TEN00697-01

Operation & Maintenance Manual

HYDRAULIC
EXCAVATOR

PC290LC-11

SERIAL NUMBERS 35012 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 PC290LC-11 Hydraulic Excavator Operation & Maintenance Manua... Order the manual at mid-west-tech.com >

TABLE OF CONTENTS

FOREWORD ... 1-1
READ 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 ... 1-4
ENGINE TECHNOLOGY TO CONFORM EXHAUST GAS EMISSION ... 1-5
PRODUCT INFORMATION ... 1-6
LOCATION OF PRODUCT IDENTIFICATION NUMBER (PIN)/MACHINE SERIAL NO. PLATE ... 1-6
LOCATION OF ENGINE NUMBER PLATE ... 1-6
SERVICE METER LOCATION ... 1-7
YOUR MACHINE SERIAL NUMBERS AND DISTRIBUTOR ... 1-7
SAFETY ... 2-1
SAFETY LABELS ... 2-2
LOCATION OF SAFETY LABELS ... 2-3
CONTENTS OF SAFETY LABELS ... 2-5
GENERAL PRECAUTIONS COMMON TO OPERATION AND MAINTENANCE ... 2-13
PRECAUTIONS BEFORE STARTING OPERATION ... 2-13
PREPARATIONS FOR SAFE OPERATION ... 2-13
PRECAUTIONS TO PREVENT FIRE ... 2-15
PRECAUTIONS WHEN GETTING ON OR OFF MACHINE ... 2-17
DO NOT GET CAUGHT IN WORK EQUIPMENT ... 2-18
PRECAUTIONS RELATED TO PROTECTIVE STRUCTURES ... 2-19
PROTECTION AGAINST FALLING, FLYING OR INTRUDING OBJECTS ... 2-19
UNAUTHORIZED MODIFICATION ... 2-20
PRECAUTIONS RELATED TO ATTACHMENTS AND OPTIONS ... 2-20
PRECAUTIONS RELATED TO CAB GLASS ... 2-20
PRECAUTIONS WHEN RUNNING ENGINE INSIDE BUILDING ... 2-20
PRECAUTIONS FOR OPERATION ... 2-21
PRECAUTIONS FOR JOBSITE ... 2-21
START ENGINE ... 2-24
PRECAUTIONS FOR OPERATION ... 2-26
PRECAUTIONS FOR TRANSPORTATION ... 2-34
TOWING AND BEING TOWED ... 2-35
LIFTING OPERATION BY USING BUCKET WITH HOOK ... 2-36
PRECAUTIONS FOR MAINTENANCE ... 2-37
PRECAUTIONS BEFORE STARTING INSPECTION AND MAINTENANCE ... 2-37
PRECAUTIONS FOR CHECK AND MAINTENANCE ... 2-41
PRECAUTIONS FOR DEF ... 2-47
GENERAL CHARACTER AND PRECAUTIONS FOR HANDLING ... 2-47
PRECAUTIONS FOR ADDING ... 2-47
PRECAUTIONS FOR STORING ... 2-47
PRECAUTIONS FOR FIRE HAZARD AND LEAKAGE ... 2-47
OTHER PRECAUTIONS ... 2-47
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 ... 3-105
OTHER EQUIPMENT ... 3-109
MACHINE OPERATIONS AND CONTROLS ... 3-151

MidWestTech | Komatsu PC290LC-11 Hydraulic Excavator Operation & Maintenance M... Order the manual at mid-west-tech.com >

