SEN06507-02

Shop Manual

HYDRAULIC
EXCAVATOR

PC290LC-11

SERIAL NUMBERS 35001 and up

KOMATSU®

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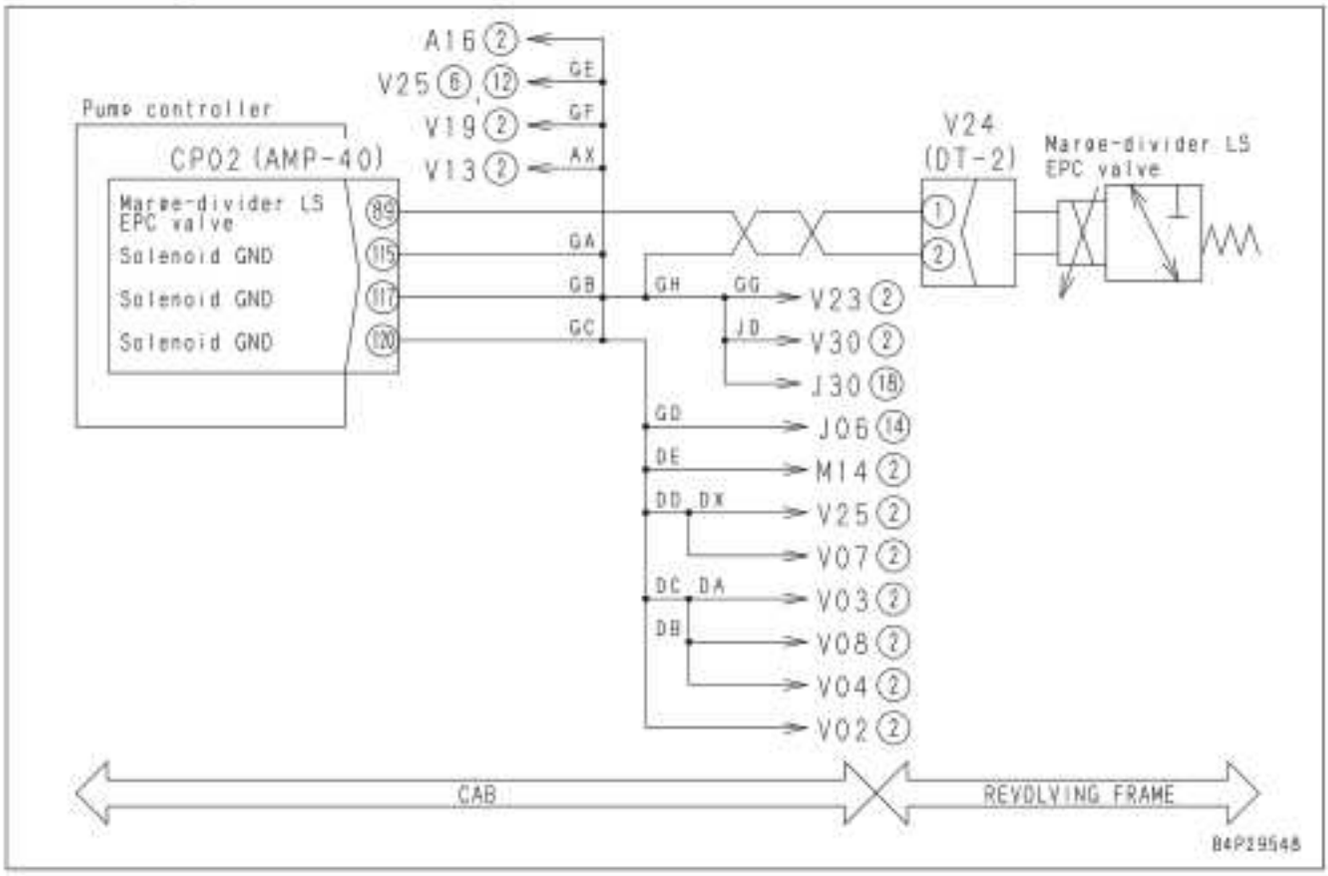
FAILURE CODE [CA2381] KVGT Position Sensor High Error

