CEAM000101

Operation & Maintenance Manual

KOMATSU®

PC200,200LC-6
PC210LC-6
PC220LC-6
PC250LC-6

HYDRAULIC EXCAVATOR

SERIAL NUMBERS	PC200,200LC-6	- A82001 - A83000
	PC210LC-6	- A82001 - A83000
	PC220LC-6	- A82001 - A83000
	PC250LC-6	- A82001 - A83000

December 1996

Copyright 1996 Komatsu America International Company

MidWestTech | Komatsu PC200-6, PC200LC-6, PC210LC-6, PC220LC-6, PC250LC-6 Hydr... Order the manual at mid-west-tech.com >

5. CONTENTS

1. FORWARD 0-1

2. SAFETY INFORMATION 0-2

3. INTRODUCTION 0-3
3.1 INTENDED USE 0-3
3.2 FEATURES 0-3
3.3 BREAKING IN A NEW MACHINE 0-3

4. LOCATION OF PLATES, TABLE TO ENTER SERIAL NO. AND DISTRIBUTOR 0-4
4.1 MACHINE SERIAL NO. PLATE POSITION 0-4
4.2 ENGINE SERIAL NO. PLATE POSITION 0-4
4.3 TABLE TO ENTER SERIAL NO. AND DISTRIBUTOR 0-4

5. CONTENTS 0-5

6. GENERAL PRECAUTIONS 1-2

7. PRECAUTIONS DURING OPERATION 1-9
7.1 BEFORE STARTING ENGINE 1-9
7.2 OPERATING MACHINE 1-11
7.3 TRANSPORTATION 1-17
7.4 BATTERY 1-18
7.5 TOWING 1-19
7.6 BUCKET WITH HOOK 1-20
7.6.1 GENERAL PRECAUTIONS 1-20
7.6.2 PRECAUTIONS FOR LIFTING OPERATION 1-21

8. PRECAUTIONS FOR MAINTENANCE 1-22
8.1 BEFORE CARRYING OUT MAINTENANCE 1-22
8.2 DURING MAINTENANCE 1-25

9. POSITION FOR ATTACHING SAFETY LABELS 1-29

10. GENERAL VIEW 2-2
10.1 GENERAL VIEW OF MACHINE 2-2
10.2 GENERAL VIEW OF CONTROLS AND GAUGES 2-3

11. EXPLANATION OF COMPONENTS 2-4
11.1 MACHINE MONITOR 2-4
11.1.1 BASIC CHECK ITEMS 2-4
11.1.2 CAUTION ITEMS 2-5
11.1.3 EMERGENCY STOP ITEMS 2-5
11.1.4 METER DISPLAY PORTION 2-5
11.1.5 SWITCHES 2-5
11.2 METER 2-15
11.3 SWITCHES 2-16
11.4 CONTROL LEVERS, PEDALS 2-20
11.5 CEILING WINDOW 2-25
11.6 FRONT WINDOW 2-26
11.7 DOOR LOCK 2-28
11.8 CAP, COVER WITH LOCK 2-29
11.8.1 METHOD OF OPENING AND CLOSING CAP WITH LOCK 2-29
11.8.2 METHOD OF OPENING AND CLOSING COVER WITH LOCK 2-29
11.9 HOT/COOL BOX 2-30

MidWestTech | Komatsu PC200-6, PC200LC-6, PC210LC-6, PC220LC-6, PC250LC-6 Hydr... Order the manual at mid-west-tech.com >

11.10 LUGGAGE BOX 2-30
11.11 ASHTRAY 2-30
11.12 CAB HEATER 2-31
11.13 CAR RADIO 2-33
11.13.1 EXPLANATION OF COMPONENTS 2-33
11.13.2 LOCATION AND FUNCTION OF CONTROLS 2-33
11.13.3 METHOD OF OPERATION 2-36
11.13.4 PRECAUTIONS WHEN USING 2-37
11.13.5 SPECIFICATIONS 2-37
11.14 FUSE 2-38
11.15 FUSIBLE LINK 2-39
11.16 CONTROLLERS 2-39
11.17 TOOL BOX 2-39
11.18 GREASE PUMP HOLDER 2-39
11.19 HANDLING ACCUMULATOR 2-40
11.19.1 METHOD OF RELEASING PRESSURE IN CONTROL CIRCUIT ON MACHINE EQUIPPED WITH ACCUMULATOR 2-40

