SEBM018227

SHOP MANUAL

KOMATSU®

WA1200-3

MACHINE MODEL	SERIAL NO.
WA1200-3	**50001 and up**

- This shop manual may contain attachments and optional equipment that are not available in your area. Please consult your local Komatsu distributor for those items you may require.
  Materials and specifications are subject to change without notice.

- WA1200-3 mount the Cummins QSK60 engine.

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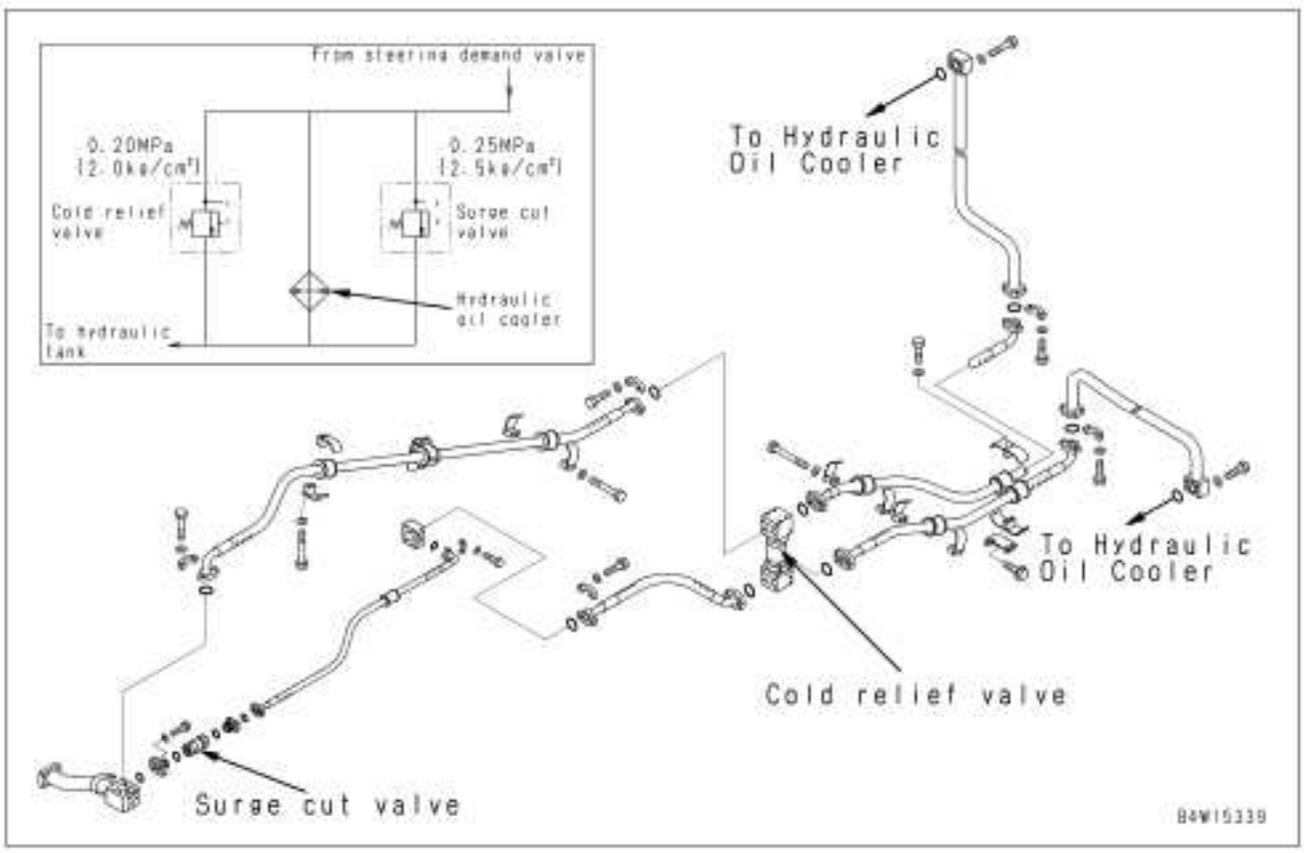
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Hydraulic oil cooler oil pressure and oil temperature characteristics

