

MOTOR VEHICLE MANUFACTURERS SPECIFICATIONS

METRIC (U.S. Customary)

1999

Manufacturer	Vehicle Line	
Mazda Motor Corporation	Mazda MX-5 Miata	
Mailing Address	Issued	Revised
Hiroshima 730-8670 Japan	December, 1998	

Direct questions concerning these specifications to the manufacturer listed above.

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AAMA

Forms Provided by Motor Vehicle Manufacturers

MVMA Specifications

1999 MY MAZDA MX-5 Miata

METRIC (U.S. Customary)

Vehicle Origin

Design & development (company)	Mazda Motor Corporation
Where built (country)	Japan
Authorized U.S. sales marketing representative	Mazda North American Operations

Vehicle Models

Model Description & Drive (FWD / RWD / AWD / 4WD)	Make, Vehicle Models Series, Body type	No. of Designated Seating Positions (Front/Rear)	Max. Trunk/Cargo Load-Kilograms	EPA Fuel Economy (City/Hwy)
Mazda MX-5 Miata (RWD)	2 door convertible	2 / 0		25 / 29 (MT) 23 / 28 (AT)

METRIC (U.S. Customary)

Power Teams

			A	B	C	D
ENGINE	Engine Code		BPD	—		
	Displacement (Liters)		1.840 L	—		
	Induction system (FI, Carb, etc.)		EGI	—		
	Compression ratio		9.5	—		
	SAE Net at RPM	Power (HP)	140 HP @ 6500 rpm (Fed.) 138 HP @ 6500 rpm (CA/NY/MA/CT)	—		
		Torque (lb. -ft.)	119 lb-ft @ 5000 rpm (Fed.) 117 lb-ft @ 5000 rpm (CA/NY/MA/CT)	—		
	Exhaust (single, dual)		Single	—		
TRANS	Transmission / Transaxle		5 MT	4 AT		
	Effective Final Drive/ Axle Ratio		4.300	4.100		

[illegible]

MVMA Specifications

1999 MY MAZDA MX-5 Miata

Engine Cord / Description

BPD (1.8L)

ENGINE—GENERAL

Type & description	Inline, Front longitudinal DOHC 16 valve 4 cylinder	
Manufacturer	Mazda	
Number of cylinders	4	
Bore	83	
Stroke	85	
Bore spacing (C / L to C / L)	91	
Cylinder block material & mass kg (lbs.)(machined)	Cast iron	
Cylinder block deck height	206.5	
Cylinder block length	393.5	
Deck clearance (minimum)(above or below block)	-	
Cylinder head material & mass kg (lbs.)	Cast aluminum alloy	
Cylinder head volume cm3 (inches3)	50.8	
Cylinder liner material	-	
Head gasket thickness(compressed)	0.75	
Minimum combustion chamber total volume cm3 (inches3)	54.25	
Cyl. No. system (front to rear)*	1,2,3,4	
Firing order	1 - 3 - 4 - 2	
Intake manifold material & mass kg (lbs.)**	Cast aluminum alloy, 5.05 kg	
Exhaust manifold material & mass kg (lbs.)**	Stainless, 4.32 kg	
Knock sensor (number & location)	1 & Cylinder block	
Fuel required unleaded, diesel, etc.	Unleaded regular gasoline	
Fuel antinock index (R + M)*2	91 or higher	
Engine mounts	Quantity	-
	Material and type (elastomeric, hydroelastic, hydraulic damper, etc.)	-
	Added isolation (sub-frame, crossmember, etc.)	-
Total dressed engine mass (wt) dry***	-	

Engine—Pistons

Material & mass, g (weight, oz.) - piston only	Cast aluminum alloy
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Engine—Camshaft

Location	Over head
Material & mass kg (weight, lbs.)	Cast iron
Drive type	Chain / belt
	Width / pitch
	Belt
	22.0 / 8.0

* 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:

MVMA Specifications

1999 MY MAZDA MX-5 Miata

Engine CORD / Description

BPD (1.8 L)

Engine—Valve System

Hydraulic lifters (std., opt., n.a.)	Mechanical lifter
Valves	Number intake / exhaust
	2 / 2
	Head O.D. intake / exhaust
	33 / 28

Engine—Connecting Rods

Material & mass kg., (weight, lbs.)*	Carbon steel
Length (axes C/L to C/L)	132.9

Engine—Crankshaft

Material & mass kg., (weight, lbs.)*	Carbon steel
End thrust taken by bearing (no.)	2
Length & number of main bearings	-
Seal(material, one, two piece design, etc.)	Front
	Rear

Engine—Lubrication System

Normal oil pressure kPa (psi) at engine rpm	294 to 392 @ 3000 rpm
Type oil intake (floating, stationary)	Stationary
Oil filter system (full flow, part, other)	Full flow
Capacity of c/case, less filter-refill-L (qt.)	3.6

