MANUFACTURERS MOTOR VEHICLE SPECIFICATIONS

METRIC(U.S. Customary)

Passenger Car

1987

Manufacturer	Car Line	
Toyota Motor Corporation	COROLLA FX	
Mailing Address Toyota Motor Sales, U.S.A., INC. 19001 S. Western Avenue Torrance, CA 90509	Issued 1987	Revised

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

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

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

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Motor Vehicle Manufacturers Association
of the United States, Inc.

MVMA-C-87

MVMA Specifications Form
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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 Models

Model Designation & Drive (FWD/RWD)	Introduction Date	Make, Car Line, Series, Body Type (Mfgr's Model Code)	No. of Designated Seating Positions (Front/Rear)	Max. Trunk/Cargo Load—Kilograms Pounds)
3-Door Sedan 5-Speed Manual		AE82L-EGMQFA	2/3	45 kg
3-Door Sedan 5-Speed Manual		AE82L-EGMVFA	2/3	45
3-Door Sedan 4-Speed Automatic		AE82L-EGPQFA	2/3	45
3-Door Sedan 4-Speed Automatic		AE82L-EGPVFA	2/3	45

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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						TRANSMISSION TRANSAXLE	AXLE RATIO (std. first)
	Displ. Liters (in^3)	Carb. (Barrels, FI, etc.)	Compr. Ratio	SAE Net at RPM		Exhaust S/D		
				kW (bhp)	Torque N•m (lb. ft.)			
AE82L-EGMQFA	1.587	F.I.	9.4	81/ 6600	130/ 4800	*	5-Speed Manual	4.312
AE82L-EGMVFA	1.587	F.I.	9.4	81/ 6600	130/ 4800	*	5-Speed Manual	4.312
AE82L-EGPQFA	1.587	F.I.	9.4	81/ 6600	130/ 4800	*	4-Speed Automatic	2.821
AE82L-EGPVFA	1.587	F.I.	9.4	81/ 6600	130/ 4800	*	4-Speed Automatic	2.821

*: Semi-dual

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Engine Description/Carb. Engine Code	4A-GELC

ENGINE – GENERAL

Type & description (inline, V, angle, fan, location, front, mid, rear, transverse, longitudinal, sohc, dohc, ohv, hemi, wedge, pre-combust, etc.)		Inline, Front, Transverse, DOHC, Pentroof
Manufacturer		TOYOTA MOTOR CORPORATION
No. of cylinders		4
Bore		81.0 mm
Stroke		77.0 mm
Bore spacing (C/L to C/L)		87.5 mm
Cylinder block material & mass kg (lbs.)		Gray cast iron, 31.3 kg
Cylinder block deck height		191.0 mm
Deck clearance (minimum) (above or below block)		0 mm
Cylinder head material & mass kg (lbs.)		Aluminum alloy, 11.1 kg
Cylinder head volume (cm^3)		36.0 cm^3
Head gasket thickness (compressed)		1.20 mm
Minimum combustion chamber total volume (cm^3)		47.20 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.))		Aluminum alloy, 4.8 kg
Exhaust manifold material & mass (kg (weight, lbs.))		Spheroidal graphite cast iron, 6.0 kg
Recommended fuel (leaded, unleaded, diesel)		Unleaded
Fuel antiknock index	(R + M) / 2	87
Total dressed engine mass (wt) dry**		120 kg

Engine – Pistons

Material & mass, g (weight, oz.) - piston only	Aluminum alloy, 305 g

Engine – Camshaft

Location		Over cylinder head
Material & mass kg (weight, lbs.)		Alloy cast iron, No.1 (IN) 1.66 kg No.2 (EX) 1.55 kg
Drive type	Chain / belt	Belt
	Width / pitch	19.1 mm/9.525 mm

* 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 Description/Carb. Engine Code	4A-GELC

Engine – Valve System

Hydraulic lifters (std., opt., NA)		N.A.
Valves	Number intake / exhaust	8 / 8
	Head O.D. intake / exhaust	30.5 / 25.5

Engine – Connecting Rods

Material & mass (kg., (weight, lbs.))	Carbon steel, 0.455 kg

Engine – Crankshaft

Material & mass (kg., (weight, lbs.))		Carbon steel, 12.0 kg
End thrust taken by bearing (no.)		#3
Number of main bearings		5
Seal (material, one, two piece design, etc.)	Front	Acrylate, one piece
	Rear	Silicone, one piece

Engine – Lubrication System

Normal oil pressure (kPa (psi) at engine rpm)	392 kPa / 6000 rpm
Type oil intake (floating, stationary)	Stationary
Oil filter system (full flow, part, other)	Full flow
Capacity of crcase, less filter-refill-L (qt.)	w/filter 3.7 L, w/o filter 3.4 L

Engine – Diesel Information

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

Engine – Intake System

Turbo charger - manufacturer	N.A.
Super charger - manufacturer	N.A.
Charge cooler	N.A.

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Engine Description/Cars. Engine Code	4A-GELC

Engine – Cooling System

Coolant recovery system (std., opt., n.a.)		Std.
Coolant fill location (rad., bottle)		Radiator, Reserve tank
Radiator cap relief valve pressure (kPa (psi))		88.3 kPa
Circulation thermostat	Type (choke, bypass)	Bypass
	Starts to open at °C (°F)	82°
Water pump	Type (centrifugal, other)	Centrifugal
	GPM 1000 pump rpm	
	Number of pumps	1
	Drive (V-belt, other)	V-belt
	Bearing type	Sealed type, roller & ball bearing
	Impeller material	Steel
	Housing material	Aluminum alloy
By-pass recirculation (type (inter., ext.))		External
Cooling system capacity	With heater–L (qt.)	6.0 L
	With air cond.–L (qt.)	6.0 L
	Opt. equipment (specify–L (qt.))	–
Water jackets full length of cyl. (yes, no)		Yes
Water jet around cylinder (yes, no)		No
Water jackets open at head face (yes, no)		No
Radiator core	Std., A/C, HD	
	Type (cross-flow, etc.)	Vertical flow
	Construction (fin & tube mechanical, braze, etc.)	Corrugated fin, Soldered, 1 row
	Material, mass (kg (wgt. lbs.))	Copper & Brass, M/T: 3.8 kg, A/T: 4.3 kg
	Width	668 mm
	Height	325 mm
	Thickness	16 mm
	Fins per inch	M/T: 16.9, A/T: 19.9
Radiator end tank material		Resin
Fan	Std., exc., opt.	
	Number of blades & type (flex, solid, material)	4, Solid
	Diameter & projected width	M/T: 300 × 80 mm, A/T: 300 × 88 mm
	Ratio (fan to crankshaft rev.)	
	Fan cutout type	
	Drive type (direct, remote)	
	RPM at idle (exc.)	M/T: 1900, A/T: 2100
	Motor rating (wattage) (exc.)	M/T: 45 W, A/T: 80 W
	Motor switch (type & location) (exc.)	Water temp., Water inlet
	Switch point (temp., pressure) (exc.)	90°C
	Fan shroud (material)	Steel

