WEAM009700

Operation & Maintenance Manual

PC80MR-3

HYDRAULIC EXCAVATOR

SERIAL NUMBER

PC80MR-3 F00003 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 Utility

MidWestTech | Komatsu PC80MR-3 Hydraulic Excavator Operation & Maintenance Manual... Order the manual at mid-west-tech.com >

TABLE OF CONTENTS

FOREWORD

1.1 FOREWORD **1**

1.2 INFORMATION ON SAFETY **2**

1.3 INTRODUCTION **4**

1.3.1 INTENDED USE OF THE MACHINE 4

1.3.2 IMPROPER OR UNAUTHORIZED USES 4

1.3.2.1 MAIN CHARACTERISTICS 4

1.3.3 RUNNING-IN 5

1.3.4 POSITIONS AND DIRECTIONS OF THE MACHINE 6

1.4 PRODUCT IDENTIFICATION **7**

1.4.1 MACHINE SERIAL NUMBER 7

1.4.2 MACHINE IDENTIFICATION PLATE AND PRODUCT IDENTIFICATION NUMBER (PIN) 7

1.4.3 ENGINE SERIAL NUMBER AND EXHAUST GAS EMISSION PLATE 8

1.4.4 TRAVEL REDUCTION GEAR SERIAL NUMBER 8

1.4.5 SWING REDUCTION GEAR SERIAL NUMBER 8

1.4.6 CAB SERIAL NUMBER 8

1.4.7 SERIAL NUMBERS AND DEALER'S ADDRESS 9

1.5 KOMTRAX SYSTEM **10**

1.5.1 GENERAL PRECAUTIONS 10

SAFETY AND ACCIDENT PREVENTION

2.1 SAFETY, NOISE AND VIBRATION PLATES **20**

2.1.1 POSITION OF THE SAFETY PLATES 20

2.1.2 PICTOGRAMS AND RELEVANT MEANINGS 21

2.1.3 POSITION OF THE NOISE PLATES 28

2.1.4 VIBRATIONS TO WHICH THE OPERATOR IS SUBJECTED 28

2.2 GENERAL PRECAUTIONS **29**

2.2.1 SAFETY RULES 29

2.2.2 HOW TO BEHAVE IN CASE OF ANOMALIES 29

2.2.3 CLOTHING AND PERSONAL PROTECTION ITEMS 29

2.2.4 FIRE EXTINGUISHERS AND FIRST AID KIT 30

2.2.5 SAFETY DEVICES AND GUARDS 30

2.2.6 CLEANING THE MACHINE 30

2.2.7 INSIDE OF THE CAB 31

2.2.8 LEAVING THE OPERATOR SEAT 31

2.2.9 GETTING ON AND OFF THE MACHINE 32

2.2.10 IT IS FORBIDDEN TO CLIMB ON THE EQUIPMENT 32

2.2.11 ARTICULATED PARTS 32

2.2.12 PREVENTING BURNS 33

2.2.13 PREVENTING FIRES DUE TO FUEL AND OIL 33

2.2.14 HOW TO BEHAVE IN CASE OF FIRE 34

2.2.15 DETERGENT FOR THE WINDOWS 34

2.2.16 PROTECTION AGAINST FALLING OBJECTS, FLYING OBJECTS, FOREIGN BODIES 34

2.2.17 PRECAUTIONS CONCERNING THE EQUIPMENT 34

2.2.18 COMBINING THE WORK EQUIPMENT 34

2.2.19 WORK LIGHT AND CAB LIGHTS 35

2.2.20 CAB WINDOWS 35

2.2.21 PRECAUTIONS CONCERNING THE CAB STRUCTURE 35

MidWestTech | Komatsu PC80MR-3 Hydraulic Excavator Operation & Maintenance Ma... Order the manual at mid-west-tech.com >

