

MAINTENANCE INFORMATION

1993 Mitsubishi Montero

1983-96 MAINTENANCE
Mitsubishi Maintenance Information

Montero

* 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 below:

- * SCHEDULED SERVICES - 1983-86
- * SCHEDULED SERVICES - 1987-95
- * SCHEDULED SERVICES - 1996

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	A	4	F	J	4	3	E	1	H	J	0	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 - Manufacturer
A * Mitsubishi Motor Corp.
- 3 - Vehicle Type
4 * Multi-Purpose Vehicle
7 * Truck
- 4 - GVW & Brake Type
F * 4001-5000 Lbs., Hydraulic Brakes
G * 5001-6000 Lbs., Hydraulic Brakes
- 5 - Vehicle Line
J, K Or R * Montero
- 6 - Vehicle Series
2 * Low
3 * Medium

- 4 * High
- 5 * Premium

- 7 - Body Type
 - 1 * 5-Door Wagon
 - 2 * 2-Door Canvas Top
 - 3 * 2-Door Metal Top (1983-86)
 - 3 * 3-Door Metal Top Or Van (1987 & Newer Models)

- 8 - Engine Type
 - E * 2.6L 4-Cylinder
 - H * 3.0L V6
 - M * 3.5L V6
 - S * 3.0L V6
 - 7 * 2.6L 4-Cylinder (1983)

- 9 - VIN Check Digit
 - * 1 Through 9 Or X

- 10 - Vehicle Model Year
 - D * 1983
 - E * 1984
 - F * 1985
 - G * 1986
 - H * 1987
 - J * 1988
 - K * 1989
 - L * 1990
 - M * 1991
 - N * 1992
 - P * 1993
 - R * 1994
 - S * 1995
 - T * 1996

- 11 - Assembly Plant
 - Y * Ohye, Japan (1983)
 - Y * Nagoya, Japan (1984)
 - J * Nagoya, Japan (1985-96)

- 12 - Transmission Code (1983-85)
 - 4 * 5-Speed M/T (1984-85 Federal Vehicles)
 - 5 * 5-Speed M/T (1984-85 California Vehicles)
 - 7 * 5-Speed M/T (1983 Federal Vehicles)
 - 7 * A/T (1984-85 Federal Vehicles)
 - 8 * A/T (1984-85 California Vehicles)

- 12-17 - Serial Number (1986-96)
 - * Sequential Production Number

- 13-17 - Serial Number (1983-85)
 - * 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 Schedule

Severe Service (Unique Driving Conditions)

- * Short Trips In Freezing Temperatures
- * Towing Or Commercial Use
- * Driving Off-Road Or In Salty Or Sandy Areas
- * Severe Dust Conditions
- * Hot Weather, Stop-And-Go Driving
- * Extensive Idling

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

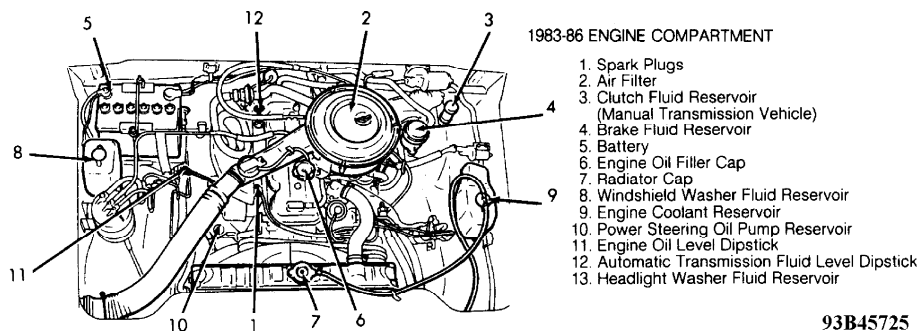


Fig. 1: Service Point Locations (1983-86 2.6L 4-Cylinder Engine)
Courtesy of Mitsubishi Motor Sales of America.

