SEN04597-07

Shop Manual

HYDRAULIC
EXCAVATOR

PC45MR-3
PC55MR-3

SERIAL NUMBERS PC45MR- 5001 and up
PC55MR-15001

KOMATSU®

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Composition of shop manual

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:
- File overview and other materials in sections in the order shown below and utilize them accordingly.

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00 Index and foreword	SEN04598-07	
100 Index	SEN04599-07	●
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100 Specification and technical data	SEN04602-00	
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300 Undercarriage and frame	SEN04606-00	
410 Hydraulic system, Part 1	SEN04607-03	
420 Hydraulic system, Part 2	SEN04608-01	
430 Hydraulic system, Part 3	SEN04609-01	
500 Work equipment	SEN04610-01	●
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Machine model				PC45MR-3	
				Canopy specification	Cab specification
Serial number				5001 and up	
Engine		Model		4D88E-6	
		Type		4-cycle, water cooled, in-line direct injection type	
		No. of cylinders – bore x stroke	mm	4 – 88 × 90	
		Piston displacement	l {cc}	2.189 {2,189}	
	Performance	Flywheel horsepower	kW/rpm {HP/rpm}	28.5 / 2,400 {38.2 / 2,400}	
		Maximum torque	Nm/rpm {kgm/rpm}	137 / 1,440 {14.0 / 1,440}	
		High idle speed	rpm	2,550	
		Low idle speed	rpm	1,175	
		Starting motor		12 V, 2.3 kW	
		Alternator		12 V, 40 A	
		Battery (*1)		12 V, 72 Ah × 1 (115D31L)	
		Radiator • Core type		CF68-4	
Undercarriage		Carrier roller		1 on each side	
		Track roller		4 on each side	
		Track shoe (Rubber shoe)		Unit-type rubber crawler	
		Track shoe (Steel shoe)		Assembly-type double grouser: 39 each side	
Hydraulic system	Hydraulic pump	Type x no.		Variable displacement piston type × 1, gear type × 1	
		Theoretical capacity	cm³/rev	22.3 × 2 + 14.1 + 5.2	
		Set pressure			
		For travel, work equipment	MPa {kg/cm²}	26.5 {270}	
		For swing	MPa {kg/cm²}	18.6 {190}	
		For blade	MPa {kg/cm²}	21.6 {220}	
	Control valve	Type x no.		9-spool type × 1	
		Control method		Hydraulic assist type	
	Hydraulic motor	Travel motor		Variable-displacement piston motor (with counter-balance valve, parking brake) × 2	
		Swing motor		Fixed-displacement piston motor (with brake valve, swing shaft brake) × 1	
		Hydraulic tank		Box-shaped, open type	
		Hydraulic oil filter		Tank return side	
		Hydraulic oil cooler		Air cooled (CF40-1)	

*1: The battery capacity (Ah) is based on 5-hour rate.

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Failure code [DBH1KK] Unswitched power supply error

User code	Failure code	Trouble	Unswitched power supply error
E504	**DBH1KK**		
Contents of trouble	• Low voltage occurred in power supply voltage circuit of controller.		
Action of machine monitor	• None in particular (Input signal cannot be detected normally).		
Problem that appears on machine	• Ordinary operation can be performed under unstable input and output conditions.		
Related information	• Failure code recurrence method : Turn starting switch to ON position.		

	Cause		Standard value in normal state/Remarks on troubleshooting		
Possible causes and standard value in normal state	1	Low battery charge level	Battery voltage	Battery proportion	
			Min. 12 V	Min. 1.26 V	
	2	Defective fuse No. 19 in fuse box (FB1) or fusible link M4	If fuse (10 A) or fusible link (45 A) is broken, circuit probably has ground fault. If monitor panel does not light up, check power supply circuit from battery to fuse, too.		
	3	Disconnection in wiring harness (Disconnection or defective contact in connector)	★ Be ready with starting switch OFF, then perform troubleshooting without turning starting switch ON.		
			Wiring harness between FB1-(19) outlet and D2 (female) (116), (118), or (121)	Resistance	Max. 1 Ω
	4	Ground fault of wiring harness (Contact with ground circuit)	★ Be ready with starting switch OFF, then perform troubleshooting without turning starting switch ON.		
			Between ground and wiring harness FB1-(19) outlet - D2 (female) (116), (118), or (121)	Resistance	Min. 1 MΩ

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	Causes		Standard value in normalcy and references for troubleshooting		
Possible causes and standard value in normal state	7	Short circuit with chassis ground in wiring harness (Contact with ground circuit)	1) Turn starting switch OFF. 2) Disconnect related connector. 3) Set PPC lock switch in LOCK.		
			Between wiring harness between fuse (17), F1 (1) and M13 (female) (1) or M22 (female) (4) or M20 (female) (1) and ground	Resistance	Min. 1 MΩ
			Between wiring harness between M13 (female) (2) and M21 (female) (1) and ground	Resistance	Min. 1 MΩ
			Between wiring harness between M22 (female) (1) and M19 (female) (1) and ground	Resistance	Min. 1 MΩ
			Between wiring harness between M22 (female) (2) and M19 (female) (2) and ground	Resistance	Min. 1 MΩ

★ For the related circuit diagram, see 1).

