


PRELIMINARY

MANUFACTURERS MOTOR VEHICLE SPECIFICATIONS

METRIC (U.S. Customary)

1993

Manufacturer	CHEVROLET MOTOR DIVISION GENERAL MOTORS CORPORATION		Vehicle Line	 CAMARO	
Mailing Address	CHEVROLET-PONTIAC-CANADA GROUP ENGINEERING CENTER GENERAL MOTORS CORPORATION 30003 VAN DYKE WARREN, MICHIGAN 48090-9060		Issued	PRELIMINARY	Revised

Direct questions concerning these specifications to the manufacturer listed above.

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



Motor Vehicle Manufacturers Association
of the United States, Inc.

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MVMA Specifications

METRIC (U.S. Customary)

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NOTE:

1. This form uses both SI metric units and U.S. Customary units. The metric unit of measure is presented first, and the U.S. Customary unit follows in parentheses.
2. UNLESS OTHERWISE INDICATED:
 - a. Specifications apply to standard models without optional equipment. Significant deviations are noted.
 - b. Nominal design dimensions are used throughout these specifications.
 - c. All linear dimensions are in millimeters (inches), and all mass (weight) 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.

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MVMA Specifications

Vehicle Line CAMARO
Model Year 1993 Issued _____ Revised(*) _____

METRIC (U.S. Customary)

Vehicle Origin

Design & development (company)	Chevrolet-Pontiac-GM of Canada
Where built (country)	Canada
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)
CAMARO 2-Door Coupe (RWD)	1FP87	4 (2/2)	45.4 (100)	
CAMARO Z28 2-Door Coupe (RWD)	1FP87 (With Z28)	4 (2/2)	45.4 (100)	

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

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Power Teams

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

			E	F	G	H
E N G I N E	Engine Code		LT1	LT1		
	Displacement Liters (cu. in.)		5.7 (350)	5.7 (350)		
	Induction system (FI, Carb, etc.)		Multi-Port Fuel Injection	Multi-Port Fuel Injection		
	Compression ratio		10.25:1	10.25:1		
	SAE Net at RPM	Power kW (bhp)	209 (280) @ 5000	209 (280) @ 5000		
		Torque Newton meters (lb.ft.)	447 (330) @ 2000	447 (330) @ 2000		
	Exhaust Single, dual		Single	Single		
T R A N S	Transmission/ Transaxle		MD8 Automatic Transmission 4-Speed	MD8 Automatic Transmission 4-Speed		
	Effective Final Drive/ Axle Ratio (std. first)		2.73	3.23		

[illegible]

MVMA Specifications

Vehicle Line CAMARO
Model Year 1993 Issued Revised

METRIC (U.S. Customary)

Engine Description
Engine Code

3.4 LITER V6 (207 CID)
SEQUENTIAL FUEL INJECTION RPO L32

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, Longitudinal, OHV
Manufacturer		General Motors Powertrain Division
No. of cylinders		6
Bore		92.029 mm (3.623 in.)
Stroke		84 mm (3.31 in.)
Bore spacing (C/L to C/L)		111.76 mm (4.40 in.)
Cyl block matl & mass kg(lbs.)(machined)		Cast Iron, 55.0 (121.1)
Cylinder block deck height		224.0 mm (9.0 in.)
Cylinder block length		435.5 mm (17.4 in.)
Deck clearance (minimum) (above or below block)		0.12 mm (.005 in.) Below Block Nominal, +/- 0.24 mm
Cyl. head material & mass kg (lbs.)		Cast Iron, 13.15 (29)
Cylinder head volume cu. cm. (cu. in.)		51.35 (3.13)
Cylinder liner material		Not Applicable
Head gasket thickness (compressed)		1.25 mm (.048 in.)
Minimum combustion chamber total volume cu. cm. (cu. in.)		50.35 (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.)**		Inlet Upper Manifold - Aluminum Alloy, 4.5 (9.8) Inlet Lower Manifold - Aluminum Alloy, 3.4 (7.6)
Exh. manifold matl & mass kg (lbs.)**		High Silicon Molybdenum Nodular Cast Iron, Wt. of Manifold, Right Side 3.705 (8.170); Wt. Of Other Manifold, 2.875 (6.339)
Knock sensor (number & location)		1, Near Starter Motor Under Exhaust Manifold
Fuel required unleaded, diesel, etc.		Unleaded
Fuel antiknock index (R + M) / 2		
Engine mounts	Quantity	2
	Matl and type (elastomeric, hydroelastic, hydraulic damper, etc.)	Elastomeric
	Added isolation (sub-frame, crossmember, etc.)	Not Applicable
Total dressed engine mass (wt) dry***		201.71 kg. (445.0 lbs.), Auto.; 220.23 kg. (486.0 lbs.), Manual

Engine - Pistons

Material & mass, g (weight, oz.) - piston only
Aluminum Alloy, 398 (14.1)

Engine Camshaft

Location		Cylinder Block
Material & mass kg (weight, lbs.)		Cast Iron, 3.098 (6.83)
Drive type	Chain/belt	Chain
	Width/pitch	19.05 x 9.525 mm (.75 x .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:

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Model Year 1993 Issued _____ Revised _____

METRIC (U.S. Customary)

Engine Description
Engine Code

5.7 LITER V8 (350 CID)
MULTI-PORT FUEL INJECTION RPO LT1

ENGINE - GENERAL

Type & description (inline, V, angle, flat, location, front, mid, rear, transverse, longitudinal, sohc, dohc, ohv, hemi, wedge, pre-chamber, etc.)	90 Deg. V Front, Longitudinal	
Manufacturer	General Motors Powertrain Division	
No. of cylinders	8	
Bore	101.6 mm (4.00 in.)	
Stroke	86.40 mm (3.48 in.)	
Bore spacing (C/L to C/L)	111.8 mm (4.40 in.)	
Cyl block matl & mass kg(lbs.)(machined)	Cast Iron	
Cylinder block deck height	229.4 mm (9.025 in.)	
Cylinder block length	506.2 mm (19.93 in.)	
Deck clearance (minimum) (above or below block)	.025 Below	
Cyl. head material & mass kg (lbs.)	Aluminum	
Cylinder head volume cu. cm. (cu. in.)	53.7 (3.28)	
Cylinder liner material	Not Applicable	
Head gasket thickness (compressed)	1.245 mm (.049 in.)	
Minimum combustion chamber total volume cu. cm. (cu. in.)	75.175 Combustion Chamber With Piston At Top Dead Center And All Components In Place Torqued To Specifications	
Cyl. no. system (front to rear)*	L. Bank	1-3-5-7
	R. Bank	2-4-6-8
Firing order	1-8-4-3-6-5-7-2	
Intake manifold matl & mass kg (lbs.)**	Cast Aluminum	
Exh. manifold matl & mass kg (lbs.)**	Cast Iron	
Knock sensor (number & location)	2 - One Each Side Of Cylinder Case	
Fuel required unleaded, diesel, etc.	Unleaded	
Fuel antiknock index (R + M) / 2	91	
Engine mounts	Quantity	2
	Matl and type (elastomeric, hydroelastic, hydraulic damper, etc.)	Elastomeric
	Added isolation (sub-frame, crossmember, etc.)	Not Applicable
Total dressed engine mass (wt) dry***	249.03 kg. (549.0 lbs.), Auto.; 268.04 kg. (591.0 lbs.), Manual	

Engine - Pistons

Material & mass, g (weight, oz.) - piston only	Cast Aluminum (Impacted) Coated
--	---------------------------------

Engine Camshaft

Location	In Cylinder Block "V" Above Crankshaft	
Material & mass kg (weight, lbs.)	Steel	
Drive type	Chain/belt	Chain
	Width/pitch	

*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:

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Engine Description

Engine Code

3.4 LITER V6 (207 CID)

SEQUENTIAL FUEL INJECTION RPO L32

Engine - Valve System

Hydraulic lifters (std., opt., n.a.)

Standard

Valves

Number intake/exhaust

6/6

Head O.D. intake/exhaust

43.64 mm (1.72 in.) / 36.20 mm (1.43 in.)

Engine - Connecting Rods

Material & mass kg., (weight, lbs.)*

Forged Steel, .592 (1.30) Full Assembly

Length (axes centerline to centerline)

144.78 mm (5.7 in.)

Engine - Crankshaft

Material & mass kg., (weight, lbs.)*

Nodular Cast Iron, 17.2 (37.9)

End thrust taken by bearing (no.)

3

Length & number of main bearings

**, 4 Bearings

Seal (material, one, two piece design, etc.)

Front

Viton/Steel, One Piece

Rear

Viton/Steel, One Piece

Engine - Lubrication System

Normal oil pressure kPa (psi) @ eng rpm

345-450 (50-65) @ 2400 And 240 deg. F. Oil Temperature

Type oil intake (floating, stationary)

Stationary

Oil filter sys. (full flow, part, other)

Full Flow

Capacity of c/case, less filter-refill-L (qt.)

Refill W/W.O. Filter 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 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

** Standard Measurement For Width Only:

For 3.4L V6: #1,4 = 29.5 mm (1.16 in.); #2,3 = 24.0 mm (0.94 in.)

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Engine Description
Engine Code

5.7 LITER V8 (350 CID)
MULTI-PORT FUEL INJECTION RPO LT-1

Engine - Valve System

Hydraulic lifters (std., opt., n.a.)		Standard
Valves	Number intake/exhaust	8/8
	Head O.D. intake/exhaust	49.28 mm (1.94 in.) / 38.10 mm (1.50 in.)

Engine - Connecting Rods

Material & mass kg., (weight, lbs.)*	Steel, .604 (1.33)
Length (axes centerline to centerline)	144.78 mm (5.70 in.)

Engine - Crankshaft

Material & mass kg., (weight, lbs.)*		Nodular Cast Iron, 23.360 (51.50)
End thrust taken by bearing (no.)		5
Length & number of main bearings		5
Seal (material, one, two piece design, etc.)	Front	Fluoroelastomer / One Piece, Lip Seal
	Rear	Fluoroelastomer / One Piece, Lip Seal

Engine - Lubrication System

Normal oil pressure kPa (psi) @ eng rpm	41 (6) @ 1000 / 124 (18) @ 2000 / 165 (24) @ 4000 (Hot)
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 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

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Engine Description
Engine Code

3.4 LITER V6 (207 CID)
SEQUENTIAL FUEL INJECTION RPO L32

Engine - Cooling System

Coolant recovery system (std, opt, n.a.)		Standard
Coolant fill location (rad., bottle)		Bottle
Radiator cap relief valve pressure kPa (psi)		124 (18)
Circulation thermostat	Type (choke, bypass)	Choke With Air Bleed
	Starts to open @ deg's C(F)	91 deg. C. (195 deg. F.)
Water Pump	Type (centrifugal, other)	Centrifugal
	GPM 1000 pump rpm	10.3
	Number of pumps	1
	Drive (V-belt, other)	Serpentine Belt With Tensioner
	Bearing type	Roller Ball
	Impeller material	Cast Iron
	Housing material	Cast Aluminum
By-pass recirculation type (inter., ext.)		
Cooling system capacity	With heater - L (qt.)	11.55 (12.2), Auto; 11.75 (12.4), Manual
	With air conditioner-L(qt.)	11.55 (12.2), Auto; 11.75 (12.4), Manual
	Opt. equip. specify-L(qt.)	--
Water jackets full length of cyl(yes,no)		
Water all around cylinder (yes, no)		
Water jackets open at head face (yes,no)		
Radiator core	Std., A/C, HD	Standard A/C - Optional
	Type (cross-flow, etc.)	Cross-Flow
	Construction (fin & tube mechanical, braze, etc.)	Vacuum Brazed Tube & Fin
	Matl., mass kg (wgt., lbs.)	Aluminum, 3.1 (6.8) Aluminum, 3.77 (8.3)
	Width	630 mm (24.8 in.) W/O TOC 630 mm (24.8 in.) W/TOC
	Height	438 mm (17.2 in.)
	Thickness	23.5 mm (.925 in.)
	Fins per inch	16.93
Radiator end tank material		Glass - Reinforced Nylon
Fan	Std., elec., opt.	Standard Electric
	Number of blades & type (flex, solid, material)	5 Blades, Solid, Plastic
	Number & location (front, rear of radiator)	Single Puller
	Diameter & projected width	415 mm Diameter / 72 mm Projected Width
	Ratio(fan to crnkshft.rev.)	--
	Fan cutout type	ECM Controlled
	Drive type (direct, remote)	--
	RPM at idle (elec.)	1800 - 2000
	Motor rating(wattage/elec.)	150 W
	Motor switch (type & location/elec.)	Relay
	Switch point (temp.,/ pressure/elec.)	226 F 233 psi
	Fan shroud (material)	Nylon 6/6

