

# MANUFACTURERS MOTOR VEHICLE SPECIFICATIONS

METRIC (U.S. Customary)

# 1991

|                                                                                                                |                                                               |  |
|----------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|--|
| <b>Manufacturer</b><br>SATURN CORPORATION<br>GENERAL MOTORS CORPORATION                                        | <b>Vehicle Line</b><br><br>SEDAN SL<br>SEDAN SL1<br>SEDAN SL2 |  |
| <b>Mailing Address</b><br><br>SATURN CORPORATION<br>1420 STEPHENSON HWY.<br>MAILDROP 39<br>TROY, MI 48007-7025 |                                                               |  |

Direct questions concerning these specifications to the manufacturer listed above.

The information contained herein is prepared, distributed by, and is solely the responsibility of the vehicle manufacturing company to whose products it relates. This specification form was developed by the vehicle manufacturing companies under the auspices of the Motor Vehicle Manufacturers Association of the United States, Inc.

The General Specifications herein are those in effect at date of compilation and are subject to change without notice or incurring obligation by the manufacturer.



Motor Vehicle Manufacturers Association  
of the United States, Inc.

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# MVMA Specifications

METRIC (U.S. Customary)

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### NOTE:

1. This form uses both SI metric units and U.S. Customary units. The metric unit of measure is presented first, and the U.S. Customary unit follows in parentheses.
2. UNLESS OTHERWISE INDICATED:
  - a. Specifications apply to standard models without optional equipment. Significant deviations are noted.
  - b. Nominal design dimensions are used throughout these specifications.
  - c. All linear dimensions are in millimeters (inches), and all mass (weight) specs. are in kilograms (pounds).
3. The General Specifications herein are those in effect at date of compilation and are subject to change without notice or incurring obligation by the manufacturer.
4. Additional Vehicle Dimensions (based in part on SAE J1100 "Motor Vehicle Dimensions") may be available from the manufacturer.

# MVMA Specifications

Vehicle Line SATURN SEDAN

Model Year 1991 Issued 10-90 Revised(\*)           

## METRIC (U.S. Customary)

### Vehicle Origin

|                                                |                                   |
|------------------------------------------------|-----------------------------------|
| Design & development (company)                 | SATURN CORPORATION/GM CORPORATION |
| Where built (country)                          | U.S.A.                            |
| Authorized U.S. Sales marketing representative | SATURN CORPORATION                |

### o Vehicle Models

| Model<br>Description & Drive<br>(FWD/RWD/AWD/4WD)* | Make, Vehicle Models,<br>Series, Body Type<br>(Mfr's Model Code) | No. of Designated<br>Seating Positions<br>(Front/Rear) | Max. Trunk/Cargo<br>Load-Kilograms<br>(Pounds) | EPA Fuel<br>Economy<br>(City/Hwy) |
|----------------------------------------------------|------------------------------------------------------------------|--------------------------------------------------------|------------------------------------------------|-----------------------------------|
| Saturn                                             |                                                                  |                                                        |                                                |                                   |
| 4-Door Level I Sedan (FWD)                         |                                                                  |                                                        |                                                |                                   |
| SL                                                 | ZZB69                                                            | 5 (2/3)                                                | 52.0 kg.<br>(115 lbs.)                         | 27/37 (M5)<br>26/35 (A4)          |
| SL1                                                | ZZB69                                                            | 5 (2/3)                                                | 52.0 kg.<br>(115 lbs.)                         | 27/37 (M5)<br>26/35 (A4)          |
| 4-Door Level II Sedan (FWD)                        |                                                                  |                                                        |                                                |                                   |
| SL2                                                | ZZD69                                                            | 5 (2/3)                                                | 52.0 kg.<br>(115 lbs.)                         | 24/34 (M5)<br>23/32 (A4)          |

\* FWD - Front Wheel Drive RWD - Rear Wheel Drive AWD - All Wheel Drive 4WD - Four Wheel Drive

## MVMA Specifications

| Vehicle Line | SEDAN SL/SL1/SL2 |        |       |            |
|--------------|------------------|--------|-------|------------|
| Model Year   | 1991             | Issued | 10-90 | Revised(*) |

**METRIC (U.S. Customary)**  
**Power Teams**

SAE J1349 Net bhp (brake hrspwr) and Net Torque corrected to 77 deg. F / 25 deg. C and 29.61 in. Hg/100 kPA atmos. press.

|                            |                                      |                                     | A                                 | B                                    | C                                 | D                                     |
|----------------------------|--------------------------------------|-------------------------------------|-----------------------------------|--------------------------------------|-----------------------------------|---------------------------------------|
| E<br>N<br>G<br>I<br>N<br>E | Engine Code                          |                                     | SOHC (LKO)                        | SOHC (LKO)                           | DOHC (LLO)                        | DOHC (LLO)                            |
|                            | Displacement<br>Liters (cu. in.)     |                                     | 1.9 (116.03)                      | 1.9L (116.03)                        | 1.9L (116.03)                     | 1.9 (116.03)                          |
|                            | Induction system<br>(FI, Carb, etc.) |                                     | Throttle Body<br>Fuel Injection   | Throttle Body<br>Fuel Injection      | Port Fuel<br>Injection            | Port Fuel<br>Injection                |
|                            | Compression<br>ratio                 |                                     | 9.3 : 1                           | 9.3 : 1                              | 9.5 : 1                           | 9.5 : 1                               |
|                            | SAE<br>Net<br>at<br>RPM              | Power<br>kW (bhp)                   | 63.5 (85) @ 5,000                 | 63.5 (85) @ 5,000                    | 92.5 (124) @ 6,000                | 92.5 (124) @ 6,000                    |
|                            |                                      | Torque<br>Newton meters<br>(lb.ft.) | 145 (107) @ 2,400                 | 145 (107) @ 2,400                    | 166 (122) @ 4,800                 | 166 (122) @ 4,800                     |
| Exhaust<br>Single, dual    |                                      | Single                              | Single                            | Single                               | Single                            |                                       |
| T<br>R<br>A<br>N<br>S      | Transmission/<br>Transaxle           |                                     | Manual<br>Transmission<br>5-Speed | Automatic<br>Transmission<br>4-Speed | Manual<br>Transmission<br>5-Speed | Automatic<br>Transimission<br>4-Speed |
|                            | Axle Ratio<br>(std. first)           |                                     | 3.077                             | 2.238                                | 3.250                             | 2.526                                 |

[illegible]

# MVMA Specifications

Vehicle Line SEDAN SL/SL1  
Model Year 1991 Issued 10-90 Revised(\*)

## METRIC (U.S. Customary)

### Engine Description

### Engine Code

1.9 L L4 SOHC (116 CID)  
THROTTLE BODY FUEL INJECTION

## ENGINE - GENERAL

|                                                                                                                                                    |                                                                   |                                      |
|----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|--------------------------------------|
| Type & description (inline, V, angle, flat, location, front, mid, rear, transverse, longitudinal, sohc, dohc, ohv, hemi, wedge, pre-chamber, etc.) | Inline, Front, Transverse, SOHC                                   |                                      |
| Manufacturer                                                                                                                                       | Saturn Corporation - GM Corporation                               |                                      |
| No. of cylinders                                                                                                                                   | 4                                                                 |                                      |
| Bore                                                                                                                                               | 82 mm (3.23 in.)                                                  |                                      |
| Stroke                                                                                                                                             | 90 mm (3.54 in.)                                                  |                                      |
| Bore spacing (C/L to C/L)                                                                                                                          | 94 mm (3.70 in.)                                                  |                                      |
| Cyl block matl & mass kg(lbs.)(machined)                                                                                                           | 319M Cast Aluminum W/Iron Cylinder Liners, 23.53 Kg. (51.88 lbs.) |                                      |
| Cylinder block deck height                                                                                                                         | 219.88 mm (8.66 in.)                                              |                                      |
| Cylinder block length                                                                                                                              | 420.8 mm (16.57 in.)                                              |                                      |
| Deck clearance (minimum) (above or below block)                                                                                                    |                                                                   |                                      |
| Cyl. head material & mass kg (lbs.)                                                                                                                | 319M Aluminum Alloy, 9.03 Kg. (19.91 lbs.)                        |                                      |
| Cylinder head volume cu. cm. (cu. in.)                                                                                                             | 41.70 cu. cm. (2.54 cu. in.)                                      |                                      |
| Cylinder liner material                                                                                                                            | Iron                                                              |                                      |
| Head gasket thickness (compressed)                                                                                                                 | 1.36 mm (.054 in.)                                                |                                      |
| Minimum combustion chamber total volume cu. cm. (cu. in.)                                                                                          | 55.0 cc (3.36 cu. in.)                                            |                                      |
| Cyl. no. system (front to rear)*                                                                                                                   | L. Bank                                                           | 1-2-3-4                              |
|                                                                                                                                                    | R. Bank                                                           |                                      |
| Firing order                                                                                                                                       | 1-3-4-2                                                           |                                      |
| Intake manifold matl & mass kg (lbs.)**                                                                                                            | Cast Aluminum (356 Material), 3.15 Kg. (6.95 lbs.)                |                                      |
| Exh. manifold matl & mass kg (lbs.)**                                                                                                              | Nodular Iron, 3.96 Kg. (8.73 lbs.)                                |                                      |
| Knock sensor (yes / no)                                                                                                                            | Yes                                                               |                                      |
| Fuel required unleaded, diesel, etc.                                                                                                               | Unleaded                                                          |                                      |
| Fuel antiknock index (R + M) / 2                                                                                                                   | 87                                                                |                                      |
| Engine mounts                                                                                                                                      | Quantity                                                          | 2                                    |
|                                                                                                                                                    | Matl and type (elastomeric, hydroelastic, hydraulic damper, etc.) | Elastomeric With One Damping Element |
|                                                                                                                                                    | Added isolation (sub-frame, crossmember, etc.)                    | None                                 |
| Total dressed engine mass (wt) dry***                                                                                                              | 86.71 Kg. (191.20 lbs.)                                           |                                      |

## Engine - Pistons

|                                                |                                                      |
|------------------------------------------------|------------------------------------------------------|
| Material & mass, g (weight, oz.) - piston only | Hypereutectic Aluminum Alloy, 285 g. each (9.92 oz.) |
|------------------------------------------------|------------------------------------------------------|

## Engine Camshaft

|                                   |             |                                                           |
|-----------------------------------|-------------|-----------------------------------------------------------|
| Location                          |             | Cylinder Head                                             |
| Material & mass kg (weight, lbs.) |             | Billet 5150 Steel, Hardened Lobes;<br>2.5 Kg. (5.60 lbs.) |
| Drive type                        | Chain/belt  | Chain                                                     |
|                                   | Width/pitch | 9.52 mm Pitch (.37 in.)                                   |

\*Rear of engine - drive takeoff. View from drive takeoff end to determine left & right side of engine.

\*\*Finished state.

\*\*\*Dressed engine mass (weight) includes the following:

Throttle control cable, A/C compressor brackets/attach, air cleaner/attach, air inlet ducts/attach, power steering pulley, P/S pump brackets/attach, powertrain stiffener bracket/attach, water pump pulley, backside idle pulley, belts.

# MVMA Specifications

Vehicle Line SEDAN SL2  
Model Year 1991 Issued 10-90 Revised(\*)

## METRIC (U.S. Customary)

Engine Description  
Engine Code

1.9L L4 DOHC (116 CID) 16-VALVE  
PORT FUEL INJECTION

### ENGINE - GENERAL

Type & description (inline, V, angle, flat, location, front, mid, rear, transverse, longitudinal, sohc, dohc, ohv, hemi, wedge, pre-chamber, etc.)

Inline, Front, Transverse, DOHC

Manufacturer

Saturn Corporation - GM Corporation

No. of cylinders

4

Bore

82 mm (3.23 in.)

Stroke

90 mm (3.54 in.)

Bore spacing (C/L to C/L)

94 mm (3.70 in.)

Cyl block matl & mass kg(lbs.) (machined)

319M Cast Aluminum W/Iron Cylinder Liners, 23.53 Kg. (51.88 lbs.)

Cylinder block deck height

219.88 mm (8.66 in.)

Cylinder block length

420.80 mm (16.57 in.)

Deck clearance (minimum) (above or below block)

Cyl. head material & mass kg (lbs.)

319M Aluminum Alloy, 12.47 Kg. (27.50 lbs.)

Cylinder head volume cu. cm. (cu. in.)

43.00 cu. cc (2.62 cu. in.)

Cylinder liner material

Iron

Head gasket thickness (compressed)

1.36 mm (.054 in.)

Minimum combustion chamber total volume cu. cm. (cu. in.)

55.88 cc (3.41 cu. in.)

Cyl. no. system (front to rear)\*

L. Bank

1-2-3-4

R. Bank

Firing order

1-3-4-2

Intake manifold matl & mass kg (lbs.)\*\*

Cast Aluminum (356 Material), 5.38 Kg. (11.86 lbs.)

Exh. manifold matl & mass kg (lbs.)\*\*

409 Stainless Steel, 3.35 Kg. (7.39 lbs.)

Knock sensor (yes / no)

Yes

Fuel required unleaded, diesel, etc.

Unleaded

Fuel antiknock index (R + M) / 2

87

Engine mounts

Quantity

2

Matl and type (elastomeric, hydroelastic, hydraulic damper, etc.)

Elastomeric With One Damping Element

Added isolation (sub-frame, crossmember, etc.)

None

Total dressed engine mass (wt) dry\*\*\*

96.88 Kg. (213.62 lbs.)

### Engine - Pistons

Material & mass, g (weight, oz.) - piston only

Hypereutectic Aluminum Alloy, 280 g. each (9.92 oz.)

### Engine Camshaft

Location

Cylinder Head

Material & mass kg (weight, lbs.)

G.M. 120M Grey Cast Iron;  
2.01 Kg. Intake (4.43 lbs.), 2.00 Kg. Exhaust (4.41 lbs.)

Drive type

Chain/belt

Chain

Width/pitch

9.52 mm Pitch (.37 in.)

\*Rear of engine - drive takeoff. View from drive takeoff end to determine left & right side of engine.

\*\*Finished state.

\*\*\*Dressed engine mass (weight) includes the following:

Throttle control cable, A/C compressor brackets/attach, air cleaner/attach, air inlet ducts/attach, power steering pulley, P/S pump brackets/attach, powertrain stiffener bracket/attach, water pump pulley, backside idle pulley, belts.

# MVMA Specifications

Vehicle Line SEDAN SL/SL1  
 Model Year 1991 Issued 10-90 Revised(\*)

## METRIC (U.S. Customary)

### Engine Description

### Engine Code

1.9L L4 SOHC (116 CID)  
 THROTTLE BODY FUEL INJECTION

### Engine - Valve System

|                                      |                          |                                     |
|--------------------------------------|--------------------------|-------------------------------------|
| Hydraulic lifters (std., opt., n.a.) |                          | Standard                            |
| Valves                               | Number intake/exhaust    | 4/4                                 |
|                                      | Head O.D. intake/exhaust | 40 mm (1.57 in.) / 34 mm (1.34 in.) |

### Engine - Connecting Rods

|                                        |                                                               |
|----------------------------------------|---------------------------------------------------------------|
| Material & mass kg., (weight, lbs.)*   | Forged, Heat Treated SAE 1141 Steel, .58 Kg. (1.28 lbs.) each |
| Length (axes centerline to centerline) | 145.0 mm (5.71 in.)                                           |

### Engine - Crankshaft

|                                              |       |                                                                              |
|----------------------------------------------|-------|------------------------------------------------------------------------------|
| Material & mass kg., (weight, lbs.)*         |       | Cast Nodular Iron W/Deep Rolled Fillets All Journals, 11.38 Kg. (25.09 lbs.) |
| End thrust taken by bearing (no.)            |       | 3                                                                            |
| Length & number of main bearings             |       | 481.46 mm (18.96 in.) / 5 Bearings                                           |
| Seal (material, one, two piece design, etc.) | Front | Molded One-Piece Lip Seal W/Garter Spring                                    |
|                                              | Rear  | Molded One-Piece Lip Seal W/Garter Spring                                    |

### Engine - Lubrication System

|                                                |                   |
|------------------------------------------------|-------------------|
| Normal oil pressure kPa (psi) @ eng rpm        | Not Available     |
| Type oil intake (floating, stationary)         | Stationary        |
| Oil filter sys. (full flow, part, other)       | Full Flow         |
| Capacity of c/case, less filter-refill-L (qt.) | 3.79 L (4.00 qt.) |

