

## 011 Circuit Protection/Fuse P...

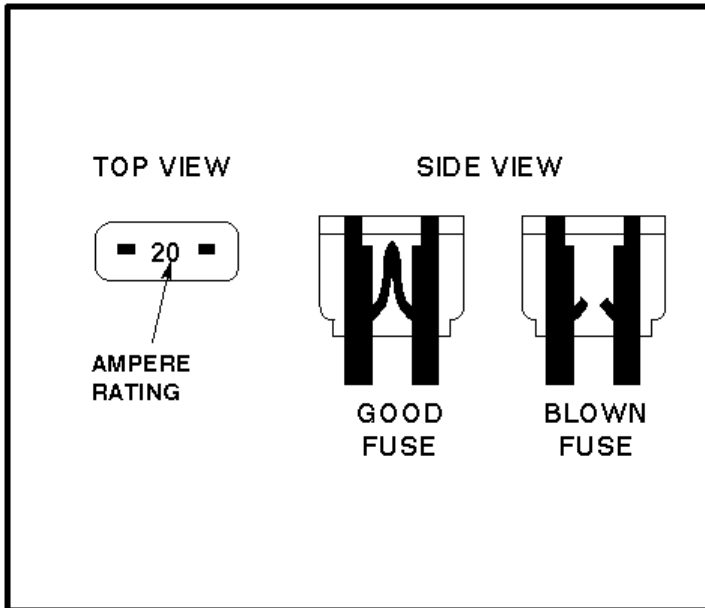
### WIRING DIAGRAM: CIRCUIT PROTECTION/FUSE PANEL

## 011 Circuit Protection/Fuse Panel

### Circuit Protection Devices

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

### Blade Type Fuse

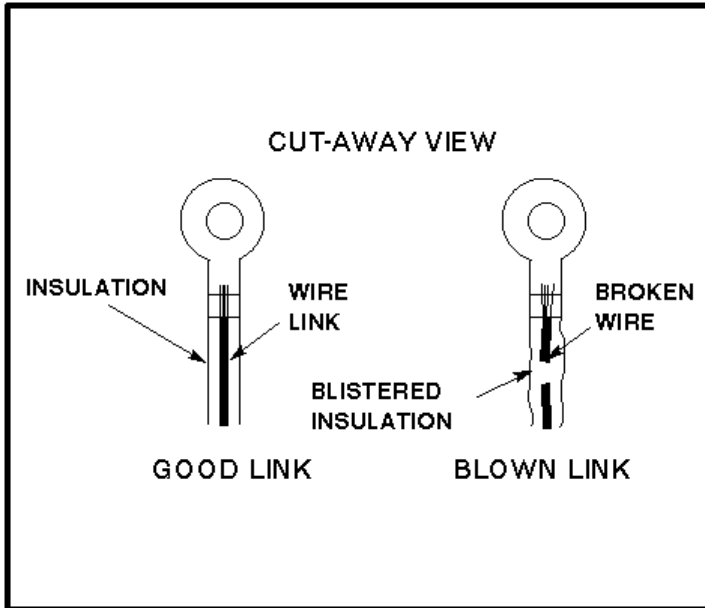


Blade type fuses have a transparent plastic housing. To check a fuse, pull it from the fuse panel and look at the fuse element through the housing. Always replace a blown fuse with a new fuse that has the same ampere rating.

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
4	Pink
5	Tan
10	Red
15	Light Blue
20	Yellow
25	Natural
30	Light Green

