

MAINTENANCE INFORMATION/FLUID SPECS & CAPACITIES

Article Text

1992 Mazda 323

For

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ARTICLE BEGINNING

1986-94 MAINTENANCE

Mazda Maintenance Information

1990-94 Protege

1986-94 323

* 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	B	F	2	2	2	1	K	0	2	0	0	0	0	1
	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 * Passenger Car

4-5 - Model

BF * 323 (1986-89)

BW * 323 Wagon (1987-88)

BG * 323 & Protege (1990-94)

6-7 - Body Style

22 * 4-Door Sedan

23 * 3-Door Hatchback

24 * 5-Door Hatchback

62 * Wagon

- 8 - Modification Code
 - 2 * 1.6L SOHC Engine
 - 4 * 1.8L SOHC Engine
 - 6 * 1.8L DOHC Engine
- 9 - VIN Check Digit
 - 1 * Constant For All Models
- 10 - Vehicle Model Year
 - G * 1986
 - H * 1987
 - J * 1988
 - K * 1989
 - L * 1990
 - M * 1991
 - N * 1992
 - P * 1993
 - R * 1994
- 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 the following primary operating conditions:

Normal Service

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

Severe Service (Unique Driving Conditions)

- * Repeated Short Distance Driving
- * Dusty Conditions
- * Extended Use Of Brakes
- * Salt Or Other Corrosive Materials On 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.

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

Fig. 1: Service Point Locations (1986)
Courtesy of Mazda Motor of America, Inc.

Fig. 2: Service Point Locations (1987-89 Non-Turbo)
Courtesy of Mazda Motor of America, Inc.

Fig. 3: Service Point Locations (1988-89 Turbo)
Courtesy of Mazda Motor of America, Inc.

Fig. 4: Service Point Locations (1990-94 1.8L DOHC Engine)
Courtesy of Mazda Motor of America, Inc.

Fig. 5: Service Point Locations (1990-94 1.6L & 1.8L SOHC Engine)
Courtesy of Mazda Motor of America, Inc.

INFORMATION LABEL LOCATIONS

Fig. 6: Information Label Locations (1986-89 Models)
Courtesy of Mazda Motor of America, Inc.

Fig. 7: Information Label Locations (1990-94 Models)
Courtesy of Mazda Motor of America, Inc.

Fig. 8: Engine Number Locations (All Years)
Courtesy of Mazda Motor of America, Inc.

SERVICE LABOR TIMES

NOTE: For 1990 and newer vehicles, labor times are provided, where available, within appropriate SERVICE INTERVAL table in SCHEDULED SERVICES article.

Application	30,000 Mile Service	60,000 Mile Service
1.6L Non-Turbo		
Automatic Transaxle	3.0	5.6
Manual Transaxle	3.0	(1) 5.8
1.6L Turbo	3.0	6.6
1.8L	3.0	6.4

(1) - Add .6 hr. if equipped with 4WD.

LUBRICATION SPECIFICATIONS

LUBRICATION SPECIFICATIONS TABLE

Application	Fluid Specifications
Brake Fluid	SAE J1703 Or DOT 3
Engine Oil	
Minimum Temperature	
Greater Than 0°F (-18°C)	SAE 10W-30 API SH
Maximum Temperature	
Less Than 0°F (-18°C)	SAE 5W-30 API SH
Power Steering Fluid	Dexron-IIE ATF
Rear Axle & Transfer Case (4WD)	
Minimum Temperature	
Greater Than 0°F (-18°C)	SAE 90 API GL-5
Maximum Temperature	
Less Than 0°F (-18°C)	SAE 80W API GL-5
Automatic Transaxle	Dexron-IIE Or M-III ATF
Manual Transaxle (1)	
2WD, SOHC Engine	Dexron-IIE ATF Or SAE 75W-90 API GL-4, GL-5
2WD, DOHC Engine	Dexron-IIE Or M-III ATF
AWD	M-III ATF , Dexron-IIE Or SAE 75W-90 API GL-4, GL-5

(1) - Use ATF fluid in manual transmissions in cold weather climates only.

