SEN06517-02

Shop Manual

BULLDOZER

D85EX -18
D85PX -18

SERIAL NUMBERS 22001 and up

KOMATSU®

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WEIGHT TABLE

WEIGHT TABLE: D85EX-18

⚠ **This weight table is reference for handling or transporting the components.**

⚠ **This weight table shows the dry weight.**

Unit: kg

Item	D85EX-18
Engine and damper assembly	1952
• Engine assembly (including KDPF, AdBlue/DEF mixing piping, SCR assembly)	1799
• Damper assembly	131
• Engine related parts (wiring, mounts)	5
Universal joint	17
Cooling assembly	254
• Radiator assembly	43
• Aftercooler assembly	19
• Hydraulic oil cooler	5
Power train oil cooler	39
Cooling fan motor	13
Fuel tank assembly (when the tank is empty)	313
Power train unit assembly (including HSS pump and HSS motor)	1865
• Torque converter and PTO assembly	322
• Transmission assembly	443
• HSS unit assembly	748
• Brake valve assembly	5
• HSS cooler bypass valve assembly	11
• Power train oil filter assembly	17
• HSS pump	106
• HSS motor	41
• Steering lubrication pump and power train pump	25
• Scavenging pump	12
• Cooling fan pump	30
Hydraulic tank	108
Control valve	
4-spool valve (Power tilt dozer with fixed multi-shank ripper)	105
6-spool valve (Power tilt dozer with variable multi-shank ripper) (Power tilt power pitch dozer with fixed multi-shank ripper) (Power tilt power pitch dozer with variable multi-shank ripper)	143
Main frame assembly	3315

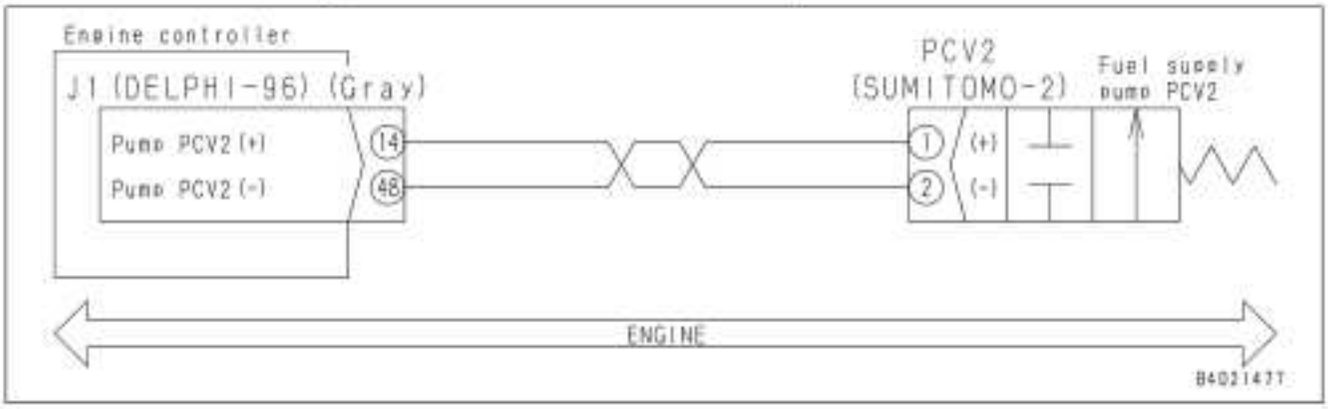
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FAILURE CODE [CA274] PCV 2 Open Circuit Error

Action level	Failure code	Failure	PCV 2 Open Circuit Error (Engine controller system)
L03	CA274		
Details of failure	Open circuit is detected in supply pump PCV2 circuit.		
Action of controller	None in particular		
Phenomenon on machine	• Engine power deration. • Engine startability becomes poor.		
Related information	• After repairing, check if the failure code is cleared by the following procedure. Procedure: Start engine. • While engine is running normally, approx. 24 V of pulse voltage is supplied to PCV2 (1). Because it is pulse voltage, it cannot be measured by using multimeter. • Because female connector alone is provided in "Socket" for troubleshooting for this sensor, socket cannot be connected to female connector on wiring harness side of sensor and check for wire breakage cannot be performed (T-adapter is not provided).		

