SEBM033101

# SHOP MANUAL

KOMATSU®

# PC308USLC-3

| MACHINE MODEL | SERIAL No. |
|---|---|
| **PC308USLC-3** | **20001 and up** |

- This shop manual may contain attachments and optional equipment that are not available in your area. Please consult your local Komatsu distributor for those items you may require. Materials and specifications are subject to change without notice.

- PC308USLC-3 mount the SAA6D102E-2 engine.
  For details of the engine, see the 102 Series Engine Shop Manual.

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# TOOLS FOR TESTING, ADJUSTING AND TROUBLESHOOTING

| Test, measurement item | Symbol | | Part No. | Part name | Q'ty | Remarks |
|---|---|---|---|---|---|---|
| Engine speed | A | 1 | 799-203-8001 | Multi-tachometer | 1 | |
| | | 2 | 795-790-2500 | Adapter | 1 | |
| Exhaust gas color | B | 1 | 799-201-9000 | Handy smoke checker | 1 | Discoloration 0 – 70% (with standard color) (Discoloration x 1/10 ≒ Bosch index) |
| | | 2 | Commercially available | Smoke meter | 1 | |
| Engine valve clearance | C | 1 | 795-799-1131 | Gear | 1 | |
| | | 2 | Commercially available | Thickness gauge | 1 | |
| Compression pressure | D | 1 | 795-502-1205 | Compression gauge | 1 | |
| | | 2 | 795-502-1700 | Adapter | 1 | |
| Blow-by pressure | E | 1 | 799-201-1504 | Blow-by kit | 1 | 0 – 4.9 kPa {0 – 500 mmH2O} |
| | | 2 | 795-790-1950 | Tool (Nozzle) | 1 | |
| Fuel injection timing | F | 1 | 795-799-1131 | Gear | 1 | |
| | | 2 | 795-799-1900 | Pin assembly | 1 | |
| | | 3 | 795-799-1950 | Lock pin | 1 | |
| Engine oil pressure | G | 1 | 799-101-5002 | Oil pressure gauge kit (analog type) | 1 | Pressure gauge:2.5, 5.9, 39.2, 58.8 MPa {25, 60, 400, 600 kg/cm²} |
| | | | 790-261-1203 | Oil pressure gauge kit (digital type) | 1 | Pressure gauge:58.8 MPa {600 kg/cm²} |
| | | 2 | 799-401-2320 | Oil pressure gauge | 1 | Pressure gauge:0.98 MPa {10 kg/cm²} |
| Swing circle bearing clearance | H | | Commercially available | Dial gauge | 1 | |
| Hydraulic oil pressure of work equipment, swing and travel circuit Control circuit oil pressure Pump PC control circuit oil pressure | J | 1 | 799-101-5002 | Oil pressure gauge kit (analog type) | 1 | Pressure gauge:2.5, 5.9, 39.2, 58.8 MPa {25, 60, 400, 600 kg/cm²} |
| | | | 790-261-1203 | Oil pressure gauge kit (digital type) | 1 | Pressure gauge:58.8 MPa {600 kg/cm²} |
| | | 2 | 799-101-5220 | Nipple | 1 | 10 x 1.25 mm |
| | | | 07002-11023 | O-ring | 1 | |
| Pump LS control circuit oil pressure | K | 1 | 799-101-5002 | Oil pressure gauge kit (analog type) | 1 | Pressure gauge:2.5, 5.9, 39.2, 58.8 MPa {25, 60, 400, 600 kg/cm²} |
| | | | 790-261-1203 | Oil pressure gauge kit (digital type) | 1 | Pressure gauge:58.8 MPa {600 kg/cm²} |
| | | 2 | 799-101-5220 | Nipple | 1 | 10 x 1.25 mm |
| | | | 07002-11023 | O-ring | 1 | |
| | | 3 | 799-401-1340 | Differential pressure gauge | 1 | |
| Solenoid valve output pressure | L | 1 | 799-101-5002 | Oil pressure gauge kit (analog type) | 1 | Pressure gauge:2.5, 5.9, 39.2, 58.8 MPa {25, 60, 400, 600 kg/cm²} |
| | | | 790-261-1203 | Oil pressure gauge kit (digital type) | 1 | Pressure gauge:58.8 MPa {600 kg/cm²} |
| | | 2 | 799-401-3100 | Nipple | 1 | 02 size |
| | | | 02896-11008 | O-ring | 1 | |



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# METHOD OF USING TROUBLESHOOTING CHARTS

1. **Troubleshooting code number and problem**
   The title of the troubleshooting chart gives the troubleshooting code, service code, and failure mode (problem with the machine). (See Example (1))

2. **Distinguishing conditions**
   Even with the same failure mode (problem), the method of troubleshooting may differ according to the model, component, or problem. In such cases, the failure mode (problem) is further divided into sections marked with small letters (for example, a), so go to the appropriate section to carry out troubleshooting. (See Example (2)) If the troubleshooting table is not divided into sections, start troubleshooting from the first check item in the failure mode.

