C - SPECIFICATIONS

1994 ENGINE PERFORMANCE Mazda - Service & Adjustment Specifications

INTRODUCTION

Use this article to quickly find specifications related to servicing and on-vehicle adjustments. This is a quick-reference article to use when you are familiar with an adjustment procedure and only need a specification.

CAPACITIES

BATTERY SPECIFICATIONS

Application	Amp Hr. Rating
Miata	32

FLUID CAPACITIES

Application	Quantity
Crankcase (Includes Filter)	4.0 Qts. (3.8L)
Cooling System (Includes Heater)	6.3 Qts. (6.0L)
Manual Transmission (1)	2.1 Qts. (2.0L)
Automatic Transmission (ATF M-III or Dexron-II)	7.7 Qts. (7.3L)
Rear Differential (2)	1.06 Qts. (1.0L)

(1) Use SAE 75W-90 for all-season conditions, and SAE 80W-90 for temperatures greater than 50°F (10°C).

(2) Use SAE 90 for temperatures greater than 0°F (-18°C), and SAE 80W for temperatures less than 0°F (-18°C).

QUICK-SERVICE

SERVICE INTERVALS & SPECIFICATIONS

REPLACEMENT INTERVALS

Component	Miles
Air Filter	30,000
Camshaft Timing Belt	60,000
Coolant	30,000
Fuel Filter	60,000
Oil	7500
Oil Filter	7500
Spark Plugs	30,000

BELT ADJUSTMENT

Application	(1) Deflection: In. (mm)
Alternator	5/16 - 23/64 (8-9)
A/C Compressor	5/16 - 23/64 (8-9)
Power Steering	5/16 - 23/64 (8-9)

(1) Measure belt deflection by applying moderate pressure, about 22 lbs. (10 kg), to belt, midway between pulleys.

ENGINE COMPRESSION

1. Warm engine to normal operating temperature. Remove all spark plugs. Disconnect ignition coil primary wire connector.
2. On all models, hold throttle plate fully open. Crank engine, and note compression pressure.

COMPRESSION RATIO

Application	Specification
Miata	9.0:1

COMPRESSION SPECIFICATIONS

Application	Minimum psi (kg/cm^2) @ RPM	Standard psi (kg/cm^2) @ RPM
Miata (1)	128 (9.0) @ 300	182 (12.8) @ 300

(1) Difference between cylinders should not be more than 28 psi (2.0 kg/cm^2).

VALVE CLEARANCE

NOTE: All piston engines are equipped with hydraulic valve lash adjusters. Valve clearance is not adjustable.

IGNITION SYSTEM

IGNITION COIL

IGNITION COIL RESISTANCE

Application	Primary	Secondary
Miata	.78-.94	8700-12,900

DISTRIBUTOR SENSORS

NOTE: See BASIC TESTING article in the ENGINE PERFORMANCE section for crank angle sensor testing.

HIGH TENSION WIRE RESISTANCE

High tension wire resistance should not exceed 4900 ohms per foot.

SPARK PLUGS

SPARK PLUG TYPE

Application	NGK No.
Miata	BKR5E-11 or BKR6E-11

SPARK PLUG SPECIFICATIONS

Application	(1) Gap: In. (mm)	Torque: Ft. Lbs. (N.m)
Miata	.040 (1.0)	13 (18)
(1) Gap is not adjustable.		

FIRING ORDER & TIMING MARKS

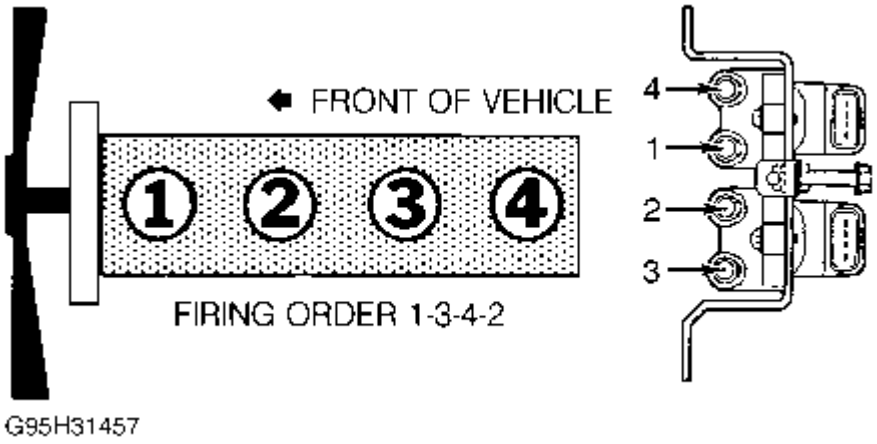

Fig. 1: Firing Order (Miata)

IGNITION TIMING

IGNITION TIMING SPECIFICATIONS

Application	Man. Trans.	(1) Auto. Trans.
Miata (2)	10 @ 850	10 @ 800
(1) Place automatic transmission in Park. (2) Connect jumper wire between terminals TEN and GRN of diagnostic connector.		

DISTRIBUTOR SPECIFICATIONS

NOTE: On models with computer-controlled ignition, see appropriate TESTS W/CODES article in the ENGINE PERFORMANCE section to diagnose ignition timing

problems.

FUEL SYSTEM

FUEL PUMP

NOTE: Fuel pump performance measures fuel pressure and volume availability, not regulated fuel pressure.

FUEL PUMP PERFORMANCE

Application	Pressure: psi (kg/cm^2)	Min. Vol. In 30 Sec.: Pts. (L)
Miata	43-92 (3.0-6.5)	1

REGULATED FUEL PRESSURE

Application	At Idle W/ Vacuum: psi (kg/cm^2)	At Idle W/O Vacuum: psi (kg/cm^2)
Miata	31-38 (2.2-2.7)	38-46 (2.7-3.2)

INJECTOR RESISTANCE

INJECTOR RESISTANCE

Application	Ohms
Miata	12-16

IDLE SPEED & MIXTURE

IDLE SPEED SPECIFICATIONS

Application	M/T RPM	(1) A/T RPM
Miata (2)	850	800

(1) Place automatic transmission in Park.

(2) Connect jumper wire between terminals TEN and GRN of diagnostic connector.

THROTTLE POSITION (TP) SENSOR

NOTE: For information on connector terminal identification and test conditions specified in the following tables, see ADJUSTMENTS article in the ENGINE PERFORMANCE section.

TP SENSOR CONTINUITY

Test Condition (1)	(2) Continuity
.004" (.1 mm)	Yes

.024" (.6 mm)	No

(1) Insert feeler gauge of specified thickness between throttle lever and throttle stop screw.

(2) Check continuity with ohmmeter connected between TP sensor terminals "E" and IDL.

TP SENSOR CONTINUITY (M/T)

Condition	Continuity Between IDL & TL/E	Continuity Between POW & TL/E
.016" (.4 mm) (1)	Yes	No
.027" (.7 mm) (1)	No	No
Wide Open Throttle	No	Yes

(1) Insert feeler gauge of specified thickness between throttle lever and throttle stop screw.