

USAWC STRATEGY RESEARCH PROJECT

**FROM FOUR TO TWO: TRANSFORMATION OF THE ARMY ORDNANCE OFFICER AND WARRANT
OFFICER CORPS**

by

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ABSTRACT

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Personnel transformation is one of the most challenging tasks faced by senior Army leaders in executing The Army Transformation Plan. The officer and warrant officer transformation is moving slowly and in some cases not at all. The dynamics of the future battlefield, which will result in shorter decision cycles, greater distances, and split based maintenance operations, are forcing the Ordnance Corps to transform its personnel. This study will examine how senior leaders, within the Army and specifically the Ordnance Corps, must change the officer and warrant officer force structure, education system and leader development. These changes must take place in order for Ordnance Officers and Warrants to successfully support the Warfighter with the two-level maintenance system. This transformation is necessary to meet the needs of a strategically responsive force-projection Army.

The current four-level maintenance system will not meet the needs of the Interim or Objective Forces. The system utilizes multiple organizations with fixed organizational structures containing redundant capabilities. The new two-level maintenance system will digitally link maintainers, maintenance managers and the supported equipment. In addition, this maintenance system would eliminate redundant capabilities and allow for responsive flexibility with tailored modular organizations. This will require Ordnance Officers and Warrant Officers (or better known as “the maintainers of the Army”) to better anticipate, analyze, and tailor available resources for effective, timely support of complex weapon systems. The current system allows the officer and warrant officer to provide reactive support when a system or one of its components fails or exhibits a symptom of failure. In the future, customer needs will have to be anticipated through embedded diagnostics and prognostic technologies. This paper will argue that if the Army and Ordnance Corps institutionalize these suggested changes the officer and warrant officer corps will have successfully transformed.

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PREFACE

The most challenging aspect of the Army Transformation for Army Logisticians is the ability to be able to deploy powerful forces quickly. In order to improve deployment timelines and tactical mobility, the logistical tail or footprint within the Area of Operations must be reduced. One of the ways the Ordnance Corps is striving to meet this challenge is to change the old Army maintenance doctrine from a four-level maintenance system to a two-level system. The major thrust of this concept is to create a responsive and flexible maintenance system that will efficiently generate and sustain combat power. The two-level system will support the Current Force, the Interim Force and the Objective Force. The reduction will require changes to both equipment and personnel authorizations, due to unit force structure changing and consolidation of personnel specialties. This paper will address the personnel transformation requirements needed to reduce the logistical tail or footprint.

FROM FOUR TO TWO: TRANSFORMATION OF THE ARMY ORDNANCE OFFICER AND WARRANT OFFICER CORPS

“The Army’s mission is to fight and win the Nation’s wars. But readiness today does not necessarily translate into readiness tomorrow. Tomorrow’s readiness will require a significant commitment of resources and thoughtful planning. The Army needs to acquire the finest weapons and write the doctrine for using them effectively on the battlefield. It also needs to develop officers with the right skills, knowledge, and experience to meet unforeseen challenges of the 21st Century. While the warfighting focus must never be obscured or diminished, the institutional Army has a simultaneous requirement for officers possessing other skills and expertise. Therefore, it is time to assess how we develop our officers with respect to the challenges of the world environment today and tomorrow.”¹

“People are central to everything else we do in the Army. Institutions don’t transform, people do. Platforms and organizations don’t defend this nation, people do. And finally, units don’t train, they don’t stay ready, they don’t grow and develop leadership; they don’t sacrifice; and they don’t take risks on behalf of the nation, people do. What we say about people in the vision inextricably links the other two parts – transformation and readiness; without people in the equation, transformation and readiness are little more than academic exercises.”²

“In terms of sustainability, the logistics footprint will be reduced. For this to occur, the numbers of vehicles deployed must be controlled, reach-back capabilities leveraged, weapons and equipment designed in a systems approach, and projection and sustainment revolutionized.”³

On 12 October 1999, at the Annual AUSA meeting, Chief of Staff of the Army General Eric K. Shinseki presented his vision for the United States Army. The vision, designed to meet the challenges of the 21st Century, requires the capability to put a brigade combat team anywhere in the world within 96 hours, a division in 120 hours, and 5 divisions in 30 days. The force must be responsive, deployable, agile, versatile, lethal, survivable, and sustainable. Changing deployment and sustainment methods and equipment will improve the Army’s capability to meet these new requirements.⁴

Since October 1999, General Shinseki has often said without a Transformation in Logistics, there will be no Transformation in the Army. In his vision, for a more strategically responsive Army, he tasked Army logisticians to achieve three maneuver sustainment goals in support of Army Transformation: reduce the logistics footprint in the combat zone, reduce deployment timelines, and reduce the total cost of logistics while maintaining warfighting capability.⁵ One method Army logisticians will use to achieve these goals will be to reduce the

number of Combat Service Support (CSS) units and personnel. This will reduce the logistics footprint, contributing to the accomplishment of the remaining two sustainment goals. With less personnel and equipment to move, the Army can deploy faster and can use the cost savings from these units to fund other initiatives and combat forces.

