CEAM009204

Operation & Maintenance Manual

KOMATSU®

WA470-6

WHEEL LOADER

SERIAL NUMBERS WA470-6 A45001 and up

ENGINE 6D125E-5

March 2016

MidWestTech | Komatsu WA470-6 Wheel Loader Operation & Maintenance Manual | Publi... Order the manual at mid-west-tech.com >

TABLE OF CONTENTS

INTRODUCTION

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

MidWestTech | Komatsu WA470-6 Wheel Loader Operation & Maintenance Manual | Publi... Order the manual at mid-west-tech.com >

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
Seat Belt Inspection 1-26
Ensure Good Visibility 1-27
Signs and Signals 1-27
Precaution for Warning Tag 1-28
Checks Before Starting Engine, Adjustments 1-28
Precautions When Starting 1-29
Precautions in Cold Areas 1-29
Precautions for Job Site 1-30
Work Site Hazards 1-30
Working on Loose or Unstable Ground 1-30
Prohibited Operations 1-31
Avoiding Dangerous Situations 1-31
Working Near High Voltage Cables 1-33
RULES FOR ROAD TRAVEL 1-34
Travel Precautions 1-34
Traveling on Slopes 1-35
Using the Brakes 1-36
Traveling in Reverse 1-36
Operating on Snow or Frozen Surfaces 1-37
PRECAUTIONS DURING INSPECTION AND MAINTENANCE 1-38
Warning Tags 1-38
Workplace Environment 1-38
Systems Equipped with ECSS 1-38
Equipment Storage 1-39
Working Under the Machine 1-39
Using Drop Lamps 1-40
Using Proper Tools 1-40
Keeping the Machine Clean 1-40
Precautions When Welding 1-40
Precautions When Using Hammer 1-41
Noise 1-41
Stopping Engine During Inspection and Maintenance 1-42
Running the Machine During Maintenance 1-44
Rules for Refueling the Machine 1-45
Cooling System Precautions 1-45
Window Washer Fluid 1-45
Battery Information 1-45
Precautions 1-45
Hazards 1-46
Using Booster Cables 1-47
Starting the Machine with Booster Cables 1-47

MidWestTech | Komatsu WA470-6 Wheel Loader Operation & Maintenance Manual | Publi... Order the manual at mid-west-tech.com >

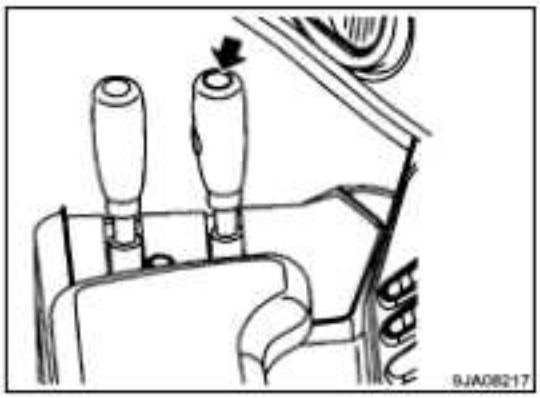
High-Pressure Precautions 1-48
Precautions for High-Pressure Oil 1-48
Safe Handling of High-Pressure Hoses 1-48
Precautions for High-Pressure Fuel 1-48
High-Temperature Precautions 1-49
High-Temperature Areas 1-49
High-Temperature Coolant 1-49
High-Temperature Oil 1-49
High Voltage 1-49
Accumulator and Gas Spring 1-50
Using Compressed Air 1-50
Disposal of Waste Materials 1-50
Inflating Tires 1-51
Storing Tires 1-51
Maintenance of Air Conditioner 1-52
Critical Parts 1-52

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

MidWestTech | Komatsu WA470-6 Wheel Loader Operation & Maintenance Manual | Publi... Order the manual at mid-west-tech.com >

Kickdown Switch



Use the kickdown switch (14) to shift down the transmission.

When the gearshift lever is at F2 and the kickdown switch at the head of the lift arm control lever is pressed, the transmission shifts down one range.

★ Use this function when you need to increase the drawbar pull in digging operations.

When the transmission shift range is in FORWARD 1st (F1) and the power mode selector switch is at E mode and switch (14) is pressed, it is possible to switch to P mode.

★ Use this function during scraping-up operations or during digging operations when it is necessary to increase the lifting force.

When using E mode:

2nd E mode → 1st E mode → 1st P mode

When using P mode:

2nd P mode → 1st P mode

If the transmission is in auto-shift and the travel speed is below 10.5 km/h (6.5 mph) in any speed range when traveling in either forward or in reverse, the kickdown switch is actuated; it is now possible to shift down to 1st.

Even if the travel speed is more than 10.5 km/h (6.5 mph), this switch can be used to shift the transmission down. Each time the kickdown switch is pressed, the speed range shifts down one range at a time (F4 → F3 → F2).