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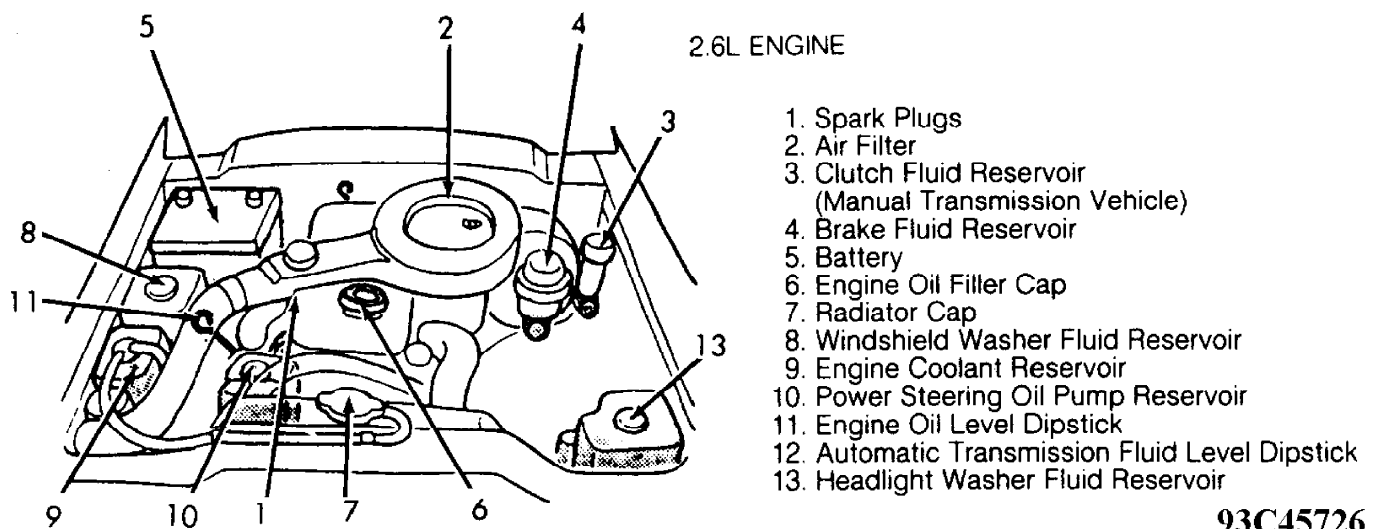


Fig. 2: Service Point Locations (1987-91 2.6L 4-Cylinder Engine)
 Courtesy of Mitsubishi Motor Sales of America.

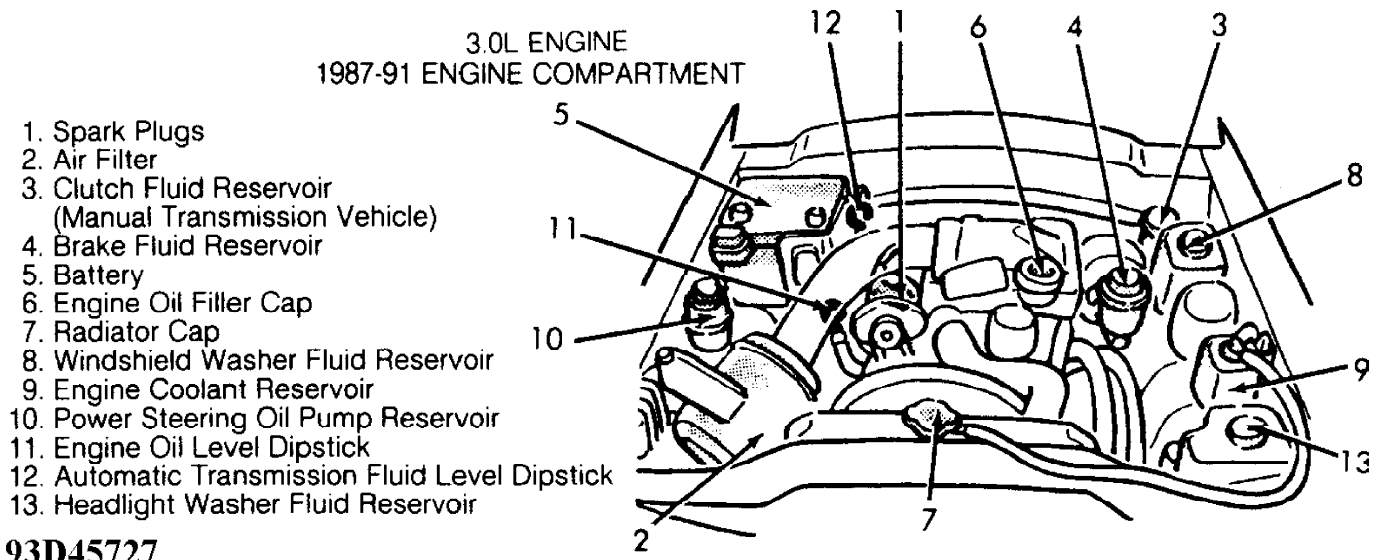


Fig. 3: Service Point Locations (1987-91 3.0L V6 Engine)
 Courtesy of Mitsubishi Motor Sales of America.

