SEN01968-14

Shop Manual

HYDRAULIC
EXCAVATOR

PC138US -8
PC138USLC-8

SERIAL NUMBERS PC138US- 20001 and up
PC138USLC- 20001

ecot3

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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.

Section Title	Form Number	
Shop Manual, contents binder, binder label and tabs	SEN01968-14	
00 Index and foreword	SEN01969-14	
Index	SEN01977-14	●
Foreword and general information	SEN01978-02	
01 Specification	SEN01970-02	
Specification and technical data	SEN01979-02	
10 Structure, function and maintenance standard	SEN01971-05	
Engine and cooling system	SEN02545-01	
Power train	SEN02546-01	
Undercarriage and frame	SEN02547-01	
Hydraulic system, Part 1	SEN02548-01	
Hydraulic system, Part 2	SEN02549-02	
Hydraulic system, Part 3	SEN02550-03	●
Work equipment	SEN02551-00	
Cab and its attachments	SEN02552-01	
Electrical system	SEN02553-02	
20 Standard value table	SEN01972-04	
Standard service value table	SEN02457-04	
30 Testing and adjusting	SEN01973-08	
Testing and adjusting, Part 1	SEN02458-05	●
Testing and adjusting, Part 2	SEN02459-05	
Testing and adjusting, Part 3	SEN02460-02	
40 Troubleshooting	SEN01974-03	
Failure code table and fuse locations	SEN02461-03	
General information on troubleshooting	SEN02462-01	
Troubleshooting by failure code, Part 1	SEN02463-02	
Troubleshooting by failure code, Part 2	SEN02464-03	
Troubleshooting by failure code, Part 3	SEN02465-01	
Troubleshooting by failure code, Part 4	SEN02466-01	
Troubleshooting of electrical system (E-mode)	SEN02467-01	

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Troubleshooting of hydraulic and mechanical system (H-mode) SEN02468-01
Troubleshooting of engine (S-mode) SEN02469-01

50 Disassembly and assembly SEN01975-07
General information on disassembly and assembly SEN02709-02
Engine and cooling system SEN02710-02
Power train SEN02711-02
Undercarriage and frame SEN02712-02
Hydraulic system ..... SEN02713-01 ●
Work equipment Body SEN02714-01
Cab and its attachments SEN02715-02
Electrical system SEN02716-02

90 Diagrams and drawings SEN01976-02
Hydraulic circuit diagram SEN01980-00
Electrical diagrams and drawings SEN01981-02

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Table of contents

00 Index and foreword
Index SEN01977-14
Composition of shop manual 2
Table of contents 4

Foreword and general information SEN01978-02
Safety notice 2
How to read the shop manual 7
Explanation of terms for maintenance standard 9
Handling of electric equipment and hydraulic component 11
Handling of connectors newly used for engines 20
How to read electric wire code 23
Precautions when carrying out operation 26
Method of disassembling and connecting push-pull type coupler 29
Standard tightening torque table 32
Conversion table 36

01 Specification
Specification and technical data SEN01979-02
Specification dimension drawing 2
Working range diagram 3
Specifications 4
Weight table 10
Table of fuel, coolant and lubricants 14

10 Structure, function and maintenance standard
Engine and cooling system SEN02545-01
Engine mount 2
PTO 3
Cooling system 4
Power train SEN02546-01
Power train 2
Swing circle 3
Swing machinery 4
Undercarriage and frame SEN02547-01
Track frame 2
Idler cushion 4
Idler 6
Track roller 7
Carrier roller 8
Sprocket 9
Track shoe 10
Hydraulic system, Part 1 SEN02548-01
Hydraulic equipment layout drawing 2
Valve control 4
Hydraulic tank and filter 6
Hydraulic pump 8
Hydraulic system, Part 2 SEN02549-02
Control valve 2
CLSS 14
Functions and operation by valve 18
Hydraulic system, Part 3 SEN02550-03
PPC valve 2

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Applicable model					PC138US-8	
Category	Item		Test conditions	Unit	Standard value for new machine	Service limit value
Work equipment	Time lag	Boom	• For testing posture, see **Work equipment 6** • Engine at low idle • Hydraulic oil temperature: 45 – 55°C • Fully retract arm and bucket cylinders, then lower boom from maximum height and test time taken from point where bucket contacts ground to point where chassis rises from ground.	sec.	Max. 3	Max. 3
		Arm	• For testing posture, see **Work equipment 7** • Engine at low idle • Hydraulic oil temperature: 45 – 55°C • Set top surface of boom horizontal, retract bucket cylinder fully, then extend arm cylinder and test time taken for arm to start moving again after stopping at bottom.		Max. 2	Max. 2
		Bucket	• For testing posture, see **Work equipment 8** • Engine at low idle • Hydraulic oil temperature: 45 – 55°C • Set top surface of boom horizontal, retract arm cylinder fully, then extend bucket cylinder and test time taken for bucket to start moving again after stopping at bottom.		Max. 2	Max. 2
		Blade	• For testing posture, see **Work equipment 9** • Engine at low idle • Hydraulic oil temperature: 45 – 55°C • Lower blade from maximum height and test time taken from point where blade contacts ground to point where chassis rises from ground.		Max. 2	Max. 2
	Internal leakage level	Each cylinder	• Hydraulic oil temperature: 45 – 55°C • Engine at high idle • Circuit to be tested is relieved.	cc/min	Max. 3.5	Max. 15
		Center swivel joint			Max. 10	Max. 50