### Engine - Diesel Information

( Not Applicable)

|                                                             |                            |  |
|-------------------------------------------------------------|----------------------------|--|
| Diesel engine manufacturer                                  |                            |  |
| Glow plug, current drain at 0 deg. F                        |                            |  |
| Injector Nozzle                                             | Type                       |  |
|                                                             | Opening pressure kPa (psi) |  |
| Pre-chamber design                                          |                            |  |
| Fuel in-jection pump                                        | Manufacturer               |  |
|                                                             | Type                       |  |
| Fuel inj. pump drive (belt, chain, gear)                    |                            |  |
| Supplementary vacuum source (type)                          |                            |  |
| Fuel heater (yes/no)                                        |                            |  |
| Water separator, description (std., opt.)                   |                            |  |
| Turbo manufacturer                                          |                            |  |
| Oil cooler-type (oil to engine coolant; oil to ambient air) |                            |  |
| Oil filter                                                  |                            |  |

### Engine - Intake System

( Not Applicable)

|                              |  |  |
|------------------------------|--|--|
| Turbo charger - manufacturer |  |  |
| Super charger - manufacturer |  |  |
| Intercooler                  |  |  |

\* Finished State

# MVMA Specifications

Vehicle Line SEDAN SL2  
Model Year 1991 Issued 10-90 Revised(\*)

## METRIC (U.S. Customary)

Engine Description  
Engine Code

1.9L L4 DOHC (116 CID) 16-VALVE  
PORT FUEL INJECTION

### Engine - Valve System

|                                      |                          |                                         |
|--------------------------------------|--------------------------|-----------------------------------------|
| Hydraulic lifters (std., opt., n.a.) |                          | Standard                                |
| Valves                               | Number intake/exhaust    | 8/8                                     |
|                                      | Head O.D. intake/exhaust | 32.3 mm (1.27 in.) / 27.5 mm (1.08 in.) |

### Engine - Connecting Rods

|                                        |                                                               |
|----------------------------------------|---------------------------------------------------------------|
| Material & mass kg., (weight, lbs.)*   | Forged, Heat Treated SAE 1141 Steel, .58 Kg. (1.28 lbs.) each |
| Length (axes centerline to centerline) | 145.0 mm (5.71 in.)                                           |

### Engine - Crankshaft

|                                              |                                                                              |                                           |
|----------------------------------------------|------------------------------------------------------------------------------|-------------------------------------------|
| Material & mass kg., (weight, lbs.)*         | Cast Nodular Iron W/Deep Rolled Fillets All Journals, 11.38 Kg. (25.09 lbs.) |                                           |
| End thrust taken by bearing (no.)            | 3                                                                            |                                           |
| Length & number of main bearings             | 481.46 mm (18.96 in.) / 5 Bearings                                           |                                           |
| Seal (material, one, two piece design, etc.) | Front                                                                        | Molded One-Piece Lip Seal W/Garter Spring |
|                                              | Rear                                                                         | Molded One-Piece Lip Seal W/Garter Spring |

### Engine - Lubrication System

|                                                |                   |
|------------------------------------------------|-------------------|
| Normal oil pressure kPa (psi) @ eng rpm        | Not Available     |
| Type oil intake (floating, stationary)         | Stationary        |
| Oil filter sys. (full flow, part, other)       | Full Flow         |
| Capacity of c/case, less filter-refill-L (qt.) | 3.79 L (4.00 qt.) |

### Engine - Diesel Information

( Not Applicable)

|                                                             |                            |
|-------------------------------------------------------------|----------------------------|
| Diesel engine manufacturer                                  |                            |
| Glow plug, current drain at 0 deg. F                        |                            |
| Injector Nozzle                                             | Type                       |
|                                                             | Opening pressure kPa (psi) |
| Pre-chamber design                                          |                            |
| Fuel in-jection pump                                        | Manufacturer               |
|                                                             | Type                       |
| Fuel inj. pump drive (belt, chain, gear)                    |                            |
| Supplementary vacuum source (type)                          |                            |
| Fuel heater (yes/no)                                        |                            |
| Water separator, description (std., opt.)                   |                            |
| Turbo manufacturer                                          |                            |
| Oil cooler-type (oil to engine coolant; oil to ambient air) |                            |
| Oil filter                                                  |                            |

### Engine - Intake System

( Not Applicable)

|                              |  |
|------------------------------|--|
| Turbo charger - manufacturer |  |
| Super charger - manufacturer |  |
| Intercooler                  |  |

\* Finished State

# MVMA Specifications

Vehicle Line SEDAN SL/SL1  
 Model Year 1991 Issued 10-90 Revised(\*)

## METRIC (U.S. Customary)

### Engine Description

### Engine Code

1.9L L4 SOHC (116 CID)  
 THROTTLE BODY FUEL INJECTION

### Engine - Cooling System

|                                                 |                                                      |                                                                                    |
|-------------------------------------------------|------------------------------------------------------|------------------------------------------------------------------------------------|
| Coolant recovery system (std, opt, n.a.)        |                                                      | Standard Pressurized Spelling Reservoir System                                     |
| Coolant fill location (rad., bottle)            |                                                      | At Pressurized Reservoir                                                           |
| Radiator cap relief valve pressure<br>kPa (psi) |                                                      | 124.11 - 137.9 kPa (18 - 20 psi)<br>Pressure Cap at Reservoir                      |
| Circulation<br>thermostat                       | Type (choke, bypass)                                 | Bypass                                                                             |
|                                                 | Starts to open @ deg's C(F)                          | 85 deg. C (185 deg. F)                                                             |
| Water<br>Pump                                   | Type (centrifugal, other)                            | Centrifugal                                                                        |
|                                                 | GPM 1000 pump rpm                                    | Approx. 10 GPM Through Radiator, Heater                                            |
|                                                 | Number of pumps                                      | 1                                                                                  |
|                                                 | Drive (V-belt, other)                                | Multi-Vee Drive Belt                                                               |
|                                                 | Bearing type                                         | Double Row Ball Integral W/Pump                                                    |
|                                                 | Impeller material                                    | Stamped Steel                                                                      |
|                                                 | Housing material                                     | Stamped Steel                                                                      |
| By-pass recirculation type (inter.,<br>ext.)    |                                                      | Internal                                                                           |
| Cooling<br>system<br>capacity                   | With heater - L (qt.)                                | 6.75 L (7.13 qt.)                                                                  |
|                                                 | With air conditioner-L(qt.)                          | 6.75 L (7.13 qt.)                                                                  |
|                                                 | Opt. equip. specify-L(qt.)                           |                                                                                    |
| Water jackets full length of cyl(yes,no)        |                                                      | Yes                                                                                |
| Water all around cylinder (yes, no)             |                                                      | No                                                                                 |
| Water jackets open at head face (yes,no)        |                                                      | Yes                                                                                |
| Radiator<br>core                                | Std., A/C, HD                                        | Standard, A/C                                                                      |
|                                                 | Type (cross-flow, etc.)                              | Cross Flow                                                                         |
|                                                 | Construction (fin & tube<br>mechanical, braze, etc.) | Fin & Tube Aluminum                                                                |
|                                                 | Matl., mass kg (wgt.,lbs.)                           | Aluminum, 7.83 Kg. (17.26 lbs.); A/C & Automatic 9.03 Kg. (19.91 lbs.)             |
|                                                 | Width                                                | 600 mm (23.62in.)                                                                  |
|                                                 | Height                                               | 360 mm (14.17 in.)                                                                 |
|                                                 | Thickness                                            | 16 mm (.63 in.)                                                                    |
| Fins per inch                                   |                                                      | 3.0 K Constant Fin Density                                                         |
| Radiator end tank material                      |                                                      | Plastic                                                                            |
| Fan                                             | Std., elec., opt.                                    | Standard, Electrically Driven                                                      |
|                                                 | Number of blades & type<br>(flex, solid, material)   | Non-A/C, 6 Blades, Rotating Ring<br>A/C, 5 Blades, Scalloped Ring                  |
|                                                 | Diameter & projected width                           | Non-A/C, 300 mm (11.81 in.); A/C, 373 mm (14.69 in.)                               |
|                                                 | Ratio(fan to crnkshft.rev.)                          | NA                                                                                 |
|                                                 | Fan cutout type                                      | NA                                                                                 |
|                                                 | Drive type (direct, remote)                          | Electric                                                                           |
|                                                 | RPM at idle (elec.)                                  | 1800 RPM to 2000 RPM                                                               |
|                                                 | Motor rating(wattage/elec.)                          | 100 Watt Non-A/C; 150 Watt A/C                                                     |
|                                                 | Motor switch (type &<br>location/elec.)              | Non-A/C, Switch-off Coolant Temp.;<br>A/C, Switch-off Coolant Temp. or A/C Request |
|                                                 | Switch point (temp./<br>pressure/elec.)              | Coolant-105 deg. C (221 deg. F); A/C Request is by Customer Demand                 |
|                                                 | Fan shroud (material)                                | Nylon 66                                                                           |

# MVMA Specifications

Vehicle Line SEDAN SL2  
Model Year 1991 Issued 10-90 Revised(\*)

## METRIC (U.S. Customary)

### Engine Description

### Engine Code

1.9L L4 DOHC (116 CID) 16-VALVE

PORT FUEL INJECTION

## Engine - Cooling System

|                                              |                                                   |                                                                                  |
|----------------------------------------------|---------------------------------------------------|----------------------------------------------------------------------------------|
| Coolant recovery system (std, opt, n.a.)     |                                                   | Standard Pressurized Spelling Reservoir System                                   |
| Coolant fill location (rad., bottle)         |                                                   | At Pressurized Reservoir                                                         |
| Radiator cap relief valve pressure kPa (psi) |                                                   | 124.11 - 137.9 kPa (18 - 20 psi)<br>Pressure Cap at Reservoir                    |
| Circulation thermostat                       | Type (choke, bypass)                              | Bypass                                                                           |
|                                              | Starts to open @ deg's C(F)                       | 85 deg. C (185 deg. F)                                                           |
| Water Pump                                   | Type (centrifugal, other)                         | Centrifugal                                                                      |
|                                              | GPM 1000 pump rpm                                 | Approx. 10 GPM Through Radiator, Heater                                          |
|                                              | Number of pumps                                   | 1                                                                                |
|                                              | Drive (V-belt, other)                             | Multi-Vee Drive Belt                                                             |
|                                              | Bearing type                                      | Double Row Ball Integral W/Pump                                                  |
|                                              | Impeller material                                 | Stamped Steel                                                                    |
|                                              | Housing material                                  | Stamped Steel                                                                    |
| By-pass recirculation type (inter., ext.)    |                                                   | Internal                                                                         |
| Cooling system capacity                      | With heater - L (qt.)                             | 6.75 L (7.13 qt.)                                                                |
|                                              | With air conditioner-L(qt.)                       | 6.75 L (7.13 qt.)                                                                |
|                                              | Opt. equip. specify-L(qt.)                        |                                                                                  |
| Water jackets full length of cyl(yes,no)     |                                                   | Yes                                                                              |
| Water all around cylinder (yes, no)          |                                                   | No                                                                               |
| Water jackets open at head face (yes,no)     |                                                   | Yes                                                                              |
| Radiator core                                | Std., A/C, HD                                     | Standard, A/C                                                                    |
|                                              | Type (cross-flow, etc.)                           | Cross Flow                                                                       |
|                                              | Construction (fin & tube mechanical, braze, etc.) | Fin & Tube Aluminum                                                              |
|                                              | Matl. mass kg (wgt.,lbs.)                         | Aluminum, 7.83 Kg. (17.26 lbs.); A/C & Automatic 9.03 Kg. (19.91 lbs.)           |
|                                              | Width                                             | 600 mm (23.62 in.)                                                               |
|                                              | Height                                            | 360 mm (14.17 in.)                                                               |
|                                              | Thickness                                         | 16 mm core (.63 in.)                                                             |
|                                              | Fins per inch                                     | 1.9 K Constant Fin Density                                                       |
| Radiator end tank material                   |                                                   | Plastic                                                                          |
| Fan                                          | Std., elec., opt.                                 | Standard, Electrically Driven                                                    |
|                                              | Number of blades & type (flex, solid, material)   | Non-A/C, 6 Blades, Rotating Ring;<br>A/C, 5 Blades, Scalloped Ring               |
|                                              | Diameter & projected width                        | Non-A/C, 300 mm (11.81 in.); A/C, 373 mm (14.69 in.)                             |
|                                              | Ratio(fan to crnkshft.rev.)                       | NA                                                                               |
|                                              | Fan cutout type                                   | NA                                                                               |
|                                              | Drive type (direct, remote)                       | Electric                                                                         |
|                                              | RPM at idle (elec.)                               | 1800 RPM to 2000 RPM                                                             |
|                                              | Motor rating(wattage/elec.)                       | 100 Watt Non-A/C; 150 Watt A/C                                                   |
|                                              | Motor switch (type & location/elec.)              | Non-A/C, Switch-off Coolant Temp.<br>A/C, Switch-off Coolant Temp.or A/C Request |
|                                              | Switch point (temp.,/ pressure/elec.)             | Coolant-105 deg. C (221 deg. F); A/C Request is by Demand                        |
|                                              | Fan shroud (material)                             | Nylon 66                                                                         |

# MVMA Specifications

Vehicle Line SEDAN SL/SL1

Model Year 1991 Issued 10-90 Revised(\*)

## METRIC (U.S. Customary)

### Engine Description

### Engine Code

1.9L L4 SOHC (116 CID)

THROTTLE BODY FUEL INJECTION

### Engine - Fuel System

(See supplemental page for details of Fuel Inj, Supercharger, Turbocharger, etc. if used)

|                                                                       |                                                          |                                                                              |
|-----------------------------------------------------------------------|----------------------------------------------------------|------------------------------------------------------------------------------|
| Induction type: carburetor, fuel injection system, etc.               |                                                          | Throttle Body Fuel Injection                                                 |
| Manufacturer                                                          |                                                          | AC Rochester                                                                 |
| Carburetor no. of barrels                                             |                                                          | Not Applicable                                                               |
| Idle A/F mix.                                                         |                                                          | Preset-No Adjustment Provided                                                |
| Fuel Injection                                                        | Point of inj. (no.)                                      | Fuel Injection at Throttle Body                                              |
|                                                                       | Constant, pulse, flow                                    | Pulse                                                                        |
|                                                                       | Control (elec., mech.)                                   | Electrical                                                                   |
|                                                                       | Sys. press. kPa (psi)                                    | 200 kPa (29 psi)                                                             |
| Idle spd.-rpm (spec. neutral or drive and propane if used)            | Manual                                                   |                                                                              |
|                                                                       | Automatic                                                |                                                                              |
| Intake manifold heat control (exhaust or water thermostatic or fixed) |                                                          | Water-Fixed                                                                  |
| Air cleaner type                                                      |                                                          | Replaceable Element (Washable)                                               |
| Fuel filter (type/location)                                           |                                                          | Replaceable Stainless Steel (W/Paper Element), Located in Engine Compartment |
| Fuel pump                                                             | Type (elec. or mech.)                                    | Electric                                                                     |
|                                                                       | Location (eng., tank)                                    | Fuel Tank                                                                    |
|                                                                       | Press. range kPa (psi)                                   | Pressure Depends on Flow Rate and System Voltage                             |
|                                                                       | Flow rate at regulated pressure (L (gal)/hr @ kPa (psi)) | 85 @ 300 (22.10 @ 43.5)                                                      |

### Fuel Tank

|                                  |                       |                                    |
|----------------------------------|-----------------------|------------------------------------|
| Capacity refill L (gallons)      |                       | 50.00 L (13.20 gal.)               |
| Location (describe)              |                       | Rear Center                        |
| Attachment                       |                       | Underbody Straps                   |
| Material & Mass kg (weight lbs.) |                       | Polymer HDPE 7.74 Kg. (17.03 lbs.) |
| Filler pipe                      | Location & material   | Left Rear Quarter, Steel           |
|                                  | Connection to tank    | Rubber Hose                        |
| Fuel line (material)             |                       | Polymer                            |
| Fuel hose (material)             |                       | Rubber                             |
| Return line (material)           |                       | Polymer                            |
| Vapor line (material)            |                       | Polymer, Steel, Rubber             |
| Extended range tank              | Opt., n.a.            | NA                                 |
|                                  | Capacity L (gallons)  |                                    |
|                                  | Location & material   |                                    |
|                                  | Attachment            |                                    |
| Auxiliary tank                   | Opt., n.a.            |                                    |
|                                  | Capacity L (gallons)  | NA                                 |
|                                  | Location & material   |                                    |
|                                  | Attachment            |                                    |
|                                  | Slctr switch or valve |                                    |
|                                  | Separate fill         |                                    |

# MVMA Specifications

Vehicle Line SEDAN SL2  
Model Year 1991 Issued 10-90 Revised(\*)

