CEBM028803

Shop Manual

KOMATSU®

PC290LC-11

HYDRAULIC EXCAVATOR

SERIAL NUMBERS **PC290LC-11** **A27001- UP**

ENGINE **6D107E-3**

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TABLE OF FUEL, COOLANT, AND LUBRICANTS

For details of notes (Note 1, Note 2...) in the table, see the Operation and Maintenance Manual.

Reservoir	Fluid Type	Ambient Temperature, degrees Celsius -22 -4 14 32 50 68 86 104 122°F -30 -20 -10 0 10 20 30 40 50°C	Recommended Komatsu Fluids
Engine oil pan	Engine oil for KDPF used in cold terrain (Oil Change interval 250 hours)	(Note.1)	EOS5W30-LA (KES Diesel Engine Oil)
		(Note.1)	EOS5W40-LA (KES Diesel Engine Oil)
	Engine oil for KDPF (Oil Change interval 500 hours)		EO10W30-LA (KES Diesel Engine Oil)
			EO15W40-LA (KES Diesel Engine Oil)
Swing machinery case Final drive case Damper case	Powertrain oil (Note.2)		TO30 (KES)
Hydraulic system	Powertrain oil	(Note.5)	TO10 (KES)
	Hydraulic oil		HO56-HE (KES)
		(Note.5)	HO46-HM (KES)
Grease fitting	Hyper grease (Note.3)		G2-TE (KES)
	Lithium EP grease		G2-LI (KES)
Cooling system	Non-Amine Engine Coolant (AF-NAC) (Note.4)		AF-NAC (KES)
Fuel tank	Diesel fuel		ASTM D975 No.1-D S15
			ASTM D975 No.2-D S15
DEF tank	DEF	(Note.6)	DEF

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Unit: ℓ

Places to supply oil, coolant, etc.	Specified capacity	Refill capacity
Engine oil pan	25.4	24.6
Swing machinery case	8.2	7.2
Final drive case (each on right and left sides)	9.0	8.0
Damper case	0.65	0.65
Hydraulic oil system	253	132
Cooling system	38	36
Fuel tank	400	-
AdBlue/DEF tank	39.4	-

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No.	Cause	Procedure, measuring location, criteria and remarks
1	Defective CAN communication system	If failure code [CA2771] is displayed, perform troubleshooting for [CA2771] first.
2	Defective sensor power supply system	If failure code [CA1776] or [CA1777] is displayed, perform troubleshooting for [CA1776] or [CA1777] first.
3	Defective SCR outlet NOx sensor system (Open circuit, internal defect, defective sensor heater)	If failure code [CA1887] or [CA3681] or [CA3717] is displayed, perform troubleshooting for these failure codes first.
4	Defective SCR outlet NOx sensor	If no failure is found by preceding checks, the SCR outlet NOx sensor is defective. 1. Turn starting switch to OFF position. 2. Replace the SCR outlet NOx sensor. 3. Turn starting switch to ON position. 4. Perform "Loaded Diagnostics Operation To Confirm Failure Correction".
		If this failure code is cleared, the original sensor is defective. (In case of an internal defect, troubleshooting is impossible as an assembly. Replace whole assembly.)
5	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.)

Loaded Diagnostics Operation to Confirm Failure Correction

Check if the repair has been completed with the following procedure:

(Make sure this failure code is not displayed after this procedure.)

Clear this failure code by "Engine Controller Inducement Fault Clear" before step 1. (EU Specification)

1. Turn the starting switch to OFF position, and shut down the engine controller.
2. Turn the starting switch to ON position, and start the engine.
3. Run the engine at high idle speed safely to raise the exhaust gas temperature and SCR catalyst temperature. (Keep the engine speed so that monitoring code 19302 "SCR Outlet Temperature" becomes 150 °C or higher. Check that monitoring code 19210 "SCR Outlet NOx Sensor State" changes from 0 to 1.)
4. Repair is completed if failure code is not displayed after 3 minutes has passed.

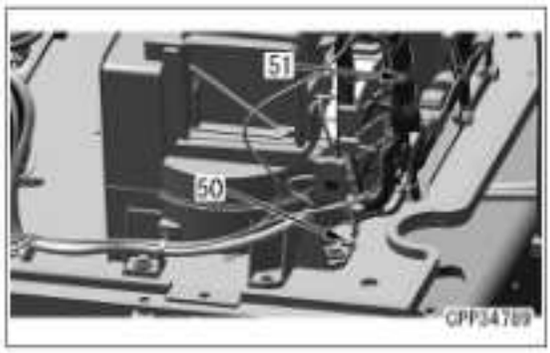
REMARK

If the SCR outlet NOx sensor does not activate (that is, 19210 "SCR Outlet NOx Sensor State" remains as 0), return to troubleshooting.

