

## FUSES & CIRCUIT BREAKERS

### Article Text

1991 Volkswagen Passat  
For Volkswagen Technical Site  
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Wednesday, August 25, 1999 08:41PM

#### ARTICLE BEGINNING

Fuses & Circuit Breakers  
1990-96 Volkswagen ELECTRICAL

Passat

#### FUSES & CIRCUIT BREAKERS

1990-1994

The fuse panel is located under the left side of the dash board by the driver's knee.

NOTE: On all models, fuse specifications are listed on inside of panel cover.

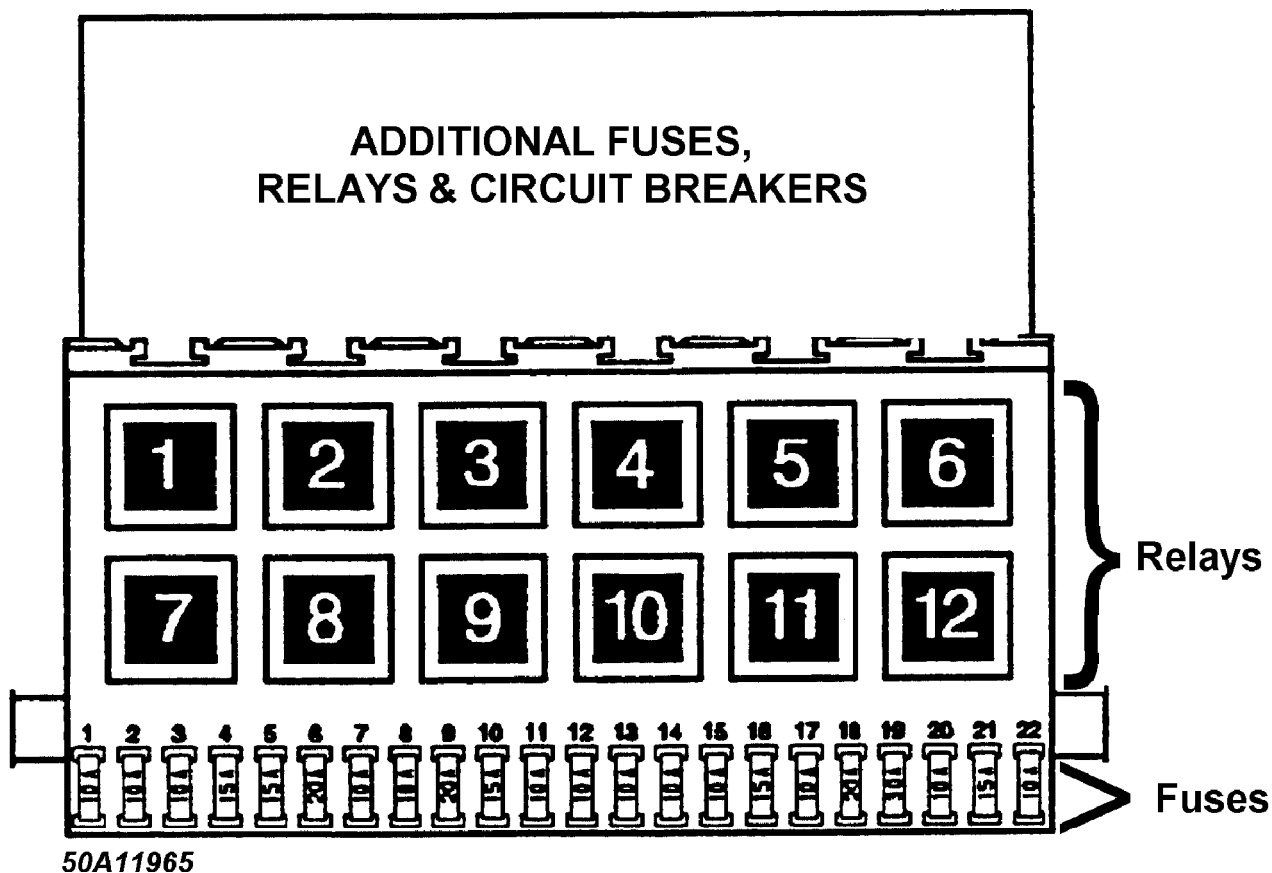


Fig. 1: Fuse Panel Identification (1990-94)  
Courtesy of Volkswagen United States, Inc.