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Engine Description Code Engine Code	4A-GELC

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

Induction type: carburetor, fuel injection system, etc.			F.I.
Carburetor	Mfgr.		–
	Choke (type)		–
	Idle spd.-rpm (spec. neutral or drive and propane if used)	Manual	–
			–
		Automatic	–
			–
Idle A/F mix.			Preset at manufacture
Fuel injection	Point of injection (no.)		4
	Constant, pulse, flow		Pulse
	Control (electronic, mech.)		Electronic
	System pressure (kPa (psi))		250 kPa
Intake manifold heat control (exhaust or water thermostatic or fixed)			–
Air cleaner type	Standard		Dry type, 1 element
	Optional		N.A.
Fuel pump	Type (elec. or mech.)		Electromagnetic
	Location (eng., tank)		Fuel tank
	Pressure range (kPa (psi))		250 kPa

Fuel Tank

Capacity (refill L (gallons))		50 L
Location (describe)		Under floor of rear seat portion
Attachment		Band
Material & Mass (kg (weight (lb))		Steel sheet
Filler pipe	Location & material	Wheelhouse (left side), Steel pipe
	Connection to tank	Rubber hose
Fuel line (material)		Steel pipe
Fuel hose (material)		Rubber hose
Return line (material)		Steel pipe
Vapor line (material)		Steel pipe
Extended range tank	Opt., n.a.	N.A.
	Capacity (L (gallons))	–
	Location & material	–
	Attachment	–
Auxiliary tank	Opt., n.a.	N.A.
	Capacity (L (gallons))	–
	Location & material	–
	Attachment	–
	Selector switch or valve	–
	Separate fill	–

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Engine Description/Carb. Engine Code	4A-GELC

Vehicle Emission Control

Exhaust Emission Control	Type (air injection, engine modifications, other)		EFI + EGR + O_2S + TWC
	Air injection	Pump or pulse	N.A.
		Driven by	N.A.
		Air distribution (head, manifold, etc.)	N.A.
		Point of entry	N.A.
	Exhaust Gas Recirculation	Type (controlled flow, open orifice, other)	Controlled flow
		Exhaust source	Exhaust manifold
		Point of exhaust injection (spacer, carburetor, manifold, other)	Intake manifold
	Catalytic Converter	Type	3 way
		Number of	1
		Location(s)	Forward under floor area
		Volume (L (in^3))	1.3 L
		Substrate type	Monolith
Crankcase Emission Control	Type (ventilated to atmosphere, induction system, other)		Closed
	Energy source (manifold vacuum, carburetor, other)		Manifold vacuum
	Discharges (to intake manifold, other)		Intake manifold
	Air inlet (breather cap, other)		Throttle body
Evaporative 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)		Semi dual
Muffler no. & type (reverse flow, straight thru, separate resonator) Material & Mass (kg (weight lbs))		1, Straight flow 1, Reverse flow
Resonator no. & type		N.A.
Exhaust pipe	Branch o.d., wall thickness	ϕ42.7 mm, 1.5 mm
	Main o.d., wall thickness	ϕ48.6 mm, 1.5 mm
	Material & Mass (kg (weight lbs))	Stainless steel
Intermediate pipe	o.d. & wall thickness	ϕ48.6 mm, 1.6 mm ; ϕ42.7 mm, 1.6 mm
	Material & Mass (kg (weight lbs))	Aluminum coated steel
Tail pipe	o.d. & wall thickness	ϕ60.5 mm, 1.2 mm
	Material & Mass (kg (weight lbs))	Stainless steel

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Engine Description/Carb. Engine Code	4A-GELC

Transmissions/Transaxle

Manual 3-speed (std., opt., n.a.) (mfr.)	
Manual 4-speed (std., opt., n.a.) (mfr.)	
Manual 5-speed (std., opt., n.a.) (mfr.)	
Manual overdrive (std., opt., n.a.) (mfr.)	
Automatic (std., opt., n.a.) (mfr.)	
Automatic overdrive (std., opt., n.a.) (mfr.)	

Manual Transmission/Transaxle

Number of forward speeds			5
Transmission ratios	In first		3.166
	In second		1.904
	In third		1.310
	In fourth		0.969
	In fifth		0.815
	In overdrive		-
	In reverse		3.250
Synchronous meshing (specify gears)			All forward gears
Shift lever location			Floor
Lubricant	Capacity (L (pt.))		2.6 L
	Type recommended		Multi purpose API GL-4
	SAE viscosity number	Summer	SAE 75W-90
		Winter	SAE 75W-90
		Extreme cold	SAE 75W-90

Clutch (Manual Transmission)

Make, type, engagement (describe) – (hydraulic, cable, rod)		AISIN SEIKI, Single Dry
Assist (yes, no; percent)		
Type pressure plate springs		Diaphragm
Total spring load (N (lb.))		4220 N
No. of clutch driven discs		1
Clutch facing	Material	Semi mold
	Manufacturer	AISIN Chemical
	Part number	31256-02010
	Rivets used	16
	Rivet size	4 mm
	Outside & inside dia.	200 × 140 mm
	Total eff. area (cm^2 ($in.^2$))	160 cm^2
	Thickness	3.5 mm
	Engagement cushion method	Cushion spring
Release bearing	Type & method of lubrication	Single row ball bearing, Sealed grease
Torsional damping	Method: springs, friction material	Rubber

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Engine Description/Carb. Engine Code	4A-GELC