No.	Cause	Procedure, measuring location, criteria and remarks		
1	Defective wiring harness connector	1. Check according to sections related to wiring harnesses and connectors in "TROUBLESHOOTING-RELATED INFORMATION", "CHECKS BEFORE TROUBLESHOOTING", "c Electrical equipment". 2. Start engine.		
		If this failure code goes out, wiring harness connector is defective.		
2	Defective supply pump PCV2 (internal open circuit)	1. Turn starting switch to OFF position. 2. Disconnect connector PCV2, and connect T-adapter to male side.		
		Resistance	Between PCV2 (male) (1) and (2)	2.3 to 5.3 Ω
3	Open or short circuit in wiring harness	1. Turn starting switch to OFF position. 2. Disconnect connector J1, and connect T-adapter to female side.		
		Resistance	Between J1 (female) (14) and (48) (PCV2 resistance)	2.3 to 5.3 Ω
4	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 (FUEL SUPPLY PUMP PCV2)



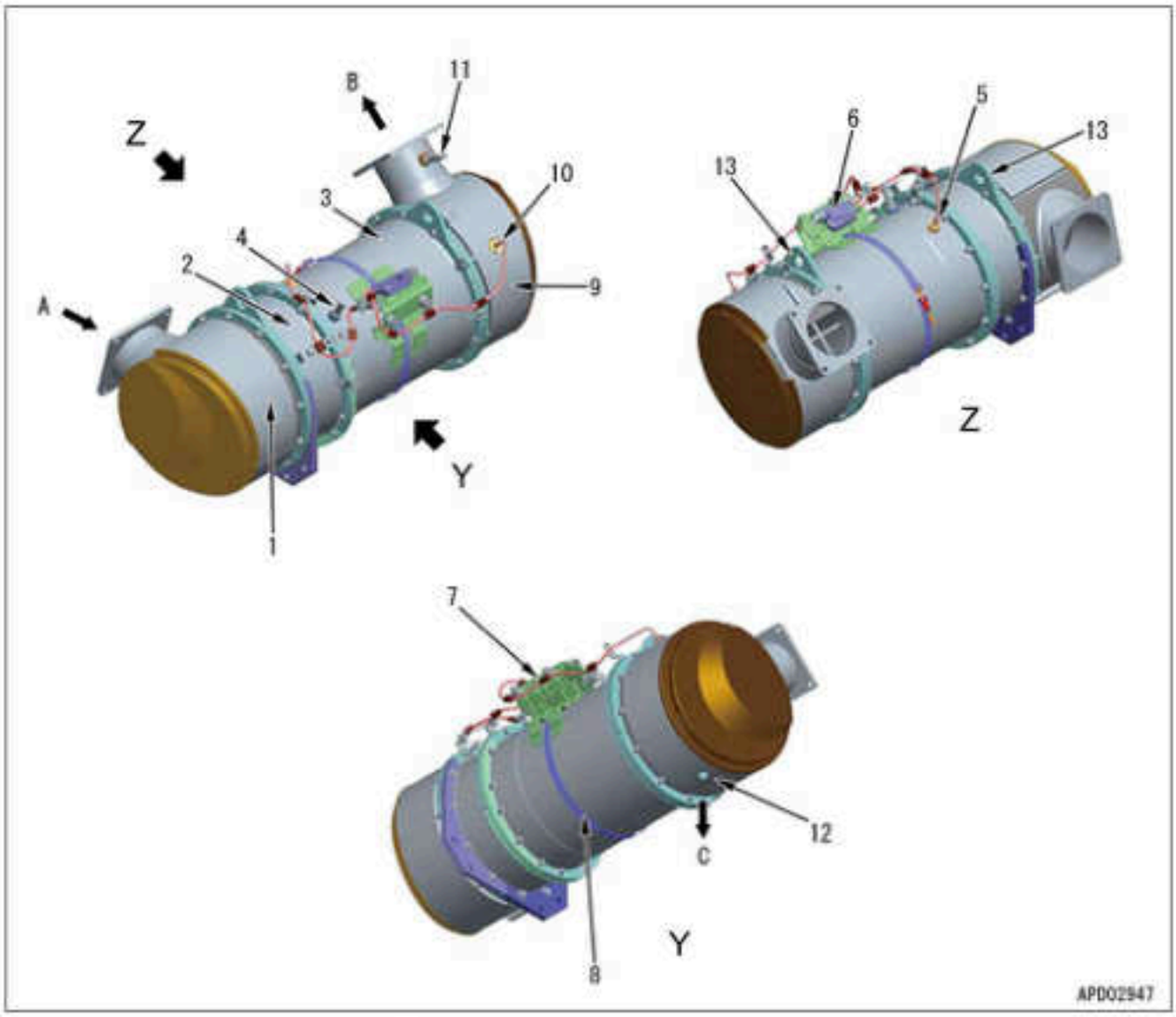
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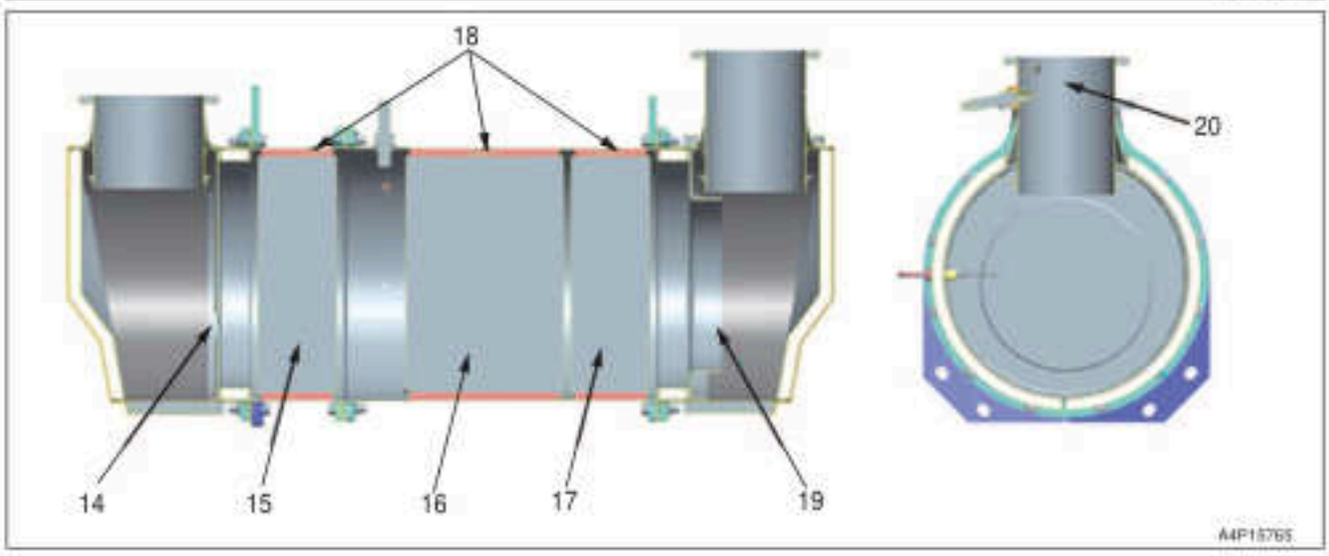
FAILURE CODE [CA3899] SCR NH3 Sensor Circuit Error

