

MANUFACTURERS MOTOR VEHICLE SPECIFICATIONS

METRIC (U.S. Customary)

1990

Manufacturer TOYOTA MOTOR CORPORATION	Vehicle Line COROLLA	
Mailing Address Toyota Motor Sales, U.S.A., Inc. 19001 Southwestern Avenue Torrance, Calif. 90509	Issued August, 1989	Revised

Direct questions concerning these specifications to the manufacturer listed above.

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



Motor Vehicle Manufacturers Association
of the United States, Inc.

Forms Provided by Technical Affairs Division

MVMA Specifications

METRIC (U.S. Customary)

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NOTE:

1. This form uses both SI metric units and U.S. Customary units. The metric unit of measure is presented first, and the U.S. Customary unit follows in parentheses.
2. UNLESS OTHERWISE INDICATED:
 - a. Specifications apply to standard models without optional equipment. Significant deviations are noted.
 - b. Nominal design dimensions are used throughout these specifications.
 - c. All linear dimensions are in millimeters (inches), and all mass (weight) specifications are in kilograms (pounds).
3. The General Specifications herein are those in effect at date of compilation and are subject to change without notice or incurring obligation by the manufacturer.
4. Additional Vehicle Dimensions (based in part on SAE J1100 "Motor Vehicle Dimensions") may be available from the manufacturer.

MVMA Specifications

Vehicle Line COROLLA
Model Year 1990 Issued Aug., '89 Revised (+) _____

METRIC (U.S. Customary)

Vehicle Origin

Design & development (company)	Toyota Motor Corporation
Where built (country)	Japan, U.S.A. and Canada
Authorized U.S. sales marketing representative	Toyota Motor Sales, U.S.A., Inc.

Vehicle Models

Model Description & Drive (FWD / RWD / AWD / 4WD)*	Introduction Date	Make, Vehicle Models, Series, Body Type (Mfr's Model Code)	No. of Designated Seating Positions (Front/Rear)	Max. Trunk/Cargo Load-Kilograms (Pounds)
AE92 series, FWD, w/4A-GE: 5-speed manual		2-door coupe AE92L-ACMVFA	2/2	45 kg
AE92 series, FWD, w/4A-FE: 4-speed automatic		2-door coupe AE92L-ACPXKA	2/2	45 kg
		4-door sedan AE92L-A(D)EPNKA (D: built in U.S.A. or Canada)	2/3	45 kg
3-speed automatic		2-door coupe AE92L-ACHDKA	2/2	45 kg
		4-door sedan AE92L-A(D)EHRKA AE92L-A(D)EHDKA	2/3	45 kg
		5-door wagon AE92L-AWHDKA	2/3	45 kg
5-speed manual		2-door coupe AE92L-ACMDKA AE92L-ACMXKA	2/2	45 kg
		4-door sedan AE92L-A(D)EMRKA AE92L-A(D)EMDKA AE92L-A(D)EMNKA	2/3	45 kg
		5-door wagon AE92L-AWMDKA	2/3	45 kg
AE95 series, 4WD, w/4A-FE: 4-speed automatic		4-door sedan AE95L-AEPDKA	2/3	45 kg
		5-door wagon AE95L-CWPDKA	2/3	45 kg
5-speed manual		4-door sedan AE95L-AEMDKA	2/3	45 kg
		5-door wagon AE95L-CWMDKA AE95L-CWMXKA	2/3	45 kg

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

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Power Teams

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

		A	B		C		D	
ENGINE	Engine Code	4A-GE	4A-FE		4A-FE		4A-FE	
	Displacement Liters (in ³)	1587	1587		1587		1587	
	Induction system (FI, Carb, etc.)	Fuel injection	Fuel injection		Fuel injection		Fuel injection	
	Compression ratio	10.3	9.5		9.5		9.5	
	SAE Net at RPM	Power kW (bhp)	97/6800 rpm		76/5800 rpm		76/5800 rpm	
		Torque N · m (lb. ft.)	142/6000 rpm		137/4800 rpm		137/4800 rpm	
TRANS	Exhaust single, dual	Semi-dual	Single		Single		Single	
	Transmission/ Transaxle	5 speed manual	5 speed manual	3 speed automatic	4 speed automatic	5 speed manual	5 speed manual	4 speed automatic
	Axle Ratio (std. first)	4.312	3.722	3.526	2.962	4.235	4.562	3.034
		A	B1	B2	C1	C2	D1	D2

Series Availability

Power Teams (A - B - C - D)

Model	Code	Standard	Optional
2-door coupe, FWD, 5M/T	AE92L-ACMVFA	A	- <i>COROLLA GT-S</i>
4-door sedan, FWD, 5M/T	AE92L-A(D)EMNKA	B1	-
"	" -A(D)EMDKA	"	-
"	" -A(D)EMRKA	"	-
5-door wagon, FWD, 5M/T	" -AWMDKA	"	-
2-door coupe, FWD, 5M/T	" -ACMXKA	"	-
"	" -ACMDKA	"	-
4-door sedan, FWD, 3A/T	" -A(D)EHDKA	B2	-
"	" -A(D)EHRKA	"	-
5-door wagon, FWD, 3A/T	" -AWHDKA	"	-
2-door coupe, FWD, 3A/T	" -ACHDKA	"	-
4-door sedan, FWD, 4A/T	" -A(D)EPNKA	C1	-
2-door coupe, FWD, 4A/T	" -ACPXKA	"	-
4-door sedan, 4WD, 5M/T	AE95L-AEMDKA	C2	-
5-door wagon, 4WD, 5M/T	" -CWMXKA	D1	-
"	" -CWMDKA	"	-
4-door sedan, 4WD, 4A/T	" -AEPDKA	D2	-
5-door wagon, 4WD, 4A/T	" -CWPDKA	"	-

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METRIC (U.S. Customary)

Engine Description
Engine Code

4A-GE

4A-FE

ENGINE - GENERAL

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

In-line, front, transversely mounted, DOHC, pent roof

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

88.0 mm

Cylinder block material & mass kg (lbs.) (machined)

Cast iron, 31.3

Gray cast iron, 36

Cylinder block deck height

191.0 mm

Cylinder block length

391.5 mm

Deck clearance (minimum) (above or below block)

0 mm

Cylinder head material & mass kg (lbs.)

Aluminum alloy, 11.1

Aluminum alloy, 9.3

Cylinder head volume (cm³)

36.0

30.2

Cylinder liner material

N.A.

Head gasket thickness (compressed)

1.20 mm

Minimum combustion chamber total volume (cm³)

47.2

46.7

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 (lbs.)]**

Aluminum alloy, 3.5

Aluminum alloy, 2.7, 3.2 (Cal.), 3.8 (Cal., AE95)

Exhaust manifold material & mass [kg (lbs.)]**

Spherical graphite cast iron, 6.0 (4A-GE), 4.0 (4A-FE)

Fuel required unleaded, diesel, etc.

Unleaded

Fuel antiknock index (R + M) + 2

91

87

Engine mounts

Quantity

Material and type (elastomeric, hydroelastic, hydraulic damper, etc.)

Added isolation (sub-frame, crossmember, etc.)

Total dressed engine mass (wt) dry***

4A-GE: 123 kg, 4A-FE: M/T 118, 119 (Cal., AE95), A/T 110, 111 (Cal., AE95)

Engine - Pistons

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

Aluminum alloy, 321

Aluminum alloy, 293

Engine - Camshaft

Location

Over cylinder head

Material & mass kg (weight, lbs.)

Alloy cast iron
No.1, No.2: 1.7

Grey cast iron
Intake: 1.8, Exhaust: 1.9

Drive type

Chain / belt

Belt drive

Width / pitch

19.1/9.5 mm

19.1/9.525 mm

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

** Finished state.

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

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Engine Description
Engine Code

4A-GE	4A-FE
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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 mm	30/24.5 mm

Engine - Connecting Rods

Material & mass (kg., (weight, lbs.))*	Carbon steel, 0.545	Carbon steel, 0.460
Length (axes $\frac{1}{2}$ to $\frac{1}{4}$) mm		

Engine - Crankshaft

Material & mass (kg., (weight, lbs.))*	Carbon steel, 12.4	Spheroidal graphite cast iron, 10.8
End thrust taken by bearing (no.)	No.3	
Length & number of main bearings	5	
Seal (material, one, two piece design, etc.)	Front	Acrylate, 1 piece
	Rear	Silicone, 1 piece

Engine - Lubrication System

Normal oil pressure (kPa (psi) at engine rpm)	392/6000	235/2000
Type oil intake (floating, stationary)	Stationary	
Oil filter system (full flow, part, other)	Full flow	
Capacity of c/case, less filter-refill-L (qt.)	3.4	3.0

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.
Intercooler	N.A.

