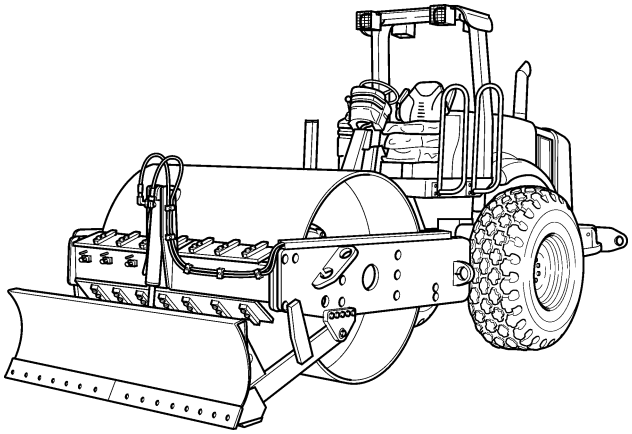
TECHNICAL MANUAL

OPERATOR'S MANUAL



ROLLER, VIBRATORY, SELF-PROPELLED, Type II

CATERPILLAR MODEL CS-563D

NSN 3895-01-456-2735

Contract No. DAAE07-98-C-S007

Approved for public release; distribution is unlimited.

INTRODUCTION	1-1
PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) AND LUBRICATION INSTRUCTIONS	2-1
MILITARY-SPECIFIC OPERATION	3-1
CATERPILLAR KEBU7503-03, OPERATION AND MAINTENANCE MANUAL	4-1
REFERENCES	A-1
COMPONENTS OF END ITEM (COEI) AND BASIC ISSUE ITEMS (BII) LISTS	B-1
ADDITIONAL AUTHORIZATION LIST	C-1
STOWAGE AND SIGN GUIDE	D-1
TRANSPORTABILITY INSTRUCTIONS	E-1
ALPHABETICAL INDEX	Index-1

HEADQUARTERS, DEPARTMENT OF THE ARMY 21 SEPTEMBER 1999

TECHNICAL MANUAL

HEADQUARTERS
DEPARTMENT OF THE ARMY

No. 5-3895-383-10

Washington, D.C. 21 September 1999

OPERATOR'S MANUAL

FOR

ROLLER, VIBRATORY, SELF-PROPELLED, Type II

CATERPILLAR MODEL CS-563D
NSN 3895-01-456-2735

Contract No. DAAE07-98-C-S007

REPORTING OF ERRORS AND RECOMMENDING IMPROVEMENTS
You can help improve this publication. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Submit your DA Form 2028-2 (Recommended Changes to Equipment Technical Publications), through the Internet, on the Army Electronic Product Support (AEPS) web site. The Internet address is http://aeps.ria.army.mil. If you need a password, scroll down and click on "ACCESS REQUEST FORM". The DA Form 2028 is located in the ON-LINE FORMS PROCESSING section of the AEPS. Fill out the form and click on SUBMIT. Using this form on the AEPS will enable us to respond quicker to your comments and better manage the DA Form 2028 program. You may also mail, fax, or e-mail your letter, DA Form 2028 or DA Form 2028-2, direct to: Commander, U.S. Army Tank-automotive and Armaments Command, ATTN: AMSTA-AC-NML, Rock Island, IL 61299-7630. The e-mail address is amsta-ac-nml@ria.army.mil. The fax number is DSN 793-0726 or Commercial (309) 782-0726.

TABLE OF CONTENTS

Page

CHAPTER 1 INTRODUCTION 1-1

Section I. General Information 1-1
Section II. Equipment Description and Data 1-4

CHAPTER 2 PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) AND LUBRICATION INSTRUCTIONS 2-1

CHAPTER 3 MILITARY-SPECIFIC OPERATION 3-1

Section I. Operation Under Usual Conditions 3-1
Section II. Operation Under Unusual Conditions 3-16

CHAPTER 4 CATERPILLAR KEBU7503-03, OPERATION AND MAINTENANCE MANUAL 4-1

TABLE OF CONTENTS (CONT)

