

Operation & Maintenance Manual

WA470-6

WHEEL LOADER

SERIAL NUMBERS WA470-6 A46001 and up

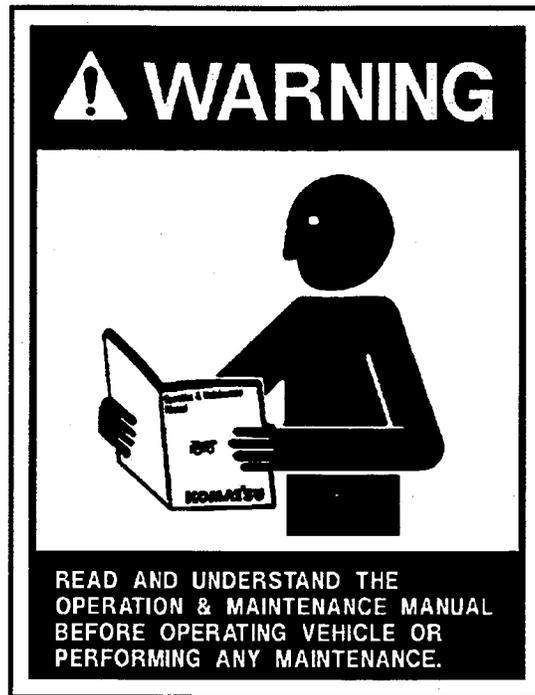
ENGINE 6D125E-5

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! WARNING

Unsafe use of this machine may cause serious injury or death. Operators and maintenance personnel must read this manual before operating or maintaining this machine. This manual should be kept near the machine for reference and periodically reviewed by all personnel who come in contact with it.

CALIFORNIA

Proposition 65 Warning

Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects and other reproductive harm.

CALIFORNIA

Proposition 65 Warning

Battery posts, terminals and related accessories contain lead and lead compounds, chemicals known to the state of California to cause cancer, birth defects and reproductive harm. Wash hands after handling.

INTRODUCTION

INTRODUCTION

FOREWORD

This manual describes procedures for operation, handling, lubrication, maintenance, checking, and adjustment. It will help the operator and maintenance personnel achieve peak performance through effective, economical, and safe machine operation and maintenance.

Komatsu cannot predict every circumstance that might involve a potential hazard when the machine is used. The safety messages in this manual and on the machine may not include all possible safety precautions. If you carry out any operation, inspection, or maintenance under conditions that are not described in this manual, understand that it is your responsibility to take the necessary precautions to ensure safety. In no event should you or others engage in the prohibited uses or actions described in this manual. Improper operation and maintenance of the machine can be hazardous and could result in serious injury or death.

Keep this manual handy and have all personnel read it periodically. If this manual is lost, damaged, or becomes dirty and can not be read, request a replacement manual from your local distributor.

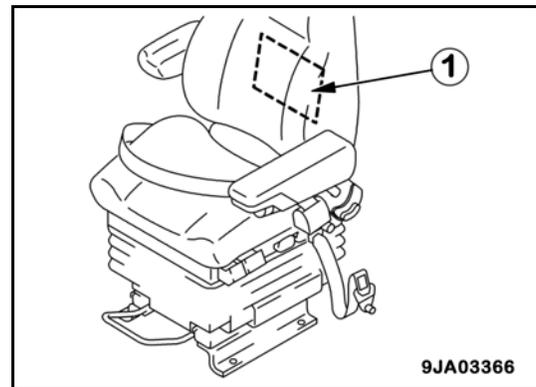
- ★ Storage location for *Operation & Maintenance Manual* is in the pocket (1) at the rear of the operator's seat back rest.

If you sell the machine, be sure to give this manual to the new owner.

The explanations, values, and illustrations in this manual have been prepared based on the latest information available at the date of its publication. Continuing improvements in the design of this machine may lead to additional changes that are not reflected in this manual. Consult Komatsu or your Komatsu distributor for the latest available information concerning your machine or with questions regarding information contained in this manual.

This manual may contain attachments and optional equipment that are not available in your area. Consult your local Komatsu distributor for items that you may require.

The numbers in the illustrations correspond to the numbers in () in the text.



WARNING

Improper operation and maintenance of this machine can be hazardous and could result in serious injury or death.

- Operators and maintenance personnel must read this manual thoroughly before operating or maintaining this machine.
- This manual should be kept near, or with, the machine for reference. All personnel who operate the machine should periodically review the manual.
- Some actions involved in operation and maintenance can cause a serious accident if they are not performed in the manner described in this manual.
- The procedures and precautions given in this manual apply only to the intended uses of this machine. If you use your machine for any unintended uses that are not specifically prohibited, you must be sure that it is safe for you and others. You or others should never engage in prohibited uses or actions described in this manual.
- Komatsu delivers machines that comply with all applicable regulations and standards of the country to which they are shipped. If this machine has been purchased in another country, or purchased from someone in another country, it may lack certain safety features and specifications that are necessary for use in your country. If there is any question about whether your product complies with the applicable standards and regulations of your country, consult your local distributor or Komatsu before operating the machine.
- The safety description is given in "SAFETY INFORMATION" on page 0-3 and in Section 1, *SAFETY*.

SAFETY INFORMATION

Most accidents are caused by failure to follow fundamental safety rules for the operation and maintenance of the machine. To avoid accidents, read, understand, and follow all precautions and warnings in this manual and on the machine before performing maintenance and machine operations. Failure to do so may result in serious injury or death.

The following signal words are used to inform you that there is a potentially hazardous situation that may lead to personal injury or damage. In this manual and on machine labels, different signal words are used to express the potential level of hazard.

The Safety Alert Symbol identifies important safety messages on machines, in manuals, and elsewhere. When you see this symbol, be alert to the risk of personal injury or death. Follow the instructions in the safety message.



Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. This signal word is to be limited to most extreme situations.



Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

Remark

This word is used for precautions that must be taken to avoid actions which could shorten the life of the machine. It is also used to indicate information that is useful to know.

Safety precautions are described in the “**SAFETY**” section (Section 1).

KOMATSU AMERICA CORP. cannot predict every circumstance that might involve a potential hazard in operation and maintenance. Therefore the safety message in this manual and on the machine may not include all possible safety precautions. If any procedures or actions not specifically recommended or allowed in this manual are used, you must be sure that you and others can do such procedures and actions safely and without damaging the machine. If you are unsure about the safety of some procedures, contact your local distributor or KOMATSU AMERICA CORP.

APPROVED AND NON-APPROVED USES

The Komatsu WHEEL LOADER described in this manual has been designed and constructed to be used mainly for the following functions. Any non-approved use may void the warranty, damage the machine, or possibly injure the operator.

Approved Functions

- Loading operations
- Excavating
- Grading
- Pushing

Installation of optional equipment can also be used in the following applications. Use only **Komatsu** approved equipment.

- Handling of materials (bucket - pallet forks)
- Lifting of materials (extendable boom)

★ For details about the operating procedure, see “Operation of Work Equipment” on page 2-118.

Non-Approved Functions

This paragraph describes some of the improper or unauthorized uses of the machine.

