

# Fact Sheet

## RIPPER TOOTH FOR HARD AND FROZEN GROUND

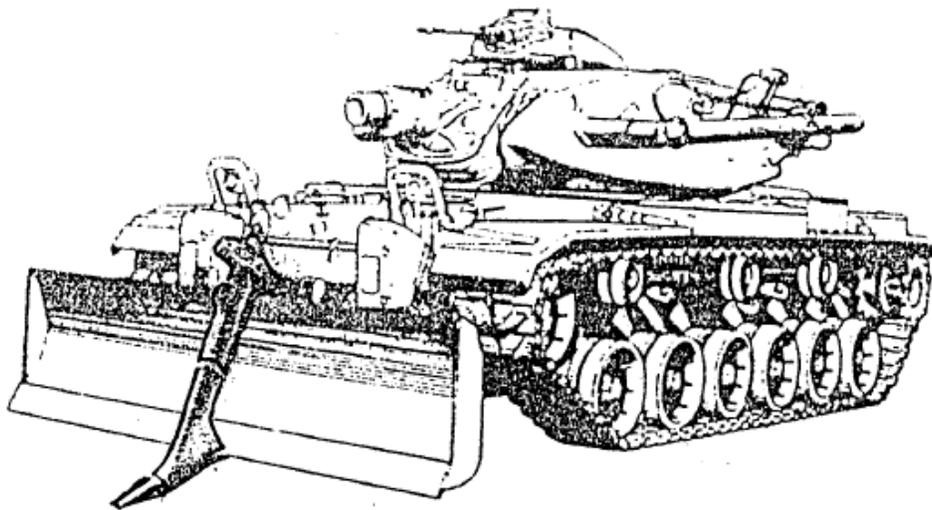
### PROBLEM

Combat engineer units are required to excavate fighting positions and obstacles and to construct and maintain lines of communication in all weather and all terrain. Performing these tasks, even for heavy units, can be a significant problem because the Armored Combat Earthmover (ACE) has problems penetrating hard and frozen ground.

### SOLUTION

The concept of ripping hard ground using an easily installed, low-cost, commercial ripper on blade-equipped engineer tractors, such as the Combat Engineer Vehicle (CEV), the D-7, and the combat earthmover (DEUCE), was considered. Preliminary assessment was based on observations made at the U.S. Army Engineer School using a CEV, successfully demonstrated in Korea, and at the Mountain Warfare School in Vermont. The ground was frozen to a depth of approximately 17 inches. A CEV with a conventional blade did not disturb the surface, while the machine equipped with the ripper easily cut through the frozen layer to the full depth of the ripper tooth (14 inches).

The ripper tooth also can successfully rip into asphalt and other hard ground, and can be mounted on the blade of a D-7 that doesn't have a rear-mounted ripper. Using this approach, a site could be rapidly prepared for excavation by a less aggressive machine. Although the CEV is no longer a viable option, there are numerous D-7s available in Army National Guard units as well as select active duty support elements.



### STATUS

This effort has been coordinated with the U.S. Army Engineer School at Fort Leonard Wood, Missouri. Future efforts will focus on use of this type of ripper on other bladed machines and in a greater range of ground conditions.

The ripper tooth is available by ordering NSN 3830-01-414-0437 from the Defense Construction Supply Center (DCSC), Columbus, Ohio 43216.

### POINT OF CONTACT

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