



National Security Watch

20 November 2001
NSW 01-3

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National Security Watch is published on an occasional basis by AUSA's **Institute of Land Warfare.**

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Legacy Force Recapitalization: An Urgently Needed Program for Today's Army

by Douglas R. Bush

Introduction

The Legacy Force is the Army that won the Cold War and trounced the Iraqi army during Operation Desert Storm. It is also the Army that will deploy and fight the nation's wars in the next fifteen years until its replacement, the Objective Force, is ready. Most importantly, the Legacy Force is the Army that may soon see combat in the war against terrorism. Before sending troops into battle, it is appropriate to ask whether they have the best equipment the nation can afford. Unfortunately, based on current budget projections, the answer is no. The Army's program to refurbish, rebuild and selectively upgrade the equipment of the Legacy Force is **Army Recapitalization**, and it is woefully underfunded.

The full impact of the well-publicized "procurement holiday" of the 1990s is finally catching up with the U.S. Army. Much of the Army's equipment, though still effective, is getting old and is increasingly difficult and expensive to maintain. As important as it is, the Army Recapitalization effort is having a hard time competing with other defense programs. Between Fiscal Years (FYs) 2002 and 2007, Army Transformation is underfunded by \$7.5 billion.¹ This lack of funding is dangerous both to the soldiers who may have to go to war with old, worn-out equipment and to the national security interests of the United States.

The Recapitalization Program

"Recapitalization" is a term borrowed from the business world that refers to putting money back into existing equipment to ensure that it will continue to function correctly. For businesses, "capital" is the term used to describe all of the real property (e.g., trucks, forklifts, cranes, lights, buildings and machinery) owned by a company. Thus, spending money to refurbish, rebuild or repair existing equipment is termed "recapitalization" because the idea is to make the existing equipment as close to new as possible. The Army officially defines recapitalization as: "The rebuild and selected upgrade of currently fielded systems to ensure operational readiness and a zero time, zero miles system."² The objectives include: (1) extended service life; (2) reduce operating and support costs; (3) improve reliability; and (4) enhance capability. "Zero time, zero miles" refers to the goal of rebuilding and refurbishing selected equipment to a nearly like-new status as if it were once again fresh off the assembly line.

There are two parts of the Recapitalization program aimed at 17 key Army systems. The first part is the rebuild of older systems. These rebuilds are extensive and can include replacement of engines, transmissions, wiring and other key mechanical and electrical systems. The second part is the selected upgrade of certain critical weapon systems. Key combat systems such as the M1 Abrams tank, Apache attack helicopter, Bradley armored fighting vehicle, and Black Hawk

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utility helicopter are getting technology upgrades to ensure their superiority over potential enemy threats. The Army has selected the following 17 systems as the priority for the recapitalization program:

- ◆ M1 Abrams Tank
- ◆ M2/3 Bradley Fighting Vehicle
- ◆ M113 Series Armored Vehicles
- ◆ Patriot Air Defense Missile
- ◆ Multiple Launch Rocket System (MLRS)
- ◆ M992 Artillery Ammunition Carrier
- ◆ AH-64 Apache Attack Helicopter
- ◆ UH-60 Black Hawk Utility Helicopter
- ◆ CH-47 Chinook Transport Helicopter
- ◆ Armored Vehicle Launched Bridge (AVLB)
- ◆ M9 Armored Combat Earthmover
- ◆ AN/TPQ 37 Artillery Radar
- ◆ Small Emplacement Excavator
- ◆ HMMWV (Humvee) Utility Vehicle
- ◆ AN/ASM-190 Electronic Repair Center
- ◆ M88 Armored Recovery Vehicle
- ◆ Heavy Expanded Mobility Tactical Truck (HEMTT)