3. **Method of following troubleshooting chart**
   - Check or measure the item inside ▭→◇(YES/NO), and according to the answer follow either the YES line or the NO line to go to the next ▭. (Note: The number written at the top right corner of the ▭ is an index number; it does not indicate the order to follow.)
   - Following the YES or NO lines according to the results of the check or measurement will lead finally to the Cause column. Check the cause and take the action given in the Remedy column on the right. (See Example (3))
   - Below the ▭ there are the methods for inspection or measurement, and the judgement values. If the judgement values below the ▭ are correct of the answer to the question inside the ▭ is YES, follow the YES line; if the judgement value is not correct, or the answer to the question is NO, follow the NO line.
   - Below the ▭ is given the preparatory work needed for inspection and measurement, and the judgement values. If this preparatory work is neglected, or the method of operation or handling is mistaken, there is danger that it may cause mistaken judgement, or the equipment may be damaged. Therefore, before starting inspection or measurement, always read the instructions carefully, and start the work in order from Item 1.

4. **General precautions**
   When carrying out troubleshooting for the failure mode (problem), precautions that apply to all items are given at the top of the page and marked with ★ (See Example (4)).
   The precautions marked ★ are not given in the ▭, but must always be followed when carrying out the check inside the ▭.

5. **Troubleshooting tools**
   When carrying out troubleshooting, prepare the necessary troubleshooting tools. For details, see TOOLS FOR TESTING, ADJUSTING, AND TROUBLESHOOTING.



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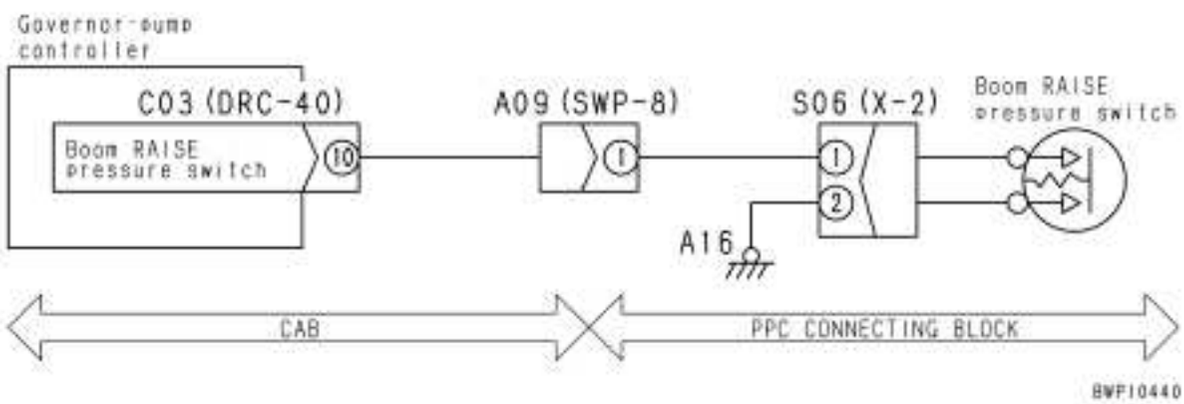
## E-21 "Boom RAISE" is not correctly displayed in monitor function

| | |
|---|---|
| Failure information | • "Boom RAISE" is not correctly displayed in the monitor function on the monitor panel. |
| Relative information | — |

Presumed cause and standard value in normalcy

| | Cause | Standard value in normalcy and references for troubleshooting | | | |
|---|---|---|---|---|---|
| 1 | Boom RAISE PPC hydraulic switch fault (Internal disconnection or short-circuiting) | ★Turn the engine starting switch OFF for the preparations, and keep the engine running during the troubleshooting. | | | |
| | | S06 (male) | Boom control lever | Resistance value | |
| | | Between ① and ② | NEUTRAL | Above 1 MΩ | |
| | | | RAISE | Below 1 Ω | |
| 2 | Disconnection of wiring harness (Disconnection or defective contact with connector) | ★Turn the engine starting switch OFF for the preparations, and hold it in the OFF position during the troubleshooting. | | | |
| | | Wiring harness between C03 (female) ⑩ and S06 (female) ① | | Resistance value | Below 1 Ω |
| | | Wiring harness between S06 (female) ② and grounding | | Resistance value | Below 1 Ω |
| 3 | Grounding fault of wiring harness (Contact with grounding (GND) circuit) | ★Turn the engine starting switch OFF for the preparations, and hold it in the OFF position during the troubleshooting. | | | |
| | | Between wiring harness between C03 (female) ⑩ and S06 (female) ① and grounding | | Resistance value | Above 1 MΩ |
| 4 | Short-circuiting of wiring harness (Contact with 24 V circuit) | ★Turn the engine starting switch OFF for the preparations, and hold it in the ON position during the troubleshooting. | | | |
| | | Between wiring harness between C03 (female) ⑩ and S06 (female) ① and grounding | | Voltage | Below 1 V |
| 5 | Governor • pump controller defective | ★Turn the engine starting switch OFF for the preparations, and hold it in the ON position during the troubleshooting. | | | |
| | | C03 | Boom control lever | Voltage | |
| | | Between ⑮ and grounding | NEUTRAL | 20 – 30 V | |
| | | | RAISE | Below 1 V | |

