Operation & Maintenance Manual

TEN00009-02

[redacted]

avance LOADER

WA900L-3

WHEEL LOADER

SERIAL NUMBERS WA900L-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 Avance WA900L-3 Wheel Loader Operation & Maintenance Manua... 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
VISIBILITY FROM OPERATOR'S SEAT 1- 8
NECESSARY INFORMATION 1- 9
PRODUCT IDENTIFICATION NUMBER (PIN)/MACHINE SERIAL NO. PLATE 1- 9
ENGINE SERIAL NO. PLATE AND POSITION 1- 9
POSITION OF SERVICE METER 1- 10
TABLE TO ENTER SERIAL NO. AND DISTRIBUTOR 1- 10
SAFETY 2- 1
SAFETY 2- 2
SAFETY LABELS 2- 4
LOCATION OF SAFETY LABELS 2- 4
GENERAL PRECAUTIONS 2- 10
PRECAUTIONS FOR OPERATION 2- 20
STARTING ENGINE 2- 20
OPERATION 2- 22
TRANSPORTATION 2- 30
BATTERY 2- 31
TOWING 2- 33
PRECAUTIONS FOR MAINTENANCE 2- 34
PRECAUTIONS WITH TIRES 2- 42
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- 18
CONTROL LEVERS, PEDALS 3- 29
MAIN MONITOR TILT LEVER 3- 33
CAP WITH LOCK 3- 34
SAFETY BAR 3- 35
TOWING PIN 3- 35
ENGINE SHUT-DOWN SWITCH 3- 35
FUEL STOP LEVER 3- 36
GREASE PUMP 3- 36
BACKUP ALARM 3- 36
CAB DOOR OPEN LOCK 3- 36
TOOL BOX 3- 37
FUSE 3- 38
SLOW BLOW FUSE 3- 39
LUNCH BOX TRAY 3- 40
POWER OUTLET 3- 40
AM/FM RADIO-CASSETTE STEREO 3- 41
AIR CONDITIONER 3- 49
PRECAUTIONS WHEN HANDLING ACCUMULATOR 3- 54

MidWestTech | Komatsu Avance WA900L-3 Wheel Loader Operation & Maintenance M... Order the manual at mid-west-tech.com >