Page

APPENDIX A REFERENCES A-1

APPENDIX B COMPONENTS OF END ITEM (COEI) AND BASIC ISSUE ITEMS (BII) LISTS B-1

Section I. Introduction B-1
Section II. Components of End Item B-2
Section III. Basic Issue Items B-3

APPENDIX C ADDITIONAL AUTHORIZATION LIST C-1

Section I. Introduction C-1
Section II. Additional Authorization List C-2

APPENDIX D STOWAGE AND SIGN GUIDE D-1

APPENDIX E TRANSPORTABILITY INSTRUCTIONS E-1

ALPHABETICAL INDEX Index-1

HOW TO USE THIS MANUAL

This manual is designed to help operate and maintain the Caterpillar Model CS-563D, NSN 3895-01-456-2735, Type II Self-propelled Vibratory Roller. The Roller is a commercially available unit and is altered slightly for military use. This contains a commercial off-the-shelf (COTS) manual with supplemental data to support military-specific maintenance and operation. Listed below are some of the special features that are included to help locate and use the needed information:

Chapter One contains information specific to the military model.

Chapter Two contains the operator's Preventive Maintenance Checks and Services (PMCS) and Lubrication Instructions.

Chapter Three contains operation instructions specific to the military model.

Chapter Four is the commercial off-the-shelf manual from the manufacturer.

Appendix A lists references related to this manual.

Appendix B contains Components of End Item and Basic Issue Items Lists.

Appendix C covers an Additional Authorized List for the Roller.

Appendix D contains the Stowage and Sign Guide for the Roller.

Appendix E contains the Transportability Instructions. This appendix was added for information only and is not authorization for the operator to perform tasks or maintain additional tools on the vehicle.

An alphabetical index is provided to help locate main items in the text.

FOLLOW THESE GUIDELINES WHEN USING THIS MANUAL:

The operator shall read through this manual and become familiar with the contents before attempting to operate the Roller.

Read all WARNINGS and CAUTIONS before performing any procedure.

Any information in Chapters One, Two, and Three (Military-specific Operation) overrides any conflicting information contained in Chapter Four (manufacturer's commercial off-the-shelf manual).

CHAPTER 1

INTRODUCTION

Para	Contents	Page
1-1.	Scope	1-1
1-2.	Maintenance Forms and Records	1-1
1-3.	Corrosion Prevention and Control (CPC)	1-3
1-4.	Destruction of Army Materiel to Prevent Enemy Use	1-3
1-5.	Reporting Equipment Improvement Recommendations (EIR)	1-3
1-6.	Location and Description of Military-Specific Components	1-5

Section I. GENERAL INFORMATION

1-1. SCOPE

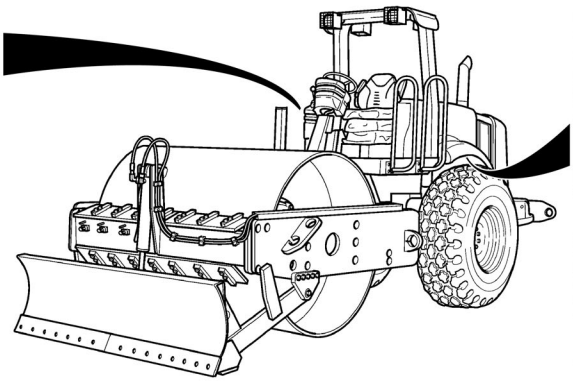
a. Type of Manual. Operator's Manual.

b. Model Number and Equipment Name. Caterpillar Model CS-563D, Roller, Vibratory, Self-propelled, Type II, NSN 3895-01-456-2735.

The Type II Roller is shown in Figure 1-1 (page 1-2), Figure 1-2 (page 1-2), Figure 1-3 (page 1-2), and Figure 1-4 (page 1-2).

c. The engine compartment has been modified with the addition of hood guide plates illustrated below. These plates serve as a guide to assist hood closure.

LEFT SIDE



RIGHT SIDE

d. Purpose of Equipment. The Type II Self-propelled Vibratory Roller, from here on referred to as the Roller, is a self-propelled roller designed to compact soil and gravel bases for parking lots, runways, streets, roads, and highways.

