WE051Z0002

SHOP MANUAL

KOMATSU®

D61EX-15
D61PX-15

MACHINE MODEL	SERIAL NUMBER
D61EX-15	**B40001 and up**
D61PX-15	**B40001 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.

- D61-15 mount the SA6D114E-2 engine.

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Bulldozer

D61EX-15
D61PX-15

Model	Serial Number
D61EX-15	B40001-
D61PX-15	B40001-

Structure and function, Maintenance standard

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Machine model						D61PX-15	
Category	Item		Measurement conditions		Unit	Standard value for new machine	Service limit value
Work equipment	Work equipment speed	Blade lift	★See figure A • Hydraulic oil temperature: 45 - 55°C • Apply no load to blade. • Between ground level and rising end of blade • Engine high idling	Raise	sec	2.5±0.2	3.0
				Lower		1.8±0.2	2.1
		Blade tilt	★See figure B • Hydraulic oil temperature: 45 - 55°C • Apply no load to blade. • Between left tilt end and right tilt end • Engine high idling	Left tilt: Power angle and Power tiltdozer		2.5±0.2	3.0
				Right tilt: Straight tiltdozer and semi-U dozer		2.5±0.2	3.0
		Blade angle	★See figure D • Hydraulic oil temperature: 45 - 55°C • Blade edge 300mm above the ground • Body level on the flat ground • Left angle end -Right angle end • Engine high idling	Angle (L.H.)		3.5±0.3	4.4
				Angle (R.H.)		3.5±0.3	4.4
	Time lag	Blade	• Hydraulic oil temperature: 45 - 55°C • Set lever to full stroke • Lower blade from max. rising position and measure time after blade comes in contact with ground until idler is lifted. • High idling			Max. 1.0	Max. 1.5
Work equipment	Hydraulic drift	Hydraulic drift of lifted blade	★See figure E • Hydraulic oil temperature: 45 - 55°C • Engine stopped • Height of the lower edge of blade h hydraulic drift		mm/ 15 min	Max. 100	Max. 100
		Hydraulic drift of tilted blade	★See figure F • Hydraulic oil temperature: 45 - 55°C • Engine stopped • Reduction of blade tip height	Left tilt		Max. 200	Max. 200
				Right tilt		Max. 200	Max. 200
	Leakage from cylinder	Blade tilt cylinder	• Engine high idling • Hydraulic oil temperature: 45 - 55°C • Relieve cylinder and measure leakage for 1 minute.		cc/min	4	16
		Blade lift cylinder				4	16
HSS motor	Leakage		• Hydraulic oil temperature: 45 - 55°C • Steering lever: Full • Transmission lever: Neutral • Brake pedal: Pressed • Engine high idling		ℓ/min	Max. 15	30

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Error code [D110KB] (Battery relay: Disconnection)

Action code	Error code	Trouble	Battery relay: Disconnection (Steering and transmission controller system)
-	**D110KB**		
Contents of trouble	• Current does not flow when outputting it to battery relay circuit.		
Action of controller	• Stops output to battery relay circuit.		
Problem that appears on machine	• Problem may occur in data writing to ROM (nonvolatile memory) of each controller.		
Related information	• Output state (voltage) to battery relay can be checked in monitoring mode. (Code **60600**: Battery relay drive voltage) • Method of reproducing error code: Switch starting switch from ON to OFF • Usually, a trouble code (KA) is displayed when disconnection occurs, but a trouble code (KB) is displayed when it occurs in this circuit.		

	Cause		Standard value in normal state/Remarks on troubleshooting		
Possible causes and standard value in normal state	1	Defective battery relay (Internal disconnection)	★ Prepare with starting switch OFF and carry out troubleshooting with switch OFF.		
			Battery relay	Continuity	
			Between terminals SW - SWG	40 - 60 Ω	
	2	Disconnection in wiring harness (Disconnection in wiring harness or defective contact in connector)	★ Prepare with starting switch OFF and carry out troubleshooting with switch OFF.		
			Wiring harness between ST3 (female) (4) - battery relay SW terminal	Resistance	Max. 1 Ω
			Wiring harness between SWG terminal - GND03	Resistance	Max. 1 Ω
	3	Hot short circuit in wiring harness (Contact with 24 V circuit)	★ Prepare with starting switch OFF, then turn it ON and carry out troubleshooting.		
			Wiring harness between ST3 (female) (4) - battery relay SW terminal - starting switch BR (260) with chassis ground	Voltage	Max. 1 V
	4	Defective steering and transmission controller	★ Prepare with starting switch OFF and carry out troubleshooting with switch OFF.		
			ST3	Voltage	
			Between (4) - chassis ground	Max. 1 V	

