TEN00713-04

Operation & Maintenance Manual

WHEEL LOADER **WA500-8**

SERIAL NUMBERS 90001 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 Operation & Maintenance Manuals written in some other languages. If a foreign language manual is necessary, contact your local distributor for availability.

KOMATSU®

MidWestTech | Komatsu WA500-8 Wheel Loader Operation & Maintenance Manual | Publi... Order the manual at mid-west-tech.com >

TABLE OF CONTENTS

FOREWORD 1-1
READ THIS MANUAL 1-2
SAFETY INFORMATION 1-3
INTRODUCTION 1-4
MAIN USE OF MACHINE 1-4
DIRECTIONS OF MACHINE 1-4
VISIBILITY FROM OPERATOR'S SEAT 1-5
PROTECTIVE STRUCTURES 1-6
ENGINE TECHNOLOGY TO CONFORM EXHAUST GAS EMISSION 1-7
PRODUCT INFORMATION 1-8
LOCATION OF PRODUCT IDENTIFICATION NUMBER (PIN)/MACHINE SERIAL NO. PLATE 1-8
LOCATION OF ENGINE NUMBER PLATE 1-8
SERVICE METER LOCATION 1-9
YOUR MACHINE SERIAL NUMBERS AND DISTRIBUTOR 1-9
SAFETY 2-1
SAFETY LABELS 2-2
LOCATION OF SAFETY LABELS 2-3
CONTENTS OF SAFETY LABELS 2-5
GENERAL PRECAUTIONS COMMON TO OPERATION AND MAINTENANCE 2-13
PRECAUTIONS BEFORE STARTING OPERATION 2-13
PREPARATIONS FOR SAFE OPERATION 2-13
PRECAUTIONS TO PREVENT FIRE 2-15
PRECAUTIONS WHEN GETTING ON OR OFF MACHINE 2-17
DO NOT GET CAUGHT 2-20
PRECAUTIONS RELATED TO PROTECTIVE STRUCTURES 2-20
UNAUTHORIZED MODIFICATION 2-20
PRECAUTIONS RELATED TO ATTACHMENTS AND OPTIONS 2-20
PRECAUTIONS WHEN RUNNING ENGINE INSIDE BUILDING 2-21
PRECAUTIONS FOR OPERATION 2-22
PRECAUTIONS FOR JOBSITE 2-22
START ENGINE 2-25
PRECAUTIONS FOR OPERATION 2-28
PRECAUTIONS FOR TRANSPORTATION 2-34
TOWING AND BEING TOWED 2-35
PRECAUTIONS FOR MAINTENANCE 2-36
PRECAUTIONS BEFORE STARTING INSPECTION AND MAINTENANCE 2-36
PRECAUTIONS FOR CHECK AND MAINTENANCE 2-42
TIRES 2-47
PRECAUTIONS FOR DEF 2-48
GENERAL CHARACTER AND PRECAUTIONS FOR HANDLING 2-48
PRECAUTIONS FOR ADDING 2-48
PRECAUTIONS FOR STORING 2-48
PRECAUTIONS FOR FIRE HAZARD AND LEAKAGE 2-48
OTHER PRECAUTIONS 2-48
OPERATION 3-1
GENERAL VIEW 3-2
MACHINE EQUIPMENT NAME 3-2
CONTROLS AND GAUGES NAMES 3-3
OTHER EQUIPMENT NAME 3-8
EXPLANATION OF COMPONENTS 3-11
EXPLANATION OF MACHINE MONITOR EQUIPMENT 3-11
SWITCHES 3-127
CONTROL LEVERS AND PEDALS 3-151
OTHER EQUIPMENT 3-156
MACHINE OPERATIONS AND CONTROLS 3-203
CHECKS AND ADJUSTMENT BEFORE STARTING ENGINE 3-203

MidWestTech | Komatsu WA500-8 Wheel Loader Operation & Maintenance Manual |... Order the manual at mid-west-tech.com >