Action level	Failure code	Failure	KVGT Position Sensor High Error (Engine controller system)
L03	CA2381		
Details of failure	High voltage is generated in KVGT position sensor signal circuit.		
Action of controller	• Engine power deration. • EGR valve closes and fully opens KVGT. • Regeneration control stops.		
Phenomenon on machine	Engine power deration		
Related information	• Signal voltage from KVGT position sensor can be checked with monitoring function. (Code: 48701 (V)) • Position (mm) detected by KVGT position sensor can be checked with monitoring function. (Code: 48700 (mm)) • Engine power deration is canceled when the failure code is cleared and the starting switch is turned OFF (not canceled only by deactivation of the failure code). • After repairing, check if the failure code is cleared by the following procedure. Procedure: Turn starting switch to ON position.		

No.	Cause	Procedure, measuring location, criteria and remarks		
1	Defective wiring harness connector	1. See descriptions of wiring harness and connectors in "c: Electrical equipment" in "CHECKS BEFORE TROUBLESHOOTING" of "RELATED INFORMATION ON TROUBLESHOOTING", and check it. 2. Turn starting switch to ON position.		
		If this failure code is cleared, wiring harness connector is defective.		
2	Defective sensor power supply system	If failure code [CA187] or [CA227] is also displayed, perform troubleshooting these first.		
3	Defective KVGT position sensor (internal defect)	1. Turn starting switch to OFF position. 2. Disconnect connector SVGT. 3. Turn starting switch ON (with connector SVGT disconnected).		
		If failure code [CA2381] changes to [CA2382], the sensor is defective.		
4	Defective connector box (internal short circuit)	1. Turn starting switch to OFF position. 2. Disconnect connector INTER-CONNECT. 3. Turn starting switch to ON position. If failure code [CA2381] changes to [CA2382], the connector box is defective. **REMARK** Failure code [CA2349] of EGR solenoid, failure code [CA2272] of EGR sensor and failure code [CA2383] of KVGT solenoid are also displayed at the same time. However, this is because of disconnection of connector INTER-CONNECT, so ignore it.		
5	Open circuit of connector box (wire breakage of ground line or defective contact of connector)	1. Turn starting switch to OFF position. 2. Disconnect connectors INTER-CONNECT and SVGT, and connect T-adapter to male side of INTER-CONNECT or female side of SVGT.		
		Resistance	Between INTER-CONNECT (male) (9) and SVGT (female) (B)	Max. 10 Ω

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Circuit diagram related to merge-divider LS solenoid