	Hydraulic oil cooler inlet pressure	Hydraulic oil cooler oil temperature	Engine speed	Flow rate (Reference)	Remarks
Normality	0.26 – 0.30 MPa (2.6 – 3.0 kg/cm²)	40°C	Low idle (650 rpm)	380 ℓ	<Reference> Cold relief valve set pressure: 0.5 MPa {5.1 kg/cm²} Surge cut valve set pressure: 0.5 MPa {5.1 kg/cm²}
	0.30 – 0.34 MPa (3.0 – 3.4 kg/cm²)	40°C	Rated speed (1,900 rpm)	560 ℓ	
	0.34 – 0.38 MPa (3.4 – 3.8 kg/cm²)	40°C	High idle (2,050 rpm)	713 ℓ	
Abnormality	0.15 MPa (1.5 kg/cm²)	40°C	Low idle (650 rpm)	380 ℓ	Cold relief valve set pressure is low
	0.69 MPa (7.0 kg/cm²)	40°C	High idle (2,050 rpm)	700 ℓ	Cold relief valve set pressure is high
	0.29 MPa (3.0 kg/cm²)	100°C	High idle (2,050 rpm)	713 ℓ	• Inside of hydraulic oil cooler is clogged • Cold relief valve set pressure is low • Steering pump delivery is low



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Failure code [dLE2KZ] Engine speed sensor system abnormality

Action code	Failure code	Trouble	Engine speed sensor system abnormality (Modulated clutch controller)
CALL	dLE2KZ		
Contents of trouble	Engine speed sensor circuit has disconnection or hot short.		
Action of controller	Stops control of modulated clutch (Engages clutch directly).		
Problem that appears on machine	• When drive force control dial is operated, drive force does not change. • Tire slip control does not work. • Travel speed cannot be controlled. • Engine speed display is abnormal.		
Related information	★ When connector is disconnected and T-adapter is inserted for troubleshooting while abnormality is detected or when T-adapter is removed and connector is connected again, if failure code is not displayed on monitor, system has reset itself.		

	Cause		Standard value in normal state/Remarks on troubleshooting		
Possible causes and standard value in normal state	1	Defective engine speed sensor	★ Prepare with starting switch OFF, then carry out troubleshooting without turning starting switch ON.		
			T17 (male)	Resistance	
			Between (1) – (2)	500 – 1000 Ω	
			Between (1), (2) – chassis	Min. 1 MΩ	
	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 C4 (female) (1) – T17 (female) (1)	Resistance	Max. 1 Ω
			Wiring harness between C4 (female) (9) – T17 (female) (2)	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.		
			Wiring harness between C4 (female) (1) – T17 (female) (1) and chassis ground	Resistance	Min. 1 MΩ
	4	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 M02B (female) (5) – T17 (female) (1) and between M02B (female) (12) – T17 (female) (2)	Resistance	Min. 1 MΩ
	5	Hot short (Contact with 24 V circuit) in wiring harness	★ Prepare with starting switch OFF, then turn starting switch ON and carry out troubleshooting.		
			Wiring harness between M02B (female) (5) – T17 (female) (1) and chassis ground	Voltage	Max. 1 V
	6	Defective modulated clutch controller	★ Prepare with starting switch OFF, then turn starting switch ON and carry out troubleshooting.		
			M02B (female)	Voltage	
			Between (5) – chassis	Max. 1 V	
			Between (5) – (12)	Min. 0.5 V (Measure in AC range)	

