SEN03578-04

Shop Manual

HYDRAULIC
EXCAVATOR

PC400 -7E0
PC400LC-7E0
PC450 -7E0
PC450LC-7E0

SERIAL NUMBERS

PC400/400LC- 60001-60089
PC400/400LC- 65001 and up
PC450/450LC- 30001-30058
PC450/450LC- 65001 and up

ecot3

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The contents of this shop manual are shown together with Form No. in a list.

Note 1: Always keep the latest version of this manual in accordance with this list and utilize accordingly.
The marks shown to the right of Form No. denote the following:
○: New issue (to be filed additionally) ●: Revision (to be replaced for each Form No.)

Note 2: This shop manual can be supplied for each Form No.

Note 3: To file this shop manual in the special binder for management, handle it as follows:
- Place a divider on the top of each section in the file after matching the Tub No. with No. indicated next to each Section Name shown in the table below:
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Table for functioning conditions – Travel speed shifting solenoid valve

Operating condition			Operation
Overheat 2nd setting is ON			OFF
Fuel control dial is at 1,200 rpm or below			
Travel speed switch is at Lo			
Travel speed switch is at Mi or Hi	Travel signal is OFF		
	Travel signal is ON	F or R pump pressure is at 32.3 MPa {330 kg/cm²} or above	
		F or R pump pressure is at 18.6 MPa {190 kg/cm²} or below	ON
Other than above conditions			

Table for functioning conditions – Merge/divide solenoid valve

Operating condition				Operation
When B mode is selected	Service single ON			ON
Travel single signal is ON	Travel is operated single			
	Work equipment, swing, and service singles are ON	When a L-mode is not selected	F or R pump pressure is at 19.6 MPa {200 kg/cm²} or above	
			F or R pump pressure is at 14.7 MPa {150 kg/cm²} or below	OFF
		When L mode is selected	F or R pump pressure is at 16.7 MPa {170 kg/cm²} or above	ON
			F or R pump pressure is at 11.8 MPa {120 kg/cm²} or below	OFF
Travel signal is OFF	Swing signal is OFF	Arm IN and bucket CURL PPC pressure are 1.9 MPa {19.5 kg/cm²} or above	F or R pump pressure is at 24.5 MPa {250 kg/cm²} or above	ON
			F or R pump pressure is at 19.6 MPa {200 kg/cm²} or below	OFF
Other than above conditions				

Table for functioning conditions – Travel junction solenoid valve

Operating condition			Operation
Travel steering signal is ON			ON
Travel steering signal is OFF	Travel lever is operated singly	F or R pump pressure is at 34.3 MPa {350 kg/cm²} or above	
	Other than above conditions		OFF

Table for functioning conditions – PPC lock solenoid valve

Operating condition		Operation
Work equipment lock lever	Lock	OFF
	Free	ON

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Failure code [CA131] Throttle Sensor High Error

Action code	Failure code	Trouble	Throttle sensor high error (Engine controller system)
E14	**CA131**		
Contents of trouble	• Signal circuit of fuel control dial detected high voltage.		
Action of controller	• If trouble occurs while starting switch is in ON position, controller fixes voltage value to level just before detection of trouble and continues operation. • If starting switch is turned ON while voltage is abnormally high, controller continues operation with voltage at 100% value.		
Problem that appears on machine	• Engine speed cannot be controlled with fuel control dial.		
Related information	• Signal voltage of fuel control dial can be checked with monitoring function. (Code: 03000 Fuel control dial voltage) • Method of reproducing failure code: Turn starting switch ON.		

	Cause		Standard value in normal state/Remarks on troubleshooting		
Possible causes and standard value in normal state	1	Defective throttle sensor power supply system	If failure code [**CA2185**] is also indicated, carry out troubleshooting for it first.		
	2	Defective fuel control dial	★ Prepare with starting switch OFF, then turn starting switch ON and carry out troubleshooting.		
			P20		Voltage
			Between (1) – (3)	Power supply	4.75 – 5.25 V
			Voltage is measured with wiring harness connected. Accordingly, if voltage is abnormal, check wiring harness and controller, too, for another cause of trouble, and then judge.		
	3	Hot short in wiring harness (Short circuit with 5V/24V circuit)	★ Prepare with starting switch OFF, then turn starting switch ON and carry out troubleshooting.		
			Wiring harness between CE02 (female) (9) – P20 (female) (2) and chassis ground	Voltage	Max. 1 V
	4	Short circuit in wiring harness (with another wiring harness)	★ Prepare with starting switch OFF, then carry out troubleshooting without turning starting switch ON.		
			Wiring harness between CE02 (female) (9) – P20 (female) (2) and between CE02 (female) (22) – P20 (female) (1)	Resistance	Min. 100 kΩ
	5	Defective wiring harness connector	Connecting parts between fuel control dial – machine wiring harness – engine controller may be defective. Check them directly. • Looseness of connector, breakage of lock, or breakage of seal • Corrosion, bend, breakage, push-in, or expansion of pin • Moisture or dirt in connector or defective insulation		
	6	Defective engine controller	★ Prepare with starting switch OFF, then turn starting switch ON and carry out troubleshooting.		
			CE02		Voltage
			Between (22) – (23)	Power supply	4.75 – 5.25 V