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Engine Description

Engine Code

5.7 LITER V8 (350 CID)
MULTI-PORT FUEL INJECTION RPO LT1

Engine - Cooling System

Coolant recovery system (std, opt, n.a.)		Standard
Coolant fill location (rad., bottle)		Bottle
Radiator cap relief valve pressure kPa (psi)		124 (18)
Circulation thermostat	Type (choke, bypass)	Choke
	Starts to open @ deg's C(F)	180
Water Pump	Type (centrifugal, other)	Centrifugal
	GPM 1000 pump rpm	13
	Number of pumps	1
	Drive (V-belt, other)	Gear Driven
	Bearing type	Sealed Double Row Ball
	Impeller material	Steel
	Housing material	Cast Aluminum
By-pass recirculation type (inter., ext.)		Internal
Cooling system capacity	With heater - L (qt.)	14.3 (15.1), Auto.; 14.5 (15.3), Manual
	With air conditioner-L(qt.)	14.3 (15.1), Auto.; 14.5 (15.3), Manual
	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)		No
Radiator core	Std., A/C, HD	Standard A/C (C60) - Optional
	Type (cross-flow, etc.)	Cross-Flow
	Construction (fin & tube mechanical, braze, etc.)	C.A.B. Brazed Tube & Fin
	Matl., mass kg (wgt., lbs.)	Aluminum, 4.65 (10.3) Aluminum, 5.3 (11.7)
	Width	630 mm (24.8 in.) W/O TOC 630 mm (24.8 in.) W/TOC
	Height	438 mm (17.2 in.)
	Thickness	34.0 mm (1.3 in.)
	Fins per inch	20.32
Radiator end tank material		Glass - Reinforced Nylon
Fan	Std., elec., opt.	Standard, Electric A/C (C60) - Electric
	Number of blades & type (flex, solid, material)	5 Blades, Solid, Plastic 5 Blades, Solid, Plastic
	Number & location (front, rear of radiator)	Single Puller Dual Pullers
	Diameter & projected width	415 mm Dia. / 72 mm Width 316 mm Dia. / 72 mm Width
	Ratio(fan to crnkshft.rev.)	-- --
	Fan cutout type	ECM Controlled ECM Controlled
	Drive type (direct, remote)	-- --
	RPM at idle (elec.)	1800 - 2000 2100 - 2300
	Motor rating(wattage/elec.)	150 W 150 W, Each
	Motor switch (type & location/elec.)	Relay Relay
	Switch point (temp.,/ pressure/elec.)	226 F / 233 psi Left, 226 F / 248 psi Right, 235 F / 248 psi
	Fan shroud (material)	Nylon 6/6 Nylon 6/6

MVMA Specifications

Vehicle Line CAMARO
Model Year 1993 Issued _____ Revised _____

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Engine Description

Engine Code

3.4 LITER V6 (207 CID)
SEQUENTIAL FUEL INJECTION RPO L32

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		None
Idle A/F mix.		Preset - No adjustment Provided
Fuel Injection	Point of inj. (no.)	Fuel Injectors At Inlet Ports (6)
	Constant, pulse, flow	Pulse
	Control (elec., mech.)	Electronic
	Sys. press. kPa (psi)	300 (43.5), Regulated To Manifold Pressure
Idle spd.-rpm (spec. neutral or drive and propane if used)	Manual	750 In Neutral
	Automatic	800 In Neutral, 675 In Drive (50 Kick Up When AC Kicks In)
Intake manifold heat control (exhaust or water thermostatic or fixed)		None; Throttle Body Water Heat
Air cleaner type		Single Snorkel, Replaceable Paper Element
Fuel filter (type/location)		Replaceable Stainless Steel (With Paper Element) Located Near Fuel Tank
Fuel pump	Type (elec. or mech.)	Electric
	Location (eng., tank)	Fuel Tank
	Press. range kPa (psi)	350 kPa (50.8 psi); 650 kPa (94.3 psi), Maximum
	Flow rate at regulated pressure (L (gal)/hr @ kPa (psi))	13 grams per second @ 350 kPa

Fuel Tank

Capacity refill L (gallons)		58.6 (15.5)
Location (describe)		Rear And Above Rear Axle
Attachment		Two Metal (Steel) Straps
Material & Mass kg (weight lbs.)		Long Terne Sheet Steel GM-7M, 9.0 (19.8)
Filler pipe	Location & material	Left Rear Quarter Panel (Coated Steel Tube)
	Connection to tank	Soldered On Left Side
Fuel line (material)		Nylon and Coated Steel Tubing
Fuel hose (material)		Nylon
Return line (material)		Nylon And Coated Steel Tubing
Vapor line (material)		Nylon And Coated Steel Tubing
Extended range tank	Opt., n.a.	Not Available
	Capacity L (gallons)	"
	Location & material	"
	Attachment	"
Auxiliary tank	Opt., n.a.	Not Available
	Capacity L (gallons)	"
	Location & material	"
	Attachment	"
	Sictr switch or valve	"
	Separate fill	"

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METRIC (U.S. Customary)

Engine Description

Engine Code

5.7 LITER V8 (350 CID)

MULTI-PORT FUEL INJECTION RPO LT1

Engine - Fuel System

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

Induction type: carburetor, fuel injection system, etc.		Multi-Port Fuel Injection
Manufacturer		AC/Rochester Products
Carburetor no. of barrels		None
Idle A/F mix.		Preset - No Adjustment Provided
Fuel injection	Point of inj. (no.)	Fuel Injectors At Inlet Ports
	Constant, pulse, flow	Pulse
	Control (elec., mech.)	Electronic - On Board Computer
	Sys. press. kPa (psi)	300 (43.5)
Idle spd.-rpm (spec. neutral or drive and propane if used)	Manual	None
	Automatic	"
Intake manifold heat control (exhaust or water thermostatic or fixed)		None
Air cleaner type		Replaceable Paper Element
Fuel filter (type/location)		Replaceable Stainless Steel (With Paper Element) Located Near Fuel Tank
Fuel pump	Type (elec. or mech.)	Electric
	Location (eng., tank)	Fuel Tank
	Press. range kPa (psi)	350 kPa (50.8 psi); 650 kPa (94.3 psi), Maximum
	Flow rate at regulated pressure (L (gal)/hr @ kPa (psi))	27.0 grams per sec @ 350 kPa

Fuel Tank

Capacity refill L (gallons)		58.6 (15.5)
Location (describe)		Rear And Above Rear Axle
Attachment		Two Metal (Steel) Straps
Material & Mass kg (weight lbs.)		Long Terne Sheet Steel GM-7M, 9.0 (19.8)
Filler pipe	Location & material	Left Rear Quarter Panel (Coated Steel Tube)
	Connection to tank	Soldered On Left Side
Fuel line (material)		Nylon And Coated Steel Tubing
Fuel hose (material)		Nylon
Return line (material)		Nylon And Coated Steel Tubing
Vapor line (material)		Nylon And Coated Steel Tubing
Extended range tank	Opt., n.a.	Not Available
	Capacity L (gallons)	"
	Location & material	"
	Attachment	"
Auxiliary tank	Opt., n.a.	Not Available
	Capacity L (gallons)	"
	Location & material	"
	Attachment	"
	Sictr switch or valve	"
	Separate fill	"

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Model Year 1993

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METRIC (U.S. Customary)

Engine Description

Engine Code

3.4 LITER V6 (207 CID)

SEQUENTIAL FUEL INJECTION RPO L32

Vehicle Emission Control

Manual Transmission

Automatic Transmission

Exhaust Emission Control	Type (air injection, engine modifications, other)		Computer Command Control	Not Applicable
Exhaust Emission Control	Air injection	Pump or pulse	Pump	"
		Driven by	Electrical	"
		Air distribution (head, manifold, etc.)	Exhaust Manifold	"
		Point of entry	Single Point	"
	Exhaust Gas Recirculation	Type (controlled flow, open orifice, other)	3 Sized Orifices Which Are Opened Or Closed Using Pintles And Solenoids. 8 Flow Combination	
		Exhaust source	Exhaust Manifold	
		Point of exh.inj. (spacer, carb., manifold, other)	Inlet Manifold	
	Catalytic Converter	Type	Monolith Ceramic	
		Number of	One	
		Location(s)	Under Floor	
		Volume L (cu.in)	2.8 (170) Wide Oval	
		Substrate type	Ceramic Monolith	
		Noble metal type	Platinum (Pt), Rhodium (Rh)	
		Noble metal concentration (g/cu. cm.)	.00084	
Crankcase Emission Control	Type (ventilates to atmosphere, induction system, other)		Induction System	
	Energy source (manifold vacuum, carburetor, other)		Manifold Vacuum	
	Discharges to (intake manifold, other)		Inlet Manifold	
	Air int.(breather cap, other)		Air Inlet Duct	
Evaporative Emission Control	Vapor vented to (crankcase, canister, other)	Fuel tank	Fuel Tank To Canister To Manifold	
		Carburetor	--	
	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 - All Stainless Steel System
Muffler no. & type (reverse flow, straight thru, separate resonator)		One Stainless Steel Muffler With One Tail Pipe, 7.2 (15.9)
Material & Mass kg (weight lbs.)		Not Available
Resonator no. & type		2.5/2.0 in. Air Gap, .7mm Thick Stainless Steel
Exhaust pipe	Branch o.d., wall thickness	
	Main o.d., wall thickness	
	Matl. & Mass kg (wght.lbs.)	Stainless Steel, 4.0 (8.8)
Inter-mediate pipe	o.d. & wall thickness	2.25 in. x 1.25 mm, Stainless Steel
	Matl. & Mass kg (wght.lbs.)	Stainless Steel, 4.6 (10.1)
Tail pipe	o.d. & wall thickness	2.5 in. x 1.25 mm, Stainless Steel
	Matl. & Mass kg (wght.lbs.)	Stainless Steel, 1.0 (2.2)

PRELIMINARY

MVMA Specifications

Vehicle Line CAMARO
Model Year 1993 Issued _____ Revised _____

METRIC (U.S. Customary)

Engine Description
Engine Code

5.7 LITER V8 (350 CID)
MULTI-PORT FUEL INJECTION RPO LT1

Vehicle Emission Control

Exhaust Emission Control	Type (air injection, engine modifications, other)		Air Injection W/Computer Command Control
	Air injection	Pump or pulse	Vane
		Driven by	Electric
		Air distribution (head, manifold, etc.,)	Exhaust Manifold (Computer Command Control)
		Point of entry	Exhaust Manifold, Top Center Two Exhaust Ports
	Exhaust Gas Recirculation	Type (controlled flow, open orifice, other)	Controlled Flow
		Exhaust source	
		Point of exh.inj. (spacer, carb., manifold, other)	Manifold
	Catalytic Converter	Type	3 Way
		Number of	1
		Location(s)	Under Body (Dual Inlet & Outlet)
		Volume L (cu.in)	
		Substrate type	Monolith
		Noble metal type	Platinum (Pt), Rhodium (Rh)
		Noble metal concentration (g/cu. cm.)	0.001844
Crankcase Emission Control	Type (ventilates to atmosphere, induction system, other)		Induction System
	Energy source (manifold vacuum, carburetor, other)		Manifold Vacuum
	Discharges to (intake manifold, other)		Intake Plenum
	Air inlt(breather cap, other)		Air Cleaner
Evaporative Emission Control	Vapor vented to (crankcase, canister, other)	Fuel tank	Canister
		Carburetor	--
Electronic System	Vapor storage provision		Canister
	Closed loop (yes/no)		Yes
	Open loop (yes/no)		No

