

Organizational Maintenance

Cracking the nut on systemic readiness issues

by LtCol Dana S. Demer

“Operational requirements are dominant and even in the sphere of maintenance and supply call for appropriate arrangements.”¹

Recently, I observed a “simple” procedure that highlighted larger issues within our maintenance and supply functions. The Marine Corps continues to struggle with the retention and development of our motor transportation mechanics, supply chain management, and the environmental factors and their effects on our equipment. We will continue to face readiness issues until these problems are addressed by the institution.

I spent a couple of hours with our Organizational Automotive Mechanics (MOS 3521) to try and understand why our D-Table of Authorized Material Control Number readiness is hurting. I was paired with a junior Marine who was struggling with a simple procedure: changing a boot for the rear axle anti-sway bar link boot on an AMk23 Medium Tactical Vehicle Replacement. This procedure should take approximately 1.6 hours per the technical manual.² However, the Marine had been working on this one nut for almost a week because of rust and corrosion.

I questioned this Marine to understand why he had not simply cut off the sway bar and order a replacement. His answer highlighted the decisions made at the organizational level and was indicative of larger issues that plague readiness. He responded that if he cut

>LtCol Demer is the CO, Combat Logistics Battalion 4 and a former 3521.

the sway bar off, the vehicle would be deadlined for two to three weeks depending on stockage at the supply management unit and delivery time from the States. The lance corporal factored different variables into his decision including time in maintenance for the

vehicle, maintenance funds available, manpower, and lead-time on certain parts. He did not consider how many other vehicles could be worked on during the time he was working on freeing that one stubborn castle nut and allowing the supply chain to support his efforts. Our combined readiness equals operational capability and our junior Marines make these decisions every day.

Our 3521s work hard. They battle against aging equipment, the lack of fellow mechanics, and harsh environments that exacerbate readiness issues. Recent studies at 1st and 3d Marine Logistics Groups (MLGs) demonstrated that with all of the external requirements (annual training, briefs, fleet augmentation programs, etc.), the Marine Corps has approximately 40 percent of their available mechanics actually servicing



Our 3521s work hard. (Photo by author.)

equipment. When this is coupled to staffing goals and Marines who are unable to perform their primary specialty for various reasons, the problem is exacerbated.

It takes a significant amount of time to train a 3521, not just in the initial training, but the experience learned on the shop floor and in the maintenance facilities. This experience usually translates into training and mentoring junior mechanics whilst functioning as quality control to ensure that during initial induction into the maintenance cycle all issues are captured and addressed at one time.

There have been no bonuses for re-enlistment for at least ten years³ and current re-enlistment rates are under the available “boat spaces” allocated to the MOS. Their skills are valuable to the outside world and retention rates of these talented individuals should surprise no one, especially with a strengthening civilian job market. This is in stark contrast to the aviation community when faced with readiness issues, money and resources were targeted to the maintainers and the facilities in which they work.

Our supply system works hard, but so do washing machines cleaning 782-gear; there must be a better way. If my privately-owned automobile—regardless of make or model—requires parts, I can get these in less than two days. This is not the case for our military motor transport equipment. The simplest of parts, if not available locally, are at least two to three weeks from shipment. Shipments are too often lost resulting in more delays and more manpower expended to recoup missing money and reordering parts. I have personally experienced estimated ship dates of over 270 days. Printing our way out of the problem is still a dream as three-dimensional printing (3D) is dependent on proprietary regulations subject to legal review.

We continue to admire issues with our supply chain. The Marine Corps Logistics Education Program at Penn State, and the LOGTECH Advance at University of North Carolina introduce Marine Corps leaders to concepts and ideas that can solve many

One of our vital MTRV wreckers, nicknamed “Mater” after the beloved but dilapidated tow truck from the film Cars, was deadlined for over 1,000 days before it was finally accepted for recoverable item report (WIR). Repairs to the vehicle exceeded 200 percent of the original vehicle cost and almost 4,500 manhours of labor at various levels. When we combine the atrophy of a deadlined vehicle with a corrosive environment, other issues emerge requiring additional maintenance when we eventually receive the parts. Start the process over again.

“The Pentagon’s broken sustainment model translates into fewer platforms and systems available either to be deployed to war zones or at home stations on which Service members can train. This, in turn, means reduced proficiency for individuals and units, including maintainers. The overall effect is a readiness crisis.”⁴



The simplest of parts, if not available locally, are at least two to three weeks from shipment. (Photo by LtCol Matthew James.)

of these problems. These outstanding education opportunities focus on supply chain management with some of the brightest minds in the industry, academia, and the military. The Marine Corps invested a significant amount of time and resources in these programs with no end in sight to the problem. Regardless, the issues (long lead times and readiness problems) that we address continue to plague us. New programs, such as the joint light tactical vehicle (JLTV) for example, give greater reasons for concern. At close to half a billion dollars for the program, the JLTV weighs more, has no warranty, no interchangeable parts with our current fleet, and currently has only a single source for replacement parts. Mobile training teams will train our mechanics on this new vehicle. The sundown of the HMMWV will result in longer wait times for parts as industry stops making parts for a vehicle that is going away. The institution must be ready for degraded light-vehicle readiness as one program goes away and another comes online.