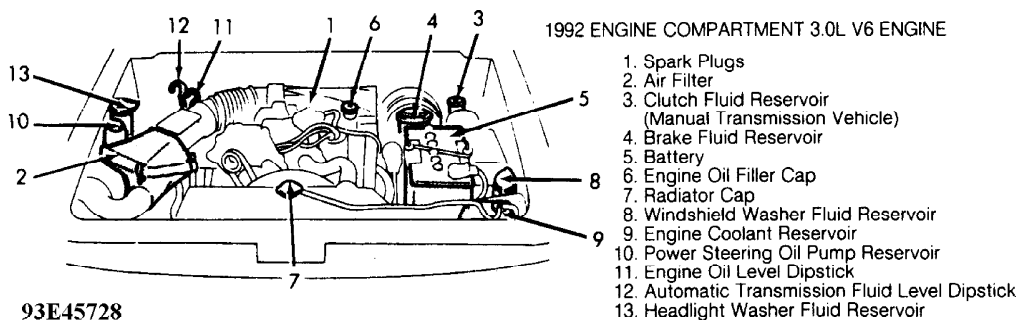
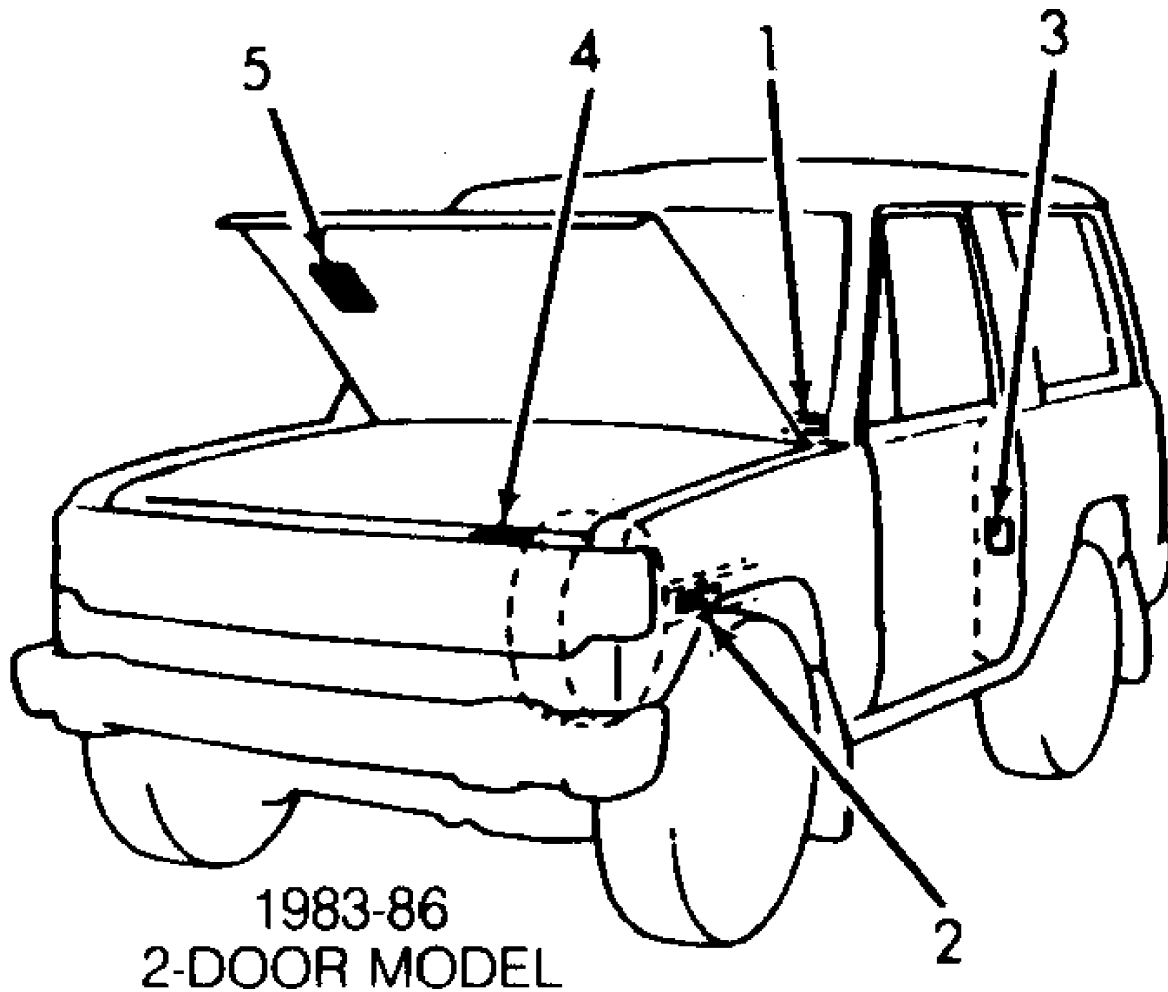


Fig. 4: Service Point Locations (1992 3.0L V6 Engine)
 Courtesy of Mitsubishi Motor Sales of America.