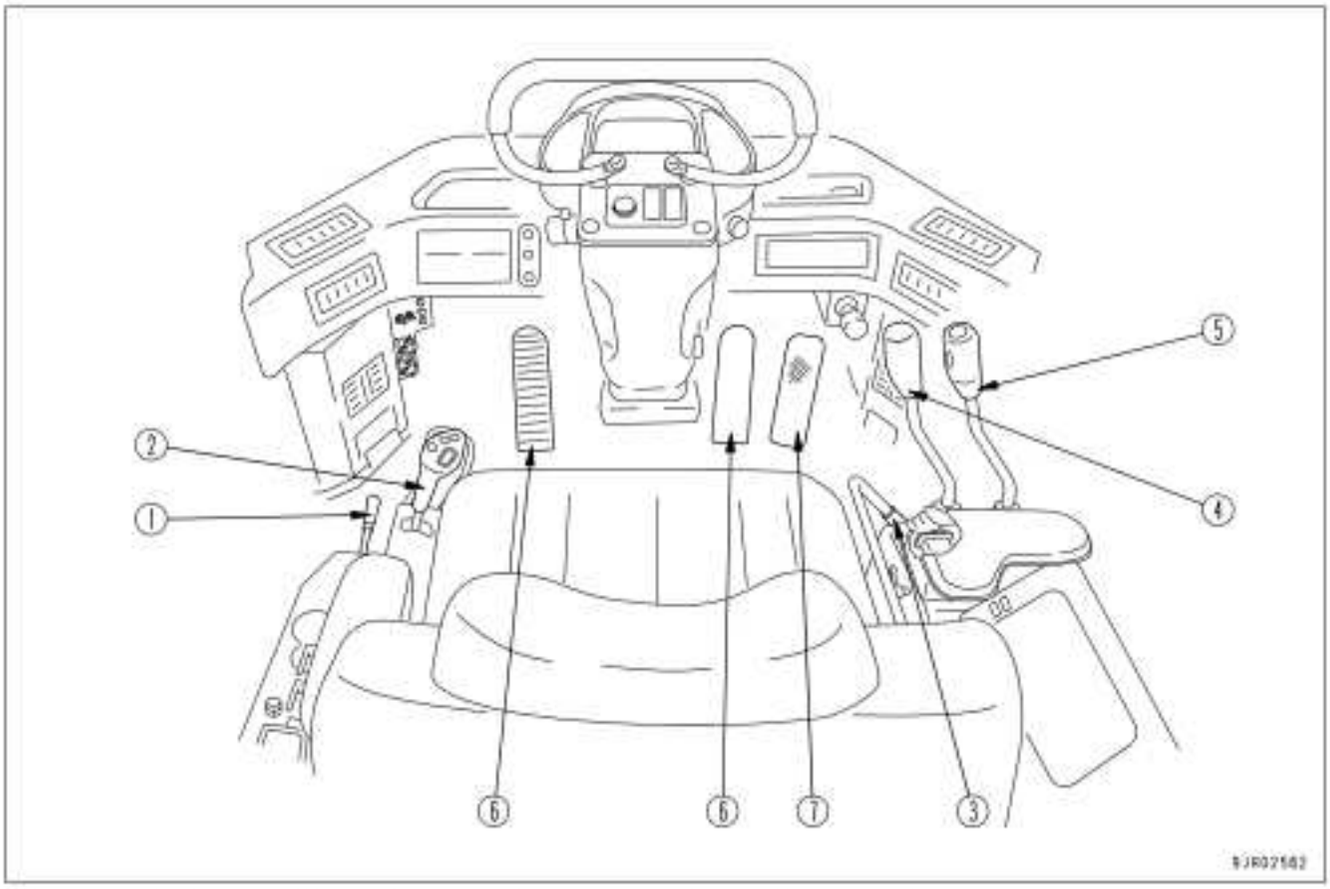
OPERATION ---- 3- 56
CHECK BEFORE STARTING ENGINE, ADJUST ---- 3- 56
STARTING ENGINE ---- 3- 73
OPERATIONS AND CHECKS AFTER STARTING ENGINE ---- 3- 76
STOPPING ENGINE ---- 3- 78
CHECK AFTER STOPPING ENGINE ---- 3- 78
MOVING THE MACHINE (DIRECTIONAL, SPEED), STOPPING THE MACHINE ---- 3- 79
TURNING ---- 3- 87
OPERATION OF WORK EQUIPMENT ---- 3- 88
WORK POSSIBLE USING WHEEL LOADER ---- 3- 90
PRECAUTIONS FOR OPERATION ---- 3- 96
ADJUSTING WORK EQUIPMENT POSTURE ---- 3- 98
REMOVAL AND INSTALLATION OF THE BUCKET ---- 3-100
PARKING MACHINE ---- 3-103
CHECKS AFTER COMPLETION OF OPERATION ---- 3-105
LOCKING ---- 3-105
HANDLING THE TIRES ---- 3-106
OPERATING AUTO-GREASING SYSTEM ---- 3-108
TRANSPORTATION ---- 3-121
TRANSPORTATION PROCEDURE ---- 3-121
LOADING, UNLOADING WORK ---- 3-121
METHOD OF SECURING MACHINE ---- 3-121
METHOD OF LIFTING MACHINE ---- 3-123
COLD WEATHER OPERATION ---- 3-127
PRECAUTIONS FOR LOW TEMPERATURE ---- 3-127
PRECAUTIONS AFTER COMPLETION OF WORK ---- 3-128
AFTER COLD WEATHER ---- 3-129
WARMING-UP OPERATION FOR STEERING HYDRAULIC CIRCUIT IN COLD WEATHER ---- 3-129
LONG-TERM STORAGE ---- 3-130
BEFORE STORAGE ---- 3-130
DURING STORAGE ---- 3-130
AFTER STORAGE ---- 3-130
TROUBLESHOOTING ---- 3-131
WHEN MACHINE RUNS OUT OF FUEL ---- 3-131
METHOD OF TOWING MACHINE ---- 3-132
IF BATTERY IS DISCHARGED ---- 3-136
OTHER TROUBLE ---- 3-140
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
USE OF FUEL, COOLANT AND LUBRICANTS ACCORDING TO AMBIENT TEMPERATURE ---- 4- 9
PROPER SELECTION OF FUEL, COOLANT AND LUBRICANTS ---- 4- 9
FUEL, OIL AND COOLANT SPECIFICATIONS ---- 4- 11
ENGINE OIL SPECIFICATIONS ---- 4- 11
TRANSMISSION, CONVERTER, TRANSFER CASE, COOLER, SERVICE BRAKES AND HYDRAULIC SYSTEM OIL SPECIFICATIONS ---- 4- 12

