


# MANUFACTURERS MOTOR VEHICLE SPECIFICATIONS

METRIC (U.S. Customary)

# 1993

<b>Manufacturer</b> CHEVROLET MOTOR DIVISION GENERAL MOTORS CORPORATION	<b>Vehicle Line</b>  LUMINA APV	
<b>Mailing Address</b> CHEVROLET-PONTIAC-CANADA GROUP ENGINEERING CENTER GENERAL MOTORS CORPORATION 30003 VAN DYKE WARREN, MICHIGAN 48090-9060	<b>Issued</b> NOVEMBER, 1992	<b>Revised</b>

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.

Blank Forms Provided by Technical Affairs Division

# MVMA Specifications

METRIC (U.S. Customary)

## Table of Contents

---

	1	Vehicle Models/Origin	<b>○ Indicates Format Change From Previous Year</b>
○	2	Power Teams	
	3	Engine	
	4	Lubrication System	
	4	Diesel Information	
○	5	Cooling System	
	6	Fuel System	
	7	Vehicle Emission Control	
	7	Exhaust System	
○	8-10	Transmission, Axles and Shafts	
	11	Suspension	
○	12-13	Brakes, Tires and Wheels	
	14	Steering	
	15-16	Electrical	
	17	Body — Miscellaneous Information	
	17	Frame	
	18	Restraint System	
○	18	Glass	
	18	Headlamps	
	19	Climate Control System	
○	20-21	Convenience Equipment	
	21	Trailer Towing	
	22-24	Vehicle Dimensions	
	25	Vehicle Fiducial Marks	
	26	Vehicle Mass (Weight)	
	27	Optional Equipment Differential Mass (Weight)	
	28-34	Vehicle Dimensions Definitions - Key Sheets	
	35	Index	

---

### 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) specifications 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 LUMINA APV  
 Model Year 1993 Issued 9-92 Revised(\*)           

METRIC (U.S. Customary)

## Vehicle Origin

Design & development (company)	Chevrolet-Pontiac-Canada
Where built (country)	U.S.A.
Authorized U.S. Sales marketing representative	Chevrolet Motor Division

## Vehicle Models

Model Description & Drive (FWD/RWD/AWD/4WD)*	Make, Vehicle Models, Series, Body Type (Mfr's Model Code)	No. of Designated Seating Positions (Front/Rear)	Max. Trunk/Cargo Load-Kilograms (Pounds)	EPA Fuel Economy (City/Hwy)
LUMINA APV 3-Door Cargo Van	1UM05	2 (2/-)	18/23	
3-Door Van	1UM06	5 (2/3), Std. 6 (2/2/2), Opt. 7 (2/3/2), Opt.	18/23	
LUMINA APV LS 3-Door Van	1UM06 W/Y91	5 (2/3), Std. 7 (2/3/2), Opt.	18/23	

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

# MVMA Specifications

Vehicle Line LUMINA APV  
 Model Year 1993 Issued 9-92 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 29.81 in. Hg/100 kPA atmos. press.

		A	B	C	D	
<b>E N G I N E</b>	Engine Code	LG6	L27			
	Displacement Liters (cu. in.)	3.1 (191)	3.8 (231)			
	Induction system (FI, Carb, etc.)	Electronic Fuel Injection	Multi-Port Fuel Injection			
	Compression ratio	8.5:1	9.0:1			
	SAE Net at RPM	Power kW(bhp)	90 (120) @ 4400	127 (170) @ 4800		
		Torque Newton meters (lb.ft.)	237 (175) @ 2200	305 (225) @ 3200		
	Exhaust Single, dual	Single	Single			
<b>T R A N S</b>	Transmission/ Transaxle	MD9 Auto Transaxle 3-Speed	M13 Auto Transaxle 4-Speed			
	Effective Final Drive/Axle Ratio (std. first)	3.18	3.06			

### Series Availability

### Power Teams (A - B - C - D)

Model	Code	Standard	Optional
<b>LUMINA APV</b>			
3-Dr. Cargo Van	1UM05	A	-
3-Dr. Van	1UM06	A	B
<b>LUMINA APV LS</b>			
3-Dr. Van	1UM06 W/Y91	A	B

# MVMA Specifications

Vehicle Line LUMINA APV  
 Model Year 1993 Issued 9-92 Revised(\*) \_\_\_\_\_

## METRIC (U.S. Customary)

Engine Description  
 Engine Code

3.1 LITER V6 (191 CID)  
 ELECTRONIC FUEL INJECTION RPO LG6

### ENGINE - GENERAL

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

60 deg. V, Front, Transverse

Manufacturer	General Motors Powertrain Division	
No. of cylinders	6	
Bore	89.0 mm (3.50 in.)	
Stroke	84 mm (3.3 in.)	
Bore spacing (C/L to C/L)	111.8 mm (4.40 in.)	
Cyl block matl & mass kg(lbs.)(machined)	Cast Iron, 53.12 (117)	
Cylinder block deck height	224 mm (8.8 in.)	
Cylinder block length	435.5 mm (17.1 in.)	
Deck clearance (minimum) (above or below block)	0.12mm (.005 in.) Below Deck, Nominal	
Cyl. head material & mass kg (lbs.)	Cast Iron, 11.227 (24.8)	
Cylinder head volume cu. cm. (cu. in.)	51.346 (3.13)	
Cylinder liner material	Not Applicable	
Head gasket thickness (compressed)	1.0 mm (.039 in.)	
Minimum combustion chamber total volume cm. cu. (cu. in.)	50.346 (3.07)	
Cyl. no. system (front to rear)	L. Bank	2-4-6
	R. Bank	1-3-5
Firing order	1-2-3-4-5-6	
Intake manifold matl & mass kg(lbs.)**	Cast Aluminum, 6.0 (13.2)	
Exh. manifold matl & mass kg (lbs)**	Cast Iron, 3.610 (8.0) RH, 2.425 (5.3) LH	
Knock sensor (number & location)	None	
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
	Added isolation (sub-frame, crossmember, etc.)	Isolated Engine Cradle
Total dressed engine mass (wt) dry***		

### Engine - Pistons

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

Aluminum Alloy, 365 (12.8)

### Engine Camshaft

Location	In Block Above Crankshaft	
Material & mass kg (weight, lbs.)	Cast Iron, 3.098 (6.83)	
Drive type	Chain/belt	Chain
	Width/pitch	19.4/60.9

\*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:

# MVMA Specifications

Vehicle Line LUMINA APV  
 Model Year 1993 Issued 9-92 Revised \_\_\_\_\_

## METRIC (U.S. Customary)

Engine Description	3800 V6 (231 CID)
Engine Code	MULTI-PORT FUEL INJECTION RPO L27

### ENGINE - GENERAL

Type & description (inline, V, angle, flat, location, front, mid, rear, transverse, longitudinal, sohc, dohc, ohv, hemi, wedge, pre-chamber, etc.)	60 Deg. V, Front, Transverse	
Manufacturer	General Motors Powertrain Division	
No. of cylinders	6	
Bore	96.52mm (3.800 in.)	
Stroke	86.36mm (3.400 in.)	
Bore spacing (C/L to C/L)	107.7mm (4.24 in.)	
Cylinder block matl & mass kg(lbs.) <sup>(machined)</sup>	Cast Iron, 58.46 (128.88)	
Cylinder block deck height	241.9mm (9.522 in.)	
Cylinder block length	398.0mm (15.67 in.)	
Deck clearance (minimum) (above or below block)	1.09mm (.043 in.), Below	
Cyl. head material & mass kg (lbs.)	Cast Iron, 13.09 (28.86)	
Cylinder head volume cu. cm. (cu. in.)	37.36 (2.28)	
Cylinder liner material	None	
Head gasket thickness (compressed)	1.57mm (.062 in.)	
Minimum combustion chamber total volume cu. cm. (cu. in.)	84.49 (5.156)	
Cyl. no. system (front to rear)*	L. Bank	1-3-5
	R. Bank	2-4-6
Firing order	1-6-5-4-3-2	
Intake manifold matl & mass kg (lbs.)**	Aluminum, 5.8 (12.79)	
Exh. manifold matl & mass kg (lbs.)**	Stainless Steel: Left, 3.312 (7.286); Right, 3.607 (7.952)	
Knock sensor (number & location)	1, Cylinder Case	
Fuel required unleaded, diesel, etc.	Unleaded	
Fuel antiknock index (R + M) / 2	87	
Engine mounts	Quantity	4 (1 Engine, 3 Transmission)
	Matl and type (elastomeric, hydroelastic, hydraulic damper, etc.)	2 Hydro Elastic 2 Elastomer
	Added isolation (sub-frame, crossmember, etc.)	Isolated Sub-frame
Total dressed engine mass (wt) dry***		

### Engine - Pistons

Material & mass, g (weight, oz.) - piston only	Aluminum Alloy 413 (14.568)
--	-----------------------------

### Engine Camshaft

Location	Above Crankshaft At Center Of V	
Material & mass kg (weight, lbs.)	5150 Steel 3.08 (6.776)	
Drive type	Chain/belt	Chain
	Width/pitch	9.75mm (.384 in.) Over Guides / 9.53mm (.375 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:

# MVMA Specifications

Vehicle Line LUMINA APV  
 Model Year 1993 Issued 9-92 Revised(\*) \_\_\_\_\_

## METRIC (U.S. Customary)

Engine Description  
 Engine Code

3.1 LITER V6 (191 CID)  
 ELECTRONIC FUEL INJECTION RPO LG6

### Engine - Valve System

Hydraulic lifters (std., opt., n.a.)	Standard
Valves	Number intake/exhaust
	Head O.D. intake/exhaust

6/6  
 43.84 mm (1.72 in.)/38.20 mm (1.43 in.)

### Engine - Connecting Rods

Material & mass kg., (weight, lbs.)*	Forged Steel, .592 (1.30)
Length (axes centerline to centerline)	144.78 mm (5.79 in.)

### Engine - Crankshaft

Material & mass kg., (weight, lbs.)*	Nodular Cast Iron, 17.9 (39.5)
End thrust taken by bearing (no.)	3
Length & number of main bearings	4
Seal (material, one, two piece design, etc.)	Front
	Rear

Fluoroelastomer, One-Piece, Lip Seal  
 Fluoroelastomer, One-Piece, Lip Seal

### Engine - Lubrication System

Normal oil pressure kPa(psi) @ eng rpm	345-448 (50-65) @ 1200
Type oil intake (floating, stationary)	Stationary
Oil filter sys. (full flow, part, other)	Full Flow
Capacity of c/case, less filter-refill-L (qt)	3.8 (4.0)

### 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 injection 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 LUMINA APV  
 Model Year 1993 Issued 9-92 Revised \_\_\_\_\_

## METRIC (U.S. Customary)

Engine Description	3800 V6 (231 CID)
Engine Code	MULTI-PORT FUEL INJECTION RPO L27

### Engine - Valve System

Hydraulic lifters (std., opt., n.a.)	Standard	
Valves	Number intake/exhaust	6/6
	Head O.D. intake/exhaust	43.4mm (1.71 in.) / 38.1mm (1.5 in.)

### Engine - Connecting Rods

Material & mass kg., (weight, lbs.)*	Pearlitic Malleable Iron .697 (1.534)
Length (axes centerline to centerline)	162mm (6.382 in.)

### Engine - Crankshaft

Material & mass kg., (weight, lbs.)*	Nodular Iron, 15.100 (33.29)	
End thrust taken by bearing (no.)	2	
Length & number of main bearings	4	
Seal (material, one, two piece design, etc.)	Front	One Piece Rubber Lip
	Rear	Two Piece Rope

### Engine - Lubrication System

Normal oil pressure kPa (psi) @ eng rpm	255 (37) @ 2400
Type oil intake (floating, stationary)	Stationary
Oil filter sys. (full flow, part, other)	Full Flow
Capacity of c/case, less filter-refill-L (qt.)	3.78 (4.0)

### 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 LUMINA APV  
 Model Year 1993 Issued 9-92 Revised(\*)

METRIC (U.S. Customary)

Engine Description  
 Engine Code

3.1 LITER V6 (191 CID)  
 ELECTRONIC FUEL INJECTION RPO LG6

## Engine - Cooling System

Coolant recovery system (std, opt, n.a.)		Standard	
Coolant fill location (rad., bottle)		Bottle, Coolant Recovery	
Radiator cap relief valve pressure kPa (psi)		103.4 (15)	
Circulation thermostat	Type (choke, bypass)	Bypass	
	Starts to open @ deg's C(F)	91 (195)	
Water Pump	Type (centrifugal, other)	Centrifugal	
	GPM 1000 pump rpm	15.5	
	Number of pumps	1	
	Drive (V-belt, other)	Single Belt Poly 'V' Accessory Drive (Serpentine)	
	Bearing type	Sealed Ball-Roller	
	Impeller material	Cast Iron	
Housing material		Aluminum	
By-pass recirculation type (inter., ext.)		Internal	
Cooling system capacity	With heater - L (qt.)	11.50 (12.15); w/C36 Rear Heater, 13.02 (13.76)	
	With air conditioner-L(qt.)	11.80 (12.47); w/C34 Rear A/C 13.32 (14.08)	
	Opt. equip. specify-L(qt.)	--	
Water jackets full length of cyl(yes,no)		Yes	
Water all around cylinder (yes, no)		Yes	
Water jackets open at head face (yes,no)		Yes	
Radiator core	Std., A/C, HD	Standard	A/C (Opt.)
	Type (cross-flow, etc.)	Cross-Flow	Cross-Flow
	Construction (fin & tube mechanical, braze, etc.)	Tube & Center, Brazed	Tube & Center, Brazed
	Matl., mass kg (wgt., lbs.)	Aluminum, 4.0 (8.8)	Aluminum, 6.0 (13.1)
	Width	668 mm (26.3 in.)	668 mm (26.3 in.)
	Height	438 mm (17.2 in.)	438 mm (17.2 in.)
	Thickness	24 mm (0.94 in.)	34 mm (1.33 in.)
	Fins per inch	12.7	17.0
Radiator end tank material		Plastic	Plastic
Fan	Std., elec., opt.	Standard, Front A/C Electric	W/Rear A/C, Electric
	Number of blades & type (flex, solid, material)	5, Solid, Plastic	6, Solid, Plastic
	Number & location (front, rear of radiator)	1 - Rear Of Radiator	1 - Front Of Radiator/Condenser
	Diameter & projected width	415 (16.3)	300 (11.8)
	Ratio(fan to crnkshft.rev.)	--	--
	Fan cutout type	None	None
	Drive type (direct, remote)	Direct	Direct
	RPM at idle (elec.)	1750 - 1800	2000
	Motor rating(wattage)(elec)	150	80
	Motor switch (type & location/elec.)	Remote, Behind Radiator	Remote, Behind Radiator
	Switch point (temp./ pressure/elec.)	223 deg. F/200 psi	230 deg. F/200 psi
Fan shroud (material)		Plastic	Plastic

