

MANUFACTURERS MOTOR VEHICLE SPECIFICATIONS

METRIC(U.S. Customary)

Passenger Car

1986

Manufacturer VOLKSWAGEN OF AMERICA, INC.	Car Line GTI	
Mailing Address 888 West Big Beaver Road P.O.Box 3951 Troy, Michigan 48007-3951	Issued 8/1/85	Revised 10/1/85

Questions concerning these specifications should be directed to the manufacturer whose address is shown above.

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

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Motor Vehicle Manufacturers Association
of the United States, Inc.

MVMA Specifications Form

Passenger Car

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 completion and are subject to change without notice by the manufacturer.
4. Additional Car and Body Dimensions (based in part on SAE J1100 "Motor Vehicle Dimensions") may be available from the manufacturer.

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Car Line GTI
Model Year 1986 Issued 8/1/85 Revised (●) _____

Car Models

Model Description & Drive (FWD/RWD)	Introduction Date	Make, Car Line, Series, Body Type (Mfr's Model Code)	No. of Designated Seating Positions (Front/Rear)	Max. Trunk/Cargo Load—Kilograms (Pounds)
GTI		176436	2/3	103.8 (229)

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Power Teams (Indicate whether standard or optional)

SAE J1349 Net bhp (brake horsepower) and net torque corrected to 77°F/25° C and 29.61 in. Hg/100 kPa atmospheric pressure.

SERIES AVAILABILITY	ENGINE					E x h a u s t S/D	TRANSMISSION TRANSAXLE	AXLE RATIO (std. first)
	Displ. Liters (in ³)	Carb. (Barrels, FI, etc.)	Compr. Ratio	SAE Net at RPM				
				kW (bhp)	Torque N•m (lb. ft.)			
176436	1.8 (109) O.H.C. Hi Perform	F.I.	10.0	77 (100) @ 5500	150 (105) @ 3000		M5	3.67

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Engine Description/Carb.
Engine Code

1.8 Liter F.I.

ENGINE - GENERAL

Type & description (inline, V, angle, flat, location, front, mid, rear, transverse, longitudinal, sohc, dohc, ohv, hemi, wedge, pre-camber, etc.)	Inline, water cooled, front transverse mounted	
Manufacturer	Volkswagen	
No. of cylinders	4	
Bore	81.0 (3.198)	
Stroke	86.4 (3.40)	
Bore spacing (C/L to C/L)	88.2 (3.47)	
Cylinder block material & mass kg (lbs.)	Cast Iron	
Cylinder block deck height	220 (8.66)	
Deck clearance (minimum) (above or below block)		
Cylinder head material & mass kg (lbs.)	Aluminum Alloy	
Cylinder head volume (cm ³)		
Head gasket thickness (compressed)		
Minimum combustion chamber total volume (cm ³)		
Cyl. no. system (front to rear)*	L. Bank	1-2-3-4
	R. Bank	
Firing order	1-3-4-2	
Intake manifold material & mass [kg (weight, lbs.)]		
Exhaust manifold material & mass [kg (weight, lbs.)]		
Recommended fuel (leaded, unleaded, diesel)	Unleaded	
Fuel antiknock index (R + M)	2	
Total dressed engine mass (wt) dry**		

Engine - Pistons

Material & mass, g (weight, oz.) - piston only	Aluminum Alloy w/lead coating — 452 (15.9)
--	--

Engine - Camshaft

Location	Overhead	
Material & mass kg (weight, lbs.)	Iron	
Drive type	Chain / belt	Spur Belt
	Width / pitch	

* 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

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

Engine - Connecting Rods

Material & mass [kg., (weight, lbs.)]	Forged Steel - 2 pieces, 691.9gms
---------------------------------------	-----------------------------------

Engine - Crankshaft

Material & mass [kg., (weight, lbs.)]	Forged Steel
End thrust taken by bearing (no.)	Three (3)
Number of main bearings	Five (5)
Seal (material, one, two piece design, etc.)	Front
	Rear

Engine - Lubrication System

Normal oil pressure [kPa (psi) at engine rpm]	0.2 Bar (2.9psi)
Type oil intake (floating, stationary)	Stationary
Oil filter system (full flow, part, other)	Full Flow
Capacity of c/case, less filter-refill-L (qt.)	4.0 (4.2)

Engine - Diesel Information

Diesel engine manufacturer	Volkswagen
Glow plug, current drain at 0°F	60amp Steady State
Injector nozzle	Type
	Opening pressure [kPa (psi)]
Pre-chamber design	Swirl Port
Fuel in-jection pump	Manufacturer
	Type
Fuel injection pump drive (belt, chain, gear)	Mechanical - Distributor Injection
Supplementary vacuum source (type)	Vacuum Pump - Gear Driven
Fuel heater (yes/no)	No
Water separator, description (std., opt.)	Integral, w/fuel filter - standard
Turbo manufacturer	
Oil cooler-type (oil to engine coolant; oil to ambient air)	
Oil filter	

Engine - Intake System

Turbo charger - manufacturer	
Super charger - manufacturer	
Charge cooler	

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Engine Description/Carb.
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1.8 Liter F.I.

Engine - Cooling System

Coolant recovery system (std., opt., n.a.)		Standard
Coolant fill location (rad., bottle)		Bottle
Radiator cap relief valve pressure [kPa (psi)]		103-138 (15-20)
Circulation thermostat	Type (choke, bypass)	Spring loaded engine by-pass
	Starts to open at °C (°F)	87°C (199°F)
Water pump	Type (centrifugal, other)	Centrifugal
	GPM 1000 pump rpm	-
	Number of pumps	One
	Drive (V-belt, other)	V-Belt
	Bearing type	Integral ball
	Impeller material	-
	Housing material	-
By-pass recirculation [type (inter., ext.)]		-
Cooling system capacity	With heater-L(qt.)	6.9 (7.3)
	With air cond.-L(qt.)	same
	Opt. equipment (specify-L(qt.))	-
Water jackets full length of cyl. (yes, no)		No
Water all around cylinder (yes, no)		No
Water jackets open at head face (yes, no)		No
Radiator core	Std., A/C, HD	Standard
	Type (cross-flow, etc.)	Cross Flow
	Construction (fin & tube mechanical, braze, etc.)	Fin & Tube
	Material, mass [kg (wgt, lbs.)]	Aluminum
	Width	525 (20.7)
	Height	322 (12.7)
	Thickness	42.0 (1.65)
	Fins per inch	-
Radiator end tank material		-
Fan	Std., elec., opt.	Electric
	Number of blades & type (flex, solid, material)	Flexible polypropylene (4)
	Diameter & projected width	280 (11.0)
	Ratio (fan to crankshaft rev.)	N.A.
	Fan cutout type	Electric motor
	Drive type (direct, remote)	Remote
	RPM at idle (elec.)	-
	Motor rating (wattage) (elec.)	100/200 w/AC
	Motor switch (type & location) (elec.)	Thermo - left side of radiator
	Switch point (temp., pressure) (elec.)	ON: 93-98°C OFF: 88-93°C
	Fan shroud (material)	Steel

