SEN00236-19

Shop Manual

WHEEL LOADER **WA500-6**

SERIAL NUMBERS 55001 and up

ecot3

KOMATSU®

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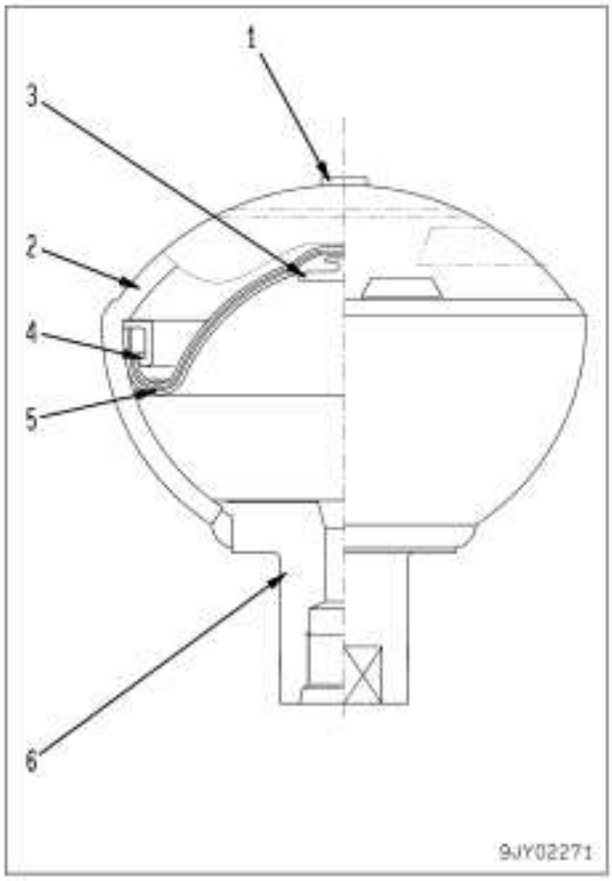
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Accumulator (for PPC circuit)



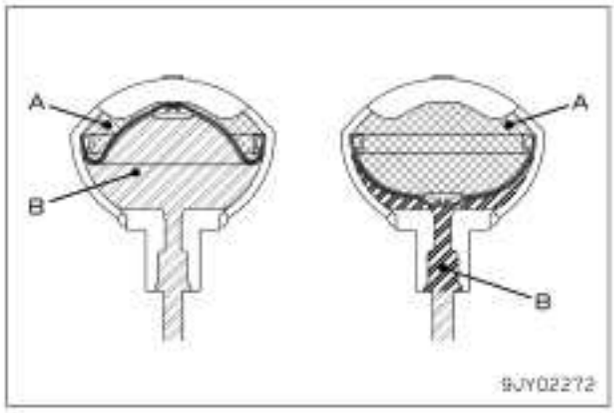
1. Gas plug
2. Shell
3. Poppet
4. Holder
5. Bladder
6. Oil port

Specifications

Type of gas: Nitrogen gas
Amount of gas: 500 cc
Max. operating pressure: 3.92 MPa {40 kg/cm^2}
Min. operating pressure: 0 MPa {0 kg/cm^2}

Function

- Accumulator is installed between the charge valve and work equipment valve. In the case the engine is stopped with the lift arm lifted up, compressed nitrogen gas pressure in the accumulator feeds the pilot oil pressure to the work equipment valve for operation. Thus the lift arm and bucket are enabled to descend under own weight.



Operation

- After engine is stopped, chamber (A) in the bladder is compressed by oil pressure in chamber (B).
- When work equipment EPC solenoid is tripped by operating the work equipment EPC lever, pressure inside nitrogen gas chamber (A) expands the bladder, and the oil in chamber (B) operates the work equipment valve as the pilot pressure.

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Failure code [CA2186] Throttle sensor power supply low error

Action code	Failure code	Failure	Throttle sensor power supply voltage is low (Engine controller system)
E03	**CA2186**		
Detail of failure	• Low voltage is detected in throttle sensor power supply circuit.		
Action of controller	• Sets throttle opening to 0% when accelerator pedal is not depressed and to 50% of full throttle when accelerator pedal is depressed, and allows engine to run.		
Problem on machine	• Engine does not run at full throttle. • Turns the centralized warning lamp and alarm buzzer ON.		
Related information	• Method of reproducing failure code: Turn starting switch to ON position.		