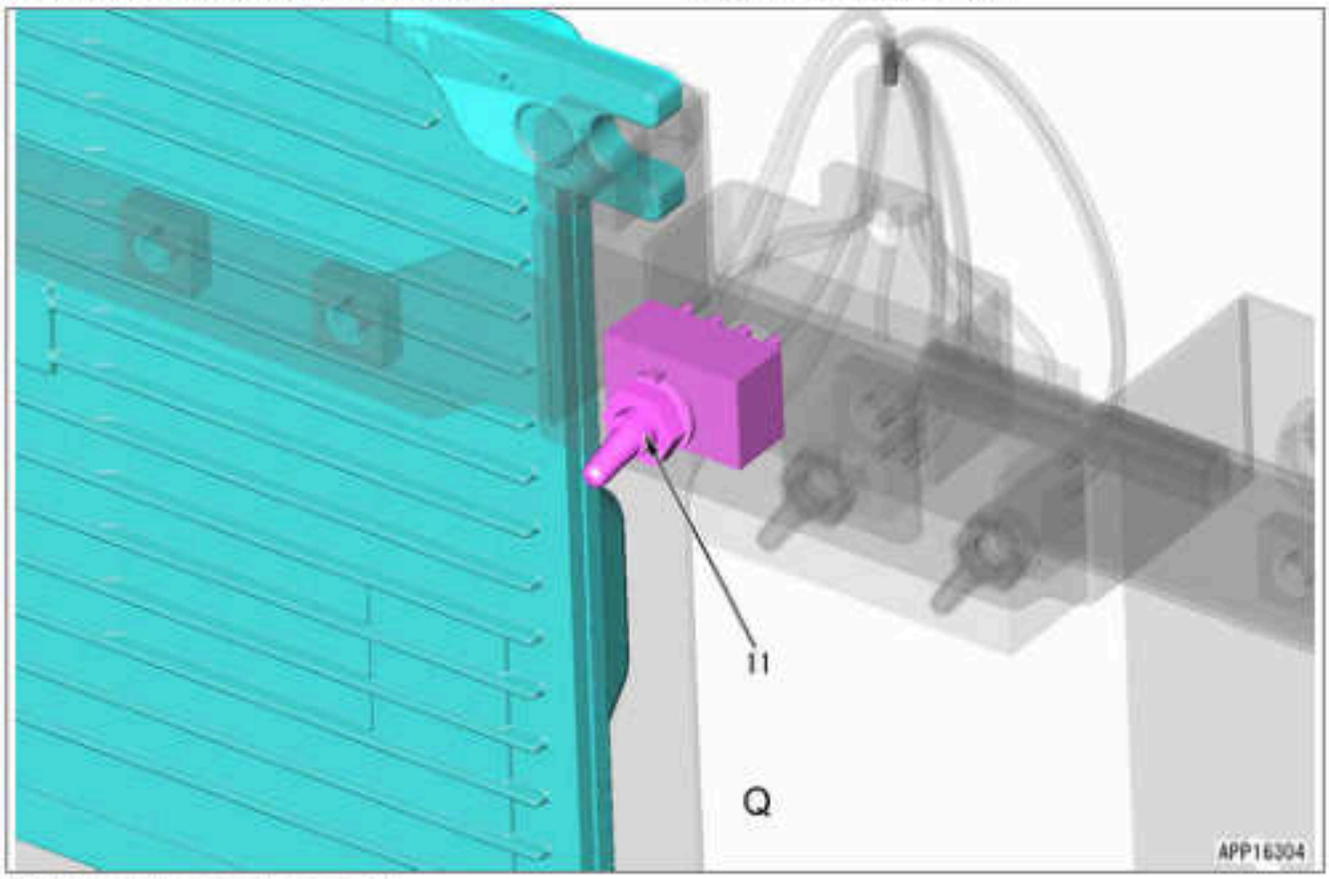
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Unit: mm

No.	Item	Criteria					Remedy
		Standard dimension			Repair limit		
1	Regulator piston spring	Free height x outside diameter	Installed height	Load at installed height	Free height	Load at installed height	Replace spring if damaged or deformed
		75.6 x 23.6	62.3	254 N {25.9 kg}	-	203 N {20.7 kg}	
2	Regulator piston spring	79.3 x 15.8	68.2	135 N {13.8 kg}	-	108 N {11 kg}	
3	Regulator valve spring	29.6 x 9.0	26.0	98.1 N {10.0 kg}	-	78.5 N {8.0 kg}	
4	Check valve spring	33.0 x 13.8	23.0	1.27 N {0.13 kg}	-	0.98 N {0.10 kg}	
5	Spool return spring	58.43 x 30.0	42.2	417 N {43.0 kg}	-	334 N {34.4 kg}	

