TEN00002-04

Operation & Maintenance Manual

WHEEL LOADER **WA600-3**

SERIAL NUMBERS 52001 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 WA600-3 Wheel Loader Operation & Maintenance Manual | Publi... Order the manual at mid-west-tech.com >

CONTENTS

FOREWORD ---- 1- 1
FOREWORD ---- 1- 2
SAFETY INFORMATION ---- 1- 5
INTRODUCTION ---- 1- 7
FRONT/REAR, LEFT/RIGHT DIRECTIONS OF MACHINE ---- 1- 7
NECESSARY INFORMATION ---- 1- 8
PRODUCT IDENTIFICATION NUMBER (PIN)/MACHINE SERIAL NO. PLATE ---- 1- 8
ENGINE SERIAL NO. PLATE AND POSITION ---- 1- 8
POSITION OF SERVICE METER ---- 1- 9
TABLE TO ENTER SERIAL NO. AND DISTRIBUTOR ---- 1- 9
SAFETY ---- 2- 1
SAFETY ---- 2- 2
SAFETY LABELS ---- 2- 4
LOCATION OF SAFETY LABELS ---- 2- 5
GENERAL PRECAUTIONS ---- 2- 11
PRECAUTIONS FOR OPERATION ---- 2- 20
STARTING ENGINE ---- 2- 20
OPERATION ---- 2- 22
TRANSPORTATION ---- 2- 28
BATTERY ---- 2- 29
TOWING ---- 2- 31
PRECAUTIONS FOR MAINTENANCE ---- 2- 32
PRECAUTIONS WITH TIRES ---- 2- 39
OPERATION ---- 3- 1
GENERAL VIEW ---- 3- 2
GENERAL VIEW OF MACHINE ---- 3- 2
GENERAL VIEW OF CONTROLS AND GAUGES ---- 3- 3
EXPLANATION OF COMPONENTS ---- 3- 5
MACHINE MONITOR ---- 3- 5
SWITCHES ---- 3- 19
CONTROL LEVERS, PEDALS ---- 3- 27
STEERING COLUMN TILT LEVER ---- 3- 31
CAP WITH LOCK ---- 3- 32
SAFETY BAR ---- 3- 33
TOWING PIN ---- 3- 33
GREASE PUMP ---- 3- 34
BACKUP ALARM ---- 3- 34
DUST INDICATOR ---- 3- 34
CAB DOOR OPEN LOCK ---- 3- 35
TOOL BOX ---- 3- 35
OIL FILLER LOCATION ---- 3- 35
FUSE ---- 3- 35
SLOW BLOW FUSE ---- 3- 37
LUNCH BOX TRAY ---- 3- 37
POWER OUTLET ---- 3- 37
OPERATION ---- 3- 38
CHECK BEFORE STARTING ENGINE, ADJUST ---- 3- 38
STARTING ENGINE ---- 3- 53
OPERATIONS AND CHECKS AFTER STARTING ENGINE ---- 3- 55

MidWestTech | Komatsu WA600-3 Wheel Loader Operation & Maintenance Manual |... Order the manual at mid-west-tech.com >

