

---

# 00 INDEX AND FOREWORD

---

# INDEX

00 INDEX AND FOREWORD .....	00-1
ABBREVIATION LIST .....	00-21
FOREWORD, SAFETY, BASIC INFORMATION .....	00-27
HOW TO READ THE SHOP MANUAL .....	00-27
SAFETY NOTICE FOR OPERATION .....	00-29
PRECAUTIONS TO PREVENT FIRE .....	00-37
ACTIONS IF FIRE OCCURS .....	00-39
PRECAUTIONS FOR DISPOSING OF WASTE MATERIALS .....	00-40
ACTIONS TAKEN TO MEET EXHAUST GAS REGULATIONS .....	00-41
PRECAUTIONS FOR DEF .....	00-42
PRECAUTIONS FOR HANDLING HYDRAULIC EQUIPMENT .....	00-43
PRECAUTIONS FOR DISCONNECTION AND CONNECTION OF PIPINGS .....	00-46
PRECAUTIONS FOR HANDLING ELECTRICAL EQUIPMENT .....	00-53
PRECAUTIONS FOR HANDLING FUEL SYSTEM EQUIPMENT .....	00-55
PRECAUTIONS FOR HANDLING INTAKE SYSTEM EQUIPMENT .....	00-56
PRACTICAL USE OF KOMTRAX .....	00-57
DISCONNECT AND CONNECT PUSH-PULL TYPE COUPLER .....	00-58
PRECAUTIONS FOR DISCONNECTION AND CONNECTION OF CONNECTORS .....	00-62
METHOD FOR DISCONNECTING AND CONNECTING DEUTSCH CONNECTOR .....	00-66
METHOD FOR DISCONNECTING AND CONNECTING SLIDE LOCK TYPE CONNECTOR .....	00-67
METHOD FOR DISCONNECTING AND CONNECTING CONNECTOR WITH LOCK TO PULL ..	00-69
METHOD FOR DISCONNECTING AND CONNECTING CONNECTOR WITH LOCK TO PUSH ..	00-70
METHOD FOR DISCONNECTING AND CONNECTING CONNECTOR WITH HOUSING TO ROTATE .	00-72
HOW TO READ ELECTRICAL WIRE CODE .....	00-73
EXPLANATION OF TERMS FOR MAINTENANCE STANDARD .....	00-77
STANDARD TIGHTENING TORQUE TABLE .....	00-80
CONVERSION TABLE .....	00-87
01 SPECIFICATIONS .....	01-1
CONTENTS .....	01-2
SPECIFICATIONS .....	01-3
SPECIFICATION DRAWING .....	01-3
WORKING RANGE DRAWINGS .....	01-5
SPECIFICATIONS .....	01-6
WEIGHT TABLE .....	01-9
FUEL, COOLANT, LUBRICANTS (FOR EUROPEAN UNION) .....	01-11
10 STRUCTURE AND FUNCTION .....	10-1
CONTENTS .....	10-2
UREA SCR SYSTEM .....	10-6
LAYOUT DRAWING OF UREA SCR SYSTEM .....	10-6
UREA SCR SYSTEM DIAGRAM .....	10-11
FUNCTION OF UREA SCR SYSTEM .....	10-12
COMPONENT PARTS OF UREA SCR SYSTEM .....	10-22
BOOT-UP SYSTEM .....	10-31
LAYOUT DRAWING OF BOOT-UP SYSTEM (MACHINE WITH KOMTRAX TERMINAL) .....	10-31
LAYOUT DRAWING OF BOOT-UP SYSTEM (MACHINE WITH GATEWAY FUNCTION CONTROL- LER) .....	10-33
SYSTEM OPERATING LAMP SYSTEM .....	10-35
BATTERY DISCONNECT SWITCH .....	10-38
ENGINE SYSTEM .....	10-39
LAYOUT DRAWING OF ENGINE SYSTEM .....	10-39
ENGINE CONTROL SYSTEM .....	10-41
AUTO-DECELERATION SYSTEM .....	10-47
ENGINE AUTOMATIC WARM-UP SYSTEM .....	10-49
OVERHEAT PREVENTION SYSTEM .....	10-51
TURBOCHARGER PROTECTION SYSTEM .....	10-54