## METRIC (U.S. Customary)

Engine Description  
Engine Code

1.9L L4 DOHC (116 CID) 16-VALVE  
PORT FUEL INJECTION

### Engine - Fuel System (See supplemental page for details of Fuel Inj, Supercharger, Turbocharger, etc. if used)

|                                                                       |                                                        |                                                                              |
|-----------------------------------------------------------------------|--------------------------------------------------------|------------------------------------------------------------------------------|
| Induction type: carburetor, fuel injection system, etc.               |                                                        | Port Fuel Injection                                                          |
| Manufacturer                                                          |                                                        | AC Rochester                                                                 |
| Carburetor no. of barrels                                             |                                                        | Not Applicable                                                               |
| Idle A/F mix.                                                         |                                                        | Preset-No Adjustment Provided                                                |
| Fuel Injection                                                        | Point of inj. (no.)                                    | Intake-Port (4)                                                              |
|                                                                       | Constant, pulse, flow                                  | Pulse                                                                        |
|                                                                       | Control (elec., mech.)                                 | Electronic                                                                   |
|                                                                       | Sys. press. kPa (psi)                                  | 300 kPa (43.50 psi)                                                          |
| Idle spd.-rpm (spec. neutral or drive and propane if used)            | Manual                                                 |                                                                              |
|                                                                       | Automatic                                              |                                                                              |
| Intake manifold heat control (exhaust or water thermostatic or fixed) |                                                        |                                                                              |
| Air cleaner type                                                      |                                                        | Replaceable Element (Washable)                                               |
| Fuel filter (type/location)                                           |                                                        | Replaceable Stainless Steel (W/Paper Element), Located in Engine Compartment |
| Fuel pump                                                             | Type (elec. or mech.)                                  | Electric                                                                     |
|                                                                       | Location (eng., tank)                                  | Fuel Tank                                                                    |
|                                                                       | Press. range kPa (psi)                                 | Pressure Depends on Flow Rate and System Voltage                             |
|                                                                       | Flow rate at regulated pressure L (gal)/hr @ kPa (psi) | 85 @ 300 (22.10 @ 43.5)                                                      |

### Fuel Tank

|                                  |                       |                                    |
|----------------------------------|-----------------------|------------------------------------|
| Capacity refill L (gallons)      |                       | 50.00 L (13.20 gal)                |
| Location (describe)              |                       | Rear Center                        |
| Attachment                       |                       | Underbody Straps                   |
| Material & Mass kg (weight lbs.) |                       | Polymer HDPE 7.74 Kg. (17.03 lbs.) |
| Filler pipe                      | Location & material   | Left Rear Quarter, Steel           |
|                                  | Connection to tank    | Rubber Hose                        |
| Fuel line (material)             |                       | Polymer                            |
| Fuel hose (material)             |                       | Rubber                             |
| Return line (material)           |                       | Polymer                            |
| Vapor line (material)            |                       | Polymer, Steel, Rubber             |
| Extended range tank              | Opt., n.a.            | NA                                 |
|                                  | Capacity L (gallons)  |                                    |
|                                  | Location & material   |                                    |
|                                  | Attachment            |                                    |
| Auxiliary tank                   | Opt., n.a.            | NA                                 |
|                                  | Capacity L (gallons)  |                                    |
|                                  | Location & material   |                                    |
|                                  | Attachment            |                                    |
|                                  | Sictr switch or valve |                                    |
|                                  | Separate fill         |                                    |

# MVMA Specifications

Vehicle Line SEDAN SL/SL1  
 Model Year 1991 Issued 10-90 Revised(\*)

## METRIC (U.S. Customary)

Engine Description  
 Engine Code

1.9L L4 SOHC (116 CID)  
 THROTTLE BODY FUEL INJECTION

## Vehicle Emission Control

|                              |                                                          |                                                    |                                           |
|------------------------------|----------------------------------------------------------|----------------------------------------------------|-------------------------------------------|
| Exhaust Emission Control     | Type (air injection, engine modifications, other)        |                                                    | NA                                        |
|                              | Air injection                                            | Pump or pulse                                      |                                           |
|                              |                                                          | Driven by                                          |                                           |
|                              |                                                          | Air distribution (head, manifold, etc.,)           |                                           |
|                              |                                                          | Point of entry                                     |                                           |
|                              | Exhaust Gas Recirculation                                | Type (controlled flow, open orifice, other)        | Vacuum Activated Back Pressure Controlled |
|                              |                                                          | Exhaust source                                     | Cylinder Head                             |
|                              |                                                          | Point of exh.inj. (spacer, carb., manifold, other) | Inlet Manifold                            |
|                              | Catalytic Converter                                      | Type                                               | Single Bed, Three-Way Converter           |
|                              |                                                          | Number of                                          | 1                                         |
|                              |                                                          | Location(s)                                        | Underbody                                 |
|                              |                                                          | Volume L (cu.in)                                   | 1.8 L (109.84 cu. in.)                    |
|                              |                                                          | Substrate type                                     | Ceramic Monolith                          |
|                              |                                                          | Noble metal type                                   | Platinum, Rhodium                         |
|                              |                                                          | Noble metal concentration (g/cu. cm.)              | 0.001 g/cm3                               |
| Crankcase Emission Control   | Type (ventilates to atmosphere, induction system, other) |                                                    | Ventilates to Induction System            |
|                              | Energy source (manifold vacuum, carburetor, other)       |                                                    | Manifold Vacuum                           |
|                              | Discharges to (intake manifold, other)                   |                                                    | Intake Manifold                           |
|                              | Air int.(breather cap, other)                            |                                                    | Induction System                          |
| Evaporative Emission Control | Vapor vented to (crankcase, canister, other)             | Fuel tank                                          | Canister                                  |
|                              |                                                          | Carburetor                                         | NA                                        |
|                              | Vapor storage provision                                  |                                                    | Canister                                  |
| Electronic System            | Closed loop (yes/no)                                     |                                                    | Yes                                       |
|                              | Open loop (yes/no)                                       |                                                    | No                                        |

## Engine - Exhaust System

|                                                                                                       |                             |                                                                                  |
|-------------------------------------------------------------------------------------------------------|-----------------------------|----------------------------------------------------------------------------------|
| Type (single, single with cross-over, dual, other)                                                    |                             | Single                                                                           |
| Muffler no. & type (reverse flow, straight thru, separate resonator) Material & Mass kg (weight lbs.) |                             | One, Reverse Flow, 409 Stainless Steel<br>Total Assembly: 12.49 Kg. (27.54 lbs.) |
| Resonator no. & type                                                                                  |                             | NA                                                                               |
| Exhaust pipe                                                                                          | Branch o.d., wall thickness | NA                                                                               |
|                                                                                                       | Main o.d., wall thickness   | 50.8 o.d./1.35 to 1.50 mm Wall (2.032 in./0.054 to .060 in. Wall)                |
|                                                                                                       | Matl. & Mass kg (wght.lbs.) | 409 Stainless Steel                                                              |
| Inter-mediate pipe                                                                                    | o.d. & wall thickness       | 44.45 o.d./1.14 to 1.29 mm Wall (1.78 in./0.046 to .0516 in. Wall)               |
|                                                                                                       | Matl. & Mass kg (wght.lbs.) | 409 Stainless Steel                                                              |
| Tail pipe                                                                                             | o.d. & wall thickness       | 44.45 o.d./1.14 to 1.29 mm Wall (1.78 in./0.045 to .0516 in. Wall)               |
|                                                                                                       | Matl. & Mass kg (wght.lbs.) | 409 Stainless Steel                                                              |

# MVMA Specifications

Vehicle Line SEDAN SL2  
Model Year 1991 Issued 10-90 Revised(\*)

## METRIC (U.S. Customary)

Engine Description  
Engine Code

1.9L L4 DOHC (116 CID) 16-VALVE  
PORT FUEL INJECTION

## Vehicle Emission Control

|                              |                                                          |                                                    |                                           |
|------------------------------|----------------------------------------------------------|----------------------------------------------------|-------------------------------------------|
| Exhaust Emission Control     | Type (air injection, engine modifications, other)        |                                                    | NA                                        |
|                              | Air injection                                            | Pump or pulse                                      |                                           |
|                              |                                                          | Driven by                                          |                                           |
|                              |                                                          | Air distribution (head, manifold, etc.,)           |                                           |
|                              |                                                          | Point of entry                                     |                                           |
|                              | Exhaust Gas Recirculation                                | Type (controlled flow, open orifice, other)        | Vacuum Activated Back Pressure Controlled |
|                              |                                                          | Exhaust source                                     | Cylinder Head                             |
|                              |                                                          | Point of exh.inj. (spacer, carb., manifold, other) | Inlet Manifold                            |
|                              | Catalytic Converter                                      | Type                                               | Single Bed, Three-Way Converter           |
|                              |                                                          | Number of                                          | 1                                         |
|                              |                                                          | Location(s)                                        | Underbody                                 |
|                              |                                                          | Volume L (cu.in.)                                  | 1.8 L (109.84 cu. in.)                    |
|                              |                                                          | Substrate type                                     | Ceramic Monolith                          |
|                              |                                                          | Noble metal type                                   | Platinum, Rhodium                         |
|                              |                                                          | Noble metal concentration (g/cu. cm.)              | 0.001 g/cm3                               |
| Crankcase Emission Control   | Type (ventilates to atmosphere, induction system, other) |                                                    | Ventilates to Induction System            |
|                              | Energy source (manifold vacuum, carburetor, other)       |                                                    | Manifold Vacuum                           |
|                              | Discharges to (intake manifold, other)                   |                                                    | Intake Manifold                           |
|                              | Air inlet (breather cap, other)                          |                                                    | Induction System                          |
| Evaporative Emission Control | Vapor vented to (crankcase, canister, other)             | Fuel tank                                          | Canister                                  |
|                              |                                                          | Carburetor                                         | NA                                        |
|                              | Vapor storage provision                                  |                                                    | Canister                                  |
| Electronic System            | Closed loop (yes/no)                                     |                                                    | Yes                                       |
|                              | Open loop (yes/no)                                       |                                                    | No                                        |

## Engine - Exhaust System

|                                                                      |                             |                                                                    |
|----------------------------------------------------------------------|-----------------------------|--------------------------------------------------------------------|
| Type (single, single with cross-over, dual, other)                   |                             | Single                                                             |
| Muffler no. & type (reverse flow, straight thru, separate resonator) |                             | One, Reverse Flow, 409 Stainless Steel                             |
| Material & Mass kg (weight lbs.)                                     |                             | Total Assembly: 14.54 Kg. (32.06 lbs.)                             |
| Resonator no. & type                                                 |                             | One, Straight Through                                              |
| Exhaust pipe                                                         | Branch o.d., wall thickness | 41.3 o.d./1.35 to 1.50 mm Wall (1.65 in./0.054 to .060 in. Wall)   |
|                                                                      | Main o.d., wall thickness   | 57.15 o.d./1.35 to 1.50 mm Wall (2.29 in./0.054 to .060 in. Wall)  |
|                                                                      | Matl. & Mass kg (wght.lbs.) | 409 Stainless Steel                                                |
| Intermediate pipe                                                    | o.d. & wall thickness       | 44.45 o.d./1.14 to 1.29 mm Wall (1.78 in./0.046 to .0516 in. Wall) |
|                                                                      | Matl. & Mass kg (wght.lbs.) | 409 Stainless Steel                                                |
| Tail pipe                                                            | o.d. & wall thickness       | 44.45 o.d./1.14 to 1.29 mm Wall (1.78 in./0.046 to .0516 in. Wall) |
|                                                                      | Matl. & Mass kg (wght.lbs.) | 409 Stainless Steel                                                |

# MVMA Specifications

Vehicle Line SEDAN SL/SL1

Model Year 1991 Issued 10-90 Revised(\*)

## METRIC (U.S. Customary)

Engine Description

Engine Code

1.9L L4 SOHC (116 CID)

THROTTLE BODY FUEL INJECTION

## Transmissions/Transaxle (Std., Opt., N.A.)

|                                        |                                  |
|----------------------------------------|----------------------------------|
| Manual 3-speed (manufacturer/country)  | NA                               |
| Manual 4-speed (manufacturer/country)  | NA                               |
| Manual 5-speed (manufacturer/country)  | Standard, Saturn Corporation/USA |
| Automatic (manufacturer/country)       | NA                               |
| Auto. overdrive (manufacturer/country) | Optional, Saturn Corporation/USA |

## Manual Transmission/Transaxle

|                                     |                  |                               |
|-------------------------------------|------------------|-------------------------------|
| Number of forward speeds            |                  | 5                             |
| Gear ratios                         | 1st              | 3.077                         |
|                                     | 2nd              | 1.809                         |
|                                     | 3rd              | 1.207                         |
|                                     | 4th              | .861                          |
|                                     | 5th              | .643                          |
|                                     | Reverse          | 2.923                         |
| Synchronous meshing (specify gears) |                  | All Forward Gears             |
| Shift lever location                |                  | Floor                         |
| Trans. case mat'l. & mass kg (lbs)* |                  | Aluminum 4.08 Kg. (9.01 lbs.) |
| Lubricant                           | Capacity L (pt.) | 2.50 L (5.25 pt.)             |
|                                     | Type recommended | ATF-Dexron II                 |
|                                     |                  |                               |

## Clutch (Manual Transmission)

|                                               |                                                  |                                 |
|-----------------------------------------------|--------------------------------------------------|---------------------------------|
| Clutch manufacturer                           | LUK, Inc.                                        |                                 |
| Clutch type (dry, wet; single, multiple disc) | Dry, Single, Disc                                |                                 |
| Linkage (hyd., cable, rod, lever, other)      | Hydraulic                                        |                                 |
| Max. pedal effort (nom. spring load) N (lbs.) | Depressed                                        | 106.3 N (23.9 lbs.)             |
|                                               | Released                                         | NA                              |
| Assist (spring, power/percent, nominal)       | NA                                               |                                 |
| Type pressure plate springs                   | Diaphragm                                        |                                 |
| Total spring load (nominal) N (lbs)           | 5050 N (1,135.34 lbs.)                           |                                 |
| Clutch facing                                 | Facing mfr. & matl. coding                       | Valeo F202                      |
|                                               | Facing matl. & construction                      | Non-Abestos; Woven              |
|                                               | Rivets per facing                                | 8                               |
|                                               | Outside x inside dia. (nom.)                     | 210 x 134 mm (8.27 x 5.27 in.)  |
|                                               | Total eff. area sq cm (sq in)                    | 410.6 cm sq. (63.74 sq.in.)     |
|                                               | Thickness (pressure plate side/fly wheel side)   | 3.12/3.12 mm (.12/.12 in.)      |
|                                               | Rivet depth (pressure plate side/fly wheel side) | 1.20/1.20 mm (.05/.05 in.)      |
|                                               | Engagement cushion method                        | Driven Plate Wave Spoke Springs |
| Release bearing type & method lub.            | Self Centering, Sealed                           |                                 |
| Torsional damping method, springs, hysteresis | Single Stage                                     |                                 |

\* Includes shift linkage, lubricant, and clutch housing. If other specify.

# MVMA Specifications

Vehicle Line SEDAN SL2  
Model Year 1991 Issued 10-90 Revised(\*)

## METRIC (U.S. Customary)

Engine Description  
Engine Code

1.9L L4 DOHC (116 CID) 16-VALVE  
PORT FUEL INJECTION

## Transmissions/Transaxle (Std., Opt., N.A.)

|                                        |                                  |
|----------------------------------------|----------------------------------|
| Manual 3-speed (manufacturer/country)  | NA                               |
| Manual 4-speed (manufacturer/country)  | NA                               |
| Manual 5-speed (manufacturer/country)  | Standard, Saturn Corporation/USA |
| Automatic (manufacturer/country)       | NA                               |
| Auto. overdrive (manufacturer/country) | Optional, Saturn Corporation/USA |

## Manual Transmission/Transaxle

|                                     |                  |                               |
|-------------------------------------|------------------|-------------------------------|
| Number of forward speeds            |                  | 5                             |
| Gear ratios                         | 1st              | 3.25                          |
|                                     | 2nd              | 2.055                         |
|                                     | 3rd              | 1.423                         |
|                                     | 4th              | 1.032                         |
|                                     | 5th              | .730                          |
|                                     | Reverse          | 2.923                         |
| Synchronous meshing (specify gears) |                  | All Forward Gears             |
| Shift lever location                |                  | Floor                         |
| Trans. case mat'l. & mass kg (lbs)* |                  | Aluminum 4.08 Kg. (9.01 lbs.) |
| Lubricant                           | Capacity L (pt.) | 2.50 L (5.25 pt.)             |
|                                     | Type recommended | ATF-Dexron II                 |

## Clutch (Manual Transmission)

|                                               |                                                  |                                  |
|-----------------------------------------------|--------------------------------------------------|----------------------------------|
| Clutch manufacturer                           |                                                  | LUK, Inc.                        |
| Clutch type (dry, wet; single, multiple disc) |                                                  | Dry, Single, Disc                |
| Linkage (hyd., cable, rod, lever, other)      |                                                  | Hydraulic                        |
| Max. pedal effort (nom. spring load) N (lbs.) | Depressed                                        | 106.3 N (23.9 lbs.)              |
|                                               | Released                                         | NA                               |
| Assist (spring, power/percent, nominal)       |                                                  | NA                               |
| Type pressure plate springs                   |                                                  | Diaphragm                        |
| Total spring load (nominal) N (lbs)           |                                                  | 5050 N (1,135.34 lbs.)           |
| Clutch facing                                 | Facing mfg. & mat'l. coding                      | Valeo F202                       |
|                                               | Facing mat'l. & construction                     | Non-Abestos; Woven               |
|                                               | Rivets per facing                                | 8                                |
|                                               | Outside x inside dia. (nom.)                     | 210 x 134 mm (8.27 x 5.27 in.)   |
|                                               | Total eff. area sq cm (sq in)                    | 401.6 cm sq. (63.74 sq. in.)     |
|                                               | Thickness (pressure plate side/fly wheel side)   | 3.12/3.12 mm (.12/.12 in.)       |
|                                               | Rivet depth (pressure plate side/fly wheel side) | 1.20/1.20 mm (.05/.05 in.)       |
|                                               | Engagement cushion method                        | Driven Plate Woven Spoke Springs |
| Release bearing type & method lub.            |                                                  | Self Centering; Sealed           |
| Torsional damping method, springs, hysteresis |                                                  | Single Stage                     |

\* Includes shift linkage, lubricant, and clutch housing. If other specify.

