WEAM003001

Operation & Maintenance Manual

KOMATSU®

PC15R-8

DELUXE

HYDRAULIC EXCAVATOR

SERIAL NUMBERS **PC15R-8 F22262** and up

April 2002

Copyright 2002 Komatsu
DataKom Publishing Division

MidWestTech | Komatsu PC15R-8 Deluxe Hydraulic Excavator Operation & Maintenance M... Order the manual at mid-west-tech.com >

CONTENTS

Page

1.1 FOREWORD 1
1.2 INFORMATION ON SAFETY 2
1.3 INTRODUCTION 4
1.3.1 INTENDED USES 4
1.3.2 IMPROPER OR UNAUTHORIZED USES 4
1.3.3 MAIN CHARACTERISTICS 5
1.3.4 RUNNING-IN 5
1.4 PRODUCT IDENTIFICATION 6
1.4.1 MACHINE SERIAL NUMBER 6
1.4.2 MACHINE IDENTIFICATION PLATE 6
1.4.3 ENGINE SERIAL NUMBER AND EMISSION LABEL 7
1.4.4 TRAVEL REDUCTION GEAR SERIAL NUMBER 7
1.4.5 SWING REDUCTION GEAR SERIAL NUMBER 7
1.4.6 CAB SERIAL NUMBER 8
1.4.7 SERIAL NUMBERS AND DEALER'S ADDRESS 9

SAFETY AND ACCIDENT PREVENTION

2.1 SAFETY PLATES 18
2.1.1 POSITION OF THE SAFETY PLATES 18
2.1.2 POSITION OF THE PICTOGRAMS 33
2.1.3 PICTOGRAMS AND RELEVANT MEANINGS 35
2.1.4 VIBRATIONS TO WHICH THE OPERATOR IS SUBJECTED 37
2.2 GENERAL PRECAUTIONS 38
2.2.1 GENERAL SAFETY RULES 38
2.2.2 SAFETY DEVICES AND GUARDS 38
2.2.3 CLOTHING AND PERSONAL PROTECTION ITEMS 38
2.2.4 UNAUTHORIZED MODIFICATIONS 39
2.2.5 LEAVING THE OPERATOR'S SEAT 39
2.2.6 GETTING ON AND OFF THE MACHINE 40
2.2.7 PREVENTING FIRES DUE TO FUEL AND OIL 40
2.2.8 PREVENTING BURNS 41
2.2.9 PREVENTING DAMAGE DUE TO ASBESTOS POWDER 41
2.2.10 PREVENTING DAMAGE CAUSED BY THE WORK EQUIPMENT 41
2.2.11 FIRE EXTINGUISHERS AND FIRST AID KIT 42
2.2.12 PRECAUTIONS CONCERNING THE CAB STRUCTURE 42
2.2.13 PRECAUTIONS CONCERNING THE EQUIPMENT 42
2.3 PRECAUTIONS TO BE TAKEN BEFORE STARTING THE ENGINE 43
2.3.1 SAFETY ON THE WORK SITE 43
2.3.2 FIRE PREVENTION 43
2.3.3 PRECAUTIONS TO BE TAKEN FOR THE OPERATOR'S CAB 43
2.3.4 ROOM VENTILATION 44
2.3.5 PRECAUTIONS TO BE TAKEN FOR THE LIGHTS 44
2.3.6 CLEANING THE WINDOWS - CHECKING THE WINDSHIELD WIPER BLADES 44

MidWestTech | Komatsu PC15R-8 Deluxe Hydraulic Excavator Operation & Maintenanc... Order the manual at mid-west-tech.com >

