SEN01274-28

Shop Manual

DUMP TRUCK

HD785-7

SERIAL NUMBERS 7001 and up

KOMATSU®

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Machine model						HD785-7	
Check item				Measurement conditions	Unit	Standard value for new machine	Permissible value
Oil pressure	Torque converter	Inlet oil pressure		• Oil temperature: 80 °C • Brake: OFF (When oil bypasses brake and cooler through BCV) • Engine speed: 1,900 rpm (Rated speed)	MPa {kg/cm²}	Max. 0.85 {Max. 8.67}	Max. 0.85 {Max. 8.67}
		Outlet oil pressure		• Oil temperature: 80 °C • Brake: OFF • (When oil bypasses brake and cooler through BCV) • Engine speed: 1,900 rpm (Rated speed)		0.49 ± 0.04 {5.0 ± 0.41}	0.49 ± 0.04 {5.0 ± 0.41}
				• Oil temperature: 80 °C • Brake: ON • (When oil does not bypass brake and cooler through BCV) • Engine speed: 1,900 rpm (Rated speed)		0.52 ± 0.07 {5.3 ± 0.71}	0.52 ± 0.07 {5.3 ± 0.71}
		Lock-up oil pressure		• Oil temperature: 80 °C • Engine speed: 1,900 rpm (Rated speed)		1.52 ± 0.2 {15.5 ± 2.0}	1.52 ± 0.2 {15.5 ± 2.0}
		Main relief oil pressure	N, F1 – F3, RL, RH	• Oil temperature: 80 °C • Engine speed: 1,900 rpm (Rated speed)		3.53 ± 0.2 {36.0 ± 2.0}	3.53 ± 0.2 {36.0 ± 2.0}
			F4 – F7			2.16 ± 0.2 {22.0 ± 2.0}	2.16 ± 0.2 {22.0 ± 2.0}
Oil pressure	Transmission	Control valve set pressure	Lo, Hi, 4th cluch	• Oil temperature: 80 °C • Engine speed: 1,900 rpm (Rated speed)	MPa {kg/cm²}	1.61 ± 0.2 {16.5 ± 2.0}	1.61 ± 0.2 {16.5 ± 2.0}
			3rd cluch			2.01 ± 0.2 {20.5 ± 2.0}	2.01 ± 0.2 {20.5 ± 2.0}
			2nd cluch			3.29 ± 0.25 {33.5 ± 2.5}	3.29 ± 0.25 {33.5 ± 2.5}
			1st, R cluch			3.43 ± 0.2 {35.0 ± 2.0}	3.43 ± 0.2 {35.0 ± 2.0}
		Lubricating valve set pressure		• Oil temperature: 60 – 80 °C (T010) • Oil temperature: 80 – 100 °C (T030) • Engine speed: 1,900 rpm (Rated speed)		0.17 ± 0.05 {1.7 ± 0.5}	0.17 ± 0.05 {1.7 ± 0.5}
Air pressure	Tire	Standard tire	27.00-R49 (Front, rear wheel)	• Machine unloaded	MPa {kg/cm²}	0.69 {7.0}	0.69 {7.0}
		If equipped tire	31/90-R49 (Front, rear wheel)			0.69 {7.0}	0.69 {7.0}

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Failure code [dGT6KA] (or VHMS_LED display: "n3" → "26") Right bank exhaust temperature sensor system (Rear): Disconnection

Action code	Failure code	Trouble	Right bank exhaust temperature sensor system (Rear): Disconnection (VHMS controller system) (Display: PLM)
—	**dGT6KA**		
Contents of trouble	• The signal voltage of the right bank exhaust temperature sensor is below 0.5 V.		
Action of controller	• None in particular.		
Problem that appears on machine	• The right bank exhaust temperature cannot be monitored with the monitoring function.		
Related information	• The machine monitor does not display the failure code. (If the data saved in the VHMS controller are downloaded to a personal computer, however, the failure code can be checked.) • The LED of the VHMS controller indicates "n3" → "26". • The input state (temperature) from the exhaust gas temperature sensor (RR) can be checked with the monitoring function (Code: 42601 EXHAUST TEMP RR). • If failure code [**DBB6KP**] (VHMS controller 24 V power supply output: Low output voltage) is displayed, carry out troubleshooting for it first. • Method of reproducing failure code: Turn the starting switch ON		

