SEN04306-04

Shop Manual

HYDRAULIC
EXCAVATOR

PC18MR-3

SERIAL NUMBERS 20001 and up

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.

Section Title	Form Number	
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00 Index and foreword	SEN04307-04	
100 Index	SEN04308-04	●
200 Foreword and general information	SEN04309-00	
01 Specification	SEN04310-01	
100 Specification and technical data	SEN04311-01	●
10 Structure, function and maintenance standard	SEN04312-01	
100 Engine and cooling system	SEN04313-00	
200 Power train	SEN04314-01	●
300 Undercarriage and frame	SEN04315-00	
410 Hydraulic system, Part 1	SEN04316-00	
420 Hydraulic system, Part 2	SEN04317-00	
430 Hydraulic system, Part 3	SEN04318-01	●
500 Work equipment	SEN04319-00	
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50 Disassembly and assembly	SEN04325-00	
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200 Engine and cooling system	SEN04621-00	
300 Power train	SEN04622-00	

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400 Undercarriage and frame SEN04623-00
500 Hydraulic system SEN04624-00
600 Work equipment SEN04625-00
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Machine model					PC18MR-3 Canopy specification
Serial number					20001 and up
Hydraulic system	Work equipment cylinder	Boom cylinder	Cylinder type	mm	Double acting piston
			Inside diameter of cylinder		60
			Outside diameter of piston rod		35
			Stroke		355
			Max. distance between pins		985
			Min. distance between pins		630
		Arm cylinder	Cylinder type	mm	Double acting piston
			Inside diameter of cylinder		55
			Outside diameter of piston rod		35
			Stroke		447
			Max. distance between pins		1,153
			Min. distance between pins		706
		Bucket cylinder	Cylinder type	mm	Double acting piston
			Inside diameter of cylinder		50
			Outside diameter of piston rod		30
			Stroke		378
			Max. distance between pins		1,027
			Min. distance between pins		649
		Boom swing cylinder	Cylinder type	mm	Double acting piston
			Inside diameter of cylinder		60
			Outside diameter of piston rod		30
			Stroke		282
			Max. distance between pins		889
			Min. distance between pins		597
		Blade cylinder	Cylinder type	mm	Double acting piston
			Inside diameter of cylinder		65
			Outside diameter of piston rod		35
			Stroke		100
			Max. distance between pins		460
			Min. distance between pins		360
		Variable gauge cylinder	Cylinder type	mm	Double acting piston
			Inside diameter of cylinder		50
			Outside diameter of piston rod		30
			Stroke		293
			Max. distance between pins		820
			Min. distance between pins		527

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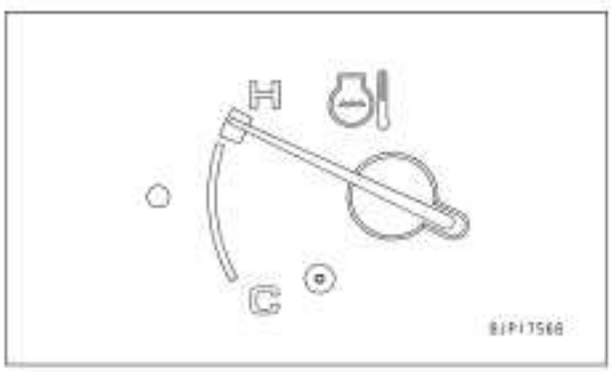
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2) The pointer of the gauge does not move from H on the panel

Failure information	• When the starting switch is turned ON, the pointer of the gauge does not move from H on the panel.
Relative information	• Check that the coolant temperature is normal. • Refer to troubleshooting E-3, too.

	Causes		Standard value in normalcy and references for troubleshooting		
Presumed cause and standard value in normalcy	1	Disconnection in wiring harness (Disconnection in wiring harness or defective contact in connector)	1) Turn starting switch OFF. 2) Disconnect connectors M6 and F7. 3) Connect T-adapter to M6 (female) and F7 (female).		
			Wiring harness between F7 (female) (10) or M6 (female) (1) and ground	Resistance	Min. 1 MΩ
			Wiring harness between F7 (female) (16) or M6 (female) (2) and ground	Resistance	Min. 1 MΩ
	2	Defective coolant temperature sensor	1) Turn starting switch OFF. 2) Disconnect connector M6. 3) Connect T-adapter to M6 (male).		
			M6 (male)	Temperature	Resistance
			Between (1) and (2)	25°C	38.18 – 47.77 kΩ
				30°C	31.59 – 39.07 kΩ
				80°C	6.199 – 6.935 kΩ
				85°C	5.386 – 5.975 kΩ
				90°C	4.695 – 5.166 kΩ
				95°C	4.107 – 4.483 kΩ
				100°C	3.604 – 3.903 kΩ
				105°C	3.157 – 3.426 kΩ
	3	Defective monitor panel	If the wiring harness and coolant temperature sensor are normal, the monitor panel is defective.		

★ For the related circuit diagram, see 1).



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H-30 Troubleshooting for hydraulic breaker

Failure information	(1) Breaker does not strike.
Relative information	• Before carrying out troubleshooting, check that hydraulic tank oil level is normal.

		Cause	Standard value in normalcy and references for troubleshooting
Presumed cause and standard value in normalcy	1	Malfunction of control valve	Disassemble and check that valve body and control valve slide normally.
	2	Breakage of control valve	Replace.
	3	Low hydraulic oil level	Add.
	4	Loosened mounting nuts of valve body assembly and front end assembly	Retighten.