AUTOMATIC IDLE STOP SYSTEM .....	10-56
COMPONENT PARTS OF ENGINE SYSTEM .....	10-60
COOLING SYSTEM.....	10-78
LAYOUT DRAWING OF COOLING SYSTEM .....	10-78
FAN SPEED CONTROL SYSTEM OF FAN CLUTCH .....	10-80
ENGINE OUTPUT CONTROL SYSTEM OF FAN CLUTCH.....	10-82
COMPONENT PARTS OF COOLING SYSTEM.....	10-84
CONTROL SYSTEM.....	10-85
LAYOUT DRAWING OF CONTROL SYSTEM (MACHINE WITH KOMTRAX TERMINAL) .....	10-85
LAYOUT DRAWING OF CONTROL SYSTEM (MACHINE WITH GATEWAY FUNCTION CONTROL- LER).....	10-88
MACHINE MONITOR SYSTEM .....	10-91
KomVision SYSTEM .....	10-94
KOMTRAX SYSTEM.....	10-98
COMPONENT PARTS OF CONTROL SYSTEM.....	10-100
HYDRAULIC SYSTEM.....	10-139
LAYOUT DRAWING OF HYDRAULIC SYSTEM .....	10-139
CLSS .....	10-143
ENGINE AND PUMP COMBINED CONTROL SYSTEM.....	10-162
PUMP AND VALVE CONTROL SYSTEM .....	10-168
COMPONENT PARTS OF HYDRAULIC SYSTEM .....	10-171
WORK EQUIPMENT SYSTEM .....	10-256
LAYOUT DRAWING OF WORK EQUIPMENT SYSTEM .....	10-256
ONE-TOUCH POWER MAXIMIZING SYSTEM .....	10-261
PPC LOCK SYSTEM .....	10-263
WORK EQUIPMENT AND TRAVEL AUTOMATIC LOCK SYSTEM .....	10-264
OIL FLOW ADJUSTER SYSTEM FOR ATTACHMENT.....	10-266
COMPONENT PARTS OF WORK EQUIPMENT SYSTEM.....	10-268
SWING SYSTEM.....	10-299
LAYOUT DRAWING OF SWING SYSTEM .....	10-299
SWING CONTROL SYSTEM DIAGRAM .....	10-303
COMPONENT PARTS OF SWING SYSTEM.....	10-307
TRAVEL SYSTEM.....	10-321
LAYOUT DRAWING OF TRAVEL SYSTEM.....	10-321
TRAVEL CONTROL SYSTEM DIAGRAM.....	10-325
COMPONENT PARTS OF TRAVEL SYSTEM .....	10-327
UNDERCARRIAGE AND FRAME.....	10-348
LAYOUT DRAWING OF UNDERCARRIAGE .....	10-348
WORK EQUIPMENT.....	10-350
STRUCTURE OF WORK EQUIPMENT .....	10-350
FUNCTION OF WORK EQUIPMENT .....	10-351
WORK EQUIPMENT CLEARANCE ADJUSTMENT SHIM.....	10-352
BUCKET CLEARANCE ADJUSTMENT SHIM .....	10-353
CAB AND ITS ATTACHMENTS .....	10-354
ROPS CAB .....	10-354
CAB MOUNT .....	10-356
CAB TIPPING STOPPER .....	10-357
TAKE WIRING HARNESS OUT OF CAB .....	10-358
20 STANDARD VALUE TABLE .....	20-1
CONTENTS .....	20-2
STANDARD VALUE TABLE FOR ENGINE .....	20-3
STANDARD VALUE TABLE FOR ENGINE: PC228USLC-11E0 .....	20-3
STANDARD VALUE TABLE FOR MACHINE.....	20-8
STANDARD VALUE TABLE FOR MACHINE: PC228USLC-11E0 .....	20-8
MACHINE POSTURE AND PROCEDURE FOR MEASURING PERFORMANCE .....	20-22
30 TESTING AND ADJUSTING .....	30-1
CONTENTS .....	30-2
RELATED INFORMATION ON TESTING AND ADJUSTING .....	30-6

