

MANUFACTURERS MOTOR VEHICLE SPECIFICATIONS

METRIC (U.S. Customary)

1991

Manufacturer CHRYSLER MOTORS CORPORATION	Vehicle Line PLYMOUTH LASER	
Mailing Address 12000 CHRYSLER DRIVE CIMS 418-05-30 DETROIT, MICHIGAN 48288 - 1118	Issued 9-15-90	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.

MVMA Specifications

METRIC (U.S. Customary)

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NOTE:

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

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Vehicle Line Laser
Model Year 1991 Issued 1990-8 Revised (+) _____

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Vehicle Origin

Design & development (company)	Mitsubishi Motors Corporation.
Where built (country)	U.S.A
Authorized U.S. sales marketing representative	Chrysler Corporation

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)	EPA Fuel Economy (City/Hwy)
2 DOOR Coupe (FWD)		D21AMNJEL 4P/9P	4 (2/2)	28 Kg (62 lbs)	23/32
		D21AMRJEL 4P/9P			23/30
		D21AMNHEL 4P/9P			23/32
		D21AMRHEL 4P/9P			23/30
		D22AMNHML 4P/9P			22/29
		D22AMRHML 4P/9P			22/27
		D22AMNHFL 4P/9P			21/28
		D22AMRHFL 4P/9P			19/23

* 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
E N G I N E	Engine Code		4G37		4G63		4G63	4G63
	Displacement Liters (in³)		1.755(107)		1.997(122)		1.997(122)	1.997(122)
	Induction system (FI, Carb, etc.)		F.I.		F.I.		F.I.	F.I.
	Compression ratio		9.0		9.0		7.8	7.8
	SAE Net at RPM	Power kW (bhp)	69(92) at 5000		101(135) at 6000		142(190) at 6000	134(180) at 5500
		Torque N · m (lb. ft.)	142(105) at 3500		169(125) at 5000		275(203) at 3000	265(195) at 3000
Exhaust single, dual		Dual		Dual		Single	Single	
T R A N S	Transmission/ Transaxle		*1 Manual 5-Speed	*2 Automatic 4-Speed	*1 Manual 5-Speed	*2 Automatic 4-Speed	Manual 5-Speed	Automatic 4-Speed
	Axle Ratio (std. first)		4.322	4.007	4.322	4.007	4.153	4.376

Series Availability		Power Teams (A - B - C - D)	
Model	Code	Standard	Optional
2 Door Coupe (FWD)	D21AMNJEL	A*1	—
	D21AMRJEL	A*2	—
	D21AMNHEL	A*1	—
	D21AMRHEL	A*2	—
	D22AMNHML	B*1	—
	D22AMRHML	B*2	—
	D22AMNHFL	C	—
	D22AMRHFL	D	—

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Engine Description
Engine Code

4G37(1.755 Liters)		4G63(1.997 Liters)		4G63 with Turbo (1.997 Liters)	
MT	AT	MT	AT	MT	AT

ENGINE - GENERAL

Type & description (inline, V, angle, flat, location, front, mid, rear, transverse, longitudinal, sohc, dohc, ohv, hemi, wedge, pre-camber, etc.)	In line, Front, Transverse, SOHC	In line, Front, Transverse, DOHC					
Manufacturer	Mitsubishi Motors Corp.						
No. of cylinders	4						
Bore	80.6	85.0					
Stroke	86.0	88.0					
Bore spacing (C / L to C / L)	87.5	93					
Cylinder block material & mass kg (lbs.) (machined)	Cast iron, 34.2 (75.4)	Cast iron, 37.5 (82.7)					
Cylinder block deck height	230.2	229					
Cylinder block length	385.5	439					
Deck clearance (minimum) (above or below block)	Above 0.5 mm	0.0 mm					
Cylinder head material & mass kg (lbs.)	Aluminum alloy, 6.2 (13.6)	Aluminum alloy, 12.6 (27.8)					
Cylinder head volume cm ³ (inches ³)	57.9	45.5					
Cylinder liner material	N.A.						
Head gasket thickness (compressed)	1.35	1.25					
Minimum combustion chamber total volume cm ³ (inches ³)	54.1	61.7		72.7			
Cyl. no. system (front to rear)*	L. Bank	N.A.					
	R. Bank	N.A.					
Firing order	1-3-4-2						
Intake manifold material & mass kg (lbs.)**	Aluminum alloy, 5.3 (11.7)	Aluminum alloy, 5.5 (12.1)					
Exhaust manifold material & mass kg (lbs.)**	Cast iron, 5.7 (12.6)	Cast iron, 7.6 (16.8)	Cast iron, 5.1 (11.2)				
Knock sensor (yes / no)	No					Yes	
Fuel required unleaded, diesel, etc.	Unleaded						
Fuel antiknock index (R + M) ÷ 2	No less than 87					No less than 91 or 87 with knock control	
Engine mounts	Quantity	4					
	Material and type (elastomeric, hydroelastic, hydraulic damper, etc.)	Rubber (Elastomeric)					
	Added isolation (sub-frame, crossmember, etc.)	Crossmember and Centermember					
Total dressed engine mass (wt) dry***	120	115	150	145	165	155	

Engine - Pistons

Material & mass, g (weight, oz.) - piston only	Aluminum alloy, 322 (11.4)	Aluminum alloy, 343 (12.1)	Aluminum alloy, 362 (12.8)
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Engine - Camshaft

Location	Center of IN. and EX. valve on cylinder-head	Above each IN. and EX. valve on cylinder-head			
Material & mass kg (weight, lbs.)	Cast iron, 2.32 (5.27)	Cast iron, IN:1.9 (4.2), EX:1.9 (4.2)			
Drive type	Chain / belt	Belt			
	Width / pitch	19.05/9.525 29/9.525			

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

** Finished state.

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

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4G37 (1.755 Liters)

4G63 (1.997 Liters)

4G63 with Turbo
(1.997 Liters)

Engine - Valve System

Hydraulic lifters (std., opt., n.a.)		Std.	
Valves	Number intake / exhaust	4/4	8/8
	Head O.D. intake / exhaust	42/34	34/30.5

Engine - Connecting Rods

Material & mass kg., (weight, lbs.)*	Forged iron, 0.612(1.35)	Forged iron, 0.69 (1.52)
Length (axes C/L to C/L)	153.7	150.0

Engine - Crankshaft

Material & mass kg., (weight, lbs.)*	Forged iron, 12.4(27.3)	Forged iron, 16.3 (35.9)
End thrust taken by bearing (no.)	3	
Length & number of main bearings	23mm. 5	
Seal (material, one, two piece design, etc.)	Front	Synthetic rubber, One piece
	Rear	Synthetic rubber, One piece

Engine - Lubrication System

Normal oil pressure kPa (psi) at engine rpm	280 (40.6) at 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.)	3.5	4.0

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.	Mitsubishi Heavy Industries Ltd.
Super charger - manufacturer	N.A.	N.A.
Intercooler	N.A.	Std.