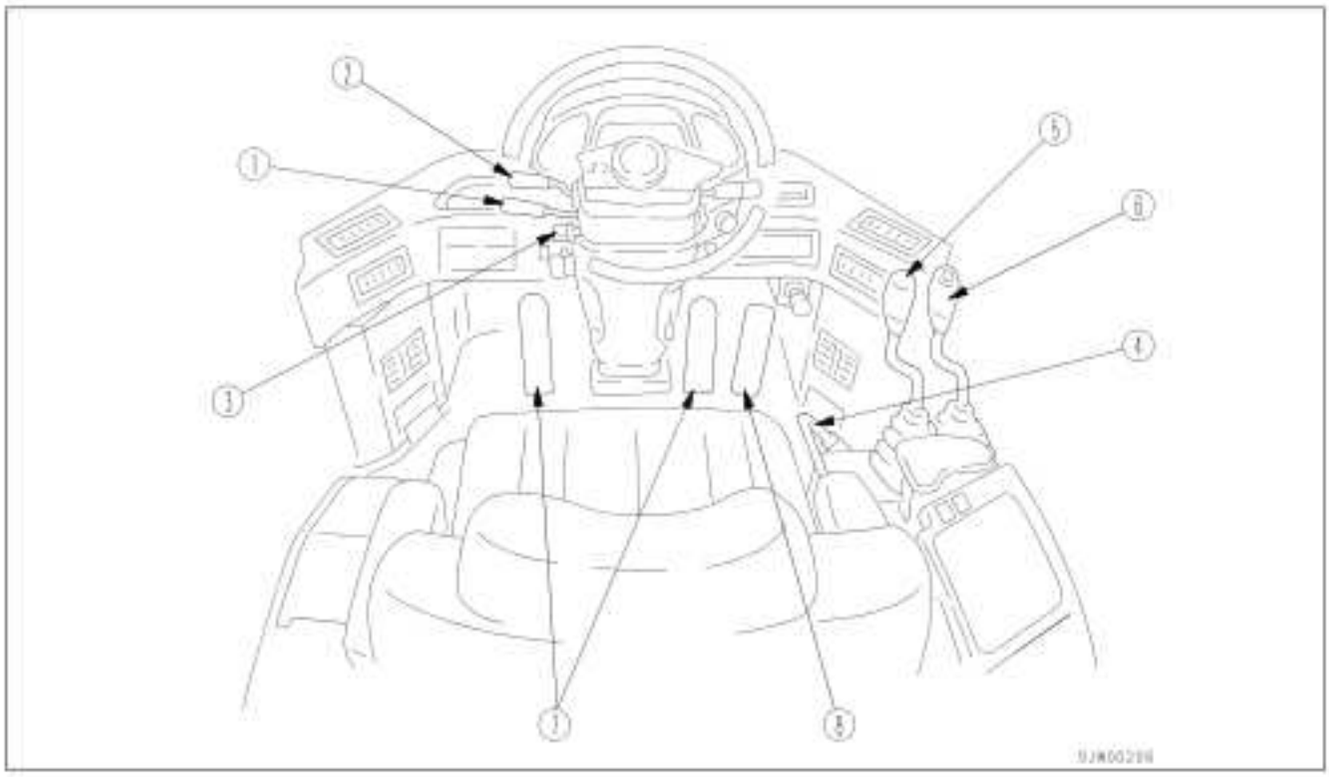
STOPPING ENGINE ---- 3- 57
CHECK AFTER STOPPING ENGINE ---- 3- 57
MOVING THE MACHINE (DIRECTIONAL, SPEED), STOPPING THE MACHINE ---- 3- 58
TURNING ---- 3- 63
OPERATION OF WORK EQUIPMENT ---- 3- 64
WORK POSSIBLE USING WHEEL LOADER ---- 3- 66
PRECAUTIONS FOR OPERATION ---- 3- 72
ADJUSTING WORK EQUIPMENT POSTURE ---- 3- 74
REMOVAL AND INSTALLATION OF THE BUCKET ---- 3- 76
PARKING MACHINE ---- 3- 80
CHECKS AFTER COMPLETION OF OPERATION ---- 3- 82
LOCKING ---- 3- 82
HANDLING THE TIRES ---- 3- 83
TRANSPORTATION ---- 3- 85
TRANSPORTATION PROCEDURE ---- 3- 85
LOADING, UNLOADING WORK ---- 3- 85
METHOD OF SECURING MACHINE ---- 3- 85
METHOD OF LIFTING MACHINE ---- 3- 87
COLD WEATHER OPERATION ---- 3- 90
PRECAUTIONS FOR LOW TEMPERATURE ---- 3- 90
PRECAUTIONS AFTER COMPLETION OF WORK ---- 3- 91
AFTER COLD WEATHER ---- 3- 92
WARMING-UP OPERATION FOR STEERING HYDRAULIC CIRCUIT IN COLD WEATHER ---- 3- 92
LONG-TERM STORAGE ---- 3- 93
BEFORE STORAGE ---- 3- 93
DURING STORAGE ---- 3- 93
AFTER STORAGE ---- 3- 93
TROUBLESHOOTING ---- 3- 94
WHEN MACHINE RUNS OUT OF FUEL ---- 3- 94
METHOD OF TOWING MACHINE ---- 3- 95
IF BATTERY IS DISCHARGED ---- 3- 98
OTHER TROUBLE ---- 3-101
MAINTENANCE ---- 4- 1
GUIDES TO MAINTENANCE ---- 4- 2
OUTLINES OF SERVICE ---- 4- 4
HANDLING OIL, FUEL, COOLANT, AND PERFORMING OIL CLINIC ---- 4- 4
OUTLINE OF ELECTRIC SYSTEM ---- 4- 7
WEAR PARTS ---- 4- 8
WEAR PARTS LIST ---- 4- 8
RECOMMENDED FUEL, COOLANT, AND LUBRICANT ---- 4- 9
USE OF FUEL, COOLANT AND LUBRICANTS ACCORDING TO AMBIENT TEMPERATURE ---- 4- 10
RECOMMENDED BRANDS, RECOMMENDED QUALITY FOR PRODUCTS OTHER THAN KOMATSU GENUINE OIL ---- 4- 11
STANDARD TIGHTENING TORQUES FOR BOLTS AND NUTS ---- 4- 12
TORQUE LIST ---- 4- 12
PERIODIC REPLACEMENT OF SAFETY CRITICAL PARTS ---- 4- 13
SAFETY CRITICAL PARTS ---- 4- 13
MAINTENANCE SCHEDULE CHART ---- 4- 14
MAINTENANCE SCHEDULE CHART ---- 4- 14
SERVICE PROCEDURE ---- 4- 16