Page

2.4 PRECAUTIONS TO BE TAKEN WHEN WORKING 45
2.4.1 STARTING THE ENGINE 45
2.4.2 CHECK THE DIRECTION BEFORE STARTING THE MACHINE 45
2.4.3 CHECKS FOR TRAVELLING IN REVERSE 45
2.4.4 MOVING THE MACHINE 46
2.4.5 MOVING ON SLOPES 47
2.4.6 WORKING ON SLOPES 48
2.4.7 UNAUTHORIZED OPERATIONS 48
2.4.8 PREVENTING ELECTROCUTION 49
2.4.9 VISIBILITY 50
2.4.10 WORKING ON ICY OR SNOW-COVERED SURFACES 50
2.4.11 PREVENTING DAMAGE CAUSED BY THE WORK EQUIPMENT 50
2.4.12 WORKING ON LOOSE GROUND 50
2.4.13 PARKING THE MACHINE 51
2.5 TRANSPORTING THE MACHINE ON OTHER VEHICLES 52
2.5.1 LOADING AND UNLOADING 52
2.5.2 TRANSPORT 52
2.6 BATTERY 53
2.6.1 PREVENTING RISKS THAT MAY BE DUE TO THE BATTERY 53
2.6.2 STARTING WITH BOOSTER CABLES 53
2.7 PRECAUTIONS FOR EMERGENCY RECOVERY 54
2.8 PRECAUTIONS TO BE TAKEN DURING MAINTENANCE 55
2.8.1 WARNING PLATES 55
2.8.2 TOOLS 55
2.8.3 PERSONNEL 56
2.8.4 EQUIPMENT 56
2.8.5 WORKING UNDER THE MACHINE 56
2.8.6 CLEANING THE MACHINE 56
2.8.7 USE OF THE ENGINE DURING MAINTENANCE OPERATIONS 57
2.8.8 PERIODICAL CHANGE OF THE PARTS THAT ARE CRITICAL FOR SAFETY 57
2.8.9 STOP THE ENGINE BEFORE CARRYING OUT ANY MAINTENANCE OPERATION OR INSPECTION 57
2.8.10 RULES TO BE FOLLOWED DURING FUEL OR OIL TOPPING UP 58
2.8.11 CHECKING THE COOLANT LEVEL IN THE RADIATOR 58
2.8.12 USING LAMPS 58
2.8.13 PRECAUTIONS CONCERNING THE BATTERY AND THE ALTERNATOR 59
2.8.14 PRECAUTIONS CONCERNING THE STARTER 59
2.8.15 HANDLING HIGH-PRESSURE PIPES 60
2.8.16 PRECAUTIONS TO BE TAKEN WHEN HANDLING HIGH-PRESSURE OIL 60
2.8.17 PRECAUTIONS FOR MAINTENANCE OPERATIONS AT HIGH TEMPERATURES AND HIGH PRESSURE 60
2.8.18 COOLING FAN AND BELT 61
2.8.19 WASTE MATERIALS 61
2.8.20 PRECAUTIONS FOR THE USE OF THE synthetic biodegradable oil type HEES 61

MidWestTech | Komatsu PC15R-8 Deluxe Hydraulic Excavator Operation & Maintenanc... Order the manual at mid-west-tech.com >

Page

THE MACHINE AND ITS OPERATIONS

3.1 SAFETY LOCKS 64
3.1.1 MACHINE LOCKS 64

3.2 GENERAL VIEWS 65
3.2.1 GENERAL VIEW OF THE MACHINE WITH CAB (OPTIONAL) 65
3.2.2 GENERAL VIEW OF THE MACHINE WITH CANOPY 66
3.2.3 GENERAL VIEW OF THE DRIVER'S SEAT 67

3.3 INSTRUMENTS AND CONTROLS 68
3.3.1 INSTRUMENTS 68
3.3.2 WARNING LIGHTS 69
3.3.3 SWITCHES AND PUSH BUTTONS 71
3.3.4 ELECTRICAL ACCESSORIES 74
3.3.5 MACHINE CONTROLS 76

