

# MAINTENANCE INFORMATION

## 1991 Mazda Miata

1990-95 MAINTENANCE  
Mazda Maintenance Information

Miata

### \* PLEASE READ THIS FIRST \*

NOTE: For scheduled maintenance intervals and the related fluid capacities, fluid specifications and labor times for major service intervals, see SCHEDULED SERVICES article in this section. Warranty information and specifications for fluid capacities, lubrication specifications, wheel and tire size, and battery type are covered in this article.

### MODEL IDENTIFICATION

#### VIN LOCATION

The Vehicle Identification Number (VIN) is located on the left side of the dash panel at the base of the windshield. The VIN chart explains the code characters.

#### VIN CODE ID EXPLANATION

Numbers preceding the explanations in the legend below refer to the sequence of characters as listed on VIN identification label. See VIN example below.

(VIN)	J	M	1	N	A	3	5	1	1	L	0	1	3	0	4	7	2
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

1 - Manufacturing Country

J \* Japan

2 - Make

M \* Mazda Motors Corp., Japan

3 - Type

1 \* Car

4-5 - Model

NA \* MX-5 Miata

6-7 - Body Style

35 \* Convertible

8 - Modification Code

\* Not Specified By Manufacturer

9 - VIN Check Digit

1 \* Constant For All Models

10 - Vehicle Model Year

L \* 1990

M \* 1991

N \* 1992  
P \* 1993  
R \* 1994  
S \* 1995

11 - Assembly Plant  
0 \* Hiroshima, Japan

12-17 - Serial Number  
\* Sequential Production Number

## **MAINTENANCE SERVICE INFORMATION**

### **SEVERE & NORMAL SERVICE DEFINITIONS**

NOTE: Use the Severe Service schedule if the vehicle to be serviced is operated under ANY (one or more) of these conditions:

Service is recommended at mileage intervals based on vehicle operation. Service schedules are based on following primary operating conditions:

#### Normal Service

- \* Driven More Than 10 Miles Daily
- \* No Operating Conditions From Severe Service Schedule

#### Severe Service (Unique Driving Conditions)

- \* Repeated Short Distance Driving
- \* Dusty Conditions
- \* Extended Use Of Brakes
- \* Salt Or Other Corrosive Materials On The Roads
- \* Rough Or Muddy Roads
- \* Extended Idling Or Low Speed Operation
- \* Extended Operation In Extreme Temperatures

### **CAMSHAFT TIMING BELT**

CAUTION: Failure to replace a faulty camshaft timing belt may result in serious engine damage.

The condition of camshaft drive belts should always be checked on vehicles which have more than 50,000 miles. Although some manufacturers do not recommend belt replacement at a specified mileage, others require it at 60,000-100,000 miles. A camshaft drive belt failure may cause extensive damage to internal engine components on most engines, although some designs do not allow piston-to-valve contact. These designs are often called "Free Wheeling".

Many manufacturers changed their maintenance and warranty schedules in the mid-1980's to reflect timing belt inspection and/or replacement at 50,000-60,000 miles. Most service interval schedules in this manual reflect these changes.

Belts or components should be inspected and replaced if any of the following conditions exist:

- \* Cracks Or Tears In Belt Surface
- \* Missing, Damaged, Cracked Or Rounded Teeth
- \* Oil Contamination
- \* Damaged Or Faulty Tensioners
- \* Incorrect Tension Adjustment

Replace camshaft timing belt at 60,000 mile intervals.

**SERVICE POINT LOCATIONS**

- 1. Washer Fluid Reservoir
- 2. Spark Plugs
- 3. Engine Oil Dipstick
- 4. Brake Fluid Reservoir
- 5. Clutch Fluid Reservoir
- 6. Air Cleaner
- 7. Power Steering Reservoir
- 8. Oil Filler Cap
- 9. Radiator Cap
- 10. Coolant Reservoir
- 11. Engine Oil Filter
- 12. Main Fuse Block