TOOLS FOR TESTING AND ADJUSTING.....	30-6
SKETCH OF TOOLS FOR TESTING AND ADJUSTING .....	30-13
ENGINE AND COOLING SYSTEM.....	30-15
TEST ENGINE SPEED .....	30-15
TEST BOOST PRESSURE.....	30-18
TEST EXHAUST GAS COLOR.....	30-21
TEST AND ADJUST VALVE CLEARANCE .....	30-24
TEST COMPRESSION PRESSURE.....	30-27
TEST BLOWBY PRESSURE .....	30-32
TEST ENGINE OIL PRESSURE .....	30-34
TEST EGR VALVE AND VGT OIL PRESSURE .....	30-35
TEST FUEL PRESSURE .....	30-37
TEST FUEL DISCHARGE, RETURN AND LEAKAGE .....	30-43
BLEEDING AIR FROM FUEL SYSTEM .....	30-50
TEST FUEL CIRCUIT FOR LEAKAGE .....	30-51
HANDLE CYLINDER CUT-OUT MODE OPERATION.....	30-53
HANDLE NO-INJECTION CRANKING OPERATION .....	30-54
TEST AND ADJUST AIR CONDITIONER COMPRESSOR BELT TENSION .....	30-55
TEST COOLING FAN SPEED .....	30-57
WRITE ASH IN SOOT ACCUMULATION CORRECTION TO ENGINE CONTROLLER .....	30-58
TEST SCR RELATED FUNCTIONS.....	30-59
CLEAN AdBlue/DEF TANK .....	30-85
BLEED AIR FROM COOLANT CIRCUIT OF AdBlue/DEF TANK.....	30-89
POWER TRAIN.....	30-91
TEST SWING CIRCLE BEARING CLEARANCE .....	30-91
UNDERCARRIAGE AND FRAME.....	30-92
TEST AND ADJUST TRACK TENSION.....	30-92
HYDRAULIC SYSTEM.....	30-94
RELEASE REMAINING PRESSURE FROM HYDRAULIC SYSTEM.....	30-94
TEST AND ADJUST OIL PRESSURE IN WORK EQUIPMENT, SWING, AND TRAVEL CIRCUITS.....	30-100
TEST OIL PRESSURE OF CONTROL CIRCUIT .....	30-111
TEST AND ADJUST OIL PRESSURE IN PUMP PC CONTROL CIRCUIT .....	30-113
TEST AND ADJUST OIL PRESSURE IN PUMP LS CONTROL CIRCUIT.....	30-117
TEST OUTLET PRESSURE OF SOLENOID VALVE .....	30-123
TEST PPC VALVE OUTLET PRESSURE .....	30-127
TEST ATTACHMENT CIRCUIT OIL PRESSURE.....	30-130
ADJUST WORK EQUIPMENT AND SWING PPC VALVES .....	30-131
TEST PUMP SWASH PLATE SENSOR.....	30-132
TEST THE PARTS CAUSING HYDRAULIC DRIFT IN WORK EQUIPMENT.....	30-133
TEST OIL LEAKAGE .....	30-136
BLEED AIR FROM HYDRAULIC CIRCUIT .....	30-139
TEST AND CHARGE ACCUMULATOR (MANUFACTURED BY NOK) NITROGEN GAS PRESSURE FOR ATTACHMENT (LOW PRESSURE SIDE).....	30-143
TEST AND CHARGE ACCUMULATOR NITROGEN GAS PRESSURE FOR ATTACHMENT (HIGH PRESSURE SIDE).....	30-147
REPLACE ACCUMULATOR BLADDER ON HIGH PRESSURE SIDE FOR ACCUMULATOR PIPING....	30-151
WORK EQUIPMENT.....	30-158
ADJUST BOOM ANGLE POTENTIOMETER.....	30-158
CAB AND ITS ATTACHMENTS .....	30-159
TEST CAB TIPPING STOPPER .....	30-159
METHOD FOR ADJUSTING MIRRORS .....	30-160
ELECTRICAL SYSTEM .....	30-167
SET AND OPERATE MACHINE MONITOR.....	30-167
METHOD FOR STARTING UP KOMTRAX TERMINAL (MACHINE WITH KOMTRAX TERMINAL) .....	30-266

