Specifications Form Passenger Car

1983

METRIC (U.S. Customary)

Manufacturer	Car Line	
PONTIAC MOTOR DIVISION GENERAL MOTORS CORPORATION	2000	
Mailing Address	**Model Year**	**Issued:**
ONE PONTIAC PLAZA PONTIAC, MICHIGAN 48053	1983	10-15-82 **Revised (•)**

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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 completion and are subject to change without notice by the manufacturer.
4. Additional Car and Body Dimensions and/or drawings (based in part on SAE J1100a "Motor Vehicle Dimensions") may be available from the manufacturer.

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Car Models

Model Description	Introduction Date	Make, Car Line, Series, Body Type (Mfgr's Model Code)	No. of Designated Seating Positions (Front/Rear)	Max. Truck/Cargo Load—Kilograms (Pounds)
2000				
2-DOOR NOTCHBACK COUPE	9/23/82	2JB27	5 (2/3)	60 (132.3)
4-DOOR STATION WAGON	9/23/82	2JB35	5 (2/3)	40 (88.2)
4-DOOR NOTCHBACK SEDAN	9/23/82	2JB69	5 (2/3)	60 (132.3)
2-DOOR HATCHBACK COUPE	9/23/82	2JB77	5 (2/3)	60 (132.3)
2000 LE				
2-DOOR NOTCHBACK COUPE	9/23/82	2JC27	5 (2/3)	60 (132.3)
4-DOOR STATION WAGON	9/23/82	2JC35	5 (2/3)	40 (88.2)
4-DOOR NOTCHBACK SEDAN	9/23/82	2JC69	5 (2/3)	60 (132.3)
2000 S/E				
2-DOOR HATCHBACK COUPE	9/23/82	2JD77	5 (2/3)	60 (132.3)
2-DOOR CONVERTIBLE	JAN. 1983	2JC67	4 (2/2)	60 (132.3)

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Power Teams (Indicate whether standard or optional)

SAE Net bhp (brake horsepower) and net torque corrected to 85° F and 29.38 in. Hg atmospheric pressure.

SERIES AVAILABILITY	ENGINE						TRANSMISSION	AXLE RATIO (std. first) (indicate A/C ratio)
	Displ. Liters (in^3)	Carb. (Barrels, Fl, etc.)	Compr. Ratio	SAE Net at RPM kW (bhp)	SAE Net at RPM Torque N - m (lb. ft.)	Exhaust System*		
STANDARD								
2000 ALL EXCEPT COUPE	1.8L L4 LH8	EFI		62@ 5200 (84@ 5200)	139@ 2800 (102@ 2800)		M5	3.83
							AUTO-125C Opt.	3.18
								3.33 (opt.)
COUPE							M5	3.19
OPTIONAL								
All*	2.0L L4 LQ5	EFI	9.3	63@ 4800 (88@ 4800)	150@ 2400 (110@ 2400)		M4	4.10

* Delete Option on all Models Except Convertible and S/E.

* S—Single D—Dual

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Engine Description/Carb. Engine Code	1.8L L4 (110 CID) ELECTRONIC FUEL INJECTION RPO LH8	2.0L L4 (121 CID) ELECTRONIC FUEL INJECTION RPO L05

ENGINE — GENERAL

Type & description (inline, V, angle, flat, location, front, mid, rear, transverse, longitudinal, etc.)		In Line Front Transverse, Front of Engine Faces Right Side of Vehicle	In Line Front Transverse, Front of Engine Faces Right Side of Vehicle
No. of cylinders		4	4
Bore		84.8	89 (3.50)
Stroke		79.5	80 (3.15)
Bore spacing (c/l to c/l)		93.0	99 (3.90)
Cylinder block material		Cast Iron	
Cylinder block deck height		216.0	215.55 (8.49)
Deck clearance (minimum) (above or below block)		(36) Above (.14 Below)	0.15 (.006) Below
Cylinder head material		Aluminum	Cast Iron
Cylinder head volume (cm^3)		33.33 cm^3	
Head gasket thickness (compressed)		1.2mm (.047)	1.1 (.043)
Minimum combustion chamber volume (cm^3)		54.1	45.3 (2.76)
Cyl. no. system (front to rear)*	L. Bank	1-2-3-4	
	R. Bank		
Firing order		1-3-4-2	
Recommended fuel (leaded, unleaded, diesel)		Unleaded	
Fuel antiknock index $\frac{(R+M)}{2}$		87	
Total dressed engine mass (wt) dry**		123.2 (271.6)	--

Engine — Pistons

Material	Cast Alum. Alloy, Tin or Lead Plated	Aluminum Alloy
Mass, g (weight, oz.) — Piston Only	398 +/- 5g	467 (16.5)

Engine — Camshaft

Location		Overhead Camshaft	In Cylinder Block
Material (kg., weight, lbs.)		Hardened Alloy Cast Iron	Cast Iron
Mass (kg., weight, lbs.)		2.696 (5.94)	3.138 (6.92)
Type of drive (chain or belt)	Width	19.0 (.748)	Chain, 19.3 (.76)
	Pitch	9.525 (.375)	9.53 (.375)

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

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

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Engine — Valve System

Lifters (std., opt., n.a.)	Hydraulic	Standard	Standard
	Solid		--

Engine — Connecting Rods

Material & mass (kg., weight, lbs.)	QA 11MS65 .760 Kg	Steel

Engine — Crankshaft

Material (kg., weight, lbs.)	Nodular Cast Iron	Nodular Cast Iron
Mass (kg., weight, lbs.)	16.2 (35.71)	12.746 (28.10)
End thrust taken by bearing (no.)	3	5

Engine — Lubrication System

Normal oil pressure [kPa (psi) at engine rpm]	448 (65) @ 2500 RPM	435-530 (63-77) @ 1200 RPM
Type oil intake (floating, stationary)	Stationary	
Oil filter system (full flow, part, other)	Full Flow	
Capacity of c/case, less filter-refill-L (qt.)	3	3.8 (4.0)

Engine — Diesel Information

Glow plug, current drain at 0°F		
Injector nozzle	Type	
	Opening pressure [kPa (psi)]	
Pre-chamber design		
Fuel injection pump	Manufacturer	
	Type	
Supplementary vacuum source (type)		

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Engine — Fuel System (See supplemental page for details of Fuel injection, Supercharger, Turbocharger, etc. if used)

Induction type: carburetor, fuel injection system, etc.			Fuel Injection (Computer Control	Fuel Injection (Computer Control)
Carburetor	Mfgr.		Rochester	Rochester
	Choke (type)			--
	Idle spd.-rpm (spec. neutral or drive and propane if used)	Manual		
		Automatic		
Idle A/F mix.				
Fuel injection	Point of injection (no.)		Throttle Body	Throttle Body
	Constant, pulse, flow		Pulse	Pulse
	Control (electronic, mech.)		Electronic	Electronic
	System pressure [kPa (psi)]		69.0-82.7 (10-12)	68.95-82.74 (10-12)
Intake manifold heat control (exhaust or water) thermostatic or fixed			Water - Thermostatic	
Air cleaner type	Standard		Replaceable Paper Element	
	Optional			
Fuel pump	Type (elec. or mech.)		Electric	Electric
	Location (eng., tank)		Fuel Tank	Fuel Tank
	Pressure range [kPa (psi)]		10.5-12 PSI(Norm. Op. Rng.)	