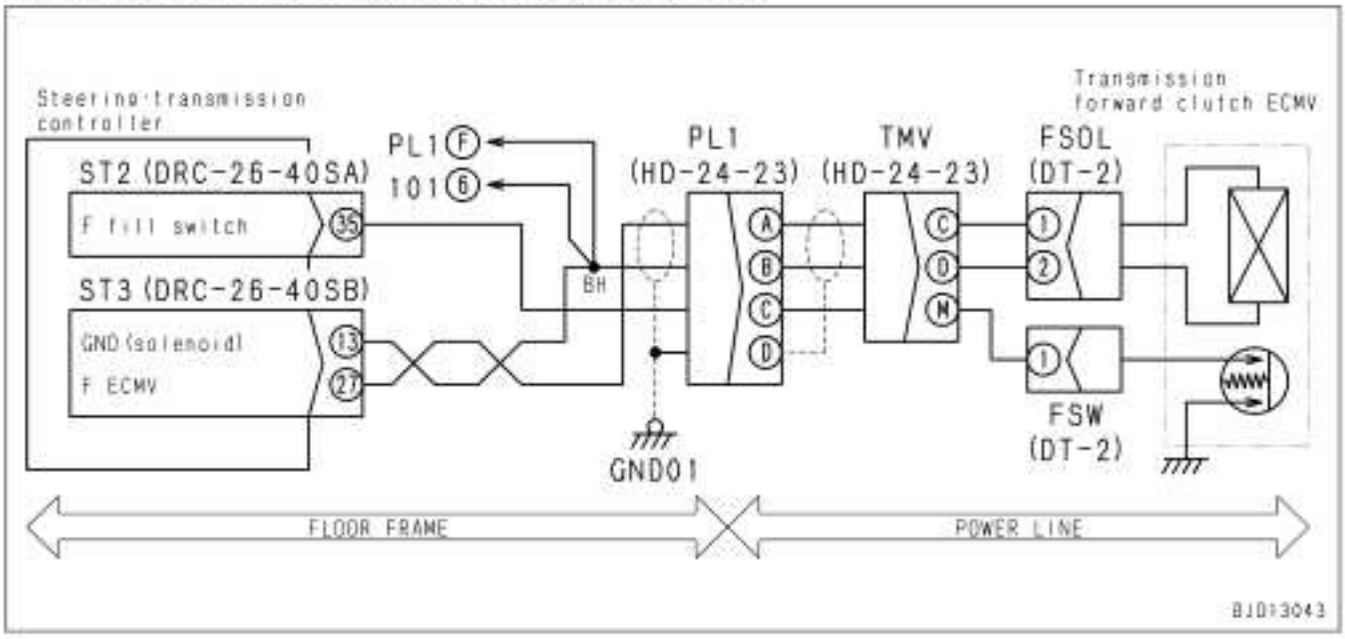
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Error code [DXH8KB] (Forward clutch ECMV: Short circuit)

Action code	Error code	Trouble	Forward clutch ECMV: Short circuit (Steering and transmission controller system)
CALL E03	**DXH8KB**		
Contents of trouble	• When signal is output to transmission forward clutch ECMV circuit, an abnormal current flows.		
Action of controller	• Flashes warning lamp and turns on caution buzzer. • Stops outputting to transmission forward clutch ECMV circuit. • Limits operation of engine and transmission.		
Problem that appears on machine	• Once machine is stopped, engine speed is limited to medium (half). • Once machine is stopped, travel is limited to R1.		
Related information	• Output (Current) to forward clutch ECMV can be checked in monitoring mode. (Code **31608**, **31622**: Output current of forward clutch ECMV) • Method of reproducing error code: Start engine and drive machine forward.		