12. OPERATION 2-41
12.1 CHECK BEFORE STARTING ENGINE 2-41
12.1.1 WALK-AROUND CHECK 2-41
12.1.2 CHECK BEFORE STARTING 2-43
12.1.3 ADJUSTMENT BEFORE OPERATION 2-47
12.1.4 OPERATIONS AND CHECKS BEFORE STARTING ENGINE 2-49
12.2 STARTING ENGINE 2-50
12.2.1 NORMAL STARTING 2-50
12.2.2 STARTING IN COLD WEATHER 2-51
12.3 OPERATIONS AND CHECKS AFTER STARTING ENGINE 2-53
12.3.1 WHEN NORMAL 2-53
12.3.2 IN COLD AREAS 2-55
12.4 MOVING MACHINE 2-58
12.4.1 MOVING MACHINE FORWARD 2-58
12.4.2 MOVING MACHINE BACKWARD 2-59
12.5 STEERING MACHINE 2-61
12.5.1 STEERING (CHANGING DIRECTION) 2-61
12.6 STOPPING MACHINE 2-63
12.7 SWINGING 2-64
12.8 OPERATION OF WORK EQUIPMENT 2-65
12.9 WORKING MODE SELECTION 2-66
12.10 PROHIBITIONS FOR OPERATION 2-68
12.11 PRECAUTIONS FOR OPERATION 2-70
12.12 PRECAUTIONS WHEN TRAVELING UP OR DOWN HILLS 2-71
12.13 HOW TO ESCAPE FROM MUD 2-73
12.13.1 WHEN ONE SIDE IS STUCK 2-73
12.13.2 WHEN BOTH SIDES ARE STUCK 2-73
12.14 WORK POSSIBLE USING HYDRAULIC EXCAVATOR 2-74
12.14.1 BACKHOE WORK 2-74
12.14.2 SHOVEL WORK 2-74
12.14.3 DITCHING WORK 2-74
12.14.4 LOADING WORK 2-74
12.15 REPLACEMENT AND INVERSION OF BUCKET 2-75
12.15.1 REPLACEMENT 2-75
12.15.2 INVERSION 2-76
12.16 PARKING MACHINE 2-77
12.17 CHECK AFTER FINISHING WORK 2-78
12.18 STOPPING ENGINE 2-79
12.19 CHECK AFTER STOPPING ENGINE 2-80
12.20 LOCKING AND SECURING MACHINE 2-80

MidWestTech | Komatsu PC200-6, PC200LC-6, PC210LC-6, PC220LC-6, PC250LC-6 Hydr... Order the manual at mid-west-tech.com >

13. TRANSPORTATION 2-81
13.1 LOADING, UNLOADING WORK 2-81
13.2 PRECAUTIONS FOR LOADING 2-83
13.3 PRECAUTIONS FOR TRANSPORTATION 2-84

14. COLD WEATHER OPERATION 2-85
14.1 PRECAUTIONS FOR LOW TEMPERATURE 2-85
14.1.1 FUEL AND LUBRICANTS 2-85
14.1.2 COOLANT 2-85
14.1.3 BATTERY 2-86
14.2 PRECAUTIONS AFTER COMPLETION OF WORK 2-87
14.3 AFTER COLD WEATHER 2-87

15. LONG-TERM STORAGE 2-88
15.1 BEFORE STORAGE 2-88
15.2 DURING STORAGE 2-89
15.3 AFTER STORAGE 2-89
15.4 STARTING MACHINE AFTER LONG-TERM STORAGE 2-89

