CEAM028104

Operation & Maintenance Manual

PC490LC-11

HYDRAULIC EXCAVATOR

SERIAL NUMBERS PC490LC-11 A41001 and up

ENGINE 6D125E-6

August 2016

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
ENGINE TECHNOLOGY TO CONFORM EXHAUST GAS EMISSION 1-6
PRODUCT INFORMATION 1-7
LOCATION OF PRODUCT IDENTIFICATION NUMBER (PIN)/MACHINE SERIAL NO. PLATE 1-7
LOCATION OF 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 2-17
PRECAUTIONS BEFORE STARTING OPERATION 2-17
PREPARATIONS FOR SAFE OPERATION 2-17
PRECAUTIONS TO PREVENT FIRE 2-19
PRECAUTIONS WHEN GETTING ON OR OFF MACHINE 2-21
DO NOT GET CAUGHT IN WORK EQUIPMENT 2-22
PRECAUTIONS RELATED TO PROTECTIVE STRUCTURES 2-23
PROTECTION AGAINST FALLING, FLYING OR INTRUDING OBJECTS 2-23
UNAUTHORIZED MODIFICATION 2-24
PRECAUTIONS RELATED TO ATTACHMENTS AND OPTIONS 2-24
PRECAUTIONS RELATED TO CAB GLASS 2-24
PRECAUTIONS WHEN RUNNING ENGINE INSIDE BUILDING 2-24
PRECAUTIONS FOR OPERATION 2-25
PRECAUTIONS FOR JOBSITE 2-25
START ENGINE 2-28
PRECAUTIONS FOR OPERATION 2-30
PRECAUTIONS FOR TRANSPORTATION 2-37
TOWING AND BEING TOWED 2-38
LIFTING OPERATION BY USING BUCKET WITH HOOK 2-39
PRECAUTIONS FOR MAINTENANCE 2-40
PRECAUTIONS BEFORE STARTING INSPECTION AND MAINTENANCE 2-40
PRECAUTIONS FOR CHECK AND MAINTENANCE 2-44
PRECAUTIONS FOR DEF 2-50
GENERAL CHARACTER AND PRECAUTIONS FOR HANDLING 2-50
PRECAUTIONS FOR ADDING 2-50
PRECAUTIONS FOR STORING 2-50
PRECAUTIONS FOR FIRE HAZARD AND LEAKAGE 2-50
OTHER PRECAUTIONS 2-50
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 3-96
CONTROL LEVERS AND PEDALS 3-106
OTHER EQUIPMENT 3-110

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

MACHINE OPERATIONS AND CONTROLS 3-151
CHECKS AND ADJUSTMENT BEFORE STARTING ENGINE 3-151
METHOD FOR STARTING ENGINE 3-185
METHOD FOR OPERATIONS AND CHECKS AFTER STARTING ENGINE 3-189
METHOD FOR STOPPING ENGINE 3-200
METHOD FOR STARTING MACHINE (TRAVEL FORWARD AND REVERSE) AND STOPPING MACHINE 3-202
METHOD FOR STEERING MACHINE 3-205
METHOD FOR SWINGING MACHINE 3-207
METHOD FOR OPERATING WORK EQUIPMENT 3-208
HANDLE WORKING MODE 3-210
PROHIBITED OPERATIONS 3-212
PRECAUTIONS FOR OPERATION 3-216
PRECAUTIONS FOR WORKING ON SLOPE 3-218
METHOD FOR ESCAPING FROM MUD 3-219
RECOMMENDED APPLICATIONS 3-220
EFFECTIVE USE OF HYDRAULIC EXCAVATOR 3-221
METHOD FOR REPLACING AND INVERTING BUCKET 3-222
METHOD FOR PARKING MACHINE 3-225
METHOD FOR CHECKING AFTER FINISHING WORK 3-226
LOCK 3-227
HANDLE AIR CONDITIONER 3-232
EXPLANATION OF AIR CONDITIONER EQUIPMENT 3-233
METHOD FOR OPERATING AIR CONDITIONER 3-238
HANDLING RADIO 3-246
EXPLANATION OF RADIO EQUIPMENT 3-246
METHOD FOR CONTROLLING RADIO 3-249
STOW ANTENNA 3-251
TRANSPORTATION 3-252
PRECAUTIONS FOR TRANSPORTING MACHINE 3-252
SELECT TRANSPORTATION METHOD 3-252
LOADING AND UNLOADING WITH TRAILER 3-253
METHOD FOR LIFTING MACHINE 3-264
SPREAD AND NARROW TRACK FRAME GAUGE 3-266
COLD WEATHER OPERATION 3-268
COLD WEATHER OPERATION INFORMATION 3-268
PRECAUTIONS AFTER DAILY WORK COMPLETION 3-270
AFTER COLD WEATHER SEASON 3-270
PRECAUTIONS FOR LONG-TERM STORAGE 3-271
PREPARATION FOR LONG-TERM STORAGE 3-271
MAINTENANCE DURING LONG-TERM STORAGE 3-271
STARTING MACHINE AFTER LONG-TERM STORAGE 3-272
TROUBLES AND ACTIONS 3-273
ACTIONS WHEN RUNNING OUT OF FUEL 3-273
PHENOMENA THAT ARE NOT FAILURES 3-274
PRECAUTIONS FOR TOWING MACHINE 3-275
PRECAUTIONS FOR SEVERE JOB CONDITION 3-276
PRECAUTIONS FOR DISCHARGED BATTERY 3-277
OTHER TROUBLE 3-282
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 >

