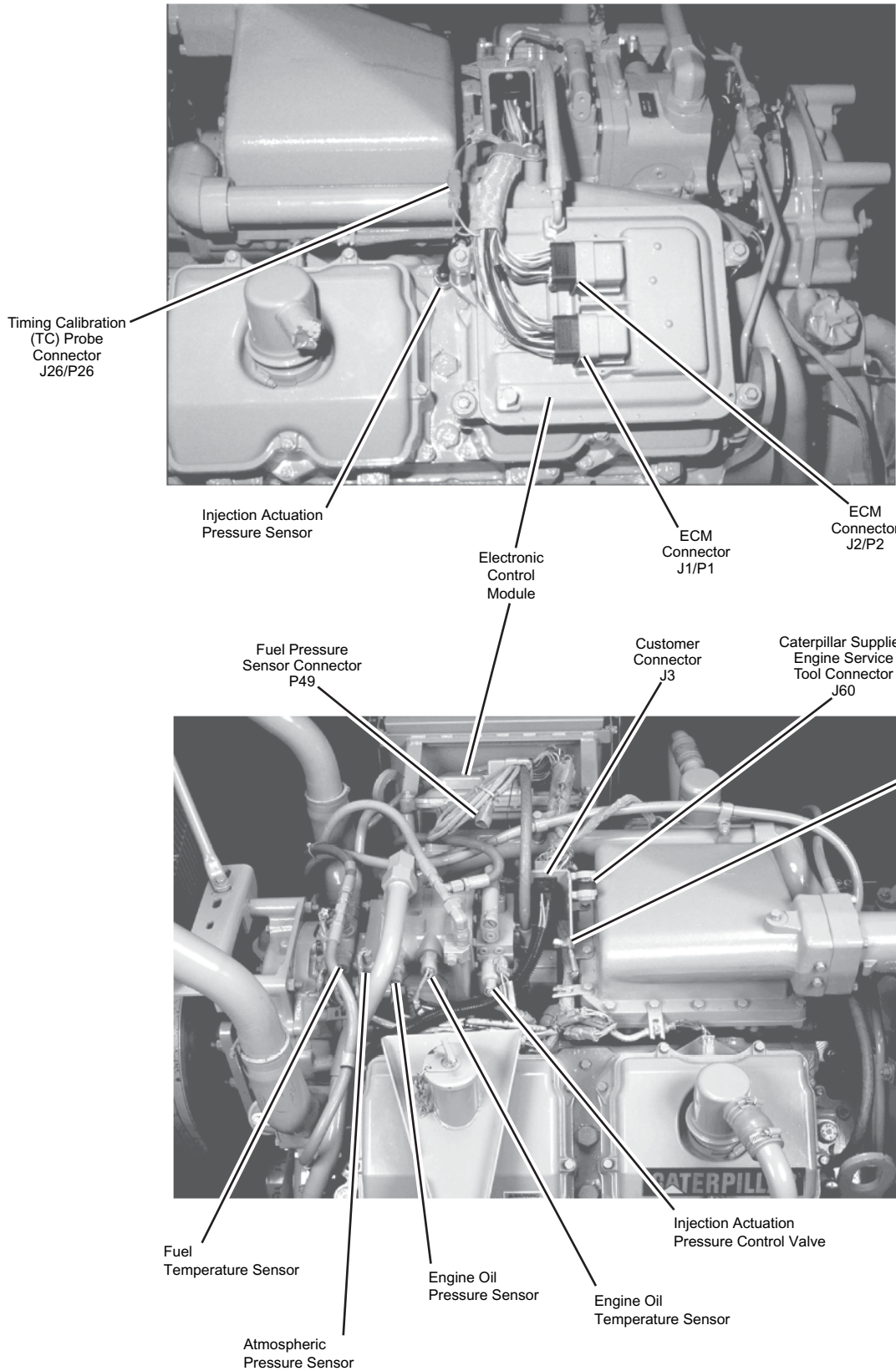
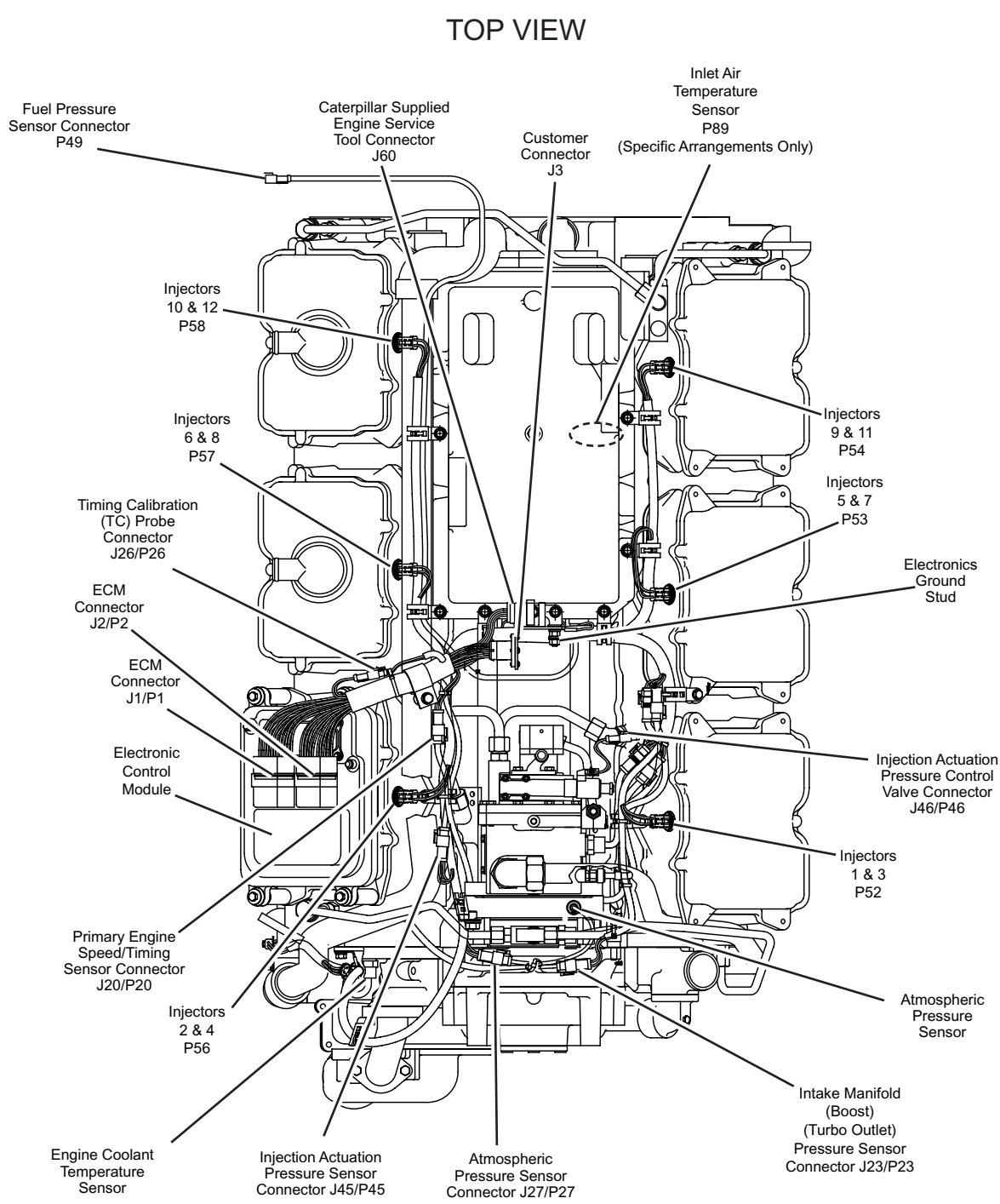