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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 system

Carbure- tor	Mfgr.	
	Choke (type)	
	Idle spd.-rpm (spec. neutral or drive and propane if used)	Manual
		Automatic
Idle A/F mix.		0.75 ⁺ -0.45 CO
Fuel injection	Point of injection (no.)	Port
	Constant, pulse, flow	Constant
	Control (electronic, mech.)	Electro-Hydraulic
	System pressure [kPa (psi)]	4.5-5.2 Bars (64-74)
Intake manifold heat control (exhaust or water thermostatic or fixed)		None
Air cleaner type	Standard	Paper element
	Optional	None
Fuel pump	Type (elec. or mech.)	Electric
	Location (eng., tank)	Ahead of tank
	Pressure range [kPa (psi)]	500 (72.5)

Fuel Tank

Capacity (refill L (gallons))		55 (14.5)
Location (describe)		Under floor forward of rear wheels
Attachment		3 - straps
Material & Mass [kg (weight lbs)]		Plastic
Filler pipe	Location & material	Integrated plastic
	Connection to tank	Molded
Fuel line (material)		Terne steel
Fuel hose (material)		Flexible Rubber
Return line (material)		Terne steel
Vapor line (material)		Nylon
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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Vehicle Emission Control

Exhaust Emission Control	Type (air injection, engine modifications, other)		Air injection, exhaust gas recirculation, oxygen sensing, & catalytic converter
	Air Injection	Pump or pulse	-
		Driven by	-
		Air distribution (head, manifold, etc.)	-
		Point of entry	-
	Exhaust Gas Recircula- tion	Type (controlled flow, open orifice, other)	Vacuum amplified system
		Exhaust source	Exhaust manifold
		Point of exhaust injection (spacer, carburetor, manifold, other)	Intake manifold
	Catalytic Converter	Type	3 - way
		Number of	one
		Location(s)	Under floor
		Volume [L (in³)]	1.25 (76)
Substrate type		Monolith	
Crankcase Emission Control	Type (ventilates to atmosphere, induction system, other)		Closed induction system
	Energy source (manifold vacuum, carburetor, other)		Manifold Vacuum
	Discharges (to intake manifold, other)		Intake manifold
	Air inlet (breather cap, other)		Air cleaner
Evapora- tive Emission Control	Vapor vented to (crankcase, canister, other)	Fuel tank	Canister
		Carburetor	N.A.
	Vapor storage provision		Canister
Electronic system	Closed loop (yes/no)		yes
	Open loop (yes/no)		no

Engine - Exhaust System

Type (single, single with cross-over, dual, other)		Single
Muffler no. & type (reverse flow, straight thru, separate resonator) Material & Mass [kg (weight lbs)]		One reverse flow
Resonator no. & type		None
Exhaust pipe	Branch o.d., wall thickness	
	Main o.d., wall thickness	44.4 x 1.8
	Material & Mass [kg (weight lbs)]	Stainless steel
Inter- mediate pipe	o.d. & wall thickness	45.0 x 1.8
	Material & Mass [kg (weight lbs)]	Aluminum coated steel
Tail pipe	o.d. & wall thickness	50.0 x 1.8
	Material & Mass [kg (weight lbs)]	Aluminum coated steel

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Transmissions/Transaxle

Manual 3-speed (std., opt., n.a.) (mfr.)	N.A.
Manual 4-speed (std., opt., n.a.) (mfr.)	N.A.
Manual 5-speed (std., opt., n.a.) (mfr.)	Standard (Close ratio)
Manual overdrive (std., opt., n.a.) (mfr.)	N.A.
Automatic (std., opt., n.a.) (mfr.)	N.A.
Automatic overdrive (std., opt., n.a.) (mfr.)	N.A.

Manual Transmission/Transaxle

Number of forward speeds		5 - speed
Transmission ratios	In first	3.45:1
	In second	2.12:1
	In third	1.44:1
	In fourth	1.13:1
	In fifth	0.89:1
	In overdrive	-
	In reverse	3.17:1
Synchronous meshing (specify gears)		All forward gears
Shift lever location		Floor
Lubricant	Capacity [L (pt.)]	2.0 (4.2)
	Type recommended	Hypoid Mil-L2105; API/GL-4
	SAE viscosity number	Summer SAE 80W; SAE 80/90W
		Winter Same
		Extreme cold Same

Clutch (Manual Transmission)

Make, type, engagement (describe) - (hydraulic, cable, rod)		Single plate - dry (Self adjusting)
Assist (yes, no / percent)		No
Type pressure plate springs		-
Total spring load [N (lb.)]		3700-4200 (832-944)
No. of clutch driven discs		One
Clutch facing	Material	Woven asbestos
	Manufacturer	Fichel & Sach/Luk
	Part number	-
	Rivets/plate	16/-
	Rivet size	9.5 (0.374)
	Outside & inside dia.	210 x 144 (8.25 x 5.67)
	Total eff. area [cm ² (in. ²)]	346 (53.67)
	Thickness	3.25 (0.128)
	Engagement cushion method	Wave spring segments
Release bearing	Type & method of lubrication	Ball thrust - lubed by oil from the transmission
Torsional damping	Method: springs, friction material	Coil springs w/fibre washer

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Automatic Transmission/Transaxle

Trade name		
Type and special features (describe)		
Selector	Location	
	Ltr./No. designation	
Gear ratios	R	
	D	
	L ₃	
	L ₂	
	L ₁	
Max. upshift speed - drive range [km/h (mph)]		
Max. kickdown speed - drive range [km/h (mph)]		
Min. overdrive speed [km/h (mph)]		
Torque converter	Number of elements	
	Max. ratio at stall	
	Type of cooling (air, liquid)	
	Nominal diameter	
Lubricant	Capacity [refill L (pt.)]	
	Type Recommended	
Oil cooler (std., opt., NA, internal, external, air, liquid)		

Axle or Front Wheel Drive Unit

Type (front, rear)		Front
Description		Parallel axis helical gears
Limited slip differential (type)		
Drive pinion offset		
Drive pinion (type)		
No. of differential pinions		
Pinion / differential adjustment (shim, other)		two
Pinion / differential bearing adjustment (shim, other)		
Driving wheel bearing (type)		Ball bearing - double row
Lubricant	Capacity [L (pt.)]	1.3 (2.8)
	Type recommended	SAE 90 Mil. - L2105B, API/GL-5
	SAE viscosity number	Summer
		Winter
		Extreme cold