#### Fuse & Circuit Breaker Identification

1 - 10 Amp (Red)  
Left Headlight Low Beam

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- 2 - 10 Amp (Red)  
Right Headlight Low Beam
- 3 - 10 Amp (Red)  
Instrument & License Lights
- 4 - 15 Amp (Blue)  
Rear Window Wiper
- 5 - 15 Amp (Blue)  
Windshield Wiper/Washer, Rear Washer
- 6 - 20 Amp (Yellow)  
A/C, Fresh Air Fan
- 7 - 10 Amp (Red)  
Right Tail Light & Side Marker Light
- 8 - 10 Amp (Red)  
Left Taillight & Side Marker Light
- 9 - 20 Amp (Yellow)  
Rear Window Defroster, Mirror Heater
- 10 - 15 Amp (Blue)  
Fog Lamps
- 11 - 10 Amp (Red)  
Left Headlight High Beam & High Beam Indicator
- 12 - 10 Amp (Red)  
Right Headlight High Beam
- 13 - 10 Amp (Red)  
Horn, Radiator Fan Run-on
- 14 - 15 Amp (Blue)  
Backup Lights (M/T), Power Mirrors, Heated Front Seats,  
Heated Windshield Washer Jets, Cruise Control (M/T)
- 15 - 10 Amp (Red)  
Engine Electronics, Coolant Pump Run-on (V6 Models)
- 16 - 15 Amp (Blue)  
Warning/Indicator Lights, Glove Box Light,  
Cassette Storage Light, Shift Pattern Illumination (A/T)
- 17 - 10 Amp (Red)  
Turn Signals
- 18 - 20 Amp (Yellow)  
Fuel Pump, Oxygen Sensor
- 19 - 30 Amp (Green)  
A/C, Radiator Cooling Fan
- 20 - 10 Amp (Red)  
Brake Lights, Cruise Control System
- 21 - 15 Amp (Blue)  
Dome & Luggage Lamps, Cigar Lighter, Central Locking System,  
Multi-Function Indicator, Vanity Mirror, Clock
- 22 - 10 Amp (Red)  
Radio, CD Changer