Fuel Tank

Capacity [refill L (gallons)]		51.5 L (13.6 Gal)
Location (describe)		Floor Pan Area, Front of Rear Axle
Attachment		Two Straps to Underbody
Material		Steel
Filler pipe	Location & material	Rear Quarter Panel Steel
	Connection to tank	Elastomer Hose
Fuel line (material)		Steel (GM 124-M)
Fuel hose (material)		GM 6163-M Elastomer Hose
Return line (material)		Steel (GM 124-M)
Vapor line (material)		Steel (GM 124-M)
Extended range tank	Opt., n.a.	
	Capacity [L (gallons)]	
	Location & material	
	Attachment	
Auxiliary tank	Opt., n.a.	
	Capacity [L (gallons)]	
	Location & material	
	Attachment	
	Selector switch or valve	
	Separate fill	

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Engine — Cooling System

Coolant recovery system (std., opt., n.a.)			Standard	Standard
Coolant fill location (rad., bottle)			Bottle	Bottle
Radiator cap relief valve pressure [kPa (psi)]			103.43 (15)	103.4 (15)
Circulation thermostat	Type (choke, bypass)		Choke	Choke
	Starts to open at °C (°F)		91 (195°F)	91 (195°F)
Water pump	Type (centrifugal, other)		Centrifugal	Centrifugal
	GPM 1000 pump rpm			
	Number of pumps		One	One
	Drive (V-belt, other)		Cog Belt	V-Belt
	Bearing (type)			Sealed, Double Row Ball
By-pass recirculation [type (inter., ext.)]			External-Thru Intake Man.	Internal
Radiator core [type (cross-flow vertical cellular tube and fin, other) and material]			Cross-Flow	Cross-Flow
Cooling system capacity	With heater—L(qt.)		7.43	9.0(9.5)-AT, 9.9(9.6)-MT
	With air cond.—L(qt.)		7.45	9.04(9.56)-AT, 9.14(9.7)-MT
	Opt. equipment [specify—L(qt.)]			9.18(9.7) H.D. Radiator
Water jackets full length of cyl. (yes, no)			Yes	Yes
Water all around cylinder (yes, no)			Yes	Yes
Radiator core	Standard	Width	430	305.0 (12.0)
		Height	387.5	387.5 (15.25)
		Thickness	25	25.0 (.98)
		Fins per inch	7.2	7.26
	A/C	Width	500	430.0 (16.9)
		Height	387.5	387.5 (15.25)
		Thickness	25/40	2.50 (.98)
		Fins per inch	8.3/7.2	7.26
	Heavy duty	Width	500	430.0 (16.9)
		Height	387.5	387.5 (15.25)
		Thickness	40	40.2 (1.58)
		Fins per inch	7.2	7.26
Fan (standard)	Number of blades & type (flex, solid, material)		7 Blade, Electric (See Below)	7 Blade, Electric
	Diameter & projected width			
	Ratio (fan to crankshaft rev.)			
	Fan cutout type			
	Drive [type (direct, remote)]			
	Fan shroud (material)			
Fan (electric)	Diameter & projected width		280 (HTR), 355 (A/C)	290 (11.42)
	RPM at idle		1700-1850	
	Motor rating (wattage)		96	
	Motor switch (type & location)		Thermal - Cylinder Head	
	Switch point (temp., pressure)		110.5 +/- 3C	
	Fan shroud (material)		Glass Filled Nylon	
Fan (optional)	No. of blades and spacing			7 Blade, Electric
	Diameter & projected width			386 (15.20)
	Ratio (fan to crankshaft rev.)			
	Fan cut-out (type)			
	Drive (type, direct, remote)			

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Vehicle Emission Control				Federal -Manual	Federal -Auto & All Calif.
Exhaust Emission Control	Type (air injection, engine modifications, other)		3C-TBI, Single Bed-3-Way, EST, BPEGR	Air Injection-Computer Cont.	Pulse Air - Computer Cont.
	Air Injection	Pump (type)	N/A	Vane	
		Driven by		V-Belt	
		Air distribution (head, manifold, etc.)		Separate Manifold	
		Point of entry		Exhaust Manifold	
	Exhaust Gas Recirculation	Type (controlled flow, open orifice, other)	Back Pressure Modulated	Controlled Flow	
		Exhaust source	Manifold	Exhaust Manifold	
		Point of exhaust injection (spacer, carburetor, manifold, other)	Intake Manifold	Inlet Manifold	
	Catalytic Converter	Type	Plat.-Palladium-Rhodium	Dual Bed, Oxidizing & Reducing	
		Number of	One	One	
		Location(s)	Forward Under Floor	Mounted to Underbody	
		Volume [L (in^3)]	160 in^3	2.78 (170)	
		Substrate type	Alumina	Monolith	
Crankcase Emission Control	Type (ventilates to atmosphere, induction system, other)		Inducation System		
	Energy source (manifold vacuum, carburetor, other)		Manifold Vacuum		
	Discharges (to intake manifold, other)		Intake Manifold		
	Air inlet (breather cap, other)		Carburetor Air Cleaner		
Evaporative Emission Control	Vapor vented to (crankcase, canister, other)	Fuel tank	Canister		
		Carburetor			
	Vapor Storage provision (crankcase, canister, other)		Canister		

Engine — Exhaust System

Type (single, single with cross-over, dual, other)		Single With Dual Outlet Pipes
Muffler no. & type (reverse flow, straight thru, separate resonator)		One - Reverse Flow
Resonator no. & type		None
Exhaust pipe	Branch o.d., wall thickness	—
	Main o.d., wall thickness	44.95; 1.02 min (1.75)
	Material	409 Stainless Steel
Intermediate pipe	o.d. & wall thickness	50.8, 1.09 min
	Material	1009 Aluminum Coated
Tail pipe	o.d. & wall thickness	57.15; 1.09 min
	Material	1009 Aluminum Coated

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Electrical — Supply System

Battery	Voltage rtg. (V & total plates)	12V	
	Minimum reserve cranking	90 min(a), 115 min(b)	75 min(a), 90 min(b)
	SAE capacity (amps)	465 (a); 500 (b)	405 (a); 500 (b)
	Location	LH Front Side of Engine Compartment	
Generator or alternator	Type and rating	(c,d,e,f)	(c,e,f)
	Ratio (alt. crank/rev.)	c-2.52; d,e,f-2.32	c-2.52; e,f-2.32
	Optional (type & rating)	(d,e,f)	(c,e,f)
Regulator	Type	Integral With Alternator	

Electrical — Starting System

Start. motor	Current drain at 0°F	250-400 Amps @ -20°F	
Motor drive	Engagement type	Overrunning Clutch	Solenoid
	Pinion engages from (front, rear)	Front	

(a) Standard Battery
(b) Heavy Duty Option Battery
(c) 56 Amp 12 SI With Heater
(d) 66 Amp 12 SI With Heater and Heated Backlight
(e) 78 Amp 12 SI With A/C
(f) 85 Amp 15 SI Heavy Duty Option With A/C

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Electrical — Ignition System

Type	Conventional (std., opt., n.a.)		Not Available	
	Transistorized (std., opt., n.a.)		Standard	
	Other (specify)		High Energy Ignition (HEI) With Est.	
Coil	Make		Delco Remy	
	Model		Remote Mounted from Distributor	
	Current	Engine stopped — A	0.5 max	
		Engine idling — A	5.1	
Spark plug	Make		AC Spark Plug	
	Model		R44xLS	R42 CTS
	Thread (mm)		14	MI4 x 1.25
	Tightening torque [N-m (lb., ft.)]		20 (15)	9.20 (7-15)
	Gap		0.9 (.035)	.9 (.035)
Distributor	Make		Delco Remy	Delco Remy
	Model		1103514	1103515

Electrical — Suppression

Locations & type	Internal alternator 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; hood grounding clip, engine to dash panel ground strap, fuse block capacitor and on "heater only" blower motors and coax capacitor.