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

Axle ratio (or overall top gear ratio)		
No. of teeth	Pinion	
	Ring gear or gear	
Ring gear o.d.		
Transaxle	Transfer gear ratio	
	Final drive ratio	3.67:1

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Axle Shafts – Front Wheel Drive

Number used		Two	
Type (straight, solid bar, tubular, etc.)	Left	Solid bar	
	Right	Tubular	
Outer diam. x length* x wall thickness	Manual transmission	Left	443 (17.44)
		Right	677.2 (26.66)
	Automatic transmission	Left	Same
		Right	Same
	Optional transmission	Left	-
		Right	-
Slip yoke	Type		
	Number of teeth		
	Spline o.d.		
Universal joints	Make and mfg. no.	Inner	
		Outer	
	Number used		Two
	Type, size, plunge	Inner	Constant velocity 90 (3.562)
		Outer	Constant velocity 100 (3.937)
	Attach (u-bolt, clamp, etc.)		Clamp
	Bearing	Type (plain, anti-friction)	Ball bearing
Lubrication (fitting, prepack)		Prepack	
Drive taken through (torque tube, arms or springs)		Engine mounts	
Torque taken through (torque tube, arms or springs)			

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

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Body Type And/Or
Engine Displacement

2 - Door

Suspension - General

Car leveling	Std./opt./n.a.	N.A.
	Type (air, hyd., etc.)	-
	Manual/auto. controlled	-
Provision for brake dip control		Suspension Geometry
Provision for accel. squat control		Suspension Geometry
Provisions for car jacking		Sill jacking - 4 jack points, 2 each side, fore & aft, with notch locators.
Shock absorber (front & rear)	Type	Telescopic
	Make	
	Piston diameter	38.4 (1.51)
	Rod diameter	11 (0.43)

Suspension - Front

Type and description		Independent MacPherson strut with coil springs
Drive and torque taken through		Lower control arm
Travel	Full jounce	72 (2.83)
	Full rebound	85 (3.35)
Spring	Type (coil, leaf, other) & material	Coil - Alloy spring steel
	Insulators (type & material)	
	Size (coil design height & i.d., bar length x dia.)	342.8 x 113.5 ID x 12.67 ϕ without AC 360.0 x 113.5 ID x 12.67 ϕ with AC
	Spring rate [N/mm (lb./in.)]	
	Rate at wheel [N/mm (lb./in.)]	
Stabilizer	Type (link, linkless, frameless)	Link with rubber bushing joint attached to control arm
	Material & bar diameter	22 (0.86) Alloy spring steel

Suspension - Rear

Type and description		V - Profile stabilizer axle w/coil springs and shocks
Drive and torque taken through		-
Travel	Full jounce	120 (4.72)
	Full rebound	68 (2.68)
Spring	Type (coil, leaf, other) & material	Coil - Alloy spring steel
	Size (length x width, coil design height & i.d., bar length & dia.)	348 x 88.5 x 9.6 ϕ (13.70 x 3.48 x 0.37 ϕ)
	Spring rate [N/mm (lb./in.)]	
	Rate at wheel [N/mm (lb./in.)]	
	Insulators (type & material)	
	If leaf	Rubber
Stabilizer	Type (link, linkless, frameless)	
	Material & bar diameter	
Track bar (type)		

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Body Type And/Or
Engine Displacement

2 - Door

Brakes - Service

Description			Dual diagonal circuit system (Hydraulic)
Brake type (std., opt., n.a.)	Front (disc or drum)		Vented disc
	Rear (disc or drum)		Solid disc
Self-adjusting (std., opt., n.a.)			Standard
Special valving	Type (proportion, delay, metering, other)		2 - Constant pressure valves attached to the master cylinder
Power brake (std., opt., n.a.)			Standard
Booster type (remote, integral, vac., hyd., etc.)			Integral Vacuum
Vacuum source (inline, pump, etc.)			Pump
Vacuum reservoir (volume in. ³)			9"
Vacuum pump-type (elec. gear driven, belt driven, if other so state)			Gear driven
Anti-skid device type (std., opt., n.a.) (F/R)			N.A.
Effective area [cm ² (in. ²)]*			-
Gross lining area [cm ² (in. ²)]**(F/R)			-
Swept area [cm ² (in. ²)]*** (F/R)			-
Rotor	Outerworking diameter	F/R	245 (9.6)
	Inner working diameter	F/R	145 (5.7)
	Thickness	F/R	10 (0.39)
	Material & type (vented/solid)	F/R	Cast iron - vented/solid
Drum	Diameter & width	F/R	-
	Type and material	F/R	-
Wheel cylinder bore			-
Master cylinder	Bore/stroke	F/R	21 (0.8/15 (0.60))
Pedal arc ratio			4.8:1
Line pressure at 445 N(100 lb.) pedal load [kPa (psi)]			Front: 13.8 (2000) Rear: 6.9 (1000)
Lining clearance		F/R	0.15 (0.006)
Brake lining	Front wheel	Bonded or riveted (rivets/seg.)	Bonded
		Rivet size	-
		Manufacturer	Abex/UIS
		Lining code*****	720 GG
		Material	Semi-metallic
		**** Primary or out-board	-
		Size Secondary or in-board	-
	Rear wheel	Shoe thickness (no lining)	4.8 (0.19)
		Bonded or riveted (rivets/seg.)	Bonded
		Manufacturer	Abex/US
		Lining Code*****	ABPA 553
		Material	Semi-metallic
		**** Primary or out-board	-
		Size Secondary or in-board	-
Shoe thickness (no lining)		2.5 (0.1)	

*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 width x thickness.

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

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Body Type And/Or
Engine Displacement

2 - Door

Tires And Wheels (Standard)

Tires	Size (load range, ply)		185/60 HR14
	Type (bias, radial, etc.)		Steel belted radial
	Inflation pressure (cold) for recommended max. vehicle load	Front [kPa (psi)]	221 (32)
		Rear [kPa (psi)]	241 (35)
	Rev./mile—at 70 km/h (45 mph)		922
Wheels	Type & material		Light alloy
	Rim (size & flange type)		6J x 14
	Wheel offset		38 (1.77)
	Attachment	Type (bolt or stud)	Bolt
		Circle diameter	100 (39)
		Number & size	Four (4) M12 x 1.5mm
Spare	Tire and wheel (same, if other describe)		Temporary space saver tire w/steel wheel
	Storage position & location (describe)		Flat in trunk well below floor mat

Tires And Wheels (Optional)

Size (load range, ply)	N.A.
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)	
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 (Grip handle)
Location of control		Floor - between frt. seats
Operates on		Mechanical - application at rear wheels
If separate from service brakes	Type (internal or external)	N.A.
	Drum diameter	N.A.
	Lining size (length x width x thickness)	N.A.

