



Mine Detection Moves Into the Future:

The AN/PSS-14 Mine Detector Requires a License

By Mr. David Holbrook

The AN/PSS-14 Mine Detecting Set is more advanced than any metal detector used for mine detection. The AN/PSS-14 mine detector is only one part of this remarkable mine detection system. The other, and more essential, part of this system is the operator. The complexity of the system requires operators to be licensed to ensure safe and effective operation. For that reason, and for the safety of all personnel involved in route and area clearance operations, commanders must ensure that each operator is properly licensed before using the system in a real-world situation. Licensing operators of the AN/PSS-14 is essential to ensure that both the operator and the mine detector are adequately sustained so they will perform as intended.

Basic Operational Theory

The AN/PSS-14 mine detector applies two technologies—metal detection (MD) and ground-penetrating radar (GPR). The AN/PSS-14 employs aided target recognition algorithms that alert the operator of the presence of a target of interest. A trained and licensed operator learns to mute the MD or the GPR to identify objects buried in the ground, pinpoint their location, and determine if they are potential mines. A trained and licensed operator can detect metal objects in the ground and investigate them using the GPR. The GPR can be used to distinguish potential mines from battlefield clutter and other metal debris.

AN/PSS-14 Fielding

The first step in the fielding process is to educate units on the system's requirements. The Product Manager (PM) for Countermine and Explosive Ordnance Disposal sends a team to the unit's location to conduct a new material introductory briefing. During this briefing, the PM's representative explains the system's capabilities, sustainment requirements, licensing requirements, and available training devices. The primary goal of the briefing is to ensure that commanders lock in time on their training calendar for both the new equipment training (NET) and the unit master training (UMT). The PM has provided the means for every unit that is authorized the AN/PSS-14 to receive the proper training. Before a unit is issued its mine detectors, it must have an appropriate number of "qualified operators."

Training

Both the NET and the UMT are 40-hour courses and are conducted either at the unit's home station or at Fort Leonard Wood, Missouri, whichever is more convenient for the unit. Once the unit locks in the training dates, the NET team arrives at the unit's location, sets up the training site, and begins training. After successful completion of the 40-hour course, the NET team issues the equipment, and the Soldiers who attended the training are considered qualified to operate the system.



Soldiers are being graded on their sweeping techniques at a UMT course.

The requirement is to send one Soldier to NET for each AN/PSS-14 being issued. However, units are encouraged to take advantage of on-site NET by sending as many Soldiers in grade E5 or above as possible, so that those who qualify as operators can take the additional training to become unit

master trainers. Otherwise, the Soldiers will have to attend a separate 40-hour operator course before attending UMT.

The UMT course, which is taught by United States Army Engineer School-trained master trainers, is conducted to provide a sustainment capability to each unit issued the AN/PSS-14. Units are encouraged to send as many qualified sergeants to this training as possible. These individuals will develop unit standing operating procedures (SOPs) and conduct new operator and refresher training after the fielding process is complete. It is because of the licensing requirement for this system that UMT course attendees must be E5s or above.



The Sweep Monitoring System (SMS) is a training aide that provides Soldiers with immediate feedback on their sweep techniques.

Licensing

Officials at the Engineer School believe that any equipment designed to detect explosives, mines, or other hazards must have a licensing requirement associated with it. Since the proper use of this equipment will prevent the death or injury of Soldiers, the licensing requirement ensures that personnel are proficient in using it. The current Army Regulation 600-55, *The Army Driver and Operator Standardization Program*, requires military personnel and Department of the Army civilians to have an Optional Form (OF) 346, *United States Government Motor Vehicle Operator's Identification Card*, and demonstrate their proficiency to operate mechanical or ground support equipment, including “mine-detecting equipment, truck-mounted—all makes

and models,” and “miscellaneous equipment, any equipment determined by the local commander or higher authority to warrant licensing, such as . . . detecting sets, mine portable, AN/PRS-7 and AN/PSS-11.”

The Engineer School has recommended changes to the regulation to clarify the licensing requirement for the AN/PSS-14. The first draft of these changes was sent out for review and the final version is scheduled for publication in early 2008. Recommendations include that “all military personnel must have a certified OF 346 or DA Form 5984-E and demonstrate their proficiency to operate mine-detecting or other explosive-detecting equipment, to include all portable, hand held, and truck-mounted models (including, but not limited to, AN/PSS-12 and AN/PSS-14).”

Summary

It is imperative that commanders become familiar with the capabilities of the AN/PSS-14. This system is essential in safe route clearance operations in the current theater of operations and in future conflicts.

The Engineer School has provided all the tools required to establish a successful training and licensing program, to include providing units with a draft SOP for adoption and immediate implementation. The product manager has an aggressive fielding schedule for the AN/PSS-14 for the next few years. Units that do not already have NET and UMT on their schedules should contact Mr. Rob Sellmer, AN/PSS-14 Fielding Manager, at 703-704-3397, DSN 654-3397, <robert.sellmer@us.army.mil>



Training Target Sets (TTS) are used to simulate live mines for AN/PSS-14 training.

for NET and Mr. John Sullivan at 573-563-7646 or cell 573-528-9081 for UMT immediately to ensure that they are ready to deploy with the best route clearance capabilities possible.



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