In this paper I will discuss one of the new concepts being referenced as a transformation concept that will reduce CSS personnel and units. The reduction method is through a two-level maintenance system. A reduction process began with the introduction of changing the Army maintenance system from a four-level to a two-level system. This process began prior to the advent of the Army Transformation. The process started when the Force XXI concepts emerged in the mid-1990s. Force XXI force structure design moved Organizational level and Direct Support level maintainers from the mechanized infantry, armor, and engineer battalions into a single unit, called the Forward Support Company (FSC).

This paper will argue that changes in the areas of OD Officer and Warrant Officer career development, education system and leader development must take place in order for the OD Corps to remain relevant to the Army and the Warfighter after the transformation from a four-level maintenance system into a two-level maintenance system.

FOUR-LEVEL MAINTENANCE SYSTEM

The Army currently has a four-level maintenance system doctrine with the exception of the Force XXI units and the Striker Brigade Combat Team (SBCT). The four-level maintenance system, which was created just prior to World War II, is characterized by performing the most simple maintenance tasks at the lowest level. When a task gets beyond the time, tools and test equipment available at a given level, the item requiring maintenance is evacuated to a higher level of maintenance. The four-level maintenance doctrine consists of:

- Unit/Organizational – all maintenance is conducted at and by the owning unit.
- Direct Support – maintenance is conducted by the divisional and non-divisional direct support maintenance companies. It is mostly repair and return to user, some is repair and return to supply.
- General Support – maintenance is conducted by the non-divisional general support companies. It is mostly repair and return to supply; some is repair and return to user.
- Depot Level – maintenance is conducted at the Army Depots and is repair and return to supply.

Each level of the system increases in maintenance capability and complexity using multiple organizations with fixed organizational structures. The major problem with this system is that

capabilities only exist at certain levels, with each level having to be deployed to give the Warfighter a full range of capability in the Area of Operations. Because this system contributes to a large logistics footprint, is reliant on evacuation systems, and has a built-in overhead burden at each echelon it will not meet the transformation deployment goals for the future force. The system depends on multiple headquarters to coordinate forward support activities and evacuation of inoperative systems.⁶ This maintenance construct drives the personnel management and professional development of OD Officers and Warrant Officers.

CURRENT OFFICER AND WARRANT OFFICER CAREER MODEL

The OD Corps is a combat service support branch. It provides people for the development, production, acquisition and sustainment of weapon systems, ammunition, missiles, electronics and ground mobility material during times of peace and war. In addition, the branch includes Explosive Ordnance Disposal (EOD) support for the Army and other government agencies. The Officers and Warrant Officers assigned to the Ordnance branch are responsible for ensuring the Warfighter is ready to fight in the area of equipment readiness.⁷

Currently, and in the future, most OD Officers will serve in the Operations Career Field (CF). The Operations CF is comprised of officers who are trained, educated and experienced in combat arms, combat support and combat service support operations. The normal career path for the OD Officer is designed to develop leaders with a broad understanding of all aspects of both Army and OD operations. The career progression for OD officers, who remain within the Operations Field, is driven by the same career model as the Army's combat arms branches. As members of the Operations CF, OD officers must follow a command track. They must successfully complete those jobs designated as branch qualifying, which will allow them to be competitive for command and promotion. These officers must also be experts at logistics management in order to successfully support the combat commander. This has resulted in a career model that forces the Army to rotate officers to different positions approximately every twelve to eighteen months.

Warrant Officers are designated a specialty upon selection. They will maintain that specialty until retirement, unless through experience or medical condition they are awarded another specialty. Warrant Officers normally rotate to different positions every 24 to 36 months. The following explains how OD Warrant Officers through Lieutenant Colonels are professionally developed.

The four-level maintenance system drives current force structure authorizations for both OD Officers/Warrant Officers and equipment. Therefore, to fill the authorizations and ensure

support to the Warfighter, the officers are currently developed as described in the following paragraphs. Professional development through training and assignments is based on the system's multiple levels of support. The multiple levels require specialized warrant officers at each level, resulting in the opportunity to develop them through assignment progression from organizational maintenance to depot level maintenance. Likewise, officers are developed to manage integrated maintenance support and become branch qualified at each level of maintenance. In addition, the multiple levels have more headquarters, thereby promoting centralized decision making.