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Body Type And/Or
Engine Displacement

2 - Door

Steering

Manual (std., opt., n.a.)		Standard	
Power (std., opt., n.a.)		Optional	
Adjustable steering wheel (tilt, swing, other)	Type and description	N.A.	
	(Std., opt., n.a.)	-	
Wheel diameter (W9) SAE J1100	Manual	381 (15.00)	
	Power	Same	
Turning diameter m (ft.)	Outside front	Wall to wall (l. & r.)	-
		Curb to curb (l. & r.)	10.5 (34.45)
	Inside rear	Wall to wall (l. & r.)	-
		Curb to curb (l. & r.)	-
Scrub Radius*			
Manual	Gear	Type	Maintenance free rack and pinion
		Make	
		Ratios	Gear Overall
	No. wheel turns (stop to stop)	20.8:1	
Power	Type (coaxial, linkage, etc.)		3.8
	Make		Rack & pinion
	Gear	Type	TRW
		Ratios	Gear Overall
		Hydraulic	
	Pump (drive)	17.5:1	
	No. wheel turns (stop to stop)	V-belt drive off crankshaft	
Type		3.17	
Linkage	Location (front or rear of wheels, other)		Rod & ball joint
	Tie rods (one or two)		Rear of front wheels
	Inclination at camber (deg.)		Two (right side adjustable)
Steering axis	Bearings (type)	Upper	Ball bearing
		Lower	Ball joint
		Thrust	Ball bearing
Steering spindle & joint type		Strut with lower ball	
Wheel spindle	Diameter	Inner bearing	
		Outer bearing	
	Thread (size)		
	Bearing (type)		Tapered roller bearing

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

MVMA Specifications Form Passenger Car

METRIC (U.S. Customary)

Car Line GTI
Model Year 1986 Issued 8/1/85 Revised (●) _____

Body Type And/Or
Engine Displacement

2 - Door

Wheel Alignment

Front wheel at curb mass (wt.)	Service checking	Caster (deg.)	$+1^{\circ} 33' \pm 30'$
		Camber (deg.)	$-35' \pm 20'$
		Toe-in [outside track-mm (in.)]	$0^{\circ} \pm 10'$
	Service reset*	Caster	Same
		Camber	Same
		Toe-in	Same
	Periodic M.V. inspection	Caster	-
		Camber	-
		Toe-in	-
Rear wheel at curb mass (wt.)	Service checking	Camber (deg.)	$-1^{\circ} 40' \pm 20'$
		Toe-in [outside track-mm (in.)]	$+25' \pm 15'$
	Service reset*	Camber	Same
		Toe-in	Same
	Periodic M.V. inspection	Camber	-
		Toe-in	-

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

Electrical - Instruments and Equipment

Speed-ometer	Type	Pointer
	Trip odometer (std., opt., n.a.)	Standard
EGR maintenance indicator		Instrument panel light - every 30000 miles
Charge indicator	Type	Light
	Warning device	
Temperature indicator	Type	Light
	Warning device	
Oil pressure indicator	Type	Light
	Warning device	Audible buzzer
Fuel indicator	Type	Gauge
	Warning device	
Wind-shield wiper	Type (standard)	Electric 2-speed w/intermittent wipe
	Type (optional)	
	Blade length	406.4 (16.00)
	Swept area [cm ² (in. ²)]	
Wind-shield washer	Type (standard)	Electric
	Type (optional)	-
	Fluid level indicator	Translucent Container
Horn	Type	Dual Tone
	Number used	One
Other		Optional: Rear window washer/wiper — Continuous by manually holding up detent — push down detent: 2 to 3 sweeps

MVMA Specifications Form Passenger Car

METRIC (U.S. Customary)

Car Line GTI
Model Year 1986 Issued 8/1/85 Revised (•) _____

Engine Description/Carb.
Engine Code

1.8 Liter F.I.

Electrical – Supply System

Battery	Make	Varta
	Model, std., (opt.)	Standard
	Voltage	12
	Amps at 0°F cold crank	54 Std. 63 w/AC
	Minutes-reserve capacity	
	Amp/hrs. - 20 hr. rate	
	Location	Engine compartment
Generator or alternator	Type and rating	14V, 65amp.
	Ratio (alt. crank/rev.)	
	Optional (type & rating)	14V, 90amp. w/AC
Regulator	Type	Integral

Electrical – Starting System

Start, motor	Current drain at 0°F	950w
Motor drive	Engagement type	Solenoid
	Pinion engages from (front, rear)	Front

Electrical – Ignition System

Type	Electronic (std., opt., n.a.)	Standard - Digital w/knock sensor
	Other (specify)	-
Coil	Make	Bosch
	Model	
	Current	Engine stopped - A
		Engine idling - A
Spark plug	Make	Bosch
	Model	14L-W 7DTC
	Thread (mm)	14
	Tightening torque (N·m (lb, ft))	30 (22)
	Gap	0.7 (0.028)
	Number per cylinder	One
Distributor	Make	
	Model	

Electrical – Suppression

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

MVMA Specifications Form Passenger Car

METRIC (U.S. Customary)

Car Line GTI

Model Year 1986

Issued 8/1/85

Revised (●) _____

Body Type

2 - Door

Body

Structure	Unitized body and chassis with bolt on front fenders
Bumper system front - rear	Steel w/semi-rigid urethane fascia
Anti-corrosion treatment	A factory applied wax based protective coating to all engine compartment panels, flanges, cavities, seams, and the entire body shell. In addition, the front and rear axle assemblies, engine and transmission surfaces have been treated.

Body - Miscellaneous Information

Type of finish (lacquer, enamel, other)		Acrylic Enamel
Hood	Hinge location (front, rear)	Rear conners
	Type (counterbalance, prop)	Rod support
	Release control (internal, external)	Internal
Trunk lid	Type (counterbalance, other)	-
	Internal release control (elec., mech., n.a.)	-
Hatch-back lid	Type (counterbalance, other)	One pressurized gas spring
	Internal release control (elec., mech., n.a.)	N.A.
Vent window control (crank, friction, pivot, power)	Front	Optional - Pivot w/friction lock
	Rear	
Seat cushion type (e.g., 60/40, bucket, bench, wire, foam etc.)	Front	Bucket w/foam over rigid wire frame
	Rear	Bench w/foam over rigid wire frame
	3rd seat	-
Seat back type (e.g., 60/40, bucket, bench, wire, foam etc.)	Front	Bucket w/foam over rigid wire frame
	Rear	Bench w/foam over rigid wire frame
	3rd seat	-
		Asymmetrically divided fold and tumble rear seats