Engine—Diesel Information

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

Engine—Intake System

Turbo charger - manufacturer	N/A
Super charger - manufacturer	N/A
Intercooler	N/A

* Finished State

MVMA Specifications

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Engine Cord / Description		BPD (1.8 L)
ENGINE—Cooling System		
Coolant recovery system (std., opt., n.a.)		Std.
Coolant fill location (rad., bottle)		Rad.
Radiator cap relief valve pressure kPa (psi)		-
Circulation thermostat	Type (choke, bypass)	Bypass
	Starts to open at °C (°F)	85°C (sub), 88°C (main)
Water pump	Type (centrifugal, other)	Centrifugal
	GPM 1000 pump rpm	-
	Number of pumps	1
	Drive (V-belt, other)	V - ribbed belt
	Bearing type	Ball & roller bearing
	Impeller material	Steel
	Housing material	Aluminum
By-pass recirculation type (inter., ext.)		Ext.
Cooling system capacity	With heater—L(qt.)	6.0 L
	With air conditioner—L(qt.)	-
	Opt. equipment specify—L(qt.)	-
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.)	Down flow
	Construction (fin & tube mechanical, braze, etc.)	Corrugated fin
	Material, mass kg (wgt., lbs.)	Aluminum
	Width	647 mm
	Height	320 mm
	Thickness	16 mm
Radiator end tank material	Std., elec., opt.	Std.
	Type (cross-flow, etc.)	Down flow
Fan	Construction (fin & tube mechanical, braze, etc.)	Corrugated fin
	Material, mass kg (wgt., lbs.)	Aluminum
	Width	647 mm
	Height	320 mm
	Thickness	16 mm
	Fins per inch	16.9
	Radiator end tank material	Plastic
	Std., elec., opt.	Elec.
	Number of blades & type (flex, solid, material)	5 blades PP
	Number & location (front, rear of radiator)	1 Rear of radiator
	Diameter & projected width	ø 320
	Ratio (fan to crankshaft rev.)	-
	Fan cutout type	-
	Drive type (direct, remote)	Remote motor drive
	RPM at idle (elec.)	Elec.
	Motor rating (wattage / elec.)	70w
	Motor switch (type & location / elec.)	Thermo sensor & switch
	Switch point (temp., / pressure / elec.)	Water temp
	Fan shroud (material)	Plastic

MVMA Specifications

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Engine CORD / Description

BPD (1.8 L)

Engine—Fuel System

Induction type	Electric fuel injection system	
Manufacturer	DENSO	
Carburetor no. of barrels	N/A	
Idle A/F mix.	14.7	
Fuel injection	Point of injection (no.)	4
	Constant, pulse, flow	Pulse (sequential)
	Control (electronic, mech.)	Elec.
	System pressure kPa (psi)	392
Idle speed—rpm	Manual	800 rpm, Neutral
	Automatic	800 rpm, P & N range
Intake manifold heat control	N/A	
Air cleaner type	Wet	
Fuel filter (type/location)	Paper element	
Fuel pump	Type (elec. or mech.)	Elec.
	Location (eng., tank)	Tank
	Pressure range kPa (psi)	637 (max.)
	Flow rate at regulated pressure L (gal)/hr @ kPa (psi)	80 L/hr (min.) @ 294 kPa

Fuel Tank

Capacity refill L (gallons)	48 L	
Location (describe)	Behind front seat	
Attachment	Bolt	
Material & Mass kg (weight lbs.)	Steel	
Filler pipe	Location & material	Left side of rear fender
	Connection to tank	Rubber hose
Fuel line (material)	Steel pipe & plastic pipe	
Fuel hose (material)	N/A	
Return line (material)	Plastic pipe	
Vapor line (material)	Steel pipe & rubber hose	
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 separate fill	N/A

MVMA Specifications

1999 MY MAZDA MX-5 Miata

Engine Code / Description

BPD (1.8 L)

Vehicle Emission Control

Exhaust Emission Control	Type	3-way catalyst + Feedback control	
	Air Injection	Pump or pulse	N/A
		Driven by	N/A
		Air distribution	N/A
		Point of entry	N/A
	Exhaust Gas Recirculation	Type	Electric
		Exhaust source	Exhaust manifold No. 4
		Point of exhaust injection	Tank-surge
	Catalytic Converter	Type	3-way
		Number of	1 (Fed.) 2 (Calif.)
		Location(s)	Under floor (Fed.), Manifold / Under floor (Calif.)
		Volume L (in3)	1.6 L (Fed.), 1.0 L / 0.8 L (Calif.)
		Substrate type	Monolith
		Noble metal type	Pt / Rh = 5 / 1
		Noble metal concentration (g/cm3)	0.0016 (Fed.), 0.0016 / 0.0013 (Calif.)
Crankcase Emission Control	Type	Induction	
	Energy source	Manifold vacuum	
	Discharges to	Intake manifold	
	Air inlet	N/A	
Evaporative Emission Control	Vapor vented to (ex. crankcase)	Fuel tank	Canister
		Carburetor	N/A
	Vapor storage provision		Canister
Electronic system	Closed loop (yes/no)		Yes
	Open loop (yes/no)		No