Electrical — Instruments and Equipment

Speed-ometer	Type	Dial With Pointer, MPH Highlighted
	Trip odometer (std., opt., n.a.)	Available On All Models
EGR maintenance indicator		Not Available
Charge indicator	Type	Tell-Tale Lamp (a)
	Warning device	Not Available
Temperature indicator	Type	Tell-Tale Lamp (a)
	Warning device	Not Available
Oil pressure indicator	Type	Tell-Tale Lamp (a)
	Warning device	Not Available
Fuel indicator	Type	Electric Gage
	Warning device	
Wind-shield wiper	Type (standard)	Electric 2-Speed
	Type (optional)	Controlled Cycle Wiper System
	Blade length	430 (16.0)
	Swept area [cm^2($in.^2$)]	Coupes 4900 (759.7); Sedans & SW 4937 (765.4)
Wind-shield washer	Type (standard)	Push Button
	Type (optional)	
	Fluid level indicator	
Horn	Type	Vibrator
	Number used	One (Two t/w optional dual horns)
Other		

(a) Replaced With Gage Option

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Transmissions

Manual 3-speed (std., opt., n.a.)	Not Available	Not Available
Manual 4-speed (std., opt., n.a.)	Not Available (With LH8)	Standard
Manual 5-speed (std., opt., n.a.)	Standard (W/Opt. Ratios Avail.)	Not Available
Manual overdrive (std., opt., n.a.)	Not Available	Not Available
Automatic (std., opt., n.a.)	Optional	Not Available
Automatic overdrive (std., opt., n.a.)	Not Available	Not Available

Manual Transmission		STD.	OPT. F/E LEADER	
Number of forward speeds		5	5	4
Transmission ratios	In first	3.91	3.91	3.53
	In second	2.15	2.15	1.95
	In third	1.45	1.33	1.24
	In fourth	1.03	.92	.81
	In fifth	.74	.74	--
	In overdrive	--		--
	In reverse	3.50	3.50	3.42
Synchronous meshing (specify gears)		All Except Reverse		All Forward Gears
Shift lever location		Floor		Floor
Lubricant	Capacity [L (pt.)]	2.55L		
	Type recommended	ATF Dexron II		
	SAE viscosity number: Summer			
	SAE viscosity number: Winter			
	SAE viscosity number: Extreme cold			

Clutch (Manual Transmission)

Make & type		Daikin Dry Disc	Borg & Beck
Type pressure plate springs		Belleville Spring	Diaphragm
Total spring load [N (lb.)]		470 Kg (1070 LBS)	5516 (1240)
No. of clutch driven discs		One	One
Clutch facing	Material	Woven Molded Asbestos	Molded Type Asbestos
	Manufacturer	Daikin	Borg & Beck
	Part number	94253238	14049775
	Rivets/plate	16	36
	Rivet size	5mm	.143 x .213
	Outside & inside dia.	215mm/154mm	203.2x152.4 (8.0x6.0)
	Total eff. area [cm^2(in.^{2})]	176.79 cm^2	142 (22.0)
	Thickness	8.6 +/- .3mm	8.128 (.320)
	Engagement cushion method	Drive Plate Wave Spoke Springs	
Release bearing	Type & method of lubrication	Ball Thrust - Pre-Packed and Sealed	
Torsional damping	Method: springs, friction material	Coil Springs and Metal to Metal Stops	

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Automatic Transmission

Trade name		Turbo Hydramatic	Not Available
Type (describe)		3-Speed With Torque Converter	Not Available
Selector	Location	Floor With Console	
	Ltr./No. designation	P-R-N-D-2-1	
Gear ratios	R	2.07	
	D	2.84; 1.60; 1.0	
	L_3	Not Available	
	L_2	2.84; 1.60	
	L_1	2.84	
Max. upshift speed - drive range [km/h (mph)]		71 MPH	
Max. kickdown speed - drive range [km/h (mph)]		68 MPH	
Min. overdrive speed [km/h (mph)]		Not Available	
Torque converter	Number of elements	Three	
	Max. ratio at stall	2.38	
	Type of cooling (air, liquid)	Liquid	
	Nominal diameter	245mm	
Lubricant	Capacity [refill L (pt.)]	5.5L (5L Represents Pan Drain)	
	Type recommended	GM Dexron II	
Special transmission features		Torque Converter Clutch	

Axle or Front Wheel Drive Unit

Type (front, rear)			Front
Description			Integral With Transmission
Limited slip differential (type)			None
Drive pinion offset			Not Available
Drive pinion (type)			Not Available
No. of differential pinions			2
Pinion adjustment (shim, other)			Not Available
Pinion bearing adj. (shim, other)			Not Available
Driving wheel bearing (type)			Integral Double Row Ball Bearing
Lubricant	Capacity [L (pt.)]		Not Available (Part of Transmission)
	Type recommended		ATF Dexron II
	SAE viscosity number	Summer	
		Winter	
		Extreme cold	

Axle or Transaxle Ratio and Tooth Combinations (See "Power Teams" for axle ratio usage.)

		STD.	OPT. (F/E LEADER)
Axle ratio or overall ratio		2.83 (in 5th Gear)	2.36 (in 5th Gear)
No. of teeth	Pinion	Not Applicable - Uses Planetary Gear Set	
	Ring gear or gear	Not Applicable - Uses Planetary Gear Set	
Ring gear o.d.		Not Available	
Transaxle	Transfer gear ratio	N/A for MT; 1.12 AT; 1.0 AT (Altitude & Performance)	
	Final drive ratio	3.83 MT; 3.33 AT (opt.);	3.19 MT, 2.84 AT; 3.18 AT

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Axle Shafts — Front Wheel Drive

Number used			Two		
Type (straight, solid bar, tubular, etc.)		Left	Straight Solid Bar		
		Right	Straight Solid Bar (a)		
Outer diam. x length * x wall thickness	Manual transmission	Left	23.8 x 352.95(0.937 x 13.90)	23.8 x 320.8 (0.937 x 12.63)	
		Right	23.8 x 698.40(0.937 x 27.50)	23.8 x 320.8 (0.937 x 12.63)	
	Automatic transmission	Left	23.8 x 341.90(0.937 x 13.46)	23.8 x 320.8 (0.937 x 12.63)	
		Right	23.8 x395.2(0.937 x 15.56)	23.8 x 363.0 (0.937 x 14.29)	
	Optional transmission	Left	—		
		Right	--		
Slip yoke	Type		None		
	Number of teeth		None		
	Spline o.d.		None		
Universal joints	Make and mfg. no.	Inner	Saginaw		
		Outer	Saginaw		
	Number used		Two On Each Drive Shaft		
	Type, size, plunge	Inner	TRI-POT 61mm Plunge	63 mm	
		Outer	Rzeppa - Fixed		
	Attach (u-bolt, clamp, etc.)		Snap Ring		
	Bearing — Type (plain, anti-friction)		Not Available		
	Bearing — Lubric. (fitting, prepack)		Not Available		
Drive taken through (torque tube, arms or springs)			MacPherson Strut Wishbone Lower Control Arm		
Torque taken through (torque tube, arms or springs)			Engine Mounting System		

(a) Tubular RH Shaft With Manual Transmission

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

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METRIC (U.S. Customary)

Car Line 2000
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Engine Description/Carb. Engine Code	All

Tires And Wheels (Standard)

			All Models (Exc. SE)	SE Only
Tires	Size (load range, ply)		P175/80R13	P195/70k13
	Type (bias, radial, etc.)		Glass Belted Radial	Steel Belted Radial
	Inflation pressure (cold) for recommended max. vehicle load	Front [kPa (psi)]	240 (35)	240 (35)
		Rear [kPa (psi)]	240 (35)	240 (35)
	Rev./mile—at 70 km/h (45 mph)		893	878
Wheels	Type & material		Disc Steel	Cast Aluminum
	Rim (size & flange type)		13x5JB	13x5.5JB
	Wheel offset		49 mm	
	Attachment	Type (bolt or stud)	Stud	
		Circle diameter	100mm	
		Number & size	5, M12 x 1.5	
Spare	Tire and wheel (same, if other describe)		14x4 Compact Wheel	P115/70D14
	Storage position & location (describe)			

Tires And Wheels (Optional)