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

Car Line GTI
 Model Year 1986 Issued 8/1/85 Revised (•) _____

Body Type

2 - Door

Restraint System

Active restraint system	Standard/optional	Standard
	Type and description	Type 2, dual sensitive, continuous loop, w/height adjustable anchor, front. Rear outboard: Retracting lap, static rear center
	Location	Front and rear outboard positions, rear center.
Passive seat belts	Standard/optional	N.A.
	Power/manual	-
	2 or 3 point	-
	Knee bar/lap belt	-

Frame

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

Glass	SAE Ref. No.	
Windshield glass exposed surface area [cm ² (in. ²)]	S1	
Side glass exposed surface area [cm ² (in. ²)] - total 2-sides	S2	
Backlight glass exposed surface area [cm ² (in. ²)]	S3	
Total glass exposed surface area [cm ² (in. ²)]	S4	
Windshield glass (type)		Laminated (Tinted)
Side glass (type)		Tempered (Tinted)
Backlight glass (type)		Tempered (Tinted)

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

Car Line GTI
 Model Year 1986 Issued 8/1/85 Revised (e) _____

Body Type

2 - Door

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

Air conditioning (manual, auto. temp control)		Manual - Optional
Clock (digital, analog)		Digital
Compass / thermometer		Thermometer - outside air & oil
Console (floor, overhead)		Floor
Defroster, elec. backlight		Standard
Electronic	Diagnostic warning (integrated, individual)	-
	Instrument cluster (list instruments)	Speedometer, warnig lights & clock
	Keyless entry	N.A.
	Tripminder (avg. spd., fuel)	Standard
	Voice alert (list items)	N.A.
	Other	-
Fuel door lock (remote, key, electric)		Key locking cap - Standard
Lamps	Auto head on / off delay, dimming	-
	Coming	Standard
	Courtesy (map, reading)	Standard
	Door lock, ignition	Ignition - Standard
	Engine compartment	N.A.
	Fog	N.A.
	Glove compartment	Standard
	Trunk	Standard
	Other	-
Mirrors	Day/night (auto. man.)	Manual - Standard
	L.H. (remote, power, heated)	Remote
	R. H. (convex, remote, power, heated)	Remote
	Visor vanity (RH / LH, illuminated)	Non-illuminated - Standard
Parking brake-auto release (warning light)		Warning light - Standard
Power equipment	Door locks / deck lid - specify	Central locking - Optional w/powr. wdo's & mirrors
	Seat (2-4-6 way) heated (driver, pass, other) lumbar, hip, thigh support (power, manual) reclining (driver, pass) memory (1-2 preset, recline)	Manual reclining front seats
	Side windows	Optional
	Vent windows	-
	Rear window	-
		-
		-
Radio systems	Antenna (location, whip, w/shield, power)	Fixed - LH Fender
	AM, FM, stereo, tape, CB	Optional: AM/FM stereo or AM/FM stereo w/cassette
	Speaker (number, location) Premium sound	Four: 2 Front, 2 Rear
Roof open air/fixed (flip-up, sliding, "T")		Optional - Sliding, self storing
Speed control device		-
Speed warning device (light, buzzer, etc.)		-
Tachometer (rpm)		Standard
Theft protection-type		STANDARD: Locking steering column, inside hood release, key left in ignition signal, lockable glove box and key locking gas cap.

MVMA Specifications Form Passenger Car

METRIC (U.S. Customary)
Car and Body Dimensions

See Key Sheets for definitions

Car Line GTI
Model Year 1986 Issued 8/1/85 Revised (•) 10/1/85

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 J1100 "Motor Vehicle Dimensions," unless otherwise specified.

Body Type	SAE Ref. No.	2 - Door	4 - Door
Width			

Tread (front)	W101	1415 (55.7)
Tread (rear)	W102	1408 (55.4)
Vehicle width	W103	1664 (65.5)
Body width at Sg RP (front)	W117	
Vehicle width (front doors open)	W120	
Vehicle width (rear doors open)	W121	
Front fender overall width	W106	
Rear fender overall width	W107	
Tumble-home (deg.)	W122	

Length

Wheelbase	L101	2471 (97.3)
Vehicle length	L103	4022 (158.3)
Overhang (front)	L104	819 (32.2)
Overhang (rear)	L105	732 (28.8)
Upper structure length	L123	
Rear wheel C/L "X" coordinate	L127	
Cowl point "X" coordinate	L125	
Front end length at centerline	L126	
Rear end length at centerline	L129	

Height*

Passenger distribution (front/rear)	PD1,2,3	
Trunk/cargo load		
Vehicle height	H101	1382 (54.4)
Cowl point to ground	H114	
Deck point to ground	H138	
Rocker panel-front to ground	H112	
Bottom of door closed-front to grd.	H133	
Rocker panel-rear to ground	H111	
Bottom of door closed-rear to grd.	H135	
Windshield slope angle	H122	
Backlight slope angle	H121	

Ground Clearance*

Front bumper to ground	H102	
Rear bumper to ground	H104	
Bumper to ground (front at curb mass (wt.))	H103	
Bumper to ground (rear at curb mass (wt.))	H105	
Angle of approach (degrees)	H106	16.8°
Angle of departure (degrees)	H107	22.2°
Ramp breakover angle (degrees)	H147	
Axle differential to ground (front / rear)	H153	
Min. running ground clearance	H156	117 (4.6)
Location of min. run. grd. clear.		

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

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

See Key Sheets for definitions

Car Line GTI
 Model Year 1986 Issued 8/1/85 Revised (e) 10/1/85

Body Type

SAE
Ref.
No.

2 - Door

4 - Door

Front Compartment

Sg RP front, "X" coordinate	L31	1259 (49.6)
Effective head room	H61	967 (38.1)
Max. eff. leg room (accelerator)	L34	1004 (39.5)
SgRP to heel point	H30	275 (10.8)
SgRP to heel point	L53	
Back angle	L40	24°
Hip angle	L42	
Knee angle	L44	
Foot angle	L46	
Design H-point front travel	L17	
Normal driving & riding seat track trvt.	L23	
Shoulder room	W3	1355 (53.3)
Hip room	W5	1312 (51.6)
Upper body opening to ground	H50	
Steering wheel maximum diameter	W9	
Steering wheel angle	H18	
Accel. heel pt. to steer. whl. cntr	L11	
Accel. heel pt. to steer. whl. cntr	H17	
Steering wheel to C/L of thigh	H13	
Steering wheel torso clearance	L7	
Headlining to roof panel (front)	H37	
Undepressed floor covering thickness	H67	