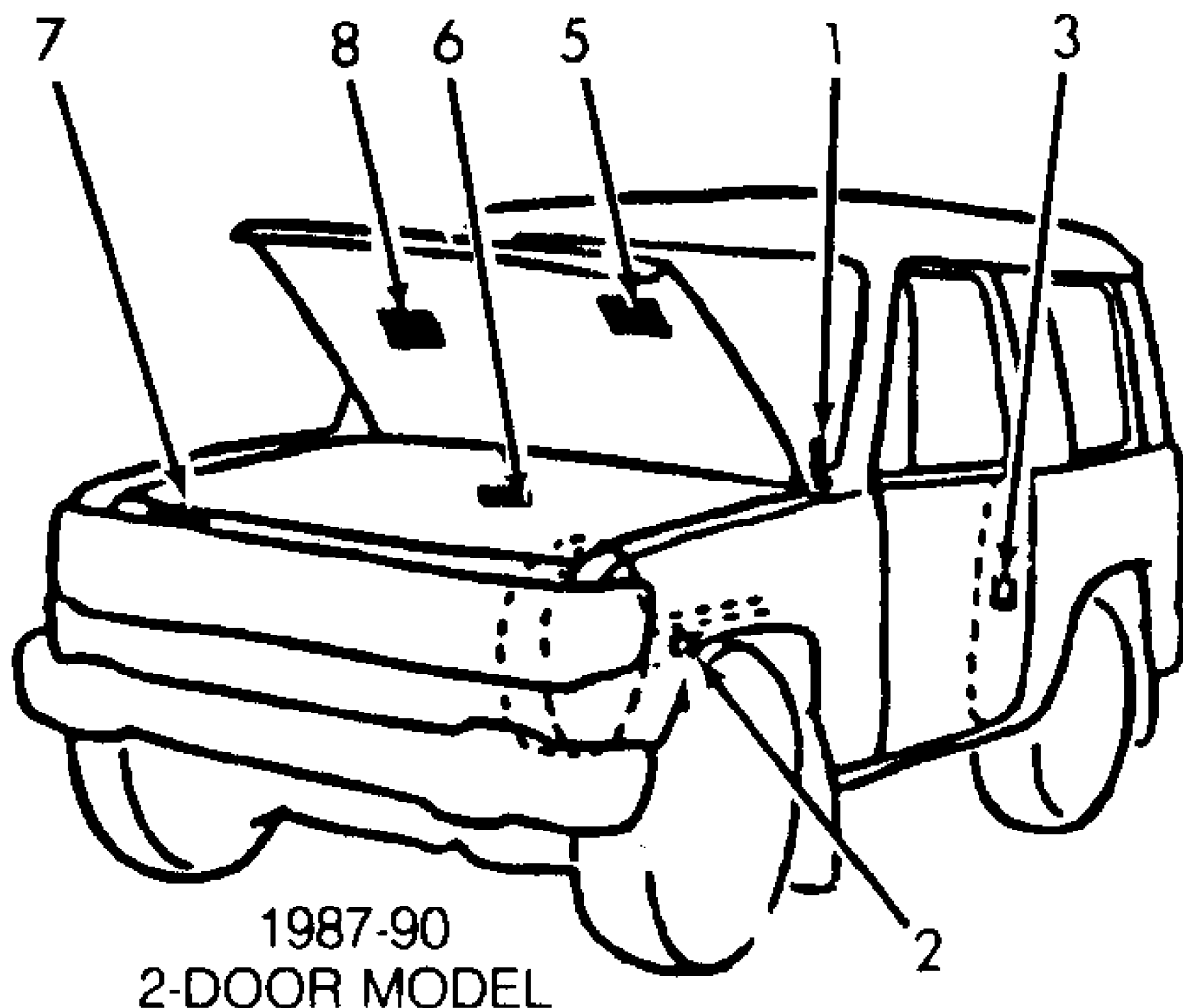
INFORMATION LABEL LOCATIONS



1. Vehicle Identification Number (VIN) Plate
2. Chassis Number
3. Certification Label
4. Body Color Label (Some Models)
5. Vehicle Emission Control Information Label
6. Vehicle Information Code Plate (2.6L)
7. Vehicle Information Code Plate (3.0L)
8. Service Points Label (Some Models)