# MVMA Specifications

Vehicle Line SEDAN SL/SL1  
 Model Year 1991 Issued 10-90 Revised(\*)

## METRIC (U.S. Customary)

### Engine Description

### Engine Code

1.9L L4 SOHC (116 CID)  
 THROTTLE BODY FUEL INJECTION

## Automatic Transmission/Transaxle

|                                                                |                                     |                                                     |
|----------------------------------------------------------------|-------------------------------------|-----------------------------------------------------|
| Trade Name                                                     |                                     |                                                     |
| Type and special features (describe)                           |                                     | 4-Speed Automatic<br>Wide Ratio, Electronic Control |
| Gear selector                                                  | Location (column, floor, other)     | Floor                                               |
|                                                                | Ltr./No. designation (e.g. PRND21)  | PRN032                                              |
|                                                                | Shift interlock (yes, no, describe) | Yes                                                 |
| Gear ratios                                                    | 1st                                 | 2.238                                               |
|                                                                | 2nd                                 | 1.266                                               |
|                                                                | 3rd                                 | .811                                                |
|                                                                | 4th                                 | .595                                                |
|                                                                | Reverse                             | 1.905                                               |
| Max. upshift speed - drive range km/h (mph)                    |                                     | 1-2 = 60 (37) 2-3 = 112 (70) 3-4 = 174 (108)        |
| Max. kickdown speed - drive range km/h (mph)                   |                                     | 4-3 = 144 (89) 3-2 = 102 (63) 2-1 = 52 (32)         |
| Min. overdrive speed km/h (mph)                                |                                     | 63 (39)                                             |
| Torque converter                                               | Number of elements                  | 3                                                   |
|                                                                | Max. ratio at stall                 | 2.25                                                |
|                                                                | Type of cooling (air, liquid)       | Liquid                                              |
|                                                                | Nominal diameter                    | 225 (8.86)                                          |
|                                                                | Capacity factor "K"                 | 226                                                 |
| Lubricant                                                      | Capacity refill L (pt.)             | 8.00 L (16.80 pt.)                                  |
|                                                                | Type recommended                    | GM Dexron II                                        |
| Oil cooler (std., opt., N.A., internal, external, air, liquid) |                                     | Standard Integral W/Radiator                        |
| Trans. mass kg (lbs) & case matl.**                            |                                     | 66.59 Kg. (146.83 lbs.) & Aluminum                  |

## All Wheel / 4 Wheel Drive

|                                                                                              |                                                              |  |
|----------------------------------------------------------------------------------------------|--------------------------------------------------------------|--|
| Desc. & type (part-time, full-time, 2/4 shift while moving, mech., elect., chain/gear, etc.) |                                                              |  |
| Transfer case                                                                                | Manufacturer and model                                       |  |
|                                                                                              | Type and location                                            |  |
| Low-range gear ratio                                                                         |                                                              |  |
| System disconnect (describe)                                                                 |                                                              |  |
| Center differential                                                                          | Type (bevel, planetary, w or w/o viscous bias, torsen, etc.) |  |
|                                                                                              | Torque split(% frt/rear)                                     |  |

\* Input speed / square root of torque.

\*\* Dry weight including torque converter. If other, specify.

# MVMA Specifications

Vehicle Line SEDAN SL2  
Model Year 1991 Issued 10-90 Revised(\*)

## METRIC (U.S. Customary)

Engine Description  
Engine Code

1.8L L4 DOHC (116 CID) 16-VALVE  
PORT FUEL INJECTION

## Automatic Transmission/Transaxle

|                                                                |                                     |                                                                            |
|----------------------------------------------------------------|-------------------------------------|----------------------------------------------------------------------------|
| Trade Name                                                     |                                     |                                                                            |
| Type and special features (describe)                           |                                     | 4-Speed Automatic<br>Close Ratio Electronic Control Automatic Transmission |
| Gear selector                                                  | Location (column, floor, other)     | Floor                                                                      |
|                                                                | Ltr./No. designation (e.g. PRND21)  | PRND32                                                                     |
|                                                                | Shift interlock (yes, no, describe) | Yes                                                                        |
| Gear ratios                                                    | 1st                                 | 2.526                                                                      |
|                                                                | 2nd                                 | 1.556                                                                      |
|                                                                | 3rd                                 | 1.030                                                                      |
|                                                                | 4th                                 | .700                                                                       |
|                                                                | Reverse                             | 1.905                                                                      |
| Max. upshift speed - drive range km/h (mph)                    |                                     | 1-2 = 62 (39) 2-3 = 108 (67) 3-4 = 162 (101)                               |
| Max. kickdown speed - drive range km/h (mph)                   |                                     | 4-3 = 135 (84) 3-2 = 100 (62) 2-1 = 45 (28)                                |
| Min. overdrive speed km/h (mph)                                |                                     | 50 (31)                                                                    |
| Torque converter                                               | Number of elements                  | 3                                                                          |
|                                                                | Max. ratio at stall                 | 2.25                                                                       |
|                                                                | Type of cooling (air, liquid)       | Liquid                                                                     |
|                                                                | Nominal diameter                    | 2.25 (8.86)                                                                |
|                                                                | Capacity factor "K"                 | 226                                                                        |
| Lubricant                                                      | Capacity refill L (pt.)             | 8.00 L (16.80 pt.)                                                         |
|                                                                | Type recommended                    | GM Dexron II                                                               |
| Oil cooler (std., opt., N.A., internal, external, air, liquid) |                                     | Standard Integral W/Radiator                                               |
| Trans. mass kg (lbs) & case matl.**                            |                                     | 66.60 Kg. (146.85 lbs.) & Aluminum                                         |

## All Wheel / 4 Wheel Drive

|                                                                                              |                                                              |  |
|----------------------------------------------------------------------------------------------|--------------------------------------------------------------|--|
| Desc. & type (part-time, full-time, 2/4 shift while moving, mech., elect., chain/gear, etc.) |                                                              |  |
| Transfer case                                                                                | Manufacturer and model                                       |  |
|                                                                                              | Type and location                                            |  |
| Low-range gear ratio                                                                         |                                                              |  |
| System disconnect (describe)                                                                 |                                                              |  |
| Center differential                                                                          | Type (bevel, planetary, w or w/o viscous bias, torsen, etc.) |  |
|                                                                                              | Torque split(% frt/rear)                                     |  |

\* Input speed / square root of torque.

\*\* Dry weight including torque converter. If other, specify.

# MVMA Specifications

Vehicle Line SEDAN SL/SL1  
 Model Year 1991 Issued 10-90 Revised(\*)

## METRIC (U.S. Customary)

### Engine Description

### Engine Code

1.9L L4 SOHC (116 CID)  
 THROTTLE BODY FUEL INJECTION

### Axle Ratio and Tooth Combinations

(See 'Power Teams' for axle ratio usage)

|                                                         |                |                                                |
|---------------------------------------------------------|----------------|------------------------------------------------|
| Effective final drive ratio (or overall top gear ratio) |                | 4.06 M5<br>4.133 A4                            |
| Transfr ratio and method(chain,gear,etc)                |                | NA                                             |
| Front drive unit                                        | Ring gear o.d. | 197 mm (7.75 in.) M5; 185.55 mm (7.226 in.) A4 |
|                                                         | No. of teeth   | Pinion<br>16 M5; 15 A4                         |
|                                                         | Ring gear      | 65 M5; 62 A4                                   |

### Front Drive Unit

|                                        |                         |                     |
|----------------------------------------|-------------------------|---------------------|
| Description (integral to trans., etc.) |                         | Integral to Trans.  |
| Limited slip differential (type)       |                         | NA                  |
| Drive pinion                           | Type                    | Straight Bevel Gear |
|                                        | Offset                  | NA                  |
| No. of differential pinions            |                         | 2                   |
| Pinion/differential                    | Adjustment (shim, etc.) | NA                  |
|                                        | Bearing adjustment      | NA                  |
| Driving wheel bearing (type)           |                         | Cartridge           |
| Lubricant                              | Capacity L (pt.)        | NA                  |
|                                        | Type recommended        | ATF-Dexron II       |
|                                        |                         |                     |
|                                        |                         |                     |

### Axle Shafts - Front Wheel Drive

|                                                     |                              |                                |                                          |  |
|-----------------------------------------------------|------------------------------|--------------------------------|------------------------------------------|--|
| Manufacturer and number used                        |                              |                                | Saginaw                                  |  |
| Type (straight, solid bar, tubular, etc.)           |                              | Left                           | Solid                                    |  |
|                                                     |                              | Right                          | Solid                                    |  |
| Outer diam. x length* x wall thickness              | Manual transaxle             | Left                           | 23.5 mm x 364 mm long (.94 in. x 14 in.) |  |
|                                                     |                              | Right                          | 23.5 mm x 364 mm long (.94 in. x 14 in.) |  |
|                                                     | Automatic transaxle          | Left                           | 23.5 mm x 364 mm long (.94 in. x 14 in.) |  |
|                                                     |                              | Right                          | 23.5 mm x 364 mm long (.94 in. x 14 in.) |  |
|                                                     | Optional transaxle           | Left                           | NA                                       |  |
|                                                     |                              | Right                          | NA                                       |  |
| Slip yoke                                           | Type                         |                                | Tripot                                   |  |
|                                                     | Number of teeth              |                                | Three Lobe                               |  |
|                                                     | Spline o.d.                  |                                | NA                                       |  |
| Universal joints                                    | Make and mfg. no.            | Inner                          | Tripot                                   |  |
|                                                     |                              | Outer                          | RZEPPA                                   |  |
|                                                     | Number used                  |                                | 1 Each, Left & Right                     |  |
|                                                     | Type, size, plunge           | Inner                          | NA                                       |  |
|                                                     |                              | Outer                          | NA                                       |  |
|                                                     | Attach (u-bolt, clamp, etc.) |                                |                                          |  |
|                                                     | Bearing                      | Type (plain, anti-friction)    | NA                                       |  |
|                                                     |                              | Lubrication (fitting, prepack) | NA                                       |  |
| Drive taken through (torque tube, arms or springs)  |                              |                                | Drive Axle Assembly                      |  |
| Torque taken through (torque tube, arms or springs) |                              |                                | Transaxle and Wheel Spindle              |  |

\* Centerline to centerline of universal joints, or to centerline of attachment.

# MVMA Specifications

Vehicle Line SEDAN SL2  
 Model Year 1991 Issued 10-900 Revised(\*)

## METRIC (U.S. Customary)

### Engine Description

### Engine Code

1.9L L4 DOHC (116 CID) 16-VALVE  
 PORT FUEL INJECTION

## Axle Ratio and Tooth Combinations (See 'Power Teams' for axle ratio usage)

|                                                         |                |                                                |
|---------------------------------------------------------|----------------|------------------------------------------------|
| Effective final drive ratio (or overall top gear ratio) |                | 4.06 M5<br>4.133 A4                            |
| Transfr ratio and method(chain,gear,etc)                |                | NA                                             |
| Front drive unit                                        | Ring gear o.d. | 197 mm (7.75 in.) M5; 183.55 mm (7.226 in.) A4 |
|                                                         | No. of teeth   | Pinion<br>16 M5; 15 A4                         |
|                                                         | Ring gear      | 65 M5; 62 A4                                   |

## Front Drive Unit

|                                        |                         |                     |
|----------------------------------------|-------------------------|---------------------|
| Description (integral to trans., etc.) |                         | Integral to Trans.  |
| Limited slip differential (type)       |                         | NA                  |
| Drive pinion                           | Type                    | Straight Bevel Gear |
|                                        | Offset                  | NA                  |
| No. of differential pinions            |                         | 2                   |
| Pinion/differential                    | Adjustment (shim, etc.) | NA                  |
|                                        | Bearing adjustment      | NA                  |
| Driving wheel bearing (type)           |                         | Cartridge           |
| Lubricant                              | Capacity L (pt.)        | NA                  |
|                                        | Type recommended        | ATF-Dexron II       |
|                                        |                         |                     |
|                                        |                         |                     |

## Axle Shafts - Front Wheel Drive

|                                                     |                              |                                |                                          |
|-----------------------------------------------------|------------------------------|--------------------------------|------------------------------------------|
| Manufacturer and number used                        |                              |                                | Saginaw                                  |
| Type (straight, solid bar, tubular, etc.)           |                              | Left                           | Solid                                    |
|                                                     |                              | Right                          | Solid                                    |
| Outer diam. x length* x wall thickness              | Manual transaxle             | Left                           | 23.5 mm x 364 mm long (.94 in. x 14 in.) |
|                                                     |                              | Right                          | 23.5 mm x 364 mm long (.94 in. x 14 in.) |
|                                                     | Automatic transaxle          | Left                           | 23.5 mm x 364 mm long (.94 in. x 14 in.) |
|                                                     |                              | Right                          | 23.5 mm x 364 mm long (.94 in. x 14 in.) |
|                                                     | Optional transaxle           | Left                           | NA                                       |
|                                                     |                              | Right                          | NA                                       |
| Slip yoke                                           | Type                         |                                | Tripot                                   |
|                                                     | Number of teeth              |                                | Three Lobe                               |
|                                                     | Spline o.d.                  |                                | NA                                       |
| Universal joints                                    | Make and mfg. no.            | Inner                          | Tripot                                   |
|                                                     |                              | Outer                          | RZEPPA                                   |
|                                                     | Number used                  |                                | 1 Each, Left & Right                     |
|                                                     | Type, size, plunge           | Inner                          | NA                                       |
|                                                     |                              | Outer                          | NA                                       |
|                                                     | Attach (u-bolt, clamp, etc.) |                                |                                          |
|                                                     | Bearing                      | Type (plain, anti-friction)    | NA                                       |
|                                                     |                              | Lubrication (fitting, prepack) | NA                                       |
| Drive taken through (torque tube, arms or springs)  |                              |                                | Drive Axle Assembly                      |
| Torque taken through (torque tube, arms or springs) |                              |                                | Transaxle and Wheel Spindle              |

\* Centerline to centerline of universal joints, or to centerline of attachment.

