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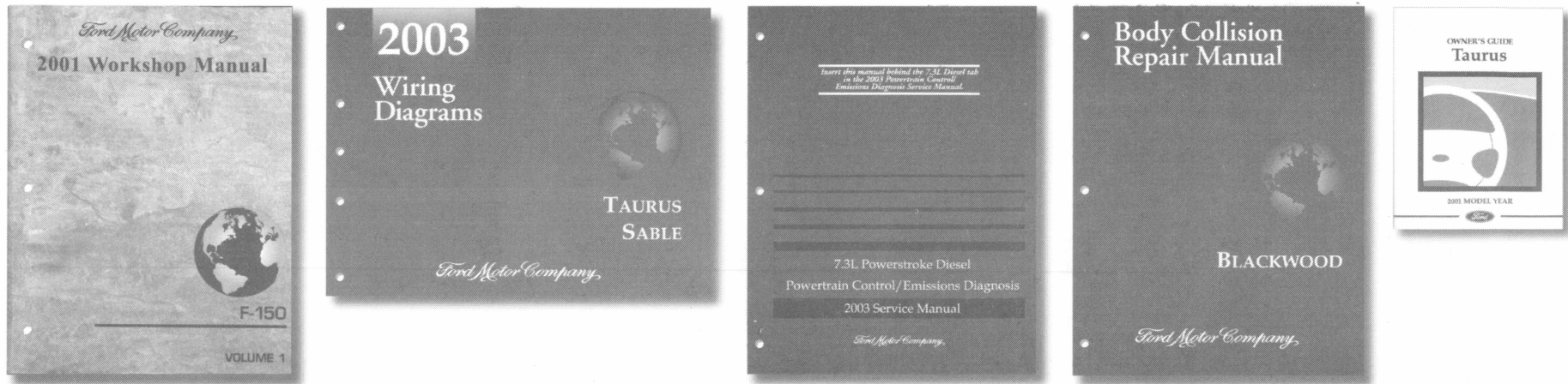
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S270	13-8	S437 – Mach 1000, Convertible	130-7
S272	31-3	S437 – Mach 1000, coupe	130-6
S274	93-1	S437 – Mach 460	130-4

S440	113-1	Speaker, right front (18808) – premium radio	130-2
S450	10-6	Speaker, right rear (18808) – Mach 1000	130-5
S451	10-6	Speaker, right rear (18808) – Mach 460	130-3
S470	130-10	Speaker, right rear (18808) – premium radio	130-2
S471	130-11	Speed control servo (9C735)	31-2
S472	130-10	Starter motor (11002)	20-1
S473	10-9	Starter relay (11450)	20-1
S474	130-11	Steering wheel/speed control switch (9F924)	31-4
S475	10-9	Subwoofer, left front – Mach 1000, Convertible	130-7
S480	25-9	Subwoofer, left front – Mach 1000, coupe	130-6
S481	25-9	Subwoofer, left front – Mach 460	130-4
S482	25-9	Subwoofer, left rear – Mach 460, Mach 1000	130-8
S483	25-9	Subwoofer, luggage compartment left	130-11
S484	25-11	Subwoofer, luggage compartment right	130-10
S504	13-7	Subwoofer, right front – Mach 1000, Convertible	130-7
S505	13-6	Subwoofer, right front – Mach 1000, coupe	130-6
S506	124-1	Subwoofer, right front – Mach 460	130-4
S507	10-8	Subwoofer, right rear – Mach 460, Mach 1000	130-8
S510 – Convertible	100-2	Subwoofer amplifier, front – Mach 1000, Convertible	130-7
S510 – coupe	100-4	Subwoofer amplifier, front – Mach 1000, coupe	130-6
S515	10-8	Subwoofer amplifier, front – Mach 460	130-4
S901	10-10	Subwoofer amplifier, luggage compartment left inboard	130-9
S902 – Convertible	89-4	Subwoofer amplifier, luggage compartment left outboard	130-9
S902 – coupe	89-3	Subwoofer amplifier, luggage compartment right inboard	130-9
Safety belt buckle switch (10B924)	59-2	Subwoofer amplifier, luggage compartment right outboard	130-9
Seat adjust switch, driver side front (14A701)	120-1	Subwoofer amplifier, rear – Mach 1000, Convertible	130-7
Side lamp, left rear (13411)	92-2	Subwoofer amplifier, rear – Mach 1000, coupe	130-6
Side lamp, right rear (13411)	92-2	Subwoofer amplifier, rear – Mach 460	130-4
Speaker, left front (18808) – Mach 1000	130-5	Supercharger bypass solenoid	25-6
Speaker, left front (18808) – Mach 460	130-3	Throttle Position Sensor (TPS) (9B989) – 3.8L	23-7
Speaker, left front (18808) – premium radio	130-2	Throttle Position Sensor (TPS) (9B989) – 4.6L 2V	24-6
Speaker, left rear (18808) – Mach 1000	130-5	Throttle Position Sensor (TPS) (9B989) – Cobra	25-7
Speaker, left rear (18808) – Mach 460	130-3	Throttle Position Sensor (TPS) (9B989) – Mach 1	26-6
Speaker, left rear (18808) – premium radio	130-2	Traction control switch	42-2
Speaker, right front (18808) – Mach 1000	130-5	Transmission control switch	29-3
Speaker, right front (18808) – Mach 460	130-3	Transmission hardware unit	29-3

Vanity mirror lamp, left (04100) – Convertible	89-4
Vanity mirror lamp, left (04100) – coupe	89-3
Vanity mirror lamp, right (04100) – Convertible	89-4
Vanity mirror lamp, right (04100) – coupe	89-3
Washer pump relay, front	81-1
Wheel speed sensor, left front (2C205)	42-3
Wheel speed sensor, left rear	42-3
Wheel speed sensor, right front (2C204)	42-3
Wheel speed sensor, right rear	42-3
Windshield washer pump motor (17618)	81-1
Windshield wiper motor (17508)	81-1
Wiper high/low relay	81-1
Wiper run/park relay	81-1

Note

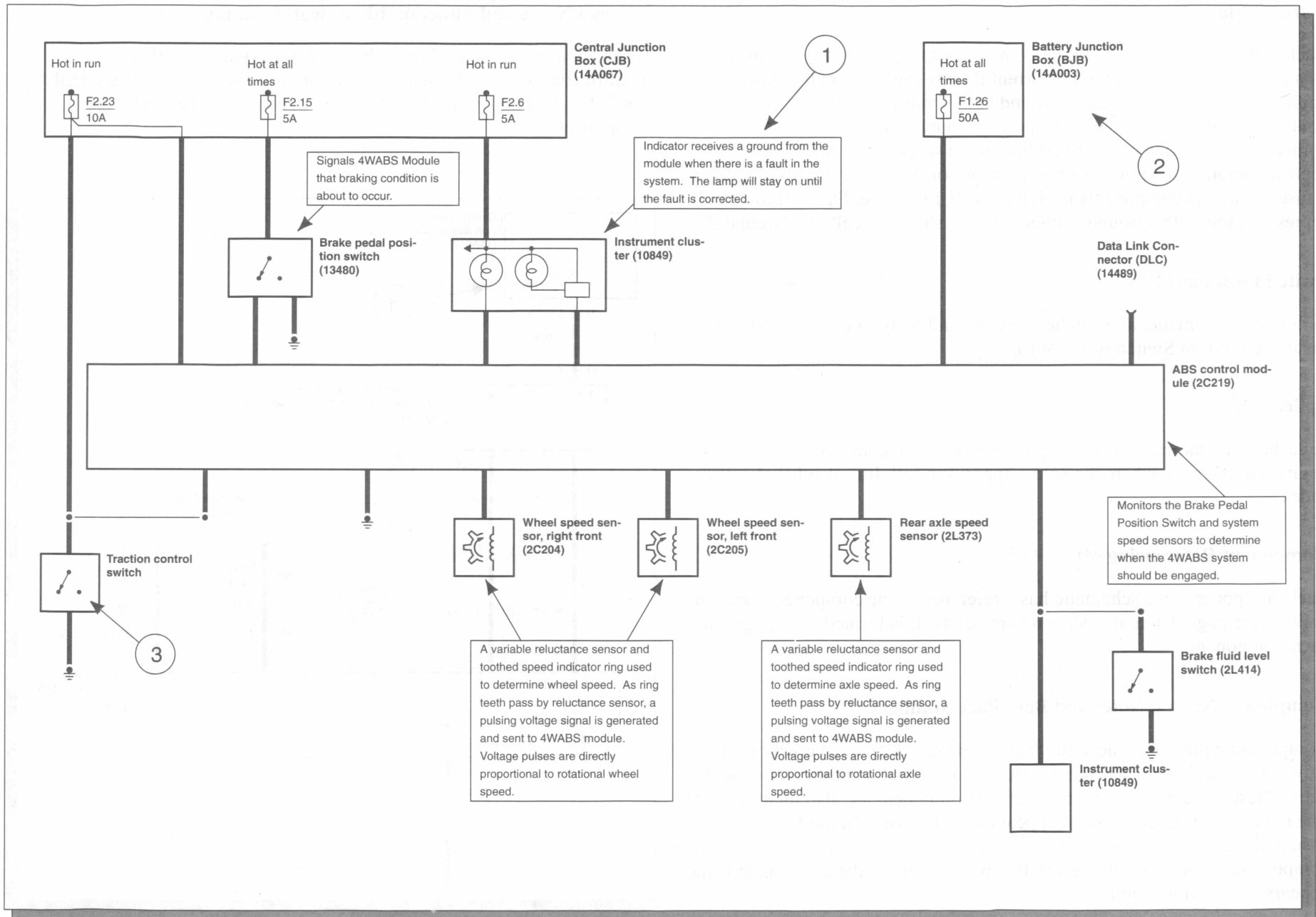
All wiring connections between components are shown exactly as they exist in the vehicles. It is important to realize, however, that no attempt has been made on the schematic to represent components and wiring as they physically appear on the vehicle. For example, a 4-foot length of wire is treated no 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.

System Overview

Each major vehicle system includes a complete system overview prior to each set of schematic pages. It is important to realize that this is only a high level overview of the complete system connectivity. It includes component operational information (1), component name and base part number (2), and basic component internals (3). It does not include specific circuit information, connector or pin numbers, splices or grounds. That information is found on the schematic pages.



