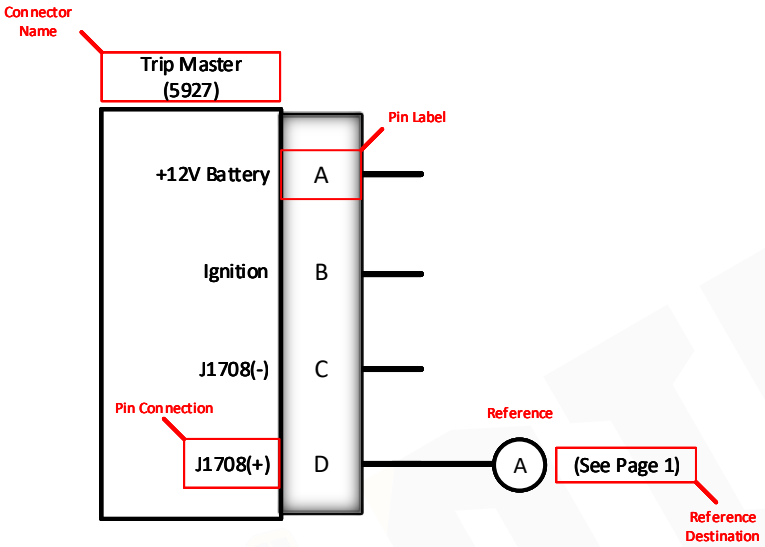
DIESEL® LAPTOPS

MACK

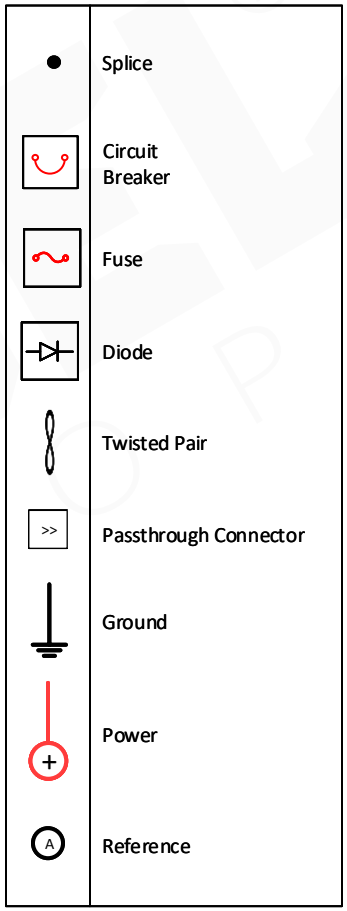
(VMAC IV w/ 2010 Emissions – LE Series & MR Series Trucks)

Engine Electrical Circuit Diagram

How to Read This Document

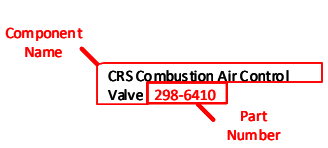


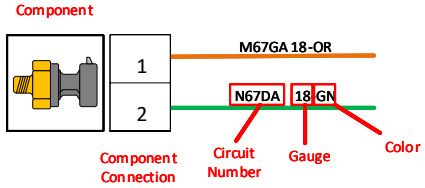
SYMBOLS



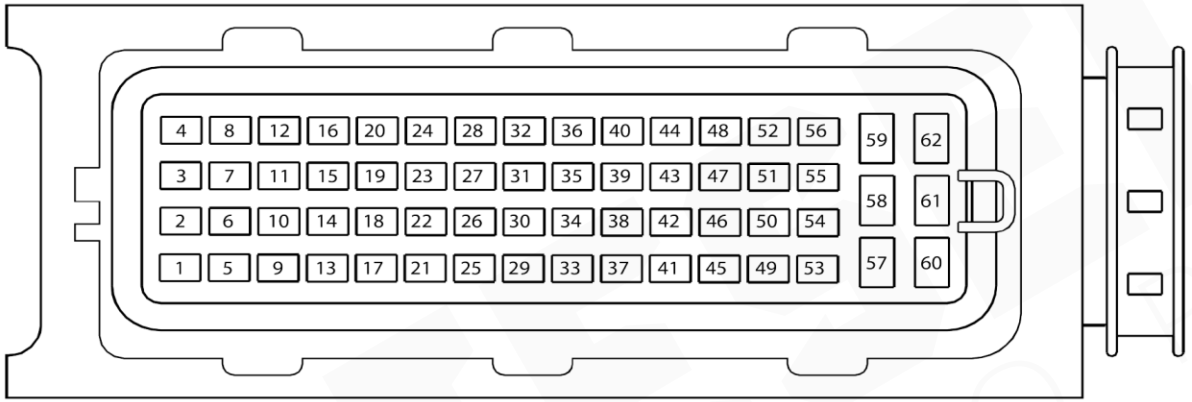
ABBREVIATION	COLOR
RD	RED
WH	WHITE
OR	ORANGE
YL/YE	YELLOW
PK	PINK
BK	BLACK
GY	GRAY
PU/VT	PURPLE
BR/BN	BROWN
GN	GREEN
BU/BL	BLUE

Capital Abbreviation's Represent Wire Main Color
Lower Case Abbreviation's Represent Secondary Color

