CEBM031404

Shop Manual

KOMATSU®

PC290LL-11

LOG LOADER
ROAD BUILDER

SERIAL NUMBERS **PC290LL-11 A29501 and up**

ENGINE **6D107E-3**

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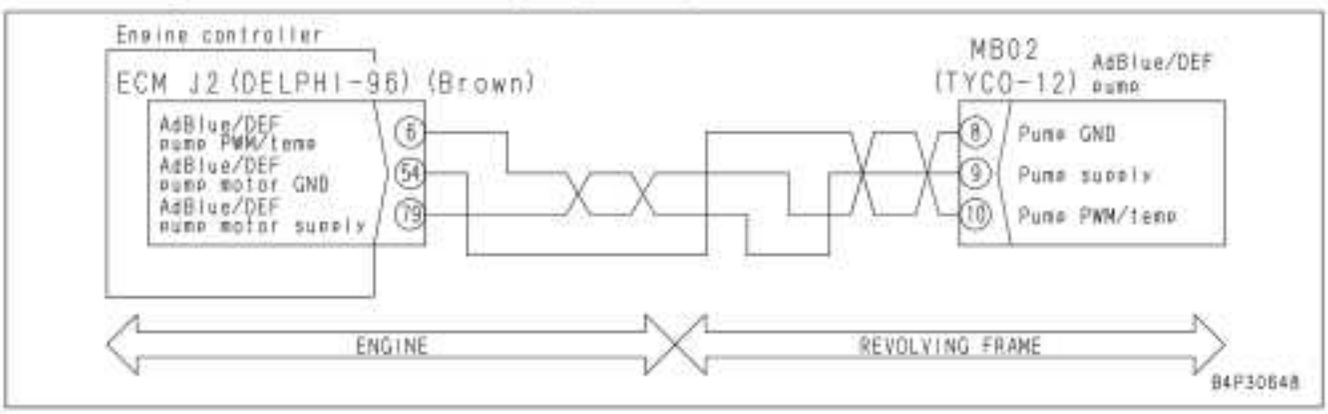
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No.	Cause	Procedure, measuring location, criteria and remarks		
5	Ground fault in wiring harness (contact with GND circuit)	1. Turn starting switch to OFF position. 2. Disconnect connectors ECM J2 and MB02, and connect T-adapter to either female side.		
		Resistance	Between ECM J2 (female) (6) or MB02 (female) (10) and ground	Min. 100 kΩ
			Between ECM J2 (female) (79) or MB02 (female) (9) and ground	Min. 100 kΩ
6	Hot short circuit in wiring harness	1. Turn starting switch to OFF position. 2. Disconnect connector MB02, and connect T-adapter to female side. 3. Turn starting switch to ON position.		
		Voltage	Between MB02 (female) (10) and (8)	Max. 4.5 V
7	Defective DEF pump temperature sensor (internal defect)	If no failure is found by preceding checks, DEF pump temperature sensor may be defective. (In case of an internal defect, troubleshooting is impossible as an assembly. Replace whole assembly.)		
8	Defective engine controller	If no failure is found by above checks, engine controller is defective. (Since this is an internal defect, troubleshooting cannot be performed.)		

Circuit diagram related to DEF pump temperature sensor



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FAILURE CODE [D8AQKR] CAN 2 Defective Communication (KOMTRAX)

Action level	Failure code	Failure	CAN 2 Defective Communication (KOMTRAX) (Detected by machine monitor.) (Machine monitor system)
—	D8AQKR		
Detail of failure	Machine monitor does not recognize KOMTRAX over CAN communication-2 line (KOMNET/c).		
Action of machine monitor	None		
Phenomenon on machine	None		
Related information	• After repairing, check if the failure code is cleared by the following procedure. Procedure: Turn starting switch to ON position. • Start of CAN communication is recognized by each controller when ACC signal of starting switch is received. • 4 different failure codes, [DA2QKR], [DB2QKR], [D8AQKR], and [DAZQKR], are used for defective CAN communication by CAN2 when it is detected by machine monitor. When all of these 4 failure codes are displayed, ground fault, short circuit or hot short in wiring harness (CAN communication circuit) can be suspected. Since air conditioner is also operated through CAN communication, you must, in such case, check on air conditioner screen whether air conditioner is operable (ON/OFF and air flow of air conditioner). **REMARK** Air conditioner can be controlled even when failure code is displayed on screen. If air conditioner is controlled, wiring harness (CAN communication line) does not have ground fault, short circuit, or hot short circuit. • Since each controller and machine monitor are connected directly to battery, they are supplied with power even after starting switch is turned to OFF position. • Since signal of active CAN communication line is pulse voltage, it cannot be measured by using multimeter.		

