

OPERATOR'S HANDBOOK

MAINTENANCE AND LUBRICATION

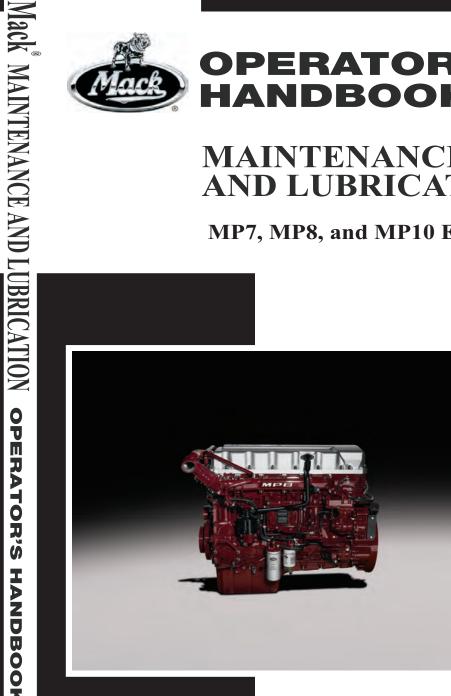
MP7, MP8, and MP10 Engines



OPERATOR'S HANDBOOK

MAINTENANCE AND LUBRICATION

MP7, MP8, and MP10 Engines



21394653 April 2010

OPERATOR'S

HANDBOOK

21394653

© Mack Trucks, Inc. 2010 Printed in U.S.A.

Contents

Operator's Manual Vehicle Maintenance CXU, CHU, GU, TD, MRU and LEU.	1
Foreword	1
Warning Label Information	1
General Information	
Information For the Owner	
Federal Emission Requirements	
Label Information	12
Safety Information	19
Proper Maintenance Procedure	19
Injury Prevention	22
Engine Damage Prevention.	30
Electric System Damage Prevention.	32
Reporting Safety Defects	34
General Engine Information.	
Engine Overview, MP7 and MP8 Left Side View	35
Engine Overview, MP7 and MP8 Right Side View.	36
Engine Overview, MP10 Left Side View	
Engine Overview, MP10 Right Side View	38
Electrical System	39
Batteries	
Battery Warmer	
Battery Condition.	
Charging	
Load Test Electrical Connection Protection	44
Precautions When Installing Electrical Equipment.	
Engine Storage	
Engine Storage	
Maintenance and Service	50 51
Maintenance Hazards	
Engine Components, Service Schedules	
Cooling System	51 54
Fuel System.	63
Engine Oil.	03 75
Engine Air Filter	
Exhaust After-Treatment System.	
Drive Belt Replacement Intervals	
Automatic Belt Tensioner Maintenance.	102
Turbocharger and Charge Air Cooler	
Preventive Maintenance Air Suspensions	109
Steering and Brakes Maintenance.	110
Tires, Wheels and Hub Maintenance	114
Chassis Maintenance.	
Cab Maintenance	
Lubrication	
Oil Capacity Tables and Viscosity Charts	142
Service Check List	

Preventive Maintenance	146
Service Charts	150
Scheduled Services	150
Tire Record	154
Fuel and Oil Record	155
Engine Data	156
Literature	
Service Assistance and Manuals	157
CUSTOMER SERVICE	158

Foreword

DO NOT Remove this manual from the vehicle. It contains important operational and safety information that is needed by all drivers and owners of this vehicle.

This manual contains information concerning the safe operation of your vehicle. It is extremely important that this information is read and understood before the vehicle is operated. This manual also contains a considerable amount of information concerning the vehicle, such as vehicle identification, Preventive Maintenance recommendations and a log for your service records. Please keep this in the vehicle at all times. Information from other component manufacturers is supplied in separate manuals in the Owners Package.

Note: It is important that this manual stay with the vehicle when it is sold. Important safety information must be passed on to the new customer. The service information contained in this manual gives the owner important information about maintaining the vehicle but is not intended as a substitute for the Preventive Maintenance Service Manual and must not be regarded as such.