2.2.22 UNAUTHORIZED MODIFICATIONS 35
2.2.23 SAFETY AT THE WORKPLACE 35
2.2.24 WORKING ON LOOSE GROUND 35
2.2.25 PREVENTING ELECTROCUTION 36
2.2.26 VISIBILITY 37
2.2.27 ROOM VENTILATION 37
2.2.28 CHECKING THE SIGNALS OF THE SIGNALMAN AND THE FIXED SIGNS 37
2.2.29 HAND SIGNALS 38
2.2.30 EMERGENCY EXIT 43
2.2.31 PREVENTING DAMAGE DUE TO ASBESTOS POWDER 43

2.3 PRECAUTIONS FOR USE 44
2.3.1 BEFORE STARTING THE ENGINE 44
2.3.1.1 CHECKS AND ADJUSTMENTS TO BE CARRIED OUT BEFORE STARTING THE ENGINE 44
2.3.1.2 PRECAUTIONS TO BE TAKEN DURING THE START PROCEDURE 44
2.3.1.3 PRECAUTIONS TO BE TAKEN IN COLD AREAS 45
2.3.2 PRECAUTIONS TO BE TAKEN WHEN WORKING 46
2.3.2.1 CHECKS AFTER STARTING THE ENGINE 46
2.3.2.2 PRECAUTIONS TO BE TAKEN WHEN CHANGING DIRECTION 46
2.3.2.3 PRECAUTIONS TO BE TAKEN DURING TRAVEL 47
2.3.2.4 MOVING ON SLOPES 48
2.3.2.5 WORKING ON SLOPES 49
2.3.2.6 UNAUTHORIZED OPERATIONS 49
2.3.2.7 WORKING ON ICY OR SNOW-COVERED SURFACES 51
2.3.2.8 PARKING THE MACHINE 51
2.3.3 TRANSPORTING THE MACHINE 52
2.3.3.1 LOADING AND UNLOADING THE MACHINE 52
2.3.3.2 TRANSPORTING THE MACHINE 52
2.3.4 BATTERY 53
2.3.4.1 PREVENTING RISKS THAT MAY BE DUE TO THE BATTERY 53
2.3.4.2 STARTING WITH BOOSTER CABLES 54
2.3.5 REMOVAL 55
2.3.5.1 PRECAUTIONS FOR THE REMOVAL 55

2.4 PRECAUTIONS FOR MAINTENANCE 56
2.4.1 WARNING PLATES 56
2.4.2 KEEP THE WORK PLACE CLEAN AND ORDERLY 56
2.4.3 APPOINT A SUPERVISOR WHEN WORKING WITH OTHER PEOPLE 56
2.4.4 STOP THE ENGINE BEFORE CARRYING OUT ANY MAINTENANCE OPERATION OR INSPECTION 57
2.4.5 MAINTENANCE OPERATIONS TO BE CARRIED OUT WITH THE ENGINE RUNNING REQUIRE THE PRESENCE OF TWO OPERATORS 58
2.4.6 TOOLS 58
2.4.7 HYDRAULIC ACCUMULATOR 58
2.4.8 MAINTENANCE STAFF 59
2.4.9 EQUIPMENT 59
2.4.10 WORKING UNDER THE MACHINE 59
2.4.11 NOISE 59
2.4.12 PRECAUTIONS TO BE TAKEN WHEN USING THE HAMMER 60
2.4.13 REPAIR WELDS 60
2.4.14 RULES TO BE FOLLOWED WHEN REFUELLING OR ADDING OIL 60
2.4.15 CHECKING THE COOLANT LEVEL IN THE RADIATOR 61
2.4.16 USING LAMPS 61
2.4.17 PRECAUTIONS TO BE TAKEN WHEN HANDLING THE BATTERY AND THE ALTERNATOR 62
2.4.18 PRECAUTIONS CONCERNING THE STARTER 62

MidWestTech | Komatsu PC80MR-3 Hydraulic Excavator Operation & Maintenance Ma... Order the manual at mid-west-tech.com >