Engine - Exhaust System

Type (single, single with cross-over, dual, other)		Single - All Stainless Steel System
Muffler no. & type (reverse flow, straight thru, separate resonator) Material & Mass kg (weight lbs.)		One Stainless Steel Muffler With Dual Tail Pipes
Resonator no. & type		Not Available
Exhaust pipe	Branch o.d., wall thickness	2.25 in. Laminated Pipes, .7mm Each Layer
	Main o.d., wall thickness	
	Matl. & Mass kg (wght.lbs.)	Stainless Steel, 4.0 (8.8)
Intermediate pipe	o.d. & wall thickness	2.75 in. x 1.25 mm, Stainless Steel
	Matl. & Mass kg (wght.lbs.)	Stainless Steel, 5.0 (11.0)
Tail pipe	o.d. & wall thickness	2.25 in. x 1.25 mm, Stainless Steel
	Matl. & Mass kg (wght.lbs.)	Stainless Steel, 1.8 (3.96)

MVMA Specifications

Vehicle Line CAMARO
Model Year 1993 Issued Revised

METRIC (U.S. Customary)

Engine Description
Engine Code

3.4 LITER V6 (207 CID)
SEQUENTIAL FUEL INJECTION RPO L32

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

Manual 4-speed (manufacturer/country)	Not Applicable
Manual 5-speed (manufacturer/country)	Standard, Borg Warner / U.S.A. (M49)
Manual 6-speed (manufacturer/country)	Not Applicable
Automatic (manufacturer/country)	Not Applicable
Auto. overdrive (manufacturer/country)	Optional, Hydra-Matic / U.S.A. (MD8)

Manual Transmission/Transaxle (M49)

Number of forward speeds		5
Gear ratios	1st	3.75
	2nd	2.19
	3rd	1.41
	4th	1.00
	5th	0.72
	6th	Not Applicable
	Reverse	3.53
Synchronous meshing (specify gears)		All Forward Gears
Shift lever location		Trans. Extension
Trans. case mat'l. & mass kg (lbs)*		Aluminum
Lubricant	Capacity L (pt.)	2.8 (5.9)
	Type recommended	Dexron II

Clutch (Manual Transmission)

Clutch manufacturer		Belleville
Clutch type (dry, wet; single, multiple disc)		Dry Disc
Linkage (hyd., cable, rod, lever, other)		Hydraulic
Max. pedal effort (nom. spring load) N (lbs.)	Depressed	130
	Released	
Assist (spring, power/percent, nominal)		None
Type pressure plate springs		Diaphragm
Total spring load (nominal) N (lbs)		6000 (1351)
Clutch facing	Facing mfr. & matl. coding	Valeo/F202
	Facing matl. & construction	Non-Asbestos
	Rivets per facing	18
	Outside x inside dia. (nom.)	235 x 155.0 mm (9.25 x 6.125 in.)
	Total eff. area sq cm (sq in)	245.0 (37.98)
	Thickness (pressure plate side/fly wheel side)	3.2/3.2
	Rivet depth (pressure plate side/fly wheel side)	1.1 mm (.043 in.)
Engagement cushion method		Cushion Springs
Release bearing type & method lub.		Angular Contact Ball Bearing
Torsional damping method, springs, hysteresis		Disk Mounted Torsional Spring Damper

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

MVMA Specifications

Vehicle Line CAMARO
Model Year 1993 Issued Revised

METRIC (U.S. Customary)

Engine Description

5.7 LITER V8 (350 CID)

Engine Code

MULTI-PORT FUEL INJECTION RPO LT1

Transmissions/Transaxle (Std., Opt., N.A.) (M28)

(M29)

Manual 4-speed (manufacturer/country)	Not Applicable
Manual 5-speed (manufacturer/country)	"
Manual 6-speed (manufacturer/country)	Borg-Warner - U.S.A.
Automatic (manufacturer/country)	Not Applicable
Auto. overdrive (manufacturer/country)	"

Manual Transmission/Transaxle

Number of forward speeds		6
Gear ratios	1st	3.36 2.97
	2nd	2.07
	3rd	1.35 1.43
	4th	1.00
	5th	0.80
	6th	0.62
	Reverse	3.28
Synchronous meshing (specify gears)		All (1 - 6 Plus Reverse)
Shift lever location		Trans. Extension
Trans. case mat'l. & mass kg (lbs)*		Aluminum, 59.4 (131.0)
Lubricant	Capacity L (pt.)	3.84 (8.13)
	Type recommended	Dexron II

Clutch (Manual Transmission)

Clutch manufacturer		Valeo Clutches & Transmissions
Clutch type (dry, wet; single, multiple disc)		280 mm Pull Type - Dry Clutch
Linkage (hyd., cable, rod, lever, other)		Hydraulic Pre-Filled
Max. pedal effort (nom. spring load) N (lbs.)	Depressed	133 (30)
	Released	115 (26)
Assist (spring, power/percent, nominal)		None
Type pressure plate springs		Diaphragm
Total spring load (nominal) N (lbs)		9400 (2136)
Clutch facing	Facing mfr. & matl. coding	Valeo F-202
	Facing matl. & construction	Non-Asbestos Woven
	Rivets per facing	32
	Outside x inside dia. (nom.)	280 x 180 mm (11.02 x 7.09 in.)
	Total eff. area sq cm (sq in)	361.3 (56.0)
	Thickness (pressure plate side/fly wheel side)	3.3/3.3 mm (.130/.130 in.)
	Rivet depth (pressure plate side/fly wheel side)	1.1 mm (.043 in.)
	Engagement cushion method	Cushion Springs
Release bearing type & method lub.		Angular Contact Ball Bearing
Torsional damping method, springs, hysteresis		Disk Mounted Torsional Spring Damper

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

MVMA Specifications

Vehicle Line CAMARO
Model Year 1993 Issued _____ Revised _____

METRIC (U.S. Customary)

Engine Description
Engine Code

3.4 LITER V6 (207 CID)
SEQUENTIAL FUEL INJECTION RPO L32

Automatic Transmission/Transaxle

Trade Name		Hydra-Matic 4L60
Type and special features (describe)		4-Speed Automatic (Overdrive 4th Gear, Lock Up Torque Converter Clutch)
Shift mechanics		2-3 And 3-2 Shifts Are Synchronized
Gear selector	Location (column, floor, other)	On Floor Console
	Ltr./No. designation (e.g. PRND21)	P-R-N-(D)-2-1
	Shift interlock (yes, no, describe)	Yes (Brake Interlock)
Gear ratios	1st	3.06
	2nd	1.63
	3rd	1.0
	4th	0.70
	5th	Not Applicable
	6th	
	Reverse	2.29
	Final drive ratio	Not Available
Max. upshift vehicle speed - drive range km/h (mph)		1 - 2 = 63 (39) 3 - 4 = 114 (71), At 80% Throttle, Will Not Make A WOT 3-4 2 - 3 = 111 (69)
Max. upshift engine speed RPM		5300 RPM
Max. kickdown speed - drive range km/h (mph)		4 - 3 = Available @ Any Speed In Fourth 3 - 2 = 105 (65) 2 - 1 = 58 (36)
Min. overdrive speed km/h (mph)		33
Torque converter	Type	3 Element With Converter Clutch
	Torus design	
	Number of elements	3
	Max. ratio at stall	2.16
	Type of cooling (air, liquid)	Liquid
	Nominal diameter	245 mm
	Capacity factor "K"	160
Pump type		Vane
Lubricant	Capacity refill L (pt.)	4.8 (10)
	Type recommended	Dexron IIE
Oil cooler (std., opt., N.A., internal, external, air, liquid)		External Liquid
Trans. mass kg (lbs) & case matl.**		75.9 (167) Wet, 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 case	Manufacturer and model	
	Type and location	
Low-range gear ratio		
System disconnect (describe)		
Center differential	Type (bevel, planetary, w or w/o viscous bias, torsen, etc.)	
	Torque split (% frt/rear)	

* Input speed / square root of torque.
** Dry weight including torque converter. If other, specify.

PRELIMINARY

MVMA Specifications

Vehicle Line CAMARO
Model Year 1993 Issued Revised

METRIC (U.S. Customary)

Engine Description

5.7 LITER V8 (350 CID)

Engine Code

MULTI-PORT FUEL INJECTION RPO LT1

Automatic Transmission/Transaxle

Trade Name		Hydra-Matic 4L60
Type and special features (describe)		4-Speed Automatic (Overdrive 4th Gear, Lock Up Torque Converter Clutch)
Shift mechanics		2-3 And 3-2 Shifts Are Synchronized
Gear selector	Location (column, floor, other)	On Floor Console
	Ltr./No. designation (e.g. PRND21)	P-R-N- <u>D</u> -2-1
	Shift interlock (yes, no, describe)	Yes (Brake Interlock)
Gear ratios	1st	3.06
	2nd	1.63
	3rd	1.0
	4th	0.70
	5th	Not Applicable
	6th	"
	Reverse	2.20
	Final drive ratio	Not Available
Max. upshift vehicle speed - drive range km/h (mph)		1 - 2 = 76 (47) 3 - 4 = 174 (108) 2 - 3 = 140 (87)
Max. upshift engine speed RPM		5400 RPM
Max. kickdown speed - drive range km/h (mph)		4 - 3 = 174 (108) 2 - 1 = 45 (28) 3 - 2 = 121 (75)
Min. overdrive speed km/h (mph)		30
Torque converter	Type	3 Element With Converter Clutch
	Torus design	
	Number of elements	3
	Max. ratio at stall	1.91
	Type of cooling (air, liquid)	Liquid
	Nominal diameter	298 mm
	Capacity factor "K"	100
Pump type		Vane
Lubricant	Capacity refill L (pt.)	4.8 (10)
	Type recommended	Dexron IIE
Oil cooler (std., opt., N.A., internal, external, air, liquid)		External, Liquid
Trans. mass kg (lbs) & case matl.**		83 (184) Wet, 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 case	Manufacturer and model	
	Type and location	
Low-range gear ratio		
System disconnect (describe)		
Center differential	Type (bevel, planetary, w or w/o viscous bias, torsen, etc.)	
	Torque split(% frt/rear)	

* Input speed / square root of torque.

