CF 500, CF 600 Circuit Diagrams

Note

All wiring connections between components are shown exactly as they exist in the vehicles. It is important to realize, however, that no attempt has been made on the schematic to represent components and wiring as they physically appear on the vehicle. For example, a 4-foot length of wire is treated no differently in a schematic from one which is only a few inches long. Furthermore, to aid in understanding electrical (electronic) operation, wiring inside complicated components has been simplified.

Complete Circuit Operation

Each circuit is shown completely and independently in one cell. Other components which are connected to the circuit may not be shown unless they influence the circuit operation.

Current Flow (1)

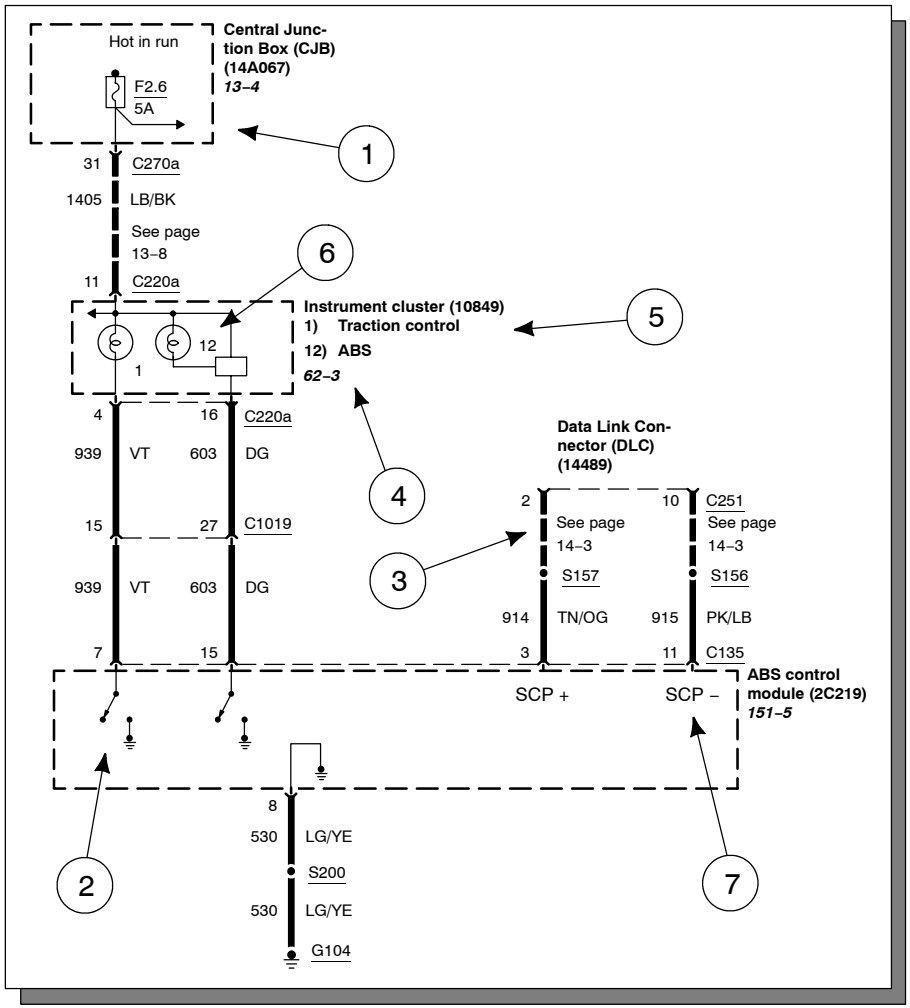
Each cell normally starts with the component that powers the circuit, such as a fuse or the ignition switch. Current flow is shown from the power source at the top of the page to ground at the bottom of the page. In order to concentrate on the essential parts, power supply and ground connections are sometimes simplified by a dashed line in the schematics. A full representation of the power supply of a fuse or the power distribution from a fuse to various components is given in cell 13 “Power Distribution”. Full representation of the ground connections are shown in cell 10 “Grounds”.

Switch Positions (2)

Within the schematic, all switches, sensors and relays are shown “at rest” (as if the Ignition Switch were OFF).

Splices (3)

A dashed line indicates that the splice is not shown completely. A reference is given to the page where the splice appears in full. It is also listed in the Index.



Component Referencing (4)

Each component on a schematic has a reference to the component location view or the page where it is shown completely. It is located to the right of each component.

Component Names, Notes and Base Part Numbers (5)

Component names are placed on the right hand side of each component. Any notes that describe switch positions or operating conditions follow the name. Descriptions of the internals of the component are also included here. The page where the component appears in full is listed in the Index. The base part number for a component is listed in parentheses next to or under a component. These part numbers will appear any place the component name appears in the publication.

Internal Name and Function Identification Numbers (6)

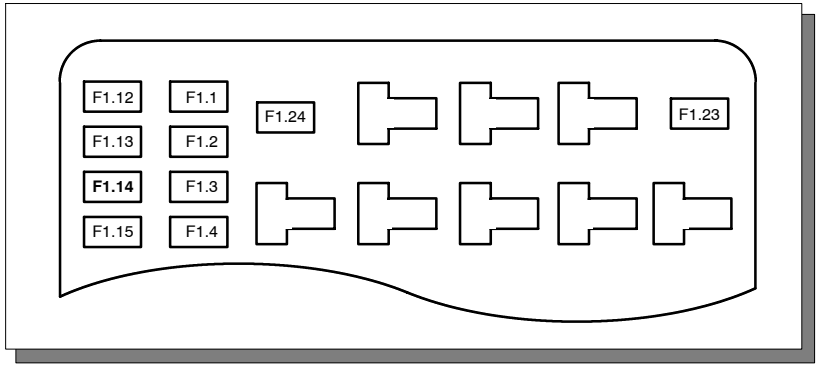
Some components on each page have internal symbols with an identification number located to the right. You can identify the internal symbol or function by finding the corresponding number under the component name.

Circuit Function Identifiers (7)

Some components without internal schematics use symbols or text to describe the function of a circuit in a system.

Fuse and Relay Information

Cell 11 “Fuse and Relay Information” contains a view of the fuse-/relay box in which all fuses and relays are identified.

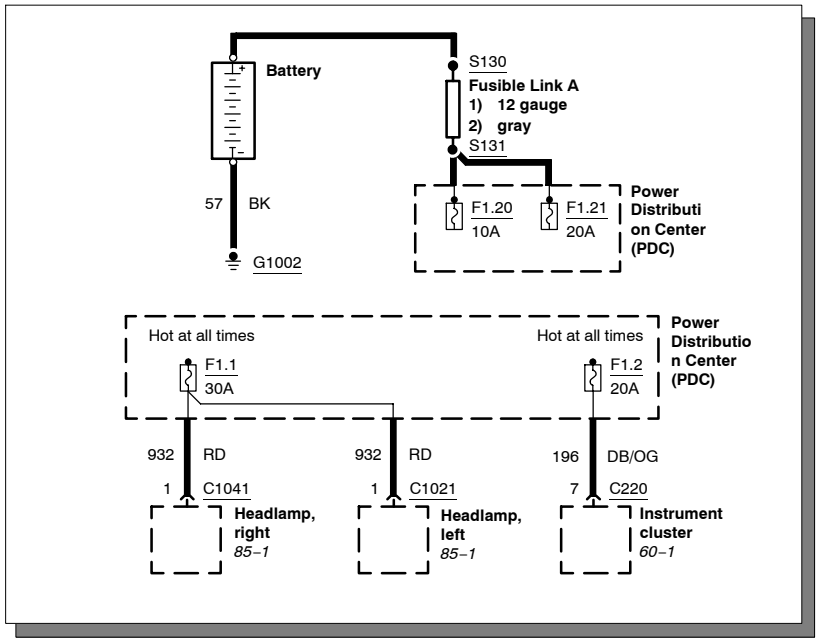


Fuse and Relay Numbering and Naming

Fuse and relay numbering and naming follow the indication of the fuse panel cover. In addition, a prefix precedes the fuse number to facilitate finding the fuse in the Component Location Charts, e.g. “F1.” precedes Power Distribution Center fuses, and “F2.” precedes Central Junction Box fuses.

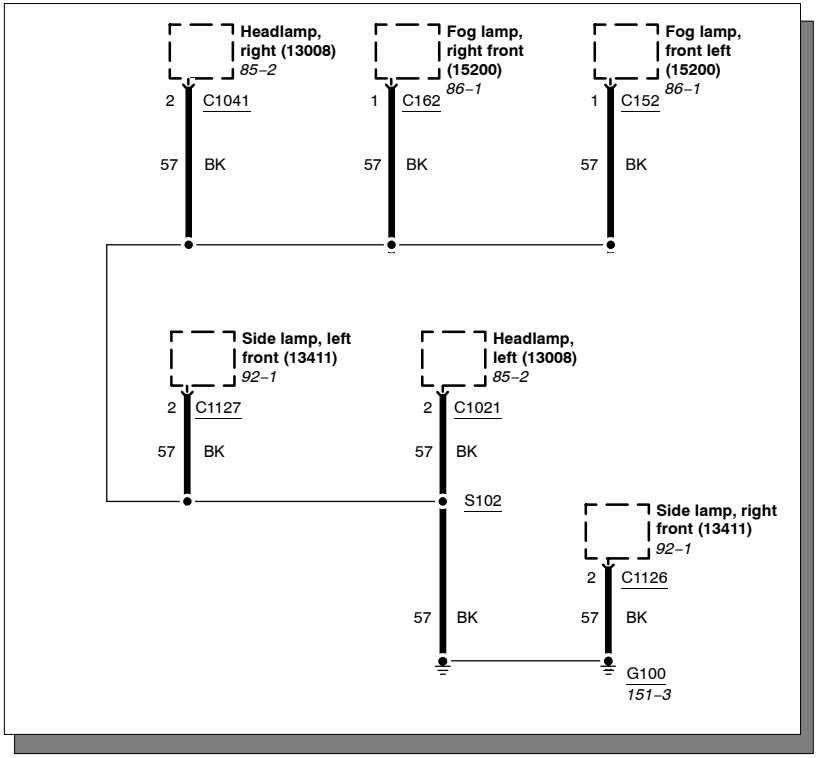
Power Distribution

Cell 13 “Power Distribution” shows the current feed circuit. The current path is shown from the battery to the ignition switch and to all fuses. It also shows the circuits protected by each fuse. The circuit is traced from the fuse to the component. All details (wires, splices, connectors) between the fuse and the first component are shown.



Ground Distribution

Cell 10 “Grounds” contains the schematics that show the complete details for each ground connection or main ground splice. This is useful in diagnosing a problem affecting several components at once (poor ground connection or ground splice). All details (wires, splices, connectors) between the ground point and the components are shown. These ground connection details are shown here in order to keep the individual cell schematics as uncluttered as possible.



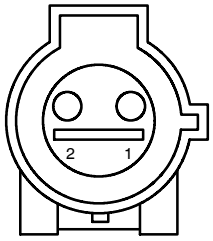
Component and Connector Information

Cell 152 “Component Location Charts” helps the user find where the various items depicted on the schematic can physically be found on the vehicle. A brief written description of the location is given, along with a reference to the component location views.
Cell 151 “Component Location Views” show the components and their connecting wires as they can be found on the vehicle.
Cell 150 “Connector Views” show the views of the pins and/or cavities of all connectors. The pin and cavity sides are shown separately as if the connector were disconnected. The color of the connector housing is indicated next to the connector number when available. The harness causal number is located above the component name and below the connector number or above the connector face itself. Wiring harness designations are listed in cell 152 “Component Location Charts”. Circuit function charts are located below each connector.

C150 (BK)

12A581

Wheel speed sensor, left front (2C205)

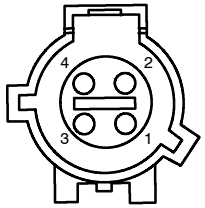


FEMALE

Pin	Circuit	Circuit Function
1	522 (TN/BK)	Wheel speed sensor, left front (2C205) –
2	521 (TN/OG)	Wheel speed sensor, left front (2C205) +

C1033 (BK)

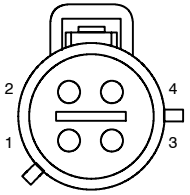
12B637



FEMALE

(1) –
(2) 1102 (YE/LG)

14B102

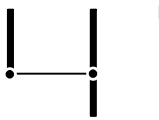


MALE

(3) 359 (GY/RD)
(4) –

WARNINGS

- *Always wear safety glasses for eye protection.*
- *Use safety stands whenever a procedure requires being under a vehicle.*
- *Be sure that the* **Ignition Switch** *is always in the OFF position, unless otherwise required by the procedure.*
- *Set the parking brake when working on any vehicle. An automatic transmission should be in PARK. A manual transmission should be in NEUTRAL.*
- *Operate the engine only in a well-ventilated area to avoid danger of carbon monoxide.*
- *Keep away from moving parts, especially the fan and belts, when the engine is running.*
- *To prevent serious burns, avoid contact with hot metal parts such as the radiator, exhaust manifold, tail pipe, catalytic converter and muffler.*
- *Do not allow flame or sparks near the battery. Gases are always present in and around the battery cell. An explosion could occur.*
- *Do not smoke when working on a vehicle.*
- *To avoid injury, always remove rings, watches, loose hanging jewelry and avoid wearing loose clothing.*


Distributed splice


Crossed wiring without connection

Splice

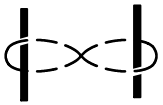
Removable connection


Ground


Connector


Female connector

Male connector

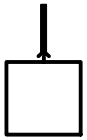

Twisted pair

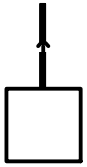

Entire component


Part of a component


Component case directly attached to metal part of vehicle (ground)


Component with screw terminals

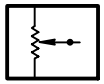

Connector attached to component


Connector attached to component lead (pigtail)


Positive Temperature Coefficient (PTC)


Resistor


Potentiometer (pressure or temperature)


Potentiometer (outside influence)


Battery

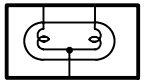

Fuse

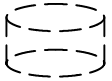

Circuit breaker


Heating element, Conductor loop

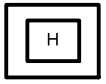

Ignition coil assembly


Coil


Bifilament lamp


Shield


Solenoid controlled valve or clutch solenoid



Hall sensor


Gauges


Horn or speaker


Light emitting diode (LED)


Air bag sliding contact (14A664)


Antenna

Fusible link


Capacitor


Diode, current flows in direction of arrow

Permanent magnet, one–speed–motor


Warning


Variable capacitor


Transistor

Permanent magnet, two–speed–motor


Piezoelectric sensor


Lamp


Rotational sensor

Wire colors	
BK	Black
BN	Brown
BU	Blue
DB	Dark blue
DG	Dark green
GN	Green
GY	Gray
LB	Light blue
LG	Light green
NA	Natural
OG	Orange
PK	Pink
RD	Red
SR	Silver
TN	Tan
VT	Violet
WH	White
YE	Yellow

Reference voltage

Switched power

Battery voltage

Switched or module voltage

Standard Corporate Protocol (SCP) data +

Standard Corporate Protocol (SCP) data –

Data bus ISO 9141 (K–line)

signal

signal

signal

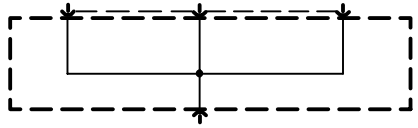
Signal return

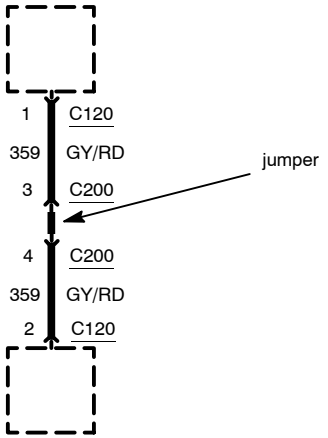
Signal return

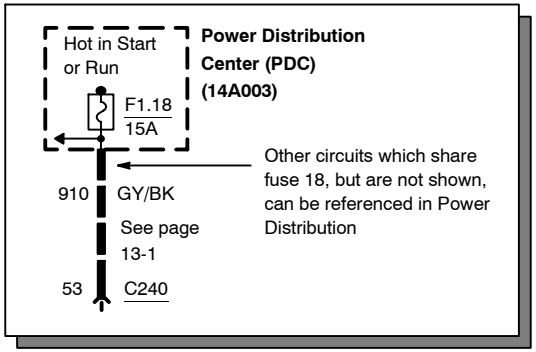
Switched ground

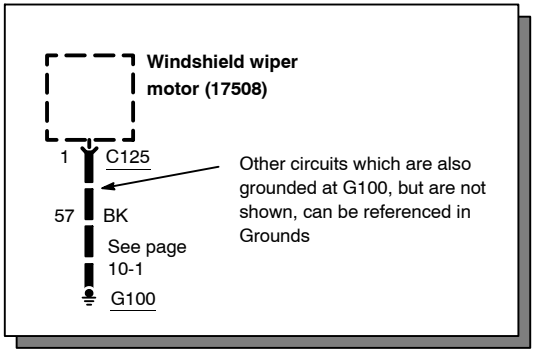
Ground

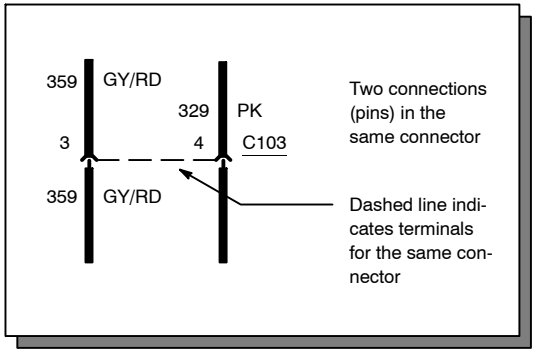
Joint connector

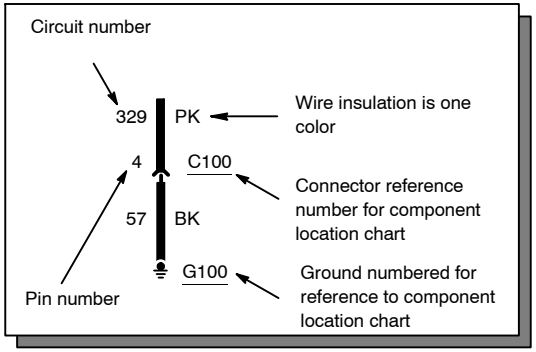


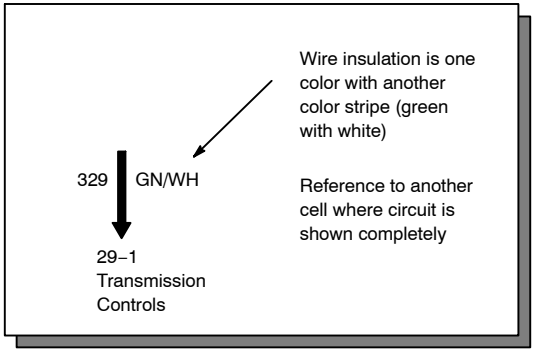


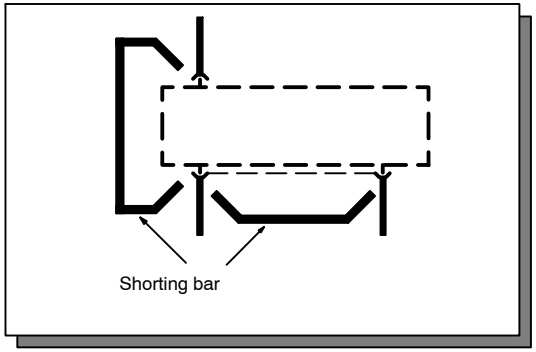

Hot in Start or Run
F1.18
15A
Power Distribution Center (PDC) (14A003)
910 GY/BK
See page 13-1
53 C240
Other circuits which share fuse 18, but are not shown, can be referenced in Power Distribution

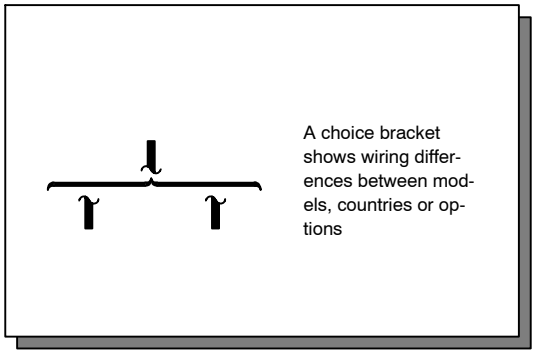

Windshield wiper motor (17508)
1 C125
57 BK
See page 10-1
G100
Other circuits which are also grounded at G100, but are not shown, can be referenced in Grounds

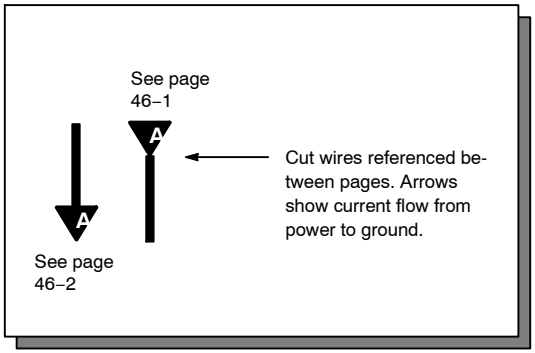

359 GY/RD
3
359 GY/RD
329 PK
4 C103
Two connections (pins) in the same connector
Dashed line indicates terminals for the same connector

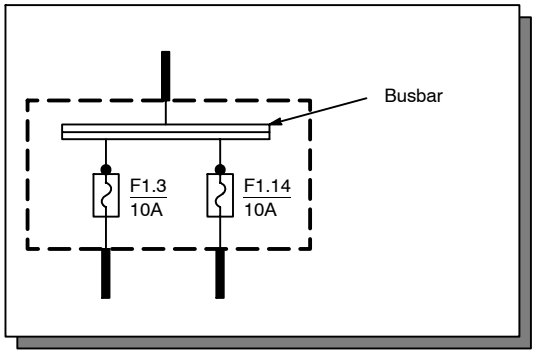

Circuit number
329 PK
4 C100
57 BK
G100
Pin number
Wire insulation is one color
Connector reference number for component location chart
Ground numbered for reference to component location chart

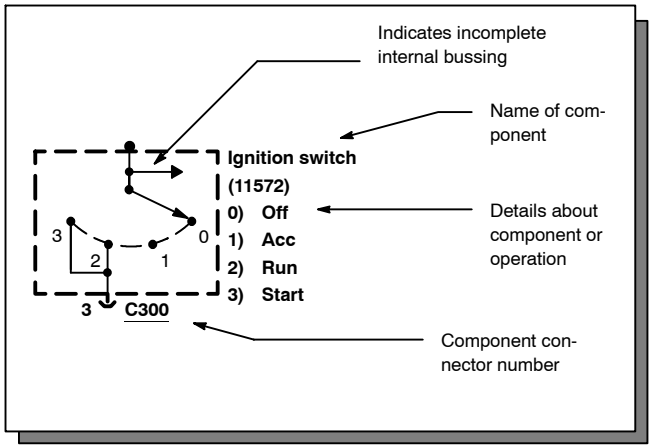

Wire insulation is one color with another color stripe (green with white)
329 GN/WH
29–1
Transmission Controls
Reference to another cell where circuit is shown completely

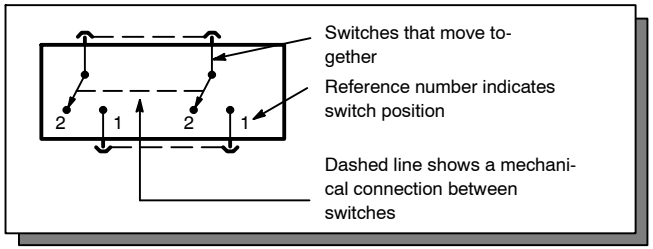

Shorting bar

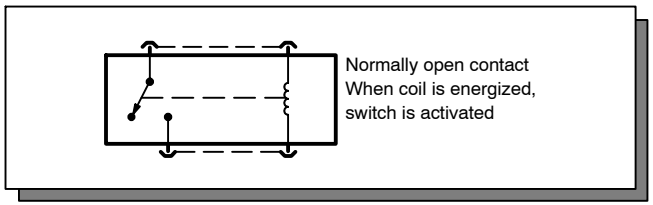

A choice bracket shows wiring differences between models, countries or options

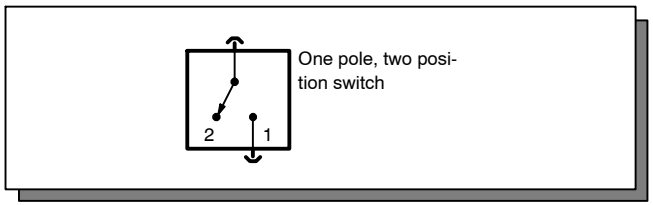

See page 46–1
A
A
See page 46–2
Cut wires referenced between pages. Arrows show current flow from power to ground.

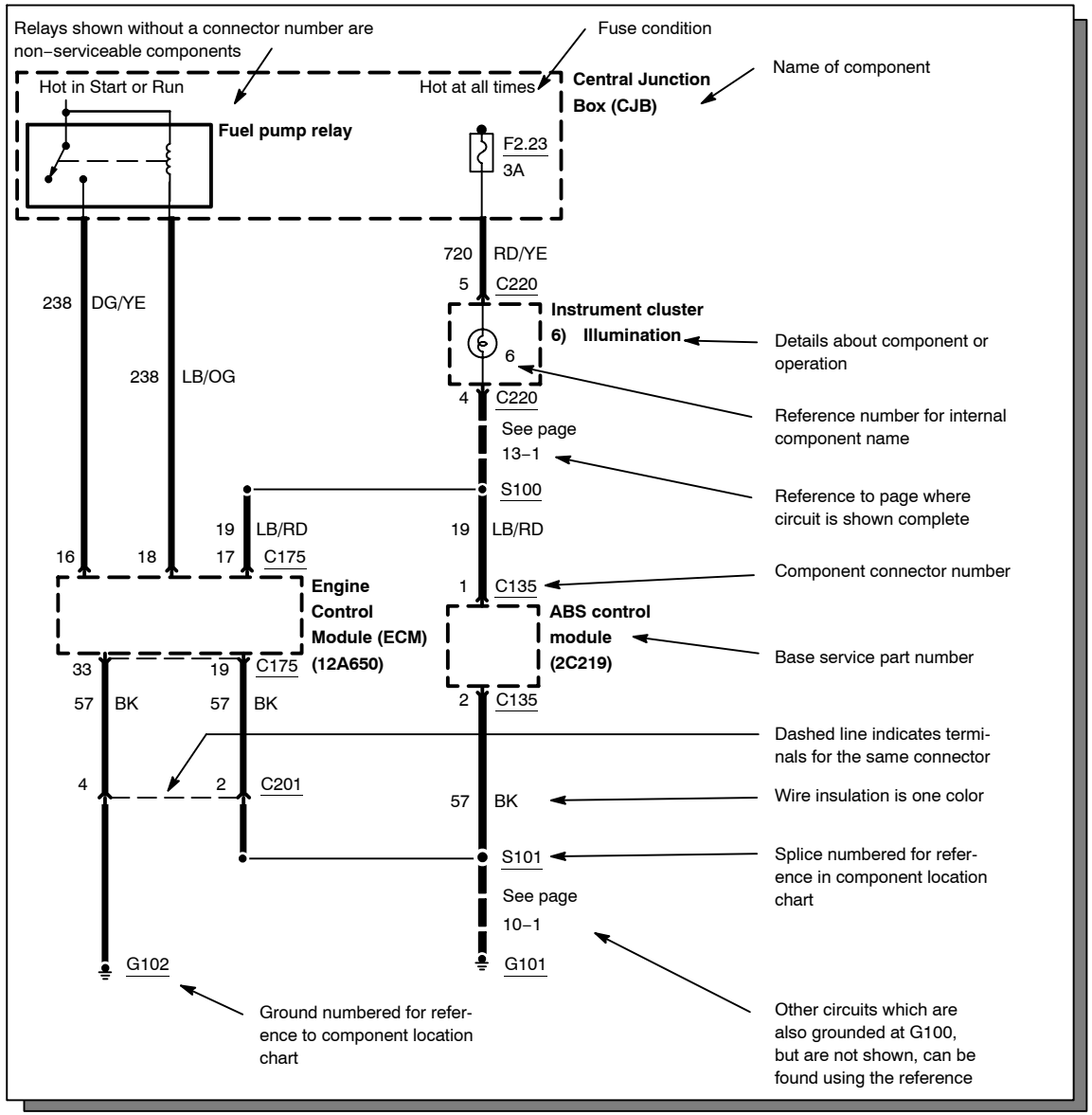

Busbar
F1.3
10A
F1.14
10A


Indicates incomplete internal bussing
Name of component
Ignition switch
(11572)
0) Off
1) Acc
2) Run
3) Start
Details about component or operation
3 C300
Component connector number


Switches that move together
Reference number indicates switch position
Dashed line shows a mechanical connection between switches


Normally open contact
When coil is energized, switch is activated


One pole, two position switch


Relays shown without a connector number are non−serviceable components
Fuse condition
Name of component
Hot in Start or Run
Hot at all times
Central Junction Box (CJB)
Fuel pump relay
F2.23
3A
720 RD/YE
5 C220
238 DG/YE
Instrument cluster
6) Illumination
Details about component or operation
6
238 LB/OG
4 C220
Reference number for internal component name
See page 13−1
Reference to page where circuit is shown complete
S100
19 LB/RD
19 LB/RD
16
18
17 C175
1 C135
Component connector number
Engine Control Module (ECM) (12A650)
ABS control module (2C219)
Base service part number
33
19 C175
57 BK
57 BK
2 C135
Dashed line indicates terminals for the same connector
4
2 C201
57 BK
Wire insulation is one color
S101
Splice numbered for reference in component location chart
See page 10−1
G102
G101
Ground numbered for reference to component location chart
Other circuits which are also grounded at G100, but are not shown, can be found using the reference

The first digit of every connector, ground, and splice number used in this publication references its location within the vehicle.

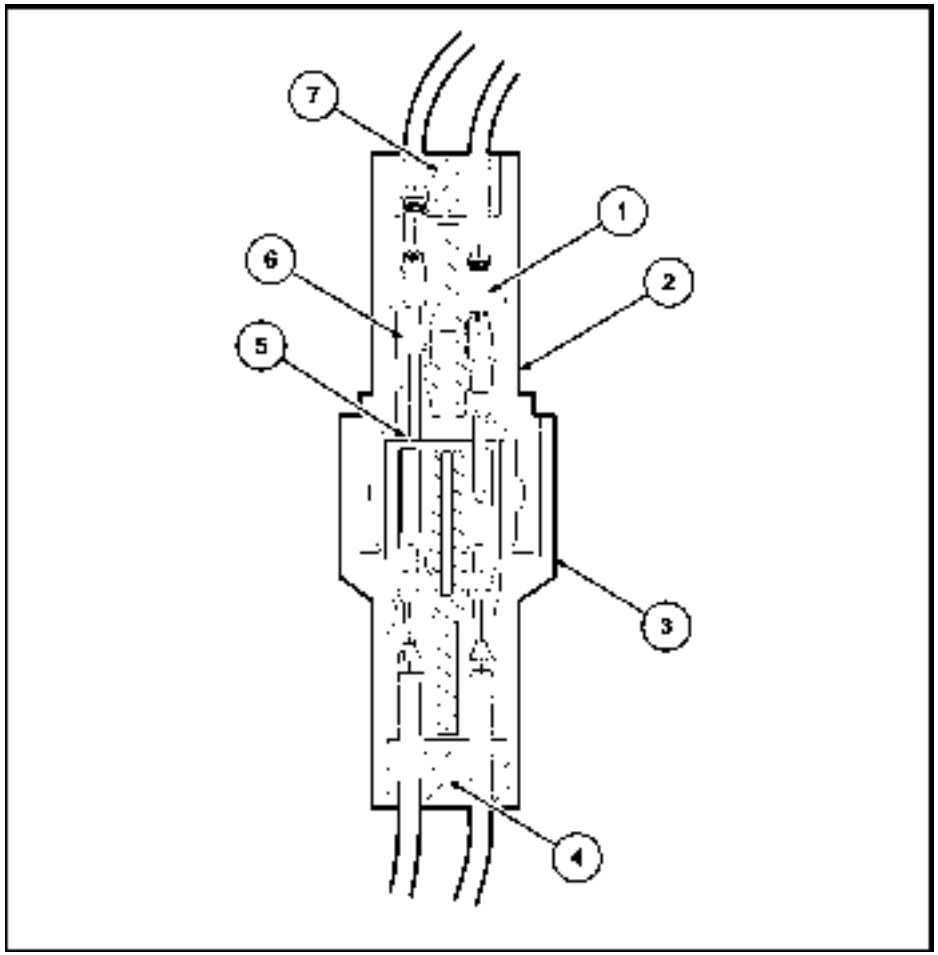
The chart below describes the different sections of the vehicle, and lists the number associated with each.

Number	Location
100–199 1000–1999	front fascia, hood, front fenders, front axle, Engine compartment, Powertrain (including: axle/differential/transmission/exhaust system)
200–299 2000–2999	Instrument Panel and Center Stack Console, Steering wheel assembly, front kick panels, cowl panel (body side)
300–399 3000–3999	From instrument panel to rear seat, A, B, C pillars below door trim panel, center console
400–499 4000–4999	behind rear seats, to rear bumper; Truck bed, Tailgate, Liftgate, Rear fenders
500–599	left front door
600–699	right front door
700–799	left rear door
800–899	right rear door
900–999	A, B, C pillars Above door trim panel and headliner

Troubleshooting wiring harness and connector hidden concerns

The following illustrations are known examples of wiring harness, splices and connectors that will create intermittent electrical concerns. The concerns are hidden and can only be discovered by a physical evaluation as shown in each illustration.

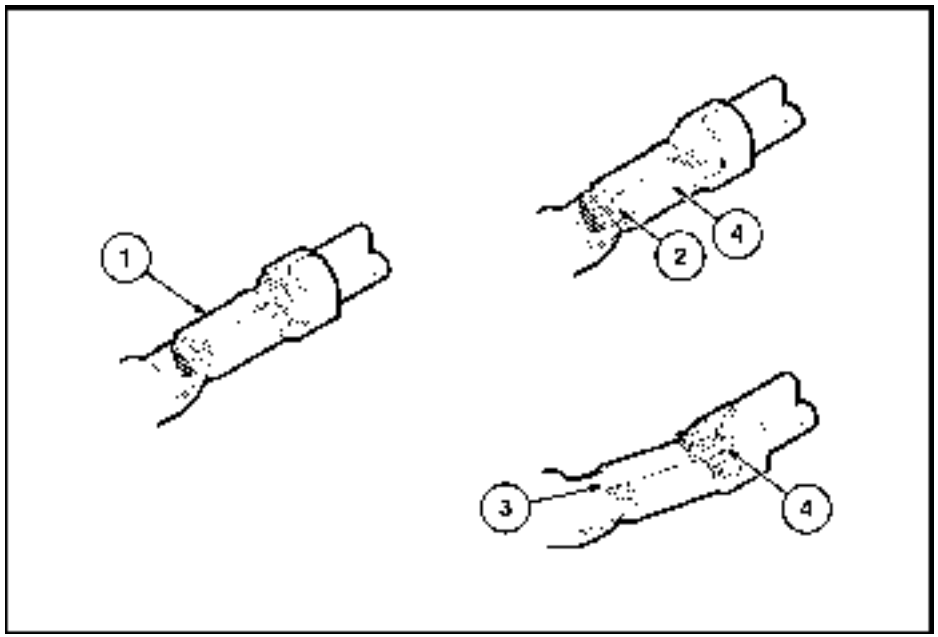
NOTE: Several components, such as the ECM, utilize gold plated terminals in their connections to the wiring harness. If those terminals need to be replaced, they must be replaced with a gold plated terminal.



Terminal not properly seated

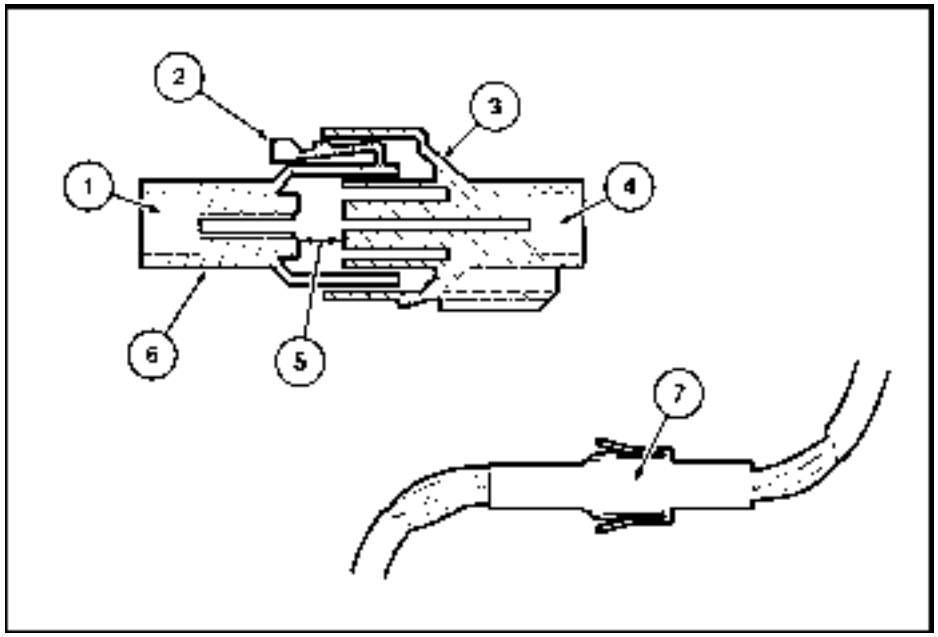
1 = Locked terminal
2 = Male half
3 = Female half
4 = Seal
5 = Intermittent contact
6 = Unlocked terminal (Hidden by wire seal)
7 = Seal

Check for unlocked terminals by pulling each wire at the end of the connector.



Defective insulation stripping

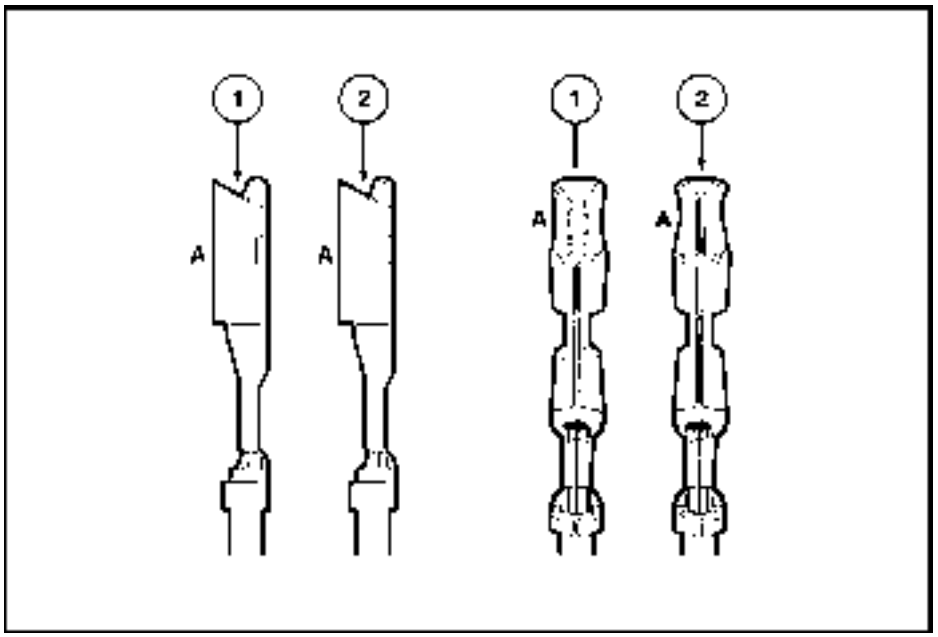
1 = Proper crimp
2 = Insulation not removed
3 = Wire strands missing
4 = Intermittent signals through pierced insulation



Partially mated connectors

1 = Seal
2 = Displaced tab
3 = Female half
4 = Seal
5 = Intermittent contact
6 = Male half
7 = Intermittent contact

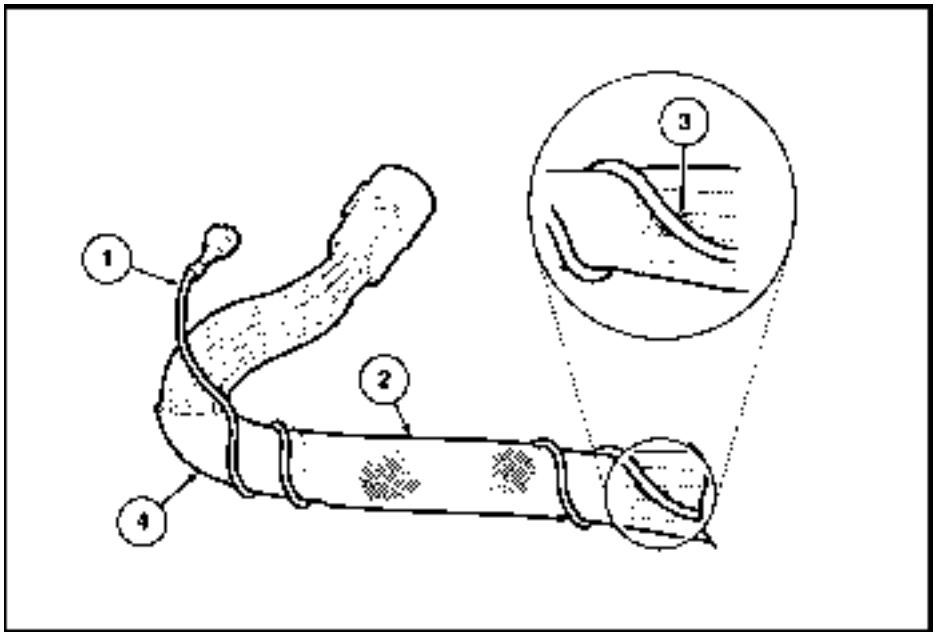
Lock may be displaced into an unlocked position; pull on the connector to verify the lock.



Deformed (enlarged) female terminals

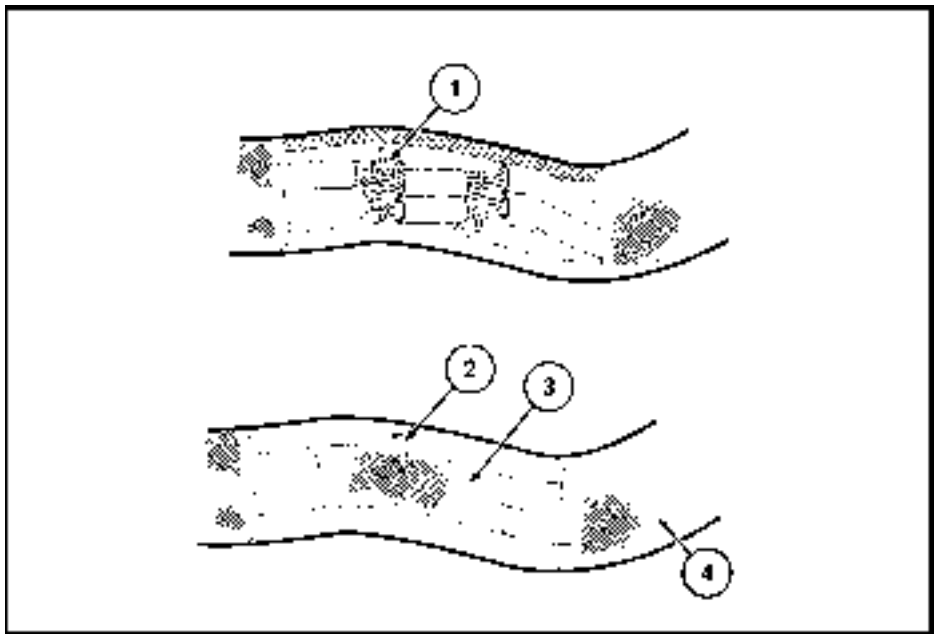
1 = Enlarged
2 = Normal

Any probe entering the terminal may enlarge the contact spring opening creating an intermittent signal. Insert the correct mating terminal (Location A) from the service kit and feel for a loose fit.



Electrical short inside the harness

1 = Solder coated wire to ground
2 = Harness protective tape
3 = Intermittent short
Solder coated wire pierced through the insulation of another circuit
4 = Grounding foil



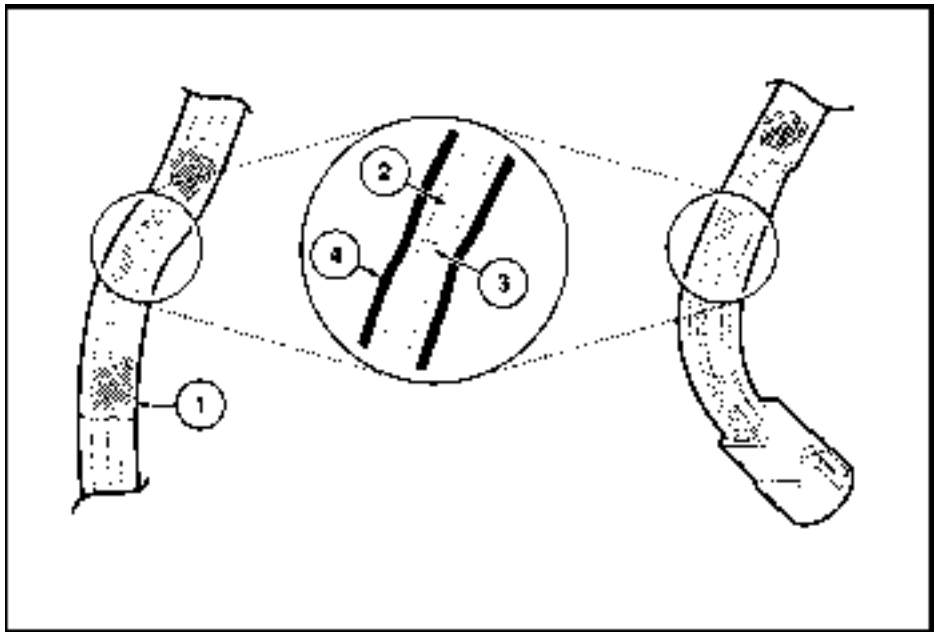
Electrical short within the harness

Splice tape removed

1 = Intermittent short

Splice covered

2 = Wire strand
3 = Splice tape
4 = Harness tape

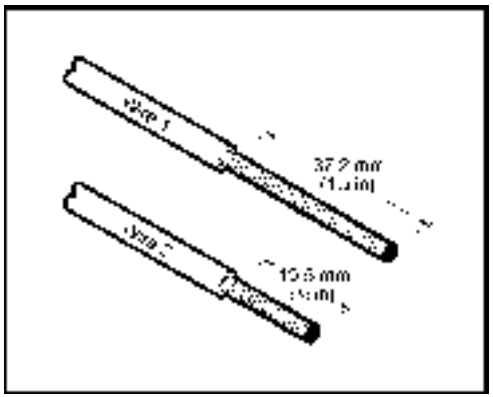


Broken wire strands in harness

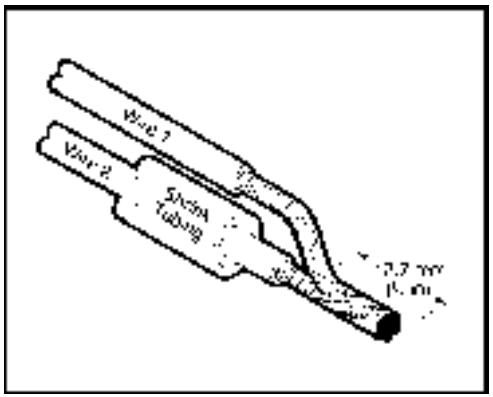
1 = Wiring harness tape
2 = Wiring strand
3 = Broken strands intermittent signal
4 = Circuit insulation

Remove the tape and flex/feel each circuit for a reduction in diameter at break.

Recommended splicing method – Solder (For 16 AWG and Smaller Diameter Wire Only)

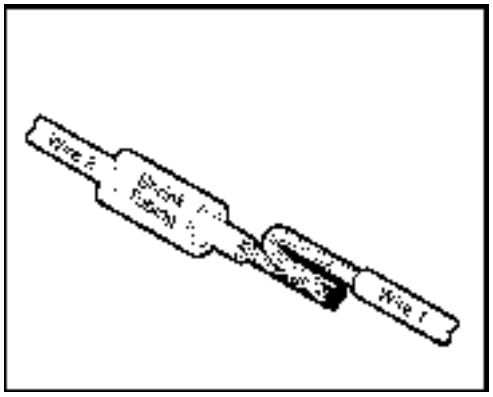


1. Disconnect battery ground cable.
2. Strip wires to appropriate length.



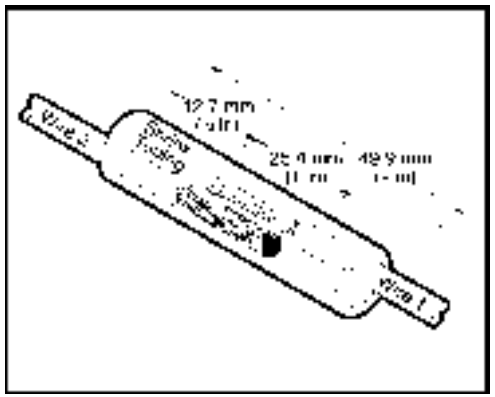
3. Install heat shrink tubing.
4. Twist wires together.
5. Solder wires together.

NOTE: Use rosin core mildly-activated (RMA) solder. Do not use acid core solder.



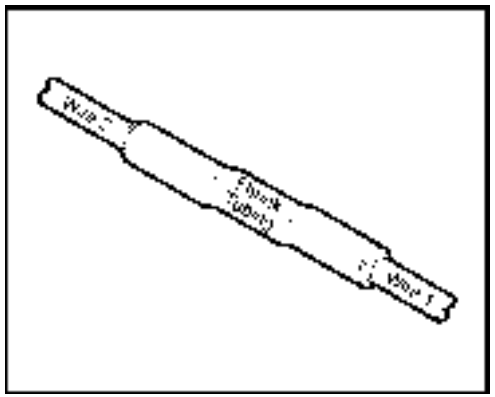
6. Bend wire 1 back in a straight line.

NOTE: Wait for solder to cool before moving wires.



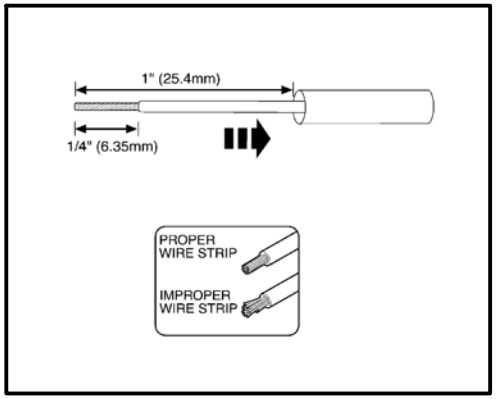
7. Evenly position heat shrink tubing over wire repair.

NOTE: Overlap tubing on both wires.

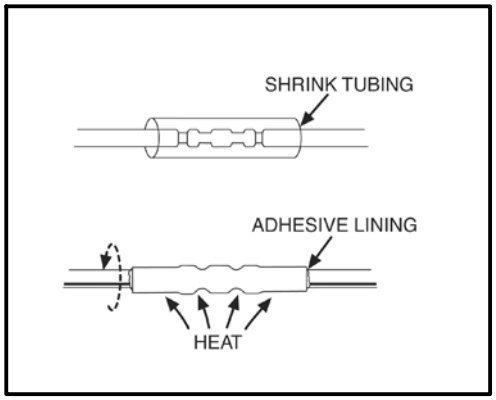


8. Use shielded heat gun to heat the repaired area until adhesive flows out of both ends of heat shrink tubing.
9. Reconnect battery ground cable.

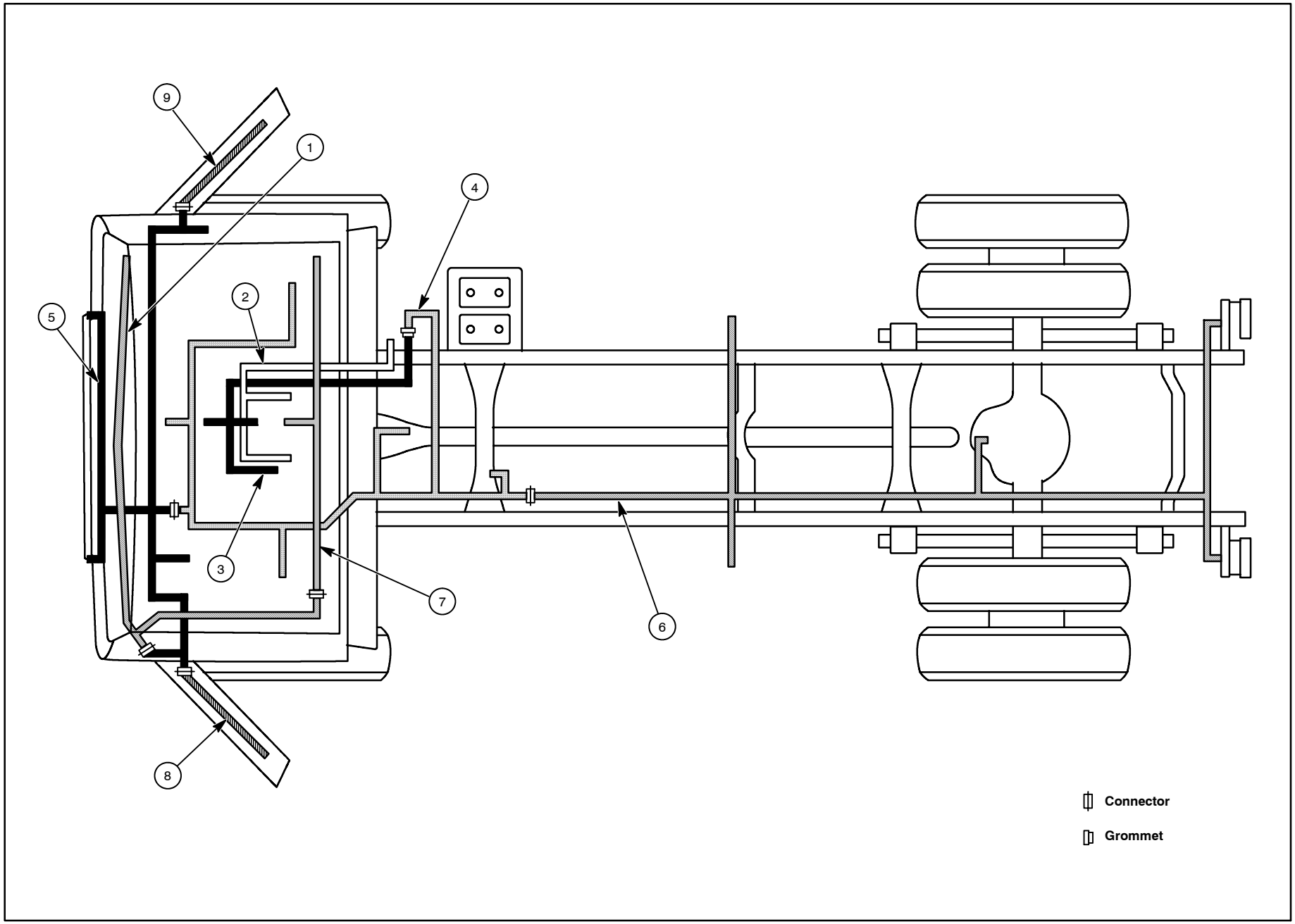
Recommended splicing method – Crimp (For 10–22 AWG Diameter Wire to Like Wire Diameter)



1. Disconnect battery ground cable.
2. Remove proper amount of insulation from each wire end, taking care not to nick or cut wire strands.
3. Install heat shrink tubing.
4. Select appropriate wire splice for the wires to be spliced.
5. Install the wire ends into the splice, making sure the ends of the wires are fully inserted.
6. Using the proper crimping tool for the splice, hand crimp the wires and splice.
7. Gently tug on the wires to be sure they are secure.
8. Electrically check the circuit for continuity through the splice.

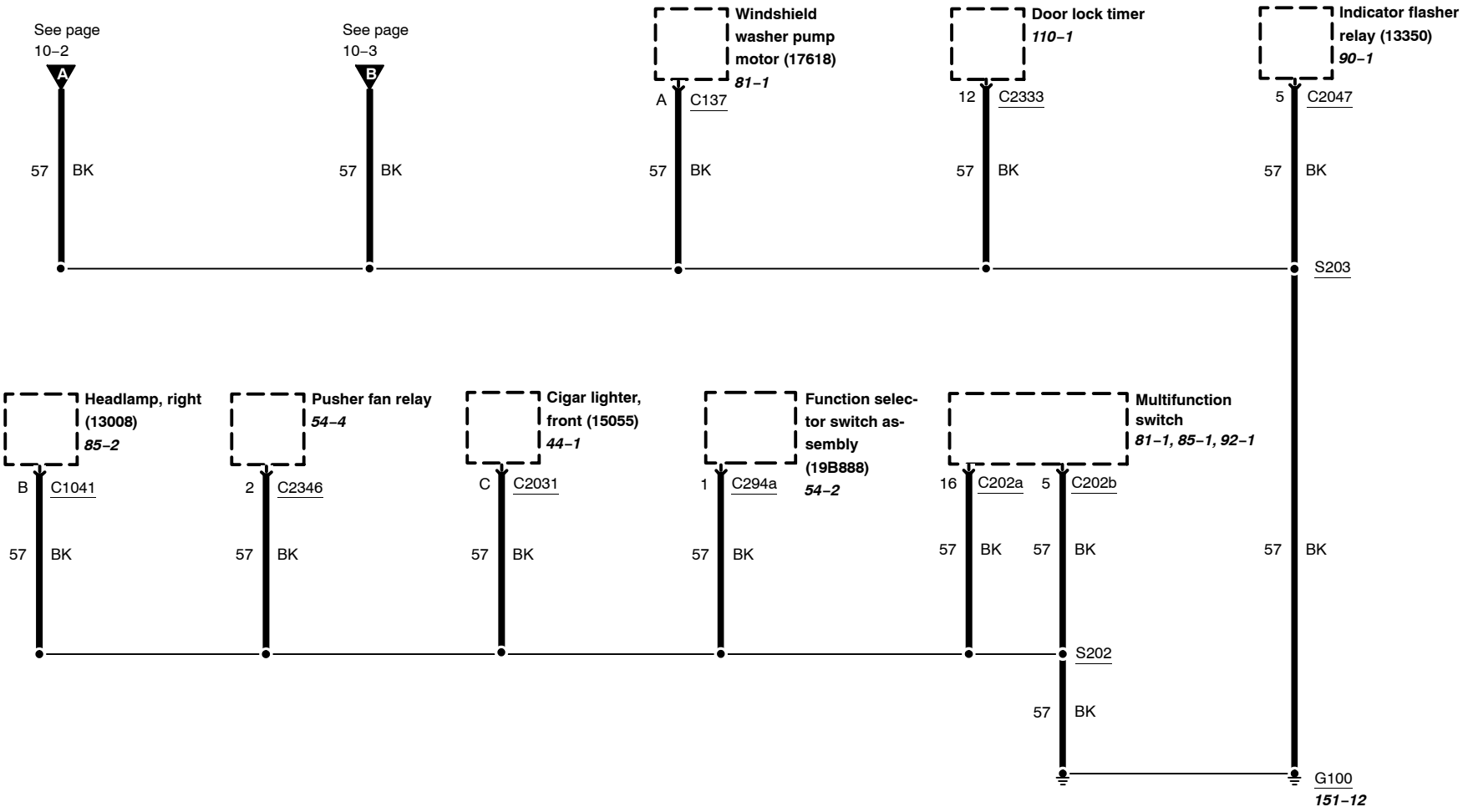


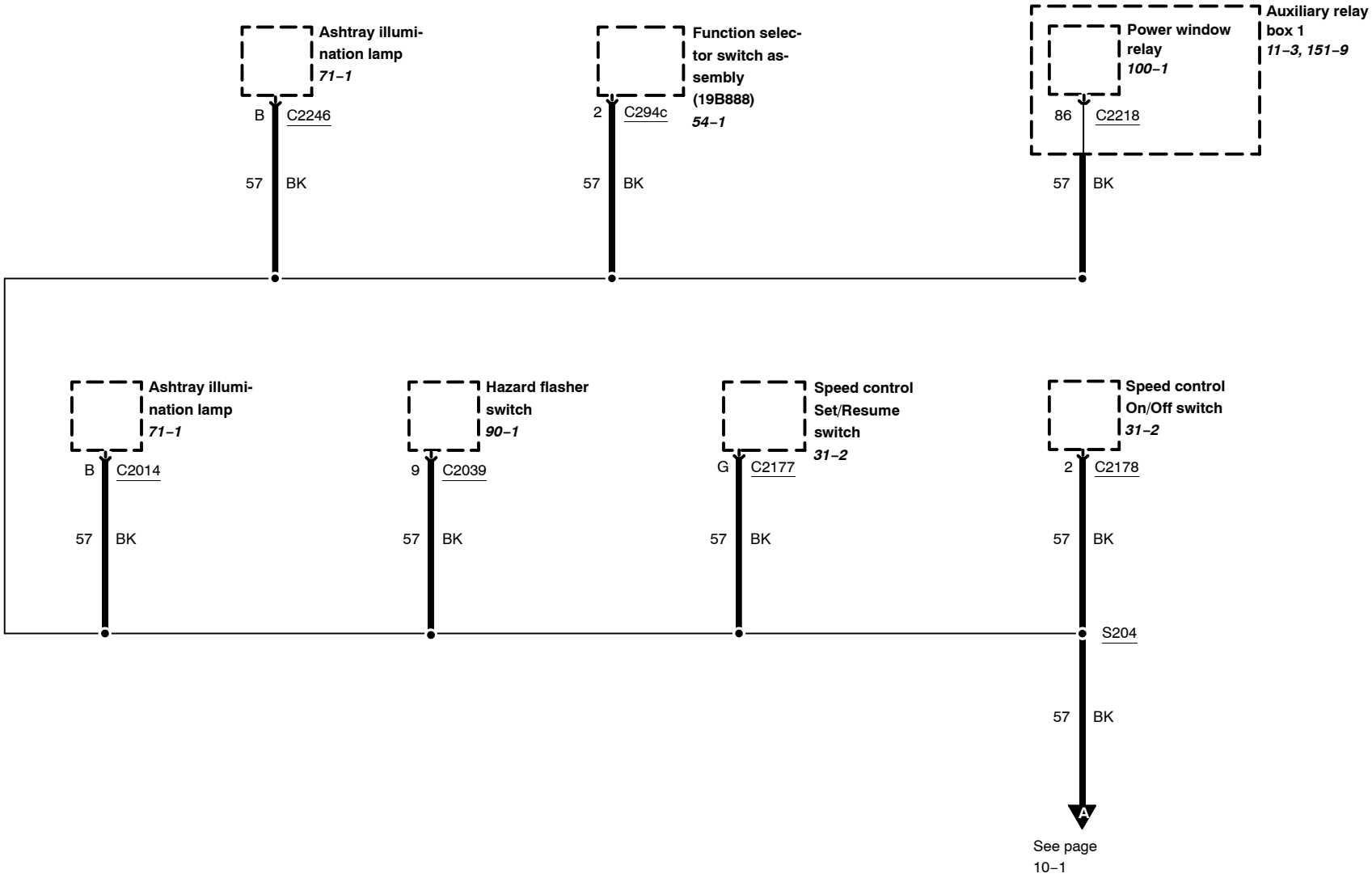
9. Evenly position supplied heat shrink tubing over wire repair.
10. Use shielded heat gun to heat the repaired area until adhesive flows out of both ends of the heat shrink tubing.
11. Reconnect battery ground cable.

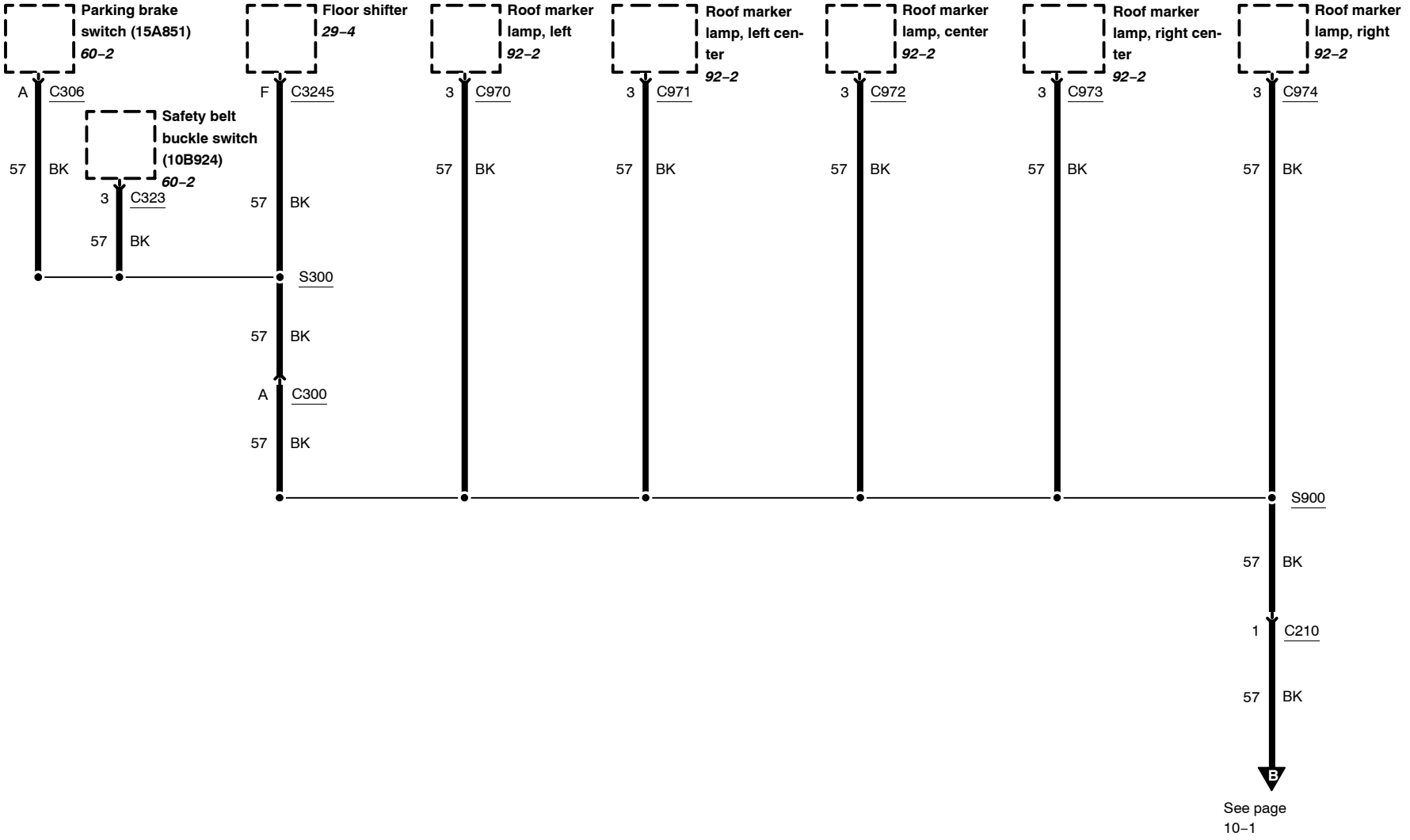

9
1
4
2
5
3
7
6
8
Connector
Grommet

Item	Part Number	Description
1	14335	Wiring harness – Interior illumination
2	9D930	Wiring harness – Fuel charge
3	12B637	Wiring harness – Engine control sensor
4	12A581	Wiring harness – Main
5	14401	Wiring harness – Instrument panel
6	14405	Wiring harness – Rear Chassis
7	14A005	Wiring harness – Floor
8	14631	Wiring harness – driver door
9	14630	Wiring harness – passenger door

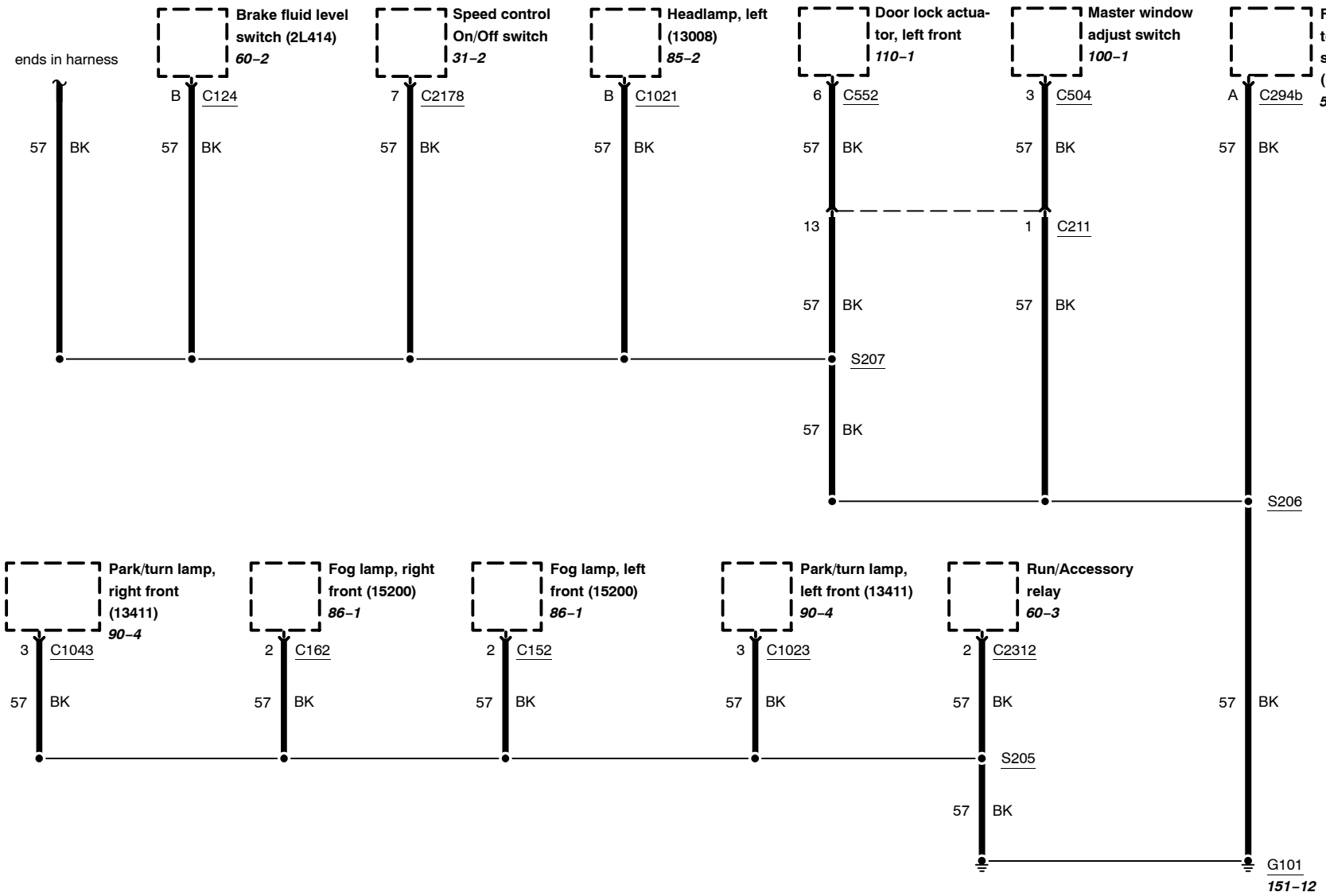
G100


See page 10–2
A
57 BK
See page 10–3
B
57 BK
Windshield washer pump motor (17618)
81–1
A C137
57 BK
Door lock timer
110–1
12 C2333
57 BK
Indicator flasher relay (13350)
90–1
5 C2047
57 BK
S203
Headlamp, right (13008)
85–2
B C1041
57 BK
Pusher fan relay
54–4
2 C2346
57 BK
Cigar lighter, front (15055)
44–1
C C2031
57 BK
Function selector switch assembly (19B888)
54–2
1 C294a
57 BK
Multifunction switch
81–1, 85–1, 92–1
16 C202a
57 BK
5 C202b
57 BK
S202
57 BK
57 BK
G100
151–12

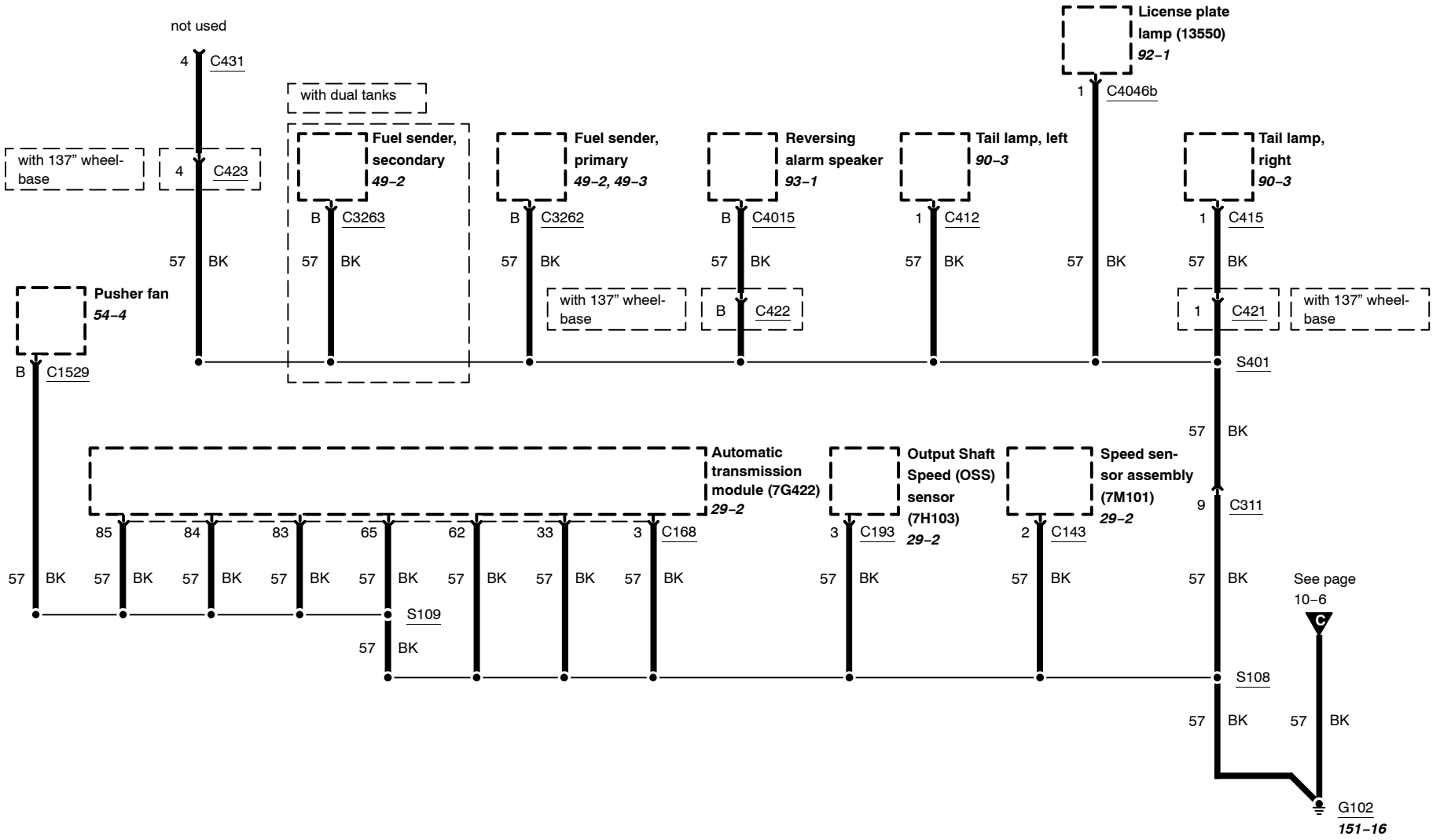

Ashtray illumination lamp
71–1
B C2246
57 BK
Function selector switch assembly (19B888)
54–1
2 C294c
57 BK
Auxiliary relay box 1
11–3, 151–9
Power window relay
100–1
86 C2218
57 BK
Ashtray illumination lamp
71–1
B C2014
57 BK
Hazard flasher switch
90–1
9 C2039
57 BK
Speed control Set/Resume switch
31–2
G C2177
57 BK
Speed control On/Off switch
31–2
2 C2178
57 BK
S204
57 BK
A
See page 10–1