It is impossible to predict all the possible improper uses. If the machine is used for any particular application other than those listed in the Approved Functions list, it is important to contact your authorized Komatsu dealer before carrying out the work operations.

- Use of machine for lifting or transporting personnel in any manner
- Transportation of flammable liquids
- Lifting, moving, or transporting other machines with the front-end loader
- Towing other equipment with the tractor unit or work equipment
- Using the loader as a hammer or for striking or driving objects
- Towing the machine at high speeds
- Traveling at high speeds

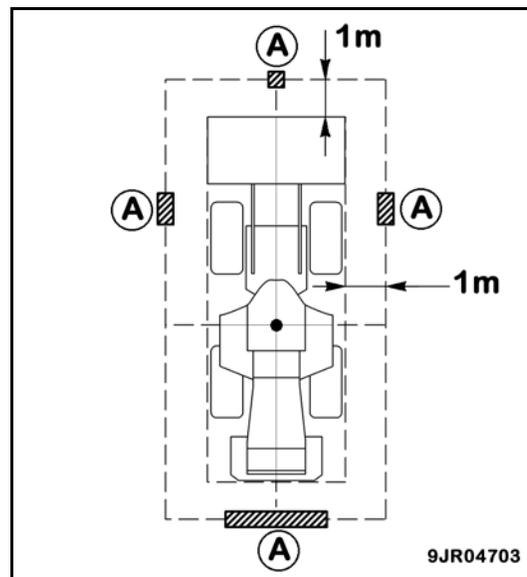
VISIBILITY STANDARD

The visibility standards (ISO 5006) for this machine require a view shown in this diagram.

Visibility in Immediate Area

The visibility of this machine in the area 1 meter (1.1 yd) from the outside surface of the machine at a height of 1.5 m (1.6 yd) is shown in the diagram.

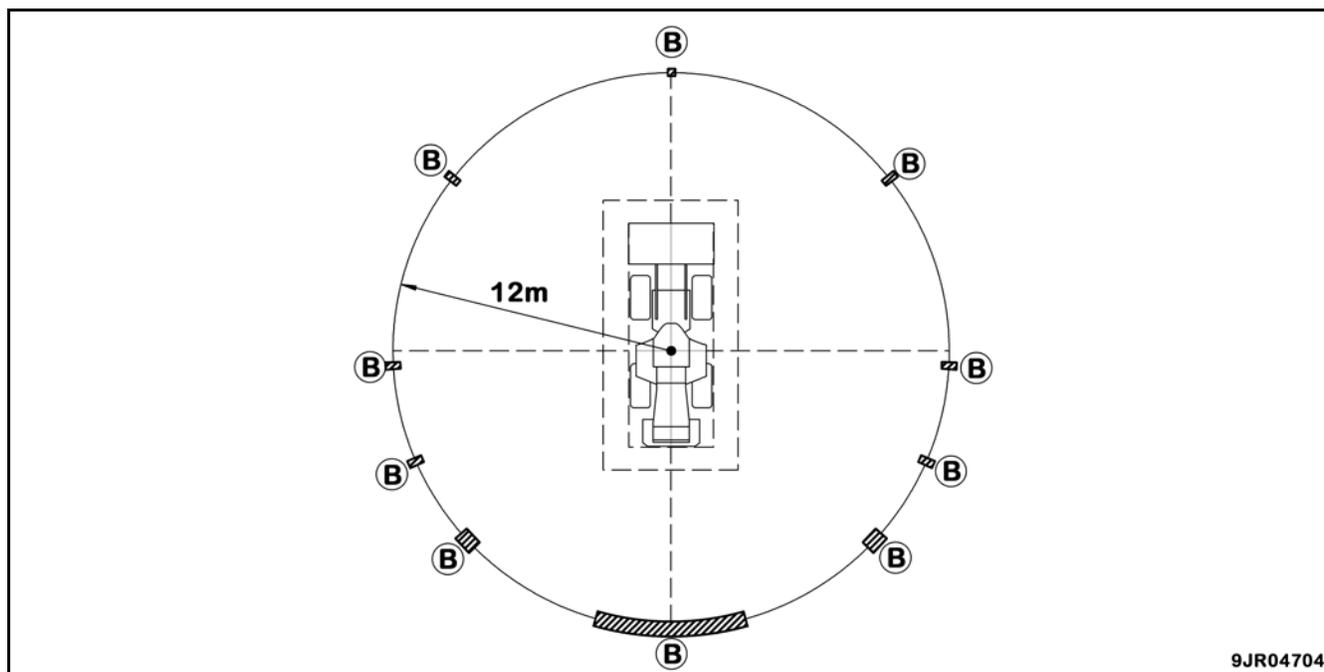
- The hatched area (A) shows the area where the view is blocked by part of the machine when mirrors or other aids to visibility are installed as standard.
- ★ Be careful; there are places around the machine that cannot be seen when operating the machine.



12-M Radius Visibility

The visibility at a radius of 12 meters (13.1 yd) from the machine is shown in the following diagram.

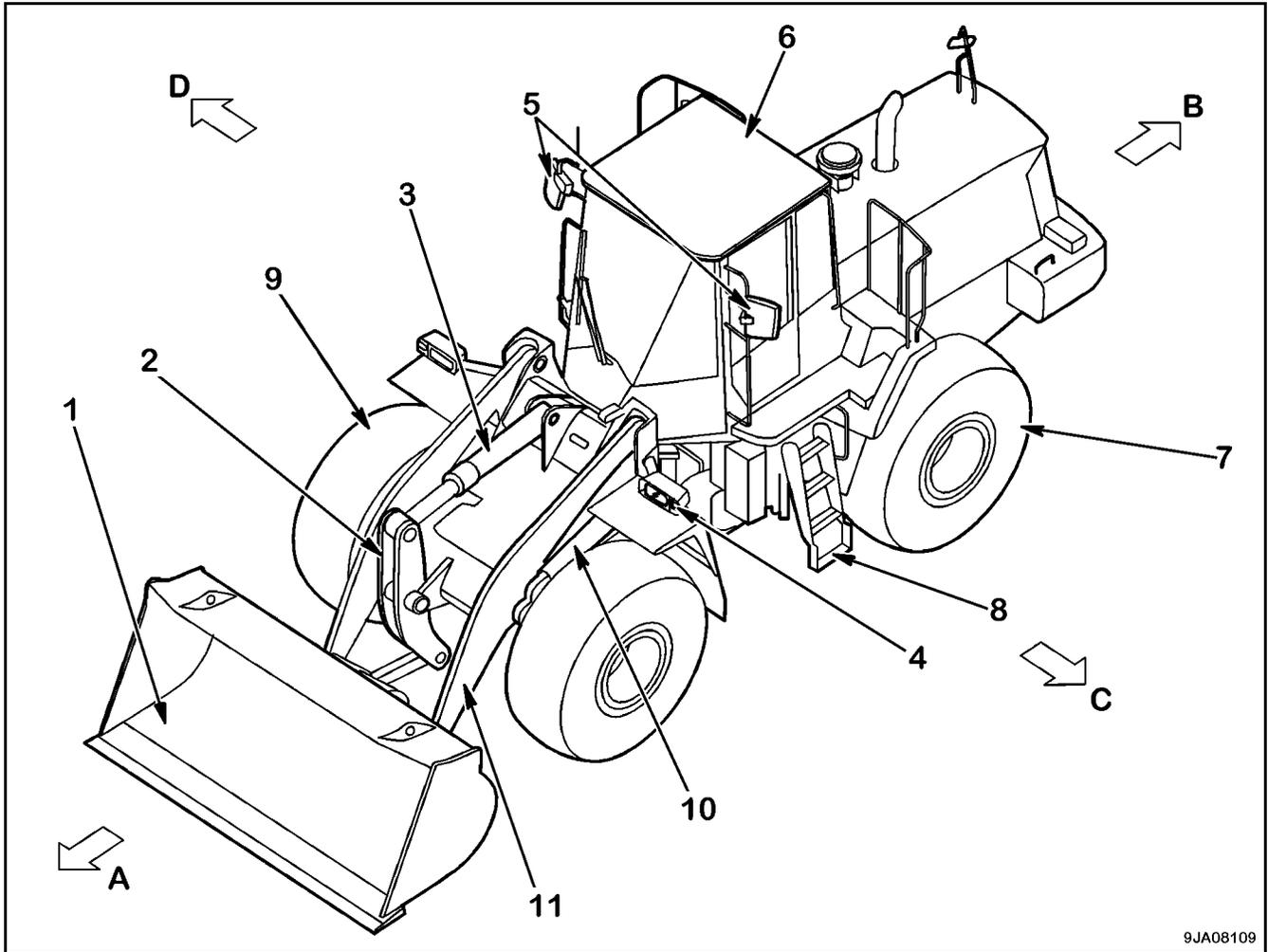
- The hatched areas (B) show the areas where the view is blocked when mirrors or other aids to visibility are installed as standard.
- ★ Be careful; there are places around the machine that cannot be seen when operating the machine.