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

MVMA Specifications

Vehicle Line CAMARO
Model Year 1993 Issued Revised

METRIC (U.S. Customary)

Engine Description

Engine Code

3.4 LITER V6 (207 CID)
SEQUENTIAL FUEL INJECTION RPO L32

Axle Ratio and Tooth Combinations

AUTOMATIC - MD8

MANUAL - M49

Axle ratio (or overall top gear ratio)		3.23 (2.26)	3.23 (2.33)
Ring gear o.d.		7.625 in.	7.625 in.
No. of teeth	Pinion	13	13
	Ring gear	42	42

Rear Axle Unit

Description		Salisbury/Beam Housing
Limited slip differential (type)		Not Applicable
Drive pinion	Type	Hypoid
	Offset	1.50
No. of differential pinions		2
Pinion/differential	Adjustment (shim, etc.)	Shim
	Bearing adjustment	Shim
Driving wheel bearing (type)		Cylindrical Roller Direct On Shafts, Drawn Cup
Lubricant	Capacity L (pt.)	1.66 (3.5)
	Type recommended	GM Lube #9985290

Propeller Shaft - Rear Wheel Drive

Manufacturer Type (straight tube, tube-in-tube, internal-external damper, etc.)			Saginaw Division Two Piece W/Internal Damper
Outer diam. x length* x wall thickness	Manual 4-speed transmission		Not Applicable
	Manual 5-speed transmission		69.9 x 1057.0 x 1.65 mm (2.8 x 41.6 x .064 in.)*
	Manual 6-speed transmission		Not Applicable
	Overdrive		Not Available
	Automatic transmission		69.9 x 1057.0 x 1.65 mm (2.8 x 41.6 x .064 in.)*
Inter- mediate bearing	Type (plain, anti-friction)		Anti-Friction
	Lub. (fitting, prepack)		Yes, Prepack
Slip yoke	Type		Splined
	Number of teeth		27
	Spline o.d.		29.87 mm (1.176 in.)
Universal joints	Make and mfg. no.	Front	Saginaw Division, S-44
		Rear	Saginaw Division, S-44
	Number used		2
	Type (ball and trunnion, cross)		Cross; Also Cross Groove Joint Used In Center. Prepacked With Grease.
	Rr. attach(u-bolt,clamp,etc)		Strap & Bolts
	Bearing	Type (plain, anti-friction)	Anti-Friction
		Lubrication (fitting, prepack)	Prepacked
Drive taken through (torque tube, arms or springs)			Propeller Shaft Assembly
Torque taken through (torque tube, arms or springs)			Torque Arm Assembly

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

PRELIMINARY

MVMA Specifications

Vehicle Line CAMARO
 Model Year 1993 Issued Revised

METRIC (U.S. Customary)

Engine Description

5.7 LITER V8 (350 CID)

Engine Code

MULTI-PORT FUEL INJECTION RPO LT1

Axle Ratio and Tooth Combinations

		AUTOMATIC - MD8		MANUAL - M29	MANUAL - M29
Axle ratio (or overall top gear ratio)		3.23 (2.03)	2.73 (1.91)	2.73 (1.72)	3.23 (2.03)
Ring gear o.d.		7.625	7.625	7.625	7.625
No. of teeth	Pinion	13	15	15	13
	Ring gear	42	41	41	42

Rear Axle Unit

Description		Overhung Pinion Gear Dana Model 36	Dana Model 44
Limited slip differential (type)		Disc Clutches	
Drive pinion	Type	Hypoid	
	Offset	38.1 (1.50)	
No. of differential pinions		2	
Pinion/differential	Adjustment (shim, etc.)	Shim	
	Bearing adjustment	Shim	
Driving wheel bearing (type)		Cylindrical Roller Direct On Shaft	
Lubricant	Capacity L (pt.)	1.66 (3.5)	
	Type recommended	GM Lube #9985290	

Propeller Shaft - Rear Wheel Drive

Manufacturer Type (straight tube, tube-in-tube, internal-external damper, etc.)			Straight Tube, Internal Damper	
Outer diam. x length* x wall thickness	Manual 4-speed transmission		63.5 x 1057.0 x 1.65 mm (2.5 x 41.6 x .065 in.)*	
	Manual 5-speed transmission		Not Available	
	Manual 6-speed transmission		63.5 x 1057.0 x 1.65 mm (2.5 x 41.6 x .065 in.)*	
	Overdrive			
	Automatic transmission		63.5 x 1057.0 x 1.65 mm (2.5 x 41.6 x .065 in.)*	
Inter- mediate bearing	Type (plain, anti-friction)		None	
	Lub. (fitting, prepack)		--	
Slip yoke	Type		Splined	
	Number of teeth		27 Teeth	
	Spline o.d.		Manual Trans - 34.95 mm (1.38 in.) Automatic Trans - 29.7 mm (1.17 in.)	
Universal joints	Make and mfg. no.	Front	Saginaw, S-44	
		Rear	Saginaw, S-44	
	Number used		2	
	Type (ball and trunnion, cross)		Cross	
	Rr. attach(u-bolt,clamp,etc)		Strap And Bolt	
	Bearing	Type (plain, anti-friction)	Anti-Friction	
		Lubrication (fitting, prepack)	Prepacked	
Drive taken through (torque tube, arms or springs)			Driveline Beam	
Torque taken through (torque tube, arms or springs)			Torque Control Arms	

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

MVMA Specifications

METRIC (U.S. Customary)

Model Code/Description And/Or
Engine Code/Description

Vehicle Line **CAMARO**

Model Year **1993** Issued

Revised(*)

ALL

Suspension - General Including Electronic Controls

Car leveling	Std./opt./not avail.	Not Applicable
	Manual/automatic control	"
	Type (air/hydraulic)	"
	Primary/assist spring	"
	Rear only/4 wheel leveling	"
	Single/dual rate spring	"
	Single/dual ride heights	"
	Provision for jacking	Jacking Provisions On Rocker Panels
Shock absorber damping controls	Standard/option/not avail.	Not Applicable
	Manual/automatic control	"
	Number of damping rates	"
	Type of actuation (manual/ electric motor/air, etc.)	"
	s e n s o r s	Lateral acceleration
		Deceleration
		Acceleration
Shock absorber (front & rear)		Road surface
	Type	Direct, Monotube, Hydraulic With High Pressure Gas Charge
	Make	Delco Products/DeCarbon
	Piston diameter	46 mm (1.81 in.), Front; 36 mm (1.42 in.), Rear
	Rod diameter	14 mm (.55 in.), Front; 11 mm (.43 in.), Rear

Suspension - Front

Type and description		Independent W/Coil Springs, SLA (With Coil Over Shock)
Travel	Full jounce (define load condition)	Maximum Effective Jounce From Curb, 93.5 mm (3.68 in.)
	Full rebound	Maximum Effective Rebound From Curb, 91.5 mm (3.60 in.)
Spring	Type (coil, leaf, other & matl)	Coil, Steel
	Insulators (type & matl)	Rubber (Top, Integral Part Of Top Mount, Plastic Bottom)
	Size (Leaf: length & width; Coil: design height & i.d.; Bar: length & diameter)	250.7 mm Checking Height 85.0 I.D.
	Spring rate N/mm (lb./in.)	39 (223), Base; 51 (291), Z28
	Rate @ wheel N/mm (lb./in.)	Spring Rate x (0.346)
Stabilizer	Type (link, linkless, frmless)	Link
	Material & O.D. bar/tube, wall thickness	Tubular Steel - 30 mm (1.18 in.) O.D. Painted; 4.5 mm (.177 in.) Wall

Suspension - Rear

Type and description		Salisbury Axle W/Torque Arm, Trailing Arm, Track Bar, Coil Springs
Travel	Full jounce (define load condition)	108.0 mm From Curb
	Full rebound	85.0 mm From Curb
Spring	Type (coil, leaf, other & matl)	Coil-Steel
	Size (Leaf: length & width; Coil: design height & i.d.; Bar: length & diameter)	248.2 mm Checking Height 108.0 I.D.
	Spring rate N/mm (lb/in)	16.9 (96.5), Base; 19.7 (112.5), Z28
	Rate @ wheel N/mm (lb/in)	0.96 x Spring Rate
	Insulators (type & material)	Rubber Isolated
	If leaf	No. of leaves
		Shackle (comp or tens)
Stabilizer	Type (link, linkless, frmless)	Link
	Material & O.D. bar/tube, wall thickness	Steel, 17.0 mm (.67 in.) O.D. Base; 19.0 mm (.75 in.) O.D. Z28
Track bar (type)		"U" Section W/Rubber Bushings

MVMA Specifications

METRIC (U.S. Customary)

Vehicle Line CAMARO

Model Year 1993

Issued

Revised(*)

Model Code/Description And/Or

Engine Code/Description

Brakes - Service

BASE

Description		Single Caliper Disc Front, Duo-Servo Drum Rear, (RPO J41)	
Manufacturer and brake type (std., opt., n.a.)	Front (disc or drum)	Disc	
	Rear (disc or drum)	Drum	
Valving type(prop, delay, metering, other)		Remote Proportioning, Front/Rear Split, Failure Warning	
Power brake (std., opt., n.a.)		Standard	
Booster type(rmt, intgrl, vac., hyd., etc.)		Compact Tandem Vacuum, 200 mm (8.7 in.)	
Vacuum	Source (inline, pump, etc.)	Inline	
	Reservoir (volume cu. in.)	None	
	Pump-type	None	
Traction assist	Operational speed range	None	
	Type (engine or brake intervention)	"	
Antilock device	Front/rear (std., opt., n.a.)	Standard	
	Manufacturer	Delco Chassis Division	
	Type (electronic, mech.)	Electro-Mechanical	
	Number sensors or circuits	Three	
	No. antilock hyd. circuits	Three	
	Integral or add-on system	Remote Add-On	
	Yaw control (yes, no)	Yes (In Software)	
Hydraulic power source		Motor Driven	
Effective area sq. cm. (sq. in.)*		672.7 (104.3)	
Gross Lng area sq. cm. (sq. in.)*(F/R)		690.1 (107.0)	
Swept area sq. cm. (sq. in.)*(F/R)		2110 (327)	
Rotor	Outer working diameter	F/R	F/276 mm (10.9 in.)
	Inner working diameter	F/R	F/177.4 mm (6.98 in.)
	Thickness	F/R	F/32.0 mm (1.26 in.)
	Matl & type (vented/sld)	F/R	Cast Iron, Vented Front
Drum	Diameter & width	F/R	R/241.0 mm (9.5 in.) x 50.8 mm (2.0 in.)
	Type and material	F/R	R/Cast Iron Finned
Wheel cylinder bore		F/63.5 mm (2.5 in.) Disc; R/20.6 mm (.81 in.) Drum	
Master cylinder	Bore/stroke	F/R	Bore: 25.4 mm (1.0 in.)
Pedal arc ratio		3.25:1	
Line pressure at 445 N (100 lb.) pedal load kPa (psi)			
Lining clearance		F/R	Self-Adjusting/Self-Adjusting
Brake lining	Front wheel	Bonded or riveted	Bonded
		Rivet size	Not Available
		Manufacturer	Delco Chassis Divisions
		Lining code *****	DM-8100 (DM 130 EE)
		Material	Semi-Metallic
		**** Pri. or out-brd	13.6 x 4.7 x 1.1 cm. (5.35 x 1.84 x 0.430 in.)
		Size Sec. or in-brd	12.4 x 4.85 x 1.2 cm. (4.88 x 1.91 x 0.480 in.)
		Shoe thcknss. (no lng)	4.85 mm (0.191 in.)
	Rear wheel	Bonded or riveted	Riveted 10 Primary, Secondary (Drum)
		Manufacturer	Delco Chassis Division (Drum)
		Lining code *****	4064 (Delco 241 FF)
		Material	Semi-Metallic
		**** Pri. or out-brd	18.4 x 5.1 x 0.56 cm. (7.23 x 0.22 x 1.99 in.)
		Size Sec. or in-brd	24.0 x 5.1 x 0.74 cm. (9.44 x 0.29 x 1.99 in.)
		Shoe thcknss (no lng)	Drum 1.98 mm (.078 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 CAMARO
Model Year 1993 Issued Revised(*)

METRIC (U.S. Customary)