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Ground cable

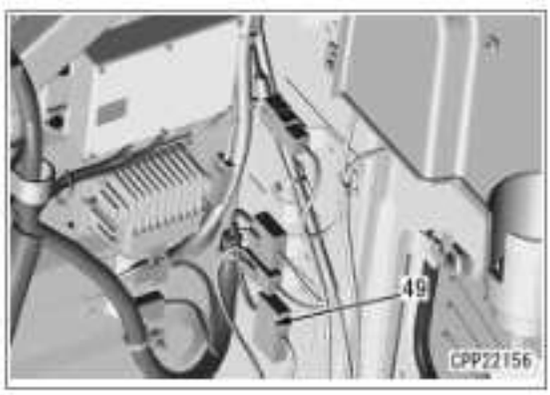
6. Install ground cable (T01) (50).



Connector

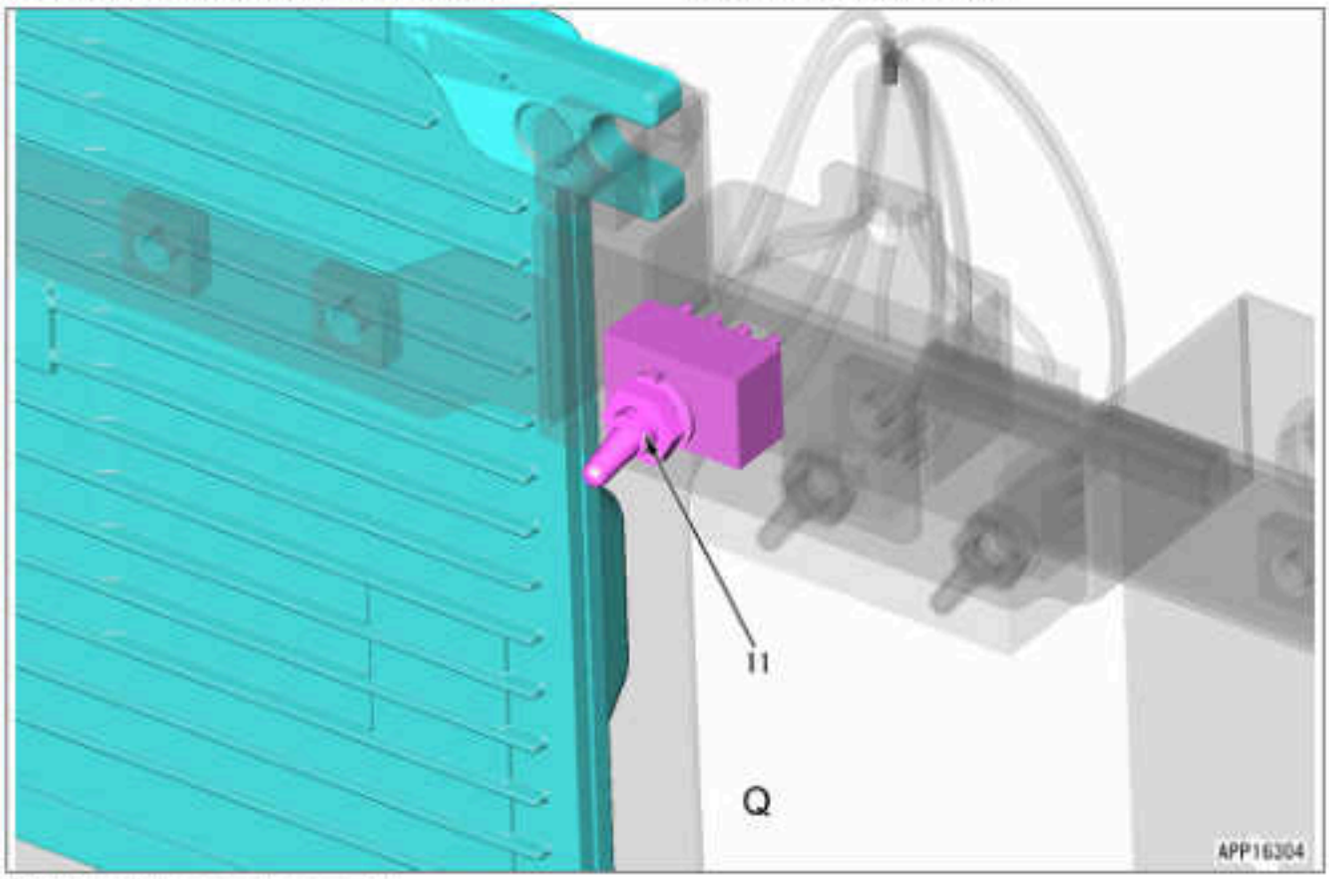
7. Install connectors (47) to (49).
   (47): R.H. console intermediate wiring harness (H14)
   (48): R.H. console intermediate wiring harness (H15)
   (49): L.H. console intermediate wiring harness (H16)