Possible causes and standard value in normal state		Cause	Standard value in normal state/Remarks on troubleshooting		
	1	Defective right bank sensor amplifier power supply (defective wiring harness or defective VHMS & PLM controller)	1) Turn the starting switch to OFF position and disconnect the battery ground cable. 2) Disconnect connector HM-23D and connect the T-adapter to female side. 3) Connect the battery ground cable and turn the starting switch to ON position. ★ Ignore the failure code displayed		
			Between HM-23D (female) (A) and (C)	Voltage	Approx. 24 V
	2	Defective exhaust gas temperature sensor on right bank engine rear side, or defective exhaust gas temperature sensor amplifier on right bank engine rear side, or defective intermediate wiring harness.	★ Check that failure code [**DGT6KA**] is not displayed. 1) Turn the starting switch to OFF position. 2) Swap B and D of connector HM-21, B and D of HM-22 and B and D of HM-23 sequentially one by one. 3) Turn the starting switch to ON position and perform troubleshooting. 4) Return to step 1) and conduct the test three times to locate the failed portion.		
			If failure code [**dGT6KA**] changed to [**DGT6KA**], the defective portion must be ahead (on the right side of the replaced connectors in the related circuit diagram).		
	3	Disconnection in wiring harness (Disconnection or defective contact of connector)	★ Prepare with starting switch OFF, then carry out troubleshooting without turning starting switch ON.		
			Between HM-23D (female) (A) and HM-CN1 (female) (2)	Resistance	Max. 1 Ω
			Between HM-23D (female) (B) and HM-CN2A (female) (6)	Resistance	Max. 1 Ω
			Between HM-23D (female) (C) and HM-CN2A (female) (12)	Resistance	Max. 1 Ω
	4	Defective exhaust gas temperature sensor amplifier on the right bank engine rear side	1) Turn starting switch OFF. 2) Insert T-adapter into HM-23D. 3) Start engine and carry out troubleshooting.		
			HM-23D	Exhaust gas temperature	Voltage
			Between (B) and (C)	50 - 100°C	1.0 - 1.6 V
				300 - 400°C	2.1 - 2.7 V
				500 - 600°C	2.9 - 3.6 V
				700 - 800°C	3.8 - 4.4 V

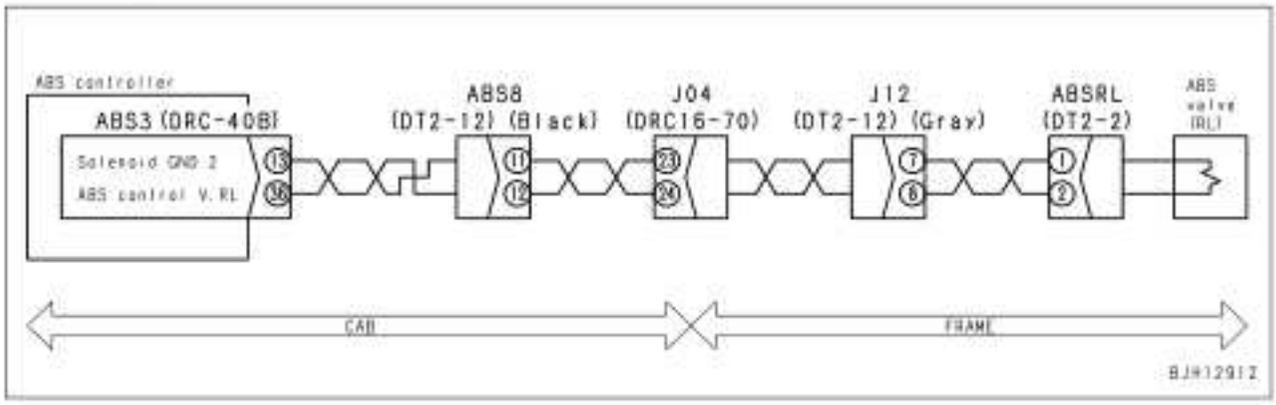
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Failure code [DX24KB] Ground fault in ABS control valve output circuit (Rear left)

Action code	Failure code	Trouble	Ground fault in ABS control valve output circuit (Rear left) (ABS controller system)
E03	**DX24KB**		
Contents of trouble	• Abnormal current flows when signal is output to ABS control valve (Rear left) solenoid circuit.		
Action of controller	• Stop outputting to ABS control valve (Rear left) solenoid circuit. (Stop ABS control.)		
Problem that appears on machine	• ABS does not work. • Ordinary brake operation can be carried out.		
Related information	• Output to ABS control valve (Rear left) solenoid can be checked with the monitoring function. (Code: **43310**, output current **(0 – 1000 (mA))** • No signal is output to ABS control valve solenoid until starting switch is turned OFF.		

