

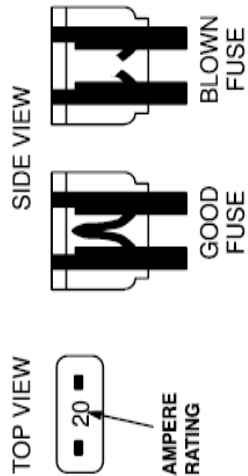
11-1 FUSE PANEL/CIRCUIT PROTECTION

2001 EXCURSION, SUPER DUTY SERIES F-250, F-350, F-450, F-550

CIRCUIT PROTECTION DEVICES

Electrical circuits on this vehicle may be protected by fuses, fusible links, fusible link cartridges, circuit breakers, or a combination of these devices.

BLADE TYPE FUSE

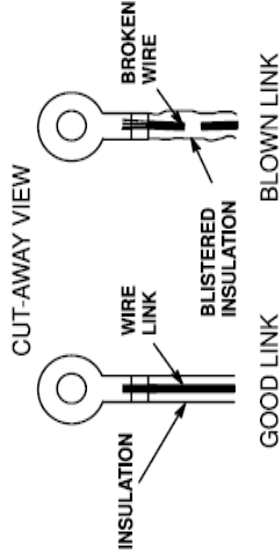


Blade type fuses have a transparent plastic housing. To check a fuse, pull it from the fuse panel and look at the fuse element through the housing. Always replace a blown fuse with a new fuse that has the same ampere rating.

The ampere rating of a blade type fuse can also be determined by following the color code shown here:

| BLADE FUSE COLOR CODING | |
|-------------------------|---------------|
| AMPERE RATING | HOUSING COLOR |
| 3 | Violet |
| 4 | Pink |
| 5 | Tan |
| 10 | Red |
| 15 | Light Blue |
| 20 | Yellow |
| 25 | Natural |
| 30 | Light Green |

FUSIBLE LINK



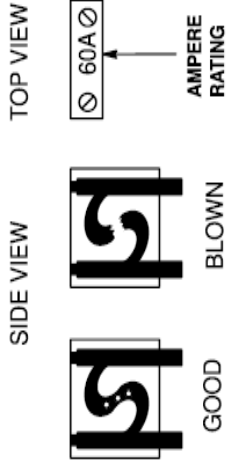
Fusible links are short lengths of wire that are smaller in diameter than the wires they are protecting. Fusible link wire is covered with a special thick, non-flammable insulation. An overload condition causes the insulation to blister. If the overload condition continues, the wire link will melt. To check a fusible link, look for blistered insulation. If the insulation is okay, pull lightly on the wire; if the fusible link stretches, the wire has melted.

When replacing fusible links, first cut the protected wire where it is connected to the fusible link. Then, tightly crimp or solder the new link to the protected wire.

Fusible links are often identified by color coding of the insulation, as shown here:

| FUSIBLE LINK COLOR CODING | |
|---------------------------|------------------|
| WIRE LINK SIZE | INSULATION COLOR |
| 20 GA | Blue |
| 18 GA | Brown or Red |
| 16 GA | Black or Orange |
| 14 GA | Green |
| 12 GA | Gray |

MAXI-FUSE CARTRIDGE



Maxi-fuse cartridges have a transparent colored plastic housing. To check a maxi-fuse cartridge, look at the fuse element through the side of the housing.

To replace a maxi-fuse cartridge, pull it from the fuse box or panel. Always replace a blown maxi-fuse cartridge with a new one having the same ampere rating.

The ampere rating of a maxi-fuse cartridge can also be determined by following the color code shown here:

| MAXI-FUSE CARTRIDGE COLOR CODING | |
|----------------------------------|---------------|
| AMPERE RATING | HOUSING COLOR |
| 30 | Light Green |
| 40 | Amber |
| 50 | Red |
| 60 | Blue |

FUSE PANEL/CIRCUIT PROTECTION 11-2

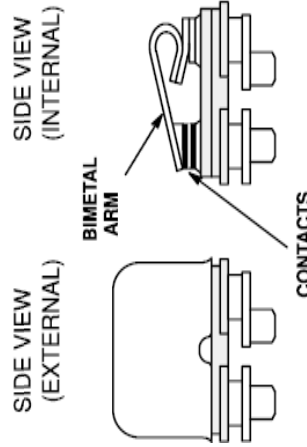
2001 EXCURSION, SUPER DUTY SERIES F-250, F-350, F-450, F-550

CIRCUIT BREAKER

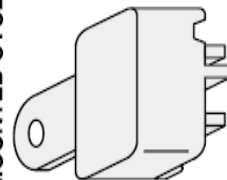
Some circuits are protected by circuit breakers (abbreviated . . . c. b. . . in fuse chart). They can be Fuse Panel mounted or in-line. Like fuses, they are rated in amperes.

