TEN00657-02

Operation & Maintenance Manual

HYDRAULIC
EXCAVATOR

PC490LC-11

SERIAL NUMBERS 85001 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 PC490LC-11 Hydraulic Excavator Operation & Maintenance Manua... Order the manual at mid-west-tech.com >

TABLE OF CONTENTS

FOREWORD 1-1
BEFORE READING 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
ACTIONS TAKEN TO MEET EXHAUST GAS REGULATIONS 1-6
PRODUCT INFORMATION 1-7
LOCATION OF PRODUCT IDENTIFICATION NUMBER (PIN)/MACHINE SERIAL NO. PLATE 1-7
LOCATION OF EPA REGULATIONS, ENGINE NUMBER PLATE 1-7
SERVICE METER LOCATION 1-8
YOUR MACHINE SERIAL NUMBERS AND DISTRIBUTOR 1-8
SAFETY 2-1
SAFETY 2-2
SAFETY LABELS 2-4
LOCATION OF SAFETY LABELS 2-5
CONTENTS OF SAFETY LABELS 2-7
GENERAL PRECAUTIONS COMMON TO OPERATION AND MAINTENANCE 2-16
PRECAUTIONS BEFORE STARTING OPERATION 2-16
PREPARATIONS FOR SAFE OPERATION 2-16
PRECAUTIONS TO PREVENT FIRE 2-18
PRECAUTIONS WHEN GETTING ON OR OFF MACHINE 2-20
DO NOT GET CAUGHT IN WORK EQUIPMENT 2-21
PRECAUTIONS RELATED TO PROTECTIVE STRUCTURES 2-22
PROTECTION AGAINST FALLING, FLYING OR INTRUDING OBJECTS 2-22
UNAUTHORIZED MODIFICATION 2-23
PRECAUTIONS RELATED TO ATTACHMENTS AND OPTIONS 2-23
PRECAUTIONS RELATED TO CAB GLASS 2-23
PRECAUTIONS WHEN RUNNING ENGINE INSIDE BUILDING 2-23
PRECAUTIONS FOR OPERATION 2-24
PRECAUTIONS FOR JOBSITE 2-24
START ENGINE 2-27
PRECAUTIONS FOR OPERATION 2-29
PRECAUTIONS FOR TRANSPORTATION 2-36
TOWING AND BEING TOWED 2-37
LIFTING OPERATION BY USING BUCKET WITH HOOK 2-38
PRECAUTIONS FOR MAINTENANCE 2-39
PRECAUTIONS BEFORE STARTING INSPECTION AND MAINTENANCE 2-39
PRECAUTIONS FOR INSPECTION AND MAINTENANCE 2-43
PRECAUTIONS FOR AdBlue/DEF 2-49
GENERAL CHARACTER AND PRECAUTIONS FOR HANDLING 2-49
PRECAUTIONS FOR ADDING 2-49
PRECAUTIONS FOR STORING 2-49
PRECAUTIONS FOR FIRE HAZARD AND LEAKAGE 2-49
OTHER PRECAUTIONS 2-49
OPERATION 3-1
GENERAL VIEW 3-2
MACHINE EQUIPMENT NAME 3-2
CAB EQUIPMENT NAMES 3-4
CONTROLS AND GAUGES NAMES 3-5
EXPLANATION OF COMPONENTS 3-9
EXPLANATION OF MACHINE MONITOR EQUIPMENT 3-9
SWITCHES 3-95
CONTROL LEVERS AND PEDALS 3-104
OTHER EQUIPMENT 3-108

MidWestTech | Komatsu PC490LC-11 Hydraulic Excavator Operation & Maintenance M... Order the manual at mid-west-tech.com >