CHECKS AND ADJUSTMENT BEFORE STARTING ENGINE 3-151
METHOD FOR STARTING ENGINE 3-184
METHOD FOR OPERATIONS AND CHECKS AFTER STARTING ENGINE 3-187
METHOD FOR STOPPING ENGINE 3-198
METHOD FOR STARTING MACHINE (TRAVEL FORWARD AND REVERSE) AND STOPPING MACHINE 3-200
METHOD FOR STEERING MACHINE 3-203
METHOD FOR SWINGING MACHINE 3-205
METHOD FOR OPERATING WORK EQUIPMENT 3-206
HANDLE WORKING MODE 3-208
PROHIBITED OPERATIONS 3-210
PRECAUTIONS FOR OPERATION 3-215
PRECAUTIONS FOR WORKING ON SLOPE 3-217
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 3-237
EXPLANATION OF AIR CONDITIONER EQUIPMENT 3-238
METHOD FOR OPERATING AIR CONDITIONER 3-243
HANDLE RADIO 3-251
EXPLANATION OF RADIO EQUIPMENT 3-251
METHOD FOR CONTROLLING RADIO 3-254
STOW ANTENNA 3-256
TRANSPORTATION 3-257
PRECAUTIONS FOR TRANSPORTING MACHINE 3-257
SELECT TRANSPORTATION METHOD 3-257
LOADING AND UNLOADING WITH TRAILER 3-258
METHOD FOR LIFTING MACHINE 3-270
COLD WEATHER OPERATION 3-272
COLD WEATHER OPERATION INFORMATION 3-272
PRECAUTIONS AFTER DAILY WORK COMPLETION IN COLD WEATHER 3-274
AFTER COLD WEATHER SEASON 3-274
PRECAUTIONS FOR LONG-TERM STORAGE 3-275
PREPARATION FOR LONG-TERM STORAGE 3-275
MAINTENANCE DURING LONG-TERM STORAGE 3-275
STARTING MACHINE AFTER LONG-TERM STORAGE 3-276
TROUBLES AND ACTIONS 3-277
ACTIONS WHEN RUNNING OUT OF FUEL 3-277
PHENOMENA THAT ARE NOT FAILURES 3-277
PRECAUTIONS FOR TOWING MACHINE 3-278
PRECAUTIONS FOR SEVERE JOB CONDITION 3-279
PRECAUTIONS FOR DISCHARGED BATTERY 3-280
OTHER TROUBLE 3-285
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
PRECAUTIONS FOR ADDING DEF 4-2
PRECAUTIONS FOR WELDING 4-2

MidWestTech | Komatsu PC290LC-11 Hydraulic Excavator Operation & Maintenance M... Order the manual at mid-west-tech.com >

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 4-44
EVERY 100 HOURS MAINTENANCE 4-45
EVERY 250 HOURS MAINTENANCE 4-46
EVERY 500 HOURS MAINTENANCE 4-51
EVERY 1000 HOURS MAINTENANCE 4-63
EVERY 2000 HOURS MAINTENANCE 4-72
EVERY 4000 HOURS MAINTENANCE 4-84
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: PC290LC-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 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 6-16
LONG-TERM STORAGE 6-20
MAINTENANCE OF ADDITIONAL FILTER FOR BREAKER 6-20
SPECIFICATIONS 6-24
ATTACHMENTS AND OPTIONS 6-25
INSTALL ATTACHMENT 6-25
TRACK SHOES SELECTION 6-27
BUCKET TEETH SELECTION 6-28
HANDLE TRAPEZOIDAL BUCKET 6-29
HANDLE EXTENSION ARM 6-30
RECOMMENDED ATTACHMENT OPERATIONS 6-31

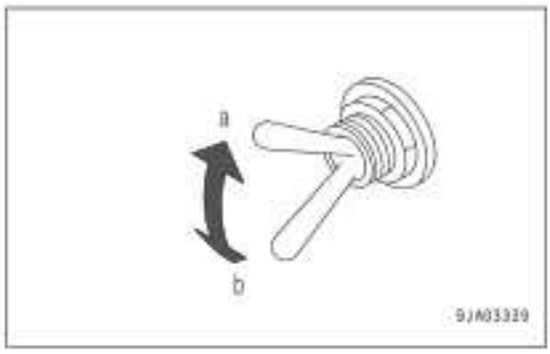
MidWestTech | Komatsu PC290LC-11 Hydraulic Excavator Operation & Maintenance M... Order the manual at mid-west-tech.com >

LOCK LEVER AUTOMATIC LOCK CANCEL SWITCH

NOTICE

The lock lever automatic lock cancel switch is used to disable the lock lever automatic lock function and enable the operations of the work equipment and machine temporarily, when the lock lever automatic lock function is abnormal. Use this switch only when the machine or working machine needs to be moved temporarily in an abnormal and emergency condition. Repair the problem as soon as possible.

If the lock lever automatic lock function is abnormal, when the lock lever is canceled normally under the condition that the work equipment control lever or travel lever is in neutral position, this function is actuated by mistake and the machine or the work equipment may not move. The machine or the work equipment can be operated temporarily by setting the lock lever automatic lock cancel switch to cancel position (a).



