SEN04543-12

Shop Manual

HYDRAULIC
EXCAVATOR

PC78US-8

SERIAL NUMBERS 15001 and up

ecot3

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 Tab 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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Shop Manual, contents binder, binder label and tabs	SEN04543-12	
00 Index and foreword	SEN04544-12	
100 Index	SEN04552-12	●
200 Foreword and general information	SEN04553-02	
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100 Specification and technical data	SEN04554-01	
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300 Undercarriage and frame	SEN04557-00	
401 Hydraulic system, Part 1	SEN04558-00	
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403 Hydraulic system, Part 3	SEN04560-02	●
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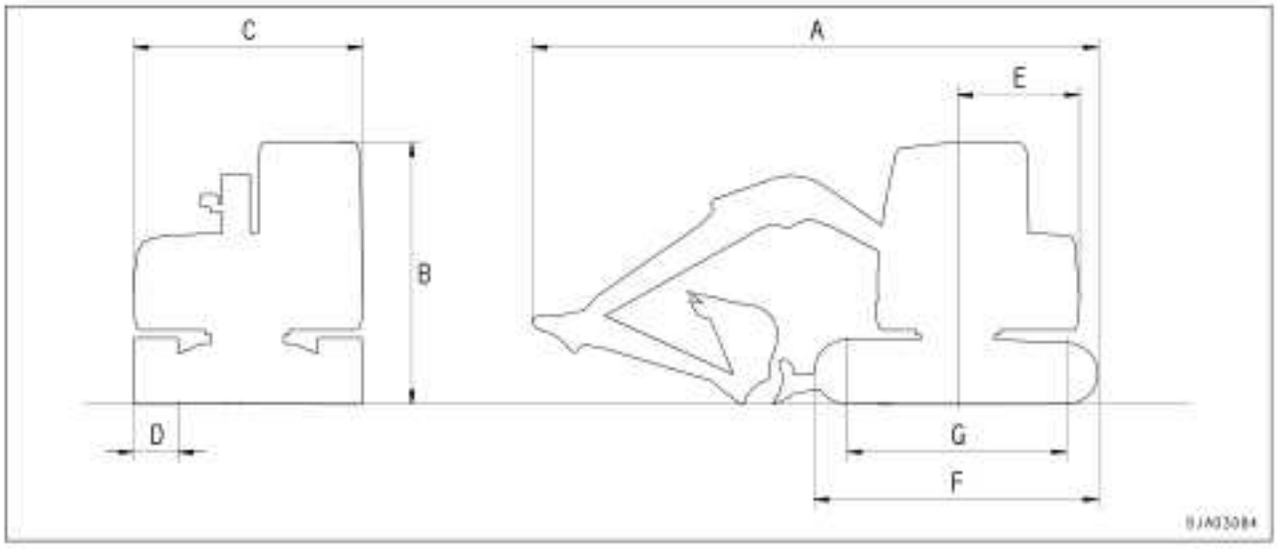
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Specification dimension drawing