# MVMA Specifications

Vehicle Line SEDAN SL/SL1

Model Year 1991 Issued 10-90 Revised(\*)

## METRIC (U.S. Customary)

Body Type And/Or

Engine Displacement

1.9L L4 SOHC (116 CID)

THROTTLE BODY FUEL INJECTION

## Suspension – General Including Electronic Controls

|                                 |                                                     |                                                |
|---------------------------------|-----------------------------------------------------|------------------------------------------------|
| Car leveling                    | Std./opt./not avail.                                | NA                                             |
|                                 | Manual/automatic control                            |                                                |
|                                 | Type (air/hydraulic)                                |                                                |
|                                 | Primary/assist spring                               |                                                |
|                                 | Rear only/4 wheel leveling                          |                                                |
|                                 | Single/dual rate spring                             |                                                |
|                                 | Single/dual ride heights                            |                                                |
|                                 | Provision for jacking                               |                                                |
| Shock absorber damping controls | Standard/option/not avail.                          | NA                                             |
|                                 | Manual/automatic control                            |                                                |
|                                 | Number of damping rates                             |                                                |
|                                 | Type of actuation (manual/electric motor/air, etc.) |                                                |
|                                 | s<br>e<br>n<br>s<br>o<br>r<br>s                     | Lateral acceleration                           |
|                                 |                                                     | Deceleration                                   |
|                                 |                                                     | Acceleration                                   |
| Shock absorber (front & rear)   | Type                                                | Non-Pressurized MacPherson Strut Type          |
|                                 | Make                                                | Delco Products                                 |
|                                 | Piston diameter                                     | 28.0 mm                                        |
|                                 | Rod diameter                                        | 19.921 – 19.957 Front & Rear (20.0 mm Nominal) |

## Suspension – Front

|                      |                                  |                                                           |
|----------------------|----------------------------------|-----------------------------------------------------------|
| Type and description |                                  | Independent MacPherson Strut Type                         |
| Travel*              | Full jounce                      | 98.0 mm (3.85 in.)                                        |
|                      | Full rebound                     | 100.0 mm (3.9 in.)                                        |
| Spring               | Type (coil, leaf, other & matl)  | Coil, Steel SAE 5160 Modified                             |
|                      | Insulators (type & matl)         | Rubber Over Steel Top Mount                               |
|                      | Size (coil design height & i.d.) | 146.28 mm (5.76 in.) at Design; 123.50 mm (4.86 in.) i.d. |
|                      | Spring rate N/mm (lb./in.)       | 22.0 N/mm (125.6 lbs./in.)                                |
|                      | Rate @ wheel N/mm (lb./in.)      |                                                           |
| Stabilizer           | Type (link, linkless, frmless)   | Tension Strut & Stabilizer Bar Linkless                   |
|                      | Material & bar diameter          | Steel 10B21, 27.2 mm (1.0 in.)/ 4.50 mm (0.2 in.)         |

## Suspension – Rear

|                      |                                                  |                                                                                             |
|----------------------|--------------------------------------------------|---------------------------------------------------------------------------------------------|
| Type and description |                                                  | Independent Tri-Link Type                                                                   |
| Travel*              | Full jounce                                      | 90 mm (3.5 in.)                                                                             |
|                      | Full rebound                                     | 87.01 mm (3.4 in.)                                                                          |
| Spring               | Type (coil, leaf, other & matl)                  | Coil, Steel SAE 5160 Modified McPherson Strut                                               |
|                      | Size (length x width, coil design height & i.d.) | 373.4 x 130.4 mm (14.7 x 5.1 in.);<br>248.2 mm (9.7 in.) at Design; 105.0 mm (4.1 in.) i.d. |
|                      | Spring rate N/mm (lb./in.)                       | 22.5 N/mm (128.5 lbs./in.)                                                                  |
|                      | Rate @ wheel N/mm (lb./in.)                      |                                                                                             |
|                      | Insulators (type & material)                     | Rubber Over Steel Top Mount                                                                 |
|                      | if leaf                                          | No. of leaves                                                                               |
|                      |                                                  | Shackle (comp or tens)                                                                      |
| Stabilizer           | Type (link, linkless, frmless)                   | NA                                                                                          |
|                      | Material & bar diameter                          | NA                                                                                          |
| Track bar (type)     |                                                  | NA                                                                                          |

\* Define load condition:

# MVMA Specifications

Vehicle Line SEDAN SL2  
Model Year 1991 Issued 10-90 Revised(\*)

## METRIC (U.S. Customary)

Body Type And/Or

Engine Displacement

1.9L L4 DOHC (116 CID) 16-VALVE  
PORT FUEL INJECTION

## Suspension – General Including Electronic Controls

|                                 |                                                     |                                       |
|---------------------------------|-----------------------------------------------------|---------------------------------------|
| Car leveling                    | Std./opt./not avail.                                | NA                                    |
|                                 | Manual/automatic control                            |                                       |
|                                 | Type (air/hydraulic)                                |                                       |
|                                 | Primary/assist spring                               |                                       |
|                                 | Rear only/4 wheel leveling                          |                                       |
|                                 | Single/dual rate spring                             |                                       |
|                                 | Single/dual ride heights                            |                                       |
|                                 | Provision for jacking                               |                                       |
| Shock absorber damping controls | Standard/option/not avail.                          | NA                                    |
|                                 | Manual/automatic control                            |                                       |
|                                 | Number of damping rates                             |                                       |
|                                 | Type of actuation (manual/electric motor/air, etc.) |                                       |
|                                 | s<br>e<br>n<br>s<br>o<br>r<br>s                     | Lateral acceleration                  |
|                                 |                                                     | Deceleration                          |
|                                 |                                                     | Acceleration                          |
|                                 |                                                     | Road surface                          |
| Shock absorber (front & rear)   | Type                                                | Non-Pressurized MacPherson Strut Type |
|                                 | Make                                                | Delco Products                        |
|                                 | Piston diameter                                     | 28.0 mm (Nominal)                     |
|                                 | Rod diameter                                        | 20.0 mm (Nominal)                     |

## Suspension – Front

|                      |                                  |                                                                  |
|----------------------|----------------------------------|------------------------------------------------------------------|
| Type and description |                                  | Independent MacPherson Strut Type                                |
| Travel*              | Full jounce                      | 98.0 mm (3.85 in.)                                               |
|                      | Full rebound                     | 100.0 mm (3.9 in.)                                               |
| Spring               | Type (coil, leaf, other & matl)  | Coil, Steel SAE 5160 Modified                                    |
|                      | Insulators (type & matl)         | Rubber Over Steel Top Mount                                      |
|                      | Size (coil design height & i.d.) | 146.28 mm (5.76 in.) at Design; 123.5 mm (4.86 in.) i.d.         |
|                      | Spring rate N/mm (lb./in.)       | 22.0 N/mm (125.6 lbs./in.)                                       |
|                      | Rate @ wheel N/mm (lb./in.)      |                                                                  |
| Stabilizer           | Type (link, linkless, frmless)   | Tension Strut & Stabilizer Bar Linkless                          |
|                      | Material & bar diameter          | Steel 10B21; 28.6 mm (1.1 in.)/4.50 mm (0.2 in.), Wall Thickness |

## Suspension – Rear

|                      |                                                  |                                                                                             |
|----------------------|--------------------------------------------------|---------------------------------------------------------------------------------------------|
| Type and description |                                                  | Independent Tri-Link Type                                                                   |
| Travel*              | Full jounce                                      | 90 mm (3.5 in.)                                                                             |
|                      | Full rebound                                     | 87.01 mm (3.4 in.)                                                                          |
| Spring               | Type (coil, leaf, other & matl)                  | Coil, Steel SAE 5160 Modified McPherson Strut                                               |
|                      | Size (length x width, coil design height & i.d.) | 373.3 x 130.4 mm (14.7 x 5.1 in.);<br>248.2 mm (9.7 in.) at Design; 105.0 mm (4.1 in.) i.d. |
|                      | Spring rate N/mm (lb./in.)                       | 22.5 N/mm (128.5 lbs./in.)                                                                  |
|                      | Rate @ wheel N/mm (lb./in.)                      |                                                                                             |
|                      | Insulators (type & material)                     | Rubber Over Steel Top Mount                                                                 |
|                      | If leaf                                          | No. of leaves                                                                               |
|                      |                                                  | Shackle (comp or tens)                                                                      |
| Stabilizer           | Type (link, linkless, frmless)                   | Link                                                                                        |
|                      | Material & bar diameter                          | Steel SAE 1090, 15.0 mm (.60 in.)                                                           |
| Track bar (type)     |                                                  | NA                                                                                          |

\* Define load condition:

# MVMA Specifications

## METRIC (U.S. Customary)

Body Type And/Or

Engine Displacement

Brakes - Service

Vehicle Line SEDAN SL/SL1

Model Year 1991 Issued 10-90 Revised(\*)

1.9L L4 SOHC (116 CID)

THROTTLE BODY FUEL INJECTION

|                                                       |                               |                       |                                                                          |
|-------------------------------------------------------|-------------------------------|-----------------------|--------------------------------------------------------------------------|
| Description                                           |                               |                       | Power Assisted, Vented Disc (Front)                                      |
|                                                       |                               |                       | Power Assisted Drum (Rear)                                               |
| Manufacturer and brake type (std., opt., n.a.)        | Front (disc or drum)          |                       | Disc                                                                     |
|                                                       | Rear (disc or drum)           |                       | Drum (Disc Included W/ABS Option)                                        |
| Valving type(prop, delay, metering, other)            |                               |                       | Fixed Proportioning                                                      |
| Power brake (std., opt., n.a.)                        |                               |                       | Standard                                                                 |
| Booster type(rmt, intgrl, vac., hyd., etc.)           |                               |                       | Vacuum                                                                   |
| Vacuum                                                | Source (inline, pump, etc.)   |                       | Inline                                                                   |
|                                                       | Reservoir (volume cu. in.)    |                       | None                                                                     |
|                                                       | Pump-type                     |                       | None                                                                     |
| Traction Control                                      | Operational speed range       |                       | NA                                                                       |
|                                                       | Type engine intervention      |                       | NA                                                                       |
| Anti-lock device                                      | Front/rear (std., opt., n.a.) |                       | Optional                                                                 |
|                                                       | Manufacturer                  |                       | Delco Moraine Division G.M. / Saturn Corporation                         |
|                                                       | Type (electronic, mech.)      |                       | Electronic                                                               |
|                                                       | Number sensors or circuits    |                       | 4                                                                        |
|                                                       | No. anti-lock hyd. circuits   |                       | 3                                                                        |
|                                                       | Integral or add-on system     |                       | Integral                                                                 |
|                                                       | Yaw control (yes, no)         |                       | No                                                                       |
| Hydraulic power source                                |                               |                       | Electric                                                                 |
| Effective area sq. cm. (sq. in.)*                     |                               |                       | Front 175 (27); Rear 230 (36) Drum; Rear 122 (19) Disc                   |
| Gross Lng area sq cm (sq in)** (F/R)                  |                               |                       | Front 175 (27); Rear 230 (36) Drum; Rear 122 (19) Disc                   |
| Swept area sq cm (sq in)*** (F/R)                     |                               |                       | Front 1157 (179); Rear Disc 1030 (160)                                   |
| Rotor                                                 | Outer working diameter        | F/R                   | Front 250.5 mm (9.9 in.); Rear 245 mm (9.6 in.) Disc                     |
|                                                       | Inner working diameter        | F/R                   | Front 161 mm (6.3 in.); Rear 165 mm (6.5 in.) Disc                       |
|                                                       | Thickness                     | F/R                   | Front 18 mm (.7 in.); Rear 11 mm (.4 in.) Disc                           |
|                                                       | Matl & type (vented/sld)      | F/R                   | Front Cast Iron, Vented; Rear Cast iron, Solid                           |
| Drum                                                  | Diameter & width              | F/R                   | 200 mm x 30 mm (7.9 in. x 1.2 in.)                                       |
|                                                       | Type and material             | F/R                   | Cast Iron                                                                |
| Wheel cylinder bore                                   |                               |                       | Front 51 (2.0); Rear 19 (.75) Drum; Rear 32 (1.3) Disc                   |
| Master cylinder                                       | Bore/stroke                   | F/R                   | Bore 22.2 mm (.9 in.)                                                    |
| Pedal arc ratio                                       |                               |                       | 4.0 : 1                                                                  |
| Line pressure at 445 N (100 lb.) pedal load kPa (psi) |                               |                       | NA                                                                       |
| Lining clearance                                      |                               |                       | F/R Self Adjusting / Self Adjusting                                      |
| Brake lining                                          | Front wheel                   | Bonded or riveted     | Bonded                                                                   |
|                                                       |                               | Rivet size            |                                                                          |
|                                                       |                               | Manufacturer          | Delco Moraine Division G.M. / Saturn Corporation                         |
|                                                       |                               | Lining code *****     | DM 8087                                                                  |
|                                                       |                               | Material              | Semi-Metallic                                                            |
|                                                       |                               | **** Pri. or out-brd  | 40.3 sq. cm. x 10 mm (Area x Thickness) (6.2 sq. in. x .4 in.)           |
|                                                       |                               | Size Sec. or in-brd   | 40.3 sq. cm. x 10 mm (Area x Thickness) (6.2 sq. in. x .4 in.)           |
|                                                       |                               | Shoe thcknss (no lng) | 6 mm (.2 in.)                                                            |
|                                                       | Rear wheel                    | Bonded or riveted     | Front-Bonded; Rear-Bonded Disc                                           |
|                                                       |                               | Manufacturer          | Delco Moraine Division G.M. / Saturn Corporation                         |
|                                                       |                               | Lining code *****     | Drum-DM 9102; Disc-DM 8090                                               |
|                                                       |                               | Material              | Semi-Metallic                                                            |
|                                                       |                               | **** Pri. or out-brd  | 114.7 sq. cm. x 3.5 mm Drum; 30.3 sq. cm. x 9 mm (17.8 x .1); (4.7 x .3) |
|                                                       |                               | Size Sec. or in-brd   | 114.7 sq. cm. x 3.5 mm Drum; 30.3 sq. cm. x 9 mm (17.8 x .1); (4.7 x .3) |
|                                                       |                               | Shoe thcknss (no lng) | 1.6 mm (.06 in.) Rim; 5 mm (.2 in.)                                      |

\* Excludes rivet holes, grooves, chamfers, etc.

\*\*Includes rivet holes, grooves, chamfers, etc.

\*\*\* Total swept area for four brakes. (Drum brake: Widest lining contact width for each brake x its contact circum.) (Disc brake: Square of Outer Working Dia. - Square of inner Working Dia. multiplied by Pi/2 for each brake).

\*\*\*\* Size for drum brakes includes length x width x thickness.

\*\*\*\*\* Manufacturer I.D., catalog for formulation designation and coefficient of friction classification.

# MVMA Specifications

Vehicle Line SEDAN SL2  
Model Year 1991 Issued 10-90 Revised(\*)

## METRIC (U.S. Customary)

Body Type And/Or

Engine Displacement

Brakes - Service

1.9L L4 DOHC (116 CID) 16-VALVE  
PORT FUEL INJECTION

|                                                       |                               |                       |                                                         |                                                                          |
|-------------------------------------------------------|-------------------------------|-----------------------|---------------------------------------------------------|--------------------------------------------------------------------------|
| Description                                           |                               |                       | Power Assisted Vented Disc (Front)                      |                                                                          |
|                                                       |                               |                       | Power Assisted Drum (Rear)                              |                                                                          |
| Manufacturer and brake type (std., opt., n.a.)        | Front (disc or drum)          |                       | Disc                                                    |                                                                          |
|                                                       | Rear (disc or drum)           |                       | Drum (Disc Included W/ABS Option)                       |                                                                          |
| Valving type(prop, delay, metering, other)            |                               |                       | Fixed Proportioning                                     |                                                                          |
| Power brake (std., opt., n.a.)                        |                               |                       | Standard                                                |                                                                          |
| Booster type(rmt, intgrl, vac., hyd., etc.)           |                               |                       | Vacuum                                                  |                                                                          |
| Vacuum                                                | Source (inline, pump, etc.)   |                       | Inline                                                  |                                                                          |
|                                                       | Reservoir (volume cu. in.)    |                       | None                                                    |                                                                          |
|                                                       | Pump-type                     |                       | None                                                    |                                                                          |
| Traction Control                                      | Operational speed range       |                       | NA                                                      |                                                                          |
|                                                       | Type engine intervention      |                       | NA                                                      |                                                                          |
| Anti-lock device                                      | Front/rear (std., opt., n.a.) |                       | Optional                                                |                                                                          |
|                                                       | Manufacturer                  |                       | Delco Moraine Division G.M./Saturn Corporation          |                                                                          |
|                                                       | Type (electronic, mech.)      |                       | Electronic                                              |                                                                          |
|                                                       | Number sensors or circuits    |                       | 4                                                       |                                                                          |
|                                                       | No. anti-lock hyd. circuits   |                       | 3                                                       |                                                                          |
|                                                       | Integral or add-on system     |                       | Integral                                                |                                                                          |
|                                                       | Yaw control (yes, no)         |                       | No                                                      |                                                                          |
| Hydraulic power source                                |                               | Electric              |                                                         |                                                                          |
| Effective area sq. cm. (sq. in.)*                     |                               |                       | Front 175 (27); Rear 230 (36) Drum; Rear 122 (19) Disc  |                                                                          |
| Gross Lng area sq cm (sq in)** (F/R)                  |                               |                       | Front 175 (27); Rear 230 (36) Drum; Rear 122 (19) Disc  |                                                                          |
| Swept area sq cm (sq in)*** (F/R)                     |                               |                       | Front 1157 (179); Rear Disc 1030 (160)                  |                                                                          |
| Rotor                                                 | Outer working diameter        | F/R                   | Front 250.5 mm (9.9 in.); Rear 245 mm (9.6 in.) Disc    |                                                                          |
|                                                       | Inner working diameter        | F/R                   | Front 161 mm (6.3 in.); Rear 165 mm (6.5 in.) Disc      |                                                                          |
|                                                       | Thickness                     | F/R                   | Front 18 mm (.7 in.); Rear 11 mm (.4 in.) Disc          |                                                                          |
|                                                       | Matl & type (vented/sld)      | F/R                   | Front Cast Iron, Vented; Rear Cast Iron, Solid          |                                                                          |
| Drum                                                  | Diameter & width              | F/R                   | 200 mm x 30 mm (7.9 in. x 1.2 in.)                      |                                                                          |
|                                                       | Type and material             | F/R                   | Cast Iron                                               |                                                                          |
| Wheel cylinder bore                                   |                               |                       | Front 51 (2.0); Rear 19 (.75) Drum; Rear 32 (1.3 ) Disc |                                                                          |
| Master cylinder                                       | Bore/stroke                   | F/R                   | Bore 22.2 mm (.9 in.)                                   |                                                                          |
| Pedal arc ratio                                       |                               |                       | 4.0 : 1                                                 |                                                                          |
| Line pressure at 445 N (100 lb.) pedal load kPa (psi) |                               |                       | NA                                                      |                                                                          |
| Lining clearance                                      |                               |                       | F/R Self Adjusting / Self Adjusting                     |                                                                          |
| Brake lining                                          | Front wheel                   | Bonded or riveted     |                                                         | Bonded                                                                   |
|                                                       |                               | Rivet size            |                                                         |                                                                          |
|                                                       |                               | Manufacturer          |                                                         | Delco Moraine Division G.M./Saturn Corporation                           |
|                                                       |                               | Lining code *****     |                                                         | DM 8087                                                                  |
|                                                       |                               | Material              |                                                         | Semi-Metallic                                                            |
|                                                       |                               | ****                  | Pri. or out-brd                                         | 40.3 sq. cm. x 10 mm (Area x Thickness) (6.2 sq. in. x .4 in.)           |
|                                                       |                               | Size                  | Sec. or in-brd                                          | 40.3 sq. cm. x 10 mm (Area x Thickness) (6.2 sq. in. x .4 in.)           |
|                                                       |                               | Shoe thcknss.(no lng) |                                                         | 6 mm (.2 in.)                                                            |
|                                                       | Rear wheel                    | Bonded or riveted     |                                                         | Front-Bonded; Rear-Bonded Disc                                           |
|                                                       |                               | Manufacturer          |                                                         | Delco Moraine Division G.M./Saturn Corporation                           |
|                                                       |                               | Lining code *****     |                                                         | Drum-DM 9102; Disc-DM 8090                                               |
|                                                       |                               | Material              |                                                         | Semi-Metallic                                                            |
|                                                       |                               | ****                  | Pri. or out-brd                                         | 114.7 sq. cm. x 3.5 mm Drum; 30.3 sq. cm. x 9 mm (17.8 x .1); (4.7 x .3) |
|                                                       |                               | Size                  | Sec. or in-brd                                          | 114.7 sq. cm. x 3.5 mm Drum; 30.3 sq. cm. x 9 mm (17.8 x .1); (4.7 x .3) |
|                                                       |                               | Shoe thcknss (no lng) |                                                         | 1.6 mm (.06 in.) Rim; 5 mm (.2 in.)s                                     |