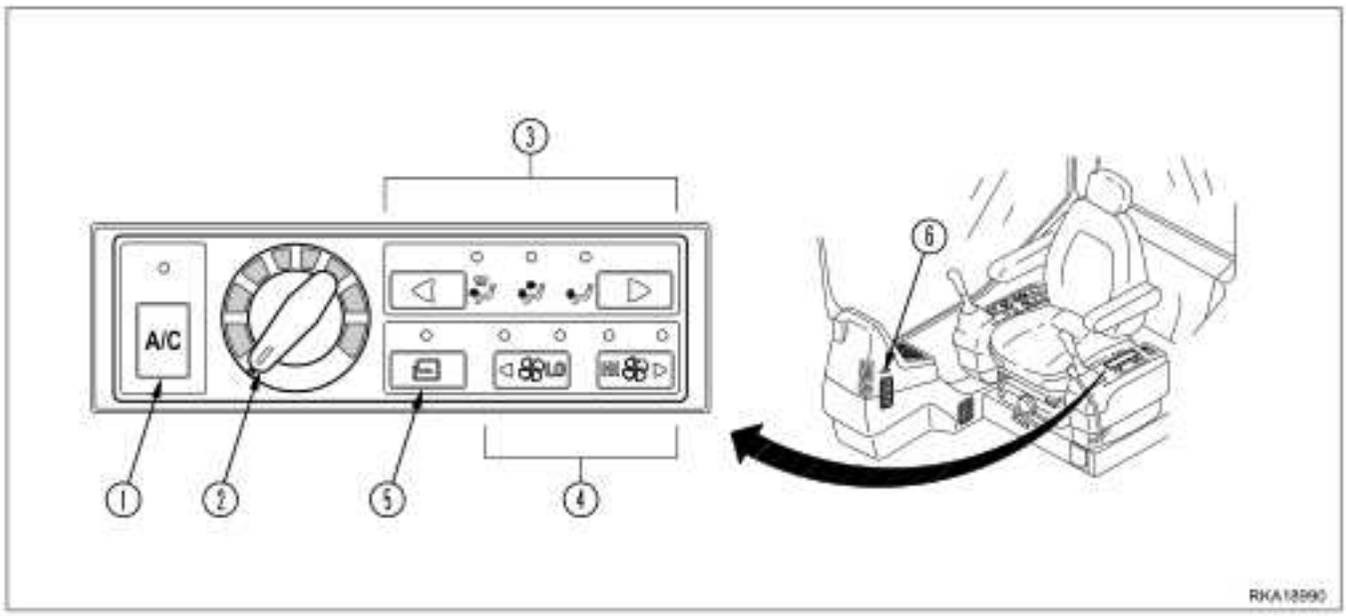
2.4.19 PRECAUTIONS TO BE TAKEN WHEN USING HIGH-PRESSURE GREASE TO ADJUST THE TRACK TENSION 63
2.4.20 DO NOT REMOVE THE SHOCK ABSORBING SPRING FROM THE SHOCK ABSORBER UNIT 63
2.4.21 PRECAUTIONS TO BE TAKEN WHEN HANDLING HIGH-PRESSURE OIL 64
2.4.22 HANDLING HIGH-PRESSURE HOSES 64
2.4.23 PRECAUTIONS FOR MAINTENANCE OPERATIONS AT HIGH TEMPERATURES AND HIGH PRESSURE 64
2.4.24 COOLING FAN AND BELT 65
2.4.25 WASTE MATERIALS 65
2.4.26 SERVICING THE AIR CONDITIONER 65
2.4.27 COMPRESSED AIR 65
2.4.28 PERIODICAL CHANGE OF THE PARTS THAT ARE CRITICAL FOR SAFETY 65
2.4.29 PRECAUTIONS TO BE TAKEN WHEN HANDLING TECHNOPOLYMERS AND ELASTOMERS 66
2.4.30 PRECAUTIONS TO BE TAKEN WHEN USING SYNTHETIC BIODEGRADABLE OIL TYPE HEES 66