* Finished State

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MT	AT	MT	AT	

Engine - Cooling System

Coolant recovery system (std., opt., n.a.)		Std.				
Coolant fill location (rad., bottle)		Bottle				
Radiator cap relief valve pressure kPa (psi)		88				
Circulation thermostat	Type (choke, bypass)	Choke pellet				
	Starts to open at °C (°F)	88 (190.4)				
Water pump	Type (centrifugal, other)	Centrifugal				
	GPM 1000 pump rpm	-				
	Number of pumps	1				
	Drive (V-belt, other)	V ribbed belt				
	Bearing type	Ball, integral shaft, permanently sealed	Roller & Ball, integral shaft, permanently sealed			
	Impeller material	Cold-rolled carbon steel sheet				
	Housing material	Aluminum die casting				
By-pass recirculation type (inter., ext.)		External				
Cooling system capacity	With heater - L(qt.)	5.0				7.0
	With air conditioner - L(qt.)	5.0				7.0
	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. & A/C				
	Type (cross-flow, etc.)	Down-flow				
	Construction (fin & tube mechanical, braze, etc.)	Tube and Corrugated Fin Brazed				
	Material, mass kg (wgt., lbs.)	Brass & Copper 3.7	Brass & Copper 4.05	Brass & Copper 5.35	Brass & Copper 5.7	Brass & Copper 5.35
	Width	668				
	Height	350				
	Thickness	16			32	
	Fins per inch	20			17	
Radiator end tank material		Plastic				
Fan	Std., elec., opt.	Electric				
	Number of blades & type (flex, solid, material)	4				
	Diameter & projected width	320				
	Ratio (fan to crankshaft rev.)	N.A.				
	Fan cutout type	N.A.				
	Drive type (direct, remote)	N.A.				
	RPM at idle (elec.)	2150				2080
	Motor rating (wattage/elec.)	80				120
	Motor switch (type & location/elec.)	Thermo Switch, RAD				
	Switch point (temp./pressure/elec.)	82°C-85°C				
	Fan shroud (material)	Plastic				

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		MT AT

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			
Manufacturer		Nippon Injector Co., Ltd.			
Carburetor no. of barrels		-			
Idle A/F mix.		14.7			
Fuel injection	Point of injection (no.)	Inlet port (4)			
	Constant, pulse, flow	6.07mm ³ / 2.5 msec	6.09 mm ³ / 2.2 msec	8.07 mm ³ / 1.8 msec	7.10 mm ³ / 1.8 msec
	Control (electronic, mech.)	Electronic			
	System pressure kPa (psi)	329 (47.71)	250 (36.25)	294 (42.67)	
Idle spd.-rpm (spec. neutral or drive and propane if used)	Manual	700 rpm	750 rpm		
	Automatic	700rpm(650rpm Drive)	750rpm(650rpm Drive)		
Intake manifold heat control (exhaust or water thermostatic or fixed)		N.A.			
Air cleaner type		Dry non-woven cloth			
Fuel filter (type/location)		Paper, Engine room			
Fuel pump	Type (elec. or mech.)	Electric			
	Location (eng., tank)	In tank			
	Pressure range kPa (psi)	250 to 328 (36 to 48)		294 to 378(43 to 54)	
	Flow rate at regulated pressure L (gal)/hr (in kPa (psi)	90 (23.8) @ 250 (36)		125(33.0) @ 294(43)	

Fuel Tank

Capacity refill L (gallons)		60 (15.9)
Location (describe)		Under rear seatpan
Attachment		Strap
Material & Mass kg (weight lbs.)		Steel, 13.2
Filler pipe	Location & material	Left, rear quarter panel, Steel
	Connection to tank	Rubber hose
Fuel line (material)		Steel
Fuel hose (material)		Rubber
Return line (material)		Steel
Vapor line (material)		Steel
Extended range tank	Opt., n.a.	N.A.
	Capacity L (gallons)	N.A.
	Location & material	N.A.
	Attachment	N.A.
Auxiliary tank	Opt., n.a.	N.A.
	Capacity L (gallons)	N.A.
	Location & material	N.A.
	Attachment	N.A.
	Selector switch or valve	N.A.
	Separate fill	N.A.

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Engine Description
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4G37 (1.755 Liters)	4G63 (1.997 Liters)	4G63 with Turbo (1.997 Liters)
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Vehicle Emission Control

Exhaust Emission Control	Type (air injection, engine modifications, other)		Three-way catalyst with feedback control, Exhaust gas recirculation		
	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 (Calif. only; and electronic)		
		Exhaust source Point of exhaust injection (spacer, carburetor, manifold, other)	Exhaust Manifold Port No.2 Intake manifold	Exhaust Manifold Port No.4 Intake manifold	Exhaust Manifold Port No.4 Single tank
	Catalytic Converter	Type	Three-way		
		Number of	1		
		Location(s)	Under floor		
		Volume L (in ³)	Calif.; 1.0 (61.02) + 0.7 (42.71), Fed; 1.7 (103.7)		
		Substrate type	Monolith		
		Noble metal type	-		
		Noble metal concentration (g/cm ³)	-		
Crankcase Emission Control	Type (ventilates to atmosphere, induction system, other)		Induction System		
	Energy source (manifold vacuum, carburetor, other)		Intake Manifold Vacuum		
	Discharges to (intake manifold, other)		To intake manifold		
	Air inlet (breather cap, other)		Air intake hose		
Evaporative Emission Control	Vapor vented to (crankcase, canister, other)	Fuel tank	Canister		
		Carburetor	-		
Electronic system	Vapor storage provision		Canister		
	Closed loop (yes/no)		Yes		
	Open loop (yes/no)		Yes		

Engine - Exhaust System

Type (single, single with cross-over, dual, other)		Single with cross-over		
Muffler no. & type (reverse flow, straight thru, separate resonator) Material & Mass kg (weight lbs)		One (Reverse flow) Stainless steel, 5.6 (12.3)	One (Reverse flow) Stainless steel, 6.3 (13.9)	One (Reverse flow) Stainless steel, 6.4 (14.1)
Resonator no. & type		TWO(Straight thru), Stainless steel, 2.4(5.3)		-
Exhaust pipe	Branch o.d., wall thickness	42.7 X 2.0 (Dual)		54 X 1.5
	Main o.d., wall thickness	48.6X1.5, 54X1.5	54 X 1.5	
	Material & Mass kg (weight lbs)	Stainless steel tube, 5.7(12.6)	Stainless steel tube, 5.8(12.8)	Stainless steel tube, 5.7(12.6)
Inter-mediate pipe	o.d. & wall thickness	48.6X1.5, 48.6X2.0	54X1.5, 54X2.0	54X1.5
	Material & Mass kg (weight lbs)	Stainless steel tube, 4.9(10.8)	Stainless steel tube, 5.2(11.5)	Stainless steel tube, 5.9(13.0)
Tail pipe	o.d. & wall thickness	48.6 X 1.2	38.1 X 1.2(Dual)	42.7 X 1.2(Dual)
	Material & Mass kg (weight lbs)	Stainless steel tube, 0.3(0.7)	Stainless steel tube, 0.8(1.8)	Stainless steel tube, 0.9(2.0)

