SEBM034104

SHOP MANUAL

KOMATSU®

BR380JG-1

MACHINE MODEL	SERIAL NUMBER
BR380JG-1	**1001 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.

- BR380JG-1 mounts the SAA6D102E-2 engine.
  For details of the engine, see the 102 Series Engine Shop Manual.

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TOOLS FOR TESTING, ADJUSTING AND TROUBLESHOOTING

Test, measurement item	Symbol		Part No.	Part name	Q'ty	Remarks
Engine speed	A	1	799-203-8001	Multi-tachometer	1	Digital display L : 60 – 2,000 rpm H : 60 – 19,999 rpm
		2	795-790-2500	Adapter	1	
Exhaust gas color	B	1	799-201-9000	Handy smoke checker	1	Discoloration 0 – 70% (with standard color) (Discoloration x 1/10 ≒ Bosch index)
		2	Commercially available	Smoke meter	1	
Engine valve clearance	C	1	795-799-1131	Gear	1	For 102 series engine
		2	Commercially available	Feeler gauge	1	(Intake : 0.25 mm, Exhaust : 0.51 mm)
Compression pressure	D	1	795-502-1205	Compression gauge	1	0 – 6.9 MPa {0 – 70 kg/cm^2}
		2	795-502-1700	Adapter	6	For 102 series engine
Blow-by pressure	E	1	799-201-1504	Blow-by checker	1	
		2	795-790-1950	Tool (Nozzle)	1	For 102 series engine
Fuel injection timing	F	1	795-799-1131	Gear	1	
		2	795-799-1900	Pin assembly	1	
		3	795-799-1950	Lock pin	1	
Engine oil pressure	G	1	799-101-5002	Hydraulic tester	1	Pressure gauge: 2.5, 5.9, 39.2, 58.8 MPa {25, 60, 400, 600 kg/cm^2}
			790-261-1203	Hydraulic tester (digital type)	1	Pressure gauge: 58.8 MPa {600 kg/cm^2}
		2	799-401-2320	Hydraulic tester	1	Pressure gauge: 0.98 MPa {10 kg/cm^2}
Hydraulic oil pressure of work equipment, swing and travel circuit	J	1	799-101-5002	Hydraulic tester	1	Pressure gauge: 2.5, 5.9, 39.2, 58.8 MPa {25, 60, 400, 600 kg/cm^2}
			790-261-1203	Hydraulic tester (digital type)	1	Pressure gauge: 58.8 MPa {600 kg/cm^2}
		2	799-101-5220	Nipple	2	10 x 1.25 mm
			07002-11023	O-ring	2	
Control circuit oil pressure	K	1	799-101-5002	Hydraulic tester	1	Pressure gauge: 2.5, 5.9, 39.2, 58.8 MPa {25, 60, 400, 600 kg/cm^2}
			790-261-1203	Hydraulic tester (digital type)	1	Pressure gauge: 58.8 MPa {600 kg/cm^2}
		2	799-401-3100	Adapter	1	
Pump PC control circuit oil pressure	L	1	799-101-5002	Hydraulic tester	1	Pressure gauge: 2.5, 5.9, 39.2, 58.8 MPa {25, 60, 400, 600 kg/cm^2}
			790-261-1203	Hydraulic tester (digital type)	1	Pressure gauge: 58.8 MPa {600 kg/cm^2}
		2	799-101-5220	Nipple	4	10 x 1.25 mm
			07002-11023	O-ring	4	

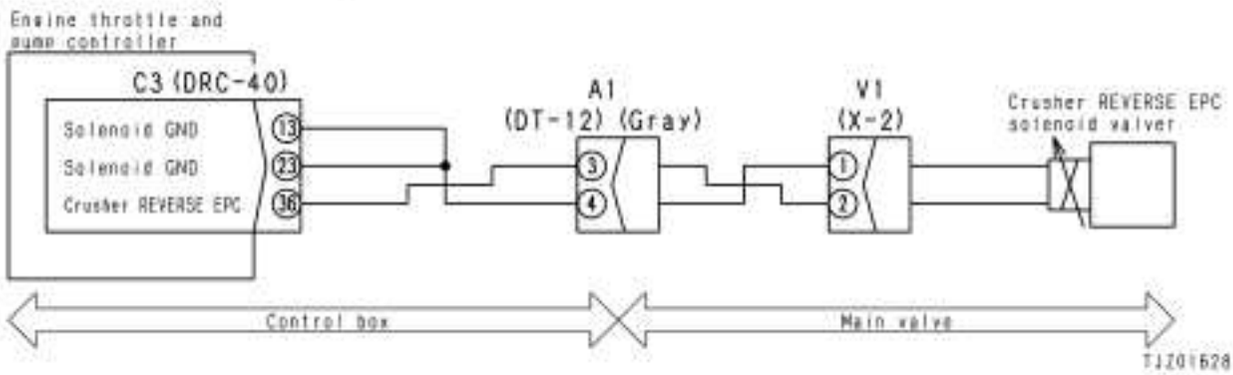
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Electrical System Error Code [E205] (Disconnection in crusher reverse EPC valve)

