

TM 3-256

WAR DEPARTMENT TECHNICAL MANUAL

SWINGING BOOM CRANE TRUCK M1

RESTRICTED: DISSEMINATION OF RESTRICTED MATTER.
No person is entitled solely by virtue of his grade or position to
knowledge or possession of classified matter. Such matter is
entrusted only to those individuals whose official duties require
such knowledge or possession. (See also par. 23b, AR 380-5,
15 March 1944.)

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WAR DEPARTMENT
Washington 25, D. C., 25 May 1945.

TM 3-256, Swinging Boom Crane Truck M1, is published for the information and guidance of all concerned.

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G. C. MARSHALL,
Chief of Staff.

Official:

J. A. ULIO,
Major General,
The Adjutant General.

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Refer to FM 21-6 for explanation of distribution formula.

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SAFETY PRECAUTIONS

All possible safety guards have been built into this crane but no mechanical devices have ever been designed which will protect fully against unusual or extreme operating conditions. Unless the safety instructions in subparagraph 15c are thoroughly understood and followed in detail, the operation of this equipment may result in damage to the crane and loss of life to personnel. Special points to remember are:

1. Be sure truck frame is level.
2. Do not overload crane.
3. Center hook directly over load.
4. Always lower load slowly.
5. Do not attempt to drag a load by swinging the boom.
6. Always wear gloves when handling wire rope.

Part One

INTRODUCTION

Section I. GENERAL

1. SCOPE.

a. Arrangement. These instructions are published for the information and guidance of personnel to whom this equipment is assigned. They include information on operation and maintenance of the equipment, as well as descriptions of the major units and their functions in relation to other components of the equipment. The instructions apply only to the swinging boom crane, which is a component of the swinging boom crane truck M1, and are arranged in four parts: Part one, introduction; part two, operating instructions; part three, maintenance instructions; and part four, auxiliary equipment. This manual includes only those instructions on the truck which are necessary for operation and maintenance of the crane. The swinging boom crane is permanently mounted on a 4-ton, 6 x 6 truck chassis, and reference is made to TM 9-811 for information regarding maintenance and operation of the truck.

b. Reference. A complete list of Supply Catalogs, Field Manuals, and Technical Manuals applicable to the equipment of the swinging boom crane is contained in the appendix.

2. RECORDS.

Forms and records applicable for use in performing prescribed operations are listed below with brief explanations of each:

a. War Department Lubrication Order. War Department Lubrication Order LO 3-256 (fig. 25) prescribes lubrication maintenance for this crane. A Lubrication Order is issued with crane and is to be carried with it at all times.

b. W.D., A.G.O. Form No. 478, MWO and Major Unit Assembly Replacement Record. This form, carried with the crane, will be used by all personnel completing a modification or major unit assembly replacement to record clearly description of work completed, date, hours of operation, and Modification Work Order number or nomenclature of unit assembly. Personnel performing the operation will initial in the column provided. Minor repairs, parts, and accessory replacements will not be recorded.

c. W.D., A.G.O. Form No. 9-81, Exchange Part or Unit Identification Tag. This tag, properly executed, may be used when exchanging un-serviceable items for like serviceable assemblies, sub-assemblies, parts, and tools.

d. W.D., A.G.O. Form No. 468, Unsatisfactory Equipment Report.

PARS. 2-3**INTRODUCTION**

This form will be used for reporting manufacturing, design, or operational defects in materiel with a view to improving and correcting such defects, and for use in recommending modifications of materiel. This form is not to be used for reporting failures, isolated materiel defects, or malfunctions of materiel resulting from fair wear and tear or accidental damage; nor for the replacement, repair, or the issue of parts and equipment. It does not replace currently authorized operational or performance records.

e. W.D., A.G.O. Form No. 6, Duty Roster. This form, slightly modified, will be used for scheduling and maintaining a record of crane maintenance operations. It should be used for lubrication records.

Section II. DESCRIPTION AND DATA

3. DESCRIPTION.

a. General. This equipment consists of a swinging boom crane mounted on a 4-ton, 6 x 6 chassis. It is used primarily for lifting and moving bulk containers of 1-ton capacity in field filling operations (figs. 1, 2, and 3). Operational components of this equipment are:

(1) *Power take-off.* Power for performing crane operations is supplied by the truck engine through a take-off. Controls for operating the take-off are located in the driver's compartment of the truck. An explanation of the take-off is found in TM 9-811, "4-Ton, 6 x 6, Trucks," a copy of which is supplied with the truck.