## Fusible Link



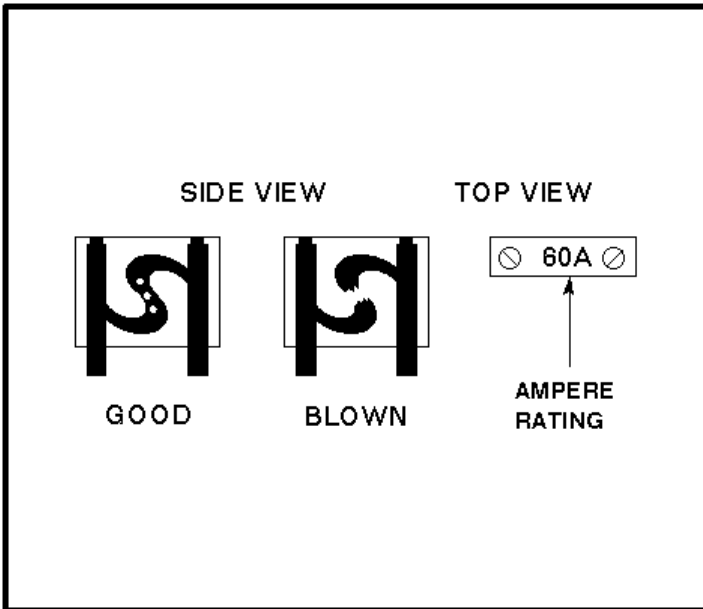
Fusible links are short lengths of wire that are smaller in diameter than the wires they are protecting. Fusible link wire is covered with a special thick, non-flammable insulation. An overload condition causes the insulation to blister. If the overload condition continues, the wire link will melt. To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

When replacing fusible links, first cut the protected wire where it is connected to the fuse 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, look at the fuse element through the top of the housing.

To replace a maxi-fuse cartridge, pull it from the fuse box or panel. Always replace a blown maxi-fuse 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:

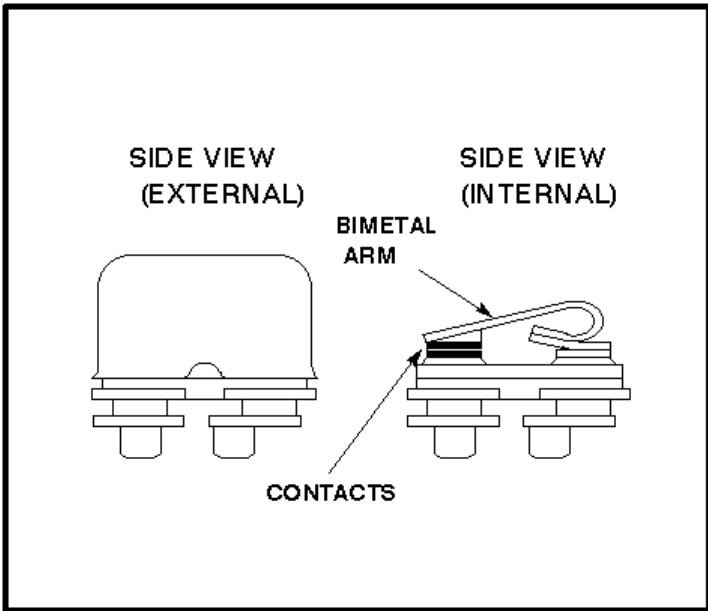
MAXI-FUSE CARTRIDGE COLOR CODING	
AMPERE RATING	HOUSING COLOR
20	Yellow
30	Light Green
40	Amber
50	Red
60	Blue

### Circuit Breaker

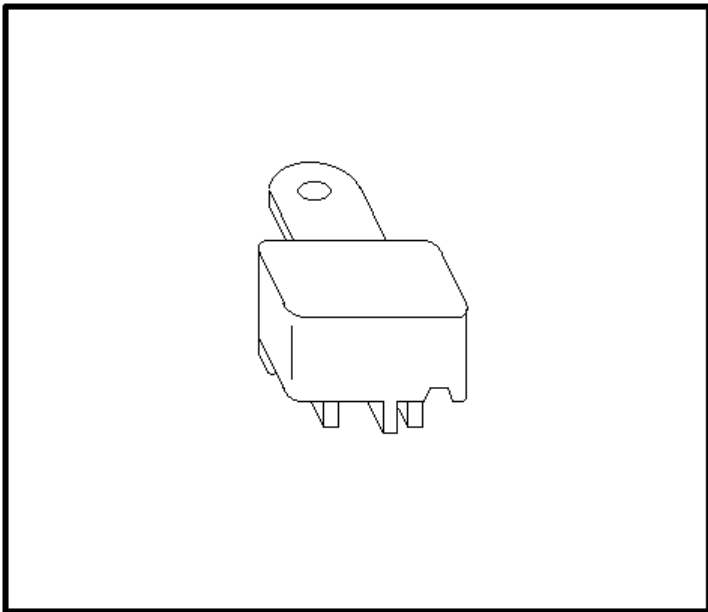
Some circuits are protected by circuit breakers (abbreviated "c.b." in fuse chart). They can be Fuse Panel mounted or in-line. Like fuses, they are rated in amperes.