MidWestTech | Komatsu Avance WA900L-3 Wheel Loader Operation & Maintenance M... Order the manual at mid-west-tech.com >

DRIVE AXLE OIL SPECIFICATIONS ---- 4- 12
DIESEL FUEL SPECIFICATIONS ---- 4- 12
COOLANT SPECIFICATIONS ---- 4- 13
STANDARD TIGHTENING TORQUES FOR BOLTS AND NUTS ---- 4- 19
TORQUE LIST ---- 4- 19
PERIODIC REPLACEMENT OF SAFETY CRITICAL PARTS ---- 4- 20
MAINTENANCE SCHEDULE CHART ---- 4- 22
MAINTENANCE SCHEDULE CHART ---- 4- 22
SERVICE PROCEDURE ---- 4- 24
INITIAL 250 HOURS SERVICE ---- 4- 24
WHEN REQUIRED ---- 4- 25
CHECK BEFORE STARTING ---- 4- 46
EVERY 50 HOURS SERVICE ---- 4- 47
EVERY 100 HOURS SERVICE ---- 4- 48
EVERY 250 HOURS SERVICE ---- 4- 50
EVERY 500 HOURS SERVICE ---- 4- 55
EVERY 1000 HOURS SERVICE ---- 4- 61
EVERY 2000 HOURS SERVICE ---- 4- 66
EVERY 4000 HOURS SERVICE ---- 4- 77
SPECIFICATIONS ---- 5- 1
SPECIFICATIONS ---- 5- 2
INDEX ---- 6- 1

MidWestTech | Komatsu Avance WA900L-3 Wheel Loader Operation & Maintenance M... Order the manual at mid-west-tech.com >

CONTROL LEVERS, PEDALS



(1) Safety lock lever (for joystick steering lever)
(2) Joystick steering lever
(3) Safety lock lever (for work equipment control lever)
(4) Bucket control lever
(5) Lift arm control lever
(6) Brake pedal
(7) Accelerator pedal

MidWestTech | Komatsu Avance WA900L-3 Wheel Loader Operation & Maintenance M... Order the manual at mid-west-tech.com >

*2: To precharge cooling systems larger than 114 liter (30 gal) do the following:

Install appropriate service filter listed in the above table based on cooling system capacity.

Example: 95 gal (360 liter) cooling system capacity
-15 Units (1) WF-2075 Filter
80 Units

The answer represents the additional units required to precharge the cooling system. Four bottles of powder, part number DCA95, will provide a sufficient amount of SCA units (80) to precharge the example cooling system.

Install the appropriate service filter at the next and subsequent maintenance intervals.

*3: Change the coolant filter at every engine oil and filter change interval to protect the cooling system.

Maintain a nominal SCA concentration of 1.0 unit per 3.8 liters (1 US gal) of coolant in the system. Less than 0.5 units per 3.8 liter (1 US gal) indicates an under concentrated coolant solution. More than 2.0 units per 3.8 liter (1 US gal) indicates an over concentrated coolant solution.

To check the SCA concentration level, use coolant test kit, CC-2626. Instructions are included with the test kit.