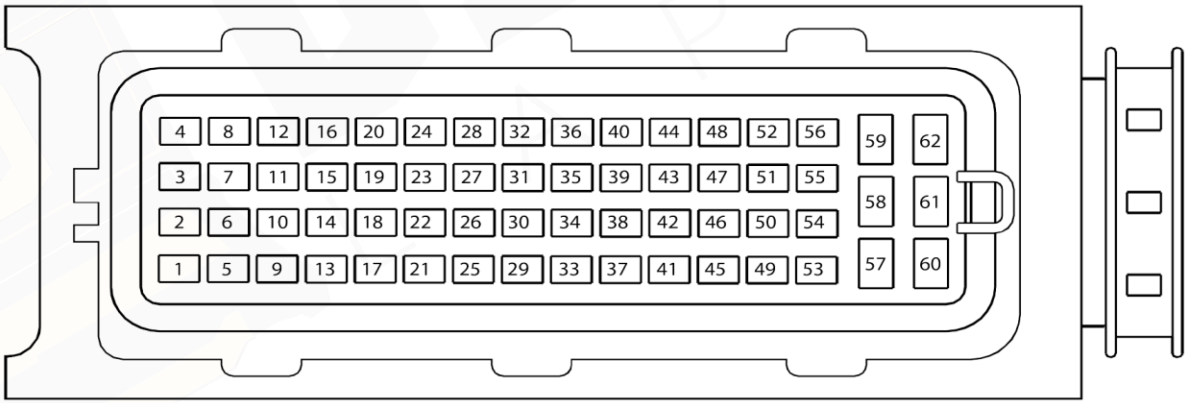




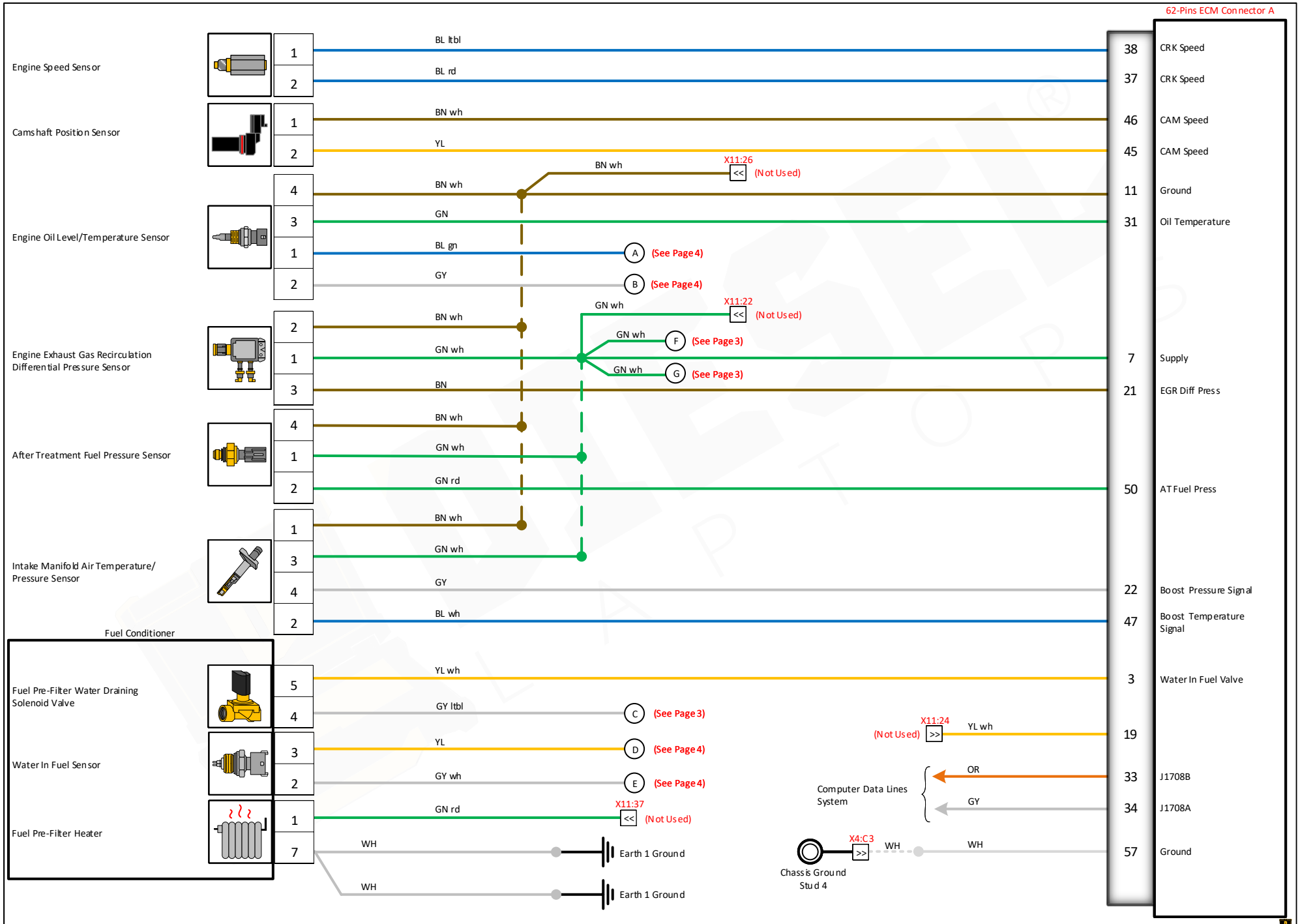
62-Pin Connector (EA)



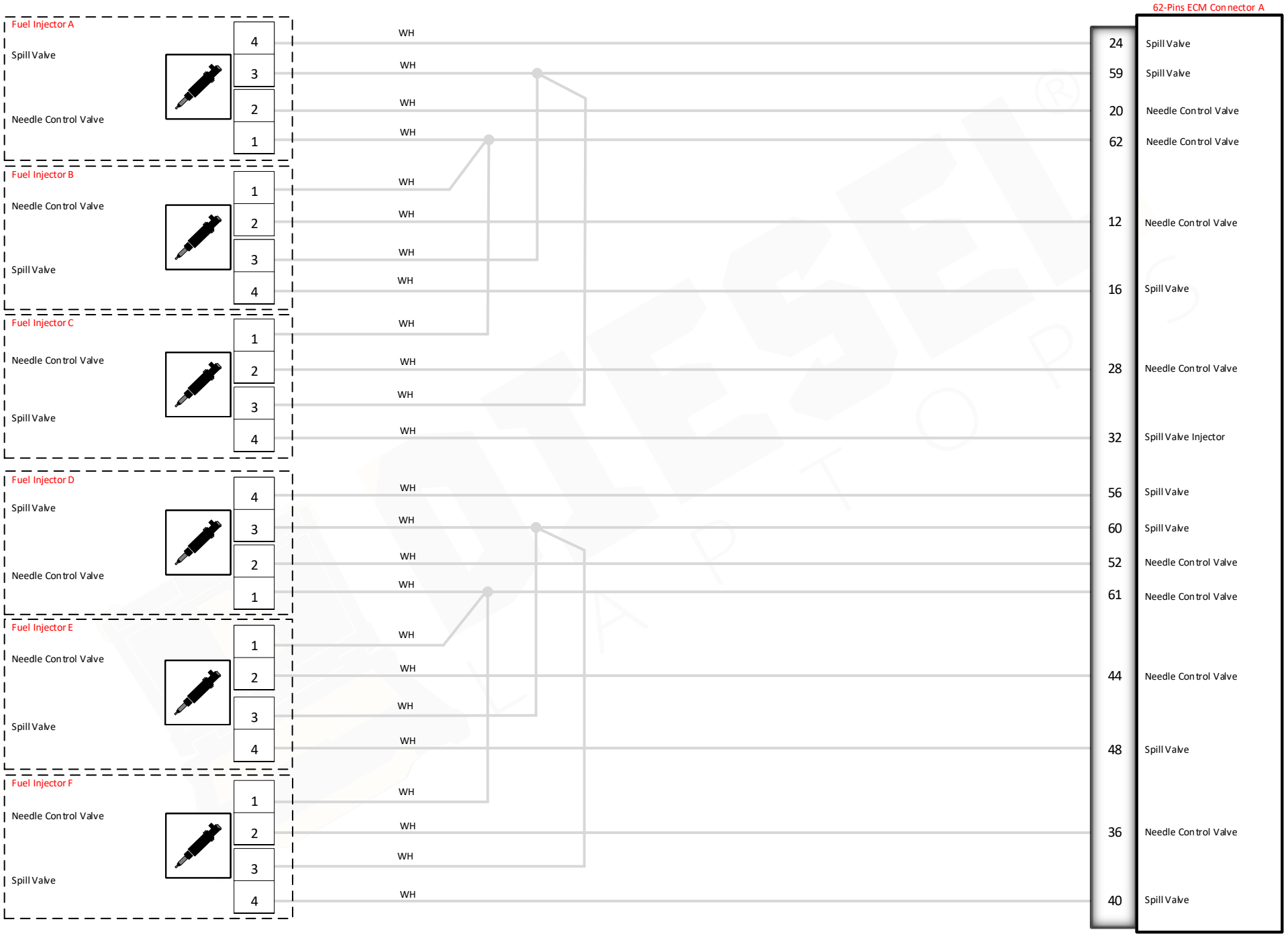
62-Pin Connector (EB)