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, the contacts open, and current flow is broken. A circuit breaker can be the cycling or non-cycling type.

### Fuse Panel Mounted Cycling Type

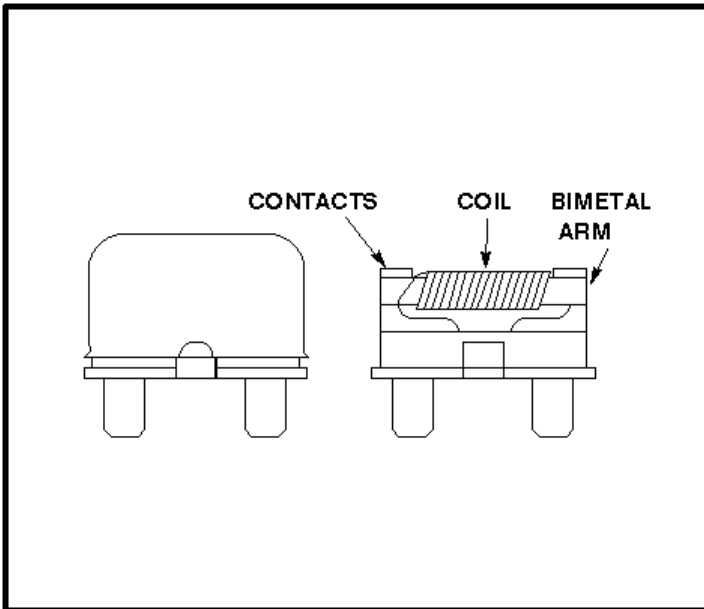


**In - Line Mounted Cycling Type**

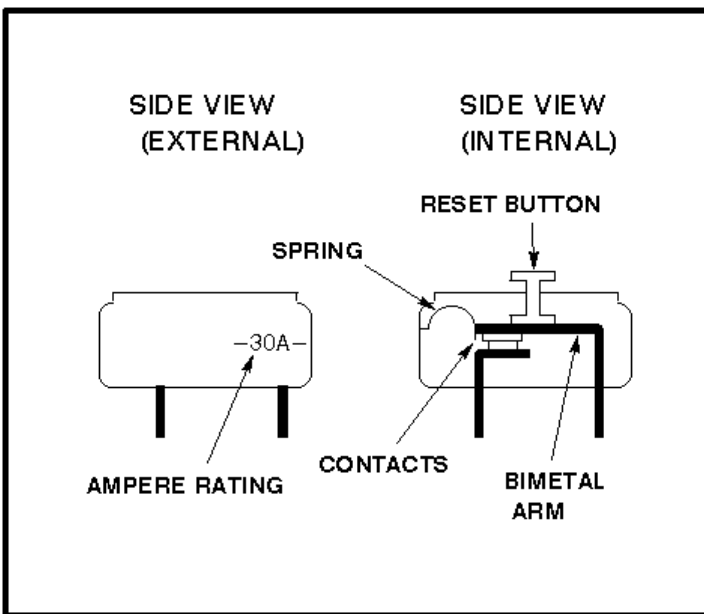


In the cycling type, the bimetal arm cools and straightens out. The cycle repeats as long as the overcurrent exists and power is applied.