Engine—Exhaust System

Type (single, single with cross-over, dual, other)	Single	
Muffler no. & type / Material & Mass kg (weight lbs)	1, Reverse flow	
Resonator no. & type	1, Straight Through	
Exhaust pipe	Branch o.d., wall thickness	
	Main o.d., wall thickness	
	Material & Mass kg (weight lbs)	
Intermediate pipe	o.d., & wall thickness	
	Material & Mass kg (weight lbs)	
Tail pipe	o.d., & wall thickness	
	Material & Mass kg (weight lbs)	

MVMA Specifications

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Engine Cord / Description

BPD (1.8 L)

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

Manual 4-speed (manufacturer/country)	N/A
Manual 5-speed (manufacturer/country)	Standard
Manual 6-speed (manufacturer/country)	N/A
Automatic (manufacturer/country)	N/A
Automatic overdrive (manufacturer/country)	Standard

Manual Transmission/Transaxle

Number of forward speeds		5
Gear ratios	1st	3.136
	2nd	1.888
	3rd	1.33
	4th	1
	5th	0.814
	6th	-
	Reverse	3.758
Synchronous meshing (specify gears)		All forward gears
Shift lever location		Floor
Trans. case mat'l. & mass kg (lbs)*		-
Lubricant	Capacity L (pt.)	2
	Type recommended	Mazda gear oil 75W - 90

Clutch (Manual Transmission)

Clutch manufacturer		EXEDY Corporation
Clutch type (dry, wet; single, multiple disc)		Single dry plate
Linkage (hydraulic, cable, rod, lever, other)		Hydraulic
Max. pedal effort N (lbs)	Depressed	-
	Released	-
Assist (spring, power/percent, nominal)		-
Type pressure plate springs		Diaphragm
Total spring load (nominal) N (lbs)		-
Clutch facing	Facing mfr. & material coding	Valeo
	Facing material & construction	Semimold
	Rivets per facing	-
	Outside x inside dia. (nominal)	215 x 150
	Total eff. area cm2 (in.2)	181
	Thickness (pressure plate side/fly wheel side)	3.8 / 3.5
	Rivet depth (pressure plate side/fly wheel side)	-
	Engagement cushion method	Cushion spring
Release bearing type & method lub.		Ball bearing
Torsional damping method, springs, hysteresis		Coil spring

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

MVMA Specifications

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Engine Cord / Description

BPD (1.8 L)

Automatic Transmission/Transaxle

Trade Name		SB4A-EL
Type and special features (describe)		Electronic control
Shift mechanics		
Gear selector	Location (column, floor, other)	Floor
	Ltr./No. designation (e.g. PRND21)	PRND21
	Shift interlock (yes, no, describe)	Yes
Gear Ratios	1st	2.450
	2nd	1.450
	3rd	1.000
	4th	0.730
	Reverse	2.222
	Final drive ratio	4.100
Max. upshift vehicle speed - drive range km/h (mph)		59 (1 - 2), 104 (2 - 3), 160 (3 - 4)
Max. upshift Engine speed RPM		
Max. kickdown speed - drive range km / h (mph)		45 (2 - 1), 99 (3 - 2)
Min. overdrive speed km / h (mph)		20
Torque converter	Type	-
	Torus design	-
	Number of elements	3
	Max. ratio at stall	2.3
	Type of cooling (air, liquid)	Liquid
	Nominal diameter	230
	Capacity factor "K"	243
Pump type		-
Lubricant	Capacity refill L (pt.)	6.4
	Type recommended	Mazda ATF M-II
Oil cooler		Standard
Transmission mass kg (lbs) & case material**		-

All Wheel / 4 Wheel Drive

Description & type		N/A
Transfer case	Manufacturer and model	N/A
	Type and location	N/A
Low-range gear ratio		N/A
System disconnect (describe)		N/A
Center differential	Type	N/A
	Torque split (% front/rear)	N/A

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

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

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Engine CORD / Description	BPD (1.8 L)
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Axle Ratio and Tooth Combinations

Axle ratio (or overall top gear ratio)	4.300 (MT), 4.100 (AT)
Ring gear o.d.	185.21 (MT), 182.88 (AT)
No. of teeth	10
Pinion	
Ring gear	43 (MT), 41 (AT)

Rear Axle Unit

Description	Hypoid gear
Limited slip differential (type)	Normal diff. or Torsen type (MT), Normal diff. (AT)
Drive pinion	Hypoid gear
Type	35
Offset	
No. of differential pinions	2 or 8 (MT), 2 (AT)
Pinion / differential	Shim
Adjustment (shim, etc.)	
Bearing adjustment	Collapsible
Driving wheel bearing (type)	-
Lubricant	1
Capacity L (pt.)	
Type recommended	GL - 5