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Failure code [CA2351] EGR Valve Sol Current High Error

Action code	Failure code	Trouble	EGR Valve Sol Current High Error (Engine controller system)
E11	CA2351		
Contents of trouble	• High current error occurred in drive circuit of EGR valve solenoid.		
Action of controller	• Limits output and continues operation. • Close EGR and bypass valves.		
Problem that appears on machine	• Engine output lowers.		
Related information			

	Cause		Standard value in normal state/Remarks on troubleshooting		
Possible causes and standard value in normal state	1	Defective EGR valve solenoid (Internal defect)	★ Prepare with starting switch OFF, then carry out troubleshooting without turning starting switch ON.		
			EGR (male)	Resistance	
			Between (1) – (2)	10 – 21 Ω	
	2	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 CE01 (female) (22) – EGR (female) (1)	Resistance	Max. 1 Ω
			Wiring harness between CE01 (female) (11) – EGR (female) (2)	Resistance	Max. 1 Ω
	3	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 CE01 (female) (22) – EGR (female) (1) and chassis ground	Resistance	Min. 1 MΩ
			Wiring harness between CE01 (female) (11) – EGR (female) (2) and chassis ground	Resistance	Min. 1 MΩ
	4	Hot short in wiring harness (Short circuit with 24V circuit)	★ Prepare with starting switch OFF, then turn starting switch ON and carry out troubleshooting.		
			Wiring harness between CE01 (female) (22) – EGR (female) (1) and chassis ground	Voltage	Max. 1 V
			Wiring harness between CE01 (female) (11) – EGR (female) (2) and chassis ground	Voltage	Max. 1 V
	5	Defective engine controller	★ Prepare with starting switch OFF, then carry out troubleshooting without turning starting switch ON.		
			CE01 (female)	Resistance	
			Between (22) – (11)	10 – 21 Ω	

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Undercarriage troubleshooting report

(Program form No.: SELA195001)

Komatsu

Undercarriage Inspection

KUC

Customer name:

Address:

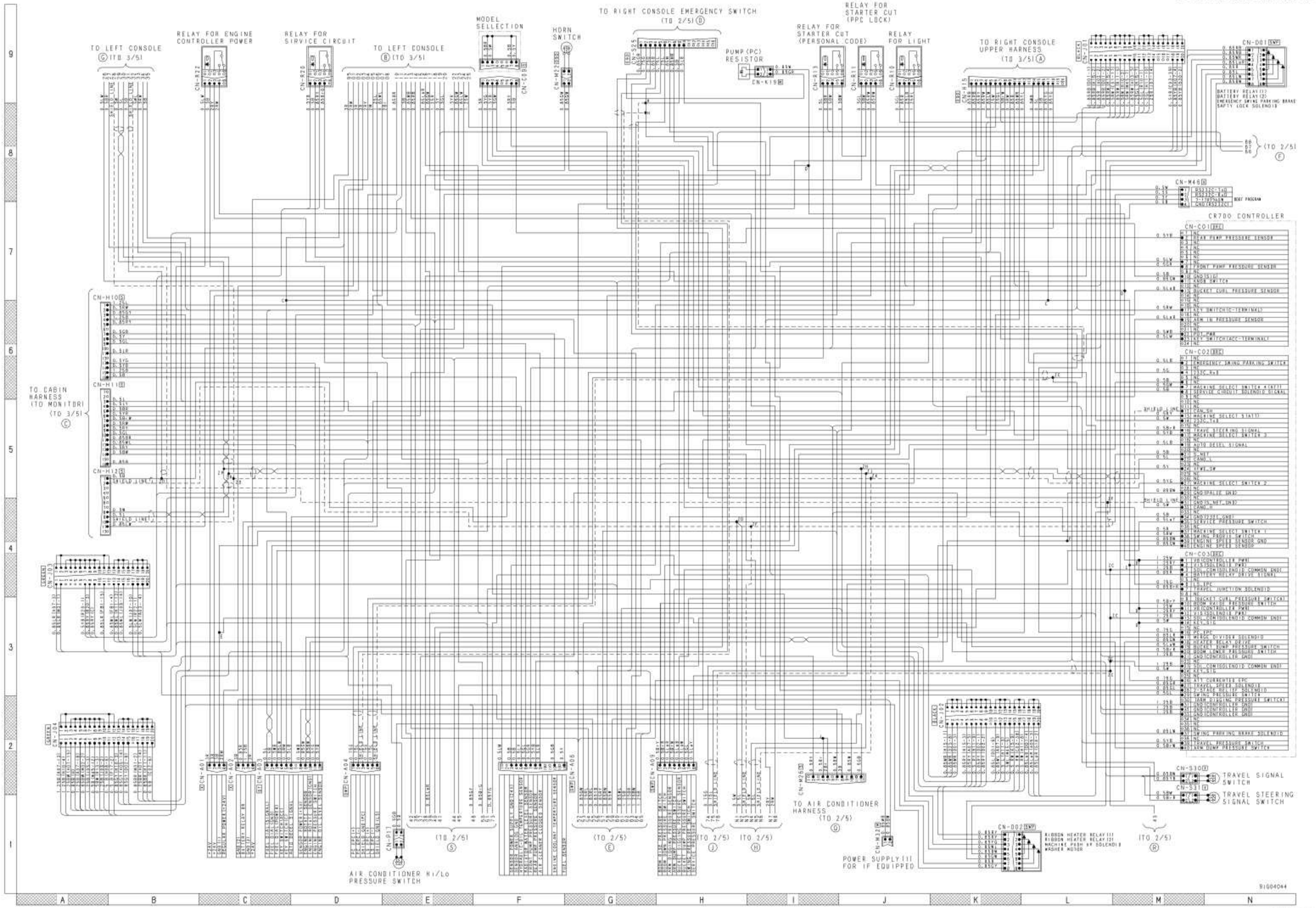
Model	PC400-450-7E0	Serial#	Equip#	Work Order No	
Location		SMR		Wet,AR,HD or Dry	DRY
Soil condition		Dealer		Shoe width (mm)	
Working condition		Inspector		Shoe type	TRIPLE
		Insp.Date(yyyy/mm/dd)		Wear type	NORMAL

			New	100% Wear	Measured mm	Wear %	SMR New	SMR Rebuilt	Hours or Parts:	Comments/Observation
LINK PITCH	R	LH	915.6	927.6						
		RH	915.6	927.6						
	M	LH	228.90	231.90						
		RH	228.90	231.90						
LINK HEIGHT		LH	129.0	119.0						
		RH	129.0	119.0						
BUSHING		LH	71.5	66.5			New	Turned		
		RH	71.5	66.5			New	Turned		
GROUSER HIGHT		LH	37.0	22.0						
		RH	37.0	22.0						
CARRIER ROLLER	Front	LH	148.0	134.0						
		RH	148.0	134.0						
	Rear	LH	148.0	134.0						
		RH	148.0	134.0						
IDLER	Front	LH	22.0	28.0						
		RH	22.0	28.0						
	Rear	LH	22.0	28.0						
		RH	22.0	28.0						
TRACK ROLLER	1	LH	200.0	188.0						
	2	LH	200.0	188.0						
	3	LH	200.0	188.0						
	4	LH	200.0	188.0						
	5	LH	200.0	188.0						
	6	LH	200.0	188.0						
	7	LH	200.0	188.0						
	8	LH	200.0	188.0						
	9	LH	200.0	188.0						
	10	LH	200.0	188.0						
D=2(h1- h2)	1	RH	200.0	188.0						
	2	RH	200.0	188.0						
	3	RH	200.0	188.0						
	4	RH	200.0	188.0						
	5	RH	200.0	188.0						
	6	RH	200.0	188.0						
	7	RH	200.0	188.0						
	8	RH	200.0	188.0						
	9	RH	200.0	188.0						
	10	RH	200.0	188.0						
SPROCKET		LH	0.0	6.0						
		RH	0.0	6.0						

Remarks:

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Electrical circuit diagram (1/5)



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