TEN00288-00

Operation & Maintenance Manual

HYDRAULIC EXCAVATOR

PC78MR-6

SERIAL NUMBERS 4001 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 PC78MR-6 Hydraulic Excavator Operation & Maintenance Manual... Order the manual at mid-west-tech.com >

CONTENTS

FOREWORD ---- 1- 1
FOREWORD ---- 1- 2
SAFETY INFORMATION ---- 1- 3
INTRODUCTION ---- 1- 5
DIRECTIONS OF MACHINE ---- 1- 5
PRODUCT INFORMATION ---- 1- 6
PRODUCT IDENTIFICATION NUMBER (PIN)/MACHINE SERIAL NO. PLATE ---- 1- 6
ENGINE SERIAL NUMBER PLATE AND ITS LOCATION ---- 1- 6
ADDITIONAL ENGINE SERIAL NO. PLATE ---- 1- 7
SERVICE METER LOCATION ---- 1- 7
YOUR MACHINE SERIAL NUMBERS AND DISTRIBUTOR ---- 1- 7
SAFETY ---- 2- 1
SAFETY ---- 2- 2
SAFETY LABELS ---- 2- 4
LOCATION OF SAFETY LABELS ---- 2- 5
SAFETY LABELS ---- 2- 6
GENERAL PRECAUTIONS ---- 2- 13
SAFETY MACHINE OPERATION ---- 2- 21
STARTING ENGINE ---- 2- 21
OPERATION ---- 2- 23
TRANSPORTATION ---- 2- 29
BATTERY ---- 2- 30
TOWING ---- 2- 32
LIFTING OBJECTS WITH BUCKET ---- 2- 33
SAFETY MAINTENANCE INFORMATION ---- 2- 34
OPERATION ---- 3- 1
MACHINE VIEW ILLUSTRATIONS ---- 3- 2
OVERALL MACHINE VIEW ---- 3- 2
CONTROLS AND GAUGES ---- 3- 3
DETAILED CONTROLS AND GAUGES ---- 3- 4
MONITORING SYSTEM ---- 3- 4
SWITCHES ---- 3- 14
CONTROL LEVERS AND PEDALS ---- 3- 19
SUN ROOF ---- 3- 24
WINDSHIELD ---- 3- 25
SLIDING DOOR ---- 3- 30
EMERGENCY ESCAPE HAMMER ---- 3- 30
CAP WITH LOCK ---- 3- 32
ENGINE HOOD ---- 3- 33
MUD COVER ---- 3- 34
BATTERY INSPECTION COVER ---- 3- 35
FUSE ---- 3- 36
FUSIBLE LINK ---- 3- 37
AUXILIARY ELECTRIC POWER ---- 3- 37
CONTROLLERS ---- 3- 37
AIR CONDITIONER CONTROLS ---- 3- 38
HEATER AND DEFROSTER CONTROLS ---- 3- 44
RADIO ---- 3- 49
OPERATION MANUAL STORAGE ---- 3- 54

MidWestTech | Komatsu PC78MR-6 Hydraulic Excavator Operation & Maintenance Ma... Order the manual at mid-west-tech.com >