Each circuit breaker conducts current through an arm made of two types of metal bonded together (bimetal arm). If the arm starts to carry too much current, it heats up. As one metal expands faster than the other the arm bends, opening the contacts. Current flow is broken. A circuit breaker can be the cycling or non-cycling type.

FUSE PANEL MOUNTED CYCLING TYPE

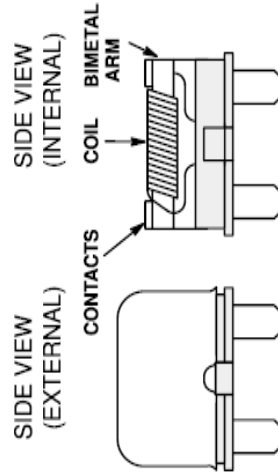


IN-LINE MOUNTED CYCLING TYPE

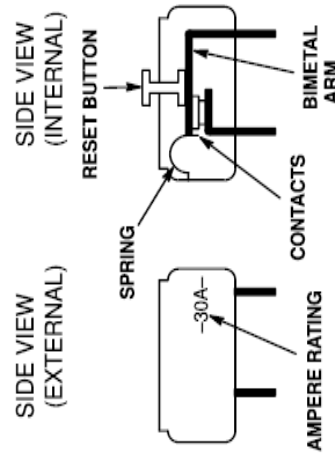


In the cycling type, the bimetal arm cools and straightens out. This cycle repeats as long as the overcurrent exists and power is applied.

FUSE PANEL MOUNTED NON-CYCLING TYPE



FUSE PANEL MOUNTED MANUAL RESET TYPE



Two types of non-cycling circuit breakers are used; one is reset by removing power from the circuit, and the other is reset by depressing a reset button.

In the first type, there is a coil wrapped around the bimetal arm. When an overcurrent exists and the contacts open, a small current passes through the coil. This current through the coil is not enough to operate a load, but it does heat up both the coil and the bimetal arm. This keeps the arm in the open position until power is removed.

In the second type, a spring pushes the bimetal arm down and holds the contacts together. When an overcurrent condition exists and the bimetal arm heats up, the bimetal arm bends enough to overcome the spring and the contacts snap open. The contacts stay open until the reset button is pushed and the contacts snap together again.

DIODE



Diodes are electrical devices that permit current to flow in one direction only. The current flows in the direction indicated by the arrow.