Model Code/Description And/Or

Engine Code/Description

Brakes - Service

Z28

Description			Front & Rear Disc Brakes (J65)	
Manufacturer and brake type (std., opt., n.a.)	Front (disc or drum)		Disc	
	Rear (disc or drum)		Disc	
Valving type(prop, delay, metering, other)			Remote Proportioning Front/Rear Split, Failure Warning	
Power brake (std., opt., n.a.)			Standard	
Booster type(rmt, intgrl, vac., hyd., etc.)			Compact Tandem Vacuum, 220 mm (8.7 in.)	
Vacuum	Source (inline, pump, etc.)		Inline	
	Reservoir (volume cu. in.)		Not Applicable	
	Pump-type		"	
Traction assist	Operational speed range		"	
	Type (engine or brake intervention)		"	
Antilock device	Front/rear (std., opt., n.a)		Standard	
	Manufacturer		Delco Chassis Division	
	Type (electronic, mech.)		Electro-Mechanical	
	Number sensors or circuits		Three	
	No. antilock hyd. circuits		Three	
	Integral or add-on system		Remote Add-On	
	Yaw control (yes, no)		Yes (In Software)	
	Hydraulic power source		Motor Driven	
Effective area sq. cm. (sq. in.)*			362.4 (56.2)	
Gross Lng area sq. cm. (sq. in.)**(F/R)			362.4 (56.2)	
Swept area sq. cm. (sq. in.)**(F/R)			2464 (382)	
Rotor	Outer working diameter	F/R	F/278.0 mm (10.9 in.); R/289.5 mm (11.4 in.)	
	Inner working diameter	F/R	F/177.4 mm (6.98 in.); R/219.0 mm (8.62 in.)	
	Thickness	F/R	F/32.0 mm (1.26 in.); R/20.0 (0.8 in.)	
	Matl & type (vented/std)	F/R	F/Cast Iron Vented; R/Composite Cast Iron Vented	
Drum	Diameter & width	F/R	Not Applicable	
	Type and material	F/R	"	
Wheel cylinder bore			F/63.5 mm (2.5 in.), Disc; R/40.5 mm (1.6 in.), Disc	
Master cylinder	Bore/stroke	F/R	Bore: 25.4 mm (1.0 in.)	
Pedal arc ratio			3.25:1	
Line pressure at 445 N (100 lb.) pedal load kPa (psi)			--	
Lining clearance		F/R	Self-Adjusting/Self-Adjusting	
Brake lining	Front wheel	Bonded or riveted		Integrally Molded
		Rivet size		Not Applicable
		Manufacturer		Delco Chassis Division
		Lining code *****		DM-8100 (DM 130 EE)
		Material		Semi-Metallic
		****	Pri. or out-brd	13.6 x 4.7 x 1.1 cm. (5.35 x 1.84 x 0.430 in.)
		Size	Sec. or in-brd	12.4 x 4.85 x 1.2 cm. (4.88 x 1.91 x 0.480 in.)
		Shoe thcknss.(no lng)		4.85 mm (.191 in.)
	Rear wheel	Bonded or riveted		Integrally Molded
		Manufacturer		Japan Brake Industries
		Lining code *****		HB33 (JB B33 GF)
		Material		Semi-Metallic
		****	Pri. or out-brd	10.8 x 3.53 x 0.825 cm. (4.25 x 1.39 x 0.324 in.)
		Size	Sec. or in-brd	9.45 x 3.53 x 0.825 cm. (3.72 x 1.39 x 0.324 in.)
		Shoe thcknss (no lng)		IB 5.5 mm (.21 in.) OB 4.0 mm (.16 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.

PRELIMINARY

MVMA Specifications

Vehicle Line CAMARO

Model Year 1993 Issued _____

Revised(*) _____

METRIC (U.S. Customary)

Model Code/Description And/Or
Engine Code/Description

BASE

Z28

Tires And Wheels (Standard)

Tires	Size (service description)		P215/60R-16	P235/55R16
	Type (bias, radial, etc.)		Steel Belted Radial Touring Tire	Steel Belted Radial Touring Tire
	Inflation pressure (cold) for recommended max. vehicle load	Front kPa (psi)	210 (30)	210 (30)
		Rear kPa (psi)	210 (30)	210 (30)
	Rev/mile-at 70 km/h(45mph)		495	495
Wheels	Type & material		Steel	Cast Aluminum
	Rim (size & flange type)		16 x 7.5 J	16 x 8 J
	Wheel offset		55 mm	55 mm
	Attachment	Type (bolt or stud & nut)	Stud	Stud
		Circle diameter	120.7 mm (4.75 in.)	120.7 mm (4.75 in.)
		Number & size	5-M12 x 1.5 - 6H-thd. (Metric)	5-M12 x 1.5 - 6H-thd. (Metric)
Spare	Tire and wheel		15 x 4 T125/70D15, Compact Spare	15 x 4 T125/70D15, Compact Spare
	Storage position & location (describe)		Vertically Adjacent To R.H. Quarter Panel	Vertically Adjacent To R.H. Quarter Panel

Tires And Wheels (Optional)

Tire size (service description)		P235/55R16	P245/50ZR16 * (+)
Type (bias, radial, steel, nylon, etc.)		Steel Belted Radial Touring Tire	Stl.Blted.Radial Hwy. Hi-Prfrmnc.
Wheel (type & material)		Cast Aluminum	Hi-Performance, Cast Aluminum
Rim (size, flange type and offset)		16 x 8 J, 55 mm	16 x 8 J, 55 mm
Tire size (service description)			
Type (bias, radial, steel, nylon, etc.)			
Wheel (type & material)			
Rim (size, flange type and offset)			
Tire size (service description)			
Type (bias, radial, steel, nylon, etc.)			
Wheel (type & material)			
Rim (size, flange type and offset)			
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		Hand Lever Application - Push Button Release - Self-Adjusting
Location of control		Right Side Of Floor Console
If separate from service brakes	Type (internal or external)	--
	Drum diameter	--
	Lining size (length x width x thickness)	--

(*) Directional Tread, Asymmetrical (+) Non "All Season" Tires.
505 Rev/Mile At 70 km/h (45 mph)

MVMA Specifications

Vehicle Line CAMARO
Model Year 1993 Issued Revised(*)

METRIC (U.S. Customary)

Model Code/Description And/Or
Engine Code/Description

SPORT COUPE

Z28

Steering

Manual (std., opt., n.a.)			Not Available		
Power (std., opt., n.a.)			Standard		
Speed-sensitive (std., opt., n.a.)			Not Available		
4-wheel steering (std., opt., n.a.)			Not Available		
Adjustable steering wheel/ column (tilt, telescope, other)		Type	Tilt, 5 Position		
		Manufacturer	Saginaw Division		
		(std., opt., n.a.)	Standard		
Wheel diameter ** (W9) SAE J1100		Manual	Not Available		
		Power	375.0 mm (14.8 in.) Rim		
Turning diameter m (ft.).	Out-side front	Wall to wall (l. & r.)	(A)		
		Curb to curb (l. & r.)	(B)		
	In-side rear	Wall to wall (l. & r.)	(C)		
		Curb to curb (l. & r.)	(D)		
Scrub Radius *			Not Applicable		
Manual	Gear	Type	"		
		Manufacturer	"		
		Ratios	Gear	"	
			Overall	"	
	No. wheel turns(stop to stop)		"		
Power	Type (coaxial,elec.hyd.,etc.)		Hydraulic		
	Manufacturer		Saginaw Division		
	Gear	Type	Rack & Pinion		
		Ratios	Gear		
			Overall	16.9:1 W/F41 14.4:1 W/FE2	
	Pump (drive)		Belt		
	No. wheel turns(stop to stop)		2.67 W/F41 2.28 W/FE2		
Linkage	Type		End Take-Off Rack & Pinion		
	Location (front or rear of wheels, other)		Front		
	Tie Rods (one or two)		2		
Steering axis	Inclination at camber (deg.)		Not Available		
	Bear-ings (type)	Upper	Ball stud		
		Lower	Ball stud		
		Thrust	None		
Steering spindle/knuckle & joint type			Steering Knuckle W/Spherical Joints		

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

TURNING DIAMETER:

	CAMARO		Z28	
	LEFT	RIGHT	LEFT	RIGHT
(A)	12.14 m (39' 10")	/ 12.94 m (42' 5-1/2")	12.08 m (39' 7-1/2")	/ 12.78 m (41' 11")
(B)	11.56 m (37' 11-1/8")	/ 12.39 m (40' 7-5/8")	11.52 m (37' 9-5/8")	/ 12.22 m (40' 1-1/8")
(C)	6.77 m (22' 2-1/2")	/ 7.67 m (25' 2")	6.72 m (22' 1/2")	/ 7.43 m (24' 4-1/2")
(D)	6.88 m (22' 6-15/16")	/ 7.77 m (25' 5-15/16")	6.79 m (22' 3-1/2")	/ 11.52 m (37' 9-5/8")

MVMA Specifications**METRIC (U.S. Customary)**Vehicle Line CAMAROModel Year 1993

Issued _____

Revised(*) _____

Model Code/Description And/Or

Engine Code/Description

ALL

Wheel Alignment

(Assume Measurements are Done on Hunter Equipment or Equivalent)

Front wheel at curb mass (wt.)	Service checking	Caster (deg.)	+4.8 (+/-) 0.5 Cross Within 0.7
		Camber (deg.)	+0.4 (+/-) 0.5 Cross Within 0.7
		Toe-in outside track - mm (in.)	0 (+/-) .2
	Service reset*	Caster (deg.)	+4.8 (+/-) 0.5 Cross Within 0.7
		Camber (deg.)	+0.4 (+/-) 0.5 Cross Within 0.7
		Toe-in - mm (in.)	0 (+/-) .1
	Periodic M.V. inspection	Caster (deg.)	+4.8 (+/-) .5
		Camber (deg.)	+0.4 (+/-) .5
		Toe-in - mm (in.)	0 (+/-) .2
Rear wheel at curb mass (wt.)	Service checking	Camber (deg.)	Not Serviceable
		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

Speed-ometer	Type (analog, digital, std., opt.)		Analog, Standard
	Trip odometer (std., opt., n.a.)		Standard
Head-up display	Std., opt., not avail.		Not Applicable
	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		Analog Gage, Standard
	Warning device (light, audible)		Check Gages Telltale
Temperature indicator	Type		Analog Gage, Standard
	Warning device		Check Gages Telltale
Oil pressure indicator	Type		Analog Gage, Standard
	Warning device		Check Gages Telltale
Fuel indicator	Type		Analog Gage, Standard
	Warning device		Not Available
Wind-shield wiper	Type (standard)		Standard - Intermittent Pulse
	Type (optional)		Not Available
	Blade length		24 in.
	Swept area sq cm (sq in)		7154.8 (1109)
Wind-shield washer	Type (standard)		Manual Control
	Type (optional)		Not Available
	Fluid level indicator		Not Available
Rear window wiper, wiper/washer (std., opt., n.a.)			Not Available
Horn	Type		"A" Note And "F" Note Diaphragm Type
	Number used		2

MVMA Specifications

Vehicle Line CAMARO
Model Year 1993 Issued _____ Revised _____

METRIC (U.S. Customary)

Engine Code/Description

3.4 LITER V6 (207 CID)
SEQUENTIAL FUEL INJECTION RPO L32

Electrical - Supply System

Battery	Manufacturer	Delco Remy
	Model, std., (opt.)	75-525, Standard 1982514 Cat. No. 514
	Voltage	12
	Amps at 0 deg F cold crnk	525
	Minutes-reserve capacity	90 min. @ 80 deg. F.
	Amps/hrs. - 20 hr. rate	--
	Location	Engine Compartment Front Right Corner
Alternator	Manufacturer	Delco Remy
	Rating (idle/max. rpm)	105 Amps (42 Amps @ Idle)
	Ratio (alt. crank/rev.)	2.75 to 1
	Output at idle (rpm, park)	--
	Optional (type & rating)	None
Regulator	Type	Delco Remy 1116429 Integral Part Of Alternator

Electrical - Starting System

Motor	Manufacturer	Delco Remy
	Curr.dr. -29 (-20) deg C (F)	360 Amps
	Power rating kw (hp)	1.4 (1.9)
Motor drive	Engagement type	Positive Shift Solenoid
	Pinion engages from (front, rear)	Front

Electrical - Ignition System

Type	Electronic (std, opt., n.a.)	Electronic Direct Ignition, Standard - Control Module With Three Integral Coils And One Remote Timing Sensor
	Other (specify)	--
Coil	Manufacturer	Delco Remy
	Model	1103851
	Current	Engine stopped-A Less Than 100 ma
		Engine idling - A Less Than 1.5 Amps (Average)
Spark plug	Manufacturer	AC/Rochester Products
	Model	.R43TSK
	Thread (mm)	14 x 1.25
	Tightening torque Newton meters (lb. ft.)	9-20 (7-15)
	Gap	1.14 mm (.045 in.)
	Number per cylinder	1
Distributor	Manufacturer	Not Applicable
	Model	"

Electrical - Suppression

Locations & type	
------------------	--

MVMA Specifications

Vehicle Line CAMAROModel Year 1993 Issued _____ Revised _____

METRIC (U.S. Customary)