\* Excludes rivet holes, grooves, chamfers, etc. \*\*Includes rivet holes, grooves, chamfers, etc.  
\*\*\* Total swept area for four brakes. (Drum brake: Widest lining contact width for each brake x its contact circum.)  
(Disc brake: Square of Outer Working Dia. - Square of inner Working Dia. multiplied by Pi/2 for each brake).  
\*\*\*\* Size for drum brakes includes length x width x thickness.  
\*\*\*\*\* Manufacturer I.D., catalog for formulation designation and coefficient of friction classification.

# MVMA Specifications

Vehicle Line SEDAN SL/SL1

Model Year 1991 Issued 10-90 Revised(\*)

## METRIC (U.S. Customary)

Body Type And/Or  
Engine Displacement

1.9L L4 SOHC (116 CID)  
THROTTLE BODY FUEL INJECTION

## Tires And Wheels (Standard)

|        |                                                             |                   |                                  |
|--------|-------------------------------------------------------------|-------------------|----------------------------------|
| Tires  | Size (load range, ply)                                      |                   | P175/70R14 Blackwall SL          |
|        | Type (bias, radial, etc.)                                   |                   | All Season Steel Belted Radial   |
|        | Inflation pressure (cold) for recommended max. vehicle load | Front kPa (psi)   | 210 kPa (30 psi)                 |
|        |                                                             | Rear kPa (psi)    | 180 kPa (26 psi)                 |
|        | Rev/mile—at 70 km/h(45mph)                                  |                   | 882                              |
| Wheels | Type & material                                             |                   | Steel Road Wheel W/Plastic Cover |
|        | Rim (size & flange type)                                    |                   | 14 x 5J                          |
|        | Wheel offset                                                |                   | 50 mm                            |
|        | Attachment                                                  | Type (bolt, stud) | Stud                             |
|        |                                                             | Circle diameter   | 100 mm                           |
| Spare  | Number & size                                               |                   | 4 Bolts M12 x 1.5                |
|        | Tire and wheel                                              |                   | T115/70R14<br>14 x 4T x 55       |
|        | Storage position & location (describe)                      |                   | Lays Flat Under Trunk Floor      |

## Tires And Wheels (Optional)

|                                                                                                                                |  |
|--------------------------------------------------------------------------------------------------------------------------------|--|
| Tire size (load range, ply)                                                                                                    |  |
| Type (bias, radial, steel, nylon, etc.)                                                                                        |  |
| Wheel (type & material)                                                                                                        |  |
| Rim (size, flange type and offset)                                                                                             |  |
| Tire size (load range, ply)                                                                                                    |  |
| Type (bias, radial, steel, nylon, etc.)                                                                                        |  |
| Wheel (type & material)                                                                                                        |  |
| Rim (size, flange type and offset)                                                                                             |  |
| Tire size (load range, ply)                                                                                                    |  |
| Type (bias, radial, steel, nylon, etc.)                                                                                        |  |
| Wheel (type & material)                                                                                                        |  |
| Rim (size, flange type and offset)                                                                                             |  |
| Tire size (load range, ply)                                                                                                    |  |
| Type (bias, radial, steel, nylon, etc.)                                                                                        |  |
| Wheel (type & material)                                                                                                        |  |
| Rim (size, flange type and offset)                                                                                             |  |
| Spare tire and wheel size                                                                                                      |  |
| (if configuration is different than road tire or wheel, describe optional spare tire and/or wheel location & storage position) |  |

## Brakes - Parking

|                                 |                                          |                                            |
|---------------------------------|------------------------------------------|--------------------------------------------|
| Type of control                 |                                          | Hand Lever Application-Push Button Release |
| Location of control             |                                          | Center Console                             |
| Operates on                     |                                          | Both Rear Service Brakes                   |
| If separate from service brakes | Type(internal or external)               |                                            |
|                                 | Drum diameter                            |                                            |
|                                 | Lining size (length x width x thickness) |                                            |

# MVMA Specifications

Vehicle Line SEDAN SL2  
 Model Year 1991 Issued 10-90 Revised(\*)

## METRIC (U.S. Customary)

Body Type And/Or  
 Engine Displacement

1.9L L4 DOHC (116 CID) 16-VALVE  
 PORT FUEL INJECTION

## Tires And Wheels (Standard)

|        |                                                             |                 |                                |
|--------|-------------------------------------------------------------|-----------------|--------------------------------|
| Tires  | Size (load range, ply)                                      |                 | P195/60R15 Blackwall SL        |
|        | Type (bias, radial, etc.)                                   |                 | All Season Steel Belted Radial |
|        | Inflation pressure (cold) for recommended max. vehicle load | Front kPa (psi) | 210 kPa (30 psi)               |
|        |                                                             | Rear kPa (psi)  | 180 kPa (26 psi)               |
|        | Rev/mile—at 70 km/h(45mph)                                  |                 | 862                            |
| Wheels | Type & material                                             |                 | Road Wheel—Cast Aluminum       |
|        | Rim (size & flange type)                                    |                 | 15 x 6J                        |
|        | Wheel offset                                                |                 | 50 mm                          |
|        | Attachment                                                  | Type(bolt,stud) | Stud                           |
|        |                                                             | Circle diameter | 100 mm                         |
|        |                                                             | Number & size   | 4 Bolts, M12 x 1.5             |
| Spare  | Tire and wheel                                              |                 | T115/70R14<br>14 x 4T x 55     |
|        | Storage position & location (describe)                      |                 | Lays Flat Under Trunk Floor    |

## Tires And Wheels (Optional)

|                                                                                                                                |  |
|--------------------------------------------------------------------------------------------------------------------------------|--|
| Tire size (load range, ply)                                                                                                    |  |
| Type (bias, radial, steel, nylon, etc.)                                                                                        |  |
| Wheel (type & material)                                                                                                        |  |
| Rim (size, flange type and offset)                                                                                             |  |
| Tire size (load range, ply)                                                                                                    |  |
| Type (bias, radial, steel, nylon, etc.)                                                                                        |  |
| Wheel (type & material)                                                                                                        |  |
| Rim (size, flange type and offset)                                                                                             |  |
| Tire size (load range, ply)                                                                                                    |  |
| Type (bias, radial, steel, nylon, etc.)                                                                                        |  |
| Wheel (type & material)                                                                                                        |  |
| Rim (size, flange type and offset)                                                                                             |  |
| Tire size (load range, ply)                                                                                                    |  |
| Type (bias, radial, steel, nylon, etc.)                                                                                        |  |
| Wheel (type & material)                                                                                                        |  |
| Rim (size, flange type and offset)                                                                                             |  |
| Spare tire and wheel size                                                                                                      |  |
| (if configuration is different than road tire or wheel, describe optional spare tire and/or wheel location & storage position) |  |

## Brakes - Parking

|                                 |                                          |                                            |
|---------------------------------|------------------------------------------|--------------------------------------------|
| Type of control                 |                                          | Hand Lever Application-Push Button Release |
| Location of control             |                                          | Center Console                             |
| Operates on                     |                                          | Both Rear Service Brakes                   |
| If separate from service brakes | Type(internal or external)               |                                            |
|                                 | Drum diameter                            |                                            |
|                                 | Lining size (length x width x thickness) |                                            |

# MVMA Specifications

Vehicle Line SEDAN SL/SL1/SL2  
 Model Year 1991 Issued 10-90 Revised(\*)

## METRIC (U.S. Customary)

Body Type And/Or  
 Engine Displacement

ALL VEHICLE LINES

### Steering

|                                                            |                                           |                        |                                            |          |
|------------------------------------------------------------|-------------------------------------------|------------------------|--------------------------------------------|----------|
| Manual (std., opt., n.a.)                                  |                                           |                        | Standard on SL                             |          |
| Power (std., opt., n.a.)                                   |                                           |                        | Standard on SL1                            |          |
| Adjustable steering wheel/ column (tilt, telescope, other) | Type                                      |                        | Adjustable Rack                            |          |
|                                                            | Manufacturer                              |                        |                                            |          |
|                                                            | (std., opt., n.a.)                        |                        | Standard                                   |          |
| Wheel diameter ** (W9) SAE J1100                           | Manual                                    |                        |                                            |          |
|                                                            | Power                                     |                        |                                            |          |
| Turning diameter m (ft.)                                   | Out-side front                            | Wall to wall (l. & r.) | l. 12.1 m (39.9 ft.); r. 12.1 m (39.9 ft.) |          |
|                                                            |                                           | Curb to curb (l. & r.) | l. 11.8 m (38.9 ft.); r. 11.9 m (39.3 ft.) |          |
|                                                            | In-side rear                              | Wall to wall (l. & r.) | l. 7.3 m (24.1 ft.); r. 7.4 m (24.4 ft.)   |          |
|                                                            |                                           | Curb to curb (l. & r.) | l. 7.4 m (24.4 ft.); r. 7.5 m (24.6 ft.)   |          |
| Scrub Radius *                                             |                                           |                        | 14 mm (15 in.); 11 mm (14 in.)             |          |
| Manual                                                     | Gear                                      | Type                   | Rack                                       |          |
|                                                            |                                           | Manufacturer           |                                            |          |
|                                                            |                                           | Ratios                 | Gear                                       | NA       |
|                                                            |                                           |                        | Overall                                    | NA       |
|                                                            | No. wheel turns(stop to stop)             |                        | NA                                         |          |
| Power                                                      | Type (coaxial,elec.hyd.,etc.)             |                        | Hydraulic                                  |          |
|                                                            | Manufacturer                              |                        | Saginaw                                    |          |
|                                                            | Gear                                      | Type                   | Rack & Pinion                              |          |
|                                                            |                                           | Ratios                 | Gear                                       | NA       |
|                                                            |                                           |                        | Overall                                    | 18.3 : 1 |
|                                                            | Pump (drive)                              |                        |                                            |          |
|                                                            | No. wheel turns(stop to stop)             |                        | 3.0                                        |          |
| Linkage                                                    | Type                                      |                        | NA                                         |          |
|                                                            | Location (front or rear of wheels, other) |                        |                                            |          |
|                                                            | Tie Rods (one or two)                     |                        | Two                                        |          |
| Steering axis                                              | Inclination at camber (deg.)              |                        |                                            |          |
|                                                            | Bear-ings (type)                          | Upper                  |                                            |          |
|                                                            |                                           | Lower                  |                                            |          |
|                                                            |                                           | Thrust                 |                                            |          |
| Steering spindle/knuckle & joint type                      |                                           |                        | Steering Knuckle W/Spherical Joints        |          |

\* The horizontal distance in the front elevation between wheel centerline and kingpin (ball joint) axis at ground.  
 \*\* See Page 22.

# ○ MVMA Specifications

METRIC (U.S. Customary)

Body Type And/Or  
Engine Displacement

Vehicle Line SEDAN SL/SL1/SL2  
Model Year 1991 Issued 10-90 Revised(\*)

ALL VEHICLE LINES

## Wheel Alignment

|                                |                           |                                 |              |
|--------------------------------|---------------------------|---------------------------------|--------------|
| Front wheel at curb mass (wt.) | Service checking          | Caster (deg.)                   | 1.5 +/- .60  |
|                                |                           | Camber (deg.)                   | 0.0 +/- 1.0  |
|                                |                           | Toe-in outside track - mm (in.) | 0.0 +/- .10  |
|                                | Service reset*            | Caster (deg.)                   | 1.5 +/- .60  |
|                                |                           | Camber (deg.)                   | 0.0 +/- 1.0  |
|                                |                           | Toe-in - mm(in.)                | 0.0 +/- .10  |
|                                | Periodic M.V. in-spection | Caster (deg.)                   | 1.5 +/- .60  |
|                                |                           | Camber (deg.)                   | 0.0 +/- 1.0  |
|                                |                           | Toe-in - mm(in.)                | 0.0 +/- .10  |
| Rear wheel at curb mass (wt.)  | Service checking          | Camber (deg.)                   | -0.6 +/- .65 |
|                                |                           | Toe-in outside track - mm (in.) | 0.1 +/- .10  |
|                                | Service reset*            | Camber (deg.)                   | -0.6 +/- .65 |
|                                |                           | Toe-in - mm(in.)                | 0.1 +/- .10  |
|                                | Periodic M.V. in-spection | Camber (deg.)                   | -0.6 +/- .65 |
|                                |                           | Toe-in - mm(in.)                | 0.1 +/- .10  |

\* Indicates pre-set, adjustable, trend set or other.