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)

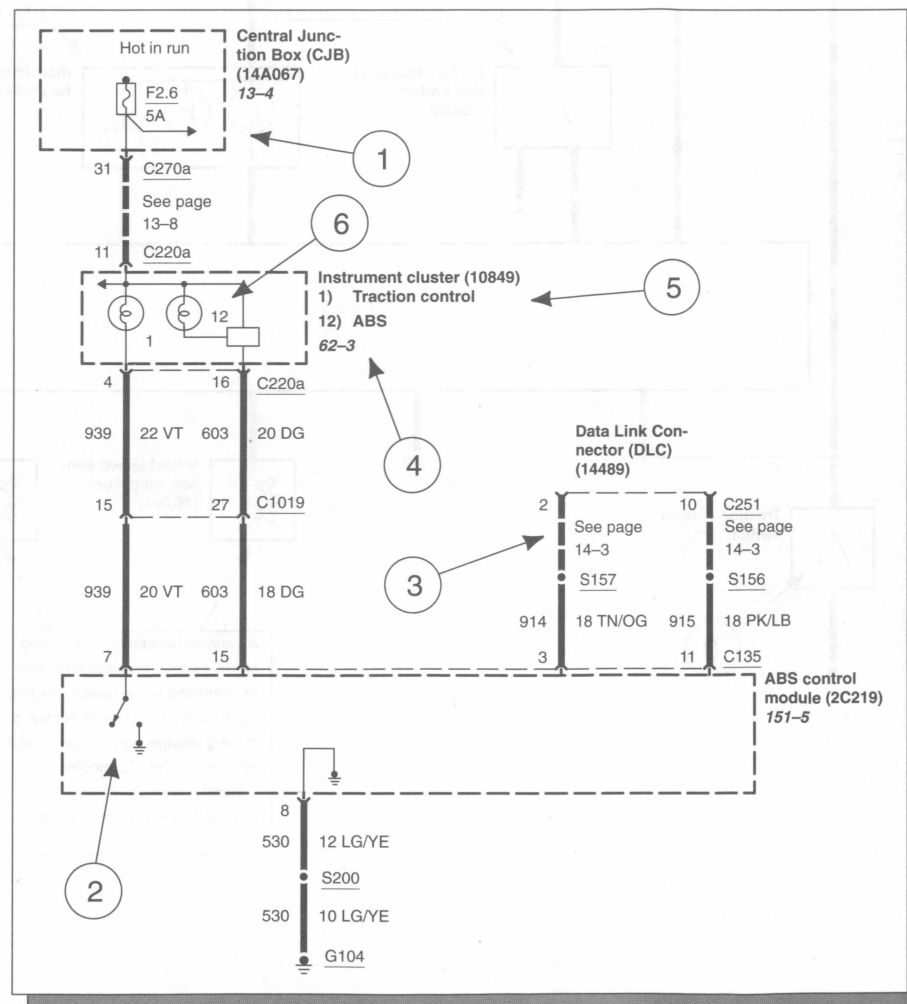
Each component on a schematic has a reference to the component location view or the page where it is shown completely. It is located to the right of each component.

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.

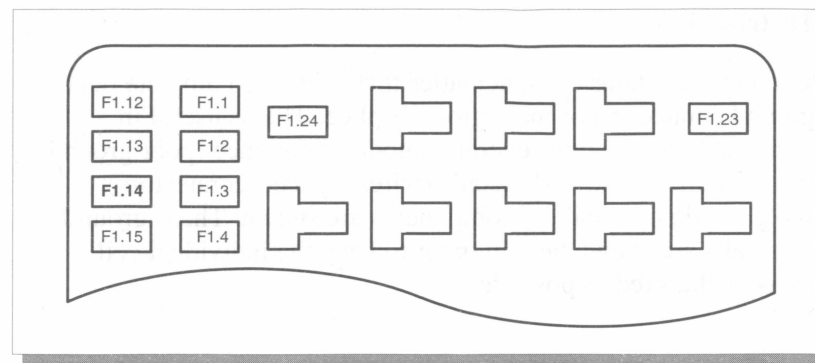


Fuse and Relay Information

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

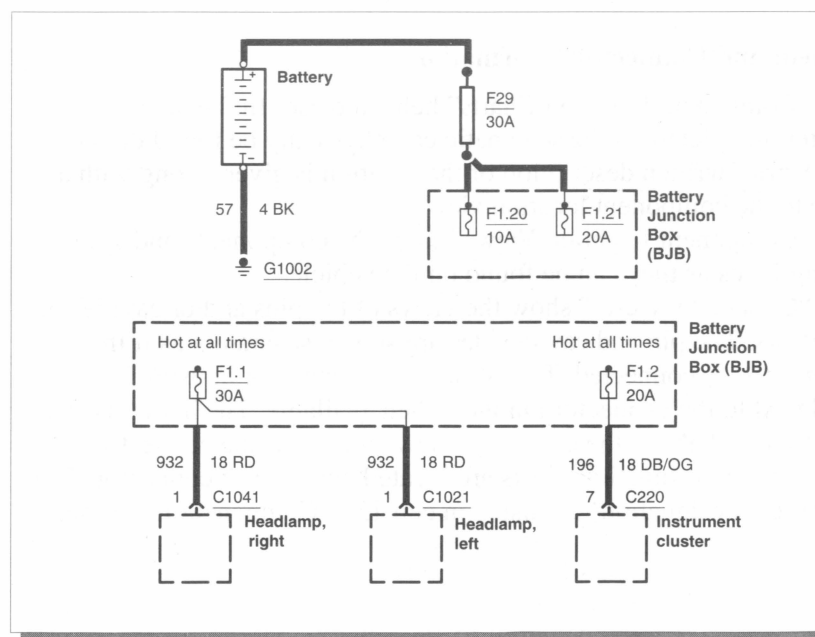
Fuse and Relay Numbering and Naming

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 Battery Junction Box fuses, and “F2.” precedes Central Junction Box fuses.



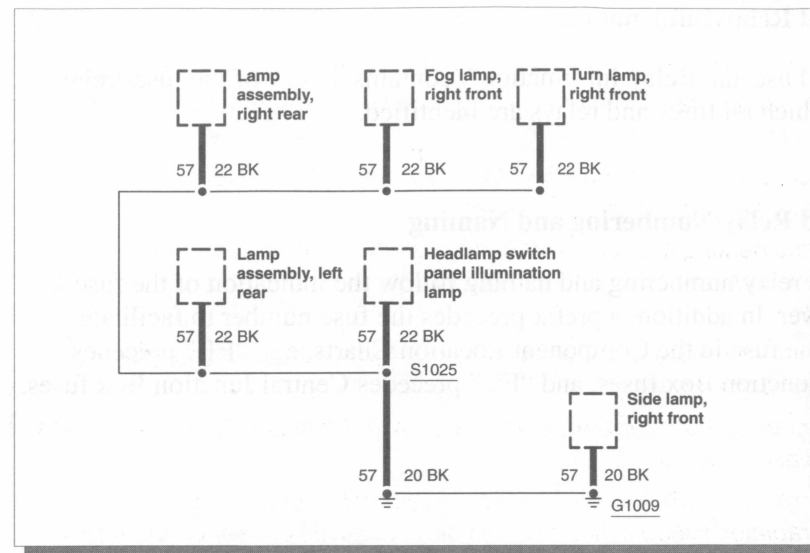
Power Distribution

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 connector view and below the connector number. The circuit function charts are located below each connector. The wiring harness designations are listed in cell 152 “Component Location Charts”.

C150

12A581

Wheel speed sensor, left front (2C205)

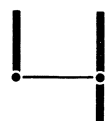


Pin	Circuit	Circuit Function
1	522 (TN/BK)	Wheel speed sensor, left front (2C205) –
2	521 (TN/OG)	Wheel speed sensor, left front (2C205) +

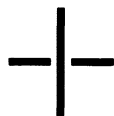
WARNINGS

- *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.*

4-1 Symbols



Distributed splice



Crossed wiring without connection



Splice



Removable connection



Ground



Connector



Female connector



Male connector



Entire component



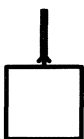
Part of a component



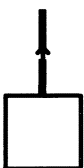
Component case directly attached to metal part of vehicle (ground)



Component with screw terminals



Connector attached to component



Connector attached to component lead (pigtail)



Positive Temperature Coefficient (PTC)



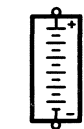
Resistor



Potentiometer (pressure or temperature)



Potentiometer (outside influence)



Battery



Fuse



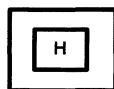
Circuit breaker



Heating element, Conductor loop



Ignition coil assembly



Hall sensor



Antenna



Solenoid controlled valve
or clutch solenoid



Air bag sliding contact
(14A664)



Permanent magnet,
one-speed-motor



Light emitting diode
(LED)



Diode, current flows in
direction of arrow



Permanent magnet,
two-speed-motor



Capacitor



Transistor



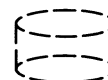
Rotational sensor



Variable capacitor



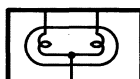
Lamp



Shield



Piezoelectric sensor



Bifilament lamp



Horn or speaker



Coil



Gauges

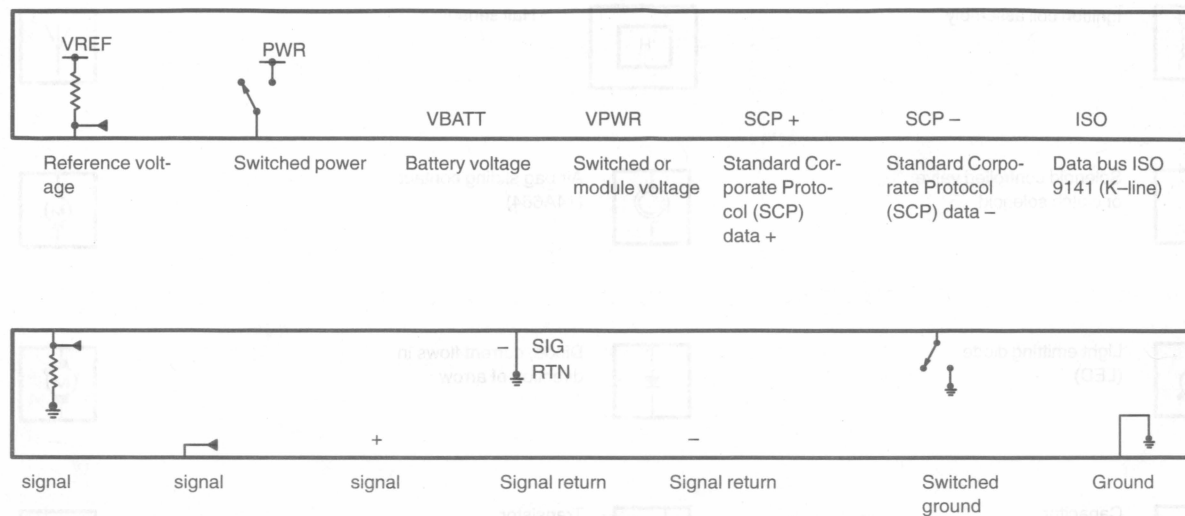


Fusible link

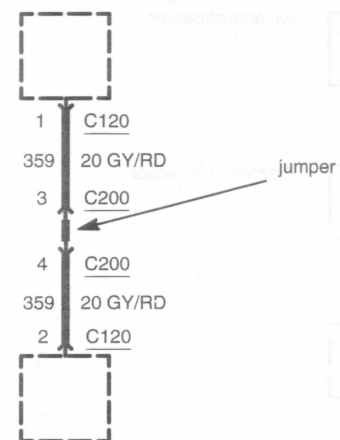
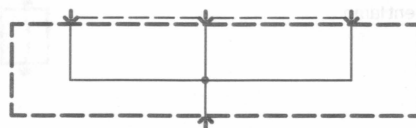
4-3 Symbols