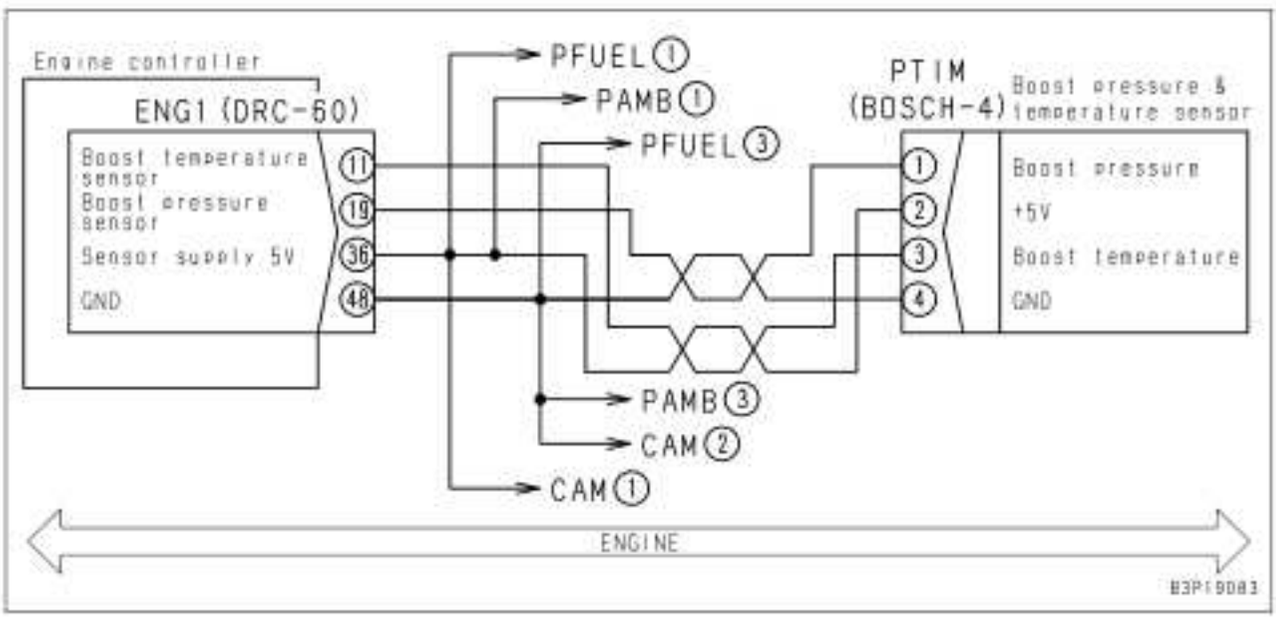
	Item	Unit	PC78US-8	
			1,650 mm arm	2,250 mm arm
	Machine weight (with reinforced blade)	kg	7,290	7,340
	Bucket capacity	m³	0.28	0.20
	Engine type	—	Komatsu SAA4D95LE-5 Diesel engine	
	Engine rated output • Net [ISO 9249/SAE J1349] • Gross [SAE J1995]	kW{HP}/rpm	41 {55}/1,950 42.8 {57}/1,950	
A	Overall length	mm	5,770	5,785
B	Overall height	mm	2,730	
C	Overall width	mm	2,330	
D	Shoe width	mm	450	
E	Tail swing radius	mm	1,240	
F	Crawler overall length	mm	2,840	
G	Distance between tumbler center	mm	2,235	
	Min. ground clearance	mm	360	
	Travel speed (Low/High)	km/h	2.9/5.0	
	Continuous swing speed	rpm	10.0	

★ The engine rated output is indicated in the net value and gross value. Gross denotes the rated output measured of an independent engine. While, net denotes the value measured of an engine under the condition essentially the same as that when it is installed on machine.

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	Causes		Standard value in normal state/Remarks on troubleshooting		
Possible causes and standard value in normal state	5	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 ENG1 (female) (19) – PTIM (female) (1) and wiring harness between ENG1 (female) (36) – PTIM (female) (2)	Resistance	Min. 1 MΩ
			Wiring harness between ENG1 (female) (19) – PTIM (female) (1) and wiring harness between ENG1 (female) (48) – PTIM (female) (4)	Resistance	Min. 1 MΩ
			Wiring harness between ENG1 (female) (36) – PTIM (female) (2) and wiring harness between ENG1 (female) (48) – PTIM (female) (4)	Resistance	Min. 1 MΩ
	6	Defective engine controller	★ Prepare with starting switch OFF, then turn starting switch ON and carry out troubleshooting.		
			ENG1		Voltage
			Between (36) – (48)	Power supply	4.75 – 5.25 V

Related circuit diagram



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Failure code [DW45KB] Swing brake sol short

User code	Failure code	Trouble	Swing holding brake solenoid system short (Pump controller system)
E03	**DW45KB**		
Contents of trouble	• When output to swing holding brake solenoid was turned ON, short circuit was detected in circuit.		
Action of controller	• Turns output to swing holding brake solenoid OFF. • Even if cause of failure disappears, system does not reset itself until starting switch is turned OFF.		
Problem that appears on machine	• Machine cannot swing (Swing holding brake is not reset).		
Related information	• If solenoid and wiring harness are normal, operator can swing machine by setting swing holding brake release switch in release position (Swing holding brake does not work, however, when machine stops). • Keep swing holding brake release switch in release position during troubleshooting. • Operating condition of swing holding brake solenoid can be checked with monitoring function. (Code: **02300** Solenoid 1) • Method of reproducing failure code: Start engine → Swing with left work equipment control lever.		

