

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

TECHNICAL MANUAL

OPERATOR AND ORGANIZATIONAL

MAINTENANCE MANUAL

TRACTOR, FULLTRACK, LOW SPEED;

DIESEL ENGINE DRIVEN ; MEDIUM

DRAWBAR PULL; OSCILLATING TRACK

78-INCH GAGE

CATERPILLAR MODEL D-7E

NSN 2410-00-782-1130 w/WINCH

NSN 2410-00-926-3697 w/RIPPER

This copy is a reprint which includes current
pages from Change I.

HEADQUARTERS, DEPARTMENT OF THE ARMY

30 JANUARY 1975

TECHNICAL MANUAL }
No. 5-2410-214-12 }

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D. C., 30 January 1975

OPERATOR AND ORGANIZATIONAL MAINTENANCE MANUAL
TRACTOR, FULL TRACK, LOW SPEED; DIESEL ENGINE
DRIVEN, MEDIUM DRAWBAR PULL; OSCILLATING TRACK,
78 INCH GAGE CATERPILLAR MODEL D7E ROPS
NSN 2410-01-050-9628 W/WINCH
NSN 2410-01-050-9629 W/RIPPER

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*This manual supersedes TM 5-2410-214-12, 6 June 1968 including all change.

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CHAPTER 1

INTRODUCTION

Section I. GENERAL

1-1. Scope

a. This manual is published for use by personnel to whom the Caterpillar Model D-7E ROPS Tractor (figs 1-1, 1-1.1, 1-2, 1-3, 1-4 and 1-5) is issued. It provides information on the operation and organizational maintenance of the equipment. Also included are descriptions of main units and their functions in relationship to other components.

b. Appendix A contains a list of publications applicable to this manual. Appendix B contains the list of basic issue items authorized the operator of this equipment and the list of maintenance and operating supplies required for initial operation. Appendix C contains the maintenance allocation chart.

c. Numbers in parentheses following nomenclature callouts on illustrations indicate quantity; numbers preceding nomenclature callouts indicate preferred maintenance sequence.

1-2. Maintenance forms and records

Maintenance forms and records that you are required to use are explained in TM 38-750.

1-3. Reporting of Errors

You can help improve this publication. If you find any, mistake or if you know of a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publication and Blank Forms), or DA Form 2028-2 located in the back of this publication direct to: US Army Tank-Automotive Command, ATTN: DRSTA-MB, Warren, MI 48090. A reply will be furnished to you.

1-4. Equipment Serviceability Criteria

Refer to TM 5-2400-200-ESC for Equipment Serviceability Criteria.

1-5. Basic Issue Items and Items Troop Installed or Authorized List

There are troop installed items.

1-6. Destruction of Army Materiel to Prevent Enemy Use

Instructions for destruction of materiel to prevent enemy use are contained in TM 750-244-3.

1-7. Administrative Storage

Instructions for administrative storage are contained in TM 740-90-1.

Section II. DESCRIPTION AND DATA

1-8. Description

a. The Model D-7E ROPS is a full-tracked, low speed, medium drawbar pull tractor. The tractor is powered by a four cylinder, four stroke cycle,

turbocharged diesel engine, equipped with a 24-volt electric starter.

b. Power from the diesel is transmitted by the flywheel to the torque divider and from the torque

divider output shaft through the universal joint to the transmission input shaft. The transmission output shaft is splined to a transfer gear within the transfer case. The transfer gear drives the bevel pinion. From the bevel pinion, power is transmitted through the bevel gear to the steering clutches then through the final drives to the tracks.

c. Power shift transmission provides 3 forward and 3 reverse speed ranges. The tractor is steered by hand levers that operate hydraulic control valves to actuate the steering clutches. Foot pedals control mechanically operated steering clutch brakes. A hand operated brake lock control is provided to lock one or both steering