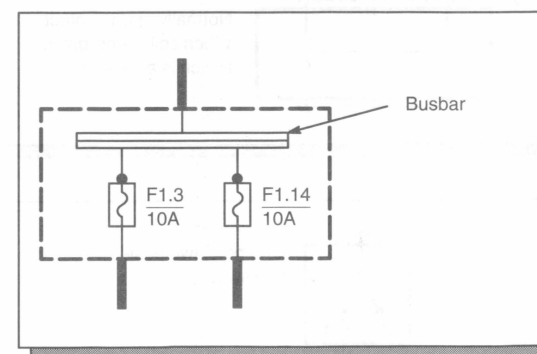
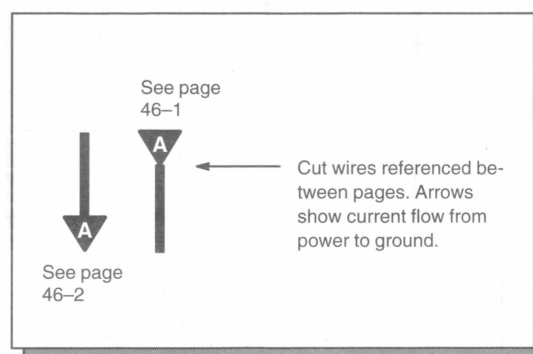
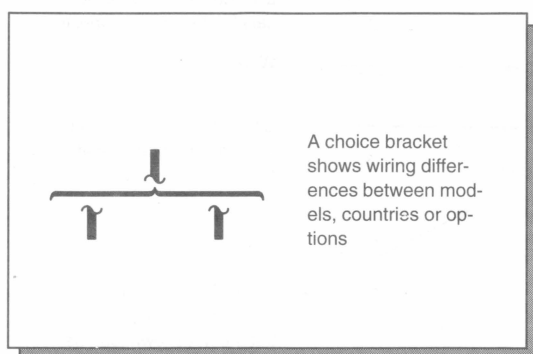
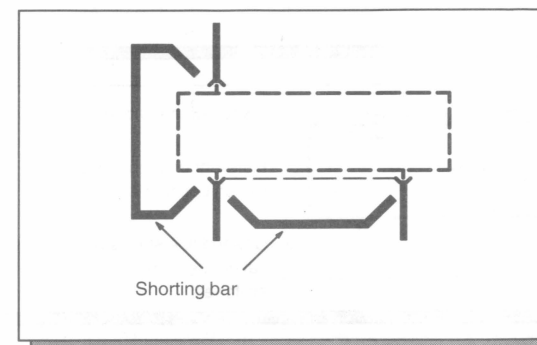
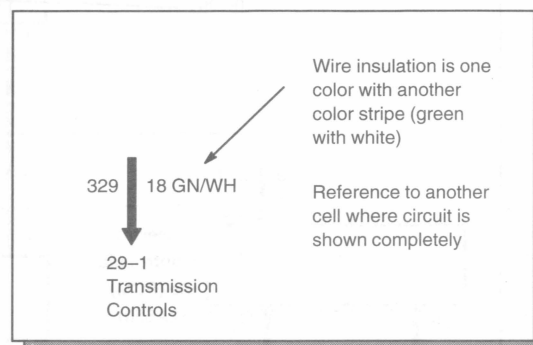
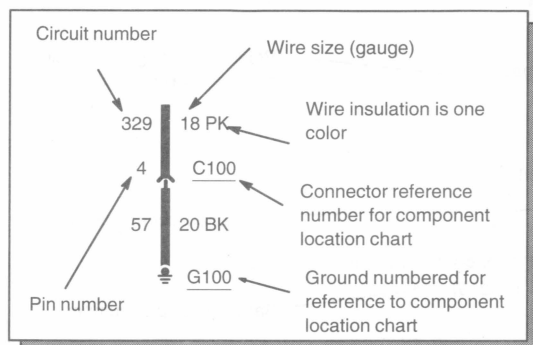
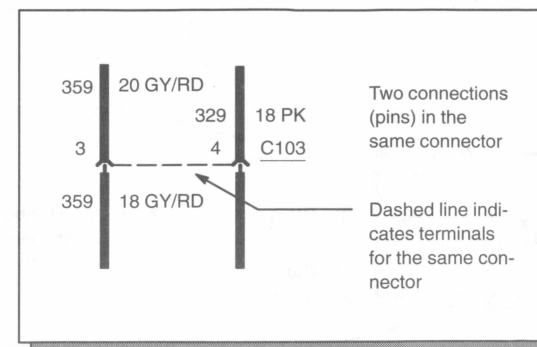
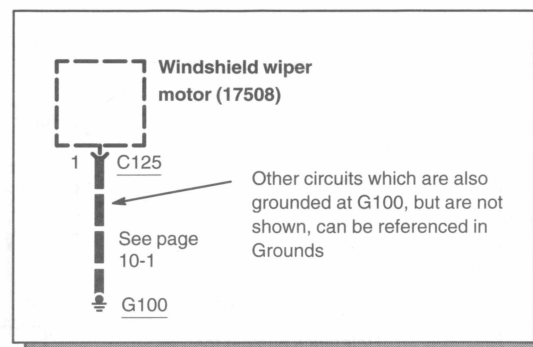
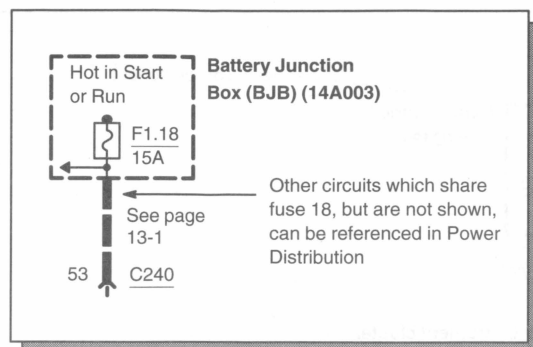
Wire colors

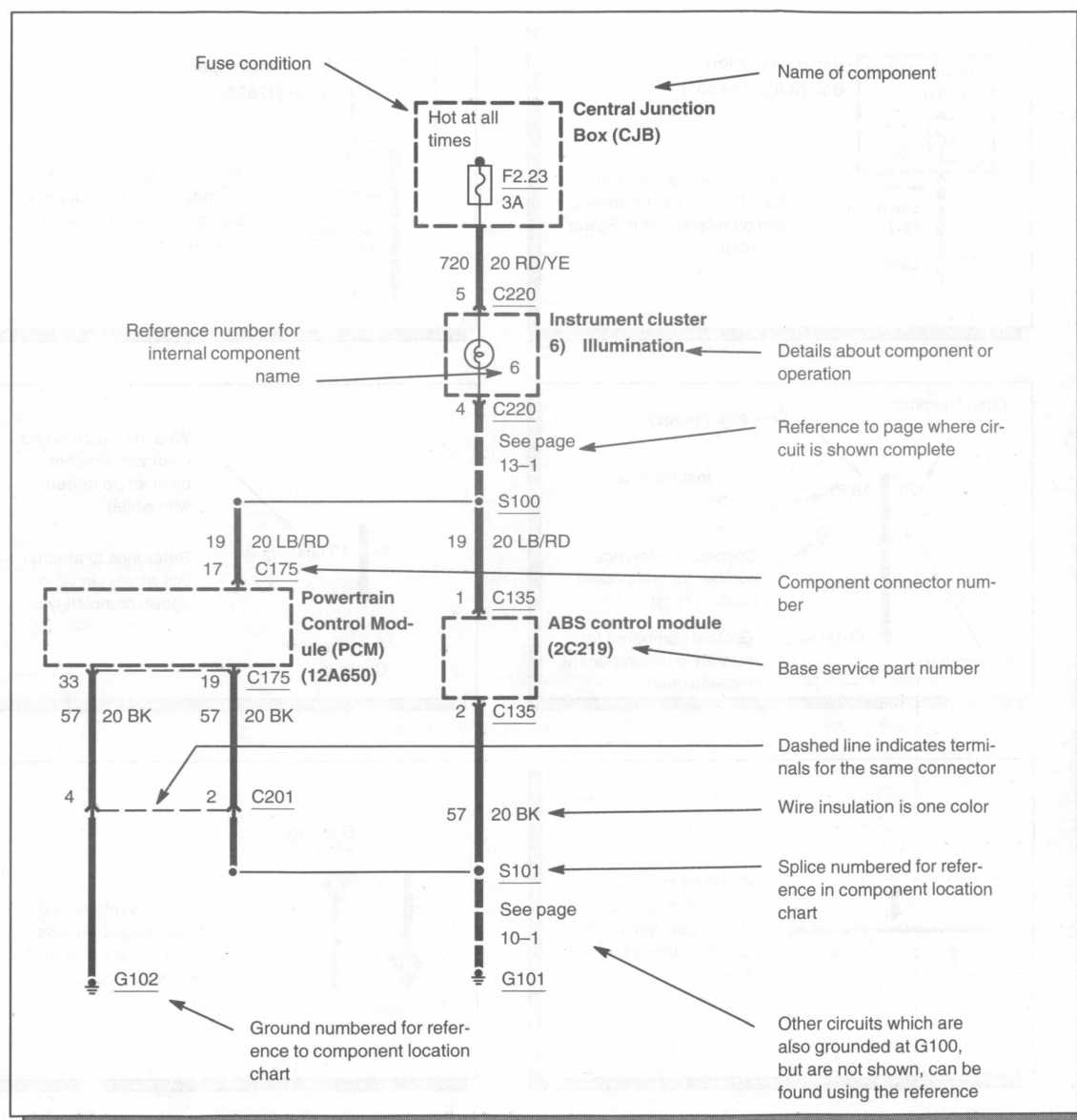
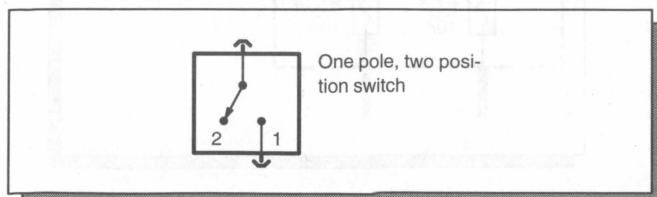
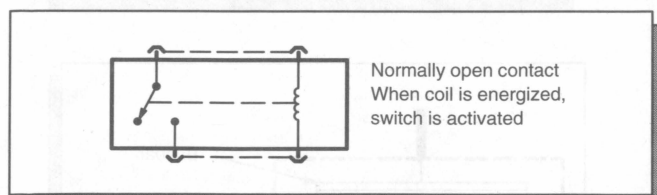
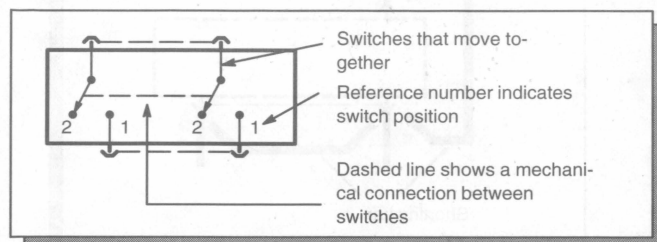
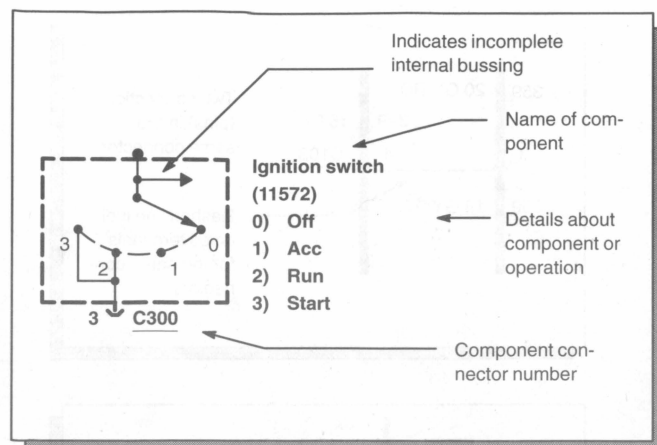
BK	Black
BN	Brown
BU	Blue
DB	Dark blue
DG	Dark green
GN	Green
GY	Gray
LB	Light blue
LG	Light green
NA	Natural
OG	Orange
PK	Pink
RD	Red
SR	Silver
TN	Tan
VT	Violet
WH	White
YE	Yellow