WARRANT OFFICERS

The Warrant Officer is the highly specialized expert and trainer who, by gaining progressive levels of expertise and leadership, operates, maintains, administers, and manages the Army's equipment, support activities, or technical systems for an entire career.⁸ They are accessed with varying degrees of leadership, tactical, and technical competence based on past experience. The career of a Warrant Officer begins as a Warrant Officer One after successful completion of the Warrant Officer Candidate School (WOCS), followed by a Warrant Officer Basic Course pertaining to their assigned specialty. As a Chief Warrant Officer Three (CW3), Four (CW4) and Five (CW5) they are selected to attend the Warrant Officer Advanced Course, Warrant Officer Staff Course and the Warrant Officer Senior Staff Course respectively. The civilian educational goal for Warrant Officers is to achieve an associate's degree before promotion to CW3 and bachelor's degree before promotion to CW4. As Ordnance Warrant Officers they are assigned from the company level through Army Staff level.

A finding, in the latest Army Training and Leader Development Panel, on Warrant Officers was that the Warrant Officer Education System (WOES) is not based on a needs analysis linked to Warrant Officer roles, duties, responsibilities, authority, and performance standards. Also, WOES does not provide the technical training in institutional courses nor the functional training Warrant Officers in technical specialties require to stay technically competent and current in the full array of Army systems.⁹

LIEUTENANTS

The OD Corps receives its officers through commissioning programs of the United States Military Academy, Reserve Officer Training Corps or Officer Candidate School. The officer is commissioned either straight into the OD Corps or Branch Detailed into another branch for his first two years of service with his designated branch being Ordnance. His first assignment normally is the OD Officer Basic Course, with a follow on assignment to a field unit. This is the

stage where officers develop the basic foundation for the rest of their careers. They should concentrate on developing skills in troop leading, Ordnance branch related operations, and tactical operations. The career objectives at this stage are to graduate from the OD Officer Basic Course, serve for a minimum of twelve months as a Platoon Leader (at the company level), and have a Bachelor's degree. The remaining time will be spent either as a Shop Officer, Company Executive Officer, or as a Battalion Staff Officer.

CAPTAINS

With promotion to Captain, the OD Officer will attend the Combined Logistics Captains Career Course which includes a branch training phase and a staff phase. The OD Officer begins the course at Fort Lee, Virginia and concludes the course at Aberdeen Proving Ground, Maryland. After graduation, Captains must become branch qualified by commanding a company for at least twelve months. The typical assignments for captains, other than company command, include staff at battalion, brigade, division, or corps level, Training With Industry (TWI), and non branch related positions. During this time, the OD Captain should strive to gain more experience and knowledge of logistical operations. Between their fifth and sixth years of service, Captains receive a Functional Area (FA) designator either outside or within the OD Branch. If they remain inside the branch, the officer will become an Acquisition officer, a Multifunctional Logistician or tracked in a single Ordnance functional area.

MAJORS.

A Career Field (CF) Designation will be gained upon selection for major. In the OD Corps, Majors will either remain in the Operations CF and continue in branch and branch/functional area generalist assignments or move to Operational Support, Information Operations or Institutional Support CFs. For those staying in the Operations CF, branch qualification takes precedence over any other assignment. They must successfully serve for a minimum of twelve months as either an executive officer or support operations officer at the battalion/brigade/corps level or as a division ammunition officer to be selected for Lieutenant Colonel and be competitive for Battalion command. The military education requirement at this level is either resident or non-resident Command and General Staff College. They should continue self-development to become experts in all aspects of OD branch and logistics operations.

LIEUTENANT COLONELS

Approximately a third of each OD year group of Lieutenant Colonels in the Operations CF, will be selected to command at the Battalion level. The commands can be found in deployable

units, institutional commands, TRADOC commands, and nondeployable units at the National Maintenance level. Lieutenant Colonels not selected for command will fill branch and Functional Area 90 (FA 90) staff positions in Corps, MACOM, Department of the Army and joint level organizations. OD Lieutenant Colonels compete with Quartermaster and Transportation officers for critical logistic positions such as Division G-4. An Ordnance Lieutenant Colonel in the Operations CF, who does not successfully command at the Battalion level, is unlikely to be selected for Senior Service College or Colonel.

The Army and the OD Corps have been successful developing officers and warrant officers to support the Warfighter under the four-level maintenance. But in order to transform the Army into a two-level maintenance system both the Army and the OD Corps will need to make some changes to the career development of OD Officers and Warrant Officers.