DESCRIPTION AND USE OF THE MACHINE

3.1 DESCRIPTION AND USE OF THE MACHINE 68
3.1.1 GENERAL VIEW OF THE MACHINE WITH MONOBOOM 68
3.1.2 GENERAL VIEW OF THE MACHINE WITH TWO-PIECE BOOM 69
3.1.3 CONTROLS AND INDICATORS 70
3.2 INSTRUMENTS AND CONTROLS 71
3.2.1 DASHBOARD 71
3.2.1.1 WARNING LIGHTS 72
3.2.1.2 EMERGENCY WARNING LIGHTS 74
3.2.1.3 WARNING LIGHTS AND INDICATORS DISPLAY 76
3.2.1.4 SWITCHES 80
3.2.2 SWITCHES AND PUSH BUTTONS 82
3.2.3 CONTROL LEVERS AND PEDALS 89
3.2.4 CAB 94
3.2.4.1 WINDSHIELD 95
3.2.4.2 SLIDING DOOR 99
3.2.4.3 SIDE WINDOW 100
3.2.4.4 EMERGENCY EXIT HAMMER 102
3.2.5 COVERS WITH LOCK 103
3.2.6 ENGINE HOOD 104
3.2.7 TANK COVER 105
3.2.8 FUSES AND RELAY 106
3.2.8.1 CONTROL UNIT FUSES AND RELAYS 106
3.2.8.2 VENTILATION RELAYS 109
3.2.8.3 AIR CONDITIONER FUSE AND RELAY 110
3.2.8.4 ENGINE LINE FUSES AND RELAYS 110
3.2.8.5 MAIN FUSE 111
3.2.9 CONTROLLER 111
3.2.10 VENTILATION AND HEATING 112
3.2.10.1 HEATING AND DEFROSTING CONTROL PANEL 112
3.2.11 AIR CONDITIONER (if installed) 115
3.2.11.1 AIR CONDITIONER CONTROL PANEL 116
3.2.12 TECHNICAL DOCUMENTATION COMPARTMENT 119
3.2.13 TOOL BOX 119
3.2.14 GREASING PUMP SUPPORT 119
3.2.15 ASHTRAY 120
3.2.16 FIRE EXTINGUISHERS 120
3.2.17 FIRST AID KIT 120

MidWestTech | Komatsu PC80MR-3 Hydraulic Excavator Operation & Maintenance Ma... Order the manual at mid-west-tech.com >

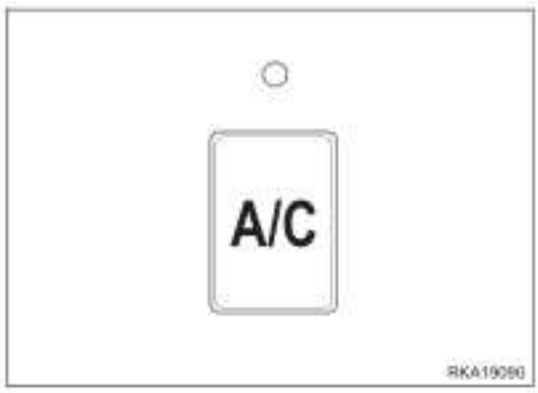
3.2.11.1 AIR CONDITIONER CONTROL PANEL



(1) Air conditioner switch
(2) Temperature control switch
(3) Ventilation selection switches
(4) Air flow selection switches
(5) Air recirculation selection switch
(6) Defrosting lever

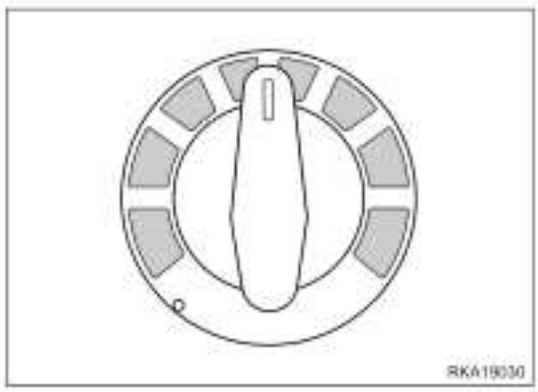
1. Air conditioner switch

This is a two-position (ON-OFF) switch and is used to start and stop the air conditioner.