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4G37(1.755 Liters)

4G63(1.997 Liters)

4G63 with Turbo
(1.997 Liters)

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

Manual 3-speed (manufacturer/country)	N.A.
Manual 4-speed (manufacturer/country)	N.A.
Manual 5-speed (manufacturer/country)	Std., Mitsubishi Motors Corp./Japan
Automatic (manufacturer/country)	N.A.
Automatic overdrive (manufacturer/country)	Std., Mitsubishi Motors Corp./Japan

Manual Transmission/Transaxle

Number of forward speeds		5	
Gear ratios	1st	3.363	3.090
	2nd	1.947	1.833
	3rd	1.285	1.217
	4th	0.939	0.888
	5th	0.756	0.741
	Reverse	3.083	3.166
Synchronous meshing (specify gears)		1,2,3,4,5	
Shift lever location		Floor	
Trans. case mat'l. & mass kg (lbs)*		Aluminum alloy, 9.9 (21.8)	Aluminum alloy 11.5 (25.4)
Lubricant	Capacity L (pt.)	1.8 (3.8)	2.2 (4.6)
	Type recommended	Multipurpose gear oil conforming to API GL-4	

Clutch (Manual Transmission)

Clutch manufacturer		Aishin Seiki Co.,Ltd.	Daikin Manufacturing Co.,Ltd.
Clutch type (dry, wet; single, multiple disc)		Dry single plate	
Linkage (hydraulic, cable, rod, lever, other)		Hydraulic	
Max. pedal effort (nom. spring load) N (lbs)	Depressed	123 (27.7)	
	Released	83 (18.7)	
Assist (spring, power/percent, nominal)		No	Spring/25Kg
Type pressure plate springs		Diaphragm	
Total spring load (nominal) N (lbs)		4168 (937)	4511 (1014) 6178 (1389)
Clutch facing	Facing mfg. & material coding	Hitachi Chemical Co.,Ltd.	
	Facing material & construction	Woven (Asbestos)	Woven (Non-Asbestos)
	Rivets per facing	16	
	Outside x inside dia. (nominal)	200 X 130 (mm)	215 X 140 (mm) 225 X 150 (mm)
	Total eff. area cm ² (in. ²)	363 (56.3)	418 (64.8) 442 (68.5)
	Thickness (pressure plate side/fly wheel side)	3.5/3.5 (mm)	
	Rivet depth (pressure plate side/fly wheel side)	1.6/1.6 (mm)	1.3/1.3 (mm)
	Engagement cushion method	Flat-wave spring	
Release bearing type & method lub.		Ball bearing, permanently lubricated	
Torsional damping method, springs; hysteresis		Damper rubbers-coil springs and Friction washers	

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

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Engine Description
Engine Code

D21A (SOHC, MPI)

D22A (DOHC, NA)

Automatic Transmission/Transaxle

Trade Name

Mitsubishi Motors Corp. F4A22

Type and special features (describe)

Torque converter with automatically operated
Planetary gear Transmission Electronic control F4A22

Gear
selector

Location (column, floor, other)

Lever : Console mounted

Ltr./No. designation (e.g. PRND21)

P.R.N.D.2.L / 6

Shift interlock (yes, no, describe)

-

Gear
ratios

1st

2.846

2nd

1.581

3rd

1.000

4th

0.685

Reverse

2.176

Max. upshift speed - drive range km/h (mph)

* 1-2 48/41 (30/26), 2-3 94/80 (59/50),
3-4 167/142 (104/89)

1-2 59/50 (37/31), 2-3 113/95 (71/59),
3-4 197/169 (123/106)

Max. kickdown speed - drive range km/h (mph)

* 2-1 43/35 (27/22), 3-2 86/73 (54/46),
4-3 150/127 (94/79)

2-1 45/35 (28/22), 3-2 107/86 (67/54),
4-3 172/151 (108/94)

Min. overdrive speed km/h (mph)

28 (18)

29 (18)

Torque
converter

Number of elements

Three

Max. ratio at stall

2.0 : 1

Type of cooling (air, liquid)

Liquid

Nominal diameter

230

Capacity factor "K"

277

240

Lubricant

Capacity refill L (pt.)

6.1 (13.0)

Type recommended

DIA ATF SP or MOPAR ATF PLUS automatic Trans.fluid

Oil cooler (std., opt., N.A., internal, external, air, liquid)

Std., External liquid

Transmission mass kg (lbs) & case material**

66.4 (146.4), Aluminum alloy

All Wheel / 4 Wheel Drive

*Power/Economy

Description & type (part-time, full-time, 2/4 shift
while moving, mechanical, elect., chain/gear, etc.)

-

Transfer
case

Manufacturer and model

-

Type and location

-

Low-range gear ratio

-

System disconnect (describe)

-

Center
differential

Type (bevel, planetary, w or w/o
viscous bias, torsen, etc.)

-

Torque split (% front/rear)

-

* Input speed ÷ $\sqrt{\text{Torque}}$

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

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Engine Description
Engine Code

D22A (DOHC, T/C)

Automatic Transmission/Transaxle

Trade Name		Mitsubishi Motors Corp. F4A33
Type and special features (describe)		Torque converter with automatically operated Planetary gear Transmission Electronic control F4A33
Gear selector	Location (column, floor, other)	Lever : Console mounted
	Ltr./No. designation (e.g. PRND21)	P.R.N.D.2.L / 6
	Shift interlock (yes, no, describe)	-
Gear ratios	1st	2.551
	2nd	1.488
	3rd	1.000
	4th	0.685
	Reverse	2.176
Max. upshift speed - drive range km/h (mph)		* 1-2 54/43 (34/27), 2-3 103/103 (64/64), 3-4 148/148 (93/93)
Max. kickdown speed - drive range km/h (mph)		* 2-1 42/31 (26/19), 3-2 93/93 (58/58), 4-3 133/133 (83/83)
Min. overdrive speed km/h (mph)		26 (16)
Torque converter	Number of elements	Three
	Max. ratio at stall	1.7 : 1
	Type of cooling (air, liquid)	Liquid
	Nominal diameter	260
	Capacity factor "K"	224
Lubricant	Capacity refill L (pt.)	7.0 (14.9)
	Type recommended	DIA ATF SP or MOPAR ATF PLUS automatic Trans. fluid
Oil cooler (std., opt., N.A., internal, external, air, liquid)		Std. External liquid + air
Transmission mass kg (lbs) & case material**		82.4 (181.6), Aluminum alloy

All Wheel / 4 Wheel Drive

*Power/Economy

Description & type (part-time, full-time, 2/4 shift while moving, mechanical, elect., chain/gear, etc.)		-
Transfer case	Manufacturer and model	-
	Type and location	-
Low-range gear ratio		-
System disconnect (describe)		-
Center differential	Type (bevel, planetary, w or w/o viscous bias, torsen, etc.)	-
	Torque split (% front/rear)	-