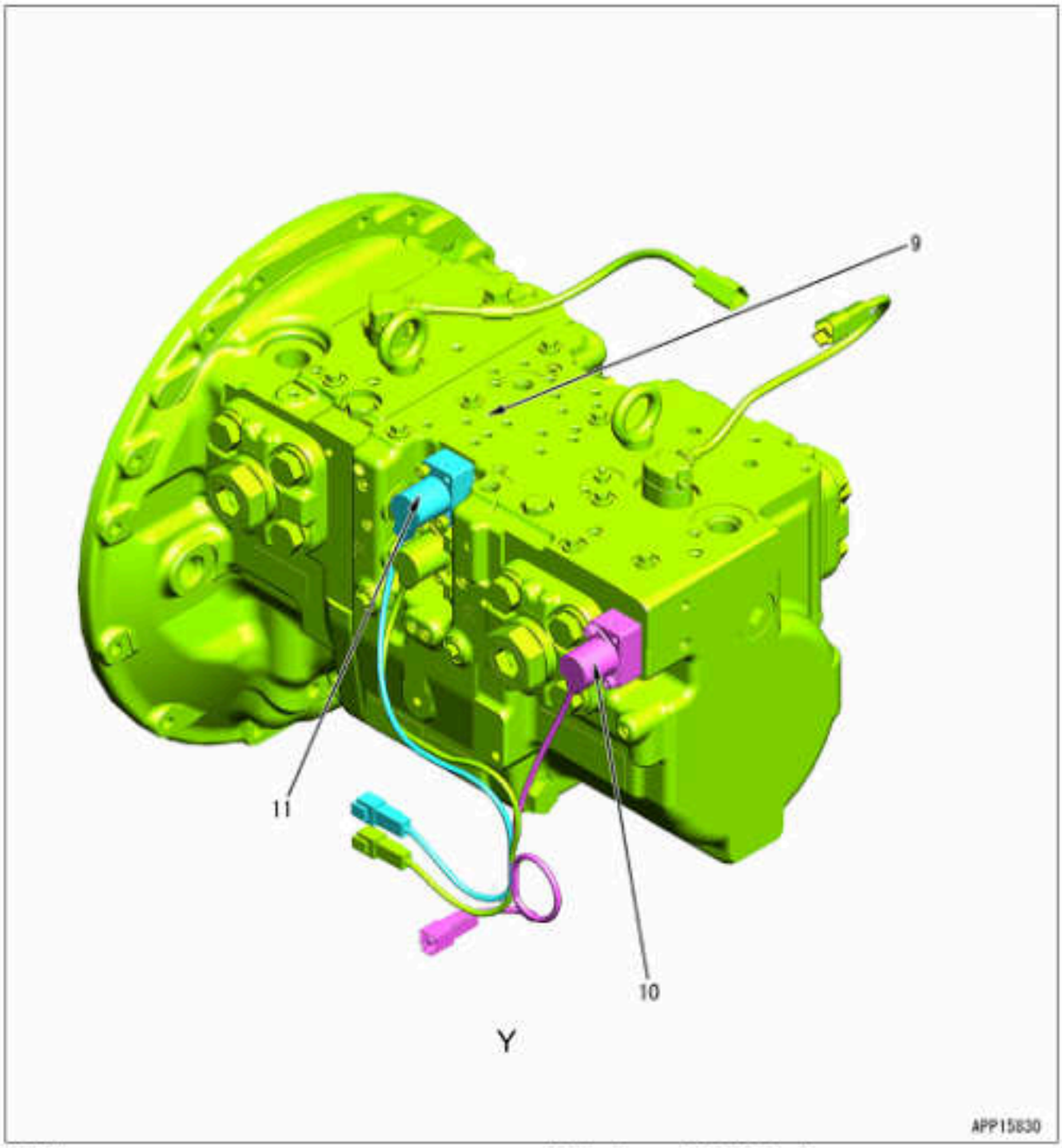
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3: Pump controller
4: Resistor for PC-EPC valve
5: One-touch power maximizing switch
6: R.H. travel FORWARD pressure sensor
7: L.H. travel FORWARD pressure sensor
8: L.H. travel REVERSE pressure sensor
9: R.H. travel REVERSE pressure sensor
10: Service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