TOOL BOX ---- 3- 54
GREASE PUMP HOLDER ---- 3- 54
ASHTRAY ---- 3- 54
FIRE EXTINGUISHER ---- 3- 55
MACHINE OPERATIONS AND CONTROLS ---- 3- 56
BEFORE STARTING ENGINE ---- 3- 56
STARTING ENGINE ---- 3- 72
AFTER STARTING ENGINE ---- 3- 77
STOPPING THE ENGINE ---- 3- 80
CHECK AFTER SHUT OFF ENGINE ---- 3- 80
MACHINE OPERATION ---- 3- 81
STEERING THE MACHINE ---- 3- 85
SWINGING ---- 3- 87
WORK EQUIPMENT CONTROLS AND OPERATIONS ---- 3- 88
WORKING MODE ---- 3- 90
PROHIBITED OPERATIONS ---- 3- 91
GENERAL OPERATION INFORMATION ---- 3- 93
TRAVELING ON SLOPES ---- 3- 95
ESCAPE FROM MUD ---- 3- 97
RECOMMENDED APPLICATIONS ---- 3- 98
MACHINE READY FOR ATTACHMENT ---- 3-100
BUCKET REPLACEMENT AND INVERSION ---- 3-106
PARKING MACHINE ---- 3-109
MACHINE INSPECTION AFTER DAILY WORK ---- 3-110
LOCKING ---- 3-110
ROAD LINERS AND RUBBER SHOES ---- 3-111
TRANSPORTATION ---- 3-116
TRANSPORTATION PROCEDURE ---- 3-116
LOADING AND UNLOADING WITH TRAILER ---- 3-116
LIFTING MACHINE ---- 3-122
COLD WEATHER OPERATION ---- 3-124
COLD WEATHER OPERATION INFORMATION ---- 3-124
AFTER DAILY WORK COMPLETION ---- 3-126
AFTER COLD WEATHER SEASON ---- 3-126
LONG TERM STORAGE ---- 3-127
BEFORE STORAGE ---- 3-127
DURING STORAGE ---- 3-127
AFTER STORAGE ---- 3-127
TROUBLES AND ACTIONS ---- 3-128
RUNNING OUT OF FUEL ---- 3-128
PHENOMENA THAT ARE NOT FAILURES ---- 3-128
TOWING THE MACHINE ---- 3-129
SEVERE JOB CONDITION ---- 3-129
DISCHARGED BATTERY ---- 3-130
HOW TO LOWER WORK EQUIPMENT WHEN ENGINE STOPS DUE TO ABNORMALITY ---- 3-135
OTHER TROUBLE ---- 3-136
MAINTENANCE ---- 4- 1
MAINTENANCE INFORMATION ---- 4- 2
OUTLINE OF SERVICE ---- 4- 4
HANDLING OIL, FUEL, COOLANT, AND PERFORMING OIL CLINIC ---- 4- 4

MidWestTech | Komatsu PC78MR-6 Hydraulic Excavator Operation & Maintenance Ma... Order the manual at mid-west-tech.com >