The Imperative for Recapitalization

After the Gulf War, the Army basically stopped buying new equipment. With the end of the Cold War, the Army was asked to make do with the equipment it already had in its inventory. Due to declining force structure and budget, the Army has canceled more than 100 new system programs since 1989.³ Although a few new systems have been fielded, most of the equipment found in an average motor pool today is at least 10 years old, and some is much older.⁴ The average age of five key systems illustrates the problem:

Average Vehicle Age in...	Patriot Missile System	M1 Abrams Tank	M2 Bradley Fighting Vehicle	AH-64 Apache Helicopter	UH-60 Black Hawk Helicopter
FY 1990	3.9 years	2.5 years	2.0 years	2.1 years	6.7 years
FY 2000	13.2 years	10.5 years	9.3 years	11.6 years	13.1 years
FY 2010*	15.9 years	12.9 years	15.2 years	21.6 years	12.9 years

* projected

The result of this aging equipment is an Army in which drivers and pilots who were in third or fourth grade when the vehicles they operate were produced are operating many of the Army's most important weapon systems. Overall, many of the Army's major systems are 10–20 years old today and will be in our units for 30 more years—75 percent of the systems already exceed their system half-life.⁵ This aging fleet of equipment is impacting the Army in three key areas: readiness, maintenance and combat effectiveness.

Readiness Problems. Readiness is defined as the ability of the Army to carry out missions and tasks assigned to it by the National Command Authorities. Old equipment affects readiness across two vital dimensions: material readiness and training.

Material readiness is the daily availability of the vehicles and equipment in the Army inventory. On any given day, all important pieces of Army equipment are rated as either “fully mission capable” or “nonmission capable.” In layman's terms, nonmission capable means “broken.” Just like an old car, older Army equipment breaks down more often and is more difficult to fix. This translates into fewer vehicles being ready for combat on any given day. Although a vehicle can be temporarily repaired, a worn-out piece of equipment can cost lives—while frequent breakdowns in peacetime may just be a nuisance, frequent breakdowns in combat can get soldiers killed. The image of American soldiers being surrounded and then having their

vehicle break down so they couldn't escape or fight back is troubling. It is even more troubling if the breakdown occurs because, before the conflict started, we as a nation were unwilling to spend relatively small sums of money to upgrade and fix their equipment, instead choosing to send them into combat with equipment we know is old and worn out.

In order for the Army to conduct the daily training required to keep a unit ready for combat, its vehicles and equipment must work reliably. Many an officer or noncommissioned officer could tell stories of an entire day's carefully planned training being ruined by the breakdown of essential trucks or other vehicles. Furthermore, the Army tries to have its combat crews fire practice gunnery from their own vehicles. As equipment wears out, more and more crews are forced to train to fight on vehicles other than their own. The effects of poor-quality vehicles and equipment on training are not always well publicized, but the impact can be dramatic over time. Even new equipment will break down, but the goal should be to minimize these occurrences so units can train for combat. The best way to minimize these problems is to buy new equipment or rebuild and refurbish current equipment. Army Recapitalization is the plan to do the latter.

Maintenance Problems. One of the most visible and significant impacts of old equipment and technology is wasted money. Older equipment breaks more often and is harder to repair. Like any complex piece of machinery, most Army vehicles have many internal systems that affect one another. For example, a fuel truck has an engine, transmission, brakes, cooling system, pumping system and fuel-handling system. When the engine breaks down or wears down, it places stress on all of the other systems, which can lead to their breaking down as well. Thus, older equipment, just like an old car, requires "one thing after another" to keep it running. All of these repeated repairs cost money. Imagine having to replace your car's starter over and over. Then, once that is fixed, replace the water pump, then the transmission and then the engine. Due to their sometimes-complex design and robust character, Army repair parts aren't cheap. It is an enormous waste of money to repeatedly fix old vehicles instead of rebuilding or replacing them.