Remark

When canceling the kickdown, operate the directional lever. In manual shift, the kickdown can be canceled by operating the gearshift lever to any position other than 2nd. It is also possible to cancel the kickdown by turning the ignition switch OFF.

In auto-shift, if the travel speed increases after the kickdown, the auto-shift shifts the gear up by the auto-shift.

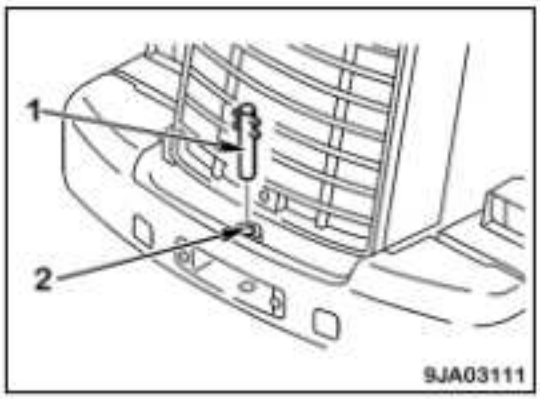
In auto-shift, when traveling at more than 18 km/h (11.2 mph) in 3rd or at more than 28 km/h (17.4 mph) in 4th and the kickdown switch is pressed, the transmission does not shift down. This prevents the engine from overrunning.

MidWestTech | Komatsu WA470-6 Wheel Loader Operation & Maintenance Manual | Publi... Order the manual at mid-west-tech.com >

MACHINE FEATURES

Towing Pin

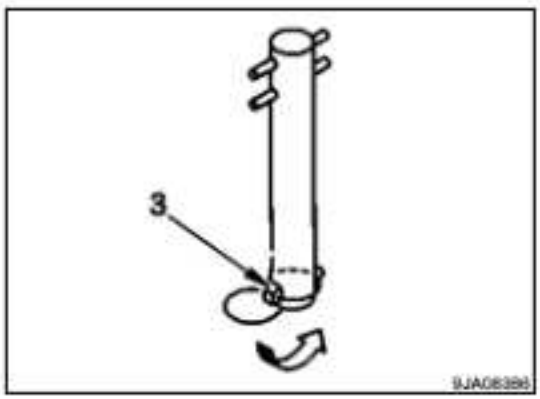
The towing pin is installed to the counterweight and is used when towing the machine.



Installing the Towing Pin

1. Insert towing pin (1) into hole (2) in the counterweight.

2. Insert linchpin (3) into the towing pin so that the towing pin does not come out.



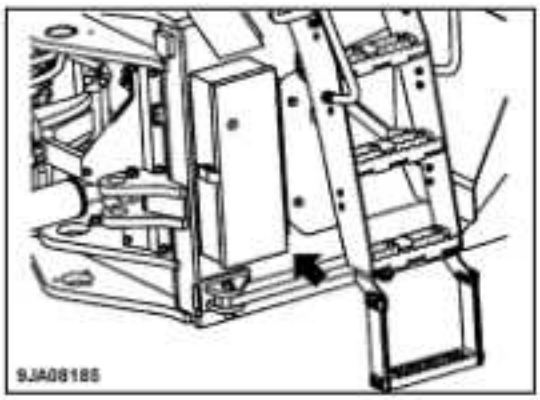
Removing the Towing Pin

1. Remove linchpin (3) from the towing pin.

2. Remove the towing pin (1) from the counterweight.

Grease Pump

The grease pump is installed inside the toolbox on the front, left of the rear frame.



1. Turn the grease pump (1) so that lever (2) faces the outside of the machine.

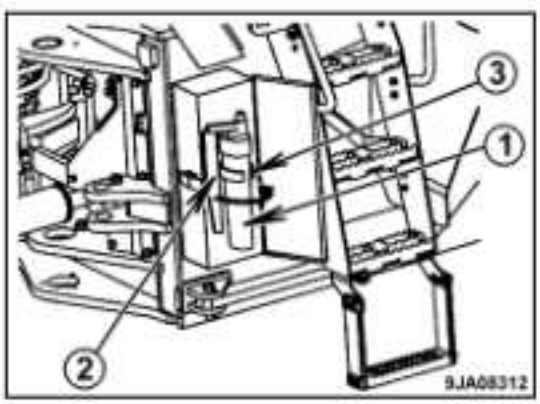
2. Using the bottom of grease pump (1) as the fulcrum, tilt the grease pump towards you and remove it from holder (3).