User Code	Error Code	Failure Code	Failure phenomenon	Disconnection in crusher reverse EPC valve (Engine throttle and pump controller system)
—	**E205**	**7RF3KA**		
Failure content	• When the signal is output to the crusher reverse solenoid circuit, no current flows.			
Response from controller	• None in particular (Since no current flows, the solenoid does not operate). • If the cause of the failure disappears, the system resets itself.			
Phenomenon occurring on machine	• The crusher does not operate in reverse. • When this trouble is detected, the horn sounds (3 times intermittently).			
Relative information	• Since the controller detects disconnection while the solenoid output is turned ON, be sure to turn the solenoid output ON when checking for reproduction of the failure after repair.			

Presumed cause and standard value in normalcy		Cause	Standard value in normalcy and references for troubleshooting		
	1	Defective crusher reverse EPC solenoid (Internal disconnection)	★Prepare with starting switch OFF, then carry out troubleshooting without turning starting switch ON.		
			V1 (male)	Resistance	
			Between (1) and (2)	7 – 14 Ω	
	2	Disconnection in wiring harness (Disconnection in wiring harness or defective contact in connector)	★Prepare with starting switch OFF, then carry out troubleshooting without turning starting switch ON.		
			Wiring harness between C3 (female) (36) and V1 (female) (2)	Resistance	Max. 1 Ω
			Wiring harness between C3 (female) (13), (23) and V1 (female) (1)	Resistance	Max. 1 Ω
	3	Short circuit with power source in wiring harness (Contact with 24-V circuit)	★Prepare with starting switch OFF, then turn starting switch ON and carry out troubleshooting.		
			Between wiring harness between C3 (female) (36) and V1 (female) (2) and chassis ground	Voltage	Max. 1 V
	4	Defective engine throttle and pump controller	★Prepare with starting switch OFF, then carry out troubleshooting without turning starting switch ON.		
			C3 (female)	Resistance	
			Between (36) and (13), (23)	7 – 14 Ω	

Relative Electrical Circuit Diagram



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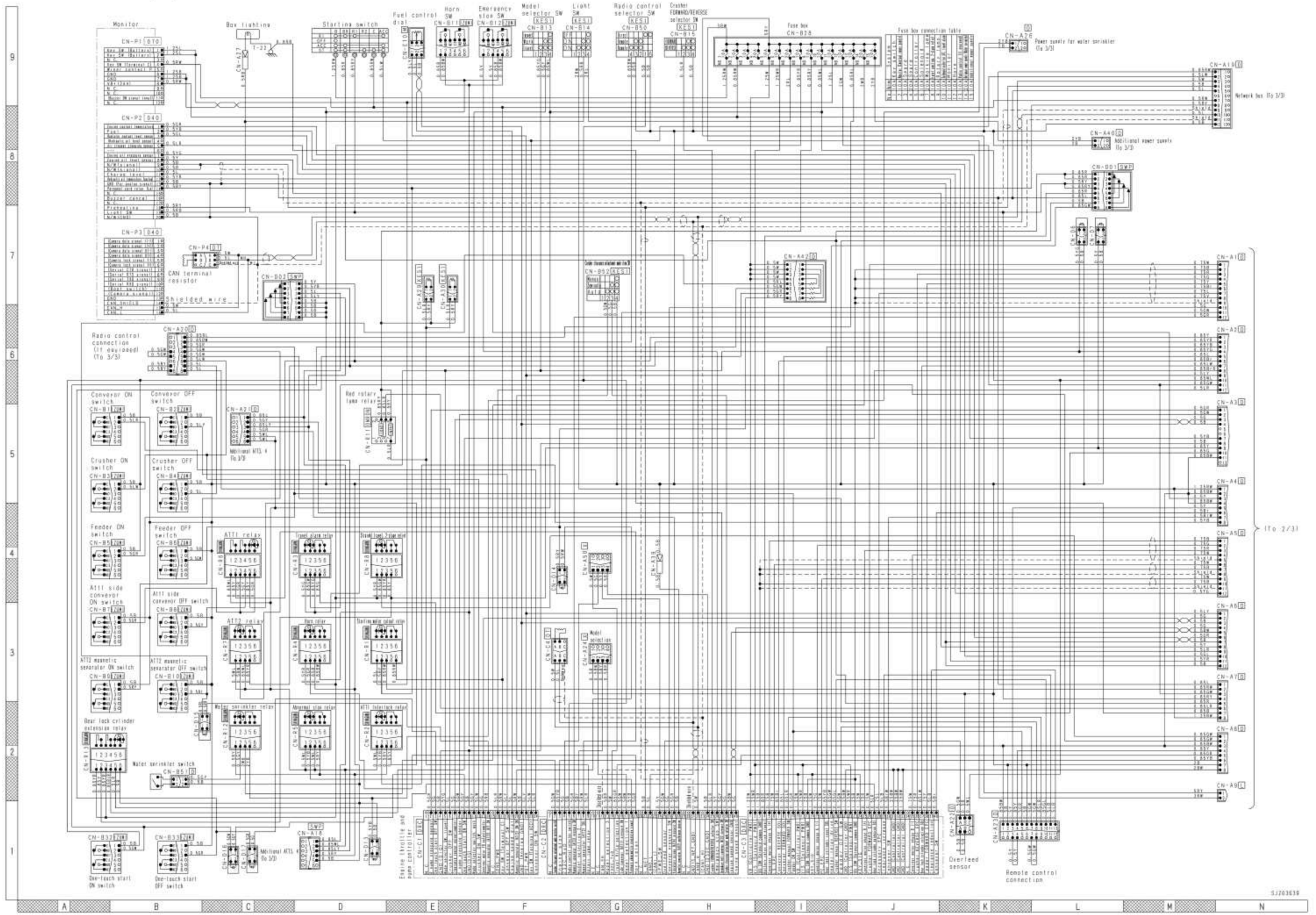
Electrical System Error Code [E306] (Abnormality in governor potentiometer)