Propeller Shaft - Rear Wheel Drive

Manufacturer type	Straight tube
Outer diam. * length * wall thickness	N/A
Manual 4-speed transmission	
Manual 5-speed transmission	60.5 x 816 x 1.8
Manual 6-speed transmission	N/A
Overdrive	N/A
Automatic transmission	60.5 x 816 x 1.8
Intermediate bearing	Type (Plain, anti-friction)
Lubrication (fitting, prepack)	-
Slip yoke	Type
Number of teeth	Spline
Spline o.d.	22 (MT), 25 (AT)
	25.189
Universal joints	Make and mfg. No.
	Front
	Rear
	N/A
	M002 25 060
	Number used
	2
	Type(ball and trunnion, cross)
	Hooks joint
	Rear attach (u-bolt, clamp, etc.)
	Flange
	Bearing
	Type
	Needle
	Lubrication
	Sealed grease
Drive taken through (torque tube, arms or springs)	Arms
Torque taken through (torque tube, arms or springs)	Arms

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

MVMA Specifications

1999 MY MAZDA MX-5 Miata

Model or Engine Cord / Description

All models

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
	sensors	Lateral acceleration	N/A
		Deceleration	N/A
		Acceleration	N/A
		Road surface	N/A
Shock absorber (front & rear)	Type		Cylindrical double acting
	Make		Showa, Bilstein
	Piston diameter		-
	Rod diameter		-

Suspension—Front

Type and description		Independent, Double wishbone, Coil spring
Travel	Full jounce (define load condition)	-
	Full rebound	-
Spring	Type (coil, leaf, other & material)	Coil
	Insulators (type & material)	-
	Size (Leaf: length & width; Coil: design height & i.d.; Bar: length & diameter)	-
	Spring rate [N/mm (lb./in.)]	-
	Rate at wheel [N/mm (lb./in.)]	-
Stabilizer	Type (link, linkless, frameless)	Torsion bar
	Material & O.D. bar/tube, wall thickness	-

Suspension—Rear

Type and description		Independent, Double wishbone, Coil spring
Travel	Full jounce (define load condition)	-
	Full rebound	-
Spring	Type (coil, leaf, other & material)	Coil
	Size (Leaf: length & width; Coil: design height & i.d.; Bar: length & diameter)	-
	Spring rate [N/mm (lb./in.)]	-
	Rate at wheel [N/mm (lb./in.)]	-
	Insulators (type & material)	-
	No. of leaves	-
	Shackle (comp. or tens.)	-
Stabilizer	Type (link, linkless, frameless)	Torsion bar
	Material & O.D. bar/tube, wall thickness	-
Track bar (type)		-

MVMA Specifications

1999 MY MAZDA MX-5 Miata

Model or Engine Cord / Description

All models

Brakes—Service

Brakes—Service			4 wheel hydraulic actuated system	
Description				
Manufacturer and brake type (std., opt., n.a.)	Front (disc or drum)		Disc (ventilated)	
	Rear (disc or drum)		Disc (solid)	
Valving type (proportion, delay, metering, other)			Proportion	
Power brake (std., opt., n.a.)			Std.	
Booster type (remote, integral, vac., hyd., etc.)			Vacuum	
Vacuum	Source (inline, pump, etc.)		-	
	Reservoir (volume in.3)		-	
	Pump-type (elec, gear driven, belt driven)		-	
Traction assist	Operational speed range		-	
	Type (Engine or brake intervention)		-	
Anti-lock device	Front / rear (std., opt., n.a.)		Opt. (4 wheel ABS)	
	Manufacturer		-	
	Type (electronic, mech.)		Electronic	
	Number sensors or circuits		-	
	Number anti-lock hydraulic circuits		-	
	Integral or add-on system		-	
	Yaw control (yes,no)		-	
	Hydraulic power source (elec., vac. mtr., pwr. strg.)		-	
Effective area cm2 (in.2)*			-	
Gross Lining area cm2 (in.2)** (F/R)			-	
Swept area cm2 (in.2)*** (F/R)			-	
Rotor	Outer working diameter	F/R	-	
	Inner working diameter	F/R	-	
	Thickness	F/R	-	
	Material & type (vented/solid)	F/R	Cast iron & ventilated / Cast iron & solid	
Drum	Diameter & width	F/R	N/A	
	Type and material	F/R	N/A	
Wheel cylinder bore			51.1 mm / 31.75 mm	
Master cylinder	Bore/stroke	F/R	Bore : 7 / 8 in., Stroke : 15 mm / 15 mm	
Pedal arc ratio			4.1	
Line pressure at 445 N(100 lb.) pedal load [kPa (psi)]			-	
Lining clearance		F/R	All self-adjusting	
Brake lining	Front wheel	Bonded or riveted (rivets/seg.)		Bonded
		Rivet size		-
		Manufacturer		SEI
		Linig code*****		M9228
		Material		-
		****	Primary or out-board	-
		Size	Secondary or in-board	-
		Shoe thickness (no lining)		-
	Rear wheel	Bonded or riveted (rivets/seg.)		Bonded
		Manufacturer		NBK
		Linig code*****		D6225
		Material		-
		****	Primary or out-board	-
		Size	Secondary or in-board	-
		Shoe thickness (no lining)		-

* Excludes rivet holes, grooves, chamfers, etc.