A second maintenance impact of old equipment is wasted effort. Army mechanics are already among the most overworked soldiers we have. They often work longer hours than other soldiers do since Army equipment has to be constantly ready. They also have to do repair work in harsh environments when deployed and frequently in substandard maintenance facilities when in garrison. Overall, we ask a lot of our Army's mechanics. It is a tough job in any organization, but in one like the Army where workers are not "paid by the hour," it is even harder. Older equipment simply compounds the problem. Rather than burning out our hard-working maintenance force by using them to repeatedly fix old, worn-out vehicles, it would be a much more intelligent use of money and our soldiers' time to refurbish, rebuild or replace old equipment.

Combat Effectiveness. While U.S. equipment was superior to that of all potential enemies back in 1990, the same cannot be said today. America's potential adversaries will continue to upgrade their combat equipment. This is no surprise: military technology can be expected to spread and continually evolve over time. As this trend continues, our forces will soon be confronted with enemy vehicles that are superior to ours in protection, lethality and mobility. When that happens, we will be placing our soldiers into tactical situations where their equipment is "overmatched" by the enemy's. Against a weaker nation, the United States can probably still be sure of eventual victory in any conflict, but at what cost? When it comes down to one-on-one combat, all that matters is the relative capability of each vehicle, not which country has a bigger gross domestic product, more cell phones or more internet users.

Let there be no mistake on this point: **Putting American soldiers into combat against superior equipment will cost lives.** It will cost lives directly when enemy weapons are able to penetrate and destroy our armored vehicles. It will cost lives indirectly when American soldiers, knowing their equipment is inferior, are forced to fight in a slower, more deliberate fashion that will drag out conflicts and further increase the body count.

As of 2001, the United States Army is the ninth largest army in the world.⁶ That means it is highly likely that in any future ground conflict we will fight outnumbered. In the past, the Army overcame its numerical shortcomings with better-quality equipment and training. The result was an Army in which one superior tank

with a highly trained crew was as effective as three enemy tanks with poorly trained recruits. If the Army loses this qualitative edge in equipment, what will it be left with? Our soldiers will still be better trained than any others, but putting them into inferior vehicles that are also outnumbered is a recipe for disaster. No matter how well-trained its crew, an inferior combat vehicle can be quickly overwhelmed by a better-equipped, more numerous foe. Do we want to risk putting our soldiers into that kind of situation?

There are examples from our Army's history of our soldiers being forced to fight with inferior equipment. One example is the M4 Sherman tank. When U.S. troops landed in Normandy in June 1944, they were told that the 75mm guns on their Sherman tanks could penetrate the armor of the German tanks they would face. Instead, the shells from the Sherman tanks simply bounced off many German Tiger and Panther tanks, even at close range. Thousands of brave American tank crewmen died as a result. They were forced to numerically overwhelm or outflank the German tanks in order to take them out. While one must admire the bravery of our tank crews who went into battle in vehicles they knew were inferior, it is not an example we should seek to repeat. Yes, the U.S. Army eventually defeated the German Army, but that was largely because we enjoyed a large numerical advantage in the number of tanks produced and available at the front. As stated earlier, we will likely be fighting outnumbered in the future and we won't be able to "get by" with inferior equipment.

A second example comes from the ill-fated Task Force Smith in the early days of the Korean War. Task Force Smith deployed from occupation duty in Japan into combat against the attacking North Korean Army, which was armed with Soviet tanks. In several engagements, U.S. troops tried to destroy the North Korean tanks with their World War II-era 2.36-inch bazooka rocket launchers, only to watch the shells bounce harmlessly off the Soviet-built T-34s. The tragedy is that there was a better piece of equipment available: the 3.75-inch bazooka. However, due to funding constraints and complacency, the units in Japan had not been supplied with the latest equipment. Instead, a calculated risk was taken that they could "get by" with the older weapon. The result was dead American soldiers. While Task Force Smith had many problems beyond its antitank capability, it is certainly a deficiency that could have been addressed.