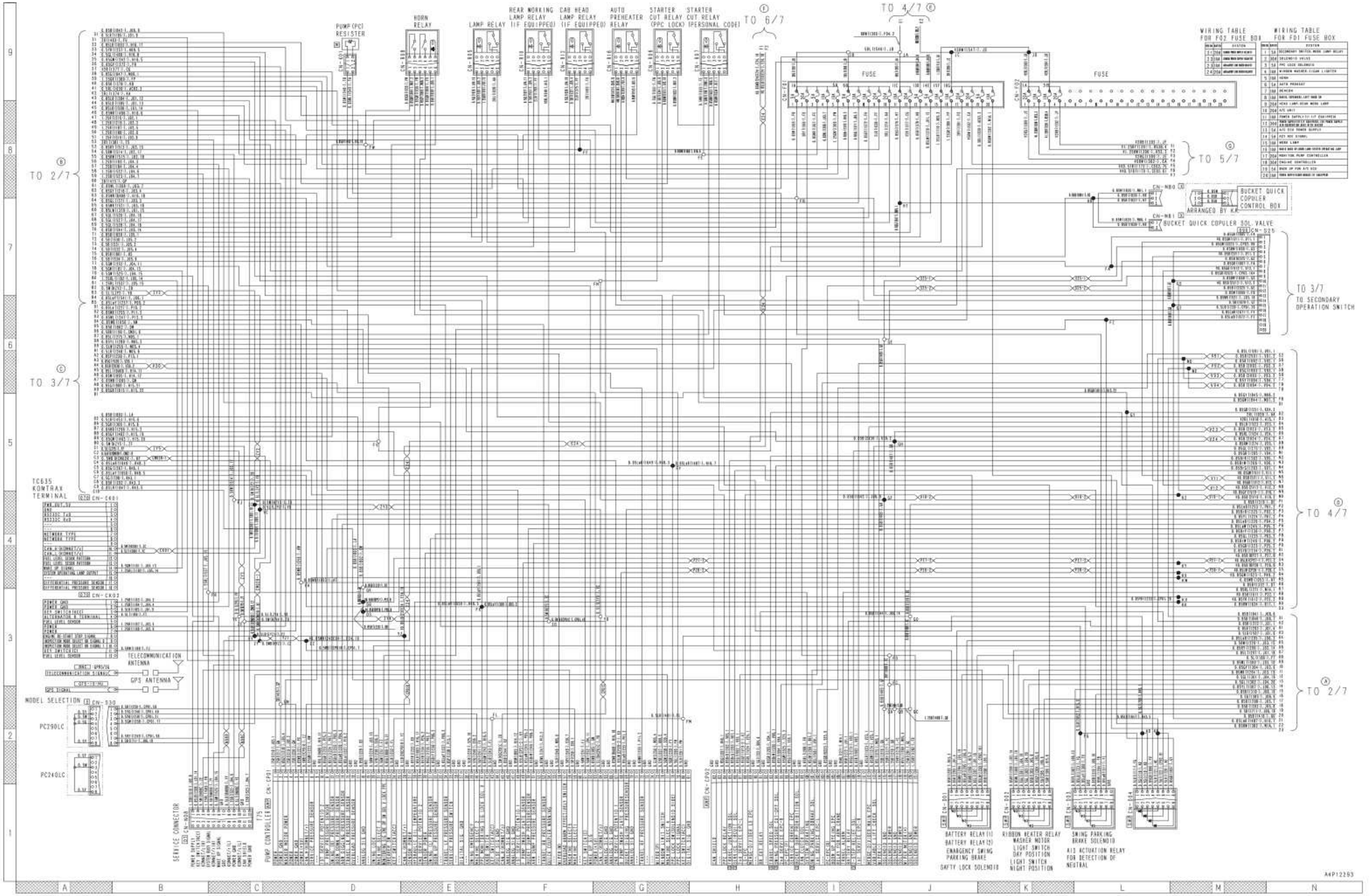
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ELECTRICAL CIRCUIT DIAGRAM (1/7)

PC290LC-11

REMARK

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



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