

# Operation & Maintenance Manual

HYDRAULIC  
EXCAVATOR

**PC09-1**

SERIAL NUMBERS 14277 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**

# CONTENTS

FOREWORD .....	1- 1
FOREWORD .....	1- 2
SAFETY INFORMATION .....	1- 5
INTRODUCTION .....	1- 7
DIRECTIONS OF MACHINE .....	1- 7
PRODUCT INFORMATION .....	1- 8
PRODUCT IDENTIFICATION NUMBER (PIN)/MACHINE SERIAL NO. PLATE .....	1- 8
ENGINE SERIAL NUMBER PLATE AND ITS LOCATION .....	1- 8
EMISSION CONTROL INFORMATION LABEL AND ITS LOCATION .....	1- 9
SERVICE METER LOCATION .....	1- 9
YOUR MACHINE SERIAL NUMBERS AND DISTRIBUTOR .....	1- 10
SAFETY .....	2- 1
SAFETY .....	2- 2
SAFETY LABELS .....	2- 4
LOCATION OF SAFETY LABELS .....	2- 4
SAFETY LABELS .....	2- 5
GENERAL PRECAUTIONS .....	2- 8
SAFETY MACHINE OPERATION .....	2- 16
STARTING ENGINE .....	2- 16
OPERATION .....	2- 17
TRANSPORTATION .....	2- 24
BATTERY .....	2- 25
TOWING .....	2- 27
LIFTING OBJECTS WITH BUCKET .....	2- 28
SAFETY MAINTENANCE INFORMATION .....	2- 29
OPERATION .....	3- 1
MACHINE VIEW ILLUSTRATIONS .....	3- 2
OVERALL MACHINE VIEW .....	3- 2
CONTROLS AND GAUGES .....	3- 3
DETAILED CONTROLS AND GAUGES .....	3- 4
METERS, LAMPS .....	3- 4
SWITCHES .....	3- 6
CONTROL LEVERS AND PEDALS .....	3- 8
VARIABLE BLADE .....	3- 15
ENGINE HOOD .....	3- 15
FUSE .....	3- 16
BLOCK FUSE .....	3- 16
OPERATION MANUAL STORAGE .....	3- 17
MACHINE OPERATIONS AND CONTROLS .....	3- 18
BEFORE STARTING ENGINE .....	3- 18
STARTING ENGINE .....	3- 29
AFTER STARTING ENGINE .....	3- 32
STOPPING THE ENGINE .....	3- 35
CHECK AFTER SHUT OFF ENGINE .....	3- 35
MACHINE OPERATION .....	3- 36
STEERING THE MACHINE .....	3- 40
SWINGING .....	3- 42
WORK EQUIPMENT CONTROLS AND OPERATIONS .....	3- 43
PROHIBITED OPERATIONS .....	3- 45

GENERAL OPERATION INFORMATION -----	3- 48
TRAVELING ON SLOPES -----	3- 49
ESCAPE FROM MUD -----	3- 51
WORK POSSIBLE USING COMPACT HYDRAULIC EXCAVATOR -----	3- 52
BUCKET REPLACEMENT -----	3- 54
PARKING MACHINE -----	3- 56
MACHINE INSPECTION AFTER DAILY WORK -----	3- 57
RUBBER SHOES (MACHINE WITH RUBBER SHOES ONLY) -----	3- 58
TRANSPORTATION -----	3- 63
TRANSPORTATION PROCEDURE -----	3- 63
LOADING AND UNLOADING WITH TRAILER -----	3- 63
LIFTING MACHINE -----	3- 65
SHIPPING MACHINE INFORMATION -----	3- 67
COLD WEATHER OPERATION -----	3- 68
COLD WEATHER OPERATION INFORMATION -----	3- 68
AFTER DAILY WORK COMPLETION -----	3- 70
AFTER COLD WEATHER SEASON -----	3- 70
LONG TERM STORAGE -----	3- 71
BEFORE STORAGE -----	3- 71
DURING STORAGE -----	3- 71
AFTER STORAGE -----	3- 71
STARTING MACHINE AFTER LONG-TERM STORAGE -----	3- 71
TROUBLES AND ACTIONS -----	3- 72
RUNNING OUT OF FUEL -----	3- 72
PHENOMENA THAT ARE NOT FAILURES -----	3- 72
TOWING THE MACHINE -----	3- 73
SEVERE JOB CONDITION -----	3- 73
DISCHARGED BATTERY -----	3- 74
OTHER TROUBLE -----	3- 78
MAINTENANCE -----	4- 1
MAINTENANCE INFORMATION -----	4- 2
OUTLINE OF SERVICE -----	4- 4
HANDLING OIL, FUEL, COOLANT, AND PERFORMING OIL CLINIC -----	4- 4
ELECTRIC SYSTEM MAINTENANCE -----	4- 7
WEAR PARTS -----	4- 8
WEAR PARTS LIST -----	4- 8
LUBRICANTS, FUEL AND COOLANT SPECIFICATIONS -----	4- 9
PROPER SELECTION -----	4- 9
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- 33
EXPLANATION OF SYMBOLS FOR LUBRICATION STANDARD TABLE -----	4- 33