MidWestTech | Komatsu WA600-3 Wheel Loader Operation & Maintenance Manual |... Order the manual at mid-west-tech.com >

INITIAL 250 HOURS SERVICE ---- 4- 16
INITIAL 2000 HOURS SERVICE ---- 4- 16
WHEN REQUIRED ---- 4- 17
CHECK BEFORE STARTING ---- 4- 33
EVERY 50 HOURS SERVICE ---- 4- 34
EVERY 100 HOURS SERVICE ---- 4- 35
EVERY 250 HOURS SERVICE ---- 4- 37
EVERY 500 HOURS SERVICE ---- 4- 44
EVERY 1000 HOURS SERVICE ---- 4- 49
EVERY 2000 HOURS SERVICE ---- 4- 56
EVERY 4000 HOURS SERVICE ---- 4- 63
SPECIFICATIONS ---- 5- 1
SPECIFICATIONS ---- 5- 2
ATTACHMENTS, OPTIONS ---- 6- 1
SELECTING BUCKET AND TIRES ---- 6- 2
HANDLING AUTO-GREASING SYSTEM ---- 6- 3
METHOD OF OPERATING AUTO-GREASING SYSTEM ---- 6- 3
PRECAUTIONS WHEN HANDLING AUTO-GREASING SYSTEM ---- 6- 8
TROUBLESHOOTING ---- 6- 8
HANDLING AUTOMATIC SHIFT SYSTEM ---- 6- 9
METHOD OF OPERATION ---- 6- 9
PRECAUTION WHEN CHANGING DIRECTION ---- 6- 10
HANDLING E.C.S.S.(ELECTRONIC CONTROLLED SUSPENSION SYSTEM) ---- 6- 11
STRUCTURE AND FUNCTION OF E.C.S.S. ---- 6- 11
METHOD OF OPERATING E.C.S.S. ---- 6- 11
PRECAUTIONS WHEN OPERATING E.C.S.S. SWITCH ---- 6- 11
PRECAUTIONS WHEN HANDLING ACCUMULATOR ---- 6- 12
REMOVAL OF E.C.S.S. PIPING ---- 6- 12
HANDLING JOYSTICK STEERING SYSTEM ---- 6- 13
STRUCTURE AND FUNCTION OF JOYSTICK STEERING ---- 6- 13
OPERATION METHOD OF JOYSTICK STEERING SYSTEM ---- 6- 17
PRECAUTIONS FOR STEERING WITH JOYSTICK ---- 6- 19
ADJUSTMENT OF JOYSTICK CONSOLE ---- 6- 20
HANDLING AIR-SUSPENSION SEAT ---- 6- 21
SEAT ADJUSTMENT ---- 6- 21
FAILURE DISPLAY ON MAIN MONITOR ---- 6- 23
FAILURE CODE ON MAIN MONITOR ---- 6- 23
FAILURE CODE ON AUTOMATIC SHIFT, E.C.S.S. AND JOYSTICK STEERING SYSTEM ---- 6- 23
CAR RADIO ---- 6- 24
EXPLANATION OF COMPONENTS ---- 6- 24
METHOD OF USE ---- 6- 27
PRECAUTIONS WHEN USING ---- 6- 29
AM/FM RADIO-CASSETTE STEREO ---- 6- 30
EXPLANATION OF COMPONENTS ---- 6- 30
METHOD OF OPERATION ---- 6- 35
PRECAUTIONS FOR USE ---- 6- 37
AIR CONDITIONER ---- 6- 38
GENERAL LOCATIONS AND FUNCTION OF CONTROL PANEL ---- 6- 38
METHOD OF OPERATION ---- 6- 41
INDEX ---- 7- 1

