CEBM007202

Shop Manual

KOMATSU®

PC270LC-8

HYDRAULIC EXCAVATOR

SERIAL NUMBERS **PC270LC-8** **A87001** and UP

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Overload alarm monitor display specification

User code	Failure code	Trouble	Overload sensor (analog) (Pump controller system)
—	**DHX1MA**		
Contents of trouble	• Signal voltage of overload alarm pressure sensor circuit is below 0.3 V or above 4.4 V.		
Action of controller	• Outputs overload alarm constantly. • If cause of failure disappears, system resets itself.		
Problem that appears on machine	• If display of overload alarm monitor is set, overload alarm monitor is displayed constantly.		
Related information	• Overload alarm pressure sensor is installed to only machine on which display of overload alarm monitor is set. ★ If 5 V circuit (3) and ground circuit (1) of pressure sensor are connected inversely, pressure sensor will be broken. Accordingly, take extreme care when checking. • Overload alarm pressure (Boom cylinder bottom pressure) can be checked with monitoring function. (Code: 15900 Boom bottom pressure) • Method of reproducing failure code: Turn starting switch ON or start engine.		

	Cause		Standard value in normal state/Remarks on troubleshooting			
Possible causes and standard value in normal state	1	Defective 5 V sensor power supply 1 system	If failure code [**DA25KP**] is also displayed, carry out troubleshooting for it first.			
	2	Defective overload alarm pressure sensor (Internal defect)	★ Prepare with starting switch OFF, then turn starting switch ON or start engine and carry out troubleshooting in each case.			
			P46		Voltage	
			Between (3) – (1)	Power supply	4.5 – 5.5 V	
			Between (2) – (1)	Signal	0.3 – 4.4 V	
			If voltage is abnormal, replace overload alarm pressure sensor with F pump pressure sensor or R pump pressure sensor and check failure code. (If "E" of failure code goes off at this time, overload alarm pressure sensor is defective.)			
	3	Disconnection in wiring harness (Disconnection in wiring or defective contact in connector)	★ Prepare with starting switch OFF, then carry out troubleshooting without turning starting switch ON.			
			Wiring harness between C01 (female) (18) – P46 (female) (1)		Resistance	Max. 1 Ω
			Wiring harness between C01 (female) (74) – P46 (female) (2)		Resistance	Max. 1 Ω
			Wiring harness between C01 (female) (9) – J06 – P46 (female) (3)		Resistance	Max. 1 Ω
	4	Ground fault in wiring harness (Short circuit with GND circuit)	★ Prepare with starting switch OFF, then carry out troubleshooting without turning starting switch ON.			
			Wiring harness between C01 (female) (9) – P46 (female) (3) and chassis ground		Resistance	Min. 1 MΩ
	5	Hot short (Short circuit with 24 V circuit) in wiring harness	★ Prepare with starting switch OFF, then turn starting switch ON and carry out troubleshooting.			
			Wiring harness between C01 (female) (9) – P46 (female) (3)		Voltage	Max. 1 V
	6	Defective pump controller	If causes 1 – 5 are not detected, pump controller may be defective. (Since trouble is in system, troubleshooting cannot be performed.)			

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H-25 Excessive Overrun When Stopping Swing

Trouble	(1) Upper structure overruns remarkably when it stops swinging in both directions.
Related information	• Carry out all troubleshooting in power mode (P) of working mode.

<table>
<tr><td rowspan="7">Possible causes and standard value in normal state</td><td colspan="2">Cause</td><td colspan="3">Standard value in normal state/Remarks on troubleshooting</td></tr>
<tr><td rowspan="3">1</td><td rowspan="3">Defective adjustment or malfunction of swing motor (safety valve)</td><td colspan="3">• Prepare with engine stopped, then run engine at high idle and carry out troubleshooting.</td></tr>
<tr><td>Swing lock switch</td><td>Left work equipment control lever</td><td>Swing relief pressure</td></tr>
<tr><td>ON</td><td>Swing relief</td><td>4192 – 4772 psi
{295 – 335 kg/cm^2}</td></tr>
<tr><td colspan="3">If oil pressure does not become normal after adjustment, swing motor safety valve may have malfunction or internal defect. Check safety valve.</td></tr>
<tr><td rowspan="3">2</td><td rowspan="3">Defective swing motor</td><td colspan="3">★ Prepare with engine stopped, then run engine at high idle and carry out troubleshooting.</td></tr>
<tr><td>Swing lock switch</td><td>Left work equipment control lever</td><td>Leakage from swing motor</td></tr>
<tr><td>ON</td><td>Swing relief</td><td>Max. 10 ℓ/min
(2.641 gal/min)</td></tr>
</table>

Trouble	(2) Upper structure overruns remarkably when it stops swinging in only one direction.
Related information	• Carry out all troubleshooting in power mode (P) of working mode.