INTRODUCTION

PRODUCT IDENTIFICATION

Machine



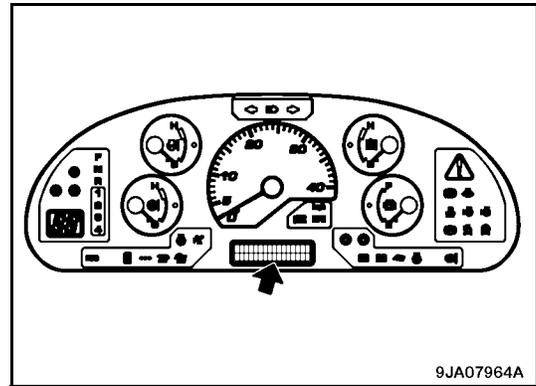
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- | | |
|---------------------|-------------------|
| 1. Bucket | 7. Rear wheel |
| 2. Bellcrank | 8. Step |
| 3. Bucket cylinder | 9. Front wheel |
| 4. Turn signal lamp | 10. Lift cylinder |
| 5. Mirror | 11. Lift arm |
| 6. ROPS cab | |

- | | |
|----------|----------|
| A. Front | C. Left |
| B. Rear | D. Right |

Service Meter Location

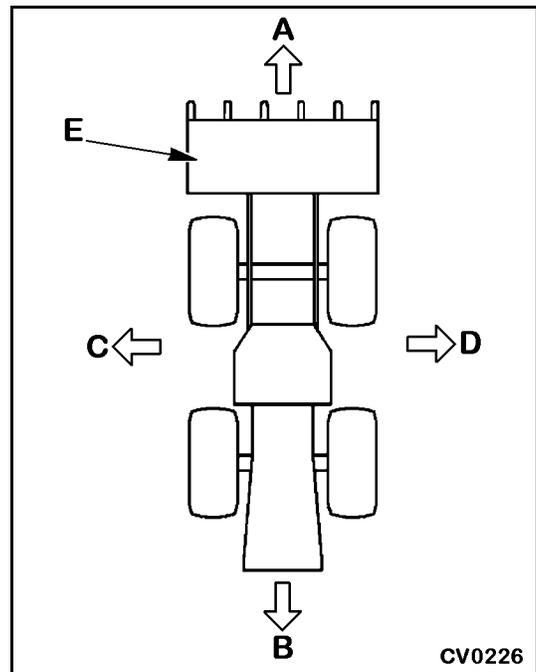
The service meter is located on the character display at the bottom, center of the machine monitor.



Directions of Machine

In this manual, the direction of the machine is determined according to the view from the operator's seat, in the direction of travel (front) of the machine.

- A. Front
- B. Rear
- C. Left
- D. Right
- E. Bucket



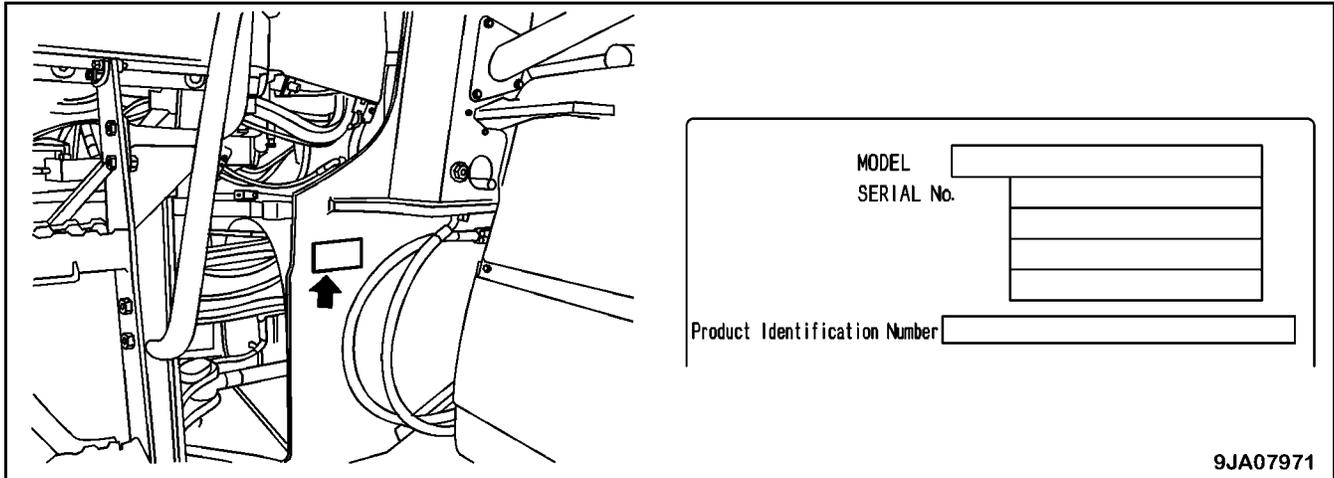
INTRODUCTION

Machine Serial Number/Product Identification Number (PIN)

The serial numbers and model numbers on the components are the only numbers that your dealer needs when you require assistance or order replacement parts. It is a good idea to record this information in this manual. See “SERIAL NUMBERS AND DEALER INFORMATION” on page 0-9.