Parking brake switch (15A851)
60–2
A C306
57 BK
Safety belt buckle switch (10B924)
60–2
3 C323
57 BK
Floor shifter
29–4
F C3245
57 BK
S300
57 BK
A C300
57 BK
Roof marker lamp, left
92–2
3 C970
57 BK
Roof marker lamp, left center
92–2
3 C971
57 BK
Roof marker lamp, center
92–2
3 C972
57 BK
Roof marker lamp, right center
92–2
3 C973
57 BK
Roof marker lamp, right
92–2
3 C974
57 BK
S900
57 BK
1 C210
57 BK
B
See page 10–1

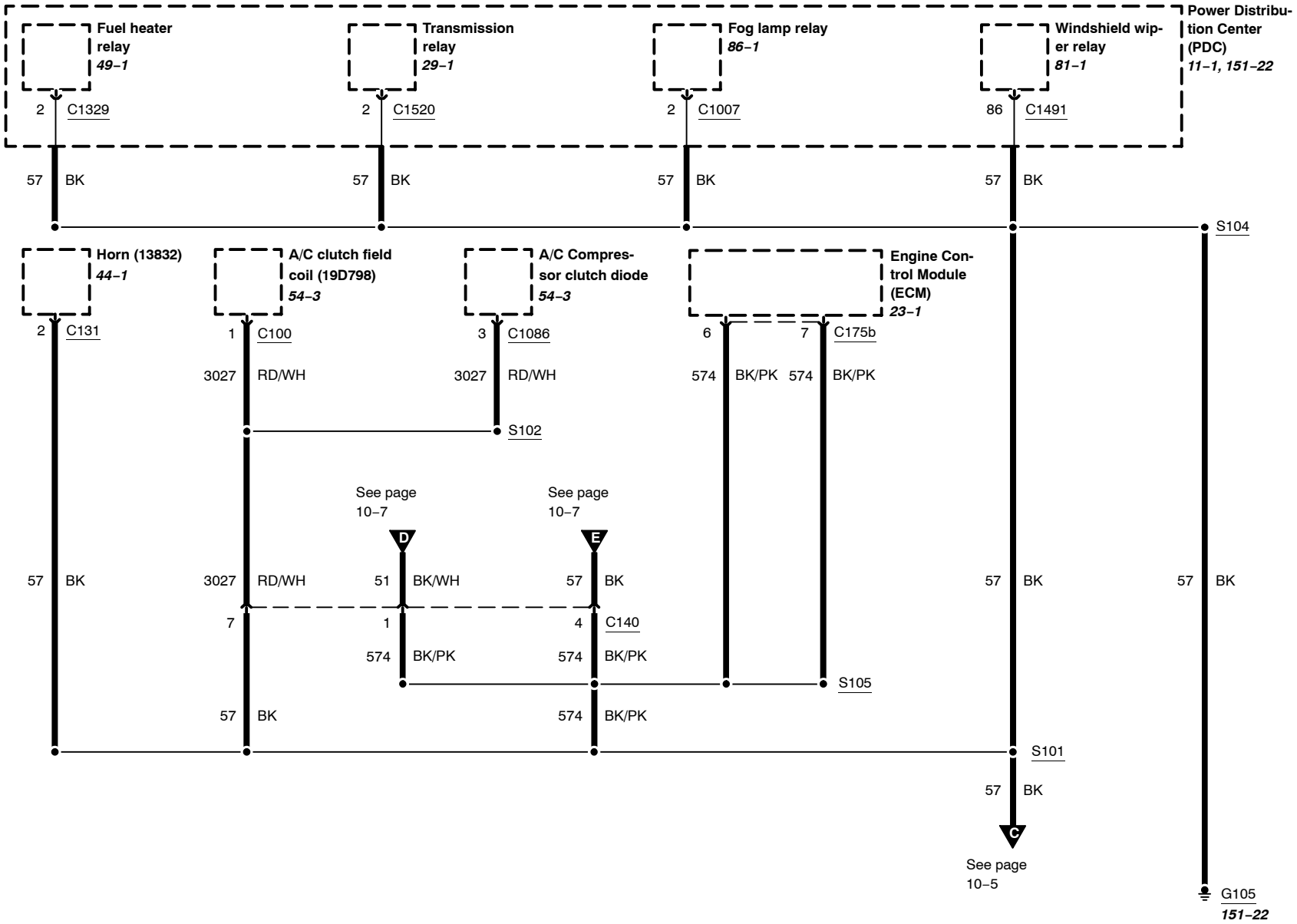
G101

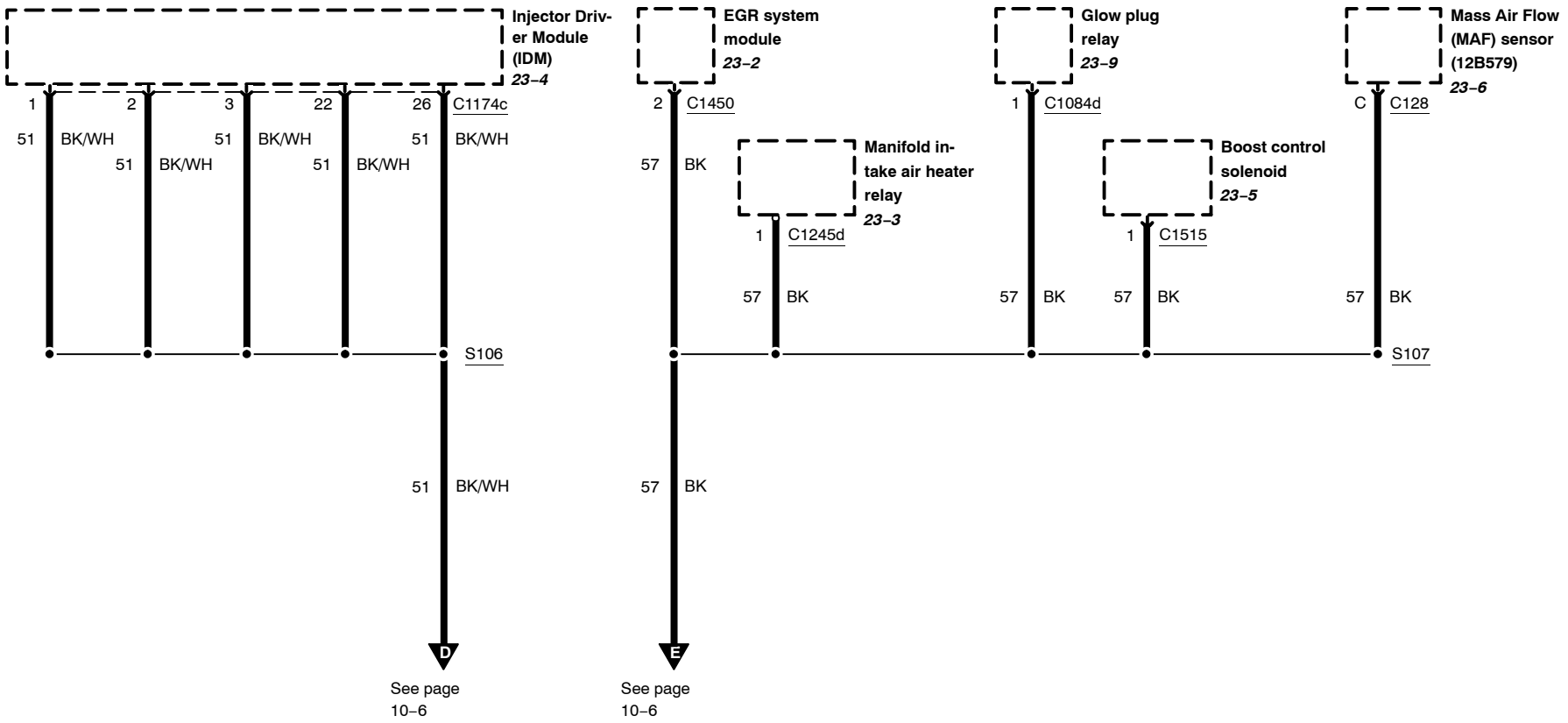

ends in harness
57 BK
Brake fluid level switch (2L414) 60–2
B C124
57 BK
Speed control On/Off switch 31–2
7 C2178
57 BK
Headlamp, left (13008) 85–2
B C1021
57 BK
Door lock actuator, left front 110–1
6 C552
57 BK
13
57 BK
S207
57 BK
Master window adjust switch 100–1
3 C504
57 BK
1 C211
57 BK
Function selector switch assembly (19B888) 54–1
A C294b
57 BK
S206
57 BK
Park/turn lamp, right front (13411) 90–4
3 C1043
57 BK
Fog lamp, right front (15200) 86–1
2 C162
57 BK
Fog lamp, left front (15200) 86–1
2 C152
57 BK
Park/turn lamp, left front (13411) 90–4
3 C1023
57 BK
Run/Accessory relay 60–3
2 C2312
57 BK
S205
57 BK
G101
151–12

G102, G400

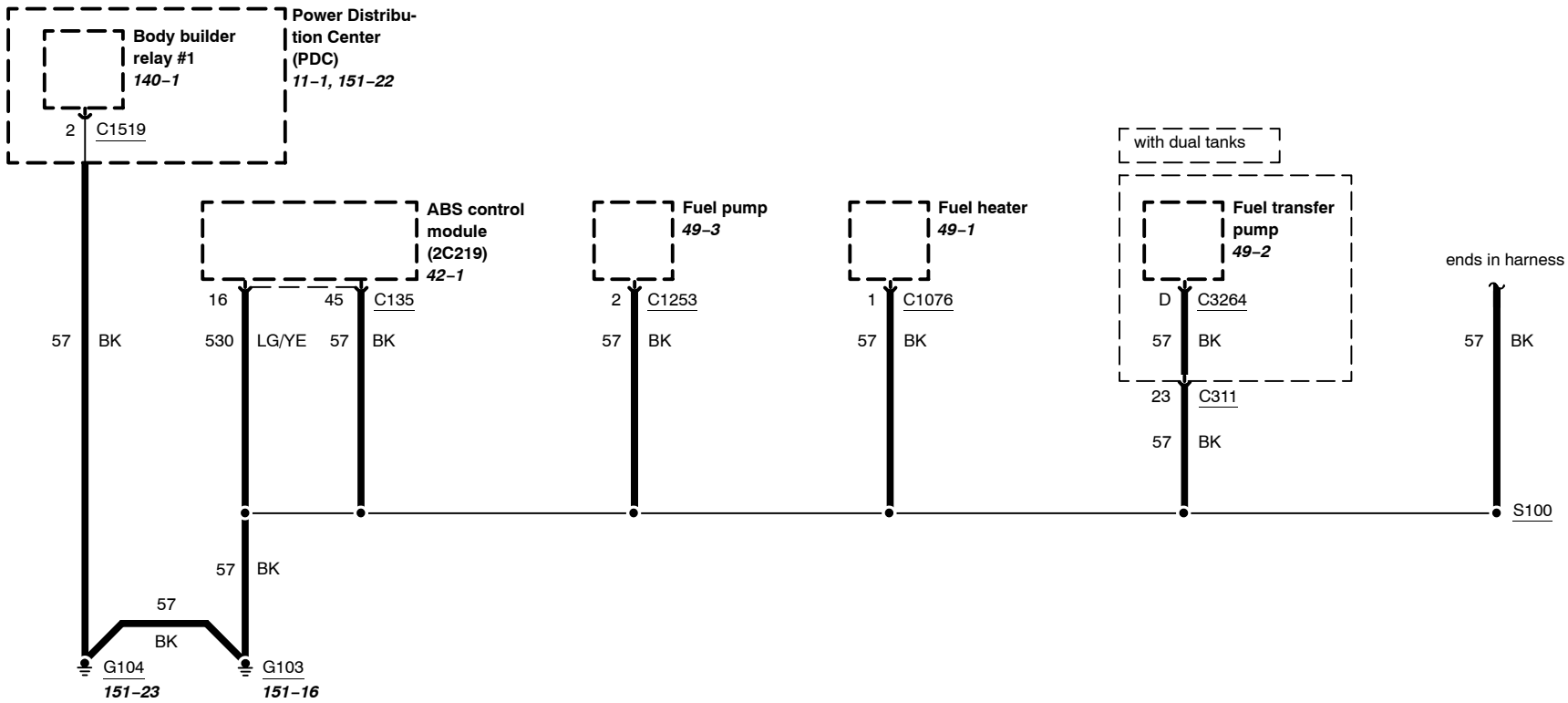

not used
4 C431
with dual tanks
with 137" wheel-base
4 C423
Fuel sender, secondary
49–2
B C3263
57 BK
Fuel sender, primary
49–2, 49–3
B C3262
57 BK
with 137" wheel-base
Reversing alarm speaker
93–1
B C4015
57 BK
B C422
Tail lamp, left
90–3
1 C412
57 BK
License plate lamp (13550)
92–1
1 C4046b
57 BK
Tail lamp, right
90–3
1 C415
57 BK
1 C421
with 137" wheel-base
S401
Pusher fan
54–4
B C1529
57 BK
Automatic transmission module (7G422)
29–2
85 84 83 65 62 33 3 C168
57 BK
S109
57 BK
Output Shaft Speed (OSS) sensor (7H103)
29–2
3 C193
57 BK
Speed sensor assembly (7M101)
29–2
2 C143
57 BK
57 BK
9 C311
57 BK
See page 10–6
C
S108
57 BK
57 BK
G102
151–16

G105

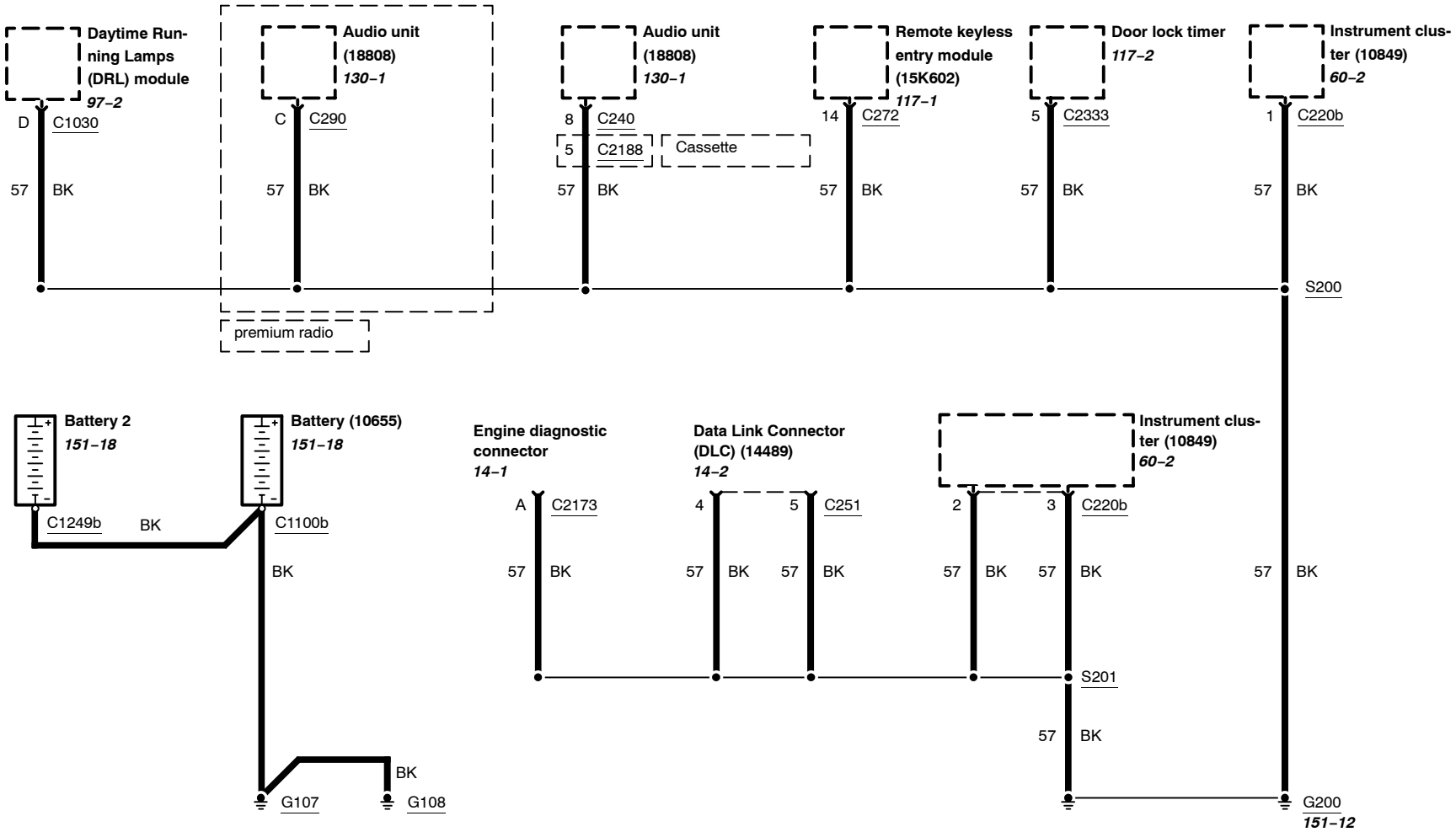

Fuel heater relay 49–1
Transmission relay 29–1
Fog lamp relay 86–1
Windshield wiper relay 81–1
Power Distribution Center (PDC) 11–1, 151–22
2 C1329
2 C1520
2 C1007
86 C1491
57 BK
57 BK
57 BK
57 BK
S104
Horn (13832) 44–1
A/C clutch field coil (19D798) 54–3
A/C Compressor clutch diode 54–3
Engine Control Module (ECM) 23–1
2 C131
1 C100
3 C1086
6 7 C175b
3027 RD/WH
3027 RD/WH
574 BK/PK 574 BK/PK
S102
See page 10–7
See page 10–7
D
E
57 BK
3027 RD/WH
51 BK/WH
57 BK
57 BK
57 BK
7
1
4 C140
574 BK/PK
574 BK/PK
S105
57 BK
574 BK/PK
S101
57 BK
C
See page 10–5
G105 151–22


Injector Driver Module (IDM) 23–4
1 2 3 22 26 C1174c
51 BK/WH
51 BK/WH
51 BK/WH
51 BK/WH
51 BK/WH
S106
51 BK/WH
D
See page 10–6
EGR system module 23–2
2 C1450
57 BK
Manifold intake air heater relay 23–3
1 C1245d
57 BK
E
See page 10–6
Glow plug relay 23–9
1 C1084d
57 BK
Boost control solenoid 23–5
1 C1515
57 BK
Mass Air Flow (MAF) sensor (12B579) 23–6
C C128
57 BK
S107

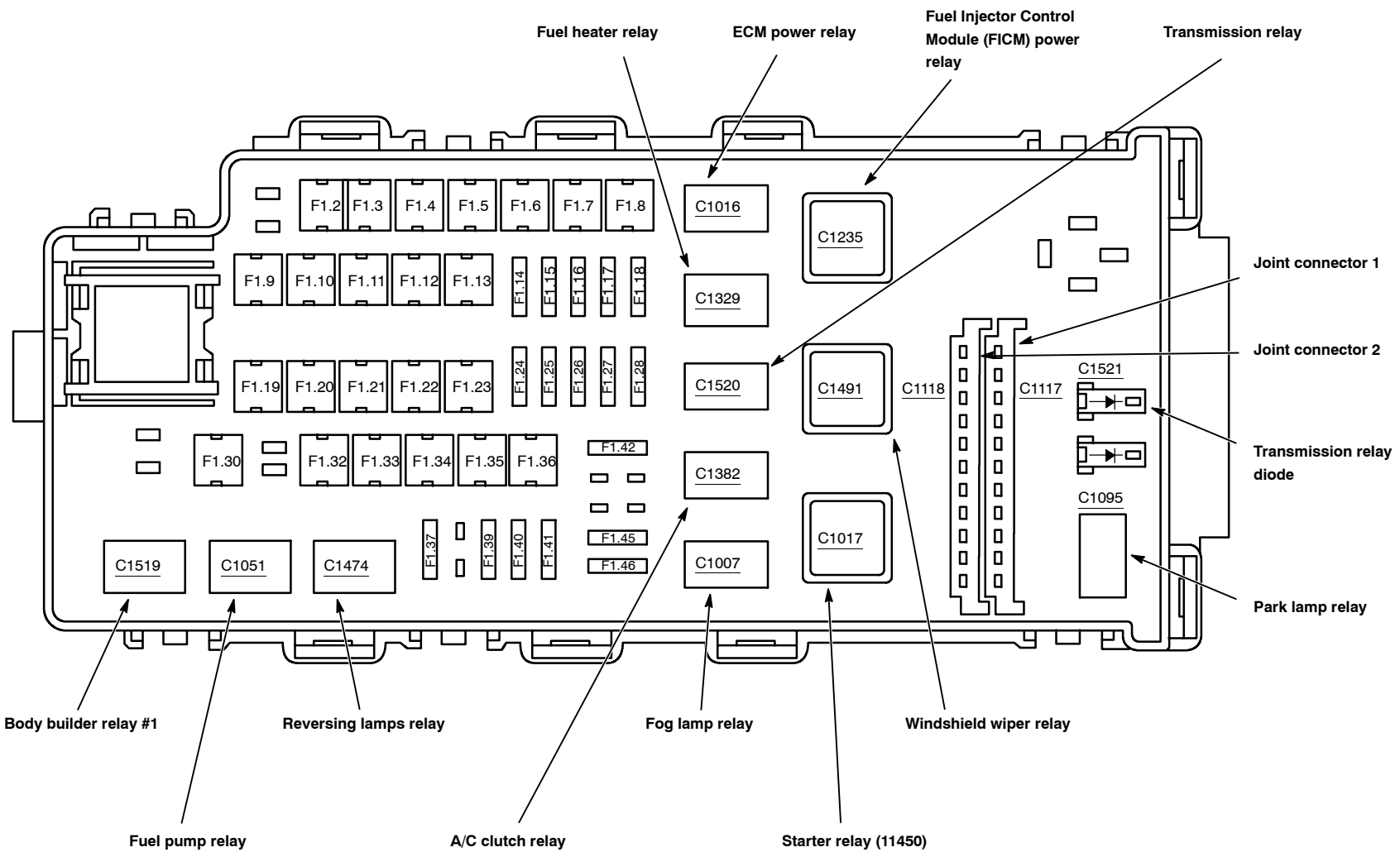
G103, G104


Power Distribution Center (PDC)
11–1, 151–22
Body builder relay #1
140–1
2 C1519
57 BK
ABS control module (2C219)
42–1
16 530 LG/YE
45 57 BK C135
Fuel pump
49–3
2 C1253
57 BK
Fuel heater
49–1
1 C1076
57 BK
with dual tanks
Fuel transfer pump
49–2
D C3264
57 BK
23 C311
57 BK
ends in harness
57 BK S100
57 BK
57 BK
G104
151–23
G103
151–16

G107, G108, G200



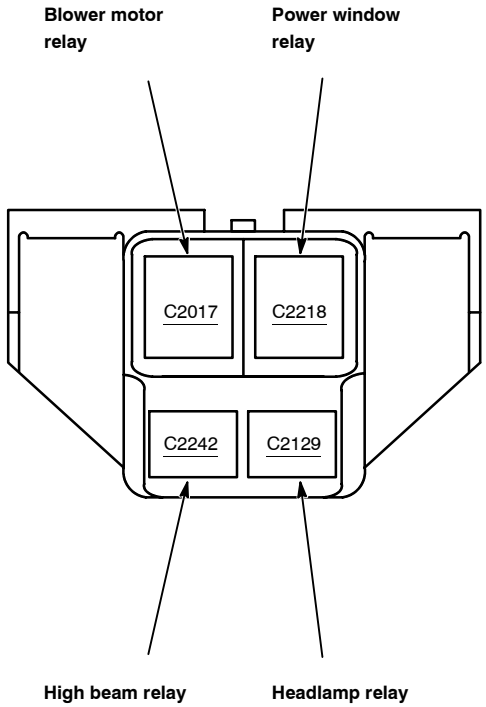
Power Distribution Center (PDC)

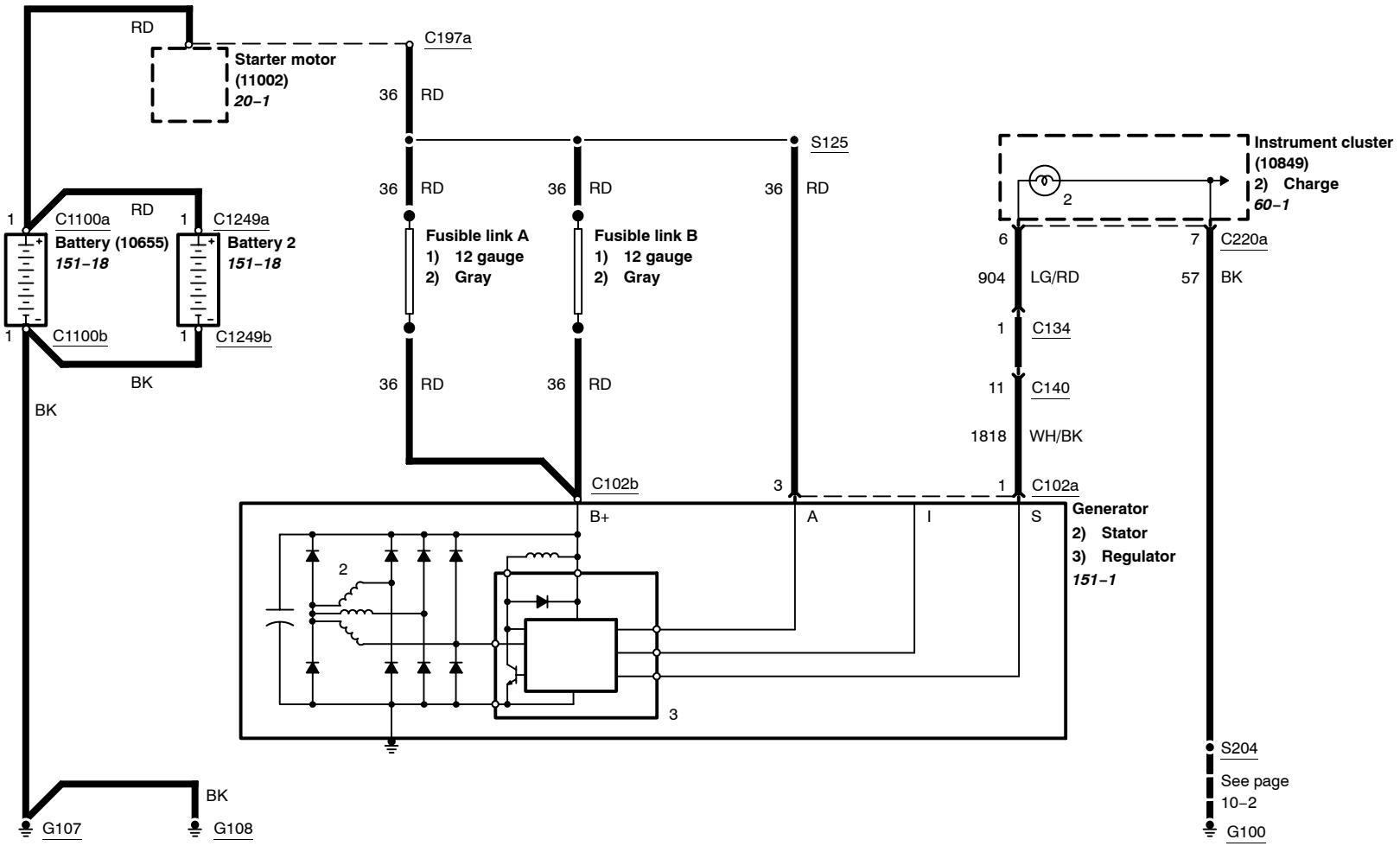


Fuse	Amps	Circuits protected
F1.1	–	not used
F1.2	30	Starter relay (11450)
F1.3	20	Park lamp relay
F1.4	30	Injector Driver Module (IDM) power relay, F1.41
F1.5	30	High beam relay, Low beam relay
F1.6	40	Blower motor relay
F1.7	25	Windshield wiper relay
F1.8	30	Electric trailer brakes
F1.9	20	Door lock timer
F1.10	20	Brake pedal position switch (13480)
F1.11	20	Fuel pump relay
F1.12	20	Ignition switch (11572)
F1.13	20	Ignition switch (11572)
F1.14	15	Horn relay
F1.15	10	Key warning switch (11A127), Instrument cluster (10849)
F1.16	15	Reversing lamps relay
F1.17	15	Fog lamp relay
F1.18	15	Transmission relay, Automatic transmission module (7G422)
F1.19	20	Fuel heater relay
F1.20	60	ABS control module (2C219)
F1.21	20	Customer Access
F1.22	30	Customer Access
F1.23	40	Customer Access

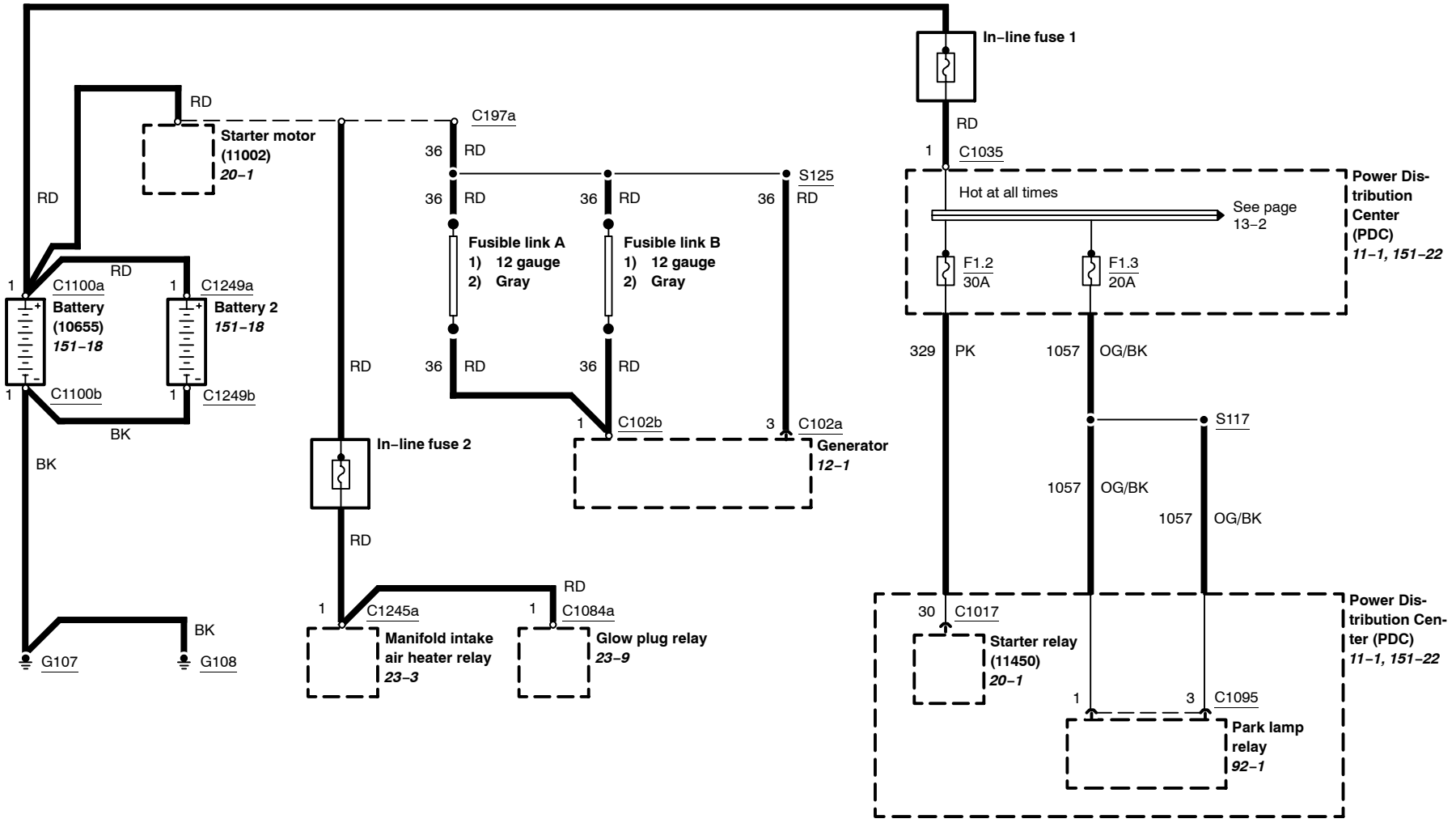
Fuse	Amps	Circuits protected
F1.24	20	Cigar lighter, front (15055)
F1.25	20	Indicator flasher relay (13350)
F1.26	15	Daytime Running Lamps (DRL) module, Remote keyless entry module (15K602)
F1.27	10	Audio unit (18808) (base radio), Audio unit (18808) (premium radio)
F1.28	10	Interior lamp
F1.29	60	ABS control module (2C219)
F1.30	30	Pusher fan
F1.31	20	Data Link Connector (DLC) (14489), Engine diagnostic connector
F1.32	40	Power window relay
F1.33	25	Body builder relay #1
F1.34	15	A/C clutch relay
F1.35	15	Run/Accessory relay
F1.36	–	not used
F1.37	10	Indicator flasher relay (13350)
F1.38	–	not used
F1.39	10	Multifunction switch
F1.41	10	ECM power relay
F1.42	10	Audio unit (18808) (base radio), Audio unit (18808) (premium radio)
F1.46	5	Throttle Position Sensor (TPS) (9B989), Speed control Set/Resume switch, Speed control On/Off switch, Brake pedal position switch (13480), Engine Control Module (ECM), Injector Driver Module (IDM), Injection Pressure Regulator (IPR), Mass Air Flow (MAF) sensor (12B579)

Auxiliary relay box 1

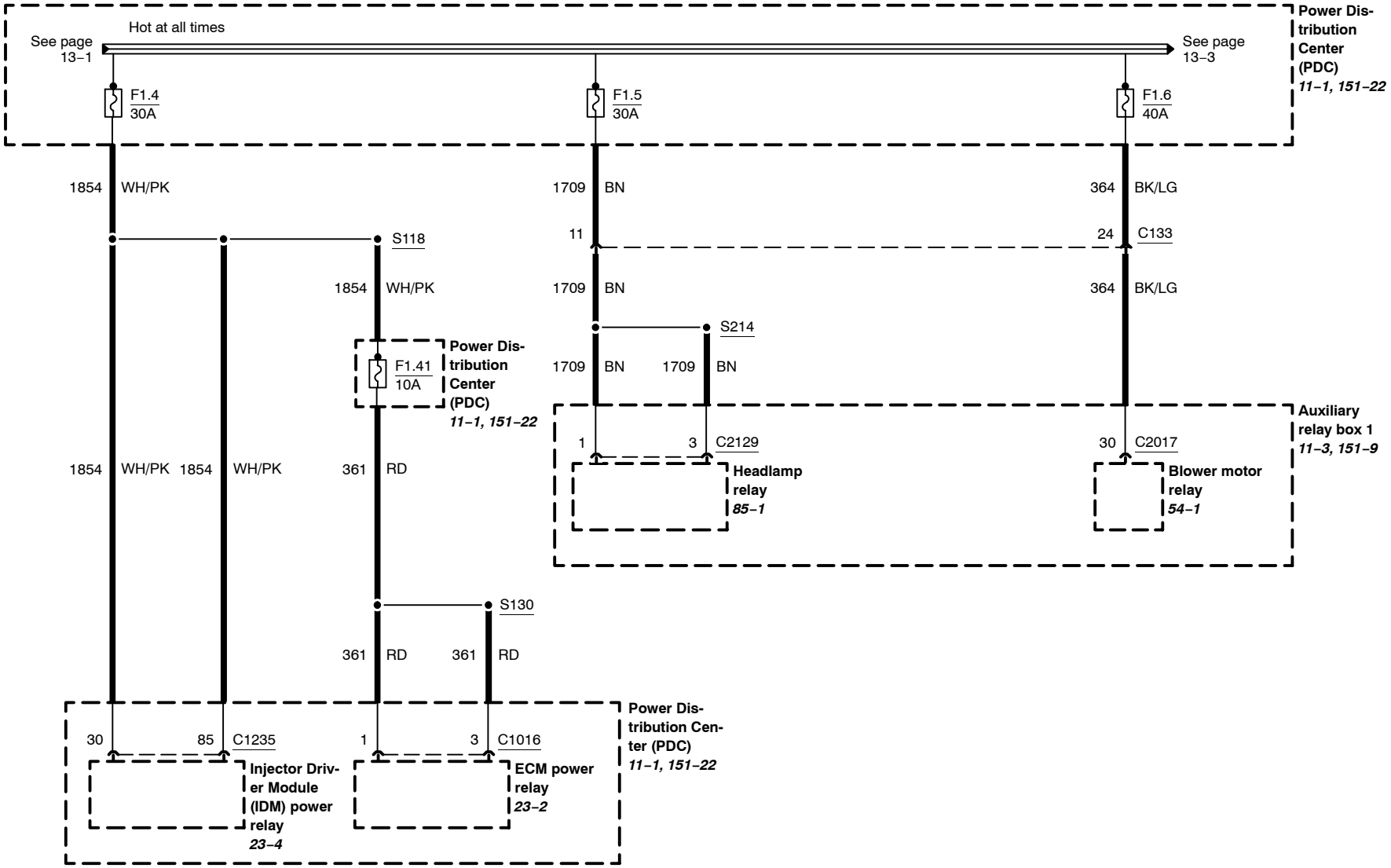



RD
Starter motor
(11002)
20–1
C197a
36 RD
S125
36 RD
36 RD
36 RD
Instrument cluster
(10849)
2) Charge
60–1
2
6
7
C220a
904 LG/RD
57 BK
1 C134
11 C140
1818 WH/BK
1 C102a
1 C1100a
Battery (10655)
151–18
1 C1249a
Battery 2
151–18
1 C1100b
1 C1249b
BK
Fusible link A
1) 12 gauge
2) Gray
Fusible link B
1) 12 gauge
2) Gray
C102b
3
B+
A
I
S
Generator
2) Stator
3) Regulator
151–1
2
3
S204
See page
10–2
G100
G107
G108

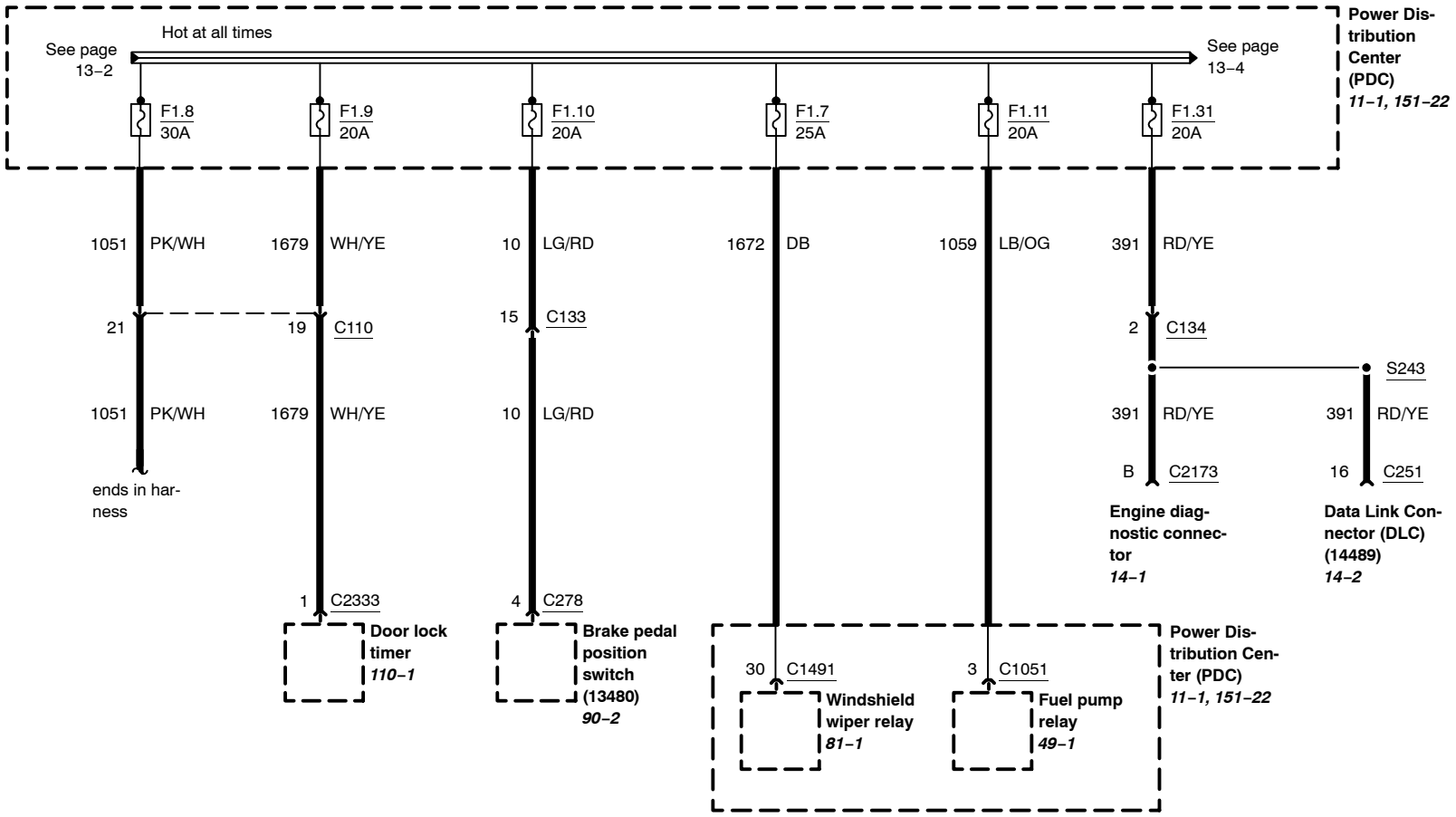
F1.2, F1.3


In–line fuse 1
RD
1
C1035
Hot at all times
See page 13–2
Power Distribution Center (PDC) 11–1, 151–22
F1.2 30A
F1.3 20A
329 PK
1057 OG/BK
S117
1057 OG/BK
1057 OG/BK
30
C1017
Starter relay (11450) 20–1
1
3
C1095
Park lamp relay 92–1
Power Distribution Center (PDC) 11–1, 151–22
RD
Starter motor (11002) 20–1
C197a
36 RD
S125
Fusible link A 1) 12 gauge 2) Gray
Fusible link B 1) 12 gauge 2) Gray
C1100a
Battery (10655) 151–18
C1249a
Battery 2 151–18
C1100b
C1249b
BK
G107
G108
C102b
C102a
Generator 12–1
In–line fuse 2
C1245a
Manifold intake air heater relay 23–3
C1084a
Glow plug relay 23–9

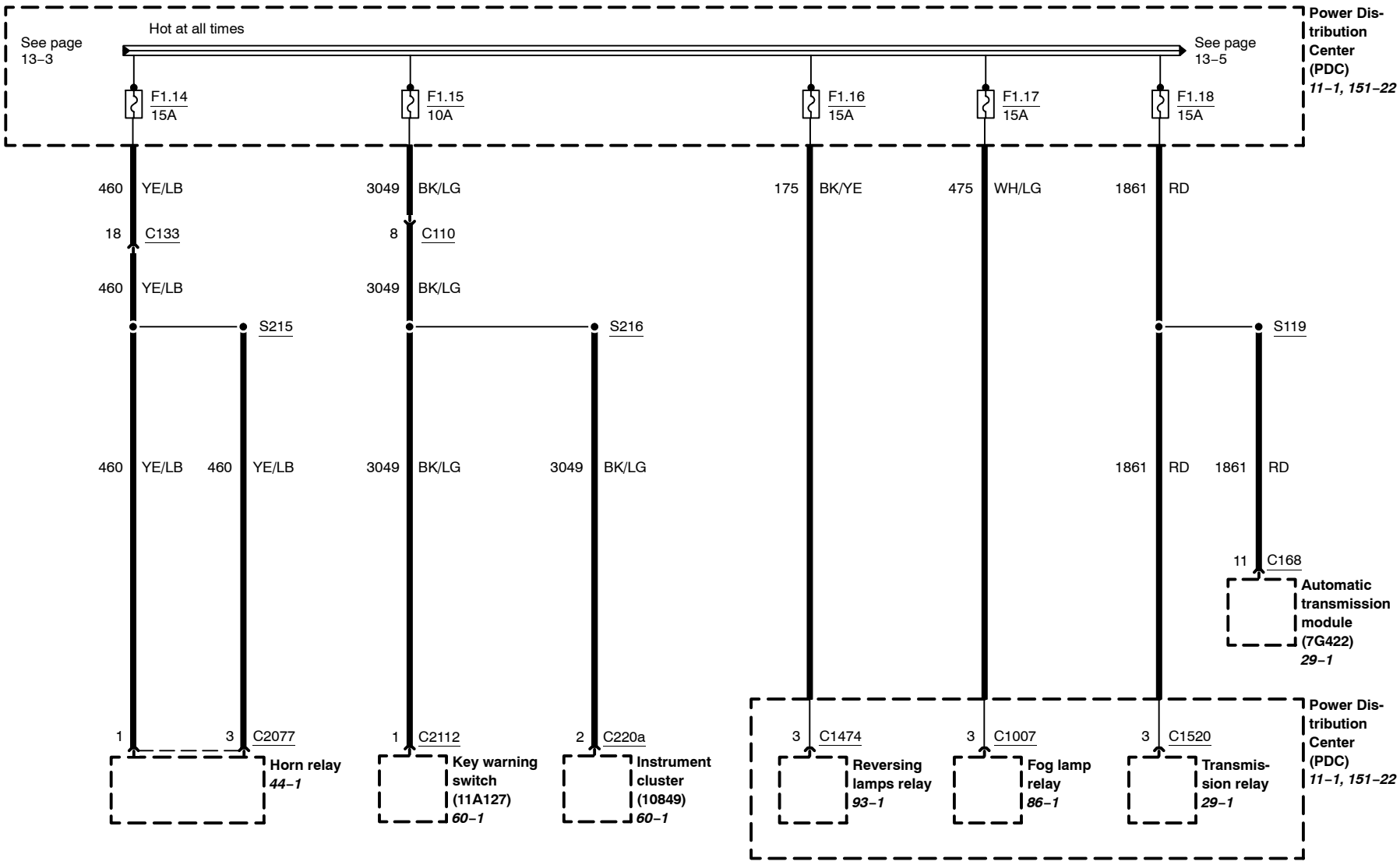
F1.4, F1.5, F1.6, F1.41



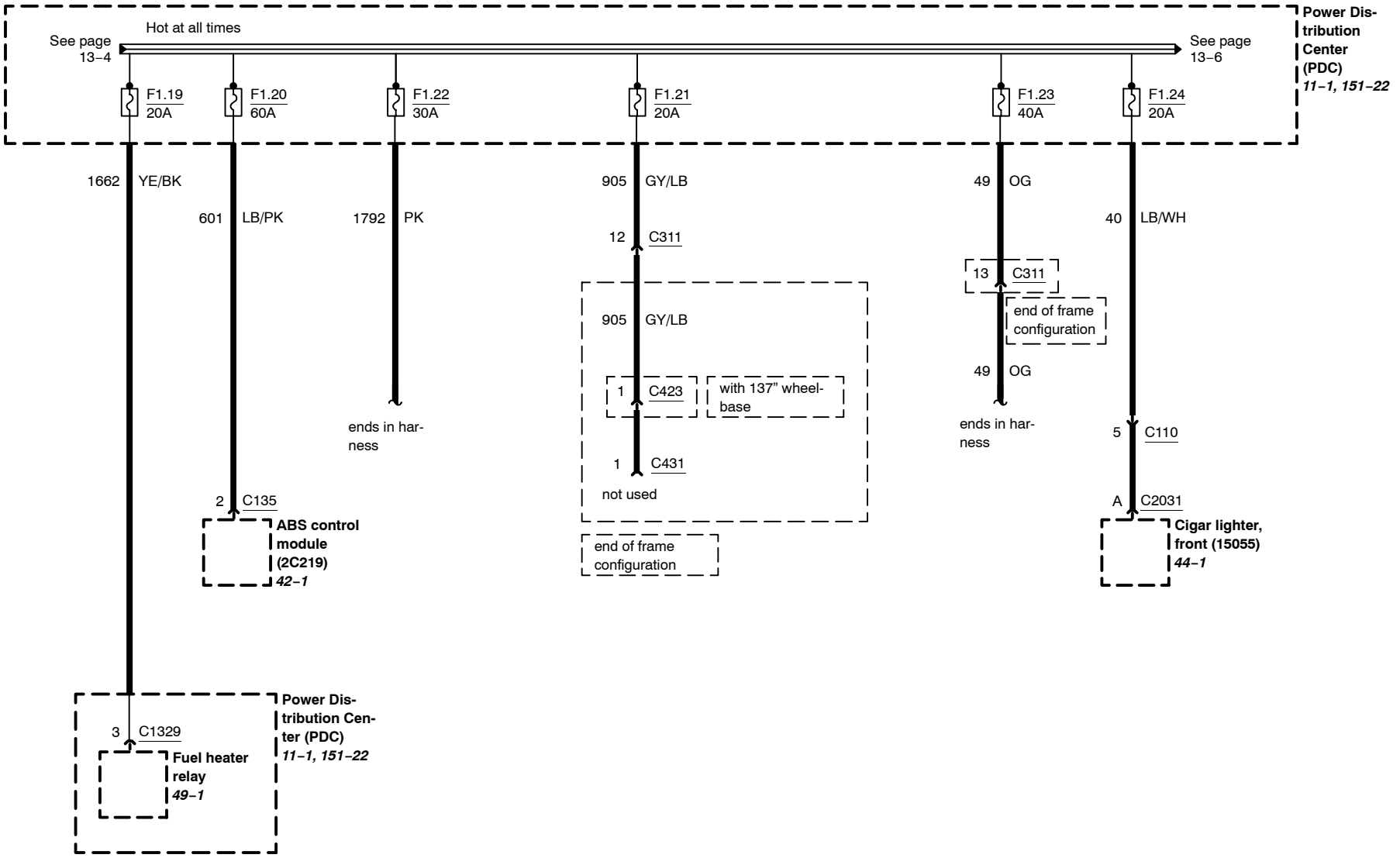
F1.7, F1.8, F1.9, F1.10, F1.11, F1.31



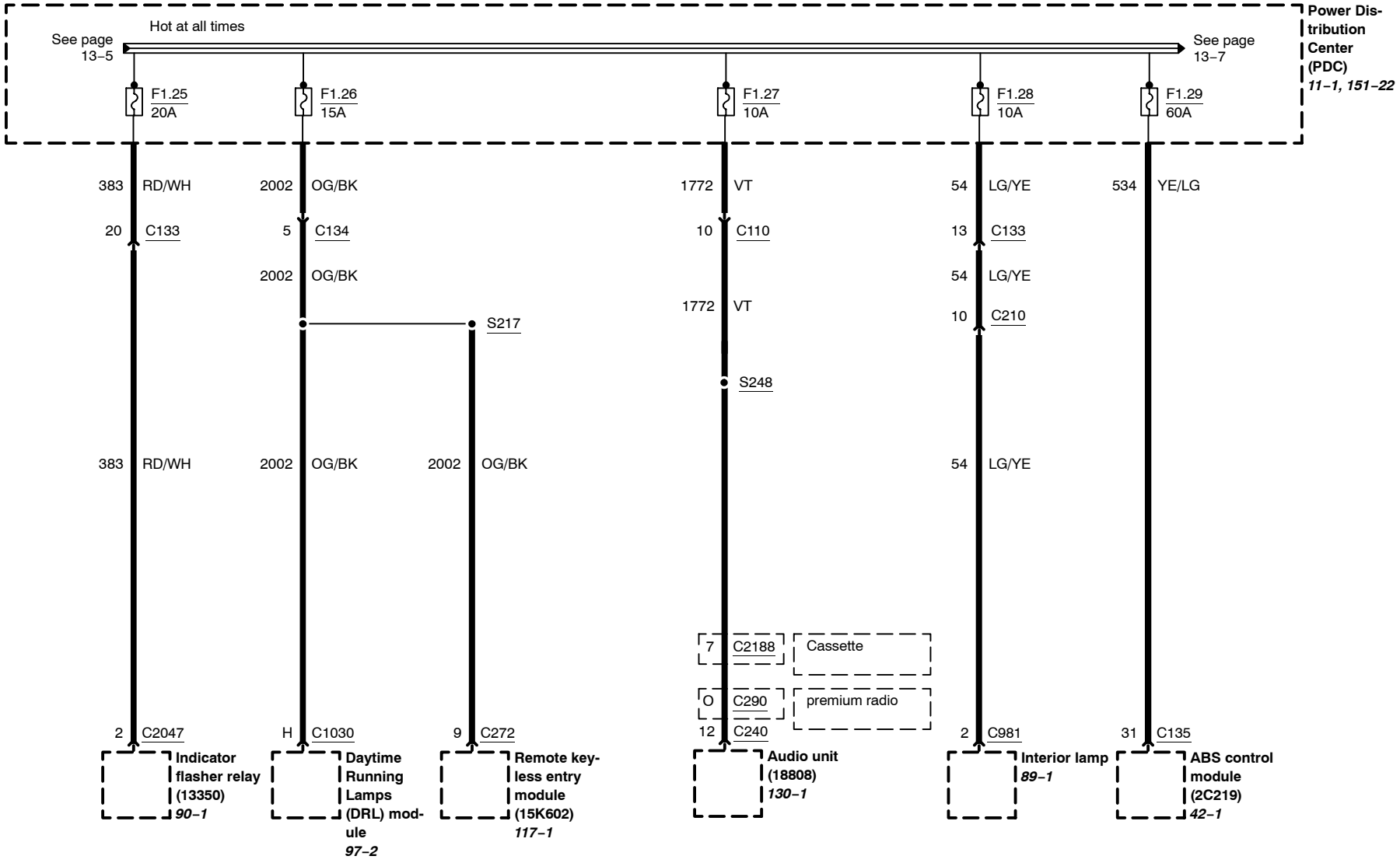
F1.14, F1.15, F1.16, F1.17, F1.18



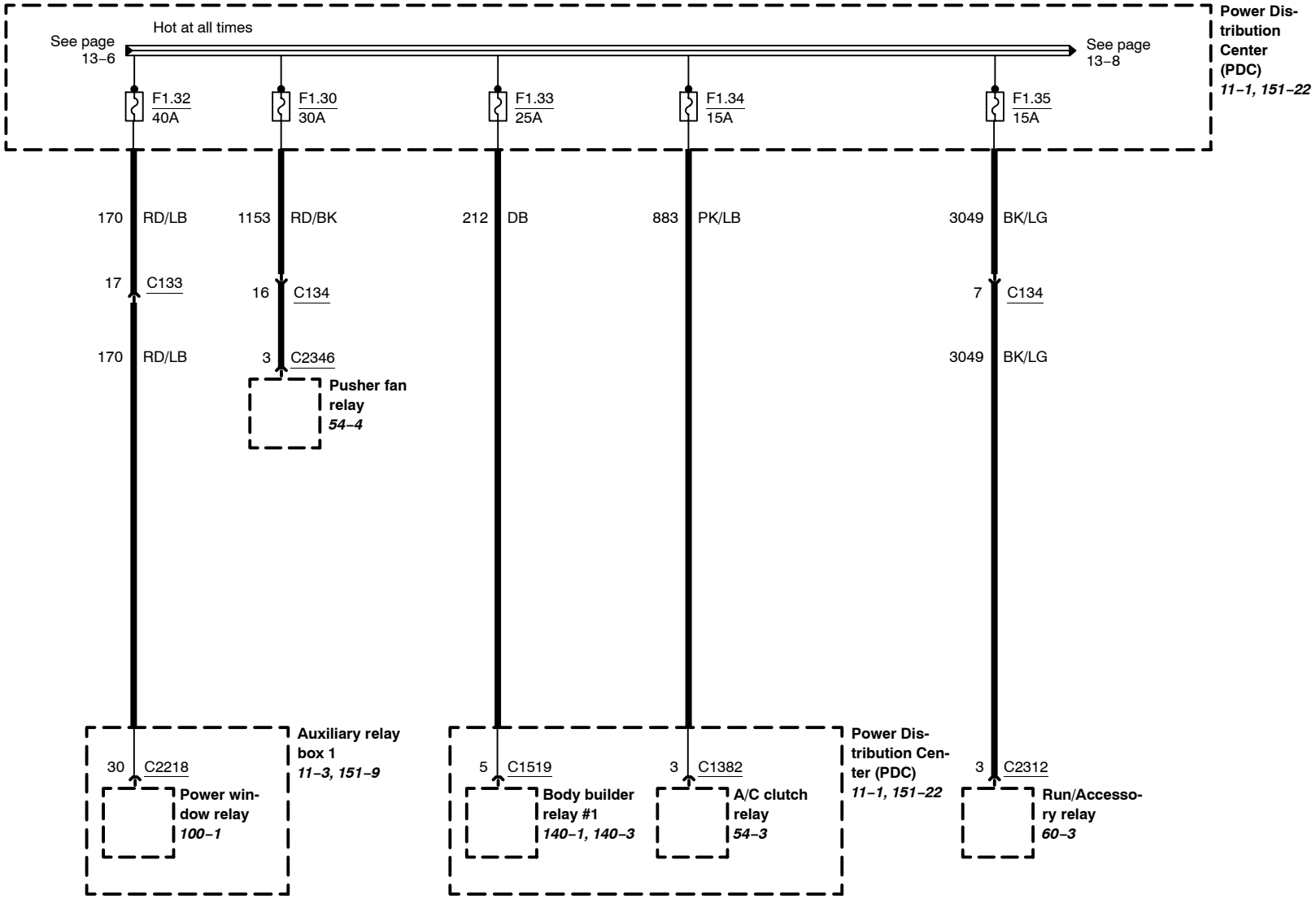
F1.19, F1.20, F1.21, F1.22, F1.23, F1.24



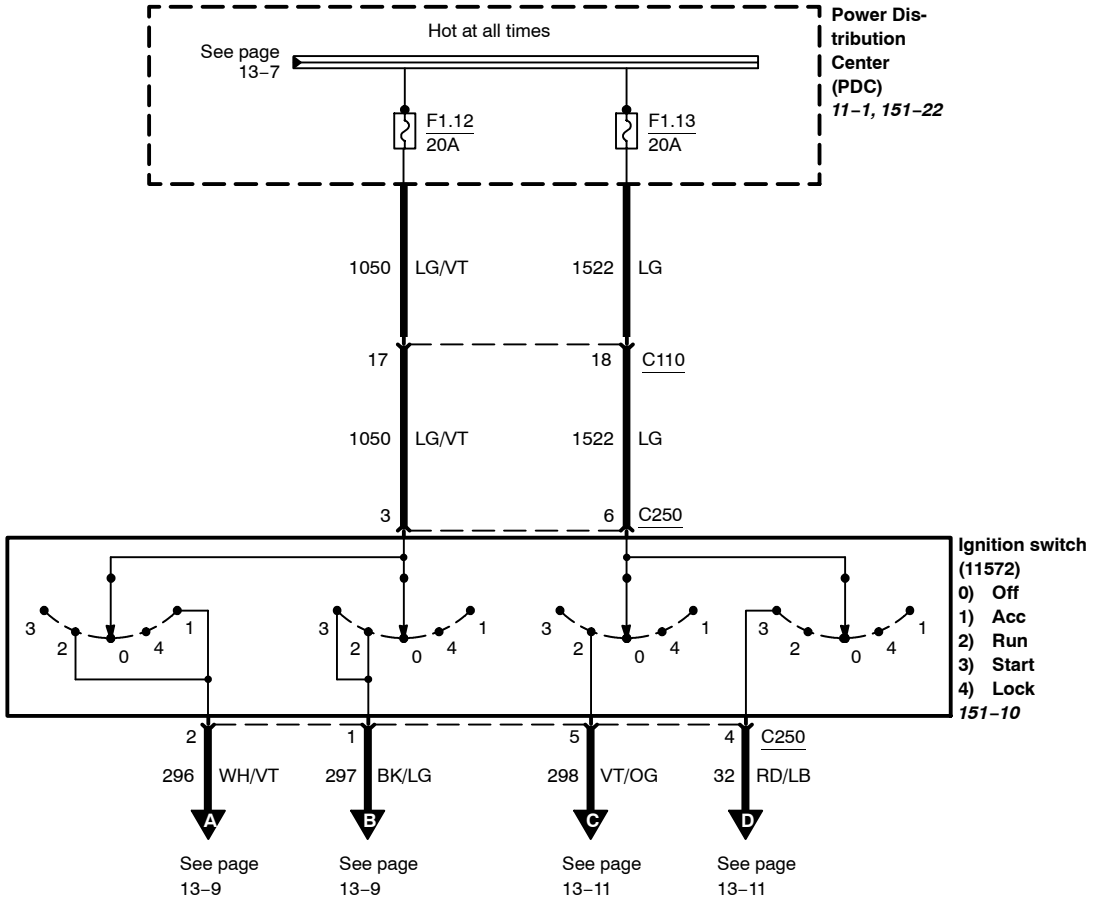
F1.25, F1.26, F1.27, F1.28, F1.29



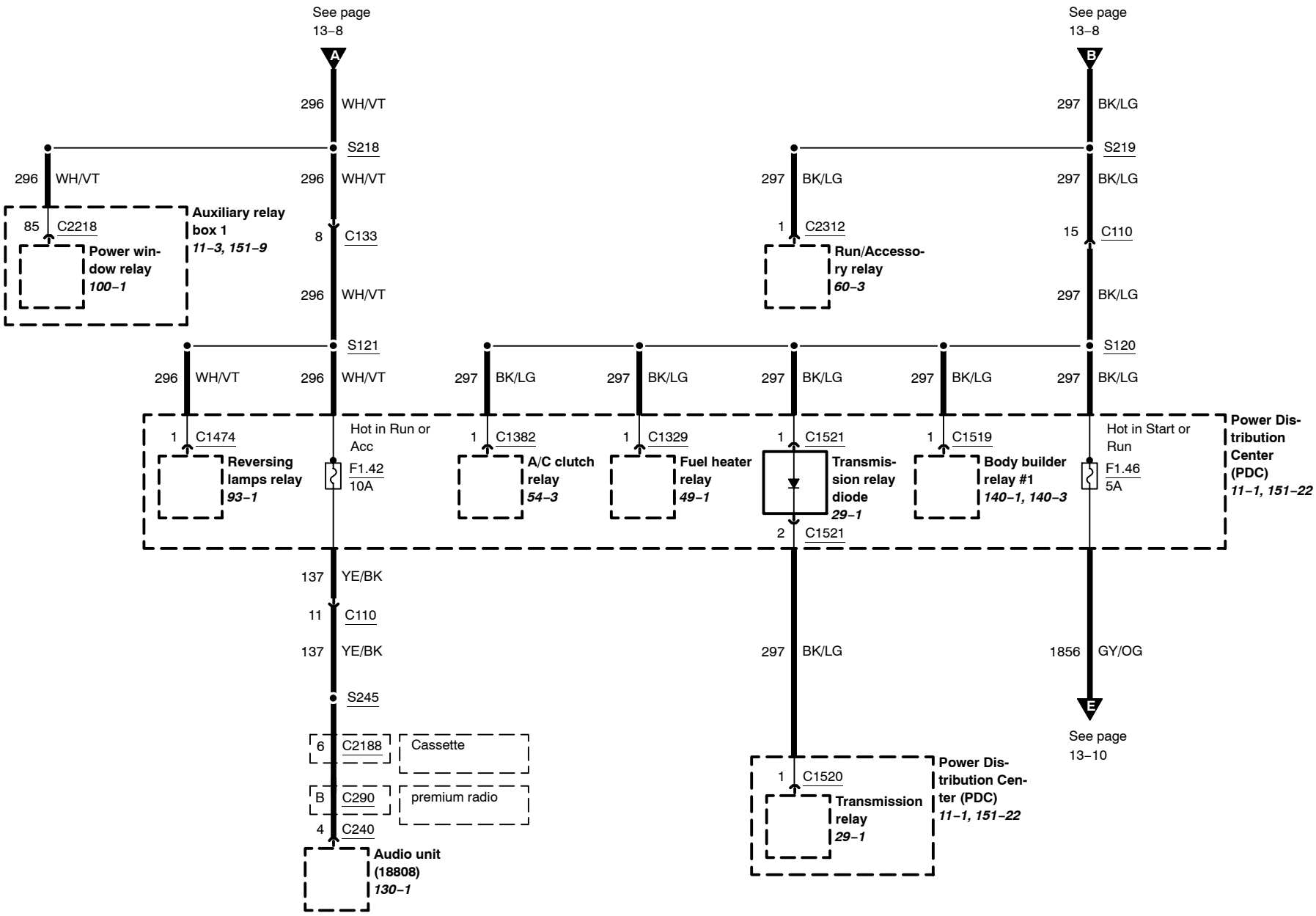
F1.30, F1.32, F1.33, F1.34, F1.35

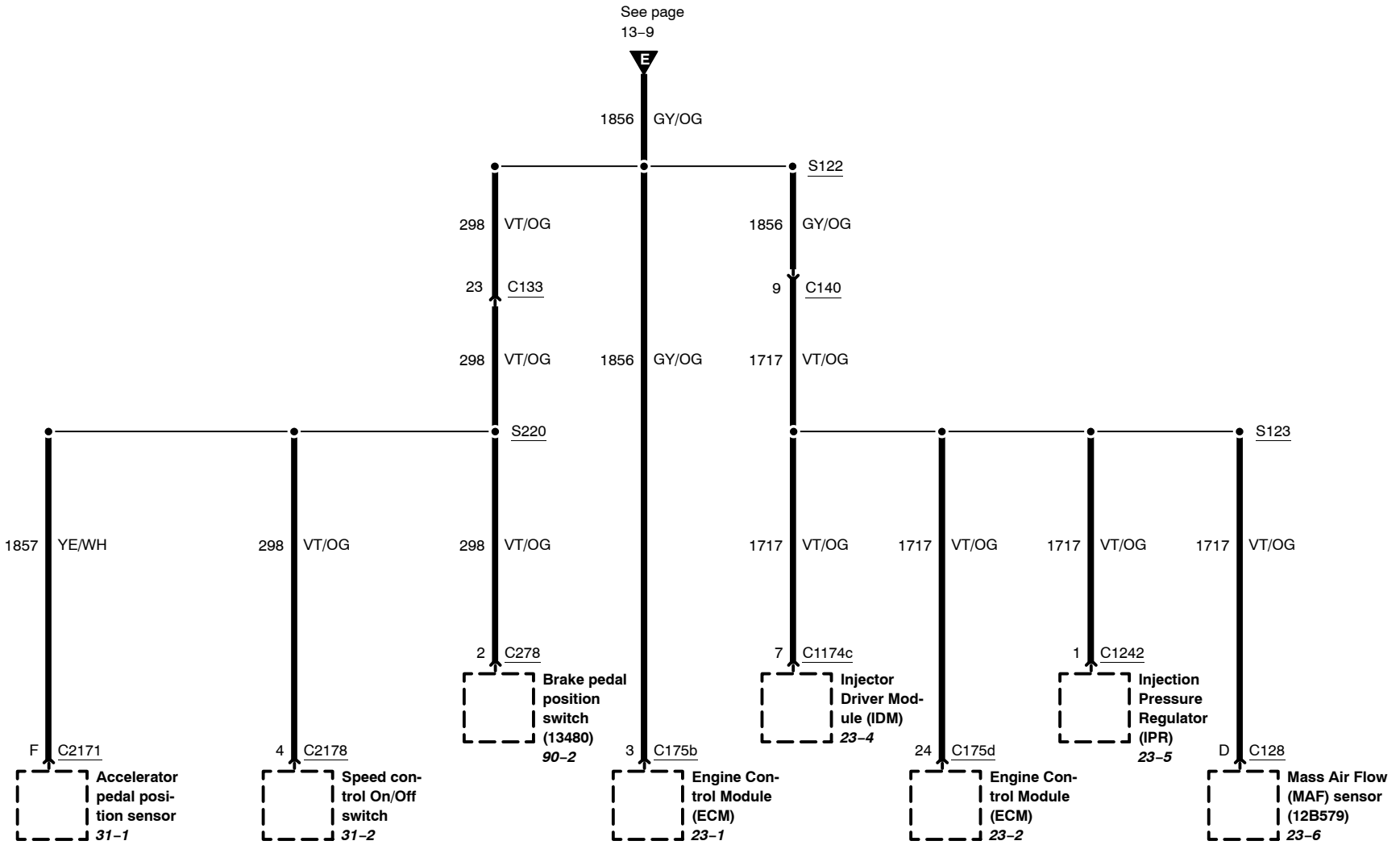


F1.12, F1.13

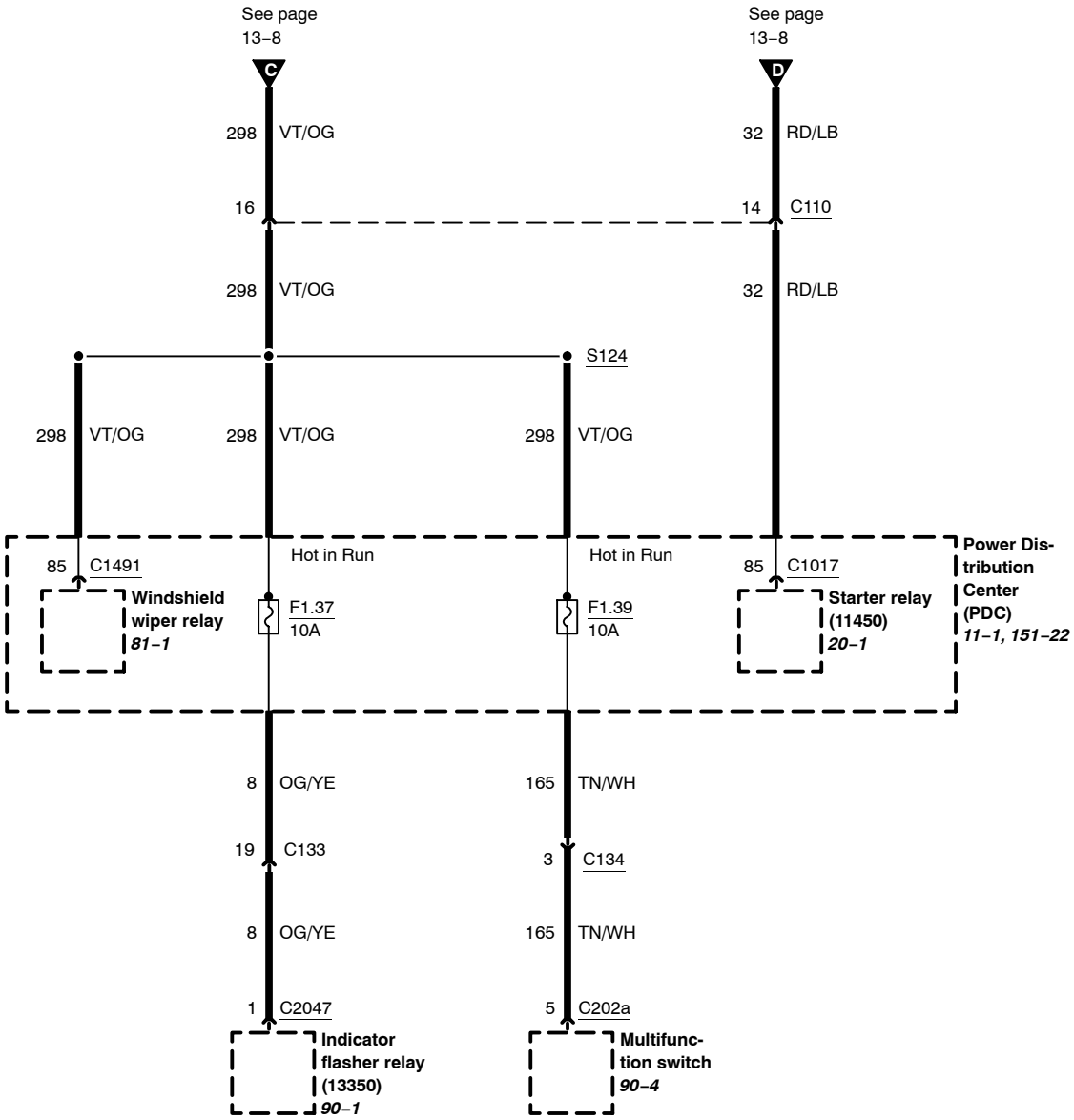

Hot at all times
See page 13–7
F1.12 20A
F1.13 20A
Power Distribution Center (PDC) 11–1, 151–22
1050 LG/VT
1522 LG
17
18 C110
1050 LG/VT
1522 LG
3
6 C250
Ignition switch (11572)
0) Off
1) Acc
2) Run
3) Start
4) Lock
151–10
2
1
5
4 C250
296 WH/VT
297 BK/LG
298 VT/OG
32 RD/LB
A
B
C
D
See page 13–9
See page 13–9
See page 13–11
See page 13–11