* Finished State

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Engine Code

4A-GE

4A-FE

Engine - Cooling System

Coolant recovery system (std., opt., n.a.)	Std.	
Coolant fill location (rad., bottle)	Radiator	
Radiator cap relief valve pressure (kPa (psi))	88	88.3
Circulation thermostat	Type (choke, bypass)	By-pass
	Starts to open at °C (°F)	82
Water pump	Type (centrifugal, other)	Centrifugal
	GPM 1000 pump rpm	0.50 L/sec. 0.38 L/sec.
	Number of pumps	1
	Drive (V-belt, other)	V-ribbed belt
	Bearing type	Sealed, roller and ball bearing Sealed
	Impeller material	Stainless steel Steel
	Housing material	Aluminum alloy
By-pass recirculation (type (inter., ext.))	External	
Cooling system capacity	With heater - L(qt.)	4A-GE: 6.0, 4A-FE: M/T 5.6, 6.2(AE95), A/T 5.3(3-sp.), 5.8(4-sp.), 6.1(AE95)
	With air conditioner - L(qt.)	6.0 The same as left
	Opt. equipment (specify - L(qt.))	N.A.
Water jackets full length of cyl. (yes, no)	Yes	
Water all around cylinder (yes, no)	No	
Water jackets open at head face (yes, no)	No	
Radiator core	Std., A/C, HD	Std.
	Type (cross-flow, etc.)	Vertical flow
	Construction (fin & tube mechanical, braze, etc.)	Corrugated fin
	Material, mass (kg (wgt., lbs.))	Brass and copper, 4A-GE: 3.4, 4A-FE: M/T 3.6, 5.19(AE95), A/T 3.9(3-sp.), 5.4(4-sp.), 5.83(AE95)
	Width	668 mm
	Height	325 mm
	Thickness	4A-GE: 16 mm, 4A-FE: 16 (M/T, 3-A/T), 32 (4-A/T, AE95)
	Fins per inch	4A-GE: 17, 4A-FE: 23(M/T, 3-A/T), 17(4-A/T), AE95: 17(M/T), 20(A/T)
Radiator end tank material	Resin	
Fan	Std., elec., opt.	Electric
	Number of blades & type (flex, solid, material)	4, solid, resin 4, solid
	Diameter & projected width	300 x 88.0 mm 300 x 88, AE95: 300 x 88, 300 x 100 (A/T)
	Ratio (fan to crankshaft rev.)	-
	Fan cutout type	- Thermo switch
	Drive type (direct, remote)	- Motor
	RPM at idle (elec.)	4A-GE: 2100, 4A-FE: 1900 (M/T, 4-A/T), 2100 (3-A/T), AE95: 2100 (M/T), 2050 (A/T)
	Motor rating (wattage) (elec.)	80 80, 120 (AE95, A/T)
	Motor switch (type & location) (elec.)	Water temperature switch, water inlet
	Switch point (temp., pressure) (elec.)	90°C
	Fan shroud (material)	Resin

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Engine Description
Engine Code

4A-GE

4A-FE

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	
Manufacturer		Aisan	Nippondenso
Carburetor no. of barrels		-	
Idle A/F mix.		Preset at manufacturer	
Fuel injection	Point of injection (no.)	4	
	Constant, pulse, flow	Pulse	
	Control (electronic, mech.)	Electronic	
	System pressure [kPa (psi)]	284	
Idle spd.-rpm (spec. neutral or drive and propane if used)	Manual	800	700, 800 (AE95)
	Automatic	800	700, 800 (AE95)
Intake manifold heat control (exhaust or water thermostatic or fixed)		N.A.	
Air cleaner type		Dry type, 1 element	
Fuel filter (type/location)			
Fuel pump	Type (elec. or mech.)	Electromagnetic	Electric
	Location (eng., tank)	In fuel tank	
	Pressure range [kPa (psi)]	284	
	Flow rate at regulated pressure (L (gal)/hr @ kPa (psi))		

Fuel Tank

Capacity [refill L (gallons)]		50	
Location (describe)		Under rear floor	
Attachment		Banded	
Material & Mass [kg (weight lbs.)]		Steel sheet	
Filler pipe	Location & material	Left, wheel house, steel pipe	
	Connection to tank	Rubber hose, N.A. for AE95	
Fuel line (material)		Steel pipe	
Fuel hose (material)		Rubber	
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
Engine Code

4A-GE

4A-FE

Vehicle Emission Control

Exhaust Emission Control	Type (air injection, engine modifications, other)		EGR/O ₂ S/TWC		O ₂ S/TWC EGR/O ₂ S/TWC (Cal., AE95)	
	Air Injection	Pump or pulse	-			
		Driven by	-			
		Air distribution (head, manifold, etc.)	-			
		Point of entry	-			
	Exhaust Gas Recirculation	Type (controlled flow, open orifice, other)	Exhaust back pressure control			
		Exhaust source Point of exhaust injection (spacer, carburetor, manifold, other)	Exhaust manifold Intake manifold		Cylinderhead Intake manifold	
	Catalytic Converter	Type	3-way			
		Number of	1			
		Location(s)	Forward under floor area			
		Volume (L (in ³))	1.3		1.3, 1.7 (AE95)	
		Substrate type	Monolith			
		Noble metal type				
		Noble metal concentration (g/cm ³)				
Crankcase Emission Control	Type (ventilates to atmosphere, induction system, other)		Closed			
	Energy source (manifold vacuum, carburetor, other)		Manifold vacuum crankcase pressure			
	Discharges (to intake manifold, other)		To intake manifold			
	Air inlet (breather cap, other)		Throttle body		Air cleaner	
Evapora- tive Emission Control	Vapor vented to (crankcase, canister, other)	Fuel tank	Canister			
		Carburetor	-			
	Vapor storage provision		Canister			
Electronic system	Closed loop (yes/no)		Yes			
	Open loop (yes/no)		No			

Engine - Exhaust System

Type (single, single with cross-over, dual, other)		Semi-dual	Single
Muffler no. & type (reverse flow, straight thru, separate resonator) Material & Mass (kg (weight lbs))		2, straight flow 1, reverse flow	1, straight flow 1, reverse flow
Resonator no. & type		-	
Exhaust pipe	Branch o.d., wall thickness	42.7/1.5 mm	-
	Main o.d., wall thickness	4A-GE: 48.6/1.5 mm, 4A-FE: 42.7/1.5, AE95: 42.7/2.0, 1.5	
	Material & Mass (kg (weight lbs))	Stainless steel, 4A-GE: 1.8, 4A-FE: 1.3, AE95: 0.6, 1.4	
Inter- mediate pipe	o.d. & wall thickness	4A-GE: 48.6/1.5, 1.2 mm, 4A-FE: 48.6/1.5, 42.7/1.5, 42.7/1.2, AE95: 42.7/1.5	
	Material & Mass (kg (weight lbs))	Stainless steel, 4A-GE: 2.8, 0.5, 4A-FE: 0.3, 2.9, 0.4, AE95: 2.5	
Tail pipe	o.d. & wall thickness	35/1.2 mm	42.7/1.2, 48.6/1.2 (AE95)
	Material & Mass (kg (weight lbs))	Stainless steel, 4A-GE: 0.6, 4A-FE, AE95: 0.4	

MVMA Specifications

Vehicle Line Corolla

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Engine Description
Engine Code

FWD		4WD	
4A-FE	4A-GE	Sedan	Wagon

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

Manual 3-speed (manufacturer/country)	N.A.	N.A.	N.A.	N.A.
Manual 4-speed (manufacturer/country)	N.A.	N.A.	N.A.	N.A.
Manual 5-speed (manufacturer/country)	Std.	Std.	Std.	Std.
Automatic (manufacturer/country)	Std.	N.A.	N.A.	N.A.
Automatic overdrive (manufacturer/country)	Std.	N.A.	Std.	Std.

Manual Transmission/Transaxle

Number of forward speeds		5			
Gear ratios	1st	3.545	3.166	3.538	3.833
	2nd	1.904		2.045	
	3rd	1.310		1.333	
	4th	0.969		0.972	0.918
	5th	0.815		0.820	0.775
	Reverse	3.250		3.583	
Synchronous meshing (specify gears)		All forward gears			
Shift lever location		Floor			
Trans. case mat'l. & mass kg (lbs)*					
Lubricant	Capacity (L (pt.))	2.6		5.0	
	Type recommended	Multipurpose API GL-4		Multipurpose API GL-5	

Clutch (Manual Transmission)

Clutch manufacturer		AISIN			
Clutch type (dry, wet; single, multiple disc)		Dry, single			
Linkage (hydraulic, cable, rod, lever, other)		Hydraulic			
Max. pedal effort (nom. spring load, new) N (lbs)	Depressed				
	Released				
Assist (spring, power/percent, nominal)		-			
Type pressure plate springs		Diaphragm			
Total spring load (nominal, new) N (lbs)		3920	4410	3920	
Clutch facing	Facing mfg. & material coding	Nisshinbo 31256-12090	Aisin-1720	Aisin-35040	
	Facing material & construction	Semi-mold			
	Rivets per facing	16			
	Outside x inside dia. (nominal)	200 x 140	212x140	224 x 150	
	Total eff. area (cm ² (in. ²))	160	199	217	
	Thickness (pressure plate side/ty wheel side)	3.5			
	Rivet depth (pressure plate side/ty wheel side)				
	Engagement cushion method	Cushion spring			
Release bearing type & method lub.		Single row ball bearing, sealed grease			
Torsional damping method, springs, hysteresis		Rubber			

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

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Engine Description
Engine Code

☒ Automatic Transmission/Transaxle

Trade Name		A131L	A240L	A241H
Type and special features (describe)		Hydraulic control, planetary gear, with lock-up clutch		
Gear selector	Location (column, floor, other)	Floor		
	Ltr./No. designation (e.g. PRND21)	PRND2L		
	Shift interlock (yes, no, describe)			
Gear ratios	1st	2.810	3.643	
	2nd	1.549	2.008	
	3rd	1.000	1.296	
	4th	-	0.892	
	Reverse	2.296	2.977	
Max. upshift speed - drive range (km/h (mph))		1 to 2: 61, 2 to 3: 110	1 to 2: 53, 2 to 3: 98	1 to 2: 61, 2 to 3: 105
Max. kickdown speed - drive range (km/h (mph))		2 to 1: 43, 3 to 2: 106	2 to 1: 39, 3 to 2: 94	2 to 1: 44, 3 to 2: 104
Min. overdrive speed (km/h (mph))		-	22	15
Torque converter	Number of elements	3-element, 1-step, 2-phase		
	Max. ratio at stall	2.300		
	Type of cooling (air, liquid)	Water-cooled		
	Nominal diameter	230 mm		
	Capacity factor "K"			
Lubricant	Capacity (refill L(pt.))	2.5 [5.5]	3.1 [7.2(with diff.)]	3.1 [8.2 (with diff.)]
	Type recommended	ATF DII	TOYOTA ATF TYPE T	
Oil cooler (std., opt., N.A., internal, external, air, liquid)		N.A.		Std.
Transmission mass (kg (lbs)) & case material **				