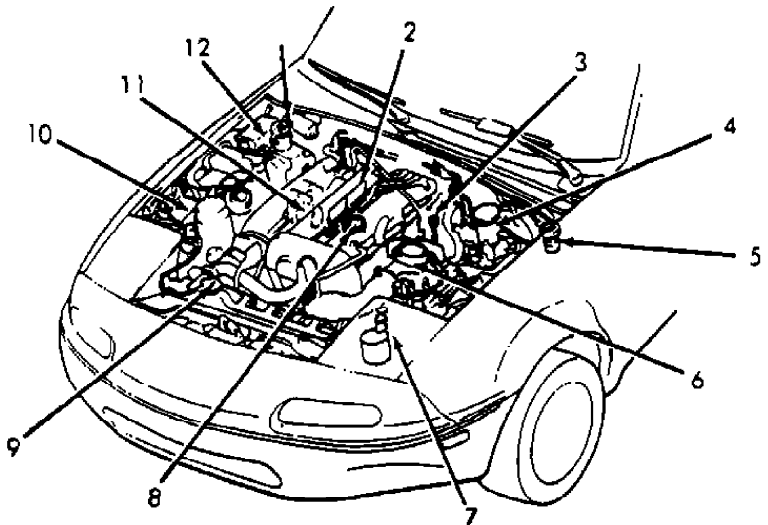


Fig. 1: Service Point Locations  
Courtesy of Mazda Motor of America, Inc.

**INFORMATION LABEL LOCATIONS**

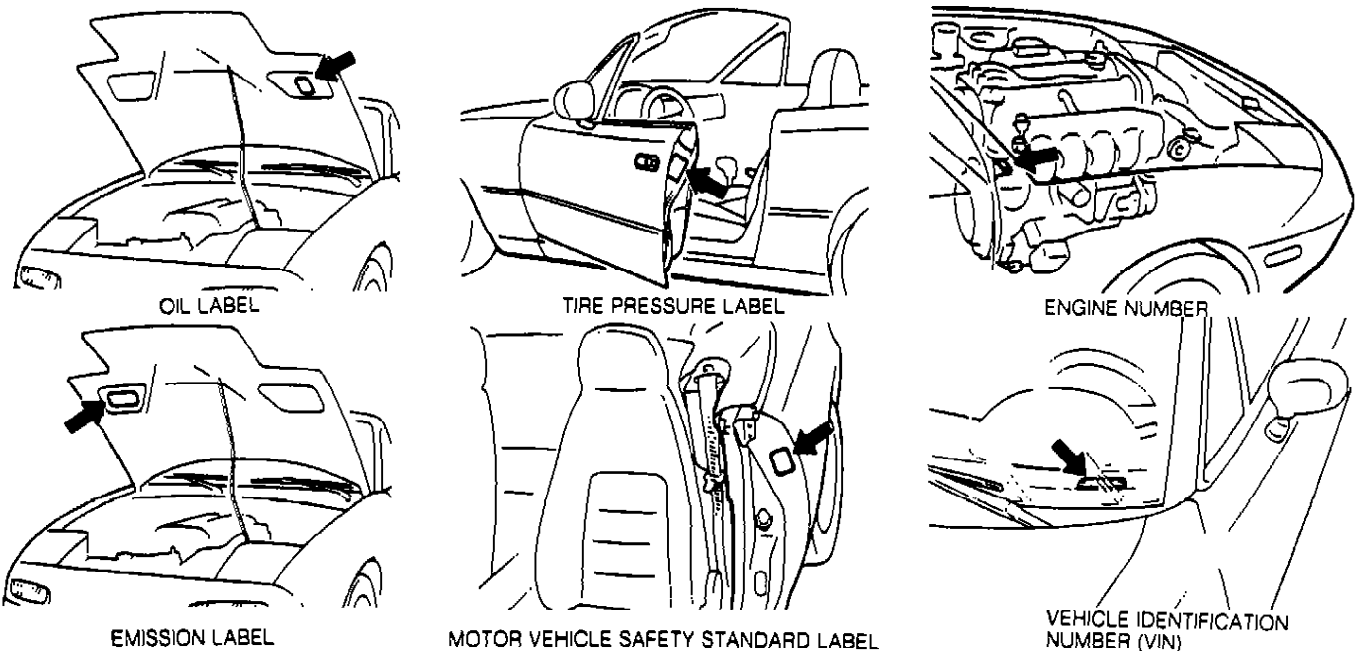


Fig. 2: Information Label Locations  
Courtesy of Mazda Motor of America, Inc.