# MVMA Specifications

Vehicle Line LUMINA APV  
 Model Year 1993 Issued 9-92 Revised \_\_\_\_\_

## METRIC (U.S. Customary)

Engine Description  
 Engine Code

3800 V6 (231 CID)  
 MULTI-PORT FUEL INJECTION RPO L27

### Engine - Cooling System

Coolant recovery system (std., opt., n.a.)		Standard
Coolant fill location (rad., bottle)		Bottle Coolant Recovery
Radiator cap relief valve pressure kPa (psi)		103.4 (15)
Circulation thermostat	Type (choke, bypass)	Choke
	Starts to open @ deg's C(F)	91 (195)
Water Pump	Type (centrifugal, other)	Centrifugal
	GPM 1000 pump rpm	8.0
	Number of pumps	1
	Drive (V-belt, other)	Single Belt Poly 'V' Accessory Drive (Serpentine)
	Bearing type	Two Row Ball
	Impeller material	Aluminum Alloy
Housing material		Aluminum Alloy
By-pass recirculation type (inter., ext.)		External
Cooling system capacity	With heater - L (qt.)	Not Applicable
	With air conditioner-L(qt.)	11.15 (11.8); HD (V08), 11.09 (11.7)
	Opt. equip. specify-L(qt.)	12.67 (13.4) w/C34 Front & Rear A/C; V08 + C34, 12.61 (13.3)
Water jackets full length of cyl(yes,no)		No
Water all around cylinder (yes, no)		Yes
Water jackets open at head face (yes,no)		No
Radiator core	Std., A/C, HD	A/C V08 (H.D.) (Opt. W/V92)
	Type (cross-flow, etc.)	Cross-Flow Cross-Flow
	Construction (fin & tube mechanical, braze, etc.)	Tube & Fin, Soldered Tube & Fin, Soldered
	Matl., mass kg (wgt., lbs.)	Copper-Brass, 9.30 (20.5) Copper-Brass, 10.01 (22.1)
	Width	719 mm (28.3 in.) 719 mm (28.3 in.)
	Height	430 mm (16.9 in.) 430 mm (16.9 in.)
	Thickness	40.2 mm (1.58 in.) 40.2 mm (1.58 in.)
	Fins per inch	16.93, Fins Per Inch (3.0 K) 16.93 Fins Per Inch (3.0 K)
Radiator end tank material		Copper-Brass Copper-Brass
Fan	Std., elec., opt.	Standard, Electric Standard, Electric
	Number of blades & type (flex, solid, material)	5, Solid, Plastic 6, Solid, Plastic
	Number & location (front, rear of radiator)	1 - Rear Of Radiator 1 - Front Of Radiator/Consenser
	Diameter & projected width	415 mm (16.3 in.) 300 mm (11.8 in.)
	Ratio(fan to crnkshft.rev.)	-- --
	Fan cutout type	None None
	Drive type (direct, remote)	Direct Direct
	RPM at idle (elec.)	1800 2000
	Motor rating(wattage/elec.)	150 80
	Motor switch (type & location/elec.)	Remote, ECM Driven From Inlet Manifold Sensor/ Pressure Switch At Refrigerant Orifice
	Switch point (temp.,/ pressure/elec.)	212 deg. F. A/C "On" 226 deg. F/195 psi
	Fan shroud (material)	Plastic Plastic

# MVMA Specifications

Vehicle Line LUMINA APV  
 Model Year 1993 Issued 9-92 Revised(\*) \_\_\_\_\_

METRIC (U.S. Customary)

Engine Description  
 Engine Code

3.1 LITER V6 (191 CID)  
 ELECTRONIC FUEL INJECTION RPO LG6

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

Induction type: carburetor, fuel injection system, etc.		Fuel Injection
Manufacturer		AC/Rochester Products
Carburetor no. of barrels		Not Applicable
Idle A/F mix.		Preset - No Adjustment Provided
Fuel Injection	Point of inj. (no.)	Throttle Body, 2
	Constant, pulse, flow	Pulse
	Control (elec., mech.)	ECM
	Sys. press. kPa (psi)	76 (11)
Idle spd.--rpm (spec. neutral or drive and propane if used)	Manual	Not Applicable
	Automatic	Drive: A/C Off 650/AC On 800
Intake manifold heat control (exhaust or water thermostatic or fixed)		Water
Air cleaner type		Replaceable Paper Element Single Snorkel
Fuel filter (type/location)		Stainless Steel/Left Underbody - Mid Car
Fuel pump	Type (elec. or mech.)	Electric
	Location (eng., tank)	Fuel Tank
	Press. range kPa (psi)	81-85 (11.7-12.3)
	Flow rate at regulated pressure L (gal)/hr @ kPa (psi)	72.0 (19.0) +/- 17.0 (4.5) @ 83.0 (12.0) +/- 2.0 (0.3)

## Fuel Tank

Capacity refill L (gallons)		75.7 (20.0)
Location (describe)		Left Center Of Vehicle Between Rails
Attachment		Steel Straps - Cross Car
Material & Mass kg (weight lbs.)		High Density Polyethylene
Filler pipe	Location & material	Behind Left Rear Wheel - Steel
	Connection to tank	Hose And Clamp
Fuel line (material)		Nylon
Fuel hose (material)		Low Permeation/Kevlar Reinforced
Return line (material)		Nylon
Vapor line (material)		Steel
Extended range tank	Opt., n.a.	Not Applicable
	Capacity L (gallons)	"
	Location & material	"
	Attachment	"
Auxiliary tank	Opt., n.a.	Not Applicable
	Capacity L (gallons)	"
	Location & material	"
	Attachment	"
	Stctr switch or valve	"
	Separate fill	"

# MVMA Specifications

Vehicle Line LUMINA APV  
 Model Year 1993 Issued            Revised           

## METRIC (U.S. Customary)

Engine Description	3800 V6 (231 CID)
Engine Code	MULTI-PORT FUEL INJECTION RPO L27

### 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		Bosch
Carburetor no. of barrels		Not Applicable
Idle A/F mix.		"
Fuel Injection	Point of inj. (no.)	6
	Constant, pulse, flow	Pulse
	Control (elec., mech.)	Electronic
	Sys. press. kPa (psi)	230-300 (33-43)
Idle spd.-rpm (spec. neutral or drive and propane if used)	Manual	Not Applicable
	Automatic	Computer Controlled
Intake manifold heat control (exhaust or water thermostatic or fixed)		Water Thermostatic
Air cleaner type		Replaceable Paper Element Single Snorkel
Fuel filter (type/location)		Stainless Steel/Left Underbody - Mid Car
Fuel pump	Type (elec. or mech.)	Electric
	Location (eng., tank)	Tank
	Press. range kPa (psi)	345-355 (50-51)
	Flow rate at regulated pressure L (gal)/hr @ kPa (psi)	13 min. @ 350 +/- 5.0

### Fuel Tank

Capacity refill L (gallons)		75.7 (20.0)
Location (describe)		Left Center Of Vehicle Between Rails
Attachment		Steel Straps - Cross Car
Material & Mass kg (weight lbs.)		High Density Polyethylene
Filler pipe	Location & material	Behind Left Rear Wheel - Steel
	Connection to tank	Hose And Clamp
Fuel line (material)		Nylon
Fuel hose (material)		Low Permeation / Kevlar Reinforced
Return line (material)		Nylon
Vapor line (material)		Steel
Extended range tank	Opt., n.a.	Not Applicable
	Capacity L (gallons)	"
	Location & material	"
	Attachment	"
Auxiliary tank	Opt., n.a.	Not Applicable
	Capacity L (gallons)	"
	Location & material	"
	Attachment	"
	Slctr switch or valve	"
	Separate fill	"

# MVMA Specifications

Vehicle Line LUMINA APV  
 Model Year 1993 Issued 9-92 Revised(\*) \_\_\_\_\_

## METRIC (U.S. Customary)

### Engine Description

3.1 LITER V6 (191 CID)

### Engine Code

ELECTRONIC FUEL INJECTION RPO LG6

## Vehicle Emission Control

Exhaust Emission Control	Type (air injection, engine modifications, other)		Computer Command Control
	Air injection	Pump or pulse	Not Applicable
		Driven by	"
		Air distribution (head, manifold, etc.,)	"
		Point of entry	"
	Exhaust Gas Recirculation	Type (controlled flow, open orifice, other)	Controlled Flow
		Exhaust source	Manifold Exhaust Crossover Inlet Manifold
	Catalytic Converter	Type	Single Bed, Oxidizing & Reducing
		Number of	1
		Location(s)	Beneath RF Underbody
Volume L (cu.in)		2.78 (170)	
Substrate type		Monolith	
Noble metal type		Platinum (Pt), Palladium (Pd), Rhodium (Rh)	
Crankcase Emission Control	Type (ventilates to atmosphere, induction system, other)		Closed Induction System
	Energy source (manifold vacuum, carburetor, other)		Manifold Vacuum
	Discharges to (intake manifold, other)		Inlet Manifold
	Air inlet (breather cap, other)		Air Cleaner
Evaporative Emission Control	Vapor vented to (crankcase, canister, other)	Fuel tank	Fuel Tank To Canister To TBI Port
		Carburetor	--
	Vapor storage provision		Canister
Electronic System	Closed loop (yes/no)		No
	Open loop (yes/no)		No

## Engine - Exhaust System

Type (single, single with cross-over, dual, other)		Single W/Cross Over
Muffler no. & type (reverse flow, straight thru, separate resonator) Material & Mass kg (weight lbs.)		1, Reverse Flow
Resonator no. & type		None
Exhaust pipe	Branch o.d., wall thickness	50.8 mm (2.0 in.), Diameter
	Main o.d., wall thickness	50.8 x 1.52 mm (2.0 x .060 in.)
	Matl. & Mass kg (wght.lbs.)	Stainless Steel
Intermediate pipe	o.d. & wall thickness	57.2 x 1.22 mm (2.25 x .048 in.)
	Matl. & Mass kg (wght.lbs.)	Stainless Steel
Tail pipe	o.d. & wall thickness	50.8 x 1.40 mm (2.0 x .055 in.)
	Matl. & Mass kg (wght.lbs.)	Stainless Steel

# MVMA Specifications

Vehicle Line LUMINA APV  
 Model Year 1993 Issued 9-92 Revised \_\_\_\_\_

METRIC (U.S. Customary)

Engine Description

3800 V6 (231 CID)

Engine Code

MULTI-PORT FUEL INJECTION RPO L27

## Vehicle Emission Control

Exhaust Emission Control	Type (air injection, engine modifications, other)		Computer Command Control
	Air injection	Pump or pulse	Not Applicable
		Driven by	"
		Air distribution (head, manifold, etc.)	"
		Point of entry	"
	Exhaust Gas Recirculation	Type (controlled flow, open orifice, other)	Controlled Flow
		Exhaust source	
		Point of exh.inj. (spacer, carb., manifold, other)	Manifold Exhaust Crossover Inlet Manifold
	Catalytic Converter	Type	Single Bed, Oxidizing & Reducing
		Number of	1
		Location(s)	Beneath R/F Underbody
		Volume L (cu.in)	2.78 (170)
		Substrate type	Monolith
		Noble metal type	Platinum (Pt), Palladium (Pd), Rhodium (Rh)
Noble metal concentration (g/cu. cm.)		.00836	
Crankcase Emission Control	Type (ventilates to atmosphere, induction system, other)		Positive Ventilation To Induction System
	Energy source (manifold vacuum, carburetor, other)		Manifold Vacuum
	Discharges to (intake manifold, other)		Inlet Manifold
	Air int.(breather cap, other)		Throttle Body
Evaporative Emission Control	Vapor vented to (crankcase, canister, other)	Fuel tank	Canister
		Carburetor	Not Applicable
	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 W/Cross Over
Muffler no. & type (reverse flow, straight thru, separate resonator) Material & Mass kg (weight lbs.)		1, Reverse Flow, Stainless Steel
Resonator no. & type		1, Straight Thru, Separate Resonator, Stainless Steel
Exhaust pipe	Branch o.d., wall thickness	57.2 mm (2.25 in.), Diameter
	Main o.d., wall thickness	57.2 x 2.05 mm (2.25 x .080 in.)
	Matl. & Mass kg (wght.lbs.)	Stainless Steel
Intermediate pipe	o.d. & wall thickness	57.2 x 1.4 mm (2.25 x .056 in.)
	Matl. & Mass kg (wght.lbs.)	Stainless Steel
Tail pipe	o.d. & wall thickness	57.2 x 1.4 mm (2.25 x .056 in.)
	Matl. & Mass kg (wght.lbs.)	Stainless Steel

# MVMA Specifications

Vehicle Line LUMINA APV  
 Model Year 1993 Issued 9-92 Revised(\*) \_\_\_\_\_

## METRIC (U.S. Customary)

Engine Description  
 Engine Code

3.1 LITER V6 (191 CID)  
 ELECTRONIC FUEL INJECTION RPO LG6

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

Manual 4-speed (manufacturer/country)	Not Applicable
Manual 5-speed (manufacturer/country)	"
Manual 6-speed (manufacturer/country)	"
Automatic (manufacturer/country)	General Motors Powertrain Division, U.S.
Auto. overdrive (manufacturer/country)	Not Applicable

### Manual Transmission/Transaxle (NOT APPLICABLE)

Number of forward speeds		
Gear ratios	1st	
	2nd	
	3rd	
	4th	
	5th	
	6th	
	Reverse	
Synchronous meshing (specify gears)		
Shift lever location		
Trans. case mat'l. & mass kg (lbs)*		
Lubricant	Capacity L (pt.)	
	Type recommended	

### Clutch (Manual Transmission) (NOT APPLICABLE)

Clutch manufacturer		
Clutch type (dry, wet; single, multiple disc)		
Linkage (hyd., cable, rod, lever, other)		
Max. pedal effort (nom. spring load) N (lbs.)	Depressed	
	Released	
Assist (spring, power/percent, nominal)		
Type pressure plate springs		
Total spring load (nominal) N (lbs.)		
Clutch facing	Facing mfg. & matl. coding	
	Facing matl. & construction	
	Rivets per facing	
	Outside x inside dia. (nom.)	
	Total eff. area sq cm (sq in)	
	Thickness (pressure plate side/fly wheel side)	
	Rivet depth (pressure plate side/fly wheel side)	
Engagement cushion method		
Release bearing type & method lub.		
Torsional damping method, springs, hysteresis		

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

# MVMA Specifications

Vehicle Line LUMINA APV  
 Model Year 1993 Issued 9-92 Revised \_\_\_\_\_

## METRIC (U.S. Customary)

Engine Description 3800 V6 (231 CID)  
 Engine Code MULTI-PORT FUEL INJECTION RPO L27

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

Manual 4-speed (manufacturer/country)	Not Applicable
Manual 5-speed (manufacturer/country)	"
Manual 6-speed (manufacturer/country)	"
Automatic (manufacturer/country)	"
Auto. overdrive (manufacturer/country)	General Motors Powertrain Division, U.S.