MEGA FUSE

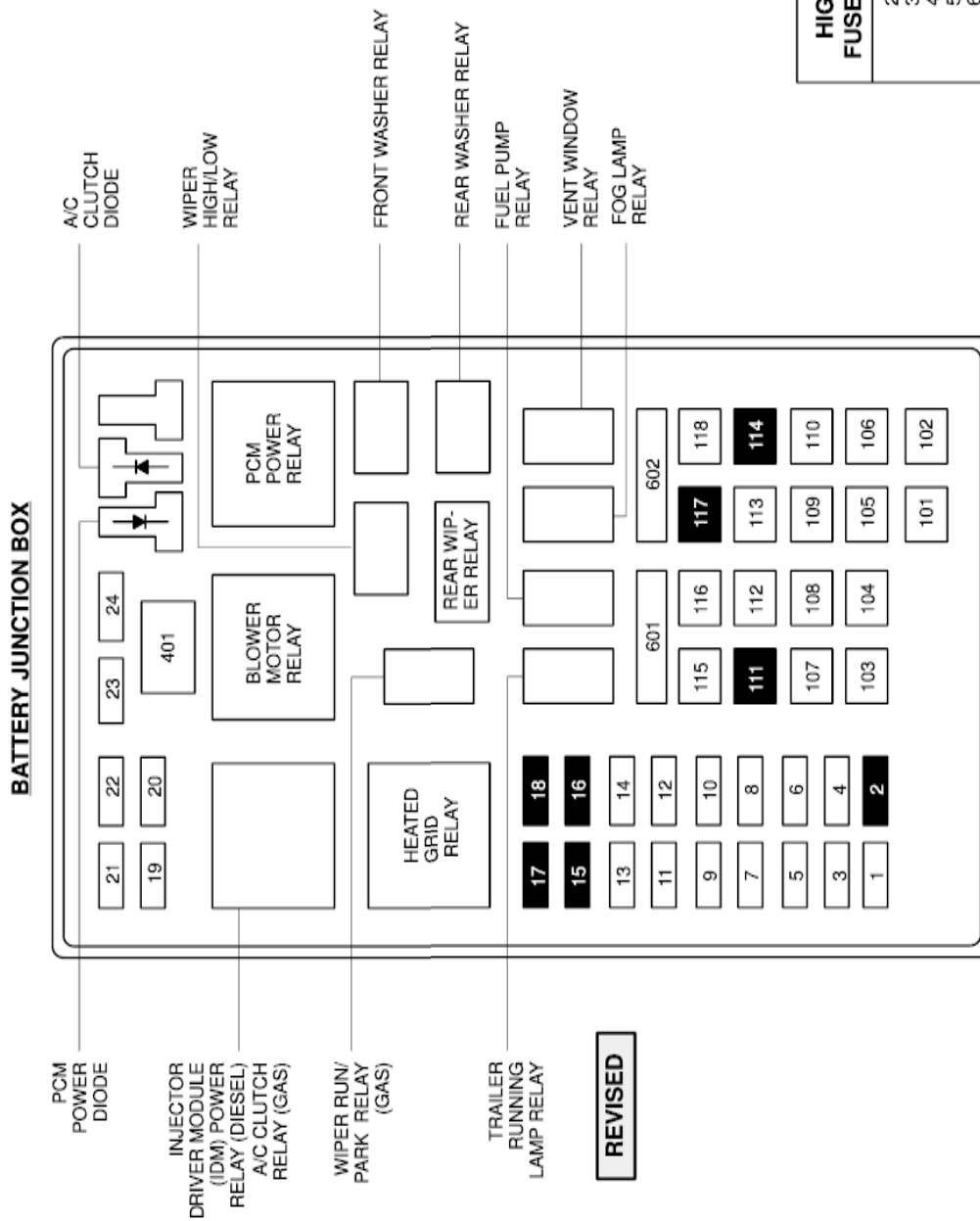


Mega fuse protects the charging circuit. In the event that the mega fuse is blown due to the charging circuit failure, the generator field circuit is disabled.

11-3 FUSE PANEL/CIRCUIT PROTECTION

2001 EXCURSION, SUPER DUTY SERIES F-250, F-350, F-450, F-550

EXCURSION



FUSE PANEL/CIRCUIT PROTECTION 11-4

2001 EXCURSION, SUPER DUTY SERIES F-250, F-350, F-450, F-550

EXCURSION

| Mini Fuses | Amps | Circuits Protected |
|------------|------|---|
| 1 | 20 | Rear Wipers |
| 2 | - | NOT USED |
| 3 | 15 | Vent Window Relay |
| 4 | 20 | Trailer Tow Reversing Lamp Relay, Trailer Tow Park Lamp Relay |
| 5 | 20 | I/P Power Point |
| 6 | 10 | A/C Clutch Relay (Gas) |
| 6 | 10 | Generator Field (Diesel), A/C Clutch Relay (Gas) |
| 7 | 20 | Floor Console Power Point |
| 8 | 15 | Park Lamps |
| 9 | 20 | Left Rear Power Point |
| 10 | 30 | Headlamps, DRL, Fog Lamps |
| 11 | 20 | Cargo Power Point |
| 12 | 15 | Daytime Running Lamps (DRL), Fog Lamps |
| 13 | 10 | Front Washer Pump/Rear Washer Pump |
| 14 | 15 | Horn Relay |
| 15 | 5 | Fog Lamps |
| 16 | - | NOT USED |
| 17 | - | NOT USED |
| 18 | - | NOT USED |
| 19 | 20 | Heated Oxygen Sensors (HO2S) (Gas) |
| 20 | 7.5 | Trailer Tow Connector (Left Turn) |
| 21 | 10 | LH Headlamp |
| 22 | 7.5 | Trailer Tow Connector (Right Turn) |
| 23 | 10 | RH Headlamp |
| 24 | 20 | Powertrain Control Module (PCM) (GAS) |