No.	Cause	Procedure, measuring location, criteria, and remarks		
1	Defective wiring harness connector	See descriptions of wiring harness and connectors in "Electrical equipment" of "Check before troubleshooting" of "General information on troubleshooting", and check them.		
2	Defective throttle sensor (accelerator pedal)	1. Turn starting switch to OFF position. 2. Disconnect connector L15 and turn starting switch to ON position.		
		If this failure code is not displayed, throttle sensor is defective. ★ Other failure codes are displayed too. This is because that connector is disconnected. Ignore failure codes other than [**CA2186**].		
3	Ground fault in wiring harness (Contact with ground circuit)	1. Turn starting switch to OFF position. 2. Disconnect connectors E18 and L15, and connect T-adapter to female side of one of them.		
		Between E18 (female) (22) or L15 (female) (1) and ground	Resistance	Min. 1 MΩ
4	Short circuit in wiring harness	1. Turn starting switch to OFF position. 2. Disconnect connectors E18 and L15, and connect T-adapter to female side of E18.		
		Between E18 (female) (22) and each pin other than E18 (22)	Resistance	Min. 1 MΩ
5	Defective engine controller	1. Turn starting switch to OFF position. 2. Disconnect connector E18 and connect T-adapter to male side. 3. Turn starting switch to ON position with wiring harness disconnected.		
		Between E18 (male) (22) and (23)	Voltage	4.75 to 5.25 V

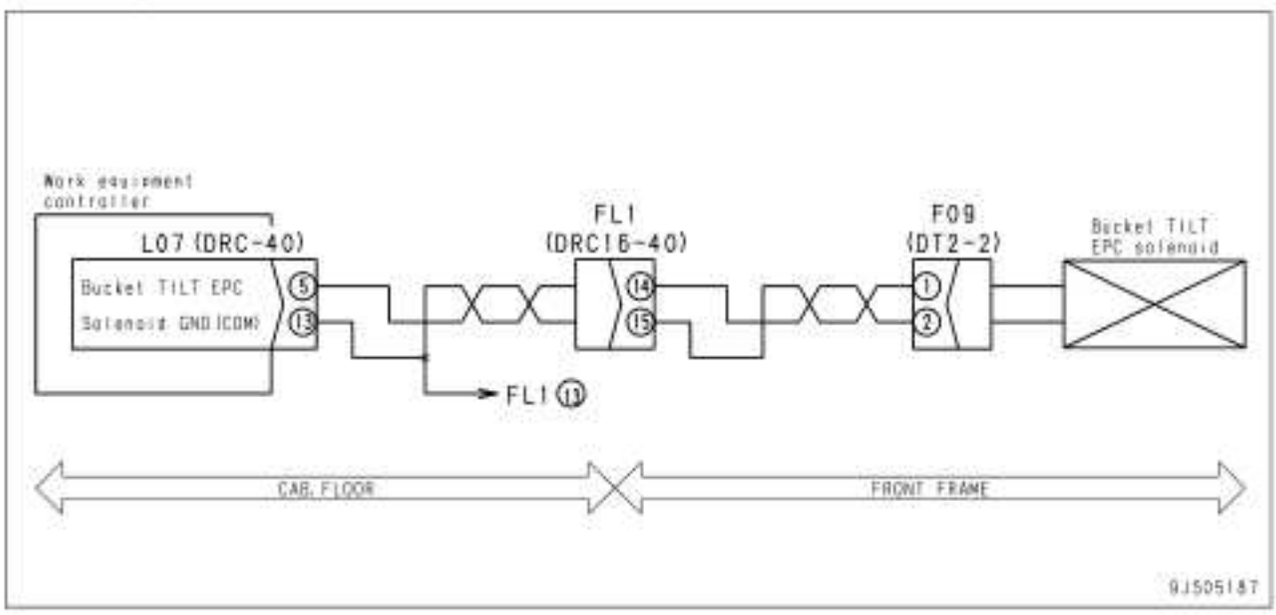
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Failure code [DW4RKA] (Bucket tilt EPC solenoid: Disconnection)

