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(FM 5-490)

***Engineer
Diving
Operations***

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**Headquarters,
Department of the Army**

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Engineer Diving Operations

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Preface

This FM provides the doctrinal basis and the responsibilities, relationships, procedures, capabilities, constraints, and planning considerations for the conduct of engineer underwater operations throughout an area of operations (AO). Its primary purpose is to integrate engineer underwater operations into the overall sustainment and mobility engineering structure. The doctrine presented is applicable for joint interagency and multinational environments in the full spectrum of operations.

Army Regulation (AR) 25-30 mandates that all Army programs and functions will use the metric system. To ensure compliance with this requirement, an English-to-metric measurement conversion chart is provided in Appendix A.

The proponent of this publication is HQ TRADOC. Send comments and recommendations on Department of the Army (DA) Form 2028 (Recommended Changes to Publications and Blank Forms) directly to Commandant, United States Army Engineer School (USAES), ATTN: ATSE-DOT-DD, 320 MANSCEM Loop, Suite 336, Fort Leonard Wood, Missouri 65473-8929.

Unless this publication states otherwise, masculine nouns and pronouns do not refer exclusively to men.

Chapter 1

Engineer Diving Missions

Engineer divers provide assured mobility by supporting the forward movement of troops and equipment. Divers also provide support to general engineering operations in and around water. Supporting assets range from a small scuba team to multiple larger teams with a diverse range of capabilities, including the use of surface-supplied diving (SSD) apparatus and heavy equipment. The following seven major essential missions are identified for engineer divers:

- Mobility/countermobility.
 - River crossing operations.
 - Bridge inspection and repair.
 - Hydrographic survey.
 - Obstacle emplacement/reduction.
- Port opening, construction, and rehabilitation.
 - Planning and inspection.
 - Clearance.
 - Repair.
 - Construction.
- Salvage.
- Search and recovery.
- Protection (physical security).
 - Security of bridges, ports, locks, and dams.
 - Physical security systems.
- Ship husbandry.
 - In-water hull inspections.
 - In-water maintenance.
 - Damage control and repair.
- Joint logistics over the shore (JLOTS).
 - Hydrographic survey (beachhead).
 - Mooring systems.
 - Offshore petroleum distribution.

MOBILITY/COUNTERMOBILITY

1-1. Engineer diving teams support the mobility of troops and equipment. Divers provide critical support to the engineer commander for wet-gap crossing sites. A light diving team can support bridge reconnaissance for all bridging operations. Regardless of the crossing means, each site needs