Action level	Failure code	Failure	SCR NH3 Sensor Circuit Error (Engine controller system)
L01	CA3899		
Detail of failure	Ammonia sensor controller detected an ammonia sensor circuit error.		
Action of controller	• Uses AdBlue/DEF injection control without using the ammonia sensor. • Advances to Inducement strategy. (EU Specification).		
Phenomenon on machine	• NOx emission increases • Engine output is reduced based on inducement strategy. (EU Specification).		
Related information	⚠ **SCR assembly, the sensor installation piping, and the sensor probe become hot (400 °C). Be careful not to get burned.** ⚠ **Be careful not to get burned by the sensor probe as it is heated by itself even if the ambient temperature is not high.** • If the ammonia sensor controller detects a circuit error of the ammonia sensor, the error is sent to the engine controller via CAN communication, and this failure code is displayed. • This failure code is displayed when a connector at the sensor probe is removed during the machine operation. In this case, failure code [CA3935] is displayed when setting the starting switch to ON position. • If the exhaust temperature is 150 °C or below, this sensor does not detect any value (The sensor does not work by only setting the starting switch to ON position even if the sensor is normal). • On the "Pre-defined Monitoring" screen troubleshooting for the engine operation state are used (the figures below denote monitoring codes). Engine operation state troubleshooting 01002 Engine Speed 19200 Exhaust Gas Flow Rate 47300 KDOC Inlet Temperature 19300 SCR Temperature 19302 SCR Outlet Temperature **NOTICE** **After investigating the cause of the problem and completing the repair, perform "Loaded Diagnostics Operation To Confirm Failure Correction" to make sure that the failure code is cleared.**		

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. Perform "Loaded Diagnostics Operation To Confirm Failure Correction".
		If this failure code is cleared, wiring harness connector is defective.
2	Defective ammonia sensor	If the failure code persists after the above checks, the sensor may be defective. 1. Turn starting switch to OFF position. 2. Replace the ammonia sensor. 3. Perform "Loaded Diagnostics Operation To Confirm Failure Correction".
		If the failure code is cleared, the original ammonia sensor may be defective.