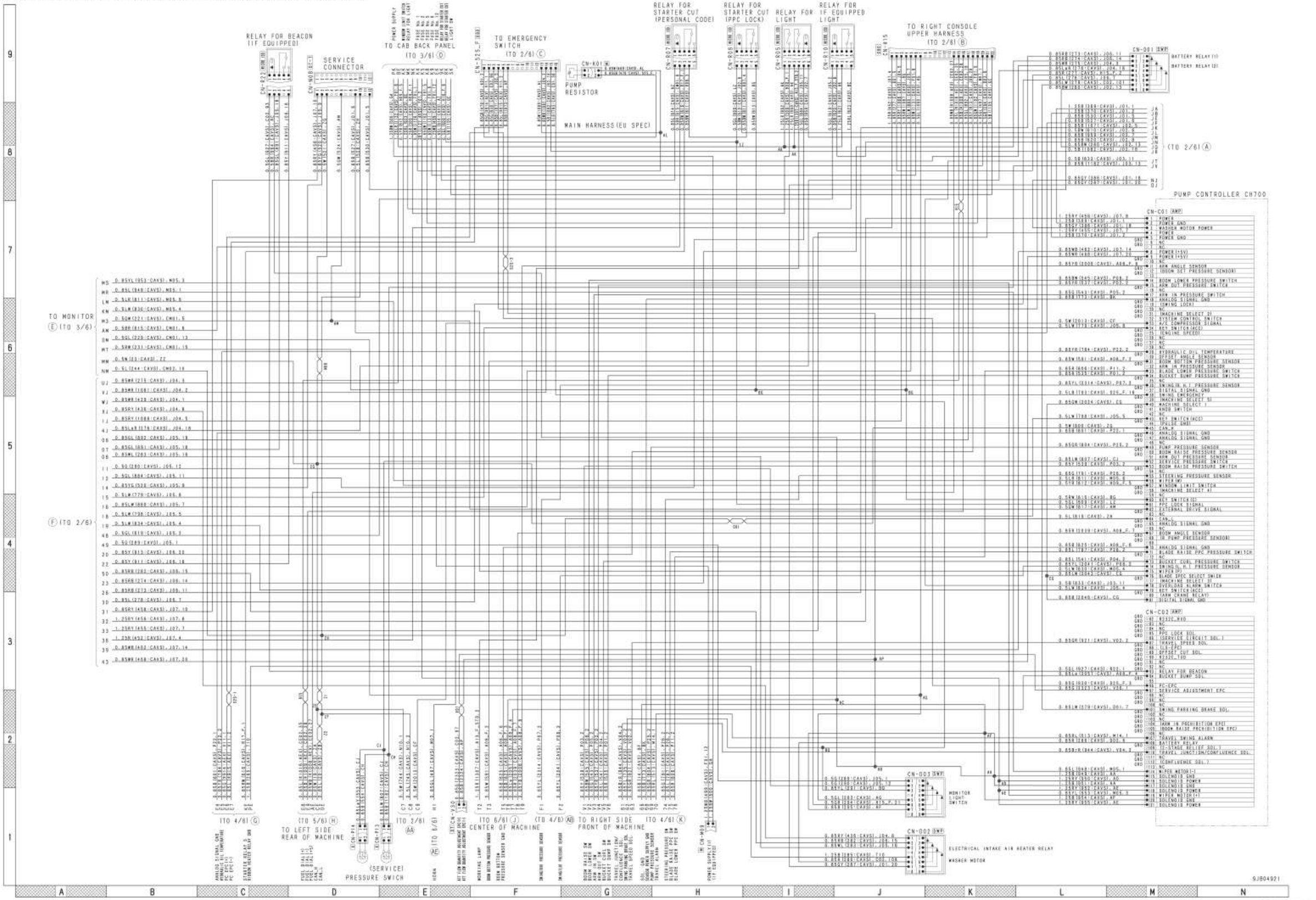
	Cause		Standard value in normal state/Remarks on troubleshooting			
Possible causes and standard value in normal state	1	Defective swing holding brake solenoid (Internal short circuit or ground fault)	★ Prepare with starting switch OFF, then carry out troubleshooting without turning starting switch ON.			
			V03 (male)		Resistance	
			Between (1) – (2)		20 – 60 Ω	
			Between (1) – chassis ground		Min. 1 MΩ	
	2	Ground fault 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 C02 (female) (101) – D01 – J04 – V03 (female) (2), – S25 (female) (14)		Resistance	Min. 1 MΩ
	3	Defective pump controller	★ Prepare with starting switch OFF, then carry out troubleshooting without turning starting switch ON.			
			C02 (female)	Disconnect D01 and connect pins (3) and (7) on female side directly.	Resistance	
			Between (101) – (115), (117), (120)		20 – 60 Ω	
			Between (101) – chassis ground		Min. 1 MΩ	

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Electrical circuit diagram (1/6)

PC78US-8 (EU specification)

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



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