The British light-tactical vehicle also happens to be a robust civilian sport utility vehicle that anyone can obtain parts for. The simplicity makes me jealous. Survivability is significantly less than the JLTV, but does the JLTV help or hinder our ability to seize and secure advanced naval bases as well as support expeditionary advance base operations? Can we accomplish these missions with a lighter vehicle?

The Marine Corps operates and resides in highly corrosive environments and salty air.⁵ Rust and corrosion exacerbate readiness issues. There are programs that address these issues, but they are not enough to keep up with a problem that is literally corroding our readiness. There is a reason why car enthusiasts refer to rust as cancer. The castle nut that the mechanic struggled with at the beginning of this article was literally rusted to the sway bar and much of the metal was brittle to the extent that it could break off by hand. These are the vehicles that we operate on a daily basis.

All is not lost. Recommendations for correction.

Invest in our mechanics and the facilities in which they work. There is a stark contrast between aviation maintenance facilities and their ground brethren. The F-35 program factored in amazing maintenance facilities that took lessons from NASCAR facilities increasing both efficiency and efficacy. The JLTV that will replace the HMMWV will be repaired in the same facilities

that struggled to keep this latter fleet of vehicles afloat. Target reenlistment bonuses that reflect the investment in these technical MOSs and then seek to retain this knowledge and experience. Revisit structure changes that reduce maintainers at the organization level because technology cannot fill an experience gap.

We must improve the efficiency of our supply chain. This begins at the inception of a new program. Industry



Rust and corrosion exacerbates readiness issues. (Photo by author.)



There is a reason why car enthusiasts refer to rust as cancer. (Photo by LtCol Paul Goguen.)



Commanders should not have to expend valuable resources just to bring a vehicle up to a certain condition to be eligible for WIR. (Photo by author.)



The greatest weapons systems become worthless if they are not maintained in an expeditious manner. (Photo by author.)

fighters to sell the Marine Corps programs, but they must devise a responsive supply system to support. Programs with single-source vendors and unique parts need to be shut down. The greatest weapons systems become worthless if they are not maintained in an expeditious manner. Are new programs designed to address deficiencies identified in the previous fight or the future fight? The supply chain must seek to end long lead times on deadlining parts; if the

civilian supply chain achieve this, then it is possible for the Marine Corps to be efficient as well.

The Marine Corps need to smooth the WIR process. Commanders should not have to fight to rid themselves of known hanger queens. “Retain and repair” equates to “throw money and resources at the lemon,” and this should be a depot-level issue to address, not the operational forces’ problem. Commanders should not have to expend valuable

“The U.S. military’s Achilles heel in future conflicts will not be inferior technology. Rather, it will be an antiquated, industrial-age sustainment model. The way the Pentagon is organized to conduct maintenance, repair and overhaul (MRO) work gives rise to endless parts shortages, large numbers of so-called ‘hanger queens’ and fleets of aircraft, ships and vehicles with availability rates well below the minimum levels needed to meet global mission requirements.”⁷

resources just to bring a vehicle up to a certain condition to be eligible for WIR. Understand the definition of sunk cost and know when to walk away from a vehicle.

The Marine Corps has invested a lot of resources⁶ into preventing corrosion of its equipment, but some improvements can be made. Increase allocations and improve the Combat Ready Storage Program facilities. Outdoor storage of equipment in highly corrosive environments such as Del Mar (Camp Pendleton, CA), Kaneohe Bay, and Camp

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Kinser (Okinawa) only increase corrosion. Increase Corrosion Prevention and Control Program quotas and visits from the corrosion support teams.

I am fortunate to pass the Field Supply and Maintenance Analysis Office-West and Logistics Systems Coordination Office on my way to my maintenance facility. The training value that these organizations provide is invaluable to commanders, staffs, and maintenance and supply support sections as we collectively address readiness issues.

Our mechanic freed the stubborn nut on the afternoon of the fifth day he

worked on the vehicle. He was proud that he did not have to cut the sway bar off but acknowledged that the sway bar would probably have to be replaced soon because of the corrosion. As leaders, are we supporting his efforts and setting him up for success? His actions directly translate into combat readiness and effectiveness.

Notes

1. Carl von Clausewitz, *On War*, (Princeton, NJ: Princeton University Press, 1989).

2. *TM 2320-15/1 Medium Tactical Vehicle Replacement (MTVR)-Operator and Field Maintenance Manual*, Marine Corps Systems Command, (Quantico, VA: November 2016).

3. Headquarters Marine Corps, *MCBUL 7220*, (Washington, DC: July 2018).

4. Dan Gouré, “Congress Must Reform Military Sustainment As It Did Acquisition,” *Real Clear Defense*, (Washington, DC: July 2018), available at www.realcleardefense.com.

5. Gretchen Jacobson, “CORROSION—A NATURAL BUT CONTROLLABLE PROCESS,” in *Advanced Materials and Processes Technology Information Analysis Center (AMPTIAC) Quarterly*, (Rome, NY: AMMTIAC, 2003), available at <https://dsiac.org>.

6. Marine Corps Systems Command, “Corrosion Prevention and Control,” (Quantico, VA), available at www.marcorssyscom.marines.mil.

7. “Congress Must Reform Military Sustainment As It Did Acquisition.”



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