No.	Cause	Procedure, measuring location, criteria and remarks		
1	Defective fusible link F05	1. Turn starting switch to OFF position. 2. Disconnect fusible link F05 and connect T-adapter to female side.		
		Resistance	Between F05 (female) (1) and (2)	Max. 1 Ω
		REMARK If fusible link is blown, circuit may have ground fault.		
2	Defective fuse No. 17 in fuse box F01.	1. Turn starting switch to OFF position. 2. Remove fuse No. 17 in fuse box F01.		
		If fuse is blown, circuit probably has ground fault.		
3	Defective power supply to KOMTRAX terminal	Perform troubleshooting for "KOMTRAX SYSTEM DOES NOT OPERATE NORMALLY" of E mode.		
4	Defective CAN communication 2 system	Perform checks on causes 4 to 9 in troubleshooting for failure code [DB2QKR].		
5	Defective KOMTRAX terminal	If no failure is found by the above checks, KOMTRAX terminal is defective. (In case of an internal defect, troubleshooting is impossible as an assembly. Replace whole assembly.)		
6	Defective machine monitor	If failure code is still displayed after above checks, machine monitor is defective. (Because this is an internal defect, troubleshooting cannot be performed.)		

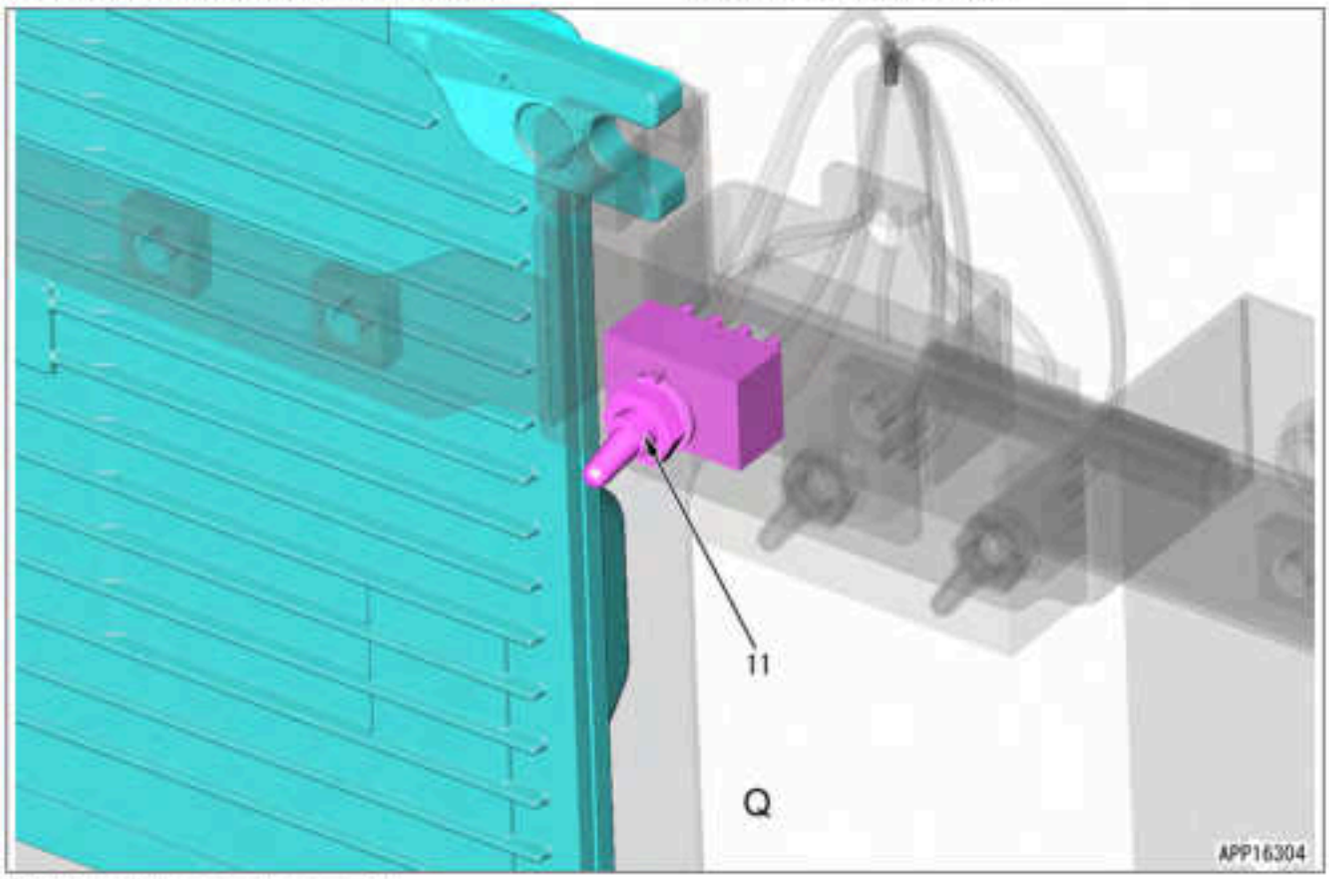
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Unit: mm