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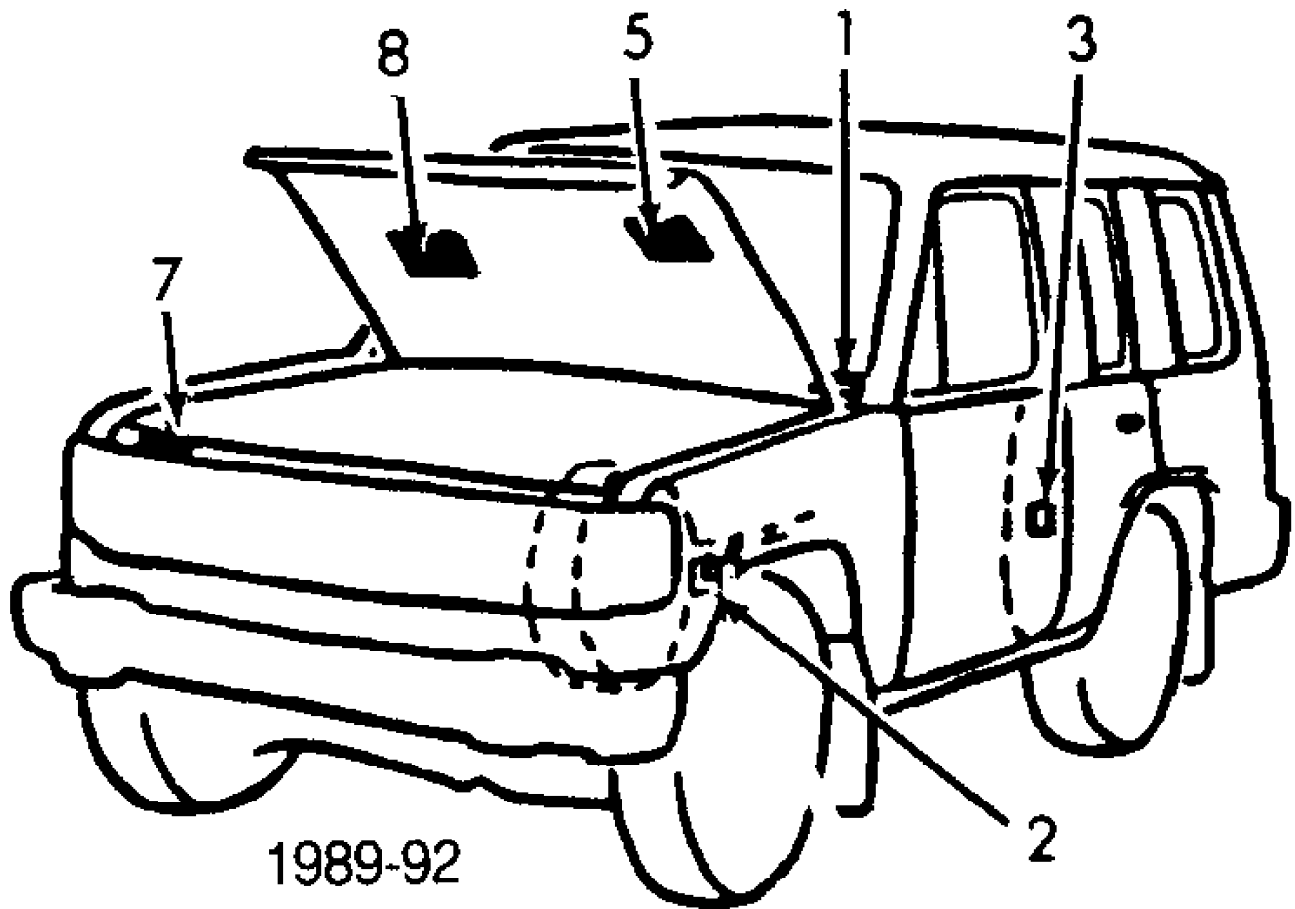
Fig. 5: Information Label Locations (1983-86 2-Door Models)
Courtesy of Mitsubishi Motor Sales of America.



- 1987-90
2-DOOR MODEL
1. Vehicle Identification Number (VIN) Plate
 2. Chassis Number
 3. Certification Label
 4. Body Color Label (Some Models)
 5. Vehicle Emission Control Information Label
 6. Vehicle Information Code Plate (2.6L)
 7. Vehicle Information Code Plate (3.0L)
 8. Service Points Label (Some Models)

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Fig. 6: Information Label Locations (1987-90 2-Door Models)
Courtesy of Mitsubishi Motor Sales of America.



1989-92

4-DOOR MODEL

1. Vehicle Identification Number (VIN) Plate
2. Chassis Number
3. Certification Label
4. Body Color Label (Some Models)
5. Vehicle Emission Control Information Label
6. Vehicle Information Code Plate (2.6L)
7. Vehicle Information Code Plate (3.0L)
8. Service Points Label (Some Models)

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Fig. 7: Information Label Locations (1989-92 4-Door Models)
 Courtesy of Mitsubishi Motor Sales of America.

SERVICE LABOR TIMES

SERVICE LABOR TIMES TABLE (HOURS)

30,000 (60,000)

50,000

Application	Mile Service	Mile Service
1983-86 2.6L 4-Cylinder		
Automatic Transmission	7.9 (8.2)	5.2
Manual Transmission	6.9 (7.2)	5.2
1987-90 2.6L 4-Cylinder		
Automatic Transmission	7.9 (8.9)	2.6
Manual Transmission	6.9 (7.9)	2.6
1989-96 3.0L V6		
Automatic Transmission	6.1 (10.6)	2.6
Manual Transmission	5.1 (9.6)	2.6

LUBRICATION SPECIFICATIONS

LUBRICATION SPECIFICATIONS TABLE

Application	Fluid Specifications
Brake & Clutch Fluid	DOT 3 Or DOT 4
Engine Coolant	Ethylene-Glycol Antifreeze Coolant
Engine Oil (1)	
Minimum Temperature	
Greater Than 32°F (0°C)	SAE 20W-40 Or 20W-50 API SG/CD
Greater Than -10°F (-23°C)	SAE 10W-30 Or 10W-40 API SG/CD
Maximum Temperature	
Less Than 60°F (16°C)	SAE 5W-30 Or 5W-40 API SG/CD
Front Axle & Conventional Rear Axle	
Minimum Temperature	
Greater Than -10°F (-23°C)	SAE 85W-90, 80W-90 API GL-5
Maximum Temperature	
Less Than -30°F (-34°C)	SAE 75W API GL-5
Power Steering Fluid	Dexron-II E ATF
Rear Axle (With Limited Slip Differential)	Hypoid Gear Oil (8149630EX) Or Equivalent
Transmission	
Automatic	Dexron-II E ATF
Manual Transaxle & Transfer Case (4WD)	SAE 75W-85W, 75W-90 API GL-5

(1) - Since temperature ranges for different oil grades overlap, brief fluctuations in outside temperatures are no cause for concern.