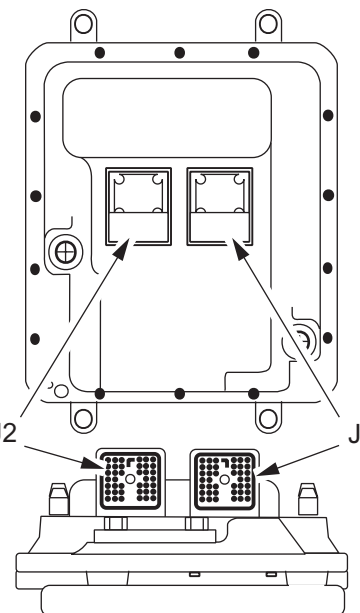


Schematic

3412E Industrial Engine Electrical System

Z2D1-UP
4CR1-UP
BDT1-UP
BFT1-UP

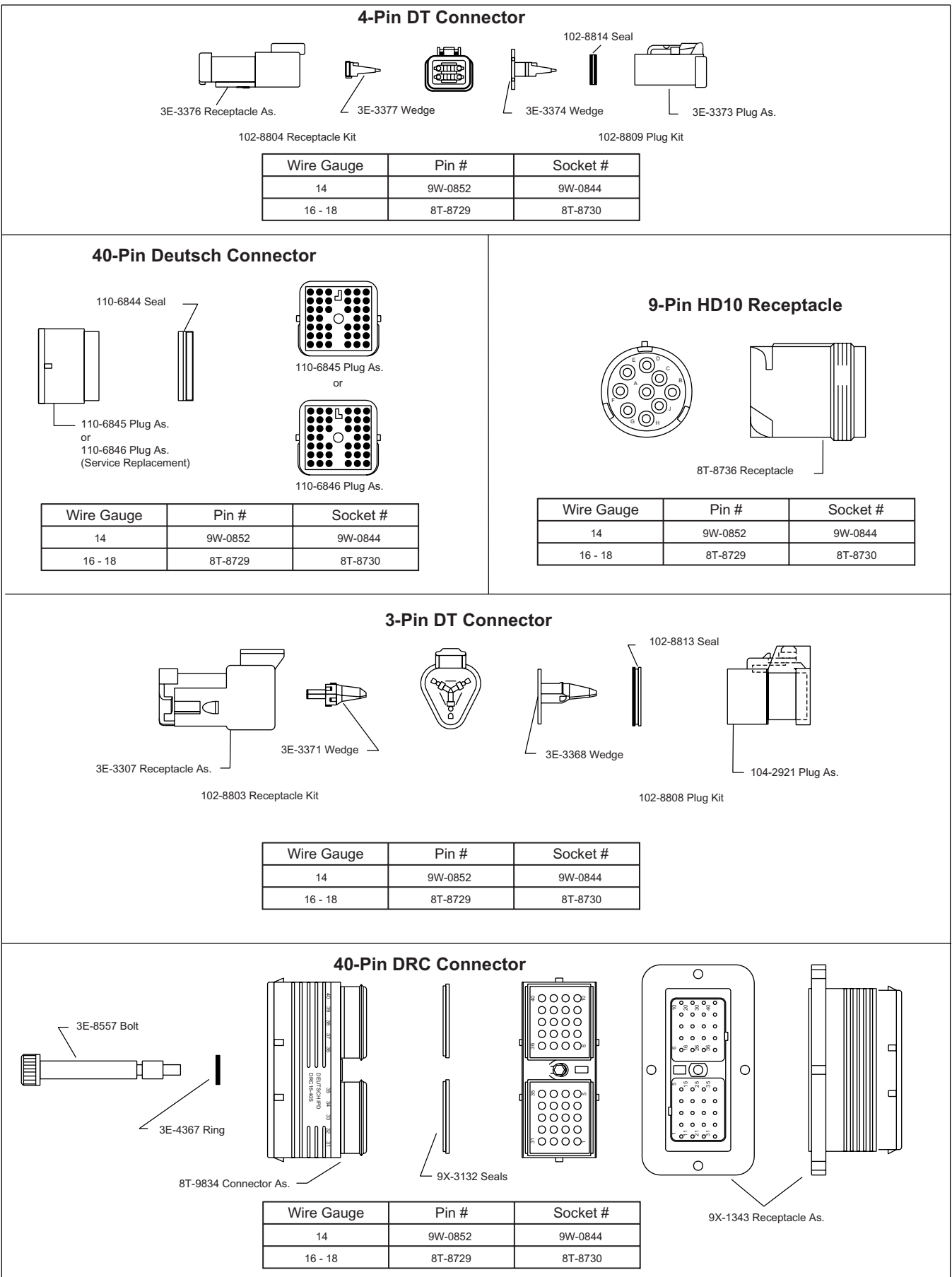
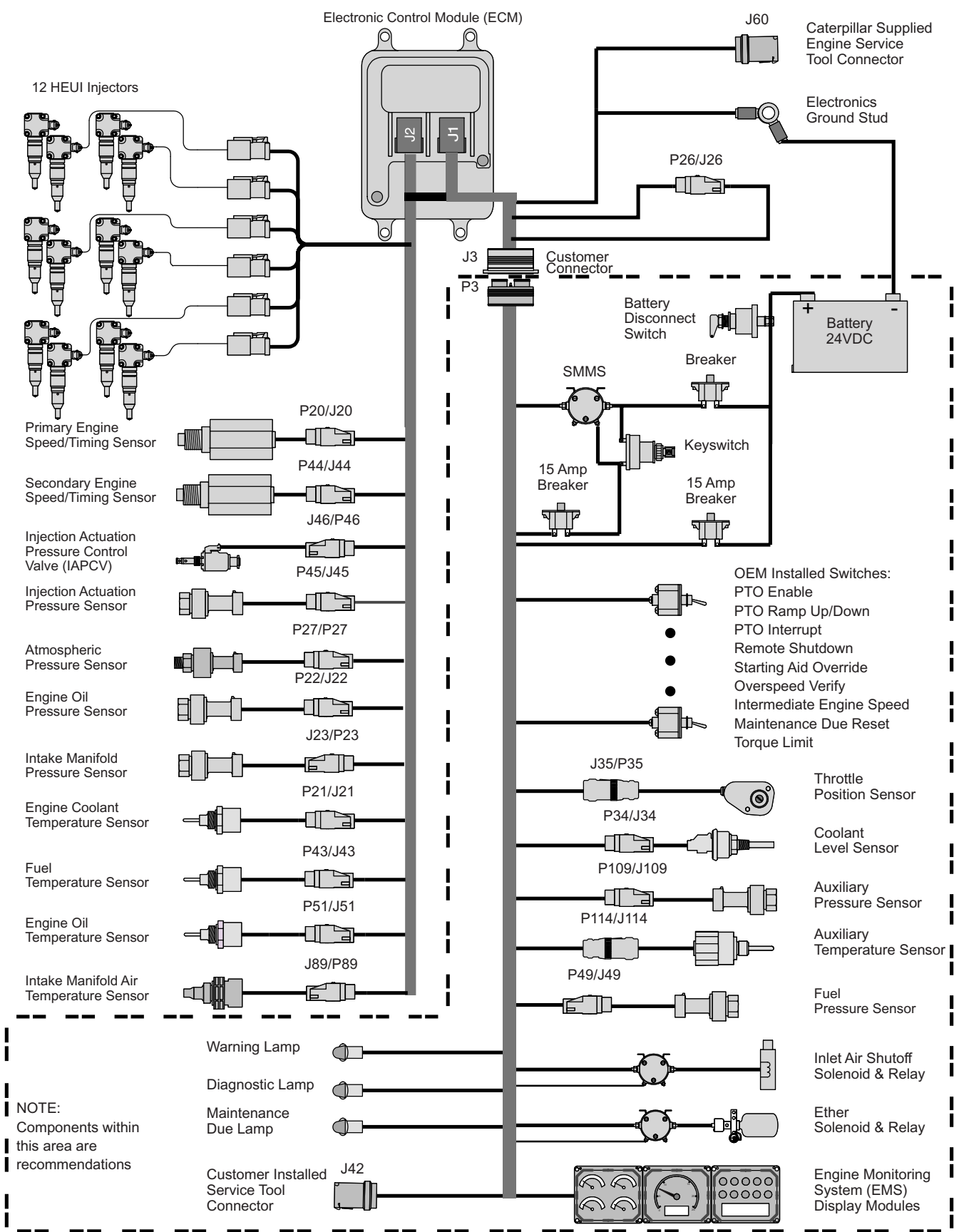
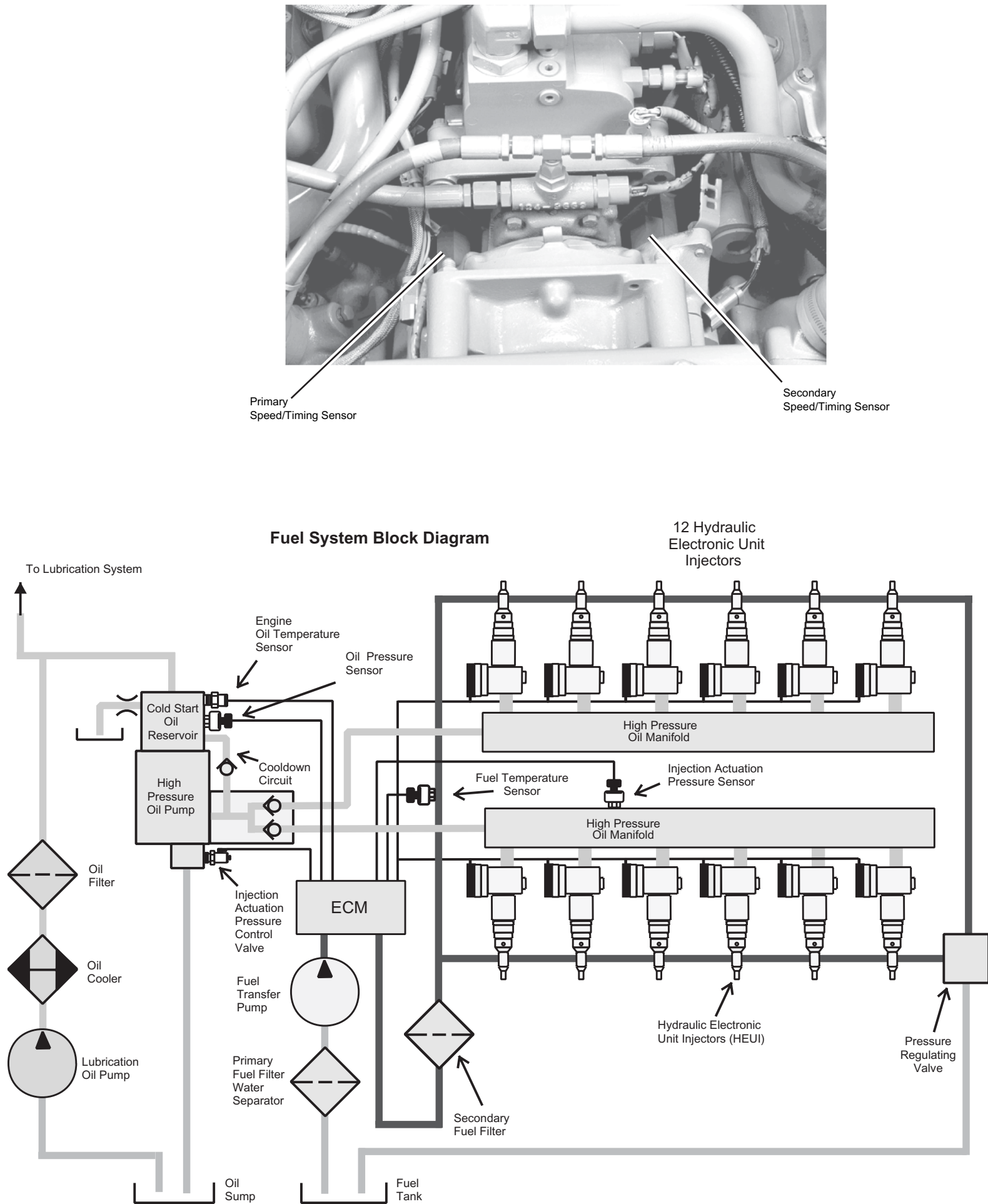
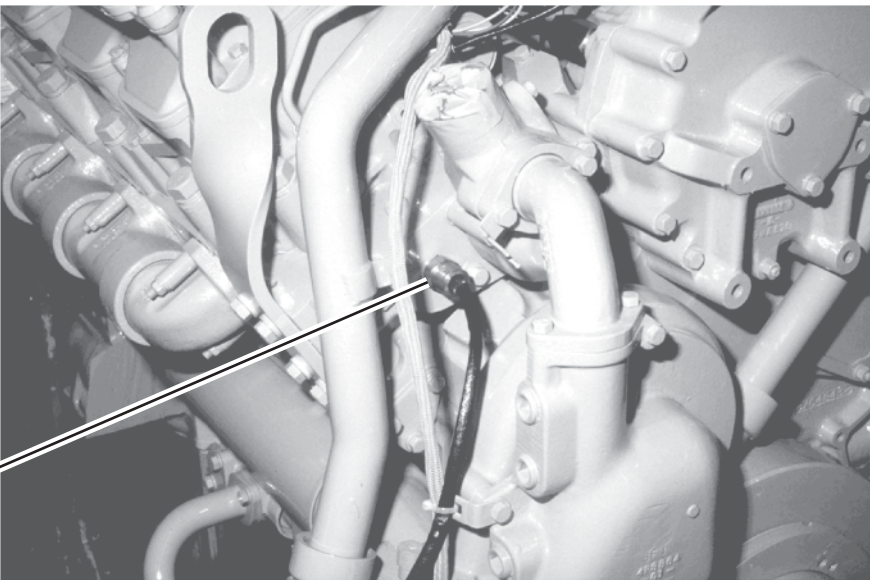
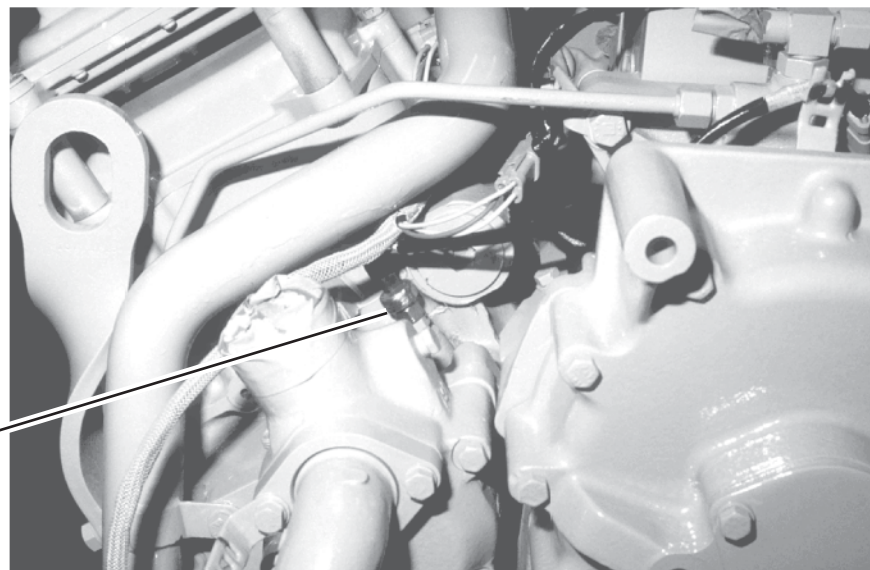
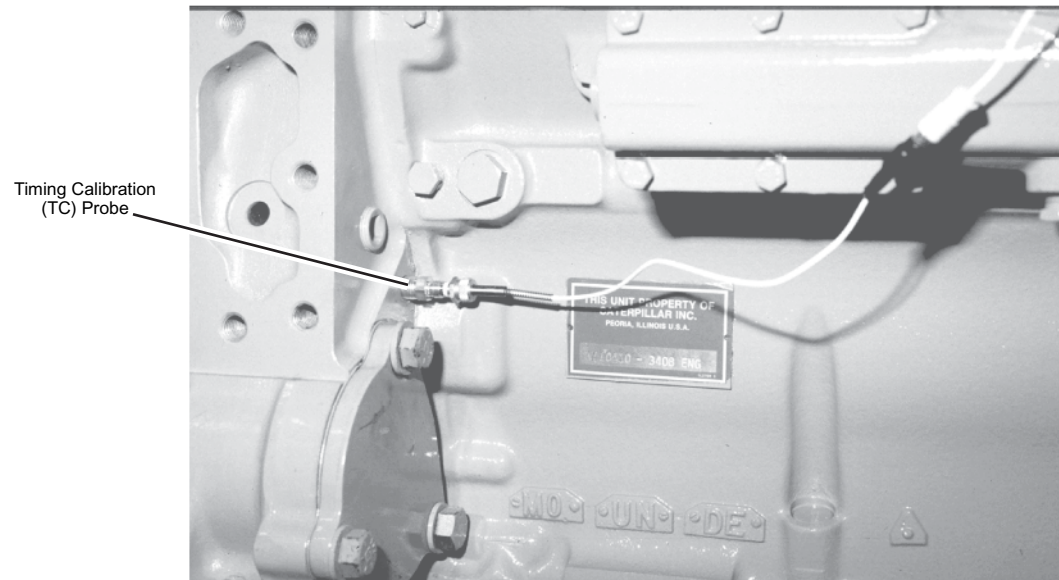
Jack/Plug	Functional Description
J1/P1	Electronic Control Module (ECM) Connector (key C)
J2/P2	Electronic Control Module (ECM) Connector (key D)