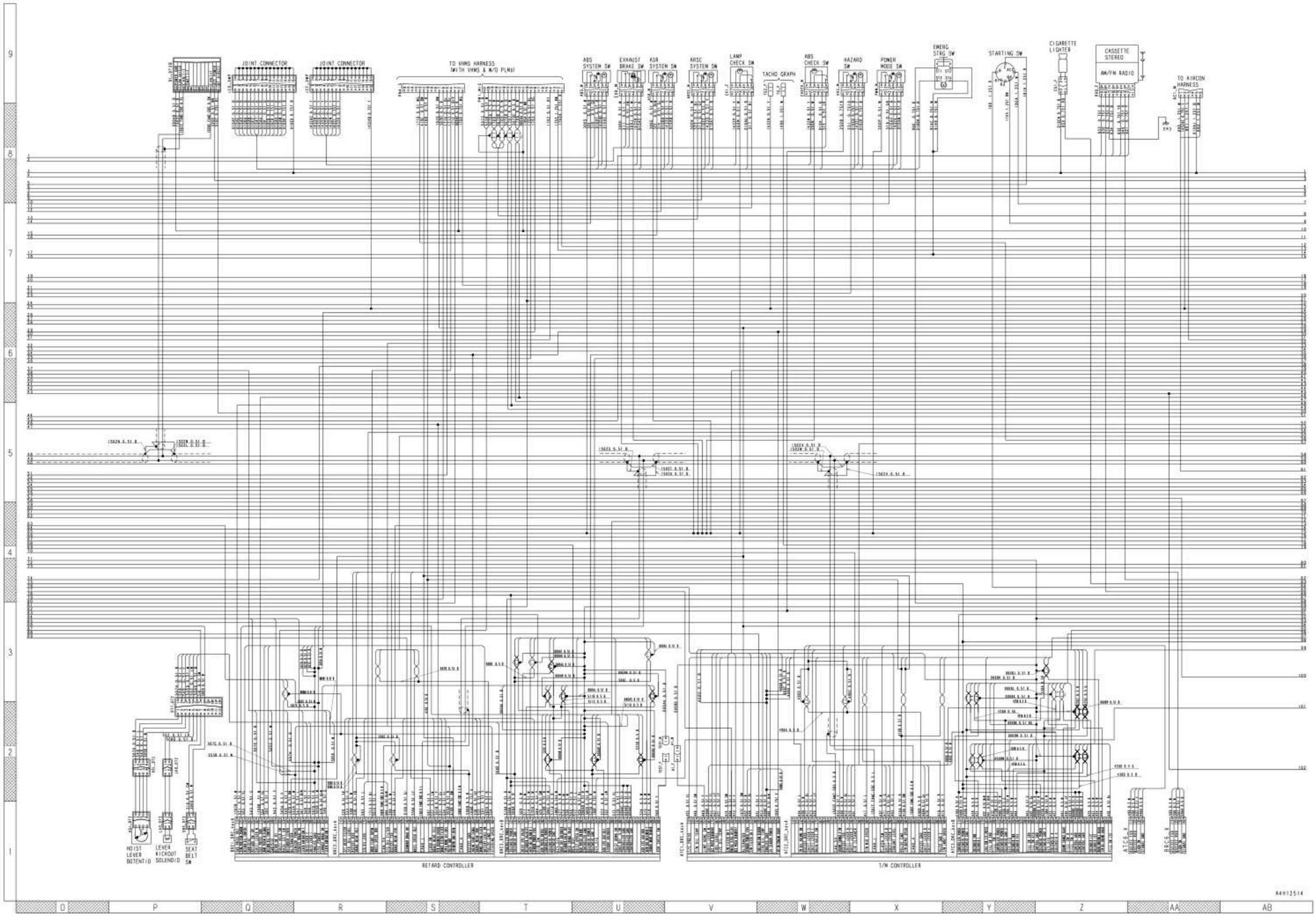
	Cause		Standard value in normal state/Remarks on troubleshooting		
Possible causes and standard value in normal state	1	Defective ABS control valve solenoid (Internal disconnection)	1) Turn the starting switch OFF. 2) Disconnect connector ABSRL. 3) Connect the T-branch to connector ABSRL and carry out troubleshooting with the starting switch OFF.		
			ABSRL (male)	Resistance	
			Between (1) – (2)	10 – 30 Ω	
	2	Ground fault in wiring harness (Contact with ground circuit)	1) Turn the starting switch OFF. 2) Disconnect connector ABSRL and ABS3. 3) Connect the T-branch to connector ABS3 and carry out troubleshooting with the starting switch OFF. (With connectors ABSRL and ABS3 being disconnected)		
			Between ABS3 (female) (36) and ground	Resistance	Max. 1 MΩ
	3	Defective ABS controller	1) Turn the starting switch OFF. 2) Disconnect connector ABS3. 3) Connect T-branch.		
			Wiring harness between ABS3 (female) (36) – ABS3 (female) (13) terminal	Resistance	10 – 30 Ω

Circuit diagram related



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Electrical circuit diagram for inside cab (2/3)
HD785-7 Serial No. 7001 - 7078



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