Engine Code/Description

5.7 LITER V8 (350 CID)
MULTI-PORT FUEL INJECTION RPO LT1

Electrical - Supply System

Battery	Manufacturer	Delco Remy
	Model, std., (opt.)	75-525, Standard 1982514 Cat. No. 514
	Voltage	12
	Amps at 0 deg F cold crnk	525
	Minutes-reserve capacity	90 Min. @ 80 deg. F.
	Amps/hrs. - 20 hr. rate	--
	Location	Engine Compartment Right Front Corner
Alternator	Manufacturer	Delco Remy
	Rating (idle/max. rpm)	124 Amps (50 Amps @ Idle)
	Ratio (alt. crank/rev.)	2.93:1
	Output at idle (rpm, park)	--
	Optional (type & rating)	None
Regulator	Type	Delco Remy 1116429 Integral Part Of Alternator

Electrical - Starting System

Motor	Manufacturer	Nippon Denso
	Current drain 0 deg C (F)	350 Amps
	Power rating kw (hp)	1.6 (2.1)
Motor drive	Engagement type	Positive Shift Solenoid
	Pinion engages from (front, rear)	Rear

Electrical - Ignition System

Type	Electronic (std., opt., n.a.)	--
	Other (specify)	Opti-Spark Ignition System
Coil	Manufacturer	Delco Remy
	Model	1106011
	Current	Engine stopped - A
		Engine idling - A
Spark plug	Manufacturer	AC
	Model	R45LTSP
	Thread (mm)	M14 x 1.25
	Tightening torque Newton meters (lb. ft.)	24-30 (18-22)
	Gap	1.27 mm (0.050 in.)
	Number per cylinder	1
Distributor	Manufacturer	Delco Remy
	Model	1103878

Electrical - Suppression

Locations & type	Internal Generator Capacitor, Non-Metallic High-Tension Cables, Resistor Spark Plugs, Ignition Coil By-Pass Capacitor, Internal AC Blower Motor By-Pass Capacitor & A/C Compression Diode, With Radio Provisions; Fuse Block Capacitor And On "Heater Only" Blower Motors And Coax Capacitor.
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MVMA Specifications

METRIC (U.S. Customary)

Vehicle Line CAMARO
Model Year 1993 Issued Revised(*)

Model Code/Description

ALL

Body

Structure

Full Unitized Steel Construction. Cowl, Roof, Underbody And Body Panels Welded To Form Body Shell. Doors, Roof, Hood and Hatch Lid Double Panel Construction.

Bumper System
Front - Rear

Body Color Soft Fascia, Honeycomb Absorber And Heavy Gauge Reinforcement Used Front And Rear.

Anti-Corrosion Treatment

Plastic Composite Panels, 2-Sided Galvanized Metals and ELPO Coverage.

Body - Miscellaneous Information

Type of finish (lacquer, enamel, other)		Waterborne Base Coat/Clear Coat
Hood	Material & mass	Steel
	Hinge location (front, rear)	Rear
	Type (counterbalance, prop)	Gas Strut Assist
	Release control (int., ext.)	Internal
Trunk lid	Material & mass	Not Applicable
	Type (counterbalance, other)	"
	Internal release control (elec., mech., n.a.)	"
Hatch-back lid	Material & mass	Glass/Sheet Molding Compound (SMC)
	Type (counterbalance, other)	Dual Gas Struts
	Internal release control (elec., mech., n.a.)	Electric Release Optional
Tailgate	Material & mass	Not Applicable
	Type (drop, lift, door)	"
	Internal release control (elec., mech., n.a.)	"
Vent window control (crank, friction, pivot, power)	Front	Not Available
	Rear	"
Window regulator type (cable, tape, flex drive, etc.)	Front	Sector Drive
	Rear	Not Applicable
Seat cushion type (e.g., 60/40, bucket, bench wire, foam, etc.)	Front	Bucket Molded Foam Pad
	Rear	Bucket Molded Foam Pad
	3rd seat	--
Seat back type (e.g., 60/40, bucket, bench, wire, foam, etc.)	Front	Reclining Bucket Molded Foam Pad
	Rear	Folding Bench, Mechanical Foam Pad
	3rd seat	--

Frame

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

Full Integral Body Frame, Includes Bolted On Front Suspension Crossmember.

MVMA Specifications

Vehicle Line **CAMARO**

Model Year **1993**

Issued

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 and Shoulder Belt, Standard	Not Applicable	Lap & Shoulder Belt, Standard
		Second seat	Lap & Shoulder Belt, Standard	Not Applicable	Lap & Shoulder Belt, Standard
	Standard/optional	Third seat	Not Applicable	Not Applicable	Not Applicable
Passive	Type & description (air bag, motorized-2-point belt, fixed belt, knee bolster, manual-lap belt)	First seat	Air Bag, Knee Bolster, Standard	Not Applicable	Air Bag, Knee Bolster, Standard
		Second seat	Not Applicable	Not Applicable	Not Applicable
	Standard/optional	Third seat	Not Applicable	Not Applicable	Not Applicable

Glass

	SAE Ref No	
Windshield glass exposed surface area sq. cm. (sq. in.)	S1	14,182.58 (2,198.30)
Side glass exposed surface area sq. cm. (sq. in.) - total 2- sides	S2	3,150.29 (488.295)
Backlight glass exposed surface area sq. cm. (sq. in.)	S3	13,936.41 (2,160.15)
Total glass exposed surface area sq. cm. (sq. in.)	S4	31,269.28 (4,846.745)
Windshield glass (type/thickness)		Curved - Laminated Plate
Side glass (type/thickness)		Curved - Tempered Plate
Backlight glass (type/thickness)		Curved - Tempered Plate
Tinted (yes/no, location)		No
Solar control (yes/no, coated/batched, location)		Yes, Batch, Windshield, Door Glass & Rear Hatch Glass

Headlamps

Description - sealed beam, halogen, replaceable bulb, etc.	Halogen, Replaceable Bulb - Four Lamp System
Shape	Rectangular
Lo-beam type (2A1, 2B1, 2C1, etc.)	H4351
Quantity	2
Hi-beam type (1A1, 2A1, 1C1, 2C1, etc.)	H4352
Quantity	2

MVMA Specifications

Vehicle Line CAMARO

Model Year 1993

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METRIC (U.S. Customary)

Engine Code/Description

ALL

Cilimate Control System

Air conditioning (std., opt., man., auto.)

Optional

Condenser	Type	Headered Tube & Center
	Eff. face area (sq. mm.)	246,519 sq. mm.
	Fins per inch	16.93
Evaporator	Type	Tube - Plate & Fin
	Eff. face area (sq. mm.)	46,141.9 sq. mm.
	Fins per inch	14
Heater Core	Material	Aluminum
	Eff. face area (sq. mm.)	30,864.7 sq. mm.
	Fins per inch	38
Compressor	Type	HD 6 Cylinder
	Displacement (cc)	10.0
	Manufacturer	Harrison Division
	A/C pulley ratio	Base - 1.46:1 Z28 - 1.71:1
Accumulator	Type	None
	Height (mm.)	"
	Diameter (mm.)	"
Receiver	Type	Aluminum
	Height (mm.)	169.0 mm
	Diameter (mm.)	78.5 mm
Refrigerant control (CCOT, TVS, etc.)		TXV Thermal Exposure
Heater water valve (yes / no)		No
Refrigerant (R - 12, R - 134a, etc.)		R134A
Charge level (lbs. - oz.)		2.0 lbs.
Cold engine lockout switch (yes / no)		No
Wide open throttle cutout switch (yes / no)		Base - Yes Z28 - No

PRELIMINARY

MVMA Specifications

Vehicle Line CAMARO
Model Year 1993 Issued Revised(*)

METRIC (U.S. Customary)

Model Code/Description

ALL

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

	Clock (digital, analog)	Digital, In Radio
	Compass / thermometer	Not Available
	Console (floor, overhead)	Full Length Frt. Console, Std. Floor Integral With IP, Overhead Not Avail.
O	Defroster, electric windshield	Not Applicable
	Defroster, electric backlight	Optional
Electronic	Diagnostic monitor (integrated, individual)	Not Available
	Instrument cluster (list instruments)	Tachometer, Speedometer, Trip Odometer, Fuel, Oil Pressure, Temp, Volt, Seat Belt Warning, Engine Warning, Inflatable Restraint Warning
	Keyless entry	Not Available
	Tripminder (avg. spd. fuel)	"
	Voice alert (list items)	"
	Other Warning Lamps	Check Gauges, Low Oil, ABS/Brake, Bright Headlamps, Air Bag, Low Coolant, Low Trac, Security, Service Engine Soon, Seat Belt
	Fuel door lock (remote, key, electric)	Not Available
Lamps	Auto head on/off delay, dimming	"
	Cornering	"
	Courtesy (Reading)	Dual Lighted Mirror, Standard; Includes Switch.
	Door lock, ignition	Not Available
	Engine compartment	Not Available
	Fog	Available
	Glove compartment	Standard
	Trunk	Not Available
	Illuminated entry system (list lamps, activation)	Not Available
	Other	Floor Console Storage Box Lamp
	Dome - Courtesy	Standard - Illuminates Rear Compartment
Mirrors	Day / night (auto. man.)	Standard - Manual
	L.H. (remote, pwr., heated)	Remote Standard, Power Optional - Not Heated.
	R.H.(convex, rmt, pwr, htd)	Manual Standard, Power Optional. Both Convex - Not Heated.
	Visor vanity (RH/LH illum.)	Covered LH & RH, Standard (Non-Illuminated)
	Navigation system (describe)	Not Available
	Prkg. brake-auto release (warn. light)	Hand Release, Warning Light Standard

PRELIMINARY

MVMA Specifications

Vehicle Line CAMARO

Model Year 1993

Issued

Revised(*)

METRIC (U.S. Customary)

Model Code/Description

ALL

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

Power equipment	Deck lid(release, pull down)		Electric Hatch Release - Optional
	Door locks (manual, auto., describe system)		Manual - Standard Electric - Optional; Includes Retained Accessory Power (RAP)
	Seats	2 - 4 - 6 way, etc.	Optional 6-Way Power Driver's Seat
		Reclining(R.H., L.H.)	Driver/Passenger - Standard
		Memory (R.H., L.H., preset, recline)	Not Available
		Support (lumbar, hip, thigh, etc.)	"
		Heated (R.H., L.H., other)	"
	Side windows		Optional - Retained Accessory Power (RAP) Is Inc. W/Power Locks Only
	Vent windows		Not Available
	Rear windows		"
Radio systems	Antenna (location, whip, w/shield, power)		Right Rear Fender Fixed Mast Standard
	Stan.	AM, FM, stereo, tape, compact disc, graphic equalizer, theft deterrent, radio prep package, headphone jacks, etc.	AM/FM Stereo Cassette W/Seek, Scan, Auto Reverse, Music Search, Digital Clock & ETR
	Opt.		AM/FM Stereo Cassette Radio W/Dual Directional Seek-Scan, Auto Reverse, Music Search, Digital Clock, ETR and Auto Dolby B. Bose Speaker System, Dual Door Mounted & Rear Quarter - Left. AM Stereo/FM Stereo Radio Compact Disc, Scan and Dual Directional Seek, Random, Digital Clock, ETR, Balance Control & Delco Loc II. Bose Speaker System, Dual Door Mounted & Rear Quarter - Left.
	Speaker (number, location)		Four - Two Door Mounted, Two In Rear Quarter, Standard
	Roof: open air or fixed (flip-up, sliding, "T")		"T" Type Hatch Roof W/Removeable Glass Panels - Optional
Speed control device		Cruise Control With Resume Speed, Optional	
Speed warn. dev. (light, buzzer, etc.)		Not Available	
Tachometer (rpm)		Standard	
Telephone system (describe)		Not Available	
Theft deterrent system		Lock Mounted On Steering Column; Locked Steering Wheel, Transmission, Shift Lever And Ignition. Electronic System (VATS II) Standard. Retained Accessory Power (RAP) Is Included With Power Locks Only.	