J3/P3	Customer Connector (40-Pin)
J114/P114	Auxiliary Temperature Sensor Connector (3-Pin)
J109/P109	Auxiliary Pressure Sensor Connector (3-Pin)
J20/P20	Primary Speed/Timing Sensor Connector (3-Pin)
J21/P21	Coolant Temperature Sensor Connector (3-Pin)
J22/P22	Oil Pressure Sensor Connector (3-Pin)
J23/P23	Turbocharger Compressor Outlet Pressure Sensor Connector (3-Pin)
P26	Timing Calibration Connector (2-Pin)
J27/P27	Atmospheric Pressure Sensor Connector (3-Pin)
J34/P34	Coolant Level Sensor Connector (3-Pin)
J35/P35	Throttle Position Sensor Connector (3-Pin)
J42	Customer Installed Service Tool Connector
J43/P43	Fuel Temperature Sensor Connector (3-Pin)
J44/P44	Secondary Speed/Timing Sensor Connector (3-Pin)
J45/P45	Injection Actuation Pressure Sensor Connector (3-Pin)
J46/P46	Injection Actuation Pressure Control Valve Sensor Connector- (2-Pin)
J49/P49	Fuel Pressure Sensor Connector (3-Pin)
J51/P51	Engine Oil Temperature Sensor Connector (3-Pin)
J52/P52	#1, #3 Hydraulic Electronic Unit Injector Connector (4-Pin)
J53/P53	#5, #7 Hydraulic Electronic Unit Injector Connector (4-Pin)
J54/P54	#9, #11 Hydraulic Electronic Unit Injector Connector (4-Pin)
J56/P56	#2, #4 Hydraulic Electronic Unit Injector Connector (4-Pin)
J57/P57	#6, #8 Hydraulic Electronic Unit Injector Connector (4-Pin)
J58/P58	#12, #10 Hydraulic Electronic Unit Injector Connector (4-Pin)
J60	Service Tool Connector (9-Pin)
J89/P89	Inlet Air Temperature Sensor Connector (3-Pin)