No.	Item	Lubrication interval	Criteria					Remedy
			Width of boss		Width of hinge		Standard clearance	
			Standard dimension	Tolerance	Standard dimension	Tolerance		
7	Joint of revolving frame and boom	-	625.5	0 -1.5	630	+3 0	4.5 to 9.0	Adjust clearance to 1.0 mm or less by using shims
		(*2) 500 hours	L7: Adjust by combining shims 2.0 mm thickness (2), 2.5 mm thickness (1), 3.0 mm thickness (1), and 3.5 mm thickness (1) R7: Insert shim of 2.0 mm thickness (1)					
8	(*1) Joint of revolving frame and boom cylinder	-	96	±1.2	99.3	+1.5 0	2.1 to 6.0	Adjust clearance to 1.5 mm or less by using shims
		(*2) 500 hours	L8: Adjust by combining shims 1.0 mm thickness (1) and 2.0 mm thickness (2) R8: Insert shim of 1.0 mm thickness (1)					
9	Joint of boom and boom cylinder	-	695	±2.9	701	+3 -1	2.1 to 11.9	Adjust clearance to 1.5 mm or less by using shims
		(*2) 500 hours	L9-1: Adjust by combining shims 1.0 mm thickness (1) and 2.0 mm thickness (2) L9-2: Insert shim of 1.0 mm thickness (1) R9-1: Insert shim of 1.0 mm thickness (1) R9-2: Insert shim of 1.0 mm thickness (1)					
10	Joint of boom and arm cylinder	-	116	±1.2	119.3	+1.5 0	2.1 to 6.0	Adjust clearance to 1.5 mm or less by using shims
		(*2) 500 hours	L10: Insert shim of 1.0 mm thickness (1) R10: Adjust by combining shims 1.0 mm thickness (1) and 2.0 mm thickness (2)					
11	Joint of boom and arm	-	305.5	0 -0.5	310	+0.5 0	4.5 to 5.5	Adjust clearance to 1.0 mm or less by using shims
		(*2) 500 hours	L11: Insert shim of 2.0 mm thickness (1) R11: Adjust by using shim 2.0 mm thickness (1) or 2.5 mm thickness (1) or 3.0 mm thickness (1)					
12	Joint of arm cylinder and arm	-	106	±1.2	109.3	+1.5 0	2.1 to 6.0	Replace shim
		(*2) 500 hours	L12: Insert shim of 1.0 mm thickness (1) R12: Insert shim of 1.0 mm thickness (1)					
13	Joint of arm and bucket cylinder	-	96	±1.2	99.3	+1.5 0	2.1 to 6.0	Adjust clearance to 1.5 mm or less by using shims
		(*2) 500 hours	L13: Insert shim of 1.0 mm thickness (1) R13: Adjust by combining shims 1.0 mm thickness (1) and 2.0 mm thickness (2)					
14	Joint of link and bucket	-	325	±0.5	326.5	±1	0 to 3.0	-
		(*2) 500 hours	L14: - R14: -					

