SEN03979-03

Shop Manual

WHEEL LOADER

WA250 -6
WA250PZ-6

SERIAL NUMBERS

WA250- 75001 and up
WA250PZ- 75001

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 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	
Shop Manual, contents binder, binder label and tabs	SEN03979-03	
00 Index and foreword	SEN03980-03	
100 Index	SEN03988-03	●
200 Foreword and general information	SEN03989-01	
01 Specification	SEN03981-01	
100 Specification and technical data	SEN03990-01	
10 Structure, function and maintenance standard	SEN03982-02	
100 Engine and cooling system	SEN03991-01	
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300 Steering system	SEN03993-00	
400 Brake system	SEN03994-00	
500 Undercarriage and frame	SEN03995-00	
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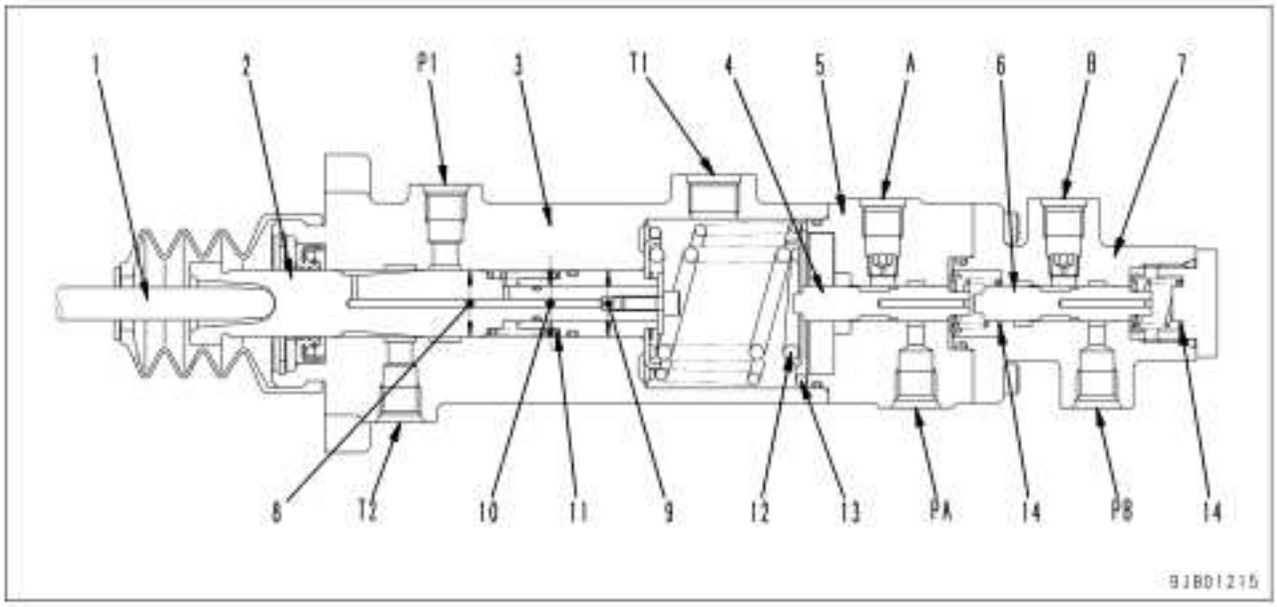
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Brake valve



P1: From HST pump
T1: To hydraulic tank
T2: To steering pump (suction side)
PA: From accumulator (rear side)

A: To Rear brake
PB: From accumulator (front side)
B: To front brake

1. Rod
2. Inching valve spool
3. Inching valve body
4. Brake valve spool (for rear)
5. Brake valve body (for rear)
6. Brake valve spool (for front)
7. Brake valve body (for front)

Unit: mm

No.	Check item	Criteria					Remedy
8	Clearance between inching valve spool and body	Standard size	Tolerance		Standard clearance	Clearance limit	Replace
			Shaft	Hole			
		22.4	−0.022 −0.053	+0.033 0	0.020 – 0.086	0.096	
9	Clearance between inching valve guide and body	22.4	−0.022 −0.053	+0.033 0	0.020 – 0.086	0.096	
10	Clearance between inching valve spool and guide	12	−0.050 −0.093	+0.050 0	0.050 – 0.143	0.157	
11	Inching valve control spring	Standard size			Repair limit		
		Free length	Installed length	Installed load	Free length	Installed load	
		34.7	16.7	24.5 N {2.5 kg}	—	20.8 N {2.1 kg}	
12	Brake valve control spring	35.6	24.0	113 N {11.5 kg}	—	96 N {9.8 kg}	
13	Inching valve return spring	50.0	49.5	19.6 N {2.0 kg}	—	16.7 N {1.7 kg}	
14	Brake valve return spring	114.9	52.4	147 N {15.0 kg}	—	125 N {12.7 kg}	