Size (load range, ply)	P195/80R13 (Required With Handling Package Y99)
Type (bias, radial, etc.)	Steel Belt Radial
Wheel (type & material)	Disc, Steel
Rim (size, flange type and offset)	13x5.5JB
Size (load range, ply)	
Type (bias, radial, etc.)	
Wheel (type & material)	
Rim (size, flange type and offset)	
Size (load range, ply)	
Type (bias, radial, etc.)	
Wheel (type & material)	
Rim (size, flange type and offset)	
Size (load range, ply)	
Type (bias, radial, etc.)	
Wheel (type & material)	
Rim (size, flange type and offset)	
Spare tire and wheel (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
Location of control		Between Front Seats
Operates on		Rear Service Brakes
If separate from service brakes	Type (internal or external)	
	Drum diameter	
	Lining size (length x width x thickness)	

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Body Type And/Or Engine Displacement	All

Brakes — Service

Description				
Brake type (std., opt., n.a.)		Front (disc or drum)		Disc
		Rear (disc or drum)		Drum
Self-adjusting (std., opt., n.a.)				Standard
Special valving	Type (proportion, delay, metering, other)			Integral Proportioning - Diagonal Split
Power brake (std., opt., n.a.)				Standard
Booster type (remote, integral, vac., hyd., etc.)				200 Tandem Delco Moraine (Vacuum Suspended)
Anti-skid device type (std., opt., n.a.)				--
Effective area [cm^2($in.^2$)]*				309 (47.9)
Gross lining area [cm^2($in.^2$)]**				381 (59.1)
Swept area [cm^2($in.^2$)]***				1624 (251.8)
Rotor	Outer working diameter		F	247mm (9.72)
			R	
	Inner working diameter		F	
			R	
	Thickness		F	12.7mm and 22mm
			R	
	Material & type (vented/solid)		F	Cast Iron Vented
			R	
Drum	Diameter (nominal)		F	200 x 45 (7.87 x 1.77)
			R	
	Type and material			Cast Iron
Wheel cylinder bore	Front			57mm (2.24)
	Rear			16 (.63) Exc. Wagon; 17.5 (.69) Wagon
Master cylinder	Bore			22.2 (.866)
	Stroke			31.8 (1.25)
Pedal arc ratio				3.9:1
Line pressure at 445 N (100 lb.) pedal load [kPa (psi)]				
Lining clearance per shoe	Front			Self-Adjusting
	Rear			Self-Adjusting
Brake lining	Front wheel	Bonded or riveted (rivets/seg.)		Bonded Outboard, Riveted Inboard
		Rivet size		7.92 x 5.33 (0.31 x .21)
		Manufacturer		Delco Moraine
		Lining code		122 FE
		Material		Semi-Metallic
		**** Size	Primary or out-board	116.7 x 54.7 x 10.92 (4.594 x 2.157 x .430)
			Secondary or in-board	125 x 59 x 10.2 (4.92 x 2.32 x 0.4)
		Shoe thickness (no lining)		4.72 Inboard; 3.14 Outboard (.186 I.B., 0.123 O.B.)
	Rear wheel	Bonded or riveted (rivets/seg.)		Riveted
		Manufacturer		Inland
		Lining code		235 FE
		Material		Semi-Metallic
		**** Size	Primary or out-board	167.7 x 43.9 x 3.8 (6.60 x 1.73 x .15)
			Secondary or in-board	167.7 x 43.9 x 4.81 (6.60 x 1.73 x .19)
		Shoe thickness (no lining)		2.75 (.11)

* 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 circumference.) (Disc brake: Square of Outer Working Dia. minus Square of Inner Working Dia. multiplied by Pi/2 for each brake.)
**** Size for drum brakes includes length x thickness.

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Body Type And/Or Engine Displacement	ALL

Steering

Manual (std., opt., n.a.)				Std. Exc. JD77
Power (std., opt., n.a.)				Opt. (Std. JD77)
Adjustable steering wheel (tilt, swing, other)		Type and description		Tilt
		(Std., opt., n.a.)		Optional
Wheel diameter		Manual		375 (14.8 in)
		Power		375 (14.8 in)
Turning diameter m (ft.)	Outside front	Wall to wall (l. & r.)		
		Curb to curb (l. & r.)		10.59 (34.74 FT)
	Inside rear	Wall to wall (l. & r.)		--
		Curb to curb (l. & r.)		--
Manual	Gear	Type		Rack and Pinion
		Make		Saginaw Steering Gear
		Ratios	Gear	--
			Overall	22:1
	No. wheel turns (stop to stop)			4.04
Power	Type (coaxial, linkage, etc.)			Rack and Pinion With Integral Power Unit
	Make			Saginaw Steering Gear
	Gear	Type		Rack and Pinion
		Ratios	Gear	--
			Overall	16:1, Opt. 14:1
	Pump (drive)			Belt From Engine Crank
	No. wheel turns (stop to stop)			2.88
Linkage	Type			Center Take-Off From Ring and Pinion Gear
	Location (front or rear of wheels, other)			Rear
	Drag links (trans. or longit.)			None
	Tie rods (one or two)			Two Tie Rods
Steering axis	Inclination at camber (deg.)			I3.5°
	Bearings (type)	Upper		Ball Bearing
		Lower		Ball Joint
		Thrust		--
Steering spindle & joint type				--
Wheel spindle	Diameter	Inner bearing		--
		Outer bearing		--
	Thread (size)			M20 x 1.5
	Bearing (type)			Integral Double Row Ball, Permanently Lubricated

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Body Type And/Or Engine Displacement	All

Wheel Alignment

Front wheel at curb mass (wt.)	Service checking	Caster (deg.)	Not Adjustable
		Camber (deg.)	+.60° +/- .50°
		Toe-in [outside track-mm (in.)]	.125° Toe-Out +/- .125° Per Wheel
	Service reset*	Caster	Not Adjustable
		Camber	+.60° +/- .50°
		Toe-in	.125° Toe-Out +/- .125° Per Wheel
	Periodic M.V. inspection	Caster	Not Adjustable
		Camber	—
		Toe-in	—
Rear wheel at curb mass (wt.)	Service checking	Camber (deg.)	
		Toe-in [outside track-mm (in.)]	
	Service reset*	Camber	
		Toe-in	
	Periodic M.V. inspection	Camber	
		Toe-in	

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

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Body Type And/Or Engine Displacement	All

Suspension — General

Car leveling	Std./opt./n.a.	None
	Type (air, hyd., etc.)	---
	Manual/auto. controlled	---
Provision for brake dip control		Front Suspension Geometry
Provision for accl. squat control		Rear Suspension Geometry
Special provisions for car jacking		Body Pickup at Rocker Panels
Shock absorber (front & rear)	Type	MacPherson Strut-Front; Double Acting Hydraulic-Rear
	Make	Delco
	Piston diameter	
Other special features		

Suspension — Front

Type and description		MacPherson Strut Design
Travel	Full jounce	92 From Design (3.62)
	Full rebound	86 From Design (3.39)
Spring	Type (coil, leaf, other)	Coil
	Material	Steel
	Size (coil design height & i.d., bar length x dia.)	406.6 x 139.0 x 2932 x 12.9 (16.0 x 5.47 x 115.4 x .5) Base Spring*
	Spring rate [N/mm (lb./in.)]	16 (91)
	Rate at wheel [N/mm (lb./in.)]	15.3 (87.4)
Stabilizer	Type (link, linkless, frameless)	Link
	Material & bar diameter	Steel, 22mm (.87)

Suspension — Rear

Type and description			Compound Crank Twist Axle
Drive and torque taken through			Front Suspension
Travel	Full jounce		137mm From Curb (5.39)
	Full rebound		68mm From Curb (2.68)
Spring	Type (coil, leaf, other)		Coil - Conical
	Material		Steel SAE 5160
	Size (length x width, coil design height & i.d., bar length & dia.)		290.0 x 105.0 x 2626 x 13.6 (11.42 x 4.13 x 103.4 x .54) Base Spring*
	Spring rate [N/mm (lb./in.)]		Variable (Curb/Full Rated Load) 23/39
	Rate at wheel [N/mm (lb./in.)]		Variable (Curb/Full Rated Load) 12.5/20.7
	Mounting insulation (type)		Rubber Cushion
	If leaf	No. of leaves	
		Shackle (comp. or tens.)	
Stabilizer	Type (link, linkless, frameless)		Linkless
	Material & bar diameter		SAE 1070
Track bar (type)			None