**Fuse Panel Non-Cycling Type**



**Fuse Panel Mounted Manual Reset Type**

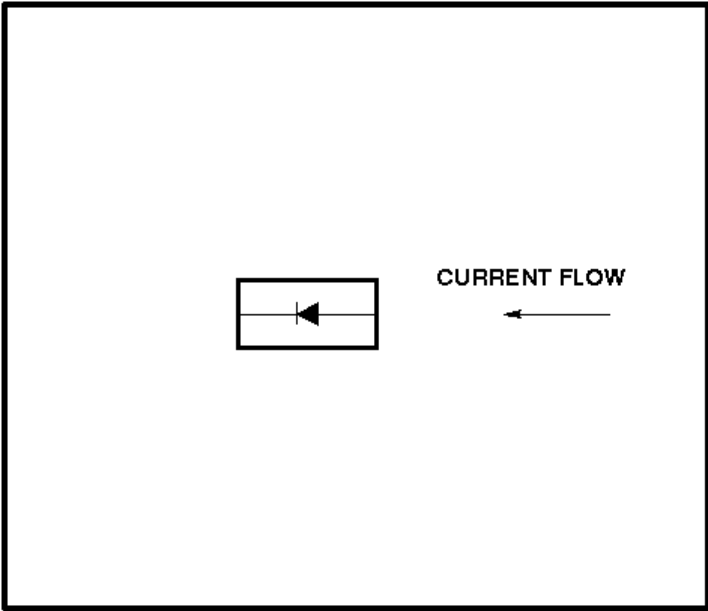


Two types of non-cycling circuit breakers are used; one is reset by removing power from the circuit, and the other is reset by depressing a reset button.

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.

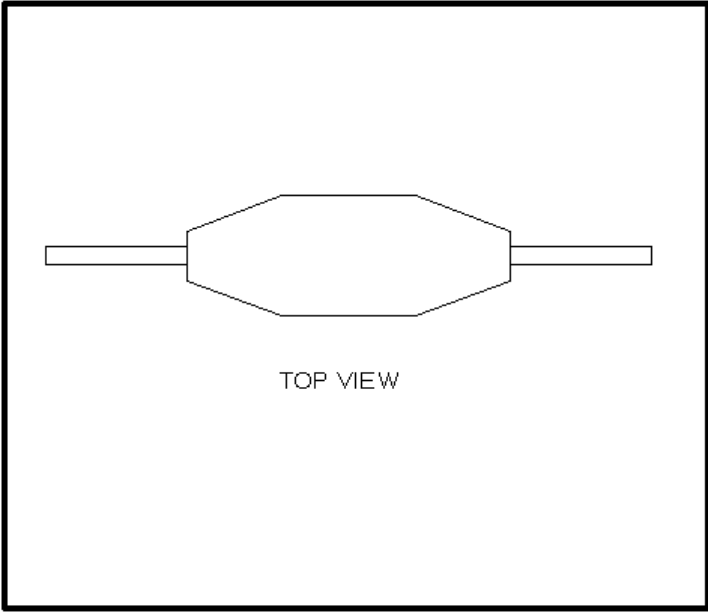
In the second type, a spring pushes the bimetal arm down and holds the contacts together. When an overcurrent condition exists and the bimetal arm heats up, the bimetal arm bends enough to overcome the spring and the contacts snap open. The contacts stay open until the reset button is pushed and the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