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

*** Total swept area for four brakes. (Drum brake: Widest lining contact width each brake x its contact circumference.)
(Disc brake: Squar 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

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Model or Engine Cord / Description

All models

Tires And Wheels (Standard)

Tires	Size (service description)		P185 / 60 R14 82H
	Type (bias, radial, steel, nylon, etc.)		Steel radial
	Inflation pressure (cold) for recommended max. vehicle load	Front kPa (psi)	180 kPa
		Rear kPa (psi)	180 kPa
	Rev./mile-at 70 km/h (45 mph)		-
Wheels	Type & material		Steel
	Rim (size & flange type)		14 x 5 1/2 JJ
	Wheel offset		40 mm
	Attachment	Type (bolt or stud & nut)	Stud
		Circle diameter	100 mm
		Number & size	4 & M12 x 1.5
Spare	Tire and Wheel		T117 / 70 D14, 14 x 4T
	Storage position & location(describe)		Trunk room

Tires And Wheels (Optional)

Tire size (service description)		P185 / 60 R14 82H
Type (bias, radial, steel, nylon, etc.)		Steel radial
Wheel (type & material)		Aluminum / Steel
Rim (size, flange type and offset)		14 x 6 JJ / 14 x 5 1/2 JJ
Tire size (service description)		185/60R14 82H (Summer)
Type (bias, radial, steel, nylon, etc.)		Steel radial
Wheel (type & material)		Aluminum
Rim (size, flange type and offset)		14 x 6 JJ
Tire size (service description)		195/50R15 82V
Type (bias, radial, steel, nylon, etc.)		Steel radial
Wheel (type & material)		Aluminum
Rim (size, flange type and offset)		15 x 6 JJ
Tire size (service description)		-
Type (bias, radial, steel, nylon, etc.)		-
Wheel (type & material)		-
Rim (size, flange type and offset)		-
Spare tire and wheel size		-

Brakes—Parking

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

MVMA Specifications

1999 MY MAZDA MX-5 Miata

Model or Engine Code / Description

All models

Steering

Manual (std., opt., n.a.)			Std.	
Power (std., opt., n.a.)			Opt.	
Speed-sensitive(std, opt., n.a.)			N/A	
4-wheel steering (std., opt., n.a.)			N/A	
Adjustable steering wheel/column (tilt, telescope, other)		Type	N/A	
		Manufacturer	NSK	
		(std, opt., n.a.)	N/A	
Wheel diameter**		Manual	φ 370 - φ 380	
		Power	φ 370 - φ 380	
Turning diameter m(ft.)	Outside front	Wall to wall (l. & r.)	-	
		Curb to curb (l. & r.)	-	
	Inside rear	Wall to wall (l. & r.)	-	
		Curb to curb (l. & r.)	-	
Scrub Radius*			-	
Manual	Gear	Type	Rack & Pinion	
		Manufacturer	Nippon seiko	
		Ratios	Gear	-
		Overall	-	
	No. wheel turns (stop to stop)		-	
Power	Type (coaxial, elec., hyd., etc.)		Hyd.	
	Manufacturer		Jidosha kiki	
	Gear	Type	-	
		Ratios	Gear	-
		Overall	-	
		Pump (drive)	-	
	No. wheel turns (stop to stop)		-	
Linkage	Type		-	
	Location (front or rear of wheels, other)		Front	
	Tie rods (one or two)		2	
Steering axis	Inclination at camber (deg.)		-	
	Bearings (type)	Upper	-	
		Lower	-	
		Thrust	-	
Steering spindle/knuckle & joint type			-	

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

** See Page 23.

MVMA Specifications

1999 MY MAZDA MX-5 Miata

Model or Engine Cord / Description

All models

Wheel Alignment

Front wheel at curb mass (wt.)	Service checking	Caster (deg.)	5°48'
		Camber (deg.)	0°06'
		Toe-in outside track-mm (in.)	3 mm
	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°47'
		Toe-in outside track-mm (in.)	3 mm
	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.

