SEBM027311

SHOP MANUAL

KOMATSU®

PC1250-7
PC1250SP-7
PC1250LC-7

MACHINE MODEL	SERIAL No.
PC1250-7	**20001 and up**
PC1250SP-7	**20001 and up**
PC1250LC-7	**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.

- PC1250-7 mounts the SAA6D170E-3 engine.
  For details of the engine, see the 6D170-3 Series Engine Shop Manual.

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Table for Error and Failure Code Nos.

User code	User code		Failure code			History division
	Code	Contents	Code	Component	Trouble	
E10	C111	ECM Microprocessor	C111KT	HPI controller	Internal defect of controller	Electrical system
E11	C112	Timing Actuator Stuck	C112LK	Timing actuator	Disagreement of feedback signal and output signal	Electrical system
E11	C113	Timing Actuator Current	C113KZ	Timing actuator current	Disconnection or short circuit	Electrical system
E10	C115	Engine Speed Sensor (2)	C115KZ	Engine speed sensor (Both)	Disconnection or short circuit	Electrical system
E11	C116	Timing Rail P. Sensor	C116KX	Timing rail pressure sensor	Out of input signal range	Electrical system
E11	C117	Timing Rail P. Sensor	C117KX	Timing rail pressure sensor	Out of input signal range	Electrical system
E11	C118	Fuel Pump P. Sensor	C118KX	Fuel pump pressure sensor	Out of input signal range	Electrical system
E11	C119	Fuel Pump P. Sensor	C119KX	Fuel pump pressure sensor	Out of input signal range	Electrical system
E15	C121	Engine Speed Sensor (1)	C121LC	Engine speed sensor (No. 1 or No. 2)	Disagreement of speed sensor signals	Electrical system
E11	C122	Boost P. Sensor	C122KX	Boost pressure sensor	Out of input signal range	Electrical system
E11	C123	Boost P. Sensor	C123KX	Boost pressure sensor	Out of input signal range	Electrical system
E14	C131	Throttle Sensor	C131KX	Throttle sensor	Out of input signal range	Electrical system
E14	C132	Throttle Sensor	C132KX	Throttle sensor	Out of input signal range	Electrical system
E15	C135	Oil P. Sensor	C135KX	Engine oil pressure sensor	Out of input signal range	Electrical system
E15	C141	Oil P. Sensor	C141KX	Engine oil pressure sensor	Out of input signal range	Electrical system
E11	C143	Oil P. Low	C143ZG	Engine oil	Lowering of oil pressure	Electrical system
E15	C144	Coolant T. Sensor	C144KX	Engine coolant temperature sensor	Out of input signal range	Electrical system
E15	C145	Coolant T. Sensor	C145KX	Engine coolant temperature sensor	Out of input signal range	Electrical system
E11	C151	Coolant T. High	C151NS	Engine coolant	Overheating	Electrical system
E15	C153	Intake Manifold T. Sensor	C153KX	Intake air temperature sensor	Out of input signal range	Electrical system
E15	C154	Intake Manifold T. Sensor	C154KX	Intake air temperature sensor	Out of input signal range	Electrical system
E11	C221	Ambient Air P. Sensor	C221KX	Atmospheric pressure sensor	Out of input signal range	Electrical system
E11	C222	Ambient Air P. Sensor	C222KX	Atmospheric pressure sensor	Out of input signal range	Electrical system
E11	C234	Engine Overspeed	C234N1	Engine	Overrun	Electrical system
E10	C254	FSOV Circuit	C254KZ	Fuel shut-off valve	Disconnection or short circuit	Electrical system
E11	C259	FSOV Circuit	C259FS	Fuel shut-off valve	Fixing	Electrical system
E11	C261	Fuel T. High	C261NS	Fuel	Overheating	Electrical system
E15	C263	Fuel T. Sensor	C263KX	Fuel temperature sensor	Out of input signal range	Electrical system
E15	C265	Fuel T. Sensor	C265KX	Fuel temperature sensor	Out of input signal range	Electrical system
E11	C316	Fuel Pump Actuator Current	C316KZ	Fuel pump drive current	Disconnection or short circuit	Electrical system
E11	C318	Fuel Pump Actuator Stuck	C318LK	Fuel pump actuator	Disagreement of feedback signal and output signal	Electrical system
E15	C346	ECM Powerdown	C346KT	Controller	Internal defect of controller	Electrical system
E11	C423	Timing Rail P. In Range Error	C423L6	Timing rail pressure sensor	Disagreement of signals and run/stop of engine	Electrical system

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5) Data items of manual snap shot function