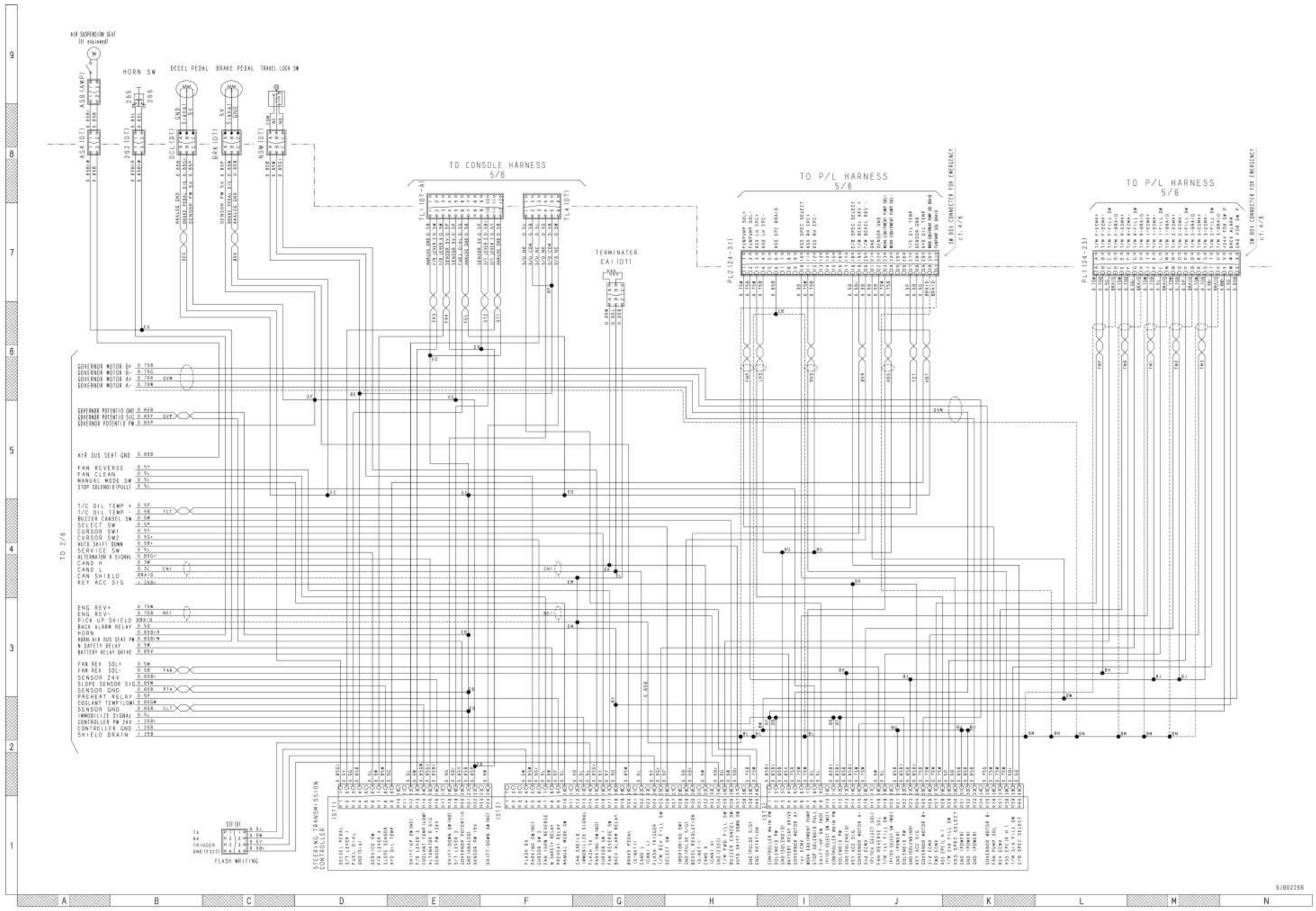
	Cause		Standard value in normal state/Remarks on troubleshooting		
Possible causes and standard value in normal state	1	Defective forward clutch ECMV (Internal short circuit)	★ Prepare with starting switch OFF and carry out troubleshooting with switch OFF.		
			FSOL (male)	Resistance	
			Between (1) - (2)	5 - 25 Ω	
			Between (1) - chassis ground	Min. 1 MΩ	
	2	Short circuit with chassis ground in wiring harness (Contact with ground circuit)	★ Prepare with starting switch OFF and carry out troubleshooting with switch OFF.		
			Wiring harness between ST3 (female) (27) - FSOL (female) (1) with chassis ground	Resistance	Min. 1 MΩ
	3	Defective short circuit in wiring harness (Short circuit in wiring harness)	★ Prepare with starting switch OFF and carry out troubleshooting with switch OFF.		
			Wiring harness between ST3 (female) (27) - FSOL (female) (1) and ST3 (female) (13) - FSOL (female) (2)	Resistance	Min. 1 MΩ
	4	Defective steering and transmission controller	★ Prepare with starting switch OFF and carry out troubleshooting with switch OFF.		
			ST3 (female)	Resistance	
			Between (27) - (13)	5 - 25 Ω	
			Between (27) - chassis ground	Min. 1 MΩ	

Circuit diagram related to transmission forward clutch ECMV



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Electrical circuit diagram (3/6)



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