

Operation & Maintenance Manual

VEAM980500



WA95-3

WHEEL LOADER

SERIAL NUMBERS HA980376 and up

⚠ 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 will come into contact with it.

NOTICE

Komatsu has had the operating and maintenance instructions translated into all the languages of the member states in the European Union. Should you wish to have a version of the operating instructions in another language, please don't hesitate to ask at your local dealer's.

KOMATSU

Contents

Information on these Operating Instructions	1-1
Why You Should Read these Operating Instructions	1-3
Notes on Safety Regulations	1-4
Correct Use	1-4
Safety Notes in the Operating Instructions	1-4
Standards and Guidelines	1-6
CE-Conforming Equipment	1-8
CE-Conforming Equipment of the Manufacturer According to Document 42W-93-11130	1-10
Loading and Transporting the Machine	2-1
Loading and Transporting the Machine	2-3
Securing the Articulated Steering	2-3
Lifting the Machine	2-3
Driving Machine Onto Loading Area of Transport Vehicle	2-4
Securing the Machine During Transport	2-5
After Transport	2-5
Dimensions, Weights, and Operating Values	2-6
Technical Data	2-7
Safety	3-1
General Safety Measures	3-2
Safety Instructions	3-2
Safety Devices	3-2
Emergency Exit	3-2
Clothing and Personal Protection	3-2
Machine Modifications	3-3
Before You Leave the Driver's Seat	3-3
Mounting and Dismounting	3-3
Fire Prevention and Fire Fighting	3-4
Protection Against Asbestos Dust	3-5
Protection Against Injuries	3-5
Working at High Temperatures	3-5
Roll-Over Protection System (ROPS)	3-6
Attachment for Protection Against Falling Objects (FOPS)	3-6
Attachments	3-6
Battery	3-7
Before You Start the Engine	3-8
Workplace Safety	3-8
In the Driver's Cab	3-8
In-Door Operation	3-9
Gas, Dust, and Inflammable Vapours	3-9
Mirrors, Windows, and Lighting	3-9
Machine Operation	3-10
Before You Start the Engine	3-10
Reversing	3-10
Driving	3-10
Driving On Slopes	3-11
Emergency Lowering System	3-11
Working Close to Overhead Power Transmission Lines	3-12
Loading	3-12
Good Vision	3-13
Working On Snow	3-13
Height Limitation	3-13
Brakes	3-13

Contents

Working On Loose Soil	3-13
Working with the Forklift Truck Attachment.....	3-14
Parking the Machine	3-15
Transport	3-16
Loading and Unloading the Machine	3-16
Transport	3-16
Safety Measures During Maintenance	3-17
Personnel	3-17
Prior to Start of Maintenance Measures	3-17
During Maintenance	3-19
Tyres	3-23
Labeling	3-24
Positions of Safety Labels	3-24
Information Labels	3-25
Controls and Indicators	4-1
Overall View of the Machine	4-3
Controls and Indicators	4-4
Overall View	4-4
Instrument Panel	4-5
Warning Lights	4-6
Control Lamps	4-8
Measuring Indicators	4-11
Switches	4-13
Control Levers, Pedals	4-19
Articulated Steering Catch	4-23
Traction Device	4-23
Socket	4-23
Door Unlocking System	4-23
Alarm Horn for Reverse Driving (Option)	4-23
Operation	5-1
Running in the Machine	5-3
Preparing the Machine Start	5-4
Visual Checks (also refer to chapter "Maintenance Prior to Machine Start").....	5-4
Adjustments Prior to Machine Start	5-6
Adjusting the Driver's Seat	5-6
Adjusting the Steering Column	5-7
Adjusting the Armrest	5-7
Adjusting the Rear-View Mirrors	5-7
Adjusting the Heating and Ventilation System	5-8
Operating the Air Conditioning	5-9
Putting on the Safety Belt	5-10
Starting and Switching Off the Engine	5-11
Starting the Engine	5-11
Switching Off the Engine	5-12
Driving	5-13
Start-Up	5-13
Driving with the high-speed gear.....	5-14
Changing the Driving Direction	5-15
Reverse Driving	5-15
Turning	5-16
Braking	5-17
Stopping	5-18
Longer-Distance Driving.....	5-19
Operating the Machine	5-20
Tyre-Appropriate Operation	5-22
Adjusting the Bucket Positioner	5-23
Loading	5-24
Transporting	5-26