* Input speed ÷ $\sqrt{\text{Torque}}$

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

MVMA Specifications

Vehicle Line **Laser**

Model Year **1991**

Issued **1990-8**

Revised (+)

METRIC (U.S. Customary)

Engine Description
Engine Code

4G37(1.755 Liters)and 4G63(1.997 Liters)		4G63 with Turbo(1.997 Liters)	
MT	AT	MT	AT

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

Effective final drive ratio (or overall top gear ratio)		3.941	3.562	3.437	3.562
Transfer ratio and method (chain, gear, etc.)		1.096	1.125	1.208	1.228
Front drive unit	Ring gear o.d.	179.26	175.73	187.69	199.5
	No. of teeth	17	16		
	Pinion				
	Ring gear	67	57	55	57

Front Drive Unit

Description (integral to trans., etc.)		Separable
Limited slip differential (type)		-
Drive pinion	Type	-
	Offset	-
No. of differential pinions		2
Pinion / differential	Adjustment (shim, etc.)	Shim
	Bearing adjustment	Shim
Driving wheel bearing (type)		Double row angular contact ball bearing
Lubricant	Capacity L. (pt.)	Refer to transmission Spec.
	Type recommended	Refer to transmission Spec.

Axle Shafts - Front Wheel Drive

Manufacturer and number used			Toyo Bearing Co.,Ltd.		
Type (straight, solid bar, tubular, etc.)		Left	Straight bar		
		Right	Straight bar		
Outer diam. x length* x wall thickness	Manual transaxle	Left	26 X 708	26 X 706	30 X 706
		Right	23.2 X 368	24 X 366	24 X 366
	Automatic transaxle	Left	26 X 708	26 X 706	30 X 702
		Right	23.2 X 368	24 X 366	24 X 370
	Optional transaxle	Left	-		
		Right	-		
Slip yoke	Type		None		
	Number of teeth		-		
	Spline o.d.		-		
Universal joints	Make and mfg. no.	Inner	Toyo Bearing Co.,Ltd.		
		Outer	Toyo Bearing Co.,Ltd.		
	Number used		Two X Two		
	Type, size, plunge	Inner	C.V. joint		
		Outer	C.V. joint		
	Attach (u-bolt, clamp, etc)		-		
	Bearing	Type (plain, anti-friction)	-		
		Lubrication (fitting, prepack)	-		
Drive taken through (torque tube, arms or springs)			Lower arm & Strut		
Torque taken through (torque tube, arms or springs)			Lower arm & Strut		

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

MVMA Specifications

Vehicle Line Laser

Model Year 1991 Issued 1990-8 Revised (*)

METRIC (U.S. Customary)

Body Type And/Or
Engine Displacement

D21A

D22A

Suspension – General Including Electronic Controls

Car leveling	Standard/optional/not avail.	N.A.
	Manual/automatic control	N.A.
	Type (air/hydraulic)	N.A.
	Primary/assist spring	N.A.
	Rear only/4 wheel leveling	N.A.
	Single/dual rate spring	N.A.
	Single/dual ride heights	N.A.
	Provision for jacking	N.A.
Shock absorber damping controls	Standard/option/not avail.	N.A.
	Manual/automatic control	N.A.
	Number of damping rates	N.A.
	Type of actuation (manual/ electric motor/air, etc.)	N.A.
	s Lateral acceleration	N.A.
	n Deceleration	N.A.
	o Acceleration	N.A.
Shock absorber (front & rear)	r Road surface	N.A.
	Type	Front : Strut Type Rear : Telescopic Type
	Make	Front: KYB INDUSTRIES, INC/Rear : Kayaba Industry Co., Ltd. or GENERAL MOTORS DELCO DIVISION
	Piston diameter	Front : 32 Rear : 25 (mm)
	Rod diameter	Front : 22 Rear : 12.5 (mm)

Suspension – Front

Type and description	Independent Strut Type	
Travel*	Full jounce	92 (mm) 83 (mm)
	Full rebound	78 (mm) 87 (mm)
Spring	Type (coil, leaf, other & material)	Coil (9254 Steel, Specified in SAE)
	Insulators (type & material)	-
	Size (coil design height & i.d.)	327 X 146.6 or 335 X 146.4 314 X 146.3 or 322 X 146.1
	Spring rate N/mm (lb./in.)	21.6 (123.2) 23.5 (134.4)
	Rate at wheel N/mm (lb./in.)	20.3 (116.0) 22.1 (126.3)
	Type (link, linkless, frameless)	Link
Stabilizer	Material & bar diameter	ASB 25N, ϕ 17.3 (mm) Spring steel, ϕ 19 (mm)

Suspension – Rear

Type and description	3-Link torsion axle	
Travel*	Full jounce	110 (mm) 100 (mm)
	Full rebound	75 (mm)
Spring	Type (coil, leaf, other & material)	Coil (9254 Steel, Specified in SAE)
	Size (length x width, coil design height & i.d.)	337 X 84.9 317 X 84.8
	Spring rate N/mm (lb./in.)	19.6 (112.0) 22.5 (128.8)
	Rate at wheel N/mm (lb./in.)	19.6 (112.0) 22.5 (128.8)
	Insulators (type & material)	Rubber pad
	If leaf	No. of leaves -
		Shackle (comp. or tens.) -
Stabilizer	Type (link, linkless, frameless)	Bar
	Material & bar diameter	S38C, ϕ 20 (mm) S38C, ϕ 25 (mm)
Track bar (type)	-	

* Define load condition:

MVMA Specifications

Vehicle Line Laser

Model Year 1991 Issued 1990-8 Revised (+) _____

METRIC (U.S. Customary)

Body Type And/Or
Engine Displacement

4G37
(1.755 Liters)

4G63
(1.997 Liters)

4G63 with Turbo
(1.997 Liters)