The National Highway Traffic Safety Administration (NHTSA) and MACK Inc. should be informed immediately if you believe that the vehicle has a defect that could cause a crash, injury or death.

Contact NHTSA by calling the Auto Safety Hotline at 1 (888) 327-4236, by writing to NHTSA, U.S. Department of Transportation, Washington, DC 20590, by TTY at 1 (800) 424-9153, or visit their website at www.nhtsa.dot.gov.

MACK Trucks, Inc. Greensboro, NC USA

Order number: PV776-21394653

All rights reserved. No part of this publication may be reproduced, stored in retrieval system, or transmitted in any forms by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior written permission of MACK Inc.

Warning Label Information

IMPORTANT: Before driving this vehicle, be certain that you have read and that you fully understand each and every step of the driving and handling information in this Operators Manual. Be certain that you fully understand and follow all safety warnings. It is extremely important that this information is read and understood before the vehicle is operated.

IT IS IMPORTANT THAT THE FOLLOWING INFORMATION CONCERNING LABELS BE READ, UNDERSTOOD AND ALWAYS FOLLOWED.

The following types of labels are used throughout this manual:

Note: A note defines an operating procedure, practice, condition, etc., which is essential to proper operation of the vehicle.



DANGER

A danger label directs the operators attention to unsafe practices which could result in serious personal injury or death. The danger label is in **white** type on a **black** background with a **black** border.



WARNING

A warning label directs the operators attention to unsafe practices which could result in personal injury or severe damage to the vehicle. The warning label is in **black** type on a **gray** background with a **black** border.



CAUTION

A caution label directs the operators attention to unsafe practices where personal injury is not likely but property damage could occur. The caution label is in **black** type on a **white** background with a **black** border.

Warning and Advisory Labels

Advisory, Danger, Warning and Caution labels are placed in various locations of the vehicle to alert drivers and service technicians about situations that may lead to personal injury or equipment damage. In the event that a label is damaged or missing the **label must be replaced**. Contact your authorized MACK Truck dealer for assistance regarding Warning and Advisory labels.

General Information

Information For the Owner

If there are questions on the maintenance and performance of your vehicle, please discuss them with your MACK Truck dealer. Your authorized dealer is required to have trained mechanics, special tools and spare parts to fully service your vehicle. If necessary, your dealer will contact MACK Inc. or other manufacturers for any assistance.

In addition to this Maintenance Manual, there may be additional instruction/operators manuals supplied by component manufacturers. These manuals are placed in the Owners Package and placed in the cab. Be sure to read all the manuals thoroughly before operating the vehicle.

Also, various safety labels may be placed on components by the component manufacturer. Be sure to read and follow these labels to prevent damage to the vehicle, personal injury or even death.

Information in this manual refers to MACK components and MACK drivetrain.

Establish a Preventive Maintenance Program with the help of your local MACK Truck dealer. A Preventive Maintenance Program makes it possible to maximize the amount of time your vehicle is up and running, resulting in longer component life. This makes for a safer vehicle by reducing any mechanical failures due to poor maintenance practices.

Note: Federal law requires manufacturers to notify owners of its products in the event of a Federal Motor Vehicle Safety Standard or if a safety related defect is discovered. If you are not the original owner of this vehicle, please notify us about the change in ownership at the address below or through an authorized MACK Truck dealer. This is the only way we will be able to contact you if necessary.

MACK Inc.

Northeast Region

7900 National Service Road, Mail: P.O. Box 26259

Greensboro, NC 27402
TEL: (336) 291-9001
United States of America

This Maintenance Manual covers all MACK vehicles manufactured by MACK Inc., including the whole chassis and all MACK manufactured components. For specific

maintenance information on vendor components, see the respective manufacturers

service and maintenance literature.

This manual, together with manuals for specific components contain important information to be able to operate this vehicle safely. They contain advice and

instructions which will enable you to get the operating economy and performance that you expect from this quality vehicle.

All information, illustrations and specifications contained in this manual are based upon the latest product information available at the time of publication. If any questions arise concerning the current status of Federal or state laws, the appropriate Federal or state agency should be contacted.