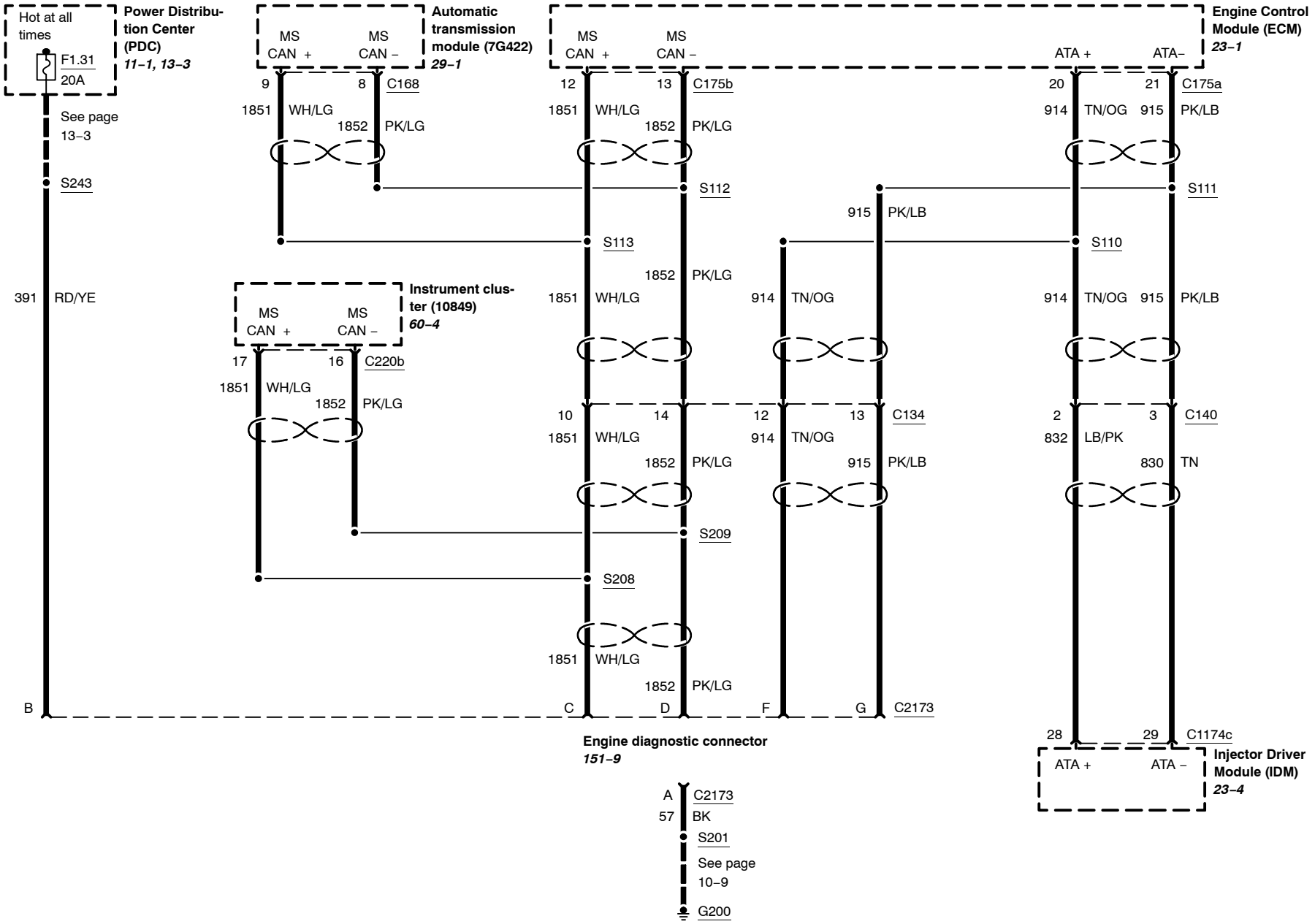
F1.42, F1.46

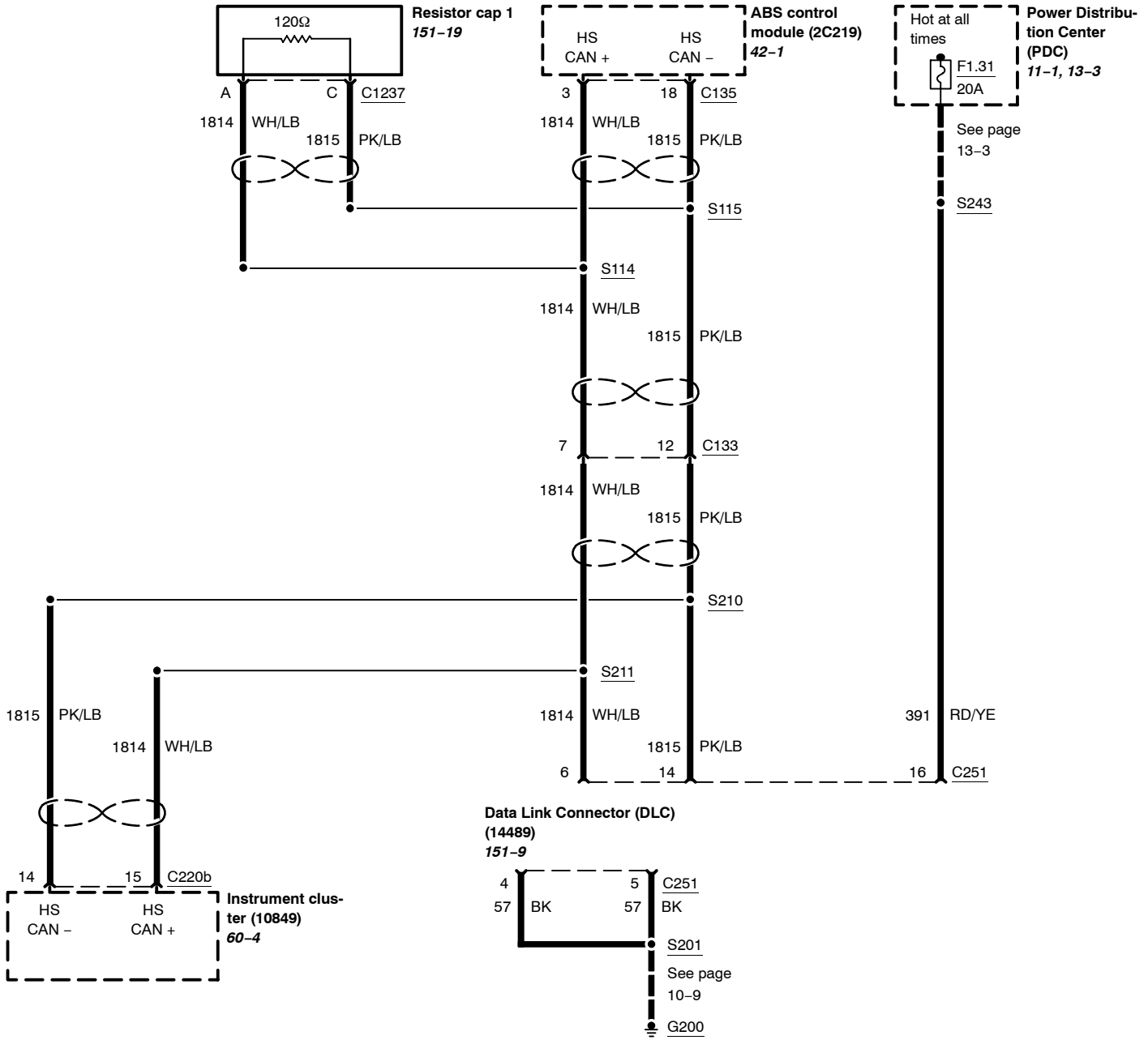

See page 13–8
A
296 WH/VT
S218
296 WH/VT
296 WH/VT
85 C2218
Power window relay 100–1
Auxiliary relay box 1 11–3, 151–9
8 C133
296 WH/VT
S121
296 WH/VT
296 WH/VT
1 C1474
Reversing lamps relay 93–1
Hot in Run or Acc
F1.42 10A
297 BK/LG
297 BK/LG
1 C1382
A/C clutch relay 54–3
1 C1329
Fuel heater relay 49–1
297 BK/LG
297 BK/LG
1 C1521
Transmission relay diode 29–1
2 C1521
297 BK/LG
1 C2312
Run/Accessory relay 60–3
297 BK/LG
1 C1519
Body builder relay #1 140–1, 140–3
See page 13–8
B
297 BK/LG
S219
297 BK/LG
15 C110
297 BK/LG
S120
297 BK/LG
297 BK/LG
Hot in Start or Run
F1.46 5A
Power Distribution Center (PDC) 11–1, 151–22
137 YE/BK
11 C110
137 YE/BK
S245
6 C2188
Cassette
B C290
premium radio
4 C240
Audio unit (18808) 130–1
297 BK/LG
1 C1520
Transmission relay 29–1
Power Distribution Center (PDC) 11–1, 151–22
1856 GY/OG
E
See page 13–10

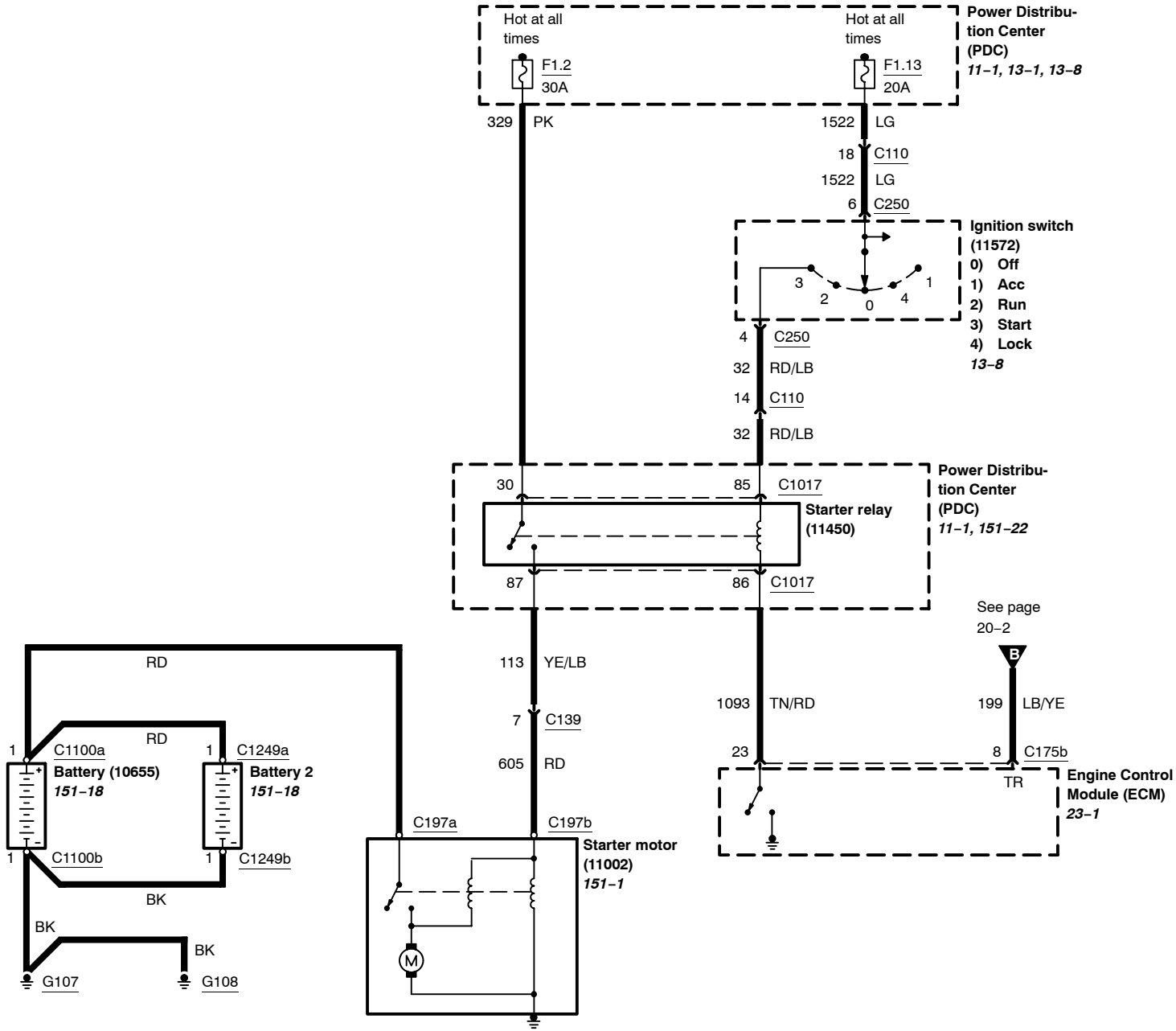

See page 13–9
E
1856 GY/OG
S122
298 VT/OG
1856 GY/OG
23 C133
9 C140
298 VT/OG
1856 GY/OG
1717 VT/OG
S220
S123
1857 YE/WH
298 VT/OG
298 VT/OG
1717 VT/OG
1717 VT/OG
1717 VT/OG
1717 VT/OG
2 C278
7 C1174c
1 C1242
Brake pedal position switch (13480) 90–2
Injector Driver Module (IDM) 23–4
Injection Pressure Regulator (IPR) 23–5
F C2171
4 C2178
3 C175b
24 C175d
D C128
Accelerator pedal position sensor 31–1
Speed control On/Off switch 31–2
Engine Control Module (ECM) 23–1
Engine Control Module (ECM) 23–2
Mass Air Flow (MAF) sensor (12B579) 23–6

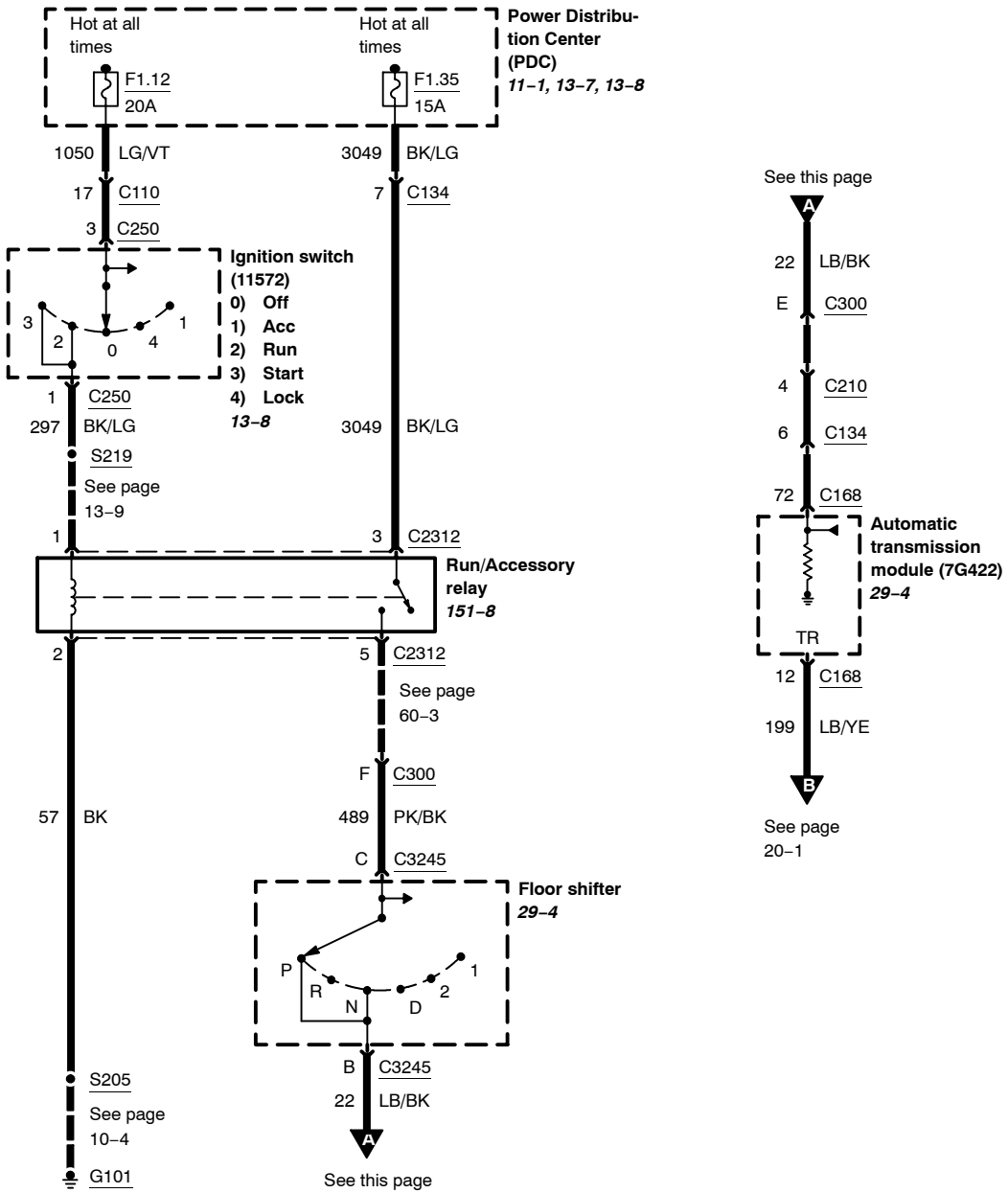
F1.37, F1.39


See page 13–8
See page 13–8
C
D
298 VT/OG
32 RD/LB
16
14 C110
298 VT/OG
32 RD/LB
S124
298 VT/OG
298 VT/OG
298 VT/OG
85 C1491
Hot in Run
Hot in Run
85 C1017
Power Distribution Center (PDC) 11–1, 151–22
Windshield wiper relay 81–1
F1.37 10A
F1.39 10A
Starter relay (11450) 20–1
8 OG/YE
165 TN/WH
19 C133
3 C134
8 OG/YE
165 TN/WH
1 C2047
5 C202a
Indicator flasher relay (13350) 90–1
Multifunction switch 90–4

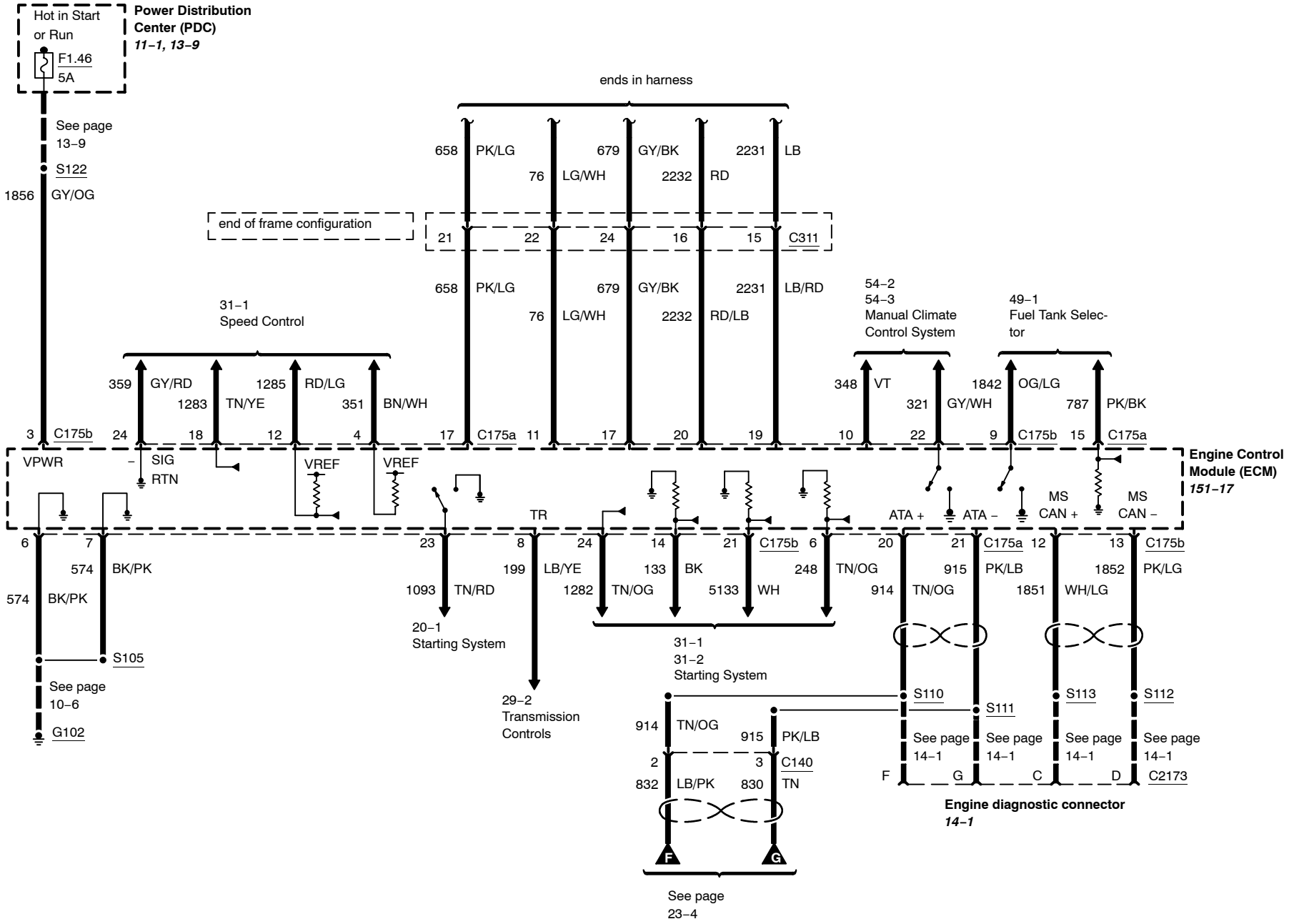

Hot at all times
F1.31
20A
Power Distribution Center (PDC)
11–1, 13–3
See page 13–3
S243
391 RD/YE
B
Automatic transmission module (7G422)
29–1
MS CAN +
MS CAN –
9
8
C168
1851 WH/LG
1852 PK/LG
S112
S113
Instrument cluster (10849)
60–4
17
16
C220b
S209
S208
Engine Control Module (ECM)
23–1
12
13
C175b
ATA +
ATA–
20
21
C175a
914 TN/OG
915 PK/LB
S111
S110
915 PK/LB
10
14
12
13
C134
2
3
C140
832 LB/PK
830 TN
C
D
F
G
C2173
28
29
C1174c
Injector Driver Module (IDM)
23–4
Engine diagnostic connector
151–9
A
C2173
57 BK
S201
See page 10–9
G200


120Ω
Resistor cap 1
151–19
A
C
C1237
1814 WH/LB
1815 PK/LB
S115
S114
1814 WH/LB
1815 PK/LB
7
12
C133
1814 WH/LB
1815 PK/LB
S210
S211
1815 PK/LB
1814 WH/LB
1814 WH/LB
1815 PK/LB
6
14
16
C251
391 RD/YE
HS CAN +
HS CAN –
ABS control module (2C219)
42–1
3
18
C135
Hot at all times
F1.31
20A
Power Distribution Center (PDC)
11–1, 13–3
See page 13–3
S243
Data Link Connector (DLC) (14489)
151–9
4
5
C251
57 BK
57 BK
S201
See page 10–9
G200
14
15
C220b
HS CAN –
HS CAN +
Instrument cluster (10849)
60–4

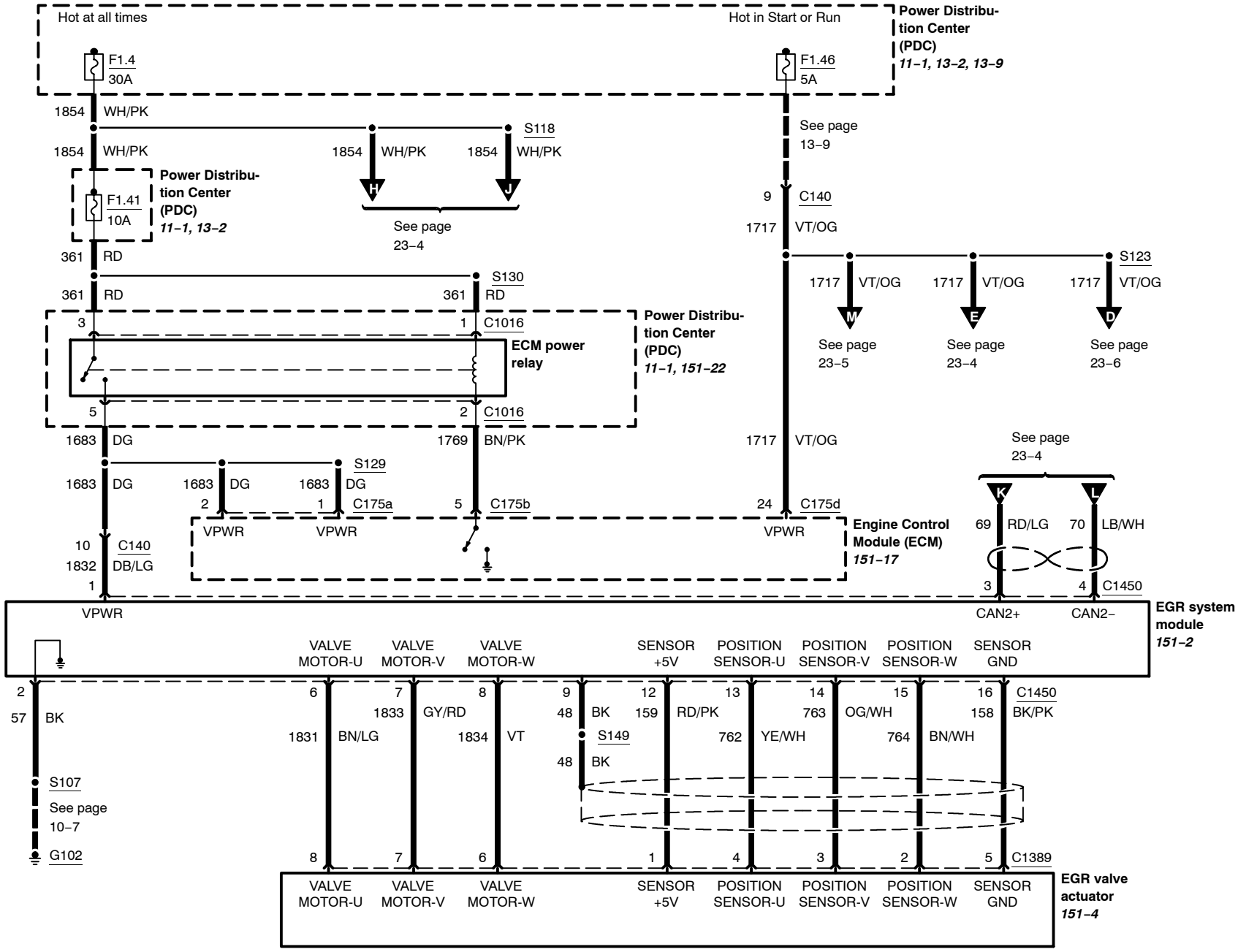

Hot at all times
F1.2
30A
Hot at all times
F1.13
20A
Power Distribution Center (PDC)
11–1, 13–1, 13–8
329 PK
1522 LG
18 C110
1522 LG
6 C250
Ignition switch (11572)
0) Off
1) Acc
2) Run
3) Start
4) Lock
13–8
4 C250
32 RD/LB
14 C110
32 RD/LB
30
85 C1017
Starter relay (11450)
Power Distribution Center (PDC)
11–1, 151–22
87
86 C1017
See page 20–2
B
113 YE/LB
7 C139
605 RD
1093 TN/RD
199 LB/YE
23
8 C175b
TR
Engine Control Module (ECM)
23–1
RD
1 C1100a
Battery (10655)
151–18
RD
1 C1249a
Battery 2
151–18
1 C1100b
1 C1249b
BK
BK
BK
G107
G108
C197a
C197b
Starter motor (11002)
151–1
M


Hot at all times
F1.12
20A
Hot at all times
F1.35
15A
Power Distribution Center (PDC)
11–1, 13–7, 13–8
1050 LG/VT
17 C110
3 C250
3049 BK/LG
7 C134
Ignition switch (11572)
0) Off
1) Acc
2) Run
3) Start
4) Lock
13–8
1 C250
297 BK/LG
S219
See page 13–9
3049 BK/LG
1
3 C2312
Run/Accessory relay
151–8
2
5 C2312
See page 60–3
F C300
57 BK
489 PK/BK
C C3245
Floor shifter
29–4
P R N D 1 2
B C3245
22 LB/BK
A
See this page
S205
See page 10–4
G101
See this page
A
22 LB/BK
E C300
4 C210
6 C134
72 C168
Automatic transmission module (7G422)
29–4
TR
12 C168
199 LB/YE
B
See page 20–1

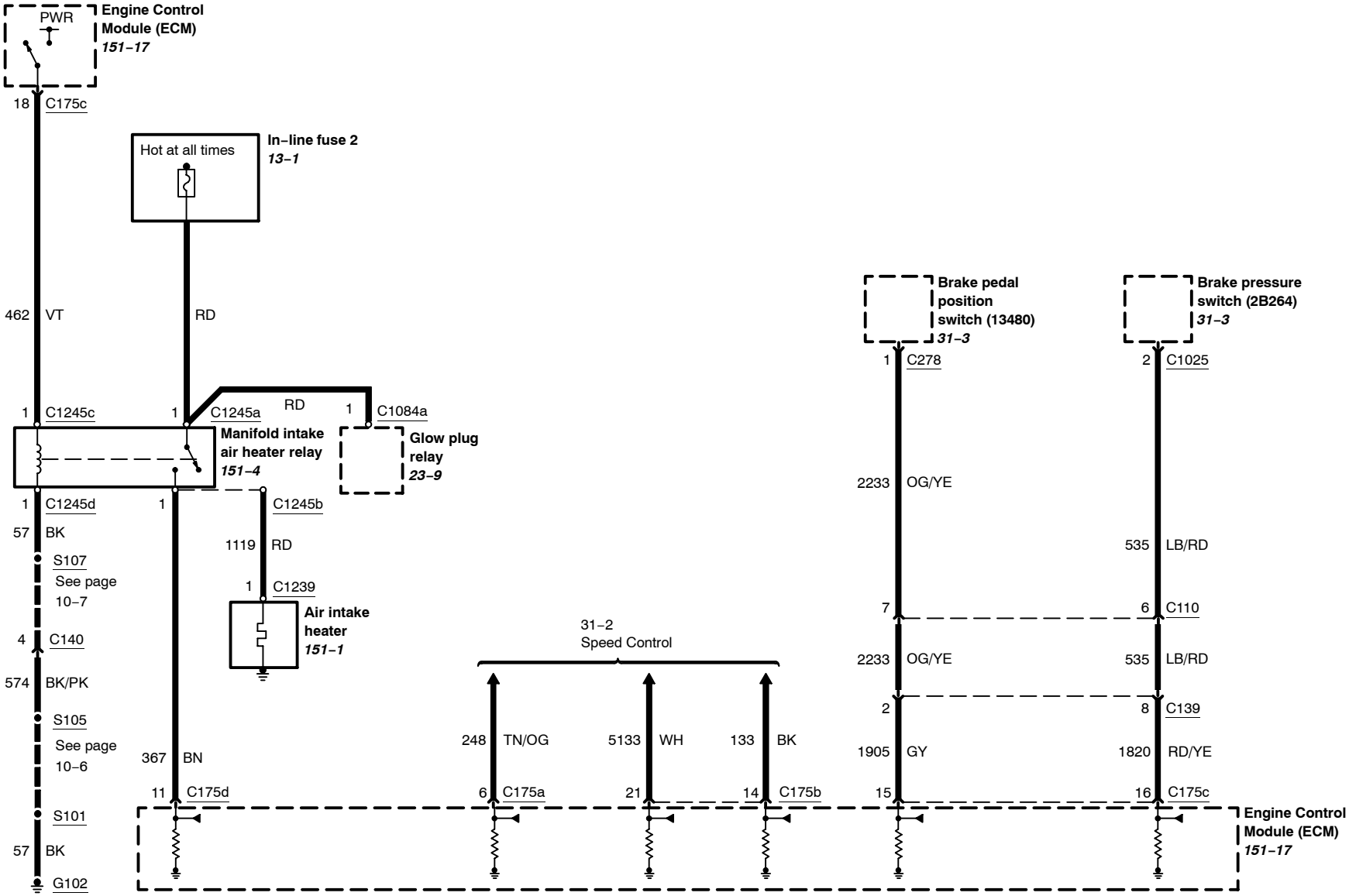
4.5L


Hot in Start or Run
Power Distribution Center (PDC)
11–1, 13–9
F1.46
5A
See page 13–9
S122
1856 GY/OG
ends in harness
658 PK/LG
76 LG/WH
679 GY/BK
2232 RD
2231 LB
end of frame configuration
21 22 24 16 15 C311
658 PK/LG
76 LG/WH
679 GY/BK
2232 RD/LB
2231 LB/RD
31–1
Speed Control
359 GY/RD
1283 TN/YE
1285 RD/LG
351 BN/WH
54–2
54–3
Manual Climate Control System
348 VT
321 GY/WH
49–1
Fuel Tank Selector
1842 OG/LG
787 PK/BK
3 C175b 24 18 12 4 17 C175a 11 17 20 19 10 22 9 C175b 15 C175a
VPWR
SIG RTN
VREF
VREF
TR
ATA +
ATA –
MS CAN +
MS CAN –
Engine Control Module (ECM)
151–17
6 7 C175b 23 8 24 14 21 C175b 6 20 21 C175a 12 13 C175b
574 BK/PK
574 BK/PK
1093 TN/RD
199 LB/YE
1282 TN/OG
133 BK
5133 WH
248 TN/OG
914 TN/OG
915 PK/LB
1851 WH/LG
1852 PK/LG
S105
See page 10–6
G102
20–1
Starting System
29–2
Transmission Controls
31–1
31–2
Starting System
S110
S111
S113
S112
914 TN/OG
915 PK/LB
2 3 C140
832 LB/PK
830 TN
See page 14–1
See page 14–1
See page 14–1
See page 14–1
F G C D C2173
Engine diagnostic connector
14–1
See page 23–4

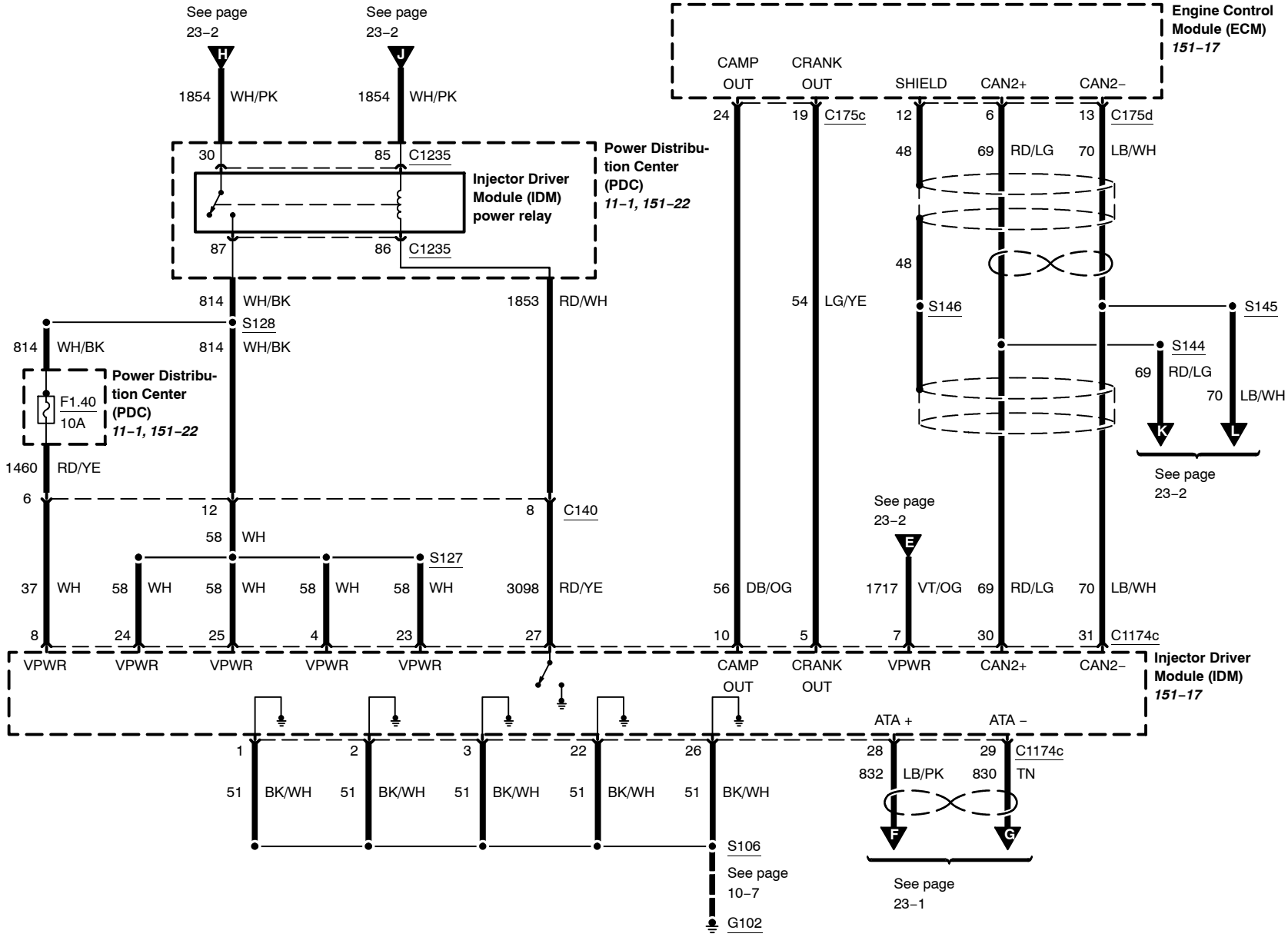
4.5L


Hot at all times
Hot in Start or Run
Power Distribution Center (PDC) 11–1, 13–2, 13–9
F1.4
30A
F1.46
5A
1854 WH/PK
1854 WH/PK
S118
1854 WH/PK
1854 WH/PK
H
J
See page 23–4
F1.41
10A
Power Distribution Center (PDC) 11–1, 13–2
361 RD
361 RD
S130
361 RD
3
1
C1016
ECM power relay
Power Distribution Center (PDC) 11–1, 151–22
5
2
C1016
1683 DG
1769 BN/PK
1683 DG
S129
1683 DG
1683 DG
1683 DG
2
1
C175a
5
C175b
VPWR
VPWR
10
C140
1832 DB/LG
1
VPWR
9
C140
1717 VT/OG
See page 13–9
1717 VT/OG
S123
1717 VT/OG
1717 VT/OG
1717 VT/OG
M
E
D
See page 23–5
See page 23–4
See page 23–6
1717 VT/OG
24
C175d
VPWR
Engine Control Module (ECM) 151–17
See page 23–4
K
L
69 RD/LG
70 LB/WH
3
4
C1450
CAN2+
CAN2–
EGR system module 151–2
VALVE MOTOR-U
VALVE MOTOR-V
VALVE MOTOR-W
SENSOR +5V
POSITION SENSOR-U
POSITION SENSOR-V
POSITION SENSOR-W
SENSOR GND
2
57 BK
6
1831 BN/LG
7
1833
GY/RD
8
1834 VT
9
48 BK
12
159 RD/PK
13
763
14
YE/WH
15
OG/WH
764
16
158 BK/PK
C1450
BN/WH
762
S149
48 BK
S107
See page 10–7
G102
8
7
6
1
4
3
2
5
C1389
EGR valve actuator 151–4

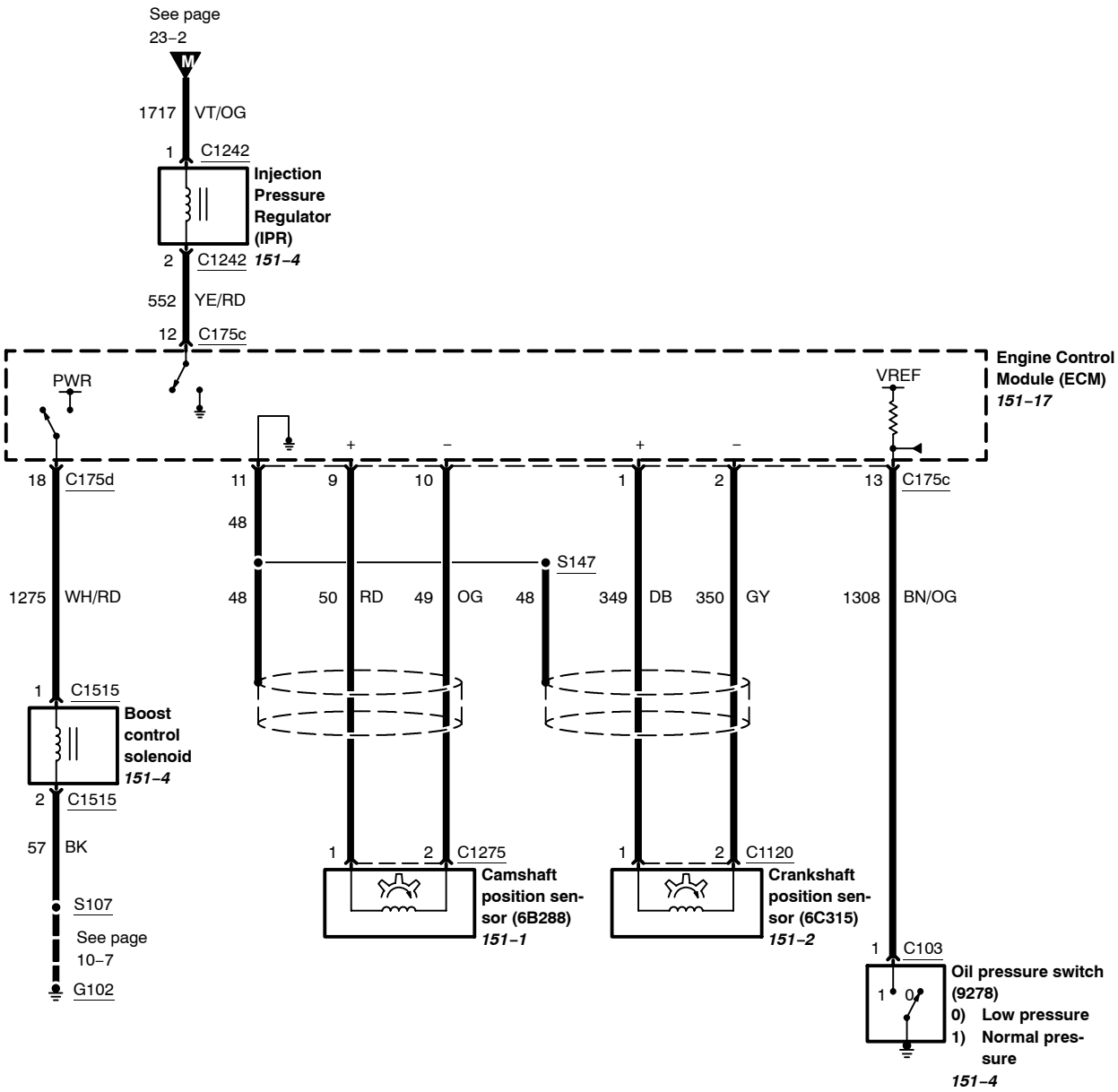
4.5L


PWR
Engine Control Module (ECM) 151–17
18 C175c
Hot at all times
In–line fuse 2 13–1
462 VT
RD
1 C1245c
1 C1245a
RD
1 C1084a
Manifold intake air heater relay 151–4
Glow plug relay 23–9
1 C1245d
1 C1245b
57 BK
1119 RD
S107
See page 10–7
1 C1239
Air intake heater 151–1
4 C140
574 BK/PK
S105
See page 10–6
367 BN
11 C175d
31–2 Speed Control
248 TN/OG
5133 WH
133 BK
6 C175a
21
14 C175b
Brake pedal position switch (13480) 31–3
Brake pressure switch (2B264) 31–3
1 C278
2 C1025
2233 OG/YE
535 LB/RD
7
6 C110
2233 OG/YE
535 LB/RD
2
8 C139
1905 GY
1820 RD/YE
15
16 C175c
Engine Control Module (ECM) 151–17
S101
57 BK
G102

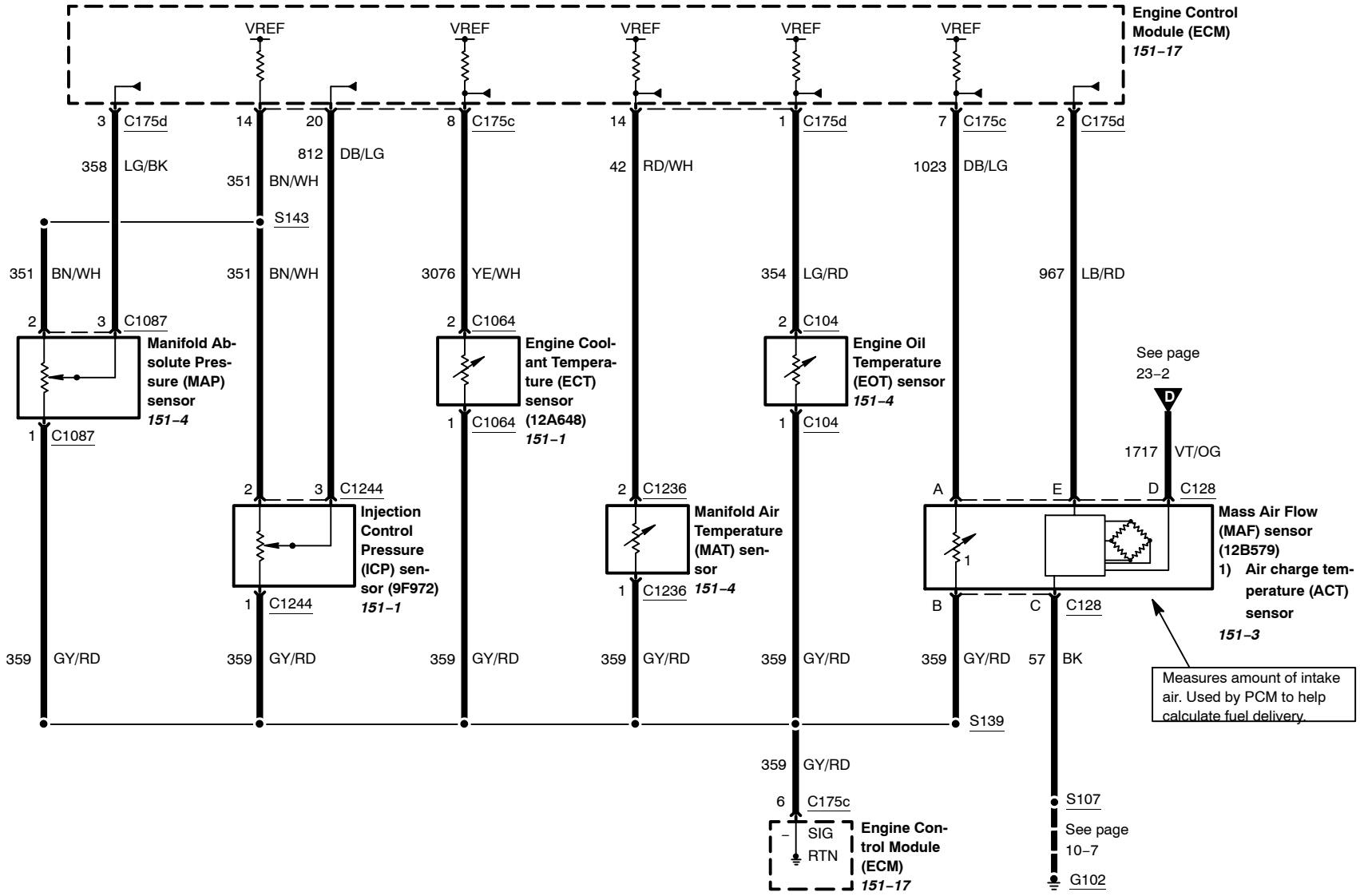
4.5L


See page 23–2
See page 23–2
H
J
1854 WH/PK
1854 WH/PK
30
85 C1235
Injector Driver Module (IDM) power relay
87
86 C1235
Power Distribution Center (PDC) 11–1, 151–22
814 WH/BK
S128
1853 RD/WH
814 WH/BK
814 WH/BK
F1.40 10A
Power Distribution Center (PDC) 11–1, 151–22
1460 RD/YE
6
12
8 C140
58 WH
S127
37 WH
58 WH
58 WH
58 WH
58 WH
3098 RD/YE
8
24
25
4
23
27
VPWR
VPWR
VPWR
VPWR
VPWR
Engine Control Module (ECM) 151–17
CAMP OUT
CRANK OUT
SHIELD
CAN2+
CAN2–
24
19 C175c
12
6
13 C175d
48
69 RD/LG
70 LB/WH
48
54 LG/YE
S146
S145
S144
69 RD/LG
70 LB/WH
K
L
See page 23–2
See page 23–2
E
56 DB/OG
1717 VT/OG
69 RD/LG
70 LB/WH
10
5
7
30
31 C1174c
CAMP OUT
CRANK OUT
VPWR
CAN2+
CAN2–
Injector Driver Module (IDM) 151–17
ATA +
ATA –
1
2
3
22
26
28
29 C1174c
51 BK/WH
51 BK/WH
51 BK/WH
51 BK/WH
51 BK/WH
832 LB/PK
830 TN
F
G
S106
See page 10–7
G102
See page 23–1

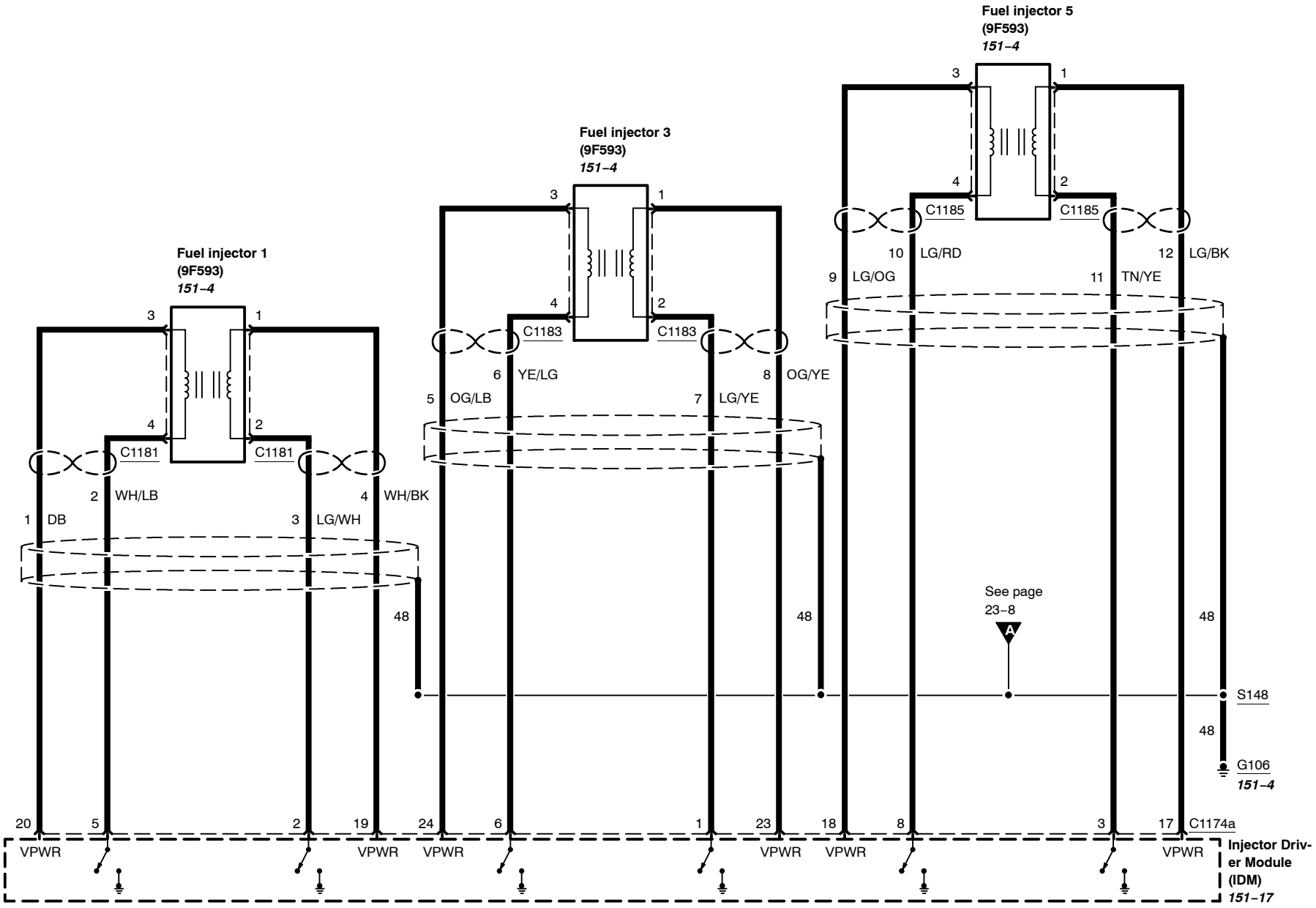
4.5L


See page 23–2
M
1717 VT/OG
1 C1242
Injection Pressure Regulator (IPR)
2 C1242 151–4
552 YE/RD
12 C175c
Engine Control Module (ECM) 151–17
PWR
VREF
+
–
+
–
18 C175d
11
9
10
1
2
13 C175c
48
S147
1275 WH/RD
48
50 RD
49 OG
48
349 DB
350 GY
1308 BN/OG
1 C1515
Boost control solenoid 151–4
2 C1515
57 BK
S107
See page 10–7
G102
1 2 C1275
Camshaft position sensor (6B288) 151–1
1 2 C1120
Crankshaft position sensor (6C315) 151–2
1 C103
Oil pressure switch (9278)
0) Low pressure
1) Normal pressure
151–4

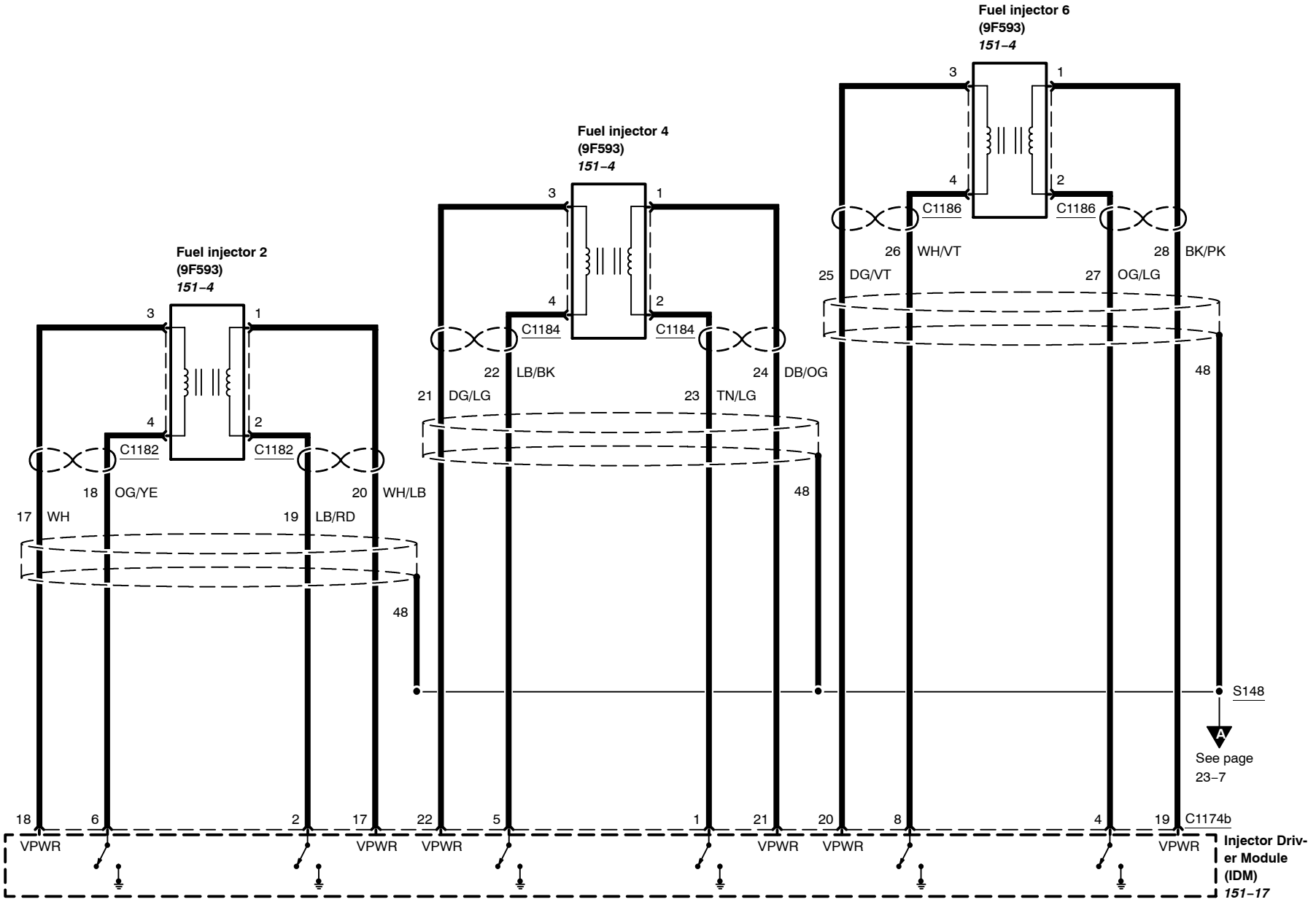
4.5L


Engine Control Module (ECM) 151–17
VREF
VREF
VREF
VREF
VREF
3 C175d
14
20
8 C175c
14
1 C175d
7 C175c
2 C175d
358 LG/BK
812 DB/LG
351 BN/WH
42 RD/WH
1023 DB/LG
S143
351 BN/WH
351 BN/WH
3076 YE/WH
354 LG/RD
967 LB/RD
2 3 C1087
2 C1064
2 C104
Manifold Absolute Pressure (MAP) sensor 151–4
Engine Coolant Temperature (ECT) sensor (12A648) 151–1
Engine Oil Temperature (EOT) sensor 151–4
See page 23–2
D
1 C1087
1 C1064
1 C104
1717 VT/OG
2 3 C1244
2 C1236
A E D C128
Injection Control Pressure (ICP) sensor (9F972) 151–1
Manifold Air Temperature (MAT) sensor 151–4
Mass Air Flow (MAF) sensor (12B579)
1) Air charge temperature (ACT) sensor 151–3
1
1 C1244
1 C1236
B C C128
359 GY/RD
359 GY/RD
359 GY/RD
359 GY/RD
359 GY/RD
359 GY/RD
57 BK
Measures amount of intake air. Used by PCM to help calculate fuel delivery.
S139
359 GY/RD
6 C175c
S107
– SIG
RTN
Engine Control Module (ECM) 151–17
See page 10–7
G102

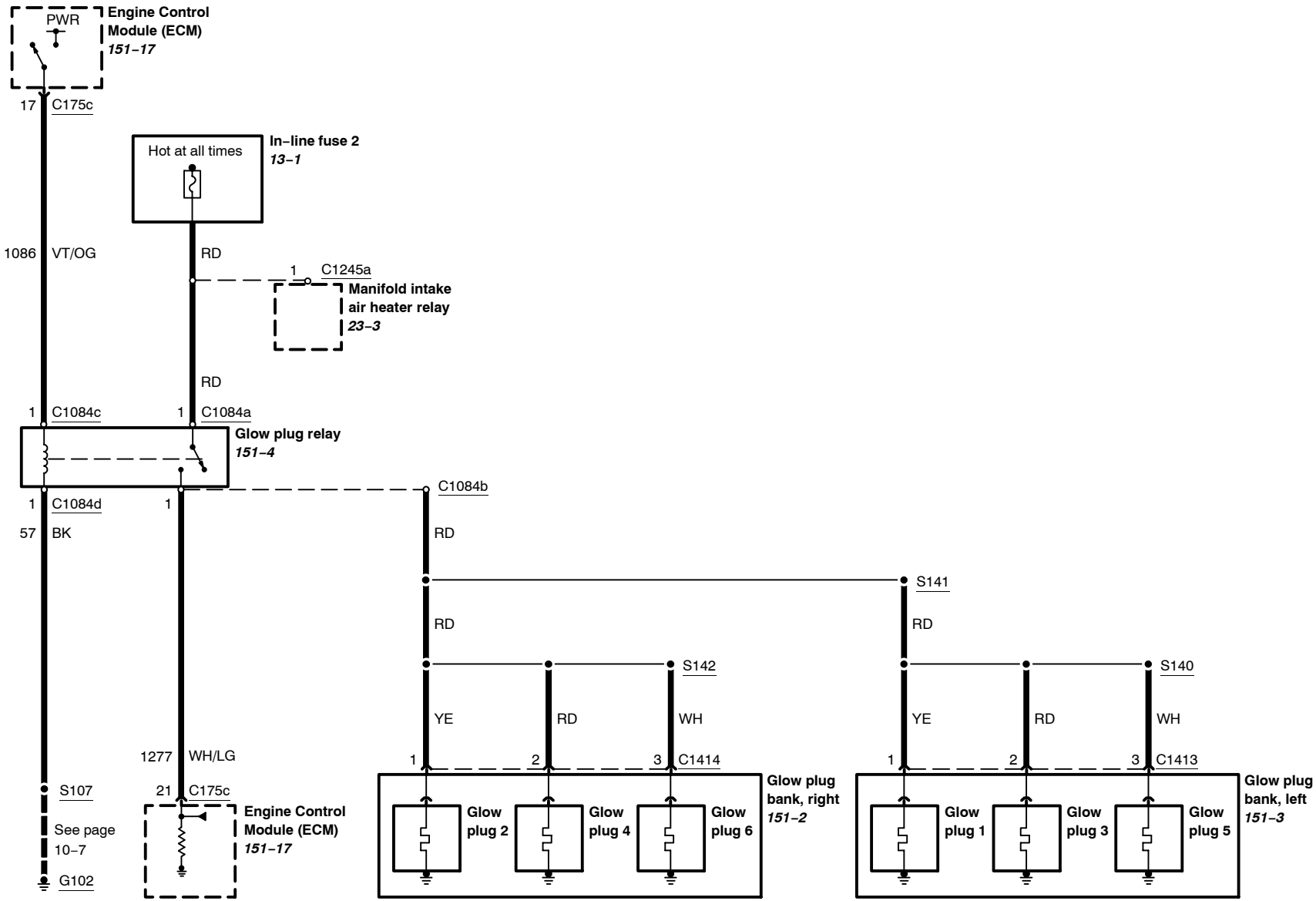
4.5L

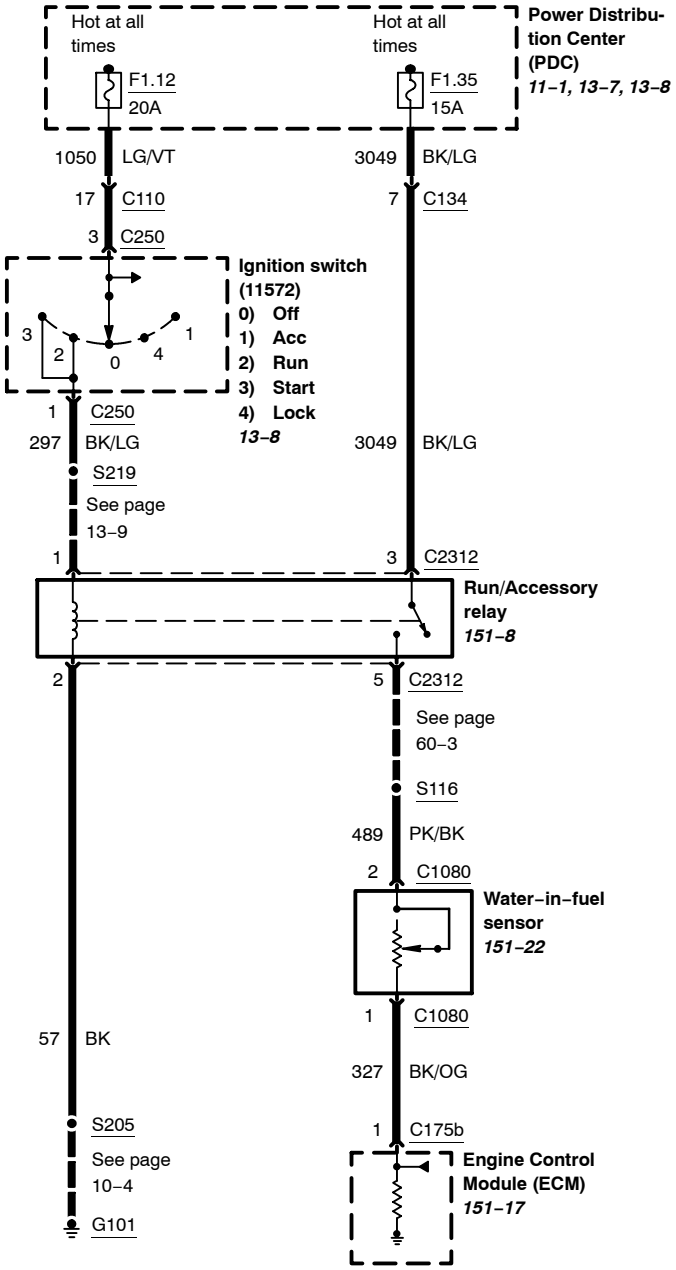

Fuel injector 1
(9F593)
151–4
Fuel injector 3
(9F593)
151–4
Fuel injector 5
(9F593)
151–4
C1181
C1183
C1185
2 WH/LB
4 WH/BK
1 DB
3 LG/WH
6 YE/LG
8 OG/YE
5 OG/LB
7 LG/YE
10 LG/RD
12 LG/BK
9 LG/OG
11 TN/YE
48
See page 23–8
A
S148
G106
151–4
20 5 2 19 24 6 1 23 18 8 3 17 C1174a
VPWR
Injector Driver Module (IDM)
151–17

4.5L

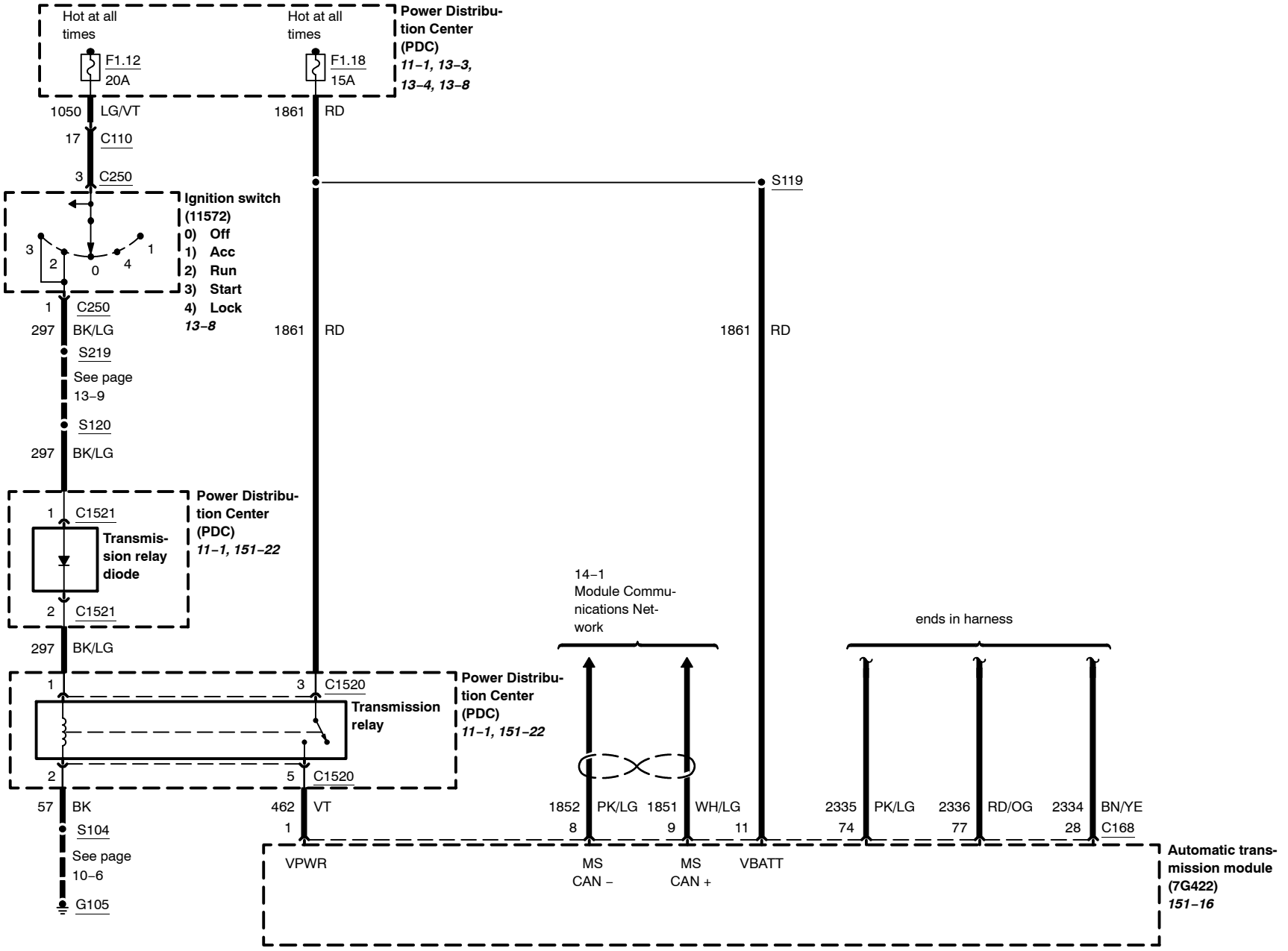

Fuel injector 6
(9F593)
151–4
Fuel injector 4
(9F593)
151–4
Fuel injector 2
(9F593)
151–4
3
1
4
2
C1186
C1184
C1182
26 WH/VT
28 BK/PK
25 DG/VT
27 OG/LG
22 LB/BK
24 DB/OG
21 DG/LG
23 TN/LG
18 OG/YE
20 WH/LB
17 WH
19 LB/RD
48
S148
A
See page
23–7
18
6
2
17
22
5
1
21
20
8
4
19
C1174b
VPWR
Injector Driver Module
(IDM)
151–17

4.5L

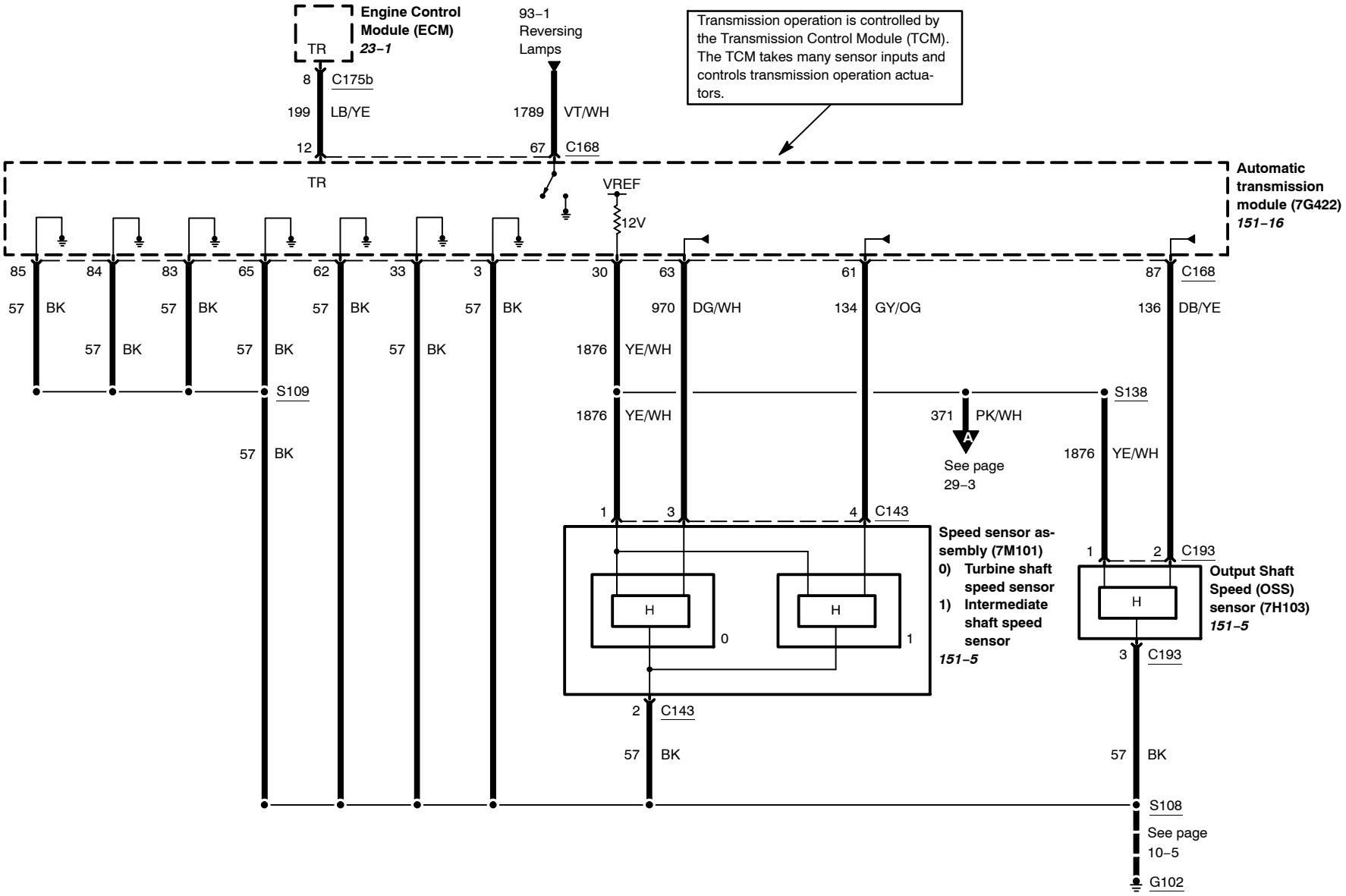

PWR
Engine Control Module (ECM) 151–17
17 C175c
Hot at all times
In–line fuse 2 13–1
1086 VT/OG
RD
1 C1245a
Manifold intake air heater relay 23–3
RD
1 C1084c
1 C1084a
Glow plug relay 151–4
C1084b
1 C1084d
57 BK
1
RD
S141
RD
RD
S142
S140
YE
RD
WH
YE
RD
WH
1277 WH/LG
1
2
3 C1414
1
2
3 C1413
S107
21 C175c
Glow plug bank, right 151–2
Glow plug bank, left 151–3
Glow plug 2
Glow plug 4
Glow plug 6
Glow plug 1
Glow plug 3
Glow plug 5
See page 10–7
Engine Control Module (ECM) 151–17
G102


Hot at all times
F1.12
20A
Hot at all times
F1.35
15A
Power Distribution Center (PDC)
11–1, 13–7, 13–8
1050 LG/VT
17 C110
3 C250
3049 BK/LG
7 C134
Ignition switch (11572)
0) Off
1) Acc
2) Run
3) Start
4) Lock
13–8
1 C250
297 BK/LG
S219
See page 13–9
3049 BK/LG
1
3 C2312
Run/Accessory relay
151–8
2
5 C2312
See page 60–3
S116
489 PK/BK
2 C1080
Water–in–fuel sensor
151–22
1 C1080
57 BK
327 BK/OG
S205
See page 10–4
1 C175b
G101
Engine Control Module (ECM)
151–17