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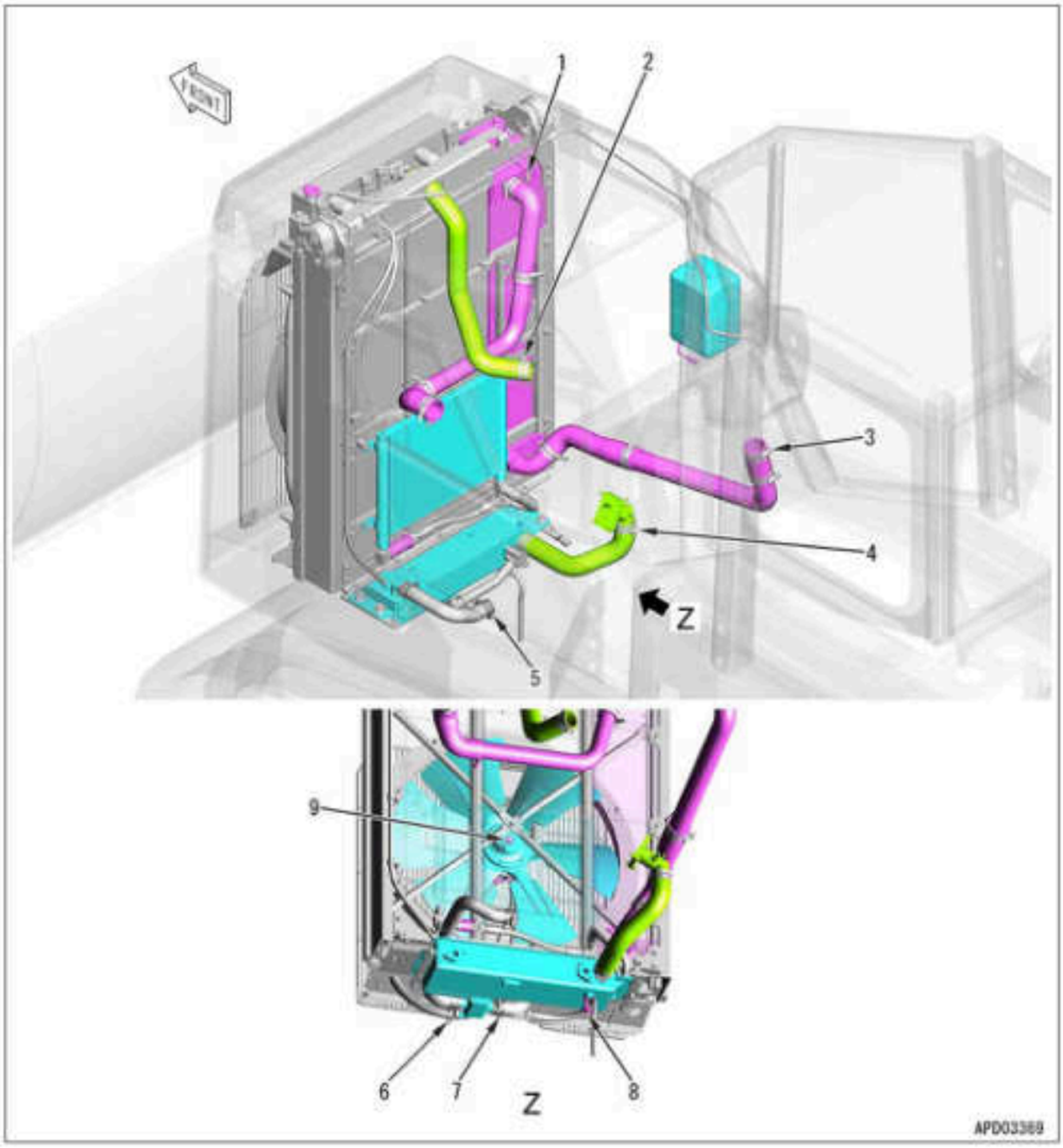