1-2. MAINTENANCE FORMS AND RECORDS

Department of the Army forms and procedures used for equipment maintenance will be those prescribed by DA PAM 738-750, The Army Maintenance Management System (TAMMS) (Maintenance Management UPDATE).

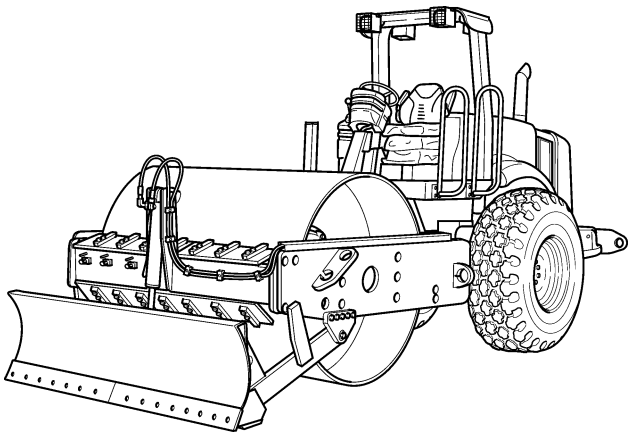


Figure 1-1. Type II
Self-propelled Vibratory Roller
Caterpillar Model CS-563D – Left Front View

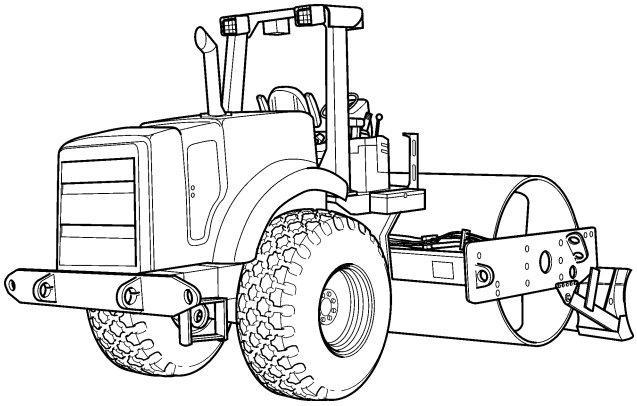


Figure 1-2. Type II
Self-propelled Vibratory Roller
Caterpillar Model CS-563D - Right Rear View

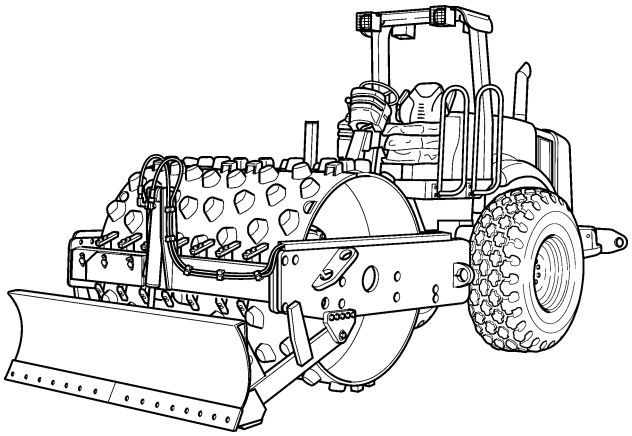


Figure 1-3. Type II
Self-propelled Vibratory Roller
(with Pad-foot Shell Installed)
Caterpillar Model CS-563D – Left Front View

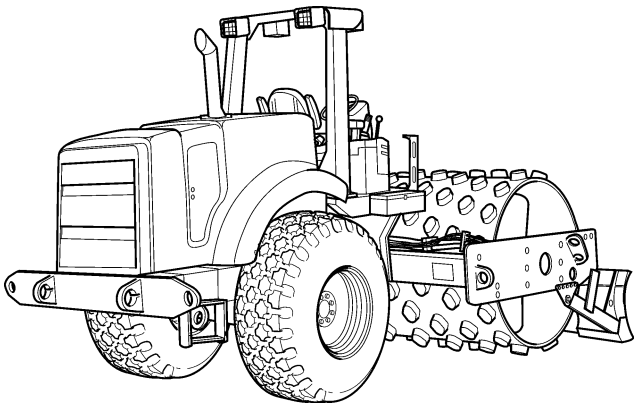


Figure 1-4. Type II
Self-propelled Vibratory Roller
(with Pad-foot Shell Installed)
Caterpillar Model CS-563D - Right Rear View

1-3. CORROSION PREVENTION AND CONTROL (CPC)

Corrosion Prevention and Control (CPC) of Army materiel is a continuing concern. It is important that any corrosion problems with the Roller be reported so that the problem can be corrected and improvements can be made to prevent the problem in future items.

