SEN06518-03

# Shop Manual

HYDRAULIC
EXCAVATOR

## PC78US-10

SERIAL NUMBERS 30001 and up

KOMATSU®

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# INDEX

00 INDEX AND FOREWORD ..... 00-1
ABBREVIATION LIST ..... 00-15
FOREWORD, SAFETY, BASIC INFORMATION ..... 00-21
HOW TO READ THE SHOP MANUAL ..... 00-21
SAFETY NOTICE FOR OPERATION ..... 00-23
PRECAUTIONS TO PREVENT FIRE ..... 00-31
ACTIONS IF FIRE OCCURS ..... 00-33
PRECAUTIONS FOR DISPOSING OF WASTE MATERIALS ..... 00-34
PRECAUTIONS FOR HANDLING HYDRAULIC EQUIPMENT ..... 00-35
PRECAUTIONS FOR DISCONNECTION AND CONNECTION OF PIPINGS ..... 00-38
PRECAUTIONS FOR HANDLING ELECTRICAL EQUIPMENT ..... 00-44
PRECAUTIONS FOR HANDLING FUEL SYSTEM EQUIPMENT ..... 00-46
PRECAUTIONS FOR HANDLING INTAKE SYSTEM EQUIPMENT ..... 00-47
PRACTICAL USE OF KOMTRAX ..... 00-48
DISCONNECT AND CONNECT PUSH-PULL TYPE COUPLER ..... 00-49
PRECAUTIONS FOR DISCONNECTION AND CONNECTION OF CONNECTORS ..... 00-53
METHOD FOR DISCONNECTING AND CONNECTING DEUTSCH CONNECTOR ..... 00-57
METHOD FOR DISCONNECTING AND CONNECTING SLIDE LOCK TYPE CONNECTOR ..... 00-58
METHOD FOR DISCONNECTING AND CONNECTING CONNECTOR WITH LOCK TO PULL ... 00-60
METHOD FOR DISCONNECTING AND CONNECTING CONNECTOR WITH LOCK TO PUSH .. 00-61
METHOD FOR DISCONNECTING AND CONNECTING CONNECTOR WITH HOUSING TO ROTATE ..... 00-63
HOW TO READ ELECTRICAL WIRE CODE ..... 00-64
EXPLANATION OF TERMS FOR MAINTENANCE STANDARD ..... 00-68
STANDARD TIGHTENING TORQUE TABLE ..... 00-71
CONVERSION TABLE ..... 00-78
01 SPECIFICATIONS ..... 01-1
CONTENTS ..... 01-2
ABBREVIATION LIST ..... 01-3
SPECIFICATIONS ..... 01-9
SPECIFICATION DRAWING ..... 01-9
WORKING RANGE DRAWINGS ..... 01-11
SPECIFICATIONS ..... 01-12
WEIGHT TABLE ..... 01-16
TABLE OF FUEL, COOLANT, AND LUBRICANTS ..... 01-18
10 STRUCTURE AND FUNCTION ..... 10-1
CONTENTS ..... 10-2
ABBREVIATION LIST ..... 10-5
BOOT-UP SYSTEM ..... 10-11
LAYOUT DRAWING OF BOOT-UP SYSTEM ..... 10-11
SYSTEM OPERATING LAMP SYSTEM ..... 10-12
BATTERY DISCONNECT SWITCH ..... 10-13
ENGINE SYSTEM ..... 10-15
LAYOUT DRAWING OF ENGINE SYSTEM ..... 10-15
ENGINE CONTROL SYSTEM ..... 10-17
AUTO-DECELERATION SYSTEM ..... 10-20
ENGINE AUTOMATIC WARM-UP SYSTEM ..... 10-22
OVERHEAT PREVENTION SYSTEM ..... 10-24
TURBOCHARGER PROTECTION SYSTEM ..... 10-25
AUTOMATIC IDLE STOP SYSTEM ..... 10-26
COMPONENT PARTS OF ENGINE SYSTEM ..... 10-29
COOLING SYSTEM ..... 10-44
LAYOUT DRAWING OF COOLING SYSTEM ..... 10-44
CONTROL SYSTEM ..... 10-47
LAYOUT DRAWING OF CONTROL SYSTEM ..... 10-47
MACHINE MONITOR SYSTEM ..... 10-49