<table>
<tr><td rowspan="6">Possible causes and standard value in normal state</td><td colspan="2">Cause</td><td colspan="2">Standard value in normal state/Remarks on troubleshooting</td></tr>
<tr><td rowspan="3">1</td><td rowspan="3">Malfunction of swing PPC valve</td><td colspan="2">★ Prepare with engine stopped, then run engine at high idle and carry out troubleshooting.</td></tr>
<tr><td>Left work equipment control lever</td><td>PPC valve output pressure</td></tr>
<tr><td>Neutral</td><td>0 psi
{0 kg/cm^2}</td></tr>
<tr><td>2</td><td>Clogging of swing PPC slow return valve</td><td colspan="2">Swing PPC slow return valve may have malfunction. Check it.
★ Slow return valves on right side and left side may be checked by replacing them with each other and seeing change of condition.</td></tr>
<tr><td>3</td><td>Malfunction of swing control valve (spool)</td><td colspan="2">Spool of swing control valve may have malfunction. Check it.</td></tr>
<tr><td>4</td><td>Malfunction of swing motor (suction valve)</td><td colspan="2">Suction valve of swing motor may have malfunction. Check it.
★ Suction valves on right side and left side may be checked by replacing them with each other and seeing change of condition.</td></tr>
<tr><td>5</td><td>Malfunction of swing motor (check valve)</td><td colspan="2">Check valve of swing motor may have malfunction. Check it.
★ Check valves on right side and left side may be checked by replacing them with each other and seeing change of condition.</td></tr>
</table>

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- When the terminals on the switch side of connector P17 are shorted (ON) (See E-2 for circuit)

A. Referring to "Testing Evaporator Temperature Sensor" on page 60-45 item 1, 5.", disconnect connector [1] from control amplifier (CNTAMP).

B. Check that the resistance between female connector P17 (2) (B) (on the wiring harness side) and the ground is 1 Ω or below. (If not, the wiring harness is defective.)

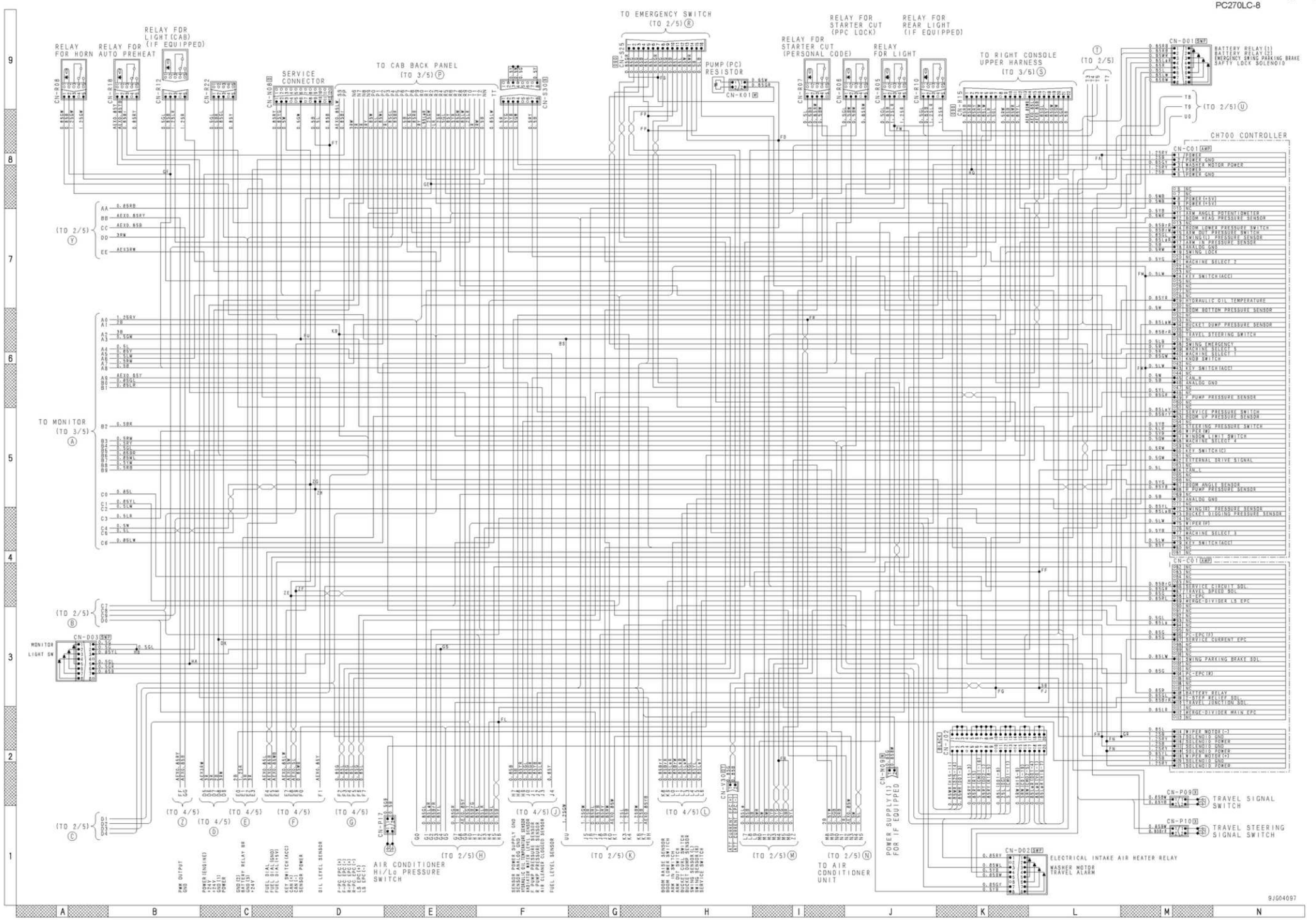
C. Check that the resistance between female connector P17 (1) (GB) (on the wiring harness side) and connector [1] (4) (GB) (on the wiring harness side) is 1 Ω or below. (If not, the wiring harness is defective.)

★ If the result of item C is abnormal, check the contact of connector CNAC01.
(See "Part and Connector Locations" on page 60-26)

D. Connect all the connectors.

E. Turn the starting switch ON and carry out self diagnosis ("Abnormality Record" screen on machine monitor: "03 Air-conditioning System"). If "Refrigerant abnormal" is still displayed, replace the control amplifier.

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