ELECTRIC SYSTEM MAINTENANCE ---- 4- 8
WEAR PARTS ---- 4- 9
WEAR PARTS LIST ---- 4- 9
RECOMMENDED FUEL, COOLANT, AND LUBRICANT ---- 4- 10
USE OF FUEL, COOLANT AND LUBRICANTS ACCORDING TO AMBIENT TEMPERATURE ---- 4- 11
RECOMMENDED BRANDS, RECOMMENDED QUALITY FOR PRODUCTS OTHER THAN KOMATSU GENUINE OIL ---- 4- 12
TIGHTENING TORQUE SPECIFICATIONS ---- 4- 13
TIGHTENING TORQUE LIST ---- 4- 13
SAFETY CRITICAL PARTS ---- 4- 14
SAFETY CRITICAL PARTS LIST ---- 4- 14
MAINTENANCE SCHEDULE ---- 4- 15
MAINTENANCE SCHEDULE CHART ---- 4- 15
MAINTENANCE INTERVAL FOR HYDRAULIC BREAKER ---- 4- 16
MAINTENANCE PROCEDURE ---- 4- 17
INITIAL 250 HOURS MAINTENANCE (ONLY AFTER THE FIRST 250 HOURS) ---- 4- 17
WHEN REQUIRED ---- 4- 18
CHECK BEFORE STARTING ---- 4- 51
EVERY 50 HOURS MAINTENANCE ---- 4- 52
EVERY 100 HOURS MAINTENANCE ---- 4- 53
EVERY 250 HOURS MAINTENANCE ---- 4- 55
EVERY 500 HOURS MAINTENANCE ---- 4- 63
EVERY 1000 HOURS MAINTENANCE ---- 4- 70
EVERY 2000 HOURS MAINTENANCE ---- 4- 75
EVERY 4000 HOURS MAINTENANCE ---- 4- 76
EVERY 5000 HOURS MAINTENANCE ---- 4- 77
SPECIFICATIONS ---- 5- 1
SPECIFICATIONS ---- 5- 2
ATTACHMENTS AND OPTIONS ---- 6- 1
ATTACHMENTS AND OPTIONS - GENERAL INFORMATION ---- 6- 2
SAFETY FIRST ---- 6- 2
ATTACHMENT INSTALLATION ---- 6- 3
BUCKET WITH HOOK ---- 6- 4
HOOK CONDITION ---- 6- 4
PROHIBITED OPERATIONS ---- 6- 4
METHOD FOR REMOVING AND INSTALLING EXTRA COUNTERWEIGHT ---- 6- 5
CHANGING MACHINE CONTROL PATTERN (IF PATTERN CHANGE VALVE EQUIPPED) ---- 6- 7
CONTROL PATTERN CHANGE PROCEDURE ---- 6- 7
MACHINE CONTROL PATTERNS ---- 6- 8
ATTACHMENT GUIDE ---- 6- 9
OTHER ATTACHMENTS ---- 6- 9
ATTACHMENT COMBINATIONS ---- 6- 10
SELECTION OF TRACK SHOES ---- 6- 11
RECOMMENDED ATTACHMENT OPERATIONS ---- 6- 12
HYDRAULIC BREAKER ---- 6- 12
INDEX ---- 7- 1

MidWestTech | Komatsu PC78MR-6 Hydraulic Excavator Operation & Maintenance Ma... Order the manual at mid-west-tech.com >

Air Conditioner Switch

Switch (5) is used to switch the air conditioner functions ON/OFF.



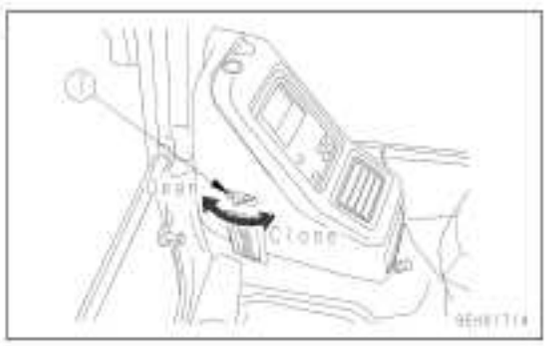
Off Switch

Switch (6) is used to stop operation of the fan.



Defroster Selector Lever

Switch (7) is used to remove the mist from the front glass during cold or rainy weather.
Selector lever to front: To defroster (open)
Selector lever to rear: Closed
The defroster can be used when the vent selector switch is set to send air to the face or to the face and the feet.



Use Air Conditioner with Care

Ventilation

- If you smoke when the air conditioner is on, the smoke may start to hurt your eyes, so open the window and turn the lever to FRESH for a while to remove the smoke while continuing the cooling.

When running the air conditioner for a long time, turn the lever to the FRESH position once an hour to carry out ventilation and cooling.

Temperature Control

- When the air conditioner is on, set the temperature so that it feels slightly cool when entering the cab (5 to 6°C (41 to 42.8°F) lower than the outside temperature). This temperature difference is considered to be the most suitable for your health, so always be careful to adjust the temperature properly.

MidWestTech | Komatsu PC78MR-6 Hydraulic Excavator Operation & Maintenance Ma... Order the manual at mid-west-tech.com >

CHECK WINDOW WASHER FLUID LEVEL, ADD FLUID

If there is air in the window washer fluid, check the level of the fluid in window washer tank (1). Add automobile window washer fluid if necessary.

When adding fluid, be careful not to let any dust get in.



