



# Operation and Maintenance Manual

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## **120M Series 2, 12M Series 2, 140M Series 2, 160M Series 2 Motor Graders**

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M92 1-UP (120M2)  
R9N 1-UP (120M2)  
M9C 1-UP (120M2)  
R9M 1-UP (140M2)  
M9D 1-UP (140M2)  
R9L 1-UP (160M2)  
M9E 1-UP (160M2)  
R9W 1-UP (120M2)  
M9H 1-UP (120M2)  
R9G 1-UP (140M2)  
M9J 1-UP (140M2)  
R9T 1-UP (160M2)  
M9K 1-UP (160M2)  
R9S 1-UP (12M2)  
F9M 1-UP (12M2)  
R9P 1-UP (12M2)  
F9B 1-UP (12M2)

**Language: Original Instructions**



Scan to find and purchase genuine Cat® parts and related service information.



## Important Safety Information

Most accidents that involve product operation, maintenance and repair are caused by failure to observe basic safety rules or precautions. An accident can often be avoided by recognizing potentially hazardous situations before an accident occurs. A person must be alert to potential hazards, including human factors that can affect safety. This person should also have the necessary training, skills and tools to perform these functions properly.

**Improper operation, lubrication, maintenance or repair of this product can be dangerous and could result in injury or death.**

**Do not operate or perform any lubrication, maintenance or repair on this product, until you verify that you are authorized to perform this work, and have read and understood the operation, lubrication, maintenance and repair information.**

Safety precautions and warnings are provided in this manual and on the product. If these hazard warnings are not heeded, bodily injury or death could occur to you or to other persons.

The hazards are identified by the "Safety Alert Symbol" and followed by a "Signal Word" such as "DANGER", "WARNING" or "CAUTION". The Safety Alert "WARNING" label is shown below.



The meaning of this safety alert symbol is as follows:

**Attention! Become Alert! Your Safety is Involved.**

The message that appears under the warning explains the hazard and can be either written or pictorially presented.

A non-exhaustive list of operations that may cause product damage are identified by "NOTICE" labels on the product and in this publication.

**Caterpillar cannot anticipate every possible circumstance that might involve a potential hazard. The warnings in this publication and on the product are, therefore, not all inclusive. You must not use this product in any manner different from that considered by this manual without first satisfying yourself that you have considered all safety rules and precautions applicable to the operation of the product in the location of use, including site-specific rules and precautions applicable to the worksite. If a tool, procedure, work method or operating technique that is not specifically recommended by Caterpillar is used, you must satisfy yourself that it is safe for you and for others. You should also ensure that you are authorized to perform this work, and that the product will not be damaged or become unsafe by the operation, lubrication, maintenance or repair procedures that you intend to use.**

The information, specifications, and illustrations in this publication are on the basis of information that was available at the time that the publication was written. The specifications, torques, pressures, measurements, adjustments, illustrations, and other items can change at any time. These changes can affect the service that is given to the product. Obtain the complete and most current information before you start any job. Cat dealers have the most current information available.

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### NOTICE

**When replacement parts are required for this product Caterpillar recommends using original Caterpillar® replacement parts.**

**Other parts may not meet certain original equipment specifications.**

**When replacement parts are installed, the machine owner/user should ensure that the machine remains in compliance with all applicable requirements.**

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**In the United States, the maintenance, replacement, or repair of the emission control devices and systems may be performed by any repair establishment or individual of the owner's choosing.**

## Table of Contents

Foreword .....	4
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### Safety Section

Safety Messages .....	6
Additional Messages .....	15
General Hazard Information.....	21
Crushing Prevention and Cutting Prevention..	24
Burn Prevention.....	24
Fire Prevention and Explosion Prevention.....	25
Fire Safety .....	29
Fire Extinguisher Location.....	29
Tire Information .....	29
Electrical Storm Injury Prevention .....	30
Before Starting Engine .....	30
Engine Starting .....	31
Before Operation .....	32
Visibility Information .....	32
Restricted Visibility .....	33
Operation.....	36
High Pressure Fuel Lines .....	38
Parking .....	38
Slope Operation .....	39
Equipment Lowering with Engine Stopped .....	39
Sound Information and Vibration Information .	40
Operator Station .....	41
Guards (Operator Protection) .....	42

### Product Information Section

General Information .....	43
Identification Information .....	46

### Operation Section

Before Operation .....	51
Machine Operation .....	54
Engine Starting.....	121
Adjustments.....	124
Parking .....	125
Transportation Information .....	128
Jacking Location Information .....	132
Towing Information .....	133
Engine Starting (Alternate Methods).....	135

### Maintenance Section

Tire Inflation Information.....	138
Lubricant Viscosities and Refill Capacities ...	140
Maintenance Access .....	146
Maintenance Support .....	147
Maintenance Interval Schedule.....	151

### Warranty Section

Warranty Information.....	223
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### Reference Information Section

Reference Materials .....	224
---------------------------	-----

### Index Section

Index.....	225
------------	-----