TWO-LEVEL MAINTENANCE SYSTEM

The four-level maintenance system is being combined into two levels with the current Army maintenance philosophy of “fix forward” changing to “replace forward/repair rear” in support of the transforming Army. The Army is moving to the Two-Level Maintenance System in order to: reduce the logistics footprint in the battlespace, return equipment faster to the fight, decrease equipment evacuation requirements, increase productivity of maintainers, and achieve possible force structure savings. The new two-level maintenance system will digitally link maintainers, maintenance managers and the equipment they support. This link will reduce the battle space footprint by reducing the levels of repair capability within the battle space and will allow for responsive flexibility with tailored, modular organizations and increased efficiency to generate and sustain combat power.¹⁰ The current goal is to institute two-level maintenance throughout the Army by 2006. It will yield a more efficient, rapid maintenance response for the 21st Century Army

The two levels of the new maintenance system are Field (on-system maintenance) and Sustainment (off-system maintenance):

Field level - tasks that directly return the repaired system to an operational status through component, module or assembly replacement. Maintenance is performed in the battlespace and consists of operator/crew, organizational and selected direct support maintenance capabilities. It focuses on fault isolating and replacing the failed component, assembly or module on the weapon system with the intent to return the item back to an operational status supporting the tactical commander’s needs. The organizational structure for the field level is a Forward Support Company or Forward Maintenance Company (FMC) at the Brigade level and

maintenance companies (name yet to be determined) at echelons above brigade and division. These companies will replace the Direct Support Maintenance Companies at the divisional and non-divisional levels.

Sustainment level - tasks are focused on repairing components, assemblies, modules and end items in support of the distribution system. This function can be employed at any point in the distribution pipeline. In a perfect world these tasks would be performed from the Continental United States, but Operational Tempo may dictate the activities performing these tasks be located closer to the battlefield to improve timeliness of support. The intent of this level is to perform commodity-oriented repairs on all supported items to one standard providing a consistent and measurable level of reliability. The organizational structure for the sustainment level is a Component Repair Company (CRC) and is located at Echelons Above Division and at the National Maintenance Level. The CRCs will replace General Support Maintenance Companies.¹¹

This doctrine has been instituted into the Striker Brigade Combat Teams (SBCTs). These organizations' maintenance will not have scheduled service capability, will conduct limited component repair, and will only complete deadlining and safety repairs. All of this will reduce the number of required direct maintainers, maintenance supervisors and the number of maintenance vehicles.¹²

The key to performing maintenance within the two-level maintenance system is through the use of an anticipatory logistics system. This will require OD Officers and Warrant Officers to continuously monitor weapon system status throughout the battlespace, which will be reported through embedded diagnostics and prognostics technologies. Anticipatory logistics expands beyond the current or immediate sustainment requirements to include the anticipation of requirements that can be predicted and planned with accuracy. This can be based on several factors including: operational plans and orders, demand history, prognostics and diagnostics, advanced planning and scheduling, operational experience, usage rates, and fleet management. The result will be maintenance managers anticipating requirements prior to the Warfighter's requests for support¹³

The rapid pace of the future battlefield and the drive for efficiency in costs and time required by the Two-Level Maintenance System will force officers and warrant officers to have a "big picture" understanding of the Army's information management systems. In order to effectively utilize these systems the officer will have to understand how to manage input accuracy and be able to track, with discipline, the information in the Global Combat Support System- Army (GCSS-Army) and Combat Service Support Control System (CSSCS). GCSS-

Army will transform stovepipe Standard Army Management Information Systems (STAMIS) into a single, logistically automated system that interfaces with existing battlefield automation systems. This is an evolutionary logistics information system. The system builds on the functions and processes of existing systems to generate data, integrate databases, and fuse logistical information from the factory to the foxhole.¹⁴

The CSSCS will provide a concise picture of unit maneuver sustainment requirements and support capabilities by collecting, processing and displaying information on key items of supply, services and personnel that the commanders deem crucial to the success of an operation. Logistic elements will have a common, relevant operating picture of the battlefield and its sustainment requirements provided by CSSCS. This system will enable logistics leaders to anticipate, plan and execute support requirements. This visibility, along with an understanding of the maneuver commander's intent will enable unit and logistical commanders to make continuous adjustments to ongoing logistics operations. These adjustments will be made in accordance with variations of operational tempo, shifting priorities, and/or changes to the operational environment. In addition, each supporting level maintenance operation will be able to send and receive data from other organizations within the supported area. These two systems teamed with vehicle-based sensors will allow logisticians and commanders to anticipate and manage logistics on the battlefield, not just react to it.

In order for the current and future OD Officers and Warrant Officers to successfully function in this new two-level maintenance system environment and in the transformed Army they will need to gain critical skills and capabilities. This is vital for the OD Corps to remain relevant to the Army and to the Warfighter. The Warfighter must be able to fully rely upon his maintenance officer to keep his equipment in the fight. This will become more of a challenge as the force transforms and when this maintenance system, with reduced personnel and equipment, has to support all three forces, Legacy, Interim and Objective.