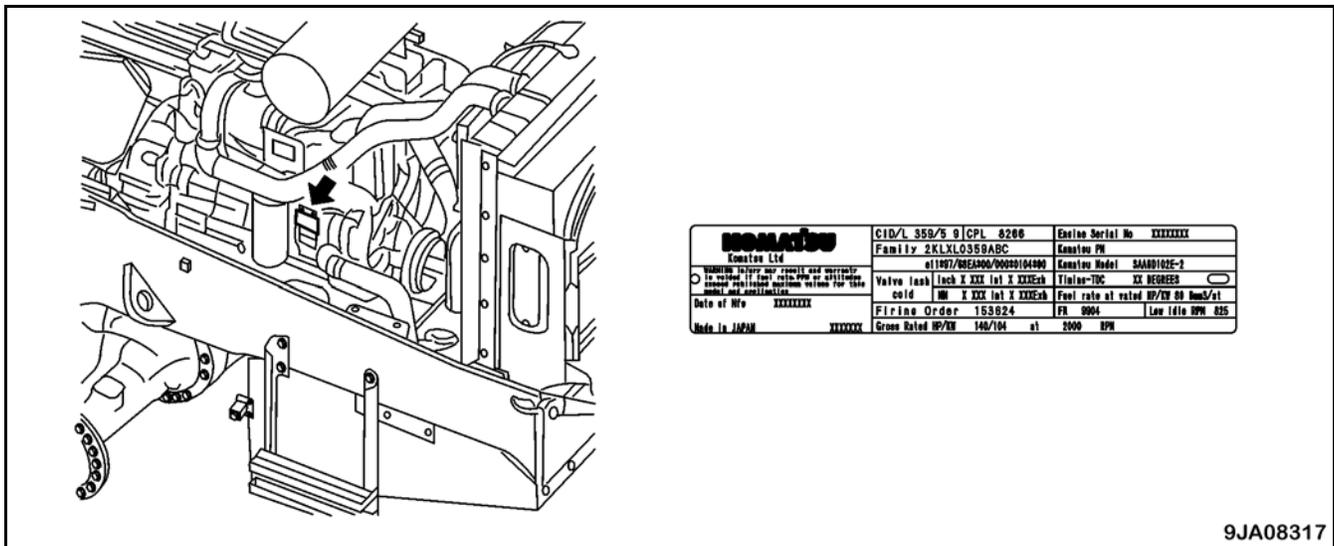
The machine serial number and PIN are on a plate located on the center right of the front frame.

★ The design of the name plate differs according to the territory.



Engine Serial Number, EPA Regulations

The engine serial number is on a plate at the top, rear of the engine, on the right side of the machine.



EPA: Environmental Protection Agency, USA

SERIAL NUMBERS AND DEALER INFORMATION

Model: WA470-6

Machine #	
Engine #	

Dealer:

Address:

Phone #

Contacts:

NOTES:

INTRODUCTION

TABLE OF CONTENTS

IIINTRODUCTION

FOREWORD	0-2
SAFETY INFORMATION	0-3
APPROVED AND NON-APPROVED USES	0-4
Approved Functions	0-4
Non-Approved Functions	0-4
VISIBILITY STANDARD	0-5
Visibility in Immediate Area	0-5
12-M Radius Visibility	0-5
PRODUCT IDENTIFICATION	0-6
Machine	0-6
Service Meter Location	0-7
Directions of Machine	0-7
Machine Serial Number/Product Identification Number (PIN)	0-8
Engine Serial Number, EPA Regulations	0-8
SERIAL NUMBERS AND DEALER INFORMATION	0-9
Model: WA470-6	0-9
TABLE OF CONTENTS	0-10

SAFETY

SAFETY AND WARNING DECALS	1-2
Location of the Safety Labels	1-2
Safety Labels	1-3
GENERAL SAFETY RULES AND PRECAUTIONS	1-10
General Safety Rules	1-10
Safety at Job Site	1-11
Safety Features	1-11
Clothing and Protective Equipment	1-11
Keep Machine Clean	1-12
Fire and Explosion Prevention	1-12
Fire Caused by Fuel, Oil, Antifreeze, or Window Washer Fluid	1-12
Fire Caused by Accumulation of Flammable Material	1-13
Fire Caused by Electrical Wiring	1-13
Fire Caused by Piping	1-13
Explosion Caused by Lighting Equipment	1-13
Action if Fire Occurs	1-14
Fire Extinguisher and First Aid Kit	1-14
Mounting and Dismounting	1-15
Inside Operator's Compartment	1-16
Emergency Escape from Operator's Cab	1-16
Precautions When Standing Up from Operator's Seat	1-17
Leaving Operator's Compartment	1-18
Parking the Machine	1-19
Transporting the Machine	1-20
Precautions When Using ROPS	1-22

Unauthorized Modification	1-22
Precautions for Attachments and Options	1-22
Precautions When Cleaning Cab Glass	1-23
Asbestos Hazard Alert	1-23
Crush or Pinch-Point Dangers	1-24
Precautions for Ventilation Exhaust Gas	1-24
PRECAUTIONS BEFORE STARTING OPERATIONS	1-25
Pre-Operational Checks	1-25
Ensure Good Visibility	1-25
Signs and Signals	1-25
Precaution for Warning Tag	1-26
Checks Before Starting Engine, Adjustments	1-26
Precautions When Starting	1-27
Precautions in Cold Areas	1-27
Precautions for Job Site	1-28
Work Site Hazards	1-28
Working on Loose or Unstable Ground	1-28
Prohibited Operations	1-29
Avoiding Dangerous Situations	1-29
Working Near High Voltage Cables	1-31
RULES FOR ROAD TRAVEL	1-32
Travel Precautions	1-32
Traveling on Slopes	1-33
Using the Brakes	1-34
Traveling in Reverse	1-34
Operating on Snow or Frozen Surfaces	1-35
PRECAUTIONS DURING INSPECTION AND MAINTENANCE	1-36
Warning Tags	1-36
Workplace Environment	1-36
Systems Equipped with ECSS	1-36
Equipment Storage	1-37
Working at High Places	1-37
Working Under the Machine	1-37
Using Drop Lamps	1-38
Using Proper Tools	1-38
Keeping the Machine Clean	1-38
Precautions When Welding	1-38
Precautions When Using Hammer	1-39
Noise	1-39
Stopping Engine During Inspection and Maintenance	1-40
Running the Machine During Maintenance	1-42
Rules for Refueling the Machine	1-43
Cooling System Precautions	1-43
Window Washer Fluid	1-43
Battery Information	1-43
Precautions	1-43
Hazards	1-44
Using Booster Cables	1-45
Starting the Machine with Booster Cables	1-45

INTRODUCTION

High-Pressure Precautions	1-46
Precautions for High-Pressure Oil	1-46
Safe Handling of High-Pressure Hoses	1-46
Precautions for High-Pressure Fuel	1-46
High-Temperature Precautions	1-47
High-Temperature Areas	1-47
High-Temperature Coolant	1-47
High-Temperature Oil	1-47
High Voltage	1-47
Accumulator and Gas Spring	1-48
Using Compressed Air	1-48
Disposal of Waste Materials	1-48
Inflating Tires	1-49
Storing Tires	1-49
Maintenance of Air Conditioner	1-50
Critical Parts	1-50
Proper Tools	1-50