3.4 FUSES AND RELAYS 85
3.4.1 FUSES 85
3.4.2 RELAYS 86

3.5 GUARDS AND DRIVER'S SEAT 87
3.5.1 ENGINE HOOD 87
3.5.2 CANOPY 88
3.5.3 CAB (OPTIONAL) 88
3.5.3.1 SLIDING DOOR 89
3.5.3.2 FRONT OPENING WINDSHIELD 90
3.5.3.3 FRONT WINDSHIELD (LOWER PART) 91
3.5.3.4 SIDE OPENING WINDOW 92
3.5.4 VENTILATION AND HEATING (ONLY ON MACHINES WITH CAB) 93
3.5.5 SEAT 93
3.5.6 SAFETY BELT 94
3.5.7 EMERGENCY EXIT (ONLY ON MACHINES WITH CAB) 94
3.5.8 TECHNICAL DOCUMENTATION CASE 95
3.5.9 FIRE EXTINGUISHER 95
3.5.10 FIRST AID KIT 95

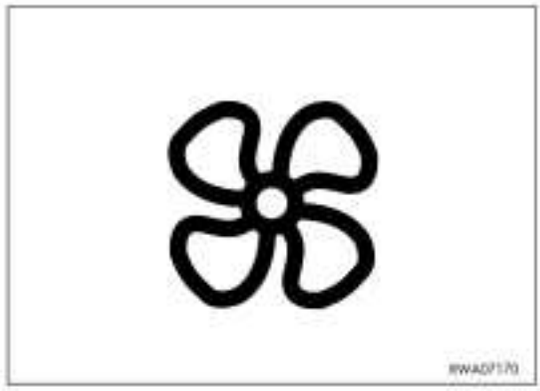
3.6 USE OF THE MACHINE 97
3.6.1 CHECKS BEFORE STARTING THE ENGINE 97
3.6.1.1 VISUAL CHECKS 97
3.6.1.2 DAILY CHECKS 97
3.6.1.3 OPERATIONAL CHECKS 98
3.6.2 STARTING THE ENGINE 99
3.6.2.1 STARTING WITH WARM ENGINE OR IN TEMPERATE CLIMATES 99
3.6.2.2 STARTING WITH COLD ENGINE OR IN COLD CLIMATES 100
3.6.3 WARMING THE ENGINE 101
3.6.4 HEATING THE HYDRAULIC OIL 101
3.6.5 HOW TO MOVE THE MACHINE 101
3.6.5.1 STEERING (CHANGING DIRECTION) 103
3.6.5.2 MOVING ON SLOPES 104
3.6.5.3 MAXIMUM IMMERSION DEPTH 105

3.7 PARKING THE MACHINE 106
3.7.1 PARKING ON LEVEL GROUND 106
3.7.2 PARKING ON SLOPES 107

MidWestTech | Komatsu PC15R-8 Deluxe Hydraulic Excavator Operation & Maintenanc... Order the manual at mid-west-tech.com >

1 - FAN SWITCH

This is a two-speed switch that operates the fan motor. If operated after the opening of the tap installed in the engine compartment, it ensures the circulation of warm air and serves as heating switch. (See "3.5.4 VENTILATION AND HEATING").



2 - WORKING LIGHT AND INSTRUMENT LIGHT SWITCH

This is a rotary switch with three positions marked by the following symbols: OFF - 1- 2.

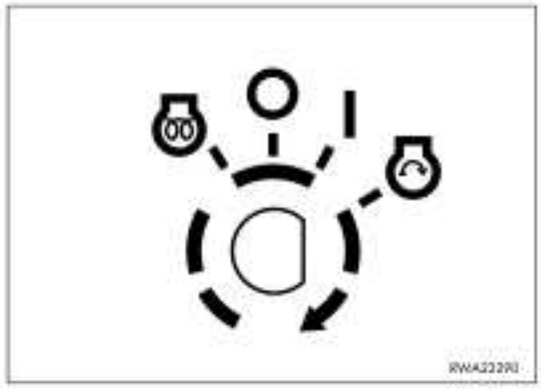
1) Enables the instrument light circuit

2) Enables the working light circuit



3 - IGNITION SWITCH

This is a rotary key switch with four positions marked by the following symbols: « » - O (OFF) - I - « » (START).
For further details on the use of this switch, see "3.6.2 STARTING THE ENGINE".