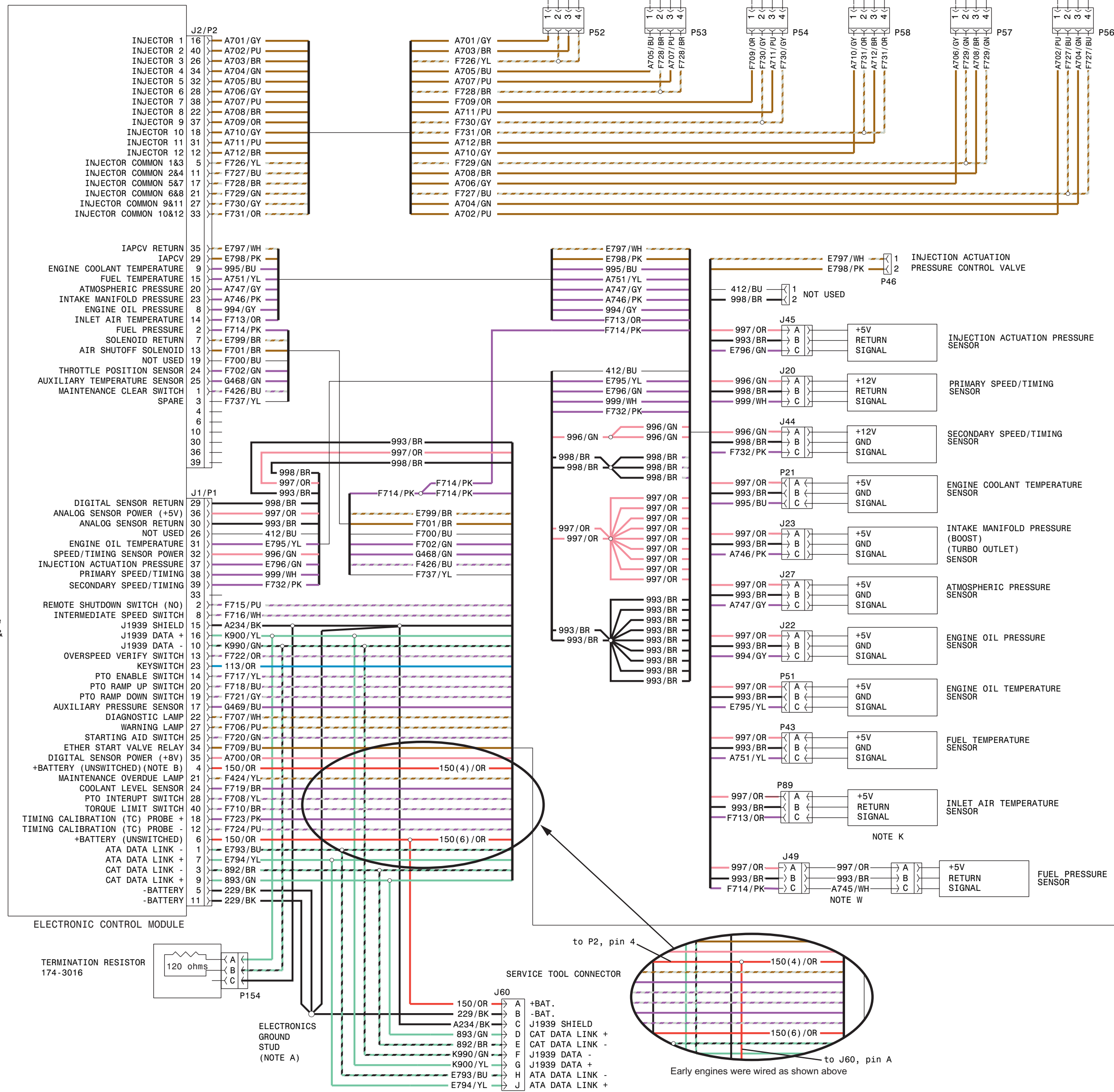
Electronic Control Module

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ABBREVIATION	
IAPCV	INJECTION ACTUATION PRESSURE CONTROL VALVE



NOTE A: THE CUSTOMER CONNECTOR BRACKET GROUND STUD MUST HAVE A DIRECT WIRE CONNECTION TO BATTERY (+). THIS CONNECTION CAN BE MADE AT THE STARTER (-) TERMINAL.

NOTE B: TO AVOID LOSS OF JOB DATA STORED BY THE ECM, DISCONNECT SWITCHES SHOULD NOT INTERRUPT EITHER THE ECM BATTERY (+) OR UNSWITCHED BATTERY (+) LINES.