OPERATION

GENERAL VIEW	2-2
General View of Machine	2-2
General View of Controls and Gauges	2-3
Machine Monitor	2-4
Switch Panel	2-5
EXPLANATION OF COMPONENTS	2-6
Machine Monitor	2-6
Types of Warnings	2-7
Emergency Stop	2-7
Mistaken Operation	2-7
Inspection and Maintenance	2-7
Central Warning Lamp	2-7
Character Display Portion	2-8
Service Meter	2-9
Action Code Display	2-9
Failure Code Display	2-10
Filter, Oil Replacement Time Display	2-11
Emergency Stop Items	2-13
Brake Oil Pressure Caution Lamp	2-14
Engine Oil Pressure Caution Lamp	2-14
Battery Charge Circuit Caution Lamp	2-15
Steering Oil Pressure Caution Lamp (if equipped)	2-15
Caution Items	2-16
Brake Oil Temperature Caution Lamp	2-17
Torque Converter Oil Temperature Caution Lamp	2-17
Engine Coolant Temperature Caution Lamp	2-18
Hydraulic Oil Temperature Caution Lamp	2-18
Fuel Level Caution Lamp	2-18
Inspection and Maintenance Items	2-19

Radiator Coolant Level Caution Lamp	2-19
Engine Oil Level Caution Lamp	2-20
Battery Electrolyte Level Caution Lamp (if equipped)	2-20
Maintenance Caution Lamp	2-20
Air Cleaner Clogging Caution Lamp	2-21
Water Separator Caution Lamp	2-21
Transmission Oil Filter Clogging Caution Lamp	2-21
Pilot Display Portion	2-22
Parking Brake Pilot Lamp	2-23
Cooling Fan Reverse Rotation Pilot Lamp	2-23
Emergency Steering Pilot Lamp (if equipped)	2-23
Power Mode Pilot Lamp (P Mode)	2-24
Preheating Pilot Lamp	2-24
Semi-Auto Digging Pilot Lamp	2-24
Auto-Greasing Pilot Lamp (if equipped)	2-24
Joystick Pilot Lamp (if equipped)	2-24
Directional Selector Pilot Lamp (if equipped)	2-24
Economy Operation Display Lamp	2-25
Shift Indicator	2-25
Auto-Shift Pilot Lamp	2-25
Torque Converter Lockup Pilot Light (if equipped)	2-25
Shift Hold Pilot Lamp	2-26
Shift Lever Position Pilot Lamp	2-26
Turn Signal Pilot Lamp	2-26
Head Lamp High-Beam Pilot Lamp	2-26
Meter Display Portion	2-27
Torque Converter Oil Temperature Gauge	2-27
Engine Coolant Temperature Gauge	2-28
Hydraulic Oil Temperature Gauge	2-28
Fuel Gauge	2-28
Speedometer	2-29
Meter Display Pilot Lamp	2-29
OTHER FUNCTIONS OF MACHINE MONITOR	2-30
Overall Menu	2-30
Displaying Odometer	2-32
Resetting Filter, Oil Replacement Time	2-32
Entering Telephone Number	2-33
Selecting Language	2-34
Adjusting Monitor Brightness	2-36
Switching Travel Speed/Engine Speed Display	2-38
Switching Travel Speed/Engine Speed Display/Non-Display	2-39
SWITCHES AND CONTROLS	2-40
General View	2-40
Starting Switch	2-42
Power Mode Selector Switch	2-42
Transmission Shift Mode Selector Switch	2-43
Transmission Cutoff Switch	2-43
Transmission Cutoff Set Switch	2-44
Lamp Switch	2-44

INTRODUCTION

Turn Signal Lever	2-44
Dimmer Switch	2-45
Horn Button	2-45
Hazard Lamp Switch	2-45
Parking Brake Switch	2-46
Front Working Lamp Switch	2-46
Rear Working Lamp Switch	2-47
Machine Monitor Mode Selector Switch 1	2-47
Machine Monitor Mode Selector Switch 2	2-47
Kickdown Switch	2-48
Hold Switch	2-49
Front Wiper Switch	2-49
Rear Wiper Switch	2-50
Cigarette Lighter	2-50
Room Lamp Switch	2-50
Rear Heated Wire Glass Switch	2-50
ECSS Switch	2-51
Emergency Steering Switch (if equipped)	2-51
Cooling Fan Auto-Reverse Rotation Switch	2-52
Torque Converter Lockup Switch	2-55
CONTROL LEVERS, PEDALS	2-56
General View	2-56
Gearshift Lever	2-57
Directional Lever	2-58
Gearshift Lever Stopper	2-59
Work Equipment Lock Lever	2-59
Bucket Control Lever	2-60
Lift Arm Control Lever	2-60
Brake Pedals	2-61
Accelerator Pedal	2-61
SECURITY LOCKS AND SAFETY FEATURES	2-62
Steering Tilt Lock Lever	2-62
Frame Lock Bar	2-63
Cap with Lock	2-64
Fuel Tank Filler Port Cap	2-64
Hydraulic Tank Filler Port Cap	2-64
Backup Alarm	2-65
MACHINE FEATURES	2-66
Towing Pin	2-66
Grease Pump	2-66
Cab Door	2-67
Emergency Escape Right Door	2-67
Left Cab Door, Door Open Lock	2-69
Left Cab Door, Knob	2-70
Left Cab Door, Handle	2-70
Left Cab Sliding Window (Lock Release Knob)	2-70
Cab Wiper	2-71
Dust Indicator	2-71
Fire Extinguisher (if equipped)	2-71

ELECTRICAL	2-72
Power Outlet	2-72
Fuses	2-72
Fuse Capacity and Name of Circuit	2-73
Slow-Blow Fuse	2-74
WORK OPERATIONS	2-75
Walk-Around Check	2-75
Precautions Before Starting Work Operations	2-75
Check Before Starting Engine	2-80
Check Machine Monitor	2-80
Check Coolant Level, Add Coolant	2-81
Check Oil Level in Engine Oil Pan, Add Oil	2-82
Check Water Separator, Drain Water	2-83
Check Air Cleaner	2-84
Check Fuel Level, Add Fuel	2-85
Check Electric Wiring	2-86
Adjustments	2-88
Adjusting Seat	2-88
Removing or Installing Headrest	2-90
Seat Belt Inspection	2-91
Adjusting Seat Belt	2-92
Adjusting Lever Stand	2-93
Adjusting Mirrors	2-94
Final Checks Before Starting Engine	2-95
Starting Engine	2-97
Normal Starting	2-97
Starting in Cold Weather	2-99
Automatic Warming-Up Operation	2-100
Operations and Checks After Starting Engine	2-101
Checks After Starting Engine	2-101
Breaking in the Machine	2-102
Normal Operation	2-102
Stopping Engine	2-104
Check After Stopping Engine	2-104
Moving the Machine (Directional, Speed), Stopping the Machine	2-106
Moving the Machine	2-106
Changing Gear Speed	2-109
Changing Direction	2-110
Stopping the Machine	2-112
Transmission Cutoff Function	2-113
Turning	2-115
Emergency Steering (if equipped)	2-116
Emergency Steering Self-Check Function	2-117
Operation of Work Equipment	2-118
Work Equipment Lock Lever	2-118
Lift Arm Control Lever	2-118
Bucket Control Lever	2-119
Work Possible Using Wheel Loader	2-121
Digging Operations	2-121