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Failure code [DAJ2L3] HST controller load power supply holding line: Hot short in wiring harness

Action code	Failure code	Trouble	HST controller load power supply holding line: Hot short in wiring harness (HST controller system)
E01	**DAJ2L3**		
Contents of trouble	• Hot short was detected in HST controller load power supply holding line. (When output command was ON, output terminal voltage above 5.7 V was detected.)		
Action of machine monitor	• Turns output OFF (Control protection function works).		
Problem that appears on machine	• If starting switch is turned OFF without applying parking brake securely on slope, machine moves down suddenly. • If starting switch is turned OFF while fan is rotating in reverse, peak pressure may occur.		
Related information			

Possible causes and standard value in normal state		Causes	Standard value in normal state/Remarks on troubleshooting			
	1	Defective VIS power supply holding relay (Internal defect)	★ Prepare with starting switch OFF, then turn starting switch ON and carry out troubleshooting.			
			Replace VIS power supply holding relay (L102) with another relay.	Condition becomes normal.	Relay (L102) is defective.	
				Condition does not become normal.	Relay (L102) is normal.	
			★ Prepare with starting switch OFF, then carry out troubleshooting without turning starting switch ON.			
			Between L102 (male) (1) – (2)		Resis-tance	200 – 400 Ω
	2	Hot short (Contact with 5V, 24V circuit) in wiring harness	★ Prepare with starting switch OFF, then turn starting switch ON and carry out troubleshooting.			
			Between wiring harness HST (female) (7) – L102 (female) (2) and ground		Voltage	Max. 1 V
	3	Defective HST controller	★ Prepare with starting switch OFF, then turn starting switch ON and carry out troubleshooting.			
			HST		Voltage	
			Between (7) – ground		Max. 1 V	

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Failure code [DLT4LC] Travel speed sensor A & B: Abnormality