[]: dry fill

☒ All Wheel / 4 Wheel Drive

Description & type (part-time, full-time, 2/4 shift while moving, mechanical, elect., chain/gear, etc.)		Full time		
Transfer case	Manufacturer and model	TOYOTA		
	Type and location	Integral and co-axial with front diff.		
Low-range gear ratio		-		
System disconnect (describe)				
Center differential	Type (bevel, planetary, w or w/o viscous bias, torsen, etc.)	Bevel	Bevel with hydraulic controlled multiple clutch	
	Torque split (% front/rear)	50/50		
		w/5M/T	w/4A/T	

* Input speed $\propto \sqrt{\text{torque}}$

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

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Engine Description
Engine Code

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

Effective final drive ratio (or overall top gear ratio)		4.312	3.722	3.526	2.962	4.235	4.562	3.034
Transfer ratio and method (chain, gear, etc.)		-	-	-	-	1.000	1.000	1.000
Front drive unit	Ring gear o.d.	-	-	-	-	-	-	-
	No. of teeth							
	Pinion	16	18	19	27	17	16	29
	Ring gear	69	67	67	80	72	73	88

Front Drive Unit

Description (integral to trans., etc.)		Integral to transaxle
Limited slip differential (type)		N.A.
Drive pinion	Type	Helical gear
	Offset	-
No. of differential pinions		FWD:2, 4WD:4
Pinion / differential	Adjustment (shim, etc.)	-
	Bearing adjustment	Collapsible
Driving wheel bearing (type)		Double row angular ball bearing
Lubricant	Capacity [L (pt.)]	M/T & 4 A/T=shared with trans., 3 A/T=1.4
	Type recommended	M/T=API GL-4, 4 A/T for 4WD=TOYOTA ATF TYPE T. Other A/T=ATF "DEXRON" II

Axle Shafts - Front Wheel Drive

Manufacturer and number used			2			
Type (straight, solid bar, tubular, etc.)			Left	Solid shaft		
			Right	Solid shaft		
Outer diam. x length* x wall thickness	Manual transaxle	Left	22.8 x 340.1 mm	22.3 x 341.0	22.8 x 332.0	
		Right	26.0 x 655.5 mm	26.0 x 655.5	22.8 x 332.0	
	Automatic transaxle	Left	-	22.3 x 341.0	22.8 x 332.0	
		Right	-	26.0 x 655.5	22.8 x 332.0	
	Optional transaxle	Left	-			
		Right	-			
Slip yoke	Type		-			
	Number of teeth		-			
	Spline o.d.		-			
Universal joints	Make and mfg. no.		Inner	Toyota, 43403-12040	Toyota, 43403-12040	Toyota, 43403-12050(RH) Toyota, 43403-12060(LH)
			Outer	Toyota, 43405-32013	Toyota, 43405-12021	Toyota, 43405-32013
	Number used		4			
	Type, size, plunge		Inner	Tripod (plunging)		
			Outer	Rzeppa (fixed)		
	Attach (u-bolt, clamp, etc)		Snap ring			
	Bearing	Type (plain, anti-friction)		-		
		Lubrication (fitting, prepack)		-		
Drive taken through (torque tube, arms or springs)			Lower arm			
Torque taken through (torque tube, arms or springs)			-			

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

MVMA Specifications

Vehicle Line COROLLA
Model Year 1990 Issued Aug., '89 Revised (*)

METRIC (U.S. Customary)

Engine Description
Engine Code

4WD

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

Axle ratio (or overall top gear ratio)		2.928
Ring gear o.d.		170.5 mm
No. of teeth	Pinion	14
	Ring gear	41

⊗ Rear Axle Unit

Description		Banjo, semi-floating
Limited slip differential (type)		N.A.
Drive pinion	Type	Hypoid gear
	Offset	31.75 mm
No. of differential pinions		2
Pinion / differential	Adjustment (shim, etc.)	Shim
	Bearing adjustment	Collapsible sleeve
Driving wheel bearing (type)		Double row angular ball bearing, prepacked
Lubricant	Capacity [L (pt.)]	1.1
	Type recommended	Hypoid gear oil API GL-5

⊗ Propeller Shaft - Rear Wheel Drive

Manufacturer Type (straight tube, tube-in-tube, internal-external damper, etc.)			No.1: inner damper, No.2, No.3: hollow tube	
Outer diam. x length* x wall thickness	Manual 3-speed transmission		-	
	Manual 4-speed transmission		-	
	Manual 5-speed transmission		No.1: 75 x 560 x 1.6 mm, No.2: 65 x 550 x 1.6, No.3: 75 x 676.5 x 1.6	
	Overdrive		Same as above	
	Automatic transmission		Same as above	
Inter- mediate bearing	Type (plain, anti-friction)		Ball bearing	
	Lubrication (fitting, prepack)		Grease, sealed type	
Slip yoke	Type		Spline	
	Number of teeth		21	
	Spline o.d.		27.9 mm	
Universal joints	Make and mfg. no.	Front	Toyota, 37402-12010, 37411-14010	
		Rear	LOBRO 37360-12010	
	Number used		4	
	Type (ball and trunnion, cross)		Hooke, cross groove	
	Rear attach (u-bolt, clamp, etc)		Flange	
	Bearing	Type (plain, anti-friction)	Anti-friction	
		Lubrication (fitting, prepack)	Grease, sealed type	
Drive taken through (torque tube, arms or springs)			Control arms	
Torque taken through (torque tube, arms or springs)			Control arms	

* Centerline to centerline of universal joints, or to centerline of rear attachment. Page 10.1
(Rear Wheel Drive)

MVMA Specifications

Vehicle Line COROLLA
Model Year 1990 Issued Aug., '89 Revised (*)

METRIC (U.S. Customary)

Body Type And/Or
Engine Displacement

4A-GE	4A-FE	4A-FE (SR5)	4WD (Wagon)	4WD (sedan)
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Suspension - General Including Electronic Controls

Car leveling	Standard/optional/not avail.	Not avail.			
	Manual/automatic control	-			
	Type (air/hydraulic)	-			
	Primary/assist spring	-			
	Rear only/4 wheel leveling	-			
	Single/dual rate spring	-			
	Single/dual ride heights	-			
	Provision for jacking	-			
Shock absorber damping controls	Standard/option/not avail.	Not avail.			
	Manual/automatic control	-			
	Number of damping rates	-			
	Type of actuation (manual/electric motor/air, etc.)	-			
	s e n s o r s	Lateral acceleration	-	-	-
		Deceleration	-	-	-
Shock absorber (front & rear)		Acceleration	-	-	-
		Road surface	-	-	-
	Type	Double-acting hydraulic telescopic			
	Make	Fr: Toyota Rr.: Kayaba or Tokiko			
	Piston diameter Fr./Rr.	32/30 mm	30.2/25	30.2/30	32/25
	Rod diameter Fr./Rr.	22/20 mm	20/18	20/20	22/12.5

Suspension - Front

Type and description		MacPherson strut				
Travel*	Full jounce	80 mm	80	80	80	70
	Full rebound	82 mm	85	85	74	84
Spring	Type (coil, leaf, other) & material	Coil spring, SUP7NV or SUP12V				
	Insulators (type & material)	UPR and LWR, rubber				
	Size (coil design height & i.d.)	Appears on next page				
	Spring rate [N/mm (lb./in.)]	21.6	18.6	18.6	24.5	21.6
	Rate at wheel [N/mm (lb./in.)]	23.5	20.6	20.6	26.5	23.5
Stabilizer	Type (link, linkless, frameless)	Link	-	-	Link	Link
	Material & bar diameter	STKH15A, 25.4 mm	-	-	STKH15A or ASB25N, 25	STKH15A or ASB25N, 25.4

Suspension - Rear

Type and description			MacPherson strut			Trailing, rigid	
Travel*	Full jounce		85 mm	85	85	90	80
	Full rebound		83 mm	95	95	100	110
Spring	Type (coil, leaf, other) & material		Coil spring, SUP7			Coil spring, SUP7NV or SUP12V	
	Size (length x width, coil design height & i.d.)		Appears on next page				
	Spring rate (N/mm (lb./in.))		21.6	18.5	16.7	21.6	21.6
	Rate at wheel (N/mm (lb./in.))		23.5	20.6	20.6	23.5	23.5
	Insulators (type & material)		UPR and LWR, rubber				
	If leaf	No. of leaves	-				
		Shackle (comp. or tens.)	-				
Stabilizer	Type (link, linkless, frameless)		Link	-	Link	Link	Link
	Material & bar diameter		SUP6, 14 mm	-	SUP6, 14	S45C or S48C, 17	
Track bar (type)			-	-	-	-	-

* Define load condition:

