SEN06411-02

Shop Manual

WHEEL LOADER

WA380 -6
WA380Z-6

SERIAL NUMBERS WA380- 65001 and up
WA380Z- 66847

ecot3

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1. Relief valve
2. Flow control spool
3. Steering relief valve
4. Steering spool
5. Overload relief valve

Unit: mm

No.	Check item	Criteria					Remedy
		Standard size			Repair limit		
		Free length	Installed length	Installed load	Free length	Installed load	
6	Steering spool return spring	37.2	32.0	56.9 N (5.80 kg)	—	45.5 N (4.64 kg)	Replace
7	Poppet spring	20.9	13.2	8.8 N {0.9 kg}	—	7.0 N {0.72 kg}	
8	Flow control spool return spring	69.65	68.5	147.1 N (15.0 kg)	—	117.7 N (12.0 kg)	
9	Steering relief valve spring	24.0	22.2	182 N (18.6 kg)	—	145.6 N (14.8 kg)	
10	Relief valve spring	29.75	26.5	55.3 N (5.64 kg)	—	44.2 N (4.51 kg)	

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Failure code [AA1ANX] (Air cleaner: Clogging)

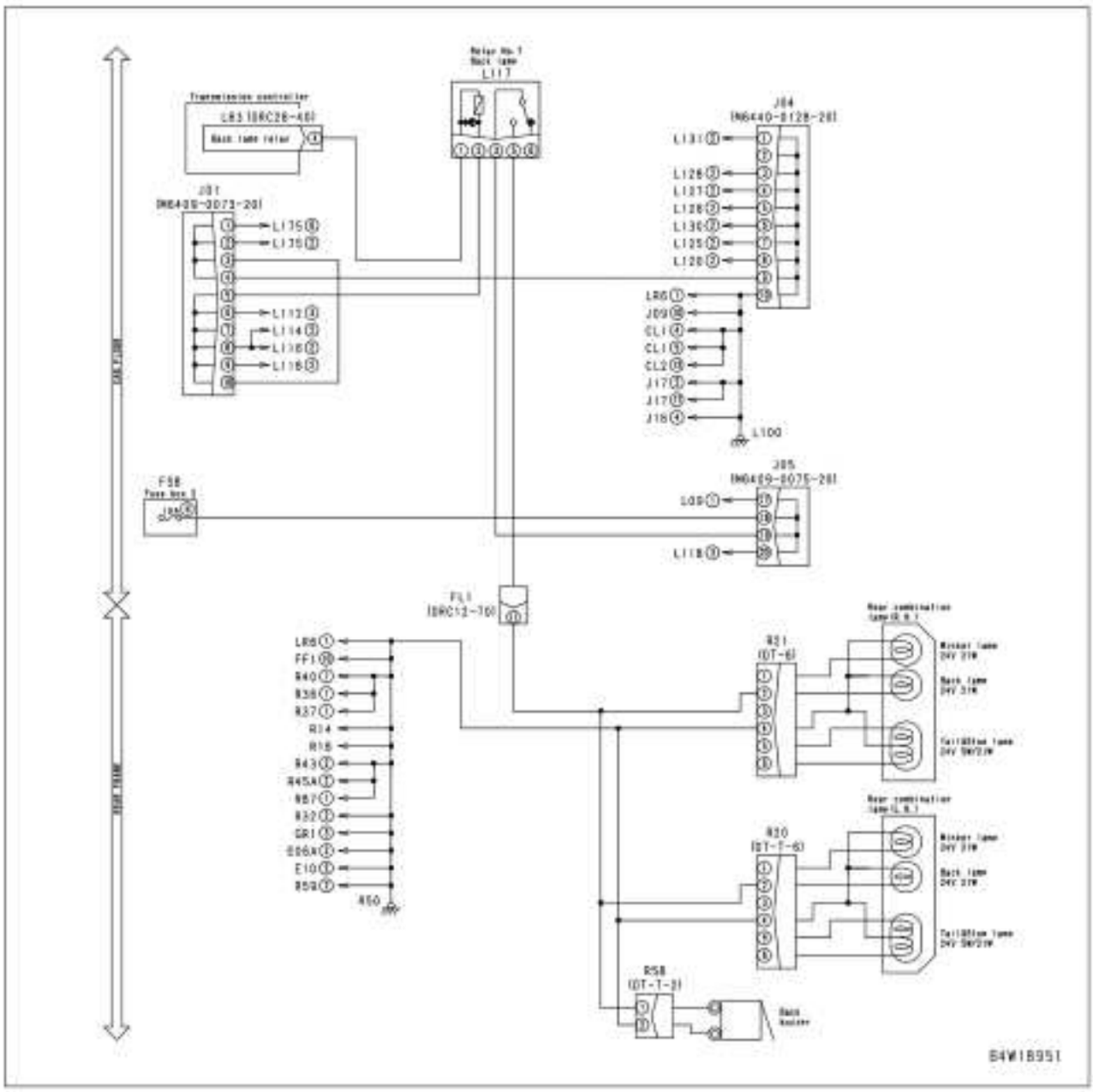
Action code	Failure code	Trouble	Air cleaner: Clogging (Machine monitor system)
E01	AA1ANX		
Contents of trouble	• When the engine is started, the air cleaner clogging sensor circuit is OPEN.		
Action of controller	• Turns the air cleaner clogging caution lamp ON. • If problem is removed, system is returned to normal operating state.		
Problem that appears on machine	• The engine does not start or pick up easily, its output is insufficient, and its exhaust gas color is black.		
Related information	• The input state (ON/OFF) from the air cleaner clogging sensor can be checked with the monitoring function (Code: 40902, D-IN-20). • Method of reproducing failure code: Start engine		