While corrosion is typically associated with rusting of metals, it can also include deterioration of other materials, such as rubber and plastic. Unusual cracking, softening, swelling, or breaking of these materials may be a corrosion problem.

If a corrosion problem is identified, it can be reported using Standard Form 368, Product Quality Deficiency Report. Use of keywords such as “corrosion,” “rust,” “deterioration,” or “cracking” will ensure that the information is identified as a CPC problem. Submit the form to the address specified in DA PAM 738-750.

1-4. DESTRUCTION OF ARMY MATERIEL TO PREVENT ENEMY USE

Command decision, according to the tactical situation, will determine when the destruction of the Roller will be accomplished. A destruction plan will be prepared by the using organization unless one has been prepared by a higher authority. For general destruction procedures for this equipment, refer to TM 750-244-6, Procedures for Destruction of Tank-Automotive Equipment to Prevent Enemy Use (U.S. Army Tank-automotive and Armaments Command).

1-5. REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR)

If your Roller needs improvement, let us know. Send us an EIR. You, the user, are the only one who can tell us what you don’t like about your equipment. Let us know why you don’t like the design or performance. Put it on an SF368 (Product Quality Deficiency Report). Mail it to us at:

Commander,
US Army Tank-automotive and Armaments Command
ATTN: AMSTA-AC-NML
Rock Island, IL 61299-7630

A reply will be furnished to you. You may also provide DA Form 2028-2 information to TACOM via datafax or e-mail.

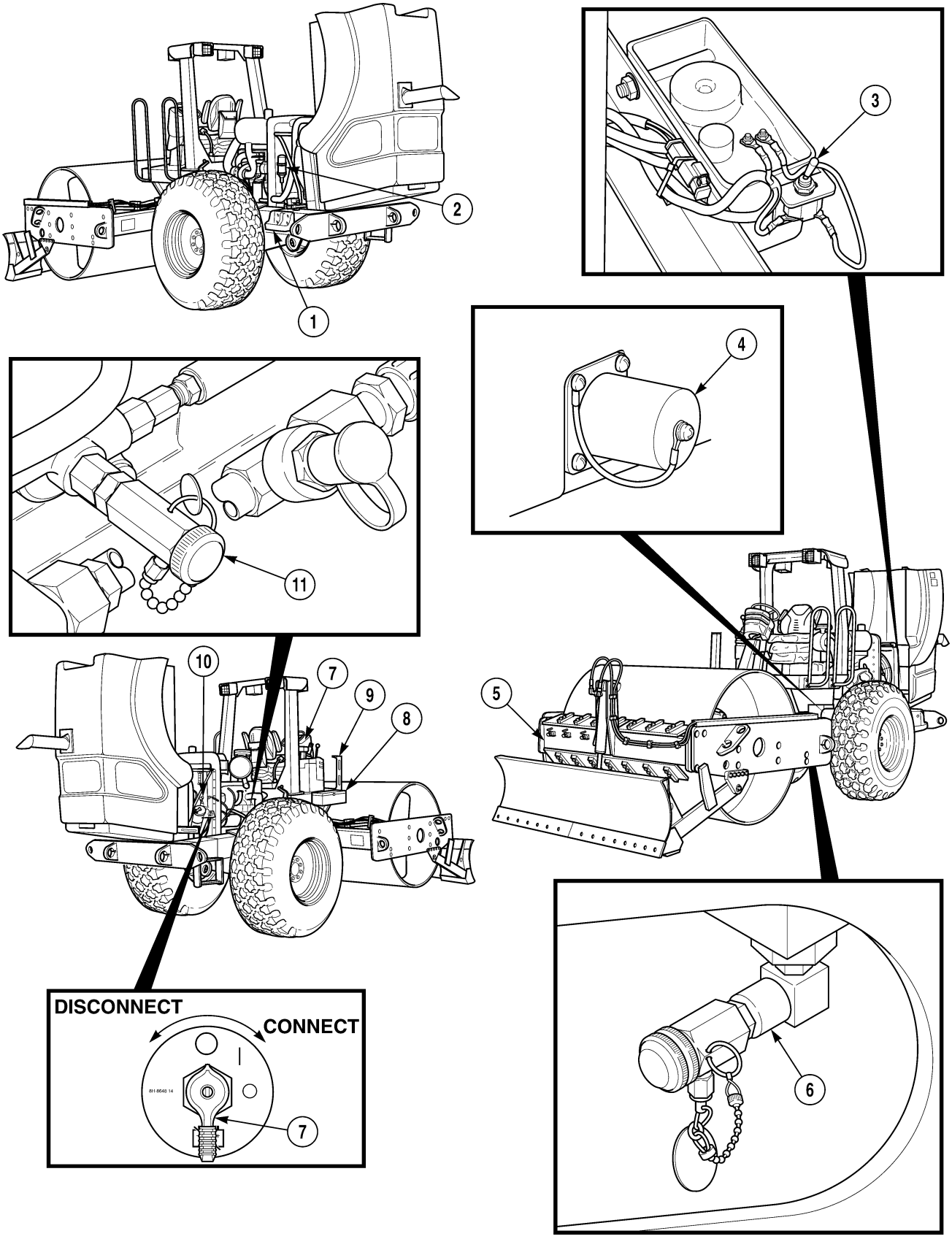
TACOM's datafax number for AMSTA-AC-NML is:

DSN 793-0726
or commercial (309) 872-0726

The e-mail address is: amsta-ac-nml@ria.army.mil

Army Electronic Product Support: http://aeps.ria.army.mil

Section II. EQUIPMENT DESCRIPTION AND DATA



1-6. LOCATION AND DESCRIPTION OF MILITARY-SPECIFIC COMPONENTS

(1) DECONTAMINATION KIT BRACKET. The decontamination kit bracket holds the NBC decontamination kit.

(2) ETHER START SYSTEM. The ether start system provides for the introduction of ether into the engine intake system to aid in starting the engine in temperatures below 32°F (0°C).

(3) BACK UP ALARM CUT-OFF SWITCH. The back-up alarm cut-off switch allows the operator to disengage the back up alarm during periods of required low noise levels.

(4) NATO CONNECTOR. The NATO connector is a standard receptacle with which one vehicle can be "jump-started" with another in the event of battery failure.

(5) UNIVERSAL BUMPER. The universal bumper provides the ability to scrape excess material from either the smooth drum or the installed pad-foot shell. When the pad-foot shell is installed, the smooth drum scraper plates are stowed on the front of the bumper.

(6) HYDRAULIC OIL SAMPLING VALVE. The hydraulic oil sampling valve provides an easy means to collect a sample of hydraulic oil for Army Oil Analysis Plan (AOAP) analysis.

(7) KEYLESS START SYSTEM. The military Roller requires no key to start the engine or engage the electrical system. Keyless switches are used for the engine start switch and the battery disconnect switch.

(8) STOWAGE BOX. The stowage box holds the tools needed for the operator to do all authorized maintenance.

(9) RIFLE MOUNTING BRACKET. The rifle mounting bracket holds the operator's weapon.

(10) MANUAL BRAKE RELEASE PUMP. The manual brake release pump and valve provide a means to release the parking brake while the engine is not running. The Roller has a hydrostatic transmission system which activates the brakes in the absence of positive hydraulic pressure. The pump provides pressure directly to the brakes for temporary release.

(11) ENGINE OIL SAMPLING VALVE. The engine oil sampling valve provides an easy means to collect a sample of engine oil for Army Oil Analysis Plan (AOAP) analysis.