16. TROUBLESHOOTING 2-90
16.1 PHENOMENA THAT ARE NOT FAILURES 2-90
16.2 METHOD OF TOWING MACHINE 2-90
16.3 METHOD FOR USING LIGHT-WEIGHT TOWING HOLE 2-90
16.4 PRECAUTIONS ON PARTICULAR JOBSITES 2-91
16.5 IF BATTERY IS DISCHARGED 2-91
16.5.1 STARTING ENGINE WITH BOOSTER CABLE 2-92
16.6 OTHER TROUBLE 2-94
16.6.1 ELECTRICAL SYSTEM 2-94
16.6.2 CHASSIS 2-95
16.6.3 ENGINE 2-96
16.6.4 ELECTRONIC CONTROL SYSTEM 2-98

17. GUIDES TO MAINTENANCE 3-2

18. OUTLINES OF SERVICE 3-5
18.1 OUTLINE OF OIL, FUEL, COOLANT 3-5
18.1.1 OIL 3-5
18.1.2 FUEL 3-6
18.1.3 COOLANT 3-6
18.1.4 GREASE 3-7
18.1.5 STORING OIL AND FUEL 3-7
18.1.6 FILTERS 3-7
18.2 OUTLINE OF ELECTRICAL SYSTEM 3-8
18.3 OUTLINE OF HYDRAULIC SYSTEM 3-9

19. WEAR PARTS LIST 3-10

20. USE OF FUEL, COOLANT AND LUBRICANTS ACCORDING TO AMBIENT TEMPERATURE 3-12
20.1 ENGINE OIL SPECIFICATION 3-13

21. STANDARD TIGHTENING TORQUES FOR BOLTS AND NUTS 3-15
21.1 INTRODUCTION OF NECESSARY TOOLS 3-15
21.2 TORQUE LIST 3-16

22. PERIODIC REPLACEMENT OF SAFETY CRITICAL PARTS 3-17

23. MAINTENANCE SCHEDULE CHART 3-19
23.1 MAINTENANCE SCHEDULE CHART 3-19
23.2 MAINTENANCE INTERVAL WHEN USING HYDRAULIC BREAKER 3-21

MidWestTech | Komatsu PC200-6, PC200LC-6, PC210LC-6, PC220LC-6, PC250LC-6 Hydr... Order the manual at mid-west-tech.com >

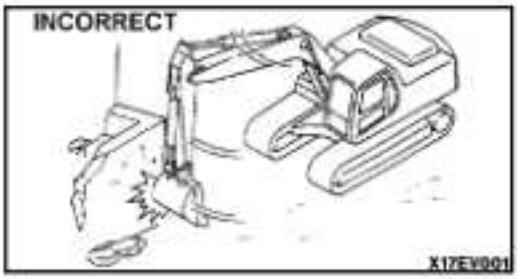
12.10 PROHIBITIONS FOR OPERATION

WARNING

- **If it is necessary to operate the work equipment control lever when the machine is traveling, stop the machine before operating the work equipment control lever.**
- **If the lever is moved inside the deceleration range, engine speed will suddenly rise. Operate the levers carefully.**
- **Never operate the machine on a rock bed (hard or soft rock).**

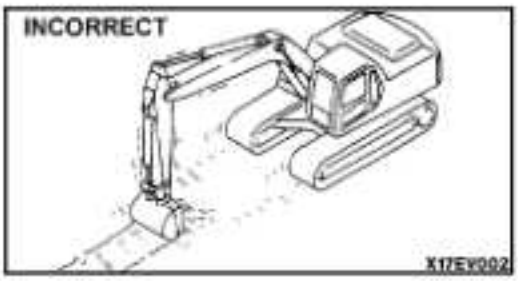
Prohibited operations using swing force

Do not use the swing force to compact soil or break earth mounds or walls.
When swinging, do not dig the bucket teeth into the soil.
These operations will damage the work equipment.