### Manual Transmission/Transaxle (NOT APPLICABLE)

Number of forward speeds		
Gear ratios	1st	
	2nd	
	3rd	
	4th	
	5th	
	6th	
	Reverse	
Synchronous meshing (specify gears)		
Shift lever location		
Trans. case mat'l. & mass kg (lbs)*		
Lubricant	Capacity L (pt.)	
	Type recommended	

### Clutch (Manual Transmission) (NOT APPLICABLE)

Clutch manufacturer		
Clutch type (dry, wet; single, multiple disc)		
Linkage (hyd., cable, rod, lever, other)		
Max. pedal effort (nom. spring load) N (lbs.)	Depressed	
	Released	
Assist (spring, power/percent, nominal)		
Type pressure plate springs		
Total spring load (nominal) N (lbs)		
Clutch facing	Facing mfr. & matl. coding	
	Facing matl. & construction	
	Rivets per facing	
	Outside x inside dia. (nom.)	
	Total eff. area sq cm (sq in)	
	Thickness (pressure plate side/fly wheel side)	
	Rivet depth (pressure plate side/fly wheel side)	
Engagement cushion method		
Release bearing type & method lub.		
Torsional damping method, springs, hysteresis		

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



# MVMA Specifications

Vehicle Line LUMINA APV  
 Model Year 1993 Issued 9-92 Revised \_\_\_\_\_

## METRIC (U.S. Customary)

Engine Description  
 Engine Code

3.1 LITER V6 (191 CID)  
 ELECTRONIC FUEL INJECTION RPO LG6

### Automatic Transmission/Transaxle

Trade Name		3T40
Type and special features (describe)		3-Speed Automatic
Shift mechanics		Mechanical/Hydraulic
Gear selector	Location (column, floor, other)	Column
	Ltr./No. designation (e.g. PRND21)	P-R-N-D-2-1
	Shift interlock (yes, no, describe)	No
Gear ratios	1st	2.84
	2nd	1.60
	3rd	1.00
	4th	Not Applicable
	5th	"
	6th	"
	Reverse	2.07
Final drive ratio		3.18
Max. upshift vehicle speed - drive range km/h (mph)		1 - 2 = 56 (35) 2 - 3 = 109 (68)
Max. upshift engine speed RPM		5400 RPM
Max. kickdown speed - drive range km/h (mph)		3 - 2 = 103 (64) 2 - 1 = 52 (32)
Min. overdrive speed km/h (mph)		Not Applicable
Torque converter	Type	245 mm With Lock-Up Torque Converter
	Torus design	Full
	Number of elements	3
	Max. ratio at stall	2.22
	Type of cooling (air, liquid)	Liquid
	Nominal diameter	245 mm (9.65 in.)
Capacity factor "K"		177
Pump type		Vane
Lubricant	Capacity refill L (pt.)	6.6 (14)
	Type recommended	Dexron IIE
Oil cooler (std., opt., N.A., internal, external, air, liquid)		Standard - Liquid
Trans. mass kg (lbs) & case matl.**		65.7 (144.81), Cast Aluminum

### All Wheel / 4 Wheel Drive

(NOT APPLICABLE)

Desc. & type (part-time, full-time, 2/4 shift while moving, mech., elect., chain/gear, etc.)		
Transfer	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 LUMINA APV  
 Model Year 1993 Issued 9-92 Revised \_\_\_\_\_

## METRIC (U.S. Customary)

Engine Description 3800 V6 (231 CID)  
 Engine Code MULTI-PORT FUEL INJECTION RPO L26

### Automatic Transmission/Transaxle

Trade Name	4T60-E	
Type and special features (describe)	Automatic Overdrive 4-Speed W/Electronic Controls	
Shift mechanics	Electronic	
Gear selector	Location (column, floor, other)	Column
	Ltr./No. designation (e.g. PRND21)	P-R-N-D-2-1
	Shift interlock (yes, no, describe)	No
Gear ratios	1st	2.92
	2nd	1.57
	3rd	1.00
	4th	.70
	5th	Not Applicable
	6th	"
	Reverse	2.39
Final drive ratio	3.06	
Max. upshift vehicle speed - drive range km/h (mph)	1 - 2 = 62 (39) 2 - 3 = 118 (74)     3 - 4 = Not Applicable	
Max. upshift engine speed RPM	5200 RPM	
Max. kickdown speed - drive range km/h (mph)	3 - 2 = 99 (62) 2 - 1 = 56 (35)	
Min. overdrive speed km/h (mph)	72 (45)	
Torque converter	Type	245 mm With Lock-Up Torque Converter
	Torus design	Full
	Number of elements	3
	Max. ratio at stall	1.73
	Type of cooling (air, liquid)	Liquid
	Nominal diameter	245 mm
Capacity factor "K"	163 K	
Pump type	Vane	
Lubricant	Capacity refill L (pt.)	6.0 (12.7)
	Type recommended	Dexron IIE
Oil cooler (std., opt., N.A., internal, external, air, liquid)	Standard - Liquid	
Trans. mass kg (lbs) & case matl.**	81.0 (178.5), Cast Aluminum	

### All Wheel / 4 Wheel Drive (NOT APPLICABLE)

Desc. & type (part-time, full-time, 2/4 shift while moving, mech., elect., chain/gear, etc.)		
Transfer	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 LUMINA APV  
 Model Year 1993 Issued 9-92 Revised(\*)           

## METRIC (U.S. Customary)

Engine Description	3.1 LITER V6 (191 CID)
Engine Code	ELECTRONIC FUEL INJECTION RPO LG6

### Axle Ratio and Tooth Combinations (See 'Power Teams' for axle ratio usage) - Automatic Trans (MD9)

Effective final drive ratio (or overall top gear ratio)		3.18
Transr ratio and method(chain,gear,etc)		1.12, Chain
Front drive unit	Ring gear o.d.	Not Applicable
	No. of teeth	"
	Pinion	"
	Ring gear	"

### Front Drive Unit

Description (integral to trans., etc.)		Planetary Final Drive Integral With Transmission
Limited slip differential (type)		Not Applicable
Drive pinion	Type	"
	Offset	"
No. of differential pinions		2
Pinion/ differential	Adjustment (shim, etc.)	Not Applicable
	Bearing adjustment	"
Driving wheel bearing (type)		"
Lubricant	Capacity L (pt.)	See Automatic Trans Specs
	Type recommended	See Automatic Trans Specs

### Axle Shafts - Front Wheel Drive

Manufacturer and number used		Saginaw Division (2)	
Type (straight, solid bar, tubular, etc.)	Left	Straight, Solid	
	Right	Straight, Solid	
Outer diam. x length* x wall thickness	Manual transaxle	Left	Not Applicable
		Right	"
	Automatic transaxle	Left	27.1 x 300.0 mm (1.07 x 11.81 in.)
		Right	27.1 x 418.0 mm (1.07 x 16.46 in.)
	Optional transaxle	Left	Not Applicable
		Right	"
Slip yoke	Type	Not Applicable	
	Number of teeth	"	
	Spline o.d.	"	
Universal joints	Make and mfg. no.	Inner	Saginaw Division
		Outer	Saginaw Division
	Number used		Inbrd. & Outbrd. On Each Axle
	Type, size, plunge	Inner	Tripot - 66.0 mm Stroke
		Outer	Rzeppa - Fixed Center
	Attach (u-bolt, clamp, etc.)		Retaining Ring
	Bearing	Type (plain, anti-friction)	Inner - Ball & Needle Outer - Ball
Lubrication (fitting, prepack)		Prepacked	
Drive taken through (torque tube, arms or springs)		Wishbone Lower Control Arm, Upper MacPherson Strut	
Torque taken through (torque tube, arms or springs)		Engine Mounting System	

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

# MVMA Specifications

Vehicle Line LUMINA APV  
 Model Year 1993 Issued 9-92 Revised

## METRIC (U.S. Customary)

Engine Description 3800 V6 (231 CID)  
 Engine Code MULTI-PORT FUEL INJECTION RPO L27

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

Effective final drive ratio (or overall top gear ratio)		3.06
Transfr ratio and method(chain, gear, etc)		1.0, Chain
Front drive unit	Ring gear o.d.	Not Applicable
	No. of teeth	"
	Pinion	"
	Ring gear	"

### Front Drive Unit

Description (integral to trans., etc.)		Planetary Final Drive Integral With Transmission
Limited slip differential (type)		Not Applicable
Drive pinion	Type	"
	Offset	"
No. of differential pinions		2
Pinion/differential	Adjustment (shim, etc.)	Not Applicable
	Bearing adjustment	"
Driving wheel bearing (type)		"
Lubricant	Capacity L (pt.)	See Automatic Trans Specs
	Type recommended	"

### Axle Shafts - Front Wheel Drive

Manufacturer and number used		Saginaw Division (2)		
Type (straight, solid bar, tubular, etc.)		Left	Straight, Solid	
		Right	Straight, Solid	
Outer diam. x length* x wall thickness	Manual transaxle	Left	Not Applicable	
		Right	"	
	Automatic transaxle	Left	27.1 x 300 mm (1.07 x 11.81 in.)	
		Right	27.1 x 337 mm (1.07 x 13.3 in.)	
	Optional transaxle	Left	Not Applicable	
		Right	"	
Slip yoke	Type		Not Applicable	
	Number of teeth		"	
	Spline o.d.		"	
Universal joints	Make and mfg. no.	Inner	Saginaw Division	
		Outer	Saginaw Division	
	Number used			Inboard & Outboard On Each Axle
	Type, size, plunge	Inner	Tripot - 66.0 mm Stroke	
		Outer	Rzeppa - Fixed Center	
	Attach (u-bolt, clamp, etc.)			Retaining Ring
	Bearing	Type (plain, anti-friction)		Inner - Ball & Needle; Outer - Ball
		Lubrication (fitting, prepack)		Prepacked
Drive taken through (torque tube, arms or springs)			Wishbone Lower Control Arm, Upper MacPherson Strut	
Torque taken through (torque tube, arms or springs)			Engine Mounting System	

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

# MVMA Specifications

METRIC (U.S. Customary)

Vehicle Line LUMINA APV  
 Model Year 1993 Issued 9-92 Revised(\*) \_\_\_\_\_

Model Code/Description And/Or  
 Engine Code/Description

ALL

## Suspension - General including Electronic Controls

Car leveling	Std./opt./not avail.	Optional
	Manual/automatic control	Automatic
	Type (air/hydraulic)	Air
	Primary/assist spring	Assist
	Rear only/4 wheel leveling	Rear Only
	Single/dual rate spring	Single
	Single/dual ride heights	Single
	Provision for jacking	None
Shock absorber damping controls	Standard/option/not avail.	Not Available
	Manual/automatic control	"
	Number of damping rates	"
	Type of actuation (manual/electric motor/air, etc.)	"
	s Lateral acceleration	"
	n Deceleration	"
	s Acceleration	"
r Road surface	"	
Shock absorber (front & rear)	Type	Front: MacPherson Strut; Rear: Direct, Double Action
	Make	Delco Products
	Piston diameter	Frnt. 32 (1.26); Rear 25 (1.00)
	Rod diameter	Frnt. 20 (.80); Rear 12.5 (.50)

## Suspension - Front

Type and description	MacPherson Strut With Coil Springs, Stamped Lower Control Arms, And Nodular Iron Steering Knuckles	
Travel	Full jounce (define load condition)	81 From Curb
	Full rebound	111 From Curb
Spring	Type (coil, leaf, other & matl)	Coil, Steel
	Insulators (type & matl)	Upper, Natural Rubber
	Size (Leaf: length & width; Coil: design height & i.d.; Bar: length & diameter)	
	Spring rate N/mm (lb./in.)	27.0 (239)
	Rate @ wheel N/mm (lb./in)	27.0 (239)
Stabilizer	Type (link, linkless, frmless)	Linkless
	Material & O.D. bar/tube, wall thickness	27.0mm (1.06 in.)

## Suspension - Rear

Type and description	Trailing Arm With Stamped Control Arms And Open Section Transverse Beam	
Travel	Full jounce (define load condition)	90 From Curb
	Full rebound	97 From Curb
Spring	Type (coil, leaf, other & matl)	Coil, Steel
	Size (Leaf: length & width; Coil: design height & i.d.; Bar: length & diameter)	
	Spring rate N/mm (lb/in)	48.3 (275), Standard      48.0/57.0 (277/326), Optional
	Rate @ wheel N/mm (lb/in)	28.5 (162)
	Insulators (type & material)	Upper & Lower, Natural Rubber
	If leaf	No. of leaves
	Shackle (comp or tens)	"
Stabilizer	Type (link, linkless, frmless)	Linkless
	Material & O.D. bar/tube, wall thickness	25.4mm (1.0 in.)
Track bar (type)	Transverse Link - Open Section	

# MVMA Specifications

METRIC (U.S. Customary)

Vehicle Line LUMINA APV  
 Model Year 1993 Issued 9-92 Revised(\*)

Model Code/Description And/Or  
 Engine Code/Description  
**Brakes - Service**

ALL

Description		Single Caliper Disc Front; Leading - Trailing Drum Rear			
Manufacturer and brake type (std., opt., n.a.)	Front (disc or drum)	Disc			
	Rear (disc or drum)	Drum			
Valving type(prop, delay, metering, other)		Proportioning			
Power brake (std., opt., n.a.)		Standard			
Booster type(rmt, intgr, vac, hyd., etc.)		Vacuum			
Vacuum	Source (inline, pump, etc.)	Inline			
	Reservoir (volume cu. in.)	None			
	Pump-type	None			
Traction assist	Operational speed range	Not Applicable			
	Type (engine or brake intervention)	"			
Antilock device	Front/rear (std., opt., n.a.)	Std. (Front/Rear)			
	Manufacturer	Delco Chassis Division			
	Type (electronic, mech.)	Electronic			
	Number sensors or circuits	Four Sensors			
	No. antilock hyd. circuits	3			
	Integral or add-on system	Add-On			
	Yaw control (yes, no)	Yes			
Hydraulic power source		Master Cylinder			
Effective area sq. cm. (sq. in.)*		F 243.6 (37.8)/R 383.0 (59.4)			
Gross Lng area sq. cm. (sq. in.)**(F/R)		F 243.6 (37.8)/R 394.7 (61.2)			
Swept area sq. cm. (sq. in.)*** (F/R)		F 1552 (240.6)/R 636 (98.6)			
Rotor	Outer working diameter	F/R	278mm (10.94 in.)		
	Inner working diameter	F/R	167mm (6.57 in.)		
	Thickness	F/R	32.2mm (1.27 in.)		
	Matl & type (vented/std)	F/R	F Cast Iron, Vented		
Drum	Diameter & width	F/R	R 225 x 45 mm (8.86 x 1.77 in.)		
	Type and material	F/R	R Composite Cast Iron, Finned		
Wheel cylinder bore		F 64 mm (2.52 in.)/ R 23.8 mm (.94 in.)			
Master cylinder	Bore/stroke	F/R	24.0 mm (.94 in.)/35.7 mm (1.4 in.)		
Pedal arc ratio		3.4:1			
Line pressure at 445 N (100 lb.) pedal load kPa (psi)		12366 (1793 psi)			
Lining clearance		F/R	Self-Adjusting 0/.381 mm		
Brake lining	Front wheel	Bonded or riveted		Integrally Molded	
		Rivet size		Not Applicable	
		Manufacturer		Delco Chassis Division	
		Lining code ****		DM 131 EE	
		Material		Semi-Metallic	
		****	Pri. or out-brd	136 x 46.7 x 11.2mm (5.35 x 1.84 x .44 in.)	
		Size	Sec. or in-brd	124 x 48.6 x 12.4 mm (4.88 x 1.91 x .49 in.)	
	Shoe thcknss (no lng)		Inboard 4.85mm/Outboard 4.85mm		
	Rear wheel	Bonded or riveted		Riveted (8)	
		Manufacturer		Delco Chassis Division	
		Lining code ****		DM 241 FF	
		Material		Semi-Metallic	
		****	Pri. or out-brd	224.8 x 43.9 x 6.4mm (8.85 x 1.73 x .25 in.)	
		Size	Sec. or in-brd	224.8 x 43.9 x 6.4mm (8.85 x 1.73 x .25 in.)	
Shoe thcknss (no lng)		2 mm (.079 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. X 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 LUMINA APV  
 Model Year 1993 Issued 9-92 Revised(\*)           