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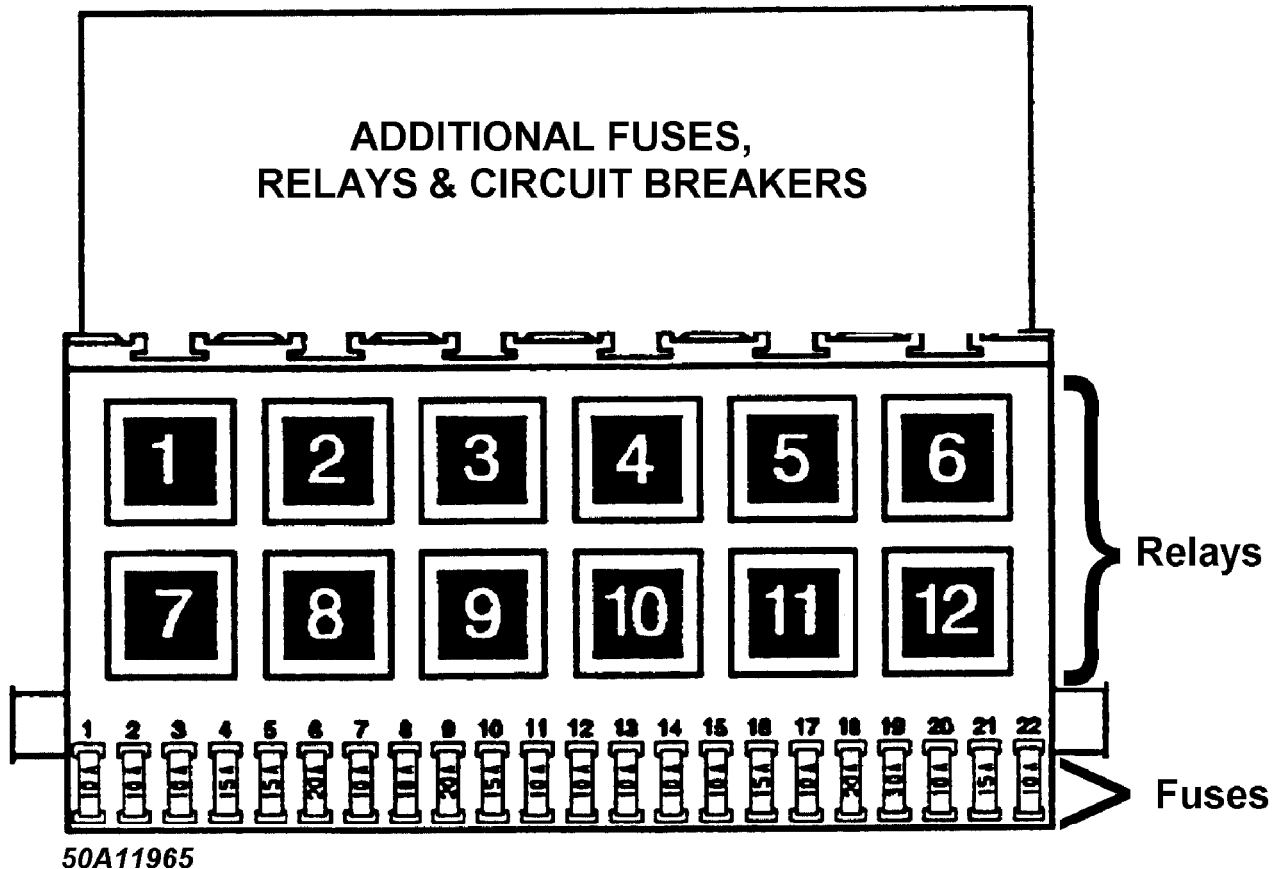


Fig. 2: Relay Panel Identification (1990-94)  
Courtesy of Volkswagen United States, Inc.

#### Fuse, Relay & Circuit Breaker Identification

- 1 - A/C Control Module Relay
- 2 - Rear Window Wiper/Washer Relay
- 3 - ECM Power Supply Relay
- 4 - Load Reduction Relay
- 5 - Engine Coolant Temperature/Low Coolant Relay
- 6 - Emergency Flasher Relay
- 7 - Headlight Washer Relay
- 8 - Washer/Wiper Intermittent Relay
- 9 - Radio/Parking Light Warning Buzzer Relay
- 10 - Fog Lamp/Parking Lamp Relay
- 11 - Dual Horn Relay
- 12 - Fuel Pump Relay

#### Additional Fuse Identification

**WARNING:** Always disconnect battery ground cable before servicing "high-current fuses. It is recommended that "high-current" fuses be replaced by a qualified technician.

**NOTE:** Located above Relays in passenger compartment.

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- 30 Amp Fuse  
ABS Hydraulic Pump Relay
- 30 Amp Fuse  
ABS Main Relay
- 30 Amp Fuse  
A/C
- 30 Amp Fuse  
ABS System
- 20 Amp (Circuit Breaker)  
Power Windows
- 30 Amp Fuse  
Passive Restraint System
- 5 Amp Fuse  
Back-up Lights (A/T)
- 5 Amp Fuse  
Cruise Control (A/T)

NOTE: Located under the rear seat.

CAUTION: The (2) passive restraint fuses should only be serviced by a Volkswagen dealer.

- 5 Amp (2 Fuses)  
Passive Restraint System

1995-1996

NOTE: On all models, fuse specifications are listed on inside of panel cover.