Joint connector

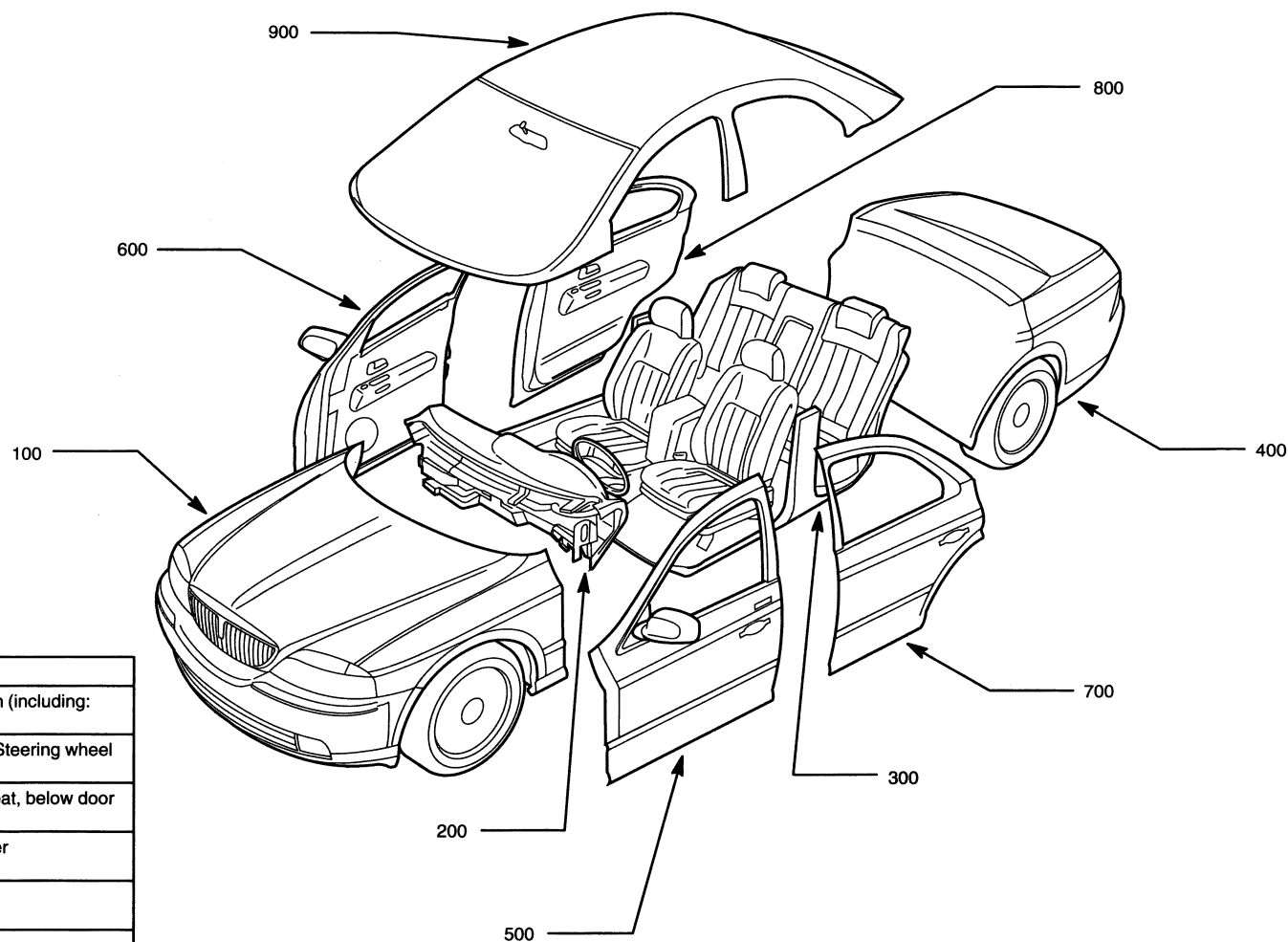






The first digit of every connector, ground, and splice number used in this publication references its location within the vehicle.

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

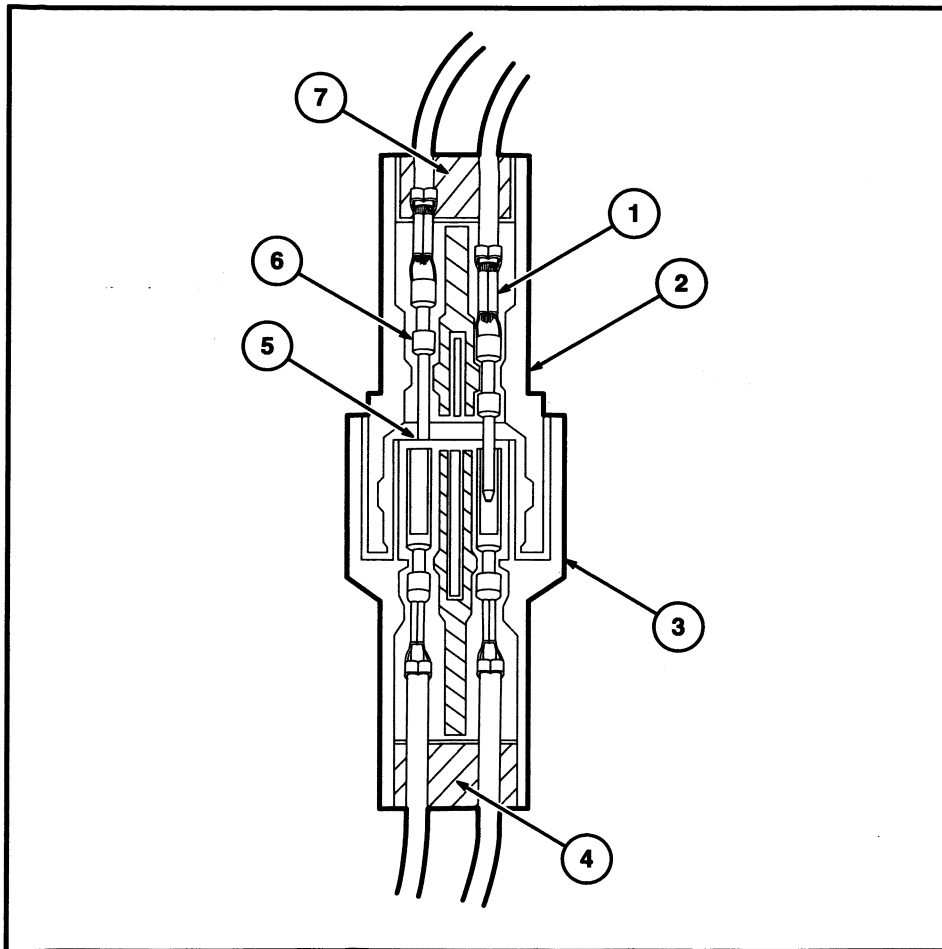


Number	Location
100	Engine compartment, Powertrain (including: axle/differential/transmission)
200	Instrument Panel and Console, Steering wheel assembly
300	From instrument panel to rear seat, below door trim panel
400	behind rear seats, to rear bumper
500	driver door
600	passenger door, front
700	passenger door, left rear
800	passenger door, right rear
900	Above door trim panel and headliner

Troubleshooting wiring harness and connector hidden concerns

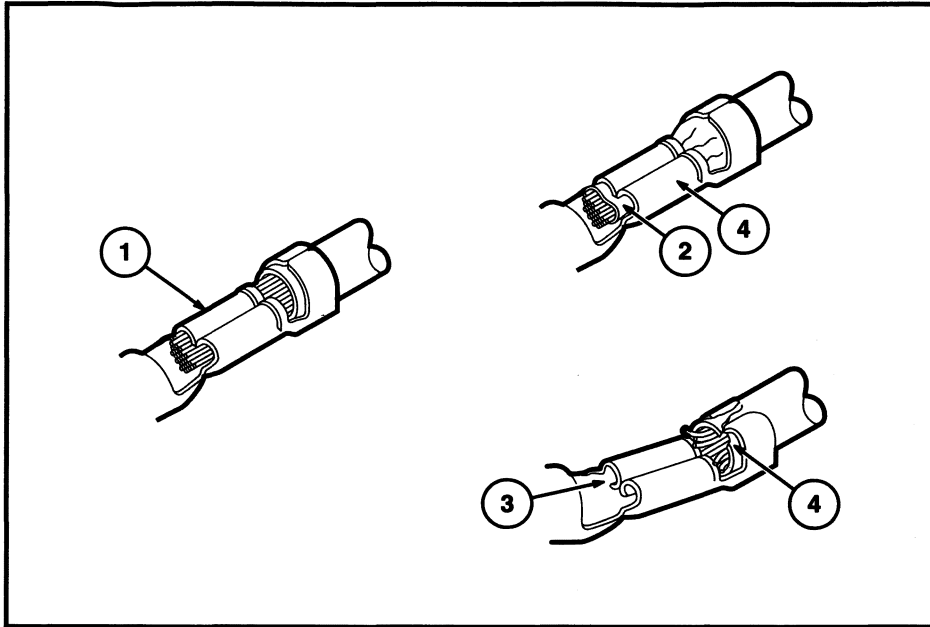
The following illustrations are known examples of wiring harness, splices and connectors that will create intermittent electrical concerns. The concerns are hidden and can only be discovered by a physical evaluation as shown in each illustration.

NOTE: Several components, such as the PCM, 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.

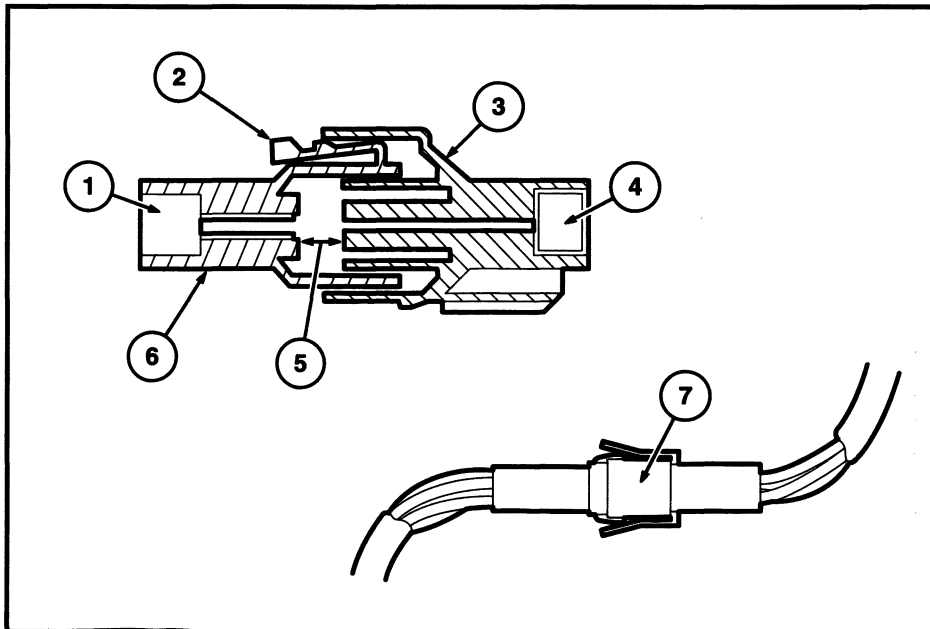
**Terminal not properly seated**

- 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.