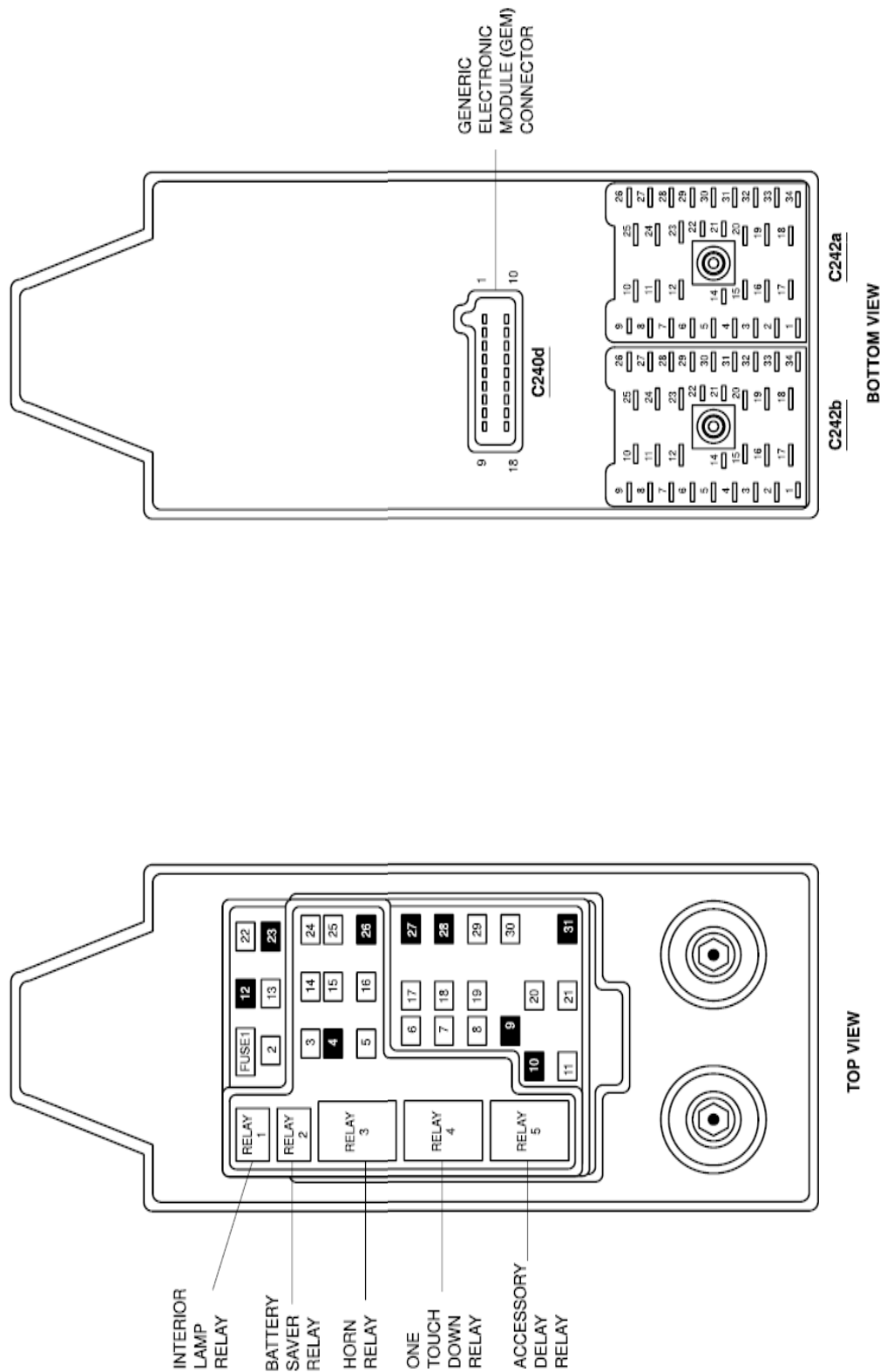
| Maxi Fuses | Amps | Circuits Protected |
|------------|------|--|
| 101 | 50 | Ignition Switch |
| 102 | 30 | Power Locks |
| 103 | 40 | Auxiliary Blower |
| 104 | 30 | Electronic Shift on the Fly |
| 105 | 50 | Central Junction Box |
| 106 | 30 | Injector Driver Module Power Relay (Diesel) |
| 107 | 30 | Heated Seats |
| 108 | 30 | Power Seats |
| 109 | 40 | Front Blower Motor |
| 110 | 30 | Trailer Brake Controller |
| 111 | 30 | NOT USED |
| 112 | 20 | Fuel Pump |
| 113 | 20 | Powertrain Control Module Power Relay (Diesel) |
| 113 | 30 | Powertrain Control Module Power Relay (Gas) |
| 114 | - | NOT USED |
| 115 | 30 | Trailer Battery Charge Relay |
| 116 | 50 | Ignition Switch |
| 117 | - | NOT USED |
| 118 | 40 | Heated Backlite |
| 401 | - | NOT USED |
| 601 C.B. | 30 | Accessory Delay Relay (Power Windows) |
| 602 | 60 | 4WABS |