No.	Item	Contents	Unit
1	Time	Elapsed time	sec
2	Eng Speed	Engine speed	rpm
3	Fuel Inject	Engine fuel injection rate	mm^3/st
4	Rail Press	Engine fuel rail pressure	kg/cm^2
5	Blowby Press	Engine blow-by pressure	mmAq
6	Boost Press	Engine boost pressure	mmHg
7	Eng Oil Temp	Engine oil temperature	degC
8	Eng Oil Press	Engine oil pressure	kg/cm^2
9	F Exh Temp	Engine exhaust temperature (Front)	degC
10	R Exh Temp	Engine exhaust temperature (Rear)	degC
11	Eng Cool Temp	Engine coolant temperature	degC
12	Ambient Temp	Ambient temperature	degC
13	F Pump Press	Front pump pressure	kg/cm^2
14	R Pump Press	Rear pump pressure	kg/cm^2
15	Swing Pump Pres	Swig pump pressure	kg/cm^2
16	G1 Pump Press [kg/cm^2]	Gear pump pressure for driving A/A fan	kg/cm^2
17	G2 Pump Press [kg/cm^2]	Gear pump pressure for pilot	kg/cm^2
18	Hydr Oil Temp	Hydraulic oil temperature	degC
19	TVC Amp	TVC current	mA
20	Throt Position [%]	Fuel dial (Full: 100%)	%
21	PTO Temp	PTO oil temperature	degC
22	PPC Boom Raise ON	Boom RAISE oil pressure switch	on-off
23	PPC Boom Lower ON	Boom LOWER oil pressure switch	on-off
24	PPC Arm IN ON	Arm IN oil pressure switch	on-off
25	PPC Arm OUT ON	Arm OUT oil pressure switch	on-off
26	PPC Bucket Curl ON	Bucket CURL oil pressure switch	on-off
27	PPC Bucket Dump ON	Bucket DUMP oil pressure switch	on-off
28	PPC RH Travel ON	Right travel oil pressure switch	on-off
29	PPC LH Travel ON	Left travel oil pressure switch	on-off
30	PPC Swing ON	Swing oil pressure switch	on-off
31	Straight Travel Valv	Straight travel solenoid valve	on-off
32	Main Relief Valve	2-stage relief solenoid valve	on-off
33	CO Cancel Valve	CO cancel solenoid valve	on-off
34	Swing Brake Valve	Swing holding brake solenoid valve	on-off
35	Swing Priority Valve	Swing priority solenoid valve	on-off

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Unit: kg

Machine model	PC1250-7	PC1250SP-7	PC1250LC-7
Serial Number	20001 and up	20001 and up	20001 and up
Track shoe assembly			
• Standard shoe (700 mm)	10,630	10,630	—
• Wide shoe (1,000 mm)	12,940	12,940	14,820
• Wide shoe (1,200 mm)	—	—	16,350
Boom assembly (excl. piping)	10,380	10,275	10,380
Arm assembly (excl. piping)	3,520	3,915	3,520
Bucket assembly (excl. piping)	4,579	6,191	4,579
Boom cylinder assembly	1,174 x 2	1,174 x 2	1,174 x 2
Arm cylinder assembly	1,538	1,538	1,538
Bucket cylinder assembly	442 x 2	459 x 2	442 x 2
Boom foot pin	72 x 2	72 x 2	72 x 2
Boom cylinder foot pin	43.8 x 2	43.8 x 2	43.8 x 2
Boom cylinder top pin	43.2 x 2	43.2 x 2	43.2 x 2
Boom-arm connecting pin	168.6	168.6	168.6
Arm cylinder foot pin	92.9	101.3	92.9
Arm cylinder top pin	97.9	97.9	97.9
Link-arm connecting pin	103	103	103
Link-bucket connecting pin	110.4	110.4	110.4
Bucket cylinder top pin	37.9	37.9	37.9
Bucket cylinder foot pin	37.9	37.9	37.9
Arm-bucket connecting pin	120.4	120.4	120.4
Link assembly	817	878	817
Link connecting pin	103	103	103

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Error code in Electrical System C259 (FSOV Circuit)

User code	Error code	Failure Code	Trouble	FSOV Circuit (Engine controller system)
E11	C259	C259FS		
Contents of trouble	• Fuel shut-off valve cannot be closed (Engine does not stop when electric power is turned off).			
Action of controller	• Flashes user code and turns on caution buzzer. • Turns off power for fuel shut-off valve.			
Problem that appears on machine	• Engine cannot be stopped.			
Related information	• Method of reproducing error code: Start engine.			