METHOD FOR STARTING ENGINE 3-238
METHOD FOR OPERATIONS AND CHECKS AFTER STARTING ENGINE 3-244
METHOD FOR STOPPING ENGINE 3-248
METHOD FOR STARTING MACHINE (TRAVEL FORWARD AND REVERSE) AND STOPPING MACHINE 3-249
METHOD FOR SHIFTING GEARS 3-257
METHOD FOR SWITCHING BETWEEN FORWARD AND REVERSE 3-260
METHOD FOR STEERING MACHINE 3-263
METHOD FOR OPERATING WORK EQUIPMENT 3-267
PRECAUTIONS FOR OPERATION 3-270
METHOD FOR CHECKING BUCKET ANGLE 3-272
RECOMMENDED APPLICATIONS 3-273
REMOTE POSITIONER 3-291
METHOD FOR PARKING MACHINE 3-298
METHOD FOR CHECKING AFTER FINISHING WORK 3-301
LOCK 3-302
METHOD FOR REMOVING AND INSTALLING BUCKET 3-308
HANDLE TIRE 3-312
HANDLE AIR CONDITIONER 3-315
EXPLANATION OF AIR CONDITIONER EQUIPMENT 3-316
METHOD FOR OPERATING AIR CONDITIONER 3-323
HANDLE RADIO 3-329
EXPLANATION OF RADIO EQUIPMENT 3-329
METHOD FOR CONTROLLING RADIO 3-332
TRANSPORTATION 3-335
TRANSPORTATION PROCEDURE 3-335
LOADING AND UNLOADING WITH TRAILER 3-335
METHOD FOR LIFTING MACHINE 3-341
COLD WEATHER OPERATION 3-343
COLD WEATHER OPERATION INFORMATION 3-343
PRECAUTIONS AFTER DAILY WORK COMPLETION IN COLD WEATHER 3-345
PRECAUTIONS IN COLD WEATHER 3-345
AFTER COLD WEATHER SEASON 3-345
PRECAUTIONS FOR LONG-TERM STORAGE 3-346
PREPARATION FOR LONG-TERM STORAGE 3-346
MAINTENANCE DURING LONG-TERM STORAGE 3-346
STARTING MACHINE AFTER LONG-TERM STORAGE 3-347
TROUBLES AND ACTIONS 3-348
ACTIONS WHEN RUNNING OUT OF FUEL 3-348
PRECAUTIONS FOR TOWING MACHINE 3-348
PRECAUTIONS FOR DISCHARGED BATTERY 3-353
METHOD FOR LOWERING WORK EQUIPMENT WHEN STOPPING ENGINE 3-357
OTHER TROUBLE 3-358
MAINTENANCE 4-1
PRECAUTIONS FOR MAINTENANCE 4-2
CHECK SERVICE METER READING 4-2
KOMATSU GENUINE REPLACEMENT PARTS 4-2
KOMATSU GENUINE LUBRICANTS 4-2
ALWAYS USE CLEAN WASHER FLUID 4-2
FRESH AND CLEAN LUBRICANTS 4-2
CHECK DRAINED OIL AND USED FILTER 4-2
PRECAUTIONS FOR REFILLING OIL OR FUEL 4-2
PRECAUTIONS FOR ADDING DEF 4-2
PRECAUTIONS FOR WELDING 4-2
DO NOT DROP THINGS INSIDE MACHINE 4-2
PRECAUTIONS FOR KDPF 4-2
PRECAUTIONS FOR SCR ASSEMBLY 4-3
DUSTY JOBSITES 4-3

MidWestTech | Komatsu WA500-8 Wheel Loader Operation & Maintenance Manual |... Order the manual at mid-west-tech.com >