		4A-GE	4A-FE (R, D grade)	4A-FE (N, X grade)	4WD (wagon)	4WD (sedan)
Front spring		(mm)				
RH	Std.	340.0 x 127.5	356.5 x 127.8	356.5 x 127.8 364.5 x 127.6	339.0 x 126.9 345.0 x 126.8	340.0 x 127.5 346.5 x 127.3
	Opt. (w/air conditioner)	346.5 x 127.3	364.5 x 127.6	364.5 x 127.6 372.5 x 127.5	345.0 x 126.8 351.0 x 126.7	346.5 x 127.3 353.5 x 127.2
LH	Std.	346.5 x 127.3	364.5 x 127.6	364.5 x 127.6 372.5 x 127.5	345.0 x 126.8 351.0 x 126.7	346.5 x 127.3 353.5 x 127.2
	Opt. (w/air conditioner)	353.5 x 127.2	372.5 x 127.5	372.5 x 127.5 380.5 x 127.4	351.0 x 126.7 357.0 x 126.6	353.5 x 127.2 360.5 x 127.1
Upper tier: M/T Lower tier: A/T						

		Coupe (D grade)	Coupe (X grade)	Coupe (V grade)	Sedan, Wagon	4WD (wagon)	4WD (sedan)
Rear spring		(mm)					
Std.		325.5 x (88.8-118.8)	341.5 x (88.9-118.9)	319.5 x (88.3-118.3)	331.0 x (88.6-118.6)	366.0 x 107.5	356.0 x 108.3

MVMA Specifications

Vehicle Line COROLLA
Model Year 1990 Issued Aug., '89 Revised (+) _____

METRIC (U.S. Customary)

Body Type And/Or
Engine Displacement

4A-GE

4A-FE (2WD)

4A-FE (4WD)

Brakes - Service

Description			-			
Manufacturer and brake type (std., opt., n.a.)		Front (disc or drum)	Std. disc			
		Rear (disc or drum)	Std. disc	Drum		
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 (inline, pump, etc.)		Inline			
	Reservoir (volume in. ³)		N.A.			
	Pump-type (elec, gear driven, belt driven)		N.A.			
Traction control	Operational speed range		-			
	Type engine intervention (electronic, mech.)		-			
Anti-lock device	Front / rear (std., opt., n.a.)		N.A./N.A.			
	Manufacturer		-			
	Type (electronic, mech.)		-			
	Number sensors or circuits		-			
	Number anti-lock hydraulic circuits		-			
	Integral or add-on system		-			
	Yaw control (yes, no)		-			
	Hydraulic power source (elec., vac, mfr., pwr. strg.)		-			
Effective area (cm ² (in. ²))*			Fr./Rr.: 164/132	164/232	164/268	
Gross Lining area (cm ² (in. ²))* (F/R)			164/132	164/232	164/268	
Swept area (cm ² (in. ²))* (F/R)			1190/923	1049/377	1049/440	
Rotor	Outerworking diameter	F/R	258/242 mm	238/N.A.	238/N.A.	
	Inner working diameter	F/R	162/166 mm	142/N.A.	142/N.A.	
	Thickness	F/R	22.0/9.0 mm	18.0/N.A.	18.0/N.A.	
	Material & type (vented/solid)	F/R	Cast iron, vented/solid	Cast iron, vented	N.A.	
Drum	Diameter & width	F/R	-	-/200.0	-/200.0	
	Type and material	F/R	-	-/cast iron	-/cast iron	
Wheel cylinder bore			Fr./Rr.	54.0/30.16	51.10/17.46	54.0/19.05
Master cylinder	Bore/stroke	F/R	22.22/14.00 mm	20.64/14.00	22.22/14.00	
Pedal arc ratio			4.15			
Line pressure at 445 N(100 lb.) pedal load (kPa (psi))			10785	11121	10785	
Lining clearance			F/R	Self adjusting/self adjusting		
Brake lining	Front wheel	Bonded or riveted (rivets/seg.)		Bonded		
		Rivet size		-		
		Manufacturer		Bendix, Sumitomo, Nisshinbo, Akebono, Aisin		
		Lining code*****		-		
		Material		Resin molded		
		****	Primary or out-board	102 x 42 x 10 mm		
		Size	Secondary or in-board	102 x 42 x 10 mm		
		Shoe thickness (no lining)		5.0 mm		
	Rear wheel	Bonded or riveted (rivets/seg.)		Bonded		
		Manufacturer		Nisshinbo, Akebono		
		Lining code*****		-		
		Material		Resin molded		
		****	Primary or out-board	95 x 34 x 10 mm	192 x 30 x 4	192 x 35 x 4
		Size	Secondary or in-board	95 x 34 x 10 mm	192 x 30 x 4	192 x 35 x 4
		Shoe thickness (no lining)		5.5 mm	1.6	1.6

* Excludes rivet holes, grooves, chamfers, etc. ** Includes rivet holes, grooves, chamfers, etc.

*** Total swept area for four grooves. (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 for formulation designation and coefficient of friction classification.

MVMA Specifications

Vehicle Line COROLLA

Model Year 1990 Issued Aug., '89 Revised (+)

METRIC (U.S. Customary)

Body Type And/Or
Engine Displacement

FWD all R&D grade N grade w/ M/T	FWD all X grade N grade w/ A/T	FWD V grade	4WD all D grade	4WD X grade
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Tires And Wheels (Standard)

Tires	Size (load range, ply)		155SR13	175/70SR13	185/60R14 82H	165SR13	185/70SR13
	Type (bias, radial, steel, nylon, etc.)		Radial				
	Inflation pressure (cold) for recommended max. vehicle load	Front (kPa (psi))	193		179	193*1 221*2	179
		Rear (kPa (psi))	193		179	193*1 221*2	179
	Rev./mile-at 70 km/h (45 mph)		913	910	916	896	892
Wheels	Type & material		Full drop center rim, steel				
	Rim (size & flange type)		13 x 5J		14 x 5.5JJ	13 x 5J	
	Wheel offset		45 mm		39	45	
	Attachment	Type (bolt or stud)	Nut				
		Circle diameter	100 mm				
		Number & size	4. 12 dia, 1.5 pitch				
Spare	Tire and wheel		T115/70D14, 14 x 4T			T135/70D15, 15 x 4T	
	Storage position & location (describe)		Trunk room				

*1: 3 persons *2: Full loaded

Tires And Wheels (Optional)

Tire size (load range, ply)	P155/80R13	P175/70R13	185/60R14 82H	-	185/70SR13
radial, steel, nylon, etc.)	Radial			-	Radial
Wheel (type & material)	Steel			-	Aluminum
Rim (size, flange type and offset)	13 x 5J	13 x 5J	14 x 5.5JJ	-	13 x 5J
Tire size (load range, ply)				185/60R14 82H	
Type (bias, radial, steel, nylon, etc.)				Radial	
Wheel (type & material)				Aluminum	
Rim (size, flange type and offset)	(D&N grade)			14 x 5.5JJ	
Tire size (load range, ply)	175/70SR13				
Type (bias, radial, steel, nylon, etc.)	Radial				
Wheel (type & material)	Steel/Alum.				
Rim (size, flange type and offset)	13 x 15J				
Tire size (load range, ply)	P175/70R13				
Type (bias, radial, steel, nylon, etc.)	Radial				
Wheel (type & material)	Steel/Alum.				
Rim (size, flange type and offset)	13 x 15J				
Spare tire and wheel size (if configuration is different than road tire or wheel, describe optional spare tire and/or wheel location & storage position)	The same				

Brakes - Parking

Coupe V grade		all others
Type of control	Manual	
Location of control	On floor tunnel	
Operates on	Rear disc rotor	Rear brake drum
If separate from service brakes	Type (internal or external)	-
	Drum diameter	-
	Lining size (length x width x thickness)	-

MVMA Specifications

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Model Year 1990 Issued Aug., '89 Revised (*)

METRIC (U.S. Customary)

Body Type And/Or
Engine Displacement

FWD, 4A-GE	FWD, 4A-FE	4WD, Sedan	4WD, Wagon
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Steering

Manual (std., opt., n.a.)			N.A.	Std.	Std.	Std., N.A. (X grd.)
Power (std., opt., n.a.)			Std.	Opt.	Opt.	Opt., STD. (X grd.)
Adjustable steering wheel/column (tilt, telescope, other)	Type	Tilt				
	Manufacturer	-				
	(std., opt., n.a.)	Std.	Opt.	Opt.	Opt., Std. (X grd.)	
Wheel diameter** (W9) SAE J1100	Manual	-	380 mm	380	380	
	Power	384 mm	380	380	380	
Turning diameter m (ft.)	Outside front	Wall to wall (l. & r.)	10.8	M/S 10.6 P/S 10.8	10.8	
		Curb to curb (l. & r.)	9.8	9.6 9.8	9.8	
	Inside rear	Wall to wall (l. & r.)	5.5	5.2 5.4	5.2	
		Curb to curb (l. & r.)	5.7	5.4 5.6	5.4	
Scrub Radius*			-			
Manual	Gear	Type	-	Rack and pinion		
		Manufacturer	-	Toyota Motor Corporation		
		Ratios	Gear	-	∞	
			Overall	-	24.1	21.9 - 24.6
	No. wheel turns (stop to stop)		-	4.3	4.2	
Power	Type (coaxial, elec., hyd., etc.)	Integral				
	Manufacturer	Toyota	Toyota/Koyo	Toyota		
	Gear	Type	Rack and pinion			
		Ratios	Gear	∞		
			Overall	19.1	19.1/18.7	19.1
	Pump (drive)		V-ribbed belt			
	No. wheel turns (stop to stop)		3.4	3.4/3.3	3.4	
Linkage	Type	Ackermann				
	Location (front or rear of wheels, other)		Rear of wheels			
	Tie rods (one or two)		Two			
Steering axis	Inclination at camber (deg.)		12°50'	12°40', 12°45' (coupe)	12°20'	12°05'
	Bearings (type)	Upper	Ball bearing			
		Lower	Ball joint			
		Thrust	-			
Steering spindle/knuckle & joint type			-			
Wheel spindle/hub	Diameter	Inner bearing	38 mm			
		Outer bearing	72 mm			
	Thread (size)		M19 x 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.