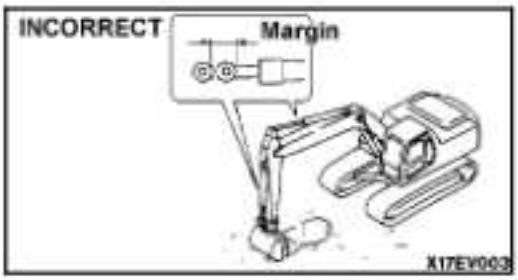
Prohibited operations using travel force

Do not leave the bucket dug into the ground and use the travel force to excavate. This will bring excessive force to bear on the rear of the machine.



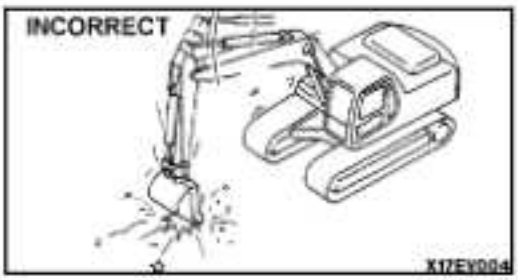
Precautions when operating hydraulic cylinders to end of stroke

If the cylinder is operated to the end of its stroke during operations, force will be brought to bear on the stopper inside the cylinder, and this will reduce the life of the machine. To prevent this, always leave a small safety margin when operating the cylinders.



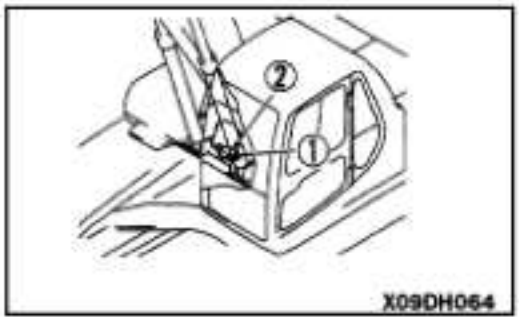
Prohibited operations using dropping force of bucket

Do not use the dropping force of the bucket as a pickaxe, breaker, or pile driver. This will bring excessive force to bear on the rear of the machine, and will not only damage the machine, but is also dangerous.



MidWestTech | Komatsu PC200-6, PC200LC-6, PC210LC-6, PC220LC-6, PC250LC-6 Hydr... Order the manual at mid-west-tech.com >