(2) *"A" frame* (fig. 4). The "A" frame is bolted to the chassis immediately to the rear of the driver's compartment. The principal operational components are grouped around it.

(3) *Boom swinger assembly* (fig. 4). The boom swinger assembly is a worm geared positive drive type and is used in swinging the boom from side to side.

(4) *Winch assembly* (fig. 4). The winch unit consists of two winches mounted together at the base of the "A" frame. The L. H. winch is for raising and lowering the hook; the R. H. winch is for raising and lowering the boom. Automatic safety brakes on the worm shaft of each winch hold the hook and boom in any desired position.

NOTE: Throughout this manual whenever L. H. or R. H. is used, it should be understood that reference is made to the sides of the truck. An individual standing at the rear of the truck and facing forward will have the L. H. (left hand) side of the truck on his left, and R. H. (right hand) side of the truck on his right.

(5) *Gear box assemblies* (fig. 4). A gear box unit consisting of three gear box assemblies is mounted on the L. H. side of the "A" frame. Each gear box assembly contains two multiple disk clutches geared to give one forward and one reverse speed to the output shaft. Each gear box assembly is controlled by a single lever.

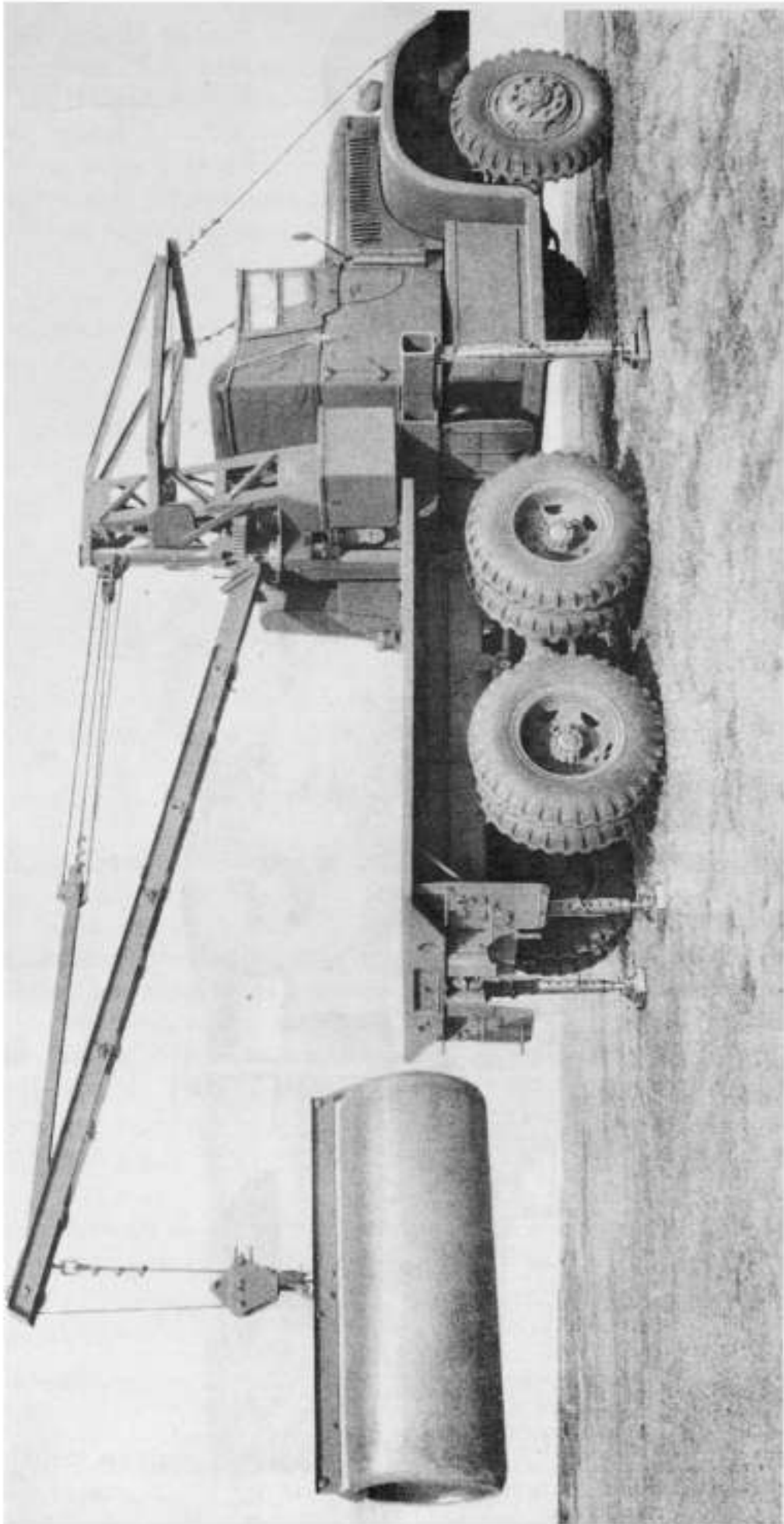


Figure 1—Swinging boom crane truck M1—right side.