INTRODUCTION

Loading Piled Soil or Blasted Rock	2-121
Digging and Loading on Level Ground	2-123
Leveling Operations	2-124
Pushing Operations	2-124
Load-and-Carry Operations	2-125
Loading Operations	2-126
Cross-Drive Loading	2-126
V-Shape Loading	2-126
Preparations for Loading, Gathering Rocks	2-127
Approaching Facing	2-127
Digging	2-128
Traveling in Reverse After Excavation	2-130
Approaching Dump Truck	2-131
Loading Dump Truck	2-132
Reversing Away From Dump Truck	2-133
Precautions During Work Operations	2-134
Piling Up Loads	2-134
Handling Blasted Rock	2-134
Loosened Boulders	2-138
Pit Excavation	2-138
Cutting Face Operations	2-138
Switching Between Forward and Reverse	2-138
Turning When Tires are Stationary	2-139
Wheel Brake Does Not Work	2-139
Braking Function	2-139
Lower the Center of Gravity when Turning	2-140
Permissible Water Depth	2-140
Driving Up or Down Slopes	2-140
Driving the Machine	2-141
Adjusting Work Equipment	2-142
Adjusting Boom Kickout	2-142
Adjusting Bucket Positioner	2-143
Bucket Level Indicator	2-144
Measuring Dump Angle	2-145
Measuring Bucket Dump Angle	2-145
Measuring Coupler Dump Angle	2-148
Parking the Machine	2-151
Checks After Completion of Operation	2-153
Before Stopping Engine	2-153
After Stopping Engine	2-153
Locking the Machine	2-154
HANDLING TIRES	2-156
Precautions When Handling Tires	2-156
Tire Pressure	2-157
Precautions for Using Load-and-Carry Method	2-158
TRANSPORTATION	2-159
Transportation Procedure	2-159
Loading and Unloading Trailers	2-160
Loading Machine	2-160

Securing Machine	2-161
Unloading Machine	2-163
LIFTING MACHINE	2-164
Lifting Position	2-164
Lifting Procedure	2-165
COLD WEATHER OPERATION	2-166
Precautions for Low Temperature	2-166
Fuel and Lubricants	2-166
Coolant	2-166
Battery	2-167
Precautions After Completion of Work	2-167
After Cold Weather	2-167
LONG-TERM STORAGE	2-168
Before Storage	2-168
During Storage	2-168
After Storage	2-168
AUTOMATIC AIR CONDITIONER	2-169
Control Panel	2-169
Main Power Switch	2-170
Fan Switch	2-170
Air Conditioner Switch	2-171
Auto Switch	2-172
Temperature Switch	2-172
FRESH/RECIRC Selector Switch	2-172
Mode Selector Switch	2-173
Method of Operation	2-174
Cooling Operation	2-174
Heating Operation	2-174
Drying-Heating and Demisting Operation	2-175
When Not Using the Air Conditioner Regularly	2-175
Precautions When Using Air Conditioner	2-175
Inspection and Maintenance	2-176
Cool Box	2-176
KOMTRAX	2-177
Basic Precautions	2-177
TROUBLESHOOTING	2-178
When Machine Runs Out of Fuel	2-178
Towing the Machine	2-178
When Engine Can Be Used	2-179
When Engine Cannot Be Used	2-179
Releasing Parking Brake	2-180
Emergency Travel Operation	2-182
If Battery is Discharged	2-183
Precautions	2-183
Removal and Installation of Battery	2-183
Precautions for Charging Battery	2-184
Starting Engine With Booster Cables	2-185
Precautions When Connecting or Disconnecting Booster Cable	2-185
Connecting Booster Cable	2-185

INTRODUCTION

Starting Engine	2-186
Disconnecting Booster Cable	2-186
Lowering Work Equipment When Engine Has Stopped	2-187
Other Troubleshooting	2-188
Electrical System	2-188
Chassis	2-189
Engine	2-191

MAINTENANCE

GUIDES TO MAINTENANCE	3-2
Check Service Meter	3-2
Komatsu Genuine Replacement Parts	3-2
Komatsu Genuine Oils	3-2
Always Use Clean Washer Fluid	3-2
Always Use Clean Oil and Grease	3-2
Checking for Foreign Materials in Drained Oil and On Filters	3-2
Fuel Strainer	3-2
Welding Instructions	3-3
Do Not Drop Things Inside Machine	3-3
Dusty Work Sites	3-3
Avoid Mixing Oil	3-3
Locking Inspection Covers	3-3
Bleeding Air from Hydraulic Circuit	3-3
Precautions When Installing Hydraulic Hoses	3-4
Checks After Inspection and Maintenance	3-4
OUTLINES OF SERVICE	3-5
Handling Oil, Fuel, Coolant, and Performing Oil Clinic	3-5
Oil	3-5
Fuel	3-6
Coolant and Water for Dilution	3-6
Grease	3-7
Storing Oil and Fuel	3-7
Filters	3-7
Performing KOWA (Komatsu Oil Wear Analysis)	3-8
KOWA Analysis Items	3-8
Oil Sampling	3-8
Outline of Electric System	3-9
WEAR PARTS	3-10
Wear Parts List	3-10
RECOMMENDED FUEL, COOLANT, AND LUBRICANTS	3-11
Fuel, Coolant, and Lubricant Ambient Temperature Chart	3-12
Recommended Brands, Other Than Komatsu Genuine Oil	3-13
Biodiesel Usage	3-14
Biodiesel Recommendation for Komatsu Engines	3-14
Biodiesel Terminology	3-14
Certification and Standards	3-15
Warranty and Use of Biodiesel Fuel in Komatsu Engines	3-15
Requirements for Using Biodiesel Fuel in Komatsu Engines	3-15

Properties of Biodiesel	3-16
Komatsu Biodiesel Blend Specification for B5 to B20	3-17
Summary of Recommendations	3-18
STANDARD TIGHTENING TORQUES FOR BOLTS AND NUTS	3-19
Torque List	3-19
PERIODIC REPLACEMENT OF SAFETY CRITICAL PARTS	3-21
Safety Critical Parts List	3-22
MAINTENANCE SCHEDULE CHART	3-24
SERVICE PROCEDURE	3-26
Initial 250 Hours Service	3-26
Initial 1000 Hours Service	3-26
When Required	3-27
Clean, Replace Air Cleaner Element	3-27
Clean Inside of Cooling System	3-31
Check Transmission Oil, Add Oil	3-35
Check Axle Oil Level, Add Oil	3-37
Clean Axle Case Breather	3-39
Clean Air Conditioner Condenser	3-40
Check Window Washing Fluid Level, Add Fluid	3-40
Clean Radiator Fins and Cooler Fins	3-41
Turn, Replace Bolt-On Cutting Edge	3-44
Replace Bucket Teeth (if equipped)	3-45
Check Air Conditioner	3-48
Replace Slow-Blow Fuse	3-50
Check Function of Accumulator	3-51
Select Tires	3-52
Check Tire Pressure	3-53
Clean, Replace Fuel Breather Filter	3-54
Check Before Starting	3-56
Every 50 Hours Service	3-57
Drain Water, Sediment from Fuel Tank	3-57
Every 100 Hours Service	3-58
Lubricate Rear Axle Pivot Pin	3-58
Check Oil Level in Hydraulic Tank, Add Oil	3-58
Clean Element in Air Conditioner Fresh Air Filter	3-59
Every 250 Hours Service	3-60
Check Battery Electrolyte Level	3-60
Check Parking Brake	3-61
Check Alternator Belt Tension, Adjust	3-62
Check Air Conditioner Compressor Belt Tension, Adjust	3-64
Check for Loose Wheel Hub Nuts, Tighten	3-66
Clean Element in Air Conditioner Recirculation Filter	3-66
Check Function of Brake Accumulator	3-67
Lubricating	3-68
Every 500 Hours Service	3-69
Change Oil in Engine Oil Pan, Replace Engine Oil Filter Cartridge	3-69
Replace Fuel Prefilter Cartridge	3-71
Every 1000 Hours Service	3-73
Replace Fuel Main Filter Cartridge	3-73