FLUID CAPACITIES

FLUID CAPACITIES TABLE (1)

Application	Quantity
A/C System R-12 Refrigerant	
1986-87	30 Ozs.
1988-89	24-28 Ozs.
1990-94	26.5 Ozs.
Cooling System	
Automatic Transaxle	6.3 Qts. (6.0L)
Manual Transaxle	5.3 Qts. (5.0L)
Engine Oil (2)	

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1.6L	3.6 Qts. (3.4L)
1.8L	4.2 Qts. (4.0L)
Fuel Tank	
323	
1986-87	11.9 Gals. (45.0L)
1988-89	
2WD	12.7 Gals. (48.0L)
4WD	13.2 Gals. (50.0L)
1990-94	13.2 Gals. (50.0L)
Protege	
1990-91	
2WD	14.5 Gals. (55L)
4WD	15.9 Gals. (60L)
1992-94	14.5 Gals. (55L)
Automatic Transmission	
1986-87	6.0 Qts. (5.7L)
1988-89	6.7 Qts. (6.3L)
With Turbo	3.6 Qts. (3.4L)
1990-91	
2WD	6.1 Qts. (5.8L)
4WD	7.0 Qts. (6.6L)
1992-94	6.6 Qts. (6.3L)
Manual Transmission	
1986-89 2WD	3.4 Qts. (3.2L)
1988-89 4WD	3.8 Qts. (3.6L)
Wagon	6.0 Qts. (5.7L)
1990-93	
SOHC	2.8 Qts. (2.7L)
DOHC	3.6 Qts. (3.5L)
1994	
SOHC	2.8 Qts. (2.7L)
DOHC	3.3 Qts. (3.2L)
Rear Axle Oil (4WD)	.7 Qts. (.6L)
Transfer Case (4WD)	.5 Qts. (.5L)

(1) - Capacities are recommended or calculated levels. Always use dipstick (if available) to measure level.

(2) - Includes filter change.

WHEEL & TIRE SPECIFICATIONS

WHEEL & TIRE SPECIFICATIONS TABLE

Wheel Size	Tire Size
13 x 5" (Steel Or Aluminum)	P175/70 R13 Or P155/80 R13
14 x 5.5" (Steel Or Aluminum)	P185/65 R14 Or P185/60 R14
14 x 4T" (Temporary Spare)	T115/70D14

TIRE INFLATION

TIRE INFLATION SPECIFICATIONS TABLE

Application (1)	Specifications psi (kg/cm ²)
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Normal Loads	32 (2.2)
Temporary Spare	60 (4.2)

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

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 appropriate COMPUTER RELEARN PROCEDURES article in the GENERAL INFORMATION section.

If battery is replaced, new battery should be of the same group number as shown on the original battery's label.

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.

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

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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.

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.

TURBOCHARGED MODELS

CAUTION: Do not race engine immediately after starting. When stopping engine, allow engine to idle for approximately 60 seconds before shutting it off. Failure to do so may cause turbocharger damage due to lack of oil flowing to the turbocharger bearings.

WARRANTY INFORMATION

CAUTION: Due to the different warranties offered in various regions and the variety of after-market extended warranties available, please refer to the warranty package that came with the vehicle to verify all warranty options.

BASIC NEW CAR WARRANTY

MAINTENANCE INFO

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 the 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

The 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, the part or accessory will be repaired or replaced without charge during the warranty period. If not installed by a dealer, it will be repaired or replaced without charge for parts, but labor cost will be the responsibility of the owner.

EMISSION DEFECT WARRANTY (EXCEPT CALIFORNIA)

Warrants that vehicle was designed, built and equipped so as to conform at the time of sale with applicable Federal emission regulations, and that it is free from defects in materials or workmanship which may cause the 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 or replacements if vehicle fails to conform to applicable emission standards and such failure results in the vehicle owner having to bear 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, the manufacturer will make the necessary adjustments, repairs or replacements at no cost to the owner only when noncompliance is caused by failure of components which have been installed in the vehicle for the sole or primary purpose of reducing vehicle emissions. See copy of warranty for specific components covered.

EMISSION DEFECT WARRANTY (CALIFORNIA)

For a period of 3 years or 50,000 miles, whichever occurs first, if any emission-related part on vehicle is defective, it 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 a period of 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

The main fuse block is located at the left side of the engine compartment and has high amperage fuses which protect multiple circuits. The fuse box is located near the driver's left knee, accessible through a removable cover, and has fuses which protect individual circuits.

FUSE PANEL & FUSE BLOCK IDENTIFICATION (1986-89)

Fig. 9: Underhood Fuse Panel Identification (1986-89)
Courtesy of Mazda Motor of America, Inc.