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KOMTRAX SYSTEM ..... 10-50
COMPONENT PARTS OF CONTROL SYSTEM ..... 10-51
HYDRAULIC SYSTEM ..... 10-78
LAYOUT DRAWING OF HYDRAULIC SYSTEM ..... 10-78
CLSS ..... 10-81
ENGINE AND PUMP COMBINED CONTROL SYSTEM ..... 10-84
COMPONENT PARTS OF HYDRAULIC SYSTEM ..... 10-88
WORK EQUIPMENT SYSTEM ..... 10-155
LAYOUT DRAWING OF WORK EQUIPMENT SYSTEM ..... 10-155
STRUCTURE OF VALVE CONTROL ..... 10-158
PPC LOCK SYSTEM ..... 10-160
WORK EQUIPMENT AND TRAVEL AUTOMATIC LOCK SYSTEM ..... 10-161
OVERLOAD CAUTION SYSTEM ..... 10-163
OIL FLOW ADJUSTER SYSTEM FOR ATTACHMENT ..... 10-165
COMPONENT PARTS OF WORK EQUIPMENT SYSTEM ..... 10-166
SWING SYSTEM ..... 10-195
LAYOUT DRAWING OF SWING SYSTEM ..... 10-195
SWING CONTROL SYSTEM DIAGRAM ..... 10-198
COMPONENT PARTS OF SWING SYSTEM ..... 10-200
TRAVEL SYSTEM ..... 10-212
LAYOUT DRAWING OF TRAVEL SYSTEM ..... 10-212
TRAVEL CONTROL SYSTEM DIAGRAM ..... 10-214
COMPONENT PARTS OF TRAVEL SYSTEM ..... 10-216
UNDERCARRIAGE AND FRAME ..... 10-230
LAYOUT DRAWING OF UNDERCARRIAGE ..... 10-230
IDLER CUSHION ..... 10-232
WORK EQUIPMENT ..... 10-233
STRUCTURE OF WORK EQUIPMENT ..... 10-233
FUNCTION OF WORK EQUIPMENT ..... 10-234
WORK EQUIPMENT CLEARANCE ADJUSTMENT SHIM ..... 10-235
BUCKET CLEARANCE ADJUSTMENT SHIM ..... 10-236
CAB AND ITS ATTACHMENTS ..... 10-237
ROPS CAB ..... 10-237
CAB MOUNT ..... 10-238
TAKE WIRING HARNESS OUT OF CAB ..... 10-240
20 STANDARD VALUE TABLE ..... 20-1
CONTENTS ..... 20-2
ABBREVIATION LIST ..... 20-3
STANDARD VALUE TABLE FOR ENGINE ..... 20-9
STANDARD VALUE TABLE FOR ENGINE: PC78US-10 ..... 20-9
STANDARD VALUE TABLE FOR MACHINE ..... 20-12
STANDARD VALUE TABLE FOR MACHINE: PC78US-10 ..... 20-12
MACHINE POSTURE AND PROCEDURE FOR MEASURING PERFORMANCE ..... 20-26
STANDARD VALUE TABLE FOR ELECTRICAL ..... 20-30
STANDARD VALUE TABLE FOR ELECTRICAL ..... 20-30
30 TESTING AND ADJUSTING ..... 30-1
CONTENTS ..... 30-2
ABBREVIATION LIST ..... 30-5
RELATED INFORMATION ON TESTING AND ADJUSTING ..... 30-11
TOOLS FOR TESTING AND ADJUSTING ..... 30-11
SKETCH OF TOOLS FOR TESTING AND ADJUSTING ..... 30-16
ENGINE AND COOLING SYSTEM ..... 30-17
TEST ENGINE SPEED ..... 30-17
TEST EXHAUST GAS COLOR ..... 30-21
TEST AND ADJUST VALVE CLEARANCE ..... 30-23
TEST COMPRESSION PRESSURE ..... 30-25
TEST BLOWBY PRESSURE ..... 30-28
TEST ENGINE OIL PRESSURE ..... 30-30