MACHINE OPERATIONS AND CONTROLS 3-149
CHECKS AND ADJUSTMENT BEFORE STARTING ENGINE 3-149
METHOD FOR STARTING ENGINE 3-182
METHOD FOR OPERATIONS AND CHECKS AFTER STARTING ENGINE 3-186
METHOD FOR STOPPING ENGINE 3-197
METHOD FOR STARTING MACHINE (TRAVEL FORWARD AND REVERSE) AND STOPPING MACHINE 3-199
METHOD FOR STEERING MACHINE 3-202
METHOD FOR SWINGING MACHINE 3-204
METHOD FOR OPERATING WORK EQUIPMENT 3-204
HANDLE WORKING MODE 3-206
PROHIBITED OPERATIONS 3-208
PRECAUTIONS FOR OPERATION 3-212
PRECAUTIONS FOR WORKING ON SLOPE 3-214
METHOD FOR ESCAPING FROM MUD 3-215
RECOMMENDED APPLICATIONS 3-216
EFFECTIVE USE OF HYDRAULIC EXCAVATOR 3-217
METHOD FOR REPLACING AND INVERTING BUCKET 3-218
METHOD FOR PARKING MACHINE 3-221
METHOD FOR CHECKING AFTER FINISHING WORK 3-222
LOCK 3-223
HANDLE AIR CONDITIONER 3-228
EXPLANATION OF AIR CONDITIONER EQUIPMENT 3-229
METHOD FOR OPERATING AIR CONDITIONER 3-233
HANDLING RADIO 3-242
EXPLANATION OF RADIO EQUIPMENT 3-242
METHOD FOR CONTROLLING RADIO 3-245
STOW ANTENNA 3-247
TRANSPORTATION 3-248
PRECAUTIONS FOR TRANSPORTING MACHINE 3-248
SELECT TRANSPORTATION METHOD 3-248
LOADING AND UNLOADING WITH TRAILER 3-249
METHOD FOR LIFTING MACHINE 3-260
SPREAD AND NARROW TRACK FRAME GAUGE 3-262
COLD WEATHER OPERATION 3-264
COLD WEATHER OPERATION INFORMATION 3-264
PRECAUTIONS AFTER DAILY WORK COMPLETION 3-266
AFTER COLD WEATHER SEASON 3-266
PRECAUTIONS FOR LONG-TERM STORAGE 3-267
PREPARATION FOR LONG-TERM STORAGE 3-267
MAINTENANCE DURING LONG-TERM STORAGE 3-267
STARTING MACHINE AFTER LONG-TERM STORAGE 3-268
TROUBLES AND ACTIONS 3-269
ACTIONS WHEN RUNNING OUT OF FUEL 3-269
PHENOMENA THAT ARE NOT FAILURES 3-270
PRECAUTIONS FOR TOWING MACHINE 3-271
PRECAUTIONS FOR SEVERE JOB CONDITION 3-272
PRECAUTIONS FOR DISCHARGED BATTERY 3-273
OTHER TROUBLE 3-278
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

MidWestTech | Komatsu PC490LC-11 Hydraulic Excavator Operation & Maintenance M... Order the manual at mid-west-tech.com >

PRECAUTIONS FOR ADDING AdBlue/DEF 4-2
WELDING INSTRUCTIONS 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
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 HOOD 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 FOR HYDRAULIC BREAKER 4-15
MAINTENANCE PROCEDURE 4-16
WHEN REQUIRED 4-16
CHECKS BEFORE STARTING 4-47
EVERY 50 HOURS MAINTENANCE 4-48
EVERY 250 HOURS MAINTENANCE 4-49
EVERY 500 HOURS MAINTENANCE 4-54
EVERY 1000 HOURS MAINTENANCE 4-65
EVERY 2000 HOURS MAINTENANCE 4-73
EVERY 4000 HOURS MAINTENANCE 4-85
EVERY 4500 HOURS MAINTENANCE 4-88
EVERY 5000 HOURS MAINTENANCE 4-89
EVERY 8000 HOURS MAINTENANCE 4-91
EVERY 9000 HOURS MAINTENANCE 4-92
SPECIFICATIONS 5-1
SPECIFICATIONS 5-2
ATTACHMENTS AND OPTIONS 6-1
PRECAUTIONS FOR USING ATTACHMENTS AND OPTIONS SAFELY 6-2
PRECAUTIONS WHEN SELECTING 6-2
READ THE OPERATION AND MAINTENANCE MANUAL THOROUGHLY 6-2
PRECAUTIONS WHEN REMOVING OR INSTALLING 6-2
PRECAUTIONS WHEN USING 6-2
HANDLE BUCKET WITH HOOK 6-4
PRECAUTIONS FOR OPERATION 6-4
HANDLE MACHINE READY FOR INSTALLATION OF ATTACHMENT 6-5
EXPLANATION OF COMPONENTS ON MACHINE EQUIPPED WITH ATTACHMENT 6-5
METHOD FOR CHANGE-OVER AND CONNECT HYDRAULIC CIRCUIT FOR MACHINE READY FOR INSTALLATION OF ATTACHMENT 6-9
METHOD FOR REMOVING AND INSTALLING ATTACHMENT 6-11
METHOD FOR OPERATING ATTACHMENT 6-15
LONG-TERM STORAGE 6-19
MAINTENANCE OF ADDITIONAL FILTER FOR BREAKER 6-19
SPECIFICATIONS 6-22
METHOD FOR CHANGING CONTROL PATTERNS 6-23
CONTROL PATTERNS OTHER THAN STANDARD CONTROL METHOD 6-24
ATTACHMENTS AND OPTIONS 6-25
INSTALL ATTACHMENT 6-25
TRACK SHOES SELECTION 6-27
RECOMMENDED ATTACHMENT OPERATIONS 6-28

MidWestTech | Komatsu PC490LC-11 Hydraulic Excavator Operation & Maintenance M... Order the manual at mid-west-tech.com >

PRECAUTIONS FOR TRANSPORTATION

When the machine is transported on a trailer, serious personal injury or death may result because of the accident during transportation. Always observe the following.