These examples serve to remind us that if we choose not to fully fund the Army's recapitalization program, we are needlessly risking the lives of American troops. Such risks are unnecessary because the solution is right in front of us and does not require a great deal of money compared with many defense programs. If history teaches any lesson, it is that the next war will be in a location we did not expect against an enemy that we may today consider weak and ineffective. If we wait until the bullets start flying to recapitalize and fix old equipment, it will be too late for the brave soldiers forced to fight with substandard equipment.

We ask a lot of our Army equipment, and it is a testament to the quality of American machinery and the soldiers who maintain it that most Army equipment works as well as it does in peacetime and war. However, we have gotten away with not replacing or rebuilding our fleet of vehicles for far too long. Of course, any program to replace thousands of vehicles is bound to cost a great deal of money, and with the many other funding priorities that confront today's Army, such as housing, better pay and expanded health benefits, the Army can't get all the money it wants. Fortunately, the Army's leadership has recognized the problem of worn-out equipment and the funding constraints the entire military faces. They have developed the Army Recapitalization program to rebuild old equipment and upgrade a select number with the latest technology to ensure continued American land warfare dominance.

Recapitalization and Army Transformation

The Army Recapitalization program is an essential part of the overall Transformation effort. Army Transformation is a long-term plan to reshape the Army to meet future challenges. The eventual replacement for the heavy and light Legacy Force of today is the Objective Force. This force will be as lethal and well-protected as today's forces but will be much lighter, more deployable and more flexible. However, Transformation is a long-term process. The first Objective Force unit will not be fielded until 2010 at the earliest. Even then, the Army plans to maintain some Legacy Force units until the 2020s.

Therefore, as the Army develops the Objective Force, it must still maintain the ability to fight and win the nation's wars and to deter any potential adversary. To do this, the Army can't afford to stand still. Since there are few new weapons in development, reinvesting in the ones we have, through Army Recapitalization, is the best and most cost-effective option.

Recommendations

Regardless of what one thinks about the future direction of Army Transformation overall, supporting Army Recapitalization should be an easy decision. No matter what kind of force the Army plans to have for the 2015–2030 time period, current equipment must be rebuilt and selectively upgraded. The Recapitalization program will help the Army of *today*—the soldiers and equipment deployed right now all over the world—not the Army of the distant future. The need is urgent. The old equipment isn't getting any younger and the potential risk to our soldiers increases every day we delay these much-needed repairs.

Congress and the President should pass a budget that fully funds Army Recapitalization, which, at about \$1 billion a year, is a bargain. For a relatively small amount of money, hundreds of units can train more often, thousands of mechanics can work more efficiently, the Army can save money on repair parts, and our soldiers can go into combat knowing they have the best equipment available. Fully funding Army Recapitalization will allow the Army to upgrade all of its units, not only the select few it can afford to upgrade given current funding.

As recent events have shown, it is impossible to predict where, when and against whom the Army will next have to fight. In an uncertain environment, it is vital that U.S. troops have the best equipment our country can afford. Doing anything less will needlessly put soldiers' lives and important American interests at risk.

- ◆ Army Transformation is a long-term process and will require a first-class Legacy Force to fight the nation's wars for at least the next fifteen years.
- ◆ The equipment of the Legacy Force is aging rapidly and must be refurbished and selectively upgraded to ensure America's military superiority.
- ◆ The Army's Recapitalization program for the Legacy Force is currently underfunded by \$7.5 billion over the next six years.
- ◆ America's soldiers deserve the best equipment the nation can afford. Anything less needlessly places American lives and interests at risk.

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Endnotes

1. Department of the Army, *Army Modernization Plan 2001*, p. 41. <<http://www.army.mil/features/MODPlan/default.htm>>
2. Department of the Army, *Army Modernization Plan 2001*, p. 39.
3. Department of the Army, "Army Transformation Brief, April 2001."
4. Department of the Army, *Army Modernization Plan 2001*, p. 39.
5. Department of the Army, "Army Transformation Brief, April 2001."
6. Secretary of the Army Thomas White, speech to Association of the U.S. Army Transformation Symposium, 8 November 2001.