FLUID CAPACITIES

FLUID CAPACITIES TABLE

Application	Quantity
A/C System R-12 Refrigerant	
1983-87	24-26 Ozs.
1988-91	32 Ozs.
1992-93	28 Ozs.
A/C System R-134a Refrigerant (1)	
1994-96	21-23 Ozs.
Automatic Transmission	
1984-86	(2) 7.2 Qts. (6.8L)
1987-93	7.6 Qts. (7.2L)
1994-96 (3.0L SOHC)	7.6 Qts. (7.2L)

1994-96 (3.0L DOHC & 3.5L)	9.0 Qts. (8.5L)
Cooling System	
1983-88	8.5 Qts. (8.0L)
1989-96	
2.6L	9.7 Qts. (9.2L)
3.0L	10.0 Qts. (9.5L)
3.5L	10.0 Qts. (9.5L)
Differential	
1983-88	1.9 Qts. (1.8L)
1989-93	
2.6L	1.9 Qts. (1.8L)
3.0L	2.7 Qts. (2.6L)
1994-96	
3.0L & 3.5L	2.7 Qts. (2.6L)
Engine Oil	
1983-86	6.0 Qts. (5.8L)
1987	5.2 Qts. (5.0L)
1988	5.0 Qts. (4.8L)
1989-91	5.5 Qts. (5.3L)
1992-96	5.2 Qts. (4.9L)
Power Steering	1.1 Qts. (1.0L)
Fuel Tank	
1983-88	15.9 Gals. (60L)
1989-90	
2.6L 2-Door	15.9 Gals. (60L)
3.0L 2-Door	19.9 Gals. (75L)
2.6L & 3.0L 4-Door	24 Gals. (92L)
1991-96	24 Gals. (92L)
Manual Transmission	
1983-91	2.3 Qts. (2.2L)
1992	2.4 Qts. (2.3L)
1993-96	2.6 Qts. (2.5L)
Transfer Case	
1983-91	2.3 Qts. (2.2L)
1992-96	2.4 Qts. (2.3L)

- (1) - Use of R12 in a R134a system will result in SEVERE DAMAGE.
(2) - 1983 model equipped with manual transmission only.

WHEEL & TIRE SPECIFICATIONS

Tire specifications are imprinted on the tire side wall. The recommended cold tire inflation pressures are listed on a label attached to the rear face of the driver's door. These pressures provide the best combination of ride comfort, tire wear and stability under normal conditions.

CAUTION: DO NOT mix tires of different design such as radial ply with bias or bias-belted tires. Mixing tire types will adversely affect road handling and may lead to loss of vehicle control. When using snow tires, they must be used in set of four for maneuverability and safety. DO NOT use tire chains on front wheels.

TIRE & WHEEL SPECIFICATIONS TABLE

Wheel Size	Tire Size
1983-86	
15 x 6JJ (Steel)	215 SR15
1987-88	

15 x 6JJ (Steel)	P225/75 R15
1989-1996	
15 x 6JJ (Steel)	P225/75 R15
15 x 6JJ (Steel or Aluminum)	P235/75 R15
15 X 7JJ (Aluminum)	31-10.50R15

TIRE INFLATION SPECIFICATIONS TABLE

Application	Pressure psi (kg/cm ²)
1983-88	
Front (1)	26 (1.8)
Rear	34 (2.3)
Rear	(2) 26 (1.8)
1989-91	
Front (1)	26 (1.8)
Rear	35 (2.4)
Rear	(2) 26 (1.8)
1992-96	
P235/75R15	
Front	26 (1.8)
Rear	35 (2.4)
31-10.50R15	
Front	29 (2.1)
Rear	40 (2.8)

- (1) - No chain clearance.
- (2) - Inflation pressure for better ride comfort when driving with no cargo.

WHEEL TIGHTENING

WHEEL TIGHTENING SPECIFICATIONS TABLE

Application	Ft. Lbs. (N.m.)
1983	50-57 (70-80)
1984-96	72-87 (100-120)

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.

Battery is maintenance-free and does not normally require additional water. However, under severe conditions it is advisable to check battery fluid periodically. Use only distilled water to fill battery cell should it become necessary to add water. Charge condition can be checked by a visual test indicator on top of battery.

BATTERY REPLACEMENT SPECIFICATIONS TABLE

Application	BCI Group Number
-------------	------------------

2.6L Engine	45
2.6L Optional	45
3.0L V6	(1) 24
3.5L V6	(1) 24

(1) - Check hood clearance on 1986 and newer models.

CAUTIONS & WARNINGS

SUPPLEMENTAL RESTRAINT SYSTEM (SRS) AIR BAG SYSTEM

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

The SRS has no user-servicable parts. Always have servicing done by an authorized dealer.

When performing maintenance on air bag equipped vehicles always observe proper safety precautions.