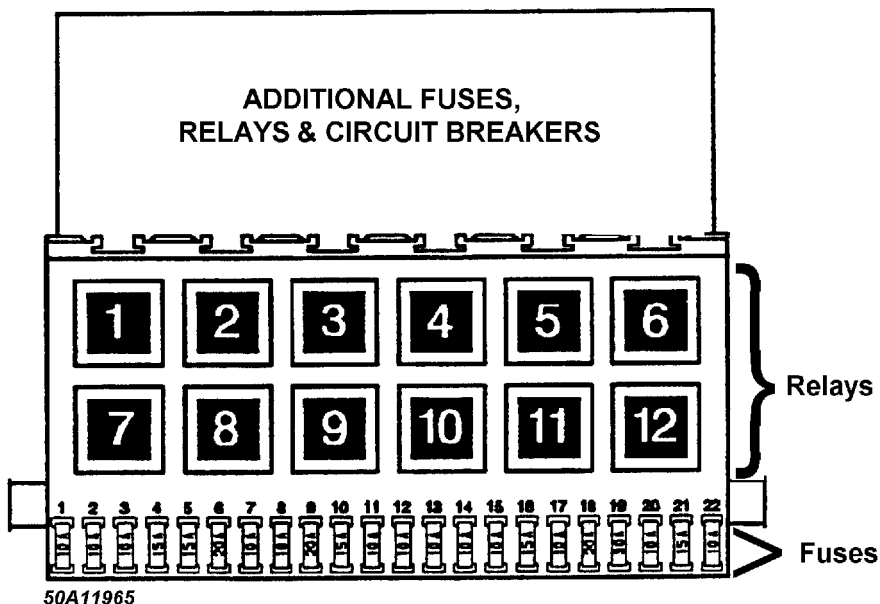


Fig. 3: Fuse Panel Identification (1995-1996)  
Courtesy of Volkswagen United States, Inc.

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### Fuse & Circuit Breaker Identification

- 1 - 10 Amp (Red)  
Left Headlight Low Beam
- 2 - 10 Amp (Red)  
Right Headlight Low Beam
- 3 - 10 Amp (Red)  
Instrument & License Lights
- 4 - 15 Amp (Blue)  
Rear Window Wiper/Washer, ABS
- 5 - 15 Amp (Blue)  
Windshield Wiper/Washer
- 6 - 30 Amp (Green)  
A/C, Fresh Air Fan
- 7 - 10 Amp (Red)  
Right Tail Light & Side Marker Light
- 8 - 10 Amp (Red)  
Left Taillight & Side Marker Light
- 9 - 20 Amp (Yellow)  
Rear Window Defroster, Mirror Heater
- 10 - 15 Amp (Blue)  
Fog Lamps
- 11 - 10 Amp (Red)  
Left Headlight High Beam & High Beam Indicator
- 12 - 10 Amp (Red)  
Right Headlight High Beam
- 13 - 10 Amp (Red)  
Horn
- 14 - 10 Amp (Red)  
Backup Lights
- 15 - 10 Amp (Red)  
Engine Electronics
- 16 - 15 Amp (Blue)  
Warning/Indicator Lights
- 17 - 10 Amp (Red)  
Turn Signals
- 18 - 20 Amp (Yellow)  
Fuel Pump
- 19 - 30 Amp (Green)  
A/C, Radiator Cooling Fan
- 20 - 10 Amp (Red)  
Brake Lights
- 21 - 15 Amp (Blue)  
Dome & Luggage Lamps, Cigar Lighter, Central Locking System,  
Multi-Function Indicator, Vanity Mirror, OBD Diagnostic
- 22 - 10 Amp (Red)  
Clock, Radio