2. Temperature control switch

This is a rotary switch used to start and stop the ventilation system and to control the temperature inside the cab.
The position, ON or OFF, is signalled by a click of the switch when this is turned completely anticlockwise. The temperature can be adjusted by turning the switch. Turning the switch clockwise (red range) increases the temperature, while turning it anticlockwise (light blue range) decreases the temperature.



MidWestTech | Komatsu PC80MR-3 Hydraulic Excavator Operation & Maintenance Ma... Order the manual at mid-west-tech.com >

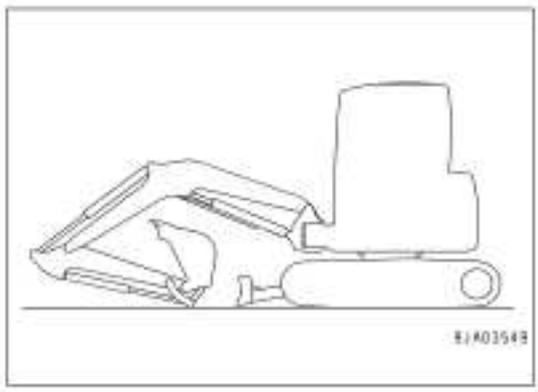
4.9.5 MAINTENANCE EVERY 100 HOURS OF OPERATION

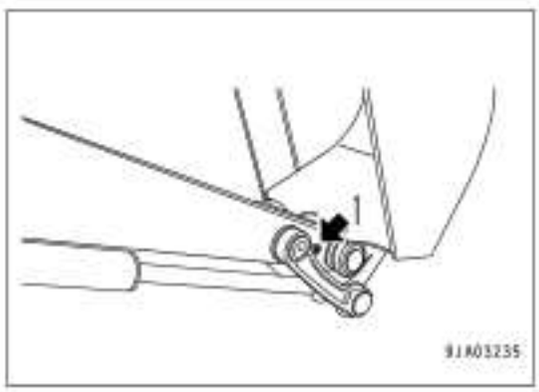
Carry out these operations together with those to be performed every 50 HOURS.

4.9.5.a LUBRICATION

IMPORTANT

- **Clean the grease nipples before applying the greasing pump.**
- **After lubrication, remove all the contaminated grease that may have spread out of the nipples.**
- **If the machine is used in difficult conditions, carry out this operation more frequently than usual.**
- **As a general rule, it is important to consider that each cylinder is provided with two grease nipples positioned on the couplings and that each pin serving as fulcrum point for a movement is provided with at least one grease nipple.**
- **When running in a new machine, lubricate every 10 hours for the first 100 hours of operation.**
- **After carrying out digging operations with the equipment immersed in water, always lubricate the pins that have been in contact with water..**





1. Set the machine in the correct position for the lubrification procedure, as shown in the diagram on the right, lower the work equipment to the ground, then stop the engine.
2. Carefully clean the grease nipple (1) and inject the grease indicated in the table of lubricants using the grease gun, (see "4.4 FUEL, COOLANT AND LUBRICANTS").
3. After lubrication, remove any trace of spilt grease.

(1) Arm-bucket coupling pin (1 point)

4.9.6 MAINTENANCE AFTER THE FIRST 250 HOURS OF OPERATION

The following maintenance operation must be carried out after the first 250 hours of operation, together with the maintenance operations to be carried out "EVERY 250 HOURS".

- CHANGING THE FUEL FILTER CARTRIDGE
- CHANGING THE ENGINE OIL AND THE FILTER CARTRIDGE

For further details, see paragraph "EVERY 500 HOURS".

MidWestTech | Komatsu PC80MR-3 Hydraulic Excavator Operation & Maintenance Ma... Order the manual at mid-west-tech.com >