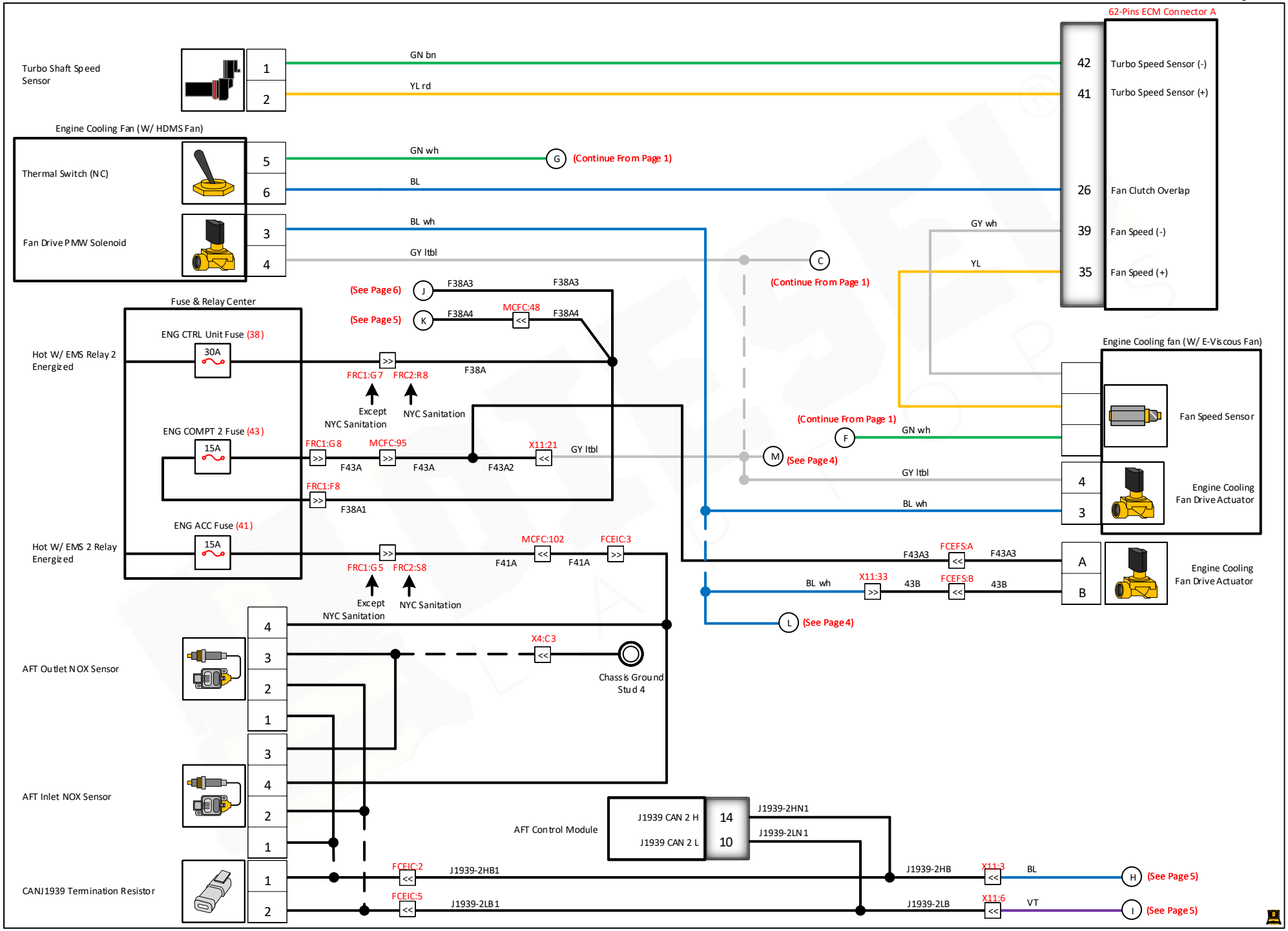


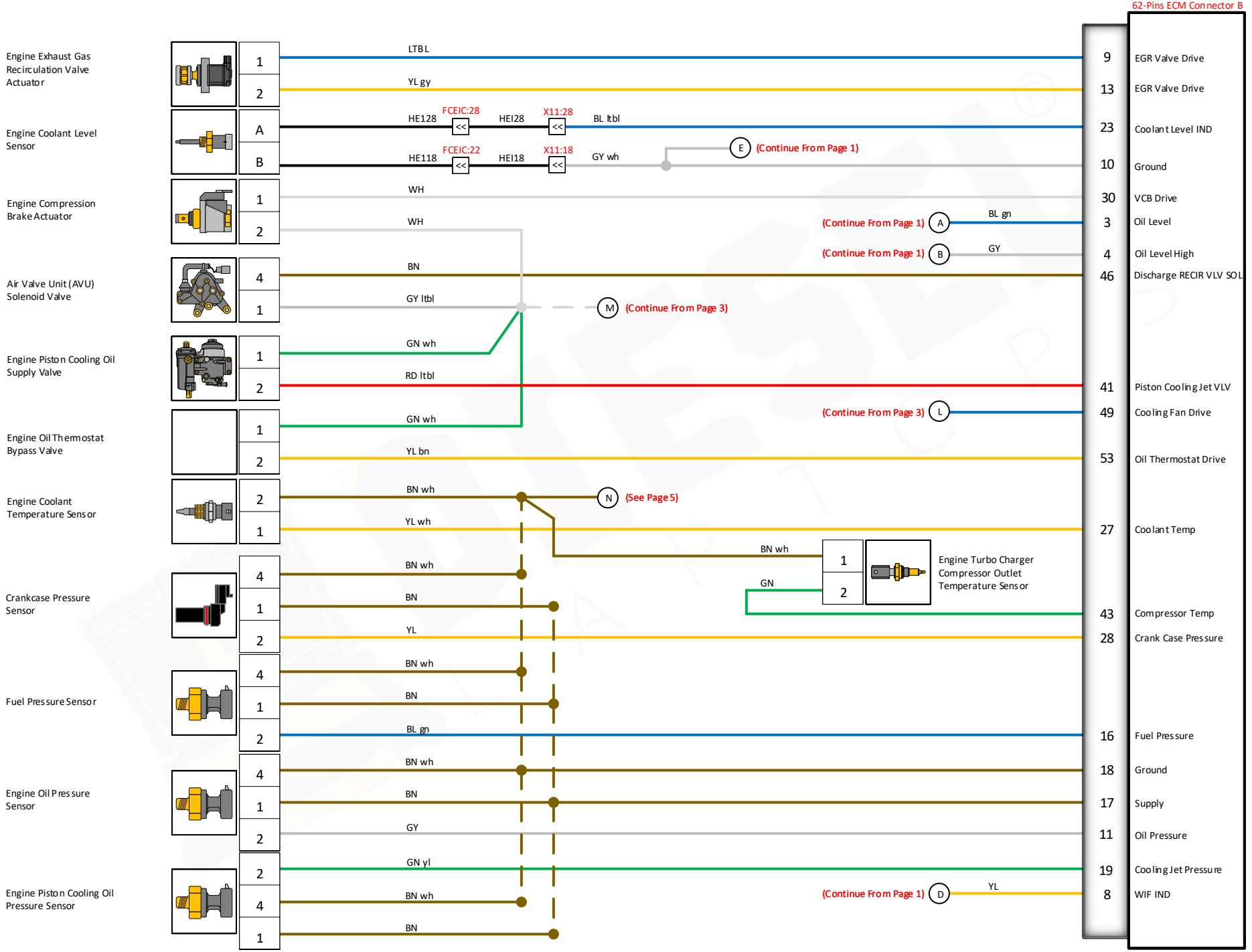
VMAC IV (2010 