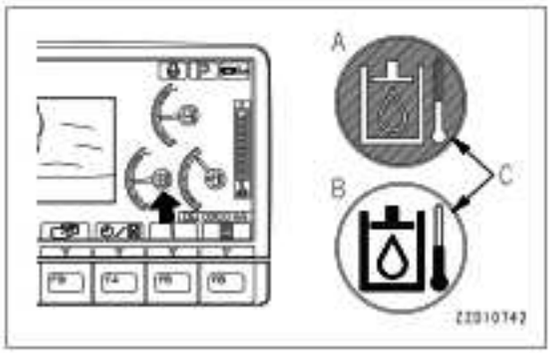
PRECAUTIONS FOR ADDING DEF 4-2
PRECAUTIONS FOR WELDING 4-2
DO NOT DROP THINGS INSIDE MACHINE 4-2
PRECAUTIONS FOR KDPF 4-2
PRECAUTIONS FOR SCR ASSEMBLY 4-3
DUSTY JOBSITES 4-3
AVOID MIXING OIL 4-3
LOCK INSPECTION COVERS 4-3
BLEED AIR FROM HYDRAULIC CIRCUIT 4-3
PRECAUTIONS WHEN INSTALLING HYDRAULIC HOSES 4-3
CHECKS AFTER INSPECTION AND MAINTENANCE 4-3
FUEL AND LUBRICANTS TO MATCH THE AMBIENT TEMPERATURE 4-3
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
SPECIFICATIONS: PC490LC-11 5-2
ATTACHMENTS AND OPTIONS 6-1
PRECAUTIONS FOR USING ATTACHMENT AND OPTIONS 6-2
PRECAUTIONS WHEN SELECTING 6-2
READ THE OPERATION AND MAINTENANCE MANUAL THOROUGHLY 6-2
PRECAUTIONS WHEN REMOVING AND INSTALLING 6-2
PRECAUTIONS FOR USING 6-2
HANDLE MACHINE READY FOR INSTALLATION OF ATTACHMENT 6-4
EXPLANATION OF COMPONENTS ON MACHINE EQUIPPED WITH ATTACHMENT 6-4
METHOD FOR CHANGE-OVER AND CONNECT HYDRAULIC CIRCUIT FOR MACHINE READY FOR INSTALLATION OF ATTACHMENT 6-10
METHOD FOR REMOVING AND INSTALLING ATTACHMENT 6-12
METHOD FOR OPERATING ATTACHMENT 6-16
LONG-TERM STORAGE 6-22
MAINTENANCE OF ADDITIONAL FILTER FOR BREAKER 6-22
SPECIFICATIONS 6-25
METHOD FOR CHANGING CONTROL PATTERNS 6-26
CONTROL PATTERNS OTHER THAN STANDARD CONTROL METHOD 6-27
ATTACHMENTS AND OPTIONS 6-28
INSTALL ATTACHMENT 6-28
TRACK SHOES SELECTION 6-30
RECOMMENDED ATTACHMENT OPERATIONS 6-31
HYDRAULIC BREAKER 6-31

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

METHOD FOR OPERATIONS AND CHECKS AFTER STARTING ENGINE

⚠ WARNING

- **If there has been any emergency stop, abnormal actuation or trouble, turn the starting switch key to OFF position.**
- **Do not perform operations nor operate the levers or pedal abruptly while the hydraulic oil is at low temperature. Always perform the warm-up operation for the hydraulic equipment until the hydraulic oil temperature caution lamp displays the correct temperature.**
  (When the hydraulic oil temperature is low, the low temperature display shown in the figure is given.
  - **Display (A) when temperature is correct: Caution lamp background (C) is blue.**
  - **Display (B) when temperature is low: Caution lamp background (C) is white.)**
- **If the warm-up operation for the hydraulic equipment is not performed thoroughly, and the machine is moved, the reaction of the machine to the operation of the control levers and pedals will be slow and the movement of the machine may not be what the operator intended. Particularly in a cold weather, be sure the warm-up operation is completed.**
- **Keep away from the exhaust pipe while the engine is running and immediately after stopping the engine. Keep combustible materials away from the exhaust pipe outlet.**



There are 2 types of warm-up operation: warm-up of the engine and warm-up of the hydraulic equipment. In addition, depending on the environment, the method of performing the warm-up operation may differ, so perform the warm-up operation according to the descriptions given in the appropriate section.

The hydraulic equipment is not warmed by simply performing engine warm-up operation. Perform the warm-up operations for the hydraulic equipment and engine separately. Warm-up of the hydraulic equipment thoroughly ensures that the hydraulic oil is warmed up and that warm hydraulic oil circulates in all the control circuits.