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Failure code [CA731] Eng. Bkup speed sensor phase error

User code	Failure code	Trouble	Eng. Bkup speed sensor phase error (Engine controller system)
E15	**CA731**		
Contents of trouble	• Engine Bkup speed sensor circuit detected abnormality in phase.		
Action of controller	• Controls with signals of engine Ne speed sensor.		
Problem that appears on machine	• Running engine stops (when Ne speed sensor is also abnormal). • Stopped engine cannot be started (when Ne speed sensor is also abnormal).		
Related information	• Method of reproducing failure code: Start engine.		

Possible causes and standard value in normal state	Cause		Standard value in normal state/Remarks on troubleshooting
	1	Defective engine Ne speed sensor system	Engine Ne speed sensor may be defective. Carry out trouble-shooting for failure code [**CA698**].
	2	Defective engine Bkup speed sensor system	Engine Bkup speed sensor may be defective. Carry out trouble-shooting for failure code [**CA778**].

Failure code [CA757] All persistent data lost error

User code	Failure code	Trouble	All persistent data lost error (Engine controller system)
E10	**CA757**		
Contents of trouble	• All data in engine controller are lost.		
Action of controller	• None in particular.		
Problem that appears on machine	• Engine continues operation normally, but it may stop during operation or may not be able to start.		
Related information	• Method of reproducing failure code: Turn starting switch ON.		

Possible causes and standard value in normal state	Cause	Standard value in normal state/Remarks on troubleshooting
	Carry out troubleshooting for failure code [**CA111**].	

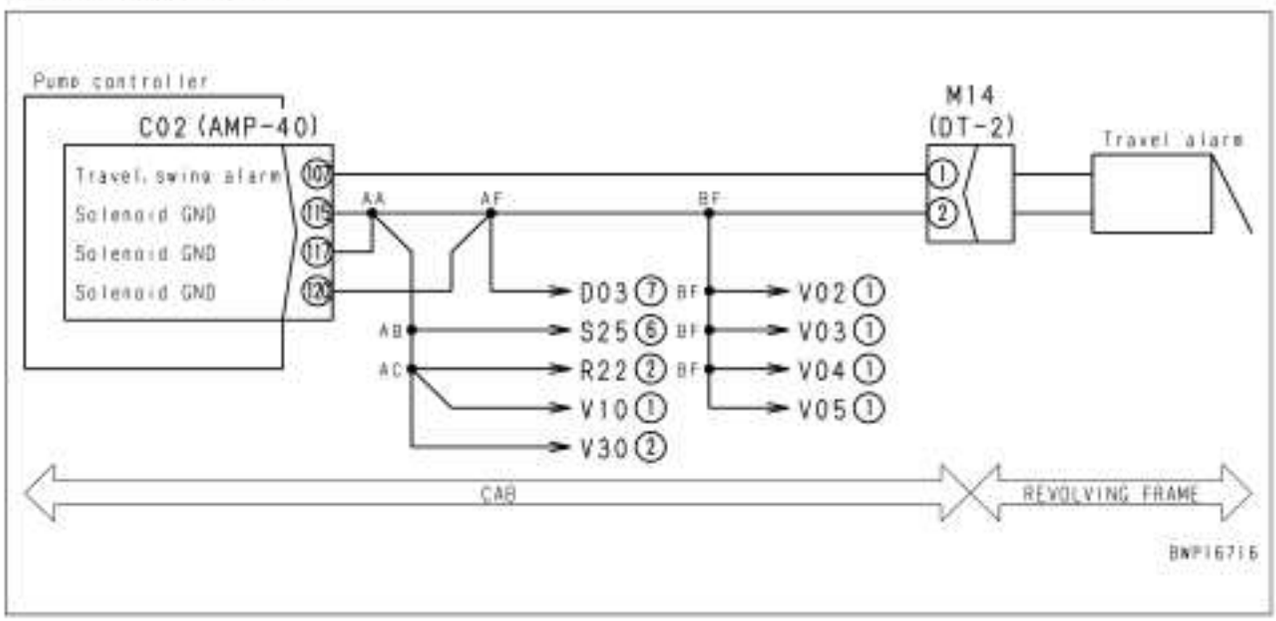
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E-21 Travel alarm does not sound or does not stop sounding