## ○ Electrical - Instruments and Equipment

|                                                    |                                                                           |                                                                              |
|----------------------------------------------------|---------------------------------------------------------------------------|------------------------------------------------------------------------------|
| Speedometer                                        | Type (analog, digital, std., opt.)                                        | Analog, Standard                                                             |
|                                                    | Trip odometer (std., opt., n.a.)                                          | Standard                                                                     |
| Head-up display                                    | Std., opt., not avail.                                                    | NA                                                                           |
|                                                    | Type - Secondary, Opto-electronic                                         |                                                                              |
|                                                    | Speedometer Digital                                                       |                                                                              |
|                                                    | Status/warn. indicators - Turn signals, high beam, low fuel, check gauges |                                                                              |
|                                                    | Brightness control Day/night mode, adj.                                   |                                                                              |
|                                                    | EGR maintenance indicator                                                 | NA                                                                           |
| Charge indicator                                   | Type                                                                      | Warning Light                                                                |
|                                                    | Warning device (light, audible)                                           | Warning Light                                                                |
| Temperature indicator                              | Type                                                                      | Electric Gage                                                                |
|                                                    | Warning device                                                            | Warning Light                                                                |
| Oil pressure indicator                             | Type                                                                      | Electric Gage (Optional)                                                     |
|                                                    | Warning device                                                            | Warning Light                                                                |
| Fuel indicator                                     | Type                                                                      | Electric Gage                                                                |
|                                                    | Warning device                                                            | NA                                                                           |
| Wind-shield wiper                                  | Type (standard)                                                           | Two Speed Manual Wipers W/Separate Mist Function & Three Intermittent Speeds |
|                                                    | Type (optional)                                                           | NA                                                                           |
|                                                    | Blade length                                                              | 55 cm. (22 in.) Driver's Side; 53 cm. (21 in.) Passenger Side                |
|                                                    | Swept area sq cm (sq in)                                                  | 7,078.2 sq. cm. (1,097.0 sq. in.)                                            |
| Wind-shield washer                                 | Type (standard)                                                           | Standard, Hood Mounted Nozzles                                               |
|                                                    | Type (optional)                                                           | NA                                                                           |
|                                                    | Fluid level indicator                                                     | NA                                                                           |
| Rear window wiper, wiper/washer (std., opt., n.a.) |                                                                           | NA                                                                           |
| Horn                                               | Type                                                                      | Vibrator - Sea Shell                                                         |
|                                                    | Number used                                                               | 1                                                                            |
| Other                                              |                                                                           |                                                                              |

# MVMA Specifications

Vehicle Line SEDAN SL/SL1/SL2  
 Model Year 1991 Issued 10-90 Revised(\*)

## METRIC (U.S. Customary)

Engine Description

Engine Code

ALL VEHICLE LINES

### Electrical – Supply System

|            |                            |                                      |
|------------|----------------------------|--------------------------------------|
| Battery    | Manufacturer               | Delco Remy                           |
|            | Model, std., (opt.)        | 90-525, Standard                     |
|            | Voltage                    | 12                                   |
|            | Amps at 0 deg F cold crnk  | 525                                  |
|            | Minutes-reserve capacity   | 90                                   |
|            | Amps/hrs. - 20 hr. rate    | 54                                   |
|            | Location                   | Under Hood; Left and Mid-Compartment |
| Alternator | Manufacturer               | Delco Remy                           |
|            | Rating (idle/max. rpm)     | 85 AMP (30 AMPS at idle)             |
|            | Ratio (alt. crank/rev.)    | 2.54 : 1                             |
|            | Output at idle (rpm, park) |                                      |
|            | Optional (type & rating)   | None                                 |
| Regulator  | Type                       | Electronic, Integral W/Alternator    |

### Electrical – Starting System

|             |                                   |                                                                   |
|-------------|-----------------------------------|-------------------------------------------------------------------|
| Motor       | Manufacturer                      | Delco Remy                                                        |
|             | Current drain -29 deg C (F)       | Automatic Transmission = 375 AMPS; Manual Transmission = 235 AMPS |
|             | Power rating kw (hp)              | Automatic = 1.4 kw (1.87 hp); Manual = 0.8 kw (1.07 hp)           |
| Motor drive | Engagement type                   | Positive Sheet Solenoid                                           |
|             | Pinion engages from (front, rear) | Rear                                                              |

### Electrical – Ignition System

|             |                                           |                                 |
|-------------|-------------------------------------------|---------------------------------|
| Type        | Electronic (std, opt, n.a.)               | Standard                        |
|             | Other (specify)                           | Distributorless                 |
| Coil        | Manufacturer                              | Delco Electronics               |
|             | Model                                     | Integral W/Electronics          |
|             | Current                                   | Engine stopped-A 0              |
|             |                                           | Engine idling - A 7.5 A maximum |
| Spark plug  | Manufacturer                              | AC Rochester                    |
|             | Model                                     | SOHC: FR4LS DOHC: FR3LS         |
|             | Thread (mm)                               | 1.4 x 1.25 mm I.S.O. 8470       |
|             | Tightening torque Newton meters (lb. ft.) | 27 +/- 3 Nm (20 +/- 2 lbs. ft.) |
|             | Gap                                       | 0.040 in.                       |
|             | Number per cylinder                       | 1                               |
| Distributor | Manufacturer                              | None                            |
|             | Model                                     | None                            |

### Electrical – Suppression

|                  |                                               |
|------------------|-----------------------------------------------|
| Locations & type | Resistor Spark Plugs, Resistor Ignition Cable |
|------------------|-----------------------------------------------|

# MVMA Specifications

Vehicle Line SEDAN SL/SL1/SL2

Model Year 1991 Issued 10-90 Revised(\*)

## METRIC (U.S. Customary)

Body Type

ALL VEHICLE LINES

### Body

|                            |                                                                                                                                                                                                                 |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Structure                  | Welded Steel Spaceframe W/Bolt-in-Front of Dash and Roof; Welded Door Inner Structure, Hood Inner and Outer, Decklid Inner and Outer.                                                                           |
| Bumper system front - rear | Front Bumper System: Two-Piece Injection Molded Fascia; Polymer Foam Energy Management; Aluminum Back-up Beam.<br>Rear Bumper System: Injection Molded Fascia; Honeycomb Energy Manager; Aluminum Back-up Beam. |
| Anti-corrosion treatment   | Galvanized Metals; Elpo Uni-Prime for Body Structure, Door Structure, Decklid, Roof, Hood and Cockpit Structure.                                                                                                |

### Body - Miscellaneous Information

|                                                                 |                                               |                                                                             |
|-----------------------------------------------------------------|-----------------------------------------------|-----------------------------------------------------------------------------|
| Type of finish (lacquer, enamel, other)                         |                                               | Water-Borne Enamel Basecoat / 2 Component Urethane Clearcoat                |
| Hood                                                            | Material & mass                               | Steel                                                                       |
|                                                                 | Hinge location (front, rear)                  | Rear                                                                        |
|                                                                 | Type (counterbalance, prop)                   | Prop                                                                        |
|                                                                 | Release control (int., ext.)                  | Internal                                                                    |
| Trunk lid                                                       | Material & mass                               | Steel Inner and Outer / Thermoplastic Applique on Rear Vehicle Show Surface |
|                                                                 | Type (counterbalance, other)                  | Counterbalance                                                              |
|                                                                 | Internal release control (elec., mech., n.a.) | Mechanical                                                                  |
| Hatch-back lid                                                  | Material & mass                               | NA                                                                          |
|                                                                 | Type (counterbalance, other)                  | NA                                                                          |
|                                                                 | Internal release control (elec., mech., n.a.) | NA                                                                          |
| Tailgate                                                        | Material & mass                               | NA                                                                          |
|                                                                 | Type (drop, lift, door)                       | NA                                                                          |
|                                                                 | Internal release control (elec., mech., n.a.) | NA                                                                          |
| Vent window control (crank, friction, pivot, power)             | Front                                         | NA                                                                          |
|                                                                 | Rear                                          | NA                                                                          |
| Window regulator type (cable, tape, flex drive, etc.)           | Front                                         | Cross Arm                                                                   |
|                                                                 | Rear                                          | Tape Drive                                                                  |
| Seat cushion type (e.g., 60/40, bucket, bench wire, foam, etc.) | Front                                         | Bucket, Frame, Foam, Flex Suspension                                        |
|                                                                 | Rear                                          | Bench, 3 Passenger, Wire Frame, Foam                                        |
|                                                                 | 3rd seat                                      | NA                                                                          |
| Seat back type (e.g., 60/40, bucket, bench, wire, foam, etc.)   | Front                                         | Bucket, Tube Frame, Foam                                                    |
|                                                                 | Rear                                          | Split, 60/40, Fixed, Bolsters, Plastic Frame, Foam                          |
|                                                                 | 3rd seat                                      | NA                                                                          |

# MVMA Specifications

Vehicle Line SEDAN SL/SL1/SL2  
 Model Year 1991 Issued 10-90 Revised(\*)

## METRIC (U.S. Customary)

Body Type

ALL VEHICLE LINES

## Restraint System

| Seating Position |                                                                                                 |             | Left                                                | Center   | Right                                               |
|------------------|-------------------------------------------------------------------------------------------------|-------------|-----------------------------------------------------|----------|-----------------------------------------------------|
| Active           | Type & description (lap & shoulder belt, lap belt, etc.)                                        | First seat  |                                                     |          |                                                     |
|                  |                                                                                                 | Second seat | Lap and Shoulder Belt                               | Lap Belt | Lap and Shoulder Belt                               |
|                  | Standard/optional                                                                               | Third seat  |                                                     |          |                                                     |
| Passive          | Type & description (air bag, motorized-2-point belt, fixed belt, knee bolster, manual-lap belt) | First seat  | Motorized 2-Point Shoulder Belt and Manual Lap Belt |          | Motorized 2-Point Shoulder Belt and Manual Lap Belt |
|                  |                                                                                                 | Second seat |                                                     |          |                                                     |
|                  | Standard/optional                                                                               | Third seat  |                                                     |          |                                                     |

| Glass                                                             |    | SAE Ref No |                                                                                                                   |
|-------------------------------------------------------------------|----|------------|-------------------------------------------------------------------------------------------------------------------|
| Windshield glass exposed surface area sq. cm. (sq. in.)           | S1 |            | 11,1457.98 sq. cm. (1,775.99 sq. in.)                                                                             |
| Side glass exposed surface area sq. cm. (sq. in.) - total 2-sides | S2 |            | Frt 5,657.08 sq. cm. (876.85 sq. in.); Rr 3,942.08 sq. cm. (611.02 sq. in.); CV 1,024.68 sq. cm. (158.83 sq. in.) |
| Backlight glass exposed surface area sq. cm. (sq. in.)            | S3 |            | 10,454.98 sq. cm. (1,620.53 sq. in.)                                                                              |
| Total glass exposed surface area sq. cm. (sq. in.)                | S4 |            | 32,536.80 sq. cm. (5,043.21 sq. in.)                                                                              |
| Windshield glass (type)                                           |    |            | 3-PLY Laminated W/Encapsulation Moldings on All Edges                                                             |
| Side glass (type)                                                 |    |            | Tempered PLate, Barrelled Shape, Gas Hearth                                                                       |
| Backlight glass (type)                                            |    |            | Tempered Plate, Side View "S" Bend Curvature                                                                      |

## Headlamps

|                                                            |                                    |
|------------------------------------------------------------|------------------------------------|
| Description - sealed beam, halogen, replaceable bulb, etc. | Replaceable Bulb Headlamp Assembly |
| Shape                                                      | Contour per Front End Styling      |
| Lo-beam type (2A1, 2B1, 2C1, etc.)                         | Halogen 9006 HB4                   |
| Quantity                                                   | 2                                  |
| Hi-beam type (1A1, 2A1, 1C1, 2C1, etc.)                    | Halogen 9005 HB3                   |
| Quantity                                                   | 2                                  |

## Frame

|                                                                                 |  |
|---------------------------------------------------------------------------------|--|
| Type and description (separate frame, unitized frame, partially-unitized frame) |  |
|---------------------------------------------------------------------------------|--|

# MVMA Specifications

Vehicle Line SEDAN SL/SL1/SL2  
 Model Year 1991 Issued 10-90 Revised(\*)

METRIC (U.S. Customary)

Body Type

ALL VEHICLE LINES

## Convenience Equipment (standard, optional, n.a.)

|                                               |                                                   |                                                                                 |
|-----------------------------------------------|---------------------------------------------------|---------------------------------------------------------------------------------|
| Air conditioning (manual, auto, temp control) |                                                   |                                                                                 |
| Clock (digital, analog)                       |                                                   |                                                                                 |
| Compass / thermometer                         |                                                   |                                                                                 |
| Console (floor, overhead)                     |                                                   |                                                                                 |
| Defroster, elec. backlight                    |                                                   | Standard                                                                        |
| Electronic                                    | Diagnostic monitor (integrated, individual)       |                                                                                 |
|                                               | Instrument cluster (list instruments)             | Speedometer, Tachometer, Temperature Gage, RPM Gage, Optional Oil Pressure Gage |
|                                               | Keyless entry                                     | NA                                                                              |
|                                               | Tripminder (avg. spd. fuel)                       | NA                                                                              |
|                                               | Voice alert (list items)                          | NA                                                                              |
|                                               | Other                                             |                                                                                 |
| Fuel door lock (remote, key, electric)        |                                                   | Remote                                                                          |
| Lamps                                         | Auto head on/off delay, dimming                   |                                                                                 |
|                                               | Cornering                                         |                                                                                 |
|                                               | Courtesy (map, reading)                           |                                                                                 |
|                                               | Door lock, ignition                               |                                                                                 |
|                                               | Engine compartment                                |                                                                                 |
|                                               | Fog                                               | NA                                                                              |
|                                               | Glove compartment                                 |                                                                                 |
|                                               | Trunk                                             |                                                                                 |
|                                               | Illuminated entry system (list lamps, activation) |                                                                                 |
|                                               | Other                                             |                                                                                 |
| Mirrors                                       | Day / night (auto. man.)                          | Standard, Manual Day/Night, Inside Rear View Mirror                             |
|                                               | L.H. (remote, pwr., heated)                       | Manual Remote (Standard)                                                        |
|                                               | R.H.(convex, rmt, pwr, htd)                       | Electric or Manual Remote (Optional)                                            |
|                                               | Visor vanity (RH/LH illum.)                       | Passenger Side-Standard, Non-Illum.; Driver's Side-Optional, Non-Illum.         |
| Navigation system (describe)                  |                                                   |                                                                                 |
| Prkg. brake-auto release (warn. light)        |                                                   |                                                                                 |

# MVMA Specifications

Vehicle Line SEDAN SL/SL1/SL2  
 Model Year 1991 Issued 10-90 Revised(\*)

METRIC (U.S. Customary)

Engine Description

Engine Code

ALL VEHICLE LINES

## Convenience Equipment (standard, optional, n.a.)

|                                        |                                                 |                                                                                                                   |                                                                                                 |
|----------------------------------------|-------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| Power equipment                        | Deck lid(release, pull down)                    |                                                                                                                   | NA                                                                                              |
|                                        | Door locks (manual, auto., describe system)     |                                                                                                                   | Manual-Standard<br>Electric-Optional                                                            |
|                                        | Seats                                           | 2 - 4 - 6 way, etc.                                                                                               |                                                                                                 |
|                                        |                                                 | Reclining(R.H., L.H.)                                                                                             |                                                                                                 |
|                                        |                                                 | Memory (R.H., L.H., preset, recline)                                                                              |                                                                                                 |
|                                        |                                                 | Support (lumbar, hip, thigh, etc.)                                                                                |                                                                                                 |
|                                        |                                                 | Heated (R.H., L.H., other)                                                                                        |                                                                                                 |
|                                        |                                                 |                                                                                                                   |                                                                                                 |
|                                        | Side windows                                    |                                                                                                                   | Electric-Optional                                                                               |
|                                        | Vent windows                                    |                                                                                                                   | NA                                                                                              |
| Rear windows                           |                                                 | Electric-Optional                                                                                                 |                                                                                                 |
|                                        |                                                 |                                                                                                                   |                                                                                                 |
| Radio systems                          | Antenna (location, whip, w/shield, power)       |                                                                                                                   |                                                                                                 |
|                                        | Stan.                                           | AM, FM, stereo, tape, compact disc, graphic equalizer, theft deterrent, radio prep package, headphone jacks, etc. | AM/FM Stereo\Radio                                                                              |
|                                        | Opt.                                            |                                                                                                                   | AM/FM Stereo\Cassette<br>AM/FM Stereo\Cassette\Equalizer<br>AM/FM Stereo\Compact Disc\Equalizer |
|                                        | Speaker (number, location)                      |                                                                                                                   | 4 Speakers (2 Door-Mounted, 2 Package Shelf-Mounted)                                            |
|                                        | Roof: open air or fixed (flip-up, sliding, 'T') |                                                                                                                   |                                                                                                 |
| Speed control device                   |                                                 |                                                                                                                   |                                                                                                 |
| Speed warn. dev. (light, buzzer, etc.) |                                                 |                                                                                                                   |                                                                                                 |
| Tachometer (rpm)                       |                                                 | Base = 7,000 RPM    Uplevel = 8,000 RPM                                                                           |                                                                                                 |
| Telephone system (describe)            |                                                 |                                                                                                                   |                                                                                                 |
| Theft deterrent system                 |                                                 |                                                                                                                   |                                                                                                 |

## ○ Trailer Towing

|                                 |           |                                                                              |
|---------------------------------|-----------|------------------------------------------------------------------------------|
| Towing capable                  | Yes / No  | Yes                                                                          |
| Engine/transmission/axle        | Std / Opt | LKO/MP2/3.07 Std., MP6/2.24 Opt. (SL, SL1); LLO/MP3/3.25 Std., MP7/2.52 Opt. |
| Tow class (I, II, III)*         | Std / Opt | 1                                                                            |
| Max. gross trailer wgt. (lbs.)  | Std / Opt | 1,000                                                                        |
| Max. trailer tongue load (lbs.) | Std / Opt | 150                                                                          |
| Towing package available        | Yes / No  | No                                                                           |

\* Class I - 2,000 lbs. Class II - 3,500 lbs. Class III - 5,000 lbs.

# MVMA Specifications

Vehicle Line SEDAN SL/SL1/SL2  
Model Year 1991 Issued 10-90 Revised(\*)

## METRIC (U.S. Customary)

### Vehicle Dimensions

See Key Sheets for definitions

All dimensions to ground are for comparative purposes only. Dimensions are to be shown for all base body models of each vehicle line. SAE Ref. no. refers to the definition published in SAE Recommended Practice J1100 "Motor Vehicle Dimensions," unless otherwise specified.