OFFICER KNOWLEDGE REQUIREMENTS FOR TWO-LEVEL MAINTENANCE

“As a profession, the Army's primary obligation to its soldiers and its clients is to provide its professionals with the abstract knowledge base they will need to apply to the specific situations they will face, from warfighting to peace operations. As an institution, the Army must face up to this challenge and transform leader education with the same urgency and energy it is applying to developing the Objective Force.”¹⁵

“Building a 21st century military will require more than new weapons. It will also require a renewed spirit of innovation in our officer corps. We cannot transform

our military using old weapons and old plans. Nor can we do it with an old bureaucratic mindset that frustrates the creativity and entrepreneurship that a 21st century military will need.”¹⁶

“They must be multi-faceted, adaptive and self aware – knowing how to clear a room, send a digital message, or repair a vehicle – because sustainment in the first 72 hours of a deployment on a non-linear battlefield will be limited.”¹⁷

The current four-level maintenance system allows the officer and warrant officer to provide reactive support when a system or one of its components fails or exhibits a symptom of failure. In addition, the current Army leader development system encourages reactive instead of proactive thought, compliance instead of creativity, and adherence instead of audacity. The two-level maintenance system will limit maintenance, which will require responsive flexibility with tailored modular organizations. OD officers and warrant officers must be able to better anticipate, analyze, and tailor available resources for effective and timely support of the complex weapon systems being planned for the Interim and Objective Forces.

The key point is feasible and effective sustainment management. Interim and Objective Force military operations will require sustainers to become masters of supporting maneuver transitions from a home station node to a deployment node, from offense to defense and back to offense while transitioning from peacekeeping to warfighting and back again, all with minimal adjustments. This mastery of supporting maneuver transitions requires sustainment versatility and agility. Sustainment of the Interim and Objective Forces will be complex, uncompromising, hazardous, and nonnegotiable. After the leaders have formed a solid base of technical and tactical competence, their development must focus on adaptability, innovation, and the ability to accept risk, seize opportunity, and make rapid decisions.¹⁸

OD leaders need to be educated for rapid tactical decision making. Future information systems will provide an officer continuous, up-to-date data to make needed decisions. An officer can commit tactical, operational, and strategic level assets from a single platform and those actions can have strategic implications. This means both junior and senior leaders must have a clear understanding of their commander’s intent and have the confidence and competence to make the right decision. Professional education must develop more knowledgeable and competent commanders through studies of history and commander-focused simulations conducted under likely operational scenarios and threat conditions. Sustainment leader training must begin with operations. Sustainment leaders must be as knowledgeable of

operational-level and tactical-level operations as they are of sustainment concepts.¹⁹ In addition, in most operations they must be aware of how their unit and mission support the strategic goals and objectives. Knowledge, based on information relevant to both operational and sustainment decision makers and seamlessly available at every level of an organization, is the cornerstone of a successful anticipatory logistics and maneuver sustainment strategy.

SUGGESTED CAREER MODEL

In the future, force structure and multifunctional requirements of the Objective Force will push the need to combine the three logistics branches; Ordnance, Quartermaster and Transportation into one Logistics Corps. In the meantime, the Ordnance Corps must transform the current career progression for its' Officers and Warrant Officers. This is essential if the Corps is to stay relevant in the Objective Force and its' people successful in supporting the Interim and Objective Forces.

WARRANT OFFICERS

The new definition of a warrant officer, as proposed by the Warrant Officer Staff School, is a specialized war-fighter who operates, maintains, manages, administers, and integrates the Army's systems and equipment. The warrant officer is a mission oriented subject matter expert who provides counsel to the command on policy and supports the command by providing solutions and ensuring unit effectiveness and readiness. The warrant officer is a career-long professional who trains, mentors, advises, communicates and leads at all levels. The primary role of the Warrant Officer in the Interim and Objective Forces is to be the on-the-ground decision-maker on determining if the repair is a Field or Sustainment repair.²⁰

The future Warrant Officers should continue to begin their careers with the Warrant Officer Candidate School and the specialty Basic Course. As they progress they should attend the Advanced Course and the two Staff Warrant Officer Courses. During the years between the different courses, they should be required to complete specialty specific technical training requirements through distance learning. The schoolhouse will not be able to provide all of the training necessary for the Warrant Officer to maintain the technology knowledge requirements in the Objective Force.

The Automotive Technician WO1s and CW2s should continue being assigned to Field level positions at the maneuver battalion level. All of the Armament and Communications Technicians and the Senior Automotive Technician (CW3s and CW4s), should be assigned to Field level divisional and non-divisional units and the Sustainment level component repair units. This should be the same in all types of divisions. The Warrant Officers in the Field Level units

will make the “replace” decision. This will expedite diagnostic decisions while simultaneously reducing the incidence of replacing non faulty items. Without proper diagnosis the distribution system will quickly become saturated by repair modules. CW5s in all maintenance fields should be assigned to Corps level or higher logistics positions. The current assignment rotation length of 24 to 36 months on station should remain as policy.