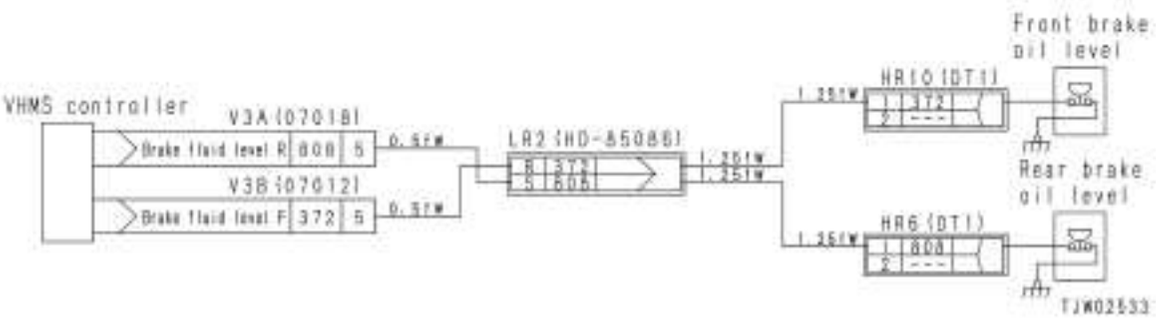
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E-63 Ground fault or hot short in brake oil level sensor system

Contents of trouble	Ground fault or hot short in brake oil level sensor system
Related information	

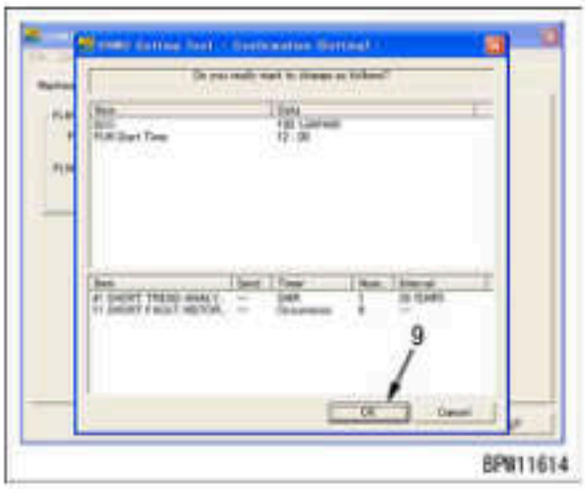
	Cause		Standard value in normal state/Remarks on troubleshooting			
Possible causes and standard value in normal state	1	Defective front or rear brake oil level sensor	★ Prepare with starting switch OFF, then turn starting switch ON and carry out troubleshooting.			
			HR10 (front), HR6 (rear)	Oil level	Voltage	
			Between (1) – chassis	Normal	Max. 1 V	
				Low	17 – 30 V	
	2	Ground fault in wiring harness (Contact with GND circuit)	★ Prepare with starting switch OFF, then carry out troubleshooting without turning starting switch ON.			
			Wiring harness between V3A (female) (5) – HR6 (female) (1) and chassis ground		Resistance	Min. 1 MΩ
			Wiring harness between V3B (female) (5) – HR10 (female) (1) and chassis ground		Resistance	Min. 1 MΩ
	3	Hot short (Contact with 24 V circuit) in wiring harness	★ Prepare with starting switch OFF, then turn starting switch ON and carry out troubleshooting.			
			Wiring harness between V3A (female) (5) – HR6 (female) (1) and chassis ground		Voltage	Max. 1 V
			Wiring harness between V3B (female) (5) – HR10 (female) (1) and chassis ground		Voltage	Max. 1 V
	4	Defective VHMS controller	★ Prepare with starting switch OFF, then turn starting switch ON and carry out troubleshooting.			
			V3A (female), V3B (female)		Voltage	
			Between V3A (5) – chassis Between V3B (5) – chassis		Max. 1 V	

Electric circuit diagram related to brake oil level sensor



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iii) Press the [Apply] button.
- Only the changed data are displayed. Check them and press [OK] button (9).



iv) The OK screen appears. Press [Close] button (10), and then press the [Exit] button to finish the VHMS Setting Tool and turn the starting switch OFF.



5. Initial setting of VHMS controller (Ver. 3.5.2.1 or later version)

★ This work is done inside the cab (from PC).

★ It is prohibited in the initial setting to modify the data of service meter [SMR].

1) Select [VHMS Setting] and then press [Next] button.