Automatic Transmission/Transaxle

Trade name		A240E
Type and special features (describe)		Electronic controlled planetary gear
Selector	Location	Floor
	Ltr. No. designation	PRND2L
Gear ratios	1st	3.643
	2nd	2.008
	3rd	1.296
	O.D. (4th)	0.892
	Rev.	2.977
Max. upshift speed - drive range (km/h (mph))		* 1→2: 64/52 2→3: 116/101 3→4: 192/142
Max. lockdown speed - drive range (km/h (mph))		* 2→1: 47/47 3→2: 109/94 4→3: 182/134
Min. overdrive speed (km/h (mph))		21
Torque converter	Number of elements	3 elements 1 step 2 phases
	Max. ratio at stall	2.100
	Type of cooling (air, liquid)	Water cooled
	Nominal diameter	230 mm
Lubricant	Capacity (refill L (pt.))	7.2 L
	Type Recommended	ATF Dexron II
Oil cooler (std., opt., NA, internal, external, air, liquid)		Air

*: Power pattern/Normal Pattern

Axle or Front Wheel Drive Unit

			M/T	A/T
Type (front, rear)			Front	Front
Description			Helical gear	Helical gear
Limited slip differential (type)			N.A.	N.A.
Drive pinion offset			-	-
Drive pinion (type)			Helical gear	Helical gear
No. of differential pinions			2	2
Pinion / differential adjustment (shim, other)			-	-
Pinion / differential bearing adjustment (shim, other)			N.A.	Collapsible sleeve
Driving wheel bearing (type)			Double row angular ball bearing	Double row angular ball bearin
Lubricant	Capacity (L (pt.))		2.6 L	-
	Type recommended		Multi purpose API GL-4	ATF Dexron II
	SAE viscosity number	Summer	SAE 75W-90	-
		Winter	SAE 75W-90	-
		Extreme cold	SAE 75W-90	

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

Axle ratio (or overall top gear ratio)		4.312	2.821
No. of teeth	Pinion	16	28
	Ring gear or gear	69	79
Ring gear o.d.		-	215.8 mm
Transaxle	Transfer gear ratio	-	-
	Final drive ratio	-	-

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Engine Description/Carb. Engine Code	

Propeller Shaft – Rear Wheel Drive

Type (straight tube, tube-in-tube, inboard-external damper, etc.)			
Outer diam. x length* x wall thickness	Manual 3-speed trans.		
	Manual 4-speed trans.		
	Manual 5-speed trans.		
	Overdrive		
	Automatic transmission		
Intermediate bearing	Type (plain, anti-friction)		
	Lubrication (fitting, presack)		
Slip yoke	Type		
	Number of teeth		
	Spline o.d.		
Universal joints	Make and mfg. no.	Front	
		Rear	
	Number used		
	Type (ball and trunnion, cross)		
	Rear attach (u-bolt, clamp, etc.)		
	Bearing	Type (plain, anti-friction)	
		Lubrication (fitting, presack)	
Drive taken through (torque tube, arms or springs)			
Torque taken through (torque tube, arms or springs)			

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

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Engine Description/Carb. Engine Code	4A-GELC

Axle Shafts – Front Wheel Drive

Number used			2
Type (straight, solid bar, tubular, etc.)		Left	Solid shaft
		Right	Solid shaft
Outer diam. x length* x wall thickness	Manual transmission	Left	ϕ22.8 x 340.6 mm
		Right	ϕ26 x 620.5 mm
	Automatic transmission	Left	ϕ22.3 x 343 mm
		Right	ϕ26 x 618 mm
	Optional transmission	Left	–
		Right	–
Slip yoke	Type		–
	Number of teeth		–
	Spline o.d.		–
Universal joints	Make and mfg. no.	Inner	M/T: 43403-32011, A/T: 43403-12020 TOYOTA MOTOR CORPORATION
		Outer	M/T: 43405-32012, A/T: 43405-12020 TOYOTA MOTOR CORPORATION
	Number used		4
	Type, size, plunge	Inner	Tripot, plunging
		Outer	Rzeppa, fixed
	Attach (u-bolt, clamp, etc.)		Snap ring
	Bearing: Type (plain, anti-friction)		–
	Bearing: Lubrication (fitting, greaseable)		–
Drive taken through (torque tube, arms or springs)			–
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	All

Suspension – General

Car leveling	Std. opt. n.a.	N.A.
	Type (air, hyd., etc.)	–
	Manual, auto. controlled	–
Provision for brake dia control		–
Provision for accl. squat control		–
Provisions for car leaning		–
Shock absorber (front & rear)	Type	Fr: Twin tube, Rr: Twin tube
	Make	Fr: TOYOTA, Rr: KAYABA
	Piston diameter	Fr: ϕ32 mm, Rr: ϕ25 mm
	Rod diameter	Fr: ϕ22 mm, Rr: ϕ18 mm

Suspension – Front

Type and description		Macpherson strut
Drive and torque taken through		
Travel	Full bounce	80 mm
	Full rebound	85 mm
Spring	Type (coil, leaf, other) & material	Coil, SUP 7NV
	Insulators (type & material)	
	Size (coil design height & i.d., bar length x dia.)	Base grade: STD 344.5 × 127.3 mm OPT 351 × 127.1 mm GT-S : STD 351 × 127.1 mm OPT 358 × 127.0 mm
	Spring rate (N/mm (lb./in.))	22.1 N/mm
	Rate at wheel (N/mm (lb./in.))	24.0 N/mm
Stabilizer	Type (link, linkless, frameless)	Link
	Material & bar diameter	STKM15A, ϕ23 mm

Suspension – Rear

Type and description		Macpherson strut
Drive and torque taken through		–
Travel	Full bounce	85 mm
	Full rebound	100 mm
Spring	Type (coil, leaf, other) & material	Coil, SUP7
	Size (length x width, coil design height & i.d., bar length & dia.)	304.5 × 88.3 ~ 118.3 mm
	Spring rate (N/mm (lb./in.))	23 N/mm
	Rate at wheel (N/mm (lb./in.))	25 N/mm
	Insulators (type & material)	
	If leaf: No. of leaves	
	If leaf: Shackle (comp. or tens.)	
Stabilizer	Type (link, linkless, frameless)	Link
	Material & bar diameter	SUP6, ϕ16
Track bar (type)		