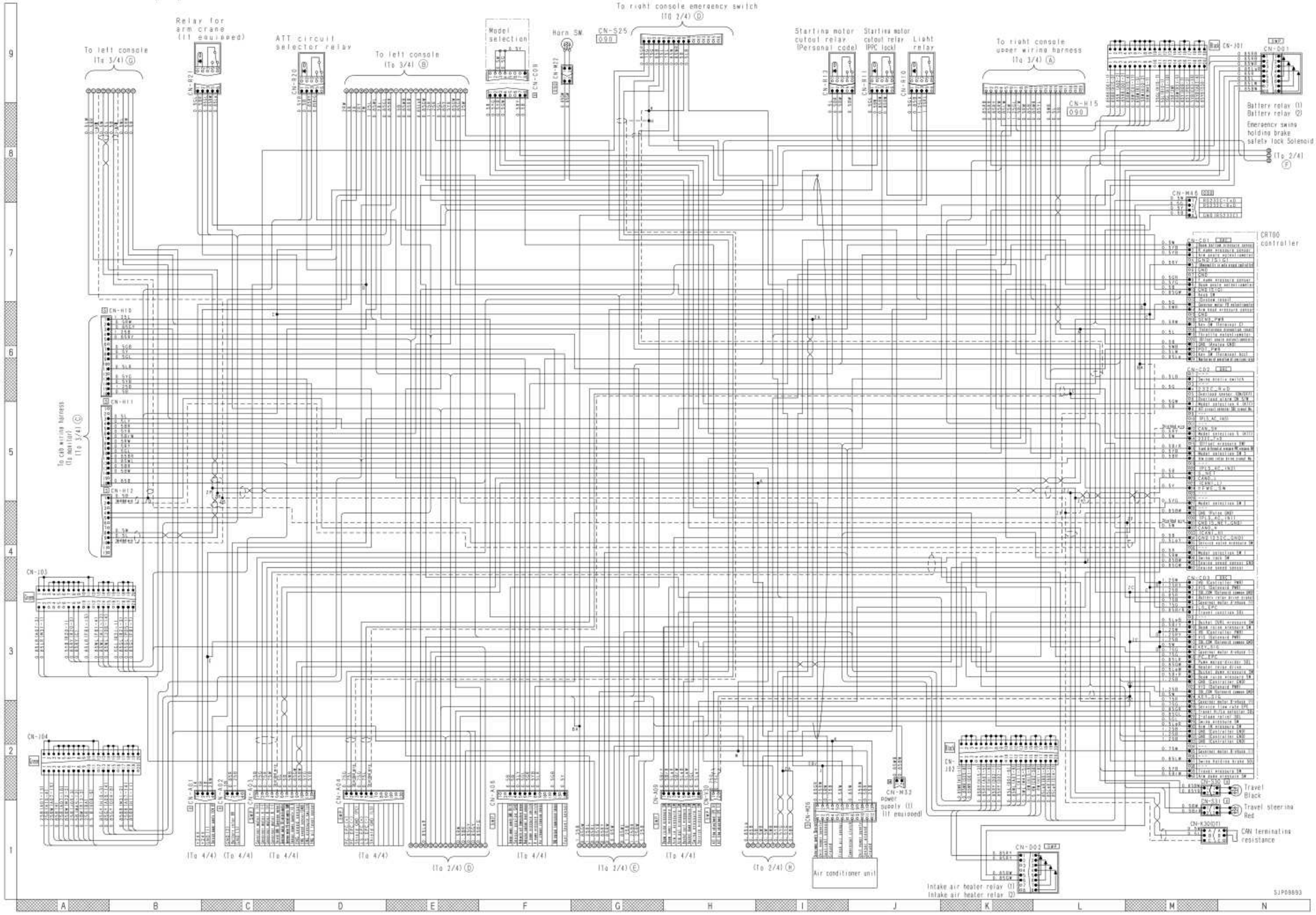
### Electrical Circuit Diagram for Boom RAISE PPC Hydraulic Switch






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## ELECTRICAL CIRCUIT DIAGRAM (1/4)






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