**SERVICE LABOR TIMES**

SERVICE LABOR TIMES TABLE (HOURS)

	30,000	60,000
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Application	(1) Mile Service	(1) Mile Service
With Automatic Transaxle .....	3.0 .....	6.3
With Manual Transaxle .....	3.0 .....	6.8
(1) - Add 0.3 hr. if vehicle is equipped with air conditioning.		

## LUBRICATION SPECIFICATIONS

LUBRICATION SPECIFICATIONS TABLE

Application	Fluid Specifications
Brake Fluid .....	SAE J1703 Or FMVSS116 DOT 3
Engine Oil	
Maximum Temperature	
Less Than 32°F (0°C) .....	SAE 5W-30 API SH/CD
Minimum Temperature	
Greater Than 32°F (0°C) .....	SAE 10W-30 API SH/CD
Engine Coolant .....	50/50 Water/Ethylene Glycol Mix
Automatic Transmission .....	Dexron-IIe ATF Or Equivalent
Manual Transmission .....	SAE 75W-90 Or SAE 80W-90 API GL-4, GL-5
Power Steering Fluid .....	Dexron-IIe ATF Or Equivalent
Rear Axle .....	SAE 80W-90 API GL-5

## FLUID CAPACITIES

FLUID CAPACITIES TABLE

Application	Quantity
A/C System R-12 Refrigerant Capacity (1)	
1990-92 .....	28 Ozs.
1993 .....	20 Ozs.
A/C System R-134a Refrigerant Capacity (1)	
1994-95 .....	21 Ozs.
Automatic Transmission Fluid .....	7.1 Qts. (6.7L)
Cooling System .....	6.3 Qts. (6.0L)
Engine Oil .....	4.0 Qts. (3.8L)
Fuel Tank	
1990-92 .....	11.9 Gals. (45L)
1993-95 .....	12.6 Gals. (48L)
Manual Transmission Oil .....	2.1 Qts. (2.0L)
Rear Axle Oil	
1990-94 .....	0.7 Qts. (0.7L)
1995 .....	1.1 Qts. (1.0L)

(1) - Use of R-12 in a R134a system will result in SEVERE DAMAGE.

## WHEEL & TIRE SPECIFICATIONS

WHEEL & TIRE SPECIFICATIONS TABLE

Wheel Size	Tire Size
14 x 5.5" (Aluminum) .....	P185/60 R14 82H
14 x 5.5" (Steel) .....	P185/60 R14 82H

Temporary Spare ..... T115/70 D14

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## TIRE INFLATION

### TIRE INFLATION SPECIFICATIONS

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Application (1)	Specification psi (kg/cm <sup>2</sup> )
Normal Loads	
Front .....	26 (1.8)
Rear .....	26 (1.8)
Temporary Spare .....	60 (4.2)

(1) - Tire inflation label is located on rear edge of driver's door.

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## WHEEL TIGHTENING

Tighten wheel lug nuts to 65-87 ft. lbs. (88-118 N.m).

## 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.

Vehicle is equipped with a special 9 9/16" x 4 3/4" x 7 3/8" 12-volt battery that is vented to outside of vehicle.

## CAUTIONS & WARNINGS

### SUPPLEMENTAL RESTRAINT SYSTEM (AIR BAG)

**NOTE:** See the AIR BAG RESTRAINT SYSTEM 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 BAG RESTRAINT SYSTEM article in the ACCESSORIES/SAFETY EQUIPMENT section.

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

## AIR CONDITIONING SERVICING

**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 the appropriate A/C SYSTEM GENERAL SERVICING article in the AIR CONDITIONING & HEAT 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.

## 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 appropriate COMPUTER RELEARN PROCEDURES article in the GENERAL INFORMATION section below.

## 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 WEAR INDICATOR

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

## CATALYTIC CONVERTER

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

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.

## **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.

## **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 bulbs.

## **HEADLIGHT RETRACTOR**

**CAUTION:** If headlight retractor freezes during cold weather operation, DO NOT attempt to force mechanism. Headlights should be kept raised at all times in cold weather. To raise them, use only headlight retractor switch. DO NOT use headlight switch.

## **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.

## **WARRANTY INFORMATION**

**CAUTION:** Always refer to customer's copy of warranty information for specific model application and/or coverage limitations.

## **BASIC NEW CAR WARRANTY**

Basic components are warranted against defects in materials

and workmanship for 36 months or 50,000 miles, whichever occurs first. Tires are covered by a separate warranty offered by tire manufacturer.