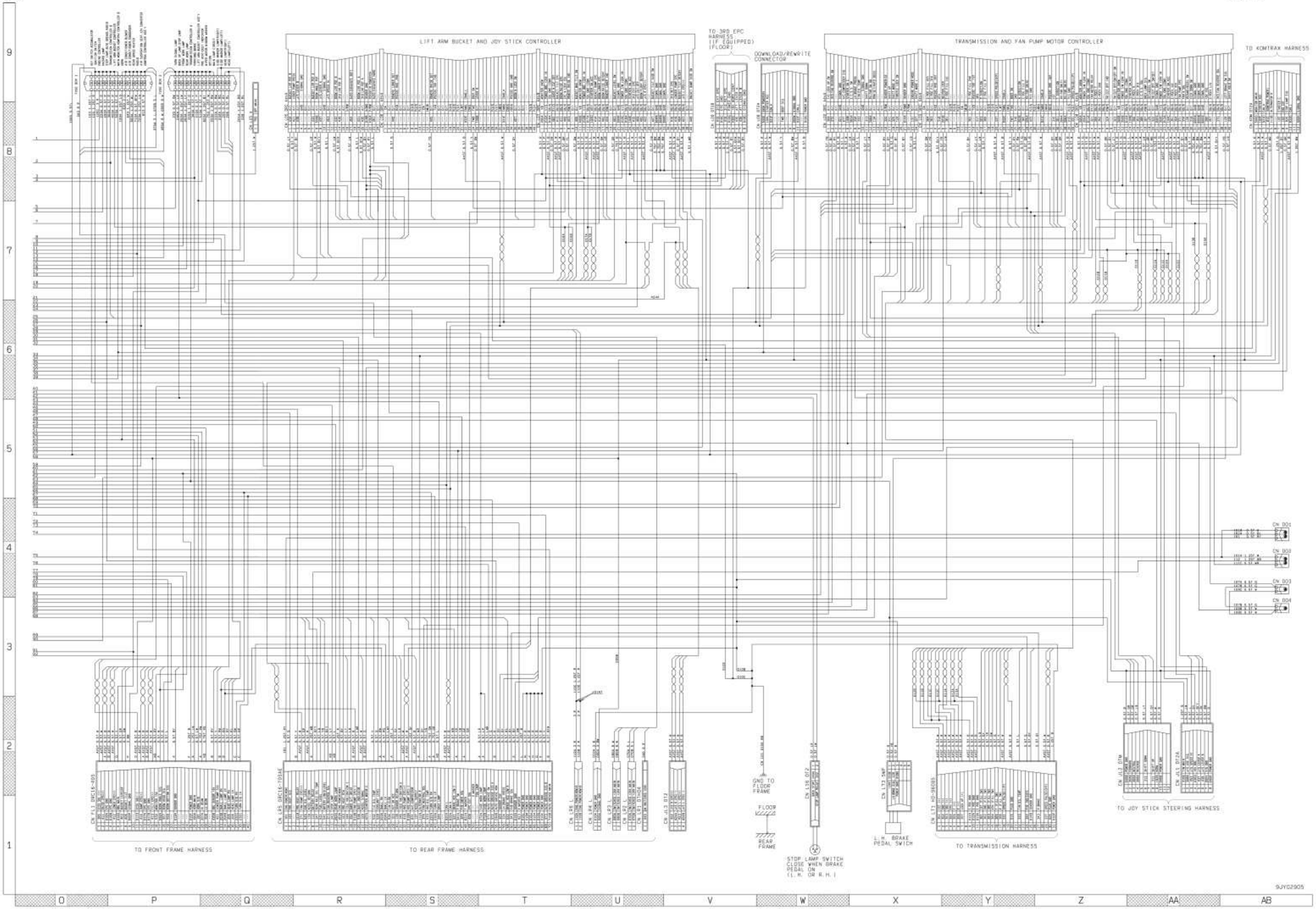
Action code	Failure code	Trouble	Bucket tilt EPC solenoid: Disconnection (Work equipment controller system)
E03	DW4RKA		
Contents of trouble	• Since the bucket tilt EPC solenoid output signal system is disconnected, no current flows when the bucket tilt EPC solenoid output is ON.		
Action of controller	• Turns the centralized warning lamp and alarm buzzer ON. • Even if cause of failure disappears, system does not reset itself until starting switch is turned OFF.		
Problem that appears on machine	• Bucket does not tilt.		
Related information	• The output state (current) to the bucket tilt EPC solenoid can be checked with the monitoring function (Code: 41902 TILT EPC DIR). • Method of reproducing failure code: Start engine and tilt the bucket.		

	Cause		Standard value in normal state/Remarks on troubleshooting			
Possible causes and standard value in normal state	1	Defective bucket tilt EPC solenoid (Internal disconnection)	★ Prepare with starting switch OFF, then carry out troubleshooting without turning starting switch ON.			
			F09 (male)	Resistance		
			Between (1) and (2)	5 – 15 Ω		
	2	Disconnection in wiring harness (Disconnection in wiring harness or defective contact)	★ Prepare with starting switch OFF, then carry out troubleshooting without turning starting switch ON.			
			Wiring harness between L07 (female) (5) – F09 (female) (1)	Resistance	Max. 1 Ω	
			Wiring harness between L07 (female) (13) – F09 (female) (2)	Resistance	Max. 1 Ω	
	3	Defective work equipment controller	★ Prepare with starting switch OFF, then carry out troubleshooting without turning starting switch ON.			
			L07 (female)	Resistance		
			Between (5) and (13)	5 – 15 Ω		

Circuit diagram related to bucket tilt EPC solenoid



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