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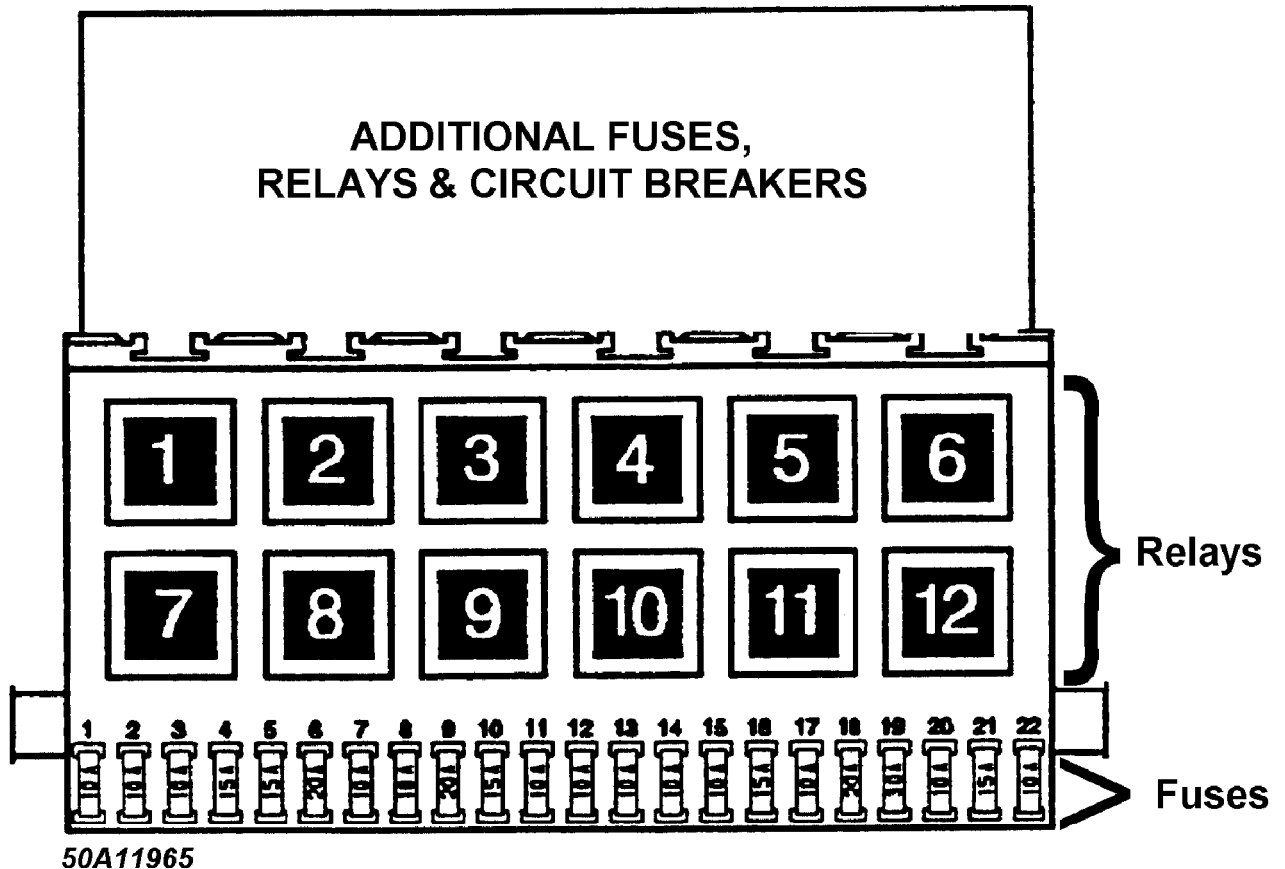


Fig. 4: Relay Panel Identification (1995-1996)  
Courtesy of Volkswagen United States, Inc.

#### Fuse, Relay & Circuit Breaker Identification

- 1 - A/C Control Module Relay
- 2 - Rear Window Wiper/Washer Relay
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- 4 - Load Reduction Relay
- 5 - Engine Coolant Temperature/Low Coolant Relay
- 6 - Emergency Flasher Relay
- 7 - Headlight Washer Relay
- 8 - Washer/Wiper Intermittent Relay
- 9 - Radio/Parking Light Warning Buzzer Relay
- 10 - Fog Lamp/Parking Lamp Relay
- 11 - Dual Horn Relay
- 12 - Fuel Pump Relay

#### Additional Fuse Identification

**WARNING:** Always disconnect battery ground cable before servicing "high-current fuses. It is recommended that "high-current" fuses be replaced by a qualified technician.

