

The Desert Fox

—NBC reconnaissance at its best

By CPT Vicent O. Hughes

Operation Desert Shield shows that a need for NBC reconnaissance in a desert environment exists. NBC reconnaissance takes on a new dimension in desert operations—a dimension that can spell defeat to the inexperienced FOX NBCRS crew and command structure. There's a real need for well-trained professional

NBCRS crews who can operate in a desert environment.

A knowledgeable command structure and an experienced NBCRS crew can learn to operate successfully in the desert. Successful NBC reconnaissance operations in a special environment such as desert terrain requires special consideration in the

areas of training, command and control, maintenance, tactics and techniques, as well as decontamination.

Training

It's essential for NBCRS crews to have opportunities to train and to operate in a desert environment. The National Training Center (NTC)



The FOX recon vehicle.

provides such an environment. Training at the NTC provides the opportunity for the NBCRS, the crew, and the desert to merge.

Crews gain first-hand knowledge of the harsh desert environment, the look and feel of the terrain, and what it's like to live and work with heat, sun, sand, and wildlife peculiar to the desert.

The NTC affords the crew the opportunity to operate the NBCRS in sandy and rocky soils. The effects of the desert on detection, sampling, and marking of contaminated areas become part of the training experience.

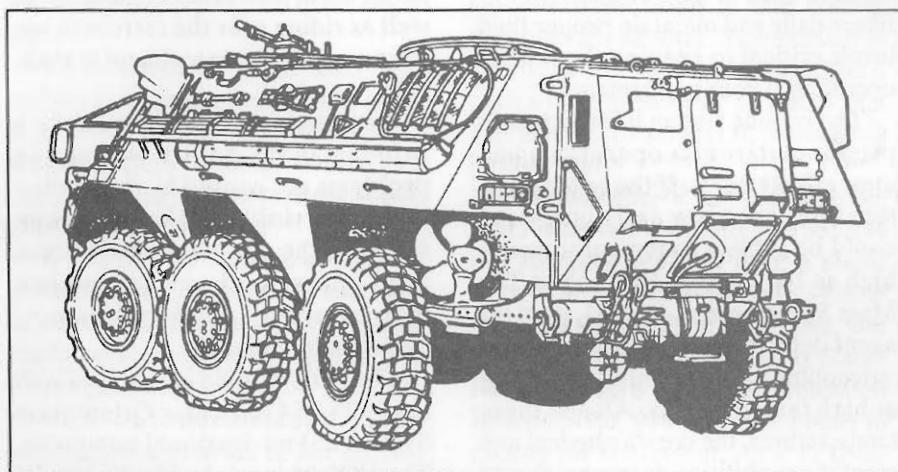
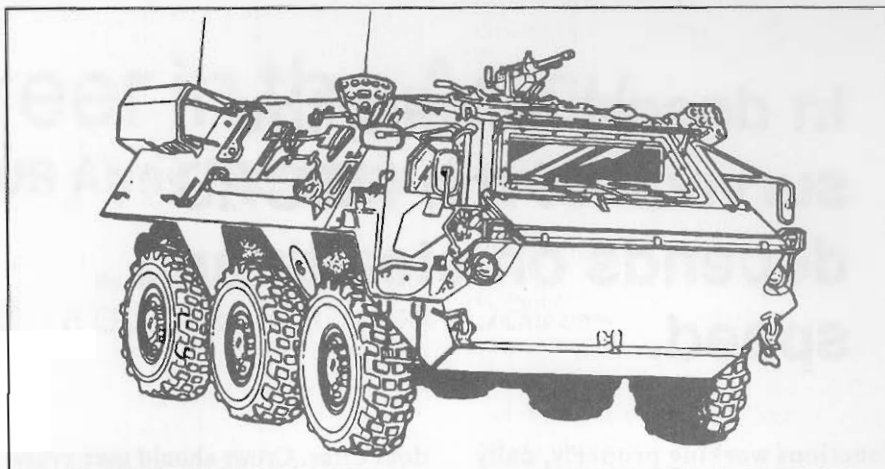
Desert operations are challenging. Reconnaissance crews must understand the desert environment and work and train with it, not against it.

Command and Control

It's essential that command and control be emphasized for success in desert operations. The command and control element, both chemical as well as supported units, must be knowledgeable of NBC reconnaissance operations. This includes understanding the characteristics of the NBCRS (capabilities as well as limitations of the vehicle) and means of employment.

