Shop Manual
Part I

VEBM210100

WA400-5H

WHEEL LOADER

MODEL	SERIAL NUMBER
WA400-5H	WA400H50051 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.

- WA400-5 mount the SAA6D114E-2 engine.
  For details of the engine, see the 114-2 Series Engine Shop Manual

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SPECIFICATIONS

Machine model				WA400-5H	
Serial No.				WA400H50051 and up	
Weight	Operating weight		kg	18,100	
	Distribution (front) SAE travel posture			8,600	
	Distribution (rear) SAE travel posture		kg	9,420	
Performance	Bucket capacity (piled)		m^3	3.5	
	Rated load		kg	5,600	
				N mode	P mode
	Travel speed	FORWARD 1st	km/h	5.3	6.8
		FORWARD 2nd	km/h	9.3	12.3
		FORWARD 3rd	km/h	16.7	21.4
		FORWARD 4th	km/h	27.0	34.0
		REVERSE 1st	km/h	5.7	7.3
		REVERSE 2nd	km/h	9.9	12.8
		REVERSE 3rd	km/h	17.7	22.6
		REVERSE 4th	km/h	27.9	35.0
	Max. rimpull	FORWARD	kN {kg}	119 {12,110}	154 {15,700}
		REVERSE	kN {kg}	111 {11,340}	114 {14,700}
	Gradeability		deg	25	
	Min. turning radius	(Center of outside wheel)	mm	5,620	
	SAE travel posture	(tip of BOC)	mm	6,560/6,595	
Dimensions	Overall length (with BOC)		mm	8,265	
	Overall width (chassis)		mm	2,780	
	Bucket width (with BOC)		mm	2,905	
	Overall height (top of cab)		mm	3,380	
	Overall height (Bucket approx. raised to max.)		mm	5,710	
	Wheel base		mm	3,300	
	Tread		mm	2,160	
	Min. ground clearance		mm	455	
	Max. height of bucket hinge pin		mm	4,165	
	Dumping clearance (tip of BOC)		mm	3,105 / 3,015	
	Dumping reach (tip of BOC)		mm	1,105 / 1,150	
	Steering angle		deg	40	
	Bucket tilt angle (travel posture)		deg	47	
	Bucket tilt angle (max. height)		deg	66	
	Bucket dump angle (max. height)		deg	48	
	Digging depth (10° dump) (tip of BOC)		mm	245/290	

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3) Description of the control

(1)	T/M cutoff control		This function causes the T/M to neutral as a pressure greater than the predetermined level is signaled by the left brake pressure sensor (when T/M cutoff switch is ON).
(2)	Set up of cutoff point	Enable condition	T/M cutoff switch ON (T/M cutoff is enabled)
		Setup procedure	① Step on the left brake pedal until it comes to the position desired as the cutoff point. ② Push and release the T/M cutoff set switch. ③ The pressure at the time when the switch is released is temporarily stored. The setup complete buzzer is sounded twice (beep). ④ At the same time, the indicator built in the T/M cutoff switch flashes for 2.5 seconds. ⑤ After the flashing for 2.5 seconds, the brake position is stored on memory (your setting is held after the key is turned off).
		Reset procedure	① Push and release the T/M cutoff set switch. ② The indicator built in the T/M cutoff switch will flash for 2.5 seconds. ③ While the flashing continued, push and release the T/M cutoff set switch again. ④ As the flashing is ended, the cutoff point is set as the default left brake pressure. The setup cancel buzzer is sounded. ⑤ The setup (default) value is stored on memory (the set value is held after the key is turned off).

4) Output conditions for the buzzer, indicator (main monitor) and indicator built in the T/M cutoff switch

Output condition	Indicator built in the T/M cutoff switch	Buzzer sound	Cutoff point
When T/M cutoff switch is ON	Comes on	Not available	Control is done based on the value stored in previous operation
While T/M cutoff point is being set	Flashes	Setup complete buzzer is sounded as the set switch is released	Pressure at your releasing the set switch is stored
When T/M cutoff switch is ON but error is present on sensor	Goes off	Not available	No control is provided. Stored value is not changed.
When T/M cutoff switch is ON but error is present on set switch	Goes off	Not available	Control is done based on the value stored in previous operation. Stored value is not changed.
When T/M is OFF	Goes off	Not available	No control is provided

5) T/M cutoff point settable range

Settable range	
0.49–4.41MPa {5–45kg/cm²}	Note: If you specify a value less than 0.49MPa (5kg/cm²), it will be set as 0.49MPa (5kg/cm²). Note: When a value larger than 4.41MPa (45kg/cm²), it will be set as 4.41MPa (45kg/cm²). The default value is 1.47MPa (15kg/cm²).