		Cause	Standard value in normal state/Remarks on troubleshooting
Possible causes and standard value in normal state	1	Defective related systems	Check displayed error codes. If code related to engine controller is displayed, carry out troubleshooting for it first.
	2	Trouble in fuel shut-off valve	Check inside of fuel shut-off valve directly.
	3	Clogging, looseness, breakage, or leakage of fuel filter/piping	Check fuel filter/piping directly for clogging, looseness, breakage, and leakage.
	4	Trouble in injector	Check inside of injector directly.
	5	Defective engine controller	If causes 1 – 4 are not detected, engine controller may be defective. (Since trouble is in system, troubleshooting cannot be carried out.)

Error code in Electrical System C261 (Fuel T. High)

User code	Error code	Failure Code	Trouble	Fuel T. High (Engine controller system)
E11	C261	C261NS		
Contents of trouble	• Fuel temperature sensor detected temperature higher than temperature set in controller. • Criterion (for reference): Min. 76°C			
Action of controller	• Flashes user code and turns on caution buzzer. • Limits engine speed to 800 rpm after 30 seconds.			
Problem that appears on machine				
Related information	• Method of reproducing error code: Start engine.			

		Cause	Standard value in normal state/Remarks on troubleshooting
Possible causes and standard value in normal state	1	Defective related systems	Check displayed error codes. If code related to engine controller is displayed, carry out troubleshooting for it first.
	2	Defective fuel temperature sensor system	Carry out troubleshooting for error codes [C263] and [C264].
	3	Defective engine	See S mode.

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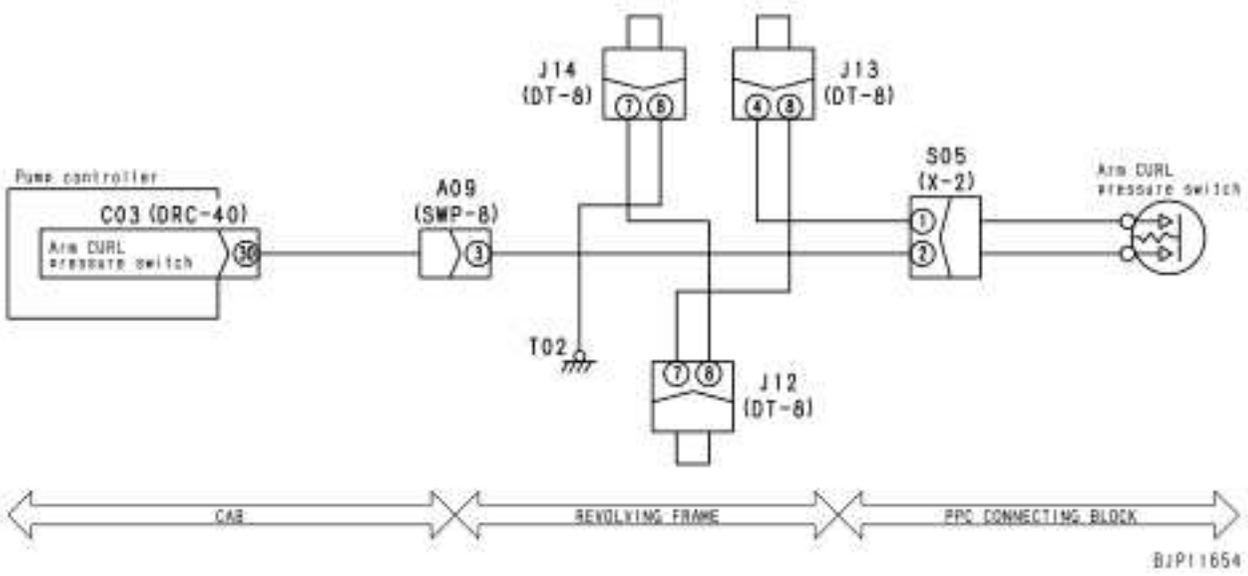
E-20 "Arm DIGGING" is not correctly displayed in monitor function

Failure information	• "Arm DIGGING" is not correctly displayed in the monitor function (special function) on the monitor panel.
Relative information	—