Command goes hand in hand with control. Key members of command and control element must be aware of the intent of an NBC reconnaissance mission and must coordinate to ensure that there's a clear and concise understanding as to what the purpose of the reconnaissance mission is.

Division-level NBC reconnaissance operations begin with the division chemical officer, who's responsible to the division commander for providing tactical as well as technical advice for the best method of employing the division's NBC reconnaissance assets. The chemical staff officers at each level (TAACOM/corps/division) are not the commanders for the subordinate chemical companies within their areas of operation. The senior chemical



Front and rear views of the FOX recon vehicle.

staff officers coordinate missions, establish priorities, and provide technical guidance to these subordinate chemical commanders.

The chemical company commander must choose a headquarters location that permits good communications with the division chemical staff section. The chemical staff section has limited communications capability; therefore, mission requests may be communicated through the G3. The division chemical officer, along with his staff, performs the necessary operational planning for employment of NBC reconnaissance assets. He does this by receiving guidance from the commander and his coordinating staff. In turn, he coor-

dinates and plans with the supported unit to which that NBC reconnaissance platoon is attached. Such coordination ensures a unity of effort. To ensure that the reconnaissance platoon knows its mission and that the commander's intent is understood, an operations order must be issued.

Maintenance

The desert environment is a catalyst for maintenance problems. The NBCRS cannot function effectively in the desert without proper logistics and maintenance support, particularly automotive, cooling, and electronics systems.

The automotive aspects of the NBCRS have proven to be exceptional in the desert. To keep the automotive

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functions working properly, daily preventive maintenance checks and services must be performed. Clean air filters daily and maintain proper fluid levels critical to keeping the vehicle operating at peak performance.

The cooling system is important to proper electronics operations and crew effectiveness. If the cooling system fails, the crew and equipment could be subject to temperatures as high as 140 degrees Fahrenheit. The Mass Spectrometer (MM1), used for agent detection and identification, is susceptible to failure during operation at high temperatures. Also at these temperatures, the crew's physical and mental capabilities decrease, due to heat stress. Heat stress causes performance degradation that includes a decrease in work output and impairs the decisionmaking processes.

Lack of logistical support adversely affects NBC reconnaissance operations. These effects include down time due to absence of repair parts and the inability to perform missions because consumables (for example, contamination markers, filters, and calibration gas) are not available.

Tactics and Techniques

In desert terrain, the survival of the NBCRS depends on stealth and speed. In general, deserts don't offer much natural cover and concealment. Crews must learn to use the limited cover and concealment the desert

does offer. Crews should take every opportunity to perform a map reconnaissance of their area of operation, as well as riding over the terrain to see what cover and concealment is available.

Navigation often proves to be a problem in the desert. Navigation problems are caused by the limited number of visible and known terrain features, the use of unconventional maps (maps that do not use standard map coloring), and local maps of questionable reliability.

The FOX NBCRS is equipped with the VOS 25 (Vehicular Orientation System 25) navigational computer. The VOS 25 is invaluable. Its inertial guidance system works well in a desert environment.

The accuracy involved in navigation depends on the experience of the VOS 25 operator and his knowledge of the terrain. The operator must be able to correctly enter data into the system as well as know when the system needs updating.

Decontamination

Decontamination in the desert must take into consideration seasonal changes in the weather. During the summer or warmer months, weathering may be used to decontaminate vehicles. Weathering acts on chemical agents through evaporation and decomposition and is aided by daytime air temperatures that can

reach 120-130 degrees Fahrenheit. During winter or colder months, daytime high temperatures may only reach into the 80s, with overnight lows in the 30s. Under these conditions the effects of weathering are greatly decreased and require the planning of hasty decon operations in support of NBC reconnaissance missions.

The NBCRS provides the right mix of equipment and technology for successful NBC reconnaissance operations. Well-trained crews and a knowledgeable staff element complete the equation for successful NBC reconnaissance operations in a desert environment.

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His previous assignments include duty as division artillery chemical officer, 4th Infantry Division (Mech) at Fort Carson, Colorado; installation chemical officer at Fort Benning, Georgia; and Officer In Charge, Regional NBC School at Fort Benning, Georgia.

CPT Hughes has an AA degree from Kemper Military College where he received his commission. He has a BS degree in biology from Missouri Valley College. He is a graduate student majoring in education at Jacksonville State University in Alabama.

His military education includes the chemical officer basic and advance courses, Interservice Nuclear Weapons School, Combined Arms and Services Staff School, Ranger School, and Airborne School.