Mixture Ratio of Pure Washer Fluid and Water

The proportion differs according to the ambient temperature, so dilute the washer fluid with water to the following proportions before adding.

Area, season	Proportions	Freezing temperature
Normal	Washer fluid 1/3: water 2/3	-10°C (14°F)
Winter in cold area	Washer fluid 1/2 : water 1/2	-20°C (-4°F)
Winter in extremely cold area	Pure washer fluid	-30°C (-22°F)

There are two types depending on the freezing temperature:
-10°C (14°F) (general use) and -30°C (-22°F) (cold area use), select according to the area and season.

MidWestTech | Komatsu PC78MR-6 Hydraulic Excavator Operation & Maintenance Ma... Order the manual at mid-west-tech.com >

EVERY 1000 HOURS MAINTENANCE

Maintenance for every 50, 100, 250 and 500 hours service should be carried out at the same time.

REPLACE HYDRAULIC OIL FILTER ELEMENT

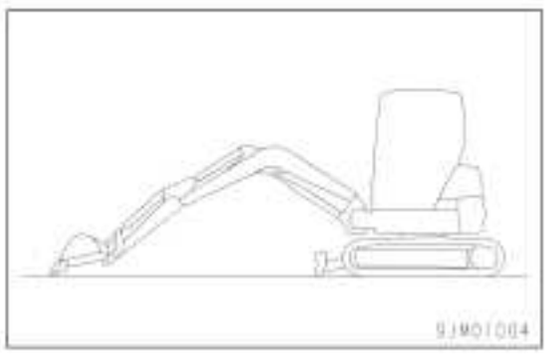
⚠ WARNING

- **The parts and oil are at high temperature immediately after the engine is stopped, and may cause burns. Wait for the temperature to go down before starting the work.**
- **When removing the oil filler cap, turn it slowly to release the internal pressure, then remove it.**

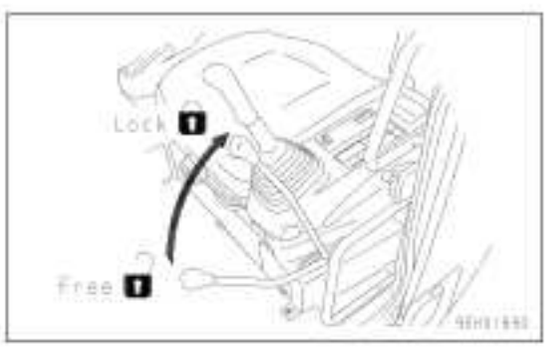
NOTICE

If the machine is equipped with a hydraulic breaker, the hydraulic oil will deteriorate much faster than during normal bucket operations. For details, see "MAINTENANCE INTERVAL FOR HYDRAULIC BREAKER (PAGE 4-16)" when carrying out maintenance.

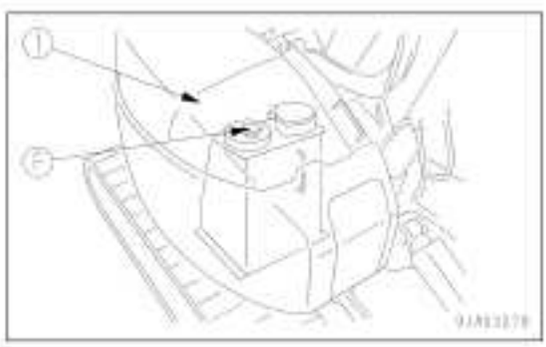
1. Retract the arm and bucket cylinders, then lower the boom and put the teeth in contact with the ground.
2. Lower the blade.



3. Set the lock lever to the LOCK position and stop the engine.



4. Open mud cover (1).
5. Remove the cap from oil filler (F), and release the internal pressure.



MidWestTech | Komatsu PC78MR-6 Hydraulic Excavator Operation & Maintenance Ma... Order the manual at mid-west-tech.com >