*All Springs are Computer Selected for Correct Spring Rate and Load

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Body Type	All

Body — Miscellaneous Information

Type of finish (lacquer, enamel, other)			Acrylic Lacquer
Hood	Hinge location (front, rear)		Rear
	Type (counterbalance, prop)		Prop Rod
	Release control (internal, external)		Internal
Trunk lid	Type (counterbalance, other)		Counter Balance - Torque Rod
	Internal release control (elec., mech., n.a.)		Option - Electric
Bumper front	Bar material & mass (wt.)		Steel and Urethane
	Reinforcement material & mass (wt.)		Steel
Bumper rear	Bar material & mass (wt.)		
	Reinforcement material & mass (wt.)		
Vent window control (crank, friction, pivot, power)		Front	
		Rear	
Seat cushion type		Front	Molded Foam Pad
		Rear	Molded Foam Pad
		3rd seat	
Seat back type		Front	Molded Foam Pad
		Rear	Molded Foam Pad
		3rd seat	
Vehicle ident. no. location			L.H. Corner - Front Edge of Instrument Panel Visible Thru Windshield

Passive Restraint System

Inflatable restraint system	Standard/ optional	Not Available
	Type of charging system	
	Location (stg. whl., instru. panel, other)	
Passive seat belts	Standard/ optional	Not Available
	Power/ manual	
	2 or 3 point	
	Knee bar/ lap belt	

Frame

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

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Body Type	All

Convenience Equipment

Power windows	Side windows	Optional
	Vent windows	None
	Backlight or tailgate	Not Available
Power seats (specify type as well as availability)		Optional, Six-Way Power Seat - Driver
Reclining front seat back (r-l or both)		Standard - Both
Radio (specify type as well as availability)		Std. AM, Optional AM/FM, AM/FM Stereo-Cassette
Premium sound system (specify)		Included T/W Stereo Radios. Includes Dual Front and Rear Acoustically Matched Response Speakers
Rear seat speaker		Optional AM/FM Only; Standard With Stereo
Power antenna		Not Available
Clock		Standard, Digital Display All Models
Air conditioner (specify type)		Manual Temperature Controls
Speed warning device		Not Available
Speed control device		Optional
Ignition lock lamp		Not Available
Dome lamp		Standard
Glove compartment lamp		Optional
Luggage compartment lamp		Optional
Underhood lamp		Not Available
Courtesy lamp		Optional
Map lamp		Not Available
Cornering lamp		Not Available
Rear window defroster electrically heated		Optional
Rear window defogger		Not Available
T-bar roof (describe)		Not Available
Sun roof (describe)		Optional - Vista Vent
Theft protection—type		Lock Mounted on Steering Column: Locks Steering Wheel, Automatic Transmission Shift Levers and Ignition
Rear Hatch Wiper/Wsh.		Optional
Deck Lid Release		Optional
Power Door Locks		Optional

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FEATURE HIGHLIGHTS

(Manufacturers selected list of special vehicle features;
indicate if new or model year introduced)

BODY:

CHASSIS:

ENGINE:

ELECTRICAL:

OTHER:

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Model		Vehicle Mass (weight)							
		CURB MASS, kg. (weight, lb.)*			% PASS. MASS DISTRIBUTION				SHIPPING MASS, kg. (weight, lb.)**
					Pass in Front		Pass in Rear		
		Front	Rear	Total	Front	Rear	Front	Rear	
2000									
2-DOOR NOTCHBACK COUPE	2JB27	689.4	377.8	1067.2	48.1	51.9	20.2	79.8	1041.4
4-DOOR STATION WAGON	2JB35	691.6	436.6	1128.2	48.1	51.9	20.2	79.8	1102.4
4-DOOR NOTCHBACK SEDAN	2JB69	695.9	398.3	1094.2	481.	51.9	20.2	79.8	1068.4
2-DOOR HATCHBACK COUPE	2JB77	686.3	408.3	1094.6	48.1	51.9	20.2	79.8	1068.9
2000 LE									
2-DOOR NOTCHBACK COUPE	2JC27	681.5	400.3	1081.8	48.1	51.9	20.2	79.8	1056.0
4-DOOR STATION WAGON	2JC35	696.1	639.4	1135.5	48.1	51.9	20.2	79.8	1109.7
4-DOOR NOTCHBACK SEDAN	2JC69	702.8	402.3	1105.1	48.1	51.9	20.2	79.8	1079.3
2000 S/E									
2-DOOR HATCHBACK COUPE	2JD77	700.4	420.2	1120.6	48.1	51.9	20.2	79.8	1094.8
2-DOOR CONVERTIBLE		716.3	423.6	1139.9	48.1	51.9	20.2	79.8	1114.1

* Reference — SAE J1100a, Motor vehicle dimensions, curb weight definition.
** Shipping mass (weight) definition —

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Optional Equipment Differential Mass (weight)*

Equipment	MASS, kg. (weight, lb.) Front	Rear	Total	Remarks
Air Conditioning + LQ5	29.70	-3.90	25.80	
(C60) + LH8	26.02	-3.42	22.60	
Battery, H.D. + LQ5	6.06	- .76	5.30	
(UA1) + LH8	2.96	- .38	2.58	
Cruise Control (K35)	2.50	--	2.50	
Luggage Carrier, Roof				
(V55)	2.24	2.26	4.50	Station Wagon Only
Luggage Rack - Rear Deck				
Lid (V58)	-.48	2.86	2.38	All Exc. SW and Hatchbacks
Power Door Locks - 2-Dr.	.68	1.12	1.80	
(AU3) - 4-Dr.	1.06	1.94	3.00	
Power Seat Driver 6-Way	1.78	1.92	3.70	
(AC3)				
Power Windows - 2-Dr.	2.04	1.46	3.50	
(A31) - 4-Dr.	2.74	1.96	4.71	
U63/UL6 AM Radio	1.48	.52	2.00	
UL1 Radio - AM/FM	1.70	.60	2.30	
UU7/UU9 Radio	2.72	.48	3.20	
UU6 Radio	2.98	.52	3.50	
Seats - Lear Siegler				
Adj. Custom Bucket (AQ9)	2.88	3.13	6.01	
Sunroof, Removable Glass	2.64	2.96	5.60	
(A03)				
Rear Window Wiper/Washer				
(C25) - JB35	-.54	3.04	2.50	
- JB77	-.76	4.26	3.50	
Power Steering (N40)	7.32	.18	7.50	
Acoustic Package (BS1)				
- JB27	3.58	4.82	8.40	
- JB77	2.60	3.50	6.10	
- JB69	3.20	4.30	7.50	
- JB35	2.56	3.44	6.00	
Louvered Sunshield	-.76	8.26	7.50	JB77
2.0L Engine (LQ5) + C41	-2.62	.22	-2.40	
+ C60	-4.58	.38	-4.20	
3-Speed Auto. Trans. (MM4)				
+ LH8	23.48	-2.68	20.80	
+LQ5	24.04	-2.74	21.30	
4-Speed Manual Trans. (MM4)	-4.96	.56	-4.40	
P195 Tires	3.62	6.78	10.40	

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

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Car and Body 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 car line.
SAE Ref. no. refers to the definition published in SAE Recommended Practice.
J1100a "Motor Vehicle Dimensions," unless otherwise specified.