METRIC (U.S. Customary)

Model Code/Description And/Or  
 Engine Code/Description

ALL

## Tires And Wheels (Standard)

O	Size (service description)		P205/70R15 All Season 85S	
	Type (bias, radial, etc.)		Steel Belted Radial	
	Tires	Inflation pressure (cold) for recommended max. vehicle load	Front kPa (psi)	240 (35)
			Rear kPa (psi)	240 (35)
	Rev/mile-at 70 km/h(45mph)			
O	Type & material		Steel	
	Rim (size & flange type)		15 x 6.0 J	
	Wheel offset		36 mm	
	Wheels	Attachment	Type (bolt or stud & nut)	Stud/Nut
			Circle diameter	115 mm (4.53 in.)
Number & size			5, M12 x 1.5	
Spare	Tire and wheel		T125/70R15 B.W. Compact Spare, Radial, Wheel Dia. x Width 15 x 4, Inflation Pressure (60 psi/415 kPa)	
	Storage position & location (describe)		Horizontal, Under Floor	

## Tires And Wheels (Optional)

O	Tire size (service description)		P205/70R15 Touring 95S
	Type (bias, radial, steel, nylon, etc.)		Steel Belted Radial
	Wheel (type & material)		Cast Aluminum Or Steel
	Rim (size, flange type and offset)		15 x 6.0 JJ x 36
O	Tire size (service description)		
	Type (bias, radial, steel, nylon, etc.)		
	Wheel (type & material)		
	Rim (size, flange type and offset)		
O	Tire size (service description)		
	Type (bias, radial, steel, nylon, etc.)		
	Wheel (type & material)		
	Rim (size, flange type and offset)		
O	Tire size (service description)		
	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		Foot Pedal Application, T-Handle Release
Location of control		Under Instrument Panel, Left Of Steering Column
Operates on		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 LUMINA APV  
 Model Year 1993 Issued 9-92 Revised(\*)

METRIC (U.S. Customary)

Model Code/Description And/Or  
 Engine Code/Description

ALL

## Steering

Manual (std., opt., n.a.)		Not Applicable		
Power (std., opt., n.a.)		Standard		
Speed-sensitive (std., opt., n.a.)		Not Applicable		
4-wheel steering (std., opt., n.a.)		"		
Adjustable steering wheel/column (tilt, telescope, other)	Type	Tilt Column		
	Manufacturer (std., opt., n.a.)	Saginaw Division		
		Optional		
Wheel diameter ** (W9) SAE J1100	Manual	Not Applicable		
	Power	O.D. 380.0mm		
Turning diameter m (ft.)	Out-side front	Wall to wall (l. & r.)	13.79 (45.2) / 13.90 (45.6)	
		Curb to curb (l. & r.)	13.1 (43.0) / 13.2 (43.3)	
	In-side rear	Wall to wall (l. & r.)	8.24 (27.0) / 8.30 (27.2)	
		Curb to curb (l. & r.)	8.32 (27.3) / 8.40 (27.6)	
Scrub Radius *		2.0 mm (.079 in.)		
Manual	Gear	Type	Not Applicable	
		Manufacturer	"	
		Ratios		
		Gear	"	
	Overall	"		
No. wheel turns (stop to stop)		"		
Power	Type (coaxial, elec. hyd., etc.)		Hydraulic	
	Manufacturer		Saginaw Division	
	Gear	Type	Rack And Pinion With Integral Power Unit	
		Gear	49.90 mm / REV 45.13 mm / REV	
	Ratios	Overall	15.70:1/2.74 17.56:1/On Center	
	Pump (drive)		Belt Off Crankshaft Pulley	
No. wheel turns (stop to stop)		15.70:1/2.74 17.56:1/3.05		
Linkage	Type		End Take-Off Tie Rods	
	Location (front or rear of wheels, other)		Rear Of Front Wheel Centerline	
	Tie Rods (one or two)		2	
Steering axis	Inclination at camber (deg.)		14.6	
	Bear-ings (type)	Upper	Ball Bearing	
		Lower	Ball Joint	
		Thrust	Ball Bearing	
Steering spindle/knuckle & joint type		MacPherson Strut With Lower Ball Joint		

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



# MVMA Specifications

Vehicle Line LUMINA APV  
 Model Year 1993 Issued 9-92 Revised(\*) \_\_\_\_\_

## METRIC (U.S. Customary)

Model Code/Description And/OR  
 Engine Code/Description

ALL

### Wheel Alignment

Front wheel at curb mass (wt.)	Service checking	Caster (deg.)	3.0 (+/-) .7 Left And Right Should Be Equal Within .7
		Camber (deg.)	0.0 (+/-) 1.0 Left And Right Should Be Equal Within 1
		Toe-in outside track - mm (in.)	0.0 (+/-) 0.4
	Service reset*	Caster (deg.)	Not Adjustable
		Camber (deg.)	0.0 (+/-) .5 Left And Right Should Be Equal Within .7
		Toe-in - mm(in.)	0.0 (+/-) 0.2 Total
	Periodic M.V. inspection	Caster (deg.)	Not Adjustable
		Camber (deg.)	0.0 (+/-) 1.00
		Toe-in - mm(in.)	0.0 (+/-) 0.40 Total
Rear wheel at curb mass (wt.)	Service checking	Camber (deg.)	Not Adjustable
		Toe-in outside track - mm (in.)	"
	Service reset*	Camber (deg.)	"
		Toe-in - mm(in.)	"
	Periodic M.V. inspection	Camber (deg.)	"
		Toe-in - mm(in.)	"

\* 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.	Not Available
	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	Not Available
Charge indicator	Type	Light
	Warning device (light, audible)	Light
Temperature indicator	Type	Analog
	Warning device	Not Available
Oil pressure indicator	Type	Analog
	Warning device	Not Available
Fuel indicator	Type	Analog
	Warning device	Not Available
Windshield wiper	Type (standard)	Pulse Wipe NDP
	Type (optional)	--
	Blade length	24 in.
Windshield washer	Swept area sq cm (sq in)	9111 (1412)
	Type (standard)	Wet-Arm System
	Type (optional)	Not Available
Fluid level indicator	Not Available	
Rear window wiper, wiper/washer (std., opt., n.a.)	Standard (Delay Wipe/Demand Wash)	
Horn	Type	Air Tone
	Number used	2
ABS Fault/Active Indicator	Type	Light
	Warning device	Not Available

# MVMA Specifications

Vehicle Line LUMINA APV  
 Model Year 1993 Issued 9-92 Revised(\*) \_\_\_\_\_

## METRIC (U.S. Customary)

### Engine Code/Description

3.1 LITER V6 (191 CID)  
 ELECTRONIC FUEL INJECTION RPO LG8

### Electrical - Supply System

Battery	Manufacturer	Delco Remy
	Model, std., (opt.)	75-525
	Voltage	12
	Amps at 0 deg F cold cmk	525
	Minutes-reserve capacity	90
	Amps/hrs. - 20 hr. rate	--
Location		Engine Compartment
Alternator	Manufacturer	Delco Remy
	Rating (idle/max. rpm)	36 /100
	Ratio (alt. crank/rev.)	2:65:1
	Output at idle (rpm, park)	2120 (W/AC On) 1855 (W/AC Off)
Optional (type & rating)		40/105 Req'd. With RHVAC (C34)/RR. Htr. (C36)
Regulator	Type	Integral W/Alternator

### Electrical - Starting System

Motor	Manufacturer	Delco Remy
	Current drain deg C (F)	340 Amps
	Power rating kw (hp)	1.5 (SD210)
Motor drive	Engagement type	Solenoid Operated Shift Lever
	Pinion engages from (front, rear)	Front

### Electrical - Ignition System

Type	Electronic (std, opt, n.a.)	Standard	
	Other (specify)	--	
Coil	Manufacturer	Delco Remy	
	Model	High Efficiency (High Energy Ignition) Remote Mount	
	Current	Engine stopped - A	100 ma (Approximate)
		Engine idling - A	6 Amps Peak
Spark plug	Manufacturer	AC	
	Model	.R43TS	
	Thread (mm)	14 x 1.25	
	Tightening torque Newton meters (lb. ft.)	9 - 20 (7-15)	
	Gap	1.14mm (.045 in.)	
	Number per cylinder	1	
Distributor	Manufacturer	Delco Remy	
	Model	6-89mm	

### Electrical - Suppression

Locations & type	Internal Alternator Capacitor, Non-Metallic High Tension Ignition Cables, Resistor Spark Plugs, Ignition Coil By-Pass Capacitor, Internal AC Blower Motor By-pass Capacitor & A/C Compressor Diode, Internal Capacitors For Cooling Fan And Windshield Wiper Motor
------------------	--

# MVMA Specifications

Vehicle Line LUMINA APV  
 Model Year 1993 Issued 9-92 Revised \_\_\_\_\_

## METRIC (U.S. Customary)

Engine Code/Description

3800 V6 (231 CID)  
 MULTI-PORT FUEL INJECTION RPO L27

### Electrical - Supply System

Battery	Manufacturer	Delco Remy
	Model, std., (opt.)	75-630
	Voltage	12
	Amps at 0 deg F cold crnk	630
	Minutes-reserve capacity	90
	Amps/hrs. - 20 hr. rate	--
Location	Engine Compartment	
Alternator	Manufacturer	Delco Remy
	Rating (idle/max. rpm)	42/105
	Ratio (alt. crank/rev.)	2.96:1
	Output at idle (rpm, park)	2072 (W/AC On), 1924 (W/AC Off)
Regulator	Optional (type & rating)	50/140 W/RHVAC (C34) / Rear Heater (C36)
Regulator	Type	Integral W/Alternator

### Electrical - Starting System

Motor	Manufacturer	Delco Remy
	Current drain deg C (F)	440 A
	Power rating kw (hp)	1.7 (SD250)
Motor drive	Engagement type	Solenoid Operated Shift Lever
	Pinion engages from (front, rear)	Front

### Electrical - Ignition System

Type	Electronic (std, opt, n.a.)	Standard	
	Other (specify)	--	
Coil	Manufacturer	Magnavox	
	Model	Direct Ignition System	
	Current	Engine stopped - A	75 ma (Approximate)
		Engine idling - A	9.5A
Spark plug	Manufacturer	AC	
	Model	R45LTS6	
	Thread (mm)	14	
	Tightening torque Newton meters (lb. ft.)	20-34 (15-25)	
	Gap	.016	
	Number per cylinder	1	
Distributor	Manufacturer	Not Applicable	
	Model	"	

### Electrical - Suppression

Locations & type	Internal Alternator Capacitor, Non-Metallic High Tension Ignition Cables, Resistor Spark Plugs, Ignition Coil By-Pass Capacitor, Internal AC Blower Motor By-pass Capacitor & A/C Compressor Diode, Internal Capacitors For Cooling Fan And Windshield Wiper Motor
------------------	--

# MVMA Specifications

Vehicle Line LUMINA APV  
 Model Year 1993 Issued 9-92 Revised(\*) \_\_\_\_\_

METRIC (U.S. Customary)

Model Code/Description

ALL

## Body

Structure	Full Unitized Steel Spaceframe Construction. Roof, Body Sides And Rear Surround SMC Panels Are Adhesively Attached To Form Body Shell. Doors, Hood And Liftgate Features Double Panel Construction.
Bumper System Front - Rear	Delco Energy Absorbers, Front - S.R.I.M. Impact Bar, Rear - "Azdel" Polypropylene Impact Bar and R.R.I.M. Fascia - Front & Rear.
Anti-Corrosion Treatment	Galvanized Metals, Zinc Rich Primers And Wax Coatings Used Throughout

## Body - Miscellaneous Information

Type of finish (lacquer, enamel, other)	Base Coat/Clear Coat High Solids Enamel	
Hood	Material & mass	SMC
	Hinge location (front, rear)	Rear
	Type (counterbalance, prop)	Four Bar Link With A Prop Rod At The Front
	Release control (int., ext.)	Body Interior Release Of Primary Latch With Lever Operation Secondary
Trunk lid	Material & mass	Not Applicable
	Type (counterbalance, other)	"
	Internal release control (elec., mech., n.a.)	"
Hatch-back lid	Material & mass	Not Applicable
	Type (counterbalance, other)	"
	Internal release control (elec., mech., n.a.)	"
Tailgate	Material & mass	SMC
	Type (drop, lift, door)	Liftgate One Piece With Fixed Glass
	Internal release control (elec., mech., n.a.)	External Key Operated Unlatch
Vent window control (crank, friction, pivot, power)	Front	Not Applicable
	Rear	"
Window regulator type (cable, tape, flex drive, etc.)	Front	Single Arm Crank Type
	Rear	Rear Side Glass Is Flip Out Hinged At The Front Over Center Latch At Rear
Seat cushion type (e.g., 60/40, bucket, bench, wire, foam, etc.)	Front	Buckets With Full Foam Cushions
	Rear	Std. - Bench W/Full Foam Cushion Easy Removal Opt. - Buckets With Full Foam Cushions Flip Up Or Easy Remove For Stowage
	* 3rd seat	Same As Rear
Seat back type (e.g., 60/40, bucket, bench, wire, foam, etc.)	Front	Bucket Full Foam
	Rear	Bucket Full Foam; Bench Full Foam
	* 3rd seat	Bucket Full Foam

## Frame

Type and description (separate frame, unitized frame, partially-unitized frame)	Unitized Space Frame. Separate Engine/Front Suspension Cradle.
---	--

\* No Second/Third Row Seats In Cargo Van

# MVMA Specifications

Vehicle Line LUMINA APV  
 Model Year 1993 Issued 9-92 Revised(\*)           

METRIC (U.S. Customary)

Model Code/Description

ALL

## Restraint System

Seating Position			Left	Center	Right
Active	Type & description (lap & shoulder belt, lap belt, etc.)	First seat	Lap & Shoulder Belt		Lap & Shoulder Belt
		Second seat	Lap & Shoulder Belt	Lap Belt	Lap & Shoulder Belt
	Standard/optional	Third seat	Lap & Shoulder Belt		Lap & Shoulder Belt
Passive	Type & description (air bag, motorized-2-point belt, fixed belt, knee bolster, manual-lap belt)	First seat			
		Second seat			
	Standard/optional	Third seat			
		SAE Ref No			

## Glass

Windshield glass exposed surface area sq. cm. (sq. in.)	S1	16169 (2506.2)
Side glass exposed surface area sq. cm. (sq. in. - total 2- sides)	S2	27250 (4223.8)
Backlight glass exposed surface area sq. cm. (sq. in.)	S3	9886 (1532.3)
Total glass exposed surface area sq. cm. (sq. in.)	S4	53305 (8262.3)
<input type="radio"/> Windshield glass (type/thickness)		Laminated Glass, 5.4 mm
<input type="radio"/> Side glass (type/thickness)		Tempered Glass, 4.0 mm
<input type="radio"/> Backlight glass (type/thickness)		Tempered Glass, 4.0 mm
<input type="radio"/> Tinted (yes/no, location)		Yes, All Except Windshield
<input type="radio"/> Solar control (yes/no, coated/batched, location)		Yes, Coated, Windshield