Contents

Dumping/Unloading	5-26
Planing	5-27
Working With the Forklift Truck Attachment.....	5-28
Precautions For Special Operations	5-29
After the work is finished	5-29
Instructions for Winter Operation	5-30
Longer Standstill Periods of the Machine	5-31
Troubleshooting	6-1
Troubleshooting	6-3
Warning Lights and Indicators	6-3
Electrical System	6-4
Engine	6-5
Hydraulic System	6-8
Brakes	6-10
Axles	6-11
Driver's cab	6-11
Emergency Steering Characteristics	6-12
Emergency Lowering System	6-12
Starting the Engine with a Battery Jumper Cable	6-13
Towing the Machine	6-15
Inadequate Braking Effect	6-17
Maintenance.....	7-1
Maintenance Basics	7-3
Cleaning the Machine	7-4
Working-Area-Dependent Maintenance	7-5
Lubricants and Operating Agents	7-6
Replacing Safety-Related Parts	7-11
Spare Parts and Consumable Components	7-12
Electrical System	7-13
Tyres	7-15
Tools	7-17
Torque for Standard Nuts and Bolts	7-18
Maintenance Schedule	7-21
Maintenance Prior to Start	7-23
Cooling System, Checking the Coolant Level, Topping Up Coolant	7-23
Engine, Checking the Oil Level, Topping Up Oil	7-24
Engine, Draining Off Oil	7-24
Checking the Fuel Level, Refuelling	7-25
Checking the Controls	7-25
Checking the Electrical Connections	7-26
Heater / Air conditioning: checking rate of air flow	7-26
Other Maintenance Measures Prior to Start.....	7-26
Maintenance upon Demand	7-27
Checking the Air Conditioning System	7-27
Maintenance Every 10 Operating Hours	7-28
Lubrication	7-28
Maintenance After the First 50 Operating Hours	7-29
Engine, Changing Oil and Replacing the Oil Filter Cartridge	7-29
Replacing the Oil Filter Cartridge	7-30
V-Belt, Checking the Condition	7-31
V-Belt, Checking and Adjusting the Tension	7-31
Hydraulic System, Replacing the Filter Insert	7-32
Checking and Tightening the Wheel Nuts	7-32
Front and Rear Axle, Oil Change	7-33
Transfer Box Gearing - Changing Oil	7-34
Maintenance Every 50 Operating Hours	7-35
Checking the Cooling System, Coolant Level in the Radiator and expansion tank	7-35
Draining Off Water and Dirt Deposits From the Fuel Tank	7-36
Checking the Service Brake and Oil Level, Refilling Oil	7-36

Contents

Checking the Battery and Acid Level	7-37
Re-Charging the Battery	7-38
Lubrication	7-39
Maintenance Every 100 Operating Hours	7-40
Draining the Water Separator, Removing Water and Dirt Deposits	7-40
Maintenance Every 250 Operating Hours	7-41
Changing the Engine Oil and Oil Filter Cartridge	7-41
Checking the V-Belt Condition	7-41
Checking and Adjusting the V-belt Tension	7-41
Front and Rear Axle, Checking the Oil Level	7-42
Air Filter, Removing and Re-Installing the Filter Insert, Checking and Cleaning the Filter Insert	7-43
Cleaning the Radiator Segments	7-45
Lubrication	7-45
Maintenance Every 500 Operating Hours	7-46
Changing the Fuel Filter and Filter Element	7-46
Changing the Filter Cartridge of the Hydraulic System	7-47
Cleaning the Water Separator	7-48
Lubrication	7-49
Transfer Box Gearing, Checking the Oil Level and Refilling Oil	7-49
Air Filter, Replacing the Filter Insert, Replacing the Safety Filter	7-50
Heater/Air Conditioning: cleaning/replacing Filter Fleece or cleaning Condenser	7-51
Checking the ALS-Accumulator Gas Pressure (Option)	7-52
Maintenance Every 1000 Operating Hours	7-53
Cooling System, Exchanging Coolant and Cleaning the System	7-53
Front Axle, Oil Change	7-55
Rear Axle, Oil Change	7-55
Transfer Box Gearing, Oil Change	7-55
Service Brake	7-55
Checking and Adjusting System Pressures	7-55
Checking and Adjusting the Valve Play	7-55
Checking and Adjusting the Injection Nozzles, Nozzle Pressure and Fuel-Jet Pattern	7-55
Checking the Accumulator Gas Pressure of third Control Circuit	7-55
Maintenance Every 2000 Operating Hours	7-56
Hydraulic System, Oil Change	7-56
Ventilating the Hydraulic Oil Tank	7-57
Cooling System, Checking the Antifreeze Content of the Coolant	7-57
Checking the Cooling System	7-57
Checking the Fuel Pump	7-57
Checking the Fuel and Coolant Tubes, Replacing the Tubes (if required)	7-57
Checking the Water Pump	7-57
Checking and Adjusting the Fuel Injection and Injection time	7-58
Technical Data	8-1
Technical Data	8-2
Noise Emission Levels	8-3
Vibration Level	8-3
Limit Values for Slopes	8-3
Special Equipment and Attachments	9-1
ALS-Electronics	9-3
Structure and Functioning Principle of the ALS-Electronics	9-3
Precautionary Measures for Switching on the ALS-Electronics	9-3
Operation of the ALS-Electronics	9-3
Handling of the Pressure Accumulator	9-4
Index	10-1