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TEST FUEL PRESSURE ..... 30-32
TEST FUEL RETURN RATE AND LEAKAGE ..... 30-34
BLEED AIR FROM FUEL SYSTEM ..... 30-38
TEST FUEL CIRCUIT FOR LEAKAGE ..... 30-40
HANDLE CYLINDER CUT-OUT MODE OPERATION ..... 30-42
HANDLE NO-INJECTION CRANKING OPERATION ..... 30-43
TEST AND ADJUST AIR CONDITIONER COMPRESSOR BELT TENSION ..... 30-44
TEST ALTERNATOR BELT ..... 30-45
TEST AUTOMATIC TENSIONER ..... 30-46
WRITE INJECTOR COMPENSATION VALUE TO ENGINE CONTROLLER ..... 30-49
POWER TRAIN ..... 30-55
TEST SWING CIRCLE BEARING CLEARANCE ..... 30-55
UNDERCARRIAGE AND FRAME ..... 30-56
TEST AND ADJUST TRACK TENSION ..... 30-56
HYDRAULIC SYSTEM ..... 30-58
RELEASE REMAINING PRESSURE FROM HYDRAULIC SYSTEM ..... 30-58
TEST AND ADJUST OIL PRESSURE IN WORK EQUIPMENT, AND TRAVEL CIRCUITS ..... 30-62
TEST AND ADJUST SWING AND BLADE CIRCUIT OIL PRESSURE ..... 30-70
TEST OIL PRESSURE OF CONTROL CIRCUIT ..... 30-74
TEST AND ADJUST OIL PRESSURE IN PUMP PC CONTROL CIRCUIT ..... 30-76
TEST AND ADJUST OIL PRESSURE IN PUMP LS CONTROL CIRCUIT ..... 30-81
TEST OUTLET PRESSURE OF SOLENOID VALVE ..... 30-85
TEST PPC VALVE OUTLET PRESSURE ..... 30-88
ADJUST WORK EQUIPMENT AND SWING PPC VALVES ..... 30-90
TEST AND ADJUST TRAVEL DEVIATION ..... 30-91
TEST THE PARTS CAUSING HYDRAULIC DRIFT IN WORK EQUIPMENT ..... 30-94
TEST OIL LEAKAGE ..... 30-96
BLEED AIR FROM HYDRAULIC CIRCUIT ..... 30-100
CAB AND ITS ATTACHMENTS ..... 30-105
METHOD FOR ADJUSTING MIRRORS ..... 30-105
TEST AND ADJUST ENGINE HOOD CATCHER ..... 30-107
ELECTRICAL SYSTEM ..... 30-110
SET AND OPERATE MACHINE MONITOR ..... 30-110
METHOD FOR STARTING UP KOMTRAX TERMINAL ..... 30-156
ADJUST REARVIEW CAMERA ANGLE ..... 30-161
HANDLE VOLTAGE CIRCUIT OF ENGINE CONTROLLER ..... 30-163
HANDLE BATTERY DISCONNECT SWITCH ..... 30-164
TEST DIODES ..... 30-165
Pm CLINIC ..... 30-166
Pm CLINIC SERVICE ..... 30-166
40 TROUBLESHOOTING ..... 40-1
CONTENTS ..... 40-2
ABBREVIATION LIST ..... 40-8
RELATED INFORMATION ON TROUBLESHOOTING ..... 40-14
GENERAL TROUBLESHOOTING POINTS ..... 40-14
SEQUENCE OF EVENTS IN TROUBLESHOOTING ..... 40-15
CHECKS BEFORE TROUBLESHOOTING ..... 40-17
INSPECTION PROCEDURE BEFORE TROUBLESHOOTING ..... 40-19
TESTING IN ACCORDANCE WITH TESTING PROCEDURE ..... 40-21
ELECTRICAL SYSTEM TROUBLESHOOTING - PREPARATION ..... 40-45
PROCEDURE FOR TESTING AND TROUBLESHOOTING ..... 40-52
SYMPTOMS OF FAILURE AND TROUBLESHOOTING NUMBERS ..... 40-55
INFORMATION DESCRIBED IN TROUBLESHOOTING TABLE ..... 40-59
TROUBLESHOOTING METHOD FOR OPEN CIRCUIT IN WIRING HARNESS OF PRESSURE SENSOR SYSTEM ..... 40-61
CONNECTORS LIST AND LAYOUT ..... 40-63
CONNECTOR CONTACT IDENTIFICATION ..... 40-74
T-BRANCH BOX AND T-BRANCH ADAPTER TABLE ..... 40-114



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# WEIGHT TABLE

## WEIGHT TABLE: PC78US-10

⚠ **This weight table is provided for your reference when handling the components or when transporting.**