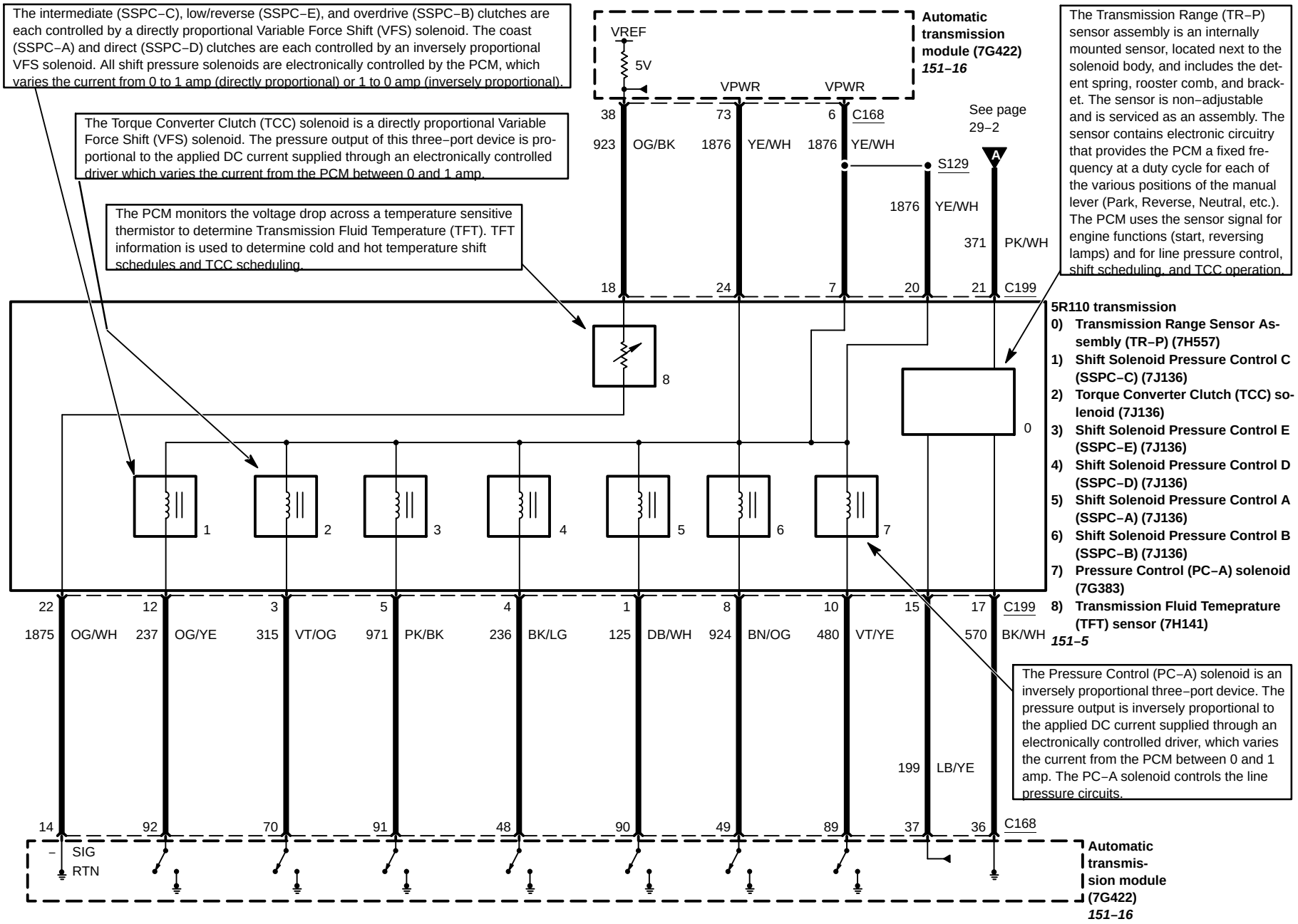
5R110 Transmission

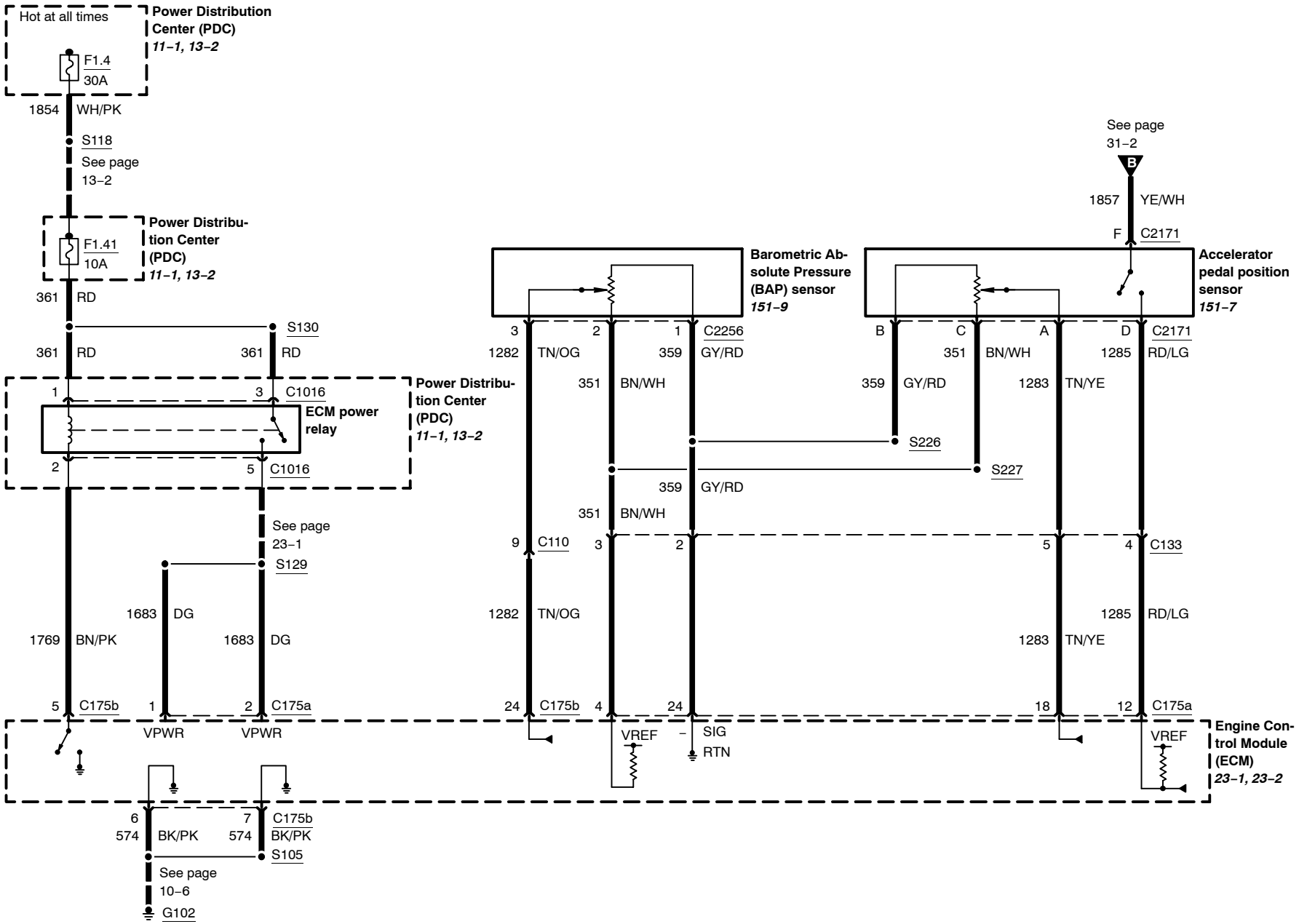


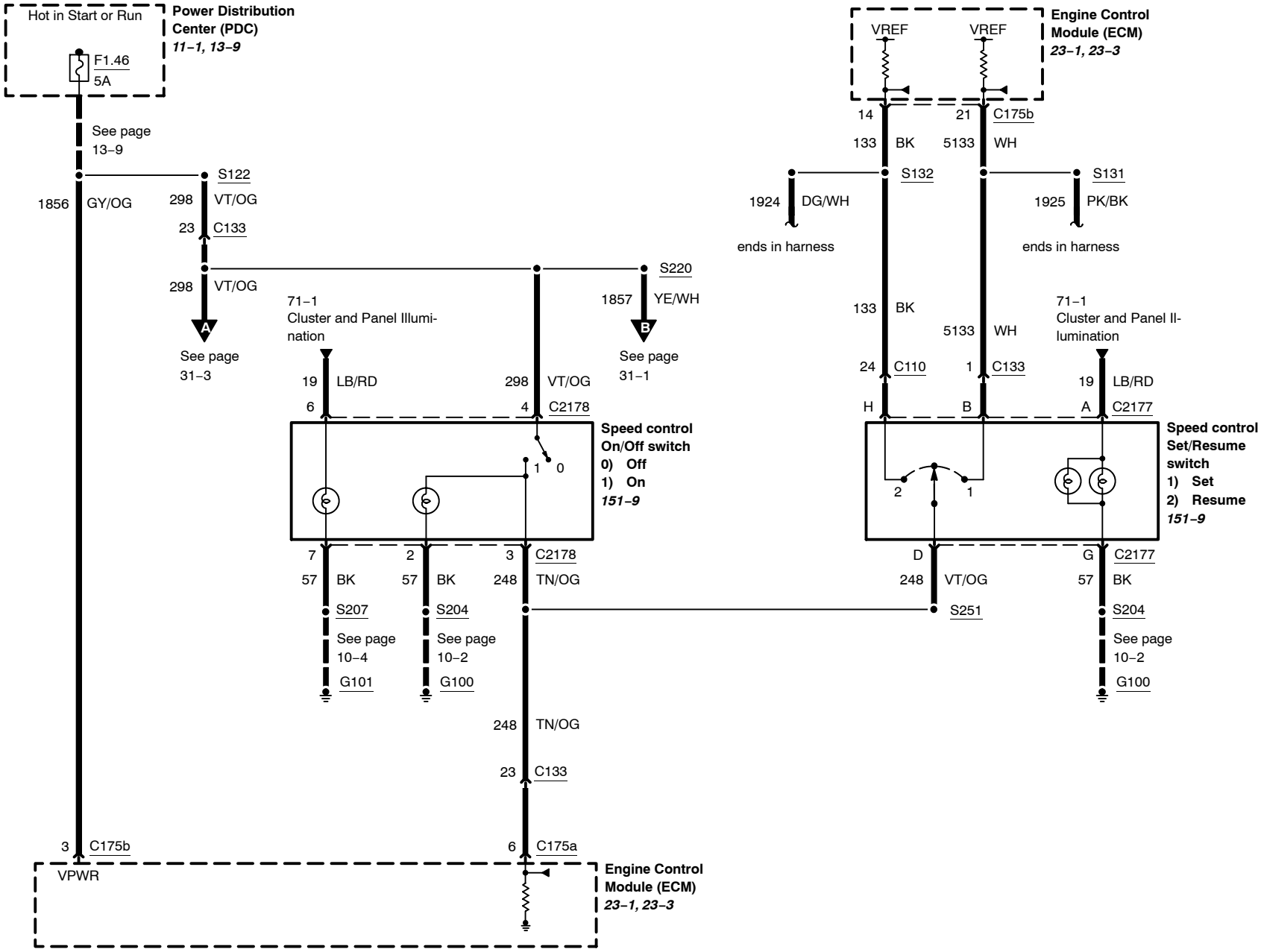
5R110 Transmission

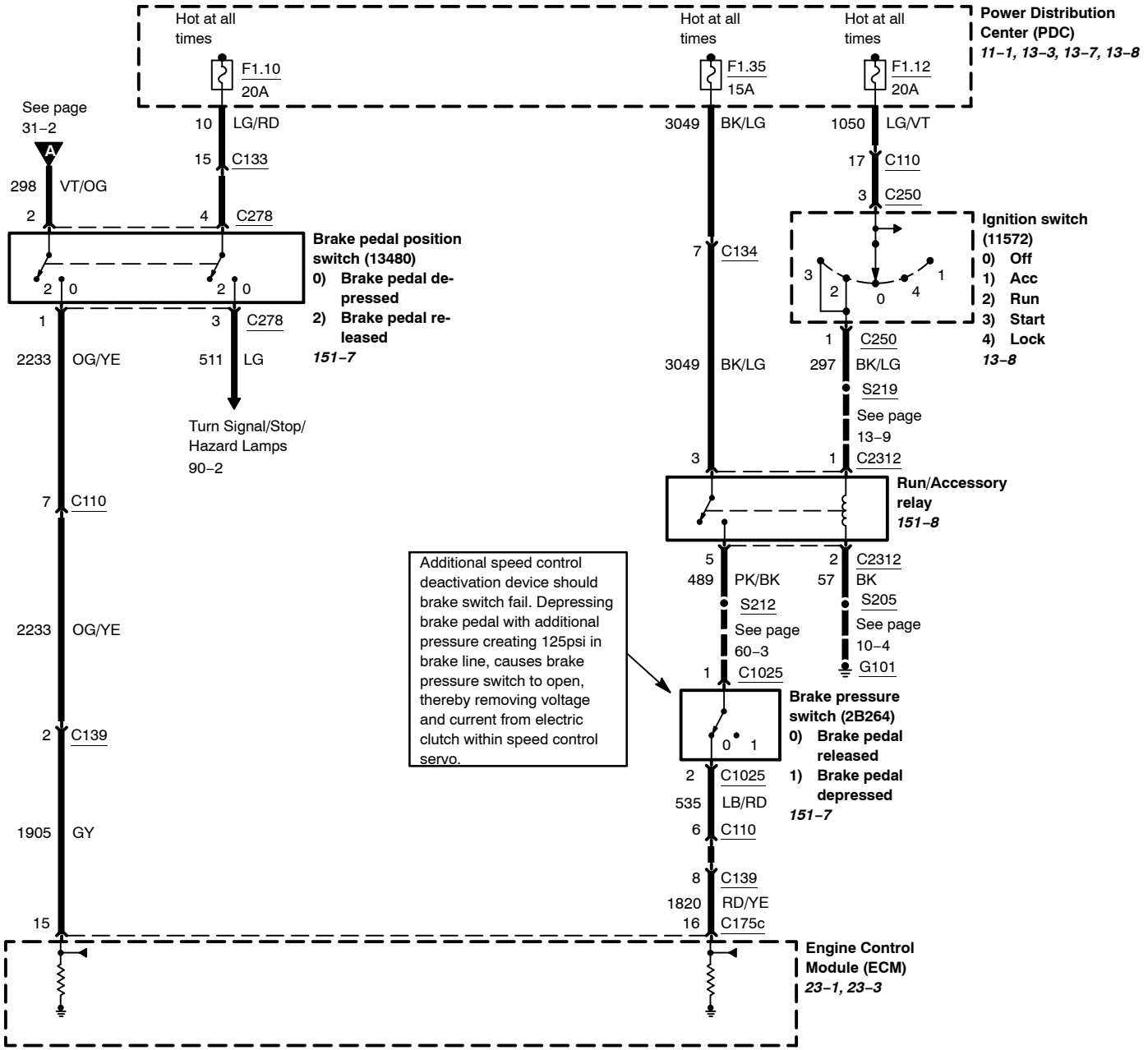


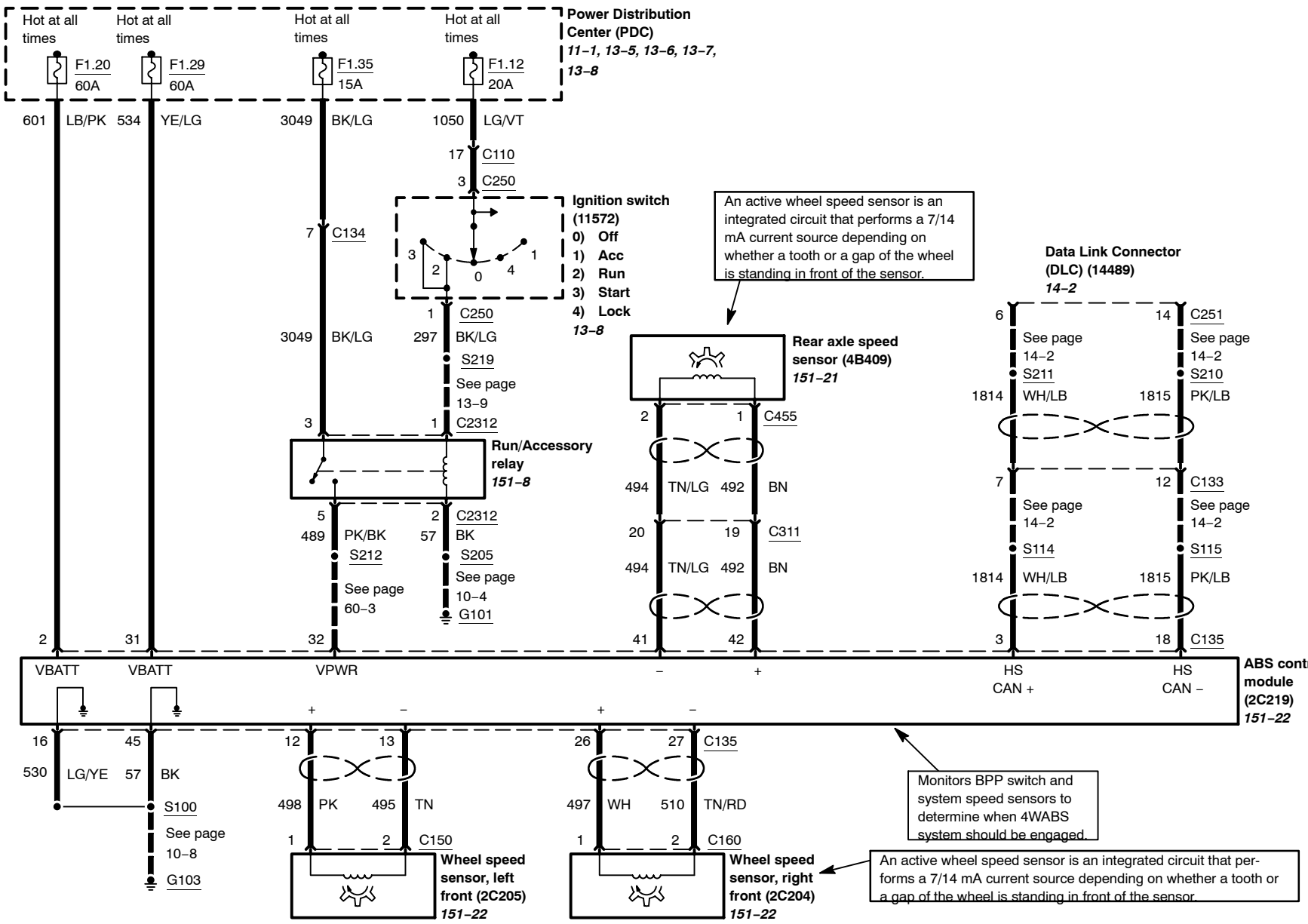
5R110 Transmission

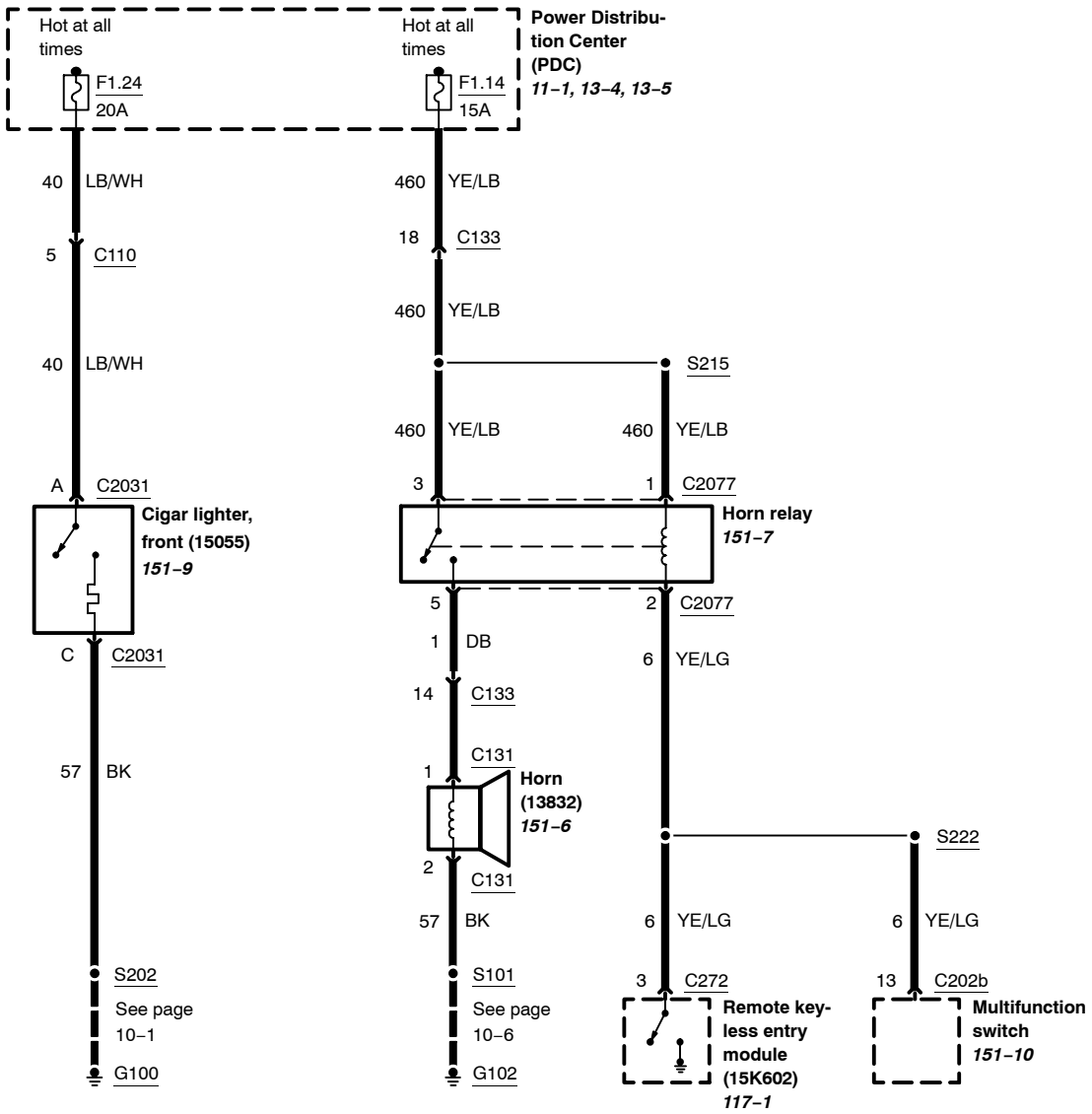


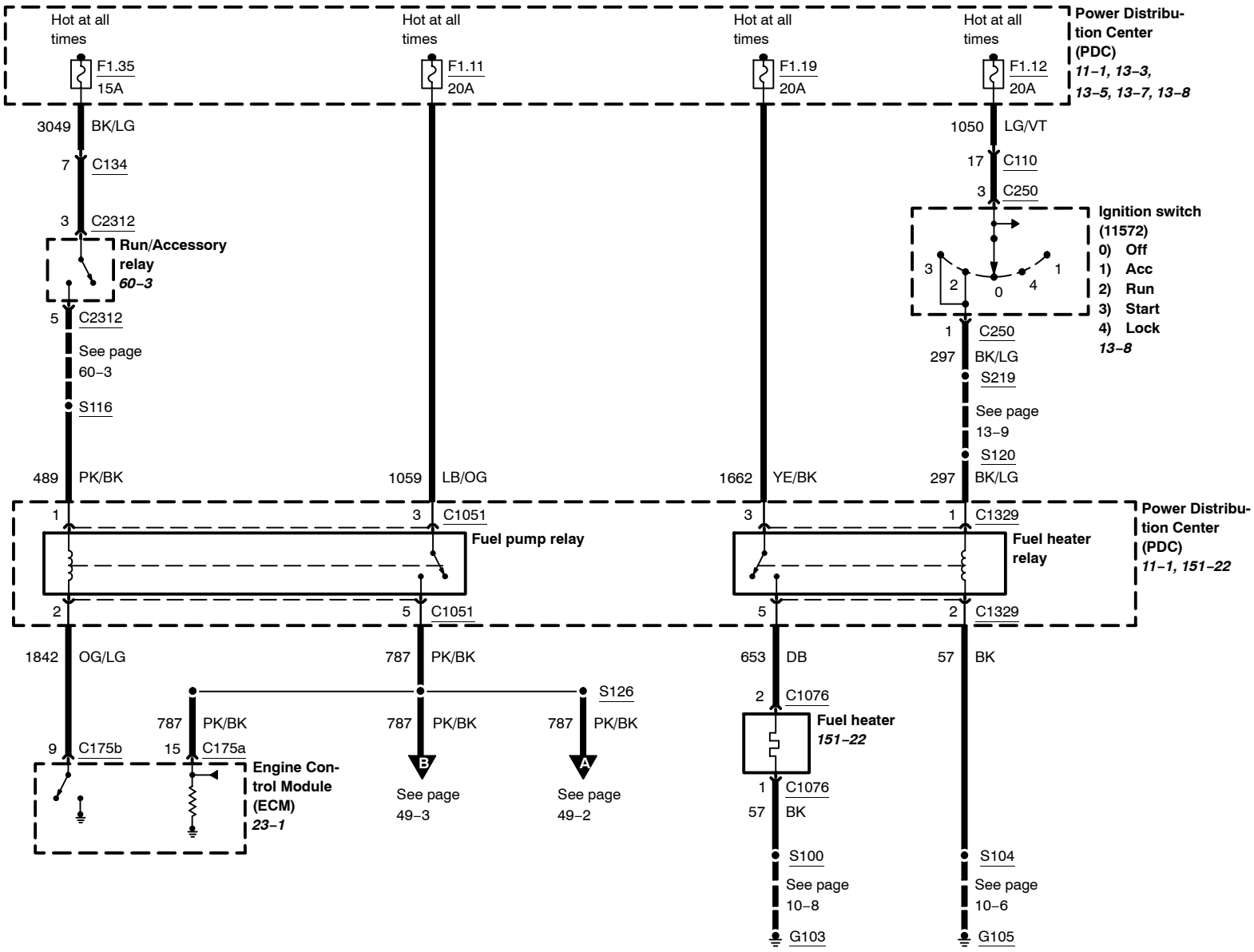

Hot at all times
Power Distribution Center (PDC)
11–1, 13–2
F1.4
30A
1854 WH/PK
S118
See page 13–2
Power Distribution Center (PDC)
11–1, 13–2
F1.41
10A
361 RD
S130
361 RD
361 RD
1 3 C1016
ECM power relay
2 5 C1016
Power Distribution Center (PDC)
11–1, 13–2
See page 23–1
S129
1683 DG
1769 BN/PK
1683 DG
5 C175b 1 2 C175a
VPWR
VPWR
6 574 BK/PK
7 574 BK/PK C175b
S105
See page 10–6
G102
Barometric Absolute Pressure (BAP) sensor
151–9
3 2 1 C2256
1282 TN/OG
359 GY/RD
351 BN/WH
9 C110 3 2
1282 TN/OG
24 C175b 4 24
VREF
SIG
RTN
S226
359 GY/RD
S227
359 GY/RD
351 BN/WH
See page 31–2
B
1857 YE/WH
F C2171
Accelerator pedal position sensor
151–7
B C A D C2171
351 BN/WH
1285 RD/LG
1283 TN/YE
5 4 C133
1285 RD/LG
1283 TN/YE
18 12 C175a
VREF
Engine Control Module (ECM)
23–1, 23–2


Hot in Start or Run
Power Distribution Center (PDC)
11–1, 13–9
F1.46
5A
See page 13–9
1856 GY/OG
S122
298 VT/OG
23 C133
298 VT/OG
A
See page 31–3
S220
1857 YE/WH
B
See page 31–1
71–1 Cluster and Panel Illumination
19 LB/RD
6
298 VT/OG
4 C2178
Speed control On/Off switch
0) Off
1) On
151–9
7
57 BK
S207
See page 10–4
G101
2
57 BK
S204
See page 10–2
G100
3 C2178
248 TN/OG
248 TN/OG
23 C133
3 C175b
VPWR
6 C175a
Engine Control Module (ECM)
23–1, 23–3
VREF
VREF
Engine Control Module (ECM)
23–1, 23–3
14
133 BK
21 C175b
5133 WH
S132
1924 DG/WH
ends in harness
S131
1925 PK/BK
ends in harness
133 BK
5133 WH
24 C110
1 C133
H
B
71–1 Cluster and Panel Illumination
19 LB/RD
A C2177
Speed control Set/Resume switch
1) Set
2) Resume
151–9
2
1
D
248 VT/OG
S251
G
57 BK
S204
See page 10–2
G100

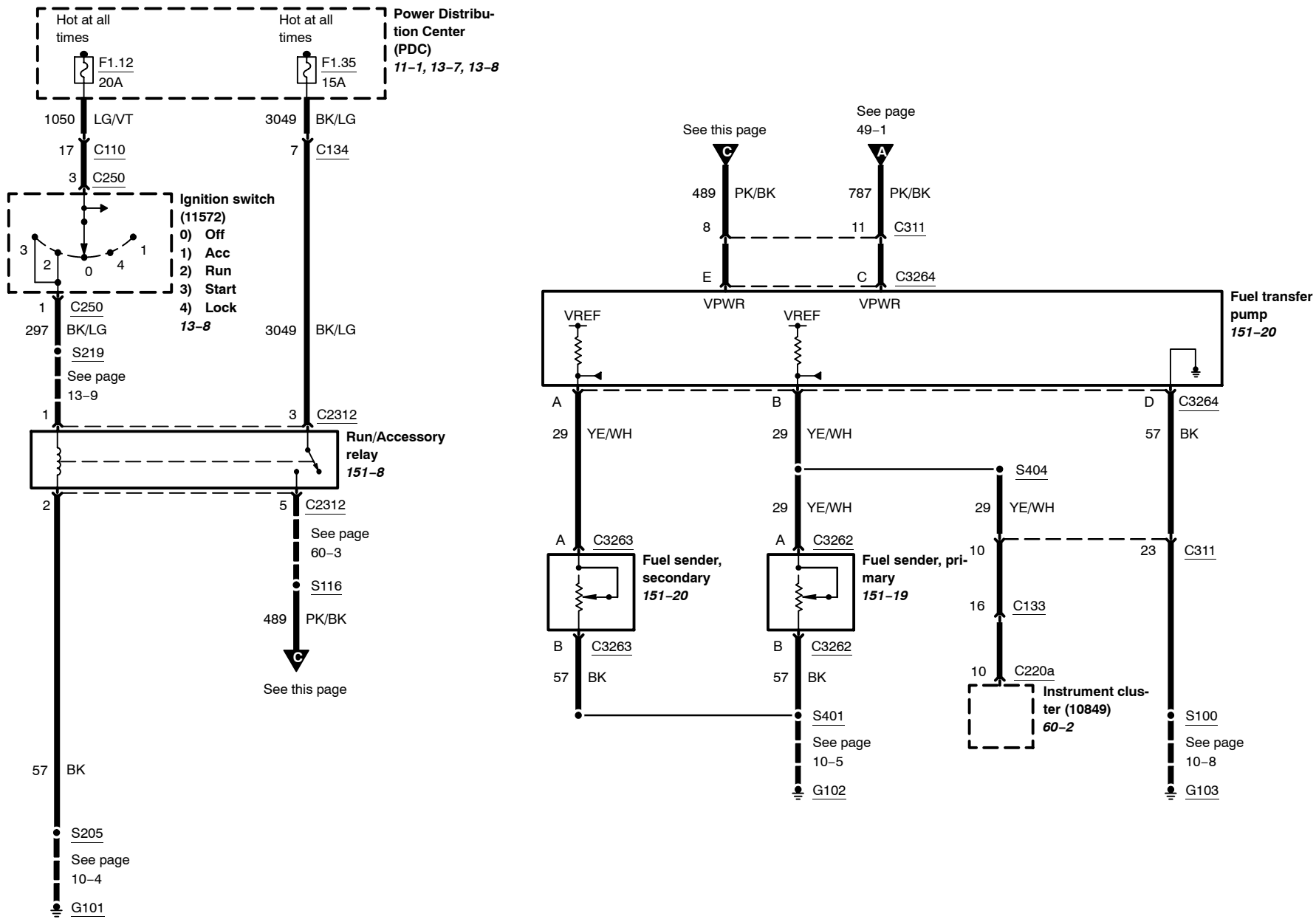

Hot at all times
F1.10
20A
Hot at all times
F1.35
15A
Hot at all times
F1.12
20A
Power Distribution Center (PDC)
11–1, 13–3, 13–7, 13–8
See page 31–2
A
10 LG/RD
15 C133
298 VT/OG
2
4 C278
Brake pedal position switch (13480)
0) Brake pedal depressed
2) Brake pedal released
151–7
2 0
2 0
1
3 C278
2233 OG/YE
511 LG
Turn Signal/Stop/ Hazard Lamps
90–2
7 C110
2233 OG/YE
2 C139
1905 GY
15
3049 BK/LG
7 C134
3049 BK/LG
3
1050 LG/VT
17 C110
3 C250
Ignition switch (11572)
0) Off
1) Acc
2) Run
3) Start
4) Lock
13–8
3 2 1 0 4
1 C250
297 BK/LG
S219
See page 13–9
1 C2312
Run/Accessory relay
151–8
5
489 PK/BK
S212
See page 60–3
1 C1025
2 C2312
57 BK
S205
See page 10–4
G101
Additional speed control deactivation device should brake switch fail. Depressing brake pedal with additional pressure creating 125psi in brake line, causes brake pressure switch to open, thereby removing voltage and current from electric clutch within speed control servo.
Brake pressure switch (2B264)
0) Brake pedal released
1) Brake pedal depressed
151–7
0 1
2 C1025
535 LB/RD
6 C110
8 C139
1820 RD/YE
16 C175c
Engine Control Module (ECM)
23–1, 23–3

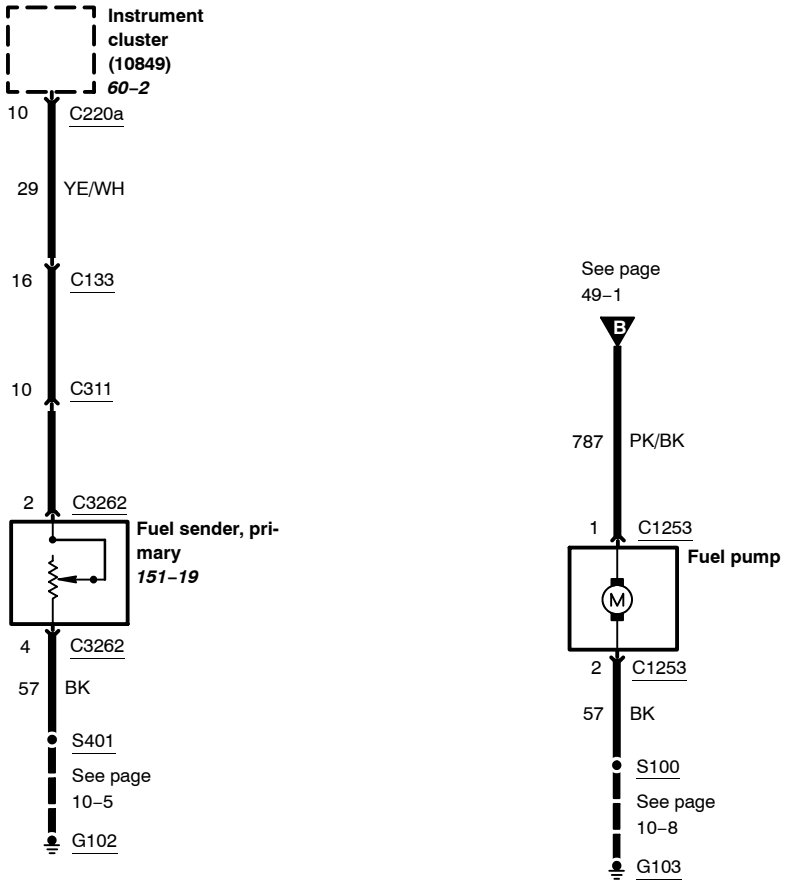

Hot at all times
F1.20 60A
Hot at all times
F1.29 60A
Hot at all times
F1.35 15A
Hot at all times
F1.12 20A
Power Distribution Center (PDC)
11–1, 13–5, 13–6, 13–7, 13–8
601 LB/PK
534 YE/LG
3049 BK/LG
1050 LG/VT
17 C110
3 C250
7 C134
Ignition switch (11572)
0) Off
1) Acc
2) Run
3) Start
4) Lock
13–8
1 C250
3049 BK/LG
297 BK/LG
S219
See page 13–9
3 1 C2312
Run/Accessory relay
151–8
5 2 C2312
489 PK/BK 57 BK
S212 S205
See page 60–3
See page 10–4
G101
An active wheel speed sensor is an integrated circuit that performs a 7/14 mA current source depending on whether a tooth or a gap of the wheel is standing in front of the sensor.
Rear axle speed sensor (4B409)
151–21
2 1 C455
494 TN/LG 492 BN
20 19 C311
494 TN/LG 492 BN
41 42
Data Link Connector (DLC) (14489)
14–2
6 14 C251
See page 14–2
S211 S210
1814 WH/LB 1815 PK/LB
7 12 C133
See page 14–2
S114 S115
1814 WH/LB 1815 PK/LB
3 18 C135
2 31 32
VBATT VBATT VPWR – + HS CAN + HS CAN –
ABS control module (2C219)
151–22
16 45 530 LG/YE 57 BK
S100
See page 10–8
G103
12 13 498 PK 495 TN
1 2 C150
Wheel speed sensor, left front (2C205)
151–22
26 27 C135
497 WH 510 TN/RD
1 2 C160
Wheel speed sensor, right front (2C204)
151–22
Monitors BPP switch and system speed sensors to determine when 4WABS system should be engaged.
An active wheel speed sensor is an integrated circuit that performs a 7/14 mA current source depending on whether a tooth or a gap of the wheel is standing in front of the sensor.


Hot at all times
F1.24
20A
Hot at all times
F1.14
15A
Power Distribution Center (PDC)
11–1, 13–4, 13–5
40 LB/WH
5 C110
40 LB/WH
A C2031
Cigar lighter, front (15055)
151–9
C C2031
57 BK
S202
See page 10–1
G100
460 YE/LB
18 C133
460 YE/LB
S215
460 YE/LB
460 YE/LB
3 1 C2077
Horn relay
151–7
5 2 C2077
1 DB
14 C133
C131
1
Horn (13832)
151–6
2
C131
57 BK
S101
See page 10–6
G102
6 YE/LG
S222
6 YE/LG
6 YE/LG
3 C272
Remote keyless entry module (15K602)
117–1
13 C202b
Multifunction switch
151–10

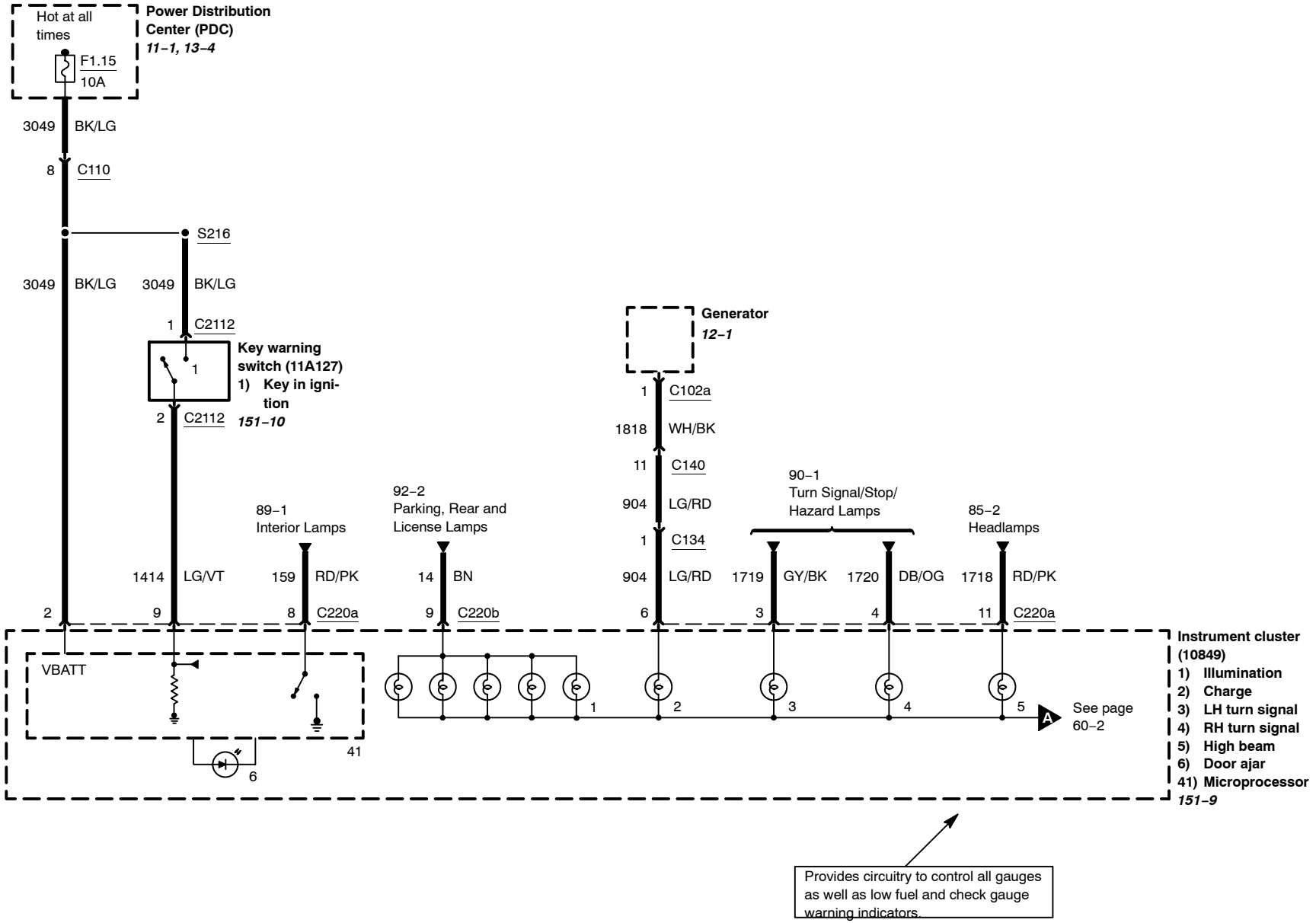

Hot at all times
F1.35
15A
Hot at all times
F1.11
20A
Hot at all times
F1.19
20A
Hot at all times
F1.12
20A
Power Distribution Center (PDC)
11–1, 13–3, 13–5, 13–7, 13–8
3049 BK/LG
7 C134
3 C2312
Run/Accessory relay
60–3
5 C2312
See page 60–3
S116
489 PK/BK
1059 LB/OG
1662 YE/BK
1050 LG/VT
17 C110
3 C250
Ignition switch (11572)
0) Off
1) Acc
2) Run
3) Start
4) Lock
13–8
1 C250
297 BK/LG
S219
See page 13–9
S120
297 BK/LG
1 C1051
3 C1051
Fuel pump relay
3 C1329
1 C1329
Fuel heater relay
Power Distribution Center (PDC)
11–1, 151–22
2 C1051
5 C1051
5 C1329
2 C1329
1842 OG/LG
787 PK/BK
653 DB
57 BK
S126
787 PK/BK
787 PK/BK
787 PK/BK
9 C175b
15 C175a
Engine Control Module (ECM)
23–1
B
See page 49–3
A
See page 49–2
2 C1076
Fuel heater
151–22
1 C1076
57 BK
S100
See page 10–8
G103
S104
See page 10–6
G105

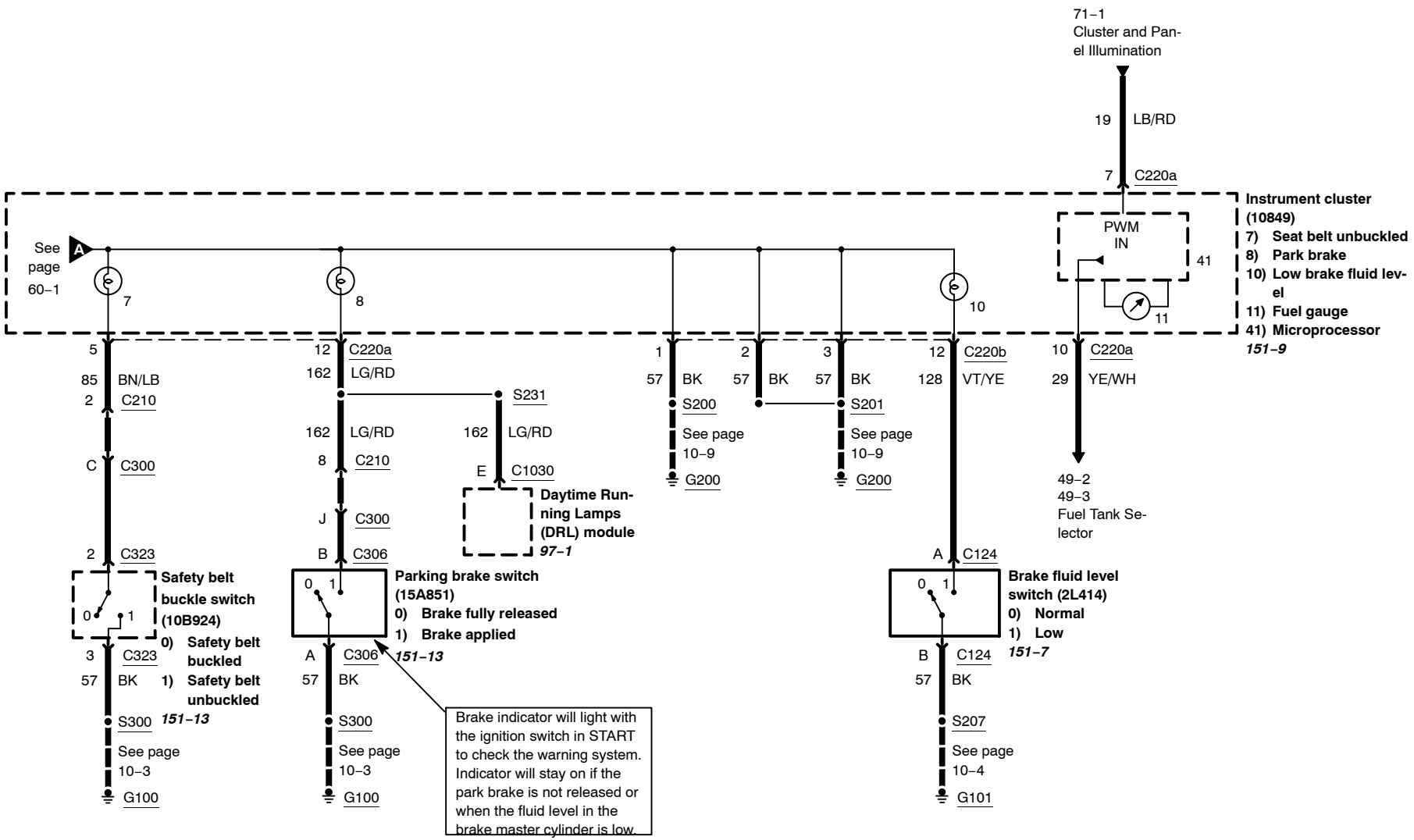
with dual tanks

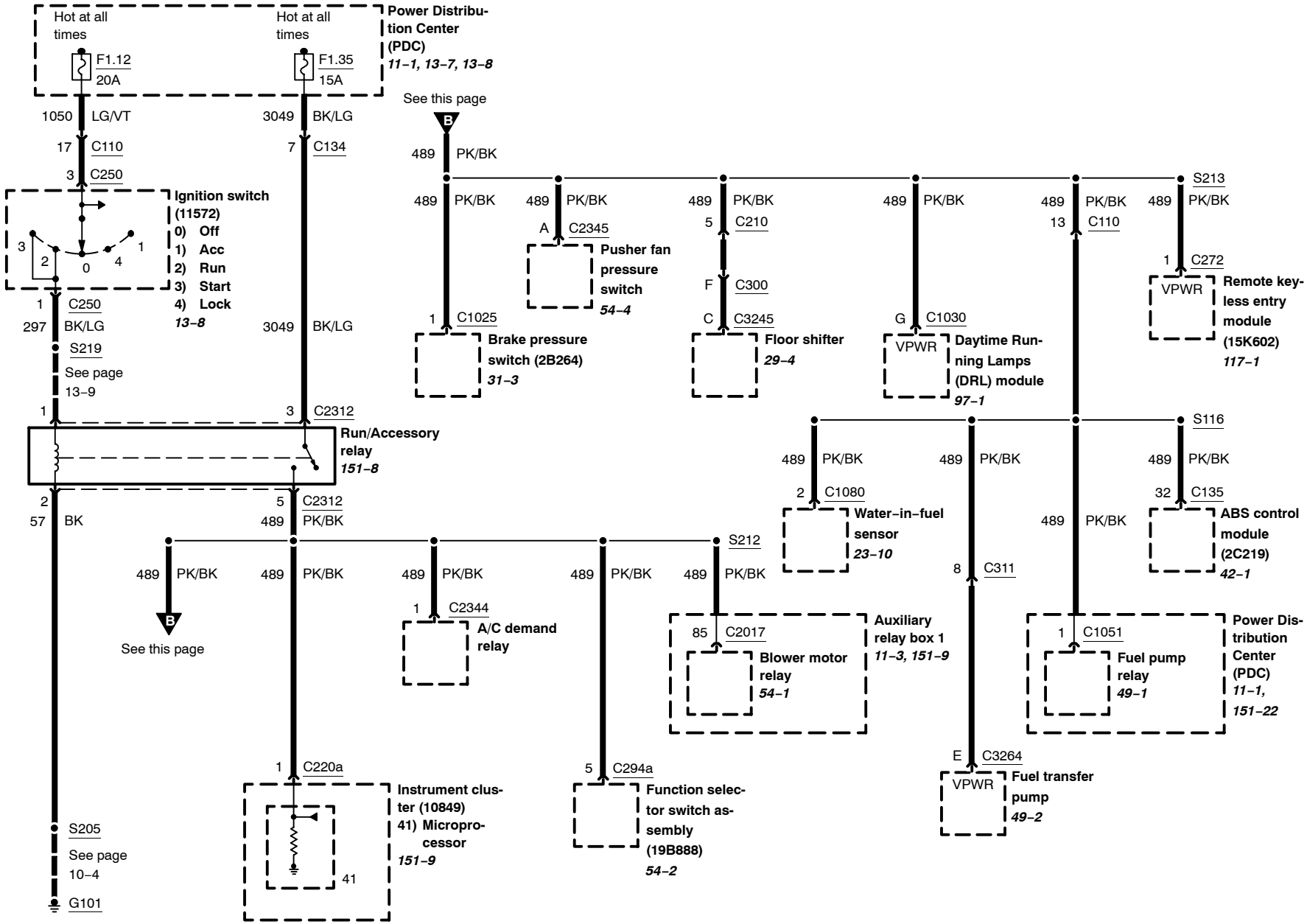


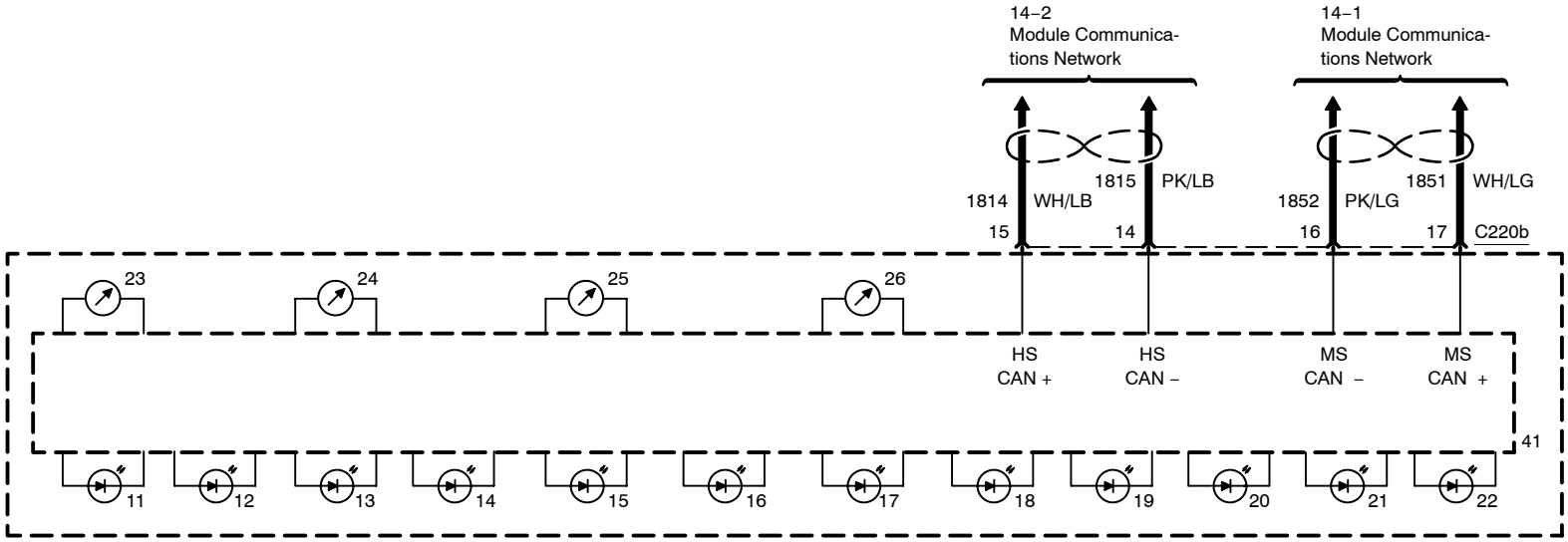

Instrument cluster (10849) 60–2
10
C220a
29
YE/WH
16
C133
10
C311
2
C3262
Fuel sender, primary 151–19
4
C3262
57
BK
S401
See page 10–5
G102
See page 49–1
B
787
PK/BK
1
C1253
Fuel pump
M
2
C1253
57
BK
S100
See page 10–8
G103

Please refer to manual S08317, Chapter 11.

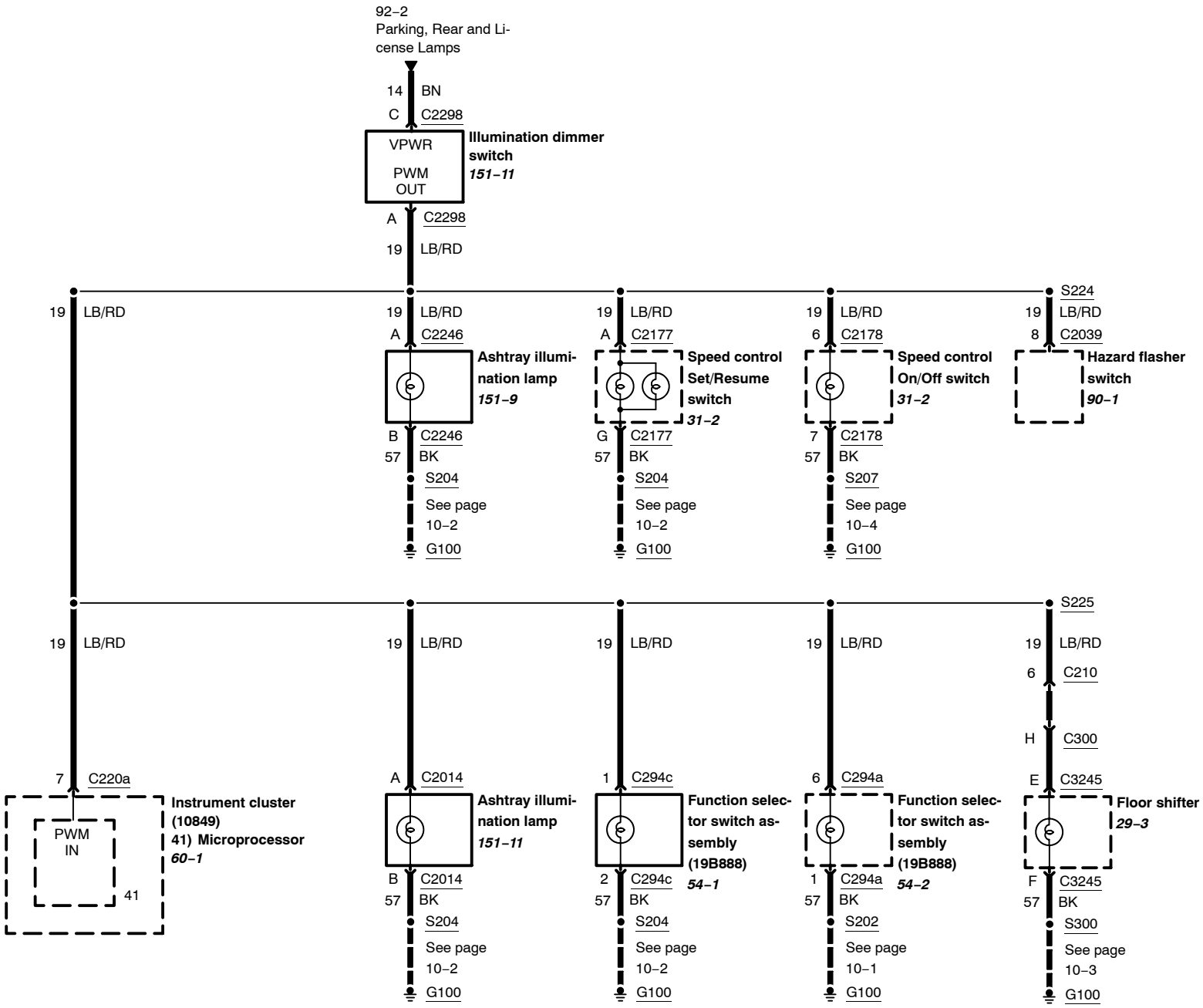

Hot at all times
Power Distribution Center (PDC)
11–1, 13–4
F1.15
10A
3049 BK/LG
8 C110
S216
3049 BK/LG
3049 BK/LG
1 C2112
Key warning switch (11A127)
1) Key in ignition
151–10
2 C2112
Generator
12–1
1 C102a
1818 WH/BK
11 C140
904 LG/RD
1 C134
904 LG/RD
89–1
Interior Lamps
92–2
Parking, Rear and License Lamps
90–1
Turn Signal/Stop/ Hazard Lamps
85–2
Headlamps
1414 LG/VT
159 RD/PK
14 BN
1719 GY/BK
1720 DB/OG
1718 RD/PK
2
9
8 C220a
9 C220b
6
3
4
11 C220a
VBATT
41
6
1
2
3
4
5
A
See page 60–2
Instrument cluster (10849)
1) Illumination
2) Charge
3) LH turn signal
4) RH turn signal
5) High beam
6) Door ajar
41) Microprocessor
151–9
Provides circuitry to control all gauges as well as low fuel and check gauge warning indicators.

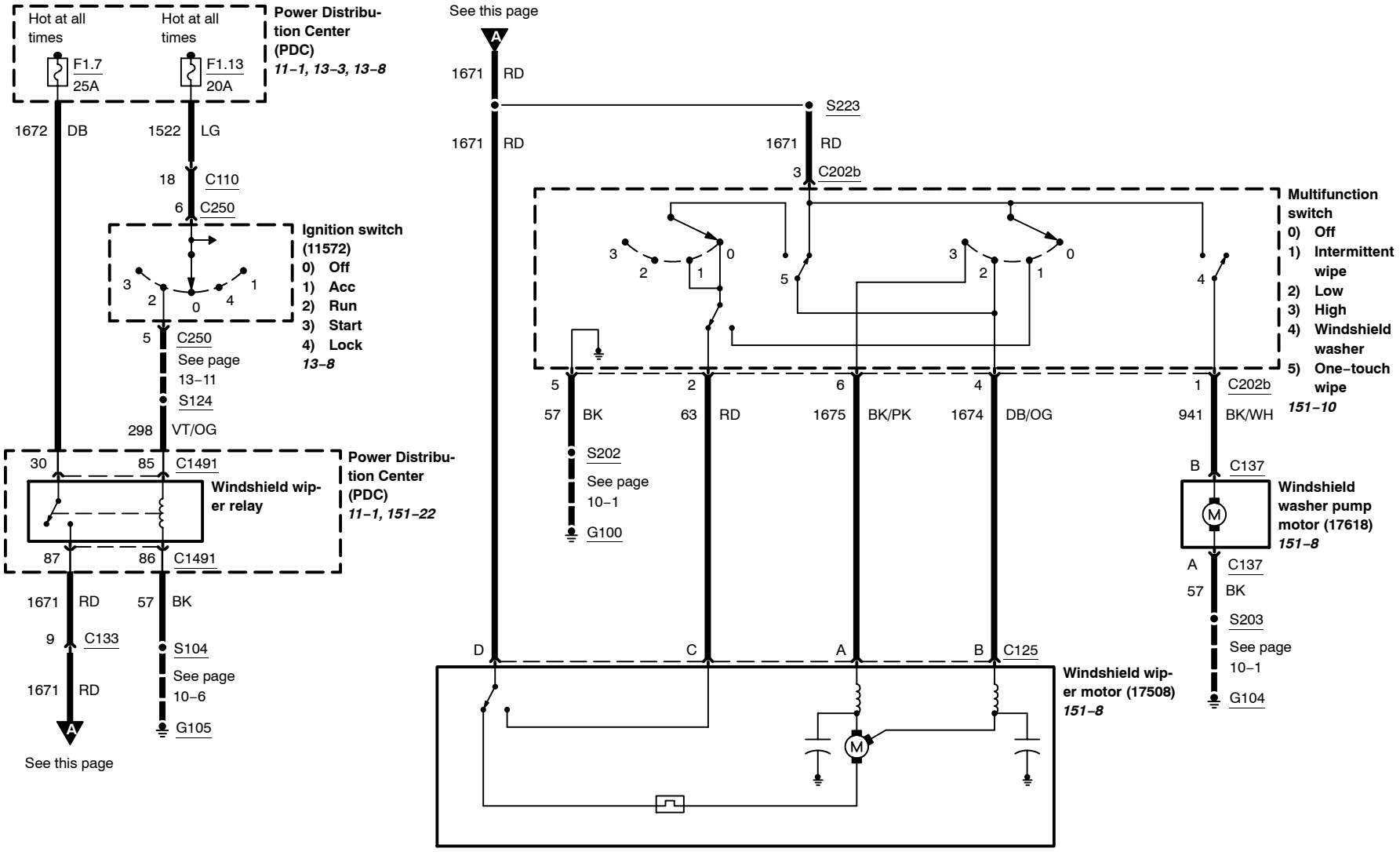

71–1
Cluster and Panel Illumination
19 LB/RD
7 C220a
Instrument cluster (10849)
7) Seat belt unbuckled
8) Park brake
10) Low brake fluid level
11) Fuel gauge
41) Microprocessor
151–9
PWM IN
41
11
See page 60–1
A
7
8
10
5 85 BN/LB 2 C210
C C300
2 C323
Safety belt buckle switch (10B924)
0) Safety belt buckled
1) Safety belt unbuckled
151–13
3 C323 57 BK
S300
See page 10–3
G100
12 C220a 162 LG/RD
162 LG/RD 8 C210
J C300
B C306
Parking brake switch (15A851)
0) Brake fully released
1) Brake applied
151–13
A C306 57 BK
S300
See page 10–3
G100
S231
162 LG/RD
E C1030
Daytime Running Lamps (DRL) module
97–1
1 57 BK S200
See page 10–9
G200
2 57 BK
3 57 BK S201
See page 10–9
G200
12 C220b 128 VT/YE
A C124
Brake fluid level switch (2L414)
0) Normal
1) Low
151–7
B C124 57 BK
S207
See page 10–4
G101
10 C220a 29 YE/WH
49–2
49–3
Fuel Tank Selector
Brake indicator will light with the ignition switch in START to check the warning system. Indicator will stay on if the park brake is not released or when the fluid level in the brake master cylinder is low.

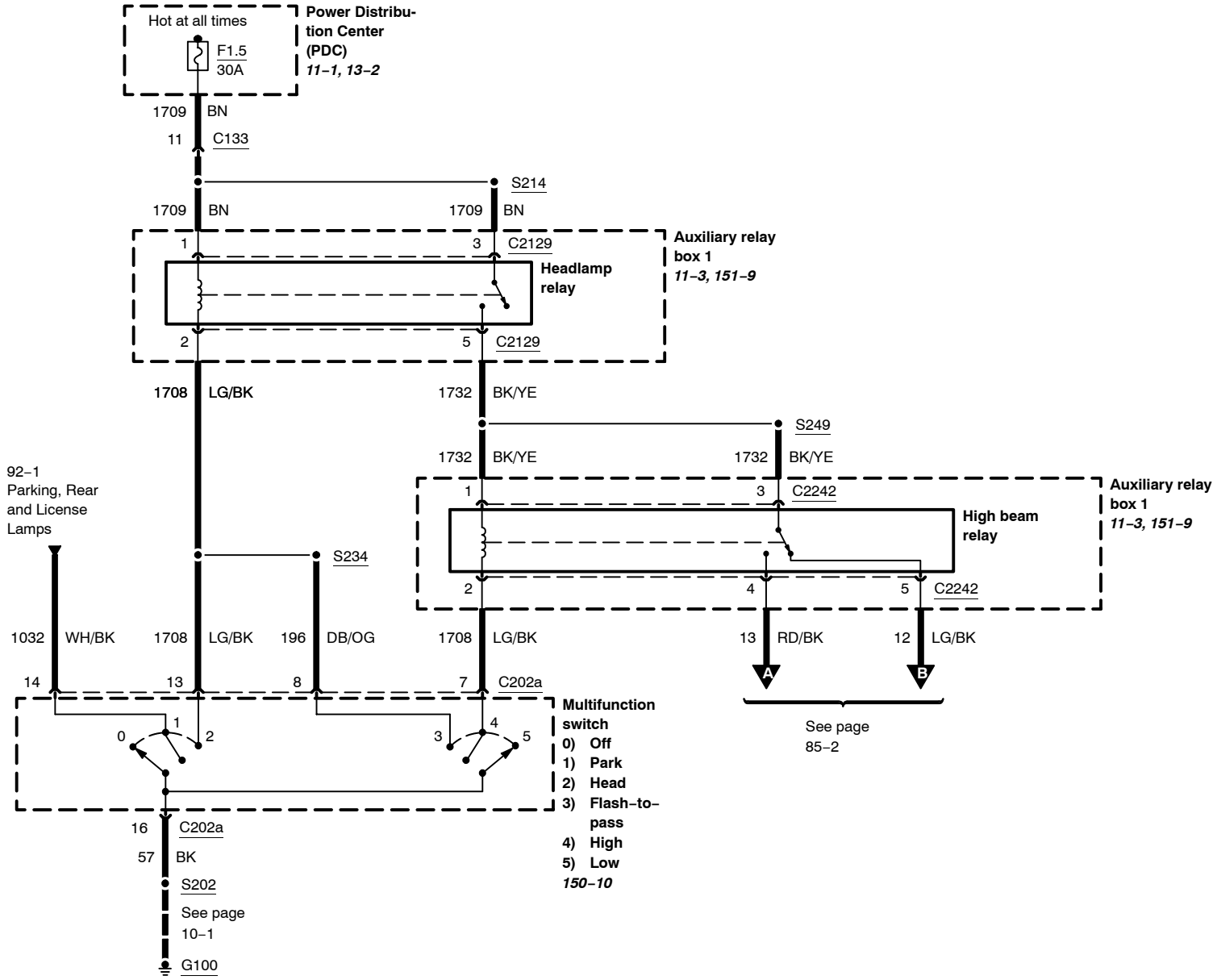

Hot at all times
F1.12
20A
Hot at all times
F1.35
15A
Power Distribution Center (PDC)
11–1, 13–7, 13–8
1050 LG/VT
17 C110
3 C250
3049 BK/LG
7 C134
Ignition switch (11572)
0) Off
1) Acc
2) Run
3) Start
4) Lock
13–8
1 C250
297 BK/LG
S219
See page 13–9
3049 BK/LG
1
3 C2312
Run/Accessory relay
151–8
2
57 BK
5 C2312
489 PK/BK
See this page
B
489 PK/BK
1 C1025
Brake pressure switch (2B264)
31–3
A C2345
Pusher fan pressure switch
54–4
5 C210
F C300
C C3245
Floor shifter
29–4
G C1030
VPWR
Daytime Running Lamps (DRL) module
97–1
13 C110
S213
1 C272
VPWR
Remote keyless entry module (15K602)
117–1
2 C1080
Water–in–fuel sensor
23–10
8 C311
S116
32 C135
ABS control module (2C219)
42–1
1 C2344
A/C demand relay
S212
85 C2017
Blower motor relay
54–1
Auxiliary relay box 1
11–3, 151–9
1 C1051
Fuel pump relay
49–1
Power Distribution Center (PDC)
11–1, 151–22
E C3264
VPWR
Fuel transfer pump
49–2
1 C220a
41
Instrument cluster (10849)
41) Microprocessor
151–9
5 C294a
Function selector switch assembly (19B888)
54–2
S205
See page 10–4
G101

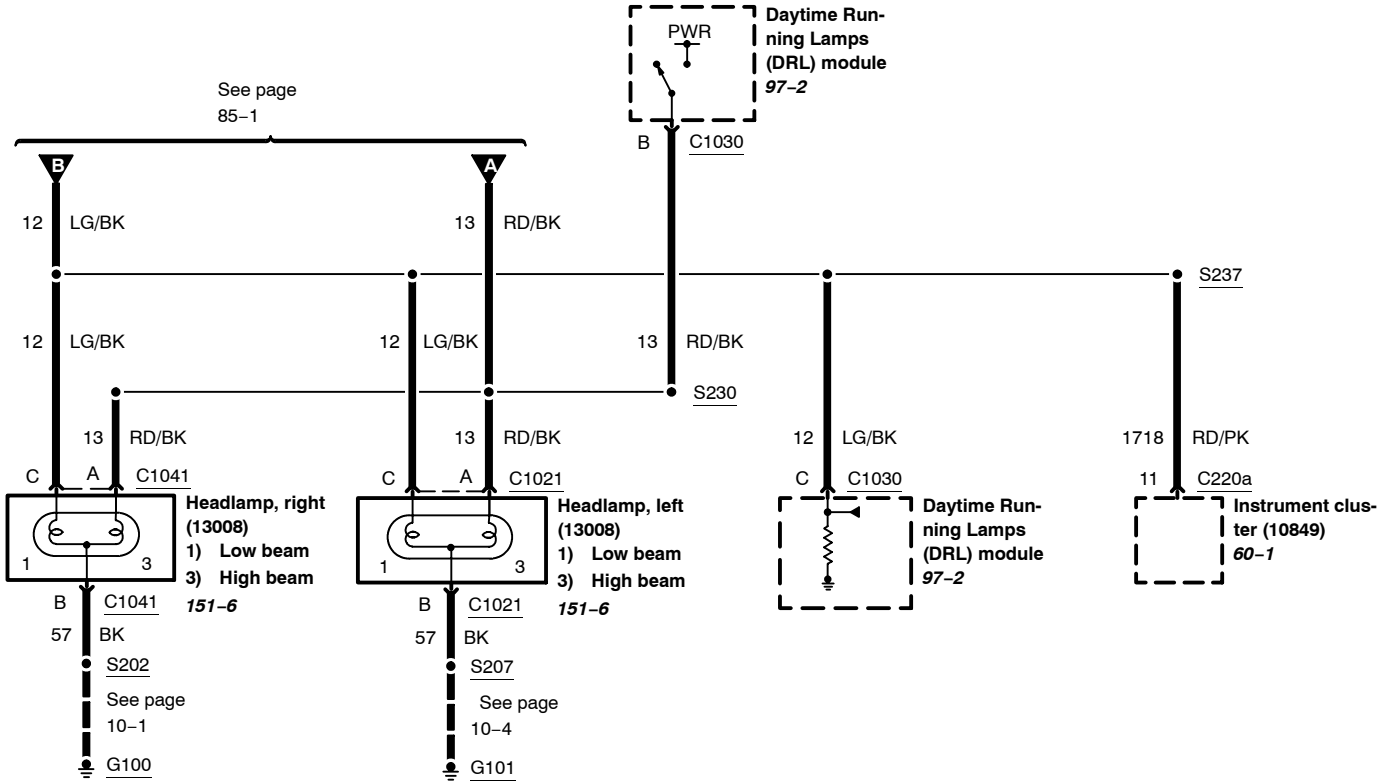


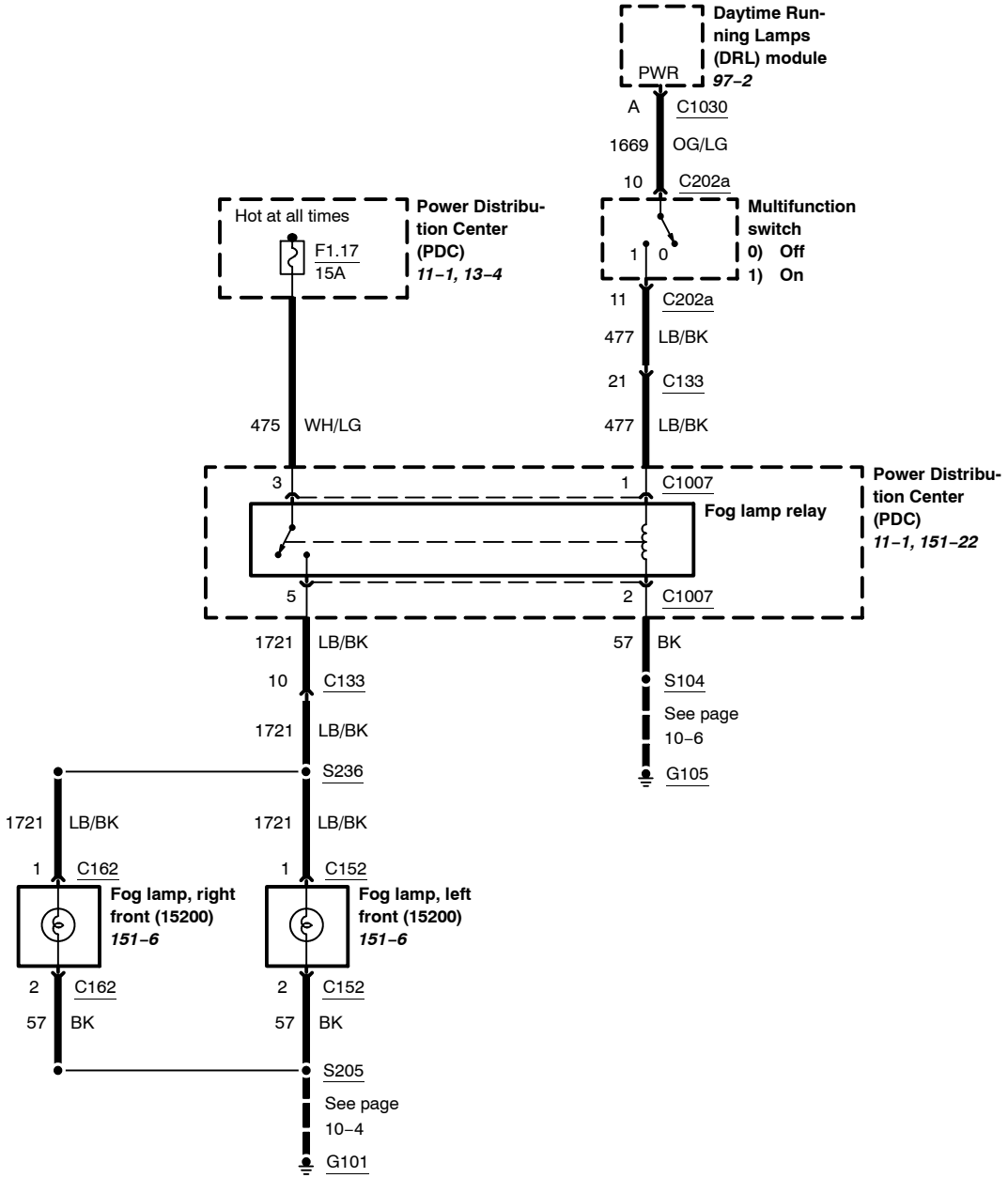
Instrument cluster (10849)
11) ABS warning
12) Wait to start
13) Check transmission
14) Check electrical
15) Tow mode
16) Transmission oil temperature sensor
17) PTO
18) Water in fuel
19) Stop engine
20) Check engine
21) Malfunction Indicator Lamp (MIL)
22) Change oil
23) Speedometer
24) Tachometer
25) Odometer/Tripmeter
26) Engine coolant temperature
41) Microprocessor
151–9

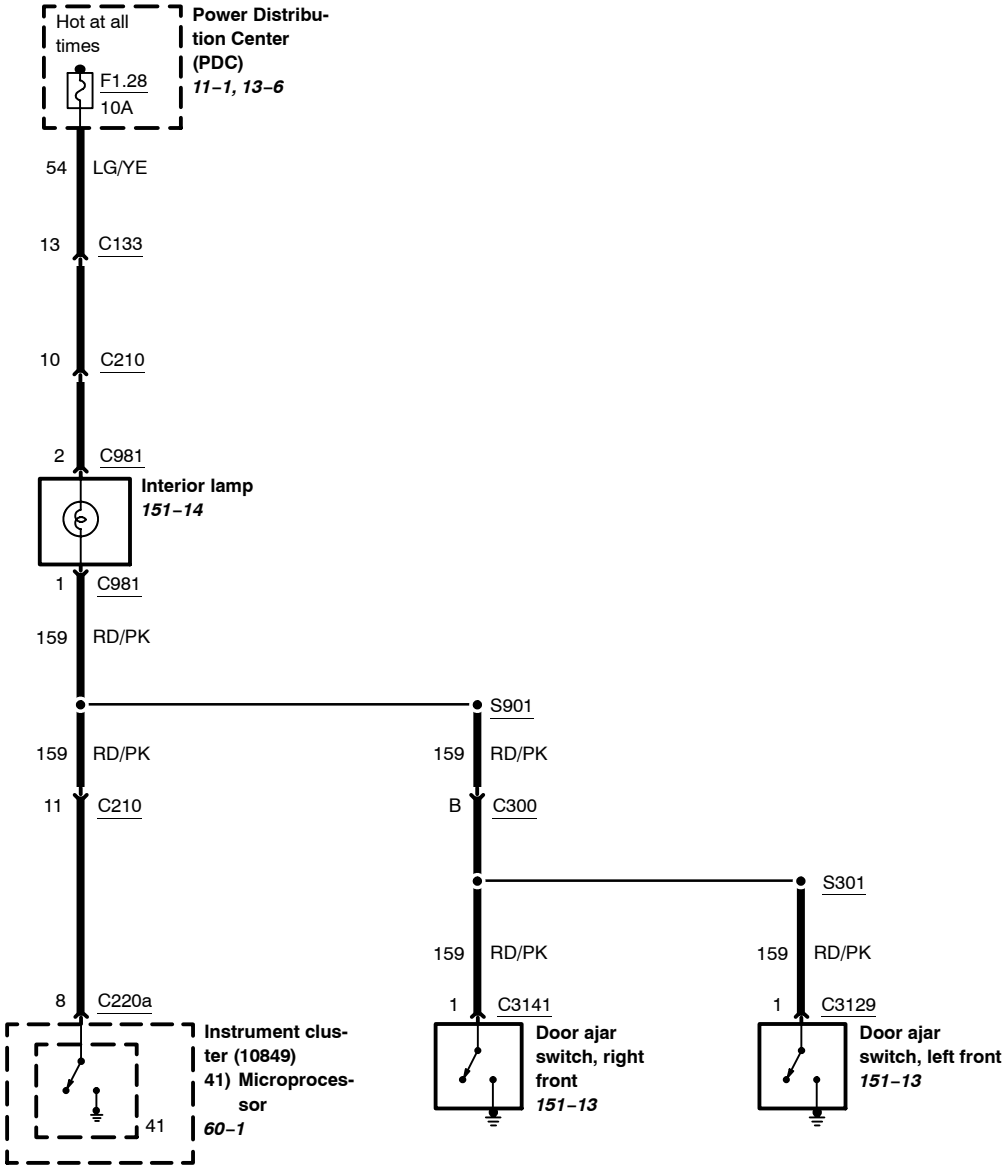

92–2
Parking, Rear and License Lamps
14 BN
C C2298
VPWR
PWM OUT
Illumination dimmer switch
151–11
A C2298
19 LB/RD
19 LB/RD
19 LB/RD
A C2246
Ashtray illumination lamp
151–9
B C2246
57 BK
S204
See page 10–2
G100
19 LB/RD
A C2177
Speed control Set/Resume switch
31–2
G C2177
57 BK
S204
See page 10–2
G100
19 LB/RD
6 C2178
Speed control On/Off switch
31–2
7 C2178
57 BK
S207
See page 10–4
G100
S224
19 LB/RD
8 C2039
Hazard flasher switch
90–1
19 LB/RD
7 C220a
PWM IN
41
Instrument cluster (10849)
41) Microprocessor
60–1
19 LB/RD
A C2014
Ashtray illumination lamp
151–11
B C2014
57 BK
S204
See page 10–2
G100
19 LB/RD
1 C294c
Function selector switch assembly (19B888)
54–1
2 C294c
57 BK
S204
See page 10–2
G100
19 LB/RD
6 C294a
Function selector switch assembly (19B888)
54–2
1 C294a
57 BK
S202
See page 10–1
G100
S225
19 LB/RD
6 C210
H C300
E C3245
Floor shifter
29–3
F C3245
57 BK
S300
See page 10–3
G100