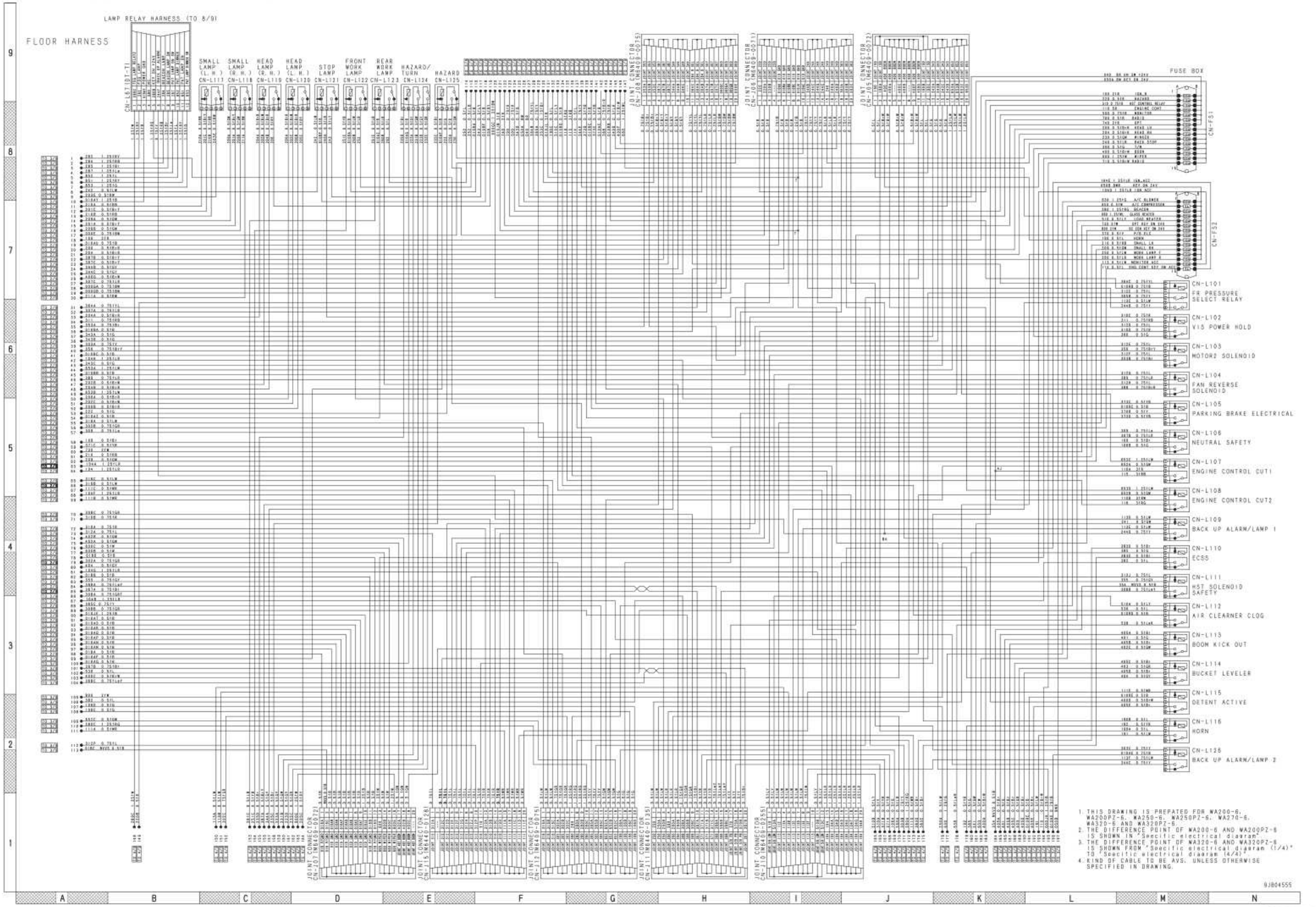
Action code	Failure code	Trouble	Travel speed sensor A & B: Abnormality (HST controller system)
E03	DLT4LC		
Contents of trouble	• Difference between values sensed by travel speed sensors A and B during travel is large.		
Action of controller	• Turns the centralized warning lamp and alarm buzzer ON. • None in particular other than above (Uses higher value normally).		
Problem that appears on machine			
Related information	• Even trouble disappears, system does not reset itself until engine is started again.		

	Causes		Standard value in normal state/Remarks on troubleshooting			
Possible causes and standard value in normal state	1	Defective travel speed sensor (Internal defect)	★ Prepare with starting switch OFF, then start engine (but do not travel) and carry out troubleshooting without traveling.			
			T09	Voltage		
			Between (1) – (2)	4.7 – 5.3 V		
			Between (2) – ground	Max. 1 V		
			★ Prepare with starting switch OFF, then start engine, travel at constant speed, and carry out troubleshooting.			
			T09	Voltage		
			Between (3) – (2)	Below 1 V – Above 4 V (Changes at regular intervals)		
			Between (4) – (2)	Below 1 V – Above 4 V (Changes at regular intervals)		
	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 HST (female) (26) – T09 (female) (3)	Resistance	Max. 1 Ω	
			Wiring harness between HST (female) (36) – T09 (female) (4)	Resistance	Max. 1 Ω	
	3	Ground fault in wiring harness (Contact with GND circuit)	★ Prepare with starting switch OFF, then carry out troubleshooting without turning starting switch ON.			
			Between wiring harness HST (female) (26) – T09 (female) (3) and ground	Resistance	Min. 1 MΩ	
			Between wiring harness HST (female) (36) – T09 (female) (4)	Resistance	Min. 1 MΩ	
	4	Hot short (Contact with 24V circuit) in wiring harness	★ Prepare with starting switch OFF, then start engine, travel at constant speed, and carry out troubleshooting.			
			Between wiring harness HST (female) (26) – T09 (female) (3) and ground	Voltage	Below 1 V – Above 4 V (Changes at regular intervals)	
			Between wiring harness HST (female) (36) – T09 (female) (4)	Voltage	Below 1 V – Above 4 V (Changes at regular intervals)	

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Electrical circuit diagram (1/9)

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



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