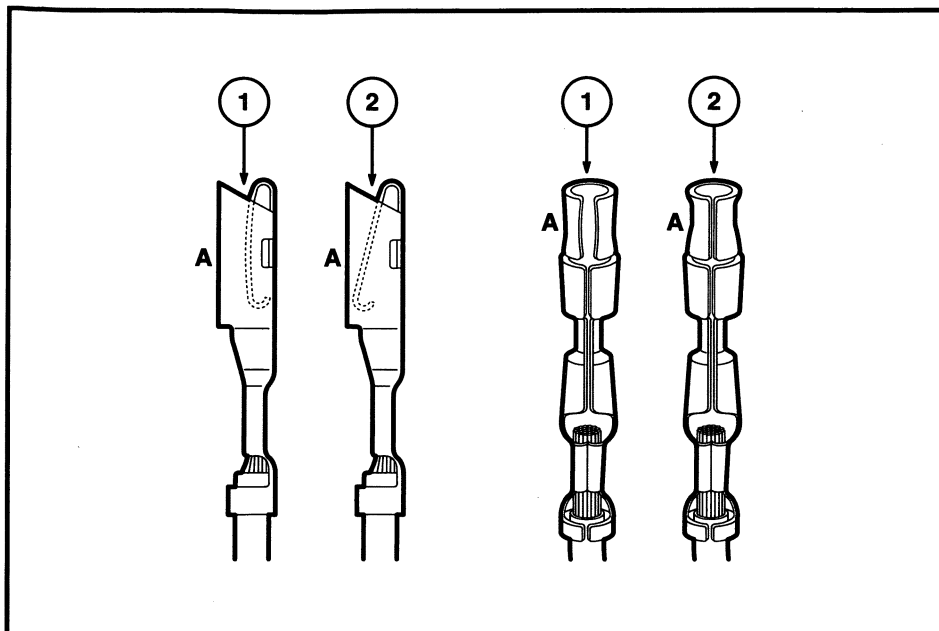
**Defective insulation stripping**

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

**Partially mated connectors**

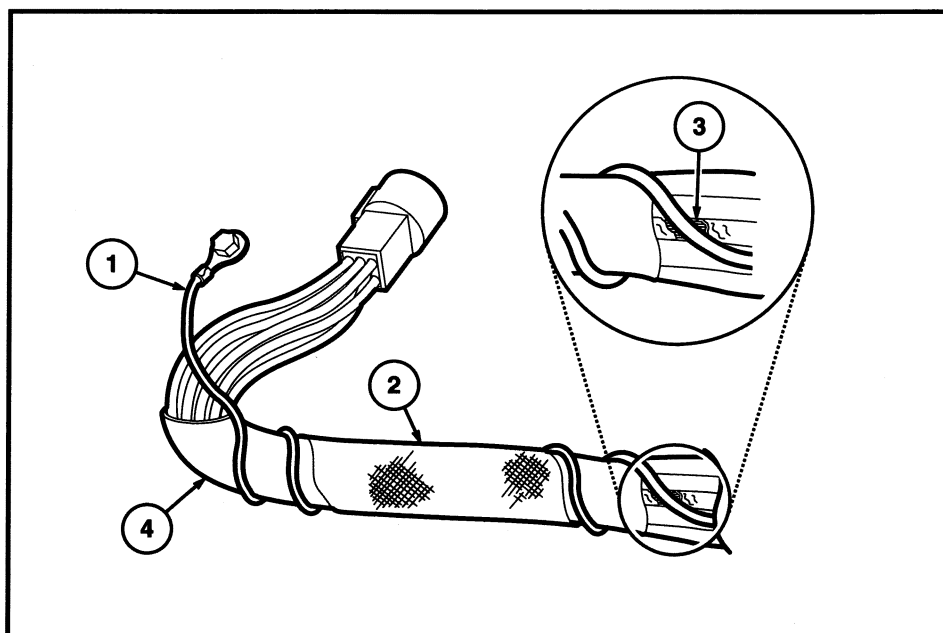
- 1 = Seal
- 2 = Displaced tab
- 3 = Female half
- 4 = Seal
- 5 = Intermittent contact
- 6 = Male half
- 7 = Intermittent contact

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

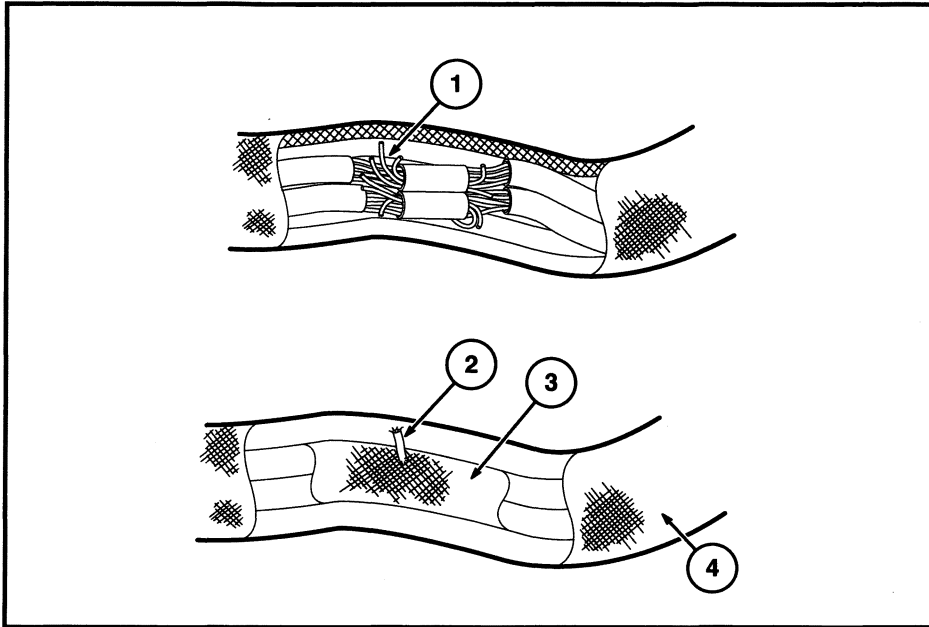
**Deformed (enlarged) female terminals**

- 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

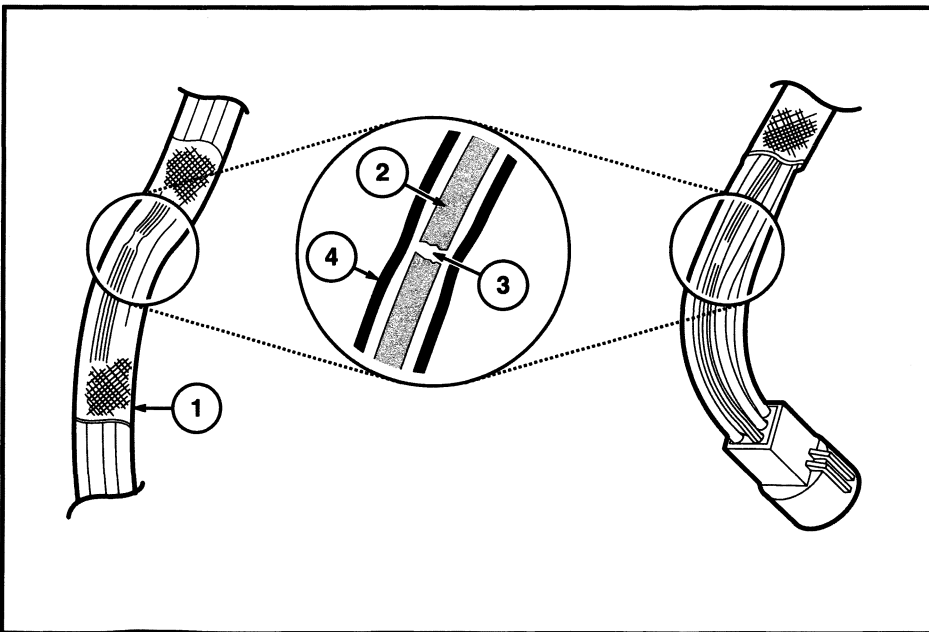
1 = Intermittent short

Splice covered

2 = Wire strand

3 = Splice tape

4 = Harness tape

**Broken wire strands in harness**

1 = Wiring harness tape

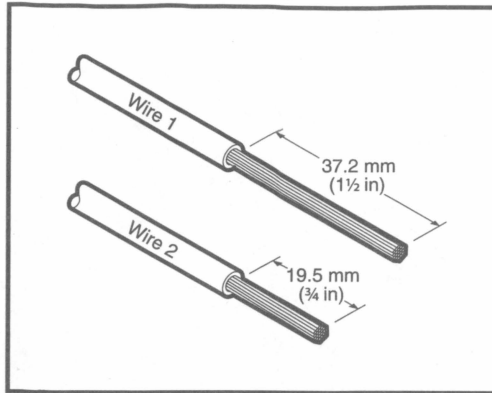
2 = Wiring strand

3 = Broken strands intermittent signal

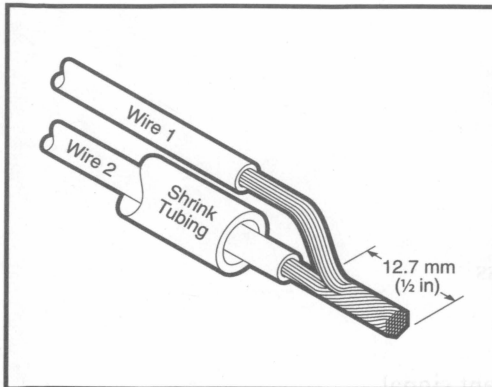
4 = Circuit insulation

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

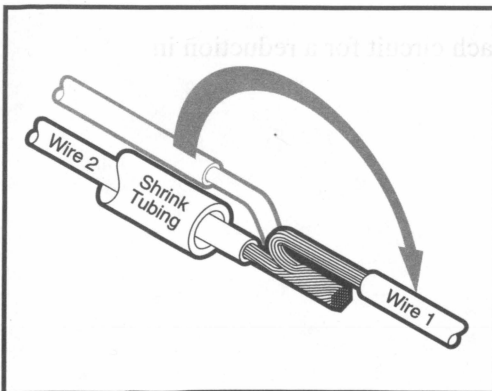
Recommended splicing method



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

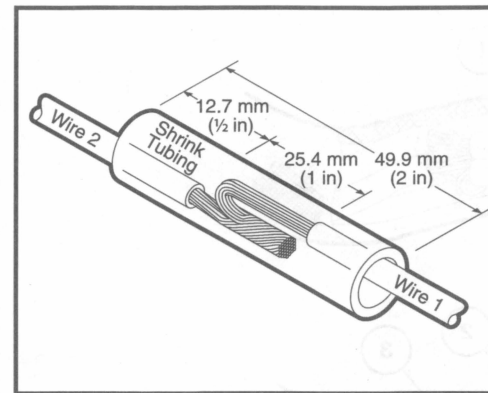


3. Install heat shrink tubing.
 4. Twist wires together.
 5. Solder wires together.
- NOTE:** Use rosin core mildly-activated (RMA) solder. Do not use acid core solder.