Brakes – Service

Description			-			
Manufacturer and brake type (std., opt., n.a.)		Front (disc or drum)	Akebono Brake Industry Co.,Ltd., Disc			
		Rear (disc or drum)	Akebono Brake Industry Co.,Ltd., Disc			
Valving type (proportion, delay, metering, other)			Proportion valve			
Power brake (std., opt., n.a.)			Std.			
Booster type (remote, integral, vac., hyd., etc.)			Integral			
Vacuum	Source (inline, pump, etc.)		Inline			
	Reservoir (volume in. ³)		-			
	Pump-type (elec, gear driven, belt driven)		-			
Traction control	Operational speed range		-			
	Type engine intervention (electronic, mech.)		-			
Anti-lock device	Front / rear (std., opt., n.a.)		N.A.	Opt. (Front & Rear)		
	Manufacturer		N.A.	NIPPON ABS LTD		
	Type (electronic, mech.)		N.A.	Electronic		
	Number sensors or circuits		N.A.	4		
	Number anti-lock hydraulic circuits		N.A.	4		
	Integral or add-on system		N.A.	Add-on		
	Yaw control (yes, no)		N.A.	No		
	Hydraulic power source (elec., vac. mtr., pwr. strg.)		N.A.	Hydraulic		
Effective area cm ² (in. ²)*			F: 187 (29.0) / R: 120 (18.6)			
Gross Lining area cm ² (in. ²)*(F/R)			F: 193 (29.9) / R: 120 (18.6)			
Swept area cm ² (in. ²)*(F/R)			F:1192 (184.8) / R: 1177 (182.5)			
Rotor	Outerworking diameter	F/R	F: 254 / R: 263		(mm)	
	Inner working diameter	F/R	F: 163 /R: 178		(mm)	
	Thickness	F/R	F: 24 / R: 10		(mm)	
	Material & type (vented/solid)	F/R	F: Cast iron vented / R: Cast iron solid			
Drum	Diameter & width	F/R	-			
	Type and material	F/R	-			
Wheel cylinder bore			F: 53.97 / R: 30.16			
Master cylinder	Bore/stroke	F/R	Bore: 22.22/Stroke: Primary: 13, Secondary: 15 (mm)	Bore: 22.22/Stroke: Primary: 13, Secondary: 15 (mm) (Opt. ABS 23.81/13/15)	Bore: 23.81/Stroke: Primary: 13, Secondary: 15 (mm)	
Pedal arc ratio			4.4			
Line pressure at 445 N(100 lb.) pedal load kPa (psi)			1	12162(1773) Opt. ABS 12656 (1844)	12656(1844)	
Lining clearance		F/R	F:No major adjustment required/R:No major adjustment required			
Brake lining	Front wheel	Bonded or riveted (rivets/seg.)		Bonded		
		Rivet size		-		
		Manufacturer		AKEBONO Brake Industry Co.,Ltd.		
		Lining code*****		AKEBONO NS 137HEE		
		Material		Molded		
		****	Primary or out-board	116 X 41.9 X 10		(mm)
		Size	Secondary or in-board	116 X 41.9 X 10		(mm)
		Shoe thickness (no lining)		6.0		(mm)
	Rear wheel	Bonded or riveted (rivets/seg.)		Bonded		
		Manufacturer		AKEBONO Brake Industry Co.,Ltd.		
		Lining code*****		AK NS512 FF		
		Material		Molded		
		****	Primary or out-board	72 X 41.6 X 8.5		(mm)
		Size	Secondary or in-board	72 X 41.6 X 8.5		(mm)
		Shoe thickness (no lining)		6.0		(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 for formulation designation and coefficient of friction classification.

MVMA Specifications

Vehicle Line Laser

Model Year 1991

Issued 1990-8

Revised (+) _____

METRIC (U.S. Customary)

Body Type And/Or
Engine Displacement

4G37 (1.755 Liters)

4G63 (1.997 Liters)

4G63 with Turbo
(1.997 Liters)

Tires And Wheels (Standard)

Tires	Size (load range, ply)		P185/70R14, Std load	P205/55R16 89V, Std load
	Type (bias, radial, steel, nylon, etc.)		Radial	
	Inflation pressure (cold) for recommended max. vehicle load	Front kPa (psi)	200 (29)	
		Rear kPa (psi)	180 (26)	
	Rev./mile-at 70 km/h (45 mph)		858	754
Wheels	Type & material		Disc. Steel	
	Rim (size & flange type)		14 X 5 1/2JJ	16 X 6JJ
	Wheel offset		46	
	Attachment	Type (bolt or stud)	Stud	
		Circle diameter	114.3	
		Number & size	5, M12 X 1.5	
Spare	Tire and wheel		T125/70D15, 4T X 15 High pressure tire	
	Storage position & location (describe)		On cargo Floor	

Tires And Wheels (Optional)

Tire size (load range, ply)	-	P205/55R16, 89V	-
Type (bias, radial, steel, nylon, etc.)	-	Radial	-
Wheel (type & material)	-	Disc, Steel or Aluminum	-
Rim (size, flange type and offset)	-	16 X 6JJ	-
Tire size (load range, ply)	-	-	-
Type (bias, radial, steel, nylon, etc.)	-	-	-
Wheel (type & material)	-	-	-
Rim (size, flange type and offset)	-	-	-
Tire size (load range, ply)	-	-	-
Type (bias, radial, steel, nylon, etc.)	-	-	-
Wheel (type & material)	-	-	-
Rim (size, flange type and offset)	-	-	-
Tire size (load range, ply)	-	-	-
Type (bias, radial, steel, nylon, etc.)	-	-	-
Wheel (type & material)	-	-	-
Rim (size, flange type and offset)	-	-	-
Spare tire and wheel size (if configuration is different than road tire or wheel, describe optional spare tire and/or wheel location & storage position)	-	T125/80D16, 4T X 16 Hight Pressure Tire	

Brakes - Parking

Type of control		One handle, Hand-operated
Location of control		Between front seats
Operates on		Rear wheels
If separate from service brakes	Type (internal or external)	N.A.
	Drum diameter	N.A.
	Lining size (length x width x thickness)	N.A.

MVMA Specifications

Vehicle Line Laser
Model Year 1991 Issued 1990-8 Revised (*) _____

METRIC (U.S. Customary)

Body Type And/Or
Engine Displacement

D21A	D22A(DOHC)		D22A(DOHC, T/C)	
	MT	AT	MT	AT

Steering

Manual (std., opt., n.a.)			Std.		N.A.		
Power (std., opt., n.a.)			Opt.		Std.		
Adjustable steering wheel/column (tilt, telescope, other)		Type	Tilt				
		Manufacturer	Mitsubishi Motors Corp.				
		(std., opt., n.a.)	Std.				
Wheel diameter** (W9) SAE J1100		Manual	372		-		
		Power	-		372		
Turning diameter m (ft.)	Outside front	Wall to wall (l. & r.)	M/S:11.2(36.7) P/S:11.6(38.1)		11.6 (38.1)	12.8(42.0)	
		Curb to curb (l. & r.)	M/S:10.4(34.1) P/S:10.8(35.4)		10.8 (35.4)	12.0(39.4)	
	Inside rear	Wall to wall (l. & r.)	M/S: 6.0(19.7) P/S: 6.4(21.0)		6.4 (21.0)	7.6(24.7)	
		Curb to curb (l. & r.)	M/S: 6.2(20.3) P/S: 6.6(21.7)		6.6 (21.7)	7.8(25.6)	
Scrub Radius*			-10.9		-14.3		
Manual	Gear	Type	Rack & pinion		N.A.		
		Manufacturer	Koyo Seiko Co.,Ltd.		N.A.		
		Ratios	Gear	-		N.A.	
			Overall	23.8		N.A.	
	No. wheel turns (stop to stop)		4.2		N.A.		
Power	Type (coaxial, elec., hyd., etc.)		Integral				
	Manufacturer		TRW KOYO STEERING SYSTEMS CO.				
	Gear	Type	Rack & Pinion				
		Ratios	Gear	-			
			Overall	15.8			
	Pump (drive)		V-belt				
	No. wheel turns (stop to stop)		2.7				
Linkage	Type		Trailing, equal length tie rods				
	Location (front or rear of wheels, other)		Rear				
	Tie rods (one or two)		Two				
Steering axis	Inclination at camber (deg.)		14°06'		14°20'		
	Bearings (type)	Upper	Ball bearing				
		Lower	Ball joint				
		Thrust	N.A.				
Steering spindle/knuckle & joint type			Ball				