11-5 FUSE PANEL/CIRCUIT PROTECTION

2001 EXCURSION, SUPER DUTY SERIES F-250, F-350, F-450, F-550

EXCURSION

CENTRAL JUNCTION BOX



FUSE PANEL/CIRCUIT PROTECTION 11-6

2001 EXCURSION, SUPER DUTY SERIES F-250, F-350, F-450, F-550

EXCURSION

*DIESEL

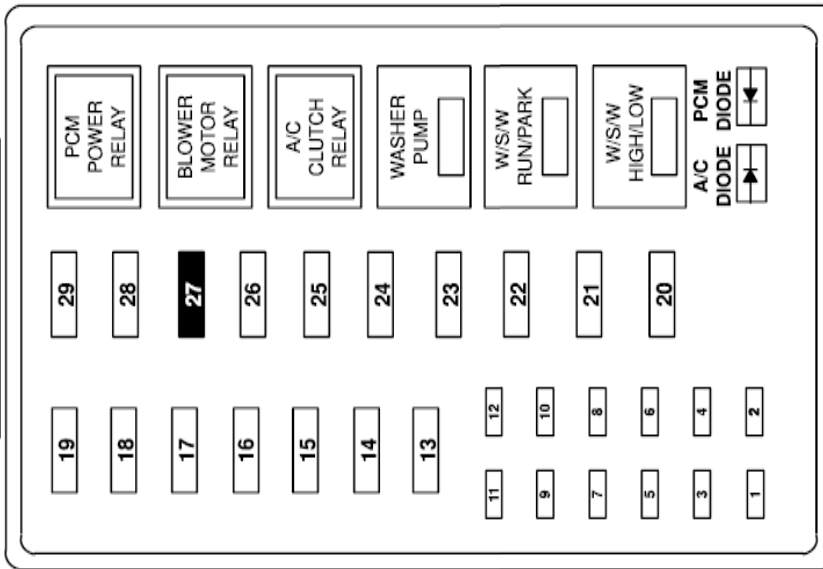
REVISED

| Fuse Position | Amps | Circuits Protected |
|---------------|------|---|
| 1 | 20 | Radio |
| 2 | 5 | Instrument Cluster |
| 3 | 20 | Cigar Lighter, Data Link |
| 4 | - | NOT USED |
| 5 | - | NOT USED |
| 6 | - | NOT USED |
| 7 | 5 | Power Window Switch Illumination, Video Display, Video Player |
| 8 | 5 | Radio, Main Light Switch |
| 9 | - | NOT USED |
| 10 | - | NOT USED |
| 11 | 30 | Washer Pump Relays, Wiper Run/Park Relay, Wiper High/Low Relay |
| 12 | - | NOT USED |
| 13 | 20 | Brake Pedal Position (BPP) Switch, Stio lamps, Hazzard Lamps, Speed Control |
| 14 | 15 | Interior Lamp Relay, Battery Saver Relay |
| 15 | 5 | Generic Electronic Module (GEM), Brake Pedal Position (BPP) Switch, Passive Anti-Theft System (PATS) Module |
| 16 | 15 | Instrument Cluster, High-Beam Indicator, High-Beam Headlamps |
| 17 | - | NOT USED |
| 18 | 10 | Radio, Rear Seat Entertainment (RSE) Module |
| 19 | 10 | Instrument Cluster, GEM Module, Overdrive Cancel Switch, Idle Validation Switch, Passive Anti-Theft Module |
| 20 | 15 | Generic Electronic Module (GEM), Digital Transmission Range (DTR) Sensor |
| 21 | 5 | Audio (Start Feed) |
| 22 | 10 | Blower Motor Relay, Air Bag Diagnostic Module |
| 23 | 10 | Air Bag Diagnostic Module |
| 24 | 10 | Blend Door Actuator, Trailer Battery Charge Relay, A/C Clutch, Rear Window Defrost/Heated Mirrors |
| 25 | 5 | Anti-Lock Brake System (ABS) Module |
| 26 | - | NOT USED |
| 27 | 10 | Customer Access |
| 28 | 15 | Daytime Running Lamps (DRL), Powertrain Control Module (PCM), Flasher Relay, Reversing Lamps, Vacuum Pump, Heated Backlite Relay, Electronic Shift on the Fly Solenoid, Auxiliary A/C |
| 29 | 5 | Instrument Cluster (Charge, Air Bag Warning Lamps) |
| 30 | 30 | Radio Noise Capacitor, Coil on Plug, PCM Power Diode |
| *30 | 30 | Fuel Heater, Waste Gate, Injector Driver Module Relay |
| 31 | 15 | Heated Grid Relay, Rear Window Defrost Grid, Rear Window Defrost Switch, Right Heated Exterior Rear View Mirror, Left Heated Exterior Rear View Mirror |