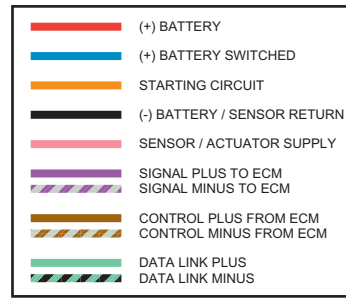
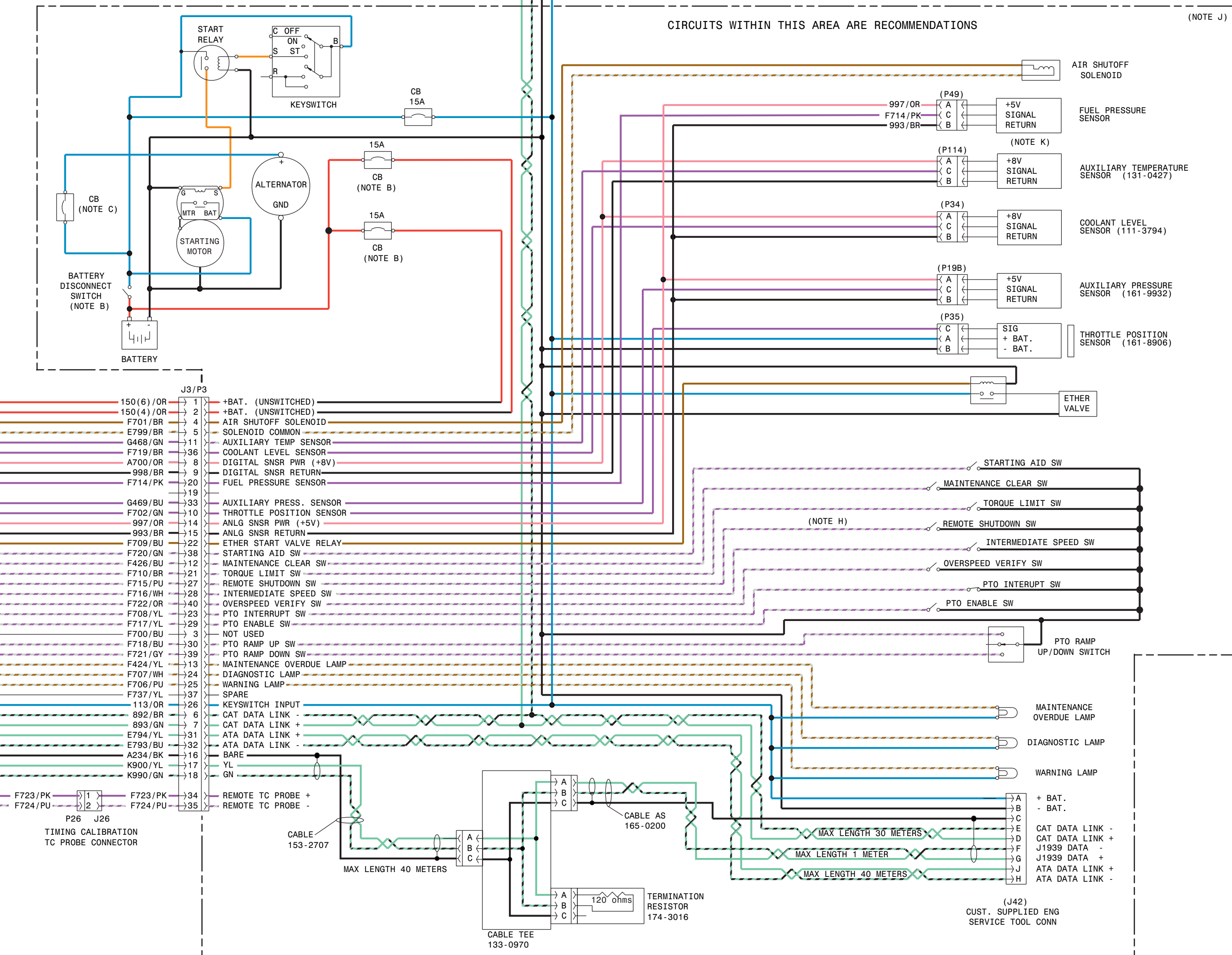
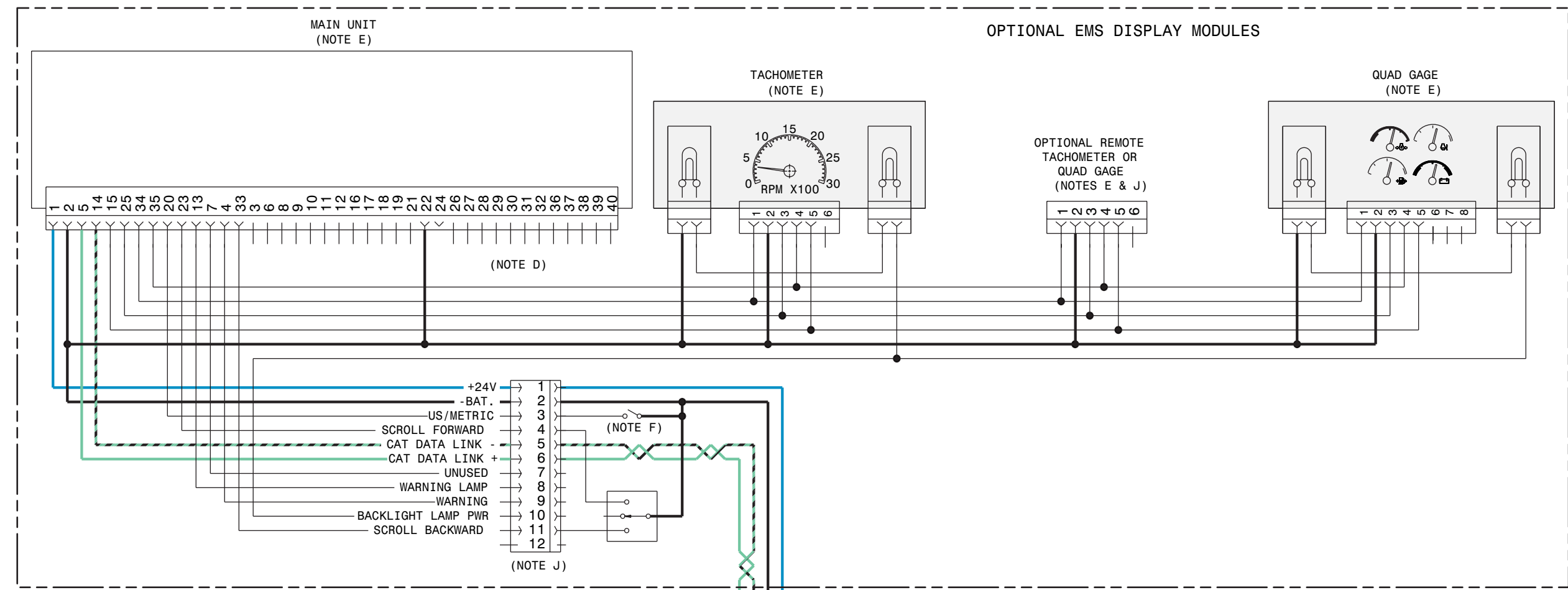
NOTE C: PLACE APPROPRIATE CIRCUIT PROTECTION.

NOTE D: PIN 22 ON THE EMS MAIN MODULE 40 PIN CONNECTOR MUST BE CONNECTED TO BATTERY (-) FOR PROPER OPERATION.

NOTE E: ONE MAIN EMS MODULE IS REQUIRED FOR EACH DESIRED MONITORING STATION. THE TACHOMETER AND/OR QUAD GAGE DATA ARE OPTIONAL AND WILL NOT OPERATE WITHOUT CONNECTION TO A MAIN EMS MODULE.

NOTE F: THE DEFAULT SETTING FOR THE EMS IS METRIC UNITS. IF METRIC UNITS ARE REQUIRED NO CONNECTION IS NEEDED. IF U.S. UNITS ARE REQUIRED, A PERMANENT CONNECTION TO BATTERY (+) IS REQUIRED.

NOTE G: 16 AWG WIRE



THIS SCHEMATIC IS FOR THE 3412E INDUSTRIAL ENGINE (5/N: 4CR, 8DT, & 8FT)
HARNESS CHG ENGINE (CUSTOMER)
179-2087 00 INJECTOR HARNESS
132-3144 00 FUEL PRESSURE EXTENSION: NOTE W)