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

** See Page 22.

Ø MVMA Specifications

Vehicle Line Laser
 Model Year 1991 Issued 1990-8 Revised (+) _____

METRIC (U.S. Customary)

Body Type And/Or
 Engine Displacement

D21A		D22A
MNJEL, MRJEL	MNHEL, MRHEL	

Wheel Alignment

Front wheel at curb mass (wt.)	Service checking	Caster (deg.)	2°20' ± 30'	
		Camber (deg.)	0°15' ± 30'	0°05' ± 30'
		Toe-in outside track-mm (in.)	0 ± 3 (0 ± 0.118)	
	Service reset*	Caster (deg.)	-	
		Camber (deg.)	-	
		Toe-in - mm (in.)	-	
	Periodic M.V. inspection	Caster (deg.)	-	
		Camber (deg.)	-	
		Toe-in - mm (in.)	-	
Rear wheel at curb mass (wt.)	Service checking	Camber (deg.)	-0°45' ± 30'	
		Toe-in outside track-mm (in.)	0 ± 3 (0 ± 0.118)	
	Service reset*	Camber (deg.)	-	
		Toe-in - mm (in.)	-	
	Periodic M.V. inspection	Camber (deg.)	-	
		Toe-in - mm (in.)	-	

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

Ø Electrical – Instruments and Equipment

Speed-ometer	Type (analog, digital, std., opt.)		Analog (Std.)	
	Trip odometer (std., opt., n.a.)		Std.	
Head-up display	Standard, optional, not available		N.A.	
	Type	Secondary, opto-electronic	N.A.	
	Speedometer	Digital	N.A.	
	Status / warning indicators	Turn signals, high beam, low fuel, check gauges	N.A.	
	Brightness control	Day / night mode, adjustable	N.A.	
EGR maintenance indicator		N.A.		
Charge indicator	Type	Voltage relay		
	Warning device (light, audible)	Light		
Temperature indicator	Type	Cross coil		
	Warning device (light, audible)	Driving pointer		
Oil pressure indicator	Type	Pressure switch and Electric Thermal		
	Warning device (light, audible)	Light		
Fuel indicator	Type	Cross coil and Thermistor		
	Warning device (light, audible)	Driving pointer & Light		
Wind-shield wiper	Type (standard)	Electric two speed with variable intermittent		
	Type (optional)	N.A.		
	Blade length	500 (DR. Side, AS. Side)	(mm)	
	Swept area cm ² (in. ²)	6427 (996)		
Wind-shield washer	Type (standard)	Electric		
	Type (optional)	N.A.		
	Fluid level indicator (light, audible)	N.A.		
Rear window wiper, wiper/washer (std., opt., n.a.)		Opt.		
Horn	Type	80 diameter		
	Number used	One	Two	
Other		Brake system and parking brake warning light, Fasten belts warning light, Coolant level warning light.		

MVMA Specifications

Vehicle Line Laser

Model Year 1991 Issued 1990-8 Revised (+) _____

METRIC (U.S. Customary)

Engine Description
Engine Code

4G37(1.755 Liters)		4G63(1.997 Liters)		4G63 with Turbo (1.997 Liters)
MT	AT	MT	AT	

Electrical – Supply System

Battery	Manufacturer	JOHNSON CONTROLS			
	Model, std., (opt.)	BCI Size GROUP 86			
	Voltage	12			
	Amps at 0°F cold crank	430			
	Minutes-reserve capacity	90			
	Amps/hrs.-20 hr. rate	55			
	Location	Front, right side of engine compartment			
Alternator	Manufacturer	Mitsubishi Electric Corp.			
	Rating (idle/max. rpm)	65	75	65	75
	Ratio (alt. crank/rev.)	2.65	2.43		2.29
	Output at idle (rpm, park)	-			
	Optional (type & rating)	N.A.			
Regulator	Type	Voltage control			

Electrical – Starting System

Motor	Manufacturer	Mitsubishi Electric Corp.			
	Current drain _____ °C(°F)	-			
	Power rating kw (hp)	0.7	0.9		1.2
Motor drive	Engagement type	Solenoid			
	Pinion engages from (front, rear)	Front			

Electrical – Ignition System

Type	Electronic (std., opt., n.a.)		Std.	
	Other (specify)		-	
Coil	Manufacturer		N.A.	DIAMOND Electric Corp.
	Model		N.A.	F-630
	Current	Engine stopped - A	N.A.	0
		Engine Idling - A	N.A.	1.4
Spark plug	Manufacturer		NGK Spark Plug Co., Ltd., Champion Spark Plug Co., Ltd. or Nippon Denso	
	Model		BPR6ES-11, RN9YC4 or W20EPR-11	BPR6ES, RN9YC or W20EPR
	Thread (mm)		14	
	Tightening torque N·m (lb. ft)		20 to 30 (15 to 22)	
	Gap		1.0 to 1.1 (mm)	0.7 to 0.8 (mm)
	Number per cylinder		1	
Distributor	Manufacturer		Mitsubishi Electric Corp.	N.A.
	Model		T6T 57371	N.A.

Electrical – Suppression

Locations & type	-
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MVMA Specifications

Vehicle Line Laser
 Model Year 1991 Issued 1990-8 Revised (+) _____

METRIC (U.S. Customary)

Body Type

D21A, D22A

Body

Structure

Monocock body

Bumper system front - rear

Impact absorbing system
 Fascia (Polyurethane)
 Energy absorber (Fluid type)
 Reinforcement (Steel)

Anti-corrosion treatment

Cathodic ED Paint
 Extended use of galvanized
 Wax injection
 Stone chipping resistance coating

Body - Miscellaneous Information

Type of finish (lacquer, enamel, other)		Heat setting acrylic enamel
Hood	Material & mass	Steel, 17.2 Kg
	Hinge location (front, rear)	Rear
	Type (counterbalance, prop)	Prop
	Release control (internal, external)	Internal
Trunk lid	Material & mass	-
	Type (counterbalance, other)	-
	Internal release control (elec., mech., n.a.)	-
Hatch-back lid	Material & mass	Steel, 10.1 Kg
	Type (counterbalance, other)	Gas spring
	Internal release control (elec., mech., n.a.)	Mech.
Tailgate	Material & mass	-
	Type (drop, lift, door)	-
	Internal release control (elec., mech., n.a.)	-
Vent window control (crank, friction, pivot, power)	Front	-
	Rear	-
Window regulator type (cable, tape, flex drive, etc.)	Front	Cable
	Rear	-
Seat cushion type (e.g., 60/40 bucket, bench, wire, foam, etc.)	Front	Bucket, Foam
	Rear	Bench, Foam
	3rd seat	-
Seat back type (e.g., 60/40, bucket, bench, wire, foam, etc.)	Front	Bucket, Spring
	Rear	50/50, Foam
	3rd seat	-