The WOBC and WOAC need to change their current focus in order to prepare Warrant Officers for the Interim and Objective Forces. More emphasis needs to be placed on Battle Damage Assessment and Repair (BDAR) procedures, prognostics, diagnostics and fault-finding. In addition, more time should be spent on Direct Support Maintenance during WOBC. Expert diagnostic decision-makers are the key to making two-level maintenance feasible for the Army.

There is going to be a real challenge for the Warrant Officers to gain the technical expertise for diagnostics and fault identification required by the Two-Level Maintenance System. One way in which to enhance their expertise is through the Training With Industry (TWI) Program. At least twenty per cent of all Warrant Officers should be selected for the TWI Program. TWI will allow technicians to work with the Defense Industries which are providing the Interim and Objective Force systems. This would provide an excellent opportunity for the Warrant Officer to gain the specialized technical training that the schoolhouse is not able to provide.

The force structures of FMC Component Repair Teams (CRTs) need to be changed authorizing Warrant Officers to be the team leaders. Warrant Officers need to be on the ground and at the tip of the spear in order to make quick triage calls on required support. They should be expected to make the BDAR calls and assist the crew in performing system repairs. Soldiers on the team will need Warrant Officers to span the training gap between the schoolhouse and the field. In addition, Warrant Officers could bring the needed authority for evacuation of equipment needing repair. The CRTs will require experienced personnel.

Interim and Objective Force doctrine and vehicles require faster and more specialized support. A proposed way of ensuring Warrant Officers are ready for this challenge is to develop specialties for each family of vehicles. For example, the Future Combat System (FCS) and its associated family of vehicles would have a Warrant Officer specialty. The Warrant Officer would be assigned only to units with that type of equipment. Another way of achieving this is to assign Warrant Officers to one type of force (either Current, Interim, or Objective) and to one level (Field or Sustainment) during their entire career. I believe the later is the best method of ensuring Warrant Officers are trained to support the wide array of highly technical equipment in

the Objective Force. For example, the array of equipment being repaired could be anything from a robotic piece of equipment to a combat vehicle. Warrant Officers assigned to the FMCs and FSCs will be expected to be knowledgeable in automotive, electronics, armament and power generation. It will be nearly impossible for Warrant Officers to become technically competent for all of this if he or she is rotated between different types of forces and does not receive the needed technical training. Both of these career management paths will require intensive management of Warrant Officers. This is necessary to provide the best support to the maneuver forces.

LIEUTENANTS

Since officers will continue to be commissioned through numerous sources, and those sources do not have the same educational requirements, all officers will not begin their careers at the same level of understanding of the national and international world. It is imperative for all new officers to understand the challenges they could face in today's world as a military officer. It is strongly recommended that prior to commissioning the following core courses be taken: United States history, international and American politics, economics, philosophy, culture, and regional geography. If not completed prior to commissioning, officers should be required to take them by distance education during the Basic Course.²¹ The Basic Course should remain focused on tactical and technical training and leadership. It should, however, be modified to include the following: more automation and information management; an introduction to the different levels of leadership; showcasing differences between the tactical, operational, and strategic levels of war; joint operations; and tactical scenarios studied within both operational and strategic contexts. This is critical since future support operations will require cross-leveling and task organization at the platoon level. OD Lieutenants in the future will be leading these platoons.

The lieutenant will have to gain more knowledge in organizational maintenance prior to their first assignment than the schoolhouse will have time to provide in the classroom. In the Legacy Force the OD lieutenant may have experienced some form of organizational maintenance within a maintenance company, but may not have received any experience with the maneuver unit equipment. But in the Interim and the Objective Force the OD lieutenant will manage Field level maintenance (a combination of old organizational and direct support). All lieutenants should be required to complete an in-depth operator and organizational level maintenance course by distance learning. This should be completed prior to their second year in the Army.

Lieutenants should continue to be initially assigned at the company level and remain until they are technically competent on supported equipment, maintenance management, class IX management and tactical logistics support requirements at this level. Lieutenants need to stay specialty focused and not become multifunctional. This is critical because as they grow more senior they need to have the Warfighter's confidence of being the maintenance management expert.

CAPTAINS

The CLCC should stay focused on the tactical level, but integrate more military and political history into the curriculum and teach the basic concepts of "systems thinking". It is at this stage officers need to be able to evaluate maneuver plans. They also must understand the posture of the total strategic base and be able to plan, with maneuver planners, when sustainment can be brought into the battle space to refit and rearm brigades and units of action. The main difference between the Legacy Force and the Objective Force is that Captains will have more opportunities to influence the Warfighter's equipment readiness in the Objective Force. They will need to predict, with assurance, when sustainment will be required or can be accepted to maintain the operational rhythm.