A separation of 0.20MPa {2kg/cm²} is provided between the cutoff IN pressure (causing T/M to neutral) and OUT (reset) pressure.
Example: When 0.98MPa (10kg/cm²) is set on the pressure sensor
Cutoff IN pressure = 0.98MPa (10kg/cm²)
Cutoff OUT pressure = 0.78MPa (8kg/cm²)

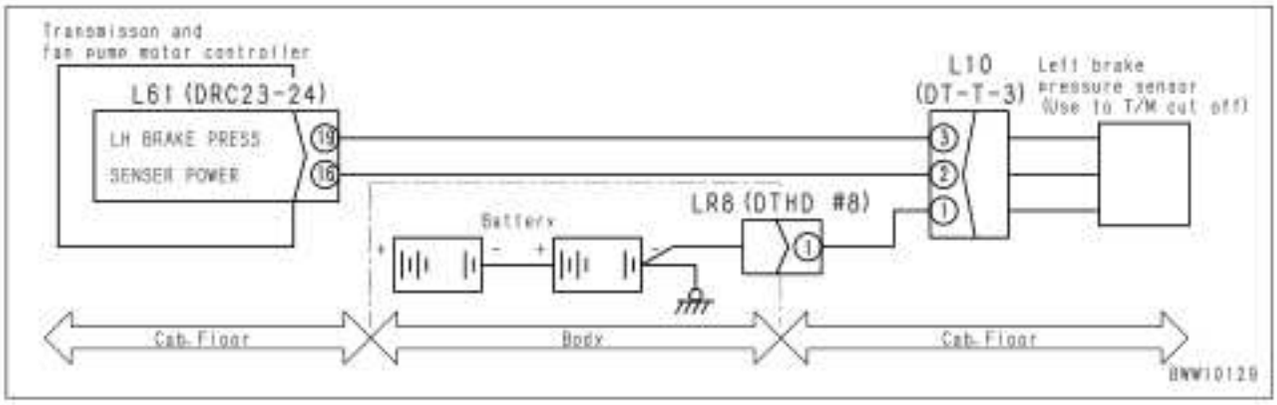
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ERROR CODE [DHT1KX]

Action Code	Error Code	Controller Code	Trouble	Transmission cut-off (Left brake pressure sensor) signal discontinuity
E01	DHT1KX	TM		
Description of Trouble	• Due to discontinuity of the left brake pressure sensor signal system, no oil pressure sensor signal for the left brake oil pressure can be input.			
Controller Reaction	• Cancels the transmission cut-off function.			
Effect on Machine	• Does not perform transmission cut-off when the left brake is stepped on while the transmission cut-off function is on.			
Related Information	• Left brake oil pressure can be checked with the monitoring function (Code: 41100, LH BRAKE). • Can be checked by stepping on the left brake while the transmission cut-off function is on.			

Possible Causes and Standard Values	Causes		Standard Values in Normal State and Remarks on Troubleshooting			
	1	Defective left brake pressure sensor	1) Turn starting switch OFF. 2) Disconnect connector L10. 3) Connect T-adapter. 4) Start engine. 5) Step on the left brake.			
			L10	Between 2 – 1 (Power supply)	Voltage	20 – 30 V
				Between 3 – 1 (Signal)	Voltage	0.7 – 5.3 V
				Between 3 – 1 (Note: when open to atmosphere)	Voltage	0.5 – 1.5 V
	2	Wiring harness discontinuity (Disconnection or defective contact)	1) Turn starting switch OFF. 2) Disconnect connectors L61 and L10. 3) Connect T-adapter.			
			Wiring harness between L61 (Female) I – L10 (Female) 3		Resistance	1 Ω or below
			Wiring harness between L61 (Female) F – L10 (Female) 2		Resistance	1 Ω or below
			Wiring harness between L10 (Female) 1 – body		Resistance	1 Ω or below
	3	Defective transmission and fan pump motor controller	1) Turn starting switch OFF. 2) Disconnect connector L61. 3) Connect T-adapter. 4) Turn starting switch ON. 5) Step on the left brake.			
			L61	Between F – body (Power supply)	Voltage	20 – 30 V
				Between I – body (Signal)	Voltage	0.7 – 5.3 V