### **ANTI-PERFORATION WARRANTY**

Covers body sheet metal panels for 60 months, regardless of mileage, against perforation due to corrosion.

### **SAFETY RESTRAINT SYSTEM WARRANTY**

Supplemental air bag system, seat belts and related components are warranted for 5 years or 60,000 miles, whichever comes first, against defects in materials and workmanship.

### **REPLACEMENT PARTS & ACCESSORIES**

Manufacturer-supplied parts and accessories are warranted against defects in material or workmanship for 12 months without regard to mileage. If installed by a Mazda dealer, part or accessory will be repaired or replaced without charge during warranty period. If not installed by a dealer, part or accessory will be repaired or replaced without charge for parts, but labor cost will be responsibility of owner.

### **EMISSION DEFECT WARRANTY (EXCEPT CALIFORNIA)**

Warrants that vehicle was designed, built and equipped to conform with applicable Federal emission regulations at time of sale and that vehicle is free of defects in materials and workmanship which may cause vehicle to fail to conform with applicable regulations for 5 years or 50,000 miles, whichever occurs first.

### **EMISSION PERFORMANCE WARRANTY (EXCEPT CALIFORNIA)**

Covers all repairs, adjustments and replacements if vehicle fails to conform to applicable emission standards and such failure results in vehicle owner bearing a penalty or other sanction under local, state or Federal law. Warranty period is 5 years or 50,000 miles, whichever comes first. After 2 years or 24,000 miles, manufacturer will make necessary adjustments, repairs and replacements at no cost to owner only when noncompliance is caused by failure of components which have been installed in vehicle for sole or primary purpose of reducing vehicle emissions. See copy of warranty for specific components covered.

### **EMISSION DEFECT WARRANTY (CALIFORNIA)**

For 3 years or 50,000 miles, whichever occurs first, any defective emission-related part on vehicle will be repaired or replaced by manufacturer at no cost to owner. Certain emission-related parts are covered for repair or replacement for 7 years or 70,000 miles, whichever occurs first. See copy of warranty for specific components covered.

### **EMISSION PERFORMANCE WARRANTY (CALIFORNIA)**

For 3 years or 50,000 miles, manufacturer will make all necessary repairs and adjustments to ensure vehicle passes a required Smog Check inspection.