Series LE & MR Trucks)

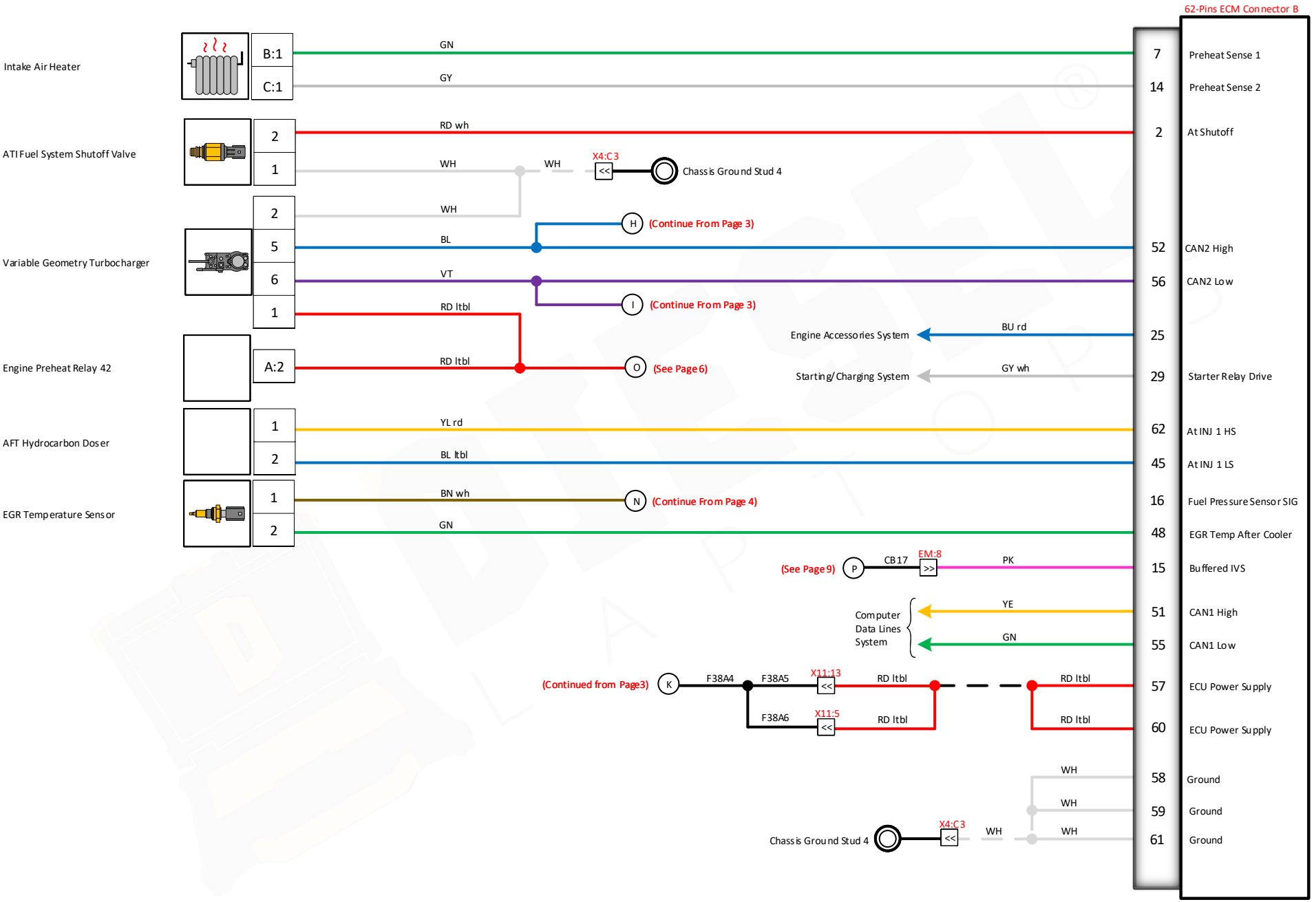


VMAC IV (2010 Series LE & MR Trucks)