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

ANTI-LOCK BRAKE SYSTEM (ABS)

CAUTION: Never mix different diameter tires. On loose or uneven surfaces, the ABS system may require longer stopping distances than conventional brake systems. Exercise caution when removing mud or snow from the wheels so as not to damage the ABS wiring or speed sensors.

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.

COOLANT (PROPYLENE-GLYCOL FORMULATIONS)

CAUTION: 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.

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

WARNING: 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.

WARRANTY INFORMATION

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

NEW VEHICLE LIMITED WARRANTY

Covers all manufacturer-installed parts and components for any repairs, replacements or adjustments needed to correct defects in materials or workmanship under normal use and maintenance for 36 months or 36,000 miles, whichever comes first, from date of delivery to the first retail buyer or first date of use.

POWERTRAIN LIMITED WARRANTY

Upon expiration of New Vehicle Limited Warranty, this warranty covers powertrain against defects in materials or workmanship up to a maximum of 36 months or 50,000 miles, whichever occurs first. On 1991-96 models, warranty period is extended to 5 years or 60,000 miles, whichever occurs first. See copy of warranty for specific components covered.

BATTERY WARRANTY

Covers replacement of original battery for 12 months or 12,000 miles, whichever occurs first.

AIR CONDITIONER WARRANTY

Covers manufacturer's air conditioners for 36 months or 36,000 miles, whichever occurs first. Air conditioner refrigerant charge is covered for the first 12 months or 12,000 miles, whichever occurs first. On 1992-96 models, refrigerant is covered only as part of a warranty repair.

ANTI-CORROSION PERFORATION LIMITED WARRANTY

Covers any body sheet metal panel found to have developed perforation (rust-through) due to corrosion for 5 years regardless of mileage. Outer panel coverage extends to 7 years or 100,000 miles, whichever occurs first, on 1992-96 models.

EMISSION SYSTEM DEFECT WARRANTY (EXCEPT CALIFORNIA)

Warrants that the vehicle was designed, built and equipped to conform at the time of sale with all applicable U.S. emission standards. Covers any repairs needed to correct defects in materials or workmanship which would cause the vehicle not to meet these standards for 5 years or 50,000 miles, whichever occurs first.

EMISSION SYSTEM PERFORMANCE WARRANTY (EXCEPT CALIFORNIA)

Covers all repairs, adjustments, or replacements if vehicle has been maintained in accordance with the prescribed scheduled maintenance instructions and fails to conform to applicable emission standards and such failure results or will result in the vehicle owner having to bear any penalty or other sanctions under local, state or

federal law. Warranty period is 5 years or 50,000 miles, whichever occurs first. Covers remedy of non-conformity if vehicle fails to pass an EPA approved emissions test during the first 24 months or 24,000 miles of this warranty. During the remainder of the warranty period, covers remedy of non-conformity resulting from failure of certain emission-related components. See copy of warranty for specific components covered.

EMISSION SYSTEM WARRANTY (CALIFORNIA)

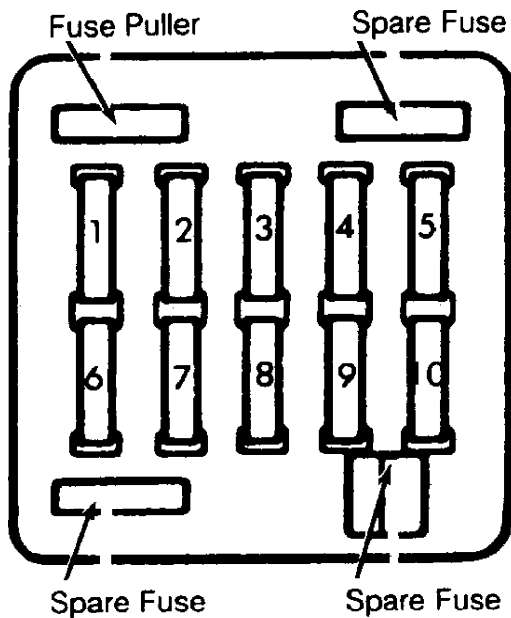
Warrants that the vehicle was designed, built and equipped to conform at the time of sale with all applicable U.S. and California emission standards, and that the emission control system is free from defects in materials or workmanship which would cause the vehicle not to meet these standards for 5 years or 50,000 miles, whichever occurs first. On 1990 and later models, warranty coverage is 3 years or 50,000 miles, whichever occurs first, with certain emission-related components covered for 7 years or 70,000 miles, whichever occurs first. See copy of warranty for specific components covered.

FUSES & CIRCUIT BREAKERS

FUSE PANEL LOCATION

The electrical system is protected against shorts by fuses that are designed to fail, to prevent damage to the wire harness. The fuse block is located under the instrument panel on the driver's side. If a fuse is blown, locate the cause before replacing the fuse. Spare fuses are contained in the fuse block.