## Headlamps

Description - sealed beam, halogen, replaceable bulb, etc.	Halogen Replaceable Bulb; 9005-9006
Shape	Rectangular 100 x 330 mm one each side
Lo-beam type (2A1, 2B1, 2C1, etc.)	9006 Bulb
Quantity	2 - 1 On Each Side (Outboard)
Hi-beam type (1A1, 2A1, 1C1, 2C1, etc.)	9005 Bulb
Quantity	2 - 1 On Each Side (Inboard C/C)

# MVMA Specifications

Vehicle Line LUMINA APV  
 Model Year 1993 Issued 9-92 Revised \_\_\_\_\_

## METRIC (U.S. Customary)

Engine Code/Description

3.1 LITER V6

### Climate Control System

Air conditioning (std., opt., man., auto.)		Manual Optional C67 Front A/C	Manual Optional C34 Front & Rear HVAC
Condenser	Type	Serpentine Aluminum	Serpentine Aluminum
	Eff. face area (sq. mm.)	262,000	262,000
	Fins per inch	10	10
Evaporator	Type	Plate & Center	Plate & Center + Rear: Staggered Rib Plate
	Eff. face area (sq. mm.)	61,300	61,300 + Rear, 33,200
	Fins per inch	14	14
Heater Core	Material	Copper - Brass	Copper - Brass
	Eff. face area (sq. mm.)	39,700	39,700 + 29,300
	Fins per inch	11	11
Compressor	Type	Variable Disp. 5 Cyl. Axial	Axial 6 Cylinder
	Displacement (cc)	150.7	163.8
	Manufacturer	Harrison Division	Harrison Division
	A/C pulley ratio	1.23	1.34
Accumulator	Type	Aluminum	
	Height (mm.)	232.2	
	Diameter (mm.)	88.8	
Receiver	Type	Not Applicable	
	Height (mm.)	"	
	Diameter (mm.)	"	
Refrigerant control (CCOT, TVS, etc.)		CCOT	CCOT + TXV
Heater water valve (yes / no)		No	Yes
Refrigerant (R - 12, R - 134a, etc.)		R-134a	R-134a
Charge level (lbs. - oz.)		2 lbs. 10 oz.	3 lbs. 8 oz.
Cold engine lockout switch (yes / no)		No	No
Wide open throttle cutout switch (yes / no)		Yes	Yes

# MVMA Specifications

Vehicle Line LUMINA APV  
 Model Year 1993 Issued 9-92 Revised \_\_\_\_\_

## METRIC (U.S. Customary)

Engine Code/Description

3800 V6

## Climate Control System

Air conditioning (std., opt., man., auto.)		Manual Optional C87 Front A/C C87	Manual Optional C34 Front & Rear A/C
Condenser	Type	Serpentine Aluminum	Serpentine Aluminum
	Eff. face area (sq. mm.)	262,000	262,000
	Fins per inch	10	10
Evaporator	Type	Plate & Center	Plate & Center & Rear: Staggered Rib Plate
	Eff. face area (sq. mm.)	61,300	61,300 + Rear, 33,200
	Fins per inch	14	14
Heater Core	Material	Copper - Brass	Copper - Brass
	Eff. face area (sq. mm.)	39,700	39,700 + 29,300
	Fins per inch	11	11
Compressor	Type	Axial 6 Cylinder	
	Displacement (cc)	163.8	
	Manufacturer	Harrison Division	
	A/C pulley ratio	1.24	
Accumulator	Type	Aluminum	
	Height (mm.)	232.2	
	Diameter (mm.)	88.8	
Receiver	Type	Not Applicable	
	Height (mm.)	"	
	Diameter (mm.)	"	
Refrigerant control (CCOT, TVS, etc.)		CCOT	CCOT + TXV
Heater water valve (yes / no)		No	Yes
Refrigerant (R - 12, R - 134a, etc.)		R-134a	R-134a
Charge level (lbs. - oz.)		2 lbs. 10 oz.	3 lbs. 8 oz.
Cold engine lockout switch (yes / no)		No	No
Wide open throttle cutout switch (yes / no)		Yes	Yes

# MVMA Specifications

Vehicle Line LUMINA APV  
 Model Year 1993 Issued 9-92 Revised(\*)

METRIC (U.S. Customary)

Model Code/Description

ALL

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

	Clock (digital, analog)	Digital Standard, included W/Standard Radio
	Compass / thermometer	Not Available
	Console (floor, overhead)	Overhead Included W/Optional Lighting Package
O	Defroster, electric windshield	Not Available
	Defroster, electric backlight	Optional
Electronic	Diagnostic monitor (integrated, individual)	Not Available
	Instrument cluster (list instruments)	Speedometer, Temperature Gage, Oil Pressure Gage, Fuel Gage, Odometer, Trip Odometer
	Keyless entry	Not Available
	Tripminder (avg. spd. fuel)	"
	Voice alert (list items)	"
	Other	
	Fuel door lock (remote, key, electric)	Remote Cable Release Standard
Lamps	Auto head on/off delay, dimming	Not Available
	Cornering	"
	Courtesy (map, reading)	Included With Optional Lighting Package
	Door lock, ignition	Interior Door Lock Switches Lighted (W/Opt. Power Door Locks)
	Engine compartment	Included With Optional Lighting Package
	Fog	Not Available
	Glove compartment	Standard
	Trunk	Not Applicable
	Illuminated entry system (list lamps, activation)	Standard -- I/P Courtesy (2), Center Dome, Sliding Door Stepwell W/Door Jamb Switches, Roof - W/Optional Lighting Package -- Console Map Lamps (2) And Liftgate Cargo Lamps (2)
	Other	Rear Area Switchable Dome Reading Lamp Standard
Mirrors	Day / night (auto. man.)	Standard - Manual
	L.H. (remote, pwr., heated)	Cable Remote, Standard; Power Optional
	R.H. (convex, rmt, pwr, htd)	Fixed - Convex, Standard; Power Optional
	Visor vanity (RH/LH illum.)	RH/LH Non-Illum., Standard
	Navigation system (describe)	Not Available
	Prkg. brake-auto release (warn. light)	Warning Light Standard; Auto Release Not Available



# MVMA Specifications

Vehicle Line LUMINA APV  
 Model Year 1993 Issued 9-92 Revised(\*)

METRIC (U.S. Customary)

Model Code/Description

ALL

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

Power equipment	Deck lid(release, pull down)		Not Applicable
	Door locks (manual, auto., describe system)		Optional System Provides Automatic Unlock Of All Doors Inc. Liftgate Via Manual Unlock Of Front Doors W/Key Outside And Switch Inside, Sliding Door Lock Delay
	Seats	2 - 4 - 6 way, etc.	6-Way Power Optional For Driver Seat
		Reclining(R.H., L.H.)	Not Available
		Memory(R.H., L.H., preset, recline)	"
		Support (lumbar, hip, thigh, etc.)	"
		Heated (R.H., L.H., other)	"
	Side windows		Optional - Front Door Windows Only
	Vent windows		Not Available
	Rear windows		Not Available
Radio systems	Antenna (location, whip, w/shield, power)		Integrated Roof Antenna Above Headliner
	Stan.		AM/FM Stereo/Clock
	Opt.	AM, FM, stereo, tape, compact disc, graphic equalizer, theft deterrent, radio prep package, headphone jacks, etc.	AM/FM/Stereo/Cassette AM/FM/Stereo/Compact Disc
	Speaker (number, location)		2 - 4 x 6 Front - Standard 2 - 6 in. Round - Rear - Standard No Optional Speakers Available; Cargo Van - 2 - 4 x 6 Front - Standard
Roof: open air or fixed (flip-up, sliding, 'T')			Fixed, Manual Flip-Up-Optional - Interim Introduction; N/A Cargo Van
Speed control device			Optional, Includes Resume Speed And Acceleration Feature
Speed warn. dev. (light, buzzer, etc.)			Not Available
Tachometer (rpm)			Not Available
Telephone system (describe)			Not Available
Theft deterrent system			Not Available

## Trailer Towing

Towing capable	Yes / No	Yes
Engine/transmission/axle	Std / Opt	3.1L V6/3A/3.18, Std.; 3.8L V6/4A/3.06, Opt.
Tow class (I, II, III)*	Std / Opt	I (Class II W/Opt. 3.8L Engine (L27) And Opt. Trailering Provisions (V92))
Max. gross trailer wgt. (lbs.)	Std / Opt	2000 lbs. (Limited By Max. GCW Of 6400 lbs.), Std.; 3000 lbs. (Limited By Max. GCW Of 7400 lbs.), Opt.
Max. trailer tongue load (lbs.)	Std / Opt	200 lbs., Std.; 300 lbs., Opt.
Towing package available	Yes / No	Yes (W/Opt. Trailering Provisions (V92) And Opt. 3.8L V6 Engine (L27) Not Available - Cargo Van.

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

# MVMA Specifications

Vehicle Line LUMINA APV  
 Model Year 1993 Issued 9-92 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.

#### Model Code/Description

ALL

#### Width

#### SAE Ref. No.

Tread (front)	W101	1503 (59.2)
Tread (rear)	W102	1559 (61.4)
Vehicle width	W103	1878 (73.9)
Body width at Sg RP (front)	W117	1874 (73.8)
Vehicle width (front doors open)	W120	3364 (132.4)
Vehicle width (rear doors open)	W121	Not Required With Sliding Door
Tumble-home (deg.)	W122	19.5
Outside mirror width	W410	2116 (83.3)

#### Length

Wheelbase	L101	2788 (109.8)
Vehicle length	L103	4933 (194.2)
Overhang (front)	L104	1079 (42.5)
Overhang (rear)	L105	1066 (42.0)
Upper structure length	L123	--
Rear wheel C/L 'X' coordinate	L127	4583 (180.4)

#### Height \*\*

Passenger distribution (front/rear)	PD1,2,3		**
Trunk/cargo load			**
Vehicle height	H101	1670 (65.7)	
Cowl point to ground	H114	1096 (43.1)	
Deck point to ground	H138	No Deck	
Rocker panel-front to ground	H112	286 (11.3)	
Rocker panel-rear to ground	H111	301 (11.9)	
Windshield slope angle (deg.)	H122	66.0	
Backlight slope angle (deg.)	H121	22.0	

#### Ground Clearance \*\*

Front bumper to ground	H102	241 (9.5)
Rear bumper to ground	H104	337 (13.3)
Bumper to ground front at curb mass (wt.)	H103	Not Available
Bumper to ground rear at curb mass (wt.)	H105	"
Angle of approach (deg.)	H106	"
Angle of departure (deg.)	H107	"
Ramp breakover angle (deg.)	H147	"
Axle differential to ground (front/rear)	H153	"
Min. running ground clearance	H156	"
Location of min. run. grd. clear.		"

\*\* 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.

All Linear Dimensions Are In Millimeters (Inches)

# MVMA Specifications

Vehicle Line LUMINA APV  
 Model Year 1993 Issued 9-92 Revised(\*)           

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

See Key Sheets for Definitions

Model Code/Description

PASSENGER VAN	CARGO VAN
---------------	-----------

### Front Compartment

SAE Ref. No.

	SAE Ref. No.	Value
SgRP front, "X" coordinate	L31	Height = 912 (35.9), Fore & Aft = 3077.5 (121.16)
Effective head room	H61	996 (39.2)
Max. eff. leg room (accelerator)	L34	1018 (40.1)
SgRP to heel point	H30	372 (14.8)
SgRP to heel point	L53	762 (30.0)
Back angle (deg.)	L40	24.0
Hip angle (deg.)	L42	99.0
Knee angle (deg.)	L44	114.0
Foot angle (deg.)	L46	87.0
Design H-point front travel	L17	181 (7.1)
Normal driving & riding seat track trvl.	L23	178 (7.0)
Shoulder room	W3	1540 (60.6)
Hip room	W5	1410 (55.5)
*** Upper body opening to ground	H50	1548 (60.9)
Steering wheel maximum diameter*	W9	381 (15.0)
Steering wheel angle (deg.)	H18	28.0
Accel. heel pt. to steer. whl. cntr	L11	395 (15.6)
Accel. heel pt. to steer. whl. cntr	H17	851 (33.5)
Undepressed floor covering thickness	H67	11 (0.433)

Front Compartment Int. Dim. Are Measured With The Seating Ref. Pt

### Rear Compartment

(SgRP) mm Forward And mm Upward of Rearmost Position.

	SAE Ref. No.	Value	Value
SgRP point couple distance	L50	775 (30.5)	Not Applicable
Effective head room	H63	983 (38.7)	"
Min. effective leg room	L51	938 (36.9)	"
SgRP (second to heel)	H31	298 (11.7)	"
Knee clearance	L48	91 (3.6)	"
Shoulder room	W4	1504 (59.2)	"
Hip room	W6	1402 (55.2)	"
*** Upper body opening to ground	H51	1518 (59.8)	"
Back angle (deg.)	L41	24.0	"
Hip angle (deg.)	L43	89.0	"
Knee angle (deg.)	L45	97.0	"
Foot angle (deg.)	L47	130.0	"
Depressed floor covering thickness	H73	10 (0.4)	"

### Luggage Compartment

Usable luggage capacity [L (cu. ft.)]	V1	
*** Lifter height	H195	570 (22.4)

### Interior Volumes (EPA Classification)

(NOT APPLICABLE)

Vehicle class		
Interior volume index (cu. ft.)**		
Trunk / cargo index (cu. ft.)		