METHOD FOR STARTING UP KOMTRAX SYSTEM (MACHINE WITH GATEWAY FUNCTION CONTROLLER).....	30-271
ADJUST REARVIEW CAMERA ANGLE .....	30-276
ADJUST KomVision CAMERA ANGLE .....	30-278
ADJUST KomVision RELATED ITEMS .....	30-281
HANDLE VOLTAGE CIRCUIT OF ENGINE CONTROLLER .....	30-301
HANDLE BATTERY DISCONNECT SWITCH (MACHINE WITH KOMTRAX TERMINAL) .....	30-302
HANDLE BATTERY DISCONNECT SWITCH (MACHINE WITH GATEWAY FUNCTION CONTROLLER).....	30-303
TEST DIODES .....	30-304
Pm CLINIC.....	30-305
Pm CLINIC SERVICE .....	30-305
40 TROUBLESHOOTING .....	40-1
CONTENTS .....	40-2
ABBREVIATION LIST .....	40-14
RELATED INFORMATION ON TROUBLESHOOTING .....	40-20
GENERAL TROUBLESHOOTING POINTS .....	40-20
TROUBLESHOOTING POINTS FOR UREA SCR SYSTEM.....	40-21
SEQUENCE OF EVENTS IN TROUBLESHOOTING.....	40-33
CHECKS BEFORE TROUBLESHOOTING.....	40-35
INSPECTION PROCEDURE BEFORE TROUBLESHOOTING .....	40-37
TESTING IN ACCORDANCE WITH TESTING PROCEDURE.....	40-39
PREPARATION FOR TROUBLESHOOTING OF ELECTRICAL SYSTEM.....	40-60
PROCEDURE FOR TESTING AND TROUBLESHOOTING .....	40-67
SYMPTOMS OF FAILURE AND TROUBLESHOOTING NUMBERS .....	40-70
INFORMATION DESCRIBED IN TROUBLESHOOTING TABLE.....	40-74
TROUBLESHOOTING METHOD FOR OPEN CIRCUIT IN WIRING HARNESS OF PRESSURE SENSOR SYSTEM.....	40-76
CONNECTOR LIST AND LAYOUT (MACHINE WITH KOMTRAX TERMINAL) .....	40-79
CONNECTOR LIST AND LAYOUT (MACHINE WITH GATEWAY FUNCTION CONTROLLER) ....	40-93
CONNECTOR CONTACT IDENTIFICATION .....	40-107
T-BRANCH BOX AND T-BRANCH ADAPTER TABLE .....	40-147
FUSE LOCATION TABLE (MACHINE WITH KOMTRAX TERMINAL).....	40-153
FUSE LOCATION TABLE (MACHINE WITH GATEWAY FUNCTION CONTROLLER).....	40-156
PRECAUTIONS FOR CLEANING AND REPLACING KDPF (KCSF and KDOC).....	40-159
PREPARATION OF SHORT CIRCUIT ELECTRICAL CONNECTOR (FOR FAILURE CODES [CA1883] AND [CA3135]).....	40-163
FAILURE CODE TABLE.....	40-165
TROUBLESHOOTING BY FAILURE CODE (DISPLAY OF CODE) .....	40-185
FAILURE CODE [879AKA].....	40-185
FAILURE CODE [879AKB].....	40-186
FAILURE CODE [879BKA].....	40-187
FAILURE CODE [879BKB].....	40-189
FAILURE CODE [879CKA].....	40-191
FAILURE CODE [879CKB].....	40-192
FAILURE CODE [879DKZ].....	40-193
FAILURE CODE [879EMC].....	40-195
FAILURE CODE [879FMC].....	40-196
FAILURE CODE [879GKX].....	40-197
FAILURE CODE [989L00].....	40-199
FAILURE CODE [989M00].....	40-200
FAILURE CODE [989N00].....	40-201
FAILURE CODE [A000N1].....	40-202
FAILURE CODE [A1U0N3].....	40-203
FAILURE CODE [A1U0N4].....	40-205
FAILURE CODE [A900FR].....	40-207
FAILURE CODE [A900N6].....	40-208
FAILURE CODE [A900NY].....	40-209

It's a preview. You can download the full file by clicking the link below.

<https://shopservicemanual.com/>

Service Manuals from 2\$