**NOTE:** Located above Relays in passenger compartment.

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- 30 Amp Fuse  
ABS Hydraulic Pump Relay
- 30 Amp Fuse  
ABS Main Relay
- 30 Amp Fuse  
A/C
- 30 Amp Fuse  
ABS System
- 20 Amp (Circuit Breaker)  
Power Windows
- 5 Amp Fuse  
Cruise Control

**NOTE:** Located on left side of engine compartment, near battery.

- 1 - 50 Amp  
Radiator Fan

## BATTERY SPECIFICATIONS

**CAUTION:** When battery is disconnected, vehicles equipped with computers may lose memory data. When battery power is restored, driveability problems may exist on some vehicles. These vehicles may require a relearn procedure. See **COMPUTER RELEARN PROCEDURES** article in the **GENERAL INFORMATION** section.

All models use BCI group 42 batteries with cold crank rating of 360 amps.

## CAUTIONS & WARNINGS

### SUPPLEMENTAL RESTRAINT SYSTEM (AIR BAG)

**NOTE:** See the **AIR BAGS** article in the **ACCESSORIES/SAFETY EQUIPMENT** Section.

Modifications or improper maintenance, including incorrect removal and installation of the Supplemental Restraint System (SRS), can adversely affect system performance. **DO NOT** cover, obstruct or change the steering wheel horn pad in any way, as such action could cause improper function of the system. Use only plain water when cleaning the horn pad. Solvents or cleaners could adversely affect the air bag cover and cause improper deployment of the system.

**WARNING:** To avoid injury from accidental air bag deployment, read and carefully follow all warnings and service precautions. See appropriate **AIR BAGS** article in **ACCESSORIES/SAFETY EQUIPMENT**.

**CAUTION:** Disconnect negative battery cable before servicing any air

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bag system, steering column or passenger side dash component. After any repair, turn ignition key to the ON position from passenger's side of vehicle in case of accidental air bag inflation

### SUPPLEMENTAL RESTRAINT SYSTEM (SRS) AIR BAR WARNING

**NOTE:** For information on air bag DIAGNOSIS & TESTING or DISPOSAL PROCEDURES, see AIR BAGS article in the ACCESSORIES/SAFETY EQUIPMENT Section.

System circuit is grounded by 2 screws beneath the driver's seat. DO NOT use these screws to ground any other accessory. DO NOT ground any other components near this system.

### AIR CONDITIONING SERVICING (1993 MODELS)

**CAUTION:** Avoid breathing R-134a refrigerant and PAG lubricant vapors, exposure may irritate eyes, nose and throat. To remove R-134a from system use R-134a recycling equipment that meets SAE J2210 specifications. If accidental system discharge occurs, ventilate work area before resuming service.

**WARNING:** R-134a service equipment or vehicle A/C systems SHOULD NOT be pressure tested or leak tested with compressed air. Some mixtures of air/R134a have shown to be combustible at elevated pressures. These mixtures are dangerous and may cause fire and/or explosions. See AIR CONDITIONING SERVICE article in GENERAL INFORMATION section.

### ANTI-LOCK BRAKE SYSTEM

The anti-lock brake system contains electronic equipment that can be susceptible to interference caused by improperly installed or high output radio transmitting equipment. Since this interference could cause the possible loss of the anti-lock braking capability, such equipment should be installed by qualified professionals.

On models equipped with anti-lock brake systems, ALWAYS observe the following cautions:

- \* DO NOT attempt to bleed hydraulic system without first referring to the appropriate ANTI-LOCK BRAKE SYSTEM article in the BRAKES Section.
- \* DO NOT mix tire sizes. As long as tires remain close to the original diameter, increasing the width is acceptable. Rolling diameter must be identical for all 4 tires. Some manufacturers recommend tires of the same brand, style and type. Failure to follow this precaution may cause inaccurate wheel speed readings.
- \* Use ONLY recommended brake fluids. DO NOT use silicone brake fluids in an ABS-equipped vehicle.

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### BATTERY WARNING

**WARNING:** When battery is disconnected, vehicles equipped with computers may lose memory data. When battery power is restored, driveability problems may exist on some vehicles. These vehicles may require a relearn procedure. See **COMPUTER RELEARN PROCEDURES** article in **GENERAL INFORMATION** section.