### **FUSES & CIRCUIT BREAKERS**

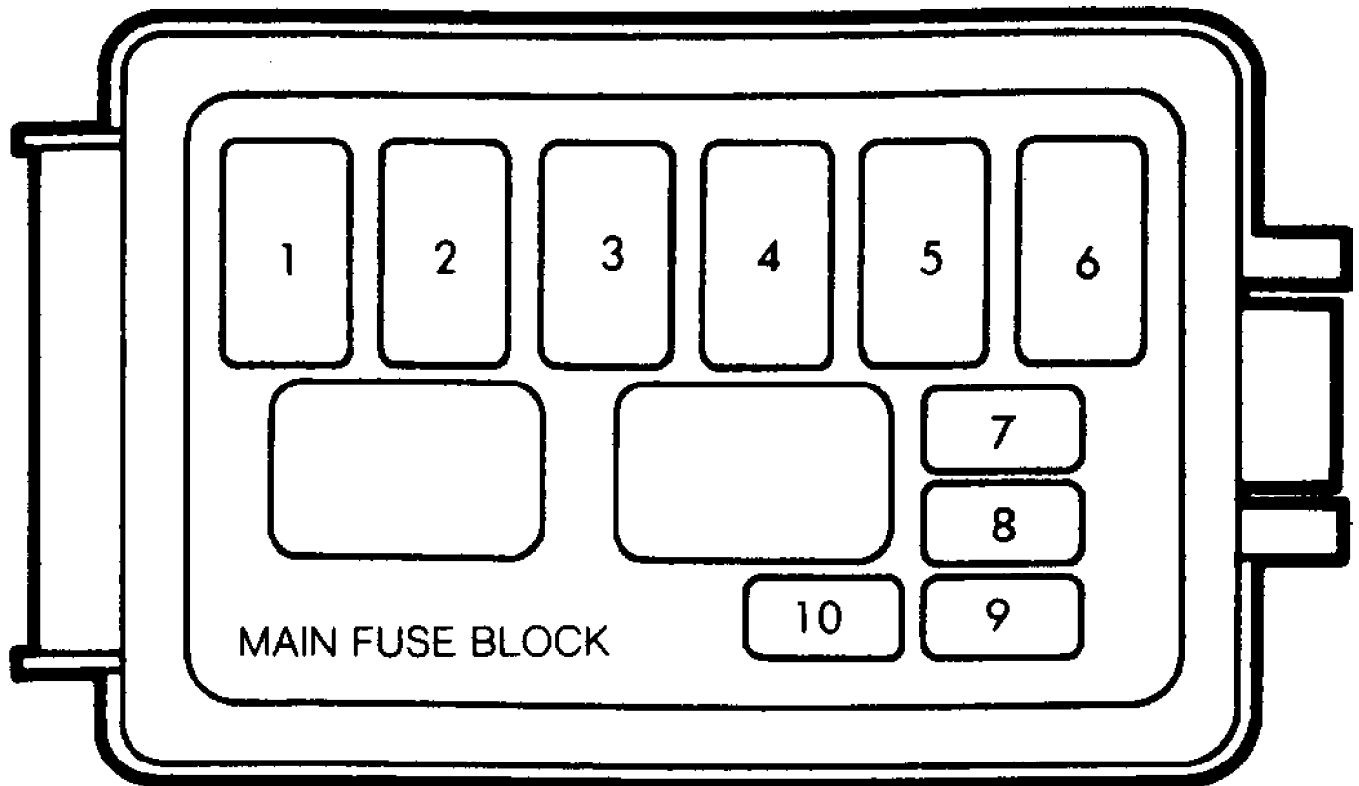


## FUSE PANEL LOCATION

Fuse box is located above driver's left knee, accessible through a removable cover. The main fuse block is located at the right rear of the engine compartment.

The Trunk Mounted Fuse Panel is located on the right side of the trunk, near the trunk hinge. (1992-95 Models)

## MAIN FUSE BLOCK IDENTIFICATION



93J45376

Fig. 3: Main Fuse Block Identification  
Courtesy of Mazda Motor of America, Inc.

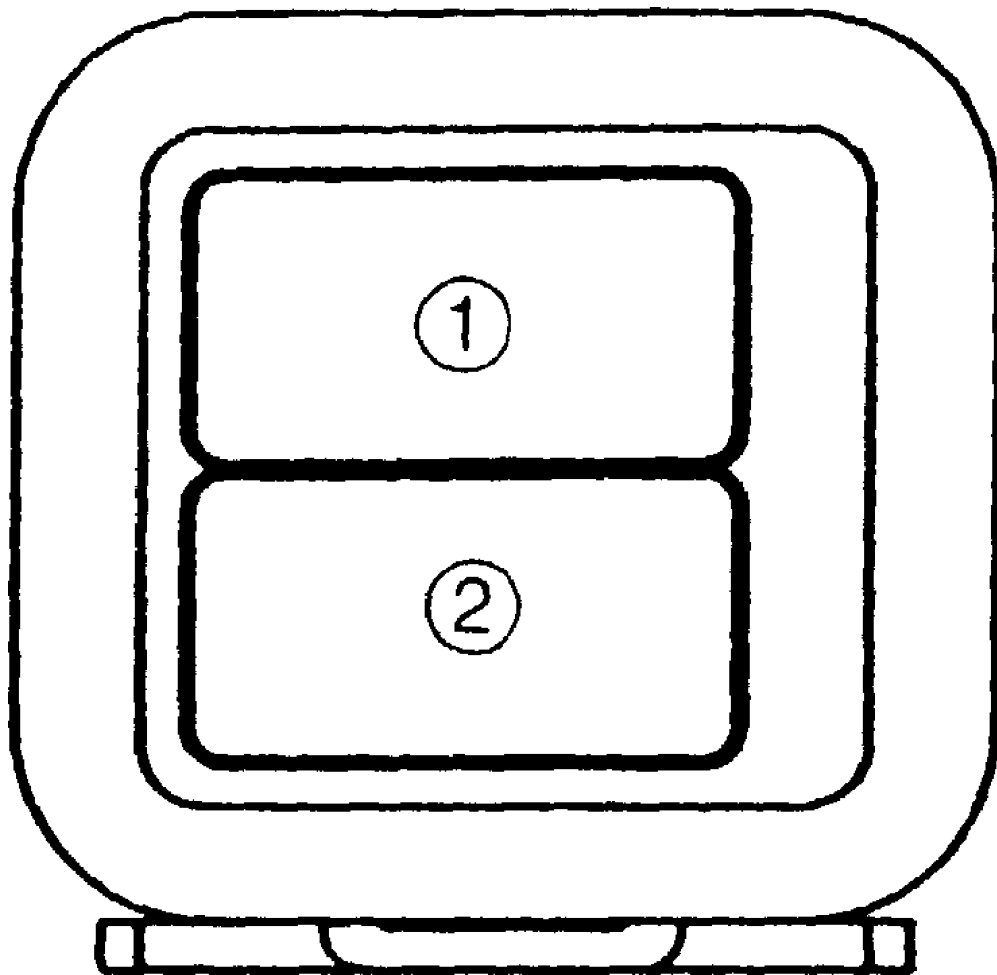
**WARNING:** Always disconnect battery ground cable before servicing "high-current" fuses. It is recommended that "high-current" fuses be replaced by a qualified technician.

