

# Fact Sheet

## WINTER RIVER CROSSINGS

### PROBLEM

The objective of the winter river-crossing program is to provide commanders with viable crossing alternatives and to provide combat engineers with improved information and skills to effectively use their equipment in a winter environment. Past efforts with Engineer units in Korea have led to the development of solutions for crossing ice-covered rivers using the ribbon bridge. Work during the next few years will attempt to identify the difficulties of, and recommend solutions for, fording ice-covered rivers. An expedient method that does not rely solely on the ribbon bridge is being sought for hasty river crossings.

### SOLUTION

Crossing ice-covered rivers with heavy tracked vehicles (> 60 t) requires a good-quality ice thickness of nearly three feet. If the ice cover is too thin, constructing an ice bridge can take days. Use of the ribbon bridge requires personnel and materiel to cut, blast, or break the ice to create an open-water zone to launch and connect bays, and crossing can take up to one hour per 200 feet of river width.

A ford of the river (if possible) would be one of the quickest ways to cross. Finding a shallow hydraulic control section or a relatively shallow depth section is the first task and could be accomplished fairly easily in the summer. With an ice cover present, however, it may be harder to find desirable locations. An M-1 tank should not have any difficulty breaking the ice on the first pass, but follow-on vehicles could encounter problems with 1) congestion of broken ice floes created by wave action, or 2) identification of the crossing lane. Certain wheeled vehicles with low traction may have problems crossing if there is ice in the lane. Mobility of tracked vehicles leaving the river and climbing over the shore ice may be impaired. In 1993 and 1994, support was provided to the South Dakota Army National Guard during two exercises that provided additional input for river crossing operations.

### RESULTS

A series of tests with both tracked and wheeled vehicles will be conducted at typical fording sites to document problems encountered when crossing an ice-covered ford. Once problems are identified, techniques to minimize the ice problems in the crossing lane will be field-evaluated and written into doctrine. Efforts to coordinate this work with Canadian engineers are ongoing.

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