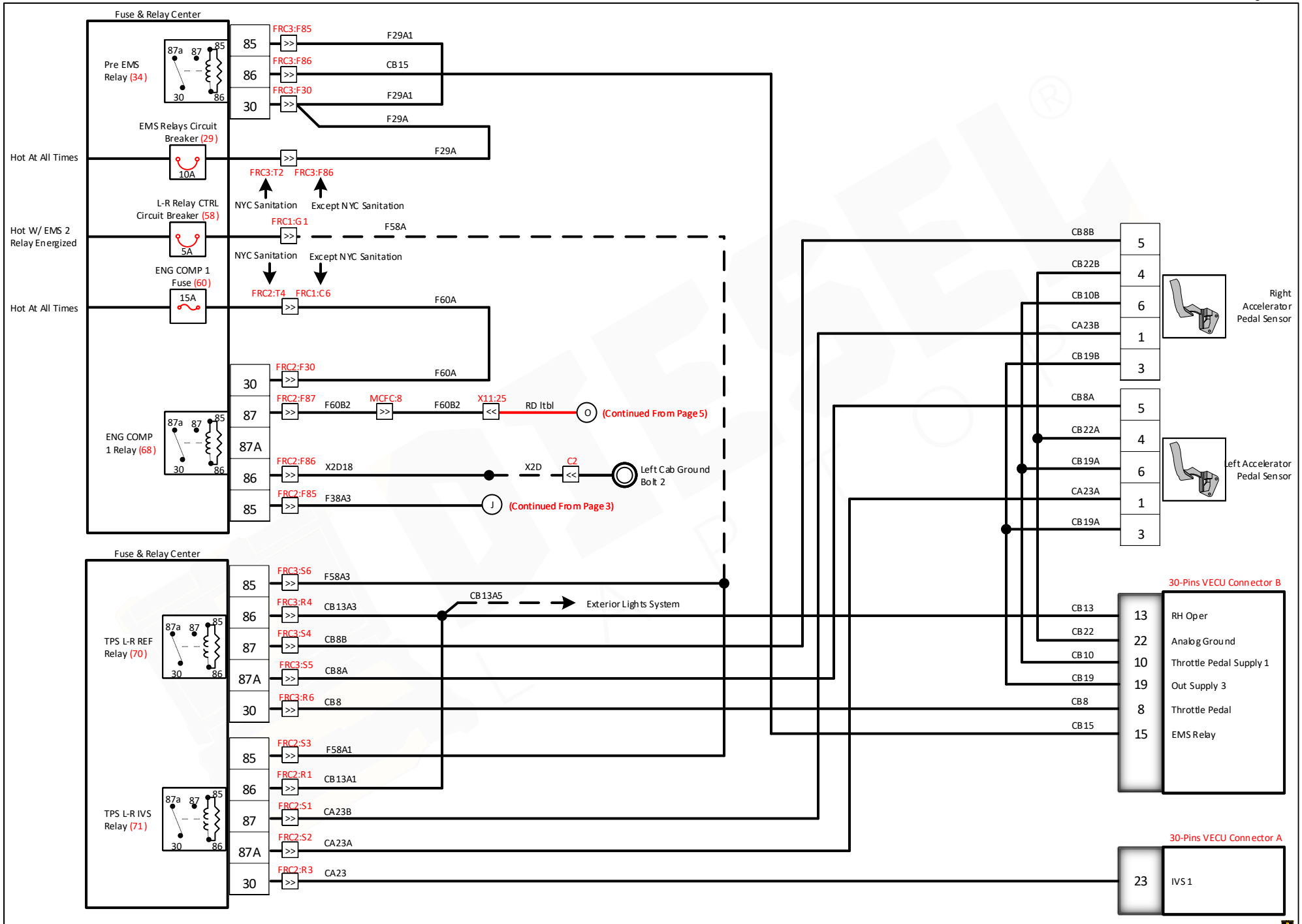


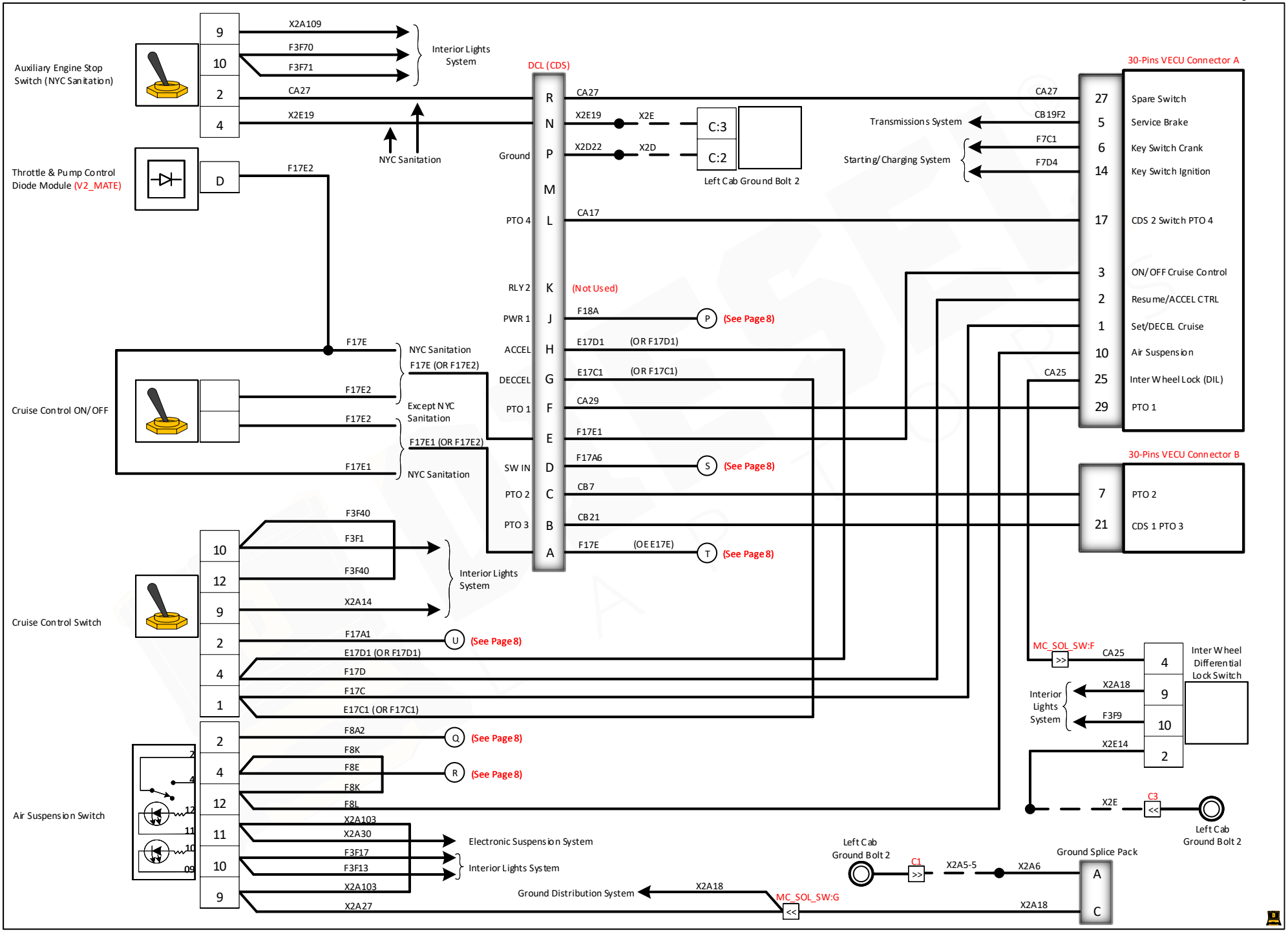

62-Pins ECM Connector A
Turbo Shaft Speed Sensor
1
2
GN bn
YL rd
42
Turbo Speed Sensor (-)
41
Turbo Speed Sensor (+)
Engine Cooling Fan (W/ HDMS Fan)
Thermal Switch (NC)
5
6
GN wh
(Continue From Page 1)
G
BL
26
Fan Clutch Overlap
Fan Drive PMW Solenoid
3
4
BL wh
GY ltbl
C
(Continue From Page 1)
GY wh
39
Fan Speed (-)
YL
35
Fan Speed (+)
Fuse & Relay Center
(See Page 6)
J
F38A3
F38A3
(See Page 5)
K
F38A4
MCFC:48
F38A4
ENG CTRL Unit Fuse (38)
Hot W/ EMS Relay 2 Energized
30A
FRC1:G7
FRC2:R8
F38A
Except NYC Sanitation
NYC Sanitation
Engine Cooling fan (W/ E-Viscous Fan)
Fan Speed Sensor
(Continue From Page 1)
F
GN wh
ENG COMPT 2 Fuse (43)
15A
FRC1:G8
MCFC:95
X11:21
GY ltbl
F43A
F43A
F43A2
M
(See Page 4)
GY ltbl
4
3
Engine Cooling Fan Drive Actuator
FRC1:F8
F38A1
BL wh
ENG ACC Fuse (41)
Hot W/ EMS 2 Relay Energized
15A
MCFC:102
FCEIC:3
FRC1:G5
FRC2:S8
F41A
F41A
Except NYC Sanitation
NYC Sanitation
F43A3
FCEFS:A
F43A3
A
B
BL wh
X11:33
43B
FCEFS:B
43B
Engine Cooling Fan Drive Actuator
L
(See Page 4)
4
3
2
1
AFT Outlet NOX Sensor
X4:C3
Chassis Ground Stud 4
3
4
2
1
AFT Inlet NOX Sensor
AFT Control Module
J1939 CAN 2 H
J1939 CAN 2 L
14
10
J1939-2HN1
J1939-2LN1
CANJ1939 Termination Resistor
1
2
FCEIC:2
FCEIC:5
J1939-2HB1
J1939-2LB1
J1939-2HB
J1939-2LB
X11:3
X11:6
BL
VT
H
(See Page 5)
I
(See Page 5)