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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. Std.
	Rear (disc or drum)		Disc. Std.
Self-adjusting (std., opt., n.a.)			Std.
Special valving	Type (proportion. delay, metering, other)		Proportioning valve
Power brake (std., opt., n.a.)			Std.
Booster type (remote, integral, vac., hyd., etc.)			Direct vacuum
Vacuum source (intake, pump, etc.)			N.A.
Vacuum reservoir (volume in.³)			N.A.
Vacuum pump-type (elec. gear driven, belt driven, if other so state)			N.A.
Anti-skid device type (std., opt., n.a.) (F-R)			N.A.
Effective area (cm²/in.²)*			Fr: 164 cm². Rr: 132 cm²
Gross lining area (cm²/in.²)**(F-R)			Fr: 164 cm². Rr: 132 cm²
Swept area (cm²/in.²)***(F-R)			Fr: 1076 cm². Rr: 923 cm²
Rotor	Outer working diameter	F-R	Fr: 243 mm. Rr: 242 mm
	Inner working diameter	F-R	Fr: 147 mm. Rr: 166 mm
	Thickness	F-R	Fr: 18.0 mm. Rr: 9.0 mm
	Material & type (vented/solid)	F-R	Cast iron Fr: Vented. Rr: Solid
Drum	Diameter & width	F-R	N.A.
	Type and material	F-R	N.A.
Wheel cylinder bore			Fr: 51.10 mm Rr: 31.75 mm
Master cylinder	Bore/stroke	F-R	Fr: 22.22 mm. Rr: 22.22 mm / Fr: 14.00 mm. Rr: 14.00 mm
Pedal arc ratio			4.15
Line pressure at 445 N(100 lb.) pedal load (kPa (psi))			9273 kPa
Lining clearance		F-R	Fr: Self adjusting. Rr: Self adjusting
Brake lining — Front wheel	Bonded or riveted (rivets/seg.)		Bonded
	Rivet size		-
	Manufacturer		Bendix. Nishinbo. Akebono
	Lining code*****		
	Material		Resin molded
	Size — Primary or out-board		102 × 42 × 10 mm
	Size — Secondary or in-board		102 × 42 × 10 mm
	Shoe thickness (no lining)		5.0 mm
Brake lining — Rear wheel	Bonded or riveted (rivets/seg.)		Bonded
	Manufacturer		Nishinbo
	Lining Code*****		-
	Material		Resin molded
	Size — Primary or out-board		95 × 34 × 10 mm
	Size — Secondary or in-board		95 × 34 × 10 mm
	Shoe thickness (no lining)		5.5 mm

*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	Base grade	GT-S

Tires And Wheels (Standard)

Tires	Size (load range, ply)		P175 / 70HR13	P185 / 60HR14
	Type (bias, radial, etc.)		Radial	
	Inflation pressure (cold) for recommended max. vehicle load	Front (kPa (psi))	220 kPa	
		Rear (kPa (psi))	220 kPa	
	Rev./mile–at 70 km/h (45 mph)		909	916
Wheels	Type & material		Wide wellbase rim, steel	
	Rim (size & flange type)		5-J x 13	5 1/2-J x 14
	Wheel offset		45 mm	39 mm
	Attachment	Type (bolt or stud)	Nut	
		Circle diameter	100 mm	
		Number & size	4, 12P=1.5	
Spare	Tire and wheel (same, if other describe)		Tire: T115 / 70D14, Wheel: 4-T x 14	
	Storage position & location (describe)		Trunk room	

Tires And Wheels (Optional)

Size (load range, ply)	P185 / 60HR14	P185 / 60HR14
Type (bias, radial, etc.)	Radial	Radial
Wheel (type & material)	Steel	Aluminum
Rim (size, flange type and offset)	5 1/2-J x 14	5 1/2-JJ x 14
Size (load range, ply)	P185 / 60HR14	
Type (bias, radial, etc.)	Radial	
Wheel (type & material)	Aluminum	
Rim (size, flange type and offset)	5 1/2-JJ x 14	
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 location & storage position)	T115 / 70D14, 4-T x 14 Trunk room	T115 / 70D14, 4-T x 14 Trunk room

Brakes – Parking

Type of control		
Location of control		
Operates on		
If separate from service brakes	Type (internal or external)	N.A.
	Drum diameter	N.A.
	Lining size (length x width x thickness)	N.A.

MVMA Specifications Form
Passenger Car

METRIC (U.S. Customary)

Car Line COROLLA FX
Model Year 1987 Issued _____ Revised (•) _____

Body Type And/Or Engine Displacement	All

Steering

Manual (std., opt., n.a.)				N.A.
Power (std., opt., n.a.)				Std.
Adjustable steering wheel (tilt, swing, other)		Type and description		GT-S: Tilt
		(Std., opt., n.a.)		GT-S: Std.
Wheel diameter (WB) SAE J1100		Manual		–
		Power		6370 mm
Turning diameter m (ft.)	Outside front	Wall to wall (l. & r.)		10.2 m
		Curb to curb (l. & r.)		9.6 m
	Inside rear	Wall to wall (l. & r.)		5.3 m
		Curb to curb (l. & r.)		5.5 m
Scrub Radius*				
Manual	Gear	Type		N.A.
		Make		N.A.
		Ratios	Gear	N.A.
			Overall	N.A.
	No. wheel turns (stop to stop)			N.A.
Power	Type (coaxial, linkage, etc.)			Integral
	Make			TOYOTA
	Gear	Type		R & P
		Ratios	Gear	∞
			Overall	19.3
	Pump (drive)			V ribbed belt
	No. wheel turns (stop to stop)			4.1
Linkage	Type			Ackerman
	Location (front or rear of wheels, other)			Rear of wheels
	Tie rods (one or two)			2
Steering axis	Inclination at camber (deg.)			12°35'
	Bearings (type)	Upper		Ball bearing
		Lower		Ball joint
		Thrust		–
Steering spindle & joint type				
Wheel spindle	Diameter	Inner bearing		38 mm
		Outer bearing		74 mm
	Thread (size)			M19 × 1.5 mm
	Bearing (type)			Double row angular ball 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 COROLLA FX
Model Year 1987 Issued _____ Revised (●) _____