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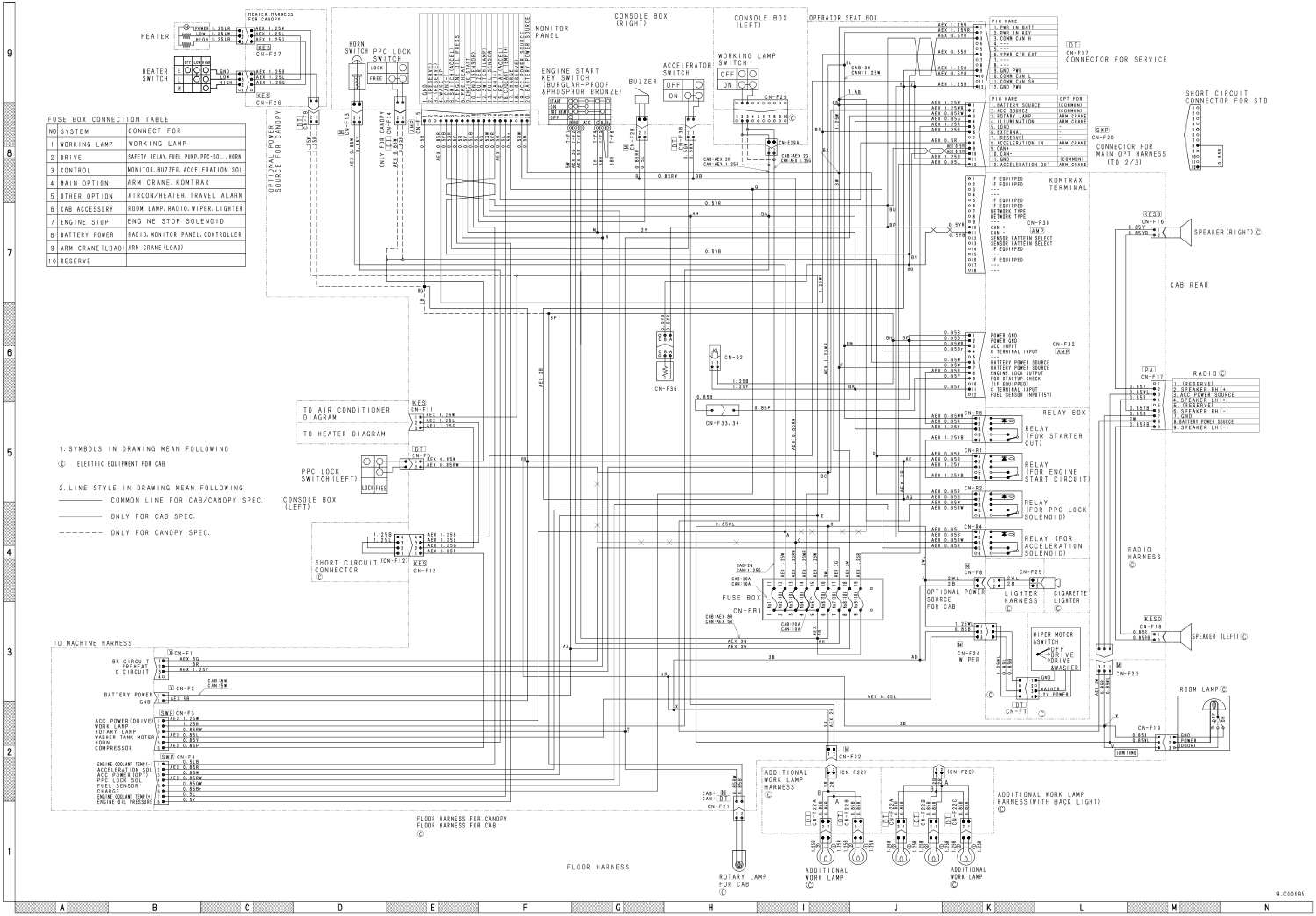
Electrical circuit diagram (1/3)

PC45MR-3, PC55MR-3

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

FUSE BOX CONNECTION TABLE

NO	SYSTEM	CONNECT FOR
1	WORKING LAMP	WORKING LAMP
2	DRIVE	SAFETY RELAY, FUEL PUMP, PPC-SOL., HORN
3	CONTROL	MONITOR, BUZZER, ACCELERATION SOL
4	MAIN OPTION	ARM CRANE, KOMTRAX
5	OTHER OPTION	AIRCON/HEATER, TRAVEL ALARM
6	CAB ACCESSORY	ROOM LAMP, RADIO, WIPER, LIGHTER
7	ENGINE STOP	ENGINE STOP SOLENOID
8	BATTERY POWER	RADIO, MONITOR PANEL, CONTROLLER
9	ARM CRANE (LOAD)	ARM CRANE (LOAD)
10	RESERVE	



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