

2008 Mazda CX-9 Grand Touring

2008 ENGINE Technical Data (MZI-3.7) - Mazda CX-9

2008 ENGINE**Technical Data (MZI-3.7) - Mazda CX-9****ENGINE TECHNICAL DATA [MZI-3.7]****ENGINE TECHNICAL DATA SPECIFICATION**

| Item | Specification |
|---|---|
| Standard valve clearance [Engine cold] | IN: 0.150-0.250 mm {0.00591-0.00984 in} EX: 0.300-0.400 mm {0.0119-0.0157 in} |
| Oil control valve resistance | 5-14 ohms |
| Ignition timing | Approx. BTDC 13° |
| Idle speed (P position) | No load: 570-670 rpm Electrical load on: 630-730 rpm Power steering oil pump operation: 600-700 rpm A/C and heater operation: 570-850 rpm [-40-49 °C {-40-120° F}] |
| Idle mixture | HC concentration: Within the regulation CO concentration: Within the regulation |
| Engine oil capacity (approx. quantity) | Oil replacement: 4.7 L {5.0 US qt, 4.2 Imp qt} Oil and oil filter replacement: 5.2 L {5.5 US qt, 4.6 Imp qt} Total (dry engine): 5.9 L {6.2 US qt, 5.2 Imp qt} |
| Oil pressure (reference value) [oil temperature: 93.3°C {200°F}] | 310-621 kPa {3.17-6.33 kgf/cm ² , 45.0-90.0 psi} [2,000 rpm] |
| Engine coolant capacity (approx. quantity) | Dual fan control module: 12.2 L {12.9 US qt, 10.7 Imp qt} Single fan control module: 11.6 L {12.3 US qt, 10.2 Imp qt} |
| 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 | 79.5-83.3°C {175.2-181.9°F} |
| Thermostat full-open temperature | 94.5°C {202.1°F} |
| Thermostat full-open lift | More than 8.1 mm {0.32 in} |
| Cooling fan motor standard current [Single fan control module] | No.1, No.2: 11.2-15.2 A |
| Cooling fan motor standard current [Dual fan control module] | No.1, No.2: 17-23 A |
| Fuel line pressure | 331-85 kPa {3.38-4.94 kgf/cm ² , 48.1-70.3 psi} |
| Fuel injector resistance | 11-18 ohms |
| Battery electrolyte specific gravity [20° C {68°F}] | 1.22-1.29 |
| Battery load test current | 80D26L (55): 195 A |
| Battery back-up current (When the ignition switch is off, the ignition key is removed, and all doors are closed.) | Vehicles with immobilizer system: 50-60 mA Vehicles without immobilizer system: 55 mA or less |

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|---|--|
| Battery slow charge current | 80D26L (55): 5.5-6.5 A |
| Battery quick charge current [30 min] | 80D26L (55): 35 A |
| Generator standard voltage [IG-ON] | Terminal B: B+ Terminal A: B+ Terminal RC: Approx. 1 V or less Terminal LI: Approx. 1 V |
| Generator standard voltage [Idle, 20°C {68°F}] | Terminal B: 12-16 V Terminal A: 12-16 V Terminal RC: 0-16 V Terminal LI: 1-16 V |
| Generator generated current minimum value | 70 % of the nominal output current (nominal output current: 110 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}] | 1.8-2.2 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} |
| Ignition coil secondary coil resistance | 5-6 kilohms |
| Firing order | <p style="text-align: center;">1-4-2-5-3-6</p> <div style="text-align: center;"> <p style="text-align: center;">CYLINDER No.</p> <p style="text-align: center;">CRANKSHAFT PULLEY \ ENGINE</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>4</p> <p>5</p> <p>6</p> <p>LH</p> </div> <div style="text-align: center;"> <p>1</p> <p>2</p> <p>3</p> <p>RH</p> </div> </div> </div> |
| Spark plug type | CY01 18 110 |
| Spark plug gap | 1.29-1.45 mm {0.051-0.057 in} |
| Spark plug resistance | 2-20 kilohms |




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| Starter no-load test voltage | 11 V |
| Starter no-load test current | 90 A or less |
| Starter pinion gap | 0 mm {0 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} |

Engine oil specification

ENGINE OIL SPECIFICATION

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