Electrical - Instruments and Equipment

Speed-odometer	Type (analog, digital, std., opt.)	Analog (Standard)
	Trip odometer (std., opt., n.a.)	Standard
Head-up display	Standard, optional, not available	NA
	Type	Secondary, opto-electronic
	Speedometer	Digital
	Status / warning indicators	Turn signals, high beam, low fuel, check gauges
	Brightness control	Day / night mode, adjustable
	EGR maintenance indicator	NA
Charge indicator	Type	NA
	Warning device (light, audible)	Light
Temperature indicator	Type	Gauge
	Warning device (light, audible)	NA
Oil pressure indicator	Type	Gauge
	Warning device (light, audible)	NA
Fuel indicator	Type	Gauge
	Warning device (light, audible)	NA
Wind-shield wiper	Type (standard)	Semi Concealed
	Type (optional)	NA
	Blade length	-
	Swept area cm2 (in.2)	-
Wind-shield washer	Type (standard)	2 Nozzle (4-jets)
	Type (optional)	NA
	Fluid level indicator (light, audible)	NA
Rear window wiper, wiper/washer (std., opt., n.a.)		NA
Horn	Type	Electric
	Number used	1
Other		-

MVMA Specifications

1999 MY MAZDA MX-5 Miata

Model or Engine Code / Description

All models

Electrical - Supply System

Battery	Manufacturer	Matsushita
	Model, std., (opt.)	S46A24LS
	Voltage	12 V
	Amps at 0 ° F cold crank	-
	Minutes-reserve capacity	-
	Amps/hrs.-20 hr. rate	38
Alternator	Location	Trunk room
	Manufacturer	Mitsubishi
	Rating (idle/max. rpm)	12 V - 70 A
	Ratio (alt. crank/rev.)	2.64
	Output at idle (rpm, park)	-
Regulator	Optional (type & rating)	-
	Type	IC type

Electrical - Starting System

Motor	Manufacturer	Mitsubishi
	Current drain _____ ° C (° F)	-
	Power rating kw (hp)	0.95 (MT) , 1.4 (AT)
Motor drive	Engagement type	-
	Pinion engages from (front, rear)	-

Electrical - Ignition System

Type	Electronic (std., opt., n.a.)	-
	Other (specify)	-
Coil	Manufacturer	Hanshin
	Model	-
	Current	Engine stopped - A
		Engine idling - A
Spark plug	Manufacturer	NGK, DENSO, CHAMPION
	Model	BKR6E-11, BKR5E-11, K20PR-U11, K16PR-U11, RC10YC4, RC8YC4
	Thread (mm)	M14 x 1.25
	Tightening torque N·m(lb.-ft.)	15 to 23
	Gap	1.0 to 1.1 mm
	Number per cylinder	-
Distributor	Manufacturer	-
	Model	-

Electrical - Suppression

Locations & type	High tension cord & spark plug
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MVMA Specifications

1999 MY MAZDA MX-5 Miata

Model or Engine Cord / Description

All models

Body

Structure	Monocoque body
Bumper system front - rear	
Anti-corrosion treatment	

Body - Miscellaneous Information

Type of finish (lacquer, enamel, other)	Lacquer
Material & mass	Aluminum, 8 kg
Hinge location (front, rear)	Rear
Type (counterbalance, prop)	Prop
Release control (internal, external)	Internal
Material & mass	Steel, 6 kg
Type (counterbalance, other)	Counterbalance
Internal release control (elec., mech., n.a.)	Mechanical
Material & mass	NA
Type (counterbalance, other)	-
Internal release control (elec., mech., n.a.)	-
Material & mass	NA
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
	Rear
Seat cushion type (e.g., 60/40 bucket, bench, wire, foam, etc.)	Front
	Rear
	3rd seat
Seat back type (e.g., 60/40 bucket, bench, wire, foam, etc.)	Front
	Rear
	3rd seat

Frame

Type and description	Unitized Construction
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MVMA Specifications

1999 MY MAZDA MX-5 Miata

Model or Engine Cord / Description

All models

Restraint System

Seating Position			Left	Center	Right
Active	Type & description (lap & shoulderbelt, lap belt, etc.)	First seat	Lap & Shoulder Belt (Std.)	NA	Lap & Shoulder Belt (Std.)
		Second seat	NA	NA	NA
		Third seat	NA	NA	NA
Passive	Type & description (air bag, motorized 2-point belt, fixed belt, knee bolster, manual-lap belt) Standard/optional	First seat	Air Bag (Std.)	NA	Air Bag (Std.)
		Second seat	NA	NA	NA
		Third seat	NA	NA	NA

Glass

	SAE Ref. No.	
Windshield glass exposed surface area cm2	S1	-
Side glass exposed surface area cm2 - total 2-sides	S2	-
Backlight glass exposed surface area cm2	S3	-
Total glass exposed surface area cm2	S4	-
Windshield glass (type / thickness)		Laminated/4.7 mm
Side glass (type / thickness)		Tempered/4.0 mm
Backlight glass (type / thickness)		Plastic/1.0 mm
Tinted (yes / no, location)		No
		No