Rear Compartment

Sg RP Point couple distance	L50	761 (30.2)
Effective head room	H63	952 (37.5)
Min. effective leg room	L51	873 (34.4)
Sg RP (second to heel)	H31	323 (12.7)
Knee clearance	L48	
Compartment room	L3	
Shoulder room	W4	1355 (53.3)
Hip room	W6	1324 (52.1)
Upper body opening to ground	H51	
Back angle	L41	
Hip angle	L43	
Knee angle	L45	
Foot angle	L47	
Headlining to roof panel (second)	H38	
Depressed floor covering thickness	H73	

Luggage Compartment

Usable luggage capacity [L (cu. ft.)]	V1	
Liftover height	H195	

Interior Volumes (EPA Classification)

Vehicle class (subcompact, compact, etc.)		Compact
Interior volume index (cu. ft.)		104.3
Trunk/cargo index (cu. ft.)	17.9	17.6

MVMA Specifications Form

Passenger Car

METRIC (U.S. Customary)

Car and Body Dimensions

See Key Sheets for definitions

Car Line GTI

Model Year 1985

Issued 8/1/85

Revised (●) 10/1/85

Body Type

SAE
Ref.
No.

2 - Door

4 - Door

Station Wagon - Third Seat

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

Station Wagon - Cargo Space

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	
Max. 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 [m ³ (ft. ³)]	V2	
Hidden cargo volume [m ³ (ft. ³)]	V4	
Cargo volume, index-rear of 2-seat	V10	

Hatchback - Cargo Space

Cargo length at front seatback height	L208	
Cargo length at floor (front)	L209	
Cargo length at second seatback height	L210	
Cargo length at floor (second)	L211	
Front seatback to load floor height	H197	
Second seatback to load floor height	H198	
Cargo volume index [m ³ (ft. ³)]	V3	0.864 (30.5)
Hidden cargo volume [m ³ (ft. ³)]	V4	
Cargo volume index-rear of 2-seat	V11	0.499 (17.6)

Aerodynamics*

Wheel lip to ground, front		
Wheel lip to ground, rear		
Frontal area [m ² (ft ²)]		1.88 (20.3)
Drag coefficient (Cd)		0.35

* EPA Loaded Vehicle Weight, Loading Conditions

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

Car Line GTI
 Model Year 1986 Issued 8/1/85 Revised (●) 10/1/85

Body Type

2 - Door

4 - Door

Vehicle Fiducial Marks

Fiducial Mark Number*	Define Coordinate Location										
Front	The front gage holes are located on the lower side of each longitudinal member.										
Rear	The rear gage holes are located in the support structure forward of the rear axle mounting.										
Front	<table border="1"> <tr><td>W21</td><td>-555 (-21.8)</td></tr> <tr><td>L54</td><td>390 (15.4)</td></tr> <tr><td>H81</td><td>-56 (-2.2)</td></tr> <tr><td>H161</td><td></td></tr> <tr><td>H163</td><td></td></tr> </table>	W21	-555 (-21.8)	L54	390 (15.4)	H81	-56 (-2.2)	H161		H163	
W21	-555 (-21.8)										
L54	390 (15.4)										
H81	-56 (-2.2)										
H161											
H163											
Rear	<table border="1"> <tr><td>W22</td><td>-626 (-24.6)</td></tr> <tr><td>L55</td><td>2900 (114.2)</td></tr> <tr><td>H82</td><td>53 (2.1)</td></tr> <tr><td>H162</td><td></td></tr> <tr><td>H164</td><td></td></tr> </table>	W22	-626 (-24.6)	L55	2900 (114.2)	H82	53 (2.1)	H162		H164	
W22	-626 (-24.6)										
L55	2900 (114.2)										
H82	53 (2.1)										
H162											
H164											

* Reference - SAE Recommended Practice, J182, Motor Vehicle Fiducial Marks.
 All linear dimensions are in millimeters (inches).

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

Car Line GTI
 Model Year 1986 Issued 8/1/85 Revised (•) _____

Body Type

2 - Door

Lamps and Headlamp Shape*

Height above ground to center of bulb or marker	Headlamp (SAE - H127)	Highest**	
		Lowest	
	Taillamp (SAE - H128)	Highest**	
		Lowest	
	Sidemarker	Front	
		Rear	
Distance from C/L of car to center of bulb	Headlamp	Inside	
		Outside**	
	Taillamp	Inside	
		Outside**	
	Directional	Front	
		Rear	
Halogen headlamp (std., opt., n.a.)	Lo beam		
	Hi beam		
	Replaceable bulb		
	Shape		
Headlamp other than above	Lo beam		
	Hi beam		
	Replaceable		
	Shape		
	Type		

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

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Car Line GTI
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* Reference - SAE J1100 Motor vehicle dimensions, curb weight definition.
 ** Shipping mass (weight) definition -

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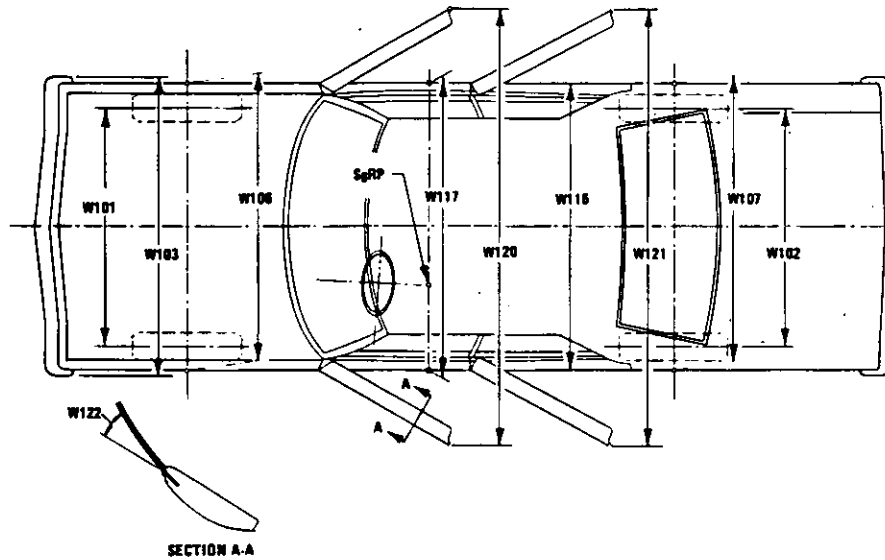
Model Year 1986 Issued 8/1/85 Revised (•) _____

