

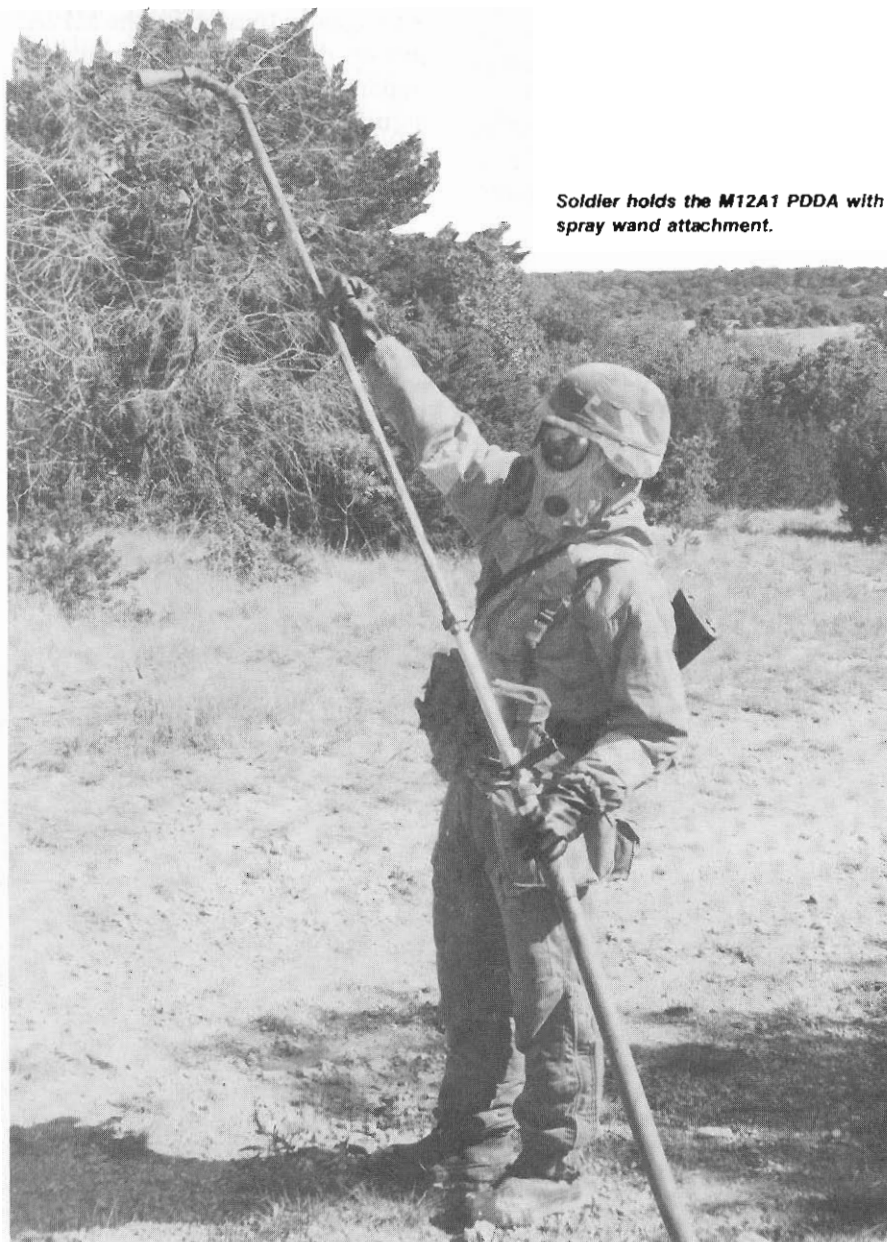
Maximizing Your Decon Equipment

—a better way to do the job

by CPT John Hinkley
1st Cavalry Division,
Fort Hood, Texas

Call it Yankee ingenuity, personal initiative, or good old common sense, but soldiers continuously come up with better ways to do their jobs. Budget constraints and developmental delays cause seemingly insurmountable hurdles to fielding new equipment. Soldier initiative becomes important as units push their equipment to the limit to accomplish the mission.

We all know persistent chemical agents, like rainfall, accumulate on the tops of vehicles and on undercarriages as vehicles drive through contaminated areas. These areas are hard to decontaminate because they are hard to reach with current equipment. Helicopters and tracked vehicles are especially difficult. The current decontamination equipment used by heavy division chemical companies is the M12A1. A drawback of the M12A1 is that it has no extension to effectively decontaminate the top and undercarriages of the heavy division's vehicles.



Soldier holds the M12A1 PDDA with spray wand attachment.

The decon specialists either must climb onto the contaminated vehicle (unsafe and time consuming) or pass the spray nozzle to the M12 operator, who then sprays the top of the vehicle, which prevents the M12 operator from accomplishing his primary task of monitoring the decontaminating apparatus and water supply. Also, a PDDA operator can spray only one side of a vehicle from his position. A long, angled spray wand for the PDDA would allow a sprayer on the ground to effectively wash the top of any vehicle.

A second area of contamination concentration, the undercarriage of vehicles, presents its own set of problems. Contamination behind roadwheels, in wheel wells, and on other parts of the undercarriage are very difficult to effectively spray with the PDDA.

Soldier uses the wand extension during a hasty decontamination at Fort Hood.