11-7 FUSE PANEL/CIRCUIT PROTECTION

2001 EXCURSION, SUPER DUTY SERIES F-250, F-350, F-450, F-550

BATTERY JUNCTION BOX



GASOLINE PICKUP

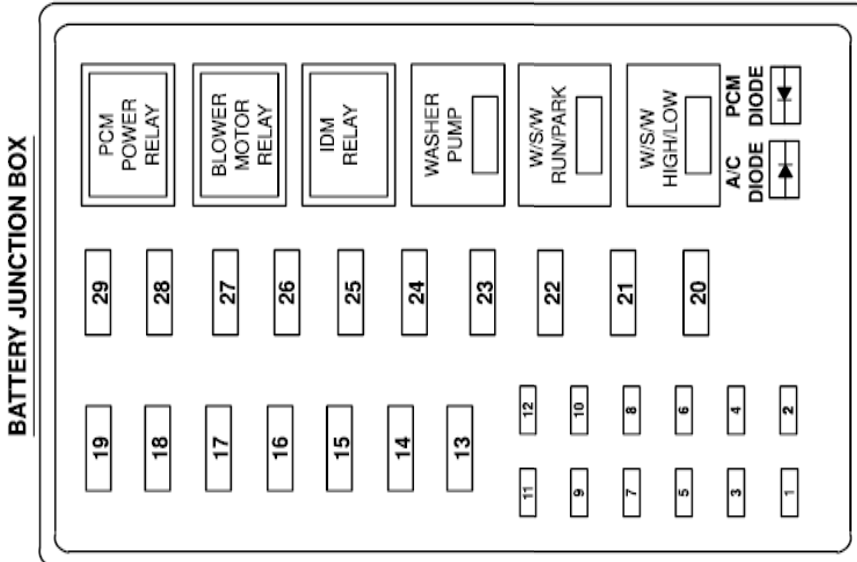
| Fuse Position | Amps | Circuits Protected |
|---------------|-----------|--|
| 1 | 7.5(Mini) | Trailer Tow Package |
| 2 | 10(Mini) | Washer Pump Relay |
| 3 | 7.5(Mini) | Trailer Tow Package |
| 4 | 20(Mini) | Trailer Reversing Lamp Relay, Trailer Running Lamp Relay |
| 5 | 20(Mini) | Electronic Engine Controls |
| 6 | 10 (Mini) | A/C Clutch Relay |
| 7 | 20(Mini) | Electronic Engine Controls |
| 8 | 15(Mini) | Main Light Switch, Park Lamp Relay |
| 9 | 10(Mini) | Left Headlamp |
| 10 | 20(Mini) | Auxiliary Power Socket |
| 11 | 10(Mini) | Right Headlamp |
| 12 | 15(Mini) | DRL Resistor, Fog Lamp Relay |
| 13 | 30(Maxi) | Main Light Switch, Multifunction Switch |
| 14 | 60(Maxi) | Anti-Lock Brake System (ABS) Module |
| 15 | 30(Maxi) | Heated Seats |
| 16 | 30(Maxi) | Trailer Battery Charge Relay |
| 17 | 30(Maxi) | Transfer Case Shift Relay |
| 18 | 30(Maxi) | Power Seat Control Switch |
| 19 | 20(Maxi) | Fuel Pump Relay |
| 20 | 50(Maxi) | Ignition Switch (B4 & B5) |
| 21 | 50(Maxi) | Ignition Switch (B1 & B3) |
| 22 | 50(MMaxi) | Central Junction Box Battery Feed |
| 23 | 40(MMaxi) | Blower Relay |
| 24 | 30 (Maxi) | PCM Power Relay, PDB Fuses 5, 7 |
| 25 | 30(CB) | Central Junction Box, Accessory Delay Relay, Power Windows |
| 26 | 20(MMaxi) | All Unlock Relay, All Lock Relay, Driver Unlock Relay, LH Power Door Lock Switch, RH Power Door Lock Switch, Park Lamp Relay |
| 27 | - | NOT USED |
| 28 | 30(MMaxi) | Trailer Electronic Brake Controller |
| 29 | 20(MMaxi) | Radio |

| HIGH CURRENT FUSE VALUE AMPS | COLOR CODE |
|------------------------------|------------|
| 20A PLUG-IN | YELLOW |
| 30A PLUG-IN | GREEN |
| 40A PLUG-IN | ORANGE |
| 50A PLUG-IN | RED |
| 60A PLUG-IN | BLUE |

FUSE PANEL/CIRCUIT PROTECTION 11-8

2001 EXCURSION, SUPER DUTY SERIES F-250, F-350, F-450, F-550

| BATTERY JUNCTION BOX | | DIESEL PICKUP | | *DUAL GENERATOR |
|----------------------|-----------|--|--|-----------------|
| Fuse Position | Amps | Circuits Protected | | |
| 1 | 7.5(Mini) | Trailer Tow Package | | |
| 2 | 10(Mini) | Washer Pump Relay | | |
| 3 | 7.5(Mini) | Trailer Tow Package | | |
| 4 | 20(Mini) | Trailer Reversing Lamp Relay, Trailer Park Lamp Relay | | |
| * 5 | 5(Mini) | Generator (Secondary) | | |
| 6 | 10(Mini) | Generator, PDB Fuses 5,7 | | |
| *7 | 5(Mini) | Generator | | |
| 8 | 15(Mini) | Main Light Switch | | |
| 9 | 10(Mini) | Left Headlamp | | |
| 10 | 20(Mini) | Auxiliary Power Socket | | |
| 11 | 10(Mini) | Right Headlamp | | |
| 12 | 15(Mini) | DRL Resistor | | |
| 13 | 30(Maxi) | Main Light Switch, Multifunction Switch, Headlamps | | |
| 14 | 60(Maxi) | Anti-Lock Brake System (ABS) Module | | |
| 15 | 30(Maxi) | Heated Seats | | |
| 16 | 30(Maxi) | Trailer Battery Charge Relay | | |
| 17 | 30(Maxi) | Transfer Case Shift Relay | | |
| 18 | 30(Maxi) | Power Seat Control Switch | | |
| 19 | 20(Maxi) | Fuel Pump Relay | | |
| 20 | 50(Maxi) | Ignition Switch (B4 & B5) | | |
| 21 | 50(Maxi) | Ignition Switch (B1 & B3) | | |
| 22 | 50(Maxi) | Central Junction Box Battery Feed | | |
| 23 | 40(Maxi) | Blower Relay | | |
| 24 | 20(Maxi) | PCM Power Relay | | |
| 25 | 30(CB) | Central Junction Box, Accessory Delay Relay, Power Windows | | |
| 26 | 20(Maxi) | All Unlock Relay, All Lock Relay, Driver Unlock Relay, LH Power Door Lock Switch, RH Power Door Lock Switch, Park Lamp Relay | | |
| 27 | 30(Maxi) | IDM Relay | | |
| 28 | 30(Maxi) | Trailer Electronic Brake Controller | | |
| 29 | 20(Maxi) | Radio | | |