⚠ **This weight table shows the dry weight.**

Unit: kg

| Item | PC78US-10 |
|---|---|
| Engine assembly | 522 |
| • Engine | 419 |
| • Engine mount | 30 |
| • PTO | 6 |
| • Main pump | 66 |
| Cooling assembly | 71 |
| • Radiator | 10 |
| • Oil cooler | 10 |
| • Aftercooler | 6 |
| • Fuel cooler | 1 |
| Revolving frame | 954 |
| Operator's cab | 330 |
| Operator's seat | 38 |
| Fuel tank | 49 |
| Hydraulic tank | 70 |
| Control valve | 63 |
| Counterweight | |
| Specification of blade | 492 |
| Heavy counterweight | 806 |
| Swing motor (including brake valve) | 22 |
| Swing circle | 104 |
| Swing machinery | 51 |
| Center swivel joint | 17 |
| Track frame assembly (excluding piping) | |
| Steel shoe specification, road liner specification | 1375 |
| Rubber shoe specification | 1356 |
| • Track frame | 805 |
| • Idler assembly | 54 x 2 |
| • Recoil spring assembly | 40 x 2 |
| • Carrier roller | 4 x 2 |
| • Track roller | 13 x 10 |
| • Travel motor (including reduction gear) | 83 x 2 |
| • Sprocket | 19 x 2 |



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# SYMPTOMS OF FAILURE AND TROUBLESHOOTING NUMBERS

| No. | Symptom of failure | Troubleshooting Index |
|---|---|---|
| | Action level and failure code | |
| 1 | Action level is displayed on the machine monitor. Press function key [F5] to display "Current Abnormality" | Perform troubleshooting for failure code |
| 2 | Failure code is displayed on mechanical system abnormality record. | |
| 3 | Failure code is displayed on Electrical Sys Abnormality Record. | |
| | Symptom related to engine | |
| 4 | Engine startability is poor. | S-4 |
| 5 | Engine does not start. | E-1, S-1 |
| 6 | Engine does not crank when starting switch is turned to "START" position. | S-1, E-1 |
| 7 | Engine cranks but no exhaust smoke comes out. | S-2 |
| 8 | Fuel is being injected but engine does not start (misfiring: engine cranks but does not start). | S-3 |
| 9 | Engine does not pick up smoothly. | S-5 |
| 10 | Engine stops during operation. | S-6, H-2 |
| 11 | Engine runs rough or is unstable. | S-7 |
| 12 | Engine lacks power. | S-8 |
| 13 | Exhaust smoke is black. | S-9 |
| 14 | Engine oil consumption is excessive. | S-10 |
| 15 | Engine oil becomes contaminated prematurely. | S-11 |
| 16 | Fuel consumption is excessive. | S-12 |
| 17 | Oil is in coolant (or coolant spurts back or coolant level goes down). | S-13 |
| 18 | Oil pressure drops. | S-14 |
| 19 | Fuel mixes into engine oil. | S-15 |
| 20 | Water mixes into engine oil (milky). | S-16 |
| 21 | Coolant temperature rises too high (overheating). | S-17 |
| 22 | Unusual noise is heard. | S-18 |
| 23 | Vibration is excessive. | S-19 |
| 24 | Air cannot be bled from fuel circuit. | S-20 |
| 25 | Manual preheating system does not work. | E-2 |
| 26 | While preheating is working, preheating monitor does not light up. | E-3 |
| 27 | Automatic warm-up system does not operate (in cold weather). | E-20 |
| 28 | When auto-deceleration switch is operated, auto-deceleration monitor does not light up or does not go out. | E-21 |
| 29 | Auto-deceleration function does not operate or is not canceled while lever is operated. | E-22 |
| | Symptom related to work equipment, and swing and travel system | |
| 30 | None of work equipment, swing or travel works. | E-30, H-3 |
| 31 | Any of work equipment, swing, and travel cannot be locked. | E-31 |



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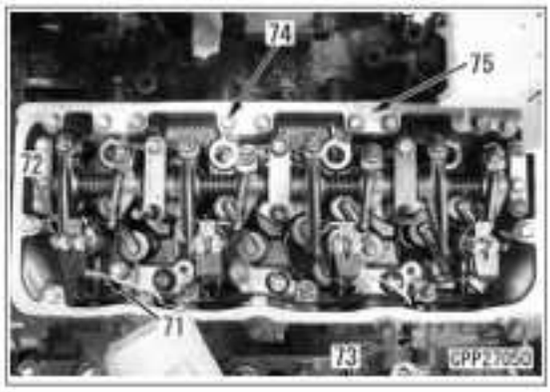
48. Remove nut (72) of injector harness (71) from the injector.