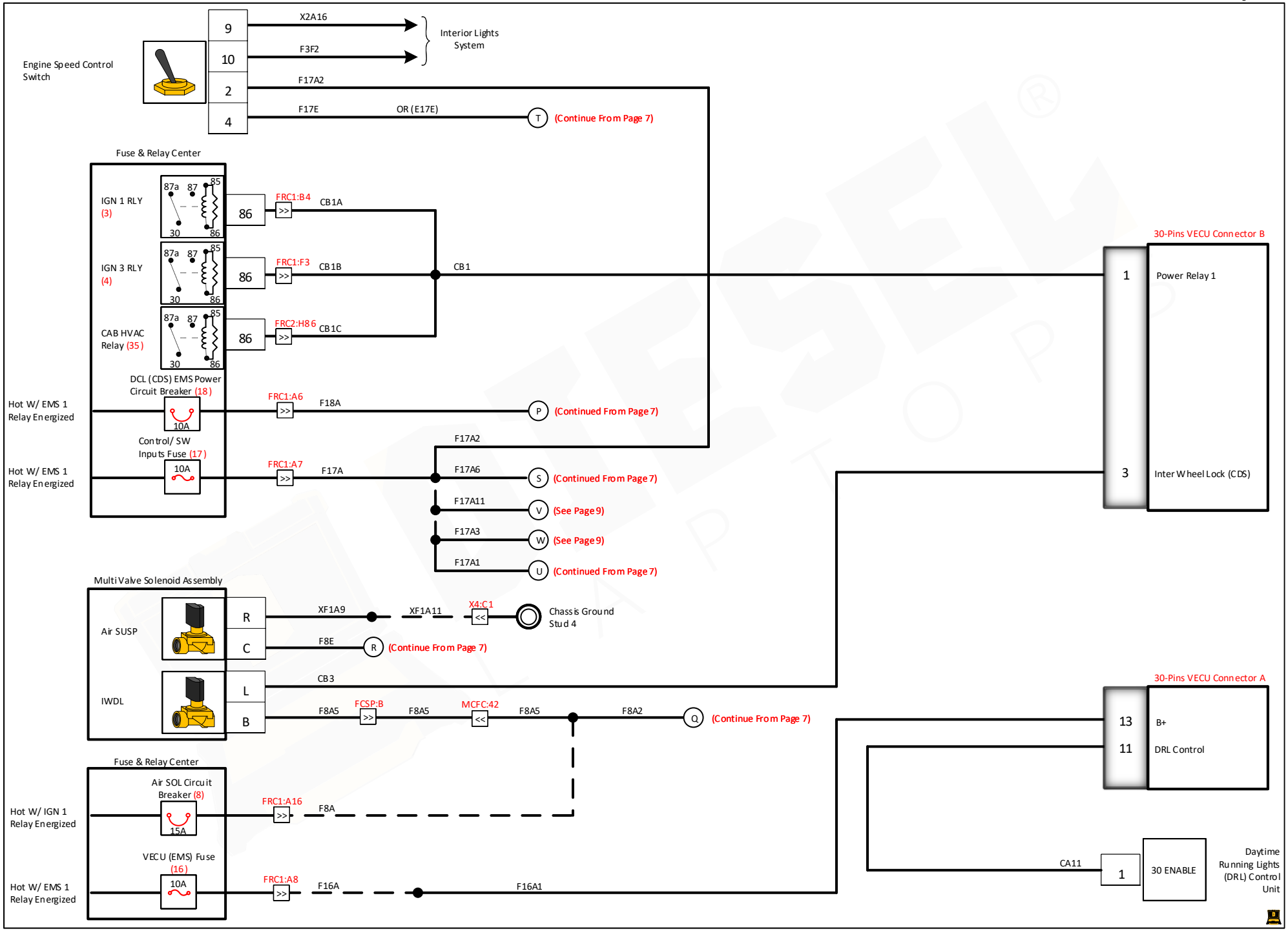

62-Pins ECM Connector B
Engine Exhaust Gas Recirculation Valve Actuator
1
2
LTBL
YL gy
9 EGR Valve Drive
13 EGR Valve Drive
Engine Coolant Level Sensor
A
B
HE128
FCEIC:28
HEI28
X11:28
BL ltbl
23 Coolant Level IND
HE118
FCEIC:22
HEI18
X11:18
GY wh
(E) (Continue From Page 1)
10 Ground
Engine Compression Brake Actuator
1
2
WH
WH
30 VCB Drive
(Continue From Page 1) (A) BL gn
3 Oil Level
(Continue From Page 1) (B) GY
4 Oil Level High
Air Valve Unit (AVU) Solenoid Valve
4
1
BN
GY ltbl
46 Discharge RECIR VLV SOL
(M) (Continue From Page 3)
Engine Piston Cooling Oil Supply Valve
1
2
GN wh
RD ltbl
41 Piston Cooling Jet VLV
Engine Oil Thermostat Bypass Valve
1
2
GN wh
YL bn
(Continue From Page 3) (L)
49 Cooling Fan Drive
53 Oil Thermostat Drive
Engine Coolant Temperature Sensor
2
1
BN wh
YL wh
(N) (See Page 5)
27 Coolant Temp
BN wh
GN
1
2
Engine Turbo Charger Compressor Outlet Temperature Sensor
43 Compressor Temp
Crankcase Pressure Sensor
4
1
2
BN wh
BN
YL
28 Crank Case Pressure
Fuel Pressure Sensor
4
1
2
BN wh
BN
BL gn
16 Fuel Pressure
Engine Oil Pressure Sensor
4
1
2
BN wh
BN
GY
18 Ground
17 Supply
11 Oil Pressure
Engine Piston Cooling Oil Pressure Sensor
2
4
1
GN yl
BN wh
BN
19 Cooling Jet Pressure
(Continue From Page 1) (D) YL
8 WIF IND