METHOD FOR CHECKING STARTING CONDITION AND UNUSUAL NOISE OF ENGINE

- When starting the engine, check that the engine causes no abnormal noise and that it starts up easily and smoothly.
- Check that there is no abnormal noise when the engine is idling or when the engine speed rises slightly.

When there is an abnormal noise at the engine startup and if that condition continues, the engine may be damaged. In that case, ask your Komatsu distributor to check the engine as soon as possible.

METHOD FOR CHECKING LOW-SPEED RUN AND ACCELERATION OF ENGINE

⚠ CAUTION

- **Perform these checks in a safe place, watching out for danger in the surroundings.**
- **When the engine performs very badly at low idle and in the acceleration and if that condition continues, it may damage the engine or confuse the operator's sense of driving or lower the braking efficiency, and as a result lead to an unexpected accident. In that case, ask your Komatsu distributor to check the engine as soon as possible.**

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

TRANSPORTATION

PRECAUTIONS FOR TRANSPORTING MACHINE

SELECT TRANSPORTATION METHOD

- When transporting the machine, choose the transportation method in reference to the weight and dimensions shown in "SPECIFICATIONS (5-2)".
  Note that the weight and dimension given in "SPECIFICATIONS" (weight and dimension) may differ according to the type of track shoe or arm, or other attachments.
- Consult your Komatsu distributor for details of the procedure for transporting machines with a protective guard installed for the operator's cab.
- Consult your Komatsu distributor for handling of the handrails when transporting the machine.

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

EVERY 4000 HOURS MAINTENANCE

Maintenance for every 50, 250, 500, 1000 and 2000 hours service should be performed at the same time.

REPLACE DEFINED LIFE PARTS

These parts change in material, wear, and deteriorate as they are aged.

Replace them every 2 years or every 4000 hours, whichever comes sooner.

DEFINED LIFE PARTS LIST

No.	Parts for periodic replacement		Replacement interval
1	Fuel system	Fuel hose Spill hose	Ask your Komatsu distributor for replacement.
2	Engine lubrication system	Turbocharger lubrication hose Engine oil filter hose	
3	Work equipment hydraulic system	Main pump delivery hose Pump delivery hose	
		Pump branch hose Main pump LS hose Hydraulic drive fan hose (Intake fan) Swing line hose Main suction hose	
		External work equipment hose • Boom foot connection hose • Boom cylinder hose • Arm connection hose • Arm cylinder hose • Bucket cylinder hose • Line hose for additional attachment	
4	Others	PPC accumulator Accumulator for additional attachment	

METHOD FOR CHECKING WATER PUMP

Check for leakage of water and oil around the water pump. If any problem is found, ask your Komatsu distributor to perform disassembly, repair, or replacement.

METHOD FOR CHECKING STARTING MOTOR

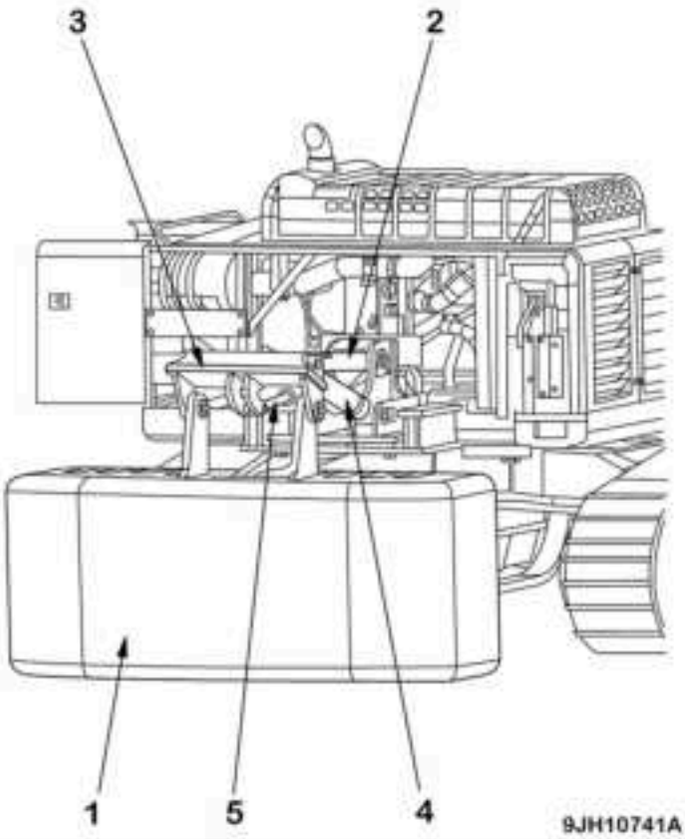
Ask your Komatsu distributor to have the starting motor checked.

If the engine is started frequently, have this inspection performed every 1000 hours.

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

HANDLING COUNTERWEIGHT REMOVER

Explanation of Components



9JH10741A



9JH10741B

(1) Counterweight
(2) A Remover Link
(3) B Remover Link
(4) A Remover Link Cylinder
(5) B Remover Link Cylinder
(6) Counterweight Removal / Installation A Control Lever
(7) Counterweight Removal / Installation B Control Lever

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