**REMARK**

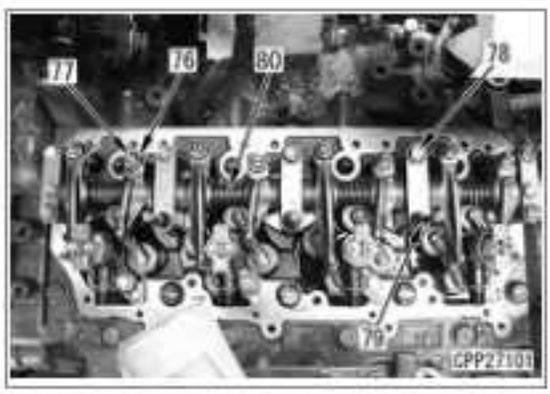
Remove injector harness connectors (73) (2 pieces) of the injector from the rocker housing only when required.

Installing position of injector wiring harness

| Color of injector wiring harness | Cylinder No. |
|---|---|
| White | 1, 3 |
| Black | 2, 4 |



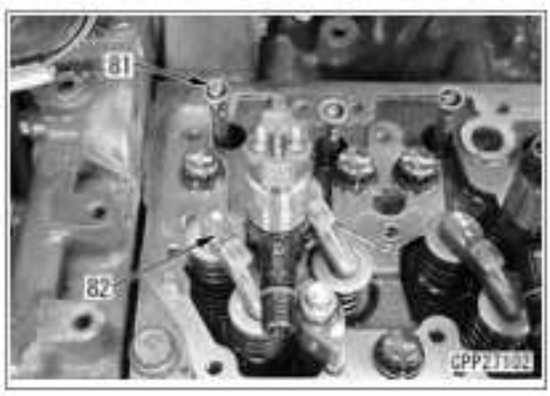

49. Remove mounting bolts (74) (19 pieces), and remove rocker housing (75).
50. Loosen lock nuts (76) (8 pieces) and fully loosen adjustment screws (77) (8 pieces).
51. Remove mounting bolts (78) (7 pieces) and stud bolts (79) (3 pieces), and remove rocker arm assembly (80).