5.2 LIFTING CAPACITIES

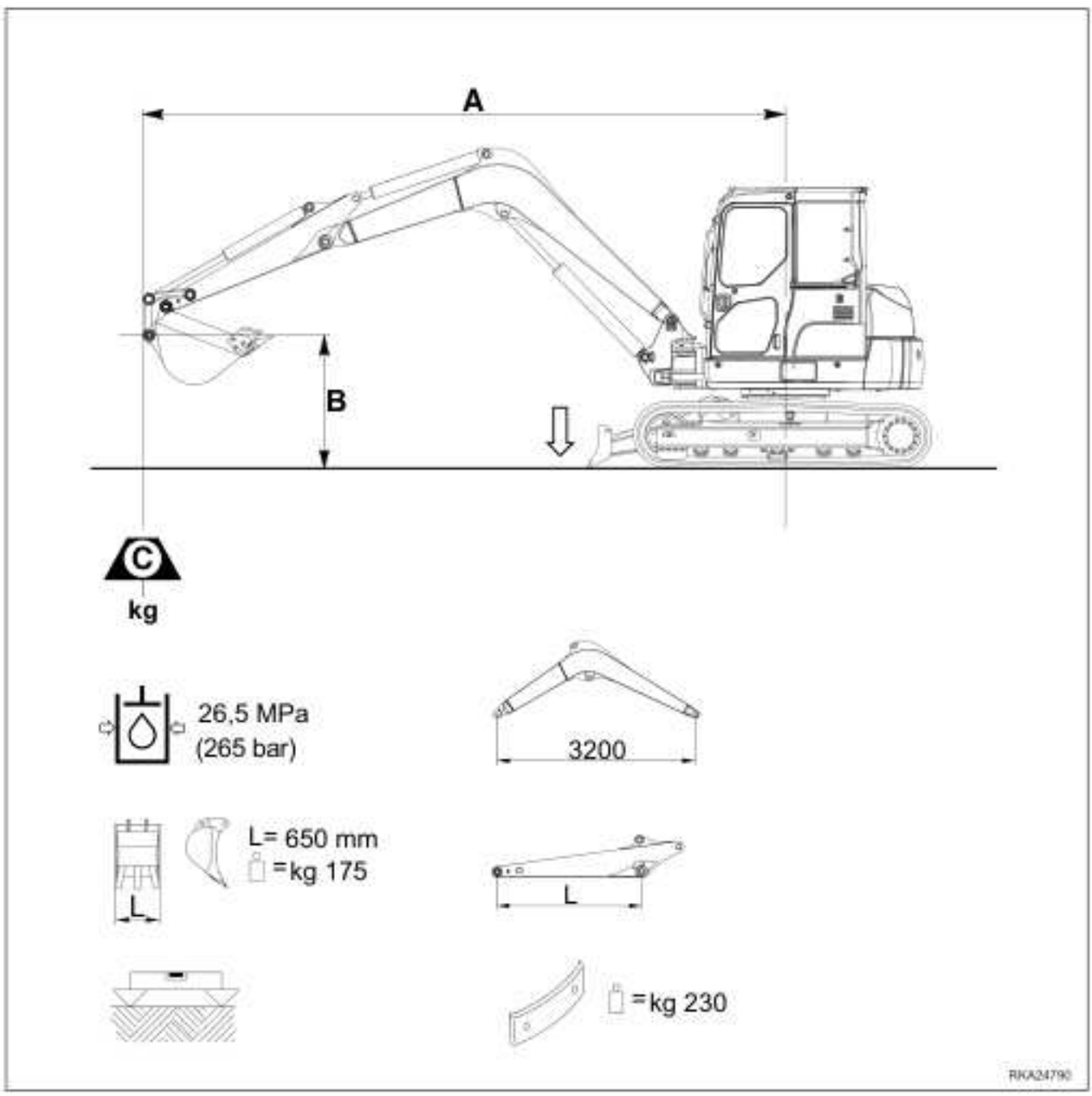
⚠ DANGER

- **Carry out lifting operations only with the machine positioned on firm and flat ground.**
- **Before lifting the load, make sure that the overload alarm device has been connected, see "3.2.2 pos. 7. OVERLOAD ALARM SWITCH".**

5.2.1 LIFTING CAPACITIES WITH MONOBOOM

NOTE

- The load does not exceed 87% of the hydraulic lifting capacity or 75% of the tipping limit.



MidWestTech | Komatsu PC80MR-3 Hydraulic Excavator Operation & Maintenance Ma... Order the manual at mid-west-tech.com >