Captain assignments, due to the new structure of Combat Service Support units in the Interim and Objective Forces, will have to be intensively managed. There will be companies which are too complex for a junior Captain to successfully command as their first command. For example, the FSC and FMC should be commanded by a Major or by a Captain as a second command. Junior Captains should be executive officers in the FSCs and FMCs. Captains will be commanding other companies such as divisional maintenance companies, non-divisional maintenance companies, and CRCs. If Captains were assigned to the non-division level as Lieutenants they need to gain division experience at the Captain level and vice versa.

MAJORS

Current branch qualification standards should remain the same, with some exceptions. Brigade level S-3/S-4 and company command should not be considered as branch qualifying positions. These positions do not give the officer any direct experience in Field or Sustainment maintenance management. It is critical that the officer gain the experience in maintenance management as well as logistical management at this level. Battalion Executive Officer and Support Operations Officer positions should continue to be sought as branch qualification positions. A Maintenance Management Course, which focuses on the two-level maintenance system, should be mandatory prior to assuming a Support Operations position. Under this new

system, the Support Operations Officer is required to make more detailed repair decisions at a faster pace. After branch qualification, the officer should be assigned to a Joint billet. This will be a tremendous opportunity for them to gain experience in Joint and Multinational Logistics operations.

LIEUTENANT COLONELS

The number of available Battalion level commands, which OD Officers compete for, will remain the same under the Two-Level Maintenance System. The tactical commands will be the only ones experiencing major force structure changes. The size, missions and operational procedures of the tactical commands will change in the Interim and Objective Forces. The battalions will be much larger with the consolidation of Organizational and Direct Support maintenance into the Maintenance Companies. The designated staff positions will remain the same, but will become more important for the OD Corps to ensure there are effective officers filling the critical positions at the Division, Corps and MACOM level. They will have more influence on maintenance management.

If an officer was not assigned to a joint billet as a Major, it is important that he seek this opportunity as a Lieutenant Colonel. Experienced OD officers will be able to influence Joint and Multinational Logistics operations, especially maintenance operations. These operations are being developed at a rapid pace. The Army maintenance support concepts should influence both Joint and Multinational maintenance operations. Without OD officers being assigned to joint billets there may not be adequate representation of Army maintenance requirements in developing theater support plans.

The school house nor the Army will be able to provide all of the necessary professional development through resident training. Therefore, distance learning technology is a tremendous and economical method for the Ordnance Center and School to provide the required learning opportunities to its officers. One area of distance learning, which the school should use, is the Warrior Knowledge Network (WKN). The Army is developing the digital WKN to support leader development. This is a web-based knowledge system that provides Army leaders and soldiers with tailored, timely, and relevant knowledge and information. The dominant structure of the WKN is online Communities of Practice (COPs) which provides a powerful new model for knowledge sharing and learning. This structure represents a model for filling the gap between leader knowledge requirements and the Army's institutional resources. The COPs can help leadership adapt quickly to achieve competency across the full spectrum of operations. With today's high level of operations the current Officer Education System will not

be able to keep up with preparing leaders for every possible situation they encounter in performing their duties. OD doctrine writers should leverage COPs to decrease the time it takes to develop and field new doctrine. This would speed the flow of knowledge between leaders in the field and doctrine developers.²²

In addition, distance technology can be used to integrate strategic education into already existing basic, advanced and senior level resident and non-resident courses. This would be useful in assisting junior officers in studying core requirements and for preparing leaders prior to a specific type mission.

CONCLUSION

“Our military leaders must be schooled in matters both military and political. They have to be as conversant with the complexities of world politics as they are with the tools of modern warfare.”²³

Since the beginning of the post-Cold War, the strategic environment has forced the American military forces at the lowest tactical levels to make potentially strategic-level decisions as they carry out increasingly complex missions all over the world. This requires Army leaders, at all levels, to deal with increased political and cultural complexities.²⁴ OD Officers and Warrant Officers have been and will continue to be deployed in support of peace operations, stability and support operations, humanitarian interventions, forward presence and engagement, homeland defense and various other types of operations. They are thrust into volatile, uncertain, complex, and ambiguous situations in which more is demanded of them in terms of intellect, initiative, and leadership than was normally seen during the Cold War. They cannot wait until attendance at the War College or Senior Staff Course level to learn how to operate in this new environment. The knowledge requirements described in this paper must be integrated into the current OD Officer and Warrant Officer Education System at all levels. This will provide officers a strong intellectual foundation and a solid grasp of the tools needed if they are confronted with strategic decisions at the operational or tactical level.