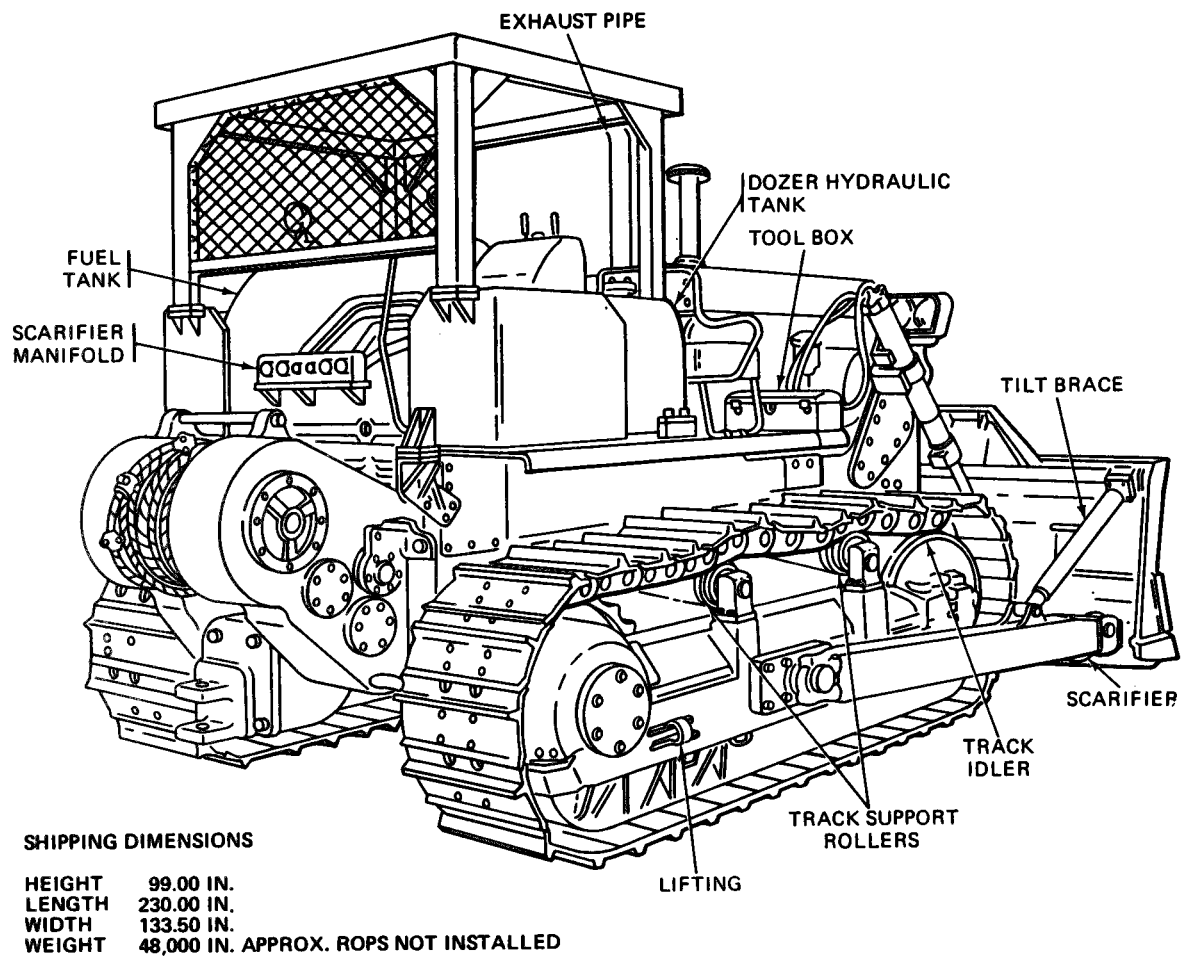
clutch brakes in the applied position to hold the tractor on slopes.

d. The working tools include hydraulically controlled bulldozer blade with backrip scarifier, rear mounted winch, and ripper.

e. The Roll Over Protection Structure (ROPS) is designed to protect the driver in case of a roll-over or being hit by a falling object. The ROPS is located on both left and right fenders.

1-9. Tabulated Data

a. Identification. Caterpillar Model D-7E ROPS Tractor has information plates and decals as listed in table 1-1.



TA 178525 ■

Figure 1-1. Tractor right rear three quarter view with winch (Serial Nos. 75E1 and up).