4 - ARM OVERLOAD ALARM SWITCH (if installed)

This is a two-position rotary switch and, if operated, makes it possible to define when the capacity limit has been reached.



MidWestTech | Komatsu PC15R-8 Deluxe Hydraulic Excavator Operation & Maintenanc... Order the manual at mid-west-tech.com >

4.7.8 MAINTENANCE AFTER THE FIRST 500 HOURS OF OPERATION (Only for machines in which the synthetic biodegradable oil type HEES is used)

The following maintenance operation must be carried out after the first 500 hours of operation, together with the maintenance operations to be carried out "EVERY 500 HOURS".

- HYDRAULIC OIL CHANGE AND SUCTION FILTER CLEANING

For further details on the various maintenance operations, see section "EVERY 2000 HOURS".

4.7.9 MAINTENANCE EVERY 500 HOURS OF OPERATION

These operations must be carried out together with those to be carried out every 100 and 250 HOURS.

4.7.9.a CHANGING THE ENGINE OIL FILTER

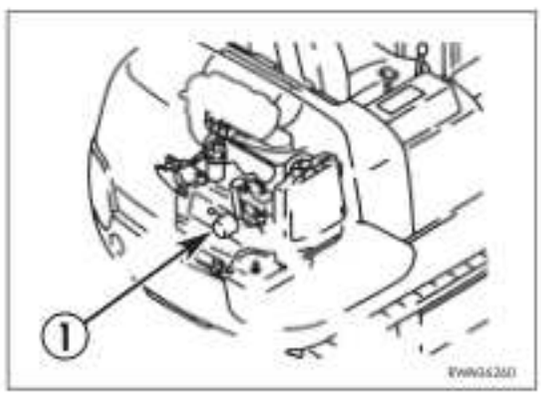
WARNING

- **Soon after the machine has been stopped the engine oil is very hot and may cause burns; let the engine cool down until it reaches a temperature of 40-45°C (104-113°F) before draining the oil.**
- **The oil that may be spilled during the change makes the ground slippery, therefore, use anti-slip shoes and immediately remove any trace of oil from the floor.**
- **Oils, filters, the coolant and the battery are considered special waste and must be collected and disposed of according to the anti-pollution regulations in force.**

This operation must be carried out every two oil changes.
Proceed as follows:

1 - Drain the engine oil (See "4.7.7.e CHANGING THE ENGINE OIL").
2 - Unscrew the used filter (1) with the special spanner provided and throw it away.
3 - Clean the contact surface between the seal and the filter support.
4 - Lubricate the seal of the new filter and screw thoroughly.
5 - Give another half turn by hand.
6 - Fill the engine with new oil and complete the operations as described at point "4.7.7.e CHANGING THE ENGINE OIL").

Start the engine, make sure that there are no leakages and that the oil pressure warning light goes out.