Information on these Operating Instructions

Information on these Operating Instructions

Why You Should Read these Operating Instructions

The machine must be operated, cleaned, and maintained very carefully to ensure safe and troublefree operation. If you operate the machine correctly, these operating instructions will help you to avoid injuries and damage to property. To ensure this, these operating instructions take into account all applicable legal regulations and directives; the operating instructions comprise the following information:

- Notes on the Operating Instructions
- Notes on Transport
- Notes on Safety Regulations
- Operating Instructions
- Troubleshooting
- Maintenance Instructions
- Technical Data
- Notes on Lubricants and Operating Agents

The operating instructions are part of the machine and must always be available at hand in the machine. If the operating instructions have been lost or if they have become unreadable, because they are dirty, you may receive a new copy from Komatsu or your local Komatsu dealer. If the machine is resold, the operating instructions, the EU Declaration of Conformity (CE), and the licence are to be handed over to the new owner.

The owner of the machine has to ensure that

- **all persons driving the machine have the legally required minimum age and are physically and mentally fit to perform the tasks they are charged with.**
- **all persons in charge with operating or maintaining the machine are appropriately instructed before operation or maintenance is started. They must have completely read and understood these operating instructions. In particular, this applies to the following section "Notes on Safety Regulations" and the chapter "Safety".**
- **all persons driving the machine have read the accompanying leaflet "Notes on Operation of Komatsu Construction Machines in Public Traffic" - applying to operation of construction machines with a speed of more than 20 km/h on German public roads.**
- **the machine is correctly operated.**
- **the machine is not improperly modified.**

Please note:

If the owner modifies safety-related parts of the machine, the certificate of conformity of the manufacturer will lapse and the person who has performed the modification has to issue a new certificate. Should you have any questions concerning this point, please do not hesitate to ask Komatsu.

Information on these Operating Instructions

Our continuous effort to improve the machine's design may lead to changes of machine details. However, the introduction of these improvements does not oblige us to perform them on machines which have already been delivered and are already in use.

If these improvements result in minor changes, these minor changes will not be described in the operating instructions. Should you require new available information about your machine or have any questions concerning the information given in the operating instructions, please do not hesitate to contact either Komatsu or your responsible Komatsu dealer.

These operating instructions may refer to attachments and special equipment not available from your local Komatsu dealer. Should you require attachments or special equipment, ask your responsible Komatsu dealer.

Notes on Safety Regulations

The procedures and precautionary measures concerning operation and maintenance only apply on the provision that the machine is used as intended.

Correct Use

A loader is a machine which has its own drive and which is moving on either tracks or wheels. By moving in forward direction, a loader can load material or cut the ground with the work unit (use of bucket) provided for loading which is attached to its front.

The standard working cycle of a loader comprises filling and lifting the loading bucket, transporting material, and emptying the loading bucket.

If you use the machine for any other purpose than specified above, we will not accept any responsibility for safety. All considerations concerning safety will then be up to the owner or the operating and maintenance personnel. In any case, neither you nor any other person are/is authorised to perform work and functions explicitly prohibited in these operating instructions.

Safety Notes in the Operating Instructions

Most accidents are caused by disregard of basic safety regulations during operation and maintenance of machines. In order to avoid accidents and thus damage to persons and property, read all applicable safety notes and warnings in these operating instructions and on the machine, before you start operation or maintenance of the machine and always adhere to these safety notes and warnings.