

DEPARTMENT OF THE ARMY
U.S. Army Corps of Engineers
Washington, DC 20314-1000

EM 1110-2-1424

CECW-ET

Manual
No. 1110-2-1424

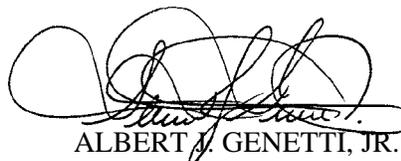
28 February 1999

Engineering and Design
LUBRICANTS AND HYDRAULIC FLUIDS

- 1. Purpose.** This manual provides guidance on lubricants and hydraulic fluids to engineering, operations, maintenance, and construction personnel and other individuals responsible for the U.S. Army Corps of Engineers (USACE) civil works equipment.
- 2. Applicability.** This manual applies to all USACE commands having civil works responsibility.
- 3. Discussion.** This manual is intended to be a practical guide to lubrication with enough technical detail to allow personnel to recognize and easily discern differences in performance properties specified in manufacturers' product literature so that the proper lubricant for a particular application is selected. It describes basic characteristic properties of oils, hydraulic fluids, greases, solid lubricants, environmentally acceptable lubricants, and their additives. It examines the mechanics of hydrodynamic, boundary, extreme pressure, and elastohydrodynamic lubrication to protect against surface deterioration. Separate chapters are devoted to lubricant specification and selection, and requirements of lubricants for equipment currently in use at USACE civil works facilities. Because conscientious adherence to lubrication schedules is the best prescription for longevity of component parts, operation and maintenance considerations are also addressed.
- 4. Distribution Statement.** Approved for public release, distribution is unlimited.

FOR THE COMMANDER:

2 Appendices
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