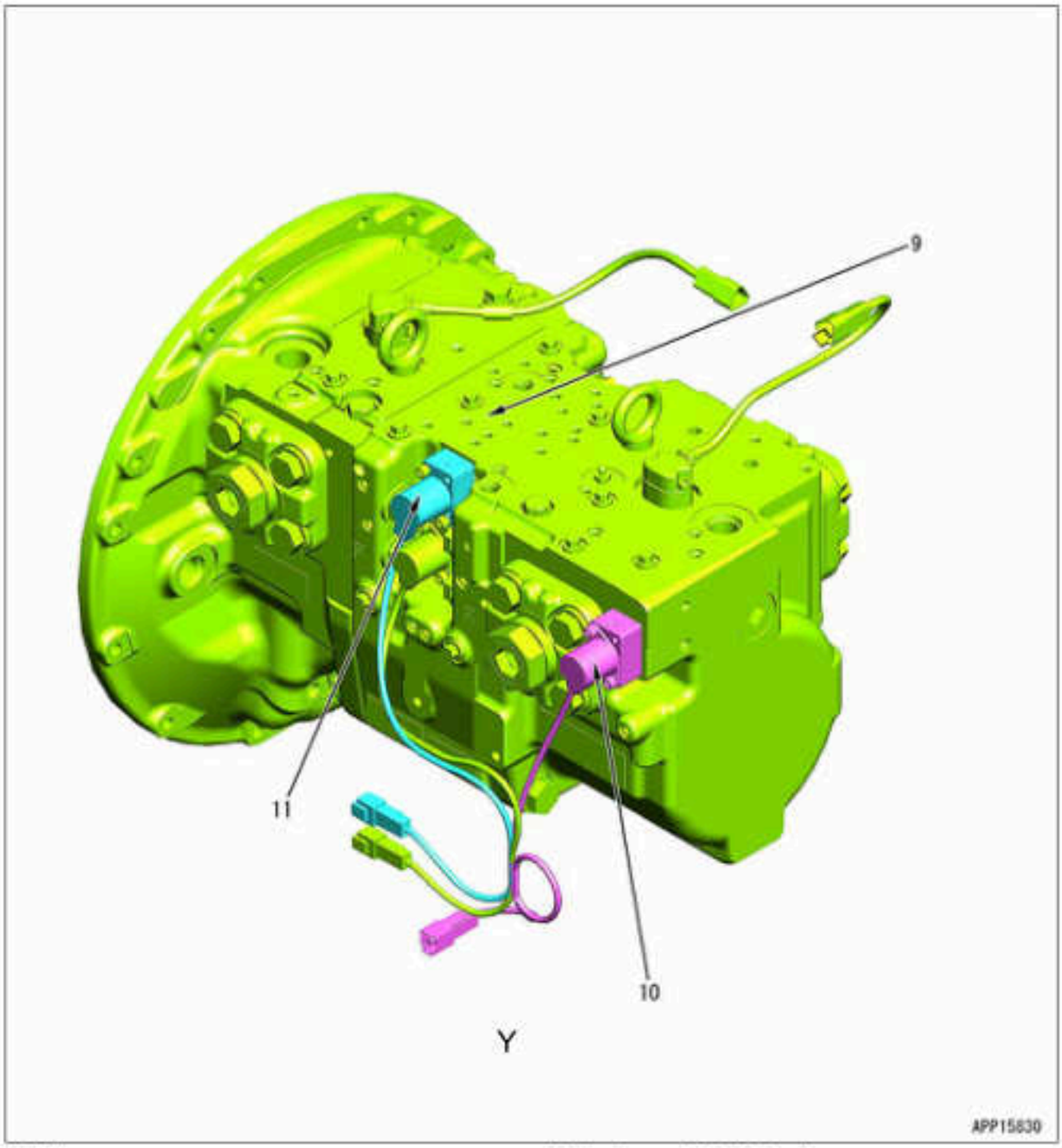
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3: Pump controller
4: Resistor for PC-EPC valve
5: One-touch power maximizing switch
6: R.H. travel FORWARD pressure sensor
7: L.H. travel FORWARD pressure sensor
8: L.H. travel REVERSE pressure sensor
9: R.H. travel REVERSE pressure sensor
10: Service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