Body Type	SAE Ref. No.	2JB27	2JB35	2JB69	2JB77
Width					
Tread (front)	W101	1406			
Tread (rear)	W102	1401			
Vehicle width	W103	1675	1682		1692
Body width at Sg RP (front)	W117	1652			
Vehicle width (front doors open)	W120	3684	3218		3684
Vehicle width (rear doors open)	W121	--	2832		--
Length					
Wheelbase	L101	2571			
Vehicle length	L103	4412	4466	4463	4412
Overhang (front)	L104	938			
Overhang (rear)	L105	903	958	954	903
Upper structure length	L123	2336	2924	2365	2799
Rear wheel C/L "X" coordinate	L127	2354			
Cowl point "X" coordinate	L125	247	246		247
Height*					
Passenger distribution (frt./rear)	PD1,2,3	2/0			
Trunk/cargo load		0			
Vehicle height	H101	1312	1374	1362	1312
Cowl point to ground	H114	940	946	941	940
Deck point to ground	H138	943	-	948	943
Rocker panel-front to ground	H112	214	220	214	
Bottom of door closed-front to grd.	H133	282	294	283	282
Rocker panel-rear to ground	H111	208	211	208	
Bottom of door closed-rear to grd.	H135	-	299	283	-
Ground Clearance*					
Front bumper to ground	H102	340	338	340	340
Rear bumper to ground	H104	333	355	332	333
Bumper to ground (front at curb mass (wt.))	H103	363	362	363	
Bumper to ground (rear at curb mass (wt.))	H105	367	385	367	
Angle of approach @GVW	H106	20.5°	19.9°	20.5°	
Angle of departure @GVW	H107	18.1°	19.5°	18.1°	
Ramp breakover angle@GVW	H147	14.4°	16.1°	14.4°	
Rear axle differential to ground	H153	NOT APPLICABLE			
Min. running ground clearance	H156	150			
Location of min. run. grd. clear.		FRONT SUSPENSION CRADLE			

All linear dimensions are in millimeters (inches) and all mass (weight) specifications are in kilograms (pounds).

* All vehicle height and ground clearances are made at the Manufacturer's Design Load Weight, unless otherwise specified. Manuafacturers Design Load Weight is defined with indicated passenger distribution and trunk/cargo load.

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Car and Body Dimensions See Key Sheets for definitions

Body Type	SAE Ref. No.	2JB27	2JB35	2JB69	2JB77
Front Compartment					
Sg RP front, "X" coordinate	L31	1113			
Effective head room	H61	957	976	979	955
Max. eff. leg-room (accelerator)	L34	1070	1072		1070
Sg RP (front to heel)	H30	234	256		
Design H-point front travel	L17	192			
Shoulder room	W3	1363			
Hip room	W5	1248	1241		1248
Upper body opening to ground	H50	1207	1246	1236	1207
Steering wheel angle	H18	20.0°			
Back angle	L40	25.0°			
Rear Compartment					
Sg RP Point couple distance	L50	720	741	758	715
Effective head room	H63	927	984	961	926
Min. effective leg room	L51	792	840	871	785
Sg RP (second to heel)	H31	259		271	254
Knee clearance	L48	-20	5	18	-21
Compartment room	L3	630	660	654	623
Shoulder room	W4	1334	1364		1334
Hip room	W6	1265	1244	1242	1247
Upper body opening to ground	H51	—	1251	1237	--
Luggage Compartment					
Usable luggage capacity [L (cu. ft.)]	V1	356.3	—	381.5	--
Liftover height	H195	824	549	822	824

All linear dimensions are in millimeters (inches).

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Car and Body Dimensions See Key Sheets for definitions

Body Type	SAE Ref. No.	2JB35

Station Wagon — Third Seat

Shoulder room	W85	
Hip room	W86	
Effective leg room	L86	
Effective head room	H86	
Effective T-point head room	H89	
Seat facing direction	SD1	

Station Wagon — Cargo Space

Cargo length (open front)	L200	
Cargo length (open second)	L201	
Cargo length (closed front)	L202	1709
Cargo length (closed second)	L203	980
Cargo length at belt (front)	L204	1581
Cargo length at belt (second)	L205	837
Cargo width (wheelhouse)	W201	944
Rear opening width at floor	W203	1226
Opening width at belt	W204	1206
Max. rear opening width above belt	W205	970
Cargo height	H201	846
Rear opening height	H202	764
Tailgate to ground height	H250	549
Front seat back to load floor height	H197	
Cargo volume index [$m^3(ft.^3)$]	V2	1824
Hidden cargo volume [$m^3(ft.^3)$]	V4	

Hatchback — Cargo Space

		2JB77
Front seat back to load floor height	H197	595
Cargo length at front seat back height	L208	1124
Cargo length at floor (front)	L209	1621
Cargo volume index [$m^3(ft.^3)$]	V3	1089
Hidden cargo volume [$m^3(ft.^3)$]	V4	

A printed or computer tape supplement containing additional car and body dimensions and/or drawings (based in part on SAE J1100a "Motor Vehicle Dimensions") may be available from the manufacturer.

All dimensions are in millimeters (inches).

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Car and Body Dimensions See Key Sheets for definitions

Body Type	2JB27	2JB35	2JB69	2JB77

Vehicle Fiducial Marks

Fiducial Mark Number*	Define Coordinate Location
(1) Front	X - FIDUCIAL MARK TO VERTICAL BASE GRID LINE - FRONT, MEASURED HORIZONTALLY FROM THE BASE GRID LINE TO THE FRONT FIDUCIAL MARK LOCATED ON TOP OF THE FRONT SEAT ADJUSTER MOUNTING BOLT.
Front	Y - FIDUCIAL MARK TO CENTER LINE OF CAR - FRONT, WIDTH MEASUREMENT MADE FROM CENTER LINE OF CAR TO FIDUCIAL MARK LOCATED ON TOP OF THE FRONT SEAT ADJUSTER MOUNTING BOLT.
(2)	Z - FIDUCIAL MARK TO HORIZONTAL BASE GRID LINE - FRONT, MEASURED VERTICALLY FROM BASE GRID LINE TO FRONT FIDUCIAL MARK LOCATED ON TOP OF THE FRONT SEAT ADJUSTER MOUNTING BOLT.
(1) Rear	X - FIDUCIAL MARK TO VERTICAL BASE GRID LINE - REAR, MEASURED HORIZONTALLY FROM BASE GRID LINE TO THE REAR FIDUCIAL MARK LOCATED ON THE RAIL (COMPARTMENT PAN - LONGITUDINAL).
Rear	Y - FIDUCIAL MARK TO CENTERLINE OF CAR - REAR, WIDTH MEASUREMENT MADE FROM CENTER LINE OF CAR TO FIDUCIAL MARK LOCATED ON THE RAIL (COMPARTMENT PAN - LONGITUDINAL).
(2)	Z - FIDUCIAL MARK TO HORIZONTAL BASE GRID LINE - REAR, MEASURED VERTICALLY FROM BODY BASE GRID LINE TO THE REAR FIDUCIAL MARK LOCATED ON THE RAIL (COMPARTMENT PAN - LONGITUDINAL).

Fiducial Mark Number				
Front	W21	504.5	504	504.5
	L54	2746		
	H81	246		
	H161	293	300	293
	H163	265	273	265
Rear	W22	440		
	L55	4900	4951	4900
	H82	362		
	H162	413	431	413
**	H164	380	401	380

** EPA LOADED VEHICLE WEIGHT LOADING CONDITIONS

* Reference — SAE Recommended Practice, J182a, Motor Vehicle Fiducial Marks — September, 1973.
All linear dimensions are in millimeters (inches).