FUSE PANEL IDENTIFICATION (1983-91)

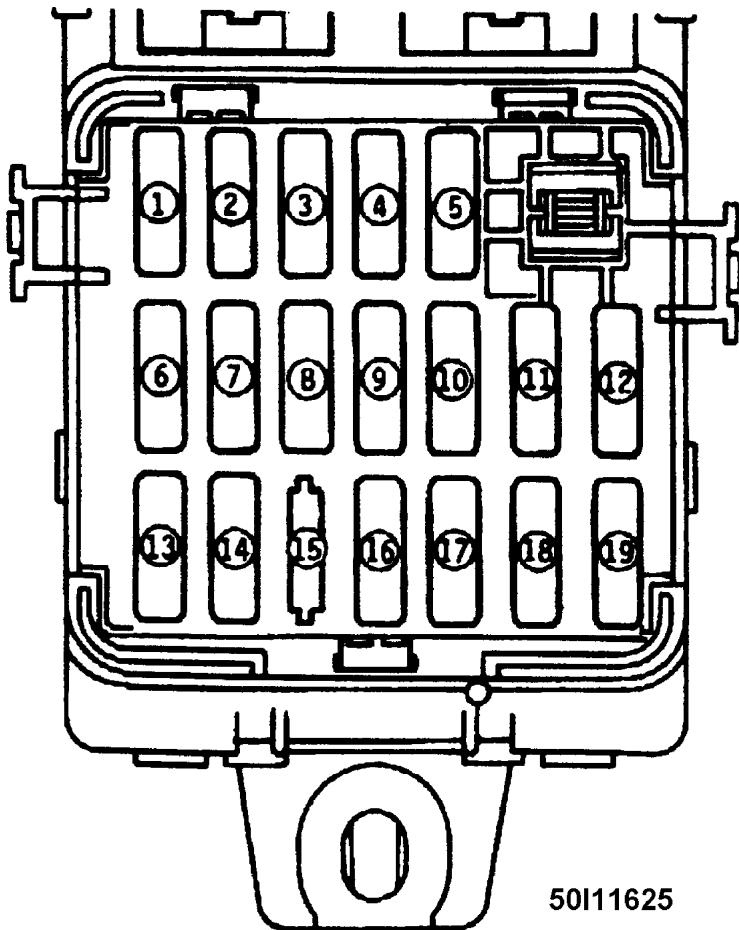


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Fig. 8: Fuse Panel Identification (1983-91)
Courtesy of Mitsubishi Motor Sales of America, Inc.

- 1 - 20 Amp (Yellow)
Hazard Light, Dome Light, Clock
- 2 - 10 Amp (Red)
Taillights
- 3 - 10 Amp (Red)
Turn Signal Lights
- 4 - 10 Amp (Red)
Back-Up Lights, Gauges
- 5 - 15 Amp (Light Blue)
Defogger
- 6 - 20 Amp (Yellow)
Heater
- 7 - 15 Amp (Light Blue)
Stoptlights
- 8 - 15 Amp (Light Blue)
Horn, Wiper, Washer
- 9 - 10 Amp (Red)
Rear Wiper, Rear Washer
- 10 - 15 Amp (Light Blue)
Cigarette Lighter, Radio

FUSE PANEL IDENTIFICATION (1992-96)



50111625

Fig. 9: Fuse Panel Identification (1992-96)
Courtesy of Mitsubishi Motor Sales of America, Inc.

- 1 - 20 Amp
Not Used
- 2 - Not Used
10 Amp (1994-96)
ELC-4 A/T Control Module, Cruise Control Unit
- 3 - 10 Amp
Blower Motor Relay, Headlight Washer Relay, Defogger Relay,
Car Telephone (1992-93)
- 4 - 10 Amp
Radio Clock, Accessory Socket Relay,
Cruise Control Unit (1994-96), Data Link Connector (1994-96)
- 5 - 15 Amp
Remote Controlled Mirror, Cigarette Lighter
Accessory Socket Relay (1992-93)
- 6 - 15 Amp
Door Lock Relay, Door Lock Control Unit (1994-96)
- 7 - 10 Amp
Overdrive Relay, Variable Shock Absorber Control Unit,
4WD Indicator Control Unit, ABS Power Relay (1992-93),
ABS Control Unit (1994-96), Combination Meter (1994-96)
- 8 - 10 Amp
Power Window Relay
- 9 - 15 Amp
Wiper, Washer, Sunroof
- 10 - 10 Amp
Horn, Cruise Control Unit (1992-93)
- 11 - 10 Amp
Combination Meter, Multi-meter, Motor Antenna Control Unit,
Buzzer Assembly
- 12 - 15 Amp
Turn Signal Light, Hazard Light, SRS Diagnosis Unit
- 13 - 10 Amp
Not Used
- 14 - 15 Amp
Accessory Socket
- 15 - Not Used
- 16 - 25 Amp
Blower Motor
- 17 - 15 Amp
Stoplight
- 18 - 10 Amp
Back-up Light, Rear Differential Lock Control Unit
- 19 - 10 Amp
Engine Control Module, Dome Light, Reading Light,
Cargo Light, Combination Meter, Clock, Door Lock Relay,
Cruise Control Unit, Car Telephone (1992-93)
ELC-4 A/T Control Module (1994-96), Ignition Key Illumination
Light Timer (1994-96)