

2007 Mazda MX-5 Miata Sport

2007 ENGINE Technical Data - MX-5 Miata

2007 ENGINE**Technical Data - MX-5 Miata****ENGINE TECHNICAL DATA [LF]****ENGINE TECHNICAL DATA SPECIFICATION**

Item	Specification
Valve clearance [Engine cold]	IN: 0.22-0.28 mm {0.0087-0.0110 in} EX: 0.27-0.33 mm {0.0107-0.0129 in}
Compression	Standard: 1,720 kPa {17.5391 kgf/cm ² , 249.465 psi} [300 rpm] Minimum: 1,204 kPa {12.277 kgf/cm ² , 174.58 psi} [300 rpm] Maximum difference between cylinders: 196.1 kPa {2.0 kgf/cm ² , 28.5 psi}
Front oil seal press-in amount	0-1.0 mm {0-0.039 in}
Cylinder Head Bolt Length L	145.2-145.8 mm {5.72-5.74 in}
Cylinder Head Bolt Maximum	146.5 mm (5.77 in)
Oil control valve resistance	6.9-7.9 ohms [20°C {68°F}]
Ignition timing	Approx. BTDC 8°
Idle speed	No load: 670-770 rpm (MT), 700-800 rpm (AT) Electrical loads (38-48 A): 00-800 rpm (AT) Electrical loads (more than 48 A): 800-900 rpm P/S ON: 700-800 rpm (MT), 750-850 rpm (AT) A/C ON: 825-925 rpm (MT), 775-875 rpm (AT)
Idle mixture	HC concentration: Within the regulation CO concentration: Within the regulation
Oil pressure (reference value) [oil temperature: 100° C {212°F}]	337-591 kPa {3.44-6.03 kgf/cm ² , 49.0-85.8 psi} min [3,000 rpm]
Engine oil capacity (approx. quantity) (AT, 5MT)	Oil replacement: 3.9 L {4.1 US qt, 3.4 Imp qt} Oil and oil filter replacement: 4.3 L {4.5 US qt, 3.8 Imp qt} Total (dry engine): 4.6 L {4.9 US qt, 4.0 Imp qt}
Engine oil capacity (approx. quantity) (AT, 5MT)	Oil replacement: 4.05 L {4.28 US qt, 3.56 Imp qt} Oil and oil filter replacement: 4.45 L {4.70 US qt, 3.92 Imp qt} Total (dry engine): 4.75 L {5.02 US qt, 4.18 Imp qt}
Engine oil capacity (approx. quantity) (6MT)	Oil replacement: 4.05 L {4.28 US qt, 3.56 Imp qt} Oil and oil filter replacement: 4.55 L {4.81 US qt, 4.00 Imp qt} Total (dry engine): 4.85 L {5.12 US qt, 4.27 Imp qt}
Engine coolant capacity (approx. quantity)	7.5 L {7.9 US qt, 6.6 Imp qt}