\* 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 LUMINA APV  
 Model Year 1993 Issued 9-92 Revised(\*)

## METRIC (U.S. Customary)

### Vehicle Dimensions

See Key Sheets for Definitions

#### Body Type

PASSENGER VAN

CARGO VAN

#### Station Wagon / MPV\*\* - Third Seat

#### SAE Ref. No.

Seat facing direction	SD1	FWD	Not Applicable
SgRP couple distance	L85	792 (31.2)	"
Shoulder room	W85	1580 (62.2)	"
Hip Room	W86	1060 (41.7)	"
Effective leg room	L86	865 (34.1)	"
Effective head room	H66	952 (37.5)	"
SgRP to heel point	H67	295 (11.5)	"
Knee clearance	L87	4.0 (0.16)	"
Back angle (deg.)	L88	24.0	"
Hip angle (deg.)	L89	83.5	"
Knee angle (deg.)	L90	84.0	"
Foot angle (deg.)	L91	122.0	"

#### Station Wagon / MPV\*\* Cargo Space

Cargo length (open front)	L200	Not Required For Lift Gate
Cargo length (open second)	L201	Not Required For Lift Gate
Cargo length (closed front)	L202	2110 (83.1)
Cargo length (closed second)	L203	1351 (53.2)
Cargo length at belt (front)	L204	1855 (73.0)
Cargo length at belt (second)	L205	1025 (40.35)
Cargo width (wheelhouse)	W201	1022 (40.2) 1079 (42.5)
Rear opening width at floor	W203	1314 (51.7)
Opening width at belt	W204	1282 (50.5)
Min. rear opening width above belt	W205	1092 (43.0)
Cargo height	H201	1150 (45.3)
Rear opening height	H202	1050 (41.3)
Tailgate to ground height	H250	Not Required For Lift Gate
Front seat back to load floor height	H197	710 (28.0)
Cargo volume index cu. m. (cu. ft.)	V2	Not Applicable
Hidden cargo vol. index cu. m. (cu. ft.)	V4	
Cargo volume index-rear of 2-seat	V10	
Cargo volume index**	V8	3187 L (112.6 cu. ft.)
Cargo width at floor**	W500	1504 (59.3)
Maximum cargo height**	H505	1143 (45.0)

#### Hatchback - Cargo Space

Cargo length at front seatback height	L208	1790 (70.5)
Cargo length at floor (front)	L209	2107 (83.0)
Cargo length at second seatback height	L210	1002 (39.4)
Cargo length at floor (second)	L211	557 (21.9)
Front seatback to load floor height	H197	710 (28.0)
Second seatback to load floor height	H198	695 (27.4)
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

\*\* MPV - Multipurpose Vehicle

All Linear Dimensions Are In Millimeters (Inches)

# MVMA Specifications

Vehicle Line LUMINA APV  
 Model Year 1993 Issued 9-92 Revised(\*)           

METRIC (U.S. Customary)

Model Code/Description ALL

## Vehicle Fiducial Marks

Fiducial Mark Number*	Define Coordinate Location
Front	X - Fiducial Mark To Vertical Zero Grid Line - Front Measured Horizontally, From The Zero Grid Line To The Front Fiducial Mark Located On Top Of The Front Seat Adjuster Mounting Bolt
	Y - Fiducial Mark To Centerline Of Car - Front, Width Measurement Made From Centerline Car To Fiducial Mark Located On Top Of The front Seat Adjuster Mounting Bolt.
	Z - Fiducial Mark To Horizontal Zero Grid Line - Front, Measured Vertically From Zero Grid Line To Front Fiducial Mark Located On Top Of The Front Seat Adjuster Mounting Bolt.
Rear	X - Fiducial Mark To Vertical Zero Grid Line - Rear, Measured Horizontally From The Zero Grid Line To Rear Fiducial Mark Located On The Rail (Compartment Pan - Longitudinal).
	Y - Fiducial Mark To Centerline Of Car - Rear, Width Measurement Made From Centerline Of Car To Fiducial Mark Located On The Rail (Compartment Pan - Longitudinal)
	Z - Fiducial Mark To Horizontal Zero Grid Line - Rear, Measured Vertically From The Zero Grid Line To Rear Fiducial Mark Located On The Rail (Compartment Pan - Longitudinal).
NOTE: Provide 3 of 4 Fiducial Mark Locations	
Front	W21** Not Available
	L54** 2885 (113.6)
	H82** Not Available
	*** H161** "
	*** H163** "
Rear	W22** Not Available
	L55** "
	H82** "
	*** H162** "
	*** H164** "

- \* Reference - SAE Recommended Practice, J182, Motor Vehicle Fiducial Marks.
  - \*\* Reference - SAE Recommended Practice J1100 - Motor Vehicle Dimensions.
  - \*\*\* EPA Loaded Vehicle Weight, Loading Conditions
- All Linear Dimensions Are In Millimeters (Inches)

# MVMA Specifications

METRIC (U.S. Customary)

Vehicle Line LUMINA APV  
 Model Year 1993 Issued 9-92 Revised(\*) \_\_\_\_\_

Code	Model	VEHICLE MASS (weight)				% PASS MASS DISTRIBUTIO'				
		CURB MASS, kg. (lb.)*			SHIPPING MASS kg (lb) ***	ETWC** Code	PASS IN FRONT		PASS IN REAR	
		Front	Rear	Total			Front	Rear	Front	Rear
LUMINA APV (1UM05) 3-Dr. Cargo Van, LG6 3.1 Liter		921.7 (2032)	565.7 (1247)	1487.4 (3279)	1445.8 (3187)	V	50.9	49.1	-	
LUMINA APV (1UM06) 3-Door Van, LG6, 3.1 Liter		941.7 (2076)	633.1 (1396)	1574.8 (4372)	1533.2 (3380)	Y	50.9	49.1	22.9	77.1
LUMINA APV LS (1UM06 W/Y91) 3-Door Van, LG6 3.1 Liter		967.7 (2133)	681.3 (1502)	1649.0 (3635)	1607.4 (3544)	Z	50.9	49.1	22.9	77.1
LUMINA APV (1UM06) 3-Door Van, L27, 3800 V6		1027.0 (2264)	627.9 (1384)	1654.9 (3648)	1613.3 (3557)	Y	50.9	49.1	22.9	77.1
LUMINA APV LS (1UM06 W/Y91) 3-Door Van, L27, 3800 V6		1034.6 (2281)	688.3 (1517)	1722.9 (3798)	1681.3 (3706)	Z	50.9	49.1	22.9	77.1

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

\*\*\* Shipping Mass (weight) = Curb Weight Less:  
 41.6 (91.7)

# MVMA Specifications

METRIC (U.S. Customary)

Vehicle Line LUMINA APV  
 Model Year 1993 Issued 9-92 Revised \_\_\_\_\_

		Optional Equipment Differential Mass (weight)*			
Code	Equipment	MASS, kg. (lb.)			Remarks Restrictions, Requirements
		Front	Rear	Total	
AB3	6-Passenger Seating	-3.8 (-8.4)	38.0 (83.8)	34.2 (75.4)	
AB5	Power Door Locks	.6 (1.3)	.6 (1.3)	1.2 (2.6)	
AG9	6-Way Power Adj.	.4 (.9)	.2 (.4)	.6 (1.3)	
AP9	Convenience Net	0 (0)	.4 (.9)	.4 (.9)	
AR9	Front Bucket Seat, Reclining, Cloth	5.4 (11.9)	4.2 (9.3)	9.6 (21.2)	Opt., APV Cargo 1UM05; Std., Lumina APV 1UM06
A31	Power Window	.8 (1.8)	.4 (.9)	1.2 (2.6)	
B32	Front Floor Mat	1.8 (4.0)	.4 (.9)	2.2 (4.9)	
B33	Rear Floor Mat	.8 (1.7)	1.2 (2.6)	2.0 (4.4)	With ZP5
B33	Rear Floor Mat	1.0 (2.2)	2.6 (5.8)	3.6 (8.0)	With AB3/ZP7
C34	F/R HVAC	29.0 (63.9)	10.0 (22.0)	39.0 (86.0)	W/3.1L Engine LG6
C34	F/R HVAC	5.8 (12.8)	12.2 (26.9)	18.0 (39.7)	W/3.8L Engine L27
C54	Sunroof (Interim '93)	4.4 (9.7)	3.6 (7.9)	8.0 (17.6)	Req's TR9 Lamp Group

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

# MVMA Specifications

METRIC (U.S. Customary)

Vehicle Line LUMINA APV  
 Model Year 1993 Issued 9-92 Revised

		Optional Equipment Differential Mass (weight)*			
Code	Equipment	MASS, kg. (lb.)			Remarks Restrictions, Requirements
		Front	Rear	Total	
C67	Air Conditioning	22.6 (49.8)	-2.6 (-5.8)	20.0 (44.0)	W/3.1L Engine LG6
DD9	Electric Power Mirrors	.6 (1.3)	.2 (.4)	.8 (1.8)	
G67	Auto Level Control	.2 (.4)	5.4 (11.9)	5.6 (12.3)	
K05	Engine Block Heater	.4 (.9)	0 (0)	.4 (.9)	W/3.1L Engine, LG6
K05	Engine Block Heater	.2 (.4)	0 (0)	.2 (.4)	W/3800 Engine, L27
K34	Cruise Control	1.0 (2.2)	.4 (.9)	1.4 (3.1)	W/3.1L Engine, LG6
K34	Cruise Control	.8 (1.8)	.2 (.4)	1.0 (2.2)	W/3800 Engine, L27
L27	3800 Multi-Port Fuel Injection Engine	67.1 (147.9)	-7.8 (-17.2)	59.3 (130.7)	Req's 4-Speed Automatic Transmission, M13
M13	4-Speed Automatic Transmission	16.6 (36.6)	0 (0)	16.6 (36.6)	Req's 3800 Multi-Port Fuel Injection Engine, L27
N33	Tilt Steering Column	.4 (.9)	0 (0)	.4 (.9)	
PB4	Wheel Locks	.2 (.4)	.2 (.4)	.4 (.8)	Incl. w/Alum. Wheels PH3
PH3	15 x 6 Aluminum Wheel	-.6 (-1.3)	-.6 (-1.3)	-1.2 (-2.6)	

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



# MVMA Specifications

METRIC (U.S. Customary)

Vehicle Line LUMINA APV  
 Model Year 1993 Issued 9-92 Revised \_\_\_\_\_

		Optional Equipment Differential Mass (weight)*			
Code	Equipment	MASS, kg. (lb.)			Remarks Restrictions, Requirements
		Front	Rear	Total	
P42	Self-Sealing Tires	3.6 (7.9)	3.6 (7.9)	7.2 (15.9)	
TR9	Lamp Group	.4 (.9)	0 (0)	.4 (.9)	
UF2	Cargo Lamp	0 (0)	.2 (.4)	.2 (.4)	Incl. W/Lamp Group TR9
UM6	AM/FM Stereo/Cassette	.4 (.9)	.2 (.4)	.6 (1.3)	
UY7	Trailer Wiring Harness	0 (0)	1.0 (2.2)	1.0 (2.2)	Req's 3800 Engine L27; Incl. W/Trailer Pkg. V92
U1C	AM/FM Stereo/Compact Disc	.8 (1.8)	.2 (.4)	1.0 (2.2)	
VK3	License Plate - Front Mounting Package	.8 (1.8)	-.4 (-.9)	.4 (.9)	
V08	H.D. Cooling System	1.4 (3.1)	-.2 (-.4)	1.2 (2.6)	Req's 3800 Engine L27; Incl. W/Trailer Pkg. V92
V54	Luggage Rack	.6 (1.3)	5.8 (12.8)	6.4 (14.1)	
XIN	15" Tires Front, Touring	-.4 (-.9)	0 (0)	-.4 (-.9)	
YIN	15" Tires Rear, Touring	0 (0)	-.4 (-.9)	-.4 (-.9)	
ZP7	7-Passenger Seating	.8 (1.8)	48.0 (105.8)	48.8 (107.6)	

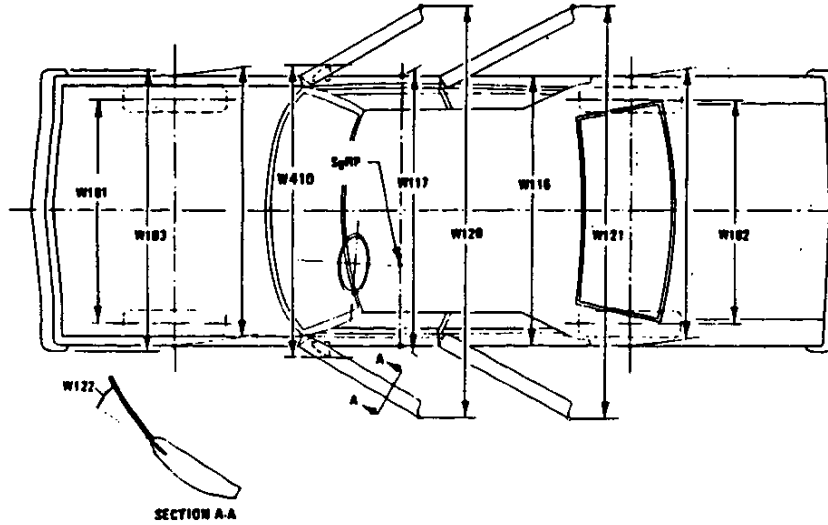
\* Also see Engine - General Section for dressed engine mass (weight).

# MVMA Specifications

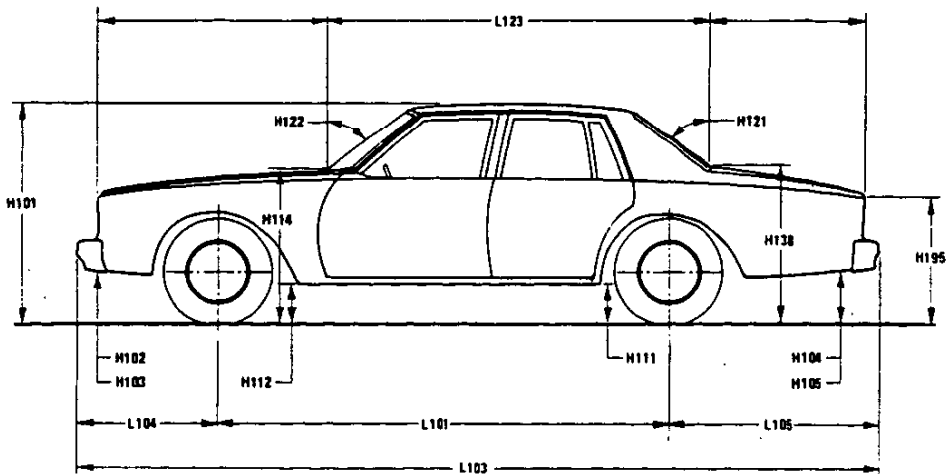
METRIC (U.S. Customary)

## Exterior Vehicle And Body Dimensions – Key Sheet

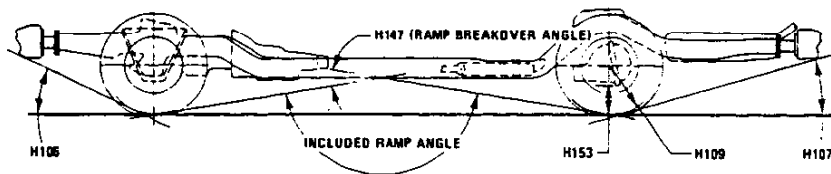
### Exterior Width



### Exterior Length & Height



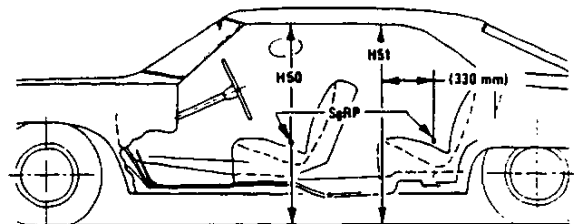
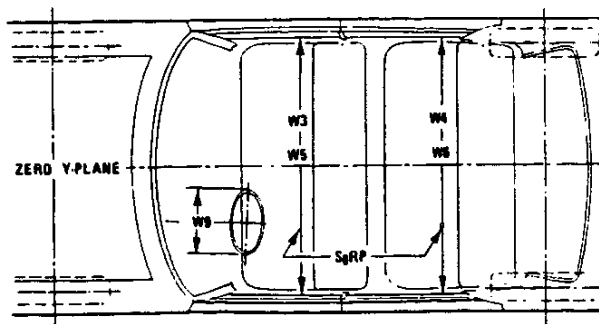
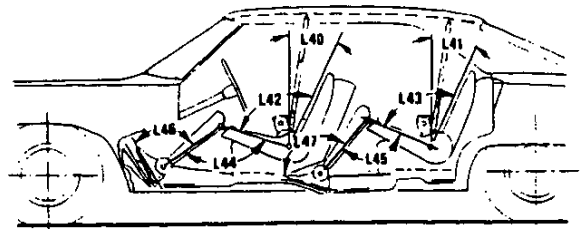
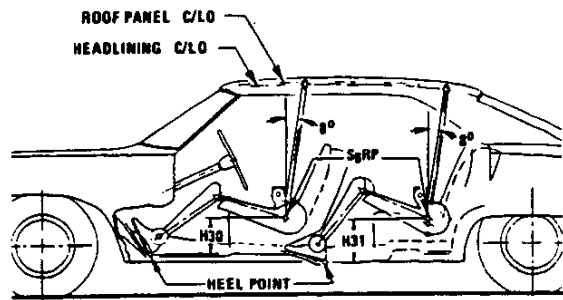
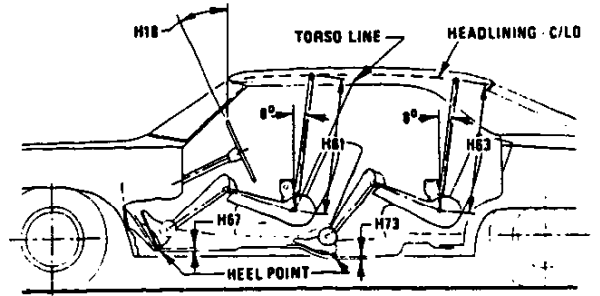
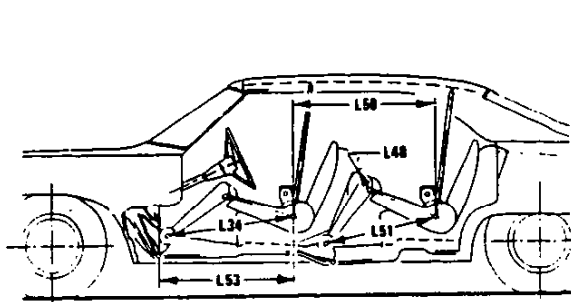
### Exterior Ground Clearance