11: Pump drive secondary switch

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

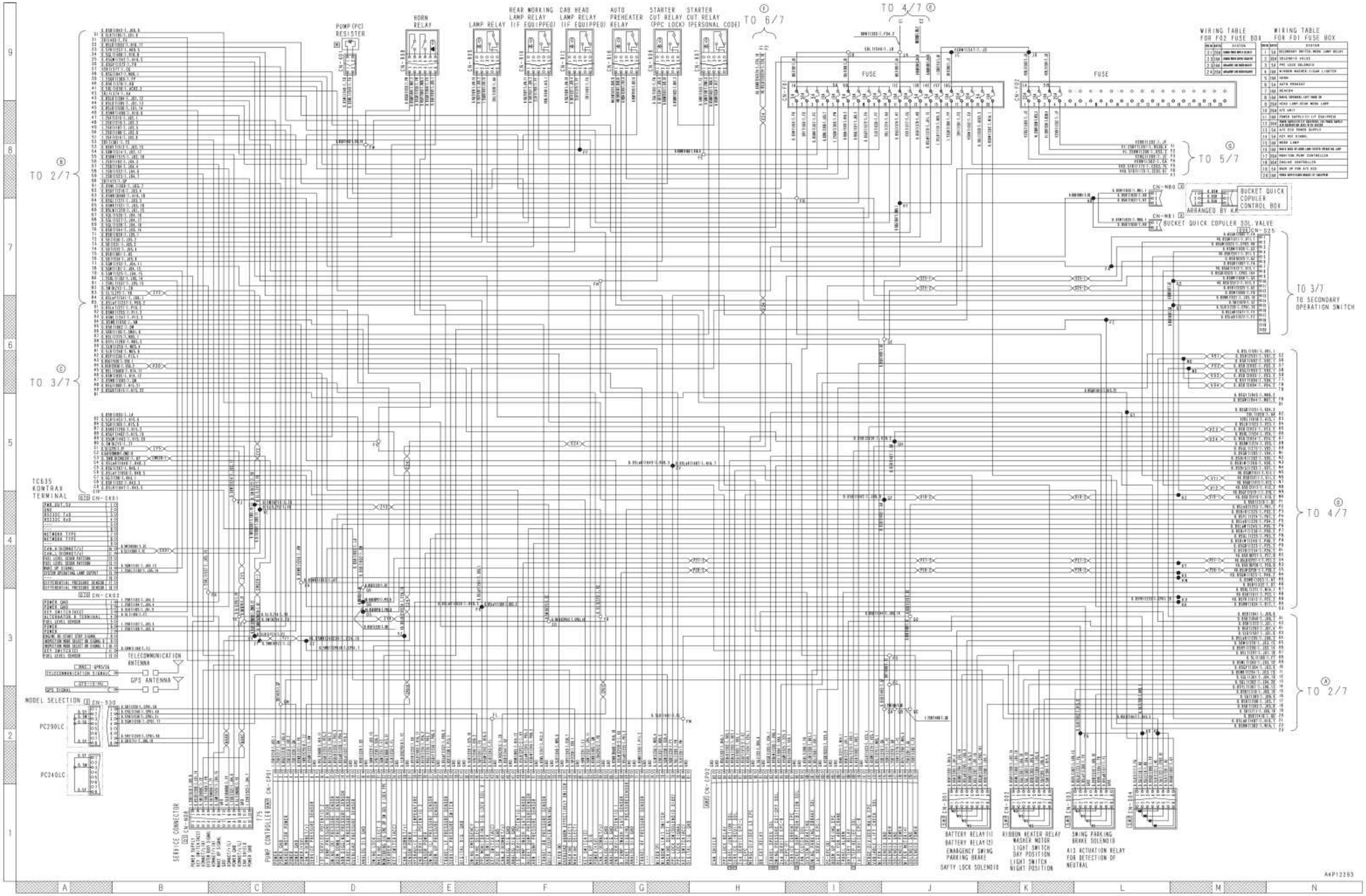
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ELECTRICAL CIRCUIT DIAGRAM (1/7)

PC290LC-11

REMARK

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



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