A: From AdBlue/DEF mixing tube
B: To exhaust pipe
1: Inlet unit
2: Upstream SCR catalyst unit
C: Water drain
3: Downstream SCR catalyst unit
4: Ammonia sensor

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MAINTENANCE STANDARD OF COOLING SYSTEM



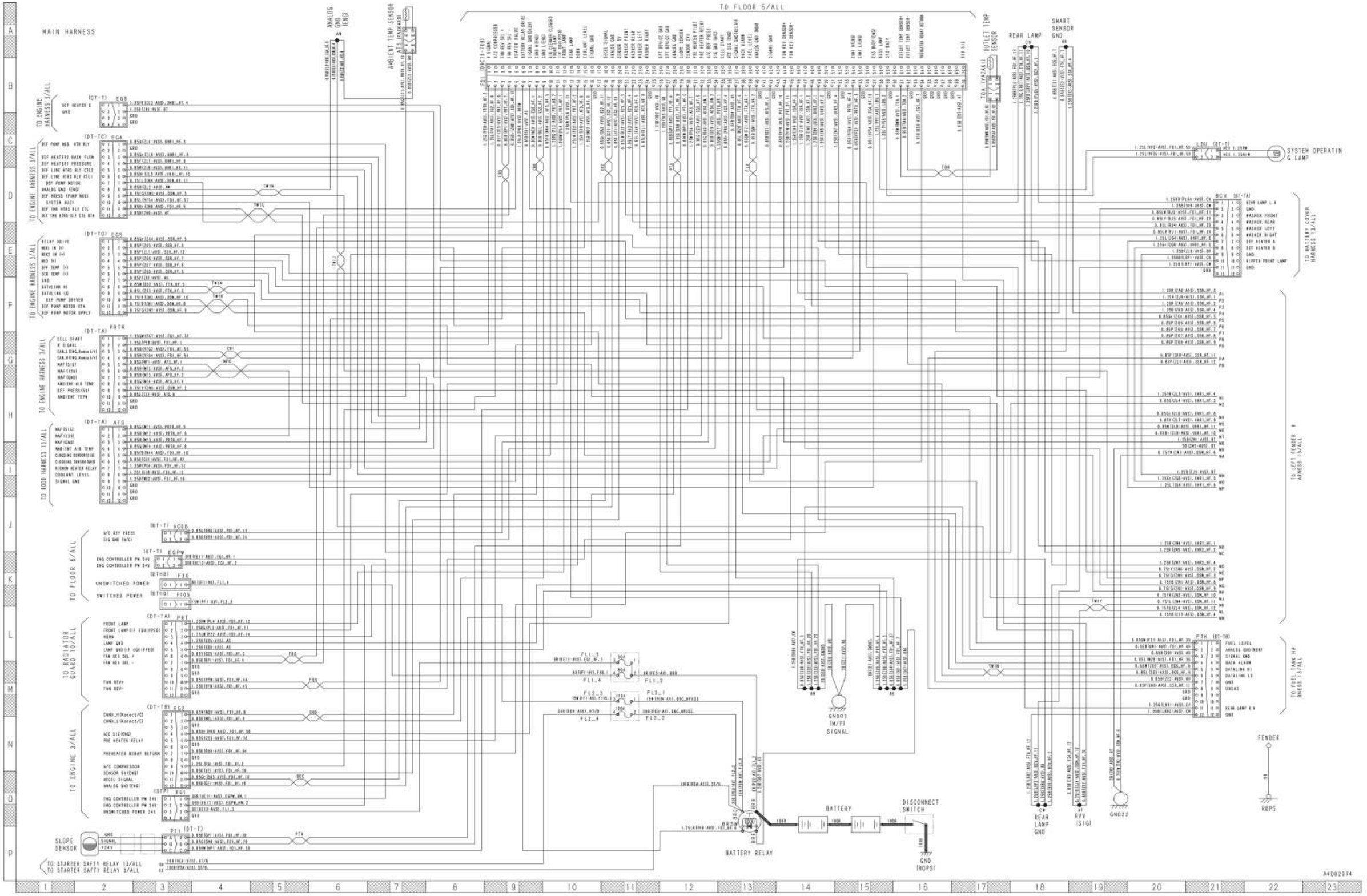
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ELECTRICAL CIRCUIT DIAGRAM (9/13)

D85EX-18, D85PX-18

REMARK

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



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