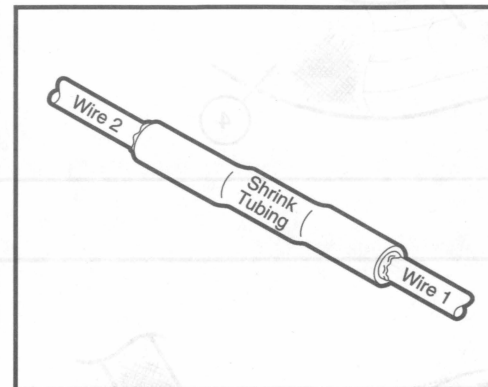
6. Bend Wire 1 back in a straight line.

NOTE: Wait for solder to cool before moving wires.



7. Evenly position heat shrink tubing over wire repair.

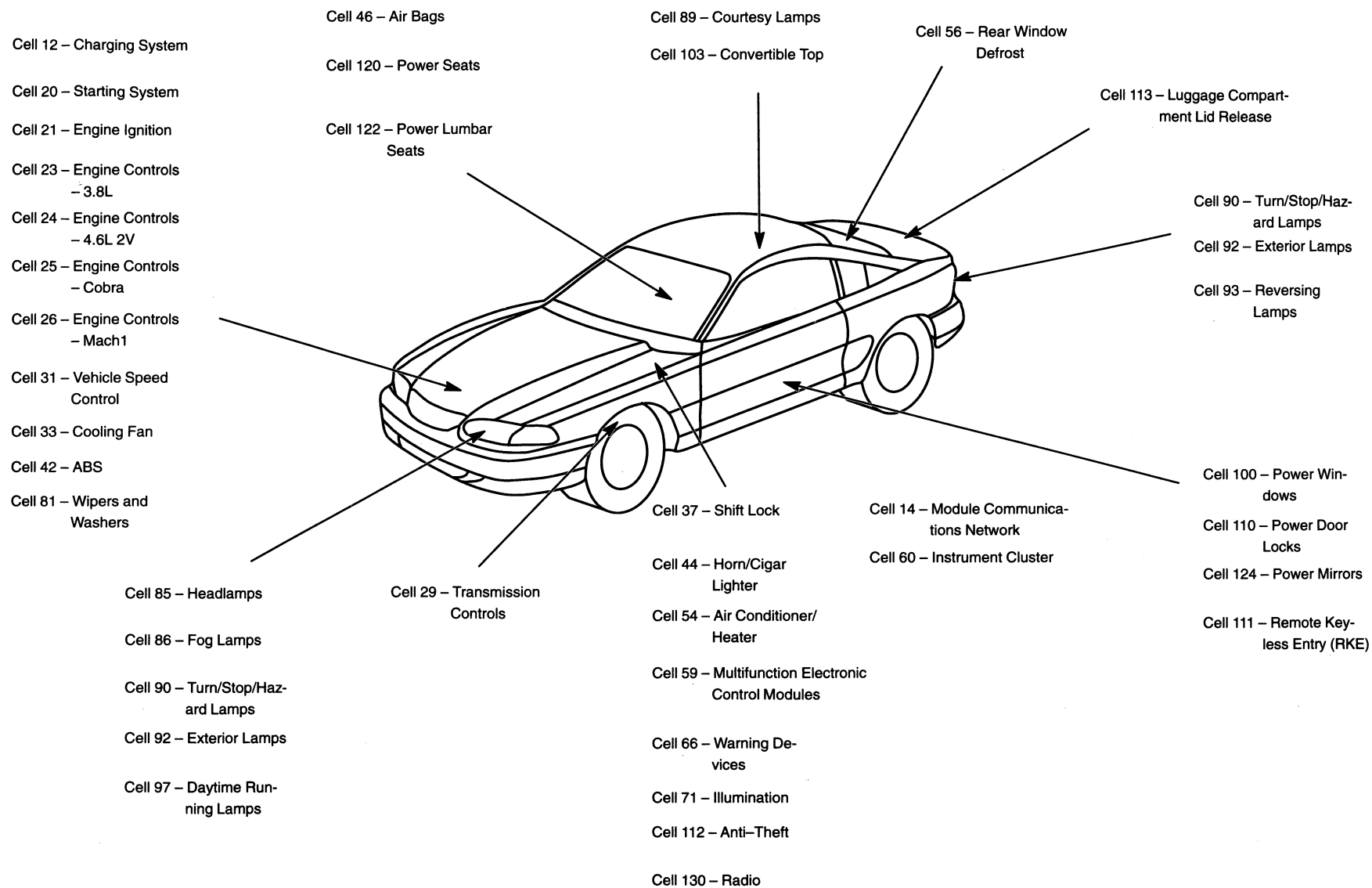
NOTE: Overlap tubing on both wires.

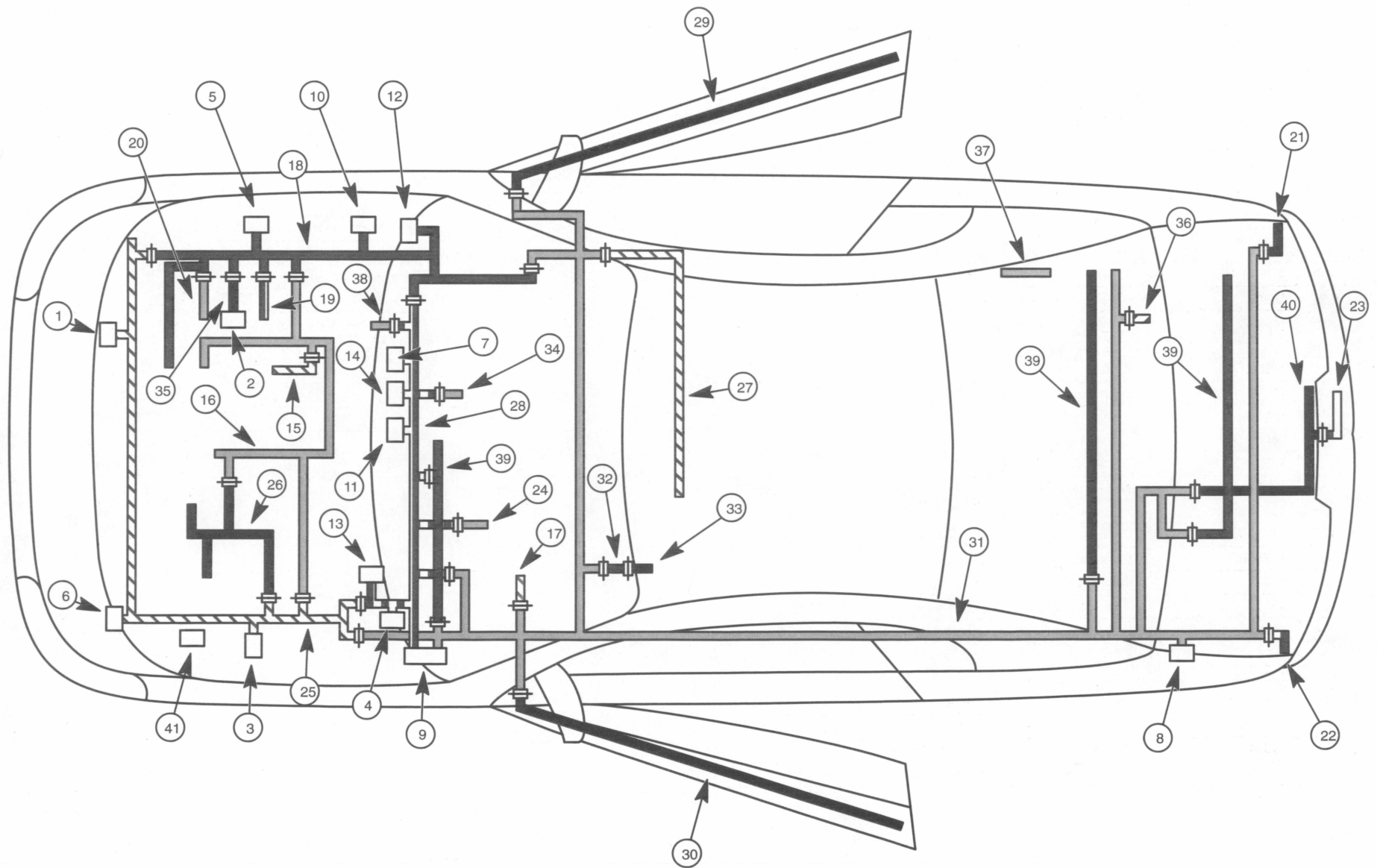


8. Use heat gun to heat the repaired area until adhesive flows out of both ends of heat shrink tubing.
9. Reconnect battery ground cable.