MVMA Specifications

Vehicle Line Laser
Model Year 1991 Issued 1990-8 Revised (+) _____

METRIC (U.S. Customary)

Body Type

D21A, D22A

Restraint System

Seating Position			Left	Center	Right
Active	Type & description (lap & shoulder belt, lap belt, etc.)	First seat	-	-	-
	Standard / optional	Second seat	3 point seat belt with ELR	-	3point seat belt with ELR
		Third seat	-	-	-
Passive	Type & description (air bag, motorized - 2-point belt, fixed belt, knee bolster, manual - lap belt)	First seat	Motorized 2 point belt & manual lap belt	-	Motorized 2 point belt & manual lap belt
	Standard / optional	Second seat	-	-	-
		Third seat	-	-	-

Glass	SAE Ref. No.	
Windshield glass exposed surface area cm ² (in. ²)	S1	10291 (1595)
Side glass exposed surface area cm ² (in. ²) - total 2-sides	S2	9393 (1456)
Backlight glass exposed surface area cm ² (in. ²)	S3	8839 (1370)
Total glass exposed surface area cm ² (in. ²)	S4	28523 (4421)
Windshield glass (type)		Curved-laminated plate
Side glass (type)		Curved-Tempered plate
Backlight glass (type)		Curved-tempered plate

Headlamps

Description (sealed beam, halogen, replaceable bulb, etc.)	Sealed beam, Halogen
Shape	Rectangular
Lo-beam type (2A1, 2B1, 2C1, etc.)	2E1
Quantity	Two
Hi-beam type (1A1, 2A1, 1C1, 2C1, etc.)	2E1
Quantity	Two

Frame

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

Vehicle Line Laser
 Model Year 1991 Issued 1990-8 Revised (+) _____

METRIC (U.S. Customary)

Body Type

D21A		D22A	
MNJEL, MRJEL	MNHEL, MRHEL	MNHML, MRHML	MNHFL, MRHFL

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

Air conditioning (manual, auto, temp control)		Opt. (Manual temp control)	
Clock (digital, analog)		Std. (Digital)	
Compass / thermometer		N.A.	
Console (floor, overhead)		Floor console	
Defroster, elec. backlight		Std.	
Electronic	Diagnostic monitor (integrated, individual)	Integrated	
	Instrument cluster (list instruments)	Std. (Speedometer, Tachometer, Tripmeter, Fuel Ind. Eng. Coolant Ind., Oil pressure Ind., Battery Ind., Brake Ind.)	
		-	Boost Meter
	Keyless entry	N.A.	
	Tripfinder (avg. spd., fuel)	N.A.	
	Voice alert (list items)	N.A.	
	Other	-	
Fuel door lock (remote, key, electric)		Remote	
Lamps	Auto head on / off delay, dimming	N.A.	
	Cornering	N.A.	
	Courtesy (map, reading)	Room, Map, Foot	
	Door lock, ignition	Ignition	
	Engine compartment	N.A.	
	Fog	N.A.	
	Glove compartment	Std.	
	Trunk	Std.	
	Illuminated entry system (list lamps, activation)	N.A.	
	Other	-	
Mirrors	Day / night (auto, man.)	Std. (Man)	
	L.H. (remote, power, heated)	Std. (Direct remote)	Std. (power)
	R.H. (convex, remote, power, heated)	Std. (Convex Direct remote)	Std. (Convex power)
	Visor vanity (RH / LH, illuminated)	RH/LH	
Navigation system (describe)		N.A.	
Parking brake-auto release (warning light)		N.A.	

MVMA Specifications

METRIC (U.S. Customary)

Body Type

Vehicle Line Laser
Model Year 1991 Issued 1990-8 Revised (-)

D21A		D22A	
MNJEL, MRJEL	MNHEL, MRHEL	MNHML, MRHML	MNHFL, MRHFL

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

Power equipment	Deck lid (release, pull down)		N.A.	
	Door locks (manual, automatic, describe system)		Single Action Key Less Lock	
			-	Opt. (Center Door Lock)
	Seats	2 - 4 - 6 way, etc.	N.A.	
		Reclining (R.H., L.H.)	N.A.	
		Memory (R.H., L.H., preset recline)	N.A.	
		Support (lumbar, hip, thigh, etc.)	N.A.	
		Heated (R.H., L.H., other)	N.A.	
	Side windows		N.A.	Opt. (Power Window)
	Vent windows		N.A.	
Rear windows		N.A.		
Radio systems	Antenna (location, whip, w / shield, power)		Rear Quarter, Whip.	
	Standard	AM, FM, stereo, tape, compact disc, graphic equalizer, theft deterrent, radio prep package, headphone jacks, etc.	AM/FM MPX ETR	AM/FM MPX ETR & Casset Stereo
	Optional		AM/FM (MPX) ETR & Casset Stereo	-
			Audio System (AM/FM MPX ETR & Casset Stereo with Graphic equalizer)	
			Audio System (AM/FM ETR MPX with Casset Stereo & CD Player)	
	Speaker (number, location)		Std. (I/pan...2, Rear Seat Side...2)	
			Opt. (Front Door...2)	Std. (Front Door...2)
	Roof: open air or fixed (flip-up, sliding, "T")		Opt. (flip-up)	
Speed control device		Opt.		
Speed warning device (light, buzzer, etc.)		N.A.		
Tachometer (rpm)		Std.		
Telephone system (describe)		N.A.		
Theft deterrent system		N.A.	Opt.	

Trailer Towing

Towing capable	Yes / No	No
Engine / transmission / axle	Std / Opt	-
Tow class (I, II, III)*	Std / Opt	-
Max. gross trailer wgt. (lbs.)	Std / Opt	-
Max. trailer tongue load (lbs.)	Std / Opt	-
Towing package available	Yes / No	No

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

MVMA Specifications

Vehicle Line Laser

Model Year 1991

Issued 1990-8

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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.