Body Type And/Or Engine Displacement	All

Wheel Alignment

Front wheel at curb mass (wt.)	Service checking	Caster (deg.)	0°53'±45'
		Camber (deg.)	-0°15'±45'
		Toe-in (outside track-mm (in.))	1±4 mm
	Service reset*	Caster	0°53'±30'
		Camber	-0°15'±30'
		Toe-in	1±1 mm
	Periodic M.V. inspection	Caster	0°53'±45'
		Camber	-0°15'±45'
		Toe-in	1±4 mm
Rear wheel at curb mass (wt.)	Service checking	Camber (deg.)	-0°31'±45'
		Toe-in (outside track-mm (in.))	3.8±4 mm
	Service reset*	Camber	-0°31'±30'
		Toe-in	3.8±2 mm
	Periodic M.V. inspection	Camber	-0°31'±45'
		Toe-in	3.8±4 mm

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

Electrical – Instruments and Equipment

Speedometer	Type	Needle, round
	Trip odometer (std., opt., n.a.)	Std.
EGR maintenance indicator		N.A.
Charge indicator	Type	Electrical
	Warning device	Lamp
Temperature indicator	Type	Electrical gauge
	Warning device	N.A.
Oil pressure indicator	Type	Electrical
	Warning device	Lamp
Fuel indicator	Type	Electrical gauge
	Warning device	Lamp
Windshield wiper	Type (standard)	Motor, 2-speed, GT-S: Motor, 3-speed
	Type (optional)	Motor, 3-speed
	Blade length	Dr: 450 mm, Pa: 425 mm
	Swept area (cm^2/($in.^2$))	5880 cm^2
Windshield washer	Type (standard)	Motor
	Type (optional)	-
	Fluid level indicator	-
Horn	Type	Electrical
	Number used	1
Other		

MVMA Specifications Form
Passenger Car

METRIC (U.S. Customary)

Car Line COROLLA FX
Model Year 1987 Issued _____ Revised (e) _____

Engine Description/Carb. Engine Code	All

Electrical – Supply System

Battery	Make	DELCO
	Model, std., (opt.)	55D23L-MF
	Voltage	12
	Amps at 0°F cold crank	310A
	Minutes-reserve capacity	90 min
	Amp/hrs. - 20 hr. rate	60 AH
	Location	Inside engine compartment, left front
Generator or alternator	Type and rating	AC 60A
	Ratio (alt. crank/rev.)	2.17:1
	Optional (type & rating)	-
Regulator	Type	IC type

Electrical – Starting System

Start. motor	Current drain at 0°F	-
Motor drive	Engagement type	Shift
	Pinion engages from (front, rear)	Front

Electrical – Ignition System

Type	Electronic (std., opt., n.a.)		Std.
	Other (specify)		N.A.
Coil	Make		NIPPON DENSO
	Model		-
	Current	Engine stopped – A	0
		Engine idling – A	0.9
Spark plug	Make		NIPPON DENSO, NIHON TOKUSHU TOGYO
	Model		PQ16R(ND), BCPR5EP11(NGK)
	Thread (mm)		M14 × 19.0 mm
	Tightening torque (N-m (lb. ft)		17.7 N·m
	Gap		1.1 mm
	Number per cylinder		
Distributor	Make		NIPPON DENSO
	Model		-

Electrical – Suppression

Locations & type	Distributor with frame spray coating rotor, Resistive spark plug, Resistive cord

MVMA Specifications Form
Passenger Car

METRIC (U.S. Customary)

Car Line COROLLA FX

Model Year 1987 Issued _____ Revised (s) _____

Body Type	All

Body

Structure	
Bumper system front - rear	Bar Material & Mass Fr: Urethane Rr: Urethane Reinforcement Material & Mass Fr: Steel sheet Rr: Steel sheet
Anti-corrosion treatment	

Body – Miscellaneous Information

Type of finish (lacquer, enamel, other)		High solid enamel
Hood	Hinge location (front, rear)	Rear
	Type (counterbalance, prop)	Prop
	Release control (internal, external)	Internal
Trunk lid	Type (counterbalance, other)	Counterbalance
	Internal release control (elec., mech., n.a.)	Mechanical
Hatch-back lid	Type (counterbalance, other)	
	Internal release control (elec., mech., n.a.)	
Vent window control (crank, friction, pivot, power)	Front	-
	Rear	-
Seat cushion type (e.g., 60/40, bucket, bench, wire, foam etc.)	Front	Panel frame + Form pad
	Rear	Wire frame + Form pad
	3rd seat	-
Seat back type (e.g., 60/40, bucket, bench, wire, foam etc.)	Front	Spring + Form pad
	Rear	Panel frame + Form pad
	3rd seat	

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

Car Line: COROLLA FX
Model Year: 1987 Issued: _____ Revised (•): _____

Body Type	All

Restraint System

Active restraint system	Standard/optional	Std.
	Type and description	Fr: 3-point w/retracter (ELR) Rr: 2-point w/retracter (ALR), Center seat: w/o retracter
	Location	Fr: 3-point type, 2 seats Rr: 2-point type, 3 seats
Passive seat belts	Standard/optional	N.A.
	Powered/manual	N.A.
	2 or 3 point	N.A.
	Knee barrier belt	N.A.

Frame

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

Glass	SAE Ref. No.	
Windshield glass exposed surface area (cm^2/$in.^2$)	S1	8,270 cm^2, GT-S: 7,542 cm^2
Side glass exposed surface area (cm^2/$in.^2$) - (total 2-sides	S2	6,390 cm^2
Backlight glass exposed surface area (cm^2/$in.^2$)	S3	5,607 cm^2
Total glass exposed surface area (cm^2/$in.^2$)	S4	20,267 cm^2, GT-S: 19,539 cm^2
Windshield glass (type)		Laminated glass
Side glass (type)		Tempered glass
Backlight glass (type)		Tempered glass