Related circuit diagram



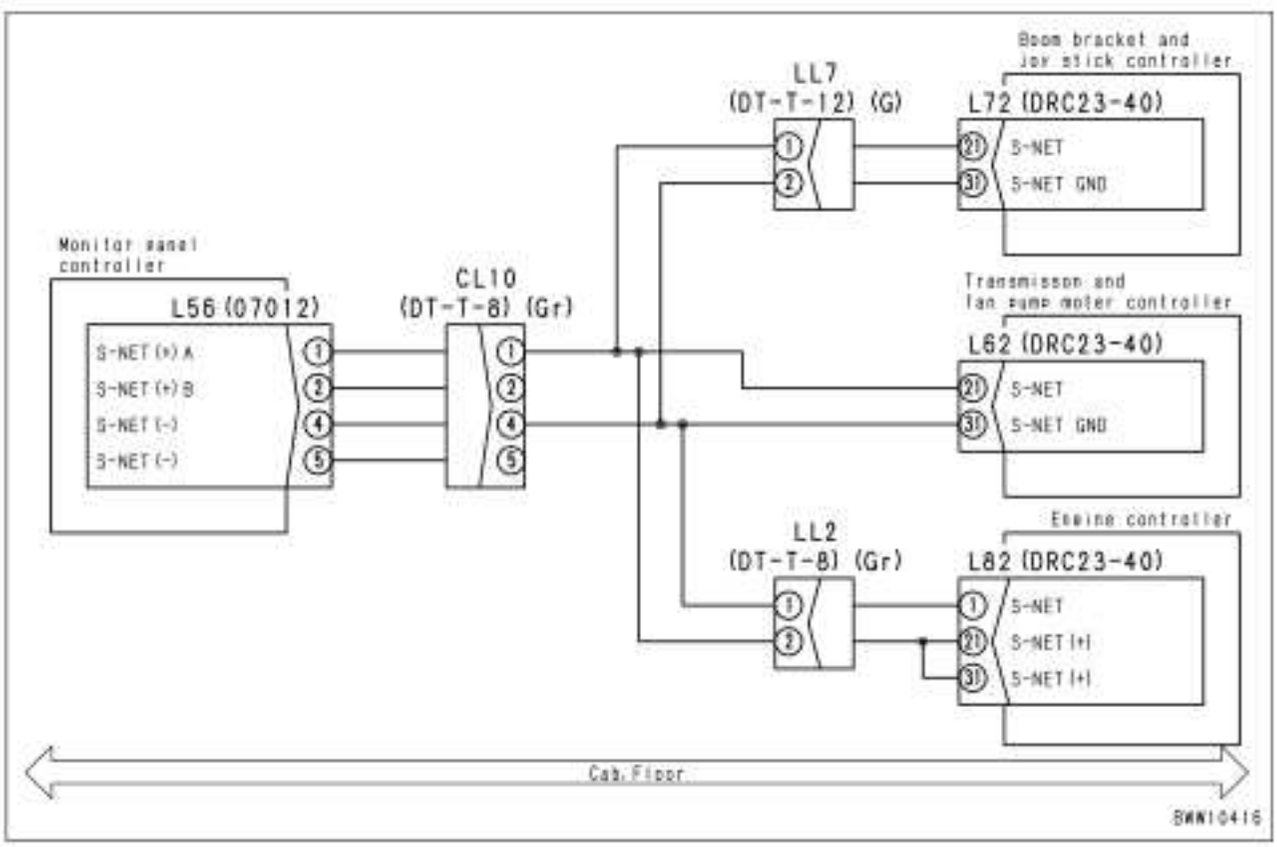
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ERROR CODE [DB2SKR]

Action Code	Error Code	Controller Code	Trouble	S-NET communication failure (Between monitor panel and engine controller)
E03	DB2SKR	MON		
Description of Trouble	• Disconnection, ground fault, or hot-short has occurred in the S-NET (+) signal line between the monitor panel and the engine controller.			
Controller Reaction	• Activates an alarm.			
Effect on Machine	• The engine pre-heating monitor does not turn ON during automatic pre-heating cycle. • An engine stop may occur when the machine is running in the FR crosscut mode.			
Related Information	—			