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3: Pump controller
4: Resistor for PC-EPC valve
5: One-touch power maximizing switch
6: R.H. travel FORWARD pressure sensor
7: L.H. travel FORWARD pressure sensor
8: L.H. travel REVERSE pressure sensor
9: R.H. travel REVERSE pressure sensor
10: Service pressure switch

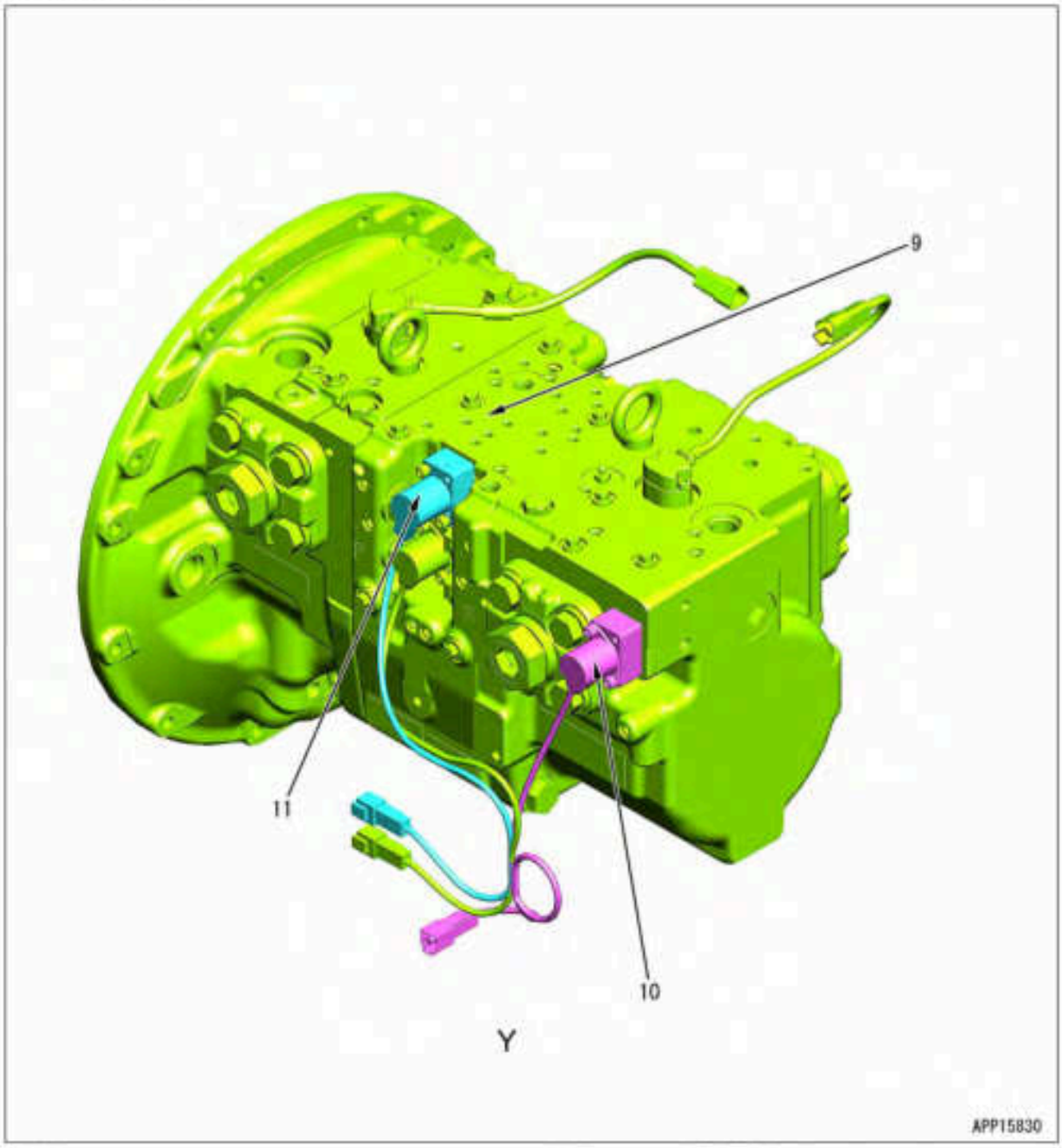


11: Pump drive secondary switch

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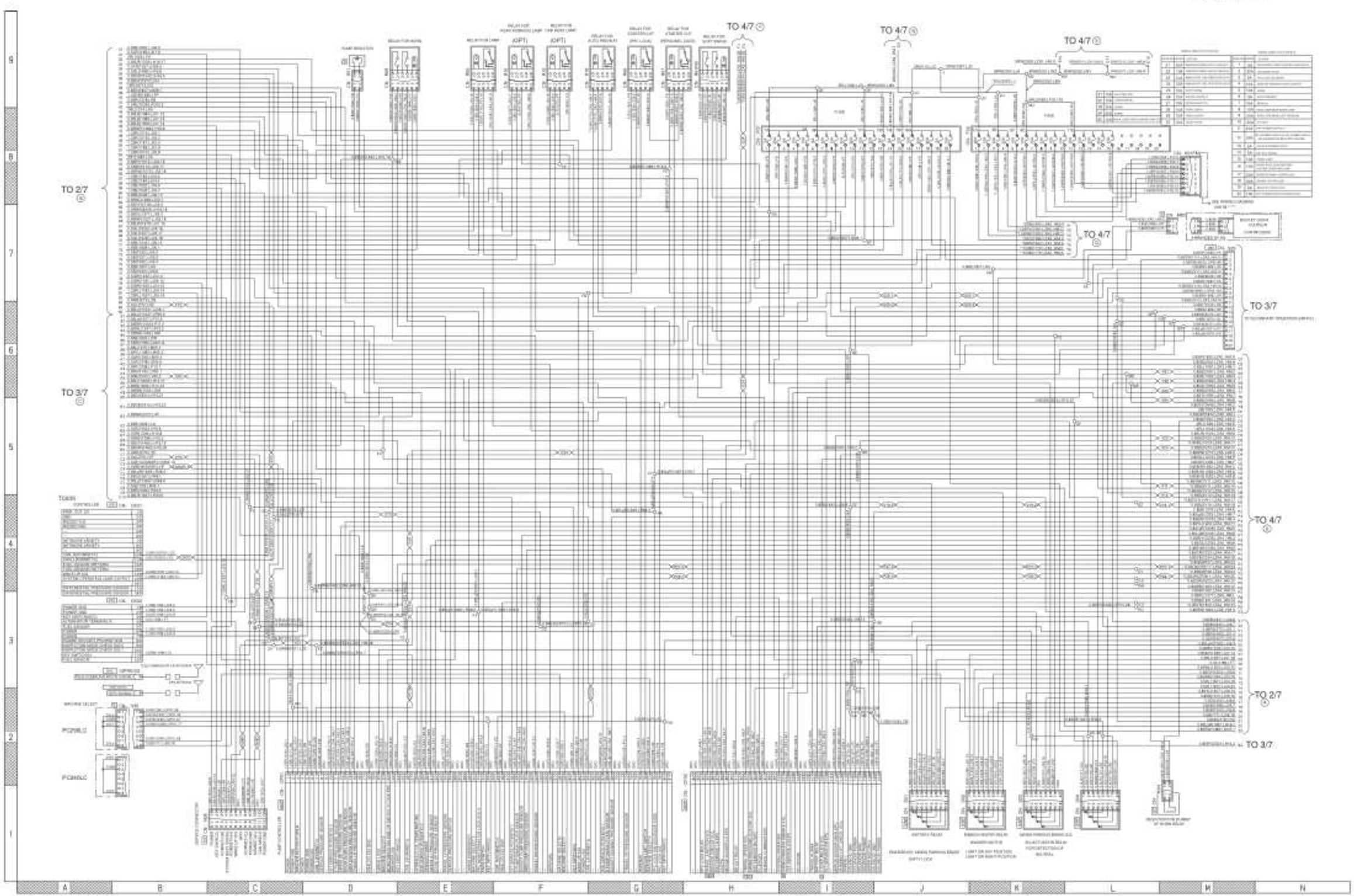
LAYOUT DRAWING OF WORK EQUIPMENT SYSTEM DETAIL

Chassis Detail



9: Main pump
10: Rear pump PC-EPC valve
11: Front pump PC-EPC valve

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