### Fuse & Circuit Breaker Identification

- 1 - 30 Amp (Pink)  
Headlights
- 2 - 30 Amp (Pink)  
Fuel Injection, Alternator
- 3 - 80 Amp (Black)  
Protection Of All Circuits
- 4 - 40 Amp (Green)  
Taillights, Shift Lock, Cruise Control, Horn, Stoplights,  
Hazard Warning Lights, Interior Lights, Warning Buzzers,  
Radio/Cassette, Compact Disc Player, Clock
- 5 - Empty (1990)

- 60 Amp (Yellow) (1991-94)  
Anti-Lock Brake System
- 30 Amp (Green) (1995)  
Anti-Lock Brake System
- 6 - 30 Amp (Pink)  
Cooling Fan
- 7 - 10 Amp (Red) (1994)  
Air Bag
- Not Used (1995)
- 8 - 20 Amp (Yellow)  
A/C Additional Fan
- 9 - 10 Amp (Red)  
Fuel Injection
- 10 - 30 Amp (Pink)  
Headlight Retractor

#### TRUNK MOUNTED FUSE PANEL IDENTIFICATION



**50A11569**

Fig. 4: Trunk Mounted Fuse Panel Identification (1992-95)  
Courtesy of Mazda Motor of America, Inc.

Fuse & Circuit Breaker Identification

- 1 - 10 Amp (Red) (1992-95)  
Rear Defroster
- 2 - 10 Amp (Red) (1992-95)  
Power Antenna