** See Page 22.

MVMA Specifications

Vehicle Line COROLLA

Model Year 1990 Issued Aug., '89 Revised (-)

METRIC (U.S. Customary)

Body Type And/Or
Engine Displacement

FWD, 4A-GE coupe	FWD 4A-FE Sedan, wagon	4WD, Sedan	4WD, Wagon
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Wheel Alignment

Front wheel at curb mass (wt.)	Service checking	Caster (deg.)	1°20'±45'	1°20'±45'	1°25'±45'	1°20'±45'	1°15'±45'
		Camber (deg.)	-0°15'±30'	-0°10'±30'	0°±30'	0°±30'	0°10'±30'
		Toe-in (outside track-mm (in.))	1±4 mm				
	Service reset*	Caster	1°20'±30'	1°20'±30'	1°25'±30'	1°20'±30'	1°15'±30'
		Camber	-0°15'±30'	-0°10'±30'	0°±30'	0°±30'	0°10'±30'
		Toe-in	1±1 mm				
	Periodic M.V. in- spection	Caster	1°20'±45'	1°20'±45'	1°25'±45'	1°20'±45'	1°15'±45'
		Camber	-0°15'±45'	-0°10'±45'	0°±30'	0°±30'	0°10'±30'
		Toe-in	1±4 mm				
Rear wheel at curb mass (wt.)	Service checking	Camber (deg.)	-0°40'±45'	-0°35'±45'	-0°40'±45'	-	-
		Toe-in (outside track-mm (in.))	4±4 mm			-	-
	Service reset*	Camber	-0°40'±30'	-0°35'±30'	-0°40'±30'	-	-
		Toe-in	4±2 mm			-	-
	Periodic M.V. in- spection	Camber	-0°40'±45'	-0°35'±45'	-0°40'±45'	-	-
		Toe-in	4±4 mm			-	-

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

Electrical - Instruments and Equipment		Coupe	Sedan	Wagon
Speed-ometer	Type (analog, digital, std., opt.)	Analog, round		
	Trip odometer (std., opt., n.a.)	Std.		
EGR maintenance indicator		N.A.		
Charge indicator	Type	Warning lamp		
	Warning device (light, audible)	Light		
Temperature indicator	Type	Analog		
	Warning device (light, audible)	N.A.		
Oil pressure indicator	Type	Vgrd: analog, others: lamp		
	Warning device (light, audible)	N.A. light		
Fuel indicator	Type	Analog		
	Warning device (light, audible)	Light		
Wind-shield wiper	Type (standard)	*1	Motor, 2-step/3-step (N, X grade)	
	Type (optional)	*2	Motor, 3-step	
	Blade length	Driver's side: 500 mm, passenger's side: 450		
	Swept area (cm ² (in. ²))	6581	6430	FWD: 6430, 4WD: 6510
Wind-shield washer	Type (standard)	Motor		
	Type (optional)	-		
	Fluid level indicator (light, audible)	-		
Rear window wiper, wiper/washer (std., opt., n.a.)		N.A.		
Horn	Type	Electric, disc type		
	Number used	1		
Other		V grade: Voltmeter Analog		

*1: Motor, 2-step, w/mist wiper
Motor, 3-step (GT-S)

*2: Motor, 3-step
Motor, 3-step, variable (GT-S, A/T)

MVMA Specifications

Vehicle Line COROLLA

Model Year 1990 Issued Aug., '89 Revised (+) _____

METRIC (U.S. Customary)

Engine Description
Engine Code

All Models

Electrical - Supply System

Battery	Manufacturer	GS, YB, KB, FB, NAT	
	Model, std., (opt.)	50D20L	Opt: 55D23L
	Voltage	12V	12V
	Amps at 0°F cold crank	270A	310A
	Minutes-reserve capacity	75	90
	Amps/hrs.-20 hr. rate	50AH	60AH
	Location	Left front in engine compartment	
Alternator	Manufacturer	-	
	Rating (idle/max. rpm)	70A	
	Ratio (alt. crank/rev.)	2.36	
	Output at idle (rpm, park)		
	Optional (type & rating)	-	
Regulator	Type	IC type (voltage control)	

Electrical - Starting System

Motor	Manufacturer	
	Current drain _____ F	
	Power rating (kw (hp))	
Motor drive	Engagement type	Shift type
	Pinion engages from (front, rear)	Right

Electrical - Ignition System

Type	Electronic (std., opt., n.a.)	Std.
	Other (specify)	N.A.
Coil	Manufacturer	Nippondenso
	Model	-
	Current	Engine stopped - A AE92: 0A AE95:
		Engine idling - A AE92: 0.85A (4A-GE), 0.8A (4A-FE) AE95:
Spark plug	Manufacturer	Nippondenso, NGK
	Model	4A-GE: PK20R8, BKR6EP8, 4A-FE: Q16R-U, BCPR-5EY
	Thread (mm)	M14-19.0
	Tightening torque (N-m (lb. ft))	17.7
	Gap	0.8 mm
	Number per cylinder	1
Distributor	Manufacturer	Nippondenso
	Model	-

Electrical - Suppression

Locations & type	Distributor with flame spray coated rotor Resistive cord, resistive spark plug
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Battery manufacturer:

GS=Nippon Denchi YB=Yuasa Denchi KB=Kobe Denki

FB=Furukawa Denchi NAT=Matsushita Denchi

MVMA Specifications

Vehicle Line COROLLA
Model Year 1990 Issued Aug., '89 Revised (*) _____

METRIC (U.S. Customary)

Body Type

Coupe	Sedan	Wagon
-------	-------	-------

Body

Structure

Monocoque

Bumper system
front - rear

Bar material and
mass (kg) Fr./Rr.

Urethane
4.6/6.5

Urethane
4.8/5.8, 4.6 (4WD)

Urethane
5.1/4.2

Reinforcement
material and mass
(kg) Fr./Rr.

Steel
10/13.9

Steel
9.3/12.5,
11.8 (4WD)

Steel
9.2/9.3

Anti-corrosion treatment

Body - Miscellaneous Information

Type of finish (lacquer, enamel, other)

Acryl resin paint

Hood

Material & mass

-

Hinge location (front, rear)

Rear

Type (counterbalance, prop)

Prop

Release control (internal, external)

Internal

Trunk
lid

Material & mass

-

Type (counterbalance, other)

Counterbalance

Internal release control (elec., mech., n.a.)

Mechanical

Mechanical, N.A. (STD) N.A.

Hatch-
back lid

Material & mass

-

Type (counterbalance, other)

-

Internal release control (elec., mech., n.a.)

-

Tailgate

Material & mass

-

Type (drop, lift, door)

Lift

Internal release control (elec., mech., n.a.)

Mechanical

Vent window control (crank,
friction, pivot, power)

Front

-

Rear

-

Window regulator type
(cable, tape, flex drive, etc.)

Front

-

Rear

-

Seat cushion type
(e.g., 60/40 bucket, bench,
wire, foam, etc.)

Front

Spring frame + foam pad Panel frame + foam pad (2WD)
Panel frame + spring + foam pad (4WD)

Rear

Wire frame + foam pad

3rd seat

-

Seat back type
(e.g., 60/40, bucket, bench,
wire, foam, etc.)

Front

Spring frame + foam pad Pipe frame + spring + foam pad

Rear

*1

*2

Panel frame + foam pad

3rd seat

-

- *1: Bord frame + foam pad (DLX, SR5)
Panel frame + foam pad (std. for GTS, opt. for SR5)
*2: Wire frame + foam pad
Panel frame + foam pad (LE)

MVMA Specifications

Vehicle Line COROLLA

Model Year 1990

Issued Aug., '89

Revised (•)

METRIC (U.S. Customary)

Body Type

Coupe	Sedan	Wagon
-------	-------	-------

Restraint System

Seating Position		Left		Center	Right
Active	Type & description (lap & shoulder belt, lap belt, etc.)	First seat	Coupe 3 point, ELR	-	3 point, ELR
		Second seat	Sedan & wagon 3 point, ELR	2 point, manual adj.	3 point, ELR
	Standard / optional Standard	Third seat			
Passive	Type & description (air bag, motorized - 2-point belt, fixed belt, knee bolster, manual - lap belt)	First seat	All automatic 2 point, manual lap, knee bolster	-	Same as left
		Second seat			
	Standard / optional Standard	Third seat			

Glass	SAB Ref. No.			
Windshield glass exposed surface area (cm ² (in. ²))	S1	8935	8712	8712, 8729 (4WD)
Side glass exposed surface area (cm ² (in. ²)) - total 2-sides	S2	8580	10060	13814, 14384
Backlight glass exposed surface area (cm ² (in. ²))	S3	7160	7156	4242, 3776
Total glass exposed surface area (cm ² (in. ²))	S4	24675	25928	26768, 26889
Windshield glass (type)		Laminated, curved		
Side glass (type)		Tempered, curved		
Backlight glass (type)		Tempered, curved		

Headlamps

Description - sealed beam, halogen, replaceable bulb, etc.	Hidden	Replaceable bulb
Shape	Square, 2	-
Lo-beam type (2A1, 2B1, 2C1, etc.)	-	
Quantity	-	
Hi-beam type (1A1, 2A1, 1C1, 2C1, etc.)	-	
Quantity	-	

Frame

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

MVMA Specifications

Vehicle Line COROLLA
Model Year 1990 Issued Aug., '89 Revised (+) _____

METRIC (U.S. Customary)