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

Car Line COROLLA FX
Model Year 1987 Issued _____ Revised (•) _____

Body Type	All

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

Air conditioning (manual, auto. temp control)		Opt.
Clock (digital, analog)		Std.
Compass / thermometer		
Console (floor, overhead)		
Defroster, rear, backlight		Std.
Electronic	Diagnostic warning (integrated, individual)	
	Instrument cluster (list instruments)	
	Keyless entry	
	Trip computer (avg. spd., fuel)	
	Voice alert (list items)	
	Other	
Fuel door lock (remote, key, electric)		
Lamps	Auto head on / off delay, dimming	
	Cornering	N.A.
	Courtesy (map, reading)	N.A.
	Door lock, ignition	
	Engine compartment	
	Fog	
	Glove compartment	N.A.
	Trunk	
	Other	
Mirrors	Daytime (auto, man.)	
	L.H. (remote, power, heated)	
	R. H. (convex, remote, power, heated)	
	Visor vanity (RH / LH, illuminated)	
Parking brake-auto release (warning light)		
Power equipment	Door locks / deck lid - specify	
	Seat (2-4-6 way) heated (driver, pass, other) lumber, hip, thigh support (power, manual) reclining (driver, pass) memory (1-2 preset, recline)	N.A.
	Side windows	N.A., GT-S: Opt.
	Vent windows	N.A.
	Rear window	N.A.
Radio systems	Antenna (location, whip, windshield, power)	Power antenna: N.A.
	AM, FM, stereo, tape, CB	AM multi/FM multi ETR w/4 speaker, AM multi/FM multi ETR w/cassette & 4 speaker
	Speaker (number, location) Premium sound	N.A.
Roof open articed (flip-up, sliding, "T")		
Speed control device		Opt.
Speed warning device (light, buzzer, etc.)		N.A.
Tachometer (rpm)		
Theft protection-type		Steering lock

MVMA Specifications Form
Passenger Car

Car Line COROLLA FX
Model Year 1987 Issued _____ Revised (•) _____

METRIC (U.S. Customary)
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 J1100 "Motor Vehicle Dimensions," unless otherwise specified.

Body Type	SAE Ref. No.	All
Width		
Tread (front)	W101	Base grade: 1425 mm, GT-S: 1435 mm
Tread (rear)	W102	Base grade: 1405 mm, GT-S: 1415 mm
Vehicle width	W103	1655 mm
Body width at Sg RP (front)	W117	1625 mm
Vehicle width (front doors open)	W120	3687 mm
Vehicle width (rear doors open)	W121	-
Front fender overall width	W106	
Rear fender overall width	W107	
Tumble-home (deg.)	W122	20.8°
Length		
Wheelbase	L101	2430 mm
Vehicle length	L103	4065 mm
Overhang (front)	L104	860 mm
Overhang (rear)	L105	775 mm
Upper structure length	L123	2558 mm
Rear wheel C/L "X" coordinate	L127	2430 mm
Cowl point "X" coordinate	L125	390 mm
Front end length at centerline	L126	
Rear end length at centerline	L129	
Height*		
Passenger distribution (front/rear)	P01.23	Fr: 2, Rr: 1
Trunk/cargo load		0 kg
Vehicle height	H101	1340 mm
Cowl point to ground	H114	890 mm
Deck point to ground	H136	880 mm
Rocker panel-front to ground	H112	180 mm
Bottom of door closed-front to grd.	H133	270 mm
Rocker panel-rear to ground	H111	190 mm
Bottom of door closed-rear to grd.	H135	-
Windshield slope angle	H122	54.8°
Backlight slope angle	H121	43.1°
Ground Clearance*		
Front bumper to ground	H102	370 mm
Rear bumper to ground	H104	345 mm
Bumper to ground (front at curb mass (wt.))	H103	385 mm
Bumper to ground (rear at curb mass (wt.))	H105	395 mm
Angle of approach (degrees)	H106	15.0°
Angle of departure (degrees)	H107	18.5°
Ramp breakover angle (degrees)	H147	14.5°
Axle differential to ground (front / rear)	H153	-
Min. running ground clearance	H156	130 mm
Location of min. run. grd. clear.		Flexible exhaust pipe

* 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 COROLLA FX
Model Year 1987 Issued _____ Revised (•) _____

Body Type	SAE Rec. No.	All

Front Compartment

Sg RP front, "X" coordinate	L31	1350 mm
Effective head room	H61	972 mm, 944 mm (Opt. sun roof)
Max. eff. leg room (accelerator)	L34	1078 mm
SgRP to heel point	H30	278 mm
SgRP to heel point	L53	
Back angle	L40	21°
Hip angle	L42	
Knee angle	L44	
Foot angle	L46	
Design H-point front travel	L17	209 mm
Normal driving & riding seat track trvl.	L23	
Shoulder room	W3	1351 mm
Hip room	W5	1355 mm
Upper body opening to ground	H50	1230 mm
Steering wheel maximum diameter	W9	
Steering wheel angle	H18	
Accel. heel pt. to steer. wht. cntr	L11	
Accel. heel pt. to steer. wht. 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 cauda distance	L50	695 mm
Effective head room	H63	938 mm, 908 mm (Opt. sun roof)
Min. effective leg room	L51	812 mm
Sg RP (second to heel)	H31	321 mm
Knee clearance	L48	-26 mm
Compartment room	L3	599 mm
Shoulder room	W4	1327 mm
Hip room	W6	1278 mm
Upper body opening to ground	H61	-
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	269.8 L
Liftover height	H195	525 mm

Interior Volumes (EPA Classification)

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

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

See Key Sheets for definitions

Car Line COROLLA FX

Model Year 1987 Issued _____ Revised (•) _____

Body Type	SAE Rec. No.	All
Station Wagon – Third Seat		
Sg RP couple distance	L86	
Shoulder room	W86	
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	1205 mm
Cargo length at floor (front)	L209	1465 mm
Cargo length at second seatback height	L210	
Cargo length at floor (second)	L211	
Front seatback to load floor height	H197	476 mm
Second seatback to load floor height	H198	
Cargo volume index (m^3/ft.^{3})	V3	0.843 m^3
Hidden cargo volume (m^3/ft.^{3})	V4	0.395 m^3
Cargo volume index-rear of 2-seat	V11	
Aerodynamics*		
Wheel lip to ground, front		
Wheel lip to ground, rear		
Frontal area (m^2/ft.^{2})		
Drag coefficient (Cd)		

* EPA Loaded Vehicle Weight, Loading Conditions

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

Car Line COROLLA FX
Model Year 1987 Issued _____ Revised (a) _____

Body Type: All

Vehicle Fiducial Marks

Fiducial Mark Number*		Define Coordinate Location
Front		The center of outer installation hole for seat truck of front floor cross member (both sides)
Rear		The center of front installation hole for rear seat belt retracter of rear floor (both sides)

Fiducial Mark Number		
Front	W21	W5 + 79 mm
	L54	L20
	H81	H10 + 86 mm
	H181	270 mm
	H183	290 mm
Rear	W22	W5 + 3 mm
	L55	L30 + 35 mm
	H82	H11 + 23 mm
	H182	310 mm
	H184	350 mm

* 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 COROLLA FX
Model Year 1987 Issued _____ Revised (s) _____

Body Type	A11

Lamps and Headlamp Shape*

Height above ground to center of bulb or marker	Headlamp (SAE - H127)	Highest**	595 mm
		Lowest	-
	Taillamp (SAE - H128)	Highest**	665 mm
		Lowest	-
	Sidemarker	Front	600 mm
		Rear	650 mm
Distance from C.L. of car to center of bulb	Headlamp	Inside	530 mm
		Outside**	-
	Taillamp	Inside	505 mm
		Outside**	680 mm
	Directional	Front	560 mm
		Rear	660 mm

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.