#### INTERIOR FUSE PANEL IDENTIFICATION

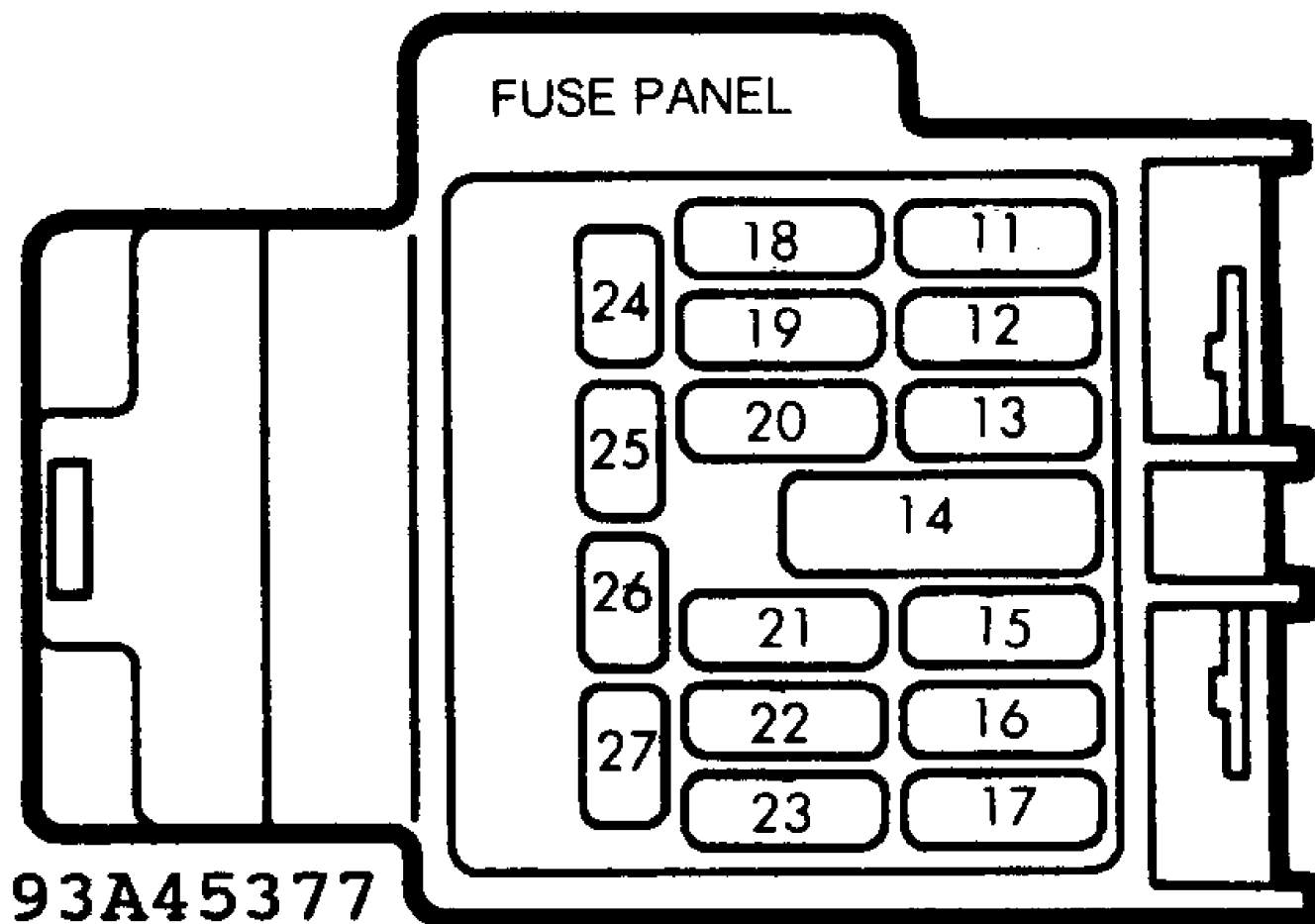
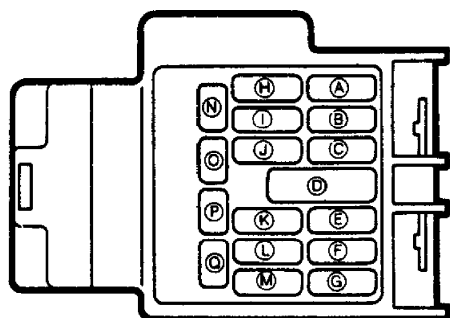


Fig. 5: Interior Fuse Panel Identification (1990-93)  
Courtesy of Mazda Motor of America, Inc.



50D13352  
Fig. 6: Interior Fuse Panel Identification (1994-95)  
Courtesy of Mazda Motor of America, Inc.

NOTE: Fuses identified by numbers 11-27 reference the years 1990-93.  
Fuses identified by alpha characters A-Q reference the years 1994-95.

1994-95.

Fuse & Circuit Breaker Identification

- 11 (A) - 15 Amp (Blue)  
Engine Cooling Fan
- 12 (B) - 10 Amp (Red)  
Gauges, Warning Lights, Turn Signal Lights, Cruise Control
- 13 (C) - 15 Amp (Blue)  
Air Bag  
Not Used (1995)
- 14 (D) - 30 Amp  
Heater
- 15 (E) - Empty
- 16 (F) - 30 Amp (Green)  
Power Windows
- 17 (G) - 20 Amp (Yellow)  
Wipers, Washers
- 18 (H) - Empty
- 19 (I) - 15 Amp (Blue)  
Taillights
- 20 (J) - Empty
- 21 (K) - 15 Amp (Blue)  
Shift Lock, Cruise Control, Horn, Stoplights
- 22 (L) - 15 Amp (Blue)  
Hazard Warning Lights
- 23 (M) - Empty
- 24 (N) - 10 Amp (Red)  
Interior Lights, Warning Buzzers, Radio/Cassette, Compact  
Disc Player, Clock
- 25 (O) - 15 Amp (Blue)  
Radio/Cassette, Compact Disc Player, Clock, Cigarette Lighter
- 26 (P) - Empty
- 27 (Q) - Empty