Body Type

Coupe	Sedan	Wagon
-------	-------	-------

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

Air conditioning (manual, auto, temp control)		Opt. manual temp. control		
Clock (digital, analog)	Digital	Std.(V grd.), Opt.(others)	Std (upper grade) N.A.(R grd.)	Opt.(others)
Compass : thermometer		-		
Console (floor, overhead)		Std. for all, floor		
Defroster, elec. backlight		Std.	Std., Opt. (R grd.)	Std.
Electronic	Diagnostic monitor (integrated, individual)	-		
	Instrument cluster (list instruments)	-		
	Keyless entry	-		
	Tripminder (avg. spd., fuel)	-		
	Voice alert (list items)	-		
	Other	-		
Lamps	Fuel door lock (remote, key, electric)	Remote		
	Auto head on / off delay, dimming	-		
	Cornering	N.A.		
	Courtesy (map, reading)	Opt., map (except STD)		
	Door lock, ignition	N.A.		
	Engine compartment	N.A.		
	Fog	N.A.		
	Glove compartment	N.A.		
	Trunk	N.A.	Std. (N grade)	Std. (4WD)
	Illuminated entry system (list lamps, activation)	-		
	Other	-		
Mirrors	Day / night (auto, man.)	Manual		
	L.H. (remote, power, heated)	Remote, power or manual		
	R.H. (convex, remote, power, heated)	Convex, remote power		
	Visor vanity (RH / LH, illuminated)	-		
Navigation system (describe)		-		
Parking brake-auto release (warning light)		Warning light		

MVMA Specifications

Vehicle Line COROLLA
 Model Year 1990 Issued Aug., '89 Revised (*) _____

METRIC (U.S. Customary)

Engine Description
 Engine Code

Coupe	Sedan	Wagon
-------	-------	-------

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

Power equipment	Deck lid (release, pull down)		N.A.
	Door locks (manual, automatic, describe system)		Opt. manual
	Seats	2 - 4 - 6 way, etc.	-
		Reclining (R.H., L.H.)	Front seat back: Yes, both
		Memory (R.H., L.H., present, recline)	-
		Lumbar, hip, thigh, support	-
		Heated (R.H., L.H., other)	-
	Side windows		Opt. for upper grades.
	Vent windows		-
	Rear windows		-
Radio systems	Antenna (location, whip, w / shield, power)		Whip, sedan & wagon: A pillar, Coupe: roof
	Standard	AM, FM, stereo, tape, compact disc, graphic equalizer, theft deterrent, radio prep package, headphone jacks, etc.	Radio: AM MPX/FM MPX ETR (V, N grd.)
	Optional		Radio: AM/FM MPX ETR (R, D, X grd.)
			Sound system: AM MPX/FM MPX ETR w/cassete SF (V, N grd.) AM MPX/FM MPX ETR w/cassete (R, D, X grd.)
			Speaker (number, location)
	Roof: open air or fixed (flip-up, sliding, "T")		Sun roof (all but wagon, 2WD) opt for limited grade, sliding
Speed control device		Opt.	
Speed warning device (light, buzzer, etc.)		N.A.	
Tachometer (rpm)		Std., opt. or N.A. depending on grade	
Telephone system (describe)		-	
Theft deterrent system		Steering lock	

MVMA Specifications

Vehicle Line COROLLA

Model Year 1990 Issued Aug., '89 Revised (*)

METRIC (U.S. Customary)

Vehicle Dimensions See Key Sheets for definitions

All dimensions to ground are for comparative purposes only. Dimensions are to be shown for all base body models of each vehicle line. SAE Ref. no. refers to the definition published in SAE Recommended Practice J1100 "Motor Vehicle Dimensions," unless otherwise specified.

Body Type	SAE Ref. No.	FWD Coupe	FWD Sedan	FWD Wagon	4WD Sedan	4WD Wagon
Width						
Tread (front)	W101	1445 (V grd.), 1430			1440	
Tread (rear)	W102	1425 (V grd.), 1410			1380	
Vehicle width	W103	1665	1655	1655		
Body width at Sg RP (front)	W117	1656	1615	1615	1635	
Vehicle width (front doors open)	W120	3905	3325	3325		
Vehicle width (rear doors open)	W121	—	3195	3195	3215	
Turn-in angle (deg.)	W122	28.2°	24°	24°		
Outside mirror width	W410	—				

Length

Wheelbase	L101	2430			2430	
Vehicle length	L103	4375	4325	4355	4325	4370
Overhang (front)	L104	925	875	875		
Overhang (rear)	L105	1020	1050		1020	1065
Upper structure length	L123	2486	2560	2960	2560	2990
Rear wheel C/L "X" coordinate	L127	2430			2430	

Height*

Passenger distribution (front/rear)	PD1.2.3	2/1			2/1	
Trunk/cargo load		0 kg		105.4 kg	0 kg	
Vehicle height (w/roof spoiler)	H101	1260	1330	1385	1345	1415 (1440)
Cowl point to ground	H114	850	875	890		
Deck point to ground	H138	910	935	-	950	-
Rocker panel-front to ground	H112	180	195			205
Rocker panel-rear to ground	H111	185	200			210
Windshield slope angle	H122	61.9°	59°	59°		
Backlight slope angle	H121	61.7°	56.5°	34°	56.5°	20°

Ground Clearance*

Front bumper to ground	H102	235			250	255
Rear bumper to ground	H104	350	310	295	325	310
Bumper to ground (front at curb mass (wt.))	H103	250			265	275
Bumper to ground (rear at curb mass (wt.))	H105	395	355	340	370	355
Angle of approach (degrees)	H106	17.0°	17.5°	19.5°		
Angle of departure (degrees)	H107	16.0° (V grd.), 15.0°			17.5°	15.5°
Ramp breakover angle (degrees)	H147	13.0° (V grd.), 13.5°			14.5°	15.5°
Axle differential to ground (front/rear)	H153	-			150	
Min. running round clearance	H156	135 (V grd.), 140			150	160
Location of min. run. grd. clear.		Exhaust center pipe			CCRO	

* All vehicle height and ground clearances are measured at the Manufacturer's Design Load Weight. Manufacturers Design Load Weight is defined with indicated passenger distribution and trunk/cargo load, unless otherwise specified. All linear dimensions are in millimeters (inches) unless otherwise noted.

CCRO stands for Catalytic Converter for Reduction and Oxidation.

MVMA Specifications

METRIC (U.S. Customary)

Vehicle Dimensions See Key Sheets for definitions

Vehicle Line COROLLA

Model Year 1990

Issued Aug., '89 Revised (+)

Body Type

FWD Coupe

FWD Sedan

FWD Wagon

4WD Sedan

4WD Wagon

Front Compartment

SAE
Ref.
No.

SgRP front, "X" coordinate	L31	1360	1325		
Effective head room (w/ sun roof)	H61	963 (914)	974.5 (937)	1005	974.5 (937) 1030.5 (988.5)
Max. eff. leg room (accelerator)	L34	1090	1038		
SgRP to heel point	H30	210.5	267.5		
SgRP to heel point	L53	903	819.5		
Back angle	L40	21°	21°	17°	21°
Hip angle	L42	93.5°	90°	86°	90°
Knee angle	L44	132°	118°		
Foot angle	L46	87°	87°		
Design H-point front travel	L17	D: 208.5, P: 193.5	D: 209, P: 194		D: 208.5, P: 193.5
Normal driving & riding seat track trvl.	L23	Same as above			
Shoulder room (N, X grd.)	W3	1330.5	1351 (1332.5)	1351	1351 (1334)
Hip room (V, X grd.)	W5	1363 (1295)	1261		
Upper body opening to ground	H50	1170	1222.5		1237.5 1247.5
Steering wheel maximum diameter*	W9	-			
Steering wheel angle	H18	21° 21'	25° 9'		25° 9'
Accel. heel pt. to steer. whl. cntr	L11	-			
Accel. heel pt. to steer. whl. cntr	H17	-			
Undepressed floor covering thickness	H67	16	8		

D: driver P: passenger

Rear Compartment

SgRP point couple distance	L50	611	720		
Effective head room (w/ sun roof)	H63	896 (887.5)	925.5 (925.5)	999	925.5 (925.5) 999 (942.5)
Min. effective leg room	L51	655	803		805
SgRP (second to heel)	H31	254.5	305		290
Knee clearance (Opt., V grd.)	L48	-109.5 (-129.5)	-15	9	-14
Shoulder room (N, X grd.)	W4	1297	1339 (1328)	1339	1339 (1329)
Hip room (N grd.)	W8	1182	1363.5 (1272.5)	1363.5	1061
Upper body opening to ground	H51	1048	1228.5		1243.5 1253.5
Back angle	L41	26°	27°		
Hip angle	L43	73.5°	84.5°		83.5°
Knee angle	L45	53.5°	73.5°		74.5°
Foot angle	L47	104.5°	114°		116°
Depressed floor covering thickness	H73	13	8		

Luggage Compartment

Usable luggage capacity [L (cu. ft.)]	V1	330	360	354	267	275
Liftover height	H195	780	595	530	610	545

Interior Volumes (EPA Classification)

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

* See page 14.

** Includes passenger and trunk / cargo index - see definition page 32.

MVMA Specifications

Vehicle Line COROLLA
Model Year 1990 Issued Aug., '89 Revised (*)

METRIC (U.S. Customary)

Vehicle Dimensions See Key Sheets for definitions

Body Type

Wagon (2WD)

Wagon (4WD)

Station Wagon - Third Seat

SAE
Ref.
No.