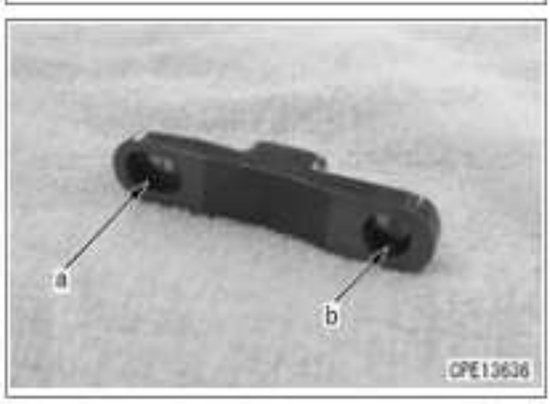



52. Remove push rods (81) (8 pieces).
53. Remove crosshead (82).

**REMARK**

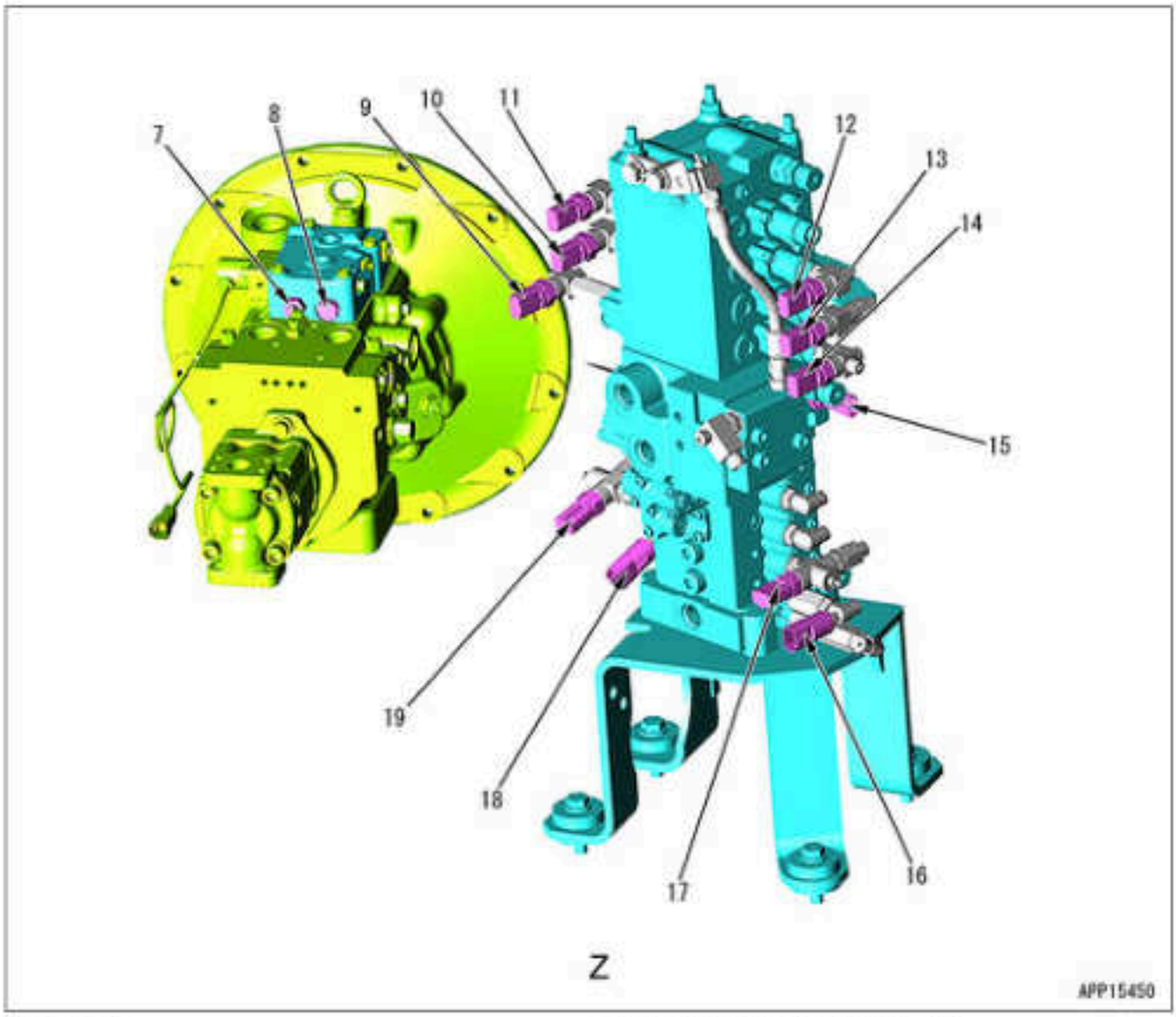
Write down the locations and shapes of holes (a) and (b) (to install them in same directions when reassembling.).