Headlamps

Description (sealed beam, halogen, replaceable bulb, etc.)	Halogen replaceable bulb
Shape	oblong
Lo-beam type (2A1, 2B1, 2C1, etc.)	HB2
Quantity	2
Hi-beam type (1A1, 2A1, 1C1, 2C1, etc.)	HB2
Quantity	2

MVMA Specifications

1999 MY MAZDA MX-6 Miata

Model or Engine Cord / Description

All models

Climate Control System

Air conditioning (std., opt., man., auto.)		Manual (opt.)
Condenser	Type	Parallel flow
	Eff. face area (sq.mm.)	167550
	Fins per inch	7
Evaporator	Type	-
	Eff. face area (sq.mm.)	36880
	Fins per inch	14
Heater core	Material	Aluminum
	Eff. face area (sq.mm.)	25758
	Fins per inch	9
Compressor	Type	Rotary (through vane)
	Displacement (cc.)	125 per revolution
	Manufacturer	Nippon denso
	A/C pulley ratio	1.08
Accumulator	Type	N/A
	Height (mm.)	N/A
	Diameter (mm.)	N/A
Receiver	Type	Bottom out type
	Height (mm.)	178
	Diameter (mm.)	60
Refrigerant control (CCOT, TVS, etc.)		TXV
Heater water valve (yes/not)		No
Refrigerant (R - 12, R - 134a, etc.)		R-134a
Charge level (lbs. - oz.)		1 - 5.2
Cold engine lockout switch (yes/no)		No
Wide open throttle cutout switch (yes/no)		Yes

MVMA Specifications

1999 MY MAZDA MX-5 Miata

Model or Engine Code / Description		All models
Convenience Equipment (standard, optional, n.a.)		
Clock (digital, analog)		Digital
Compass/thermometer		NA
Console (floor, overhead)		Std. (floor)
Defroster, electric windshield		NA
Defroster, electric backlight		Opt
Electronic	Diagnostic monitor (integrated, individual)	NA
	Instrument cluster (list instruments)	NA
	Keyless entry	NA
	Tripminder (avg. spd., fuel)	NA
	Voice alert (list items)	NA
	Other	NA
Fuel door lock (remote, key, electric)		Std. (remote)
Lamps	Auto head on/off delay, dimming	NA
	Cornering	NA
	Courtesy (map, reading)	NA
	Door lock, ignition	NA
	Engine compartment	NA
	Fog	NA
	Glove compartment	NA
	Trunk	NA
	Illuminated entry system (list lamps, activation)	NA
	Other	NA
Mirrors	Day/night (auto, man.)	Manual
	L.H. (remote, power, heated)	-
	R.H. (convex, remote, power, heated)	-
	Visor vanity (RH/LH, illuminated)	RH (std.)
Navigation system (describe)		NA
Parking brake-auto release (warning light)		NA

MVMA Specifications

1999 MY MAZDA MX-5 Miata

Model or Engine Cord / Description			All models		
Convenience Equipment (standard, optional, n.a.)					
Power equipment	Deck lid (release, pull down)		Std. (cable release)		
	Door locks (manual, automatic, describe sytem)		Syd.		
	Seats	2 - 4 - 6 way, etc.		NA	
		Reclining (R.H., L.H.)		NA	
		Memory (R.H., L.H., preset recline)		NA	
		Support (lumber, hip, thigh, etc.)		NA	
		Heated (R.H., L.H., other)		NA	
	Side windows		Opt.		
	Vent windows		NA		
Rear windows		NA			
Radio system	Antenna (location, whip, w/shield, power)		LH rear quarter panel, Power (opt.)		
	Standard	AM, FM, stereo, tape, compact	AM / FM / CD stereo		
	Optional	disc, graphic equalizer, theft	upgraded sound system with door-mounted tweeters		
	Speaker (number, location)		-		
Roof: open air or fixed (flip-up, sliding, "T")		Full open			
Speed control device		Opt.			
Speed warning device (light, buzzer, etc.)		NA			
Tachometer (rpm)		Std.			
Telephone system (describe)		NA			
Theft deterrent system		NA			
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	-		

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

MVMA Specifications

1999 MY MAZDA MX-5 Miata

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.