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

Station Wagon - Cargo Space

Cargo length (open front)	L200	-
Cargo length (open second)	L201	-
Cargo length (closed front)	L202	1683
Cargo length (closed second)	L203	947
Cargo length at belt (front)	L204	1567
Cargo length at belt (second)	L205	735
Cargo width (wheelhouse)	W201	973
Rear opening width at floor	W203	1085
Opening width at belt	W204	1225.5
Min. rear opening width above belt	W205	803
Cargo height	H201	870.5
Rear opening height	H202	803.5
Tailgate to ground height	H250	-
Front seat back to load floor height	H197	400.5
Cargo volume index (m ³ (ft. ³))	V2	1.827
Hidden cargo volume index (m ³ (ft. ³))	V4	0.857
Cargo volume index-rear of 2-seat	V10	0.740 m ³

(): with sun roof

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	-
Hidden cargo volume index (m ³ (ft. ³))	V4	-
Cargo volume index-rear of 2-seat	V11	-

MVMA Specifications

METRIC (U.S. Customary)

Vehicle Line COROLLA
Model Year 1990 Issued Aug., '89 Revised (*)

Body Type

Coupe

Others

4WD

Vehicle Fiducial Marks

Number*

Define Coordinate Location

Front

Center of installation hole for seat track outer in cross member of front floor (both sides)

Rear

Coupe:

Center of installation hole for rear seat belt in center floor (both sides)

Others:

Installation hole for seat belt anchor in quarter wheelhouse inner (both sides)

Fiducial Mark Number

Front	W21*	W5 + 70.5 mm	W5 + 65
	L54*	L19 + 90 mm	L19 + 82
	H81*	H10 + 73.5 mm	H10 + 83
	H181*	290 mm	Sedan: 315, Wagon: 325
	H183*	260 mm	285 295

Rear	W22*	W5 + 40 mm	W5 + 70.7	W5 + 32
	L55*	L30 + 20 mm	L31 + 25.5	L31 + 43.5
	H82*	H11 + 4.5 mm	H11 + 88	H11 + 67
	H182*	325 mm	415	Sedan: 410, Wagon: 420
	H184*	295 mm	380	370 380

* Reference - SAE Recommended Practice, J182, Motor Vehicle Fiducial Marks.

METRIC (U.S. Customary)Model Year 1990 Issued Aug., '89 Revised (*) [illegible]

* Reference - SAE J1100 Motor vehicle dimensions, curb weight definition.

Refer to ETWC code legend below for test weight class.

ETWC LEGEND

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

SHIPPING MASS (weight) Calculation (Kg. (lbs.))

Shipping Mass (weight) = Curb Weight Less:

All models: 32 kg less

MVMA Specifications

METRIC (U.S. Customary)

Vehicle Line COROLLA
Model Year 1990 Issued Aug., '89 Revised (*)

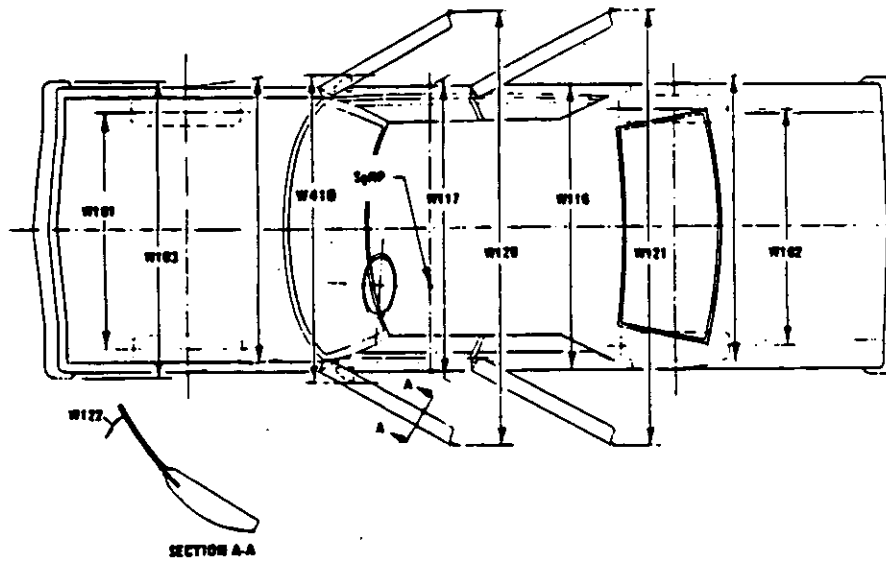
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* Also see Engine - General Section for dressed engine mass (weight).

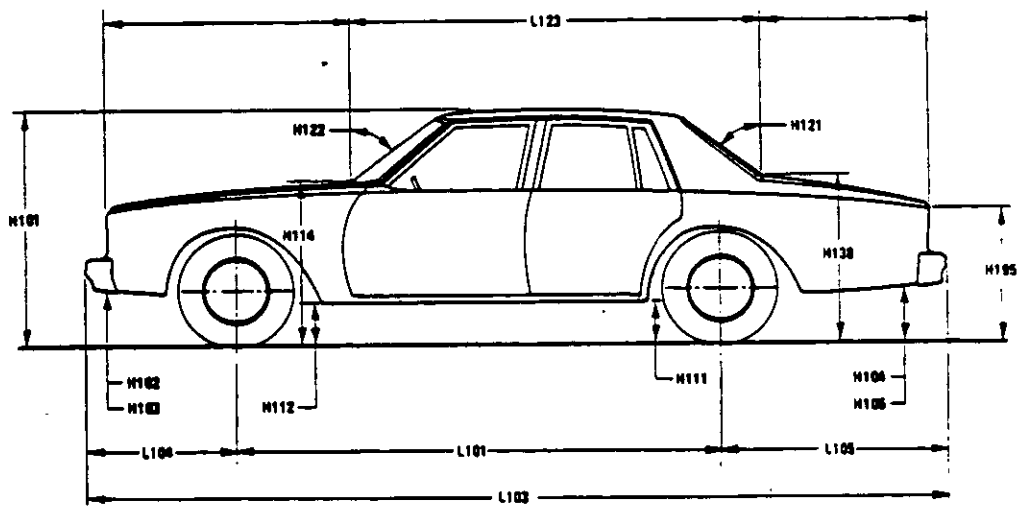
MVMA Specifications
METRIC (U.S. Customary)

Exterior Vehicle And Body Dimensions – Key Sheet

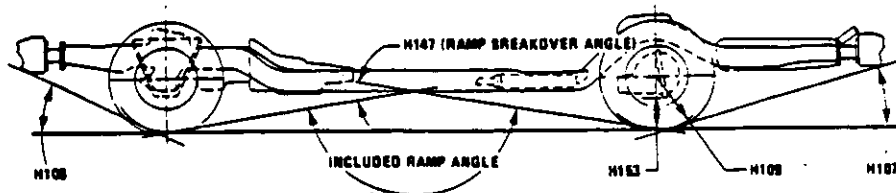
Exterior Width



Exterior Length & Height



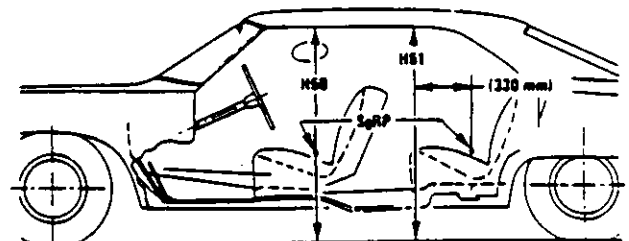
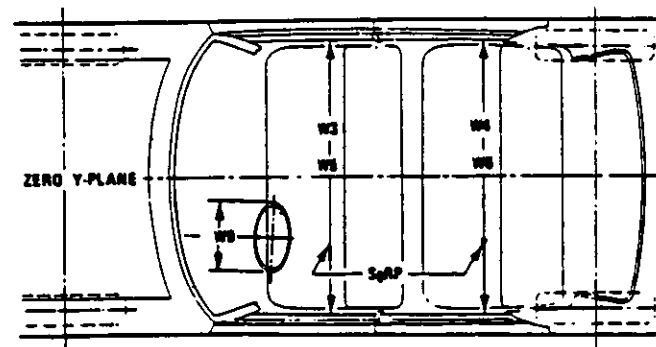
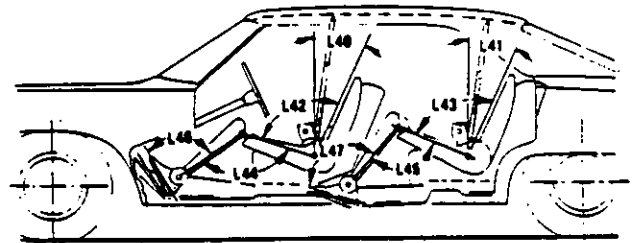
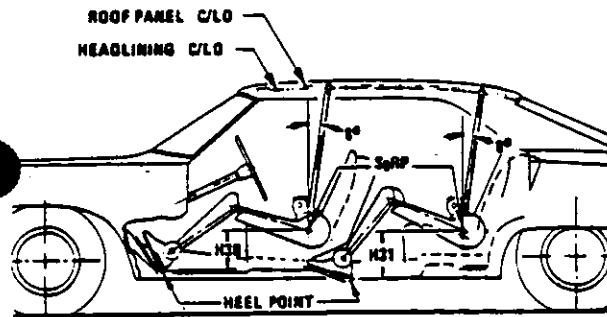
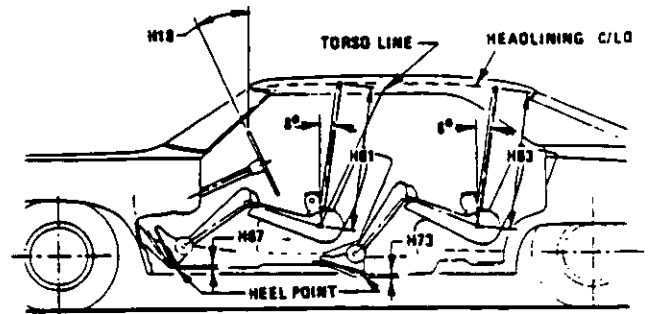
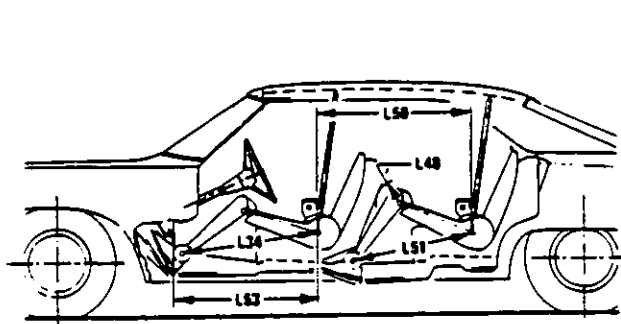
Exterior Ground Clearance