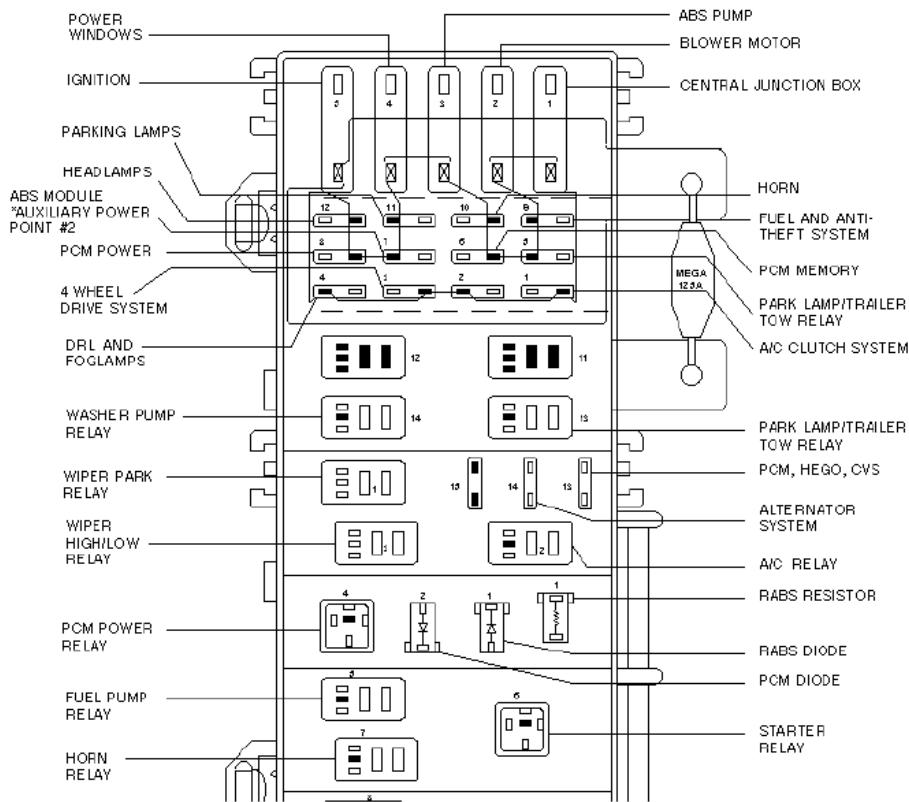
**Mega Fuse**



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.

**Battery Junction Box**

\* MEXICO  
\*\* LATE BUILD



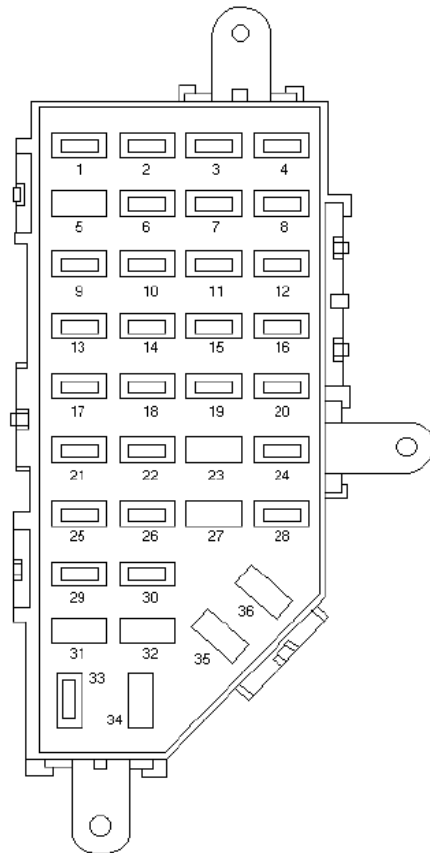
Fuse Position	Fuse/Diode	Amps	Circuits Protected
1	Central Junction Box	50A Maxi	Central Junction Box
2	Blower Motor	40A Maxi	Blower Motor Relay
3	ABS Pump	50A Maxi	4 Wheel Anti-Lock Brake System (4WABS) Module
4	Power Windows	20A Maxi	Accessory Delay Relay
5	Ignition	50A Maxi	Ignition Switch, Starter Relay
1	A/C Clutch System	10A Mni	A/C Relay
2	-	-	NOT USED
3	4 Wheel Drive	20A Mni	Electronic Shift Relay and Electric Shift Control Module
4	DRL, Fog Lamps	20A Mni	Fog Lamp and Daytime Running Lamps (DRL)
5	Park Lamp/Trailer Tow	15A Mni	Park Lamp/Trailer Tow Relay
6	PCM Memory	10A Mni	Powertrain Control Module (PCM)
7	ABS Module	30A Mni	4 Wheel Anti-Lock Brake System (4WABS) Module
7	Auxiliary Power Point	20A Mni	Auxiliary Power Point #2
8	PCM Power	30A Mni	PCM Relay
9	Fuel Sys Anti-Theft	20A Mni	Fuel Pump Relay and RAP Module
10	Horn	15A Mni	Horn Relay
11	Parking Lamps	15A Mni	Park Lamps Relay and Main Light Switch
12	Headlamps	30A Mni	Main Light Switch and Multifunction Switch
13	PCM, Hego, CVS	15A Mni	Heated Oxygen Sensor, EGR Vacuum Regulator, EVR Solenoid, Camshaft Position (CMP) Sensor, Canister Vent Solenoid, Automatic Transmission
14	ALT SYS	30A Mni	Generator
1	RABS/Low Fluid Resistor	-	RABS
1	RABS Diode	-	Rear Anti-Lock Brakes Indicator
2	PCM Power Diode	-	Electronic Engine Controls