	Causes		Standard value in normal state/Remarks on troubleshooting			
Possible causes and standard value in normal state	1	Clogged air cleaner	The air cleaner may be clogged. Check it directly.			
	2	Defective dust indicator (Internal short circuit)	★ Prepare with starting switch OFF, then start engine and carry out troubleshooting.			
			Replace the dust indicator	If the condition becomes normal, the trouble is attributable to defective indicator.		
	3	Defective dust indicator relay (L112) (Internal disconnection or short circuit)	★ Prepare with starting switch OFF, then carry out troubleshooting without turning starting switch ON.			
			L112 (Male)	Resistance		
			Between (1) and (2)	200 – 400 Ω		
			★ Prepare with starting switch OFF, then start engine and carry out troubleshooting.			
			When dust indicator relay (L112) is replaced with a relay of the same type (5-pin type), if the condition becomes normal, the exchange relay is defective.			
	4	Disconnection in wiring harness (Disconnection or defective contact in connector)	★ Prepare with starting switch OFF, then carry out troubleshooting without turning starting switch ON.			
			Wiring harnesses between L112 (female) (2) – E33 (female) (1)	Resistance	Max. 1 Ω	
			Wiring harnesses between E33 (female) (2) – chassis ground	Resistance	Max. 1 Ω	
	5	Grounding fault in wiring harness (Contact with ground circuit)	★ Prepare with starting switch OFF, then carry out troubleshooting without turning starting switch ON.			
			Wiring harness between L112 (female) (2) – E33 (female) (1) and chassis ground	Resistance	Min. 1 MΩ	
	6	Defective machine monitor	★ Prepare with starting switch OFF, then start engine and carry out troubleshooting.			
			L53	Dust indicator	Voltage	
			Between (3) and chassis ground	Normal (Air cleaner is normal)	20 – 30 V	
				Defective (Air cleaner is clogged)	Max. 1 V	

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Possible causes and standard value in normal state	Causes		Standard value in normal state/Remarks on troubleshooting		
			★ Prepare with starting switch OFF, then turn starting switch ON and carry out troubleshooting.		
	6	Hot short in wiring harness (Contact with 24V circuit)	Wiring harness between L117 (female) (5) – R20 (female) (2), – R21 (female) (2), – circuit branch end and chassis ground	Voltage	Max. 1 V