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

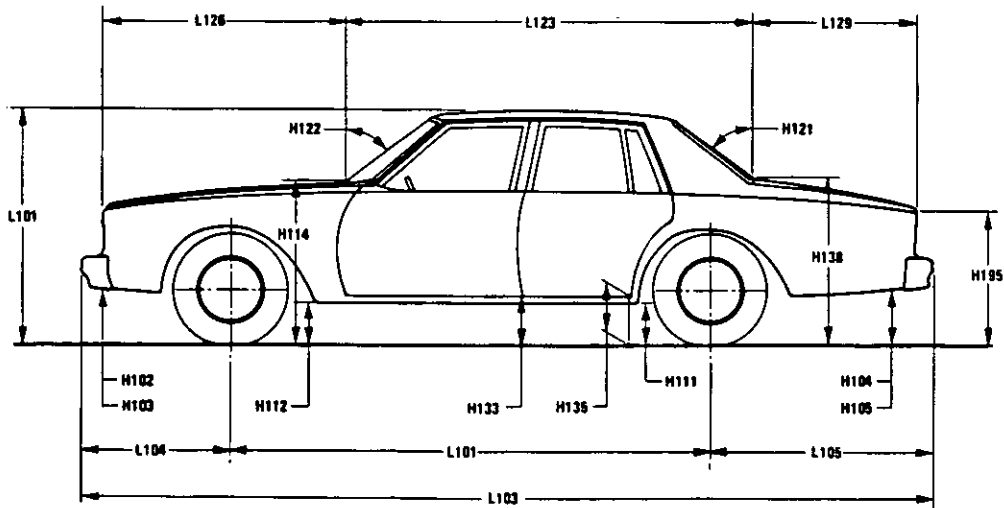
MVMA Specifications Form
Passenger Car
METRIC (U.S. Customary)

Exterior Car And Body Dimensions – Key Sheet

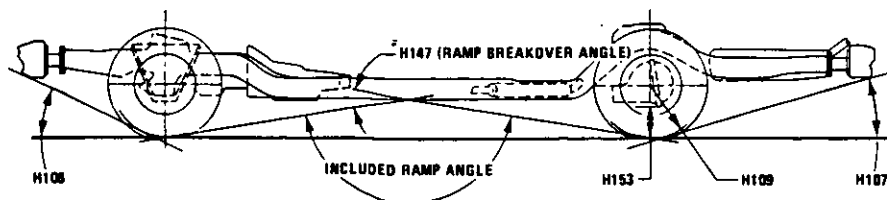
Exterior Width



Exterior Length & Height

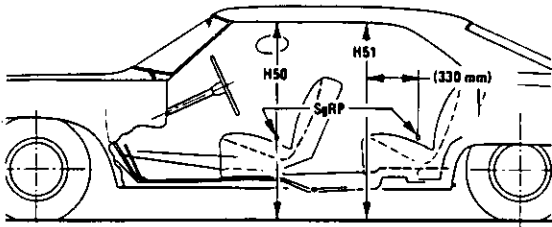
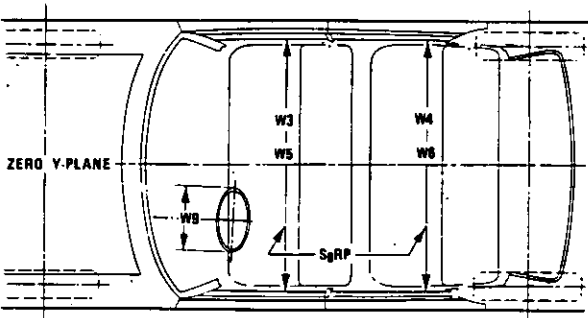
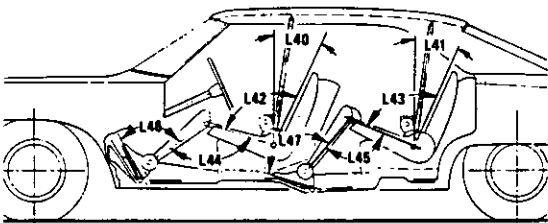
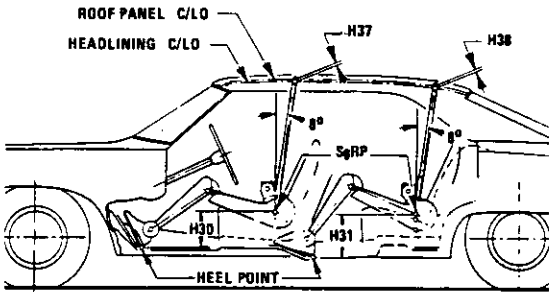
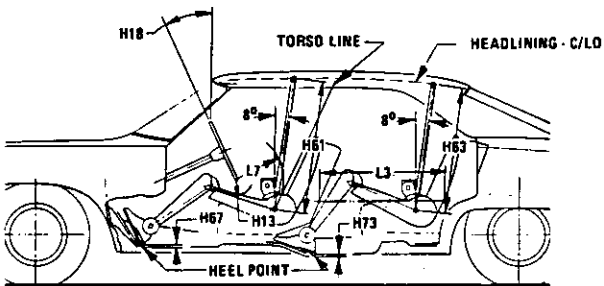
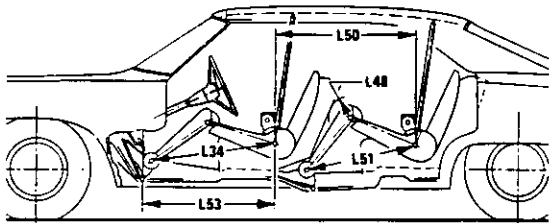


Exterior Ground Clearance



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Passenger Car
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Interior Car And Body Dimensions – Key Sheet



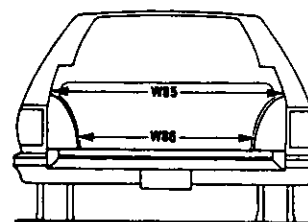
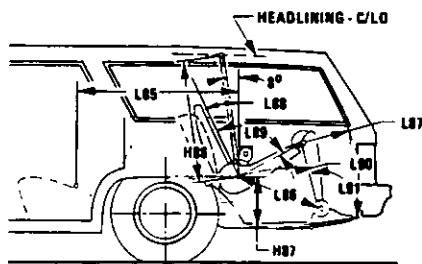
MVMA Specifications Form

Passenger Car

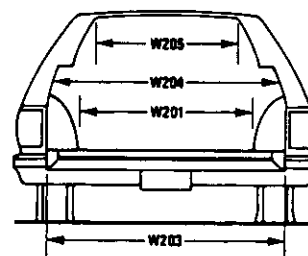
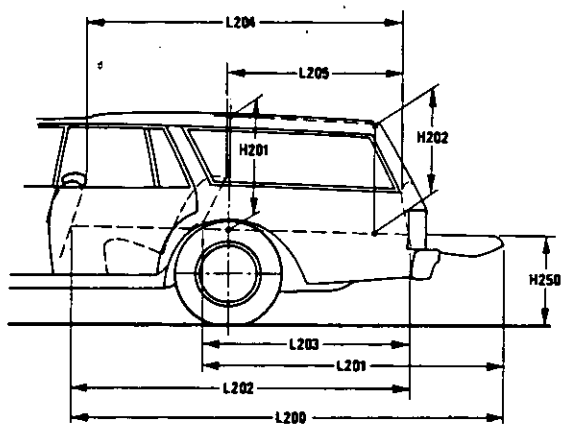
METRIC (U.S. Customary)