AVOID MIXING OIL 4-3
LOCK INSPECTION COVERS 4-3
BLEED AIR FROM HYDRAULIC CIRCUIT 4-3
PRECAUTIONS WHEN INSTALLING HYDRAULIC HOSES 4-3
CHECKS AFTER INSPECTION AND MAINTENANCE 4-3
FUEL AND LUBRICANTS TO MATCH THE AMBIENT TEMPERATURE 4-4
CLOSE ENGINE SIDE COVER SECURELY 4-4
OUTLINE OF MAINTENANCE 4-5
HANDLE OIL, FUEL, COOLANT, AND PERFORMING OIL CLINIC 4-5
HANDLE ELECTRICAL COMPONENTS 4-10
STANDARD TIGHTENING TORQUE FOR BOLTS AND NUTS 4-11
MAINTENANCE SCHEDULE 4-13
MAINTENANCE SCHEDULE TABLE 4-13
MAINTENANCE INTERVAL WHEN DIESEL FUEL MIXED WITH BIO-FUEL IS USED 4-15
MAINTENANCE PROCEDURE 4-16
INITIAL 10 HOURS MAINTENANCE (ONLY FOR THE FIRST 50 HOURS) 4-16
INITIAL 250 HOURS MAINTENANCE (ONLY AFTER THE FIRST 250 HOURS) 4-16
WHEN REQUIRED 4-17
CHECKS BEFORE STARTING 4-51
EVERY 50 HOURS MAINTENANCE 4-52
EVERY 100 HOURS MAINTENANCE 4-53
EVERY 250 HOURS MAINTENANCE 4-58
EVERY 500 HOURS MAINTENANCE 4-65
EVERY 1000 HOURS MAINTENANCE 4-71
EVERY 2000 HOURS MAINTENANCE 4-80
EVERY 4000 HOURS MAINTENANCE 4-96
EVERY 4500 HOURS MAINTENANCE 4-102
EVERY 8000 HOURS MAINTENANCE 4-102
EVERY 9000 HOURS MAINTENANCE 4-102
SPECIFICATIONS 5-1
SPECIFICATIONS 5-2
SPECIFICATIONS: WA500-8 5-2
ATTACHMENTS AND OPTIONS 6-1
BUCKET AND TIRE SELECTION 6-2
HANDLE AJSS (ADVANCED JOYSTICK STEERING SYSTEM) SPEC MACHINE 6-3
GENERAL VIEW 6-3
EXPLANATION OF COMPONENTS 6-8
MACHINE OPERATIONS AND CONTROLS 6-18
WHEN REQUIRED 6-55
HANDLE JOYSTICK STEERING SYSTEM 6-56
EXPLANATION OF COMPONENTS IN JOYSTICK STEERING SYSTEM 6-56
FUNCTION AND STRUCTURE OF JOYSTICK STEERING SYSTEM 6-63
PRECAUTIONS FOR HANDLING JOYSTICK STEERING SYSTEM 6-65
METHOD FOR HANDLING JOYSTICK STEERING SYSTEM 6-66
SELECTION OF OPERATION WITH JOYSTICK STEERING LEVER AND STEERING WHEEL 6-69
METHOD FOR GETTING ON OR OFF TO OPERATOR'S CAB 6-69
METHOD FOR ADJUSTING JOYSTICK CONSOLE 6-70
HANDLE MULTIFUNCTION MONO-LEVER 6-72
EXPLANATION OF EQUIPMENT ON MULTIFUNCTION MONO-LEVER 6-72
MULTIFUNCTION MONO-LEVER 6-73
KICKDOWN SWITCH 6-74
HOLD SWITCH 6-75
DIRECTIONAL SELECTER SWITCH ON MULTIFUNCTION MONO-LEVER 6-75
PCS(PROPORTIONAL CONTROL SWITCH) 6-76
LCD UNIT 6-76
OIL FLOW CONTROL MODE DISPLAY 6-77
DETENT OPERATION PILOT LAMP 6-77
ATTACHMENT OIL FLOW LEVEL 6-78

MidWestTech | Komatsu WA500-8 Wheel Loader Operation & Maintenance Manual |... Order the manual at mid-west-tech.com >

TRANSPORTATION

TRANSPORTATION PROCEDURE

When transporting the machine, choose the transportation method in reference to the weight and dimensions of machine.

Note that the "SPECIFICATIONS" (weight and dimensions) vary depending on the type of tire and bucket.

LOADING AND UNLOADING WITH TRAILER

⚠ WARNING

- **When loading or unloading the machine, run the engine at a low speed and operate the machine slowly in low travel speed.**
- **Select a flat and firm ground when loading or unloading the machine.**
  Maintain a safe distance from the road shoulder
- **Use ramps with ample width, length, thickness, and strength and install them with a maximum slope of 15 °.**

  When using piled soil, compact the piled soil fully to prevent the slope face from collapsing.
- **Remove mud from the undercarriage of the machine so that the machine will not slip sideways on the ramps.**
  In addition, remove water, snow, ice, grease, oil, etc. from the ramps.
- **Never correct your steering on the ramps. There is danger that the machine may tip over.**
  If it is necessary to change the travel direction, return to the ground or to the bed of the trailer, then change the travel direction.
- **The center of gravity of the machine shifts suddenly at the joint of the ramps and the trailer, so there is a danger of the machine losing its balance. Accordingly, pass this point slowly.**

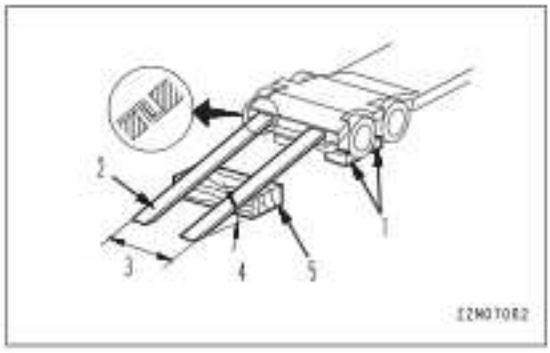
When loading or unloading, always use ramps or a platform. Proceed as follows.