MidWestTech | Komatsu WA600-3 Wheel Loader Operation & Maintenance Manual |... Order the manual at mid-west-tech.com >

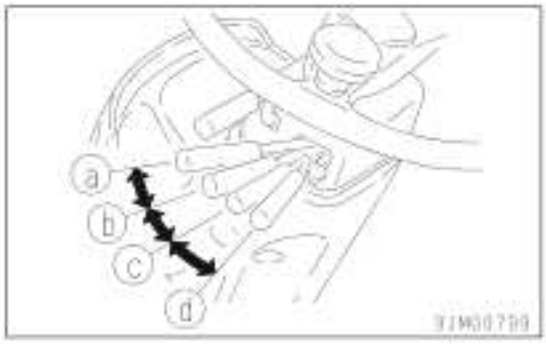
CONTROL LEVERS, PEDALS



(1) Gearshift lever
(2) Directional lever
(3) Gearshift lever stopper
(4) Safety lock lever (for work equipment lever)
(5) Bucket control lever
(6) Lift arm control lever
(7) Brake pedal
(8) Accelerator pedal

GEARSHIFT LEVER

This lever (1) changes the speed range of the transmission.
This machine has a 4-FORWARD, 4-REVERSE speed transmission.
Place the gearshift lever in a suitable position to obtain the desired speed range.
1st and 2nd speeds are used for working.
3rd and 4th speeds are used for traveling.
However, when the gearshift lever stopper is being used, it is impossible to shift to 3rd or 4th. Disengage the gearshift lever stopper before trying to shift gear.
Position (a): 1st
Position (b): 2nd
Position (c): 3rd
Position (d): 4th



MidWestTech | Komatsu WA600-3 Wheel Loader Operation & Maintenance Manual |... Order the manual at mid-west-tech.com >

BATTERY

⚠ WARNING

- **The battery generates flammable gas. Do not bring fire or sparks near the battery.**
- **Battery electrolyte is dangerous. If it gets in your eyes or on your skin, wash it off with a large amount of water and consult a doctor.**
- **Battery electrolyte dissolves paint. If it gets on the bodywork, wash it off immediately with water.**
- **If the battery electrolyte is frozen, do not charge the battery or start the engine with a different power source. There is danger that the battery may explode.**
- **Battery electrolyte is toxic. Do not let it flow into drainage ditches or spray it on to the ground surface.**

When the ambient temperature drops, the capacity of the battery will also drop. If the battery charge ratio is low, the battery electrolyte may freeze. Maintain the battery charge as close as possible to 100%. Insulate it against cold temperature to ensure the machine can be started easily the next morning.

REMARK
Measure the specific gravity and calculate the charging rate from the following conversion table.

Charging Rate (%) \ Electrolyte Temperature	20°C (68°F)	0°C (32°F)	-10°C (14°F)	-20°C (-4°F)
100	1.28	1.29	1.30	1.31
90	1.26	1.27	1.28	1.29
80	1.24	1.25	1.26	1.27
75	1.23	1.24	1.25	1.26

- As the battery capacity drastically drops in low temperatures, cover or remove the battery from the machine, store the battery in a warm place, and install it again the next morning.
- If the electrolyte level is low, add distilled water in the morning before beginning work. Do not add water after the day's work to prevent diluted electrolyte in the battery from freezing during the night.