MAXI FUSE CARTRIDGE COLOR CODING		MINI FUSE COLOR CODING	
AMPERE RATING	HOUSING COLOR	AMPERE RATING	HOUSING COLOR
20	Yellow	4	Pink
30	Light Green	5	Tan
40	Amber	10	Red
50	Red	15	Light Blue
60	Blue	20	Yellow
		25	Natural
		30	Light Green

Relay Position	Relay
1	Wiper Park Relay
2	A/C Relay
3	Wiper High/Low Relay
4	PCM Power Relay
5	Fuel Pump Relay
6	Starter Relay
7	Horn Relay
8	Fog Lamp Relay
9	Blower Motor Relay
**10	Fog Lamp Isolation Relay
11	NOT USED
12	NOT USED
13	Park Lamp/Trailer
14	Washer Pump Relay

\* MEXICO  
\*\* LATE BUILD

## Central Junction Box



FUSE VALUE AMPS	COLOR CODE
4	Pink
5	Tan
7.5	Brown
10	Red
15	Light Blue
20	Yellow
25	Natural
30	Light Green

Fuse Position	Amps	Circuits Protected
1	7.5A	Exterior Rear View Mirror Switch
2	7.5A	Blower Motor Relay, PAD Module, Air Bag Electronic Crash Sensor (ECS)
3	7.5A	Trailer Tow Connector (LH Stop/Turn)
4	10A	Left Headlamp
5	-	NOT USED
6	15A	Transmission Control Switch (TCS), DRL Module, Reversing Lamp Switch, Digital Transmission Range (DTR) Sensor, Pulse Vacuum Hublock (PVH) Solenoid
7	7.5A	Trailer Tow Connector (RH Stop/Turn)
8	10A	Right Headlamp
9	7.5A	Brake Pedal Position (BPP) Switch
10	7.5A	Speed Control Servo Assembly, Generic Electronic Module (GEM), Shift Lock Actuator, Blend Door Actuator, A/C-Heater Assembly, Flasher
11	7.5A	Instrument Cluster, Main Light Switch, RABS Resistor
12	-	NOT USED
13	20A	Brake Pressure Switch, Brake Pedal Position (BPP) Switch
14	20A	Rear Anti-Lock Brake System (RABS) Module
14	10A	4 Wheel Anti-Lock Brake System (4WABS) Module, 4WABS Main Relay
15	7.5A	Instrument Cluster
16	30A	Windshield Wiper Motor, Wiper High/Low Relay, Wiper Run/Park Relay, Washer Pump Relay
17	25A	Cigar Lighter/OBD II Data Link Connector (DLC)
18	15A	Driver Unlock Relay, All Unlock Relay, All Lock Relay
19	25A	PCM Power Diode, Passive Anti-Theft System Module
20	7.5A	RAP Module, Generic Electronic Module (GEM), Radio
21	15A	Flasher (Hazard)
22	20A	Auxiliary Power Socket
23	-	NOT USED
24	7.5A	Clutch Pedal Position (CPP) Switch
25	-	NOT USED
26	10A	Battery Saver Relay, Electronic Shift Relay, Interior Lamp Relay, Electric Shift Control Module, Instrument Illumination Dimming Module, Interior Map Lamp, GEM, Instrument Cluster
27	-	NOT USED
28	7.5A	Generic Electronic Module (GEM), Radio
29	15A	Radio



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