D21A, D22A

Width

Tread (front)	W101	1465
Tread (rear)	W102	1450
Vehicle width	W103	1690
Body width at Sg RP (front)	W117	1690
Vehicle width (front doors open)	W120	1690
Vehicle width (rear doors open)	W121	-
Tumble-home (degrees)	W122	30°
Outside mirror width	W410	1861

Length

Wheelbase	L101	2470
Vehicle length	L103	4330
Overhang (front)	L104	950
Overhang (rear)	L105	910
Upper structure length	L123	2560
Rear wheel C/L "X" coordinate	L127	2470

Height*

Passenger distribution (front/rear)	PD1,2,3	Front: 2, Rear: 2
Trunk/cargo load		-
Vehicle height	H101	1306
Cowl point to ground	H114	920
Deck point to ground	H138	985
Rocker panel-front to ground	H112	216
Rocker panel-rear to ground	H111	218
Windshield slope angle (degrees)	H122	63°
Backlight slope angle (degrees)	H121	72°

Ground Clearance*

Front bumper to ground	H102	201
Rear bumper to ground	H104	298
Bumper to ground front at curb mass (wt.)	H103	242
Bumper to ground rear at curb mass (wt.)	H105	347
Angle of approach (degrees)	H106	16.5°
Angle of departure (degrees)	H107	19.0°
Ramp breakover angle (degrees)	H147	16°
Axle differential to ground (front/rear)	H153	Front 195
Min. running ground clearance	H156	160
Location of min. run. grd. clear.		Flexible Pipe

* 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.

MVMA Specifications

Vehicle Line Laser

Model Year 1991

Issued 1990-8

Revised (+)

METRIC (U.S. Customary)

Vehicle Dimensions See Key Sheets for definitions

Body Type

D21A, D22A

SAE
Ref.
No.

Front Compartment

SgRP front, "X" coordinate	L31	1410
Effective head room	H61	962
Max. eff. leg room (accelerator)	L34	1114
SgRP to heel point	H30	197
SgRP to heel point	L53	910
Back angle (degrees)	L40	25°
Hip angle (degrees)	L42	101°
Knee angle (degrees)	L44	141°
Foot angle (degrees)	L46	95°
Design H-point front travel	L17	260°
Normal driving & riding seat track trvl.	L23	260
Shoulder room	W3	1370
Hip room	W5	1400
Upper body opening to ground	H50	1190
Steering wheel maximum diameter*	W9	370
Steering wheel angle (degrees)	H18	19°
Accel. heel pt. to steer. whl. cntr	L11	420
Accel. heel pt. to steer. whl. cntr	H17	760
Undepressed floor covering thickness	H67	20

Rear Compartment

SgRP point couple distance	L50	635
Effective head room	H63	867
Min. effective leg room	L51	724
SgRP (second to heel)	H31	285
Knee clearance	L48	0
Shoulder room	W4	1330
Hip room	W6	1160
Upper body opening to ground	H51	1180
Back angle (degrees)	L41	27°
Hip angle (degrees)	L43	88°
Knee angle (degrees)	L45	72°
Foot angle (degrees)	L47	102°
Depressed floor covering thickness	H73	20

Luggage Compartment

Usable luggage capacity L (cu. ft.)	V1	N.A.
Liftover height	H195	935

Interior Volumes (EPA Classification)

Vehicle class		Sub compact cars
Interior volume index (cu. ft.)**		91
Trunk / cargo index (cu. ft.)		10.201

* See page 14.

** Includes passenger and trunk / cargo index - see definition page 32.
All linear dimensions are in millimeters (inches) unless otherwise noted.

MVMA Specifications

METRIC (U.S. Customary)

Vehicle Dimensions See Key Sheets for definitions

Vehicle Line Laser

Model Year 1991 Issued 1990-8 Revised (*)

Body Type

D21A, D22A

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 (degrees)	L88	-
Hip angle (degrees)	L89	-
Knee angle (degrees)	L90	-
Foot angle (degrees)	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	-
Min. rear opening width above belt	W205	-
Cargo height	H201	-
Rear opening height	H202	-
Tailgate to ground height	H250	-
Front seat back to load floor height	H197	-
Cargo volume index m ³ (ft. ³)	V2	-
Hidden cargo volume index m ³ (ft. ³)	V4	-
Cargo volume index-rear of 2-seat	V10	-

Hatchback - Cargo Space

Cargo length at front seatback height	L208	840
Cargo length at floor (front)	L209	1405
Cargo length at second seatback height	L210	424
Cargo length at floor (second)	L211	755
Front seatback to load floor height	H197	488
Second seatback to load floor height	H198	368
Cargo volume index m ³ (ft. ³)	V3	0.729 (25.7)
Hidden cargo volume index m ³ (ft. ³)	V4	-
Cargo volume index-rear of 2-seat	V11	0.288 (10.2)

All linear dimensions are in millimeters (inches) unless otherwise noted.

MVMA Specifications

METRIC (U.S. Customary)

Vehicle Line Laser
 Model Year 1991 Issued 1990-8 Revised (+) _____

Body Type

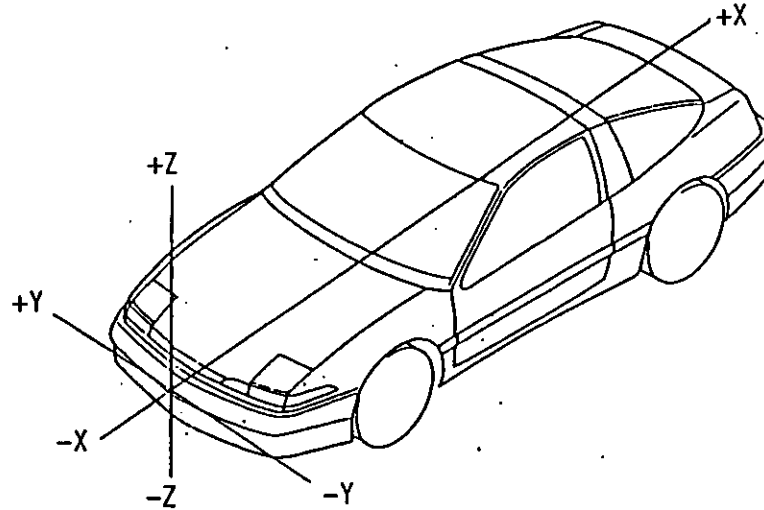
D21A, D22A

Vehicle Fiducial Marks

Fiducial Mark
Number*

Define Coordinate Location

Front



Rear

Datum plane definition - Vertical longitudinal plane through the longitudinal center of the car.
 Vertical transverse plane through the front wheel center.
 Horizontal plane through the lower surface of the front floor panel.

Fiducial
Mark
Number

Front	W21*	480
	L54*	-405
	H81*	195
	H161*	410
	H163*	-
Rear	W22*	480
	L55*	2975
	H82*	196
	H162*	414
	H164*	-

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

Vehicle Line Laser
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* Reference – SAE J1100 Motor vehicle dimensions, curb weight definition.

** ETWC – Equivalent Test Weight Class – basis for U.S. Environmental Protection Agency emission certifications. Refer to ETWC code legend below for test weight class.

1000	2000	3000	4000
1125	2125	3125	4125
1250	2250	3250	4250
1375	2375	3375	4375
1500	2500	3500	4500
1625	2625	3625	4625
1750	2750	3750	4750
1875	2875	3875	4875

*** Shipping Mass (weight) = Curb Weight Less:

0 (0)

MVMA Specifications

METRIC (U.S. Customary)Vehicle Line Laser

Model Year	1991	Issued	1990-8	Revised (*)
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* Also see Engine - General Section for dressed engine mass (weight).