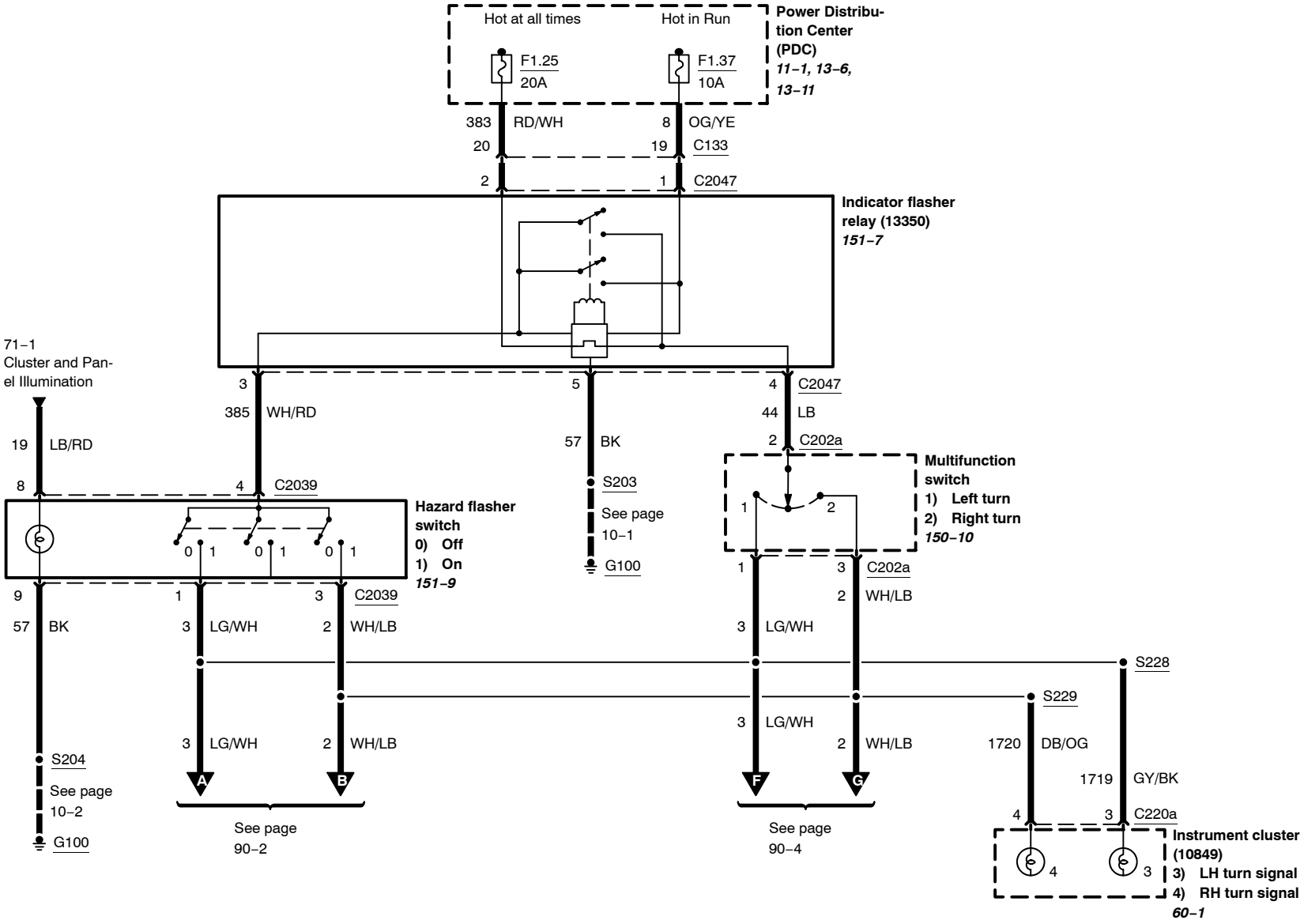

Hot at all times
Hot at all times
F1.7
25A
F1.13
20A
Power Distribution Center (PDC)
11–1, 13–3, 13–8
1672 DB
1522 LG
18 C110
6 C250
Ignition switch (11572)
0) Off
1) Acc
2) Run
3) Start
4) Lock
13–8
5 C250
See page 13–11
S124
298 VT/OG
30 85 C1491
Windshield wiper relay
Power Distribution Center (PDC)
11–1, 151–22
87 86 C1491
1671 RD
57 BK
9 C133
S104
See page 10–6
1671 RD
G105
A
See this page
See this page
A
1671 RD
1671 RD
S223
1671 RD
3 C202b
Multifunction switch
0) Off
1) Intermittent wipe
2) Low
3) High
4) Windshield washer
5) One–touch wipe
151–10
5 2 6 4 1 C202b
57 BK
63 RD
1675 BK/PK
1674 DB/OG
941 BK/WH
S202
See page 10–1
G100
B C137
Windshield washer pump motor (17618)
151–8
A C137
57 BK
S203
See page 10–1
G104
D C A B C125
Windshield wiper motor (17508)
151–8

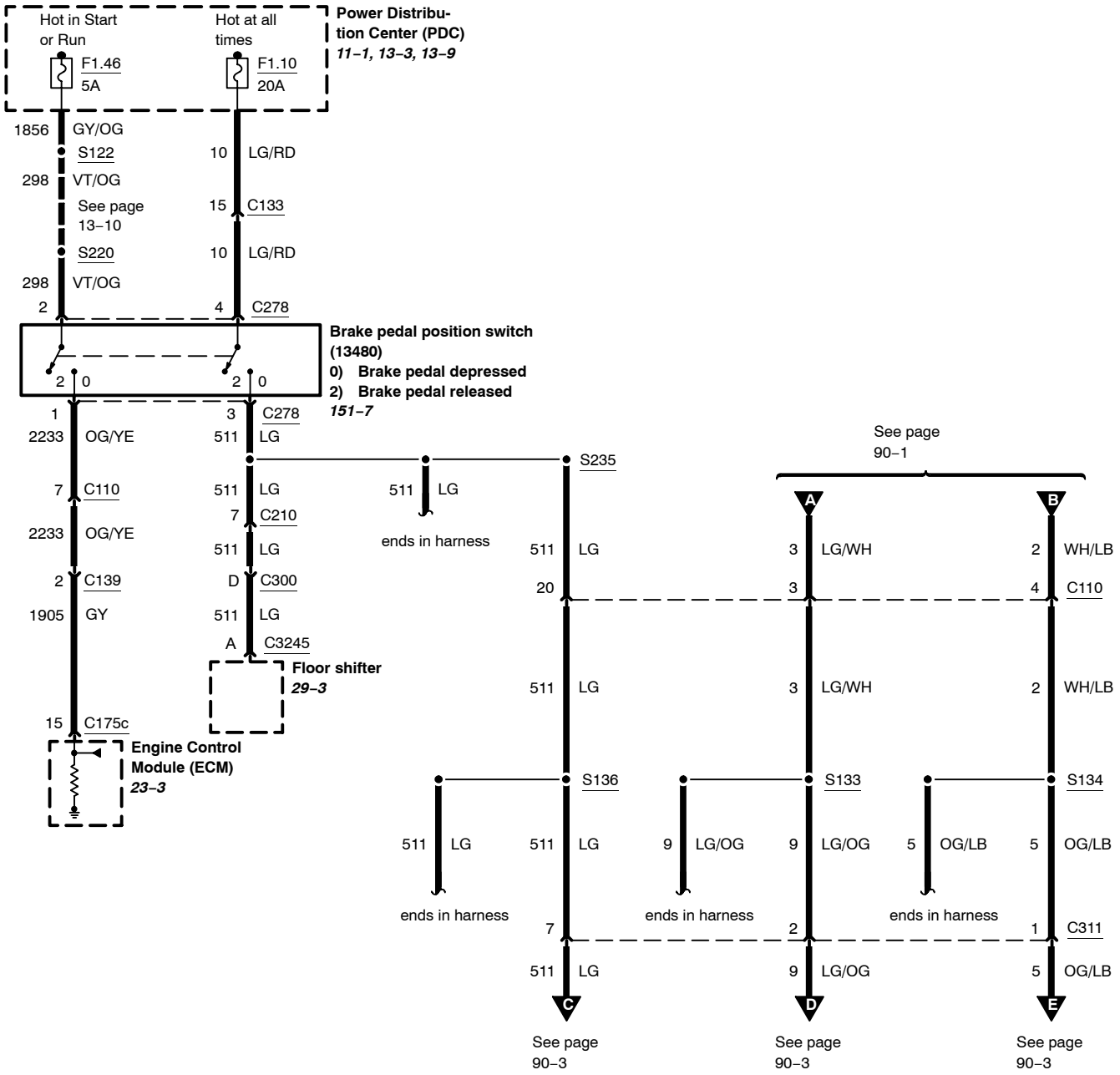

Hot at all times
F1.5
30A
Power Distribution Center (PDC)
11–1, 13–2
1709 BN
11 C133
S214
1709 BN
1709 BN
1 3 C2129
Headlamp relay
Auxiliary relay box 1
11–3, 151–9
2 5 C2129
1708 LG/BK
1732 BK/YE
S249
1732 BK/YE
1732 BK/YE
1 3 C2242
High beam relay
Auxiliary relay box 1
11–3, 151–9
2 4 5 C2242
92–1
Parking, Rear and License Lamps
S234
1032 WH/BK
1708 LG/BK
196 DB/OG
1708 LG/BK
13 RD/BK
12 LG/BK
14 13 8 7 C202a
A
B
See page 85–2
Multifunction switch
0) Off
1) Park
2) Head
3) Flash–to–pass
4) High
5) Low
150–10
16 C202a
57 BK
S202
See page 10–1
G100

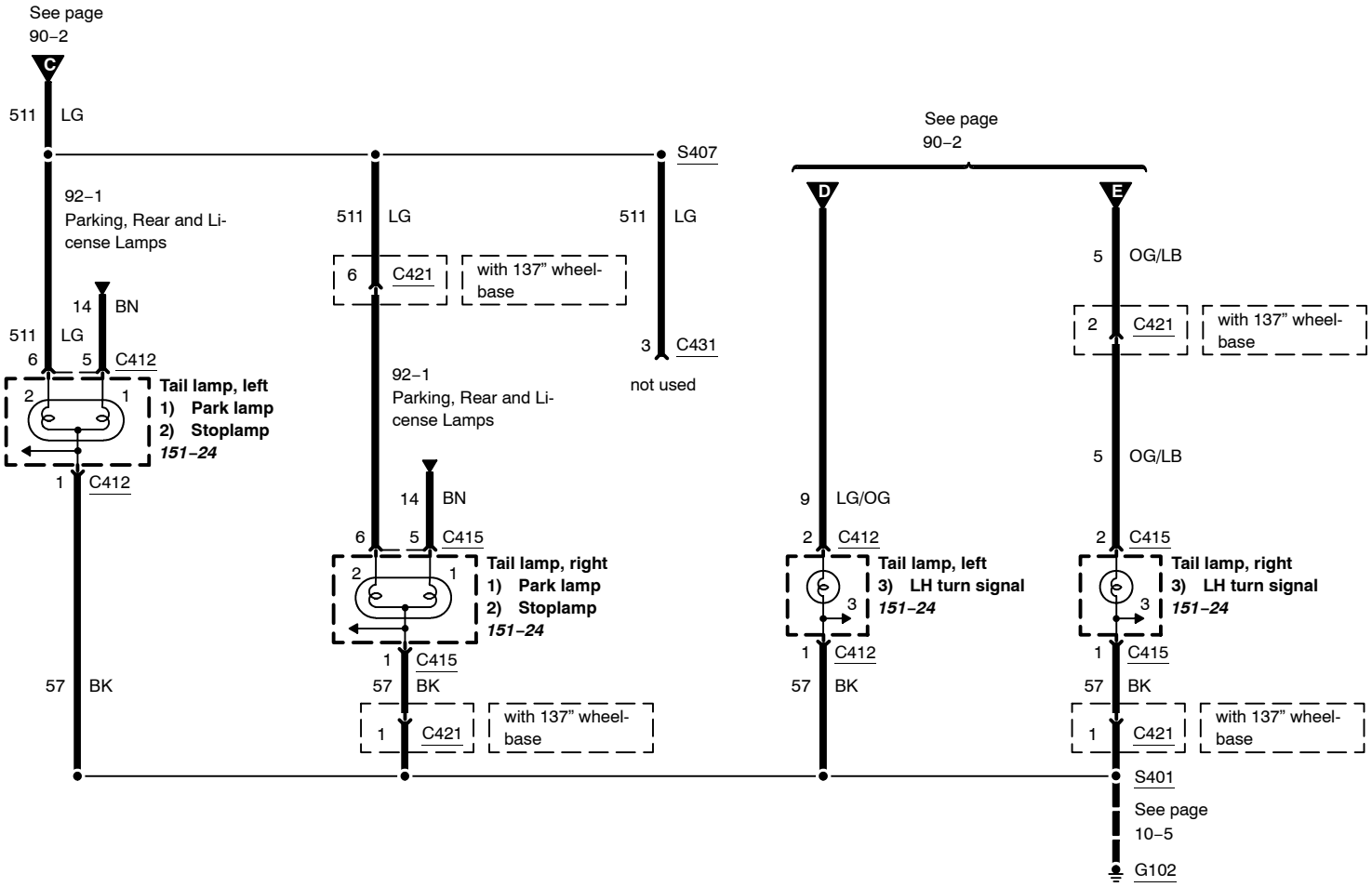

See page
85–1
PWR
Daytime Running Lamps (DRL) module
97–2
B
C1030
B
A
12 LG/BK
13 RD/BK
12 LG/BK
12 LG/BK
13 RD/BK
S237
S230
13 RD/BK
13 RD/BK
12 LG/BK
1718 RD/PK
C
A
C1041
C
A
C1021
C
C1030
11
C220a
Headlamp, right (13008)
1) Low beam
3) High beam
151–6
Headlamp, left (13008)
1) Low beam
3) High beam
151–6
Daytime Running Lamps (DRL) module
97–2
Instrument cluster (10849)
60–1
1
3
1
3
B
C1041
B
C1021
57 BK
57 BK
S202
S207
See page
10–1
See page
10–4
G100
G101

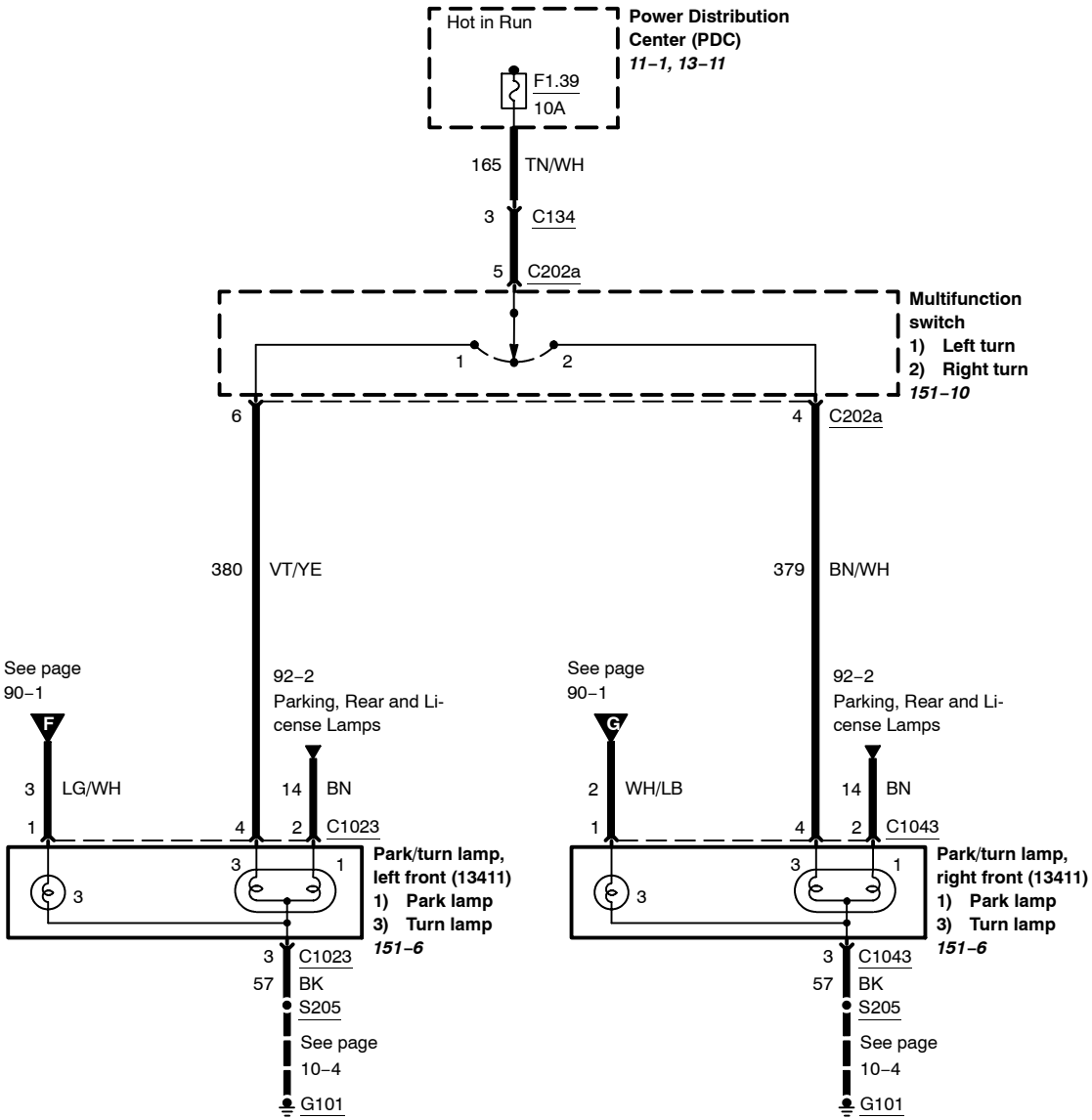

Daytime Running Lamps (DRL) module
97–2
PWR
A
C1030
1669
OG/LG
10
C202a
Hot at all times
F1.17
15A
Power Distribution Center (PDC)
11–1, 13–4
Multifunction switch
0) Off
1) On
1
0
11
C202a
477
LB/BK
21
C133
475
WH/LG
477
LB/BK
3
1
C1007
Fog lamp relay
Power Distribution Center (PDC)
11–1, 151–22
5
2
C1007
1721
LB/BK
57
BK
10
C133
S104
See page 10–6
1721
LB/BK
G105
S236
1721
LB/BK
1721
LB/BK
1
C162
1
C152
Fog lamp, right front (15200)
151–6
Fog lamp, left front (15200)
151–6
2
C162
2
C152
57
BK
57
BK
S205
See page 10–4
G101

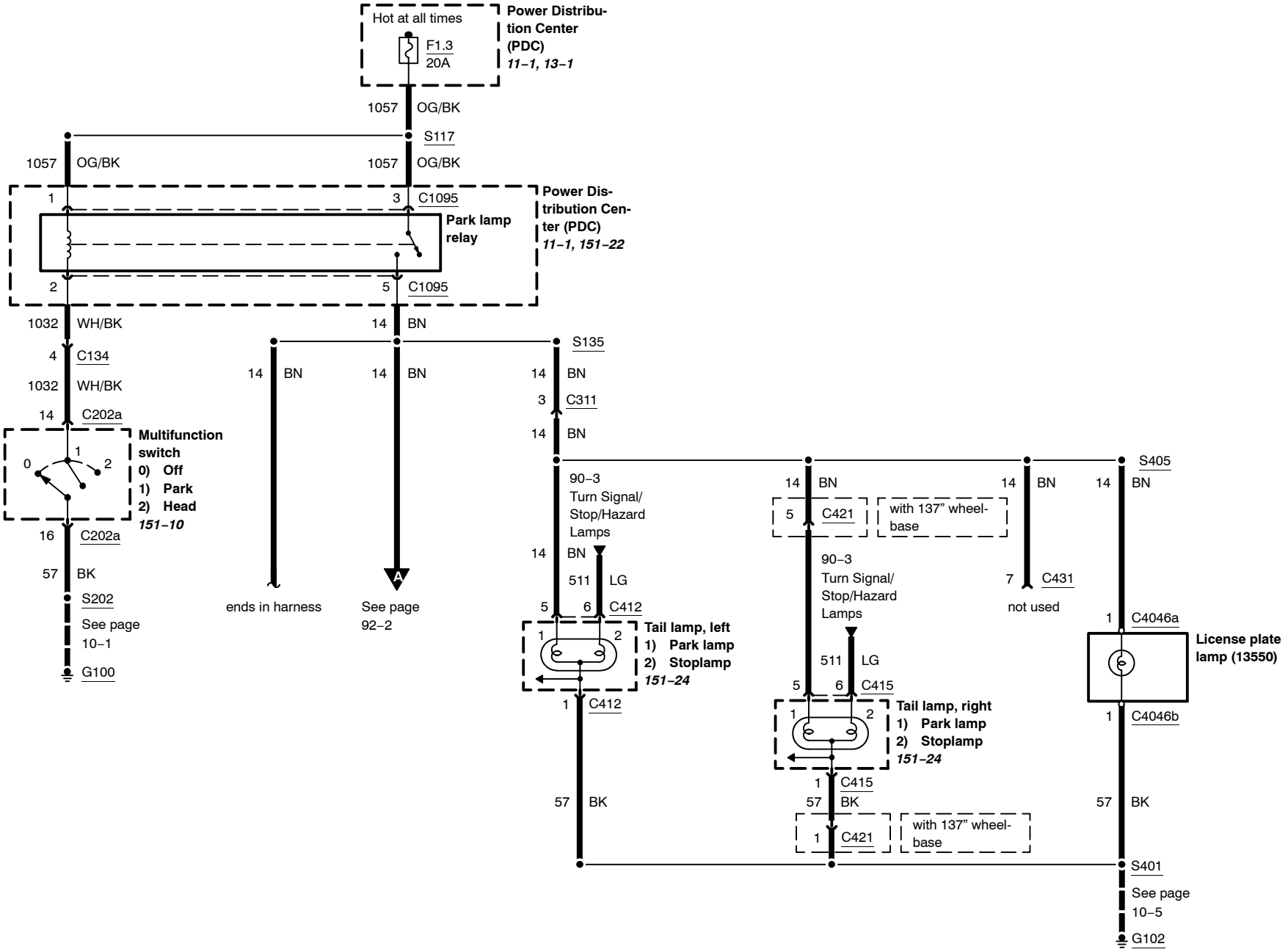

Hot at all times
F1.28
10A
Power Distribution Center (PDC)
11–1, 13–6
54 LG/YE
13 C133
10 C210
2 C981
Interior lamp
151–14
1 C981
159 RD/PK
S901
159 RD/PK
11 C210
159 RD/PK
B C300
S301
159 RD/PK
1 C3141
Door ajar switch, right front
151–13
159 RD/PK
1 C3129
Door ajar switch, left front
151–13
8 C220a
41
Instrument cluster (10849)
41) Microprocessor
60–1

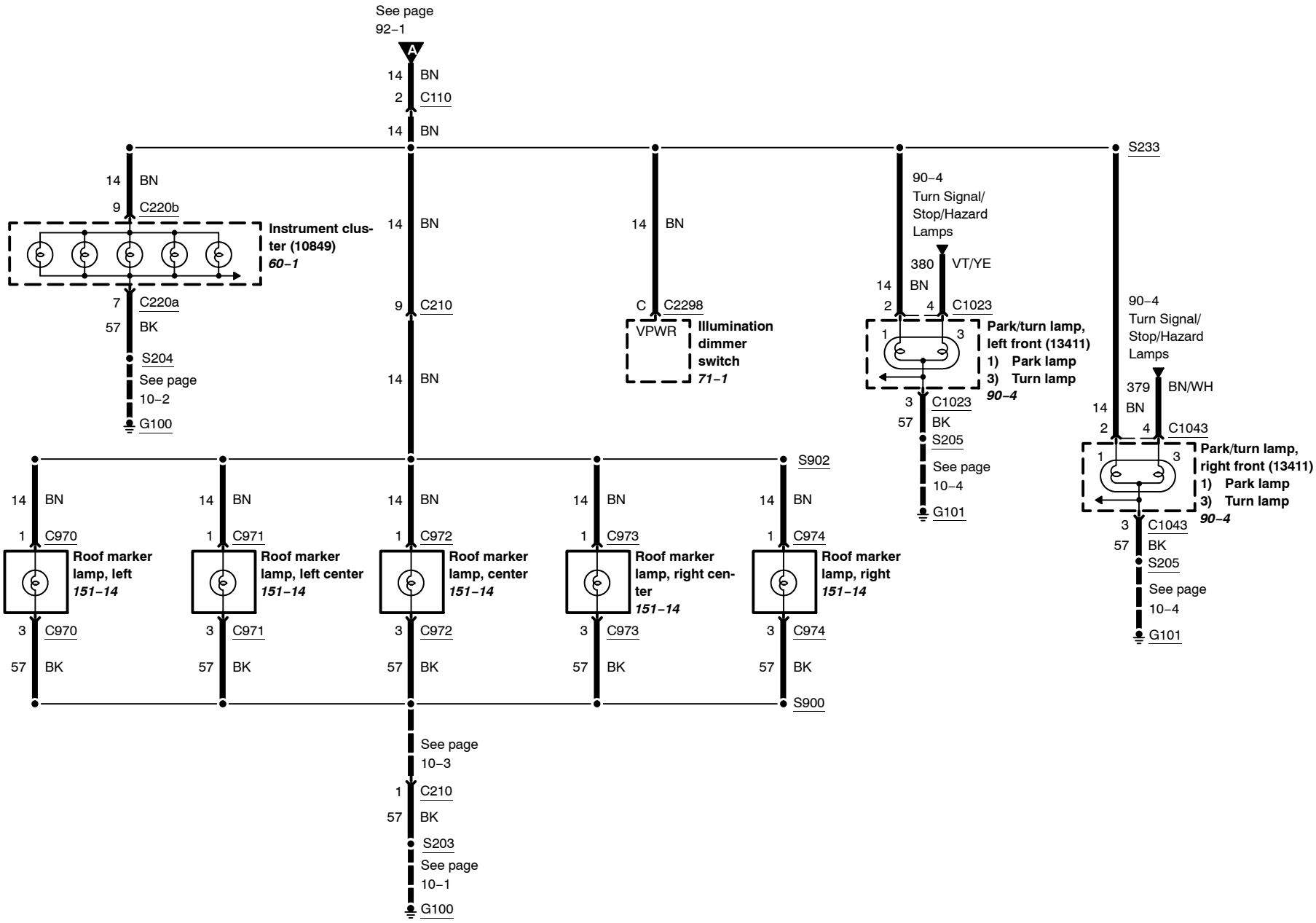

Hot at all times
Hot in Run
F1.25
20A
F1.37
10A
Power Distribution Center (PDC)
11–1, 13–6, 13–11
383 RD/WH
8 OG/YE
20
19 C133
2
1 C2047
Indicator flasher relay (13350)
151–7
71–1
Cluster and Panel Illumination
3
385 WH/RD
5
57 BK
4 C2047
44 LB
2 C202a
19 LB/RD
8
4 C2039
Hazard flasher switch
0) Off
1) On
151–9
0 1 0 1 0 1
S203
See page 10–1
G100
Multifunction switch
1) Left turn
2) Right turn
150–10
1 2
9
57 BK
1
3 LG/WH
3
2 WH/LB
C2039
1
3 C202a
2 WH/LB
3 LG/WH
S228
S229
3 LG/WH
2 WH/LB
1720 DB/OG
1719 GY/BK
4
3 C220a
S204
See page 10–2
G100
A
B
See page 90–2
F
G
See page 90–4
Instrument cluster (10849)
3) LH turn signal
4) RH turn signal
60–1
4
3

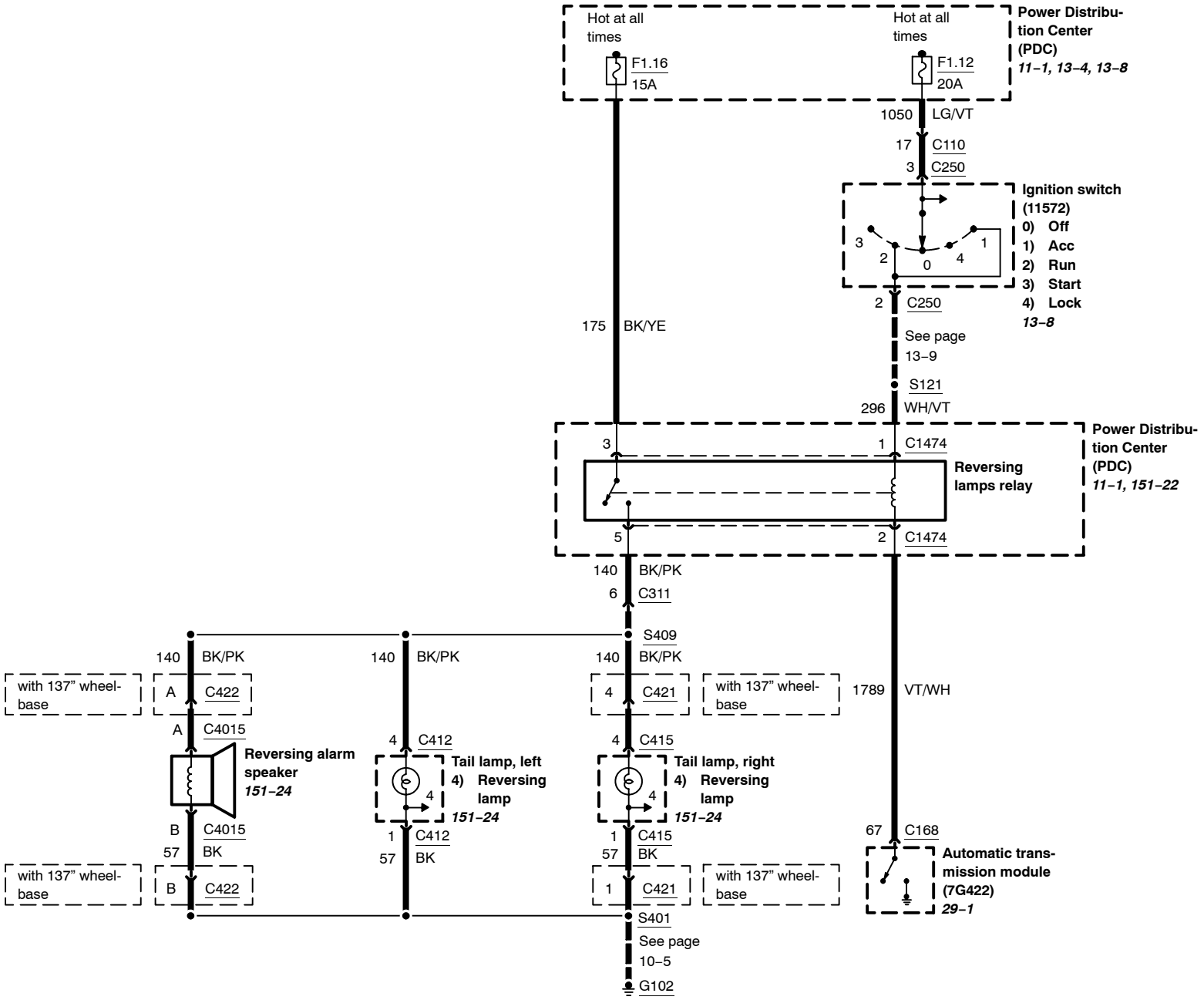

Hot in Start or Run
Hot at all times
F1.46
5A
F1.10
20A
Power Distribution Center (PDC)
11–1, 13–3, 13–9
1856 GY/OG
S122
298 VT/OG
See page 13–10
S220
298 VT/OG
2
10 LG/RD
15 C133
10 LG/RD
4 C278
Brake pedal position switch (13480)
0) Brake pedal depressed
2) Brake pedal released
151–7
1
2233 OG/YE
7 C110
2233 OG/YE
2 C139
1905 GY
15 C175c
Engine Control Module (ECM)
23–3
3
511 LG
C278
511 LG
7 C210
511 LG
D C300
511 LG
A C3245
Floor shifter
29–3
511 LG
ends in harness
S235
511 LG
20
511 LG
S136
511 LG
ends in harness
See page 90–1
A
B
3 LG/WH
3
2 WH/LB
4 C110
3 LG/WH
2 WH/LB
S133
9 LG/OG
9 LG/OG
ends in harness
S134
5 OG/LB
5 OG/LB
ends in harness
7
2
1 C311
511 LG
9 LG/OG
5 OG/LB
C
D
E
See page 90–3
See page 90–3
See page 90–3

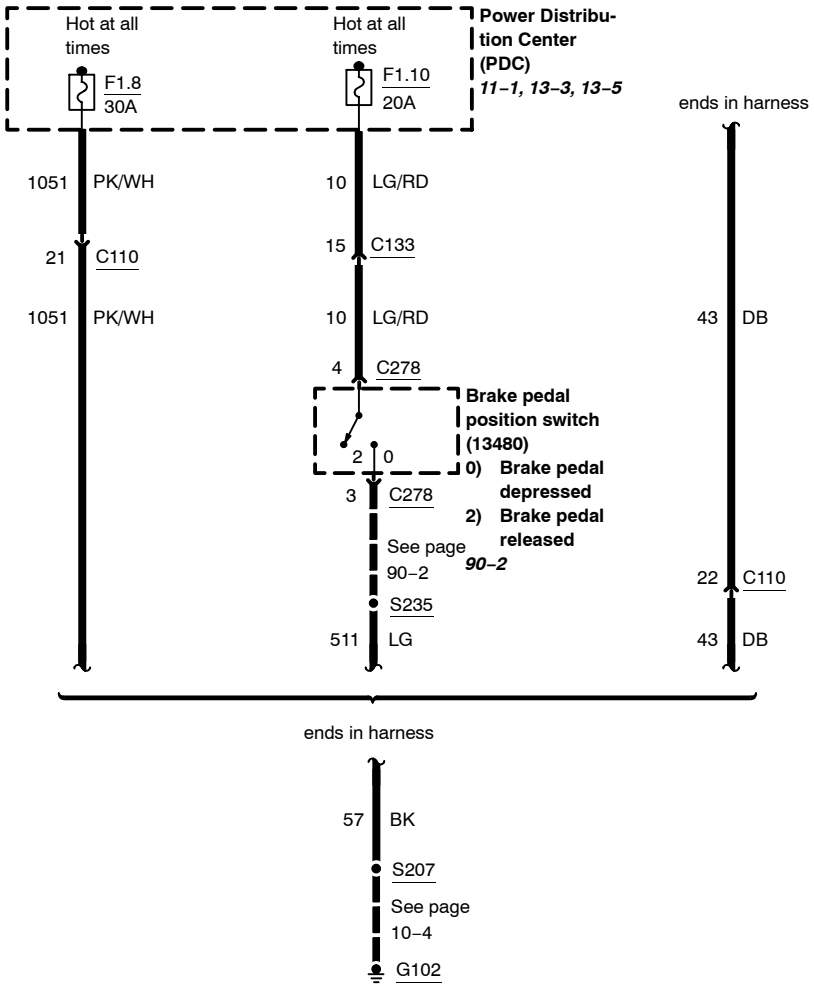

See page 90–2
C
511 LG
92–1 Parking, Rear and License Lamps
14 BN
511 LG
6 5 C412
2 1
Tail lamp, left
1) Park lamp
2) Stoplamp
151–24
1 C412
57 BK
511 LG
6 C421
with 137" wheelbase
92–1 Parking, Rear and License Lamps
14 BN
6 5 C415
2 1
Tail lamp, right
1) Park lamp
2) Stoplamp
151–24
1 C415
57 BK
1 C421
with 137" wheelbase
S407
511 LG
3 C431
not used
See page 90–2
D
9 LG/OG
2 C412
Tail lamp, left
3) LH turn signal
151–24
3
1 C412
57 BK
E
5 OG/LB
2 C421
with 137" wheelbase
5 OG/LB
2 C415
Tail lamp, right
3) LH turn signal
151–24
3
1 C415
57 BK
1 C421
with 137" wheelbase
S401
See page 10–5
G102

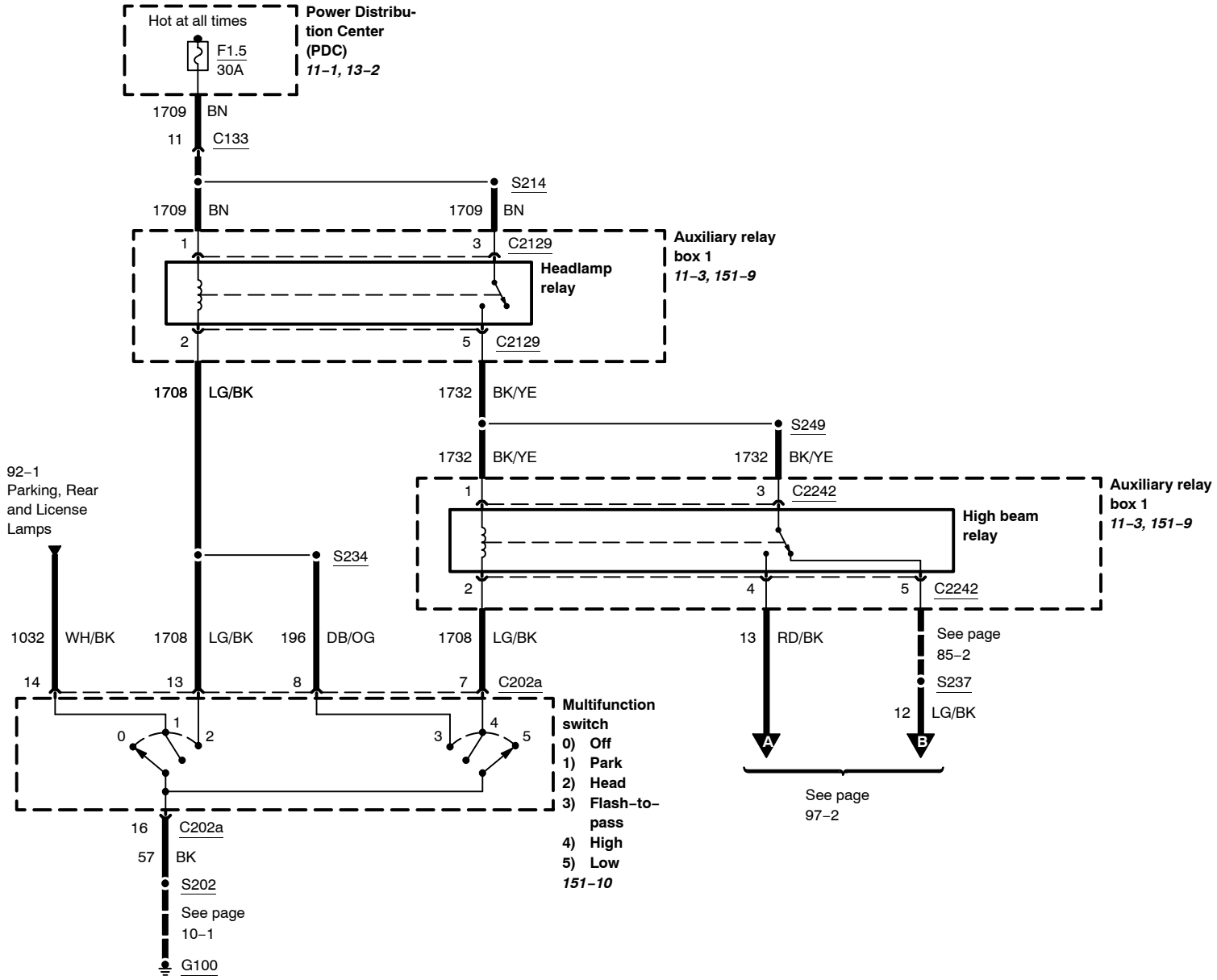

Hot in Run
Power Distribution Center (PDC) 11–1, 13–11
F1.39
10A
165 TN/WH
3 C134
5 C202a
Multifunction switch
1) Left turn
2) Right turn
151–10
1
2
6
4 C202a
380 VT/YE
379 BN/WH
See page 90–1
92–2 Parking, Rear and License Lamps
F
3 LG/WH
14 BN
1
4
2 C1023
Park/turn lamp, left front (13411)
1) Park lamp
3) Turn lamp
151–6
3
1
3
3 C1023
57 BK
S205
See page 10–4
G101
See page 90–1
92–2 Parking, Rear and License Lamps
G
2 WH/LB
14 BN
1
4
2 C1043
Park/turn lamp, right front (13411)
1) Park lamp
3) Turn lamp
151–6
3
1
3
3 C1043
57 BK
S205
See page 10–4
G101

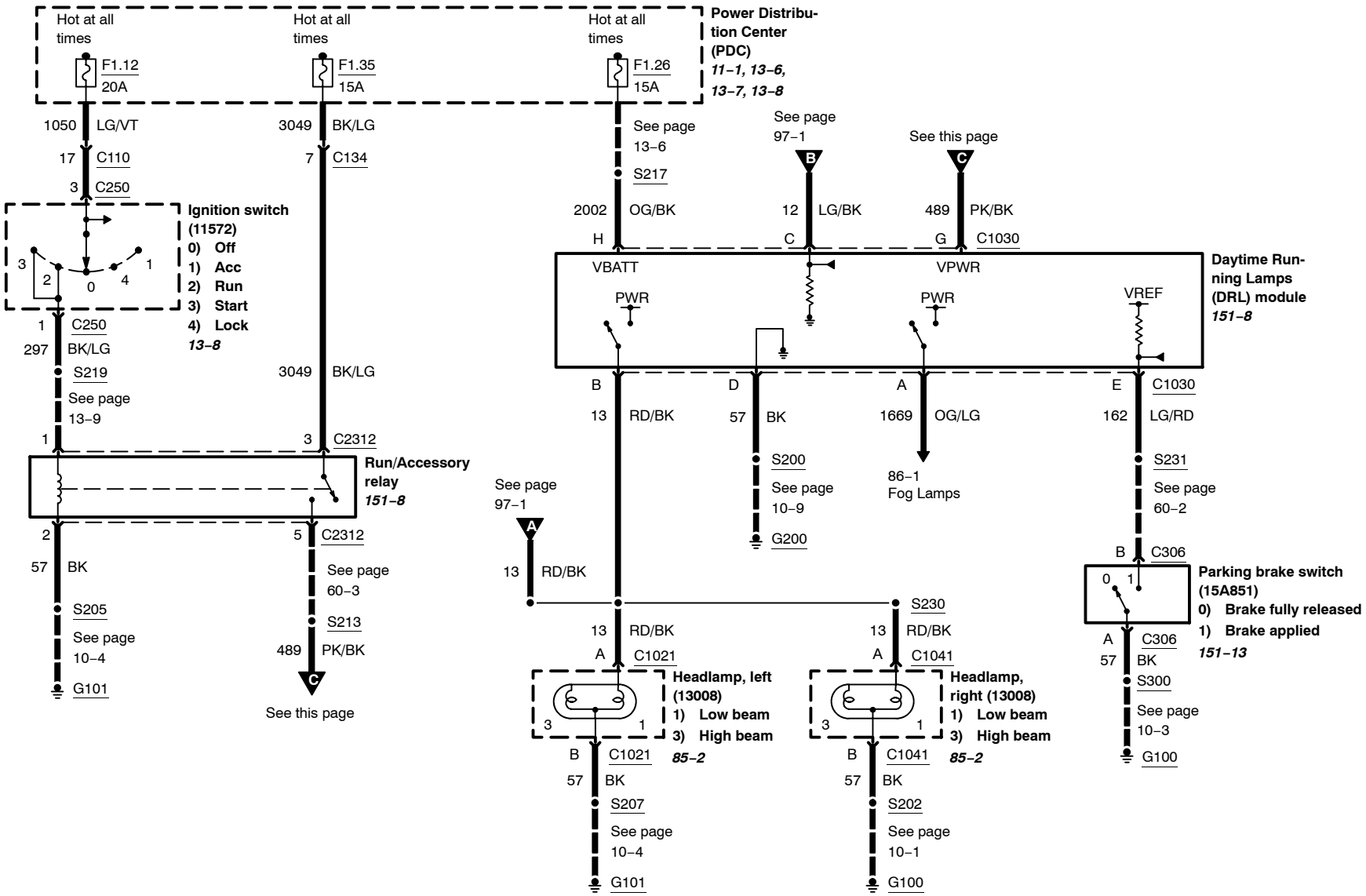

Hot at all times
F1.3
20A
Power Distribution Center (PDC)
11–1, 13–1
1057 OG/BK
S117
1057 OG/BK
1057 OG/BK
1
3 C1095
Park lamp relay
Power Distribution Center (PDC)
11–1, 151–22
2
5 C1095
1032 WH/BK
14 BN
4 C134
1032 WH/BK
14 C202a
Multifunction switch
0) Off
1) Park
2) Head
151–10
16 C202a
57 BK
S202
See page 10–1
G100
14 BN
14 BN
ends in harness
See page 92–2
S135
14 BN
3 C311
14 BN
90–3 Turn Signal/ Stop/Hazard Lamps
14 BN
511 LG
5 6 C412
Tail lamp, left
1) Park lamp
2) Stoplamp
151–24
1 C412
57 BK
14 BN
5 C421
with 137" wheelbase
90–3 Turn Signal/ Stop/Hazard Lamps
511 LG
5 6 C415
Tail lamp, right
1) Park lamp
2) Stoplamp
151–24
1 C415
57 BK
1 C421
with 137" wheelbase
14 BN
7 C431
not used
S405
14 BN
1 C4046a
License plate lamp (13550)
1 C4046b
57 BK
S401
See page 10–5
G102

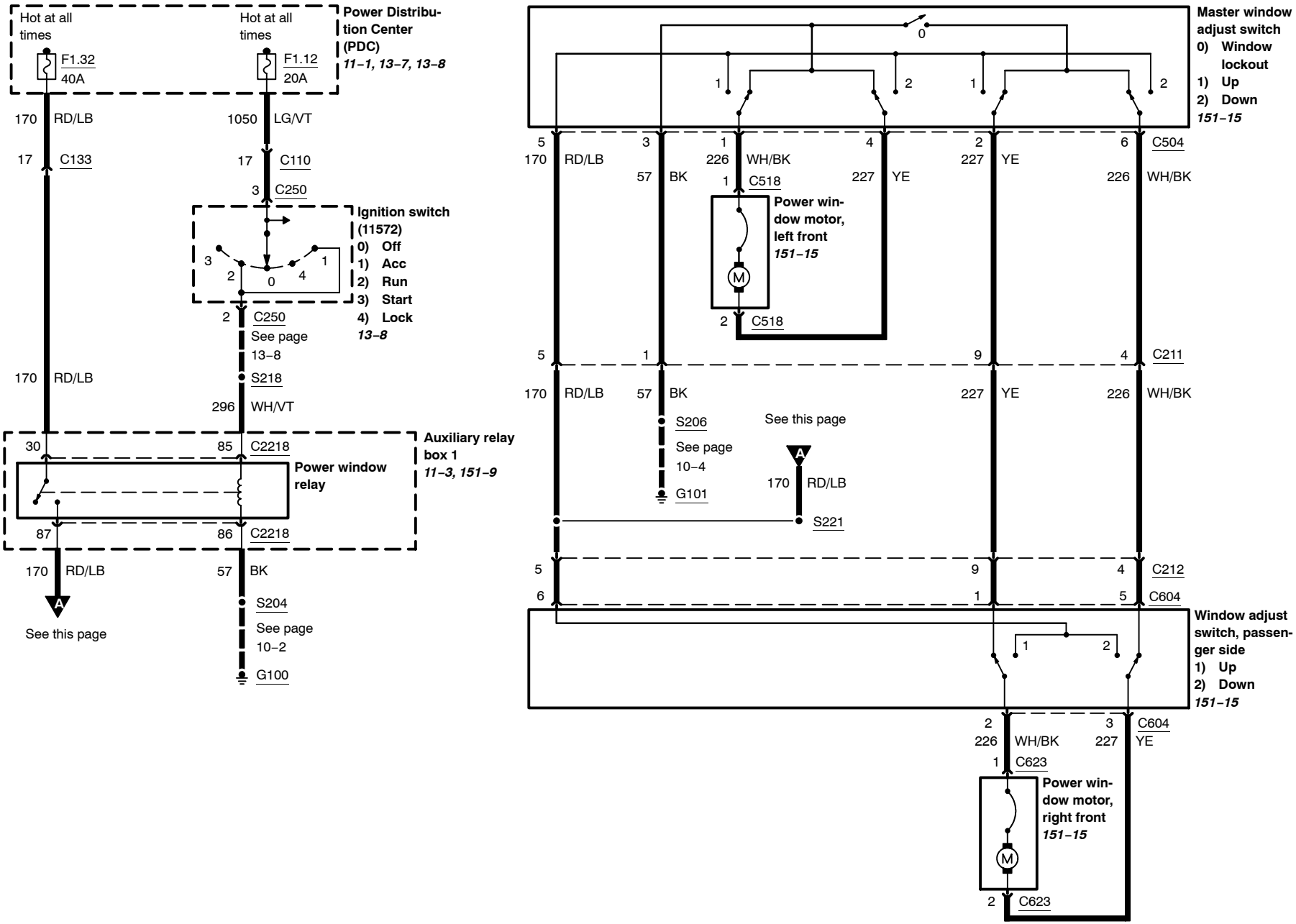

See page 92–1
A
14 BN
2 C110
14 BN
14 BN
9 C220b
Instrument cluster (10849) 60–1
7 C220a
57 BK
S204
See page 10–2
G100
14 BN
9 C210
14 BN
14 BN
C C2298
VPWR
Illumination dimmer switch 71–1
S233
90–4 Turn Signal/ Stop/Hazard Lamps
380 VT/YE
14 BN
2 4 C1023
1 3
Park/turn lamp, left front (13411)
1) Park lamp
3) Turn lamp
90–4
3 C1023
57 BK
S205
See page 10–4
G101
90–4 Turn Signal/ Stop/Hazard Lamps
379 BN/WH
14 BN
2 4 C1043
1 3
Park/turn lamp, right front (13411)
1) Park lamp
3) Turn lamp
90–4
3 C1043
57 BK
S205
See page 10–4
G101
S902
14 BN
1 C970
Roof marker lamp, left 151–14
3 C970
57 BK
14 BN
1 C971
Roof marker lamp, left center 151–14
3 C971
57 BK
14 BN
1 C972
Roof marker lamp, center 151–14
3 C972
57 BK
14 BN
1 C973
Roof marker lamp, right center 151–14
3 C973
57 BK
14 BN
1 C974
Roof marker lamp, right 151–14
3 C974
57 BK
S900
See page 10–3
1 C210
57 BK
S203
See page 10–1
G100

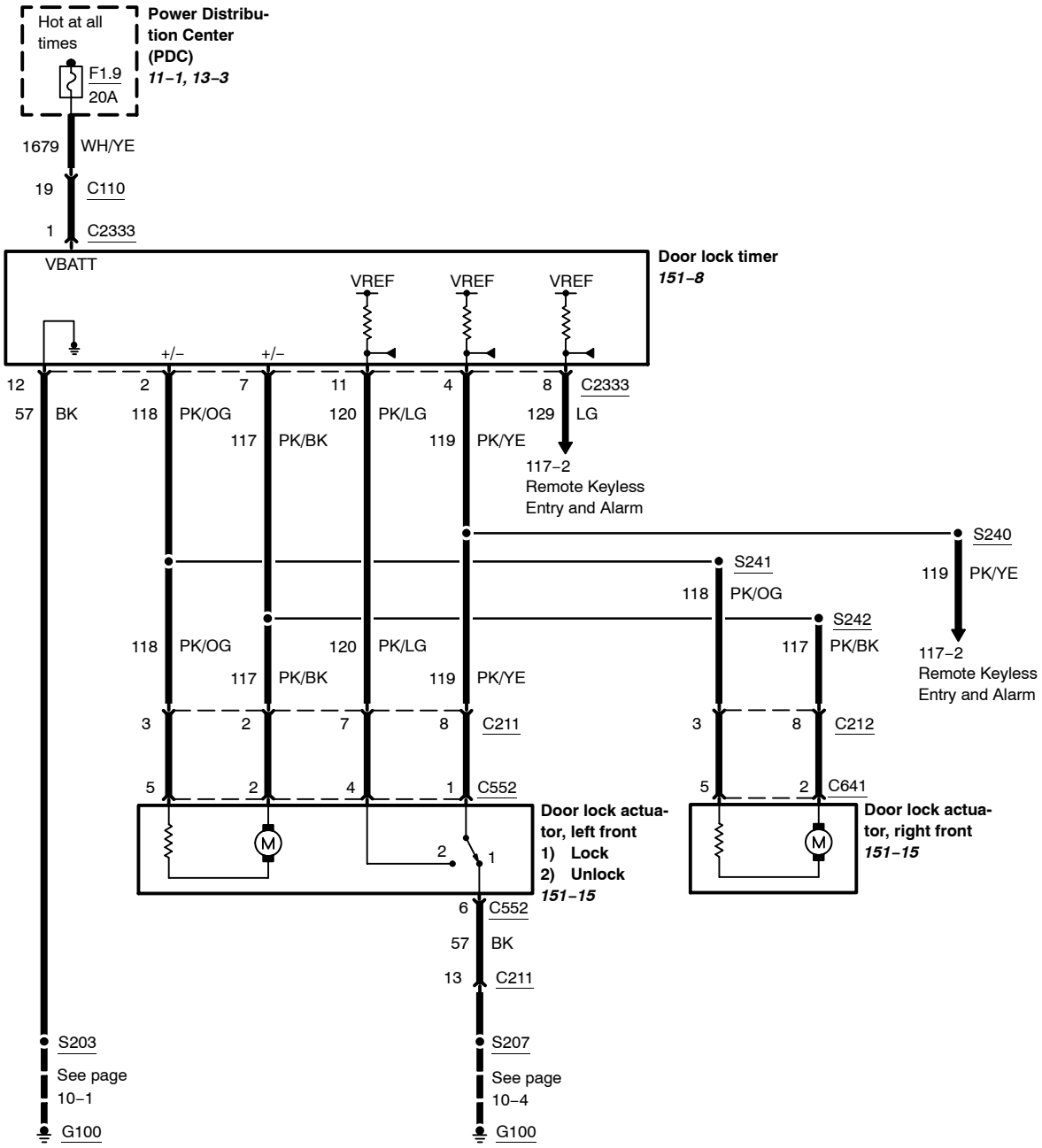

Hot at all times
F1.16
15A
Hot at all times
F1.12
20A
Power Distribution Center (PDC)
11–1, 13–4, 13–8
1050 LG/VT
17 C110
3 C250
Ignition switch (11572)
0) Off
1) Acc
2) Run
3) Start
4) Lock
13–8
2 C250
175 BK/YE
See page 13–9
S121
296 WH/VT
3
1 C1474
Reversing lamps relay
Power Distribution Center (PDC)
11–1, 151–22
5
2 C1474
140 BK/PK
6 C311
S409
140 BK/PK
with 137" wheelbase
A C422
A C4015
Reversing alarm speaker
151–24
B C4015
57 BK
with 137" wheelbase
B C422
140 BK/PK
4 C412
Tail lamp, left
4) Reversing lamp
151–24
1 C412
57 BK
140 BK/PK
4 C421
with 137" wheelbase
4 C415
Tail lamp, right
4) Reversing lamp
151–24
1 C415
57 BK
1 C421
with 137" wheelbase
1789 VT/WH
67 C168
Automatic transmission module (7G422)
29–1
S401
See page 10–5
G102

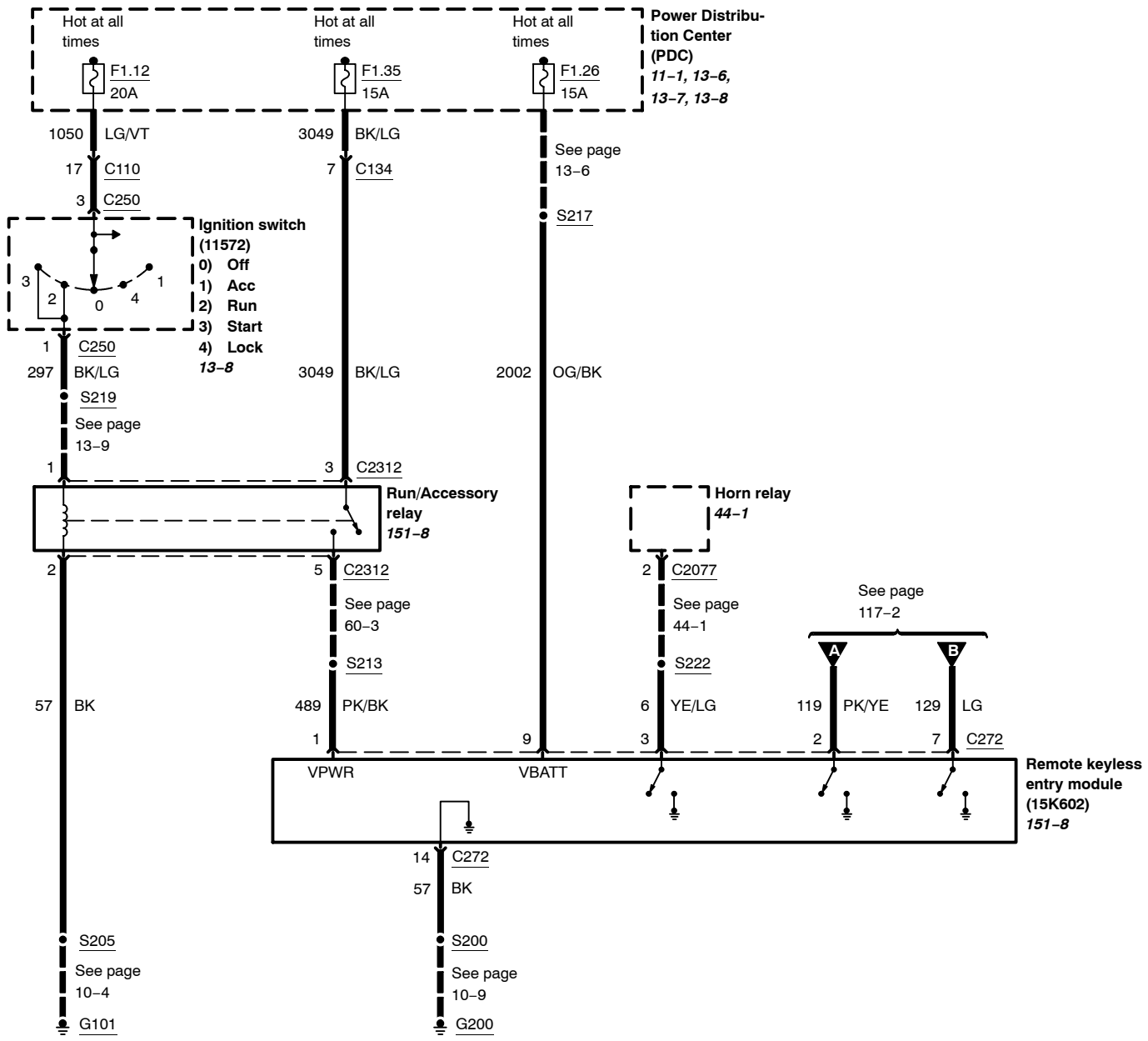

Hot at all times
F1.8
30A
Hot at all times
F1.10
20A
Power Distribution Center (PDC)
11–1, 13–3, 13–5
ends in harness
1051 PK/WH
21 C110
1051 PK/WH
10 LG/RD
15 C133
10 LG/RD
4 C278
Brake pedal position switch (13480)
2 0
0) Brake pedal depressed
2) Brake pedal released
3 C278
See page 90–2
S235
511 LG
43 DB
22 C110
43 DB
ends in harness
57 BK
S207
See page 10–4
G102

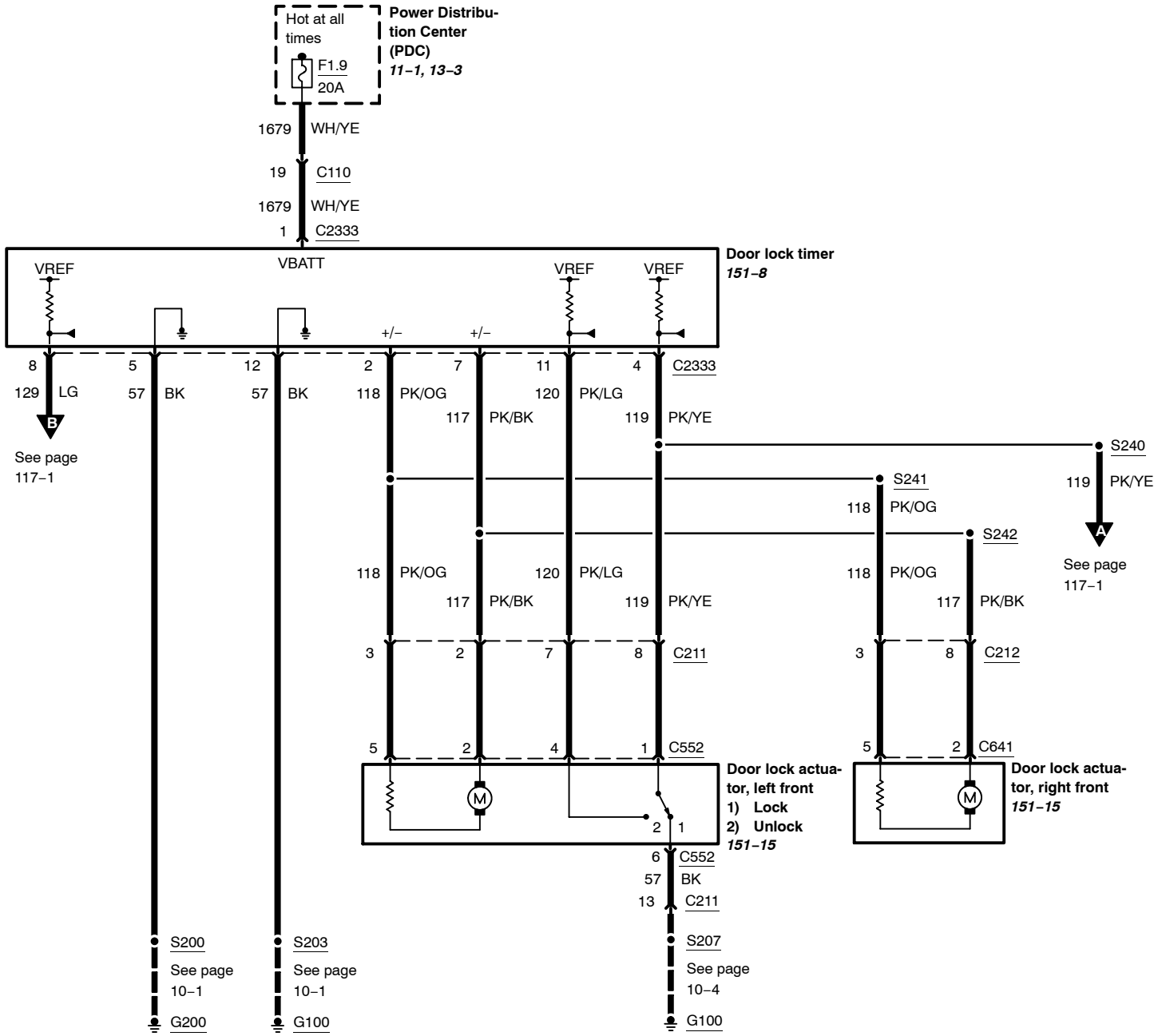

Hot at all times
F1.5
30A
Power Distribution Center (PDC)
11–1, 13–2
1709 BN
11 C133
S214
1709 BN
1709 BN
1 3 C2129
Headlamp relay
Auxiliary relay box 1
11–3, 151–9
2 5 C2129
1708 LG/BK
1732 BK/YE
S249
1732 BK/YE
1732 BK/YE
1 3 C2242
High beam relay
Auxiliary relay box 1
11–3, 151–9
2 4 5 C2242
92–1
Parking, Rear and License Lamps
S234
1032 WH/BK
1708 LG/BK
196 DB/OG
1708 LG/BK
13 RD/BK
See page 85–2
S237
12 LG/BK
14 13 8 7 C202a
Multifunction switch
0) Off
1) Park
2) Head
3) Flash–to–pass
4) High
5) Low
151–10
A
B
See page 97–2
16 C202a
57 BK
S202
See page 10–1
G100

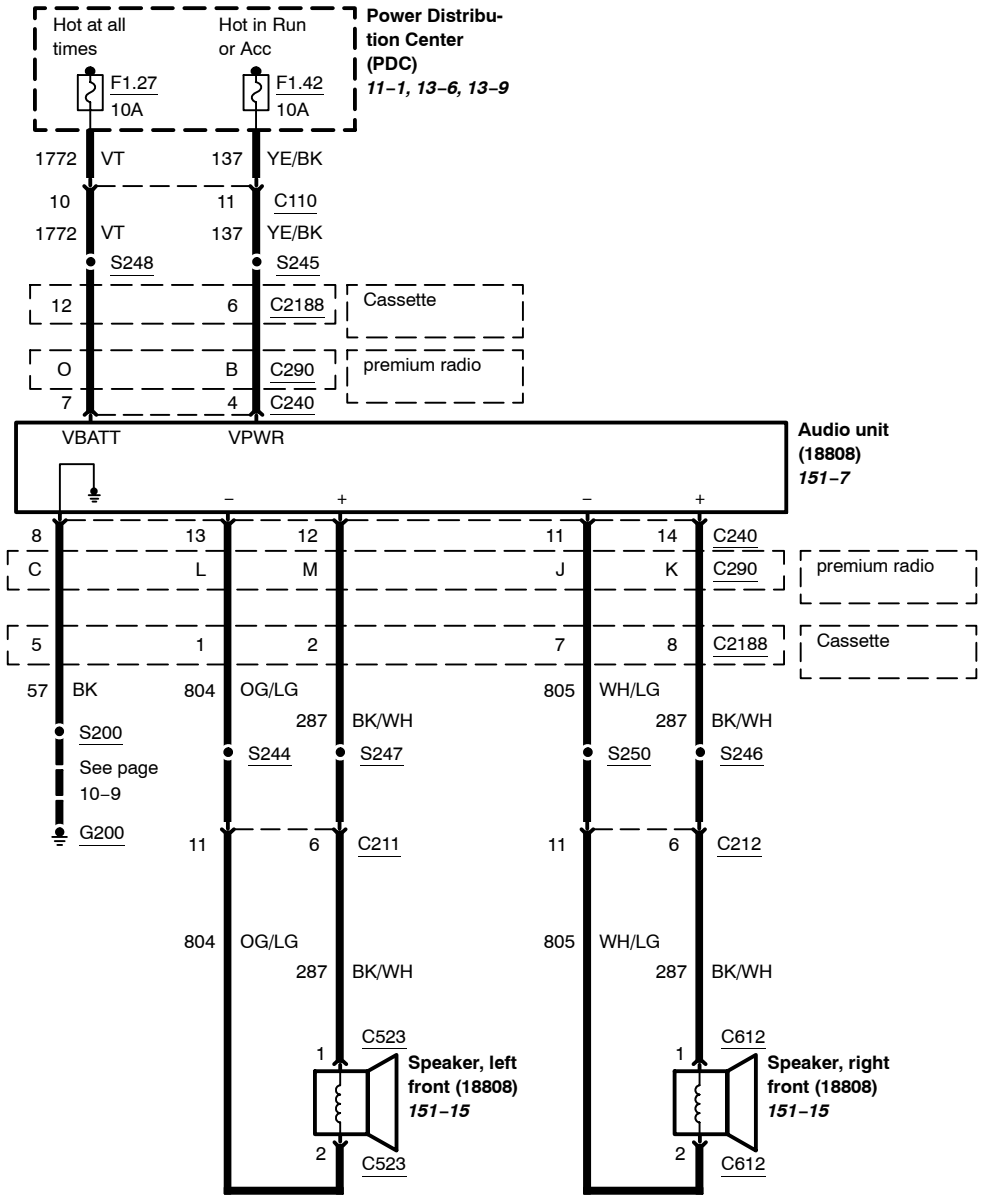

Hot at all times
F1.12
20A
Hot at all times
F1.35
15A
Hot at all times
F1.26
15A
Power Distribution Center (PDC)
11–1, 13–6, 13–7, 13–8
1050 LG/VT
17 C110
3 C250
3049 BK/LG
7 C134
See page 13–6
S217
See page 97–1
See this page
2002 OG/BK
12 LG/BK
489 PK/BK
H
C
G
C1030
Ignition switch (11572)
0) Off
1) Acc
2) Run
3) Start
4) Lock
13–8
VBATT
VPWR
Daytime Running Lamps (DRL) module
151–8
PWR
PWR
VREF
1
C250
297 BK/LG
S219
See page 13–9
3049 BK/LG
B
13 RD/BK
D
57 BK
A
1669 OG/LG
E
C1030
162 LG/RD
S231
See page 60–2
1
3
C2312
Run/Accessory relay
151–8
S200
See page 10–9
G200
86–1
Fog Lamps
See page 97–1
A
13 RD/BK
2
57 BK
S205
See page 10–4
G101
5
C2312
See page 60–3
S213
489 PK/BK
C
See this page
B
C306
0 1
Parking brake switch (15A851)
0) Brake fully released
1) Brake applied
151–13
A
C306
57 BK
S300
See page 10–3
G100
S230
13 RD/BK
A
C1021
13 RD/BK
A
C1041
3 1
Headlamp, left (13008)
1) Low beam
3) High beam
85–2
3 1
Headlamp, right (13008)
1) Low beam
3) High beam
85–2
B
C1021
57 BK
S207
See page 10–4
G101
B
C1041
57 BK
S202
See page 10–1
G100


Hot at all times
F1.32
40A
Hot at all times
F1.12
20A
Power Distribution Center (PDC)
11–1, 13–7, 13–8
170 RD/LB
17 C133
1050 LG/VT
17 C110
3 C250
Ignition switch (11572)
0) Off
1) Acc
2) Run
3) Start
4) Lock
13–8
2 C250
See page 13–8
170 RD/LB
S218
296 WH/VT
30 85 C2218
Power window relay
87 86 C2218
Auxiliary relay box 1
11–3, 151–9
170 RD/LB
57 BK
A
See this page
S204
See page 10–2
G100
Master window adjust switch
0) Window lockout
1) Up
2) Down
151–15
5 170 RD/LB
3 57 BK
1 226 WH/BK
4 227 YE
2 227 YE
6 226 WH/BK
C504
1 C518
Power window motor, left front
151–15
2 C518
5 1 9 4 C211
170 RD/LB 57 BK 227 YE 226 WH/BK
S206
See page 10–4
G101
See this page
A
170 RD/LB
S221
5 9 4 C212
6 1 5 C604
Window adjust switch, passenger side
1) Up
2) Down
151–15
2 226 WH/BK
3 227 YE
C604
1 C623
Power window motor, right front
151–15
2 C623

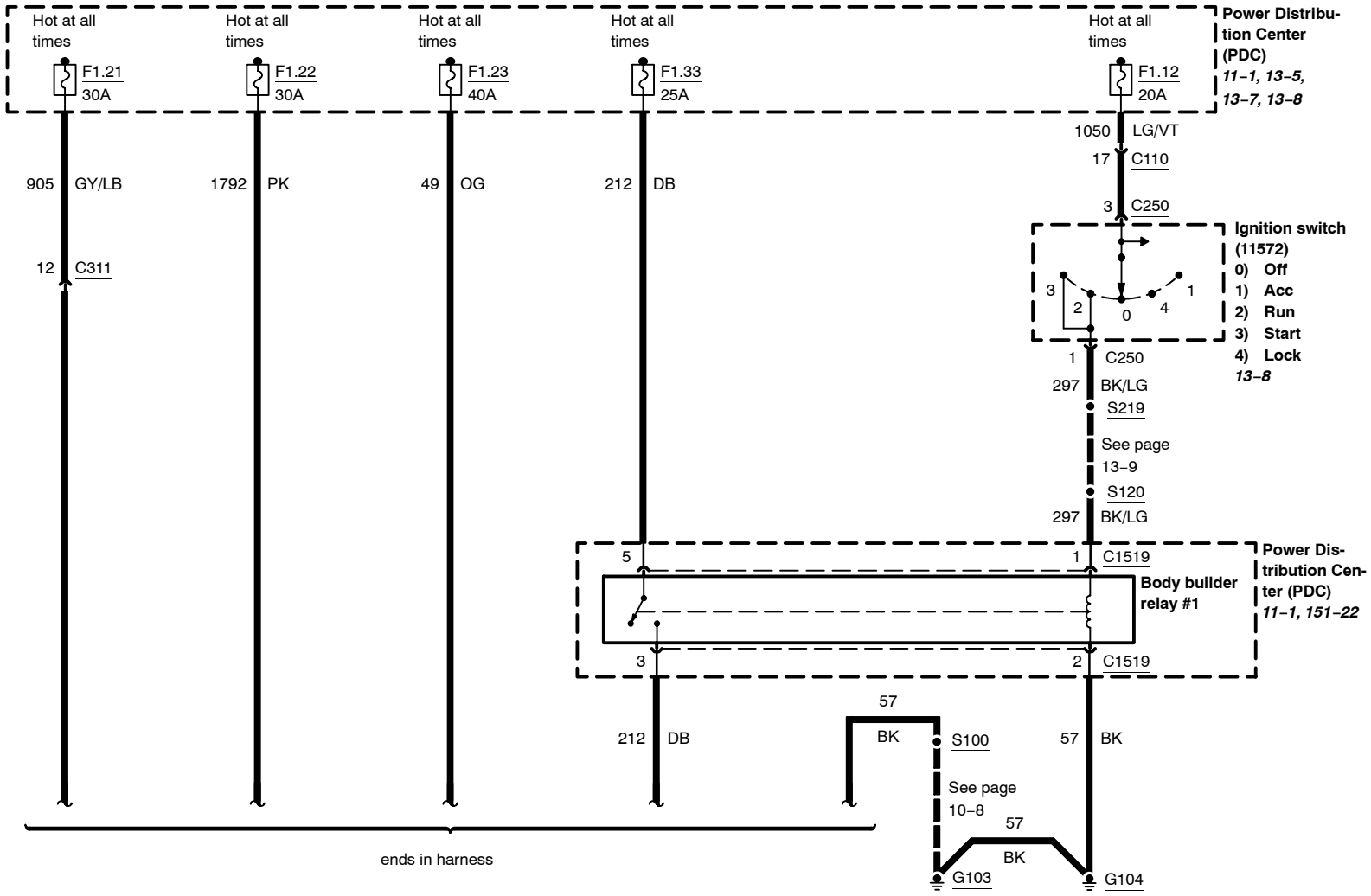

Hot at all times
F1.9
20A
Power Distribution Center (PDC)
11–1, 13–3
1679 WH/YE
19 C110
1 C2333
VBATT
Door lock timer
151–8
VREF
VREF
VREF
+/–
+/–
12 57 BK
2 118 PK/OG
7 117 PK/BK
11 120 PK/LG
4 119 PK/YE
8 129 LG C2333
117–2
Remote Keyless Entry and Alarm
S240
119 PK/YE
S241
118 PK/OG
S242
117 PK/BK
117–2
Remote Keyless Entry and Alarm
118 PK/OG
117 PK/BK
120 PK/LG
119 PK/YE
3 2 7 8 C211
5 2 4 1 C552
3 8 C212
5 2 C641
Door lock actuator, left front
1) Lock
2) Unlock
151–15
Door lock actuator, right front
151–15
6 C552
57 BK
13 C211
S203
See page 10–1
G100
S207
See page 10–4
G100


Hot at all times
F1.12
20A
Hot at all times
F1.35
15A
Hot at all times
F1.26
15A
Power Distribution Center (PDC)
11–1, 13–6, 13–7, 13–8
1050 LG/VT
17 C110
3 C250
3049 BK/LG
7 C134
See page 13–6
S217
Ignition switch (11572)
0) Off
1) Acc
2) Run
3) Start
4) Lock
13–8
1 C250
297 BK/LG
S219
See page 13–9
3049 BK/LG
2002 OG/BK
1
3 C2312
Run/Accessory relay
151–8
Horn relay
44–1
2
5 C2312
See page 60–3
2 C2077
See page 44–1
See page 117–2
A
B
S213
S222
57 BK
489 PK/BK
6 YE/LG
119 PK/YE
129 LG
1
9
3
2
7 C272
VPWR
VBATT
Remote keyless entry module (15K602)
151–8
14 C272
57 BK
S205
See page 10–4
G101
S200
See page 10–9
G200