MVMA Specifications Form
Passenger Car

Car Line 2000

Model Year 1983 Issued 10-15-82 Revised (*)

METRIC (U.S. Customary)

Car and Body Dimensions See Key Sheets for definitions

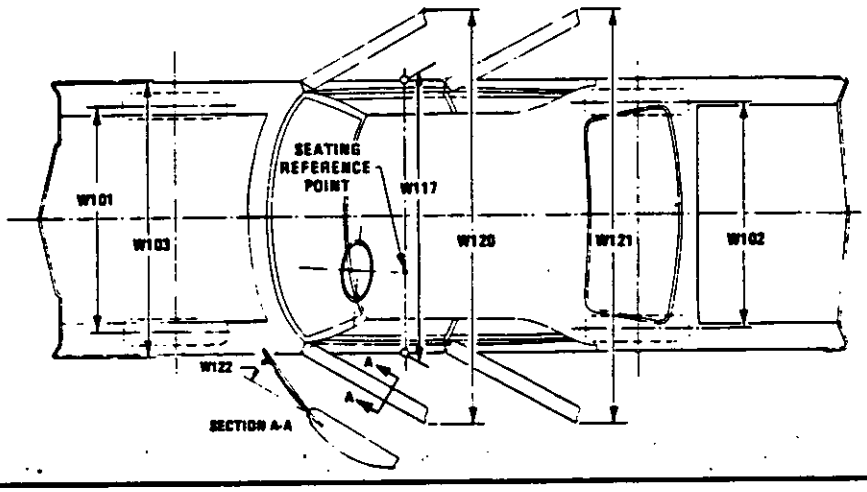
Body Type	SAE Ref. No.	2JB27	2JB35	2JB69	2JB77
Glass					
Backlight slope angle (deg.)	H121	51.5	35.5	49.0	70.0
Windshield slope angle (deg.)	H122	58.0	55.0		58.0
Tumble-Home (deg.)	W122	21.5	21.0		21.5
Windshield glass exposed surface area [cm^2($in.^2$)]	S1	7847			
Side glass exposed surface area [cm^2($in.^2$)]	S2	10910	16955	11532	11478
Backlight glass exposed surface area [cm^2($in.^2$)]	S3	5154	4892	5691	8685
Total glass exposed surface area [cm^2($in.^2$)]	S4	23551	29334	24710	27650
Windshield glass (type)		CURVED LAMINATED PLATE			
Side glass (type)		CURVED LAMINATED PLATE			
Backlight glass (type)		CURVED LAMINATED PLATE			
Lamps and Headlamp Shape*					
Height above ground to center of bulb or marker	Headlamp (H127) Highest**	671	670	671	
	Headlamp (H127) Lowest	--			
	Taillamp (H128) Highest**	713	589	713	714
	Taillamp (H128) Lowest	--			
	Sidemarker Front	569	569	569	
	Sidemarker Rear	709	759	709	719
Distance from C/L of car to center of bulb	Headlamp Inside	413			
	Headlamp Outside**	593			
	Taillamp Inside	383	714	383	509
	Taillamp Outside**	647	714	647	644
	Directional Front	581			
	Directional Rear	647	714	647	644
Headlamp shape		RECTANGULAR			

* Measured at curb mass (weight).
** If single lamps are used enter here.

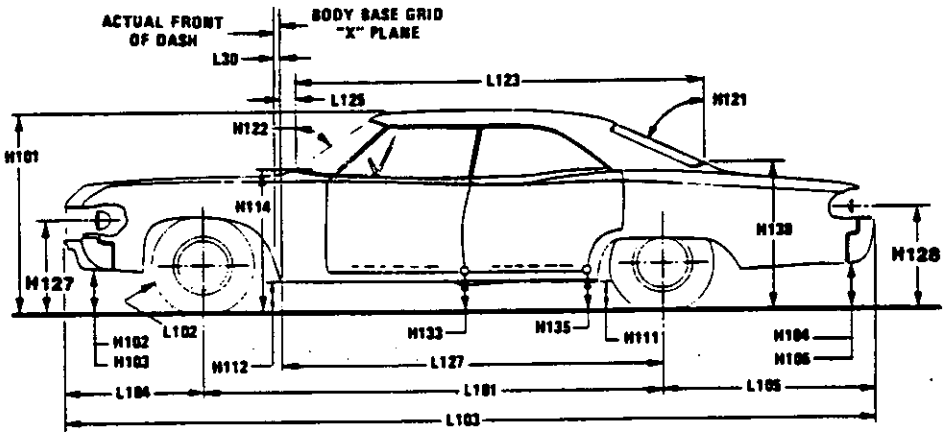
MVMA Specifications Form
Passenger Car
METRIC (U.S. Customary)

Exterior Car And Body Dimensions — Key Sheet

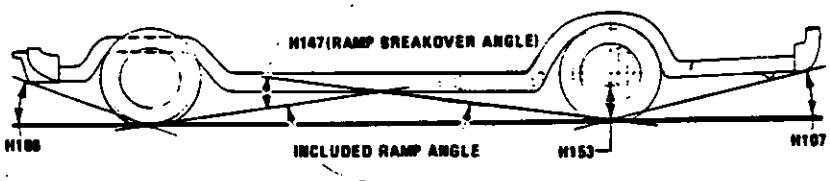
Exterior Width



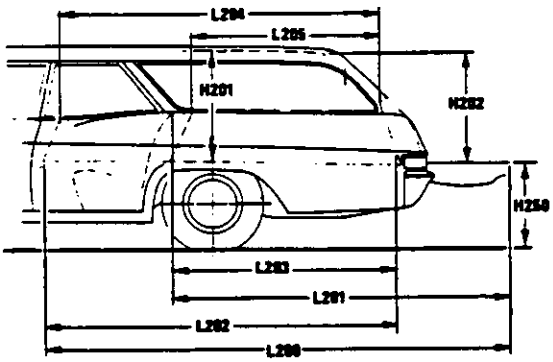
Exterior Length & Height



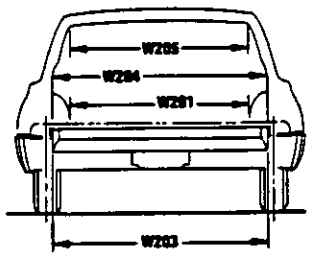
Exterior Ground Clearance

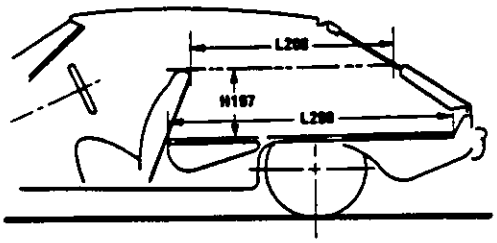


Cargo Space



Station Wagon





Hatchback

MVMA Specifications Form
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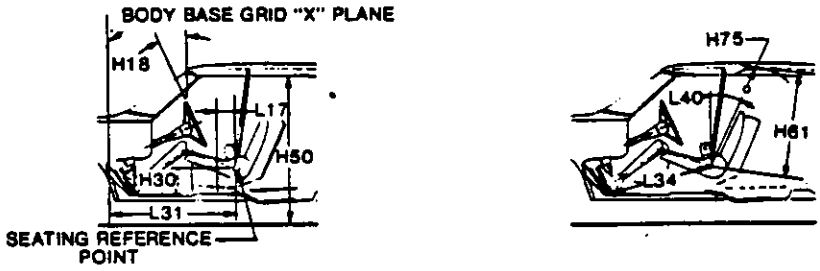
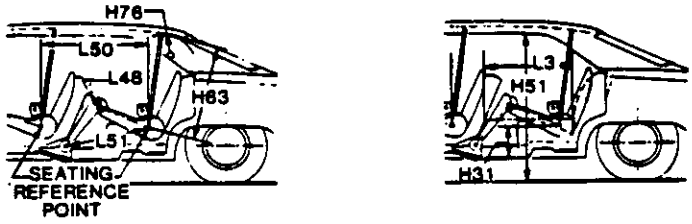
Interior Car And Body Dimensions — Key Sheet