PROCEDURES FOR LOADING MACHINE

1. Park a trailer on a flat and firm place.

   Maintain a safe distance from the road shoulder
2. Apply the brake of the trailer securely.
3. Set chocks (1) to the front and rear of the tires to secure the trailer.
4. Set right and left ramps (2) parallel to each other and equally spaced to the right and left of center (3) of the trailer. Make installation angle (4) at 15 ° or less.

   If the ramps bend a large amount under the weight of the machine, put blocks (5) under the ramps to prevent them from bending.
5. Set the travel direction toward the ramps and drive slowly for loading.
6. Load the machine correctly in the specified position on the trailer.



MidWestTech | Komatsu WA500-8 Wheel Loader Operation & Maintenance Manual |... Order the manual at mid-west-tech.com >

EVERY 1000 HOURS MAINTENANCE

Maintenance for every 50, 100, 250 and 500 hours service should be performed at the same time.

METHOD FOR REPLACING FUEL MAIN FILTER CARTRIDGE

⚠ WARNING

- **After the engine stops, all parts are still very hot, so do not replace the filter immediately. Wait for all of parts to cool down before starting the work.**
- **High pressure is generated inside the engine fuel piping system when the engine is running. When replacing the filter, wait for at least 30 seconds after stopping the engine to let the internal pressure go down before replacing the filter.**
- **Do not bring any open flame close.**

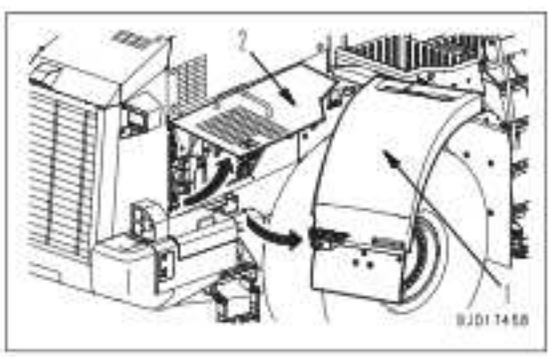
NOTICE

- **Komatsu genuine fuel filter cartridges use a special filter that has highly efficient filtering ability. When replacing the parts, Komatsu recommends using Komatsu genuine parts.**
- **The common rail fuel injection system used on this machine consists of more precise parts than those in the conventional injection pump and nozzles. If any cartridge other than a Komatsu genuine filter cartridge is used, dust or dirt may get in and cause problems with the injection system. Never use a substitute.**
- **When performing inspection and maintenance of the fuel system, be careful not to let any foreign material get in, more than ever before. If dust sticks to the fuel system, wash it off thoroughly with fuel.**
- **After removing the filter cartridge, fuel drops fall down from the filter head. In order to prevent outflow of the fuel, be sure not to leave the machine while the filter cartridge is being removed.**

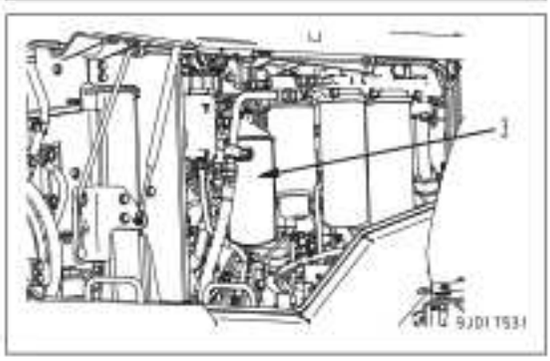
Items to be prepared

- Container to receive the drained fuel
- Filter wrench

1. Slide the rear full-length fender (1) outward and fix it with rod.
2. Open the engine side cover (2) on the right side of the machine, and fix it with the rod.