# MVMA Specifications Form

## METRIC (U.S. Customary)

### Interior Vehicle And Body Dimensions - Key Sheet

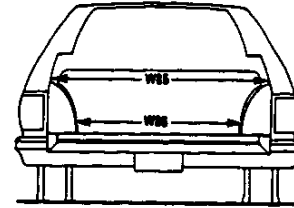
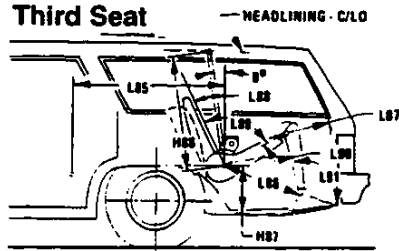


# MVMA Specifications

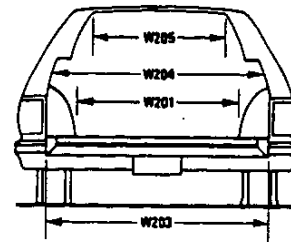
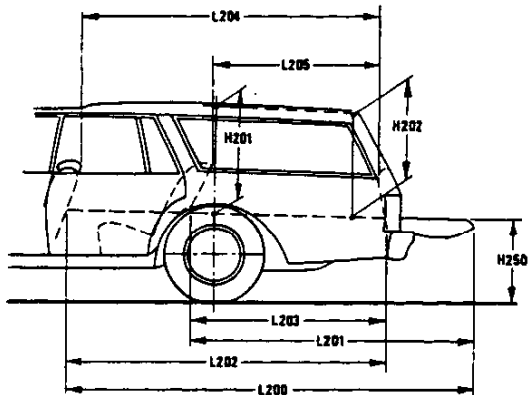
METRIC (U.S. Customary)

## Interior Vehicle And Body Dimensions - Key Sheet

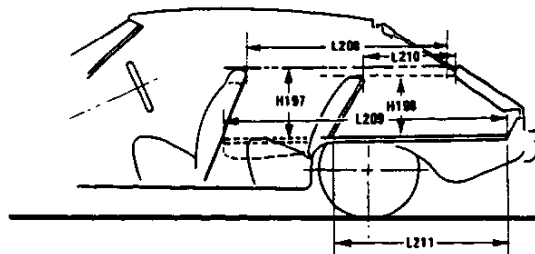
### Third Seat



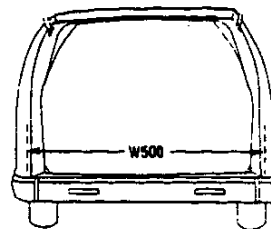
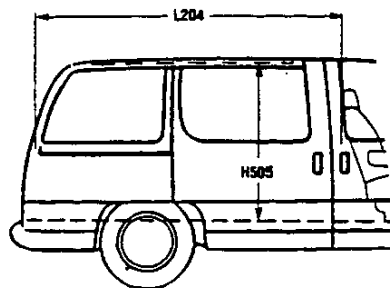
### Cargo Space



### Station Wagon



### Hatchback



### Multipurpose Vehicle

# MVMA Specifications

## METRIC (U.S. Customary)

### Exterior Vehicle And Body Dimensions – Key Sheet Dimensions Definitions

#### Seating Reference Point

SEATING REFERENCE POINT means the manufacturer's design reference point which –  
(a) Establishes the rearmost normal design driving or riding position of each designated seating position in a vehicle;  
(b) Has coordinates established relative to the design vehicle structure;  
(c) Simulates the position of the pivot center of the human torso and thigh; and  
(d) Is the reference point employed to position the two dimensional templates described in SAE Recommended Practice J826, "Devices for Use in Defining and Measuring Vehicle Seating Accommodations."

#### Width Dimensions

- W101 TREAD – FRONT. The dimension measured between the tire centerlines at the ground.
- W102 TREAD – REAR. The dimension measured between the tire centerlines at the ground. In case of dual wheels, the dimension will be measured to the centerline of tire and wheel assemblies.
- W103 VEHICLE WIDTH. The maximum dimension measured between the widest point on the vehicle, excluding exterior mirrors, flexible mud flaps, marker lamps, but including bumpers, moldings, sheet metal protrusions or dual wheels, if standard equipment.
- W117 BODY WIDTH AT SgRP – FRONT. The dimension measured laterally between the widest points on the body at the SgRP-front, excluding door handles, applied moldings, or appliques.
- W120 VEHICLE WIDTH – FRONT DOORS OPEN. The dimension measured between the widest point on the front doors in maximum hold-open position.
- W121 VEHICLE WIDTH – REAR DOORS OPEN. The dimension measured between the widest point on the rear doors in maximum hold-open position. For vehicles with a rear door on only one side, this dimension is to the zero "Y" plane.
- W122 TUMBLE – HOME. STRAIGHT SIDE GLASS. The angle measured from a vertical to the outside surface of the front door glass at the SgRP "X" plane.
- CURVED SIDE GLASS. The angle measured from a vertical to a chord extending from the upper DLO to the lower DLO at the outside surface of the front door glass at the front SgRP "X" plane.
- W410 OUTSIDE MIRROR WIDTH: The dimension between the widest point on the outside mirrors. The standard right and left mirror adjusted for normal driving will be shown unless otherwise noted. When only one outside mirror is standard, the dimension will be to the zero "Y" plane.

#### Length Dimensions

- L101 WHEELBASE (WB). The dimension measured longitudinally between front and rear wheel centerlines. In case of dual rear axles, the dimension shall be to the midpoint of the centerlines of the rear wheels.
- L103 VEHICLE LENGTH. The maximum dimension measured longitudinally between the foremost point and the rearmost point on the vehicle, including bumper, bumper guards, tow hooks and/or rub strips, if standard equipment.
- L104 OVERHAND – FRONT. The dimension measured longitudinally from the centerline of the front wheels to the foremost point on the vehicle including bumper, bumper guards, tow hooks and/or rub strips, if standard equipment.
- L105 OVERHANG – REAR. The dimension measured longitudinally from the centerline of the rear wheels; or in the case of dual rear axles, the dimension shall be the midpoint of the centerlines of the rear wheels, to the rearmost point on the vehicle including rear bumpers, bumper guards, tow hooks and rub strips, if standard equipment.

- L123 UPPER STRUCTURE LENGTH. The dimension measured longitudinally from the cowl point to the deck point.
- L127 REAR WHEEL CENTERLINE "X" COORDINATE or in the case of dual rear axles, the coordinate shall be the midpoint of the distance between the rear axle centerlines.

#### Height Dimensions

- H101 VEHICLE HEIGHT. The dimension measured vertically from the highest point on the vehicle body to ground.
- H111 ROCKER PANEL – REAR TO GROUND. The dimension measured vertically from the bottom of the rocker or side quarter panel at the front of the rear wheel opening, excluding flanges, to ground.
- H112 ROCKER PANEL – FRONT TO GROUND. The dimension measured vertically from the foremost point on the bottom of the rocker panels, excluding flanges, to ground.
- H114 COWL POINT TO GROUND. Measured at zero "Y" plane.
- H121 BACKLIGHT SLOPE ANGLE. The angle between the vertical reference line and the surface of backlight at vehicle zero "Y" plane. For curve backlight, the angle is to chord of backlight arc from lower DLO to upper DLO.
- H122 WINDSHIELD SLOPE ANGLE. The angle between the vertical reference line and a chord of the windshield arc running from the lower DLO to the upper DLO at the vehicle zero "Y" plane. In the case of wrap over glass, the angle to be measured will be formed by a chord 457 mm (18.0 in.) long drawn from the lower DLO to the intersecting point on the windshield.
- H138 DECK POINT TO GROUND. Measured at zero "Y" plane.
- H109 STATIC LOAD – TIRE RADIUS – REAR. Specified by the manufacturer in accordance with composite TIRE SECTION STANDARD.

#### Ground Clearance Dimensions

- H102 FRONT BUMPER TO GROUND. The minimum dimension measured vertically from the lowest point on the front bumper to ground, including bumper guards, if standard equipment.
- H103 FRONT BUMPERTO GROUND – CURB MASS (WT.). Measured in the same manner as H102.
- H104 REAR BUMPER TO GROUND. The minimum dimension measured vertically from the lowest point on the rear bumper to ground, including bumper guards, if standard equipment.
- H105 REAR BUMPER TO GROUND – CURB MASS (WT.). Measured in the same manner as H104.
- H106 ANGLE OF APPROACH. The angle measured between a line tangent to the front tire static loaded radius arc and the initial point of structural interference forward of the front tire to ground. The limiting structural component shall be designated.
- H107 ANGLE OF DEPARTURE. The angle measured between a line tangent to the rear tire static loaded radius arc and the initial point of structural interference rearward of the rear tire to ground. The limiting component shall be designated.
- H147 RAMP BREAKOVER ANGLE. The angle measured between two lines tangent to the front and rear tire static loaded radius and intersecting at a point on the underside of the vehicle which defines the largest ramp over which the vehicle can roll.
- H153 REAR AXLE DIFFERENTIAL TO GROUND. The minimum dimension measured from the rear axle differential to ground.
- H156 MINIMUM RUNNING GROUND CLEARANCE. The minimum dimension measured from the sprung vehicle to ground. Specify location.

# MVMA Specifications

## METRIC (U.S. Customary)

### Interior Vehicle And Body Dimensions – Key Sheet Dimensions Definitions

#### Glass Areas

- S1 Windshield area.
- S2 Side windows area. Includes the front door, rear door, vents, and rear quarter windows on both sides of the vehicle.
- S3 Backlight areas.
- S4 Total area. Total of all areas (S1 + S2 + S3).

#### Fiducial Mark Dimensions

##### Fiducial Mark – Number 1

- L54 "X" coordinate.
- W21 "Y" coordinate.
- H81 "Z" coordinate.
- H161 Height "Z" coordinate to ground at curb weight.
- H163 Height "Z" coordinate to ground.

##### Fiducial Mark – Number 2

- L55 "X" coordinate.
- W22 "Y" coordinate.
- W82 "Z" coordinate.
- H162 Height "Z" coordinate to ground at curb weight.
- H164 Height "Z" coordinate to ground.

#### Front Compartment Dimensions

- L11 ACCELERATOR HEEL POINT TO STEERING WHEEL CENTER. The dimension measured horizontally from the AHP to the intersection of the steering column centerline and a plane tangent to the upper surface of the steering wheel rim.
- L17 DESIGN H-POINT – FRONT TRAVEL. The dimension measured horizontally between the design H-point – front in the foremost and rearmost seat track positions. (See SAE J1100)
- L23 NORMAL DRIVING AND RIDING SEAT TRACK TRAVEL. The dimension measured horizontally between a point on the design H-point travel line from the SgRP to the displaced point on the design H-point travel line with the seat moved to the foremost seat position, but not to include seat track travel used for purposes other than normal driving and riding positions. (See SAE J1100).
- L31 SgRP – FRONT. "X" COORDINATED.
- L34 MAXIMUM EFFECTIVE LEG ROOM – ACCELERATOR. The dimension measured along a line from the ankle pivot center to the SgRP – front plus 254 mm (10.0 in.) measured with right foot on the undepressed accelerator pedal. For vehicles with SgRP to heel (H30) greater than 18 in., the accelerator pedal may be depressed as specified by the manufacturer. If the accelerator is depressed, the manufacturer shall place foot flat on pedal and note the depression of the pedal.
- L-40 BACK ANGLE – FRONT. The angle measured between a vertical line through the SgRP – front and the torso line. If the seatback is adjustable, use the normal driving and riding position specified by the manufacturer.
- L-42 HIP ANGLE – FRONT. The angle measured between torso line and thigh centerline.
- L44 KNEE ANGLE – FRONT. The angle measured between thigh centerline and lower leg centerline measured on the right leg.
- L46 FOOT ANGLE – FRONT. The angle measured between the lower leg centerline and a line tangent to the ball and heel of the bare foot flesh line measured on the right leg. Ref SAE J826.
- L53 SgRP – FRONT TO HEEL. The dimension measured horizontally from the SgRP – front to the accelerator heel point.
- W3 SHOULDER ROOM – FRONT. The minimum dimension measured laterally between the trimmed surfaces on the "X" plane through the SgRP – front at height between the belt line and 254 mm (10.0 in.) above the SgRP – front, excluding the door assist strap and attaching parts.

- W5 HIP ROOM – FRONT. The minimum dimension measured laterally between the trimmed surfaces on the "X" plane through the SgRP – front within 25 mm (1.0 in.) below and 76 mm (3.0 in.) above the SgRP – front and 76 mm (3.0 in.) fore and aft of the SgRP – front.
- W9 STEERING WHEEL MAXIMUM OUTSIDE DIAMETER. Define if other than round.
- H7 ACCELERATOR HEEL POINT TO THE STEERING WHEEL CENTER. The dimension measured vertically from the AHP – front to the intersection of the steering column centerline to a plane tangent to the upper surface of the steering wheel rim.
- H18 STEERING WHEEL ANGLE. The angle measured from a vertical to the surface plane of the steering wheel.
- H30 SgRP – FRONT TO HEEL. The dimension measured vertically from the SgRP – front to the accelerator heel point.
- H50 UPPER BODY OPENING TO GROUND – FRONT. The dimension measured vertically from the trimmed body opening to the ground on the SgRP – front "X" plane.
- H61 EFFECTIVE HEAD ROOM – FRONT. The dimension measured along a line 8 deg. rear of vertical from the SgRP – front to the headlining plus 102 mm (4.0 in.).
- H67 FLOOR COVERING THICKNESS – UNDEPRESSED – FRONT. The dimension measured vertically from the surface of the undepressed floor covering to the underbody sheet metal at the accelerator heel point.