Model or Engine Cord / Description

All models

Width	SAE Ref. No.	
Tread (front)	W101	1415 mm with aluminum wheel, 1405 mm with steel wheel
Tread (rear)	W102	1440 mm with aluminum wheel, 1430 mm with steel wheel
Vehicle width	W103	1678 mm
Body width at Sg RP (front)	W117	-
Vehicle width (front doors open)	W120	-
Vehicle width (rear doors open)	W121	-
Tumble-home (degrees)	W122	-
Outside mirror width	W410	-

Length

Wheelbase	L101	2265 mm
Vehicle length	L103	3945 mm
Overhang (front)	L104	-
Overhang (rear)	L105	-
Upper structure length	L123	-
Rear wheel C/L "X" coordinate	L127	-

Height

Passenger distribution (front/rear)	PD1,2,3	2/0
Trunk/cargo load		-
Vehicle height	H101	1228 mm
Cowl point to ground	H114	-
Deck point to ground	H138	-
Rocker panel-front to ground	H112	-
Rocker panel-rear to ground	H111	-
Windshield slope angle (degrees)	H122	-
Backlight slope angle (degrees)	H121	-

Ground Clearance

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

*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

1999 MY MAZDA MX-5 Miata

Vehicle Dimensions

See Key Sheets for definitions

Model or Engine Code / Description

All models

Front Compartment	SAE Ref. No.	
SgRP front, "X" coordinate	L31	-
Effective head room	H61	842 mm
Max. eff. leg room (accelerator)	L34	1088 mm
SgRP to heel point	H30	-
SgRP to heel point	L53	-
Back angle (degrees)	L40	-
Hip angle (degrees)	L42	-
Knee angle (degrees)	L44	-
Foot angle (degrees)	L46	-
Design H-point front travel	L17	-
Normal driving & riding seat track trvl.	L23	-
Shoulder room	W3	1262 mm
Hip room	W5	-
Upper body opening to ground	H50	-
Steering wheel maximum diameter*	W9	-
Steering wheel angle (degrees)	H18	-
Accel. heel pt. to steer. whl. cntr.	L11	-
Accel. heel pt. to steer. whl. cntr.	H17	-
Undepressed floor covering thickness	H67	-

Rear Compartment

SgRP point couple distance	L50	N/A
Effective head room	H63	N/A
Min. effective leg room	L51	N/A
SgRP (second to heel)	H31	N/A
Knee clearance	L48	N/A
Shoulder room	W4	N/A
Hip room	W6	N/A
Upper body opening to ground	H51	N/A
Back angle (degrees)	L41	N/A
Hip angle (degrees)	L43	N/A
Knee angle (degrees)	L45	N/A
Foot angle (degrees)	L47	N/A
Depressed floor covering thickness	H73	N/A

Luggage Compartment

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

Interior Volumes (EPA Classification)

Vehicle class		N/A
Interior volume index including trunk/cargo (cu. ft.)**		N/A
Trunk/cargo index (cu. ft.)		N/A

*See page 14.

**See definition page 33.

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

MVMA Specifications

1999 MY MAZDA MX-5 Miata

Vehicle Dimensions

See Key Sheets for definitions

Model Code / Description

All models

Station Wagon/MPV* - Third Seat

SAE
Ref. No.

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

Station Wagon/MPV* - Cargo Space

Cargo length (open front)	L200	N/A
Cargo length (open second)	L201	N/A
Cargo length (closed front)	L202	N/A
Cargo length (closed second)	L203	N/A
Cargo length at belt (front)	L204	N/A
Cargo length at belt (second)	L205	N/A
Cargo width (wheelhouse)	W201	N/A
Rear opening width at floor	W203	N/A
Opening width at belt	W204	N/A
Min. rear opening width above belt	W205	N/A
Cargo height	H201	N/A
Rear opening height	H202	N/A
Tailgate to ground height	H250	N/A
Front seat back to load floor height	H197	N/A
Cargo volume index m3(ft.3)	V2	N/A
Hidden cargo volume index m3(ft.3)	V4	N/A
Cargo volume index-rear of 2-seat	V10	N/A
Cargo volume index*	V6	N/A
Cargo width at floor*	W500	N/A
Maximum cargo height*	H505	N/A

Hatchback - Cargo Space

Cargo length at front seatback height	L208	N/A
Cargo length at floor (front)	L209	N/A
Cargo length at second seatback height	L210	N/A
Cargo length at floor (second)	L211	N/A
Front seatback to load floor height	H197	N/A
Second seatback to load floor height	H198	N/A
Cargo volume index m3(ft.3)	V3	N/A
Hidden cargo volume index m3(ft.3)	V4	N/A
Cargo volume index-rear of 2-seat	V11	N/A

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

*MPV - Multipurpose Vehicle

MVMA Specifications

1999 MY MAZDA MX-5 Miata

Model Cord /Description

All models

Vehicle Fiducial Marks

Fiducial Mark Number*		Define Coordinate Location
Front(1)		
Front(2)		
Rear(1)		
Rear(2)		
Note: Provide 3 of 4 Fiducial Mark Locations		
Front	W21**	-
	L54**	-
	H81**	-
	H161**	-
	H163**	-
Rear	W22**	-
	L55**	-
	H82**	-
	H162**	-
	H164**	-

*Reference - SAE Recommended Practice J182a, Motor Vehicle Fiducial Marks.

**Reference - SAE Recommended Practice J1100 - Motor Vehicle Dimensions.

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

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