24.6.2 CHECK SWING PINION GREASE LEVEL, ADD GREASE



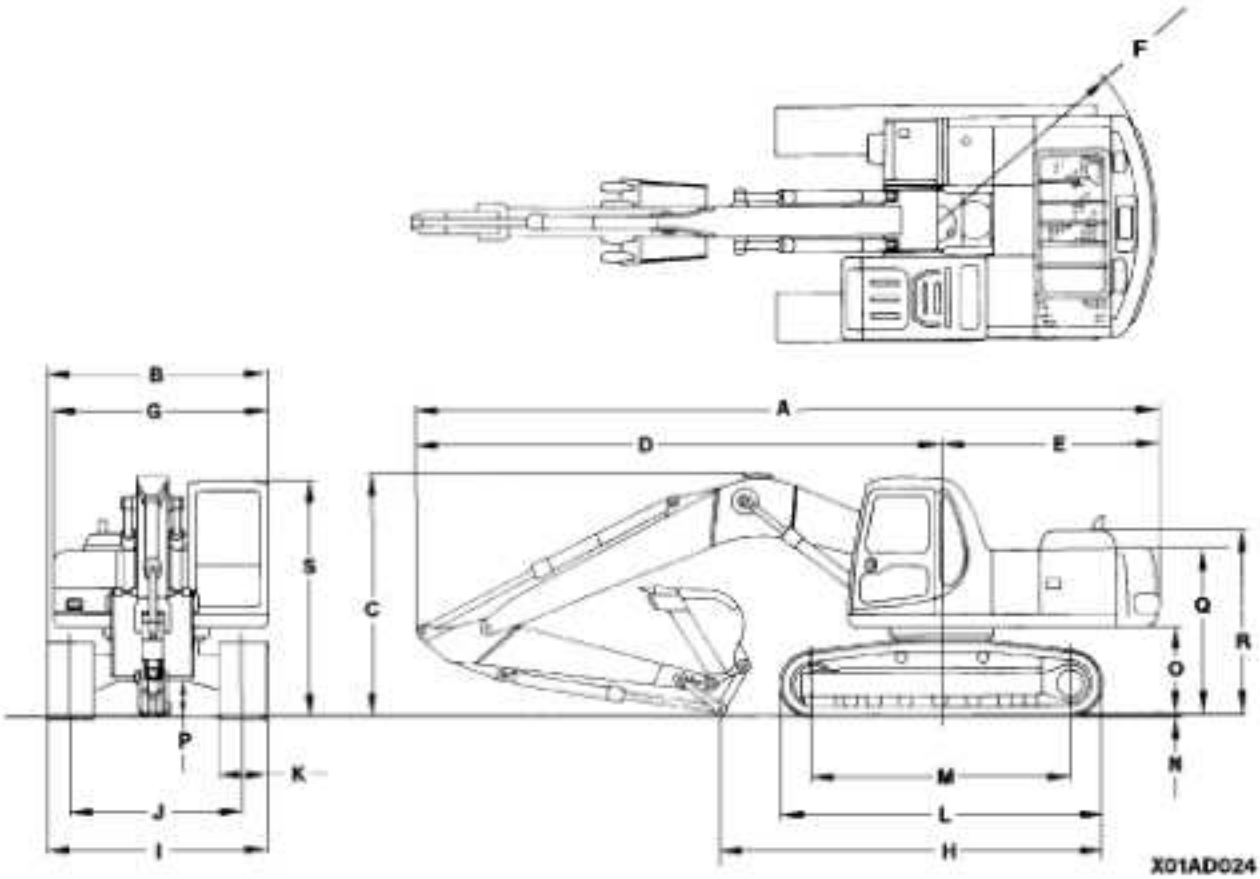
Prepare a scale (ruler).

1. Remove bolts ① (2 bolts) on the top of the revolving frame and remove cover ②.
2. Insert a scale into the grease and check that the height of the grease in the portion where the pinion passes is at least 28 mm (1.1 in). Add more grease if necessary.
3. Check if the grease is milky white. If it is milky white, it is necessary to change the grease. Please contact your distributor.

The total amount of grease is 21 l.

4. Install cover ② with bolts ①.

MidWestTech | Komatsu PC200-6, PC200LC-6, PC210LC-6, PC220LC-6, PC250LC-6 Hydr... Order the manual at mid-west-tech.com >



		PC220LC-6	PC250LC-6
A	Overall length	9780mm	9780mm
B	Overall width	3280mm	3290mm
C	Overall height (to top of boom)	3160mm	3220mm
D	Boom swing radius	6930mm	6930mm
E	Tail swing radius	2850mm	2850mm
F	Counterweight swing radius	2860mm	2860mm
G	Width of machine cab	2710mm	2710mm
H	Length on ground (transport)	5390mm	5420mm
I	Width of crawler	3280mm	3290mm
J	Track gauge	2580mm	2590mm
K	Shoe width	700mm	700mm
L	Track length	4640mm	4953mm
M	Length of track on ground	3830mm	4030mm
N	Grouser height	26mm	36mm
O	Ground clearance, counterweight	1085mm	1205mm
P	Ground clearance, undercarriage	440mm	498mm
Q	Machine cab height	2020mm	2140mm
R	Engine compartment height	2255mm	2375mm
S	Operators cab height	2905mm	3020mm

MidWestTech | Komatsu PC200-6, PC200LC-6, PC210LC-6, PC220LC-6, PC250LC-6 Hydr... Order the manual at mid-west-tech.com >