Notes

8-1 Systems Overview

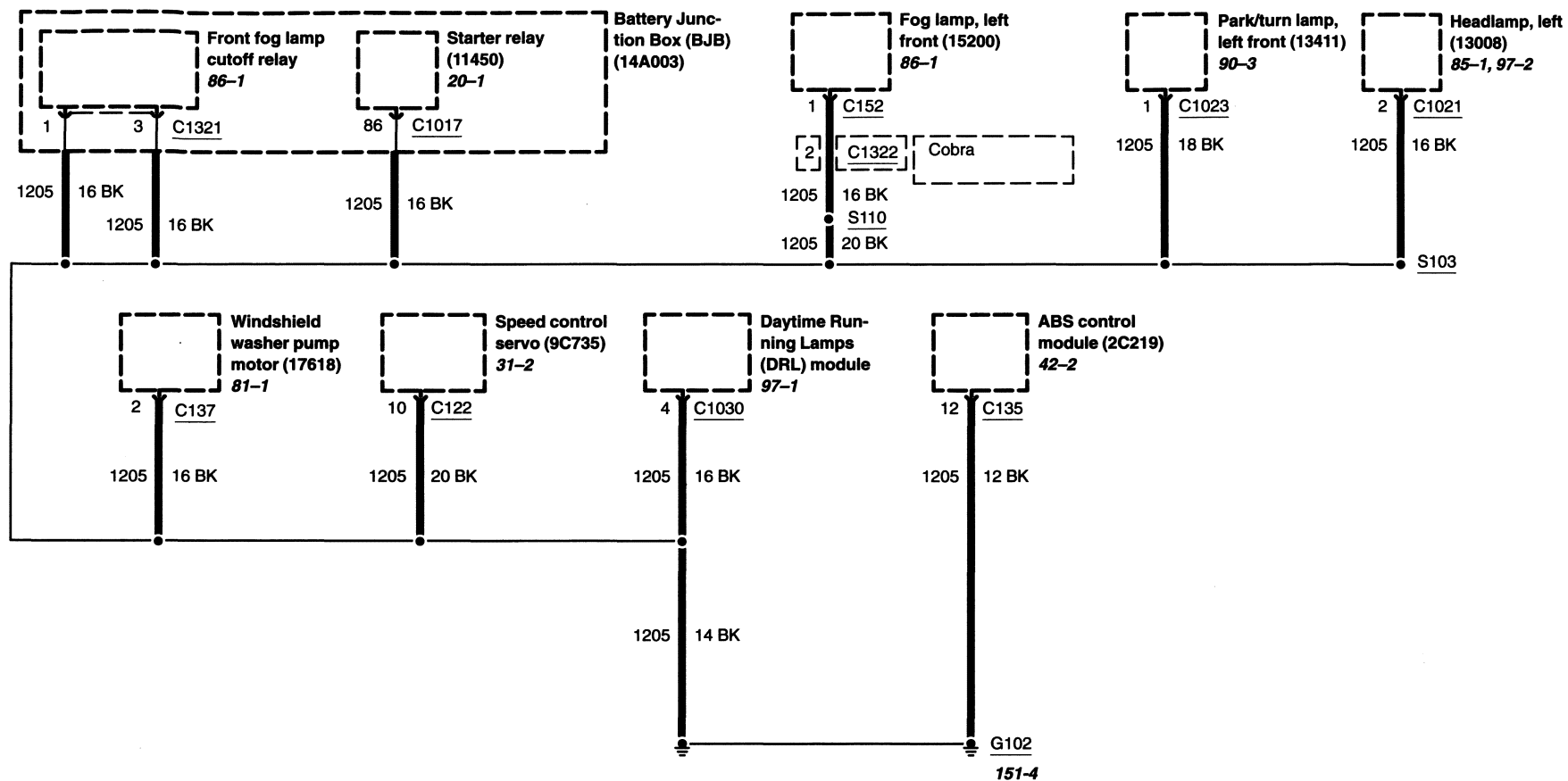




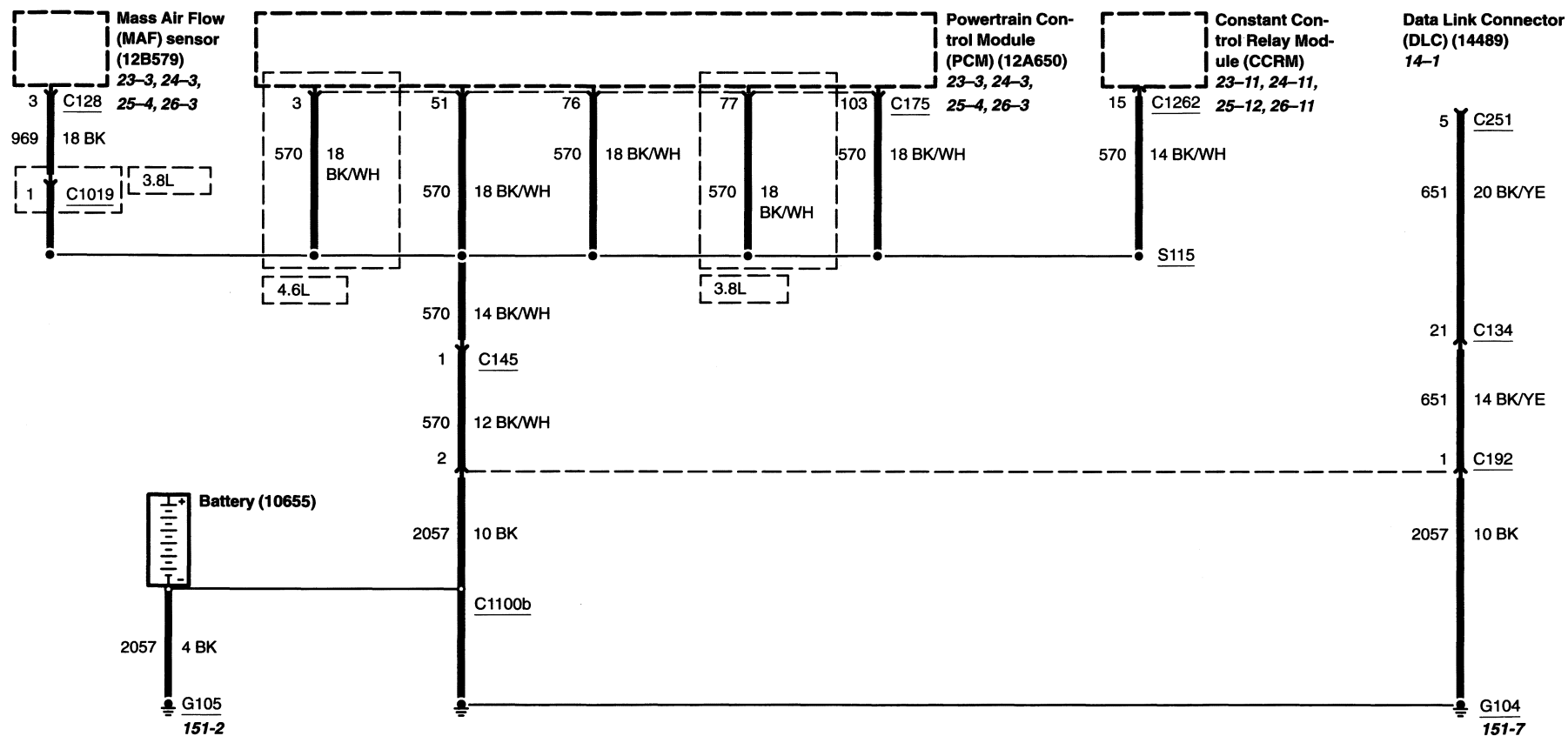
Item	Part Number	Description
1	2C219	ABS control module (2C219)
2	–	Auxiliary fuse box
3	14A003	Battery Junction Box (BJB) (14A003)
4	14A068	Central Junction Box (CJB) (14A068)
5	–	Constant Control Relay Module (CCRM)
6	–	Daytime Running Lamps (DRL) module
7	–	Electronic flasher module
8	9D372	Fuel pump driver module (9D372)
9	14B205	Generic Electronic Module (GEM) (14B205)
10	–	Inlet Manifold Runner Control (IMRC) module
11	15607	Passive anti-theft transceiver module (15607)
12	12A650	Powertrain Control Module (PCM) (12A650)
13	–	Relay box
14	14B321	Restraints control module (14B321)
15	7C078	Wiring harness – Automatic transmission
	15525	Wiring harness – Manual transmission
16	9D930	Wiring harness – Fuel charge (3.8L)
	12B637	Wiring harness – Engine control sensor and fuel charge (4.6L)
17	12638	Wiring harness – Starter relay circuit
18	12A581	Wiring harness – Engine control sensor
19	12B559	Wiring harness – Engine, to knock sensor
20	12B566	Wiring harness – Engine electronic control air sensor
21	13407	Wiring harness – Rear lamp, Right
22	13410	Wiring harness – Rear lamp, Left
23	13A625	Wiring harness – High mounted stoplamp
24	13B319	Wiring harness – Turn signal switch
25	14290	Wiring harness – Dash panel to headlamp junction
26	14305	Wiring harness – Alternator rectifier system (3.8L)
	14B060	Wiring harness – Starter motor relay and battery ground (4.6L)
27	14334	Wiring harness – Interior lamps (coupe)
	14335	Wiring harness – Interior illumination (Convertible)

Item	Part Number	Description
28	14401	Wiring harness – Main
29	14630	Wiring harness – Window regulator, right front door
30	14631	Wiring harness – Window regulator, left front door
31	14A005	Wiring harness – Body main
32	14A546	Wiring harness – Safety belt switch, Extension (without power seats)
	14C719	Wiring harness – Seat control feed jumper (with power seats)
33	14A699	Wiring harness – Power seats (without lumbar)
	14B084	Wiring harness – Lumbar adjust switch, driver side (with lumbar)
34	14B079	Wiring harness – Console Panel
35	14K095	Wiring harness – Fan motor
36	18C619	Wiring harness – Rear window heater
37	18C620	Wiring harness – Rear window heater ground
38	18C629	Wiring harness – Blower motor
39	19B113	Wiring harness – Radio amplifier
40	19B516	Wiring harness – Rear license plate lamp
41	–	Battery