Trailer Towing

Towing capable	Yes / No	Yes
Engine/transmission/axle	Std / Opt	Standard
Tow class (I, II, III)*	Std / Opt	Light
Max. gross trailer wgt. (lbs.)	Std / Opt	1500 lbs. Under Normal Driving Conditions
Max. trailer tongue load (lbs.)	Std / Opt	150/100 lbs. (1000 lbs. Under Extreme Operating Conditions - Long Grades At High Ambient Temperatures.)
Towing package available	Yes / No	No

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

PRELIMINARY

MVMA Specifications

Vehicle Line CAMAROModel Year 1993 Issued _____ 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	1542 (60.7)
Tread (rear)	W102	1540 (60.6)
Vehicle width	W103	1883 (74.1)
Body width at Sg RP (front)	W117	1849 (72.8)
Vehicle width (front doors open)	W120	4195 (165.2)
Vehicle width (rear doors open)	W121	--
Tumble-home (deg.)	W122	32.0
Outside mirror width	W410	1995 (78.5)

Length

Wheelbase	L101	2566 (101.1)
Vehicle length	L103	4908 (193.2)
Overhang (front)	L104	1150 (45.3)
Overhang (rear)	L105	1192 (46.9)
Upper structure length	L123	2993 (117.8)
Rear wheel C/L 'X' coordinate	L127	4138 (163.0)

Height **

Passenger distribution (front/rear)	PD1,2,3	2/2	**
Trunk/cargo load			**
Vehicle height	H101	1303 (51.3)	
Cowl point to ground	H114	901 (35.5)	
Deck point to ground	H136	Not Available	
Rocker panel-front to ground	H112	172 (6.8)	
Rocker panel-rear to ground	H111	181 (7.1)	
Windshield slope angle (deg.)	H122	68.0	
Backlight slope angle (deg.)	H121	73.5	

Ground Clearance **

Front bumper to ground	H102	130 (5.1)
Rear bumper to ground	H104	348 (13.7)
Bumper to ground front at curb mass (wt.)	H103	251 (9.9)
Bumper to ground rear at curb mass (wt.)	H105	371 (14.6)
Angle of approach (deg.)	H106	21.2
Angle of departure (deg.)	H107	11.5
Ramp breakover angle (deg.)	H147	11.5
Axle differential to ground (front/rear)	H153	150 (5.9)
Min. running ground clearance	H158	111.6, V8; 116.7, V6
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.

MVMA Specifications

Vehicle Line CAMARO

Model Year 1993

Issued

Revised

METRIC (U.S. Customary) Vehicle Dimensions

See Key Sheets for Definitions

Model Code/Description

ALL

Front Compartment

SAE Ref. No.

SgRP front, 'X' coordinate	L31	3050 (124.0)
Effective head room	H61	944 (37.2)
Max. eff. leg room (accelerator)	L34	1092 (43.0)
SgRP to heel point	H30	181 (7.1)
SgRP to heel point	L53	810 (35.8)
Back angle (deg.)	L40	28.5
Hip angle (deg.)	L42	98.0
Knee angle (deg.)	L44	132.7
Foot angle (deg.)	L46	87.0
Design H-point front travel	L17	198 (7.8)
Normal driving & riding seat track trvl.	L23	178 (7.0)
Shoulder room	W3	1458 (57.4)
Hip room	W5	1340 (52.8)
*** Upper body opening to ground	H50	1260 (49.6)
Steering wheel maximum diameter*	W9	375 (14.8)
Steering wheel angle (deg.)	H18	17.3
Accel. heel pt. to steer. whl. cntr	L11	548.4 (21.6)
Accel. heel pt. to steer. whl. cntr	H17	Not Available
Undepressed floor covering thickness	H67	27 (1.1)

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

(SgRP) mm (1 Seat Adjuster Notch) Forward of Rearmost Seat Position.

Rear Compartment

SgRP point couple distance	L50	638 (25.1)
Effective head room	H63	896 (35.3)
Min. effective leg room	L51	681 (26.8)
SgRP (second to heel)	H31	201 (7.9)
Knee clearance	L48	-76 (-3.0)
Shoulder room	W4	1417 (55.8)
Hip room	W6	1129 (44.4)
*** Upper body opening to ground	H51	--
Back angle (deg.)	L41	28.0
Hip angle (deg.)	L43	71.0
Knee angle (deg.)	L45	67.1
Foot angle (deg.)	L47	115.2
Depressed floor covering thickness	H73	18 (0.7)

Luggage Compartment

Usable luggage capacity [L (cu. ft.)]	V1	--
*** Lifter height	H195	892 (35.1)

Interior Volumes (EPA Classification)

Vehicle class	Sub-Compact
Interior volume index (cu. ft.)**	94.8 (53.1 - Frt. + 28.8 - Rr. + 12.9 - Cargo)
Trunk / cargo index (cu. ft.)	12.9

* 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).

PRELIMINARY

MVMA Specifications

Vehicle Line CAMARO

Model Year 1993 Issued _____

Revised(*) _____

METRIC (U.S. Customary) Vehicle Dimensions

See Key Sheets for Definitions

Model Code/Description

ALL

Station Wagon / MPV **

- Third Seat

SAE Ref. No.

(NOT APPLICABLE)

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

Station Wagon / MPV ** Cargo Space

(NOT APPLICABLE)

Cargo length (open front)	L200	
Cargo length (open second)	L201	
Cargo length (closed front)	L202	
Cargo length (closed second)	L203	
Cargo length at belt (front)	L204	
Cargo length at belt (second)	L205	
Cargo width (wheelhouse)	W201	
Rear opening width at floor	W203	
Opening width at belt	W204	
Min. rear opening width above belt	W205	
Cargo height	H201	
Rear opening height	H202	
Tailgate to ground height	H250	
Front seat back to load floor height	H197	
Cargo volume index cu. m (cu. ft.)	V2	
Hidden cargo vol. index cu. m (cu. ft.)	V4	
Cargo volume index--rear of 2-seat	V10	
Cargo volume index **	V6	
Cargo width at floor **	W500	
Maximum cargo height **	H505	

Hatchback - Cargo Space

Cargo length at front seatback height	L208	990 (39.0)
Cargo length at floor (front)	L209	1618 (63.7)
Cargo length at second seatback height	L210	824 (32.4)
Cargo length at floor (second)	L211	908 (35.7)
Front seatback to load floor height	H197	341 (13.4)
Second seatback to load floor height	H198	211 (8.3)
Cargo volume index cu. m (cu. ft.)	V3A	930 L. (32.8 cu. ft.)
Hidden cargo vol. index cu. m (cu. ft.)	V4	--
Cargo volume index--rear of 2-seat	V11A	366 L. (12.9 cu. ft.)

* EPA Loaded Vehicle Weight, Loading Conditions

** MPV - Multipurpose Vehicle

All Linear Dimensions Are In Millimeters (Inches).

MVMA Specifications

Vehicle Line CAMARO

Model Year 1993

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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**	540 (21.3)
	L54**	2688 (105.8)*
	H81**	468 (18.4)#
	*** H181**	292 (11.5)
	*** H183**	279 (11.0)
Rear	W22**	548 (21.6)
	L55**	4815 (189.6)*
	H82**	596 (23.5)#
	*** H162**	435 (17.1)
	*** H164**	412 (16.2)
		* Vertical Base Grid 2000 mm Line
		# Horizontal Base Grid 500 mm Line

- * Reference - SAE Recommended Practice, J182a, 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).

PRELIMINARY

METRIC (U.S. Customary)

Model Year 1993

Issued

Revised

* 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.

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

36 (80)

MVMA Specifications

METRIC (U.S. Customary)

Vehicle Line **CAMARO**

Model Year **1993**

Issued

Revised

PRELIMINARY

		Optional Equipment Differential Mass (weight)*			
Code	Equipment	MASS, kg. (lb.)			Remarks Restrictions, Requirements
		Front	Rear	Total	
AC3	Power Seat, 6-Way (Driver's Side Only)	1.6 (3.5)	2.0 (4.4)	3.6 (7.9)	
AU3	Power Door Locks - Electric	.4 (.9)	.4 (.9)	.8 (1.8)	
A31	Power Windows - Electric	.8 (1.8)	.4 (.9)	1.2 (2.7)	
A90	Remote Hatch/Trunk Release	.2 (.4)	.4 (.9)	.6 (1.3)	
B84	Moldings - Body Side	.4 (.9)	.4 (.9)	.8 (1.8)	
CC1	Roof - Removable Hatch Panels - Glass	4.0 (8.8)	7.2 (15.9)	11.2 (24.7)	Includes C9C (Black Roof Top)
C49	Defogger - Rear Window (Electric)	0 (0)	.2 (.4)	.2 (.4)	
C60	Air Conditioning (Manual Control)	18.0 (39.7)	1.2 (2.6)	19.2 (42.3)	& L32
C60	Air Conditioning (Manual Control)	18.6 (41.0)	1.2 (2.6)	19.8 (43.6)	& LT1
DE4	Sunshades - Removeable For Hatch Roofs	.4 (.9)	.8 (1.8)	1.2 (2.7)	
DG7	Sport Mirrors - Electric, Remote Control RH & LH Controls On LH Door Panel	.2 (.4)	0 (0)	.2 (.4)	
GU2	Rear Axle 2.73 Ratio	0 (0)	-9.0 (-19.8)	-9.0 (-19.8)	

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

MVMA Specifications

METRIC (U.S. Customary)

Vehicle Line CAMARO

Model Year 1993

Issued _____

Revised _____

PRELIMINARY

		Optional Equipment Differential Mass (weight)*			
Code	Equipment	MASS, kg. (lb.)			Remarks Restrictions, Requirements
		Front	Rear	Total	
GU5	Rear Axle 3.23 Ratio	0 (0)	0 (0)	0 (0)	& J41
GU5	Rear Axle 3.23 Ratio	0 (0)	-8.8 (-19.4)	-8.8 (-19.4)	& J65
G92	Rear Performance Axle Ratio Includes GU5, KC4, QLC & M29 Or MD8	0 (0)	0 (0)	0 (0)	
KC4	Engine Oil Cooler	2.0 (4.4)	0 (0)	2.0 (4.4)	Included In G92 Pkg.
KO5	Heater Engine Block	.4 (.9)	0 (0)	.4 (.9)	
K34	Cruise Control - Three Mode With Resume Feature	2.0 (4.4)	0 (0)	2.0 (4.4)	
LT1	5.7 Liter V8 (350 CID)	49.0 (108.0)	6.0 (13.2)	55.0 (121.2)	& M28/M29
LT1	5.7 Liter V8 (350 CID)	48.0 (105.8)	6.0 (13.2)	54.0 (119.0)	& MD8
L32	3.4 Liter V6 (207 CID)	0 (0)	0 (0)	0 (0)	
MD8	Automatic Transmission (Overdrive)	16.4 (36.1)	5.2 (11.5)	21.6 (47.6)	1FP87 & L32
MD8	Automatic Transmission (Overdrive)	6.2 (13.7)	2.0 (4.4)	8.2 (18.1)	1FP87 & LT1
M28	6-Speed Manual Transmission	13.4 (29.5)	4.4 (9.7)	17.8 (39.2)	& LT1

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

MVMA Specifications

METRIC (U.S. Customary)