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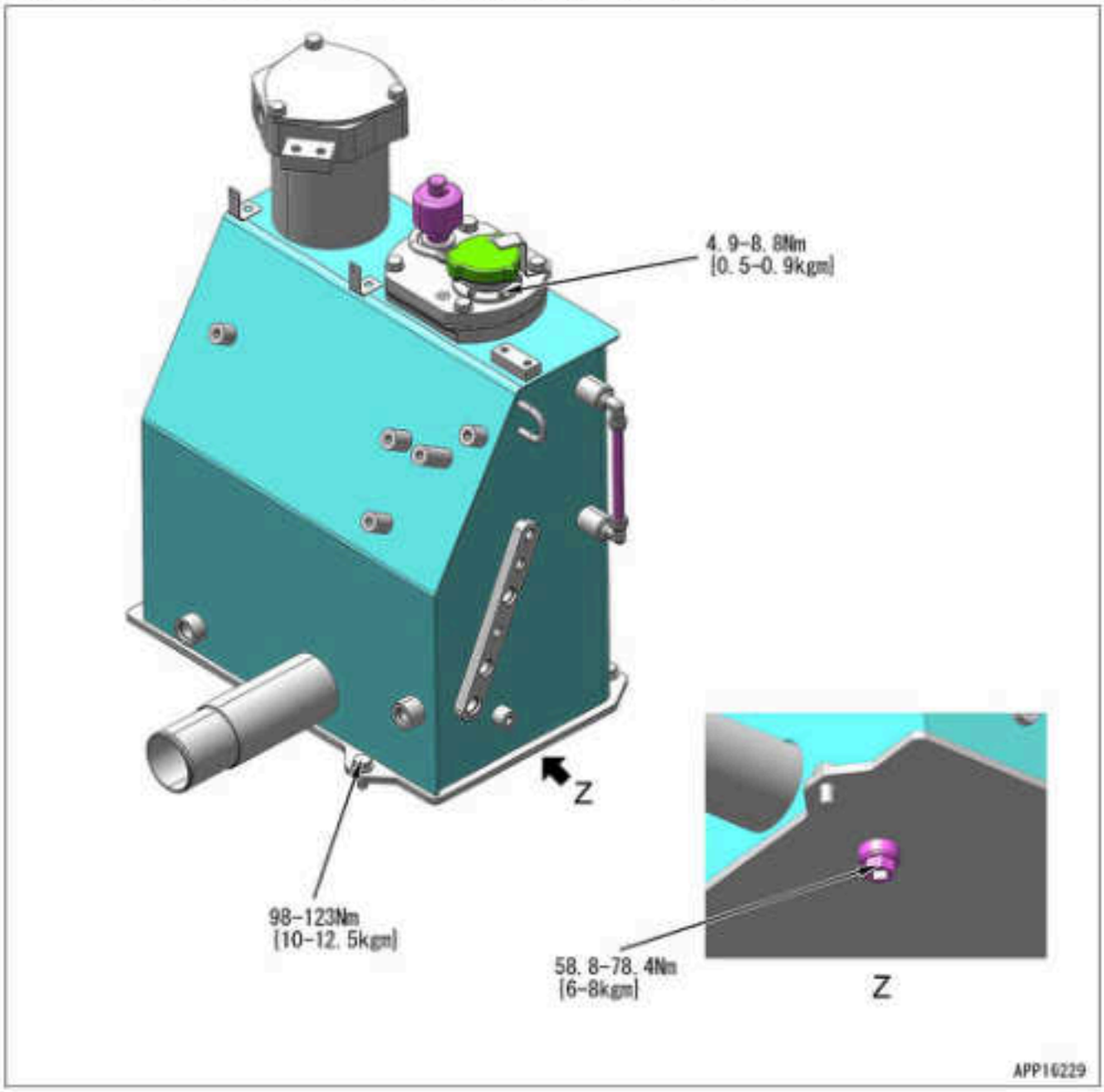

7: LS valve
8: PC valve
9: Boom LOWER pressure sensor
10: Arm IN pressure sensor
11: Bucket CURL pressure sensor
12: Bucket DUMP pressure sensor
13: Arm OUT pressure sensor
14: Boom RAISE pressure sensor
15: Pump pressure sensor
16: Blade RAISE pressure switch
17: Swing RIGHT pressure sensor
18: Blade LOWER pressure switch
19: Swing LEFT pressure sensor