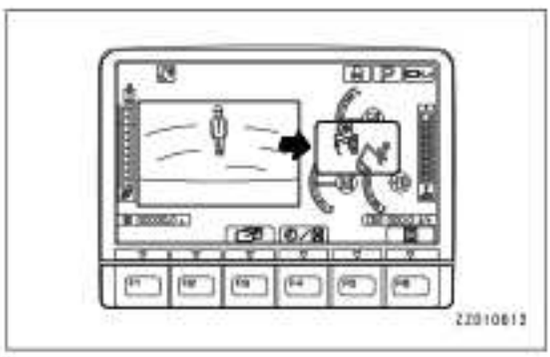
(a) Cancel

When abnormal (switch is set up)

(b) Normal

When normal (switch is pushed down)

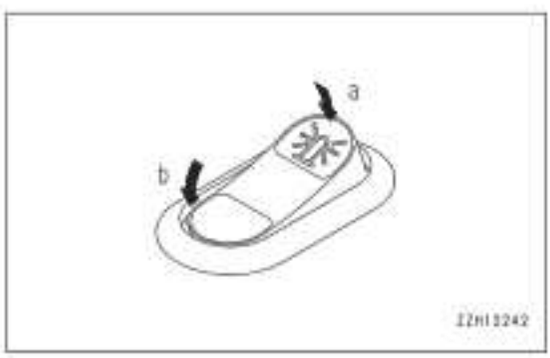
- When the lock lever automatic lock cancel switch is set to cancel position (a), the lock lever automatic lock cancel pilot lamp lights up. At the same time, the mode is displayed in the center of the monitor display, and after 2 seconds, the screen returns to the standard screen.
- After moving the machine or work equipment temporarily by operating this switch, stop the engine, return the switch to normal position (b), and then ask your Komatsu distributor for repair.



REVOLVING LAMP SWITCH

(if equipped)

Revolving lamp switch is used to light up the yellow revolving lamp on top of the cab.



(a) ON

Lights up

(b) OFF

OFF

MidWestTech | Komatsu PC290LC-11 Hydraulic Excavator Operation & Maintenance M... Order the manual at mid-west-tech.com >

EVERY 1000 HOURS MAINTENANCE

Maintenance for every 100, 250 and 500 hours should be performed at the same time.

METHOD FOR REPLACING HYDRAULIC OIL FILTER ELEMENT

⚠ WARNING

- **Immediately after the engine is stopped, its parts and oil are still very hot and may cause burn injury. Accordingly, wait until they have cooled down before starting the work.**
- **When removing the oil filler cap, the oil may spout out. Turn it slowly to release the internal pressure, then remove it.**

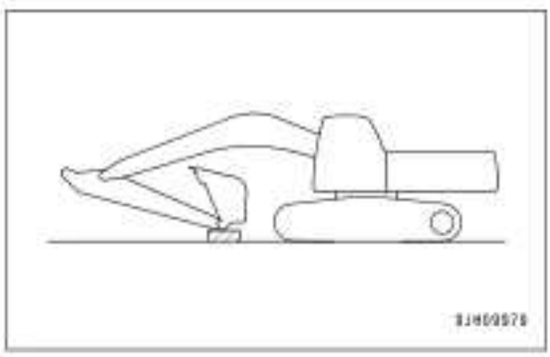
NOTICE

If the machine is equipped with a hydraulic breaker, the hydraulic oil deteriorates faster than in the normal bucket digging operation. Accordingly, perform maintenance referring to "MAINTENANCE INTERVAL FOR HYDRAULIC BREAKER".

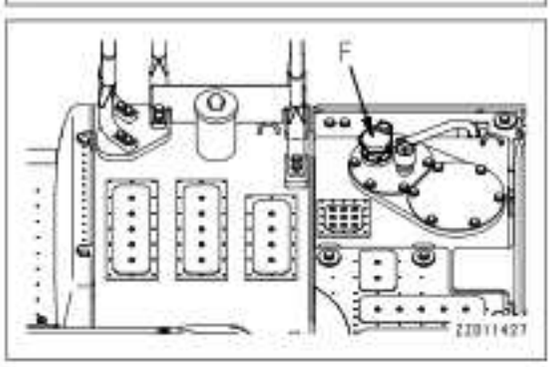
Items to be prepared

Container to catch drained oil

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



2. Remove the cap for oil filler (F), and release the internal pressure.

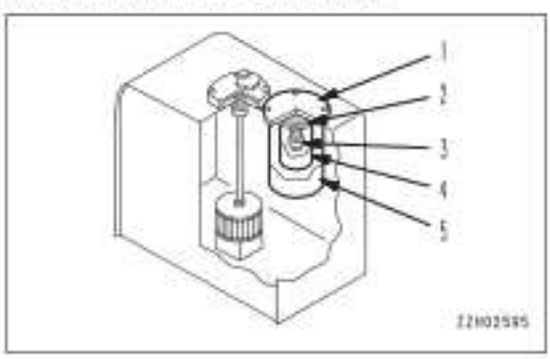


3. Loosen the bolts (6 pieces) and remove cover (1).

   The cover may be jumped out by spring (2). While pressing down the cover, remove the bolts.