Trouble	• Alarm does not sound during travel. • Alarm does not stop sounding while machine is stopped.
Related information	

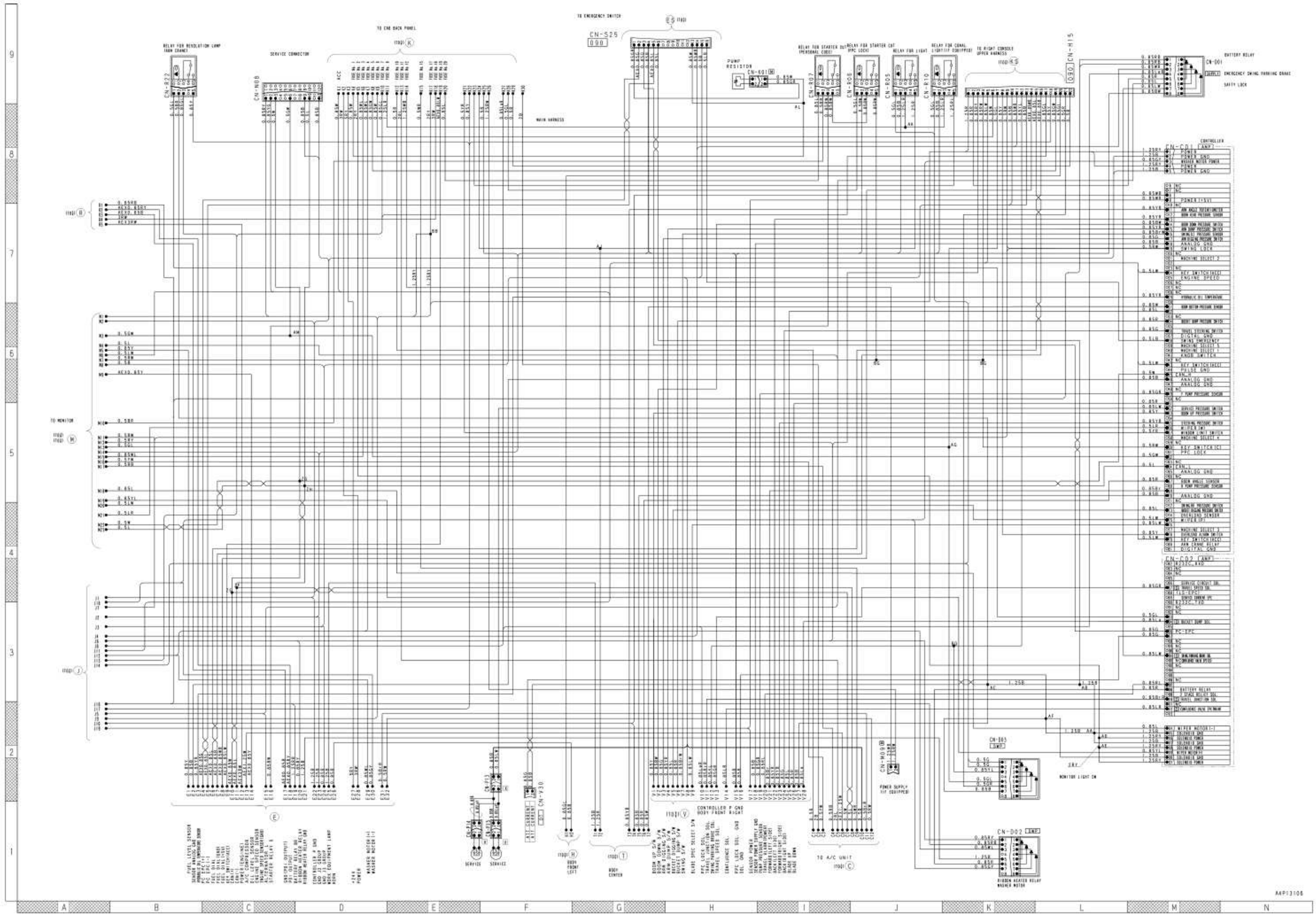
Possible causes and standard value in normal state		Cause	Standard value in normal state/Remarks on troubleshooting		
	1	Disconnection in wiring harness (Disconnection in wiring or defective contact in connector)	★ Prepare with starting switch OFF, then carry out troubleshooting without turning starting switch ON.		
			Wiring harness between C02 (female) (107) – M14 (female) (1)	Resistance	Max. 1 Ω
			Wiring harness between C02 (female) (115) (117) (120) – M14 (female) (2)	Resistance	Max. 1 Ω
	2	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 C02 (female) (107) – M14 (female) (1)	Resistance	Min. 1 MΩ
	3	Defective travel alarm (Internal defect)	If causes 1, 2 are not detected, travel alarm is defective.		

Circuit diagram related



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Electrical circuit diagram (1/6)



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