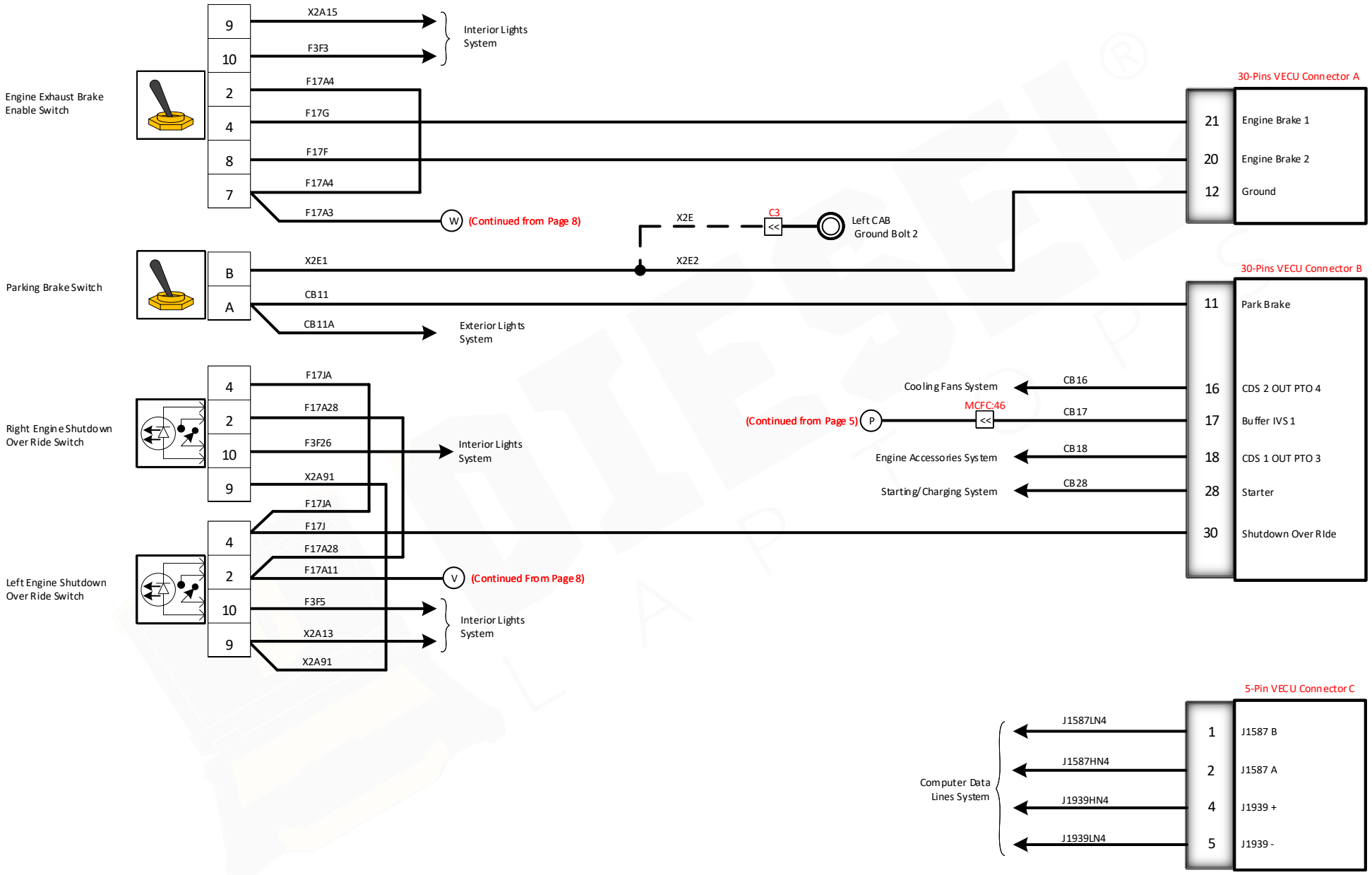

62-Pins ECM Connector B
Intake Air Heater
B:1
C:1
GN
GY
7
Preheat Sense 1
14
Preheat Sense 2
ATI Fuel System Shutoff Valve
2
1
RD wh
WH
WH
X4:C3
Chassis Ground Stud 4
2
At Shutoff
Variable Geometry Turbocharger
2
5
6
1
WH
BL
VT
RD ltbl
H
(Continue From Page 3)
I
(Continue From Page 3)
52
CAN2 High
56
CAN2 Low
Engine Preheat Relay 42
A:2
RD ltbl
O
(See Page 6)
Engine Accessories System
BU rd
25
Starting/Charging System
GY wh
29
Starter Relay Drive
AFT Hydrocarbon Doser
1
2
YL rd
BL ltbl
62
At INJ 1 HS
45
At INJ 1 LS
EGR Temperature Sensor
1
2
BN wh
GN
N
(Continue From Page 4)
16
Fuel Pressure Sensor SIG
48
EGR Temp After Cooler
(See Page 9)
P
CB17
EM:8
PK
15
Buffered IVS
Computer Data Lines System
YE
GN
51
CAN1 High
55
CAN1 Low
(Continued from Page3)
K
F38A4
F38A5
X11:13
RD ltbl
F38A6
X11:5
RD ltbl
RD ltbl
RD ltbl
57
ECU Power Supply
60
ECU Power Supply
WH
WH
WH
58
Ground
59
Ground
61
Ground
Chassis Ground Stud 4
X4:C3
WH

VMAC IV (2010 Series LE & MR Trucks)




Auxiliary Engine Stop Switch (NYC Sanitation)
9
10
2
4
X2A109
F3F70
F3F71
Interior Lights System
CA27
X2E19
NYC Sanitation
Throttle & Pump Control Diode Module (V2_MATE)
D
F17E2
DCL (CDS)
R
N
Ground
P
M
PTO 4
L
CA27
X2E19
X2E
C:3
C:2
X2D22
X2D
Left Cab Ground Bolt 2
CA17
RLY 2
K
(Not Used)
PWR 1
J
F18A
P
(See Page 8)
ACCEL
H
E17D1
(OR F17D1)
DECCEL
G
E17C1
(OR F17C1)
PTO 1
F
CA29
E
F17E1
SW IN
D
F17A6
S
(See Page 8)
PTO 2
C
CB7
PTO 3
B
CB21
A
F17E
(OE E17E)
T
(See Page 8)
30-Pins VECU Connector A
27
Spare Switch
5
Service Brake
6
Key Switch Crank
14
Key Switch Ignition
17
CDS 2 Switch PTO 4
3
ON/OFF Cruise Control
2
Resume/ACCEL CTRL
1
Set/DECEL Cruise
10
Air Suspension
25
Inter Wheel Lock (DIL)
29
PTO 1
Transmissions System
CB19F2
Starting/Charging System
F7C1
F7D4
CA25
30-Pins VECU Connector B
7
PTO 2
21
CDS 1 PTO 3
F17E
NYC Sanitation
F17E (OR F17E2)
F17E2
Except NYC Sanitation
F17E2
F17E1 (OR F17E2)
F17E1
NYC Sanitation
Cruise Control ON/OFF
Cruise Control Switch
10
12
9
2
4
1
F3F40
F3F1
F3F40
X2A14
Interior Lights System
F17A1
U
(See Page 8)
E17D1 (OR F17D1)
F17D
F17C
E17C1 (OR F17C1)
MC_SOL_SW:F
CA25
4
Inter Wheel Differential Lock Switch
Interior Lights System
X2A18