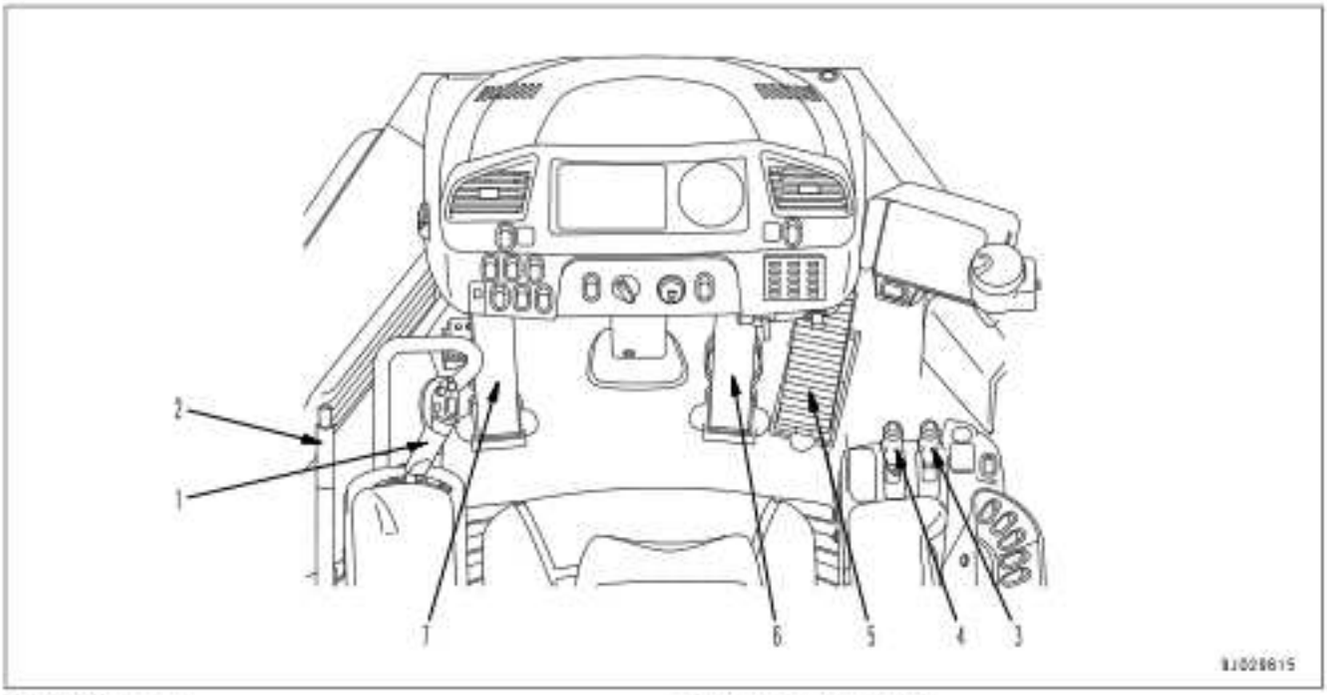
3. Place a container under the filter cartridge (3) to catch the fuel.
4. Turn the filter cartridge (3) counterclockwise by using the filter wrench, and remove it.
5. Clean the filter head.
6. Coat the packing surface of the new filter cartridge with oil.



7. Install the new filter cartridge to the filter head.

MidWestTech | Komatsu WA500-8 Wheel Loader Operation & Maintenance Manual |... Order the manual at mid-west-tech.com >

CONTROL LEVERS AND PEDALS



(1) AJSS lever
(2) Steering lock lever
(3) Boom control lever
(4) Bucket control lever
(5) Accelerator pedal
(6) R.H. brake pedal
(7) L.H. brake pedal

AJSS LEVER

⚠ WARNING

Always set the steering lock lever in LOCK position before leaving the operator's seat while the engine is running.

The AJSS lever is used to steer the machine.

Tilt the AJSS lever in the direction of the turn during traveling, then the machine turns.

(L) Left turn position

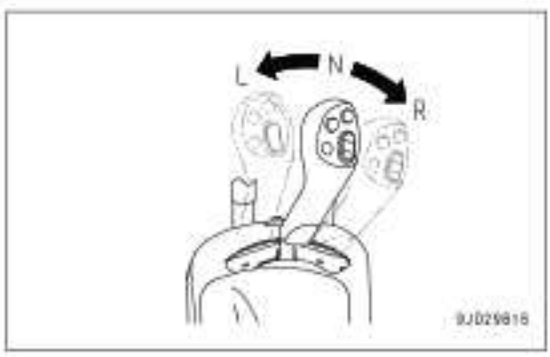
The machine turns to the left.

(N) NEUTRAL position

The machine travels straight.

(R) Right turn position

The machine turns to the right.



Function and structure of AJSS

AJSS is a device which performs the steering operation of wheel loader with AJSS lever instead of the steering wheel. With AJSS lever, steering operation can be performed by light effort and small stroke to reduce fatigue in steering operation.

MidWestTech | Komatsu WA500-8 Wheel Loader Operation & Maintenance Manual |... Order the manual at mid-west-tech.com >