### Body Type

ALL VEHICLE LINES

### Width

#### SAE Ref. No.

|                                  |      |               |
|----------------------------------|------|---------------|
| Tread (front)                    | W101 | 1443.0 (56.8) |
| Tread (rear)                     | W102 | 1422.4 (56.0) |
| Vehicle width                    | W103 | 1718 (67.6)   |
| Body width at Sg RP (front)      | W117 | 1674 (65.9)   |
| Vehicle width (front doors open) | W120 | 3304 (130.0)  |
| Vehicle width (rear doors open)  | W121 | 3192 (125.7)  |
| Turn-in (deg.)                   | W122 | 24 deg.       |
| Outside mirror width             | W410 | 1872 (73.7)   |

### Length

|                               |      |                |
|-------------------------------|------|----------------|
| Wheelbase                     | L101 | 2601.4 (102.4) |
| Vehicle length                | L103 | 4477.8 (176.3) |
| Overhang (front)              | L104 | 989.36 (38.9)  |
| Overhang (rear)               | L105 | 887 (34.9)     |
| Upper structure length        | L123 | 2642 (104.0)   |
| Rear wheel C/L 'X' coordinate | L127 | 4360 (171.6)   |

### Height \*\*

|                                     |         |             |
|-------------------------------------|---------|-------------|
| Passenger distribution (front/rear) | PD1,2,3 | **          |
| Trunk/cargo load                    |         | **          |
| Vehicle height                      | H101    | 1334 (52.5) |
| Cowl point to ground                | H114    | 900 (35.4)  |
| Deck point to ground                | H138    | 989 (38.9)  |
| Rocker panel-front to ground        | H112    | 198 (7.8)   |
| Rocker panel-rear to ground         | H111    | 204 (8.0)   |
| Windshield slope angle (deg.)       | H122    | 61 deg.     |
| Backlight slope angle (deg.)        | H121    | 62 deg.     |

### Ground Clearance \*\*

|                                           |      |                                                  |
|-------------------------------------------|------|--------------------------------------------------|
| Front bumper to ground                    | H102 | 172.9 (6.8)                                      |
| Rear bumper to ground                     | H104 | 218.6 (8.6)                                      |
| Bumper to ground front at curb mass (wt.) | H103 | 195.7 (7.7)                                      |
| Bumper to ground rear at curb mass (wt.)  | H105 | 240.0 (9.4)                                      |
| Angle of approach (deg.)                  | H106 | 15.5 deg.                                        |
| Angle of departure (deg.)                 | H107 | 20.0 deg.                                        |
| Ramp breakover angle (deg.)               | H147 | 14.3 deg.                                        |
| Axle differential to ground (front/rear)  | H153 | 157.7 (6.2)                                      |
| Min. running ground clearance             | H156 | 144.7 (5.7)                                      |
| Location of min. run. grd. clear.         |      | Front Edge of Flex Pipe Flange x = 1822.9 (71.8) |

\*\* All Vehicle Height And Ground Clearance Are Made Using EPA Loaded Vehicle Weight, Loading Conditions.

EPA Loaded Vehicle Weight is the Base Vehicle Weight Plus All Coolant and Fluids Necessary For Operation Plus 100% Of The Fuel Capacity, Plus The Weight Of All Options And Accessories Which Weigh Three Pounds Or More And Which Are Sold On At Least 33% Of The Car Line, Plus Two Occupants.

# MVMA Specifications

Vehicle Line SEDAN SL/SL1/SL2

Model Year 1991 Issued 10-90 Revised(\*)

## METRIC (U.S. Customary)

### Vehicle Dimensions

See Key Sheets for Definitions

#### Body Type

ALL VEHICLE LINES

#### Front Compartment

##### SAE Ref. No.

|                                          |     |              |
|------------------------------------------|-----|--------------|
| SgRP front, "X" coordinate               | L31 | 3108 (122.4) |
| Effective head room                      | H61 | 979 (38.5)   |
| Max. eff. leg room (accelerator)         | L34 | 1080 (42.5)  |
| SgRP to heel point                       | H30 | 227 (8.9)    |
| SgRP to heel point                       | L53 | 886 (34.9)   |
| Back angle (deg.)                        | L40 | 26 deg.      |
| Hip angle (deg.)                         | L42 | 98 deg.      |
| Knee angle (deg.)                        | L44 | 129 deg.     |
| Foot angle (deg.)                        | L48 | 87 deg.      |
| Design H-point front travel              | L17 | 198 (7.8)    |
| Normal driving & riding seat track trvl. | L23 | 178 (7.0)    |
| Shoulder room                            | W3  | 1378 (54.3)  |
| Hip room                                 | W5  | 1312 (51.6)  |
| *** Upper body opening to ground         | H50 | 1199 (47.2)  |
| Steering wheel maximum diameter*         | W9  | 371 (14.6)   |
| Steering wheel angle (deg.)              | H18 | 19.2 (.75)   |
| Accel. heel pt. to steer. whl. cntr      | L11 | 533 (21.0)   |
| Accel. heel pt. to steer. whl. cntr      | H17 | 604 (23.8)   |
| Undepressed floor covering thickness     | H67 | 26 (1.0)     |

Front Compartment Int. Dim. Are Measured With The Seating Ref. Pt.  
(SgRP) 20 mm Forward And 2.6 mm Upward of Rearmost Position.

#### Rear Compartment

|                                    |     |             |
|------------------------------------|-----|-------------|
| SgRP point couple distance         | L50 | 737 (29.0)  |
| Effective head room                | H63 | 923 (36.3)  |
| Min. effective leg room            | L51 | 827 (32.5)  |
| SgRP (second to heel)              | H31 | 277 (10.9)  |
| Knee clearance                     | L48 | -12 (-.5)   |
| Shoulder room                      | W4  | 1380 (54.3) |
| Hip room                           | W8  | 1289 (50.7) |
| *** Upper body opening to ground   | H51 | 1203 (47.4) |
| Back angle (deg.)                  | L41 | 26 deg.     |
| Hip angle (deg.)                   | L43 | 82 deg.     |
| Knee angle (deg.)                  | L45 | 81 deg.     |
| Foot angle (deg.)                  | L47 | 109 deg.    |
| Depressed floor covering thickness | H73 | 6 (.2)      |

#### Luggage Compartment

|                                       |      |                      |
|---------------------------------------|------|----------------------|
| Usable luggage capacity [L (cu. ft.)] | V1   | 337 L (11.9 cu. ft.) |
| *** Litter height                     | H195 | 652 (25.7)           |

#### Interior Volumes (EPA Classification)

|                                   |  |             |
|-----------------------------------|--|-------------|
| Vehicle class                     |  | 100.6 (4.0) |
| Interior volume index (cu. ft.)** |  | 88.7 (3.5)  |
| Trunk / cargo index (cu. ft.)     |  | 11.9 (.5)   |

\* See page 14.

\*\* Includes passenger and trunk / cargo index - see definition page 32.

\*\*\* EPA Loaded Vehicle Weight, Loading Conditions.

All Linear Dimensions Are In Millimeters (Inches).

# MVMA Specifications

Vehicle Line SEDAN SL/SL1/SL2  
 Model Year 1991 Issued 10-90 Revised(\*)

## METRIC (U.S. Customary) Vehicle Dimensions

See Key Sheets for Definitions

### Body Type

ALL VEHICLE LINES

### Station Wagon – Third Seat

SAE Ref. No.

(Not Applicable)

|                       |     |  |
|-----------------------|-----|--|
| Seat facing direction | SD1 |  |
| SgRP couple distance  | L85 |  |
| Shoulder room         | W85 |  |
| Hip Room              | W86 |  |
| Effective leg room    | L86 |  |
| Effective head room   | H86 |  |
| SgRP to heel point    | H87 |  |
| Knee clearance        | L87 |  |
| Back angle (deg.)     | L88 |  |
| Hip angle (deg.)      | L89 |  |
| Knee angle (deg.)     | L90 |  |
| Foot angle (deg.)     | L91 |  |

### Station Wagon – Cargo Space

(Not Applicable)

|                                         |      |  |
|-----------------------------------------|------|--|
| Cargo length (open front)               | L200 |  |
| Cargo length (open second)              | L201 |  |
| Cargo length (closed front)             | L202 |  |
| Cargo length (closed second)            | L203 |  |
| Cargo length at belt (front)            | L204 |  |
| Cargo length at belt (second)           | L205 |  |
| Cargo width (wheelhouse)                | W201 |  |
| Rear opening width at floor             | W203 |  |
| Opening width at belt                   | W204 |  |
| Min. rear opening width above belt      | W205 |  |
| Cargo height                            | H201 |  |
| Rear opening height                     | H202 |  |
| * Tailgate to ground height             | H250 |  |
| Front seat back to load floor height    | H197 |  |
| Cargo volume index cu. m (cu. ft.)      | V2   |  |
| Hidden cargo vol. index cu. m (cu. ft.) | V4   |  |
| Cargo volume index—rear of 2-seat       | V10  |  |

### Hatchback – Cargo Space

(Not Applicable)

|                                         |      |  |
|-----------------------------------------|------|--|
| Cargo length at front seatback height   | L208 |  |
| Cargo length at floor (front)           | L209 |  |
| Cargo length at second seatback height  | L210 |  |
| Cargo length at floor (second)          | L211 |  |
| Front seatback to load floor height     | H197 |  |
| Second seatback to load floor height    | H198 |  |
| Cargo volume index cu. m (cu. ft.)      | V3   |  |
| Hidden cargo vol. index cu. m (cu. ft.) | V4   |  |
| Cargo volume index—rear of 2-seat       | V11  |  |

\* EPA Loaded Vehicle Weight, Loading Conditions

All Linear Dimensions Are In Millimeters (Inches).

# MVMA Specifications

Vehicle Line SEDAN SL/SL1/SL2  
 Model Year 1991 Issued 10-90 Revised(\*)

## METRIC (U.S. Customary)

Body Type

ALL VEHICLE LINES

### Vehicle Fiducial Marks

| Fiducial Mark Number* |       | Define Coordinate Location                                                                                                                                                                                          |
|-----------------------|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Number 1              |       | X - Fiducial Mark To Vertical Zero Grid Line - Measured Horizontally, From The Zero Grid Line To The Fiducial Mark Located On The Theoretical Center Of The Face Of The Front Outboard Seat Adjuster Mounting Bolt. |
|                       |       | Y - Fiducial Mark To Centerline Of Car - Width Measurement Made From Centerline Of Car To The Fiducial Mark Located On The Theoretical Center Of The Face Of The Front Outboard Seat Adjuster Mounting Bolt.        |
|                       |       | Z - Fiducial Mark To Horizontal Zero Grid Line - Measured Vertically From Zero Grid Line To Front Fiducial Mark Located On The Theoretical Center Of The Face Of The Front Outboard Seat Adjuster Mounting Bolt.    |
| Number 2              |       | Symmetrically Opposite to Number 1.                                                                                                                                                                                 |
| Fiducial Mark Number  |       |                                                                                                                                                                                                                     |
| Number 1              | W21*  | -535                                                                                                                                                                                                                |
|                       | L54*  | 2813                                                                                                                                                                                                                |
|                       | H81*  | 427.9                                                                                                                                                                                                               |
|                       | H161* | 257                                                                                                                                                                                                                 |
|                       | H163* | 239                                                                                                                                                                                                                 |
| **                    |       |                                                                                                                                                                                                                     |
| Number 2              | W22*  | 535                                                                                                                                                                                                                 |
|                       | L55*  | 2813                                                                                                                                                                                                                |
|                       | H82*  | 427.9                                                                                                                                                                                                               |
|                       | H162* | 257                                                                                                                                                                                                                 |
|                       | H164* | 239                                                                                                                                                                                                                 |
| **                    |       |                                                                                                                                                                                                                     |

\* Reference - SAE Recommended Practice, J182, Motor Vehicle Fiducial Marks.

\*\* EPA Loaded Vehicle Weight, Loading Conditions.

All linear dimensions are in millimeters (inches).

## o MVMA Specifications

**METRIC (U.S. Customary)**

Vehicle Line SEDAN SL/SL1/SL2

| Model Year | 1991 | Issued | 10-90 | Revised(*) |
|------------|------|--------|-------|------------|
|------------|------|--------|-------|------------|

[illegible]

\* Reference – SAE J1100 Motor vehicle dimensions, curb weight definition.

\*\* ETWC - Equivalent Test Weight Class - basis for U.S. Environmental Protection Agency emission certifications.

Refer to ETWC code legend below for test weight class.

## ETWC LEGEND

|   |   |      |   |   |      |   |   |      |      |    |   |      |
|---|---|------|---|---|------|---|---|------|------|----|---|------|
| A | = | 1000 | J | = | 2000 | Q | = | 3000 | 4000 | Y  | = | 4000 |
| B | = | 1125 | K | = | 2125 | R | = | 3125 | 4250 | Z  | = | 4250 |
| C | = | 1250 | L | = | 2250 | S | = | 3250 | 4500 | AA | = | 4500 |
| D | = | 1375 | M | = | 2375 | T | = | 3375 | 4750 | BB | = | 4750 |
| E | = | 1500 | N | = | 2500 | U | = | 3500 | 5000 | CC | = | 5000 |
| F | = | 1625 | O | = | 2625 | V | = | 3625 | 5250 | DD | = | 5250 |
| G | = | 1750 | P | = | 2750 | W | = | 3750 | 5500 | EE | = | 5500 |
| H | = | 1875 |   | = | 2875 | X | = | 3875 | 5750 | FF | = | 5750 |

\*\*\* Shipping Mass (weight) = Curb Weight Less:

28.3 Kg. (62.4 lbs.)

# MVMA Specifications

METRIC (U.S. Customary)

Vehicle Line SEDAN SL/SL1/SL2  
Model Year 1991 Issued 10-90 Revised(\*)

|      |                              | Optional Equipment Differential Mass (weight)* |                |                |                                                        |
|------|------------------------------|------------------------------------------------|----------------|----------------|--------------------------------------------------------|
| Code | Equipment                    | MASS, kg. (lb.)                                |                |                | Remarks<br>Restrictions, Requirements                  |
|      |                              | Front                                          | Rear           | Total          |                                                        |
| AB5  | Power Door Locks             | 0.8<br>(1.8)                                   | 0.7<br>(1.5)   | 1.5<br>(3.3)   | Option on SL2 Only<br>Included in HAA on SL, SL1       |
|      |                              |                                                |                |                |                                                        |
| A31  | Power Windows                | 1.4<br>(3.1)                                   | 1.3<br>(2.9)   | 2.7<br>(6.0)   | Requires HAA Option                                    |
|      |                              |                                                |                |                |                                                        |
| CF5  | Sunroof-Glass-Electric       | 6.0<br>(13.2)                                  | 6.0<br>(13.2)  | 12.0<br>(26.4) |                                                        |
|      |                              |                                                |                |                |                                                        |
| C60  | Air Conditioning             | 19.9<br>(43.9)                                 | -2.1<br>(-4.6) | 17.8<br>(39.2) |                                                        |
|      |                              |                                                |                |                |                                                        |
| C66  | Air Conditioning Prep        | 3.5<br>(7.7)                                   | 0<br>(0)       | 3.5<br>(7.7)   | For Dealer Installed Air<br>Conditioning-SL, SL1 Only  |
|      |                              |                                                |                |                |                                                        |
| DC0  | Mirror-Outside-Electric-R.H. | 1.4<br>(3.1)                                   | 0.2<br>(0.4)   | 1.2<br>(2.6)   | SL, SL1                                                |
|      |                              |                                                |                |                |                                                        |
| DC0  | Mirror-Outside-Electric-R.H. | 1.0<br>(2.2)                                   | 0.2<br>(0.4)   | 1.2<br>(1.3)   | SL2                                                    |
|      |                              |                                                |                |                |                                                        |
| D35  | Mirror-Outside-Manual-R.H.   | 0.5<br>(1.1)                                   | 0.1<br>(0.2)   | 0.6<br>(1.3)   | SL, SL1                                                |
|      |                              |                                                |                |                |                                                        |
| D84  | Paint-Custom Two-Tone        | 0.6<br>(1.3)                                   | 0.5<br>(1.1)   | 1.1<br>(2.4)   | SL2                                                    |
|      |                              |                                                |                |                |                                                        |
| HAA  | Power Convenience Package    | 3.6<br>(7.9)                                   | 2.4<br>(5.3)   | 6.0<br>(13.2)  | SL, SL1 Includes Power Locks,<br>Windows, Mirror       |
|      |                              |                                                |                |                |                                                        |
| HAA  | Power Convenience Package    | 2.4<br>(5.3)                                   | 1.5<br>(3.3)   | 3.9<br>(8.6)   | SL2 Includes Power Windows<br>and Electric R.H. Mirror |
|      |                              |                                                |                |                |                                                        |
| JL9  | Anti-Lock Brakes             | 6.2<br>(13.2)                                  | 4.3<br>(9.5)   | 10.5<br>(23.1) |                                                        |
|      |                              |                                                |                |                |                                                        |

\* Also see Engine - General Section for dressed engine mass (weight).

**METRIC (U.S. Customary)**

**SEDAN SL/SL1/SL2**

Model Year

1991

**Issued**

10-90

Revised(\*)

\* Also see Engine – General Section for dressed engine mass (weight).