3. Lift grease pump (1) up and remove it from the grease box.

4. After using the grease pump, wipe off the grease from its outside.

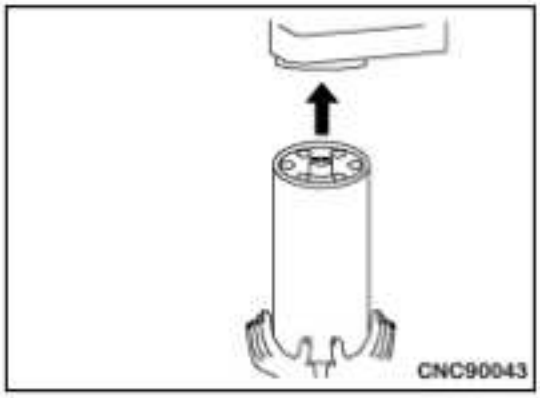
5. Insert the grease pump (1) into the holder (3).

6. Turn the grease pump so that lever (2) is not facing the outside of the machine.



MidWestTech | Komatsu WA470-6 Wheel Loader Operation & Maintenance Manual | Publi... Order the manual at mid-west-tech.com >

9. Install the filter cartridge to the filter holder.
   - When installing the filter cartridge, tighten until the packing surface contacts the seal surface of the filter holder and then tighten it 3/4 of a turn.
   - If the filter cartridge is tightened too far, the packing will be damaged; this will lead to leakage of fuel. If the filter cartridge is too loose, fuel will leak from the packing. Always tighten the filter cartridge the correct amount.
   - ★ When tightening with a filter wrench, be extremely careful not to dent or damage the filter.



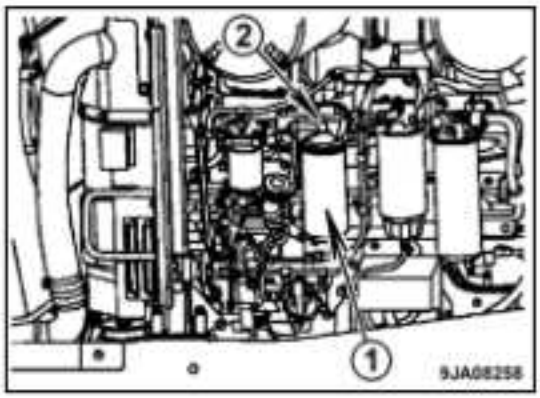
10. After replacing the fuel main filter cartridge, bleed the air from the fuel line.

Bleeding Air from Fuel Line

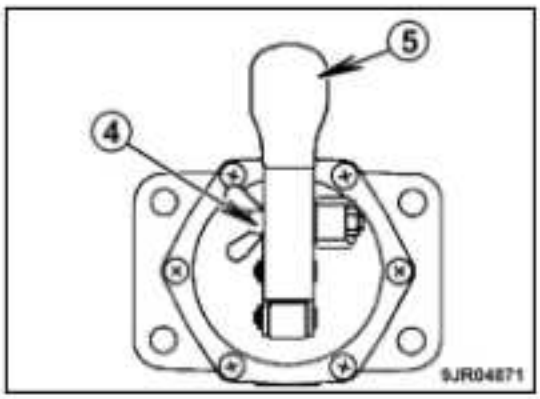
1. Fill the fuel tank with fuel.

   Fuel capacity: . . . . . 413 liters (109.10 US gal)

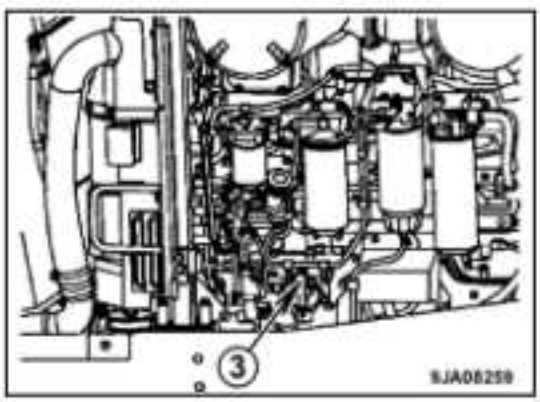
2. Open the engine side cover on the right side of the chassis.
3. After replacing filter cartridge (1), loosen air bleed plug (2).
   - ★ Do not loosen the plug at the filter stand of the fuel prefilter. If it is loosened, air is not bled.



4. Loosen wing bolt (4) which is fixing lever (5) of priming pump (3).
5. Move lever (5) up and down to let fuel flow out of air bleeding plug (2) until bubbles do not come out any more.



6. Tighten air bleeding plug (2) and then tighten wing bolt (4) of priming pump (3) securely to lock lever (5).
7. After completing the air bleeding, start the engine and check that there is no leakage of fuel from the filter seal surface.
   - If there is any leakage of fuel, check the tightening of the filter cartridge.
   - If there is still leakage of fuel, return to the Replace Fuel Main Filter Cartridge procedure and follow Steps 1 and 4 to remove the filter cartridge, then check the packing surface for damage or foreign material. If any damage or foreign material is found in the packing, replace the cartridge with a new part, then repeat Steps 5 - 10 to install the filter cartridge.



MidWestTech | Komatsu WA470-6 Wheel Loader Operation & Maintenance Manual | Publi... Order the manual at mid-west-tech.com >