Fuse & Circuit Breaker Identification

- 1 - 30 Amp
EGI System
- 2 - 30 Amp
Headlights
- 3 - 80 Amp
Main Protection Of All Circuits
- 4 - 40 Amp
Door Lock, Charging System
- 5 - Empty

FUSE PANEL & FUSE BLOCK IDENTIFICATION (1986-89)

Fig. 10: Interior Fuse Block Identification (1986-89)
Courtesy of Mazda Motor of America, Inc.

- 6 - 30 Amp
Cooling Fan
- 7 - 30 Amp
Additional Cooling Fan For Air Conditioner
- 8 - 10 Amp
Fuel Pump
- 9 - Empty
- 10 - Empty
- 11 - 10 Amp (1986-88)
Alternator
- 15 Amp (1989)
Engine Control System
- 12 - 20 Amp
Rear Defogger
- 13 - 15 Amp (If Equipped)
Foglights
- 14 - 10 Amp
Clock, Interior Lights, Cargo Light
- 15 - 15 Amp

- Sun Roof
- 16 - 15 Amp (1986-88)
- 10 Amp (1989)
- Rear Wiper/Washer
- 17 - 15 Amp
- Stoplights
- 18 - 15 Amp
- Cruise Control, Turn Signals, Instrument Panel (Gauges & Lights), Back-Up Lights
- 19 - 15 Amp
- Radio
- 20 - 30 Amp
- Power Door Locks
- 21 - 20 Amp (If Equipped)
- Differential Lock
- 22 - 20 Amp
- Cooling Fan
- 23 - 30 Amp
- Power Windows
- 24 - 15 Amp
- Hazard Warning
- 25 - 15 Amp
- Taillights, Side Marker Lights, Illumination Lights, License Plate Lights
- 26 - 15 Amp
- Head Cleaner
- 27 - 15 Amp
- Air Conditioner
- 28 - 15 Amp
- Wiper/ Washer
- 29 - 30 Amp
- Heater Blower Motor

FUSE PANEL & FUSE BLOCK IDENTIFICATION (1990-94)

Fig. 11: Underhood Fuse Panel Identification (1990-94)
 Courtesy of Mazda Motor of America, Inc.

Fuse & Circuit Breaker Identification

- 1 - 30 Amp
- Fuel Injection System
- 2 - 30 Amp
- Headlights
- 3 - 80 Amp
- Main Protection Of All Circuits
- 4 - 60 Amp
- Hazard, Room, Door Lock, Stoplight, Taillights
- 5 - Empty
- 6 - 30 Amp
- Cooling Fan
- 7 - 20 Amp
- Additional Cooling Fan
- 8 - Empty
- 9 - 10 Amp
- Engine Control Unit
- 10 - Empty

FUSE PANEL & FUSE BLOCK IDENTIFICATION (1990-94)

Fig. 12: Interior Fuse Block Identification (1990-94)
Courtesy of Mazda Motor of America, Inc.

Fuse & Circuit Breaker Identification

- 11 - 10 Amp (Red)
Rear Wiper/Washer
- 12 - 15 Amp (Blue)
Hazard Warning
- 13 - 10 Amp (Red)
Clock, Interior Lights, Cargo Light, Trunk Light
- 14 - 15 Amp (Blue)
Engine Control System
- 15 - 15 Amp (Blue)
Radio
- 16 - 30 Amp (Green)
Power Door Locks
- 17 - 30 Amp (Green)
Automatic Seat Belt
- 18 - 30 Amp (Green)
Power Windows
- 19 - 15 Amp (Blue)
Cruise Control, Turn Signals, Instrument Panel (Gauges &
Warning Lights), Back-Up Lights
- 20 - 20 Amp (Yellow)
Windshield Wiper/Washer
- 21 - 20 Amp (Yellow)
15 Amp (Blue) (4WD 1990-91)
Stoplights, Horn
- 22 - 15 Amp (Blue)
Taillights, Side Marker Lights, Parking Lights, Illumination
Lights, License Plate Lights
- 23 - 15 Amp (Blue) (If Equipped)
Sun Roof
- 24 - 20 Amp (Yellow) (4WD 1990-91)
Center Differential Lock System
Blank (1992-94)
- 25 - 20 Amp (Yellow)
Rear Window Defogger
- 26 - 30 Amp (Circuit Breaker)
Heater Blower Motor

END OF ARTICLE