MVMA Specifications Form

METRIC (U.S. Customary)

Interior Vehicle And Body Dimensions - Key Sheet

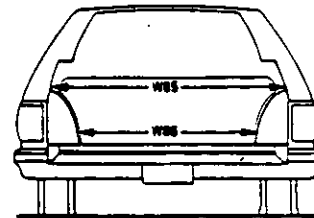
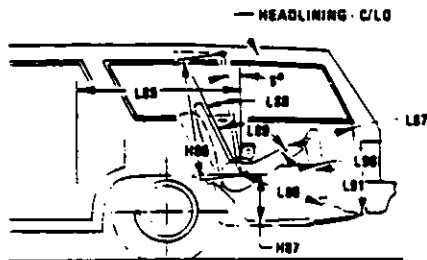


MVMA Specifications Form

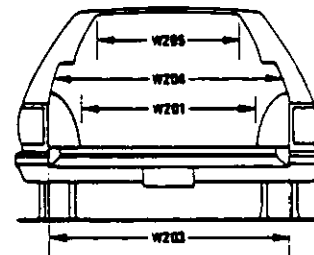
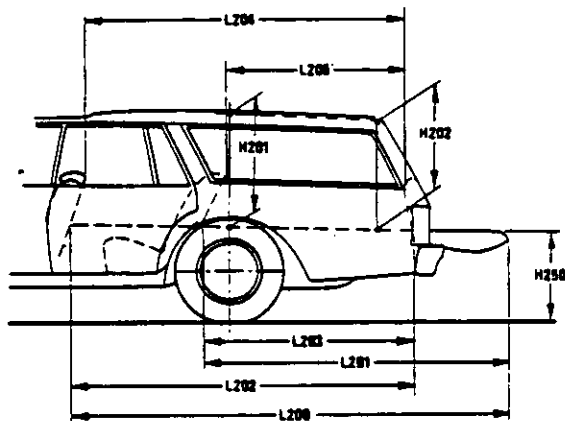
METRIC (U.S. Customary)

Interior Vehicle And Body Dimensions – Key Sheet

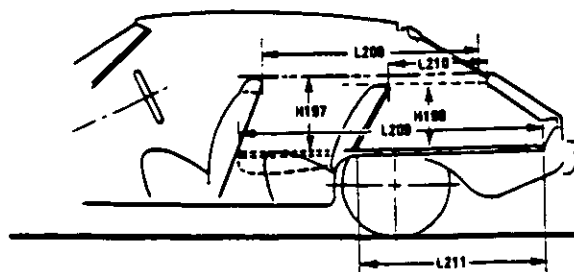
Third Seat



Cargo Space



Station Wagon



Hatchback

MVMA Specifications

METRIC (U.S. Customary)

Exterior Vehicle And Body Dimensions – Key Sheet Dimensions Definitions

Seating Reference Point

SEATING REFERENCE POINT means the manufacturer's design reference point which –

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

Width Dimensions

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

Length Dimensions

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

- L123 UPPER STRUCTURE LENGTH. The dimension measured longitudinally from the cowl point to the deck point.

- L127 REAR WHEEL CENTERLINE "X" COORDINATE or in the case of dual rear axles, the coordinate shall be the midpoint of the distance between the rear axle centerlines.

Height Dimensions

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

Ground Clearance Dimensions

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

MVMA Specifications

METRIC (U.S. Customary)

Interior Vehicle And Body Dimensions - Key Sheet Dimensions Definitions

Glass Areas

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

Fiducial Mark Dimensions

Fiducial Mark - Number 1

- L54 "X" coordinate.
- W21 "Y" coordinate.
- H81 "Z" coordinate.
- H181 Height "Z" coordinate to ground at curb weight.
- H183 Height "Z" coordinate to ground.

Fiducial Mark - Number 2

- L55 "X" coordinate.
- W22 "Y" coordinate.
- W82 "Z" coordinate.
- H182 Height "Z" coordinate to ground at curb weight.
- H184 Height "Z" coordinate to ground.

Front Compartment Dimensions

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

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

Rear Compartment Dimensions

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

MVMA Specifications

METRIC (U.S. Customary)

Interior Vehicle And Body Dimensions - Key Sheet Dimensions Definitions

Luggage Compartment Dimensions

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

Interior Volumes (EPA Classification)

The Interior Volume Index is listed for each body style except two seaters. The Interior Volume Index estimates the space in a car. It is based on four measurements - head room, shoulder room, hip room, and leg room - for the front and rear seats, plus trunk capacity. The 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 51 mm (2.0 in.). With rear-facing third seat, dimension is measured to closure.
- L88 BACK ANGLE - THIRD. Measured in the same manner as L41.
- L89 HIP ANGLE - THIRD. Measured in the same manner as L43.
- L90 KNEE ANGLE - THIRD. Measured in the same manner as L45.
- L91 FOOT ANGLE - THIRD. Measured in the same manner as L47.
- W85 SHOULDER ROOM - THIRD. Measured in the same manner as W4.
- W86 HIP ROOM - THIRD. Measured in the same manner as W5.
- H86 EFFECTIVE HEAD ROOM - THIRD. The dimension, measured along a line 8 deg. from the SgRP - third to the headlining rear of vertical plus a constant of 102 mm (4.0 in.).
- H87 SgRP - THIRD TO HEEL POINT.
- SD1 SEAT FACING DIRECTION - THIRD.

Station Wagon - Cargo Space Dimensions

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

- L202 CARGO LENGTH - CLOSED - FRONT. The minimum dimension measured horizontally from the back of the front seat at the height of the undeepressed floor covering to the rearmost point on the undeepressed floor covering on the closed tailgate or taildoor for station wagons, trucks and mpv's at the zero "Y" plane.
- L203 CARGO LENGTH - CLOSED - SECOND. The dimension measured horizontally from the back of the second seat at the height of the undeepressed floor covering to the rearmost point on the undeepressed floor covering on the closed tailgate or taildoor for station wagons, trucks and mpv's at the zero "Y" plane.
- L204 CARGO LENGTH AT BELT - FRONT. The minimum dimension measured horizontally from the back of the front seatback at the seatback top to the foremost normal surface of the closed tailgate or inside surface of the cab backpanel at the height of the belt, on the zero "Y" plane.
- L205 CARGO LENGTH AT BELT - SECOND. The minimum dimension measured horizontally from the back of the second seatback at the seatback top to the foremost normal surface of the closed tailgate at the height of the belt, on the zero "Y" plane.
- W201 CARGO WIDTH - WHEELHOUSE. The minimum dimension measured laterally between the trimmed wheelhouseings at floor level. For any vehicle not trimmed, measure to the sheet metal.
- W203 REAR OPENING WIDTH AT FLOOR. The minimum dimension measured laterally between the limiting interferences of the rear opening at floor level.
- W204 REAR OPENING WIDTH AT BELT. The minimum dimension measured laterally between the limiting interferences of the rear opening at belt height or top of pick up box.
- W205 REAR OPENING WIDTH ABOVE BELT. The minimum dimension measured laterally between the limiting interferences of the rear opening above the belt height.
- H197 FRONT SEATBACK TO LOAD FLOOR HEIGHT. The dimension measured vertically from the horizontal tangent to the top of the seatback to the undeepressed floor covering.
- H201 CARGO HEIGHT. The dimension measured vertically from the top of the undeepressed floor covering to the headlining at the rear wheel "X" coordinate on the zero "Y" plane.
- H202 REAR OPENING HEIGHT. The dimension measured vertically from the top of the undeepressed floor covering to the upper trimmed opening on the zero "Y" plane with rear door fully open.
- H250 TAILGATE TO GROUND CURB MASS (WT.). The dimension measured vertically from the top of the undeepressed floor covering on the lowered tailgate to ground on the zero "Y" plane.
- V2 STATION WAGON

Measured in inches:

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

Measured in mm:

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

MVMA Specifications

METRIC (U.S. Customary)

Interior Vehicle And Body Dimensions – Key Sheet Dimensions Definitions

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

V5 TRUCKS AND MPV'S WITH OPEN AREA.
Measured in inches:

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

Measured in mm:

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

V6 TRUCKS AND MPV'S WITH CLOSED AREA.

Measured in inches:

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

Measured in mm:

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

V8 HIDDEN LUGGAGE CAPACITY – REAR OF SECOND SEAT. The total volume of individual pieces of one set of standard luggage stowed in any hidden cargo area below the load floor rear of the second seat.

V10 STATION WAGON CARGO VOLUME INDEX.

Measured in inches:

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

Measured in mm:

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

Hatchback – Cargo Space Dimensions

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

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

L209 CARGO LENGTH AT FLOOR – FRONT – 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 "X" 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 seatback to the undepressed floor covering.

V3 HATCHBACK.

Measured in inches:

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

Measured in mm:

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

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

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

Measured in inches:

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

Measured in mm:

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

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