INTRODUCTION

Change Oil in Transmission Case, Replace Oil Filter Cartridge, Clean Strainer	3-75
Clean Transmission Case Breather	3-76
Lubricating	3-77
Check Engine Air Intake Piping Clamps for Looseness	3-77
Every 2000 Hours Service	3-78
Change Oil in Hydraulic Tank, Replace Hydraulic Filter Element	3-78
Replace Hydraulic Tank Breather Element	3-81
Change Axle Oil	3-82
Replace Element in Air Conditioner Recirculation Filter, Fresh Air Filter	3-83
Check Brake Disc Wear	3-84
Check Function of PPC Accumulator	3-86
Check Alternator	3-87
Check Engine Valve Clearance, Adjust	3-87
Check Vibration Damper	3-87
Every 4000 Hours Service	3-88
Lubricating	3-88
Check Water Pump	3-90
Check Starting Motor	3-90
Check Air Conditioner Compressor, Adjust	3-90
Check for Loose Engine High-Pressure Piping Clamps, Hardening of Rubber	3-91
Check for Missing Fuel Spray Prevention Cap, Hardening of Rubber	3-92
Every 8000 Hours Service	3-93
Replace High-Pressure Piping Clamps	3-93
Replace Fuel Spray Prevention Cap	3-93

SPECIFICATIONS

SPECIFICATIONS	4-2
----------------------	-----

OPTIONS, ATTACHMENTS

JOYSTICK STEERING SYSTEM	5-2
Structure and Function	5-2
Components	5-3
Shift UP, Shift DOWN Switches	5-4
Directional Selector Switch	5-4
Joystick Steering Lever	5-4
Joystick ON/OFF Switch	5-4
HI/LOW Selector Switch	5-5
Horn Switch	5-5
Console Tilt Lever	5-5
Console Fore-and-Aft Adjustment Lever	5-5
Joystick Pilot Lamp	5-6
Armrest Adjustment Lever	5-6
Steering with Joystick Lever or Steering Wheel	5-7
Precautions for Steering with Joystick	5-8
Operating the Joystick Steering System	5-9
Getting In and Out of Operator's Cab	5-12
Adjustments	5-13
Adjusting Joystick Console	5-13

Adjusting Seat	5-14
TORQUE CONVERTER LOCKUP	5-17
Components	5-17
Torque Converter Lockup Switch	5-18
Torque Converter Lockup Pilot Lamp	5-18
Shift Indicator	5-18
Character Display	5-18
Method of Operation	5-19
Warning/Limit Functions for Travel Speed	5-20
Travel Speed Warning Function	5-20
AM/FM RADIO CASSETTE STEREO SOUND SYSTEM	5-22
Sound System Components	5-24
Power Switch/Volume	5-24
Auto-Store/Preset Scan Button	5-24
Bass Control Knob	5-24
Treble Control Knob	5-25
Loudness Button	5-25
Time/Radio Display Selector Button	5-25
Tape Eject Button	5-26
Cassette Door	5-26
Fast-Forward, Rewind Buttons	5-26
Preset Buttons	5-26
Metal Tape Button	5-27
Manual Tuning Buttons	5-27
Seek Tuning Buttons	5-27
Band Selector Button	5-27
Method of Operation	5-28
Setting Preset Buttons	5-28
Using Auto-Preset	5-28
Using Manual Preset	5-28
Listening to Radio	5-29
Listening to Cassette Tape	5-29
Reversing the Tape	5-30
Precautions When Using	5-30
Handling Cassette Tape	5-30
AM/FM RADIO CD STEREO SOUND SYSTEM	5-31
MULTI-FUNCTION LEVER	5-32
Components	5-32
Work Equipment Lever	5-32
Kickdown Switch	5-33
Hold Switch	5-34
FNR Switch	5-34
Directional Selector Switch Actuation Switch	5-34
Directional Selector Pilot Lamp	5-35
Work Equipment Lock Switch	5-36
Using FNR Switch to Change Between Forward and Reverse	5-37
WHEEL STOPPER	5-39
BATTERY DISCONNECTOR SWITCH	5-40
BUCKET AND TIRES	5-42
WA470-6	0-21

MEMORANDUM

SAFETY



WARNING

Read and follow all safety precautions. Failure to do so may result in serious injury or death.

This safety section also contains precautions for optional equipment and attachments.