PRECAUTIONS AFTER COMPLETION OF WORK

To prevent mud, water, or the undercarriage from freezing and making it impossible for the machine to move on the following morning, observe the following precautions.

- Remove all the mud and water from the machine body. In particular, wipe the hydraulic cylinder rods clean to prevent damage to the seal caused by mud, dirt, or drops of water on the rod from getting inside the seal.
- Park the machine on hard, dry ground.
  If this is impossible, park the machine on boards.
  The boards prevent the tracks from freezing to the ground, and allow the machine to be moved the next morning.
- Open the drain valve and drain any water collected in the fuel system to prevent it from freezing.
- Fill the fuel tank to capacity. This minimizes moisture condensation in the tank when the temperature drops.

MidWestTech | Komatsu WA600-3 Wheel Loader Operation & Maintenance Manual |... Order the manual at mid-west-tech.com >

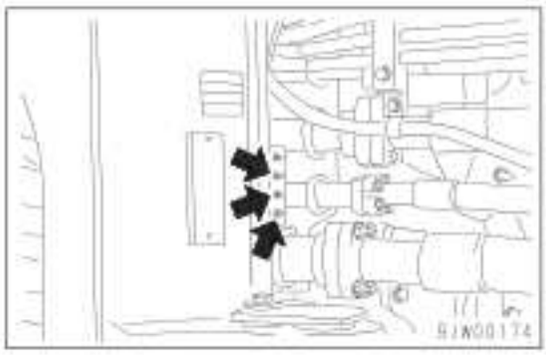
EVERY 100 HOURS SERVICE

Maintenance for every 50 hours service should be carried out at the same time.

LUBRICATE REAR AXLE PIVOT PIN

(3 places)

1. Using a grease pump, pump in grease through the grease fittings marked by the arrows.
2. After greasing, wipe off any old grease that was pushed out.

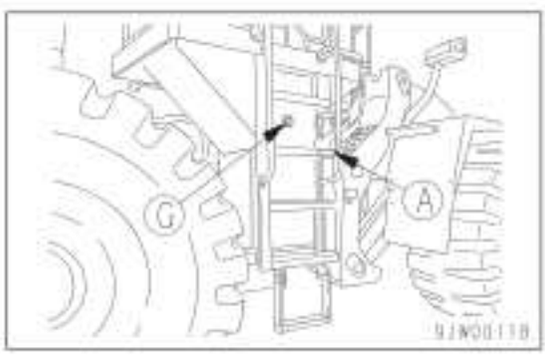


CHECK OIL LEVEL IN HYDRAULIC TANK, ADD OIL

⚠ WARNING

- **The parts and oil are at high temperature immediately after the engine is stopped, and may cause burns. Wait for the temperature to go down before starting the work.**
- **When removing the oil filler cap, turn it slowly to release the internal pressure, then remove it.**

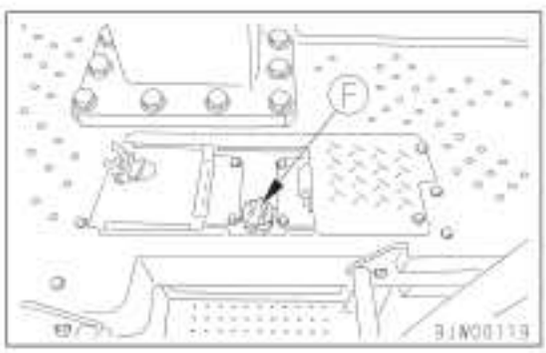
1. Lower the bucket horizontally to the ground and stop the engine. Wait for 5 minutes, then check sight gauge (G). The oil level should be between the H and L marks.



NOTICE

If the oil has been added to above H level, stop the engine and wait for the hydraulic oil to cool down, then drain the excess oil from the drain plug. If the oil is above H level, it will damage the hydraulic circuit or cause the oil to spurt out.

2. If the oil is below the L level, open the inspection cover above the step and add oil through oil filler port (F).



REMARK

There is a space (A) for storing the oil container on the 4th step from the bottom of the ladder located on the right side of the machine. The oil can be used for adding to the hydraulic oil.

MidWestTech | Komatsu WA600-3 Wheel Loader Operation & Maintenance Manual |... Order the manual at mid-west-tech.com >