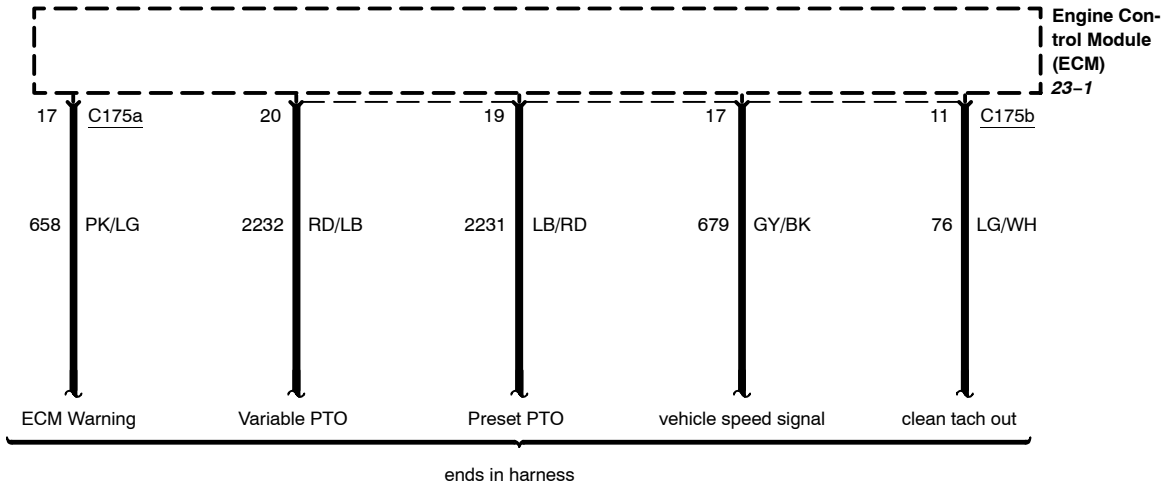

Hot at all times
F1.9
20A
Power Distribution Center (PDC)
11–1, 13–3
1679 WH/YE
19 C110
1679 WH/YE
1 C2333
VREF
VBATT
VREF
VREF
Door lock timer
151–8
+/–
+/–
8 129 LG
5 57 BK
12 57 BK
2 118 PK/OG
7 117 PK/BK
11 120 PK/LG
4 119 PK/YE
C2333
B
See page 117–1
S240
119 PK/YE
A
See page 117–1
S241
118 PK/OG
S242
118 PK/OG
117 PK/BK
118 PK/OG
120 PK/LG
117 PK/BK
119 PK/YE
3 2 7 8 C211
3 8 C212
5 2 4 1 C552
5 2 C641
M
2 1
Door lock actuator, left front
1) Lock
2) Unlock
151–15
Door lock actuator, right front
151–15
6 C552
57 BK
13 C211
S200
See page 10–1
G200
S203
See page 10–1
G100
S207
See page 10–4
G100

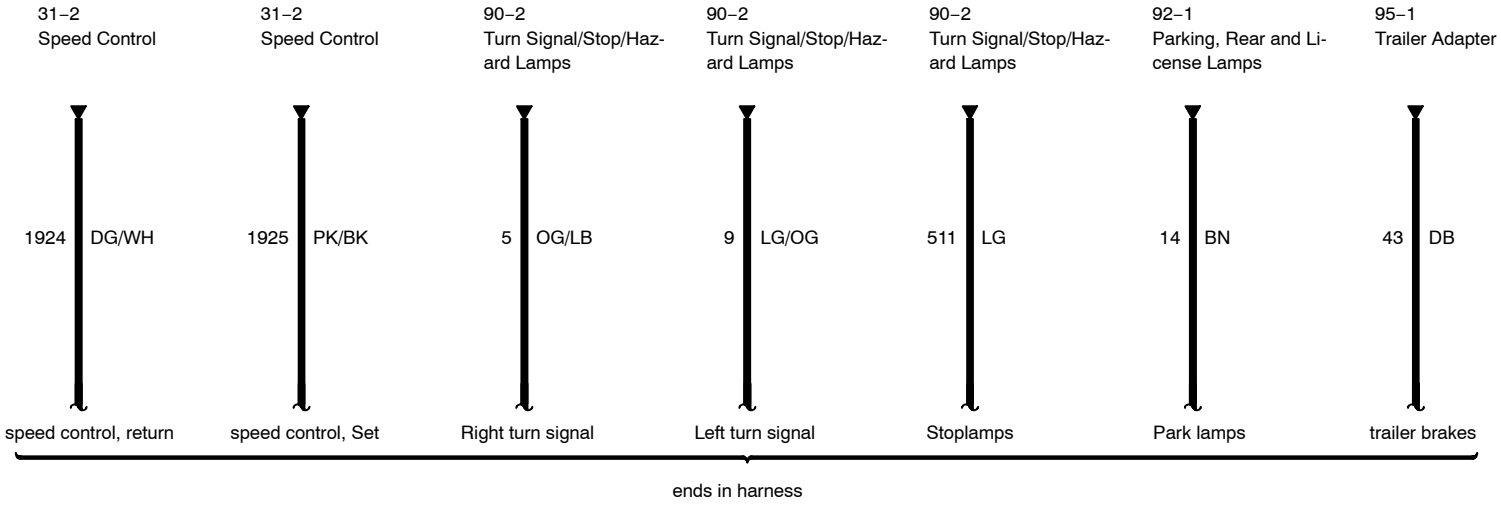

Hot at all times
Hot in Run or Acc
F1.27
10A
F1.42
10A
Power Distribution Center (PDC)
11–1, 13–6, 13–9
1772 VT
137 YE/BK
10
11
C110
1772 VT
137 YE/BK
S248
S245
12
6
C2188
Cassette
O
B
C290
premium radio
7
4
C240
VBATT
VPWR
Audio unit (18808)
151–7
–
+
–
+
8
13
12
11
14
C240
C
L
M
J
K
C290
premium radio
5
1
2
7
8
C2188
Cassette
57 BK
804 OG/LG
287 BK/WH
805 WH/LG
287 BK/WH
S200
See page 10–9
G200
S244
S247
S250
S246
11
6
C211
11
6
C212
804 OG/LG
287 BK/WH
805 WH/LG
287 BK/WH
C523
1
2
C523
Speaker, left front (18808)
151–15
C612
1
2
C612
Speaker, right front (18808)
151–15

back of cab configuration

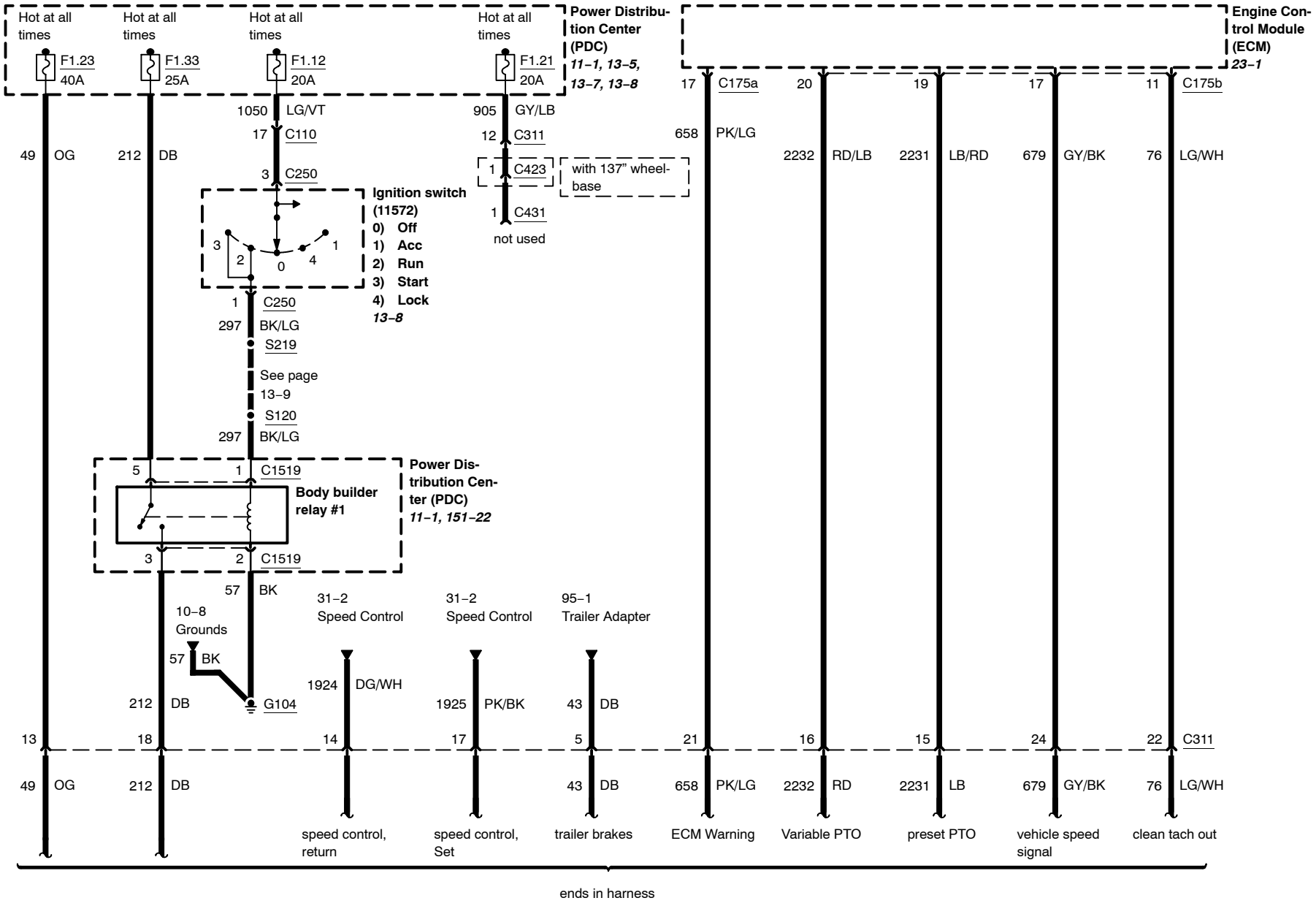


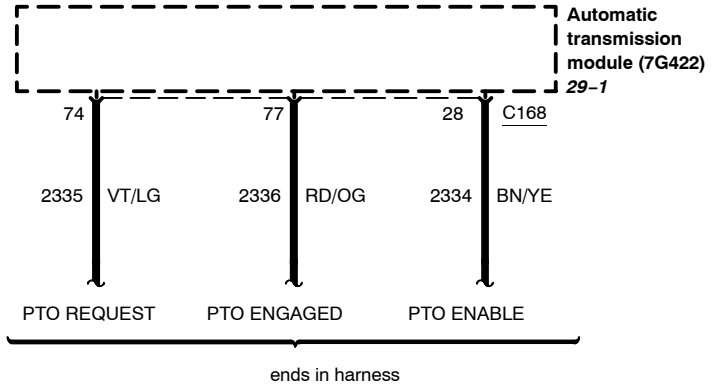
back of cab configuration





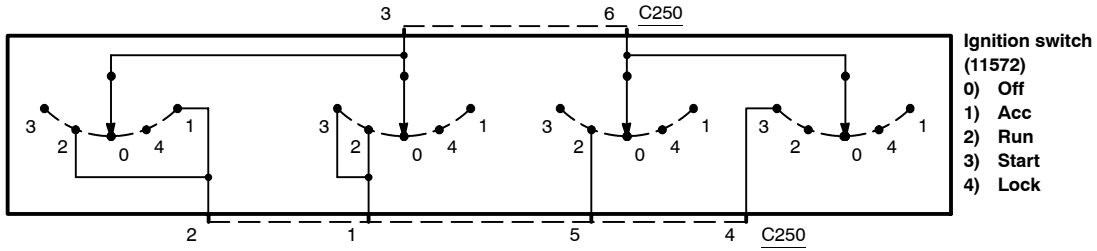
end of frame configuration




Automatic transmission module (7G422)
29–1
74
77
28
C168
2335
VT/LG
2336
RD/OG
2334
BN/YE
PTO REQUEST
PTO ENGAGED
PTO ENABLE
ends in harness

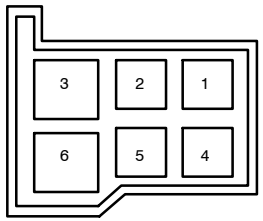
Ignition switch (11572)

Schematic



Terminals

C250



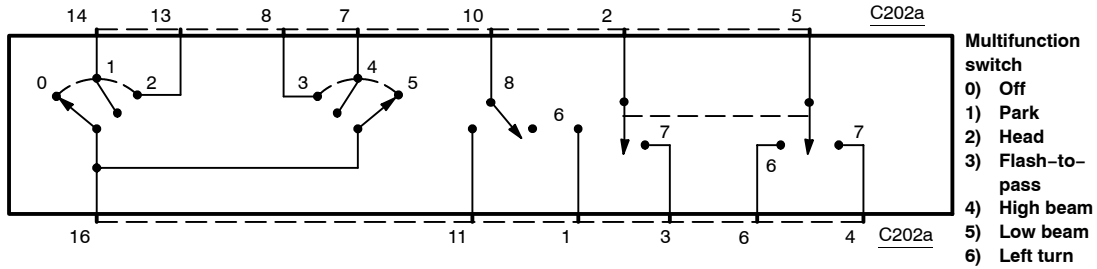
MALE

Component testing procedure

Circuit to test	Connect self–powered test light or ohmmeter to terminals	Move key to these positions	A good switch will indicate
Run power circuit	5 and 6	Off/Lock	Open circuit
		Accessory	Open circuit
		Run	Closed circuit
		Start	Open circuit
Run/Start power circuit	1 and 3	Off/Lock	Open circuit
		Accessory	Open circuit
		Run	Closed circuit
		Start	Closed circuit
Run/Acc power circuit	2 and 3	Off/Lock	Open circuit
		Accessory	Closed circuit
		Run	Closed circuit
		Start	Open circuit
Start power circuit	4 and 6	Off/Lock	Open circuit
		Accessory	Open circuit
		Run	Open circuit
		Start	Closed circuit

Multifunction switch

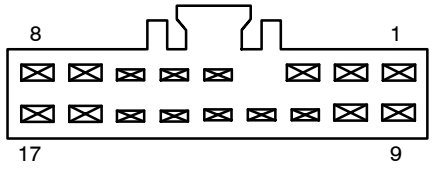
Schematic



Multifunction switch
0) Off
1) Park
2) Head
3) Flash–to–pass
4) High beam
5) Low beam
6) Left turn
7) Right turn
8) Fog lamps

Terminals

C202a



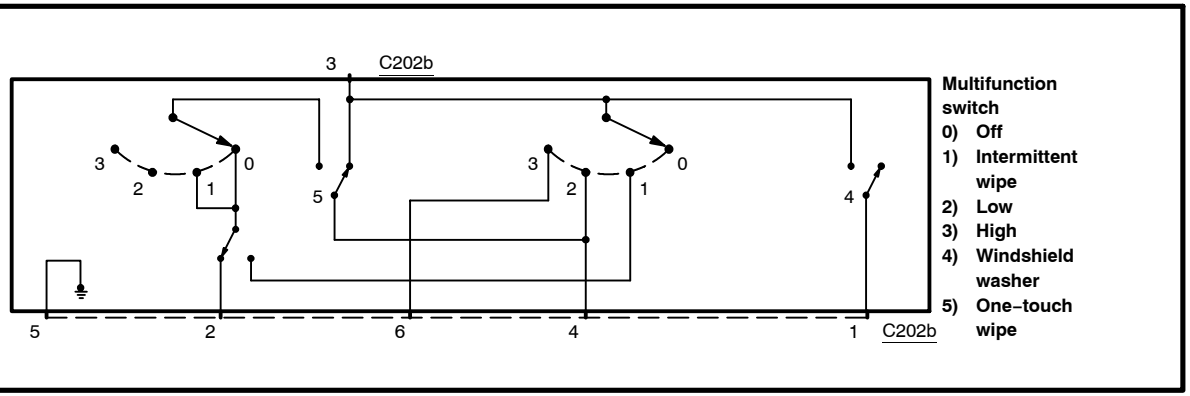
MALE

Component testing procedure

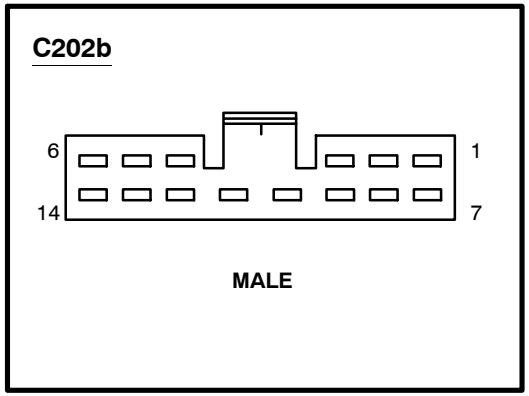
Circuit to test	Connect self–powered test light or ohmmeter to terminals	Move key to these positions	A good switch will indicate
Headlamp circuit	14 and 16	Park	Closed circuit
	13 and 16 14 and 16	Head	Closed circuit
	7 and 16	High beam	Closed circuit
	8 and 16	Flash–to–pass	Closed circuit
Fog lamp circuit	10 and 11	Off	Open circuit
		On	Closed circuit
Turn signal	1 and 2 5 and 6	Left turn	Closed circuit
	2 and 3 4 and 5	Right turn	Closed circuit

Multifunction Switch, Wiper/Washer Portion

Schematic



Terminals

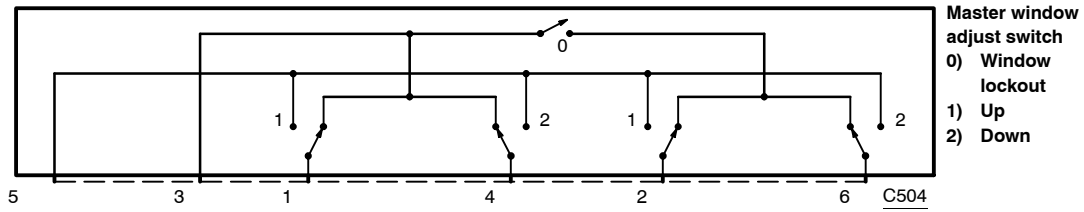


Component testing procedure

Circuit to test	Connect self–powered test light or ohmmeter to terminals	Move switch to these positions	A good switch will indicate
Wiper switch	3 and 4	Single wipe	Closed circuit
	2 and 4	Intermittent wipe	Closed circuit
	3 and 4	Low	Closed circuit
	3 and 6	High	Closed circuit
	2 and 4	Off	Closed circuit
Washer switch circuit	1 and 3	On	Closed circuit

Master window adjust switch

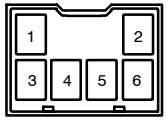
Schematic



Master window adjust switch
0) Window lockout
1) Up
2) Down

Terminals

C504



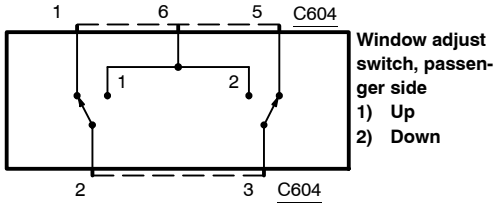
MALE

Component testing procedure

Circuit to test	Connect self–powered test light or ohmmeter to terminals	Move switch to these positions	A good switch will indicate
Power and Ground Checks Before Any Other Tests	1 and 5, 2 and 5, 4 and 5, 5 and 6	All window switches at rest, Window lockout Off	Open circuit
	1 and 3, 2 and 3, 3 and 4, 3 and 6	All window switches at rest, Window lockout Off	Closed circuit
Left front window circuit	1 and 5, 3 and 4	Up	Closed circuit
	1 and 3, 4 and 5	Down	Closed circuit
Right front window circuit	2 and 5, 3 and 6	Up	Closed circuit
	2 and 3, 5 and 6	Down	Closed circuit

Window adjust switch, passenger side

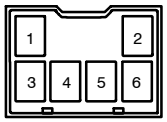
Schematic



Window adjust switch, passenger side
1) Up
2) Down

Terminals

C604



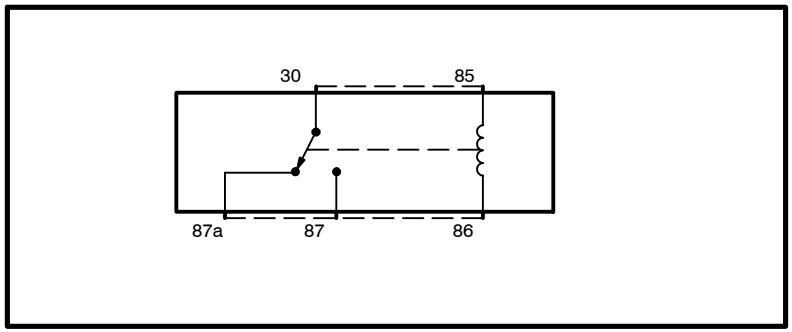
MALE

Component testing procedure

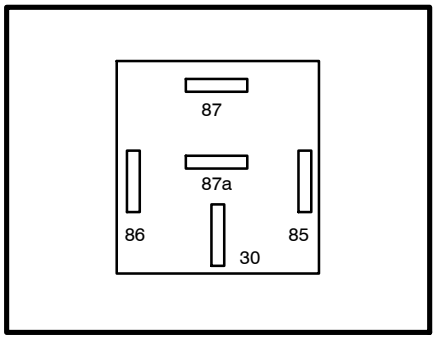
Circuit to test	Connect self–powered test light or ohmmeter to terminals	Move switch to these positions	A good switch will indicate
Power and Ground Checks Before Any Other Tests	2 and 6, 3 and 6	Window switch at rest	Open circuit
	1 and 2, 3 and 5	Window switch at rest	Closed circuit
Right front window circuit	2 and 6	Up	Closed circuit
	3 and 6	Down	Closed circuit

Mini ISO

Schematic



Terminal locations



Component testing procedure (no voltage applied)

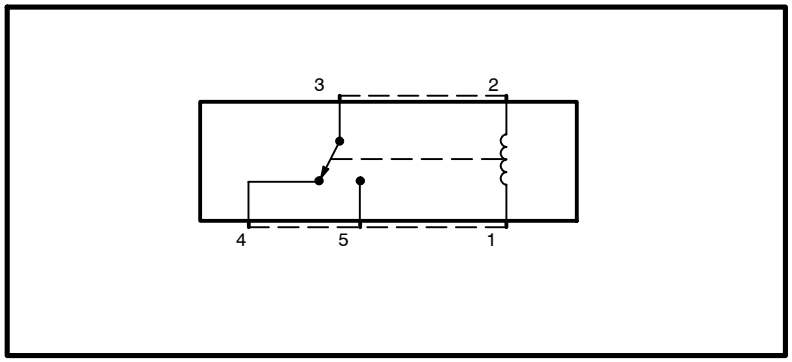
Circuit to test	Connect ohmmeter to terminals	A good relay will indicate
Coil	85 and 86	50–100 Ω
Contact	30 and 87a	Closed circuit
	30 and 87	Open circuit
Coil – Contact	86 and 30	Open circuit
	86 and 87a	Open circuit
	86 and 87	Open circuit

Component testing procedure (voltage applied)

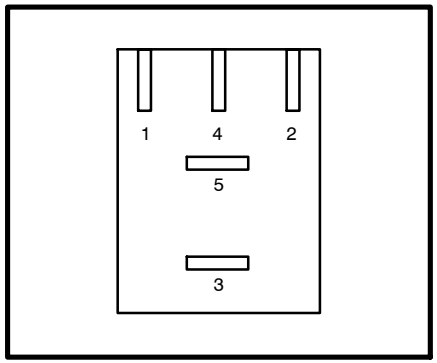
Disconnect the ohmmeter; connect pins 30 and 85 to 12V DC power and pin 86 to ground. Measure voltage between pin 87 and pin 86. If the voltage is 12V, continue with the test. If not, replace the relay. Disconnect power from pin 85 and measure voltage between pin 87a and pin 86. If the voltage is 12V, the relay is okay. If not, replace the relay.

Micro ISO

Schematic



Terminal locations



Component testing procedure (no voltage applied)

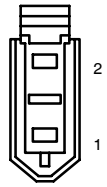
Circuit to test	Connect ohmmeter to terminals	A good relay will indicate
Coil	1 and 2	100–150 Ω
Contact	3 and 4	Closed circuit
	3 and 5	Open circuit
Coil – Contact	1 and 3	Open circuit
	1 and 4	Open circuit
	1 and 5	Open circuit

Component testing procedure (voltage applied)

Disconnect the ohmmeter; connect pins 2 and 3 to 12V DC power and pin 1 to ground. Measure voltage between pin 5 and pin 1. If the voltage is 12V, continue with the test. If not, replace the relay. Disconnect power from pin 2 and measure voltage between pin 4 and pin 1. If the voltage is 12V, the relay is okay. If not, replace the relay.

C100

A/C clutch field coil
(19D798)



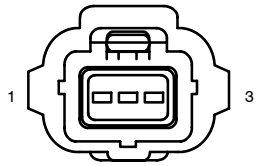
FEMALE

Pin	Circuit	Circuit function
1	3027 (RD/WH)	Ground
2	3028 (DB/YE)	Switched power

C102a

12B637

Generator



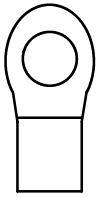
FEMALE

Pin	Circuit	Circuit function
1	1818 (WH/BK)	Generator/Battery indicator control
2	–	not used
3	36 (RD)	Voltage supplied at all times (not overload protected)

C102b

12B637

Generator

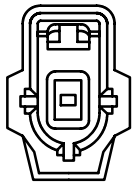


Pin	Circuit	Circuit function
1	36 (RD)	Voltage supplied at all times (fusible link)
	36 (RD)	Voltage supplied at all times (fusible link)

C103

12B637

Oil pressure switch
(9278)



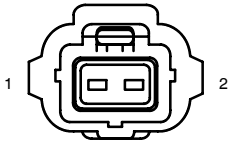
FEMALE

Pin	Circuit	Circuit function
1	1308 (BN/OG)	Pressure signal

C104

12B637

Engine Oil Temperature (EOT) sensor

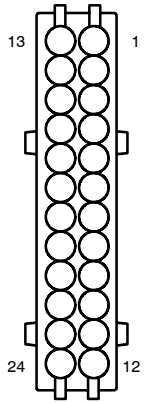


FEMALE

Pin	Circuit	Circuit function
1	359 (GY/RD)	Signal return
2	354 (LG/RD)	Temperature signal

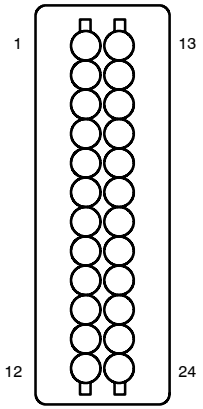
C110

14401



FEMALE

12A581



MALE

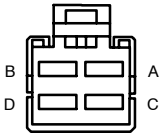
(1)	–	(13)	489 (PK/BK)
(2)	14 (BN)	(14)	32 (RD/LB)
(3)	3 (LG/WH)	(15)	297 (BK/LG)
(4)	2 (WH/LB)	(16)	298 (VT/OG)
(5)	40 (LB/WH)	(17)	1050 (LG/VT)
(6)	535 (LB/RD)	(18)	1522 (DG)
(7)	2233 (OG/YE)	(19)	1679 (WH/YE)
(8)	3049 (BK/LG)	(20)	511 (LG)
(9)	1282 (TN/OG)	(21)	1051 (PK/WH)
(10)	1772 (VT)	(22)	43 (DB)
(11)	137 (YE/BK)	(23)	248 (TN/OG)
(12)	224 (TN/WH)	(24)	133 (BK)

(1)	–	(13)	489 (PK/BK)
(2)	14 (BN)	(14)	32 (RD/LB)
(3)	3 (LG/WH)	(15)	297 (BK/LG)
(4)	2 (WH/LB)	(16)	298 (VT/OG)
(5)	40 (LB/WH)	(17)	1050 (LG/VT)
(6)	535 (LB/RD)	(18)	1522 (DG)
(7)	2233 (OG/YE)	(19)	1679 (WH/YE)
(8)	3049 (BK/LG)	(20)	511 (LG)
(9)	1282 (TN/OG)	(21)	1051 (PK/WH)
(10)	1772 (VT)	(22)	43 (DB)
(11)	137 (YE/BK)	(23)	248 (TN/OG)
(12)	224 (TN/WH)	(24)	133 (BK)

C125

14401

Windshield wiper motor (17508)



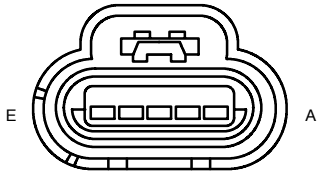
FEMALE

Pin	Circuit	Circuit function
A	1675 (BK/PK)	Wiper switch circuit
B	1674 (DB/OG)	Wiper switch circuit
C	63 (RD)	Wiper switch circuit
D	1671 (RD)	Switched power

C128

12B637

Mass Air Flow (MAF) sensor (12B579)



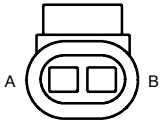
FEMALE

Pin	Circuit	Circuit function
A	1023 (DB/LG)	Temperature signal
B	359 (GY/RD)	Signal return
C	57 (BK)	Ground
D	1717 (VT/OG)	Voltage supplied in Start and Run (overload protected)
E	967 (LB/RD)	Mass Air Flow (MAF) sensor signal

C124

14401

Brake fluid level switch (2L414)



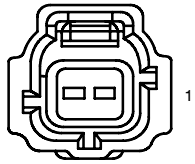
FEMALE

Pin	Circuit	Circuit function
A	128 (VT/YE)	Low brake fluid level indicator, control
B	57 (BK)	Ground

C130

14401

A/C clutch cycling pressure switch (19D594)



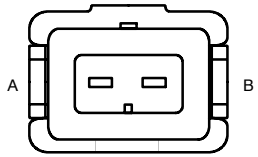
FEMALE

Pin	Circuit	Circuit function
1	439 (TN/LG)	A/C demand signal
2	1811 (RD/PK)	A/C demand signal

C131

12A581

Horn (13832)

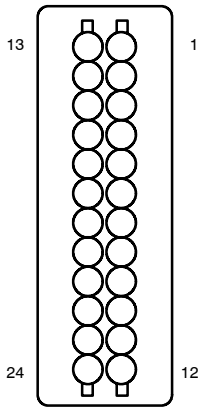


FEMALE

Pin	Circuit	Circuit function
A	1 (DB)	Switched power
B	57 (BK)	Ground

C133

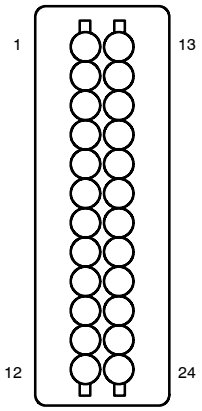
12A581



FEMALE

(1)	5133 (WH)	(13)	54 (LG/YE)
(2)	359 (GY/RD)	(14)	1 (DB)
(3)	351 (BN/WH)	(15)	10 (LG/RD)
(4)	1285 (RD/LG)	(16)	29 (YE/WH)
(5)	1283 (TN/YE)	(17)	170 (RD/LB)
(6)	–	(18)	460 (YE/LB)
(7)	1814 (WH/LB)	(19)	8 (OG/YE)
(8)	296 (WH/VT)	(20)	383 (RD/WH)
(9)	1671 (RD)	(21)	477 (LB/BK)
(10)	1721 (LB/BK)	(22)	348 (VT)
(11)	1709 (BN)	(23)	298 (VT/OG)
(12)	1815 (PK/LB)	(24)	364 (BK/LG)

14401

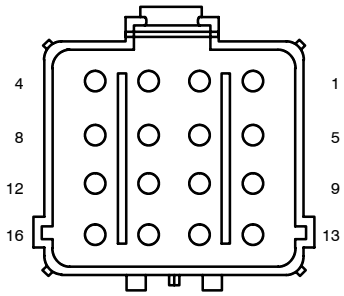


MALE

(1)	5133 (WH)	(13)	54 (LG/YE)
(2)	359 (GY/RD)	(14)	1 (DB)
(3)	351 (BN/WH)	(15)	10 (LG/RD)
(4)	1285 (RD/LG)	(16)	29 (YE/WH)
(5)	1283 (TN/YE)	(17)	170 (RD/LB)
(6)	–	(18)	460 (YE/LB)
(7)	1814 (WH/LB)	(19)	8 (OG/YE)
(8)	296 (WH/VT)	(20)	383 (RD/WH)
(9)	1671 (RD)	(21)	477 (LB/BK)
(10)	1721 (LB/BK)	(22)	348 (VT)
(11)	1709 (BN)	(23)	298 (VT/OG)
(12)	1815 (PK/LB)	(24)	364 (BK/LG)

C134

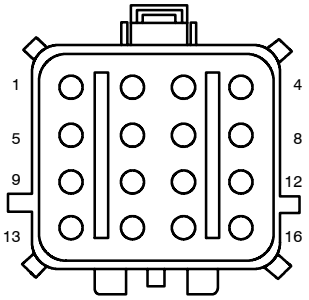
14401



FEMALE

(1)	904 (LG/RD)	(9)	–
(2)	391 (RD/YE)	(10)	1851 (WH/LG)
(3)	165 (TN/WH)	(11)	–
(4)	1032 (WH/BK)	(12)	914 (TN/OG)
(5)	2002 (OG/BK)	(13)	915 (PK/LB)
(6)	22 (LB/BK)	(14)	1852 (PK/LG)
(7)	3049 (BK/LG)	(15)	1153 (RD/BK)
(8)	–	(16)	1153 (RD/BK)

12A581



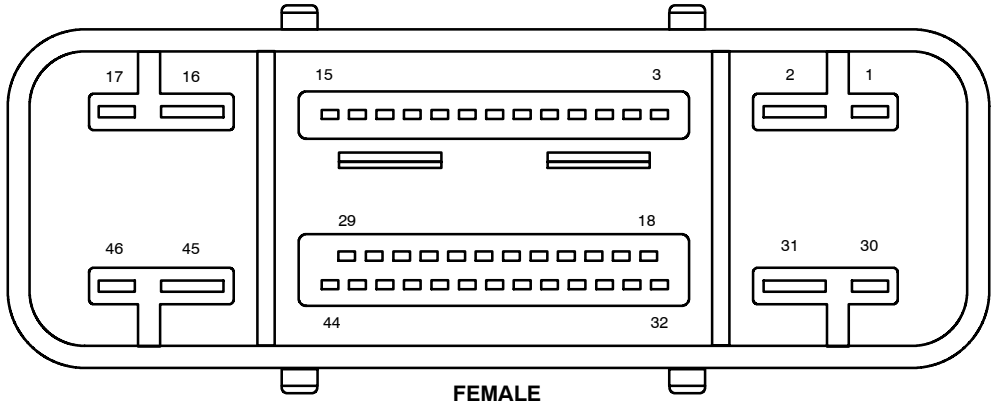
MALE

(1)	904 (LG/RD)	(9)	–
(2)	391 (RD/YE)	(10)	1851 (WH/LG)
(3)	165 (TN/WH)	(11)	–
(4)	1032 (WH/BK)	(12)	914 (TN/OG)
(5)	2002 (OG/BK)	(13)	915 (PK/LB)
(6)	22 (LB/BK)	(14)	1852 (PK/LG)
(7)	3049 (BK/LG)	(15)	1153 (RD/BK)
(8)	–	(16)	1153 (RD/BK)

C135

12A581

ABS control module
(2C219)



FEMALE

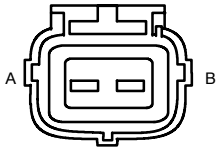
Pin	Circuit	Circuit Function
1	–	not used
2	601 (LB/PK)	Voltage supplied at all times (overload protected)
3	1814 (WH/LB)	CAN Bus +
4	–	not used
5	–	not used
6	–	not used
7	–	not used
8	–	not used
9	–	not used
10	–	not used
11	–	not used
12	498 (PK)	Wheel speed sensor, left front +
13	495 (TN)	Wheel speed sensor, left front –
14	–	not used
15	–	not used
16	530 (LG/YE)	Ground
17	–	not used
18	1815 (PK/LB)	CAN Bus –
19	–	not used
20	–	not used
21	–	not used
22	–	not used
23	–	not used

Pin	Circuit	Circuit Function
24	–	not used
25	–	not used
26	497 (WH)	Wheel speed sensor, right front +
27	510 (TN/RD)	Wheel speed sensor, right front –
28	–	not used
29	–	not used
30	–	not used
31	534 (YE/LG)	Voltage supplied at all times (overload protected)
32	489 (PK/BK)	Voltage in Run or Accessory (overload protected)
33	–	not used
34	–	not used
35	–	not used
36	–	not used
37	–	not used
38	–	not used
39	–	not used
40	–	not used
41	494 (TN/LG)	Rear axle speed sensor –
42	492 (BN)	Rear axle speed sensor +
43	–	not used
44	–	not used
45	57 (BK)	Ground
46	–	not used

C137

14401

Windshield washer pump motor (17618)

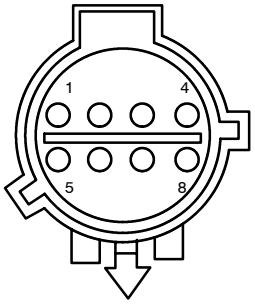


FEMALE

Pin	Circuit	Circuit function
A	57 (BK)	Ground
B	941 (BK/WH)	Switched power

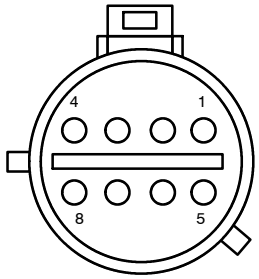
C139

12B637



FEMALE

12A581

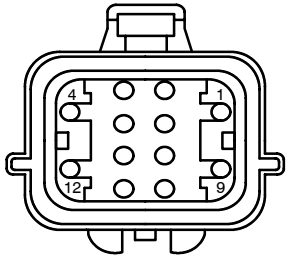


MALE

(1) 640 (RD/YE)
(2) 2233 (OG/YE)
(3) –
(4) –
(5) –
(6) –
(7) 113 (YE/LB)
(8) 535 (LB/RD)

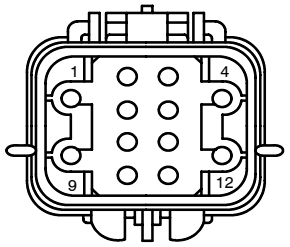
C140

12B637



FEMALE

12A581



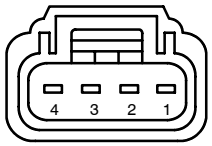
MALE

(1) 574 (BK/PK)
(2) 914 (TN/OG)
(3) 915 (PK/LB)
(4) 574 (BK/PK)
(5) 57 (BK)
(6) 1460 (RD/YE)
(7) 1810 (LG/OG)
(8) 1853 (RD/WH)
(9) 1856 (GY/OG)
(10) 1683 (DG)
(11) 904 (LG/RD)
(12) 814 (WH/BK)

C143

12A581

Speed sensor assembly (7M101)



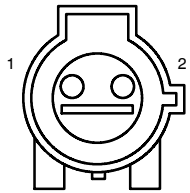
FEMALE

Pin	Circuit	Circuit function
1	1876 (YE/WH)	Reference voltage
2	57 (BK)	Ground
3	970 (DG/WH)	Turbine Shaft Speed (TSS) sensor signal
4	134 (GY/OG)	Intermediate Shaft Speed (ISS) sensor signal

C150

12A581

Wheel speed sensor, left front (2C205)



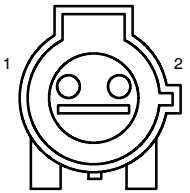
FEMALE

Pin	Circuit	Circuit function
1	498 (PK)	Wheel speed sensor, left front +
2	495 (TN)	Wheel speed sensor, left front –

C160

12A581

Wheel speed sensor, right front (2C204)



FEMALE

Pin	Circuit	Circuit function
1	497 (WH)	Wheel speed sensor, right front +
2	510 (TN/RD)	Wheel speed sensor, right front –

C152

14401

Fog lamp, left front (15200)

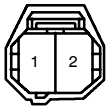
FEMALE

Pin	Circuit	Circuit function
1	1721 (LB/BK)	Switched power
2	57 (BK)	Ground

C162

14401

Fog lamp, right front (15200)



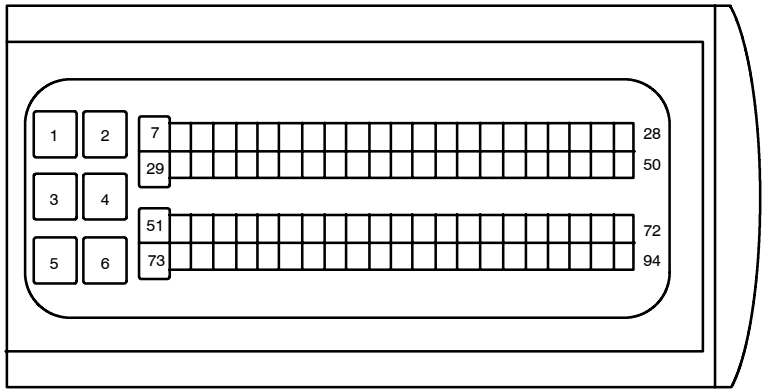
FEMALE

Pin	Circuit	Circuit function
1	1721 (LB/BK)	Switched power
2	57 (BK)	Ground

C168

12A581

Automatic transmission module (7G422)



FEMALE

Pin	Circuit	Circuit Function
1	462 (PK)	Voltage supplied in Start and Run (overload protected)
2	–	not used
3	57 (BK)	Ground
4	–	not used
5	–	not used
6	1876 (YE/WH)	Solenoid feed
7	–	not used
8	1852 (PK/LG)	Medium speed CAN –
9	1851 (WH/LG)	Medium speed CAN +
10	–	not used
11	1861 (RD)	Voltage supplied at all times (overload protected)
12	199 (LB/YE)	Transmission range sensor (TR–P) signal
13	–	not used
14	1875 (OG/WH)	Signal return
15	–	not used
16	–	not used
17	–	not used
18	–	not used
19	–	not used
20	–	not used

Pin	Circuit	Circuit Function
21	–	not used
22	–	not used
23	–	not used
24	–	not used
25	–	not used
26	–	not used
27	–	not used
28	2334 (BN/YE)	PTO Enable
29	–	not used
30	1876 (YE/WH)	Reference voltage
31	–	not used
32	–	not used
33	57 (BK)	Ground
34	–	not used
35	–	not used
36	570 (BK/WH)	Transmission range sensor (TR–P) Ground
37	199 (LB/YE)	Transmission range sensor (TR–P) signal
38	923 (OG/BK)	Transmission Fluid Temperature (TFT) sensor feed
39	–	not used
40	–	not used

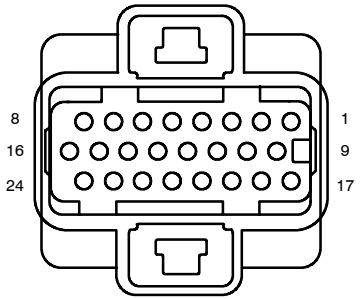
Pin	Circuit	Circuit function
41	–	not used
42	–	not used
43	–	not used
44	–	not used
45	–	not used
46	–	not used
47	–	not used
48	236 (BK/LG)	Shift Solenoid Pressure Control D (SSPC–D), control
49	924 (BN/OG)	Torque Converter Clutch (TCC) solenoid, control
50	–	not used
51	–	not used
52	–	not used
53	–	not used
54	–	not used
55	–	not used
56	–	not used
57	–	not used
58	–	not used
59	–	not used
60	–	not used
61	134 (GY/OG)	Intermediate Shaft Speed (ISS) sensor signal
62	57 (BK)	Ground
63	970 (DG/WH)	Turbine Shaft Speed (TSS) sensor signal
64	–	not used
65	57 (BK)	Ground
66	–	not used
67	1789 (VT/WH)	Reversing lamps relay, control

Pin	Circuit	Circuit function
68	–	not used
69	–	not used
70	315 (PK/OG)	Shift Solenoid Pressure Control B (SSPC–B), control
71	–	not used
72	22 (LB/BK)	Tow/Haul switch indicator, control
73	1876 (YE/WH)	Solenoid feed
74	2335 (VT/LG)	PTO Enable
75	–	not used
76	–	not used
77	2336 (RD/OG)	PTO Enable
78	224 (TN/WH)	Tow/Haul switch
79	–	not used
80	–	not used
81	–	not used
82	–	not used
83	57 (BK)	Ground
84	57 (BK)	Ground
85	57 (BK)	Ground
86	–	not used
87	136 (DB/YE)	Output Shaft Speed (OSS) sensor signal
88	–	not used
89	480 (VT/YE)	Pressure Control (PC–A) solenoid, control
90	125 (DB/WH)	Shift Solenoid Pressure Control E (SSPC–E), control
91	971 (PK/BK)	Shift Solenoid Pressure Control C (SSPC–C), control
92	237 (OG/YE)	Shift Solenoid Pressure Control A (SSPC–A), control
93	–	not used
94	–	not used

C175a

12A581

Engine Control Module (ECM)



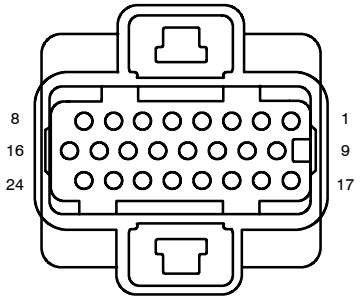
FEMALE

Pin	Circuit	Circuit function
1	1683 (DG)	switched power
2	1683 (DG)	switched power
3	–	not used
4	351 (BN/WH)	Reference voltage
5	–	not used
6	248 (TN/OG)	Speed control On input
7	–	not used
8	–	not used
9	–	not used
10	–	not used
11	–	not used
12	1285 (RD/LG)	Idle validation switch input
13	–	not used
14	–	not used
15	787 (PK/BK)	Fuel pump monitor
16	–	not used
17	658 (PK/LG)	Customer Access
18	1283 (TN/YE)	Throttle Position Sensor (TPS) signal
19	–	not used
20	914 (TN/OG)	ATA +
21	915 (PK/LB)	ATA –
22	–	not used
23	–	not used
24	359 (GY/RD)	Signal return

C175b

12A581

Engine Control Module (ECM)



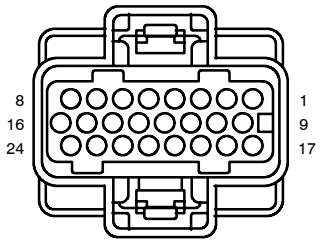
FEMALE

Pin	Circuit	Circuit function
1	327 (BK/OG)	Water–in–fuel sensor signal
2	–	not used
3	1856 (GY/OG)	Voltage supplied in Start and Run (overload protected)
4	–	not used
5	1769 (BN/PK)	PCM power relay, control
6	574 (BK/PK)	Ground
7	574 (BK/PK)	Ground
8	199 (LB/YE)	Transmission range sensor (TR–P) signal
9	1842 (OG/LG)	Fuel pump relay, control
10	348 (VT)	A/C demand signal
11	76 (LG/WH)	Customer Access
12	1851 (WH/LG)	Medium speed CAN +
13	1852 (PK/LG)	Medium speed CAN –
14	133 (BK)	Speed control Cruise resume input
15	–	not used
16	–	not used
17	679 (GY/BK)	Customer Access
18	–	not used
19	2231 (LB/RD)	Customer Access
20	2232 (RD/LB)	Customer Access
21	5133 (WH)	Speed control Set input
22	321 (GY/WH)	A/C clutch relay, control
23	1093 (TN/RD)	Starter relay, control
24	1282 (TN/OG)	Barometric Absolute Pressure (BAP) sensor signal

C175c

12B637

Engine Control Module (ECM)

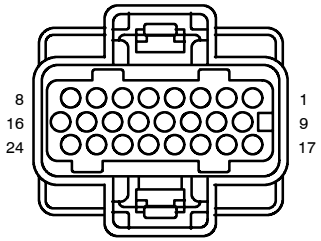


FEMALE

Pin	Circuit	Circuit function
1	349 (DB)	Crankshaft position sensor +
2	350 (GY)	Crankshaft position sensor –
3	–	not used
4	–	not used
5	–	not used
6	359 (GY/RD)	Signal return
7	1023 (DB/LG)	Air Charge Temperature (ACT) sensor signal
8	3076 (YE/WH)	Engine Coolant Temperature (ECT) sensor signal
9	50 (RD)	Camshaft position sensor +
10	49 (OG)	Camshaft position sensor –
11	48	Drain wire – CMP/CKP
12	552 (YE/RD)	Injection Pressure Regulator (IPR), control
13	1308 (BN/OG)	Oil pressure switch input
14	351 (BN/WH)	Reference voltage
15	1905 (GY)	Brake pedal position switch input
16	1820 (RD/YE)	Brake pressure switch input
17	1086 (VT/OG)	Glow plug relay, control
18	462 (VT)	Manifold intake air heater relay, control
19	54 (LG/YE)	CKPO signal
20	812 (DB/LG)	Injection pressure sensor signal
21	1277 (WH/LG)	Glow plug relay, monitor
22	–	not used
23	–	not used
24	56 (DB/OG)	CMPO signal

C175d

Engine Control Module (ECM)



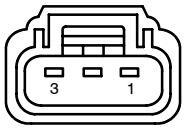
FEMALE

Pin	Circuit	Circuit function
1	354 (LG/RD)	Engine Oil Temperature (EOT) sensor signal
2	967 (LB/RD)	Mass Air Flow (MAF) sensor signal
3	358 (LG/BK)	Manifold Absolute Pressure (MAP) sensor signal
4	–	not used
5	–	not used
6	69 (RD/LG)	CAN Bus 2 +
7	–	not used
8	–	not used
9	–	not used
10	–	not used
11	367 (BN)	Manifold intake air heater relay, monitor
12	48	Drain wire – CAN Bus
13	70 (LB/WH)	CAN Bus 2 –
14	42 (RD/WH)	Manifold Air Temperature (MAT) sensor signal
15	–	not used
16	–	not used
17	–	not used
18	1275 (WH/RD)	Boost control solenoid, control
19	–	not used
20	–	not used
21	–	not used
22	–	not used
23	–	not used
24	1717 (VT/OG)	Voltage supplied in Start and Run (overload protected)

C193

12A581

Output Shaft Speed (OSS) sensor (7H103)



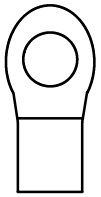
FEMALE

Pin	Circuit	Circuit function
1	1876 (YE/WH)	Reference voltage
2	136 (DB/YE)	Output Shaft Speed (OSS) sensor signal
3	57 (BK)	Ground

C197a

12B637

Starter motor (11002)

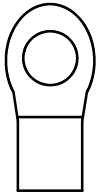


Pin	Circuit	Circuit function
1	36 (RD)	Battery voltage

C197b

12B637

Starter motor (11002)

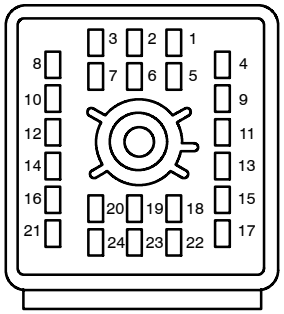


Pin	Circuit	Circuit function
1	605 (RD)	Switched power

C199

12A581

5R110 transmission



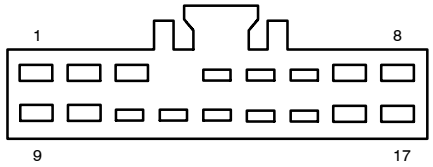
FEMALE

Pin	Circuit	Circuit function
1	125 (DB/WH)	Shift Solenoid Pressure Control E (SSPC–E)
2	–	not used
3	315 (VT/OG)	Shift Solenoid Pressure Control B (SSPC–B)
4	236 (BK/LG)	Shift Solenoid Pressure Control D (SSPC–D)
5	971 (PK/BK)	Shift Solenoid Pressure Control C (SSPC–C)
6	–	not used
7	1876 (YE/WH)	Shift solenoid VPWR
8	924 (BN/OG)	Torque Converter Clutch (TCC) solenoid
9	–	not used
10	480 (VT/YE)	Pressure Control (PC–A) solenoid
11	–	not used
12	237 (OG/YE)	Shift Solenoid Pressure Control A (SSPC–A)
13	–	not used
14	–	not used
15	199 (LB/YE)	Transmission Range Sensor Assembly (TR–P) signal
16	–	not used
17	570 (BK/WH)	Transmission Range Sensor Assembly (TR–P) Ground
18	923 (OG/BK)	Transmission Fluid Temperature (TFT) sensor signal
19	–	not used
20	1876 (YE/WH)	Shift solenoid VPWR
21	371 (PK/WH)	Reference voltage, Transmission Range Sensor Assembly (TR–P)
22	1875 (OG/WH)	Signal return
23	–	not used
24	1876 (YE/WH)	Shift solenoid VPWR

C202a

14401

Multifunction switch



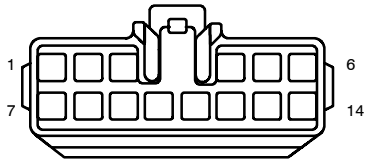
FEMALE

Pin	Circuit	Circuit function
1	3 (LG/WH)	Left turn lamp feed
2	44 (LB)	Turn signal flasher Emergency warning flasher
3	2 (WH/LB)	Right turn lamp feed
4	379 (BN/WH)	Right turn signal
5	165 (TN/WH)	Voltage supplied in Run (overload protected)
6	380 (VT/YE)	Left turn signal
7	1708 (LG/BK)	Low beam relay Switched ground
8	196 (DB/OG)	High beam relay Switched ground
9	–	not used
10	1669 (OG/LG)	daytime running lamps
11	477 (LB/BK)	Fog lamp relay, control
12	–	not used
13	1708 (LG/BK)	High beam relay Switched ground
14	1032 (WH/BK)	Park lamp relay Switched ground
15	–	not used
16	57 (BK)	Ground
17	–	not used

C202b

14401

Multifunction switch

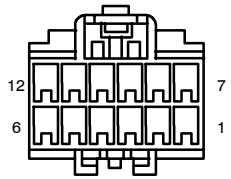


FEMALE

Pin	Circuit	Circuit function
1	941 (BK/WH)	washer pump feed
2	63 (RD)	Wiper switch circuit
3	1671 (RD)	Switched power
4	1674 (DB/OG)	Wiper switch circuit
5	57 (BK)	Ground
6	1675 (BK/PK)	Wiper switch circuit
7	–	not used
8	–	not used
9	–	not used
10	–	not used
11	–	not used
12	–	not used
13	6 (YE/LG)	Horn relay Switched ground
14	–	not used

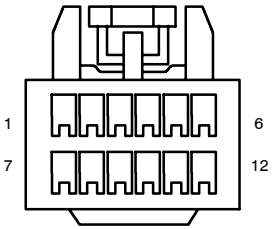
C210

14401



FEMALE

14335

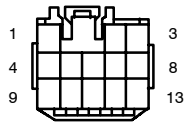


MALE

(1) 57 (BK)
(2) 85 (BN/LB)
(3) 224 (TN/WH)
(4) 22 (LB/BK)
(5) 489 (PK/BK)
(6) 19 (LB/RD)
(7) 511 (LG)
(8) 162 (LG/RD)
(9) 14 (BN/LB)
(10) 54 (LG/YE)
(11) 159 (RD/PK)
(12) –

C211

14631



FEMALE

14401

MALE

(1) 57 (BK)
(2) 117 (PK/BK)
(3) 118 (PK/OG)
(4) 226 (WH/BK)
(5) 170 (RD/LB)
(6) 287 (BK/WH)
(7) 120 (PK/LG)
(8) 119 (PK/YE)
(9) 227 (YE)
(10) –
(11) 804 (OG/LG)
(12) –
(13) 57 (BK)

C212

14630

FEMALE

14401

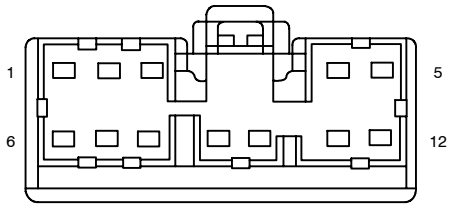
MALE

(1) –
(2) –
(3) 118 (PK/OG)
(4) 226 (WH/BK)
(5) 170 (RD/LB)
(6) 287 (BK/WH)
(7) –
(8) 117 (PK/BK)
(9) 227 (YE)
(10) –
(11) 805 (WH/LG)
(12) –
(13) –

C220a

14401

Instrument cluster
(10849)



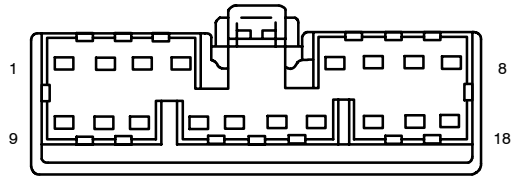
FEMALE

Pin	Circuit	Circuit function
1	489 (PK/BK)	Voltage in Run or Accessory (overload protected)
2	3049 (BK/LG)	Voltage supplied at all times (overload protected)
3	1719 (GY/BK)	Left turn indicator, control
4	1720 (DB/OG)	Right turn indicator, control
5	85 (BN/LB)	Safety belt indicator, control
6	904 (LG/RD)	Generator/Battery indicator, control
7	19 (LB/RD)	Illumination
8	159 (RD/PK)	Interior lamp Switched ground – on demand
9	1414 (LG/VT)	Key in ignition switch input
10	29 (YE/WH)	Fuel sender signal
11	1718 (RD/PK)	High beam indicator, control
12	162 (LG/RD)	Park Brake indicator, control

C220b

14401

Instrument cluster (10849)



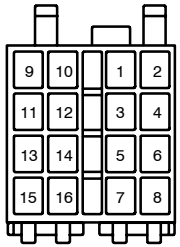
FEMALE

Pin	Circuit	Circuit function
1	57 (BK)	Ground
2	57 (BK)	Ground
3	57 (BK)	Ground
4	–	not used
5	–	not used
6	–	not used
7	–	not used
8	–	not used
9	14 (BN)	Instrument illumination
10	–	not used
11	–	not used
12	128 (VT/YE)	Low brake fluid level indicator, control
13	–	not used
14	1815 (PK/LB)	High speed CAN –
15	1814 (WH/LB)	High speed CAN +
16	1852 (PK/LG)	Medium speed CAN –
17	1851 (WH/LG)	Medium speed CAN +
18	–	not used

C240

14401

Audio unit (18808)



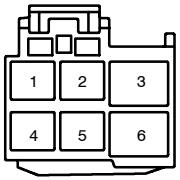
FEMALE

Pin	Circuit	Circuit function
1	–	not used
2	–	not used
3	–	not used
4	137 (YE/BK)	Voltage in Run or Accessory (overload protected)
5	–	not used
6	–	not used
7	1772 (VT)	Voltage supplied at all times (overload protected)
8	57 (BK)	Ground
9	–	not used
10	–	not used
11	805 (WH/LG)	Audio signal negative, Right
12	287 (BK/WH)	Audio signal positive, Right
13	804 (OG/LG)	Audio signal negative, Left
14	287 (BK/WH)	Audio signal positive, Left
15	–	not used
16	–	not used

C250

14401

Ignition switch
(11572)



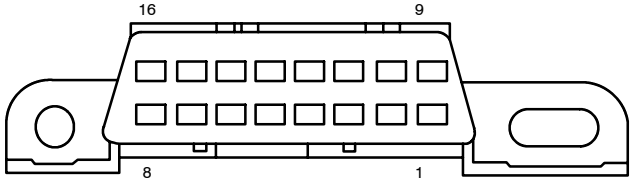
FEMALE

Pin	Circuit	Circuit function
1	297 (BK/LG)	Battery voltage, hot in Start and Run only
2	296 (WH/VT)	Battery voltage, hot in Run and Accessory only
3	1050 (LG/VT)	Voltage supplied at all times (overload protected)
4	32 (RD/LB)	Battery voltage, hot in Start only
5	298 (VT/OG)	Battery voltage, hot in Run only
6	1522 (LG)	Voltage supplied at all times (overload protected)

C251

14401

Data Link Connector
(DLC) (14489)



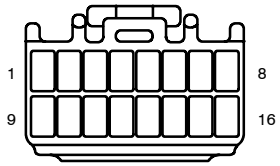
FEMALE

Pin	Circuit	Circuit function
1	–	not used
2	–	not used
3	–	not used
4	57 (BK)	Ground
5	57 (BK)	Ground
6	1814 (WH/LB)	High speed CAN +
7	–	not used
8	–	not used
9	–	not used
10	–	not used
11	–	not used
12	–	not used
13	–	not used
14	1815 (PK/LB)	High speed CAN –
15	–	not used
16	391 (RD/YE)	Voltage in Run or Accessory (overload protected)

C272

14401

Remote keyless entry module (15K602)



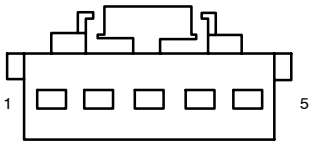
FEMALE

Pin	Circuit	Circuit function
1	489 (PK/BK)	Voltage in Run or Accessory (overload protected)
2	119 (PK/YE)	Lock/unlock circuit
3	6 (YE/LG)	Horn relay Switched ground
4	–	not used
5	–	not used
6	–	not used
7	129 (LG)	Lock/unlock circuit
8	–	not used
9	2002 (OG/BK)	Voltage supplied at all times (overload protected)
10	–	not used
11	–	not used
12	–	not used
13	–	not used
14	57 (BK)	Ground
15	–	not used
16	–	not used

C278

14401

Brake pedal position switch (13480)



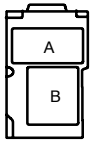
FEMALE

Pin	Circuit	Circuit function
1	2233 (OG/YE)	Speed control Deactivator switch
2	298 (VT/OG)	Voltage supplied in Start and Run (overload protected)
3	511 (LG)	Stoplamps, feed
4	10 (LG/RD)	Voltage supplied at all times (overload protected)
5	–	not used

C288

14401

Blower motor



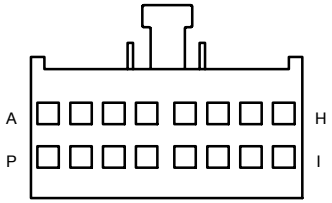
FEMALE

Pin	Circuit	Circuit function
A	371 (PK/WH)	Switched power
B	515 (OG/RD)	Switched ground – vaiable resistance

C290

14401

Audio unit (18808)



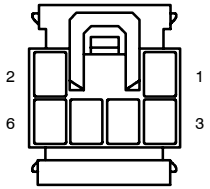
FEMALE

Pin	Circuit	Circuit function
A	–	not used
B	137 (YE/BK)	Voltage in Run or Accessory (overload protected)
C	57 (BK)	Ground
D	–	not used
E	–	not used
F	–	not used
G	–	not used
H	–	not used
I	–	not used
J	805 (WH/LG)	Audio signal negative, Right
K	287 (BK/WH)	Audio signal positive, Right
L	804 (OG/LG)	Audio signal negative, Left
M	287 (BK/WH)	Audio signal positive, Left
N	–	not used
O	1772 (VT)	Voltage supplied at all times (overload protected)
P	–	not used

C294a

14401

Function selector switch assembly (19B888)



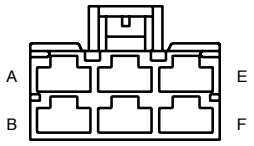
FEMALE

Pin	Circuit	Circuit function
1	57 (BK)	Ground
2	–	not used
3	489 (PK/BK)	Voltage in Run or Accessory (overload protected)
4	790 (WH/OG)	A/C demand signal
5	753 (YE/RD)	Blower motor relay
6	19 (LB/RD)	Switch illumination

C294b

14401

Function selector switch assembly (19B888)

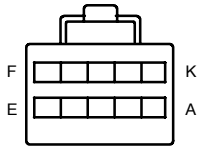


FEMALE

Pin	Circuit	Circuit function
A	57 (BK)	Ground
B	753 (YE/RD)	Blower motor relay, control
C	755 (BN/WH)	Blower motor Switched ground – medium Resistance
D	515 (OG/RD)	Blower motor Switched ground
E	752 (YE/RD)	Blower motor Switched ground – Low Resistance
F	751 (DB/WH)	Blower motor Switched ground – High Resistance

C300

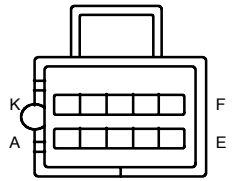
14A005



FEMALE

(A) 57 (BK)
(B) 159 (RD/PK)
(C) 85 (BN/LB)
(D) 511 (LG)
(E) 22 (LB/BK)
(F) 489 (PK/BK)
(G) 224 (TN/WH)
(H) 19 (LB/RD)
(J) 162 (LG/RD)
(K) –

14335



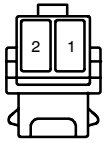
MALE

(A) 57 (BK)
(B) 159 (RD/PK)
(C) 85 (BN/LB)
(D) 511 (LG)
(E) 22 (LB/BK)
(F) 489 (PK/BK)
(G) 224 (TN/WH)
(H) 19 (LB/RD)
(J) 162 (LG/RD)
(K) –

C294c

14401

Function selector switch assembly (19B888)



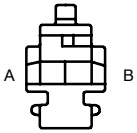
FEMALE

Pin	Circuit	Circuit function
1	19 (LB/RD)	Switch illumination
2	57 (BK)	Ground

C306

14A005

Parking brake switch (15A851)

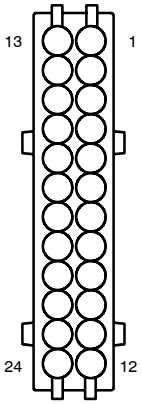


FEMALE

Pin	Circuit	Circuit function
A	57 (BK)	Ground
B	162 (LG/RD)	Park Brake indicator, control

C311

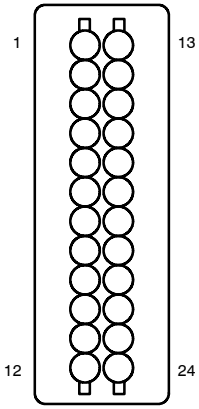
12A581



FEMALE

(1) 5 (OG/LB)
(2) 9 (LG/OG)
(3) 14 (BN)
(4) –
(5) 43 (DB)
(6) 140 (BK/PK)
(7) 511 (LG)
(8) 489 (PK/BK)
(9) 57 (BK)
(10) 29 (YE/WH)
(11) 787 (PK/BK)
(12) 905 (GY/LB)
(13) 49 (OG)
(14) 1924 (DG/WH)
(15) 2331 (LB)
(16) 2232 (RD)
(17) 1925 (PK/BK)
(18) 212 (DB)
(19) 492 (BN)
(20) 494 (TN/LG)
(21) 868 (PK/LG)
(22) 76 (LG/WH)
(23) 57 (BK)
(24) 679 (GY/BK)

14405



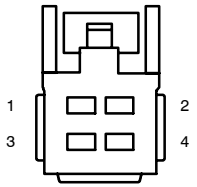
MALE

(1) 5 (OG/LB)
(2) 9 (LG/OG)
(3) 14 (BN)
(4) –
(5) 43 (DB)
(6) 140 (BK/PK)
(7) 511 (LG)
(8) 489 (PK/BK)
(9) 57 (BK)
(10) 29 (YE/WH)
(11) 787 (PK/BK)
(12) 905 (GY/LB)
(13) 49 (OG)
(14) 1924 (DG/WH)
(15) 2331 (LB)
(16) 2232 (RD)
(17) 1925 (PK/BK)
(18) 212 (DB)
(19) 492 (BN)
(20) 494 (TN/LG)
(21) 868 (PK/LG)
(22) 76 (LG/WH)
(23) 57 (BK)
(24) 679 (GY/BK)

C323

14A005

Safety belt buckle switch (10B924)



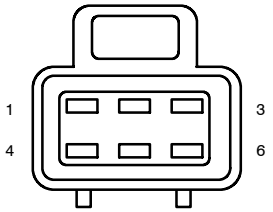
FEMALE

Pin	Circuit	Circuit function
1	–	not used
2	85 (BN/LB)	Safety belt indicator, control
3	57 (BK)	Ground
4	–	not used

C412

14405

Tail lamp, left



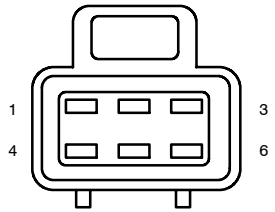
FEMALE

Pin	Circuit	Circuit function
1	57 (BK)	Ground
2	9 (LG/OG)	Left turn signal
3	–	not used
4	140 (BK/PK)	Reversing lamps
5	14 (BN)	Park lamps
6	511 (LG)	Stoplamps

C415

14405

Tail lamp, right

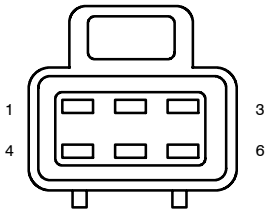


FEMALE

Pin	Circuit	Circuit function
1	57 (BK)	Ground
2	5 (OG/LB)	Right turn signal
3	–	not used
4	140 (BK/PK)	Reversing lamps
5	14 (BN)	Park lamps
6	511 (LG)	Stoplamps

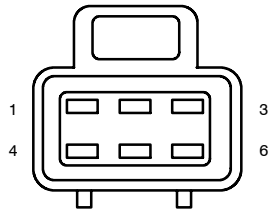
C421

14405



FEMALE

(1) 57 (BK)
(2) 5 (OG/LB)
(3) –
(4) 140 (BK/PK)
(5) 14 (BN)
(6) 511 (LG)

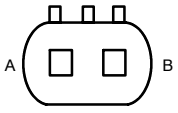


MALE

(1) 57 (BK)
(2) 5 (OG/LB)
(3) –
(4) 140 (BK/PK)
(5) 14 (BN)
(6) 511 (LG)

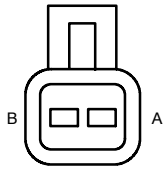
C422

14405



MALE

(A) 140 (BK/PK)
(B) 57 (BK)

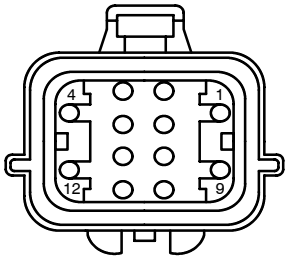


FEMALE

(A) 140 (BK/PK)
(B) 57 (BK)

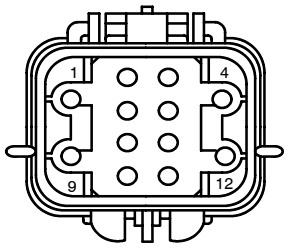
C423

14405



FEMALE

(1)	905 (GY/LB)
(2)	9 (LG/OG)
(3)	511 (LG)
(4)	57 (BK)
(5)	–
(6)	–
(7)	14 (BN)
(8)	5 (OG/LB)
(9)	–
(10)	–
(11)	–
(12)	–

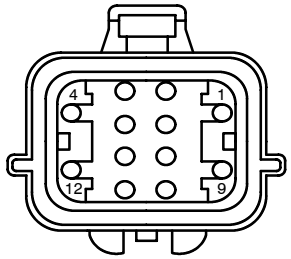


MALE

(1)	905 (GY/LB)
(2)	9 (LG/OG)
(3)	511 (LG)
(4)	57 (BK)
(5)	–
(6)	–
(7)	14 (BN)
(8)	5 (OG/LB)
(9)	–
(10)	–
(11)	–
(12)	–

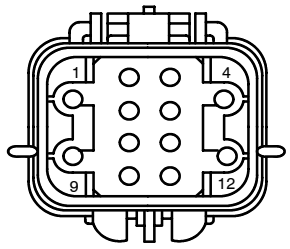
C431

14405



FEMALE

(1)	905 (GY/LB)
(2)	9 (LG/OG)
(3)	511 (LG)
(4)	57 (BK)
(5)	–
(6)	–
(7)	14 (BN)
(8)	5 (OG/LB)
(9)	–
(10)	–
(11)	–
(12)	–



MALE

(1)	905 (GY/LB)
(2)	9 (LG/OG)
(3)	511 (LG)
(4)	57 (BK)
(5)	–
(6)	–
(7)	14 (BN)
(8)	5 (OG/LB)
(9)	–
(10)	–
(11)	–
(12)	–

C455

14405

Rear axle speed sensor (4B409)

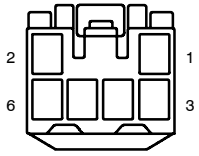
FEMALE

Pin	Circuit	Circuit function
1	492 (BN)	Rear axle speed sensor +
2	494 (TN/LG)	Rear axle speed sensor –

C504

14631

Master window adjust switch



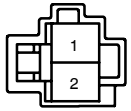
FEMALE

Pin	Circuit	Circuit function
1	226 (WH/BK)	Up/Down Circuit, driver side
2	227 (YE)	Up/Down Circuit, passenger side
3	57 (BK)	Ground
4	227 (YE)	Up/Down Circuit, driver side
5	170 (RD/LB)	Voltage in Run or Accessory (overload protected)
6	226 (WH/BK)	Up/Down Circuit, passenger side

C518

14631

Power window motor, left front



FEMALE

Pin	Circuit	Circuit function
1	226 (WH/BK)	motor drive +/–
2	227 (YE)	motor drive +/–

C523

14631

Speaker, left front (18808)

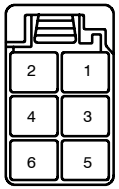
FEMALE

Pin	Circuit	Circuit function
1	287 (BK/WH)	Audio signal positive
2	804 (OG/LG)	Audio signal negative

C552

14631

Door lock actuator, left front



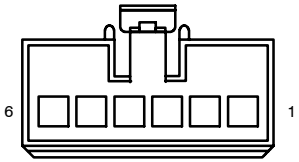
FEMALE

Pin	Circuit	Circuit function
1	119 (PK/YE)	Lock Switch Circuit
2	117 (PK/BK)	Lock/unlock circuit
3	–	not used
4	120 (PK/LG)	Lock Switch Circuit
5	118 (PK/OG)	Lock/unlock circuit
6	57 (BK)	Ground

C604

14630

Window adjust switch, passenger side



FEMALE

Pin	Circuit	Circuit function
1	227 (YE)	Up/Down Circuit from driver side
2	226 (WH/BK)	Up/Down Circuit to Window motor
3	227 (YE)	Up/Down Circuit to Window motor
4	–	not used
5	226 (WH/BK)	Up/Down Circuit from driver side
6	170 (RD/LB)	Voltage in Run or Accessory (overload protected)

C612

14630

Speaker, right front (18808)

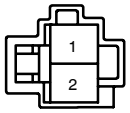
FEMALE

Pin	Circuit	Circuit function
1	287 (BK/WH)	Audio signal positive
2	805 (WH/LG)	Audio signal negative

C623

14630

Power window motor, right front



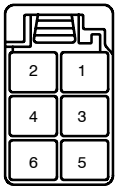
FEMALE

Pin	Circuit	Circuit function
1	226 (WH/BK)	motor drive +/–
2	227 (YE)	motor drive +/–

C641

14630

Door lock actuator, right front



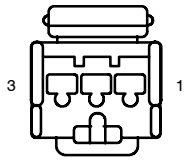
FEMALE

Pin	Circuit	Circuit function
1	–	not used
2	117 (PK/BK)	Lock/unlock circuit
3	–	not used
4	–	not used
5	118 (PK/OG)	Lock/unlock circuit
6	–	not used

C970

14335

Roof marker lamp, left



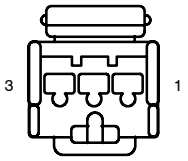
FEMALE

Pin	Circuit	Circuit function
1	14 (BN)	lamp feed
2	–	not used
3	57 (BK)	Ground

C971

14335

Roof marker lamp, left center



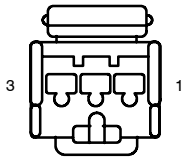
FEMALE

Pin	Circuit	Circuit function
1	14 (BN)	lamp feed
2	–	not used
3	57 (BK)	Ground

C972

14335

Roof marker lamp, center



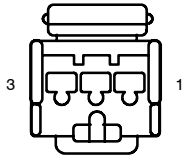
FEMALE

Pin	Circuit	Circuit function
1	14 (BN)	lamp feed
2	–	not used
3	57 (BK)	Ground

C973

14335

Roof marker lamp, right center



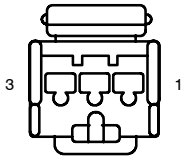
FEMALE

Pin	Circuit	Circuit function
1	14 (BN)	lamp feed
2	–	not used
3	57 (BK)	Ground

C974

14335

Roof marker lamp, right



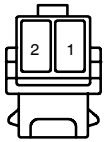
FEMALE

Pin	Circuit	Circuit function
1	14 (BN)	lamp feed
2	–	not used
3	57 (BK)	Ground

C981

14335

Interior lamp



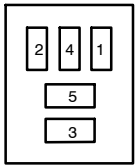
FEMALE

Pin	Circuit	Circuit function
1	159 (RD/PK)	Switched ground
2	54 (LG/YE)	Voltage supplied at all times (overload protected)

C1007

12A581

Fog lamp relay



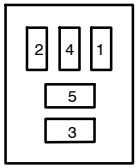
FEMALE

Pin	Circuit	Circuit function
1	477 (LB/BK)	Coil control
2	57 (BK)	Coil Ground
3	475 (WH/LG)	Voltage supplied at all times (overload protected)
4	–	not used
5	1721 (LB/BK)	Fog lamp feed

C1016

12A581

ECM power relay



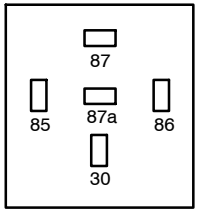
FEMALE

Pin	Circuit	Circuit function
1	361 (RD)	Voltage supplied at all times (overload protected)
2	1769 (BN/PK)	Coil Switched ground
3	361 (RD)	Voltage supplied at all times (overload protected)
4	–	not used
5	1683 (DG)	PCM feed

C1017

12A581

Starter relay (11450)



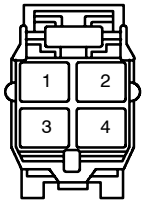
FEMALE

Pin	Circuit	Circuit function
30	329 (PK)	Voltage supplied at all times (overload protected)
85	32 (RD/LB)	Voltage supplied in Start (overload protected)
86	1093 (TN/RD)	Coil Switched ground
87	113 (YE/LB)	Switched power to starter solenoid
87a	–	not used