MVMA Specifications Form
Passenger Car

METRIC (U.S. Customary)

Car Line COROLLA FX

Model Year 1987 Issued _____ Revised (e) _____

	Vehicle Mass (weight)							
Model	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	
AE82L-EGMOFA	662	404	1066	45	55	16	84	1036
AE82L-EGMVFA	665	406	1071	45	55	16	84	1041
AE82L-EGPOFA	694	404	1098	45	55	16	84	1068
AE82L-EGPVFA	696	406	1102	45	55	16	84	1072

* Reference – SAE J1100 Motor vehicle dimensions, curb weight definition.
** Shipping mass (weight) definition –

MVMA Specifications Form
Passenger Car

Car Line COROLLA FX
Model Year 1987 Issued _____ Revised (*) _____

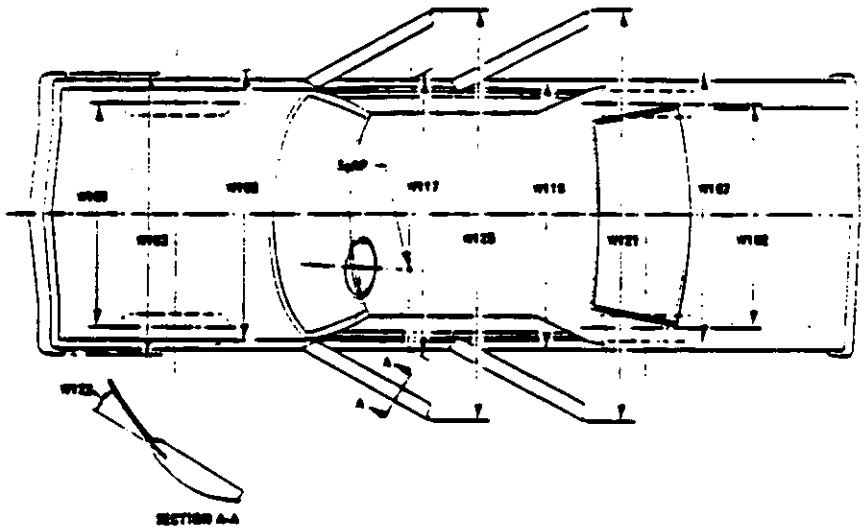
METRIC (U.S. Customary)

Equipment	Optional Equipment Differential Mass (weight)*			Remarks
	MASS, kg. (weight, lb.)			
	Front	Rear	Total	
Air conditioner	22	0	22	
Radio	2.9	0.7	3.6	
Sun roof	5.7	8.5	14.2	
Cruise control	1.3	0	1.3	
Power door lock & Power window	2.0	2.4	4.4	GT-S only
Exterior package	0.9	1.7	2.6	GT-S only
Interior package	1.4	2.1	3.5	GT-S only
Rear wiper	0	1.3	1.3	Except GT-S, GT-S: Std.

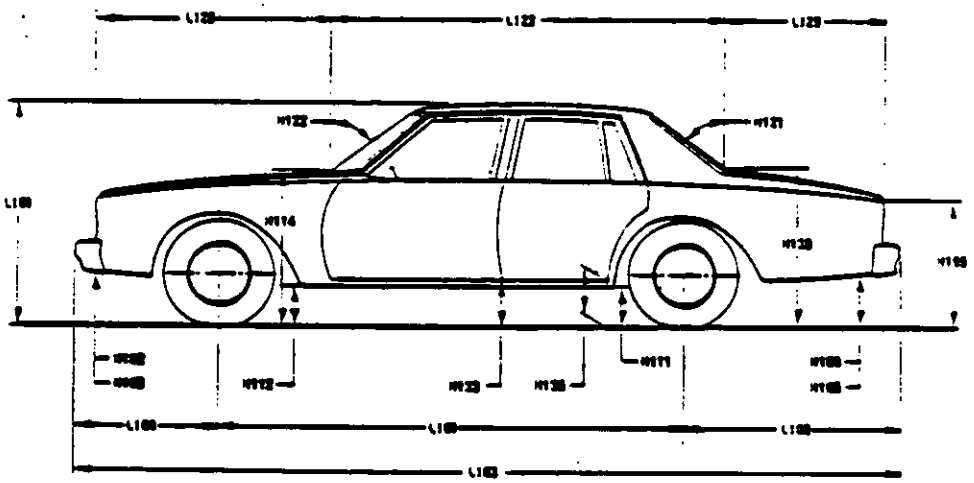
*Also see Engine - General Section for dressed engine mass (weight).