   REMARK

   If cover (1) is left approximately 5 minutes with the mounting bolts loosened, the internal pressure of the case is released and the oil in the element is drained, and accordingly less oil drips when the element is removed.



4. After removing spring (2), valve (3) and strainer (4), take out element (5).
5. Check the bottom of the filter case for dirt or other material, and remove any if found.

   Take extreme care that the dirt does not fall into the hydraulic tank.

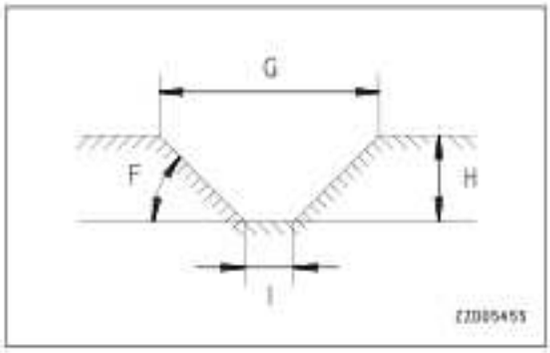
MidWestTech | Komatsu PC290LC-11 Hydraulic Excavator Operation & Maintenance M... Order the manual at mid-west-tech.com >

Ditch slope face angle 40 ° and 38 °

Install the angle plate using the respective ditch slope angle holes, and use the method above for digging.

Even when the angle plate is fitted, keep the line on the bucket side plate perpendicular to the ground face during the digging operation.

Item	Ditch slope face angle (F)	
	40 °	38 °
Digging width (upper face) (G)	3280 mm {10 ft 9 in}	3310 mm {10 ft 10 in}
Digging depth (H)	1230 mm {4 ft 0 in}	1165 mm {3 ft 10 in}
Digging width (bottom face) (I)	350 mm {1 ft 2 in}	330 mm {1 ft 1 in}



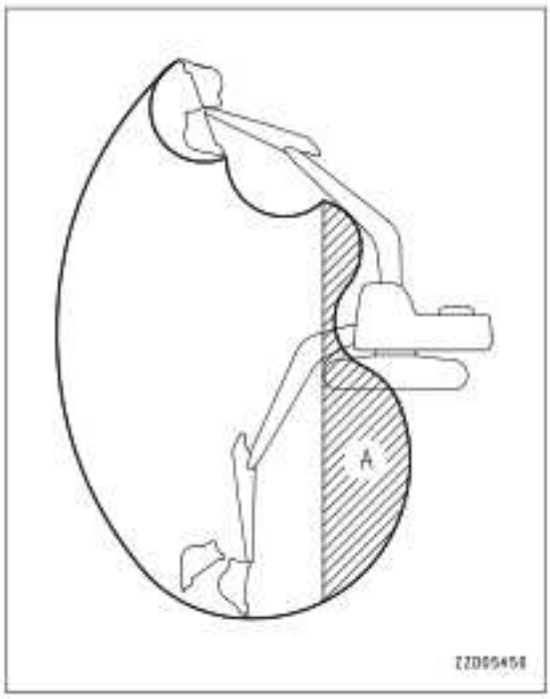
HANDLE EXTENSION ARM

When an extension arm is installed, the bucket will hit the boom cylinder foot and revolving frame when the arm is pulled in, so be extremely careful during operations and when transporting the machine.

(A): Range of prohibited use

- When an extension arm is installed, use a narrow bucket (width: 750 mm{ 2ft 6in }, 560 mm{ 1ft 10in } without side cutters.

  If the standard bucket is used, the stability is poor, and the bucket will also hit the operator's cab when the arm is pulled in, so do not install the standard bucket.
- For operations on hard soil or rock, do not use the extension arm. The service life of the extension arm, boom, and arm will be reduced.



MidWestTech | Komatsu PC290LC-11 Hydraulic Excavator Operation & Maintenance M... Order the manual at mid-west-tech.com >