Note: Illustrations are used for reference only and may differ slightly from the actual vehicle, however, key components addressed in this manual are represented as accurately as possible.

MACK Inc. reserves the right to make changes at any time or to change specifications or design without notice and without incurring obligation.

General

USA

The Federal Clean Air Act, Section 203 (a) (3), states the following concerning the removal of air pollution control devices or modification of a certified engine to a non-certified configuration:

CAA, Section (a) (3) (A) prohibits any person from removing or rendering inoperative any emission control device or element of design installed on or in a motor vehicle or motor vehicle engine in compliance with federal regulations under the Clean Air Act prior to the sale and delivery of the vehicle to the ultimate purchaser. The statute also prohibits any person from knowingly removing or rendering inoperative any emission control device or element of design after sale and delivery of a vehicle or engine to the ultimate purchaser. Any person who violates these provisions either by removing or rendering inoperative emissions control devices prior to the sale or delivery of an engine or vehicle to an ultimate purchaser, or by knowingly removing or rending inoperative such devices after the sale and delivery of an engine or vehicle to an ultimate purchaser, can be subject to penalties of up to \$3,750 per incident. Any dealer or manufacturer who violates these provisions can be subject to penalties of up to \$37,500 per incident.

Canada

The same conditions that apply in the USA apply to Canada, with one exception. After the vehicle is sold to a retail customer, that is, the end user, the jurisdiction controlling the emission control devices becomes the province in which the vehicle is licensed. No changes should be made that render any or all of the devices inoperative.

Should the owner/operator wish to make any changes to the emission control devices, check with the provincial authority before making any such changes.

Mexico

The same conditions that apply in the USA apply to Mexico. Refer to the Mexican Federal Law for Emission Control which adheres to EPA regulations. No changes should be made that render any or all of the emissions control devices inoperative.

Should the owner/operator wish to make any changes to the emission control devices, check with the state authority before making any such changes.

Federal Emission Requirements

This section covers the requirement of the United States Clean Air Act which states:

The manufacturer shall furnish with each new motor vehicle or motor vehicle engine such written instructions for the maintenance and use of the vehicle or engine by the ultimate purchaser as may be reasonable and necessary to assure the proper functioning of emission control devices and systems.

This section also covers the requirements of the emissions regulations promulgated under the Motor Vehicle Safety Act in Canada.

Mack Operators Handbook Mp7 Mp8 And Mp10 Engines
F611 Operator's Manual Vehicle Maintenance CXUndbook-mp7-1
CHU, GÜ, TD, MRU and LEU

Tampering with Gaseous Emission Control Systems Prohibited

The Federal Clean Air Act prohibits the removal or rendering inoperative of any device or element of design installed on or in a motor vehicle or motor vehicle engine in compliance with Federal Emission Regulations by:

- 1 Any person prior to its sale and delivery to the ultimate purchaser, or
- 2 Any manufacturer or distributor after its sale and delivery to the ultimate purchaser, or
- 3 Any person engaged in the business of repairing, servicing, selling, leasing, or trading motor vehicles or motor vehicle engines following its sale and delivery to the ultimate purchaser, or
- 4 Any person who operates a fleet of motor vehicles following its sale and delivery to the ultimate purchaser.

Note: For specifics of the prohibited vehicle/engine modifications refer to the MACK Bodybuilder documentation.

Engines Other than MACK

For specific information on engines other than MACK, refer to the engine vendors publications.

Noise Emissions

MACK Inc. warrants to the first person who purchases this vehicle for purposes other than resale and to each subsequent purchaser, that this vehicle as manufactured by MACK Inc. was designed, built and equipped to conform, at the time it left the control of MACK Inc., with all applicable U.S. EPA Noise Control Regulations.

This warranty covers this vehicle as designed, built and equipped by MACK Inc., and is not limited to any particular part, component or system of the vehicle manufactured by MACK Inc. Defects in design, assembly or in any part, component or system of the vehicle as manufactured by MACK Inc., which, at the time it left the control of MACK Inc. caused noise emissions to exceed Federal standards, are covered by this warranty for the life of the vehicle.