Exterior Car And Body Dimensions – Key Sheet

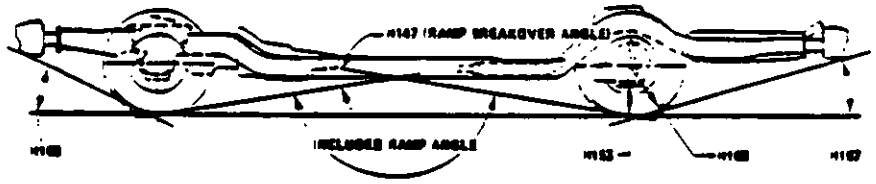
Exterior Width



Exterior Length & Height

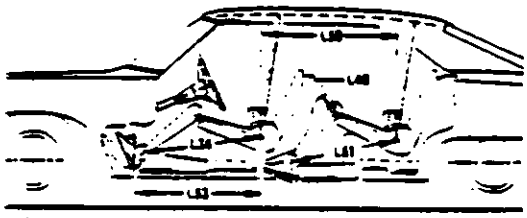


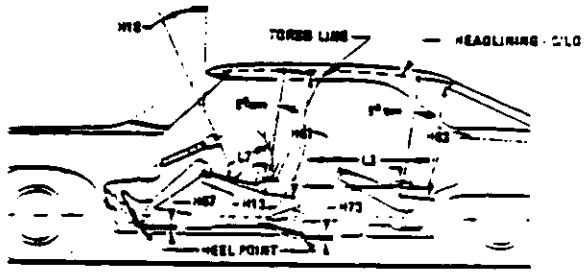
Exterior Ground Clearance

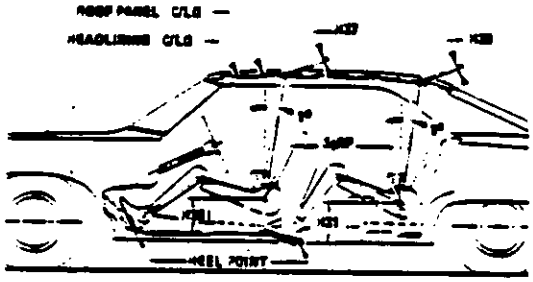


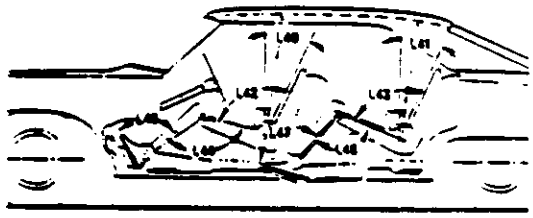
MVMA Specifications Form
Passenger Car
METRIC (U.S. Customary)

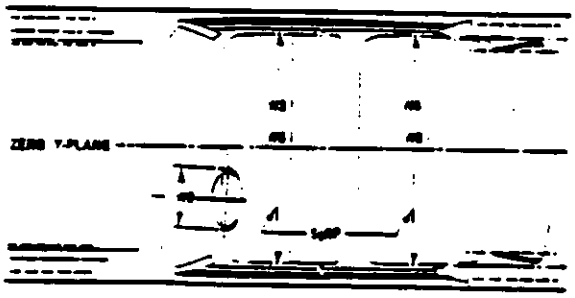
Interior Car And Body Dimensions – Key Sheet

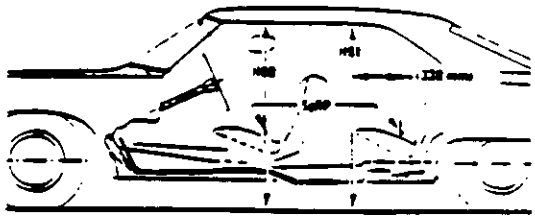






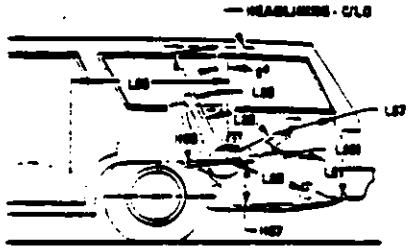


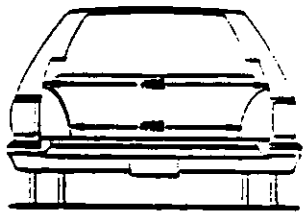




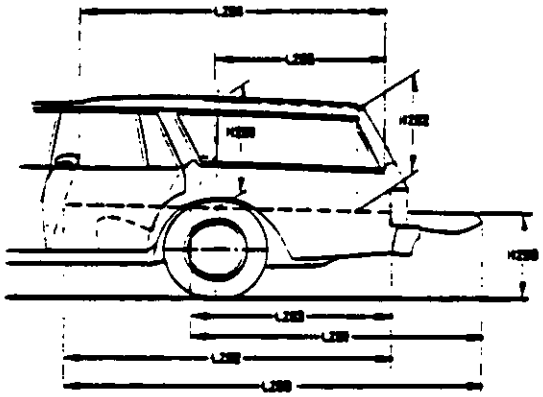
Interior Car And Body Dimensions – Key Sheet

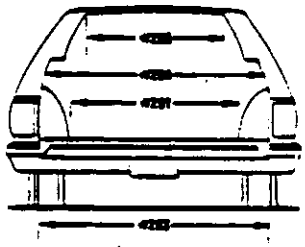
Third Seat



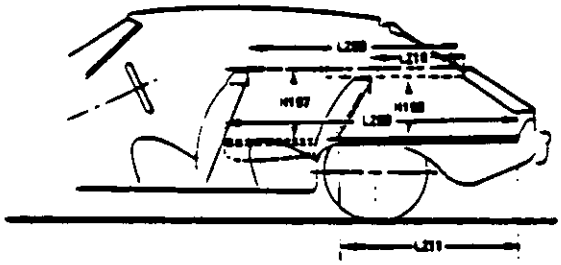


Cargo Space





Station Wagon



Hatchback

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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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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.

H158 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.

H61 "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.

H62 "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 calf 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 75 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 undercoat sheet metal at the accelerator heel point.

PO1 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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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.

P02 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 the 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. Mesured 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..

P03 PASSENGER DISTRIBUTION–THIRD.

S01 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 movs 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 movs at the zero "Y" plane.

L204 CARGO LENGTH AT BELT–FRONT. The minimum dimension measured horizontally from the back of the front seatback at the seatback top to the foremost normal surface of the closed tailgate or inside surface of the cab backpanel at the height of the belt, on the zero "Y" plane.

L205 CARGO LENGTH AT BELT–SECOND. The minimum dimension measured horizontally from the back of the second seatback at the seatback top to the foremost normal surface of the closed tailgate at the height of the belt, on the zero "Y" plane.

W201 CARGO WIDTH–WHEELHOUSE. The minimum dimension measured laterally between the trimmed wheelhousings at floor level. For any vehicle not trimmed, measure to the sheet metal.

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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 headliming 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:

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

Measured in mm:

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

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:

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

Measured in mm:

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

V6 TRUCKS AND MPV'S WITH CLOSED AREA.
Measured in inches:

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

Measured in mm:

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

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:

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

Measured in mm:

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

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:

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

Measured in mm:

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

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:

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

Measured in mm:

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

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