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# HYDRAULIC SYSTEM

## MAINTENANCE STANDARD OF HYDRAULIC TANK





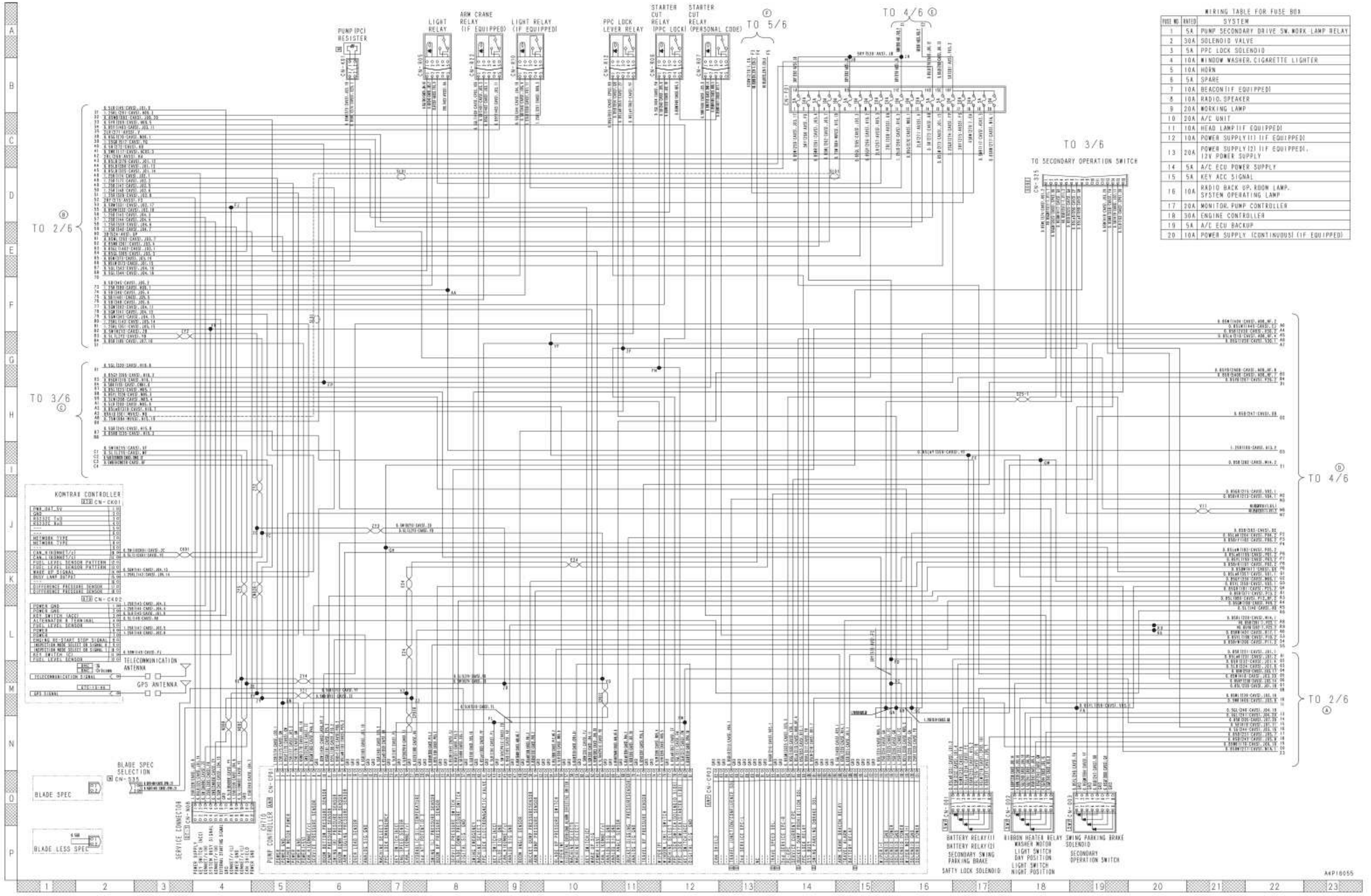

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# ELECTRICAL CIRCUIT DIAGRAM (1/6)

PC78US-10

**REMARK**

This figure covers the equipment and devices that are unavailable as optional items in some areas.




WIRING TABLE FOR FUSE BOX

| FUSE NO. | RATED | SYSTEM |
|---|---|---|
| 1 | 5A | PUMP SECONDARY DRIVE SW. WORK LAMP RELAY |
| 2 | 30A | SOLENOID VALVE |
| 3 | 5A | PPC LOCK SOLENOID |
| 4 | 10A | WINDOW WASHER, CIGARETTE LIGHTER |
| 5 | 10A | HORN |
| 6 | 5A | SPARE |
| 7 | 10A | BEACON(IF EQUIPPED) |
| 8 | 10A | RADIO, SPEAKER |
| 9 | 20A | WORKING LAMP |
| 10 | 20A | A/C UNIT |
| 11 | 10A | HEAD LAMP(IF EQUIPPED) |
| 12 | 10A | POWER SUPPLY(1) (IF EQUIPPED) |
| 13 | 20A | POWER SUPPLY(2) (IF EQUIPPED), 12V POWER SUPPLY |
| 14 | 5A | A/C ECU POWER SUPPLY |
| 15 | 5A | KEY ACC SIGNAL |
| 16 | 10A | RADIO BACK UP, ROOM LAMP, SYSTEM OPERATING LAMP |
| 17 | 20A | MONITOR, PUMP CONTROLLER |
| 18 | 30A | ENGINE CONTROLLER |
| 19 | 5A | A/C ECU BACKUP |
| 20 | 10A | POWER SUPPLY (CONTINUOUS) (IF EQUIPPED) |



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