C1023

14401

Park/turn lamp, left front (13411)



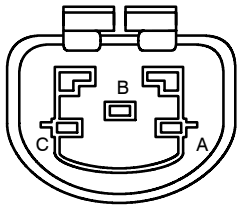
FEMALE

Pin	Circuit	Circuit function
1	3 (LG/WH)	Turn signal
2	14 (BN)	Park lamps feed
3	57 (BK)	Ground
4	380 (VT/YE)	Turn signal

C1021

14401

Headlamp, left (13008)



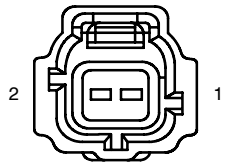
FEMALE

Pin	Circuit	Circuit function
A	13 (RD/BK)	Low beam feed
B	57 (BK)	Ground
C	12 (LG/BK)	High beam feed

C1025

14401

Brake pressure switch (2B264)



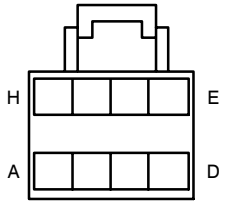
FEMALE

Pin	Circuit	Circuit function
1	489 (PK/BK)	Voltage in Run or Accessory (overload protected)
2	535 (LB/RD)	Speed control Deactivator switch signal

C1030

14401

Daytime Running Lamps (DRL) module



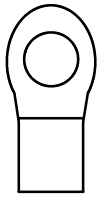
FEMALE

Pin	Circuit	Circuit function
A	1669 (OG/LG)	Headlamp switch
B	13 (RD/BK)	Battery voltage, Hot with Headlamps on
C	12 (LG/BK)	Battery voltage, Hot with High Beams on
D	57 (BK)	Ground
E	162 (LG/RD)	Switched ground
F	–	not used
G	489 (PK/BK)	Voltage in Run or Accessory (overload protected)
H	2002 (OG/BK)	Voltage supplied at all times (overload protected)

C1035

12A581

Battery Junction Box (BJB)

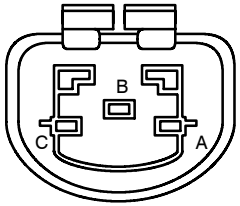


Pin	Circuit	Circuit function
1	(RD)	Battery voltage

C1041

14401

Headlamp, right (13008)



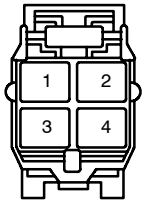
FEMALE

Pin	Circuit	Circuit function
A	13 (RD/BK)	Low beam feed
B	57 (BK)	Ground
C	12 (LG/BK)	High beam feed

C1043

14401

Park/turn lamp, right front (13411)



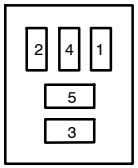
FEMALE

Pin	Circuit	Circuit function
1	2 (WH/LB)	Turn signal
2	14 (BN)	Park lamps feed
3	57 (BK)	Ground
4	379 (BN/WH)	Turn signal

C1051

12A581

Fuel pump relay



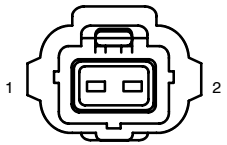
FEMALE

Pin	Circuit	Circuit function
1	489 (PK/BK)	Voltage in Run or Accessory (overload protected)
2	1842 (OG/LG)	Coil Switched ground
3	1059 (LB/OG)	Voltage supplied at all times (overload protected)
4	–	not used
5	787 (PK/BK)	Switched power

C1064

12B637

Engine Coolant Temperature (ECT) sensor (12A648)



FEMALE

Pin	Circuit	Circuit function
1	359 (GY/RD)	Signal return
2	3076 (YE/WH)	Temperature signal

C1076

12A581

Fuel heater

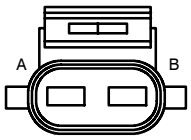
FEMALE

Pin	Circuit	Circuit function
1	57 (BK)	Ground
2	653 (DB)	Voltage supplied in Start and Run (overload protected)

C1078

14401

A/C high pressure switch (19D594)



FEMALE

Pin	Circuit	Circuit function
A	1811 (RD/PK)	A/C demand signal
B	348 (VT)	A/C demand signal

C1080

12A581

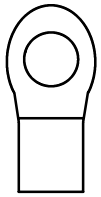
Water–in–fuel sensor

FEMALE

Pin	Circuit	Circuit function
1	327 (BK/OG)	Sensor signal
2	489 (PK/BK)	Voltage in Run or Accessory (overload protected)

C1084a

Glow plug relay



Pin	Circuit	Circuit function
1	(RD)	Battery voltage

C1084b

12B637

Glow plug relay

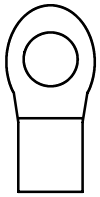
Pin	Circuit	Circuit function
1	(RD)	glow plug, feed

Pin	Circuit	Circuit function
1	1277 (WH/LG)	Glow plug relay, monitor

C1084c

12B637

Glow plug relay

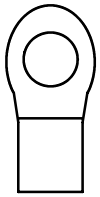


Pin	Circuit	Circuit function
1	1086 (VT/OG)	Coil control

C1084d

12B637

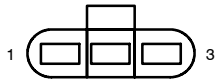
Glow plug relay



Pin	Circuit	Circuit function
1	57 (BK)	Coil Ground

C1086

A/C Compressor clutch diode

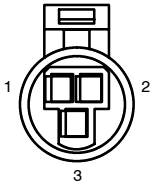


FEMALE

Pin	Circuit	Circuit function
1	3028 (DB/YE)	A/C clutch relay, switched power
2	–	not used
3	3027 (RD/WH)	Ground

C1087

Manifold Absolute Pressure (MAP) sensor



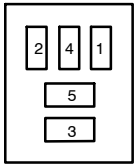
FEMALE

Pin	Circuit	Circuit function
1	359 (GY/RD)	Signal return
2	351 (BN/WH)	Reference voltage
3	358 (LG/BK)	Pressure signal

C1095

12A581

Park lamp relay

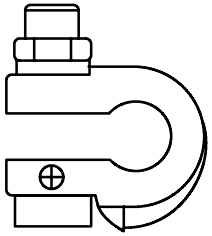


FEMALE

Pin	Circuit	Circuit function
1	1057 (OG/BK)	Voltage supplied at all times (overload protected)
2	1032 (WH/BK)	Coil Switched ground
3	1057 (OG/BK)	Voltage supplied at all times (overload protected)
4	–	not used
5	14 (BN)	lamp feed

C1100a

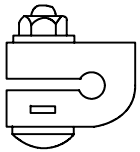
Battery (10655)



Pin	Circuit	Circuit function
1	(RD)	Battery cable +
	(RD)	Battery cable +

C1100b

Battery (10655)

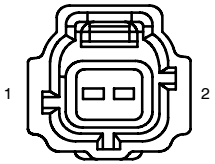


Pin	Circuit	Circuit function
1	(BK)	Battery cable –
	(BK)	Battery cable –

C1120

12B637

Crankshaft position sensor (6C315)



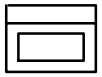
FEMALE

Pin	Circuit	Circuit function
1	349 (DB)	Crankshaft position sensor +
2	350 (GY)	Crankshaft position sensor –

C1162a

14401

Freeze protection switch



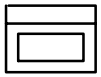
FEMALE

Pin	Circuit	Circuit function
A	790 (WH/OG)	A/C demand signal

C1162b

14401

Freeze protection switch



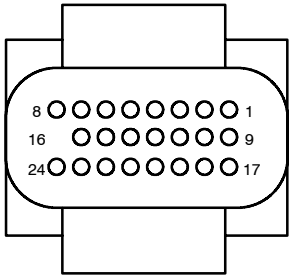
FEMALE

Pin	Circuit	Circuit function
A	439 (TN/LG)	A/C demand signal

C1174a

9D930

Injector Driver Module (IDM)



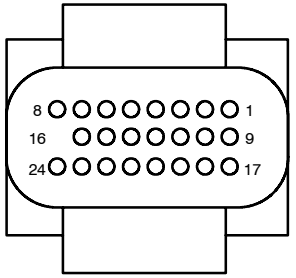
FEMALE

Pin	Circuit	Circuit function
1	7 (LG/YE)	Fuel injector 3, open coil, Ground
2	3 (LG/WH)	Fuel injector 1, open coil, Ground
3	11 (TN/YE)	Fuel injector 5, open coil, Ground
4	–	not used
5	2 (WH/LB)	Fuel injector 1, close coil, Ground
6	6 (YE/LG)	Fuel injector 3, close coil, Ground
7	–	not used
8	10 (LG/RD)	Fuel injector 5, close coil, Ground
9	–	not used
10	–	not used
11	–	not used
12	–	not used
13	–	not used
14	–	not used
15	–	not used
16	–	not used
17	12 (LG/BK)	Fuel injector 5, open coil, Power
18	9 (LG/OG)	Fuel injector 5, close coil, Power
19	4 (WH/BK)	Fuel injector 1, open coil, Power
20	1 (DB)	Fuel injector 1, close coil, Power
21	–	not used
22	–	not used
23	8 (OG/YE)	Fuel injector 3, open coil, Power
24	5 (OG/LB)	Fuel injector 3, close coil, Power

C1174b

9D930

Injector Driver Module (IDM)



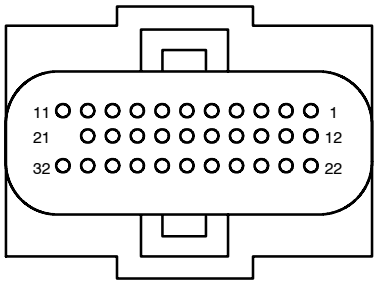
FEMALE

Pin	Circuit	Circuit function
1	23 (TN/LG)	Fuel injector 4, open coil, Ground
2	19 (LB/RD)	Fuel injector 2, open coil, Ground
3	–	not used
4	27 (OG/LG)	Fuel injector 6, open coil, Ground
5	22 (LB/BK)	Fuel injector 4, close coil, Ground
6	18 (OG/YE)	Fuel injector 2, close coil, Ground
7	–	not used
8	26 (WH/VT)	Fuel injector 6, close coil, Ground
9	–	not used
10	–	not used
11	–	not used
12	–	not used
13	–	not used
14	–	not used
15	–	not used
16	–	not used
17	20 (WH/LB)	Fuel injector 2, open coil, Power
18	17 (WH)	Fuel injector 2, close coil, Power
19	28 (BK/PK)	Fuel injector 6, open coil, Power
20	25 (DG/VT)	Fuel injector 6, close coil, Power
21	24 (DB/OG)	Fuel injector 4, open coil, Power
22	21 (DG/LG)	Fuel injector 4, close coil, Power
23	–	not used
24	–	not used

C1174c

12B637

Injector Driver Module (IDM)



FEMALE

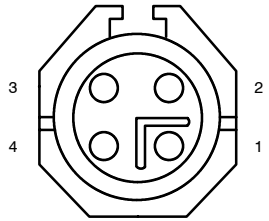
Pin	Circuit	Circuit function
1	51 (BK/WH)	Power ground
2	51 (BK/WH)	Power ground
3	51 (BK/WH)	Power ground
4	58 (WH)	switched power
5	54 (LG/YE)	CKPO
6	–	not used
7	1717 (VT/OG)	Voltage supplied in Start and Run (overload protected)
8	37 (WH)	logic power
9	–	not used
10	56 (DB/OG)	CMPO
11	–	not used
12	–	not used
13	–	not used
14	–	not used
15	–	not used
16	–	not used

Pin	Circuit	Circuit function
17	–	not used
18	–	not used
19	–	not used
20	–	not used
21	–	not used
22	51 (BK/WH)	Power ground
23	58 (WH)	switched power
24	58 (WH)	switched power
25	58 (WH)	switched power
26	51 (BK/WH)	Power ground
27	3098 (RD/YE)	Injector Driver Module (IDM) power relay, control
28	832 (LB/PK)	(ATA) +
29	830 (TN)	(ATA) –
30	69 (RD/LG)	CAN Bus 2H
31	70 (LB/WH)	CAN Bus 2L
32	–	not used

C1181

12B637

Fuel injector 1
(9F593)



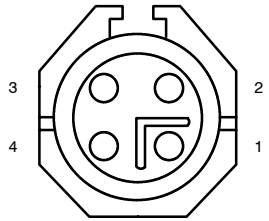
FEMALE

Pin	Circuit	Circuit function
1	4 (WH/BK)	open coil, Power
2	3 (LG/WH)	open coil, Ground
3	1 (DB)	close coil, Power
4	2 (WH/LB)	close coil, Ground

C1182

12B637

Fuel injector 2
(9F593)



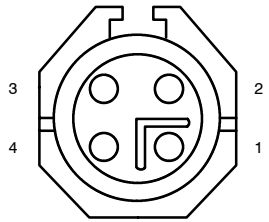
FEMALE

Pin	Circuit	Circuit function
1	20 (WH/LB)	open coil, Power
2	19 (LB/RD)	open coil, Ground
3	17 (WH)	close coil, Power
4	18 (OG/YE)	close coil, Ground

C1183

12B637

Fuel injector 3
(9F593)



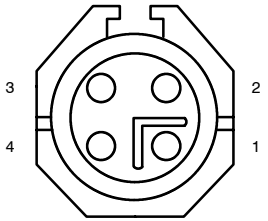
FEMALE

Pin	Circuit	Circuit function
1	8 (OG/YE)	open coil, Power
2	7 (LG/YE)	open coil, Ground
3	5 (OG/LB)	close coil, Power
4	6 (YE/LG)	close coil, Ground

C1184

12B637

Fuel injector 4
(9F593)



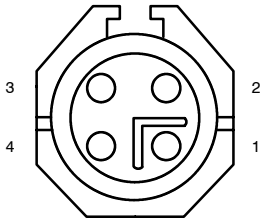
FEMALE

Pin	Circuit	Circuit function
1	24 (DB/OG)	open coil, Power
2	23 (TN/LG)	open coil, Ground
3	21 (DG/LG)	close coil, Power
4	22 (LB/BK)	close coil, Ground

C1185

12B637

Fuel injector 5
(9F593)



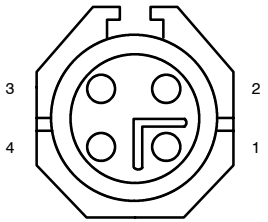
FEMALE

Pin	Circuit	Circuit function
1	12 (LG/BK)	open coil, Power
2	11 (TN/YE)	open coil, Ground
3	9 (LG/OG)	close coil, Power
4	10 (LG/RD)	close coil, Ground

C1186

12B637

Fuel injector 6
(9F593)



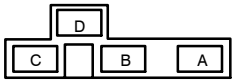
FEMALE

Pin	Circuit	Circuit function
1	28 (BK/PK)	open coil, Power
2	27 (OG/LG)	open coil, Ground
3	25 (DG/VT)	close coil, Power
4	26 (WH/VT)	close coil, Ground

C1228

14401

Blower motor resistor (19A706)

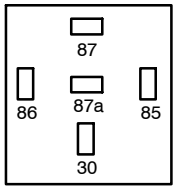


FEMALE

Pin	Circuit	Circuit function
A	751 (DB/WH)	Switched ground, High Resistance
B	515 (OG/RD)	Blower motor
C	755 (BN/WH)	Switched ground, medium Resistance
D	752 (YE/RD)	Switched ground, Low Resistance

C1235

Injector Driver Module (IDM) power relay



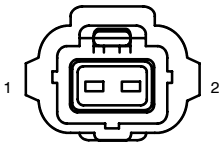
FEMALE

Pin	Circuit	Circuit function
30	1854 (WH/PK)	Voltage supplied at all times (overload protected)
85	1854 (WH/PK)	Voltage supplied at all times (overload protected)
86	1853 (RD/WH)	Coil Switched ground
87	814 (WH/BK)	Injector Driver Module (IDM) feed
87a	–	not used

C1236

12B637

Manifold Air Temperature (MAT) sensor



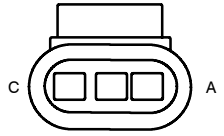
FEMALE

Pin	Circuit	Circuit function
1	359 (GY/RD)	Signal return
2	42 (RD/WH)	Temperature signal

C1237

12A581

Resistor cap 1



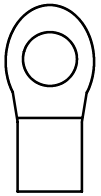
FEMALE

Pin	Circuit	Circuit function
A	1814 (WH/LB)	High speed CAN +
B	–	not used
C	1815 (PK/LB)	High speed CAN –

C1239

12B637

Air intake heater

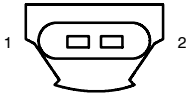


Pin	Circuit	Circuit function
1	1119 (RD)	switched power

C1242

12B637

Injection Pressure Regulator (IPR)



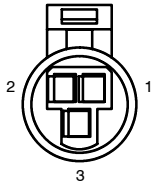
FEMALE

Pin	Circuit	Circuit function
1	1717 (VT/OG)	Voltage supplied in Start and Run (overload protected)
2	552 (YE/RD)	Switched ground

C1244

12B637

Injection Control Pressure (ICP) sensor (9F972)



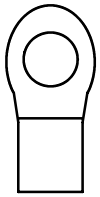
FEMALE

Pin	Circuit	Circuit function
1	359 (GY/RD)	Signal return
2	351 (BN/WH)	Reference voltage
3	812 (DB/LG)	Pressure signal

C1245a

12B637

Manifold intake air heater relay



Pin	Circuit	Circuit function
1	(RD)	Voltage supplied at all times (overload protected)
	(RD)	Voltage supplied at all times (overload protected)

C1245b

12B637

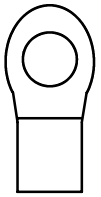
Manifold intake air heater relay

Pin	Circuit	Circuit function
1	367 (BN)	Manifold intake air heater relay monitor

C1245c

12B637

Manifold intake air heater relay

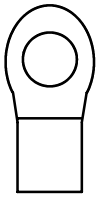


Pin	Circuit	Circuit function
1	462 (VT)	Coil control

C1245d

12B637

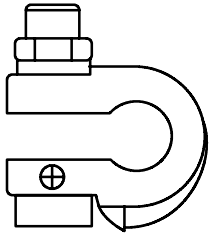
Manifold intake air heater relay



Pin	Circuit	Circuit function
1	57 (BK)	Coil Ground

C1249a

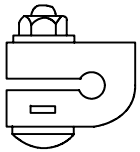
Battery 2



Pin	Circuit	Circuit function
1	(RD)	Battery cable +

C1249b

Battery 2



Pin	Circuit	Circuit function
1	(BK)	Battery cable –

C1253

12A581

Fuel pump

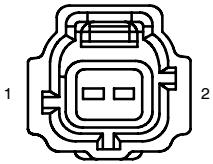
FEMALE

Pin	Circuit	Circuit function
1	787 (PK/BK)	Voltage in Run or Accessory (overload protected)
2	57 (BK)	Ground

C1275

12B637

Camshaft position sensor (6B288)



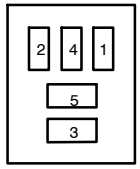
FEMALE

Pin	Circuit	Circuit function
1	50 (RD)	Camshaft position sensor +
2	49 (OG)	Camshaft position sensor –

C1329

12A581

Fuel heater relay



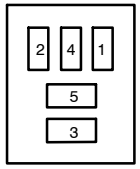
FEMALE

Pin	Circuit	Circuit function
1	297 (BK/LG)	Voltage supplied in Start and Run (overload protected)
2	57 (BK)	Coil Switched ground
3	1662 (YE/BK)	Voltage supplied at all times (overload protected)
4	–	not used
5	653 (DB)	Fuel heater feed

C1382

12A581

A/C clutch relay



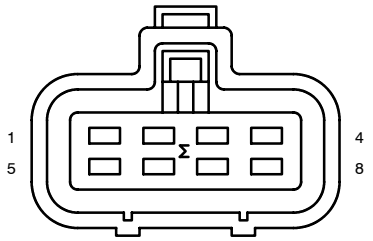
FEMALE

Pin	Circuit	Circuit function
1	297 (BK/LG)	Voltage supplied in Start and Run (overload protected)
2	321 (GY/WH)	Coil Switched ground
3	883 (PK/LB)	Voltage supplied at all times (overload protected)
4	–	not used
5	1810 (LG/OG)	A/C clutch field coil feed

C1389

12B637

EGR valve actuator



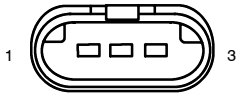
FEMALE

Pin	Circuit	Circuit function
1	159 (RD/PK)	Sensor feed +5V
2	764 (BN/WH)	EGR valve position sensor (W phase)
3	763 (OG/WH)	EGR valve position sensor (V phase)
4	762 (YE/WH)	EGR valve position sensor (U phase)
5	158 (BK/PK)	Sensor Ground
6	1834 (VT)	EGR valve actuator + (W phase)
7	1833 (GY/RD)	EGR valve actuator + (V phase)
8	1831 (BN/LG)	EGR valve actuator + (U phase)

C1413

12B637

Glow plug bank, left



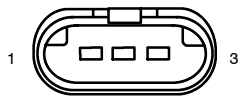
FEMALE

Pin	Circuit	Circuit function
1	(YE)	glow plug feed
2	(RD)	glow plug feed
3	(WH)	glow plug feed

C1414

12B637

Glow plug bank, right



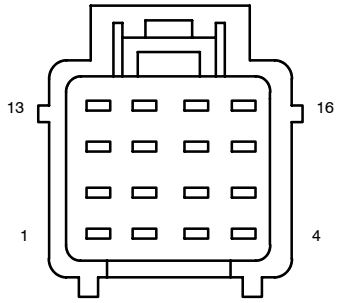
FEMALE

Pin	Circuit	Circuit function
1	(YE)	glow plug feed
2	(RD)	glow plug feed
3	(WH)	glow plug feed

C1450

12B637

EGR system module



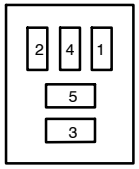
FEMALE

Pin	Circuit	Circuit function
1	1832 (DB/LG)	switched power
2	57 (BK)	Ground
3	69 (RD/LG)	CAN Bus 2+
4	70 (LB/WH)	CAN Bus 2–
5	–	not used
6	1831 (BN/LG)	EGR valve actuator + (U phase)
7	1833 (GY/RD)	EGR valve actuator + (V phase)
8	1834 (VT)	EGR valve actuator + (W phase)
9	48	Drain wire
10	–	not used
11	–	not used
12	159 (RD/PK)	Sensor feed +5V
13	762 (YE/WH)	EGR valve position sensor (U phase)
14	763 (OG/WH)	EGR valve position sensor (V phase)
15	764 (BN/WH)	EGR valve position sensor (W phase)
16	158 (BK/PK)	Sensor Ground

C1474

12A581

Reversing lamps relay

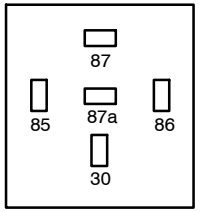


FEMALE

Pin	Circuit	Circuit function
1	296 (WH/VT)	Voltage in Run or Accessory (overload protected)
2	1789 (VT/WH)	Coil Switched ground
3	175 (BK/YE)	Voltage supplied at all times (overload protected)
4	–	not used
5	140 (BK/PK)	Reversing lamps feed

C1491

Windshield wiper relay



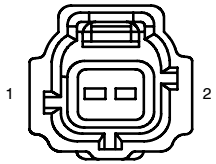
FEMALE

Pin	Circuit	Circuit function
30	1672 (DB)	Voltage supplied at all times (overload protected)
85	298 (VT/OG)	Voltage supplied in Run (overload protected)
86	57 (BK)	Coil Ground
87	1671 (RD)	Windshield wiper motor feed
87a	–	not used

C1515

12B637

Boost control solenoid

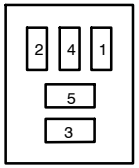


FEMALE

Pin	Circuit	Circuit function
1	1275 (WH/RD)	switched power
2	57 (BK)	Ground

C1519

Body builder relay
#1



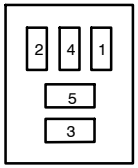
FEMALE

Pin	Circuit	Circuit function
1	297 (BK/LG)	Voltage supplied in Start and Run (overload protected)
2	57 (BK)	Coil Ground
3	212 (DB)	Customer Access, switched power
4	–	not used
5	212 (DB)	Voltage supplied at all times (overload protected)

C1520

12A581

Transmission relay



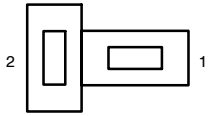
FEMALE

Pin	Circuit	Circuit function
1	297 (BK/LG)	Voltage supplied in Start and Run (overload protected)
2	57 (BK)	Coil Ground
3	1861 (RD)	Voltage supplied at all times (overload protected)
4	–	not used
5	462 (VT)	Automatic transmission module feed

C1521

12581

Transmission relay
diode

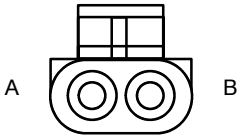


Pin	Circuit	Circuit function
1	297 (BK/LG)	Voltage supplied in Start and Run (overload protected)
2	297 (BK/LG)	Voltage supplied in Start and Run (overload protected)

C1529

12A581

Pusher fan



Pin	Circuit	Circuit function
A	1153 (RD/BK)	Switched power
B	57 (BK)	Ground

C2014

14401

Ashtray illumination lamp

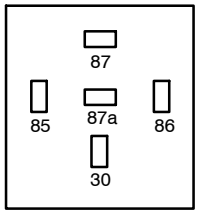
FEMALE

Pin	Circuit	Circuit function
A	19 (LB/RD)	lamp feed
B	57 (BK)	Ground

C2017

12A581

Blower motor relay



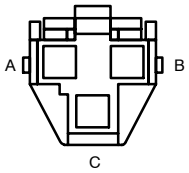
FEMALE

Pin	Circuit	Circuit function
30	364 (BK/LG)	Voltage supplied at all times (overload protected)
85	489 (PK/BK)	Voltage in Run or Accessory (overload protected)
86	753 (YE/RD)	Coil Ground
87	371 (PK/WH)	Blower motor feed
87a	–	not used

C2031

14401

Cigar lighter, front (15055)



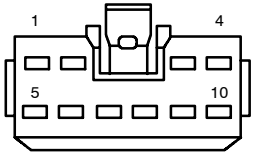
FEMALE

Pin	Circuit	Circuit function
A	40 (LB/WH)	Voltage supplied at all times (overload protected)
B	–	not used
C	57 (BK)	Ground

C2039

14401

Hazard flasher switch



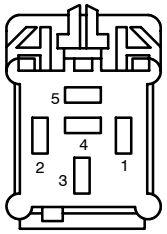
FEMALE

Pin	Circuit	Circuit function
1	3 (LG/WH)	Left turn signal
2	2 (WH/LB)	Right turn signal
3	–	not used
4	385 (WH/RD)	Indicator flasher relay, control
5	–	not used
6	–	not used
7	–	not used
8	19 (LB/RD)	Illumination
9	57 (BK)	Ground
10	–	not used

C2047

14401

Indicator flasher relay (13350)



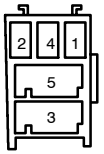
FEMALE

Pin	Circuit	Circuit function
1	8 (OG/YE)	Voltage supplied in Run (overload protected)
2	383 (RD/WH)	Voltage supplied at all times (overload protected)
3	385 (WH/RD)	Emergency warning flasher On/Off signal
4	44 (LB)	Pulsed power feed
5	57 (BK)	Ground

C2077

14401

Horn relay



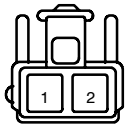
FEMALE

Pin	Circuit	Circuit function
1	460 (YE/LB)	Voltage supplied at all times (overload protected)
2	6 (YE/LG)	Coil Switched ground
3	460 (YE/LB)	Voltage supplied at all times (overload protected)
4	–	not used
5	1 (DB)	Horn feed

C2112

14401

Key warning switch
(11A127)



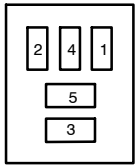
FEMALE

Pin	Circuit	Circuit function
1	3049 (BK/LG)	Voltage supplied at all times (overload protected)
2	1414 (LG/VT)	Key in ignition signal

C2129

14401

Headlamp relay



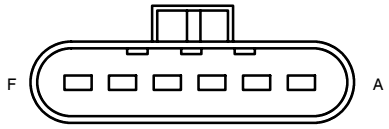
FEMALE

Pin	Circuit	Circuit function
1	1709 (BN)	Voltage supplied at all times (overload protected)
2	1708 (LG/BK)	Coil Switched ground
3	1709 (BN)	Voltage supplied at all times (overload protected)
4	–	not used
5	1732 (BK/YE)	lamp feed, High beam

C2171

14401

Accelerator pedal
position sensor



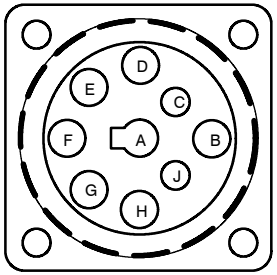
FEMALE

Pin	Circuit	Circuit function
A	1283 (TN/YE)	position signal
B	359 (GY/RD)	Signal return
C	351 (BN/WH)	Reference voltage
D	1285 (RD/LG)	Idle validation switch signal
E	–	not used
F	1857 (YE/WH)	Voltage supplied in Start and Run (overload protected)

C2173

14401

Engine diagnostic connector



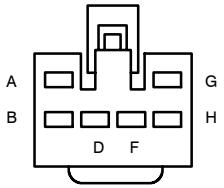
FEMALE

Pin	Circuit	Circuit function
A	57 (BK)	Ground
B	391 (RD/YE)	Voltage in Run or Accessory (overload protected)
C	1851 (WH/LG)	Medium speed CAN +
D	1852 (PK/LG)	Medium speed CAN –
E	–	not used
F	914 (TN/OG)	Standard Corporate Protocol (SCP) data +
G	915 (PK/LB)	Standard Corporate Protocol (SCP) data –
H	–	not used
J	–	not used

C2177

14401

Speed control Set/ Resume switch



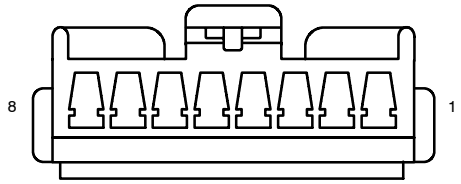
FEMALE

Pin	Circuit	Circuit function
A	19 (LB/RD)	Switch illumination
B	5133 (WH)	Set signal
D	248 (TN/OG)	Voltage supplied in Start and Run (overload protected)
F	–	not used
G	57 (BK)	Ground
H	133 (BK)	Cruise resume signal

C2178

14401

Speed control On/
Off switch



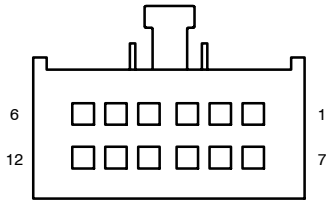
FEMALE

Pin	Circuit	Circuit function
1	–	not used
2	57 (BK)	Ground
3	248 (TN/OG)	Speed control On/Off signal
4	298 (VT/OG)	Voltage supplied in Start and Run (overload protected)
5	–	not used
6	19 (LB/RD)	Switch illumination
7	57 (BK)	Ground
8	–	not used

C2188

14401

Audio unit (18808)



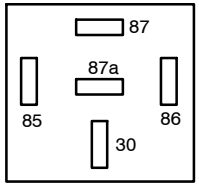
FEMALE

Pin	Circuit	Circuit function
1	804 (OG/LG)	Audio signal negative, Left
2	287 (BK/WH)	Audio signal positive, Left
3	–	not used
4	–	not used
5	57 (BK)	Ground
6	137 (YE/BK)	Voltage in Run or Accessory (overload protected)
7	805 (WH/LG)	Audio signal negative, Right
8	287 (BK/WH)	Audio signal positive, Right
9	–	not used
10	–	not used
11	–	not used
12	1772 (VT)	Voltage supplied at all times (overload protected)

C2218

14401

Power window relay



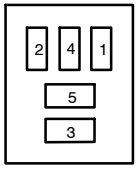
FEMALE

Pin	Circuit	Circuit function
30	170 (RD/LB)	Voltage supplied at all times (overload protected)
85	296 (WH/VT)	Voltage in Run or Accessory (overload protected)
86	57 (BK)	Coil Ground
87	170 (RD/LB)	Power windows feed
87a	–	not used

C2242

14401

High beam relay



FEMALE

Pin	Circuit	Circuit function
1	1732 (BK/YE)	Voltage supplied at all times (overload protected)
2	1708 (LG/BK)	Coil Switched ground
3	1732 (BK/YE)	Voltage supplied at all times (overload protected)
4	13 (RD/BK)	lamp feed, Low beam
5	12 (LG/BK)	lamp feed, High beam

C2246

14401

Ashtray illumination lamp

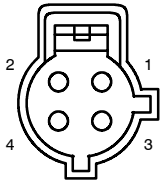
FEMALE

Pin	Circuit	Circuit function
A	19 (LB/RD)	lamp feed
B	57 (BK)	Ground

C2256

14401

Barometric Absolute Pressure (BAP) sensor



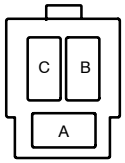
FEMALE

Pin	Circuit	Circuit function
1	359 (GY/RD)	Signal return
2	351 (BN/WH)	Reference voltage
3	1282 (TN/OG)	Pressure signal
4	–	not used

C2298

14401

Illumination dimmer switch



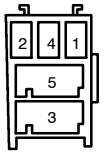
FEMALE

Pin	Circuit	Circuit function
A	19 (LB/RD)	Cluster and Panel Illumination
B	–	not used
C	14 (BN)	switched power

C2312

14401

Run/Accessory relay



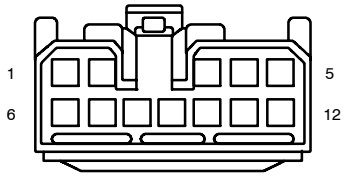
FEMALE

Pin	Circuit	Circuit function
1	297 (BK/LG)	Voltage supplied in Start and Run (overload protected)
2	57 (BK)	Coil Ground
3	3049 (BK/LG)	Voltage supplied at all times (overload protected)
4	–	not used
5	489 (PK/BK)	Run/Acc power circuit

C2333

14401

Door lock timer



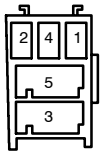
FEMALE

Pin	Circuit	Circuit function
1	1679 (WH/YE)	Voltage supplied at all times (overload protected)
2	118 (PK/OG)	Lock/unlock circuit
3	–	not used
4	119 (PK/YE)	Lock Switch Circuit
5	57 (BK)	Ground
6	–	not used
7	117 (PK/BK)	Lock/unlock circuit
8	129 (LG)	Remote Keyless Entry (RKE) input
9	–	not used
10	–	not used
11	120 (PK/LG)	Lock Switch Circuit
12	57 (BK)	Ground

C2344

14401

A/C demand relay



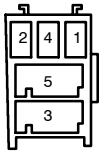
FEMALE

Pin	Circuit	Circuit function
1	489 (PK/BK)	Voltage in Run or Accessory (overload protected)
2	753 (YE/RD)	Switched ground
3	790 (WH/OG)	A/C demand signal
4	–	not used
5	790 (WHOG)	A/C demand signal

C2346

14401

Pusher fan relay



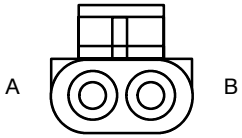
FEMALE

Pin	Circuit	Circuit function
1	3850 (LG/VT)	Four–wheel drive relay, control
2	57 (BK)	Ground
3	1153 (RD/BK)	Voltage supplied at all times (overload protected)
4	–	not used
5	1153 (RD/BK)	Pusher fan, control

C2345

14401

Pusher fan pressure switch



Pin	Circuit	Circuit function
A	489 (PK/BK)	Voltage in Run or Accessory (overload protected)
B	3850 (LG/VT)	Four–wheel drive relay, control

C3129

14A005

Door ajar switch, left front

FEMALE

Pin	Circuit	Circuit function
1	159 (RD/PK)	Interior lamp Switched ground

C3141

14A005

Door ajar switch,
right front

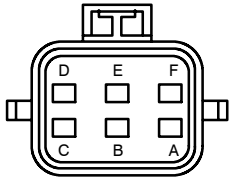
FEMALE

Pin	Circuit	Circuit function
1	159 (RD/PK)	Interior lamp Switched ground

C3245

14A005

Floor shifter



FEMALE

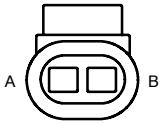
Pin	Circuit	Circuit function
A	511 (LG)	Brake shift interlock control
B	22 (LB/BK)	Overdrive indicator Switched ground
C	489 (PK/BK)	Voltage in Run or Accessory (overload protected)
D	224 (TN/WH)	Overdrive cancel switch signal
E	19 (LB/RD)	Illumination
F	57 (BK)	Ground

C3262

14405

Fuel sender, primary

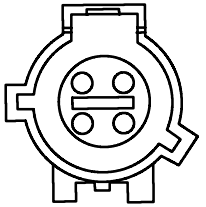
side mounted tank



FEMALE

Pin	Circuit	Circuit function
A	29 (YE/WH)	Fuel sender signal
B	57 (BK)	Ground

rear mounted tank



FEMALE

Pin	Circuit	Circuit function
1	–	not used
2	29 (YE/WH)	Fuel sender signal
3	–	not used
4	57 (BK)	Ground

C3263

14405

Fuel sender, secondary

FEMALE

Pin	Circuit	Circuit function
A	29 (YE/WH)	Fuel sender signal
B	57 (BK)	Ground

C4015

14405

Reversing alarm speaker

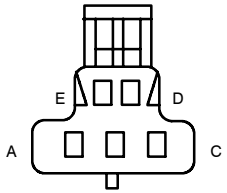
FEMALE

Pin	Circuit	Circuit function
A	140 (BK/PK)	Voltage supplied in reverse
B	57 (BK)	Ground

C3264

14405

Fuel transfer pump



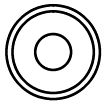
FEMALE

Pin	Circuit	Circuit function
A	29 (YE/WH)	Fuel tank sender, RH side
B	29 (YE/WH)	Fuel tank sender, LH side
C	787 (PK/BK)	Voltage in Run or Accessory (overload protected)
D	57 (BK)	Ground
E	489 (PK/BK)	Voltage supplied at all times (overload protected)

C4046a

14405

License plate lamp
(13550)

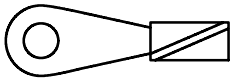


Pin	Circuit	Circuit function
1	14 (BN)	voltage, Hot in Park or Head

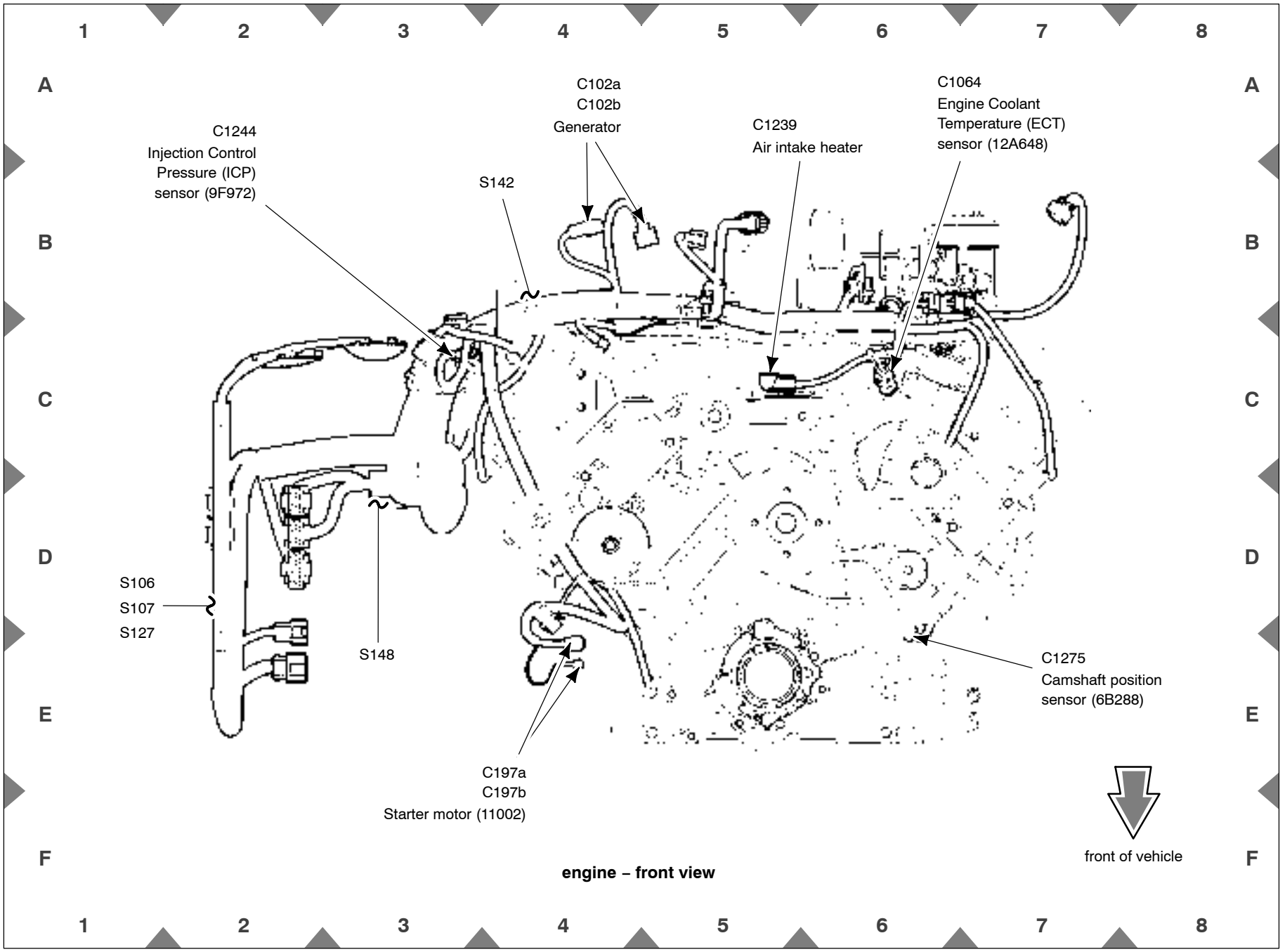
C4046b

14405

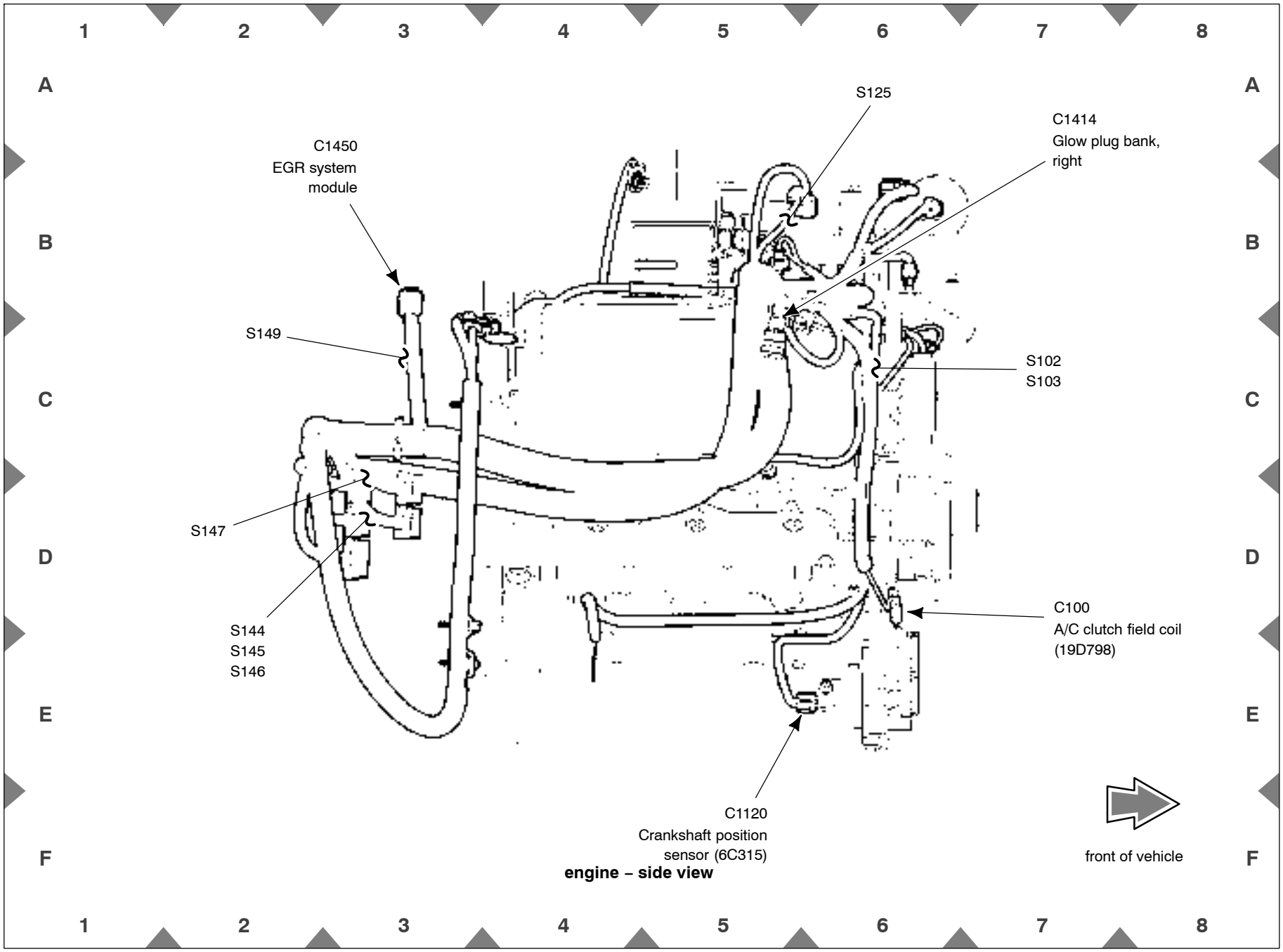
License plate lamp
(13550)



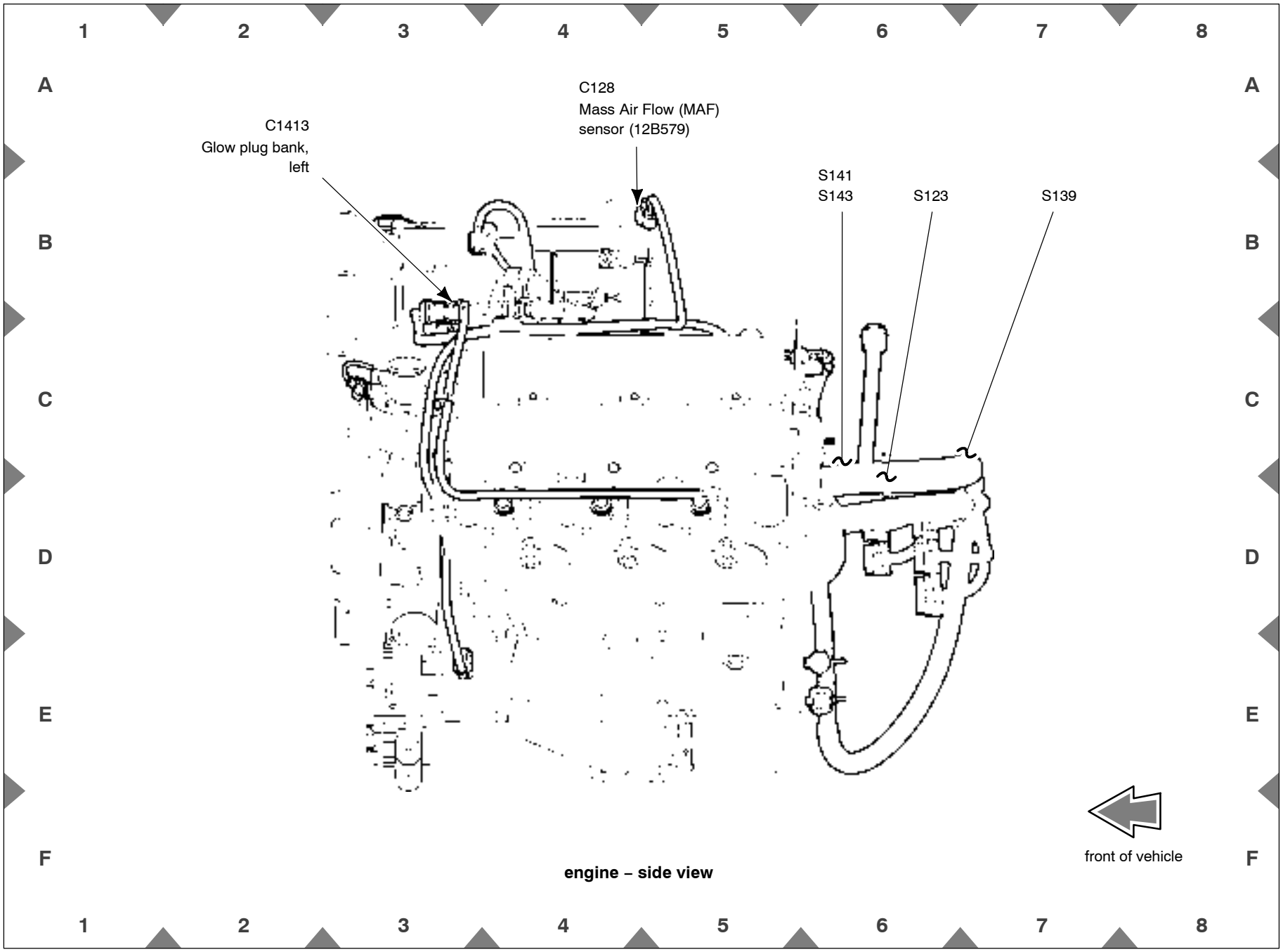
Pin	Circuit	Circuit function
1	57 (BK)	Ground



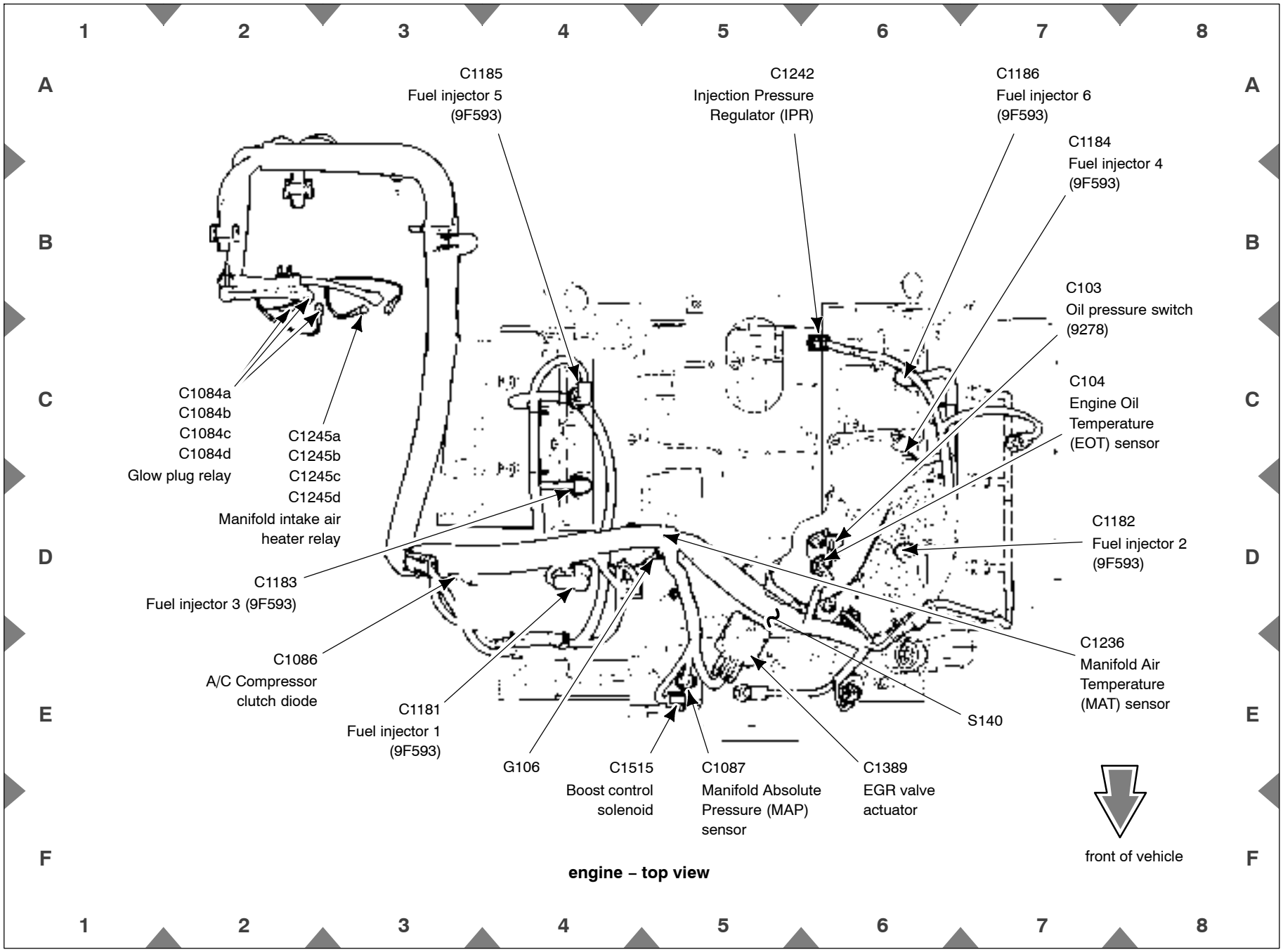
engine – front view



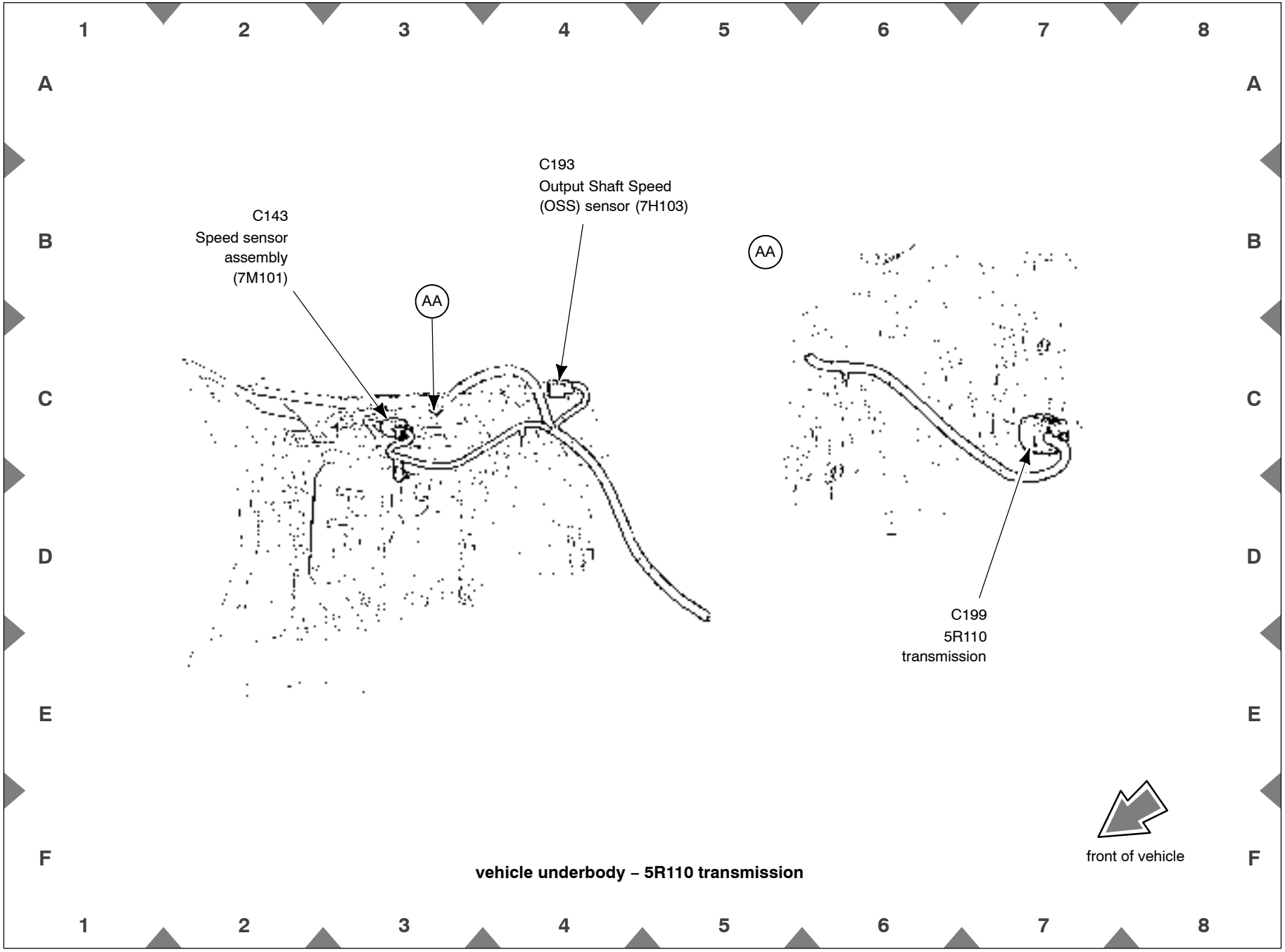
engine – side view



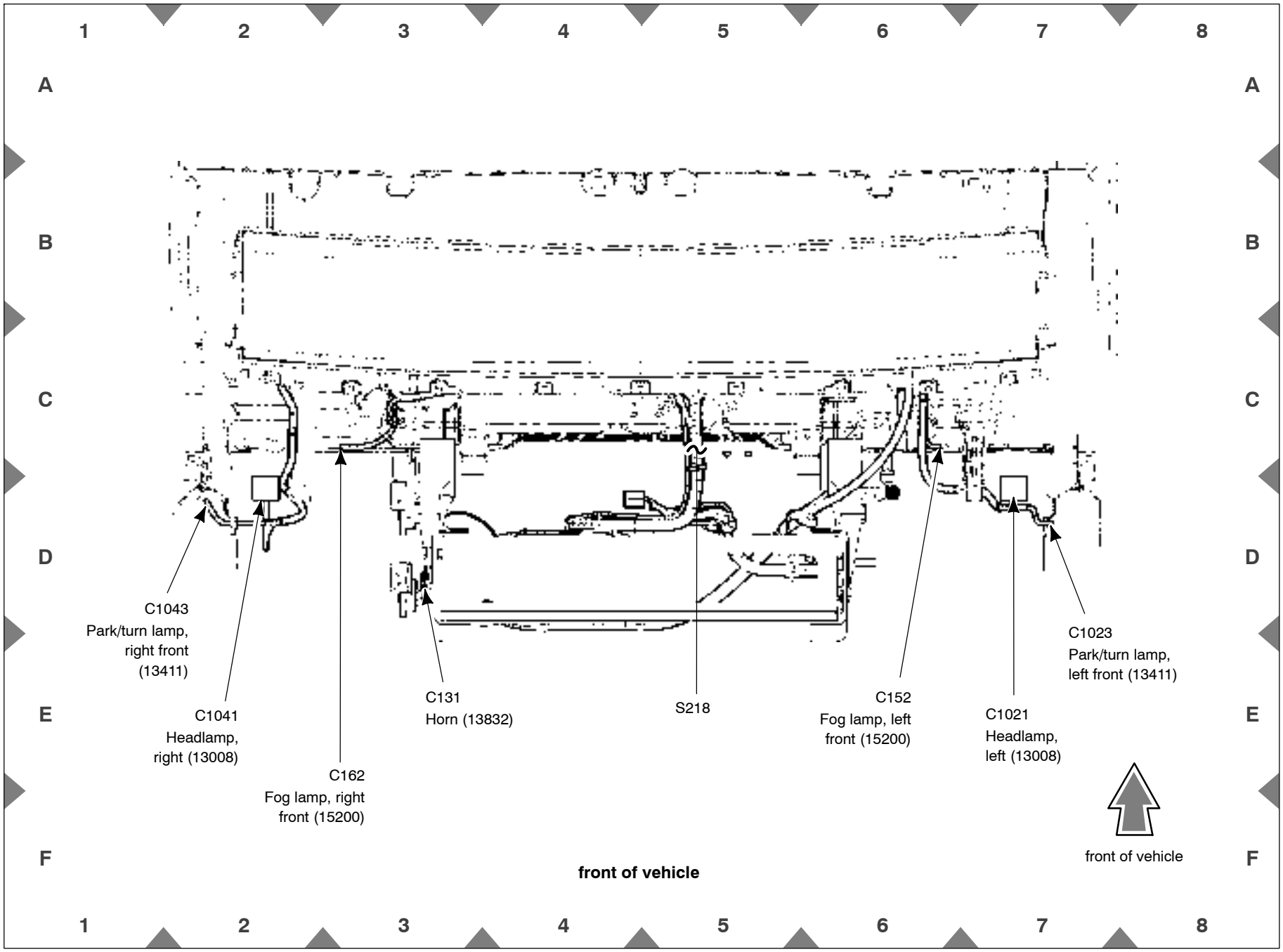
engine – side view

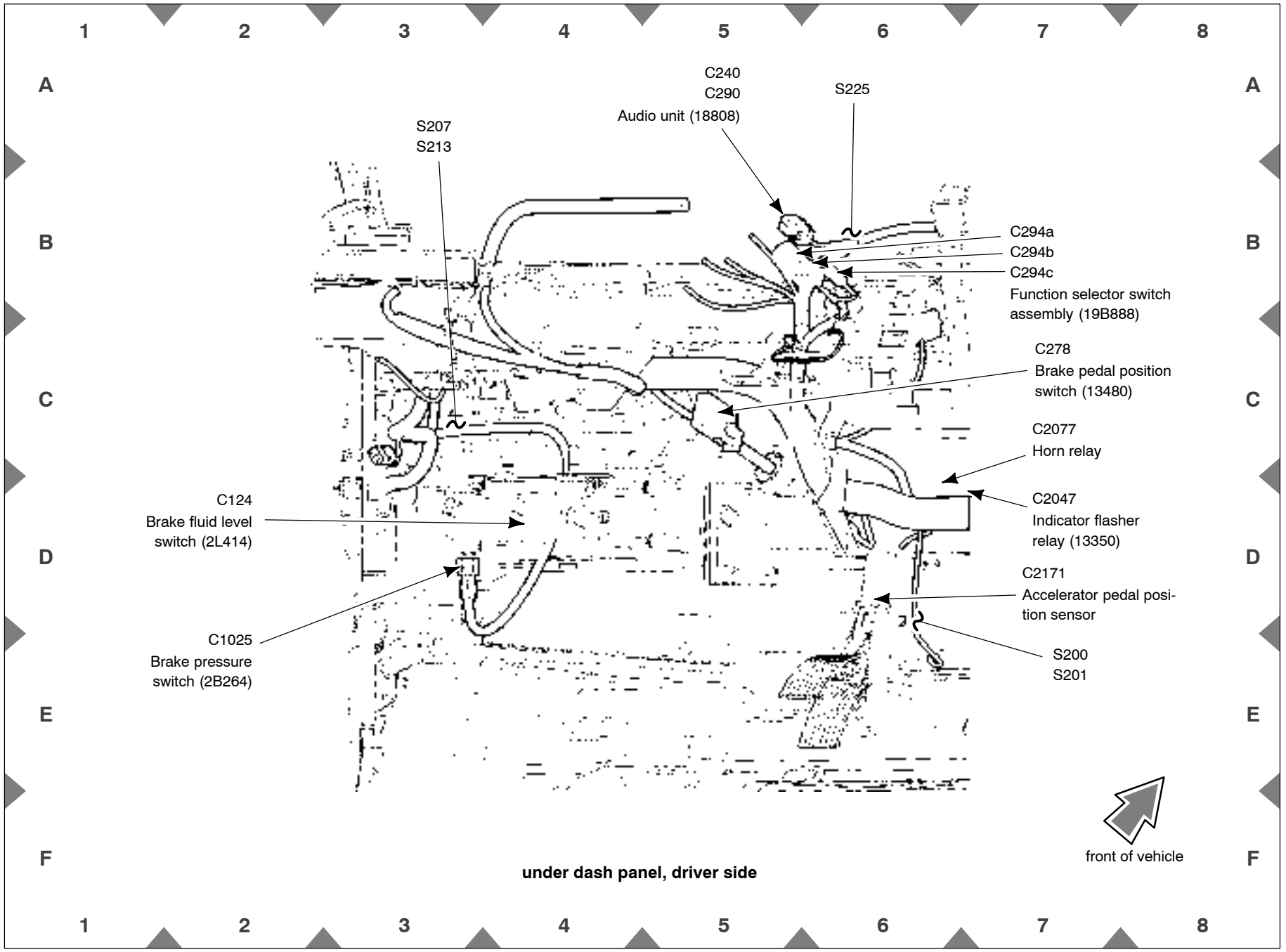


engine – top view

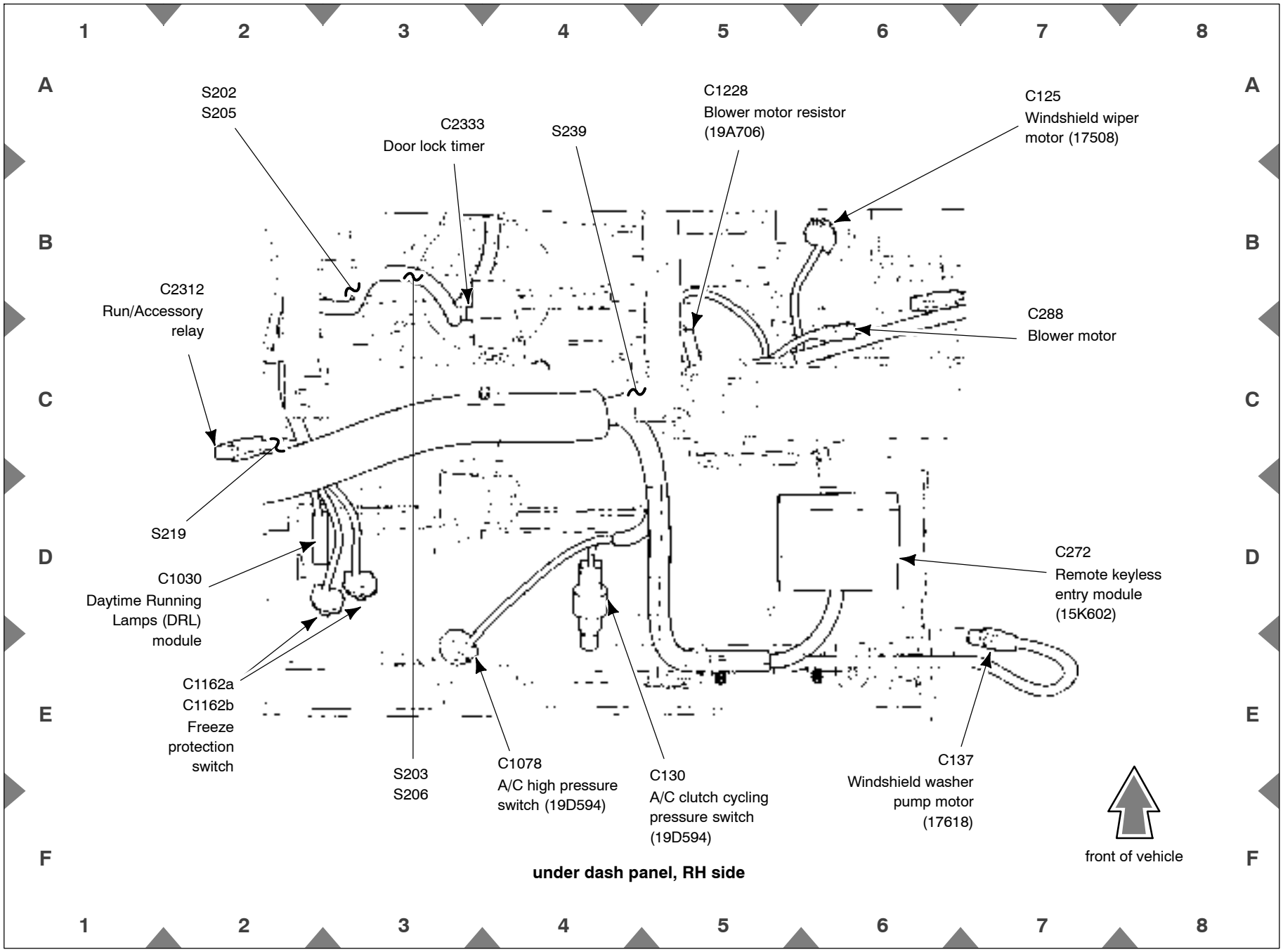


vehicle underbody – 5R110 transmission

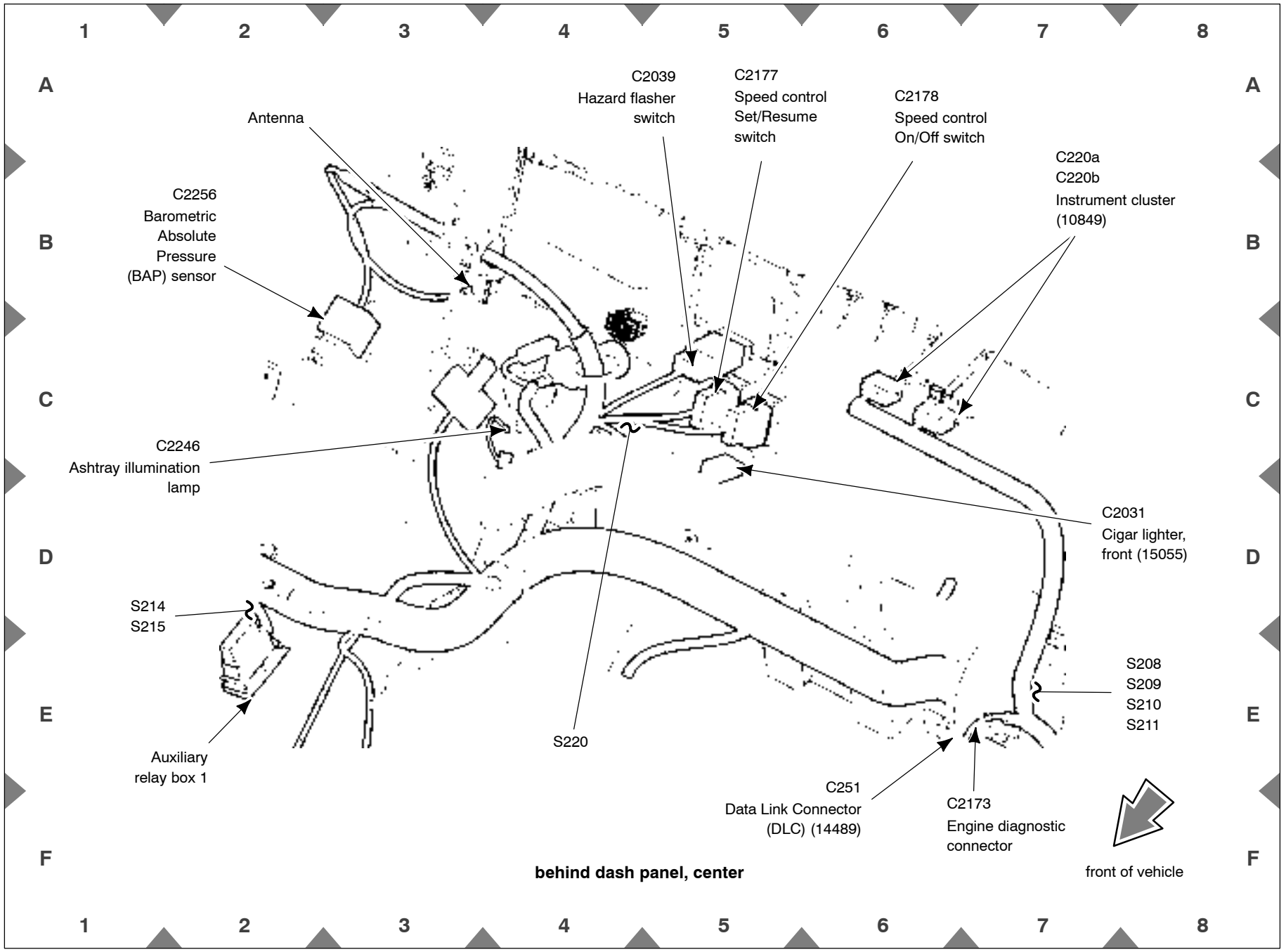

1
2
3
4
5
6
7
8
A
B
C
D
E
F
C1043
Park/turn lamp,
right front
(13411)
C1041
Headlamp,
right (13008)
C162
Fog lamp, right
front (15200)
C131
Horn (13832)
S218
C152
Fog lamp, left
front (15200)
C1021
Headlamp,
left (13008)
C1023
Park/turn lamp,
left front (13411)
front of vehicle
front of vehicle