One of the ways the OD Corps can remain relevant in the Objective Force is through developing competent and innovative leaders who are capable of recognizing evolving technologies and commercial efficiencies. In order to successfully support the Interim and Objective Forces, they will have to anticipate the Warfighter's support requirements versus reactionary methods used to support the Current Force. Innovative use of emerging training technologies, such as embedded training and electronic learning, are key to meeting these

challenges. Live, virtual, and constructive training programs must be applied to develop realistic and demanding synthetic training environments in which operations and sustainment are modeled realistically. The training objective should be to encourage anticipatory planning and to develop critical decision-making skills which ensure effective integration of sustainment within maneuver operations.

The school curriculum must concentrate on a core consisting of fundamental critical tasks common to all assignments in which the officer will serve. The Army Training and Doctrine Command (TRADOC) should develop Assignment Oriented Training (AOT) to ensure officers arrive at their new assignments with the most current skills and knowledge. A thorough job analysis of each Table of Organizational Equipment (TOE) assignment in which an officer will serve should be conducted and critical tasks and support training should be developed and made available through distance learning. All of this should be part of OES and WOES. This will become more significant should officers continue to rotate between Legacy, Interim and Objective Forces.

The profession of arms is distinguished by the requirement for continuing education of its members. Ours is a unique profession which often entails considerable risk for our leaders. The OD Corps must take advantage of both resident and distance learning technology to prepare its people for future challenges. This will become more critical to current and future OD Corps leaders in the future. OD Corps leaders must transform along with the Army in order to successfully support the Legacy, Interim or Objective Force Warfighter with the Two-Level Maintenance System and to meet the needs of a strategically responsive force-projection Army.

WORD COUNT = 6448

ENDNOTES

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²Eric Shinseki, GEN, "CSA Remarks," briefing slides with scripted commentary, AUSA Seminar, Washington, D.C., 8 November 2001.

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⁴Department of the Army, Army Strategic Logistic Plan (ASLP), Enabling Strategic Responsiveness through a Revolution in Military Logistics (11 May 2000): 1-4.

⁵Larry L. Toler, "Maneuver Sustainment for Army Transformation," Army Logician Magazine Online July/August 2002 [journal on-line]; available from <<http://www.online.almc.army.mil/alog/issues/JulAug02/MS820.htm>>; Internet; accessed 12 November 2002.

⁶Mitchell H. Stevenson, MG, "Army Maintenance Transformation," Army Logician Magazine Online September/October 2002 [journal on-line]; available from <<http://www.almc.army.mil/alog/issues/SepOct02/MS838.htm>>; Internet; accessed 27 August 2002.

⁷Department of the Army, Commissioned Officer Development and Career Management, Department of the Army Pamphlet 600-3 (Washington, D.C.: U.S. Department of the Army, 1 October 1998), 149.

⁸Department of the Army, Army Training and Leader Development Panel Phase III (Warrant Officer Study) Final Report (Washington, D. C.: U.S. Department of the Army, 18 July 2002).

⁹Ibid, WO-5.

¹⁰Department of the Army, Army Maintenance Transformation, Two Levels of Maintenance Concept, Coordinating Draft, Army Training Doctrine Pamphlet XXX (Washington, D.C.: U.S. Department of the Army, 2 December 2002), 7.

¹¹Ibid, 8.

¹²Department of the Army, Objective Force Maneuver Sustainment Operations, Army Training Doctrine Pamphlet 525-5-0 (Washington, D.C.: U.S. Department of the Army, 15 May 2002), 10.

¹³Ibid, 8.

¹⁴Department of the Army, Interim Brigade Combat Team Concept (Washington, D.C.: U.S. Department of the Army, 11 July 2000), 14.

¹⁵Jeffrey D. McCausland and Gregg F. Martin, "Transforming Strategic Leader Education for the 21st-Century Army," Parameters 31 (Autumn 2001): 33.

¹⁶Henry H. Shelton, "Professional Education: The Key to Transformation," Parameters 31 (Autumn 2001): 10.

¹⁷Department of the Army Training Doctrine Pamphlet 525-5-0, 19.

¹⁸Ibid, 10.

¹⁹Billy K. Solomon, LTG, (Ret.), "Improving Maneuver Sustainment for the Objective Force," Army Logistician Online November/December 2002 [journal on-line]; available from <<http://www.almc.army.mil/alog/issues/Novdec02/MS848.htm>>; Internet; accessed 12 November 2002.

²⁰Warrant Officer Staff School, "Warrant Officer Roles for the Objective Force," memorandum for informational purposes only, (Fort Rucker, AL, 19 April 2002).

²¹McCausland, 18-19.

²²Peter Kilner, MAJ, "Transforming Army Learning Through Communities of Practice," Military Review (May-June 2002) 23-25.

²³Shelton, 8.

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