IMPORTANT

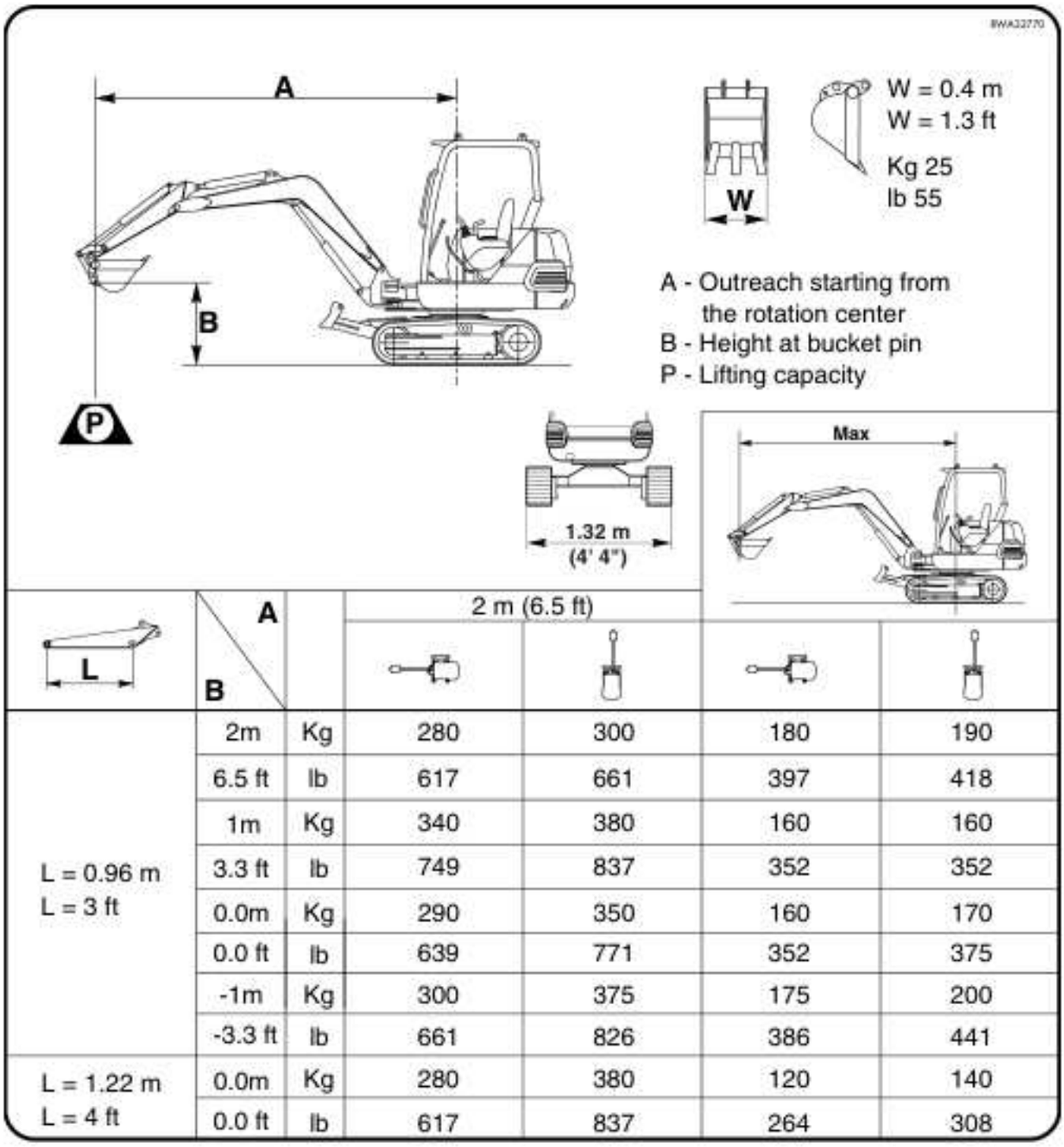
- **Do not use the spanner to lock the filter, since it may be damaged and cause oil leakages.**

MidWestTech | Komatsu PC15R-8 Deluxe Hydraulic Excavator Operation & Maintenanc... Order the manual at mid-west-tech.com >

5.1.6 LIFTING CAPACITY (ONLY «HS» VERSION)

CAUTION

- **Carry out the lifting operations only with the machine resting on firm and level ground.**



L	A / B		2 m (6.5 ft)			
L = 0.96 m L = 3 ft	2m	Kg	280	300	180	190
	6.5 ft	lb	617	661	397	418
	1m	Kg	340	380	160	160
	3.3 ft	lb	749	837	352	352
	0.0m	Kg	290	350	160	170
	0.0 ft	lb	639	771	352	375
	-1m	Kg	300	375	175	200
	-3.3 ft	lb	661	826	386	441
L = 1.22 m L = 4 ft	0.0m	Kg	280	380	120	140
	0.0 ft	lb	617	837	264	308

MidWestTech | Komatsu PC15R-8 Deluxe Hydraulic Excavator Operation & Maintenanc... Order the manual at mid-west-tech.com >