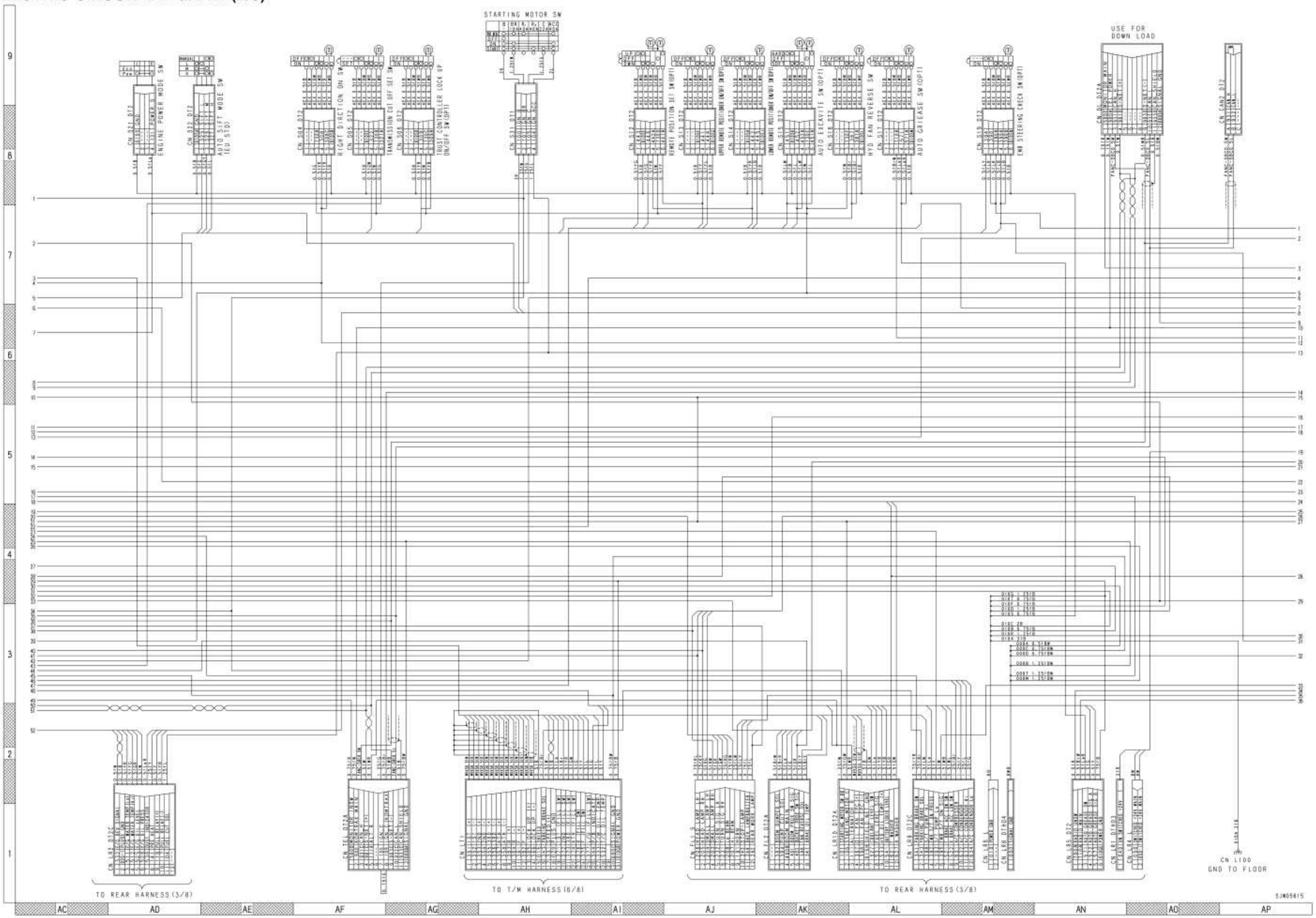
		Causes	Standard Value in Normal State and Remarks on Troubleshooting		
Possible Causes and Standard Values	1	Wiring harness discontinuity	1) Turn starting switch OFF. 2) Disconnect connectors L56 and L82. 3) Connect T-adapter.		
			Wiring harness between L56 (Female) ① – L82 (Female) ㉑	Resistance	1 Ω and below
	2	Wiring harness ground fault	1) Turn starting switch OFF. 2) Disconnect connectors L56, L62, (L72), L80, L82, and L07. 3) Insert T-adapter.		
			Between L56 (Female) ①/L62 (Female) ㉑ – body	Resistance	1 MΩ and above
	3	Wiring harness hot-short	1) Turn starting switch OFF. 2) Disconnect connectors L56 and L82. 3) Connect t-adapter. 4) Turn starting switch ON.		
			Between L56 (Female) ①/L82 (Female) ㉑ – body	Voltage	1 V or less
	4	Defective monitor panel	1) Turn starting switch OFF. 2) Disconnect connectors L56. 3) Insert T-adapter. 4) Turn starting switch ON.		
			Between L56 ①/② – body	Voltage	4 – 8 V
			Between L56 ①/② – L56 ④/⑤	Voltage	4 – 8 V

Related circuit diagram



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ELECTRIC CIRCUIT DIAGRAM (2/8)



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