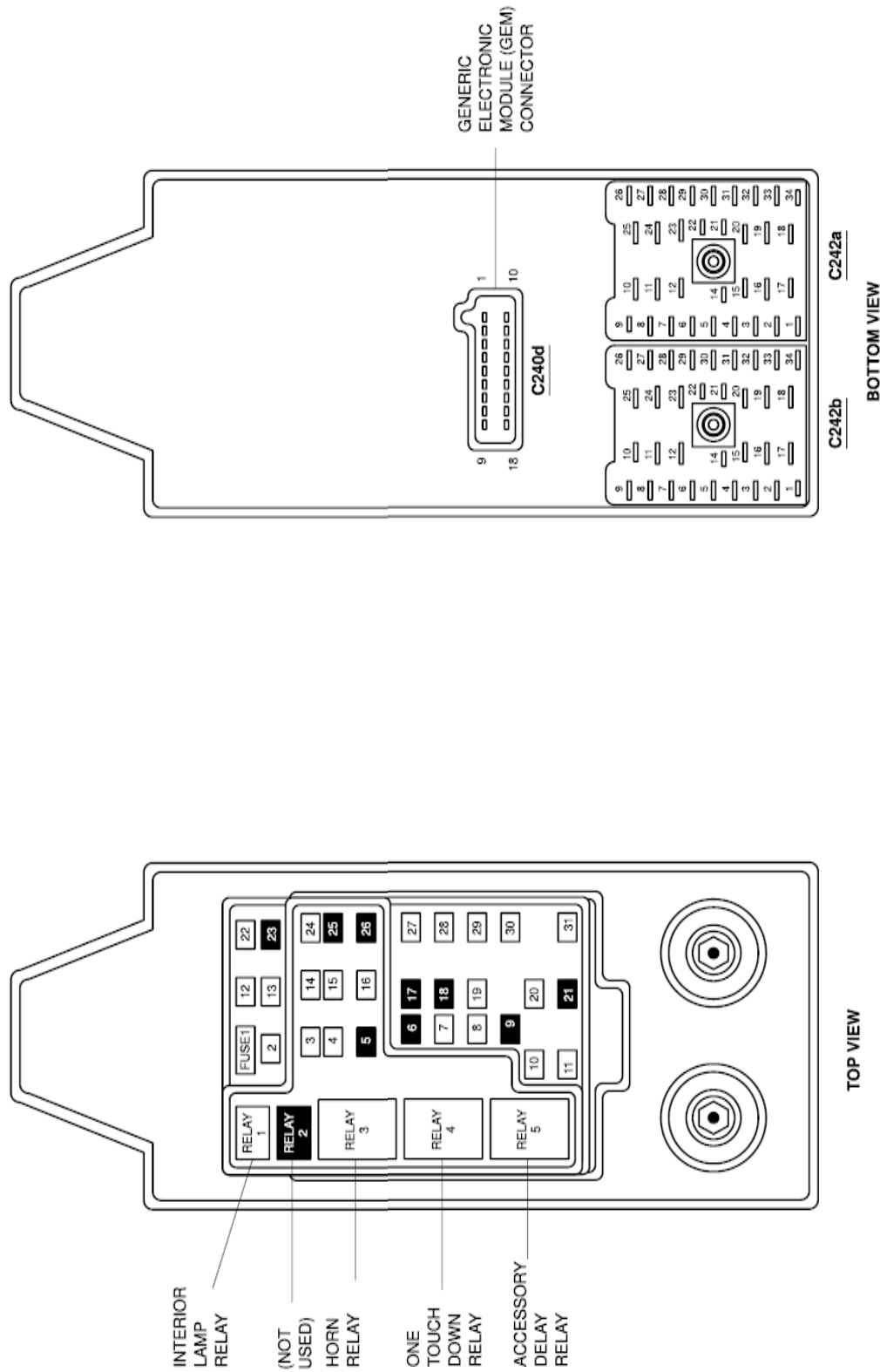
| HIGH CURRENT FUSE VALUE AMPS | COLOR CODE |
|------------------------------|------------|
| 20A PLUG-IN | YELLOW |
| 30A PLUG-IN | GREEN |
| 40A PLUG-IN | ORANGE |
| 50A PLUG-IN | RED |
| 60A PLUG-IN | BLUE |