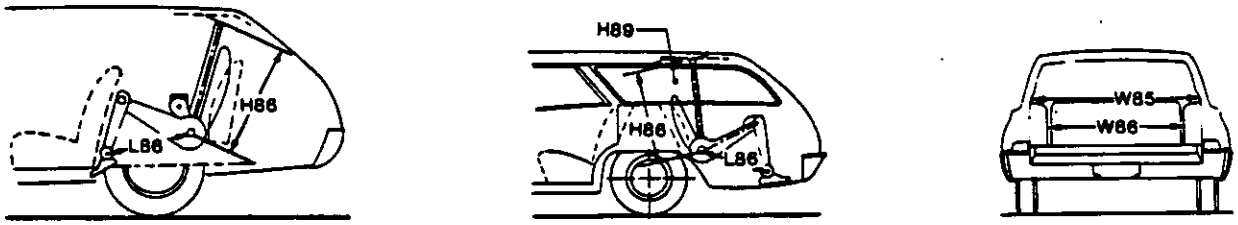
Front Compartment



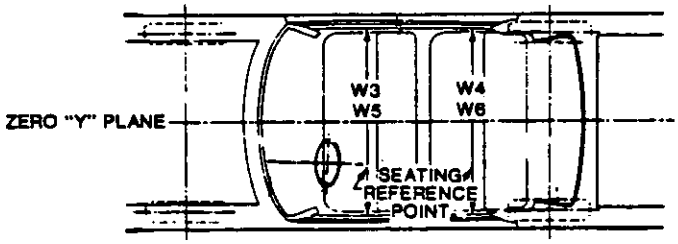
Rear Compartment



Third Seat



Interior Width



MVMA Specifications Form
Passenger Car
METRIC (U.S. Customary)

Exterior Car 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, "Manikins for Use in Defining Vehicle Seating Accommodations," November 1962.

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.

Length Dimensions

L30 FRONT OF DASH "X" COORDINATE. A minus (-) dimension indicates actual front of dash in forward of the zero "X" plane.

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.

L102 TIRE SIZE. As specified by the manufacturer.

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 OVERHANG—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 in the midpoint of the distance between the rear axle centerlines.

L125 COWL POINT "X" COORDINATE.

Height Dimensions

H101 VEHICLE HEIGHT. The dimension measured vertically from the highest point on the vehicle body to ground.

H114 COWL POINT TO GROUND. Measured at zero "Y" plane.

H138 DECK POINT TO GROUND. Measured at zero "Y" plane.

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.

H132 BOTTOM OF DOOR OPEN—FRONT TO GROUND. The dimension measured vertically from the bottom outside corner of the door on the lock pillar side, in maximum hold-open position, 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.

H134 BOTTOM OF DOOR OPEN—REAR TO GROUND. The dimension measured vertically from the bottom outside corner of the door on the lock pillar side, in maximum hold-open position, to ground.

H135 BOTTOM OF DOOR CLOSED—REAR TO GROUND. The dimension measured vertically from the bottom outside corner of the door on the lock pillar side, in maximum closed position, to ground.

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 are 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.

H127 HEADLAMP TO GROUND—CURB MASS (WT.). The dimensional measured vertically from the centerline of the lowest headlamp lens to ground.

H128 TAILLAMP TO GROUND—CURB MASS (WT.). The dimension measured vertically from the centerline of the upper bulb to ground.

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.

MVMA Specifications Form
Passenger Car
METRIC (U.S. Customary)

Interior Car And Body Dimensions — Key Sheet
Dimensions Definitions

H103 FRONT BUMPER TO GROUND CURB MASS (WT.). Measured in the same manner as H104.

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 are 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 are the initial point of structural interference rearward of the rear tire to ground: The limiting component shall be designated.

H147 REAR 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.

Front Compartment Dimensions

PD1 PASSENGER DISTRIBUTION—FRONT.

L31 SgRP—FRONT "X" COORDINATED.

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.).

H75 EFFECTIVE T-POINT HEAD ROOM—FRONT. The minimum radius from the T-point to the headlining plus 762 mm (30 in.).

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.

H30 SgRP—FRONT TO HEEL. The dimension measured vertically from the SgRP—front to the accelerator heel point.

L17 DESIGN H-POINT—FRONT TRAVEL. The dimension measured horizontally between the design H-point—front in the foremost and rearmost seat trace positions.

W3 SHOULDER ROOM—FRONT. The minimum dimension measured laterally between the trimmed surfaces on the "X" plane through the SgRP—front within the belt line and 254 mm (10.0 in.) above the SgRP—front.

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 the SgRP—front.

H150 UPPER BODY OPENING TO GROUND—FRONT. The dimension measured vertically from the trimmed body opening to the ground on the SgRP—front "X" plane.

H18 STEERING WHEEL ANGLE. The angle measured from a vertical to the surface plane of the steering wheel.

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.

Rear Compartment Dimensions

PD2 PASSENGER DISTRIBUTION—SECOND.

L50 SgRP COUBLE DISTANCE. The dimension measured horizontally from the driver SgRP—front to 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.).

H76 EFFECTIVE T-POINT HEAD ROOM—SECOND. Measured in the same manner as H75.

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.).

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.

L48 KNEE CLEARANCE—SECOND. The minimum dimension measured from the knee pivot to the back of front seatback minus 51 mm (2.0 in.).

L3 COMPARTMENT ROOM—SECOND. The dimension measured horizontally from the back of front seat to the front of the second seatback at a height tangent to the top of the second seat cushion.

W4 SHOULDER ROOM—SECOND. The minimum dimension measured laterally between trimmed surfaces on the "X" plane through the SgRP—second within 254-406 mm (10.0-16.0 in.) above the SgRP—second.

W6 HIP ROOM—SECOND. Measured in the same manner as W5.

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.

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.

H195 LIFTOVER HEIGHT. The dimension measured vertically from the luggage compartment lower opening at the zero "Y" plane to ground.

Station Wagon — Third Seat Dimensions

PD3 PASSENGER DIRECTION—THIRD.

W85 SHOULDER ROOM—THIRD. Measured in the same manner as W5.

W86 HIP ROOM— THIRD. Measured in the same manner as W5.

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.).

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.).

H89 EFFECTIVE T-POINT HEAD ROOM—THIRD. Measured in the same manner as H75.

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Interior Car And Body Dimensions — Key Sheet
Dimensions Definitions

Station Wagon — Cargo Space Dimensions

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

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

L202 CARGO LENGTH—CLOSED—FRONT. The minimum dimension measured horizontally from the back of the front seat at the height of the undepressed floor covering to the rearmost point on the undepressed floor covering on the closed tailgate or taildoor for station wagons, trucks and mpv's at the zero "Y" plane.

L203 CARGO LENGTH—CLOSED—SECOND. The dimension measured horizontally from the back of the second seat at the height of the undepressed floor covering to the rearmost point on the undepressed floor covering on the closed tailgate or taildoor for station wagons, trucks and mpv's at the zero "Y" plane.

L204 CARGO LENGTH AT BELT—FRONT. The minimum dimension measured horizontally from the back of the front seatback at the seatback top to the foremost normal surface of the closed tailgate or inside surface of the cab back panel 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 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.

H201 CARGO HEIGHT. The dimension measured vertically from the top of the undepressed floor covering to the headlining at the rear wheel "X" coordinated on the zero "Y" plane.

H202 REAR OPENING HEIGHT. The dimension measured vertically from the top of the undepressed floor covering to the upper trimmed opening on the zero "Y" plane with rear door fully open.

H250 TAILGATE TO GROUND (CURB MASS WT.). The dimension measured vertically from the top of the undepressed floor covering on the lowered tailgate to ground on the zero "Y" plane.

V2 STATION WAGON

Measured in inches:

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

Measured in mm:

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

V4 HIDDEN CARGO VOLUME. As specified by the manufacturer.

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 electrically adjusted seats, see the manufacturer's specifications for Design "H" Point).

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.

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—HATCHBACK. 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.

V3 HATCHBACK.

Measured in inches:

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

Measured in mm:

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

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