Circuit diagram related to backup lamp relay

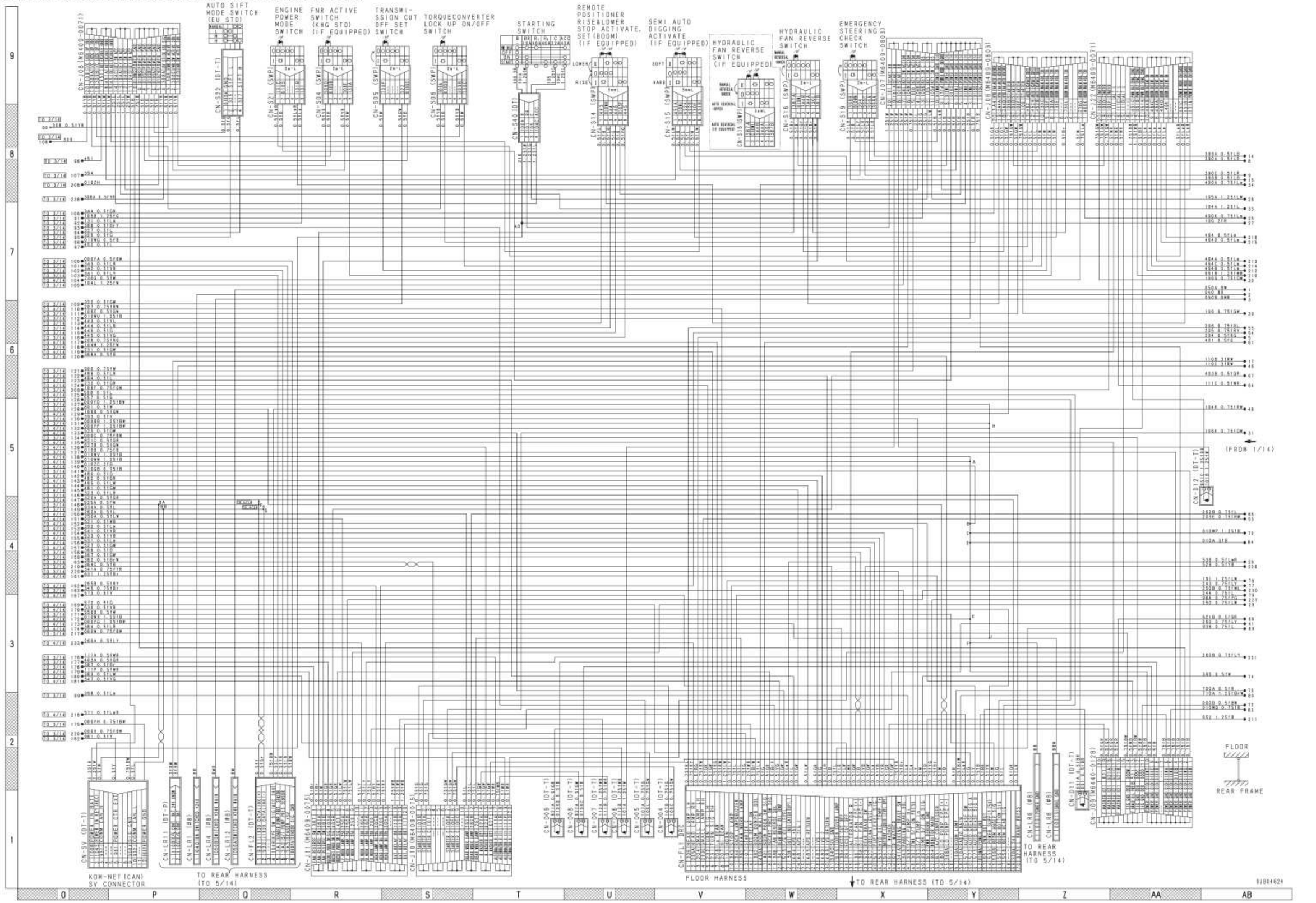


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Electrical circuit diagram (2/14)

Common to WA380-6, WA430-6, WA470-6 and WA480-6

★ This figure covers the equipment and devices that are unavailable as optional items in some areas.



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