11-9 FUSE PANEL/CIRCUIT PROTECTION

2001 EXCURSION, SUPER DUTY SERIES F-250, F-350, F-450, F-550

PICKUP

CENTRAL JUNCTION BOX



FUSE PANEL/CIRCUIT PROTECTION 11-10

2001 EXCURSION, SUPER DUTY SERIES F-250, F-350, F-450, F-550

*DIESEL

PICKUP

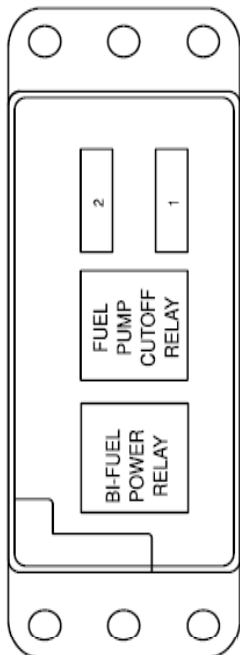
| Fuse Position | Amps | Circuits Protected |
|---------------|------|---|
| 1 | 20 | Flasher Relay |
| 2 | - | NOT USED |
| 3 | 20 | Cigar Lighter, Data Link |
| 4 | 10 | Glove Box Lamp, Map Lamps, Power Mirrors, Underhood Lamp, Accessory Delay Relay, Vanity Lamps |
| 5 | - | NOT USED |
| 6 | - | NOT USED |
| 7 | 5 | Power Window Switch Illumination, Power Door Lock Switch Illumination |
| 8 | 5 | Radio, GEM |
| 9 | - | NOT USED |
| *10 | 15 | Fuel Tank Selector Switch |
| 11 | 30 | Washer Pump Relays, Wiper Run/Park Relay, Wiper High/Low Relay, Wiper Motor |
| 12 | 15 | Horn Relay, Horn |
| 13 | 20 | Brake Pedal Position (BPP) Switch, Brake Pressure Switch |
| 14 | 10 | Interior Lamp Relay |
| 15 | 5 | Generic Electronic Module (GEM), Brake Pedal Position (BPP) Switch, Instrument Cluster, Powertrain Control Module (PCM) |
| 16 | 15 | Instrument Cluster, High-Beam Indicator, High-Beam Headlamps |
| 17 | - | NOT USED |
| 18 | 5 | Radio |
| 19 | 10 | Auxiliary Powertrain Control Module, Instrument Cluster, GEM Module, Overdrive Cancel Switch, Clutch Switch, Idle Validation Switch, Overhead Console, Dash Reset Relay (Bi-Fuel) |
| 20 | 15 | Generic Electronic Module (GEM), Clutch Pedal Position/Jumper |
| 21 | - | NOT USED |
| 22 | 10 | Blower Motor Relay, Passenger Air Bag Deactivation Switch |
| 23 | 10 | Air Bag Diagnostic Module |
| 24 | 10 | Blend Door Actuator, Climate Control Switch, Trailer Battery Charge Relay, Flasher Relay, Anti-Lock Brake System (4WABS) |
| 25 | - | NOT USED |
| 26 | - | NOT USED |
| 27 | 10 | Customer Access |
| 28 | 15 | Brake Shift Interlock, DRL Relay, Speed Control Module, Vacuum Pump Motor, Hublock Solenoid, Reversing Lamp Switch, Digital Transmission Range (DTR) Sensor, Heated Seats, Parking Aid Module |
| 29 | 5 | Instrument Cluster (Charge, Air Bag Warning Lamps) |
| 30 | 30 | Radio Noise Capacitor, Coil on Plug, PCM Power Diode |
| *30 | 30 | Fuel Filter, Waste Gate |
| 31 | 5 | Fog Lamps |

11-11 FUSE PANEL/CIRCUIT PROTECTION

2001 EXCURSION, SUPER DUTY SERIES F-250, F-350, F-450, F-550

BI-FUEL RELAY MODULE

PICKUP



| Fuse Position | Amps | Circuits Protected |
|---------------|------|--|
| 1 | 3 | Computative Module |
| 2 | 10 | Bi-Fuel Power Relay, Low Flow Injector Assembly, High Flow Injector Assembly |

FUSE PANEL/CIRCUIT PROTECTION 11-12

2001 EXCURSION, SUPER DUTY SERIES F-250, F-350, F-450, F-550

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