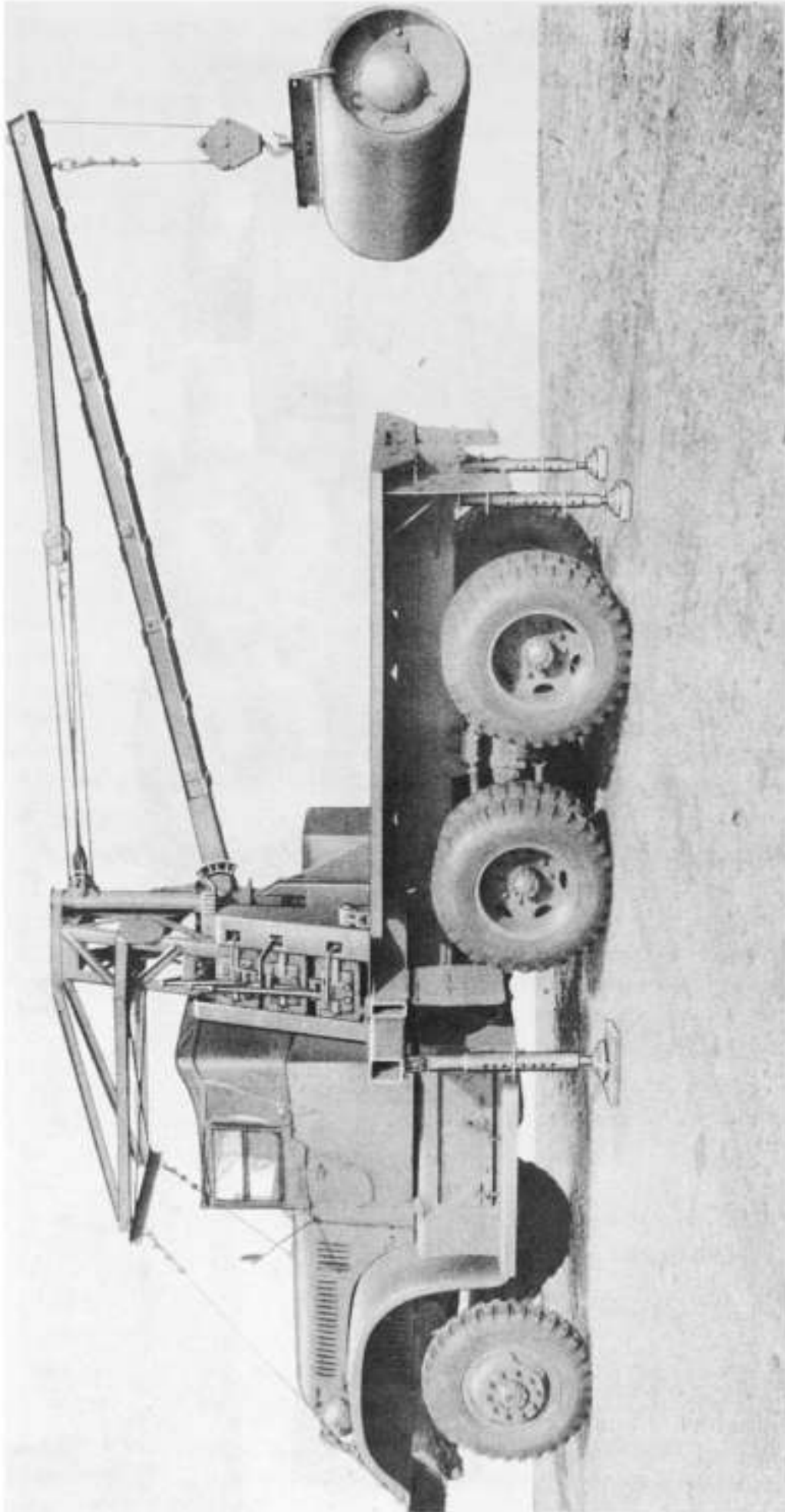


Figure 2—Swinging boom crane truck M1—left side.