User Code	Error Code	Failure Code	Failure phenomenon	Abnormality in governor potentiometer (Engine throttle and pump controller system)
—	**E306**	**DK54KZ**		
Failure content	• The signal voltage from the governor potentiometer is below 0.4 V or above 4.6 V.			
Response from controller	• Calculates the motor position from the voltage just before occurrence of the failure for control. • Even if the cause of the failure disappears, the system does not reset itself until the starting switch is turned OFF.			
Phenomenon occurring on machine	• The high idling speed is abnormal (a little low). • The low idling speed is abnormal (a little high). • The auto-decelerator or automatic warm-up device does not operate. • The engine hunts. • The engine stalls. • The engine does not stop.			
Relative information	—			

Presumed cause and standard value in normalcy		Cause	Standard value in normalcy and references for troubleshooting			
	1	Defective sensor power supply system	If error code [E226] is displayed, carry out troubleshooting for it first.			
	2	Defective governor potentiometer (Internal defect)	★Prepare with starting switch OFF, then carry out troubleshooting without turning starting switch ON.			
			E12 (male)	Resistance		
			Between (A) and (C)	4.0 – 6.0 kΩ		
			Between (B) and (A)	0.25 – 5.0 kΩ		
			Between (B) and (C)	0.25 – 5.0 kΩ		
	3	Disconnection in wiring harness (Disconnection in wiring harness or defective contact in connector)	★Prepare with starting switch OFF, then carry out troubleshooting without turning starting switch ON.			
			Wiring harness between C1 (female) (22) and E12 (female) (A)	Resistance	Max. 1 Ω	
			Wiring harness between C1 (female) (21) and E12 (female) (C)	Resistance	Max. 1 Ω	
			Wiring harness between C1 (female) (13) and E12 (female) (B)	Resistance	Max. 1 Ω	
	4	Short circuit with chassis ground in wiring harness (Contact with ground circuit)	★Prepare with starting switch OFF, then carry out troubleshooting without turning starting switch ON.			
			Between wiring harness between C1 (female) (13) and E12 (female) (B) and chassis ground	Resistance	Min. 1 MΩ	
	5	Short circuit with power source in wiring harness (Contact with 24-V circuit)	★Prepare with starting switch OFF, then turn starting switch ON and carry out troubleshooting.			
			Between wiring harness between C1 (female) (22) and E12 (female) (A) and chassis ground	Voltage	Max. 1 V	
			Between wiring harness between C1 (female) (13) and E12 (female) (B) and chassis ground	Voltage	Max. 1 V	
	6	Defective engine throttle and pump controller	★Prepare with starting switch OFF, then turn starting switch ON and carry out troubleshooting.			
			C1		Voltage	
			Between (22) and (21)	Power supply	4.5 – 5.5 V	
			Between (13) and (21)	Signal	0.5 – 4.5 V	

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ELECTRICAL CIRCUIT DIAGRAM (1/3)



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