Vehicle Line CAMARO
Model Year 1993 Issued Revised

PRELIMINARY

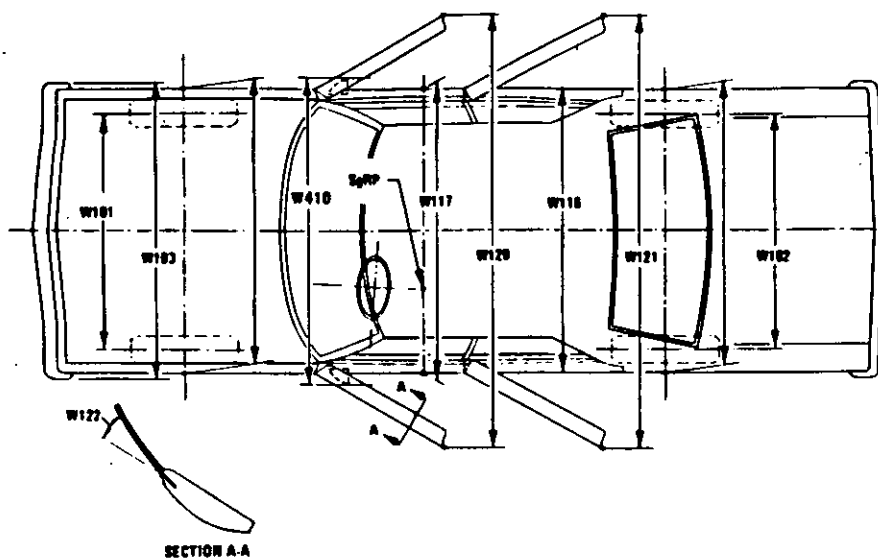
		Optional Equipment Differential Mass (weight)*			
Code	Equipment	MASS, kg. (lb.)			Remarks Restrictions, Requirements
		Front	Rear	Total	
M29	6-Speed Manual Transmission	13.2 (29.1)	4.4 (9.7)	17.6 (38.8)	& LT1
NP5	Leather-Wrapped Steering Wheel, Shift Knob & Brake Release Handle	.2 (.4)	0 (0)	.2 (.4)	
QLC	Tires - P245/50 ZR16	3.8 (8.4)	3.8 (8.4)	7.6 (16.8)	
QMT	Tires - P235/55 R16	1.6 (3.5)	1.6 (3.5)	3.2 (7.0)	
T96	Fog Lamps	3.4 (7.5)	-.6 (-1.3)	2.8 (6.2)	
UU8	AM/FM Stereo, Cassette Tape, Dolby B, Digital Clock, ETR. Req. U82	0 (0)	0 (0)	0 (0)	
U1T	AM Stereo/FM Stereo Radio, Compact Disc, Clock, ETR. Req. U82	.2 (.4)	0 (0)	.2 (.4)	
U82	Audio System - BOSE Speakers	.2 (.4)	3.8 (8.4)	4.0 (8.8)	
1LE	Performance Package	6.2 (13.7)	1.6 (3.5)	7.8 (17.2)	

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

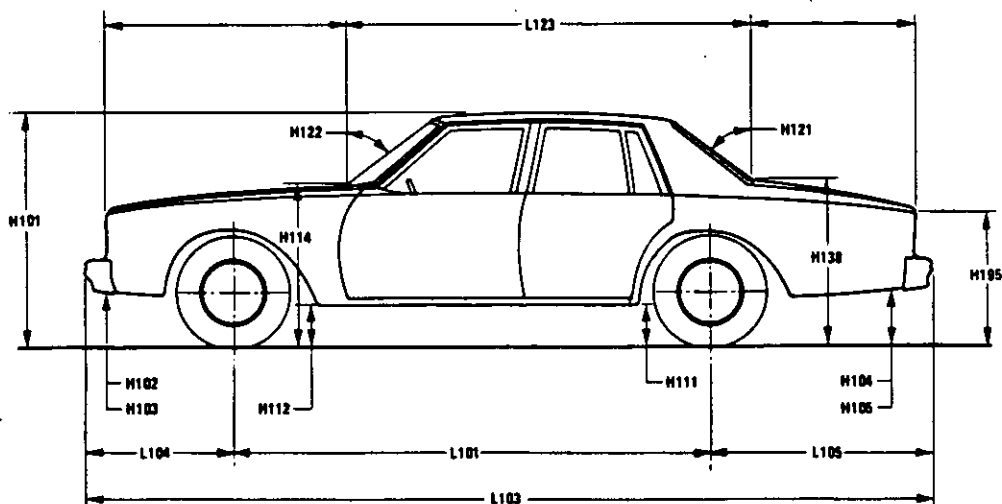
PRELIMINARY

Exterior Vehicle And Body Dimensions – Key Sheet

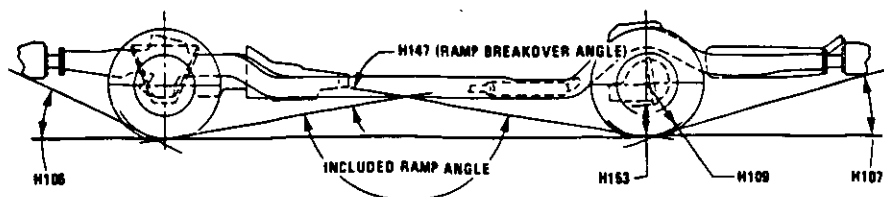
Exterior Width



Exterior Length & Height



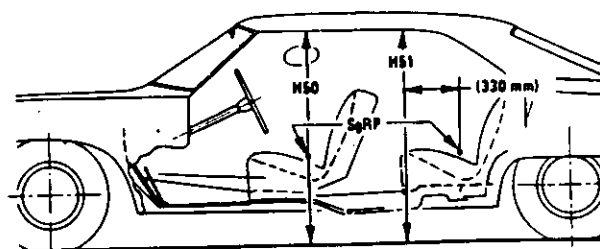
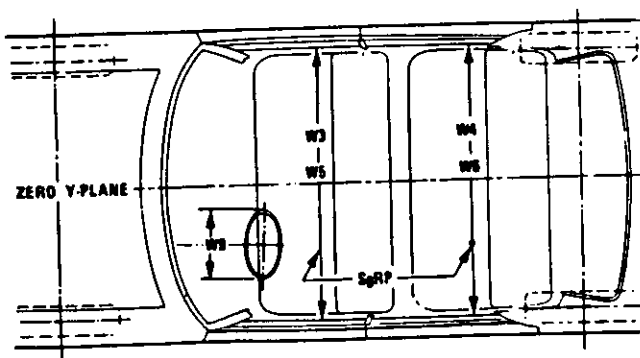
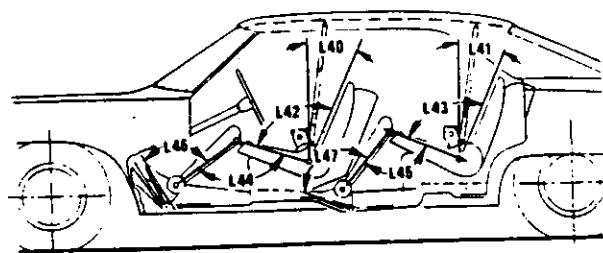
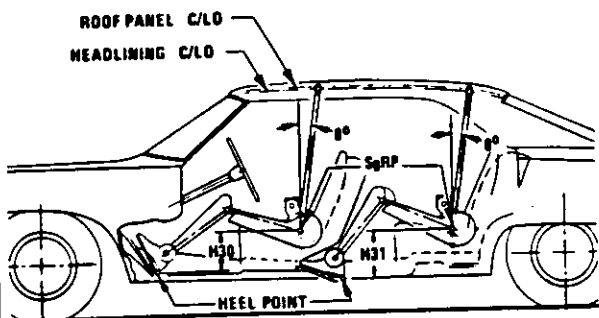
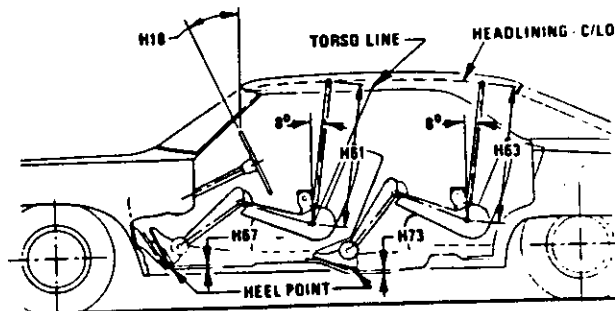
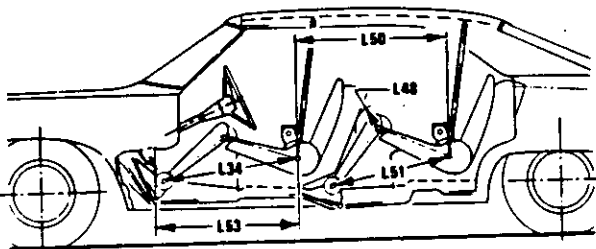
Exterior Ground Clearance



MVMA Specifications Form

METRIC (U.S. Customary)

Interior Vehicle And Body Dimensions - Key Sheet



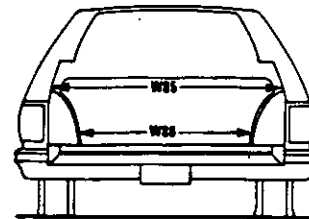
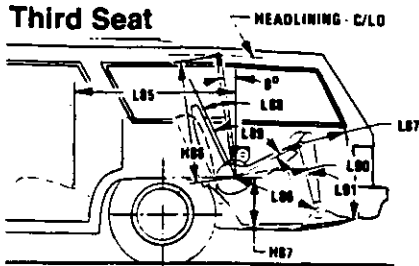
PRELIMINARY

MVMA Specifications

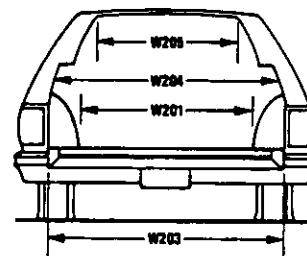
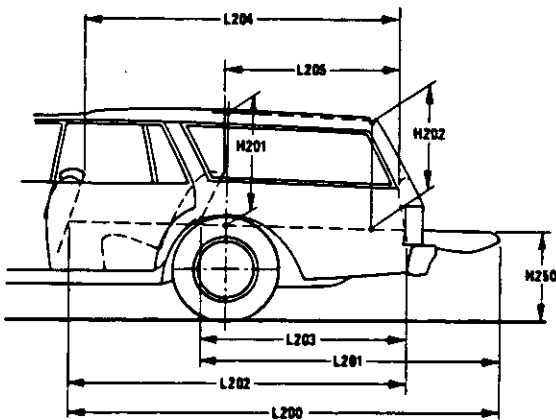
METRIC (U.S. Customary)

Interior Vehicle And Body Dimensions – Key Sheet

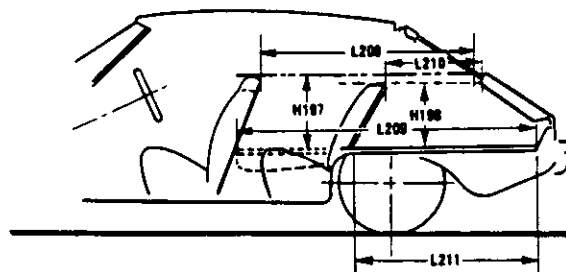
Third Seat



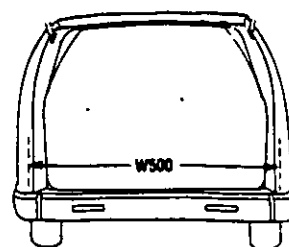
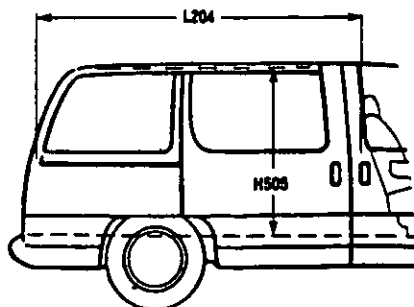
Cargo Space



Station Wagon



Hatchback



Multipurpose Vehicle

PRELIMINARY

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 STATICLOAD - 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 BUMPER TO 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)

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 BUMPER TO 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.
- H82 "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.
- L40 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.
- L42 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

- L41 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 the 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 COUPLE 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 undeepressed floor covering to the rearmost point on the undeepressed 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 undeepressed floor covering to the rearmost point on the undeepressed 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 undeepressed floor covering to the rearmost point on the undeepressed 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 undeepressed floor covering to the rearmost point on the undeepressed 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 wheelhousings 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 undeepressed floor covering.
- H201 CARGO HEIGHT. The dimension measured vertically from the top of the undeepressed 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 undeepressed 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 undeepressed 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:

Measured in inches:

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

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)

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