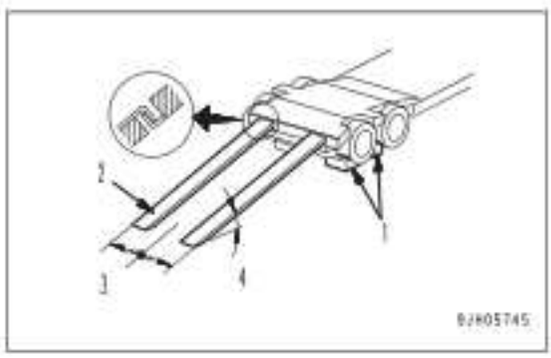
- Always check the machine dimensions carefully. Depending on the work equipment and optional devices installed, the machine weight, transportation height, and overall length differ.
- Check beforehand that all bridges and other structures on the transportation route are strong enough to withstand the combined weight of the transporter and the machine being transported.
- When the machine is transported on a public road, notify the authorities concerned and receive permission of the transportation from them.
- This machine may need to be divided into components for transportation depending on the regulation. When transporting the machine, consult your Komatsu distributor.

PRECAUTIONS WHEN LOADING AND UNLOADING

If handling is improper when loading or unloading the machine, it is dangerous that the machine may tip over or fall. It requires particular attention. Always observe the following.

- Perform loading and unloading on a firm, level ground only. Avoid road edge or place near the cliff.
- Never use the work equipment to load or unload the machine. There is danger that the machine may fall or tip over.
- Always use ramps of adequate strength. Be sure that the ramps are wide, long, and thick enough to provide a safe loading slope. Take suitable steps to prevent the ramps from moving out of position or coming off.

  (1) Chocks
  (2) Ramp
  (3) Center of ramp
  (4) Angle of ramp: Max. 15 °.



- Be sure the ramp surface and the platform of trailer are clean and free of grease, oil, ice, water and other loose materials. If any, remove them. Remove dirt around the undercarriage of the machine. On a rainy day, in particular, be extremely careful since the ramp surface is slippery.
- Always turn the auto-deceleration switch OFF (cancel). If the machine is operated with the auto-deceleration system ON (activated), there is danger that the engine speed will suddenly rise, the machine will suddenly move off, or the machine travel speed will become faster.
- Run the engine at low idle and drive the machine slowly at low speed.
- When on the ramps, do not operate any lever except for the travel lever (travel forward and reverse).
- Never correct your steering on the ramps. If necessary, drive off the ramps onto the ground, correct the direction, then enter the ramps again.
- The center of gravity of the machine will change suddenly at the joint between the ramps and the loading platform, and there is danger of the machine losing its balance. Drive slowly over this point.
- When loading or unloading to an embankment or platform, make sure that it has suitable width, strength, and grade.
- When swinging the upper structure on the loading platform, lower the work equipment, retract it, and perform the operation slowly.
- Always fold the mirrors and stow the radio antenna.
  For the method of folding the mirrors and stowing the antenna, see "STOW ANTENNA (3-247)" and "METHOD FOR ADJUSTING MIRRORS (3-168)".
  For machines equipped with a cab, always lock the door after loading the machine. To prevent the door from opening during transportation.
  For detail, see "TRANSPORTATION (3-248)".
- When it is necessary to remove handrails and steps, take care not to lose removed handrails and steps.

MidWestTech | Komatsu PC490LC-11 Hydraulic Excavator Operation & Maintenance M... Order the manual at mid-west-tech.com >

REMARK

The lock lever is of hydraulic lock type. Accordingly, when it is in LOCK position (L), the control levers or control pedals move but the machine does not move.

Automatic lock function of lock lever

⚠ WARNING

- **The lock lever automatic lock function assists the operator in judgment to reduce damage caused by accident. It does not stop the work equipment or machine in all situations.**
- **Even if the lock lever automatic lock function works, the work equipment or machine may not stop immediately or may stop after moving by a certain distance. Also, the lock lever automatic lock function may not work in the following cases. Accordingly, do not rely on it too much.**
  - **When the hydraulic oil temperature is low (When the hydraulic oil temperature caution lamp indicates low temperature)**
  - **When the viscosity of the hydraulic oil used is higher than that of the genuine hydraulic oils which Komatsu recommends**
- **Before setting the lock lever to FREE position, make sure that all control levers and pedals are set to NEUTRAL position. If any of them is out of NEUTRAL position, the work equipment or machine may move suddenly and cause a serious personal injury or death.**

The lock lever automatic lock function prevents the work equipment or machine from operating unintendedly when the lock lever is released while the work equipment control lever or travel lever is operated. The lock lever is set in the same state as when locked automatically.