Presumed cause and standard value in normalcy

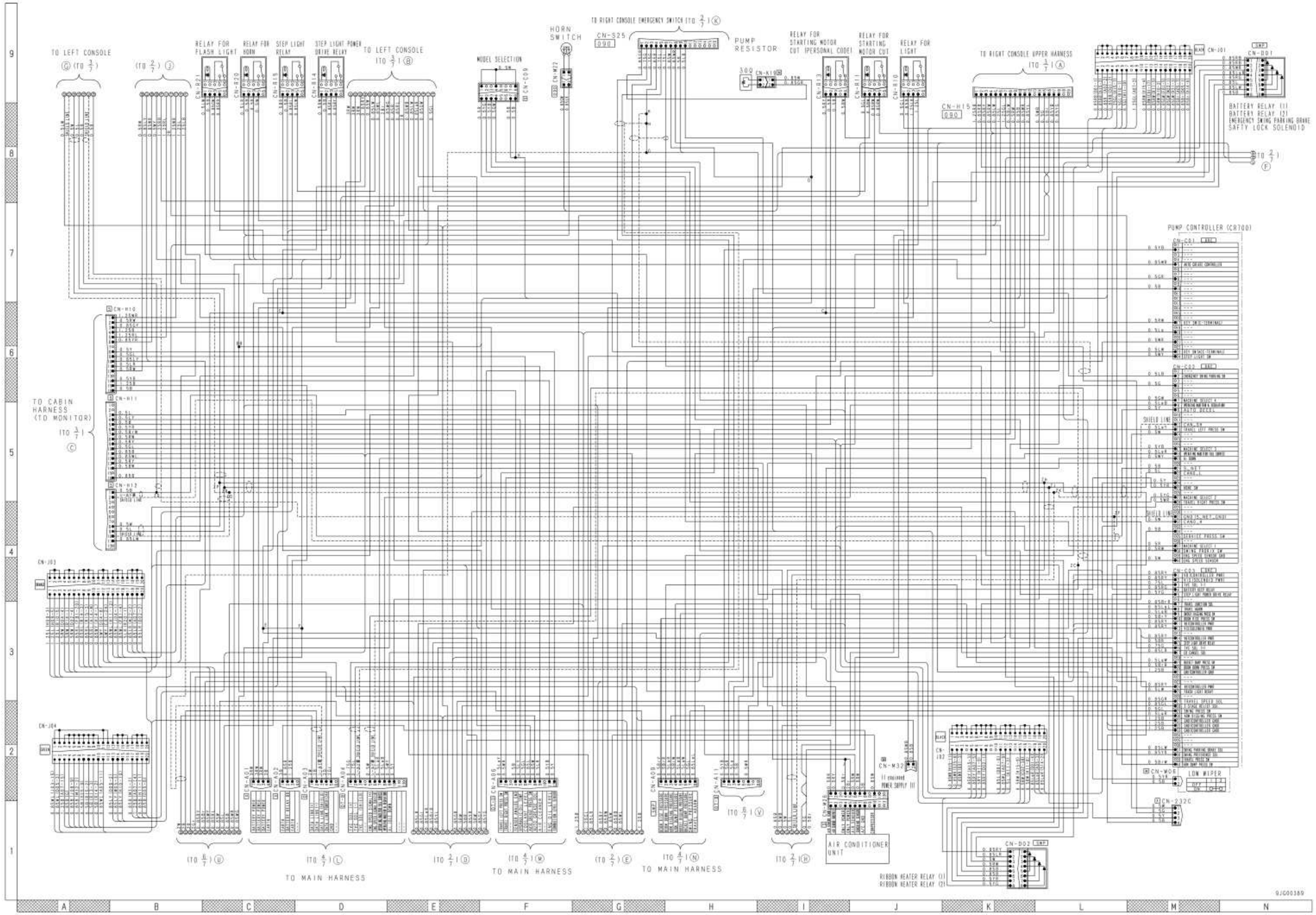
	Cause	Standard value in normalcy and references for troubleshooting			
1	Arm DIGGING PPC hydraulic switch fault (Internal disconnection or short-circuiting)	★Turn the engine starting switch OFF for the preparations, and keep the engine running during the troubleshooting.			
		S05 (male)	Arm control lever	Resistance value	
		Between (1) and (2)	NEUTRAL	Min. 1 MΩ	
			DIGGING	Max. 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) (30) and S05 (female) (2)		Resistance value	Max. 1 Ω
		Wiring harness between S05 (female) (1) and grounding		Resistance value	Max. 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) (30) and S05 (female) (2) and grounding		Resistance value	Min. 1 MΩ
4	Hot short circuit in 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) (30) and S05 (female) (2) and grounding		Voltage	Max. 1 V
5	Pump controller defective	★Turn the engine starting switch OFF for the preparations, and hold it in the ON position during the troubleshooting.			
		C03	Arm control lever	Voltage	
		Between (30) and grounding	NEUTRAL	20 – 30 V	
			DIGGING	Max. 1 V	

Electrical Circuit Diagram for Arm DIGGING PPC Hydraulic Switch



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ELECTRICAL CIRCUIT DIAGRAM (1/7)



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