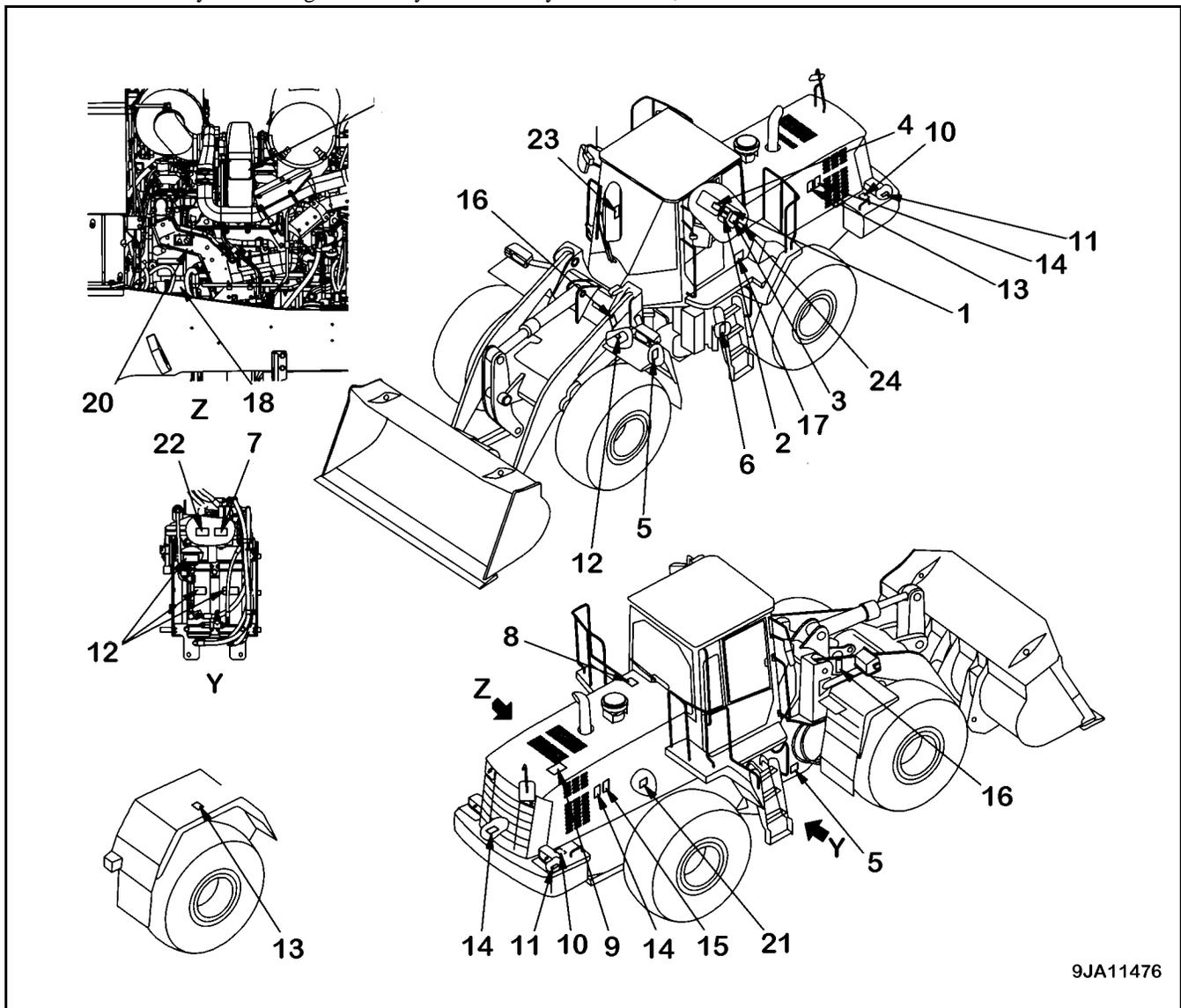
SAFETY

SAFETY AND WARNING DECALS

It is important that all safety and warning decals are in place, not damaged, covered up, or removed. It is also important for the operator to be aware of the decal content and location.

Location of the Safety Labels

- To ensure that the content of these safety decals can be read properly, be sure that they are placed correctly and always keep them clean.
- When cleaning any decal, use soap and water. **NEVER** use organic solvents or gasoline; these solutions may cause the decal to peel off.
- Your **Komatsu** Dealer can provide new replacement decals if the ones on the machine are damaged or missing.
- For part numbers of the safety decals, see this manual or check the actual decal then order the new decals from your Komatsu distributor.
- When replacing damaged or missing decals, be sure that they are placed in the proper location.
- Additional safety or warning decals may be added to your machine, if desired.



Safety Labels

1. Caution before starting (09651-03001).

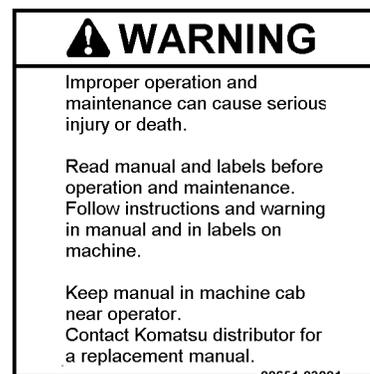
Improper operation and maintenance can cause serious injury or death.

Read manual and labels before operation and maintenance.

Follow instructions and warning in manual and in labels on machine.

Keep manual in machine cab near operator.

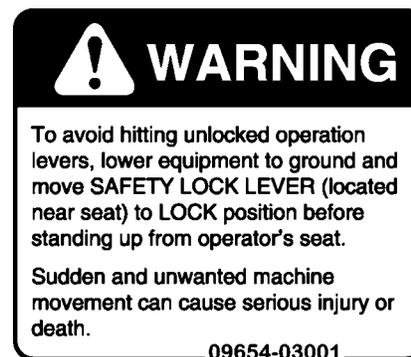
Contact Komatsu distributor for a replacement manual.



2. Caution for lock lever (09654-03001).

To avoid hitting unlocked operation levers, lower work equipment to ground and move SAFETY LOCK LEVER (located near seat) to LOCK position before standing up from operator's seat.

Sudden and unwanted machine movement can cause serious injury or death.

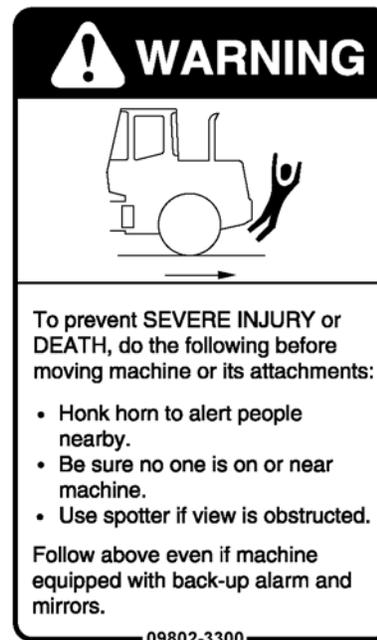


3. Caution when travelling in reverse (09802-33000).

To prevent SEVERE INJURY or DEATH, do the following before moving machine or its attachments:

- Honk horn to alert people nearby.
- Be sure no one is on or near machine.
- Use spotter if view is obstructed.

Follow above even if machine is equipped with back-up alarm and mirrors.



SAFETY

4. Caution for going close to electric cables (09801-13002).

Hazardous voltage hazard

Serious injury or death can occur if machine or attachments are not kept safe distance away from electric lines.

DANGER

Electrocution Hazard

Serious injury or death will occur if machine or attachments are not kept away from electric lines. Maintain a minimum clearance in accordance with this chart.

VOLTAGE	MIN. DISTANCE
50 kV or Less	3.1 m (10 ft)
50 kV to 200 kV	4.6 m (15 ft)
200 kV to 350 kV	6.1 m (20 ft)
350 kV to 500 kV	7.7 m (25 ft)
500 kV to 750 kV	10.7 m (35 ft)
750 kV to 1,000 kV	13.8 m (45 ft)

09801-13002

5. Caution for crush hazard between the articulating parts of the vehicle (09162-23000).

Crush Hazard. Can cause severe injury or death.

When machine is being operated, never place yourself in articulated area of machine.

DANGER

Crush Hazard. Can cause severe injury or death.

When machine is being operated, never place yourself in articulated area of machine.

09162-23000

6. Caution for frame lock bar (09161-23000).

If safety bar is unlocked, machine can jackknife unexpectedly when it is being transported or hoisted.

Jackknifing can cause serious injury or death to bystanders.

- Always lock safety bar when machine is being transported or hoisted.
- If necessary, lock safety bar during servicing or maintenance.

WARNING

If safety bar is unlocked, machine can jackknife unexpectedly when it is being transported or hoisted.

Jackknifing can cause serious injury or death to bystanders.

- Always lock safety bar when machine is being transported or hoisted.
- If necessary, lock safety bar during servicing or maintenance.

09161-23000

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