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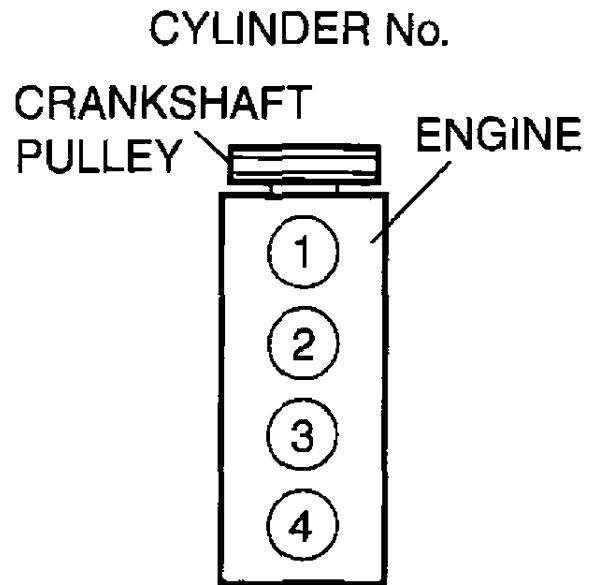
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Cooling system cap valve opening pressure	93.2-122.6 kPa {0.95-1.25 kgf/cm ² , 13.5-17.8 psi}
Thermostat initial-opening temperature	80-84°C {176-183°F}
Thermostat full-open temperature	97°C {207°F}
Thermostat full-open lift	More than 8.0 mm {0.31 in}
Cooling fan motor current	High: 9.0-12.0 A Middle: 6.4-9.4 A Low: 4.8-7.8 A
Fuel line pressure	350-410 kPa {3.57-4.18 kgf/cm ² , 50.8-59.4 psi}
Fuel hold pressure	250 kPa {2.55 kgf/cm ² , 36.2 psi} or more
Fuel injector resistance	11.4-12.6 ohms [20°C {68°F}]
Fuel injector leakage amount	Less than 1 drop/2 min
Fuel injection volume	204-216 ml {204-216 cc, 12.5-13.1 cu in}/min
Battery electrolyte specific gravity [20°C {68°F}]	1.22-1.29
Battery load test current	46B24L (36): 135 A
Battery back-up current	Vehicles with immobilizer system: 25-45 mA Vehicles without immobilizer system: 30 mA or less
Battery slow charge current	46B24L (36): 3.5-4.5 A
Battery quick charge current [30 min,]	46B24L (36): 25 A
Generator standard voltage [IG-ON]	Terminal B: B+ Terminal P: Approx. 1 V or less Terminal D: Approx. 0 V
Generator standard voltage [Idle, 20°C {68°F}]	Terminal B: 13-15 V Terminal P: Approx. 3-8 V Terminal D: Turn the electrical loads (headlights, blower motor, rear window defroster) on and verify that the voltage reading increases.
Generator generated current minimum value	70% of the nominal output current (nominal output current: 100 A) [ambient temp. 20°C {68°F}, voltage 13.0-15.0 V, both engine and generator are hot]
Generator rotor resistance (between slip rings) [20°C {68°F}]	2.0-2.3 ohm
Generator brush length	Standard: 22.5 mm {0.89 in} Minimum: 5.0 mm {0.20 in}
Generator brush spring force	Standard: 4.1-5.3 N {0.42-0.54 kgf, 0.92-1.19 lbf} Minimum: 1.7 N {0.17 kgf, 0.38 lbf}
	1-3-4-2 (all cylinders independent firing)

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Firing order



Spark plug type	L3G2 18 110, L3Y1 18 110
Spark plug gap	1.25-1.35 mm {0.050-0.053 in}
Spark plug resistance [25°C {77°F}]	3.0-7.5 ohms
Starter no load test voltage	11 V
Starter no load test current	90 A or less
Starter pinion gap	0.5-2.0 mm {0.02-0.07 in}
Starter armature runout	0.1 mm {0.004 in} max.
Starter commutator diameter	Standard: 29.4 mm {1.16 in} Minimum: 28.8 mm {1.13 in}
Segment groove depth of starter commutator	Standard: 0.5 mm {0.02 in} Minimum: 0.2 mm {0.008 in}
Starter brush length	Standard: 12.3 mm {0.48 in} Minimum: 5.5 mm {0.22 in}
Starter brush spring force	Standard: 15.0-20.4 N {1.53-2.08 kgf, 3.38-4.58 lbf} Minimum: 2.75 N {0.28 kgf, 0.62 lbf}

① Applied VIN (Assumed)

JM1 NC15F*7# 100001-130613

JM1 NC16F*7# 100001-130613

JM1 NC25F*7# 100001-130613

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JM1 NC26F*7# 100001-130613

0 Applied VIN (Assumed)

JM1 NC156F*7# 130614-




JM1 NC16F*7# 130614-

JM1 NC25F*7# 130614-

JM1NC26F*7# 130614-

ENGINE OIL SPECIFICATION

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Item	U.S.A. and CANADA	Except U.S.A. and CANADA
Engine oil grade	 (ILSAC)	  (ILSAC) API SL or ILSAC API SL or ILSAC
Engine oil viscosity	5W-20	