMENDATION 1:** The GAO recommended that the Secretary of the Army provide adequate wartime mission guidance to general support maintenance unit commanders to show the units and types of equipment they will be expected to support in wartime. (p. 6, p. 34/GAO Draft Report)

Now on pp. 5, 23.

**DOD RESPONSE:** Concur. Guidance will be provided by August 30, 1989.

- **RECOMMENDATION 2:** The GAO recommended that the Secretary of the Army direct installation maintenance managers to create opportunities for training general support maintenance units by assigning them general support tasks. (The GAO suggested that, as these units become proficient, they should be assigned to more of the higher priority force modernization equipment that they will be expected to repair in wartime.) (p. 6, p. 34/GAO Draft Report)

Now on pp. 5, 23.

**DOD RESPONSE:** Concur. A message emphasizing this policy will be sent out by June 15, 1989. It is not necessary, however, to become proficient on older equipment prior to training on newer equipment.

- **RECOMMENDATION 3:** The GAO recommended that the Secretary of the Army reevaluate, as appropriate, the work loads assigned to civilian maintenance activities to ensure that general support maintenance units are not denied the opportunity to work on high priority equipment that they will be required to repair in wartime. (p. 34/GAO Draft Report)

Now on p. 23.

**DOD RESPONSE:** Concur. Work load availability is a function of the equipment supported within a geographic area. Where work is available on the types of equipment that the unit is expected to support in wartime, an adequate training load will be provided.

- **RECOMMENDATION 4:** The GAO recommended that the Secretary of the Army evaluate the practice of assigning extensive amounts of direct support-level repairs to general support maintenance units whose wartime missions require high levels of proficiency in general support-level repairs. (p. 34/GAO Draft Report)

Now on p. 24.

**DOD RESPONSE:** Concur. Increased emphasis will be placed on assuring that a general support level training work load will be accomplished. A statement to this effect will be included in the policy message mentioned in the DoD Response to Recommendation 2.

- **RECOMMENDATION 5:** The GAO recommended that the Secretary of the Army reduce the non-maintenance activities that result in general support maintenance personnel spending less than acceptable amounts of time performing "hands-on" general support maintenance repairs. (p. 7, p. 34/GAO Draft Report)

**DOD RESPONSE:** Concur. The current 50 percent utilization goal will be reemphasized in the policy message referred to in the DoD Comments to Recommendations 2 and 4.

- **RECOMMENDATION 6:** The GAO recommended that the Secretary of the Army develop methods for evaluating general support maintenance proficiency, including (1) the testing of individual soldiers performing actual general support-level repairs and (2) the addition of general support-level maintenance tasks to soldier job books and soldier manuals. (p. 7, p. 39/GAO Draft Report)

**DOD RESPONSE:** Concur. Skill level differentiation is needed. Methods to be used to differentiate will be reviewed by October 30, 1989.

- **RECOMMENDATION 7:** The GAO recommended that the Secretary of the Army ensure that, when developing unit status report ratings, commanders consider (1) the results of individual soldiers' proficiency testing and (2) the compatibility of the equipment units work on in peacetime, with the equipment they will be expected to work on in wartime. (p. 39/GAO Draft Report)

**DOD RESPONSE:** Concur. These elements should be factors in unit status reporting. By the first quarter of Calendar Year 1990, the Army expects to develop methods of ensuring consideration and the weight given each factor.

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