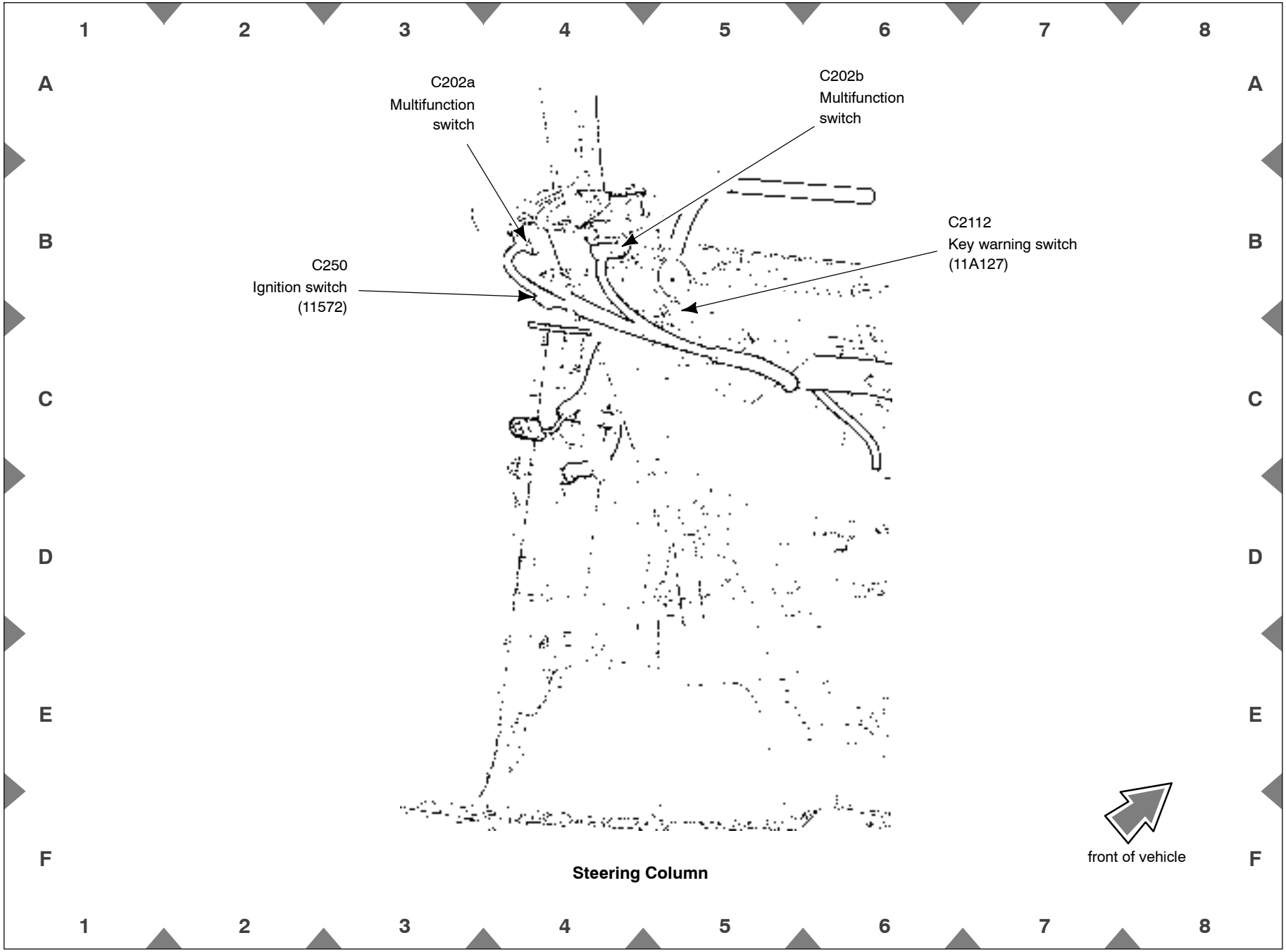


under dash panel, driver side

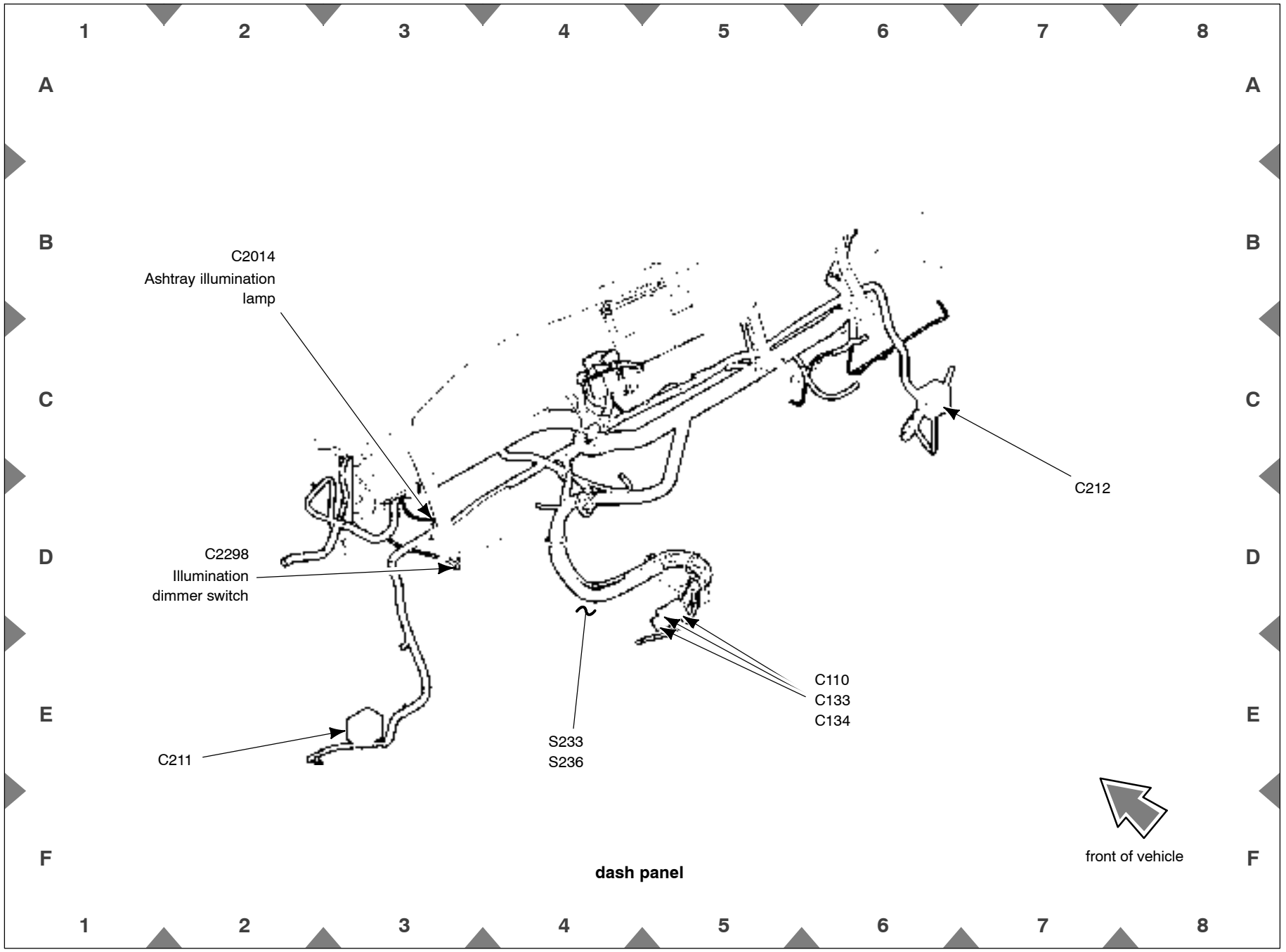


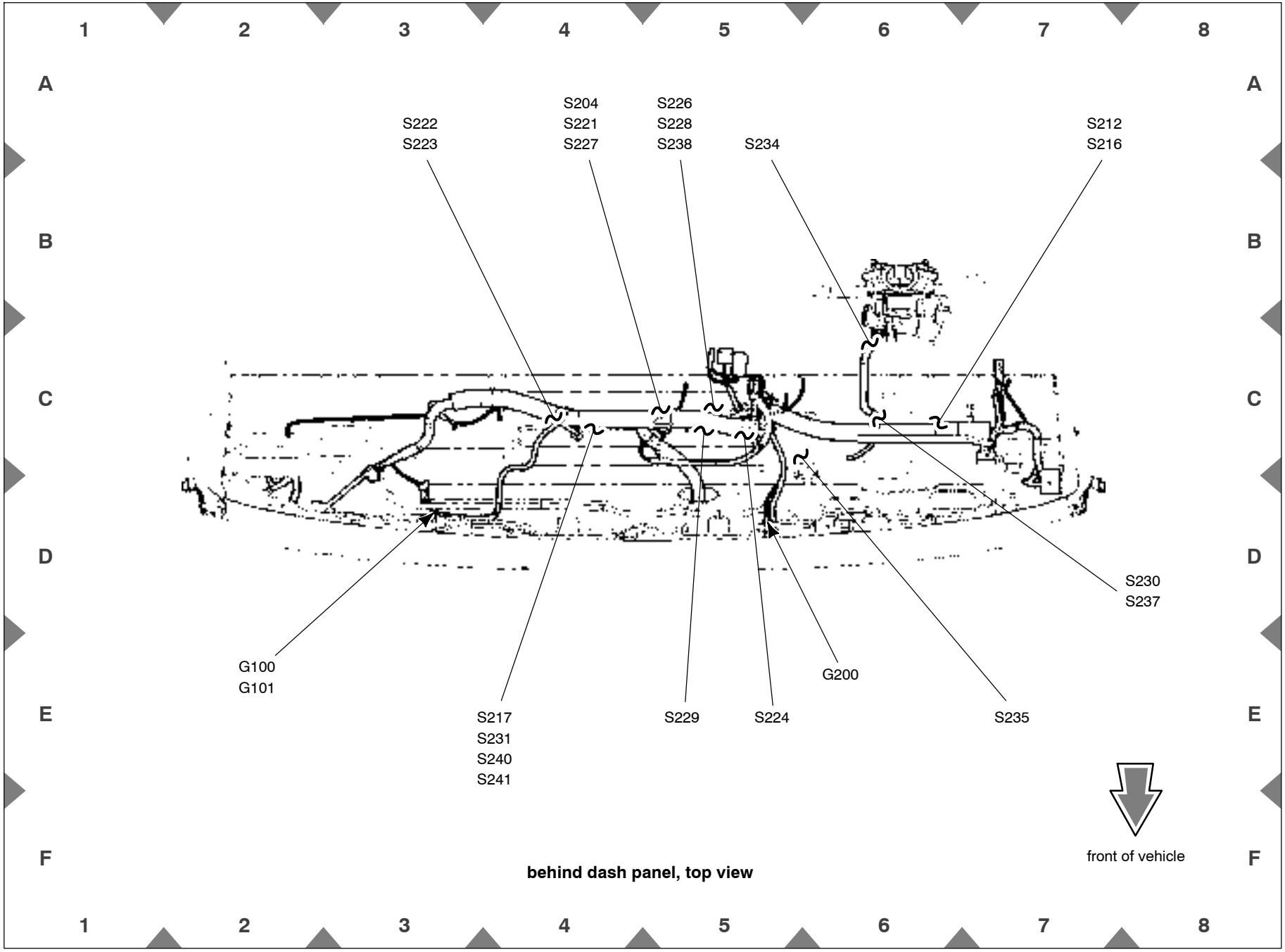
under dash panel, RH side


1
2
3
4
5
6
7
8
A
B
C
D
E
F
Antenna
C2039
Hazard flasher
switch
C2177
Speed control
Set/Resume
switch
C2178
Speed control
On/Off switch
C220a
C220b
Instrument cluster
(10849)
C2256
Barometric
Absolute
Pressure
(BAP) sensor
C2246
Ashtray illumination
lamp
C2031
Cigar lighter,
front (15055)
S214
S215
S208
S209
S210
S211
Auxiliary
relay box 1
S220
C251
Data Link Connector
(DLC) (14489)
C2173
Engine diagnostic
connector
front of vehicle
behind dash panel, center

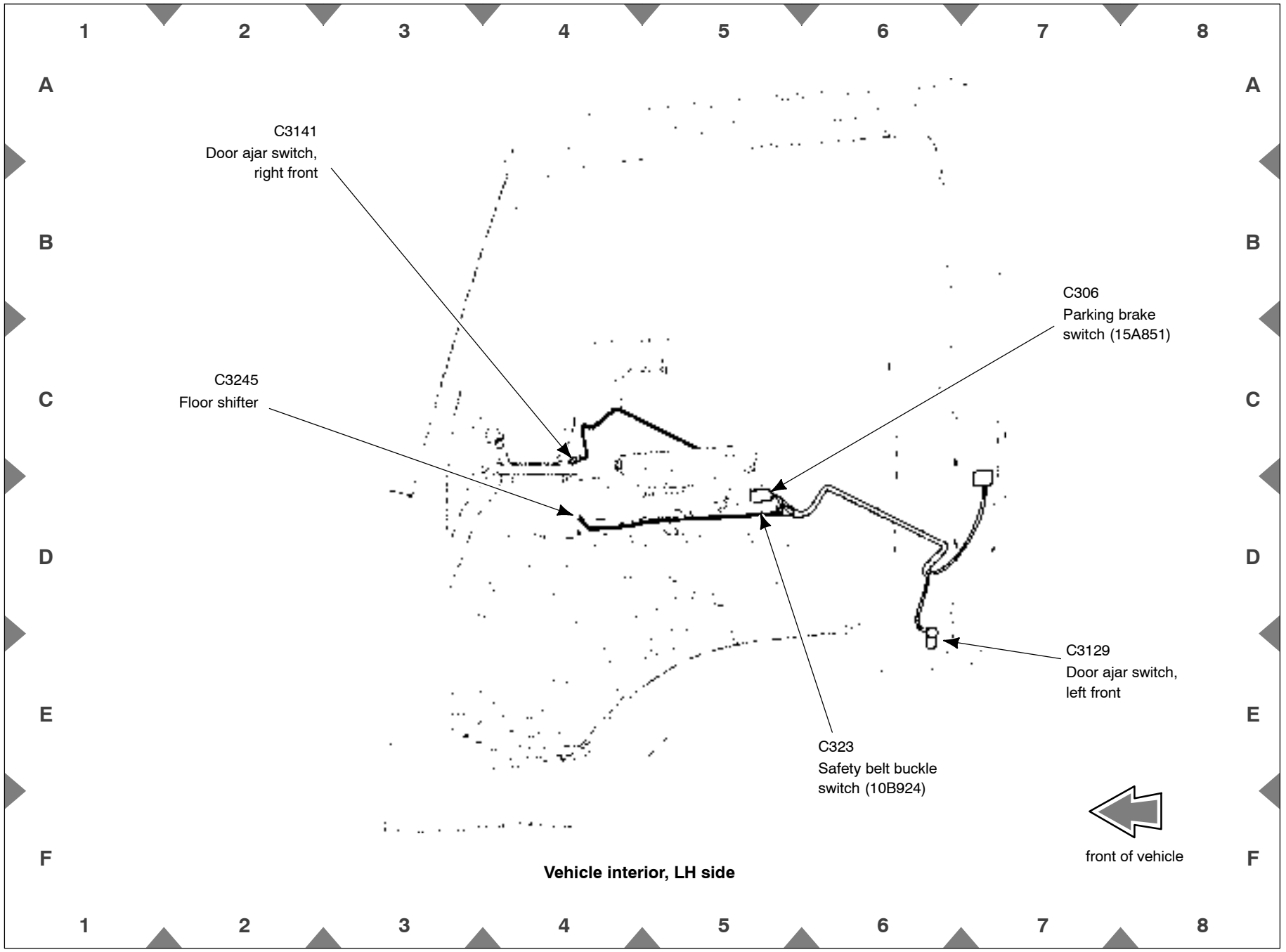


Steering Column

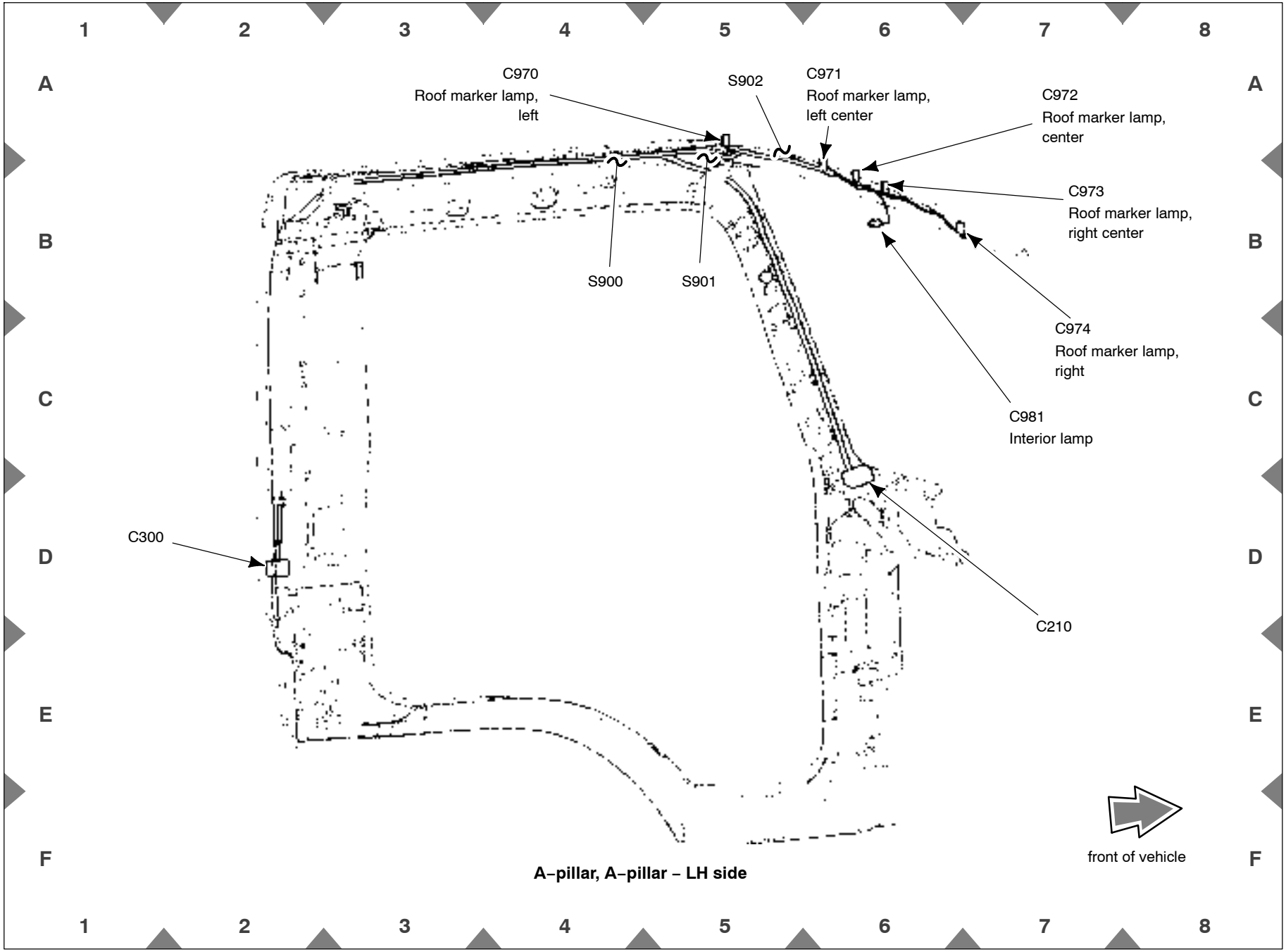

1
2
3
4
5
6
7
8
A
B
C
D
E
F
C2014
Ashtray illumination lamp
C212
C2298
Illumination dimmer switch
C110
C133
C134
S233
S236
C211
front of vehicle
dash panel



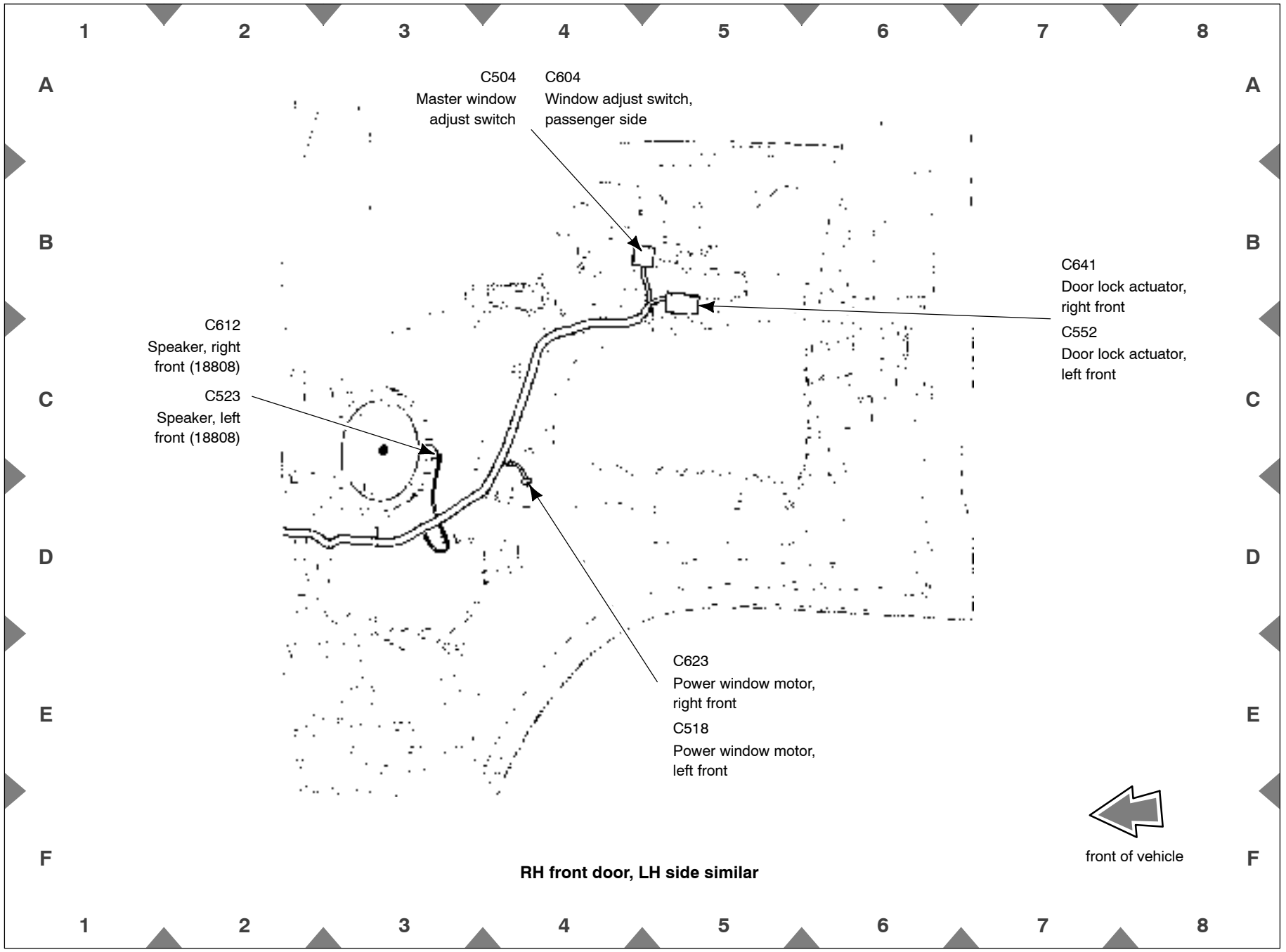
behind dash panel, top view



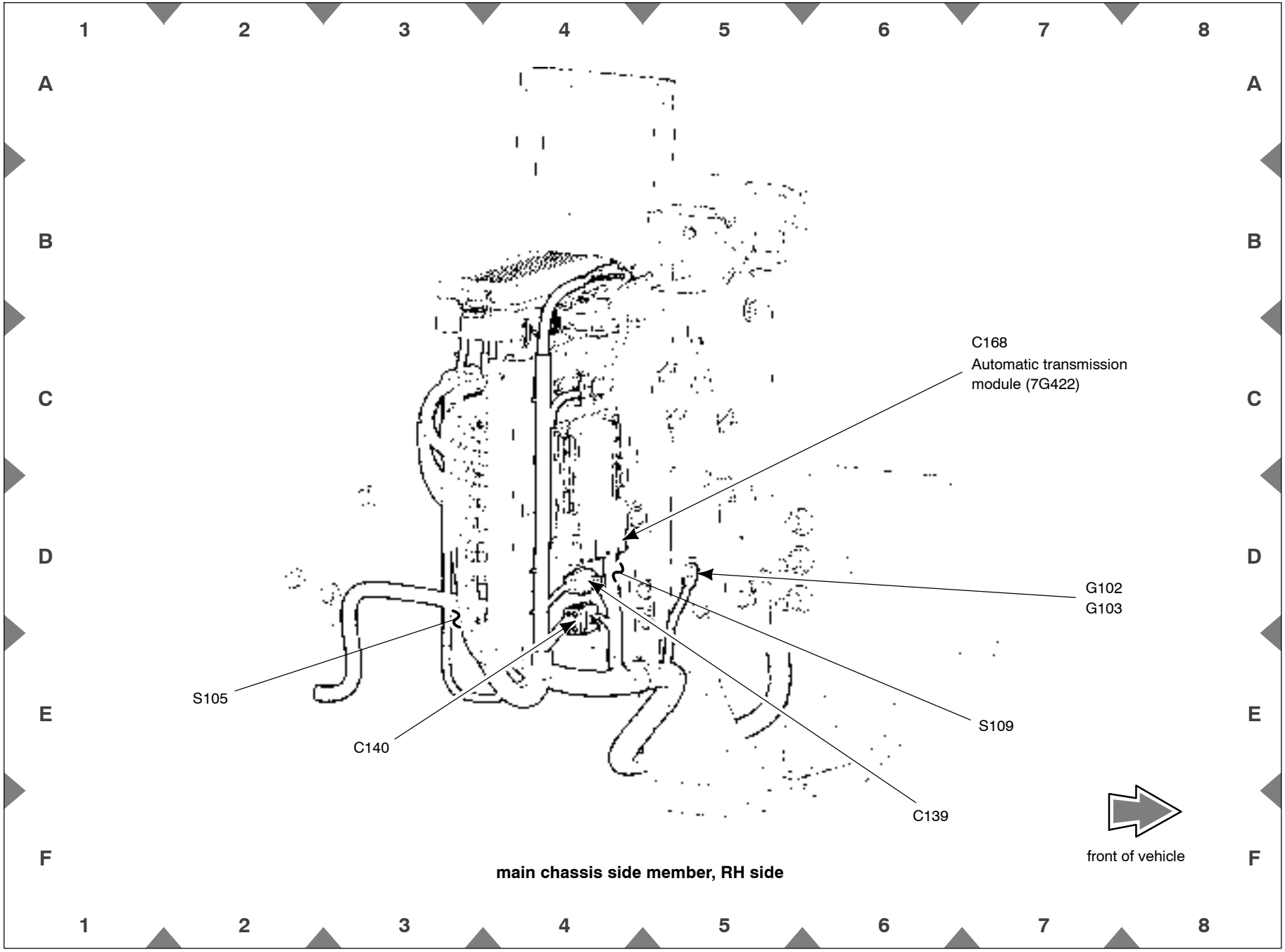
Vehicle interior, LH side



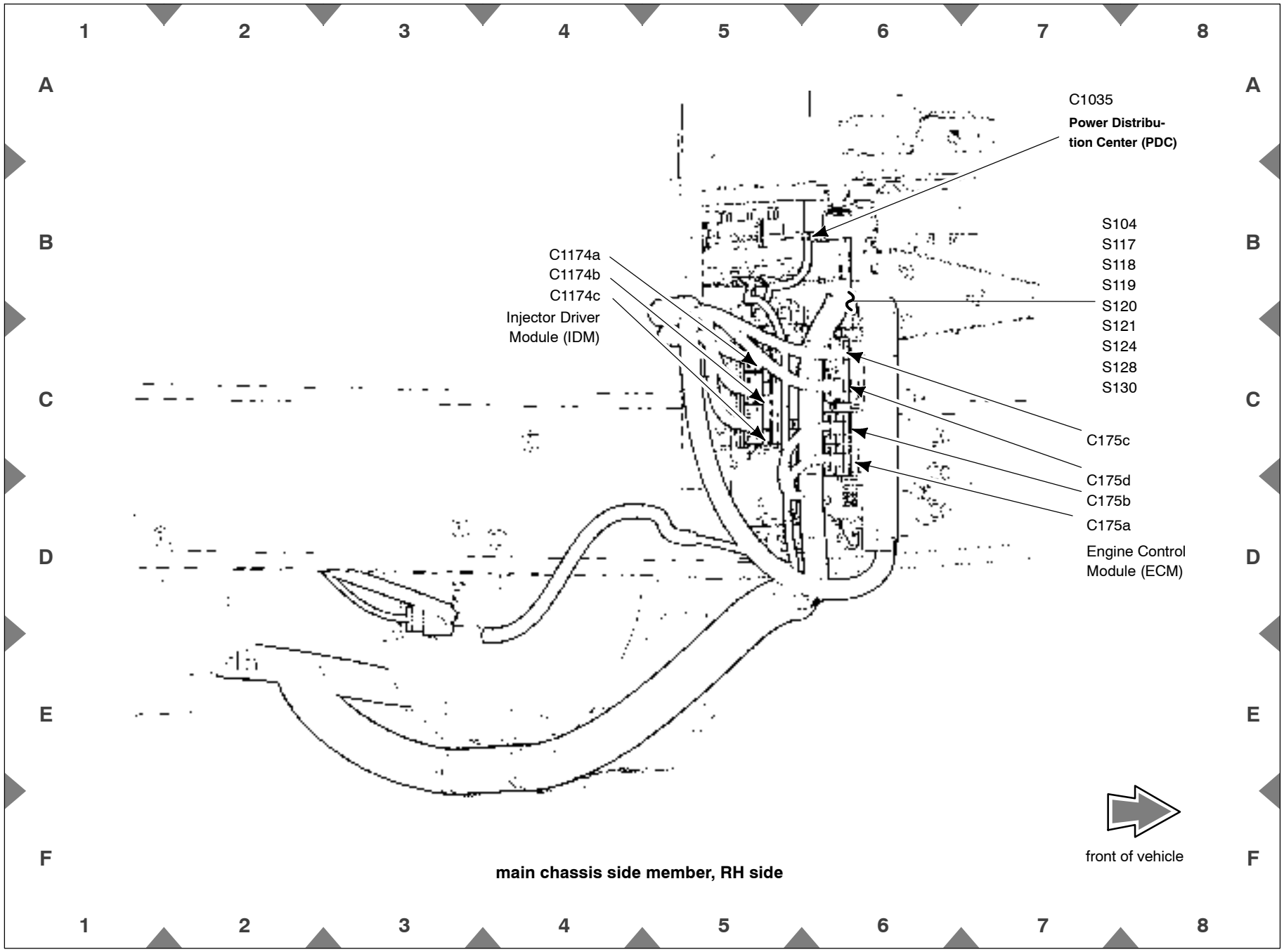
A–pillar, A–pillar – LH side



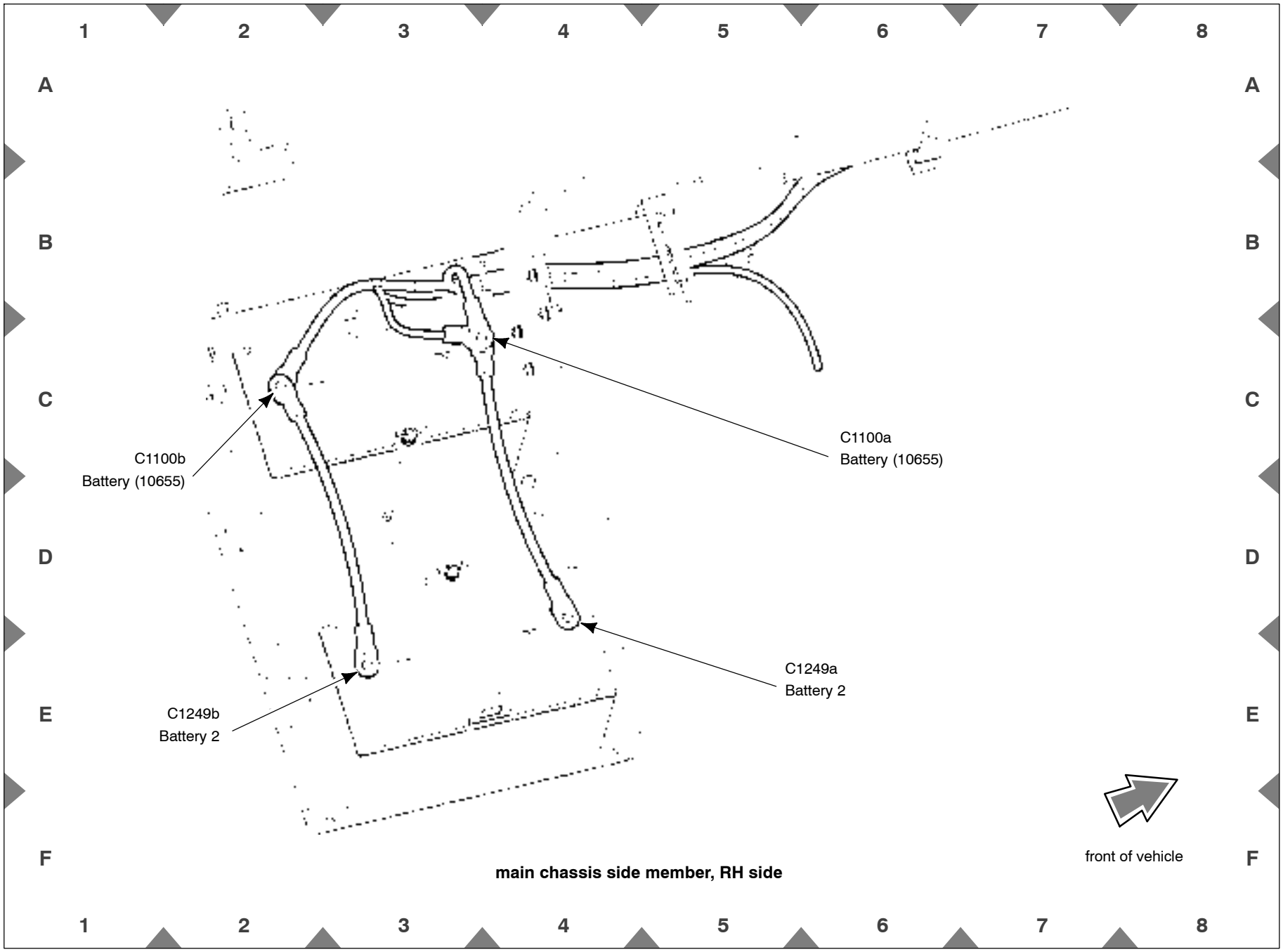
RH front door, LH side similar



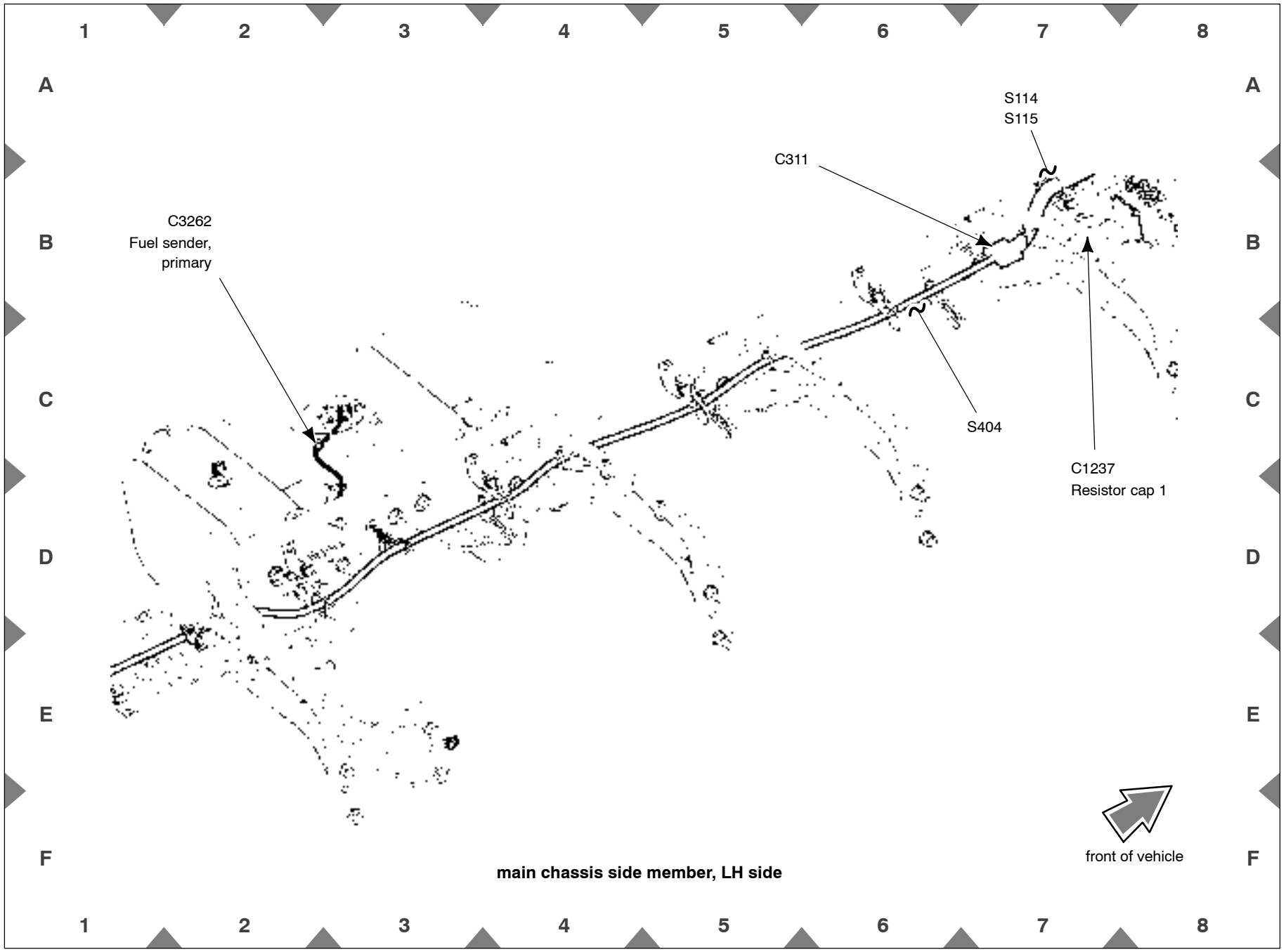
main chassis side member, RH side



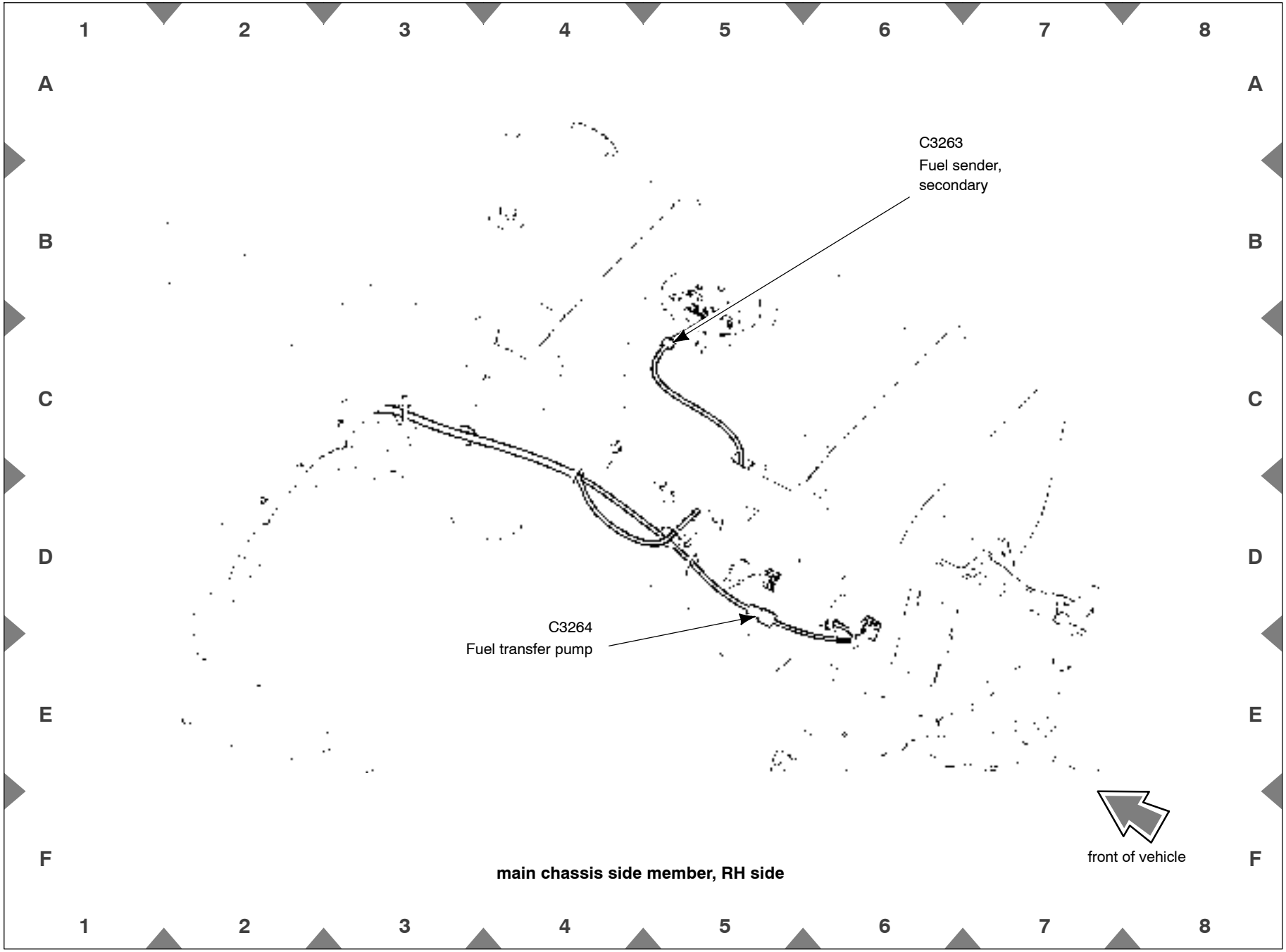
main chassis side member, RH side

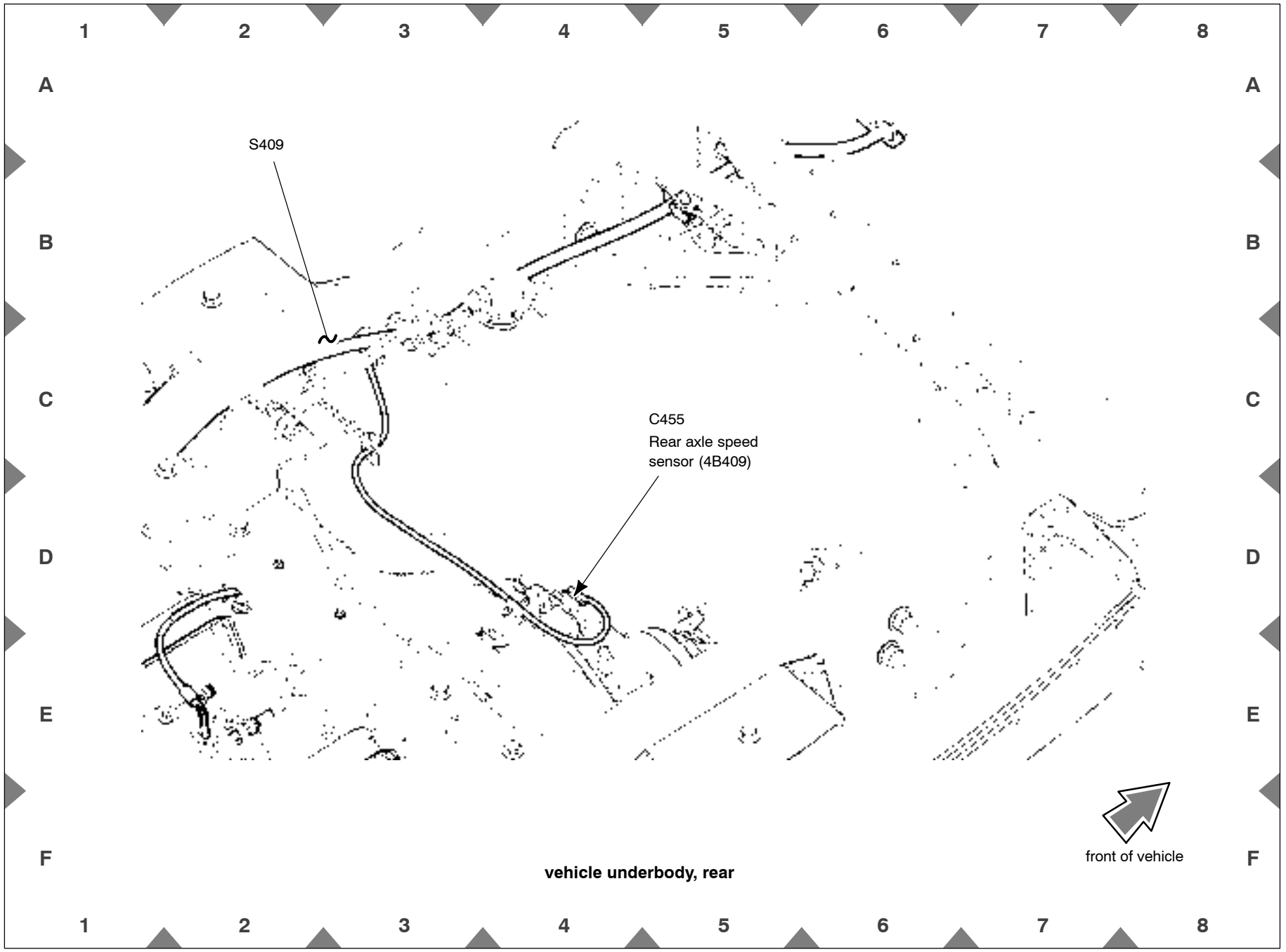


main chassis side member, RH side

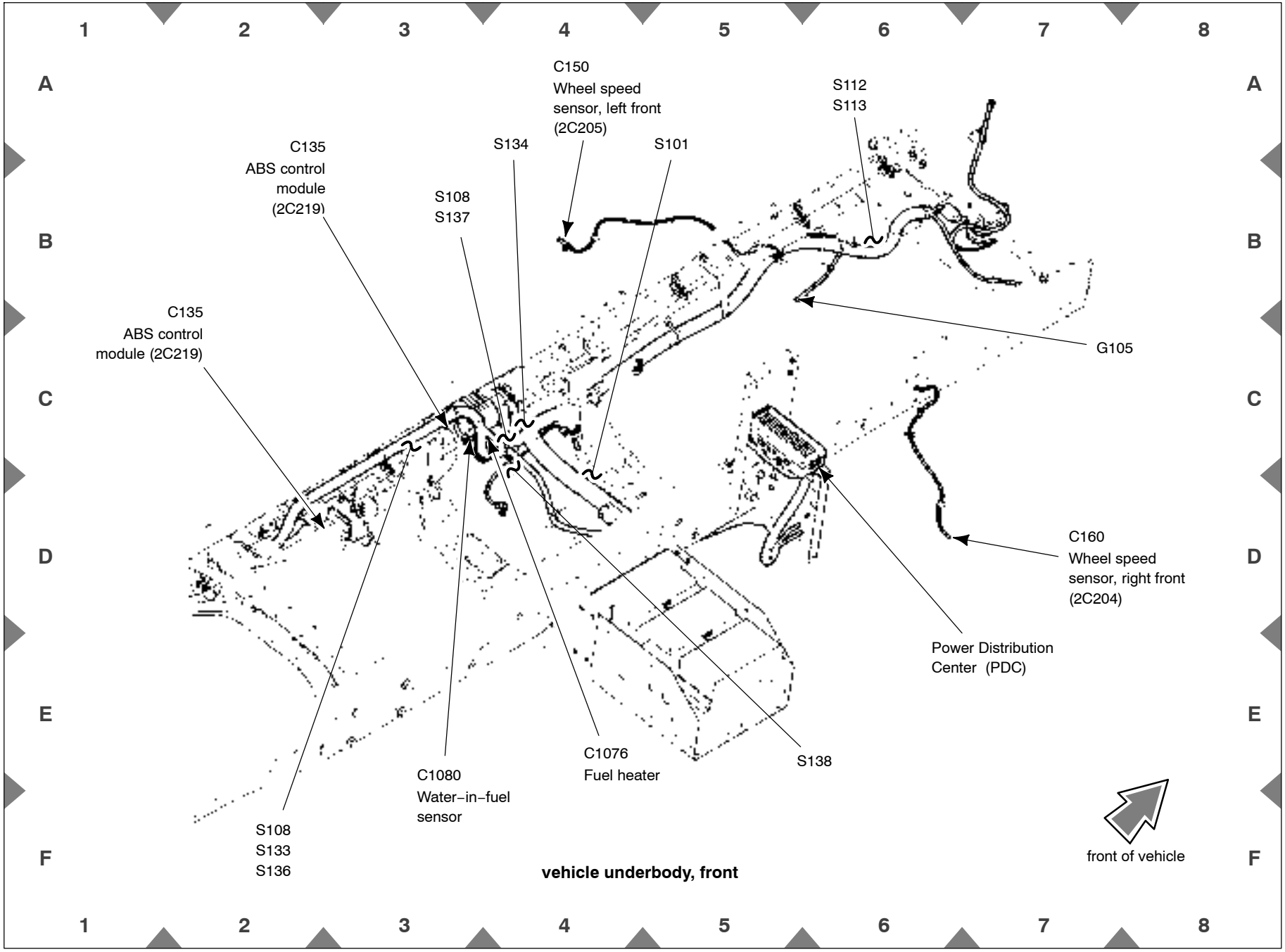


main chassis side member, LH side

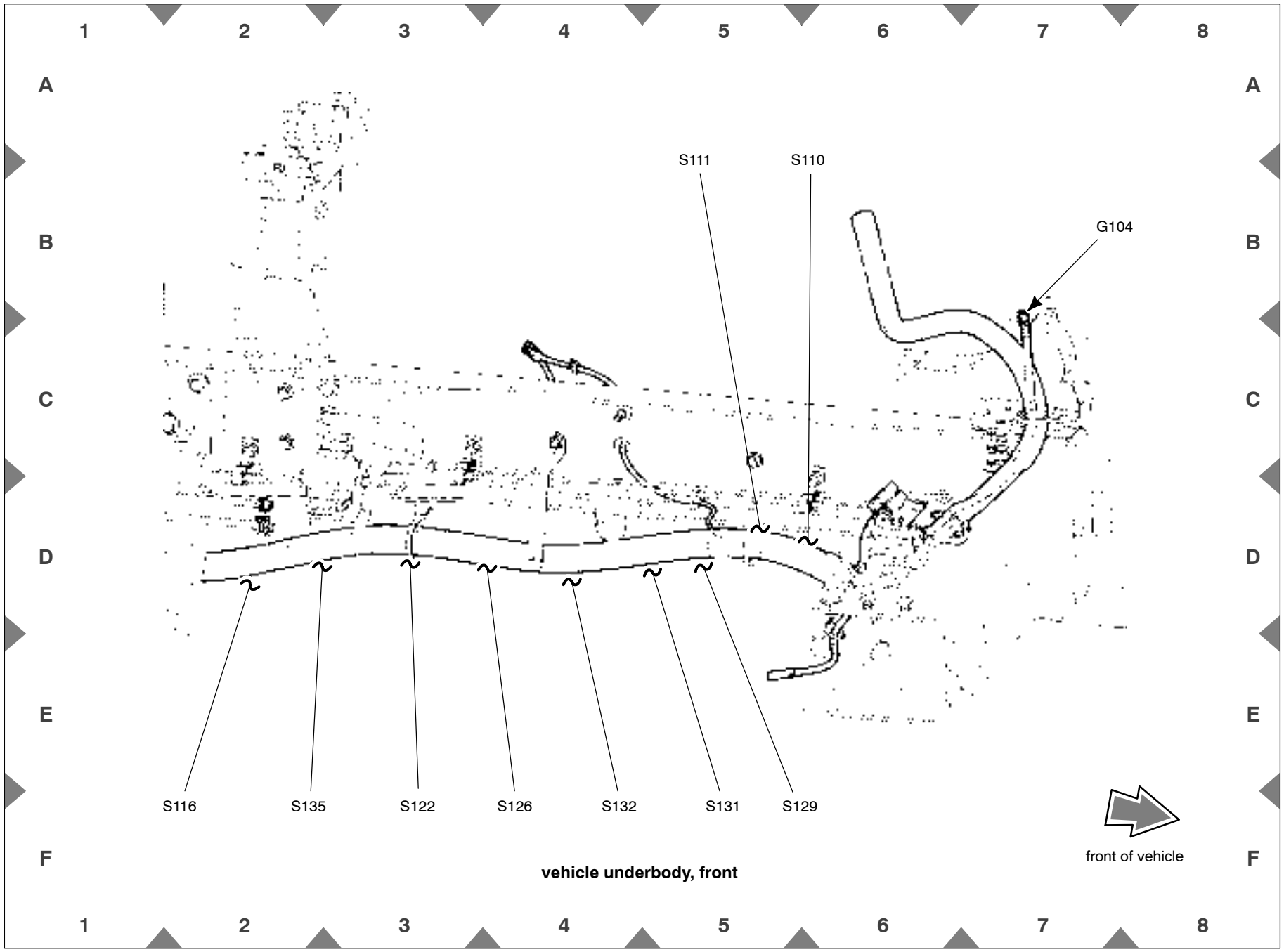

1
2
3
4
5
6
7
8
A
B
C
D
E
F
C3263
Fuel sender, secondary
C3264
Fuel transfer pump
front of vehicle
main chassis side member, RH side



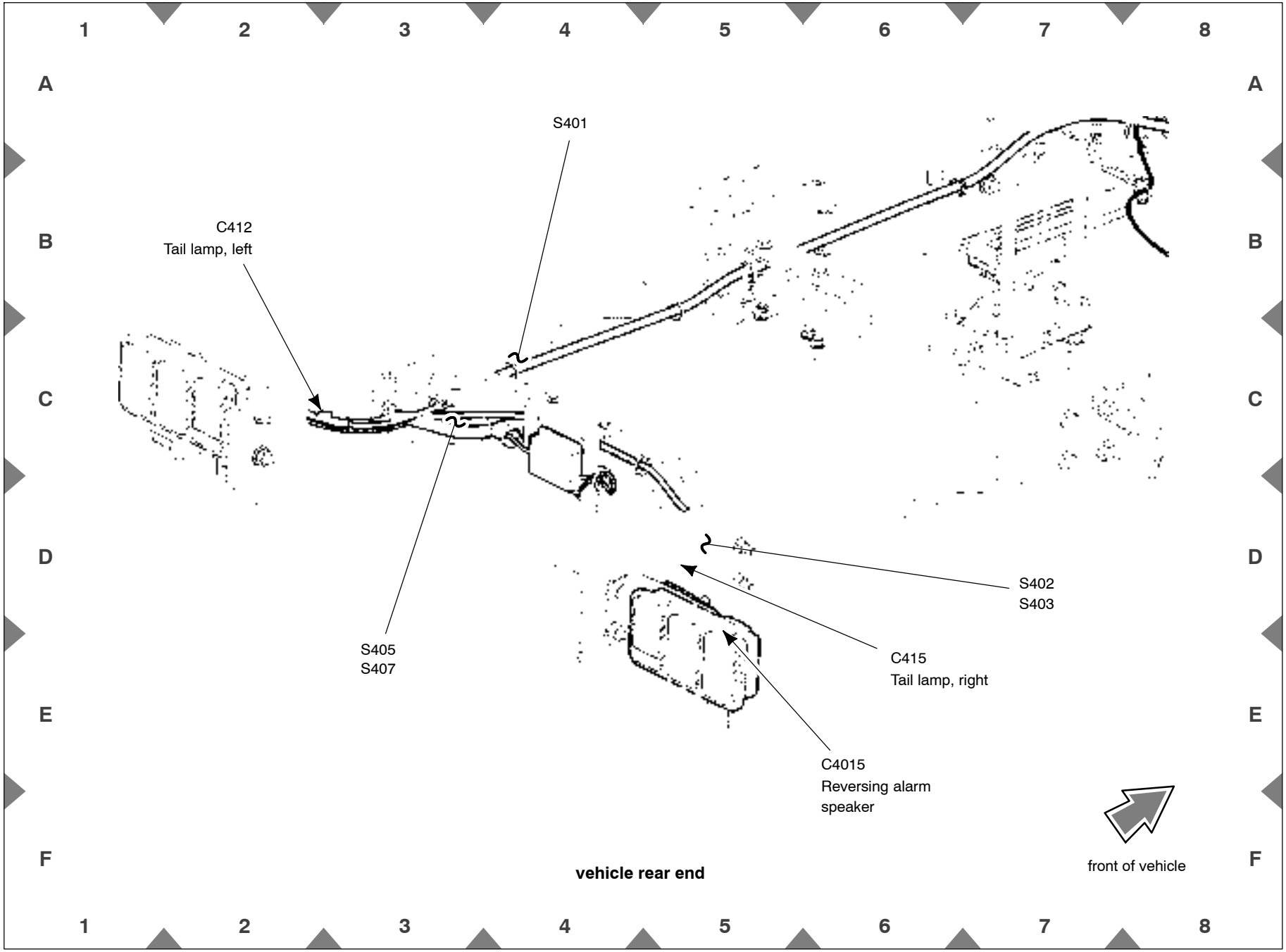
vehicle underbody, rear



vehicle underbody, front



vehicle underbody, front


1
2
3
4
5
6
7
8
A
B
C
D
E
F
S401
C412
Tail lamp, left
S405
S407
S402
S403
C415
Tail lamp, right
C4015
Reversing alarm
speaker
vehicle rear end
front of vehicle

Components **Cell 151**

Location **Page/coordinates**

Connectors — Cell 151

	Location	Page/coordinates
C100	engine, front, RH side	2 – D 7
C102a	engine, front	1 – A 4
C102b	engine, front	1 – A 4
C103	engine, top	4 – B 7
C104	engine, top	4 – C 7
C110	chassis crossmember, front,	11 – E 6
C124	under dash panel, on master cylinder	7 – D 2
C125	behind dash panel, RH side	8 – A 7
C128	engine, top, LH side	3 – A 4
C130	under dash panel, RH side	8 – E 5
C131	main chassis side member, RH side, front	6 – E 3
C133	chassis crossmember, front,	11 – E 6
C134	chassis crossmember, front,	11 – E 6
C135	main chassis side member, LH side	22 – B 1
C137	under dash panel	8 – E 7
C139	near Power Distribution Center (PDC)	16 – F 6
C140	near Power Distribution Center (PDC)	16 – E 3
C143	transmission, LH side	5 – B 2
C150	wheel hub, LH side	22 – A 4
C152	front of vehicle, LH side	6 – E 6
C160	wheel hub, RH side	22 – D 7
C162	front of vehicle, RH side	6 – E 3
C168	near Power Distribution Center (PDC)	16 – C 7
C175a	near Power Distribution Center (PDC)	17 – C 8
C175b	near Power Distribution Center (PDC)	17 – C 8
C175c	near Power Distribution Center (PDC)	17 – D 8
C175d	near Power Distribution Center (PDC)	17 – D 8
C193	transmission, top, rear	5 – B 4
C197a	engine, LH side, bottom	1 – E 4
C197b	engine, LH side, bottom	1 – F 4
C199	transmission, RH side, bottom	5 – D 6
C202a	on steering column	10 – A 3
C202b	on steering column	10 – A 6
C210	LH A–pillar	14 – D 7
C211	LH A–pillar, under dash panel	11 – E 1
C212	RH A–pillar, under dash panel	11 – D 7
C220a	in dash panel, driver side	9 – A 7
C220b	in dash panel, driver side	9 – B 7
C240	in dash panel, center	7 – A 5
C250	on steering column	10 – B 2
C251	under dash panel, driver side	9 – E 6
C272	under dash panel, RH side	8 – D 7
C278	under dash panel, on brake pedal support	7 – C 7
C288	behind dash panel, RH side	8 – B 7
C290	in dash panel, center	7 – A 5
C294a	in dash panel, center	7 – B 7
C294b	in dash panel, center	7 – B 7
C294c	in dash panel, center	7 – B 7
C300	LH B–pillar	14 – D 1
C306	vehicle floor, center	13 – B 7
C311	main chassis side member, LH side	19 – A 5
C323	seat belt buckle, driver side	13 – E 6
C412	vehicle rear end, LH side	24 – B 2
C415	vehicle rear end, RH side	24 – E 6
C421	L9501, L1081	
C422	L9501, L1081	
C423	L9501, L1081	
C431	vehicle underbody, rear, chassis crossmember	
C455	rear axle, top, center	21 – C 5
C504	in driver door	15 – A 3
C518	in driver door	15 – E 5
C523	in driver door	15 – C 2
C552	in driver door	15 – C 7
C604	in passenger door	15 – A 4
C612	in passenger door	15 – C 2
C623	in passenger door	15 – E 5
C641	in passenger door	15 – B 7
C970	roof, LH side	14 – A 4

C971	roof, center	14 – A 6
C972	roof, center	14 – A 7
C973	roof, center	14 – B 7
C974	roof, RH side	14 – C 7
C981	in roof panel	14 – C 7
C1007	in Power Distribution Center (PDC)	
C1016	in Power Distribution Center (PDC)	
C1017	in Power Distribution Center (PDC)	
C1021	front of vehicle, LH side	6 – E 7
C1023	front of vehicle, LH side	6 – E 7
C1025	under dash panel, on master cylinder, bottom	7 – E 2
C1030	behind dash panel, center	8 – D 1
C1035	under cab, RH side, rear	17 – A 7
C1041	front of vehicle, RH side	6 – E 2
C1043	front of vehicle, RH side	6 – D 1
C1051	in Power Distribution Center (PDC)	
C1064	engine, front, near thermostat housing	1 – A 7
C1076	main chassis side member, LH side, near transmission	22 – E 4
C1078	under dash panel, RH side	8 – E 4
C1080	main chassis side member, LH side, near transmission	22 – E 3
C1084a	near Power Distribution Center (PDC)	4 – C 2
C1084b	near Power Distribution Center (PDC)	4 – C 2
C1084c	near Power Distribution Center (PDC)	4 – C 2
C1084d	near Power Distribution Center (PDC)	4 – C 2
C1086	engine, top, RH side	4 – E 2
C1087	engine, top, front	4 – E 5
C1095	in Power Distribution Center (PDC)	
C1100a	behind cab, RH side	18 – C 6
C1100b	behind cab, RH side	18 – C 1
C1120	engine, LH side, bottom	2 – F 5
C1162a	behind dash panel, center	8 – E 2
C1162b	behind dash panel, center	8 – E 2
C1174a	near Power Distribution Center (PDC)	17 – B 4
C1174b	near Power Distribution Center (PDC)	17 – B 4
C1174c	near Power Distribution Center (PDC)	17 – B 4
C1181	RH cylinder head	4 – E 3
C1182	LH cylinder head	4 – D 8
C1183	RH cylinder head	4 – D 2
C1184	LH cylinder head	4 – A 7
C1185	RH cylinder head	4 – A 3
C1186	LH cylinder head	4 – A 7
C1228	behind dash panel, RH side	8 – A 5
C1235	in Power Distribution Center (PDC)	
C1236	engine, top, LH side	4 – E 8
C1237	main chassis side member, LH side	19 – C 7
C1239	engine, front	1 – A 5
C1242	engine, top, rear	4 – A 5
C1244	engine, top, on RH valve cover	1 – A 2
C1245a	near Power Distribution Center (PDC)	4 – C 2
C1245b	near Power Distribution Center (PDC)	4 – C 2
C1245c	near Power Distribution Center (PDC)	4 – D 2
C1245d	near Power Distribution Center (PDC)	4 – D 2
C1249a	behind cab, RH side	18 – E 6
C1249b	behind cab, RH side	18 – E 2
C1253	main chassis side member, LH side, near transmission	
C1275	engine, LH side, bottom	1 – E 7
C1329	in Power Distribution Center (PDC)	
C1382	in Power Distribution Center (PDC)	
C1389	engine, top, front	4 – E 6
C1413	LH cylinder head	3 – A 2
C1414	RH cylinder head	2 – A 7
C1450	near Power Distribution Center (PDC)	2 – A 2
C1474	in Power Distribution Center (PDC)	
C1491	in Power Distribution Center (PDC)	
C1515	engine, top, front	4 – E 4
C1519	in Power Distribution Center (PDC)	
C1520	in Power Distribution Center (PDC)	
C1521	in Power Distribution Center (PDC)	
C1529	main chassis side member, RH side, front	

C2014	in dash panel, center	11 – B 2
C2017	in auxiliary fuse and relay box	
C2031	in dash panel, center	9 – D 8
C2039	in dash panel, center	9 – A 4
C2047	behind dash panel, driver side	7 – D 7
C2077	behind dash panel, driver side	7 – C 7
C2112	on steering column	10 – B 7
C2171	under dash panel, on accelerator pedal support	7 – D 7
C2173	under dash panel, driver side	9 – F 7
C2177	in dash panel, center	9 – A 5
C2178	in dash panel, center	9 – A 6
C2188	in dash panel, center	
C2218	in auxiliary fuse and relay box	
C2234	in auxiliary fuse and relay box	
C2242	in auxiliary fuse and relay box	
C2246	in dash panel, LH side	9 – C 1
C2256	behind dash panel, center	9 – B 2
C2298	in dash panel, LH side	11 – D 2
C2312	behind dash panel, center	8 – B 1
C2333	behind dash panel, center	8 – A 3
C2334	in auxiliary fuse and relay box	
C2344	behind dash panel, center	
C2345	under dash panel, RH side	
C2346	under dash panel, RH side	
C3129	LH B–pillar, bottom	13 – E 7
C3141	RH B–pillar, bottom	13 – A 2
C3245	vehicle floor, center	13 – C 2
C3262	on fuel tank, top	19 – B 2
C3263	on fuel tank, top	20 – A 6
C3264	main chassis side member, RH side	20 – D 4
C4015	vehicle rear end, RH side, on tail lamp support	24 – E 6
C4019	in Auxiliary Junction Box (AJB), trailer tow	
C4020	in Auxiliary Junction Box (AJB), trailer tow	
C4022	in Auxiliary Junction Box (AJB), trailer tow	
C4046a	vehicle rear end	
C4046b	vehicle rear end	
C4202	in Auxiliary Junction Box (AJB), trailer tow	

Ground points — Cell 151

	Location	Page/coordinates
G100	behind dash panel, RH side	12 – E 2
G101	behind dash panel, RH side	12 – E 2
G102	main chassis side member, near Power Distribution Center (PDC)	16 – D 8
G103	main chassis side member, near Power Distribution Center (PDC)	16 – D 8
G104	vehicle underbody, front	23 – B 8
G105	on radiator	22 – C 8
G106	engine, top, RH side	4 – E 4
G107	engine, bottom, RH side	
G108	main chassis side member, RH side	
G200	in LH front footwell	12 – E 6

Splices

Location

S100	Wiring harness – Main near T/O to C1080	
S101	Wiring harness – Main near T/O to G103	22 – A 5
S102	Wiring harness – Engine Sensor in T/O to C1087	2 – C 7
S103	Wiring harness – Engine Sensor in T/O to C1087	2 – C 7
S104	Wiring harness – Main in T/O to Power Distribution Center (PDC) (14A003)	17 – B 8
S105	Wiring harness – Main near T/O to C175b	16 – E 2
S106	Wiring harness – Engine Sensor near T/O to C140	1 – D 1
S107	Wiring harness – Engine Sensor near T/O to C140	1 – D 1
S108	Wiring harness – Main near T/O to C143	22 – B 3
S109	Wiring harness – Main in T/O to C168	16 – E 7
S110	Wiring harness – Main near T/O to C150	23 – A 6
S111	Wiring harness – Main near T/O to C150	23 – A 5
S112	Wiring harness – Main near T/O to C150	22 – A 6
S113	Wiring harness – Main near T/O to C150	22 – A 6
S114	Wiring harness – Main near T/O to C1237	19 – A 7
S115	Wiring harness – Main near T/O to C1237	19 – A 7
S116	Wiring harness – Main near T/O to C1237	23 – F 2
S117	Wiring harness – Main in T/O to Power Distribution Center (PDC) (14A003)	17 – B 8
S118	Wiring harness – Main in T/O to Power Distribution Center (PDC) (14A003)	17 – B 8
S119	Wiring harness – Main in T/O to Power Distribution Center (PDC) (14A003)	17 – B 8
S120	Wiring harness – Main in T/O to Power Distribution Center (PDC) (14A003)	17 – B 8
S121	Wiring harness – Main in T/O to Power Distribution Center (PDC) (14A003)	17 – C 8
S122	Wiring harness – Main near T/O to C1237	23 – F 3
S123	Wiring harness – Engine Sensor near T/O to C1450	3 – B 6
S124	Wiring harness – Main in T/O to Power Distribution Center (PDC) (14A003)	17 – C 8
S125	Wiring harness – Engine Sensor near T/O to C1450	2 – A 6
S126	Wiring harness – Main near T/O to C1237	23 – F 4
S127	Wiring harness – Engine Sensor near T/O to C140	1 – E 1
S128	Wiring harness – Main in T/O to Power Distribution Center (PDC) (14A003)	17 – C 8
S129	Wiring harness – Main near T/O to C150	23 – F 6
S130	Wiring harness – Main in T/O to Power Distribution Center (PDC) (14A003)	17 – C 8
S131	Wiring harness – Main near T/O to C1237	23 – F 5
S132	Wiring harness – Main near T/O to C1237	23 – F 5
S133	Wiring harness – Main near T/O to C143	22 – F 2
S134	Wiring harness – Main near T/O to C143	22 – A 4
S135	Wiring harness – Main near T/O to C1237	23 – F 3
S136	Wiring harness – Main near T/O to C143	22 – F 2
S138	Wiring harness – Main near T/O to C143	22 – E 6
S139	Wiring harness – Engine Sensor near T/O to C175c	3 – B 7
S140	Wiring harness – Engine Sensor near T/O to C1236	4 – E 7
S141	Wiring harness – Engine Sensor near T/O to C1244	3 – B 6
S142	Wiring harness – Engine Sensor near T/O to C1244	1 – B 3
S143	Wiring harness – Engine Sensor near T/O to C1244	3 – B 6
S144	Wiring harness – Engine Sensor in T/O to C175d	2 – D 2
S145	Wiring harness – Engine Sensor in T/O to C175d	2 – E 2
S146	Wiring harness – Engine Sensor in T/O to C175d	2 – E 2
S147	Wiring harness – Engine Sensor in T/O to C175c	2 – D 2
S148	Wiring harness – Engine C268 near T/O to C1174a	1 – E 3
S149	Wiring harness – Engine Sensor in T/O to C1450	2 – C 2
S200	Wiring harness – Instrument panel in T/O to G200	7 – E 7
S201	Wiring harness – Instrument panel in T/O to G200	7 – E 7
S202	Wiring harness – Instrument panel near T/O to C1030	8 – A 2
S203	Wiring harness – Instrument panel near T/O to C2333	8 – E 3
S204	Wiring harness – Instrument panel near T/O to C2312	12 – A 4

S205	Wiring harness – Instrument panel near T/O to C1030	8 – A 2
S206	Wiring harness – Instrument panel near T/O to C2233	8 – F 3
S207	Wiring harness – Instrument panel in T/O to C124 . .	7 – A 3
S208	Wiring harness – Instrument panel near T/O to C220a	9 – E 8
S209	Wiring harness – Instrument panel near T/O to C220a	9 – E 8
S210	Wiring harness – Instrument panel near T/O to C220a	9 – E 8
S211	Wiring harness – Instrument panel near T/O to C220a	9 – E 8
S212	Wiring harness – Instrument panel near T/O to C278	12 – A 8
S213	Wiring harness – Instrument panel in T/O to C1025 .	7 – A 3
S214	Wiring harness – Instrument panel in T/O to Auxiliary relay box 1	9 – D 1
S215	Wiring harness – Instrument panel in T/O to Auxiliary relay box 1	9 – D 1
S216	Wiring harness – Instrument panel near T/O to C278	12 – A 8
S217	Wiring harness – Instrument panel near T/O to C1030	12 – E 4
S218	Wiring harness – Instrument panel near T/O to C110	6 – E 5
S219	Wiring harness – Instrument panel in T/O to C2312 .	8 – D 1
S220	Wiring harness – Instrument panel in T/O to C2178 .	9 – E 4
S221	Wiring harness – Instrument panel near T/O to C2312	12 – A 4
S222	Wiring harness – Instrument panel near T/O to C1030	12 – A 3
S223	Wiring harness – Instrument panel near T/O to C1030	12 – A 3
S224	Wiring harness – Instrument panel near T/O to G200	12 – E 5
S225	Wiring harness – Instrument panel near T/O to C278	7 – A 6
S226	Wiring harness – Instrument panel near T/O to G200	12 – A 5
S227	Wiring harness – Instrument panel near T/O to C2312	12 – A 4
S228	Wiring harness – Instrument panel near T/O to G200	12 – A 5
S229	Wiring harness – Instrument panel near T/O to G200	12 – E 5
S230	Wiring harness – Instrument panel near T/O to C202b	12 – D 8
S231	Wiring harness – Instrument panel near T/O to C1030	12 – E 4
S232	Wiring harness – Instrument panel near T/O to C202b	12 – D 8
S233	Wiring harness – Instrument panel near T/O to C110	11 – E 4
S234	Wiring harness – Instrument panel near T/O to C202b	12 – A 5
S235	Wiring harness – Instrument panel in T/O to G200 . .	12 – E 7
S236	Wiring harness – Instrument panel near T/O to C110	11 – E 4
S237	Wiring harness – Instrument panel near T/O to G200	12 – D 8
S238	Wiring harness – Instrument panel near T/O to G200	12 – A 5
S239	Wiring harness – Instrument panel near T/O to C294c	8 – A 4
S240	Wiring harness – Instrument panel near T/O to C1030	12 – E 4
S241	Wiring harness – Instrument panel in T/O to C2333 .	12 – E 4
S242	Wiring harness – Instrument panel near T/O to C1030	
S243	Wiring harness – Instrument panel near T/O to C251	
S244	Wiring harness – Instrument panel near T/O to C2171	
S245	Wiring harness – Instrument panel near T/O to Audio unit (18808)	
S246	Wiring harness – Instrument panel near T/O to Audio unit (18808)	
S247	Wiring harness – Instrument panel near T/O to Audio unit (18808)	
S248	Wiring harness – Instrument panel near T/O to Function selector switch assembly (19B888)	
S249	Wiring harness – Instrument panel in T/O to Auxiliary relay box 1	
S250	Wiring harness – Instrument panel near T/O to G200	
S251	Wiring harness – Instrument panel in T/O to C2177	
S300	Wiring harness – Floor	

S301	Wiring harness – Floor	
S401	Wiring harness – Rear C762 near T/O to C412	24 – A 4
S402	Wiring harness – Rear C762 near T/O to C415	24 – D 7
S403	Wiring harness – Rear C762 near T/O to C415	24 – D 7
S404	Wiring harness – Rear C762 near T/O to C311	19 – C 7
S405	Wiring harness – Rear C762 near T/O to C412	24 – E 3
S406	Wiring harness – Rear C762 near T/O to C405	24 – E 3
S407	Wiring harness – Rear C762 near T/O to C412	24 – E 3
S408	Wiring harness – Rear C762 near T/O to C405	24 – E 3
S409	Wiring harness – Rear C762 near T/O to C455	21 – A 2
S900	Wiring harness – roof near T/O to C210	14 – B 4
S901	Wiring harness – roof near T/O to C210	14 – B 5
S902	Wiring harness – roof near T/O to C971	14 – A 5

Wiring harness **Cell 151**

	Location	Page/coordinates
12B637	Wiring harness – Engine Sensor	
12A581	Wiring harness – Main	
12B637	Wiring harness – Engine Sensor	
14335	Wiring harness – roof	
14401	Wiring harness – Instrument panel	
14405	Wiring harness – Rear Chassis – Aft tank	
14405	Wiring harness – Rear Chassis – Dual tank	
14405	Wiring harness – Rear Chassis – Left tank	
14630	Wiring harness – passenger door	
14630	Wiring harness – Power Door Locks – passenger door	
14631	Wiring harness – driver door	
14631	Wiring harness – Power Door Locks – driver door	
14A005	Wiring harness – Floor	
9D930	Wiring harness – Fuel injectors	

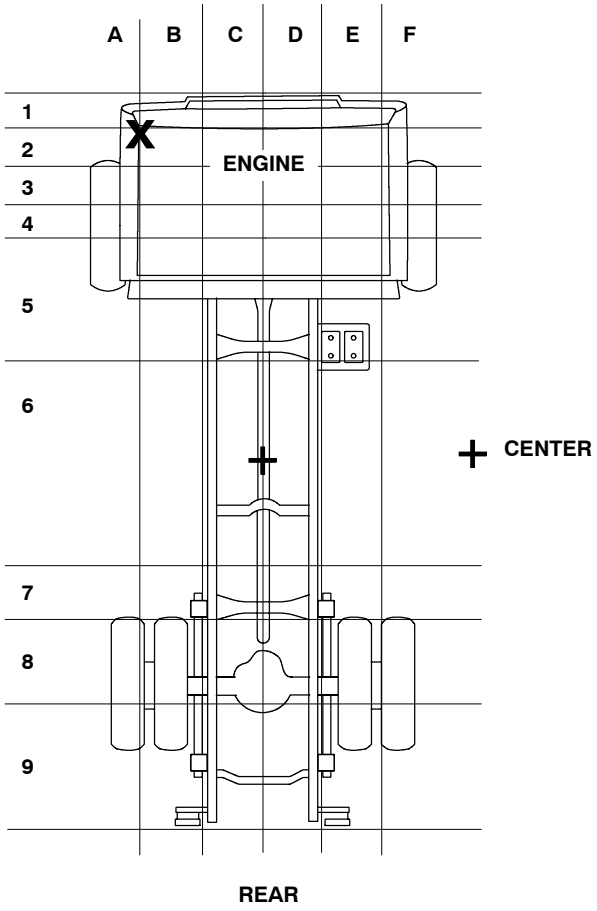
Vehicle Repair Location Codes

TO PINPOINT THE ACTUAL VEHICLE LOCATION OF A REPAIR, THE VEHICLE REPAIR LOCATION CODE IS REQUIRED.

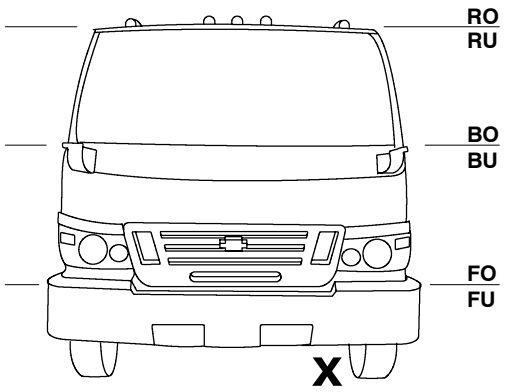
For example, an "X" has been placed in the quadrant of the vehicle diagrams indicating the location of the repair. See diagrams.

LOCATION CODE, FOR THE EXAMPLE: A5/FU – (UNDER THE FLOOR OF DRIVER'S LEFT FOOT.)

Front/rear direction



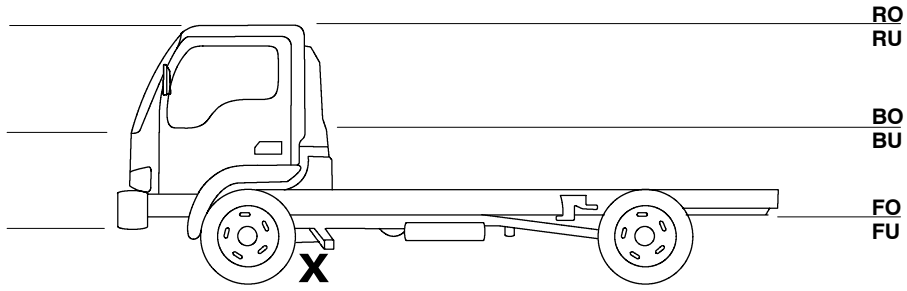
Over/under direction



R = roof line
- **RO = roof over**
- **RU = roof under**

B = belt line
- **BO = belt over**
- **BU = belt under**

F = floor pan
- **FO = floor over**
- **FU = floor under**



SIDE VIEW