Interior Car And Body Dimensions – Key Sheet

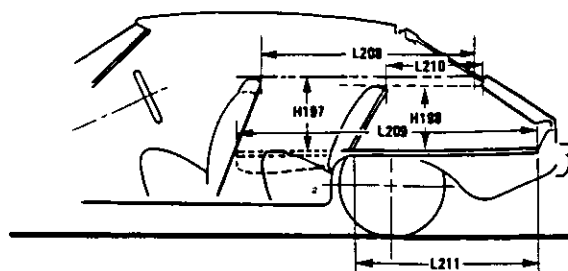
Third Seat



Cargo Space



Station Wagon



Hatchback

MVMA Specifications Form

Passenger Car

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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, "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.
- W106 FRONT FENDER WIDTH. The dimension measured between the widest points at the front wheel centerline, excluding moldings.
- W107 REAR FENDER WIDTH. The dimension measured between the widest points at the rear wheel centerline, excluding moldings.
- 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

- 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 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.
- L125 COWL POINT "X" COORDINATE.
- L126 FRONT END LENGTH. The dimension measured longitudinally from the cowl point to the foremost point on the vehicle at the zero "Y" plane excluding ornamentation or bumpers. In cases where bumpers and/or grills are integrated with the profile, measurement is made at the foremost point of front end contour.
- 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.
- L129 REAR END LENGTH. The dimension measured longitudinally from the deck point to the rearmost visible point of the body sheet metal at the zero "Y" plane, excluding ornamentation or bumpers.

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.
- H127 HEADLAMP TO GROUND—CURB MASS (WT.). The dimension 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.
- H133 BOTTOM OF DOOR CLOSED—FRONT 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.
- 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.
- H138 DECK POINT TO GROUND. Measured at zero "Y" plane.

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.

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METRIC (U.S. Customary)

Interior Car And Body Dimensions - Key Sheet

Dimensions Definitions

- 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.

Glass Areas

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

Fiducial Mark Dimensions

Fiducial Mark - Number 1

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

Fiducial Mark - Number 2

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

Front Compartment Dimensions

- L7 STEERING WHEEL TORSO CLEARANCE. The minimum dimension measured in the side view from the rearmost edge of the steering wheel, with front wheels in the straight ahead position, to the torso line.
- 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.
- L23 NORMAL DRIVING AND RIDING SEAT TRACK LEVEL. 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.
- 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.
- H13 STEERING WHEEL TO CENTERLINE OF THIGH. The minimum dimension measured from the bottom of steering wheel, with front wheels in the straight position, to the thigh centerline.
- H17 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.
- H37 HEADLINING TO ROOF PANEL-FRONT. The dimension measured from the intersection of the headlining and the extended effective head room line normal to the sheet metal.
- 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.
- PD1 PASSENGER DISTRIBUTION-FRONT.

Rear Compartment Dimensions

- 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.

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Interior Car And Body Dimensions – Key Sheet

Dimensions Definitions

- 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 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 254mm (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.
- H38 HEADLINING TO ROOF PANEL-SECOND. The dimension measured from the intersection of the headlining and the extended effective head room line normally to the roof sheet metal.
- 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.
- PD2 PASSENGER DISTRIBUTION-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-J1100.
- H195 LIFTOVER HEIGHT. The dimension measured vertically from the luggage compartment lower opening at the zero "Y" plane to ground.

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 interior volume index is an estimate of the size of the passenger compartment.

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 – 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 51mm (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. rear from the SgRP-third to the headlining rear of vertical plus a constant of 102 mm (4.0 in.).
- PD3 PASSENGER DISTRIBUTION-THIRD.
- SD1 SEAT FACING DIRECTION-THIRD.

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 to the rearmost point on the undepressed floor covering on the open tailgate or cargo floor surface if the rear closure is a conventional door type tailgate, at the zero "Y" plane.
- L202 CARGO LENGTH-CLOSED-FRONT. The minimum dimension measured horizontally from the back of the front seat at the height of the undepressed floor covering to the rearmost point on the undepressed floor covering on the closed tailgate or taildoor for station wagons, trucks and mpv's at the zero "Y" plane.
- L203 CARGO LENGTH-CLOSED-SECOND. The dimension measured horizontally from the back of the second seat at the height of the undepressed floor covering to the rearmost point on the undepressed floor covering on the closed tailgate or taildoor for station wagons, trucks and mpv's at the zero "Y" plane.
- L204 CARGO LENGTH AT BELT-FRONT. The minimum dimension measured horizontally from the back of the front seatback at the seatback top to the foremost normal surface of the closed tailgate or inside surface of the cab backpanel at the height of the belt, on the zero "Y" plane.
- L205 CARGO LENGTH AT BELT-SECOND. The minimum dimension measured horizontally from the back of the second seatback at the seatback top to the foremost normal surface of the closed tailgate at the height of the belt, on the zero "Y" plane.
- W201 CARGO WIDTH-WHEELHOUSE. The minimum dimension measured laterally between the trimmed wheelhouseings at floor level. For any vehicle not trimmed, measure to the sheet metal.

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Interior Car And Body Dimensions – Key Sheet Dimensions Definitions

- 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.
- H197 FRONT SEATBACK TO LOAD FLOOR HEIGHT. The dimension measured vertically from the horizontal tangent to the top of the seatback to the undepressed floor covering.
- H201 CARGO HEIGHT. The dimension measured vertically from the top of the undepressed floor covering to the headlining at the rear wheel "X" coordinate on the zero "Y" plane.
- H202 REAR OPENING HEIGHT. The dimension measured vertically from the top of the undepressed floor covering to the upper trimmed opening on the zero "Y" plane with rear door fully open.
- H250 TAILGATE TO GROUND CURB MASS (WT.). The dimension measured vertically from the top of the undepressed floor covering on the lowered tailgate to ground on the zero "Y" plane.
- 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:

$$\frac{L506 \times W500 \times H503}{1728} = \text{ft}^3$$

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 electrically 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—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.

- L210 CARGO LENGTH AT SECOND SEATBACK HEIGHT—HATCHBACK. 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 "Y" plane.

- L211 CARGO LENGTH AT FLOOR—SECOND HATCHBACK. 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 seat back 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:

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

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