G102



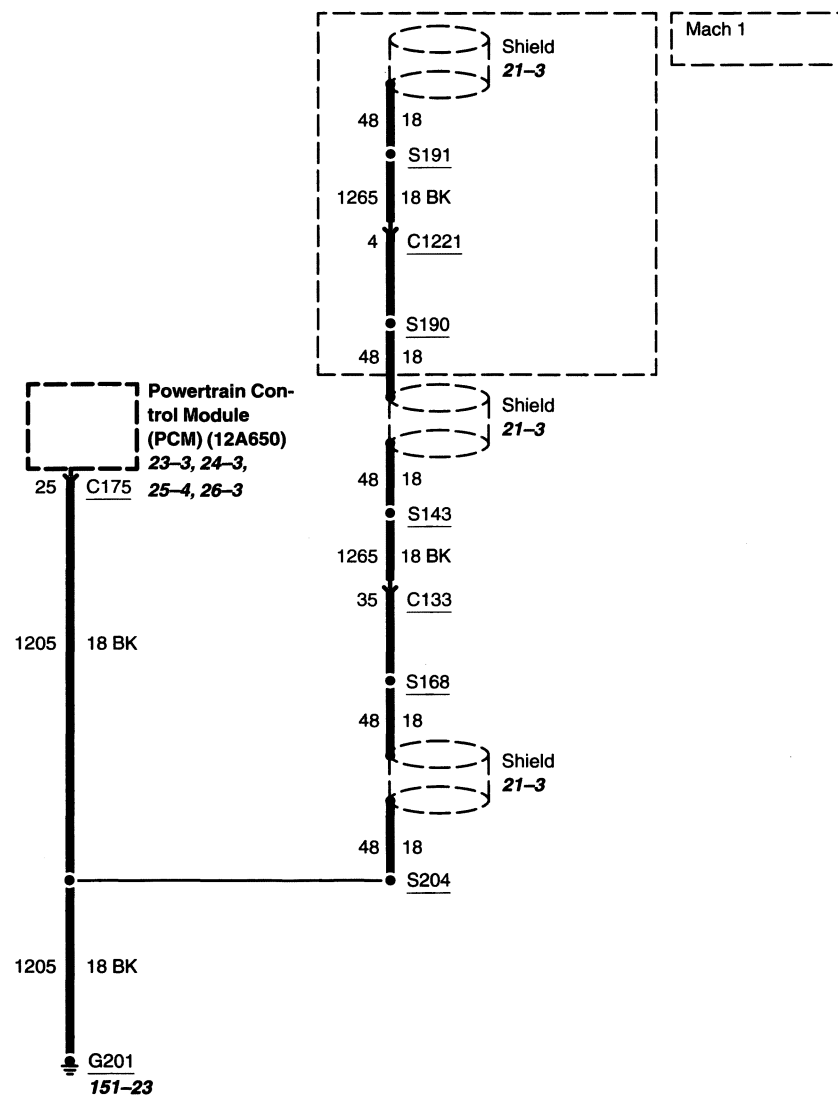
G104, G105



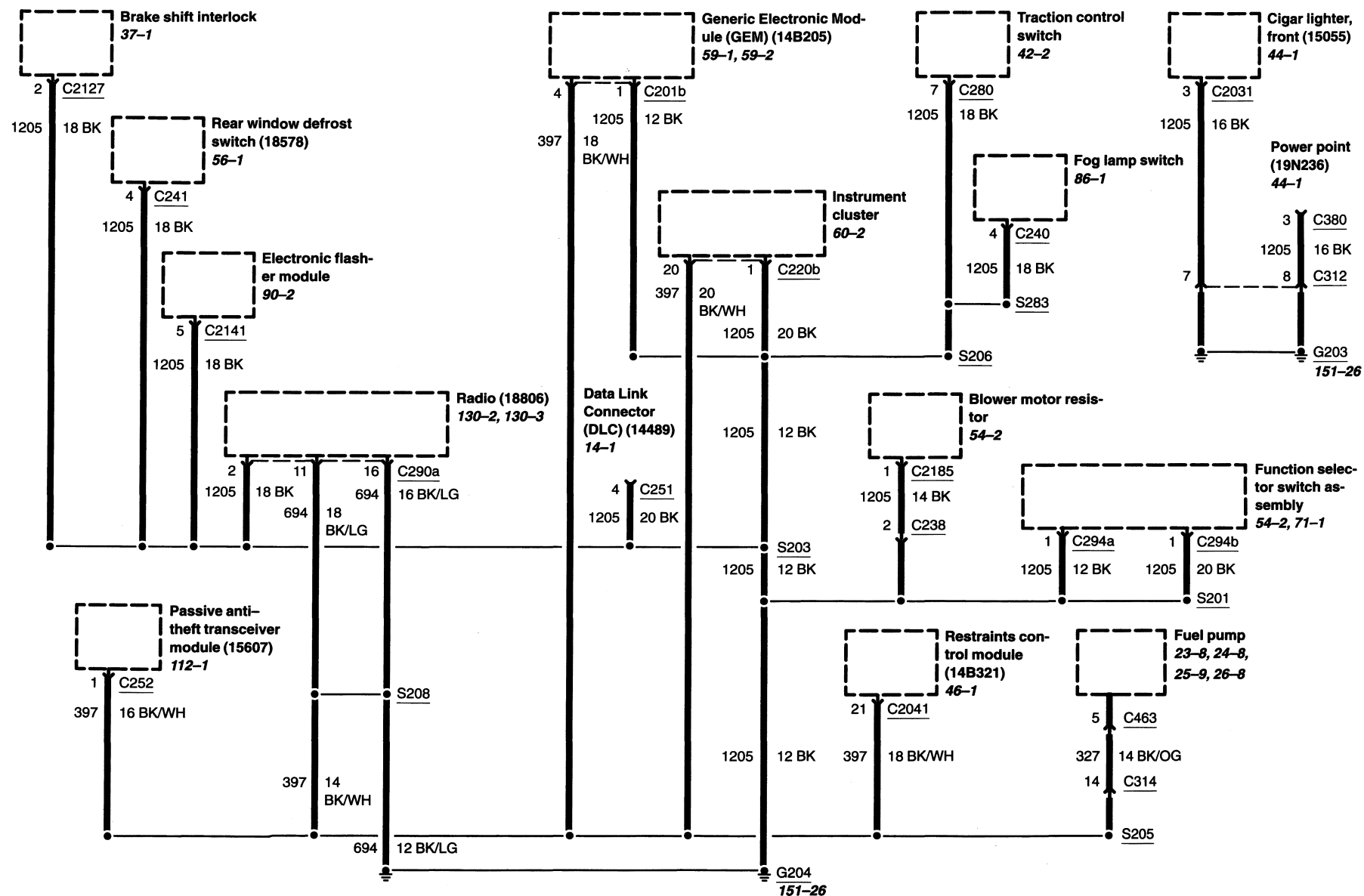
Mustang '03

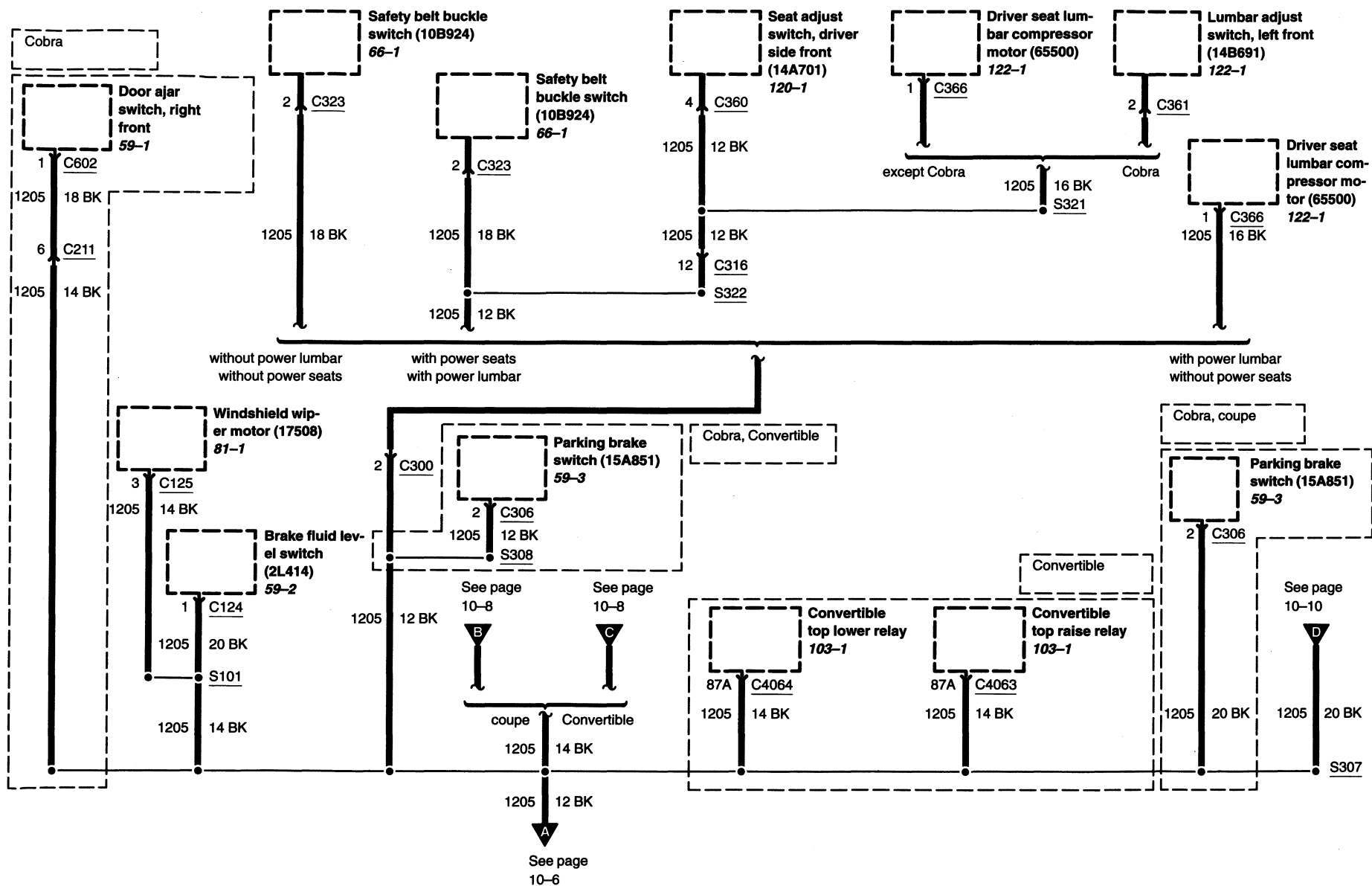


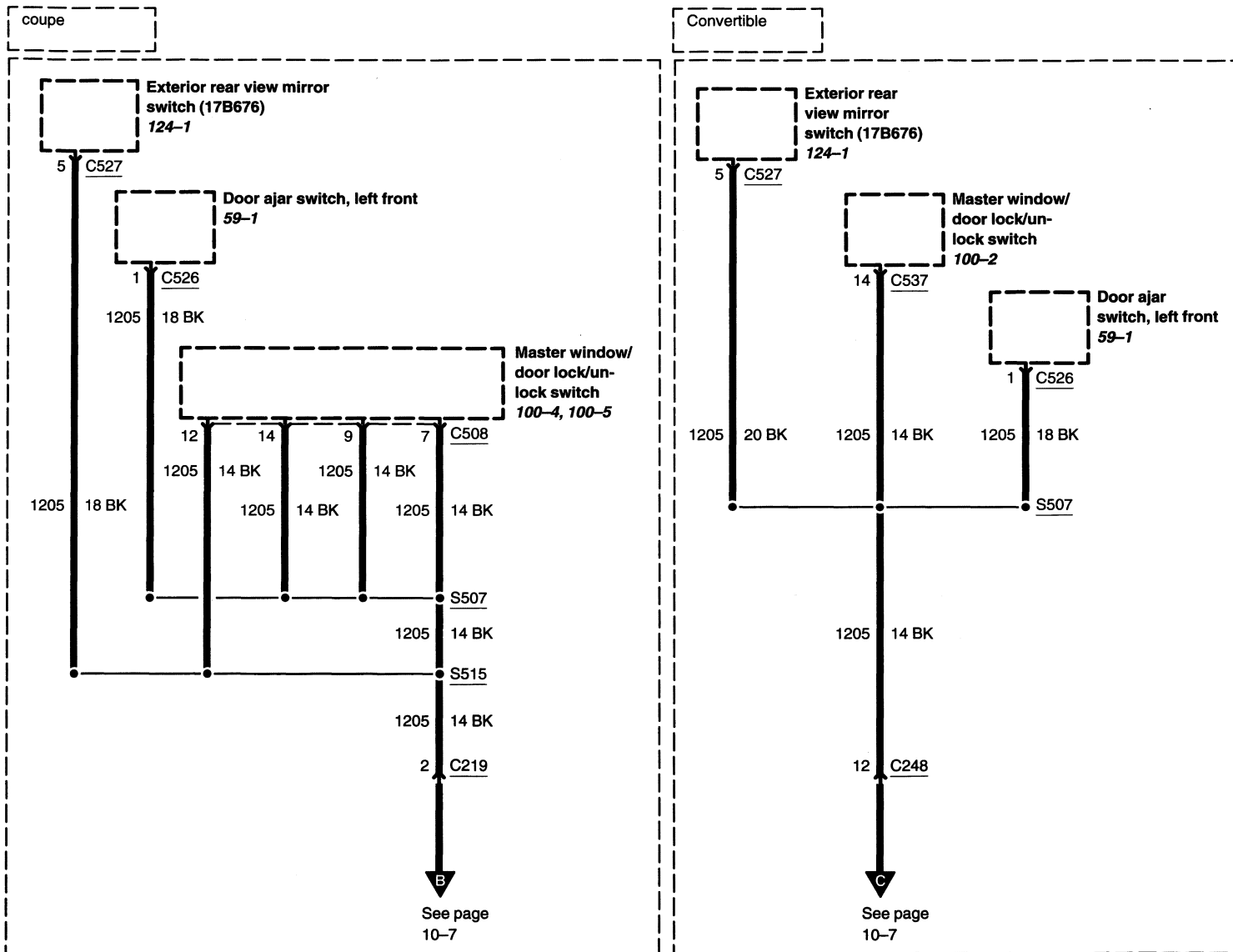
G201



G203, G204







G403