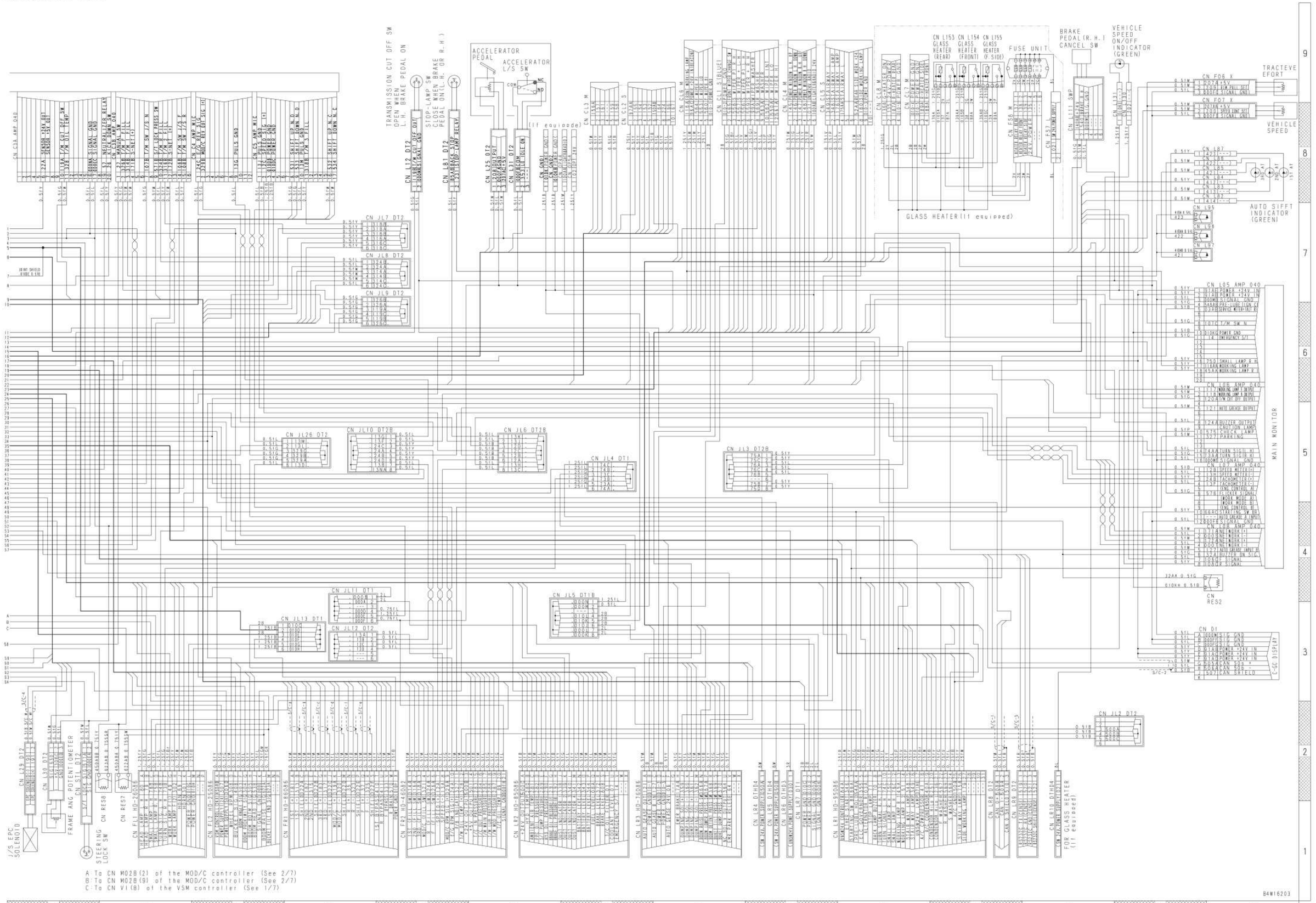


2) Select [Set up & All clear] and press [Next] button.



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ELECTRICAL CIRCUIT DIAGRAM (3/7)
Serial No. : 50001 – 50038



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