To wash and rinse a vehicle, decon specialists must squat beside the vehicle. They must spray so close to the vehicle that most of the water (and contamination) deflects back onto the decon specialist. Using TAP or wet weather gear does not provide total protection from this hazard.

One place where chemical soldiers put their experience and ingenuity to use is the 68th Chemical Company, 1st Cavalry Division, Fort Hood, Texas. One piece of equipment, developed by the unit and used for two years, is an angled extension for the M12A1 power-driven decontaminating apparatus (PDDA). The extension significantly improves the decon platoon's ability to conduct successful decon operations.

The materiel development also included a 90-degree cleaning wand as part of the standard equipment of the M17 lightweight decon apparatus (SANATOR). The 90-

degree angled wand is necessary to effectively spray critical contamination collection points.

With an angled extension the soldier can position himself so he receives little "splash back," and is able to spray areas previously unreachable. This simple device makes decontaminating a vehicle's top and undercarriage safe and effective.

The existing M12A1 spray assembly is an 18-inch long gun assembly with either a slurry, water, or fire-fighting foam nozzle. The new extension is approximately 48 inches of durable galvanized metal, weighing a total of 3 pounds. It has two 45-degree elbows that create a 90-degree angle at the discharge end. The extension allows the operator to use any one of the three different types of standard nozzles. The pieces of the extension are available at local hardware stores for approximately \$10 per extension.



Components Per Extension

3/4-inch x 3/4-inch coupling (galvanized)	1
3/4-inch x 48-inch pipe	1
3/4-inch (45 degrees) elbow	2
1/2-inch (width) x 1/4-inch (thick) x 10-inch (length) strapping steel	1
3/4-inch x 2-inch nipple (galvanized)	2

Components Per Reducer (Used With 65-GPM and TPU)

1 1/2-inch x 3/4-inch bell reducer (galvanized)	1
1 1/2-inch x 2-inch nipple	1

Assembly of the extension takes minutes. The only tools required are two pipe wrenches. However, you need organizational maintenance support to weld the 10-inch handle to the extension. The device can be a permanent assembly. The only setup required is attaching the extension to the gun assembly prior to the unit's mission.

Each M12A1 has one extension. One decon specialist operates a discharge hose with an extension and another operates the standard gun assembly. The sprayer with the extension concentrates on the vehicle's top and undercarriage while the other sprayer decontaminates front, sides, and back. This combination gives the best results.

The extension adapts to the company's 65-GPM pumps and tank and pump units by using a simple 1 1/2 x 3/4-inch galvanized metal reducer. The universal adaptability of the extension allows the decon platoon to increase its potential wash capability threefold. This makes the extension one of the more versatile and valuable pieces of equipment used by a decon platoon.

The height of rotary and fixed wing aircraft makes them traditionally very difficult to decontaminate. Without the extension, thorough decontamination is practically impossible. The added reach capability of the extension, however, provides a means for

effective decontamination.

During helicopter hasty decon operations, helicopter engines normally remain operating at "ground idle," with the rotor blades still rotating. The M12A1 decontaminating apparatus' prime mover must remain well outside the rotor disc. This creates a difficult situation, requiring the operator to stretch to reach the aircraft. The 4-foot extra reach capability and the angled end of the extension makes decontaminating the helicopter easier. The problem of height involved in washing fixed wing aircraft is obvious. Again, the angled extension is a welcome addition.

After numerous decontamination operations, the extension also has proven its capability to save both time (approximately 4 minutes per vehicle) and water (approximately 50 gallons per vehicle) during a deliberate decon. This means that roughly 2 hours and 40 minutes less time and 2,000 fewer gallons (almost two full TPUs) of water are saved for a battalion task force of 40 contaminated vehicles.

Over the past two years, the soldiers of the 68th Chemical Company have experimented with the extension. The decon specialists instantly adapted to the extension, and now take immense pride in using it. The extension

also promotes higher washing standards because soldiers are able to spray hard-to-reach areas more effectively.

Although other units also have adapted such spray extension wands, it would benefit the Army if the equipment was standardized. In summary, this extension—

- Sprays/decontaminates vehicle undercarriages easily and effectively without much "splash back".
- Sprays/decontaminates the top of vehicles without the operator having to climb onto the contaminated vehicles or M12A1 carrier.
- Reduces the physical strain of climbing and squatting in MOPP4 to a minimum, yet allows the operator to perform effectively.
- Eliminates the risk of slipping off the tops of vehicles while washing/rinsing.
- Promotes more effective decontaminating due to its ability to wash hard-to-reach areas easily.
- Costs only \$10.00 per extension.
- Is easily adaptable to the 65-GPM pump and the tank and pump unit.
- Saves about 4 minutes and 50 gallons of water per vehicle during deliberate decon operations.
- Sprays/decontaminates aircraft more effectively.
- Is easy to assemble. (Organizational maintenance must weld the handle.) ●●●

CPT John Hinkley is a division staff officer with the 1st Cavalry Division at Fort Hood, Texas. Previous assignments within the 1st Cavalry Division include armor battalion chemical officer, operations officer, and decon platoon leader, 68th Chemical Company. Commissioned in 1983, he holds a Bachelor of Arts degree from the University of Maine. CPT Hinkley is a graduate of the Chemical Officer Basic Course and Airborne School.