Failure information	(2) Blow impact and blow frequency are low.
Relative information	• Before carrying out troubleshooting, check that hydraulic tank oil level is normal.

		Cause	Standard value in normalcy and references for troubleshooting
Presumed cause and standard value in normalcy	1	Low engine speed	Increase engine speed.
	2	Malfunction of control valve	Disassemble and check that valve body and control valve slide normally.
	3	Seized chisel	Remove chisel and repair seized part (apply grease).
	4	Improper setting of chisel	Press chisel straight.

Failure information	(3) Blow frequency is normal but blow impact is low.
Relative information	• Before carrying out troubleshooting, check that hydraulic tank oil level is normal.

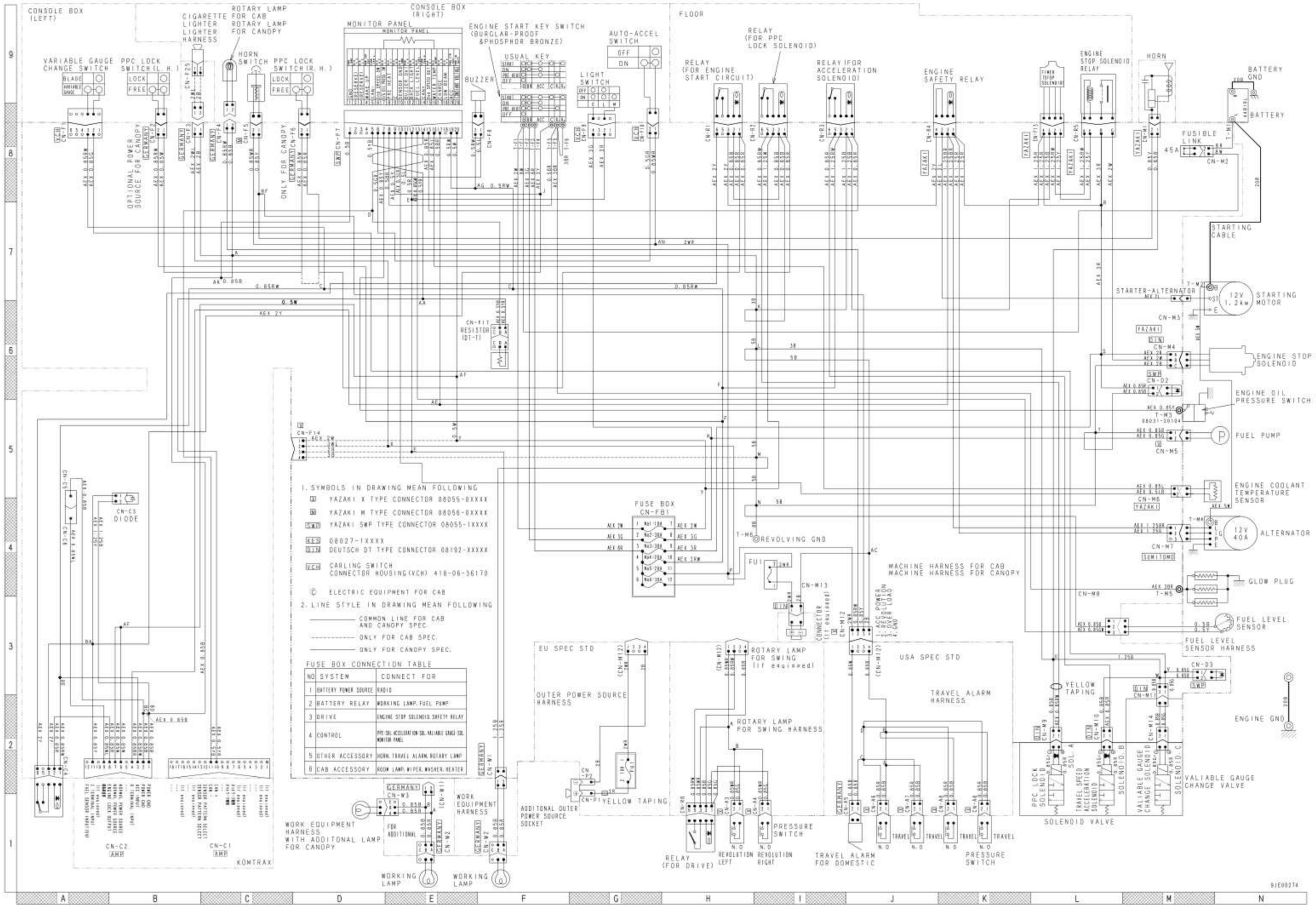
		Cause	Standard value in normalcy and references for troubleshooting	
Presumed cause and standard value in normalcy	1	Low accumulator gas pressure	Add nitrogen gas.	
			Gas pressure	5.4 MPa (55 kg/cm²)
	2	Broken accumulator diaphragm	Replace.	

Failure information	(4) Much oil or little black oil leaks through chisel socket.
Relative information	—

		Cause	Standard value in normalcy and references for troubleshooting
Presumed cause and standard value in normalcy	1	Worn U-packing	Replace.
	2	Damaged U-packing	Remove flaws of hammer piston and replace packing.
	3	Grease leakage	This is not abnormal phenomenon.

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Electrical circuit diagram



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