#### Rear Compartment Dimensions

- L-41 BACK ANGLE – SECOND. The angle measured between a vertical line through the SgRP – second and the torso line.
- L43 HIP ANGLE – SECOND. The angle measured between torso line and thigh centerline.
- L45 KNEE ANGLE – SECOND. The angle measured between thigh centerline and lower leg centerline.
- L47 FOOT ANGLE – SECOND. The angle measured between lower leg centerline and a line tangent to the ball and heel of the three-dimensional devices bare foot flesh line (Reference J826).
- L48 KNEE CLEARANCE – SECOND. The minimum dimension measured from the knee pivot center to the back of the front seatback minus 51 mm (2.0 in.).
- L50 SgRP COUPLED DISTANCE – SECOND. The dimension measured horizontally from the driver SgRP – front to the SgRP – second.
- L51 MINIMUM EFFECTIVE LEG ROOM – SECOND. The dimension measured along a line from the ankle pivot center to the SgRP – second plus 254 mm (10.0 in.).
- W4 SHOULDER ROOM – SECOND. The minimum dimension measured laterally between door or quarter trimmed surfaces on the "X" plane through the SgRP – second at height between 254-406 mm (10.0-16.0 in.) above the SgRP – second, excluding the door assist straps and attaching parts.
- W6 HIP ROOM – SECOND. Measured in the same manner as W5.
- H31 SgRP – SECOND TO HEEL. The dimension measured vertically from the SgRP – second to the two dimensional device heel point on the depressed floor covering.
- H51 UPPER BODY OPENING TO GROUND – SECOND. The dimension measured vertically from the trimmed body opening to the ground on the "X" plane 330 mm (13.0 in.) forward of the SgRP – second.
- H63 EFFECTIVE HEAD ROOM – SECOND. The dimension measured along a line 8 deg. rear of vertical from the SgRP to the headlining, plus 102 mm (4.0 in.).
- H73 FLOOR COVERING – DEPRESSED – SECOND. The dimension measured vertically from the heel point to the underbody sheet metal.

# MVMA Specifications

## METRIC (U.S. Customary)

### Interior Vehicle And Body Dimensions – Key Sheet Dimensions Definitions

#### Luggage Compartment Dimensions

V1 USABLE LUGGAGE CAPACITY – Total of volumes of individual pieces of standard luggage set plus H-boxes stowed in the luggage compartment in accordance with the procedure described in paragraph 8.2 of SAE-J1100a.

#### Interior Volumes (EPA Classification)

The Interior Volume Index is listed for each body style except two seaters. The Interior Volume Index estimates the space in a car. It is based on four measurements – head room, shoulder room, hip room, and leg room – for the front and rear seats, plus trunk capacity.

The Trunk/Cargo Index is an estimate of the size of the trunk/cargo space. In station wagons and hatchbacks it is an estimate of the space behind the second seat.

#### Station Wagon / MPV – Third Seat Dimensions

- L85 SgRP COUPLE DISTANCE – THIRD. The dimension measured horizontally from the SgRP – second to the SgRP – third.
- L86 EFFECTIVE LEG ROOM – THIRD. The dimension measured along a line from the ankle pivot center to the SgRP – third plus 254 mm (10.0 in.).
- L87 KNEE CLEARANCE – THIRD. The minimum dimension from the knee pivot center to the back of second seatback minus a constant of 51 mm (2.0 in.). With rear-facing third seat, dimension is measured to closure.
- L88 BACK ANGLE – THIRD. Measured in the same manner as L41.
- L89 HIP ANGLE – THIRD. Measured in the same manner as L43.
- L90 KNEE ANGLE – THIRD. Measured in the same manner as L45.
- L91 FOOT ANGLE – THIRD. Measured in the same manner as L47.
- W85 SHOULDER ROOM – THIRD. Measured in the same manner as W4.
- W86 HIP ROOM – THIRD. Measured in the same manner as W5.
- H86 EFFECTIVE HEAD ROOM – THIRD. The dimension, measured along a line 8 deg. from the SgRP – third to the headlining rear of vertical plus a constant of 102 mm (4.0 in.).
- H87 SgRP – THIRD TO HEEL POINT.
- SD1 SEAT FACING DIRECTION – THIRD.

#### Station Wagon / MPV – Cargo Space Dimensions

- L200 CARGO LENGTH – OPEN – FRONT. The minimum dimension measured longitudinally from the back of the front seatback at the height of the undepressed floor covering to the rearmost point on the undepressed floor covering on the open tailgate or cargo surface if the rear closure is a conventional door type tailgate at the zero "Y" plane.
- L201 CARGO LENGTH – OPEN – SECOND. The dimension measured longitudinally from the back of the second seatback at the height of the undepressed floor covering to the rearmost point on the undepressed floor covering on the open tailgate or cargo floor surface if the rear closure is a conventional door type tailgate, at the zero "Y" plane.

- L202 CARGO LENGTH – CLOSED – FRONT. The minimum dimension measured horizontally from the back of the front seat at the height of the undepressed floor covering to the rearmost point on the undepressed floor covering on the closed tailgate or taildoor for station wagons, trucks and mpv's at the zero "Y" plane.
- L203 CARGO LENGTH – CLOSED – SECOND. The dimension measured horizontally from the back of the second seat at the height of the undepressed floor covering to the rearmost point on the undepressed floor covering on the closed tailgate or taildoor for station wagons, trucks and mpv's at the zero "Y" plane.
- L204 CARGO LENGTH AT BELT – FRONT. The minimum dimension measured horizontally from the back of the front seatback at the seatback top to the foremost normal surface of the closed tailgate or inside surface of the cab backpanel at the height of the belt, on the zero "Y" plane.
- L205 CARGO LENGTH AT BELT – SECOND. The minimum dimension measured horizontally from the back of the second seatback at the seatback top to the foremost normal surface of the closed tailgate at the height of the belt, on the zero "Y" plane.
- W201 CARGO WIDTH – WHEELHOUSE. The minimum dimension measured laterally between the trimmed wheelhouseings at floor level. For any vehicle not trimmed, measure to the sheet metal.
- W203 REAR OPENING WIDTH AT FLOOR. The minimum dimension measured laterally between the limiting interferences of the rear opening at floor level.
- W204 REAR OPENING WIDTH AT BELT. The minimum dimension measured laterally between the limiting interferences of the rear opening at belt height or top of pick up box.
- W205 REAR OPENING WIDTH ABOVE BELT. The minimum dimension measured laterally between the limiting interferences of the rear opening above the belt height.
- W500 CARGO WIDTH AT FLOOR. The maximum dimension measured laterally between the limiting interferences at the floor level. This dimension shall include ribs and pillars, but will exclude wheelhouses.
- H197 FRONT SEATBACK TO LOAD FLOOR HEIGHT. The dimension measured vertically from the horizontal tangent to the top of the seatback to the undepressed floor covering.
- H201 CARGO HEIGHT. The dimension measured vertically from the top of the undepressed floor covering to the headlining at the rear wheel "X" coordinate on the zero "Y" plane.
- H202 REAR OPENING HEIGHT. The dimension measured vertically from the top of the undepressed floor covering to the upper trimmed opening on the zero "Y" plane with rear door fully open.
- H250 TAILGATE TO GROUND CURB MASS (WT.). The dimension measured vertically from the top of the undepressed floor covering on the lowered tailgate to ground on the zero "Y" plane.
- H505 MAXIMUM CARGO HEIGHT. The maximum vertical dimension rear of the front seat from the cargo floor to roof bow or headlining at the zero "Y" plane.

# MVMA Specifications

## METRIC (U.S. Customary)

### Interior Vehicle And Body Dimensions – Key Sheet Dimensions Definitions

#### V2 STATION WAGON

Measured in inches:

$$\frac{W4 \times H201 \times L204}{1728} = \text{ft}^3$$

Measured in mm:

$$\frac{W4 \times H201 \times L204}{10^9} = \text{m}^3 \text{ (cubic meter)}$$

#### V4 HIDDEN LUGGAGE CAPACITY – REAR OF FRONT SEAT.

The total volumes of individual pieces of one set of standard luggage stowed in any hidden cargo area below the load floor rear of the front seat.

#### V5 TRUCKS AND MPV'S WITH OPEN AREA.

Measured in inches:

$$\frac{L506 \times W505 \times H503}{1728} = \text{ft}^3$$

Measured in mm:

$$\frac{L506 \times W500 \times H503}{10^9} = \text{m}^3 \text{ (cubic meter)}$$

#### V6 TRUCKS AND MPV'S WITH CLOSED AREA.

Measured in inches:

$$\frac{L204 \times W500 \times H505}{1728} = \text{ft}^3$$

Measured in mm:

$$\frac{L204 \times W500 \times H505}{10^9} = \text{m}^3 \text{ (cubic meter)}$$

#### V8 HIDDEN LUGGAGE CAPACITY – REAR OF SECOND SEAT.

The total volume of individual pieces of one set of standard luggage stowed in any hidden cargo area below the load floor rear of the second seat.

#### V10 STATION WAGON CARGO VOLUME INDEX.

Measured in inches:

$$\frac{H201 \times L205 \times \frac{W4 + W201}{2}}{1728} = \text{ft}^3$$

Measured in mm:

$$\frac{H201 \times L205 \times \frac{W4 + W201}{2}}{10^9} = \text{m}^3 \text{ (cubic meter)}$$

#### Hatchback – Cargo Space Dimensions

All hatchback cargo dimensions are to be taken with the front seat in full down and rear position, and the rear seat folded down. The hatchback door is in the closed position. (For electronically adjusted seats, see the manufacturer's specifications for Design "H" Point).

**L208 CARGO LENGTH AT FRONT SEATBACK HEIGHT.** The minimum horizontal dimension from the "X" plane tangent to the rearmost surface of the driver's seatback to the inside limiting interference of the hatchback door on the vehicle zero "Y" plane.

**L209 CARGO LENGTH AT FLOOR – FRONT.** The minimum horizontal dimension measured at floor level from the rear of the front seatback to the normal limiting interference of the hatchback door on the vehicle zero "Y" plane.

**L210 CARGO LENGTH AT SECOND SEATBACK HEIGHT.** The minimum dimension measured from the "X" plane tangent to the rearmost surface of second seatback or the load floor which is stowed at least one half of the H198 dimension height above the rear load floor, to the rearmost inside limiting interference on the zero "X" plane.

**L211 CARGO LENGTH AT FLOOR – SECOND SEATBACK.** The minimum horizontal dimension measured at floor level from the rear of the second seatback or load floor panel to the normal limiting interference of the hatchback door on the vehicle zero "Y" plane.

**H197 FRONT SEATBACK TO LOAD HEIGHT.** The dimension measured vertically from the horizontal tangent to the top of the seatback to the undepressed floor covering.

**H198 SECOND SEATBACK TO LOAD FLOOR HEIGHT:** The dimension measured vertically from the second seatback to the undepressed floor covering.

#### V3 HATCHBACK.

Measured in inches:

$$\frac{\frac{L208 + L209}{2} \times W4 \times H197}{1728} = \text{ft}^3$$

Measured in mm:

$$\frac{\frac{L208 + L209}{2} \times W4 \times H197}{10^9} = \text{m}^3 \text{ (cubic meter)}$$

**V4 HIDDEN LUGGAGE CAPACITY – REAR OF FRONT SEAT.** The total volumes of individual pieces of one set of standard luggage stowed in any hidden cargo area below the load floor rear of the front seat.

**V11 HATCHBACK CARGO VOLUME INDEX.** Usable luggage (one (1) stand and luggage set) below floor:

$$\frac{\frac{L210 + L211}{2} \times W4 \times H198}{1728} = \text{ft}^3$$

Measured in mm:

$$\frac{\frac{L210 + L211}{2} \times W4 \times H198}{10^9} = \text{m}^3 \text{ (cubic meter)}$$



# MVMA Specifications

## METRIC (U.S. Customary)

### Index

Subject	Page No.	Subject	Page No.
Alternator	16	Passenger Capacity	1
Axle Drive, Front, Rear, All Four	2, 9, 10	Passenger Mass Distribution	26
Axle Shafts	10	Pistons	3
Battery	18	Power Brakes	12
Body and Miscellaneous Information	17	Power, Engine	2
Brakes - Parking Service	12, 13	Power Steering	14
Camber	15	Power Teams	2
Camshaft	3	Propeller Shaft	10
Capacities		Pumps - Fuel	6
Cooling System	5	Water	5
Fuel Tank	6	Radiator - Cap, Hoses, Core	5
Lubricants		Ratios - Axle, Transaxle	2, 9, 10
Engine Crankcase	4	Compression	2
Transmission / Transaxle	8, 9	Steering	14
Rear Axle	10	Transmission / Transaxle	2, 8, 9
Carburetor	2, 6	Rear Axle	2, 10
Caster	15	Regulator - Alternator	16
Climate Control System	19	Restraint System	18
Clutch - Pedal Operated	8	Rims	13
Coil, Ignition	16	Rods - Connecting	4
Connecting Rods	4	Scrub Radius	14
Convenience Equipment	20-21	Seats	17
Cooling System	5	Shock Absorbers, Front & Rear	11
Crankshaft	4	Spark Plugs	16
Cylinders and Cylinder Head	3	Speedometer	15
Diesel Information	4	Springs - Front & Rear Suspension	11
Dimension Definitions		Stabilizer (Sway Bar) - Front & Rear	11
Key Sheet - Exterior	28, 31, 32	Starting System	16
Key Sheet - Interior	29, 30, 32, 33, 34	Steering	14
Electrical System	15, 16	Suppression - Ignition, Radio	16
Emission Controls	7	Suspension - Front & Rear	11
Engine - General		Tail Pipe	7
Bore, Stroke, Type	3	Theft Protection	21
Compression Ratio	2	Thermostat, Cooling	5
Displacement	2, 3	Tires	13
Firing Order, Cylinder Numbering	3	Toe-In	15
General Information, Power & Torque	2	Torque Converter	9
Intake System	4	Torque - Engine	2, 8, 9
Power Teams	2	Trailer Towing	21
Exhaust System	7	Transaxle	9
Equipment Availability, Convenience	20	Transmission - Types	2, 8, 9
Fan, Cooling	5	Transmission - Automatic	2, 9
Filters - Engine Oil, Fuel System	4	Transmission - Manual	2, 8
Four Wheel Drive	10	Transmission - Ratios	2, 8, 9
Frame	17	Tread	22
Front Suspension	11	Trunk Cargo Load	1
Front Wheel Drive Unit	10	Trunk Luggage Capacity	23
Fuel Economy, EPA	1	Turning Diameter	14
Fuel Injection	6	Unitized Construction	18
Fuel System	6	Universal Joints, Propeller Shaft	10
Fuel Tank	6	Valve System	4
Glass	18	Vehicle Dimensions	
Headlamps	18	Width	22
Headroom - Body	23, 24	Length	22
Heights	22	Height	22
Horns	15	Ground Clearance	22
Horsepower - Brake	2	Front Compartment	23
Ignition System	16	Rear Compartment	23
Inflation - Tires	13	Luggage Compartment	23
Interior Volumes	23	Station Wagon - Third Seat	24
Instruments	15	Station Wagon - Cargo Space	24
Legroom	23, 24	Hatchback - Cargo Space	24
Lengths	22	Fiducial Marks	25
Leveling, Suspension	11	Voltage Regulator	16
Lifters, Valve	4	Water Pump	5
Linings - Clutch, Brake	8, 12	Weights	26, 27
Lubrication - Engine Transmission / Transaxle	4, 8, 9	Wheel Alignment	15
Luggage Compartment	23	Wheelbase	12
Models	1	Wheels & Tires	23
Motor Starting	16	Wheel Spindle	14
Muffler	7	Widths	22
Cabin	1	Windshield	18
		Windshield Wiper and Washer	15