### REPLACING BLOWN FUSES

Before replacing a blown fuse, remove ignition key, turn off all lights and accessories to avoid damaging the electrical system. Be sure to use fuse with the correct indicated amperage rating. The use of an incorrect amperage rating fuse may result in a dangerous electrical system overload.

### BRAKE PAD REPLACEMENT

**WARNING:** Use caution when checking and/or changing brake pads, some pads may contain asbestos which can irritate eyes and may cause other health hazards. A water based solution should be used to clean brake dust from wheel and brake components. **DO NOT** use compressed air to blow off brake dust.

### BRAKE SYSTEM

**CAUTION:** If brake warning light comes on while driving it indicates a low fluid level or failure in one of the braking circuits. If the brake pedal can be depressed further than normal it is an indication that one of the brake circuits is not functioning. Stop vehicle and check brake reservoir fluid level. If level is below MIN mark, **DO NOT** drive vehicle. Have it towed to a repair shop. If level is between the MIN and MAX marks, proceed cautiously to a repair shop.

### BRAKE PAD WEAR INDICATOR

Indicator will cause a squealing or scraping noise, warning that brake pads need replacement.

### BRAKE PEDAL PRESSURE WITH ENGINE NOT RUNNING

**CAUTION:** Brake pedal requires extreme pressure to stop the vehicle when the engine is not running.

### CATALYTIC CONVERTER

Continued operation of vehicle with a severe malfunction could cause converter to overheat, resulting in possible damage to converter and vehicle.

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Any modification to the exhaust system on turbo models, which reduces exhaust backpressure, will lead to lean fuel mixtures and excessive spark advance. This could cause serious engine damage.

### COOLANT (PROPYLENE-GLYCOL FORMULATIONS)

To avoid possible damage to vehicle use only ethylene-glycol based coolants with a mixture ratio from 44-68% anti-freeze. DO NOT use 100% anti-freeze as it will cause the formation of cooling system deposits. This results in coolant temperatures of over 300° F (149°C) which can melt plastics. 100% anti-freeze has a freeze point of only -8° F (-22°C).

**CAUTION:** Propylene-Glycol Mixtures has a smaller temperature range than Ethylene-Glycol. The temperature range (freeze-boil) of a 50/50 Anti-Freeze/Water Mix is as follows:

Propylene-Glycol -26° F (-32°C) - 257° F (125°C)

Ethylene-Glycol -35° F (-37°C) - 263° F (128°C)

**CAUTION:** Propylene-Glycol/Ethylene-Glycol Mixtures can cause the destabilization of various corrosion inhibitors. Also Propylene-Glycol/Ethylene-Glycol has a different specific gravity than Ethylene-Glycol coolant, which will result in inaccurate freeze point calculations.

### ELECTROSTATIC DISCHARGE SENSITIVE (ESD) PARTS

**WARNING:** Many solid state electrical components can be damaged by static electricity (ESD). Some will display a warning label, but many will not. Discharge personal static electricity by touching a metal ground point on the vehicle prior to servicing any ESD sensitive component.

### ELECTRIC SHOCK HAZARD

**WARNING:** Contact with live components of ignition system while engine is running could lead to a fatal electric shock.

### ENGINE OIL

**CAUTION:** Never use non-detergent or straight mineral oil.

### FUEL SYSTEM SERVICE

**WARNING:** Relieve fuel system pressure prior to servicing any fuel system component (fuel injection models).

### HALOGEN BULBS

Halogen bulbs contain pressurized gas which may explode if overheated. DO NOT touch glass portion of bulb with bare hands. Eye protection should be worn when handling or working around halogen

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bulbs.

#### RADIATOR CAP

**CAUTION:** Always disconnect the fan motor when working near the radiator fan. The fan is temperature controlled and could start at any time even when the ignition key is in the OFF position. DO NOT loosen or remove radiator cap when cooling system is hot.

#### RADIATOR FAN

**WARNING:** Keep hands away from radiator fan. Fan is controlled by a thermostatic switch which may come on or run for up to 15 minutes even after engine is turned off.

#### WHEELS & TIRES

Only wheels tested and approved by the manufacturer should be used on models equipped with Air Dam aerodynamic components.

**END OF ARTICLE**