9
F3F9
10
X2E14
2
X2E
C3
Left Cab Ground Bolt 2
Air Suspension Switch
2
4
12
11
10
9
F8A2
Q
(See Page 8)
F8K
F8E
R
(See Page 8)
F8K
F8L
X2A103
X2A30
Electronic Suspension System
F3F17
F3F13
Interior Lights System
X2A103
X2A27
Ground Distribution System
X2A18
MC_SOL_SW:G
Left Cab Ground Bolt 2
C1
X2A5-5
X2A6
Ground Splice Pack
A
C
X2A18


Engine Speed Control Switch
9
10
2
4
X2A16
F3F2
Interior Lights System
F17A2
F17E
OR (E17E)
T
(Continue From Page 7)
Fuse & Relay Center
IGN 1 RLY (3)
IGN 3 RLY (4)
CAB HVAC Relay (35)
87a 87 85 30 86
86
FRC1:B4
FRC1:F3
FRC2:H8 6
CB1A
CB1B
CB1C
CB1
DCL (CDS) EMS Power Circuit Breaker (18)
10A
Hot W/ EMS 1 Relay Energized
FRC1:A6
F18A
P
(Continued From Page 7)
Control/ SW Inputs Fuse (17)
FRC1:A7
F17A
F17A2
F17A6
S
F17A11
V
(See Page 9)
F17A3
W
F17A1
U
30-Pins VECU Connector B
1
Power Relay 1
3
Inter Wheel Lock (CDS)
Multi Valve Solenoid Assembly
Air SUSP
IWDL
R
C
L
B
XF1A9
XF1A11
X4:C1
Chassis Ground Stud 4
F8E
R
CB3
F8A5
FCSP:B
MCFC:42
F8A2
Q
30-Pins VECU Connector A
13
B+
11
DRL Control
Fuse & Relay Center
Air SOL Circuit Breaker (8)
15A
Hot W/ IGN 1 Relay Energized
FRC1:A16
F8A
VECU (EMS) Fuse (16)
FRC1:A8
F16A
F16A1
CA11
1
30 ENABLE
Daytime Running Lights (DRL) Control Unit


Engine Exhaust Brake Enable Switch
9
10
2
4
8
7
X2A15
F3F3
F17A4
F17G
F17F
F17A4
F17A3
Interior Lights System
W
(Continued from Page 8)
X2E
C3
<<
Left CAB Ground Bolt 2
X2E2
30-Pins VECU Connector A
21 Engine Brake 1
20 Engine Brake 2
12 Ground
Parking Brake Switch
B
A
X2E1
CB11
CB11A
Exterior Lights System
30-Pins VECU Connector B
11 Park Brake
Right Engine Shutdown Over Ride Switch
4
2
10
9
F17JA
F17A28
F3F26
X2A91
Interior Lights System
Cooling Fans System
CB16
16 CDS 2 OUT PTO 4
(Continued from Page 5)
P
MCFC:46
<<
CB17
17 Buffer IVS 1
Engine Accessories System
CB18
18 CDS 1 OUT PTO 3
Starting/Charging System
CB28
28 Starter
30 Shutdown Over RIde
Left Engine Shutdown Over Ride Switch
4
2
10
9
F17JA
F17J
F17A28
F17A11
F3F5
X2A13
X2A91
V
(Continued From Page 8)
Interior Lights System
5-Pin VECU Connector C
Computer Data Lines System
J1587LN4
J1587HN4
J1939HN4
J1939LN4
1 J1587 B
2 J1587 A
4 J1939 +
5 J1939 -

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