SCA Unit concentration guide

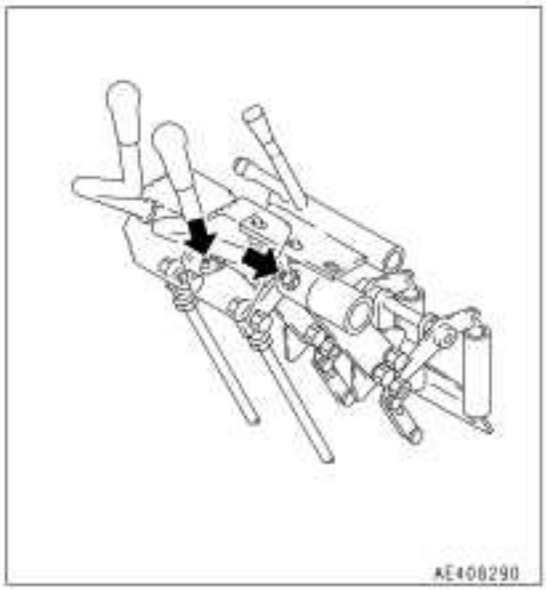
Number of solution (A) drops to cause color change	Coolant condition	Action required
0 to 10	Drops extremely under concentrated less than 0.4 SCA units per 3.8 liter (1 US gal)	Initially charge the system to a minimum of 1.0 SCA unit per 3.8 liter (1US gal).
11 to 16	Drops Marginally under concentrated - 0.4 to 0.8 SCA units per 3.8 liter (1 US gal)	Add SCA liquid units to maintain 1.0 SCA unit per 3.8 liter (1 US gal) minimum or change the DCA 4 coolant filter.
17 to 25	Drops Acceptable - 0.85 to 1.3 SCA units per 3.8 liter (1 US gal)	None.
26 to 35	Drops Highly acceptable - 1.35 to 2.0 SCA units per 3.8 liter (1 US gal)	None.
36 to 55	Drops Marginally over concentrated - 2.1 to 3.3 SCA units per 3.8 liter (1 US gal)	Review maintenance practice.
Over 55 Drops	Extremely over concentrated	Drain 50% of the coolant and replace with water antifreeze mixture. Retest the system for correct SCA unit concentration.

MidWestTech | Komatsu Avance WA900L-3 Wheel Loader Operation & Maintenance M... Order the manual at mid-west-tech.com >

LUBRICATE WORK EQUIPMENT CONTROL VALVE LINKAGE (2 PLACES)

If the work equipment control lever is heavy or does not move smoothly, apply grease.

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



CHECK AIR CONDITIONER

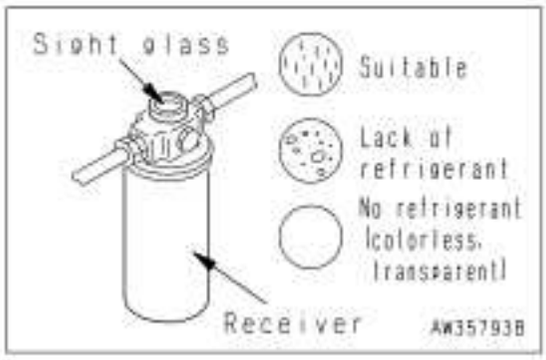
CHECK LEVEL OF REFRIGERANT (GAS)

⚠ WARNING

If the refrigerant used in the air conditioner gets into your eyes or on your hands, it may cause loss of sight or frostbite. Do not touch the refrigerant. Never loosen any part of the refrigerant circuit.
Do not bring any flame close to any point where the refrigerant gas is leaking.

If there is a lack of refrigerant (gas), the cooling performance will be poor. When operating the air conditioner at high speed with the engine at full throttle, use the receiver sight glass (inspection window) to check the condition of the refrigerant gas (R134a) flowing in the refrigerant circuit.

- No bubbles in refrigerant flow: Suitable
- Some bubbles in flow (bubbles pass continuously): Lack of refrigerant
- Colorless, transparent: No refrigerant



REMARK
When there are bubbles, the refrigerant gas level is low, so contact your Komatsu distributors to have refrigerant added. If the air conditioner is run with the refrigerant gas level low, it will cause damage to the compressor.

OPERATING THE AIR CONDITIONER OFF-SEASON

Even during the off-season, operate the air conditioner for 3 to 5 minutes once a month to maintain the oil film at all parts of the compressor.

MidWestTech | Komatsu Avance WA900L-3 Wheel Loader Operation & Maintenance M... Order the manual at mid-west-tech.com >