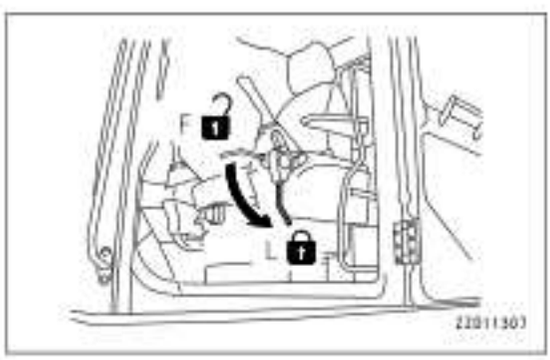
When this function works, the operations of the work equipment, swing, travel, and attachment are locked automatically and the message shown in the figure is displayed.



While this function is in operation, the machine does not move even if a control lever or the attachment control switch is operated while the lock lever is in FREE position (F).

To cancel the lock, return the lock lever to LOCK position (L), check that each control lever and the attachment switch are in neutral, and then release the lock lever again.

For the genuine hydraulic oils which Komatsu recommends, see "RECOMMENDED FUEL, COOLANT, AND LUBRICANT (7-5)".



MidWestTech | Komatsu PC490LC-11 Hydraulic Excavator Operation & Maintenance M... Order the manual at mid-west-tech.com >

EVERY 500 HOURS MAINTENANCE

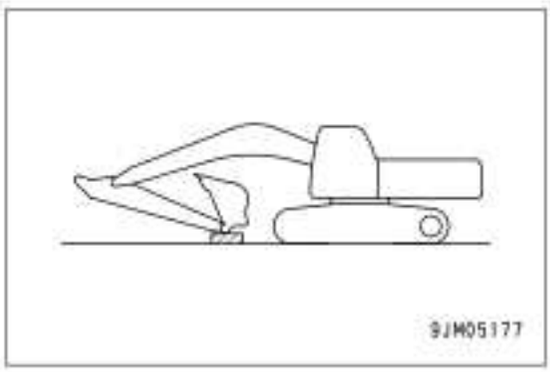
Maintenance for every 50 and 250 hours should be performed at the same time.

METHOD FOR LUBRICATING

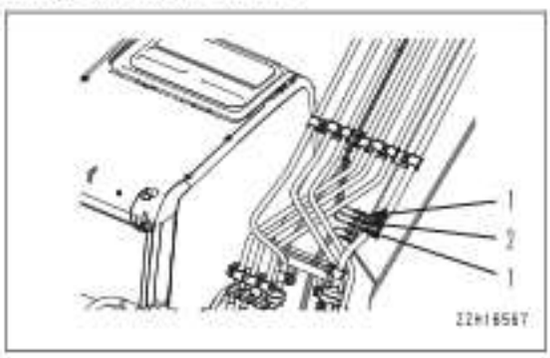
NOTICE

- **If any unusual noise is generated from any greasing point, perform greasing regardless of the greasing interval.**
- **Perform greasing every 10 hours for the first 50 hours of operation on a new machine.**
- **After the machine is subjected to digging work in the water, be sure to grease the wet pins.**
- **When performing heavy-duty operations, such as hydraulic breaker operations, perform the greasing every 100 hours.**

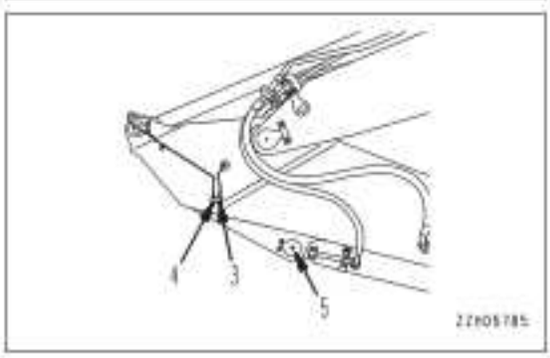
1. Set the work equipment on the level and firm ground in the maintenance posture as shown in the figure, then lower it to the ground and stop the engine.



2. By using a grease pump, pump in grease through the grease fittings shown by arrows.
   (1) Boom cylinder rod pin (2 places)
   (2) Arm cylinder foot pin (1 place)



   (3) Boom and arm connection pin (1 place)
   (4) Arm cylinder rod end (1 place)
   (5) Bucket cylinder foot pin (1 place)



MidWestTech | Komatsu PC490LC-11 Hydraulic Excavator Operation & Maintenance M... Order the manual at mid-west-tech.com >