

**2007 Mazda CX-9 Grand Touring**

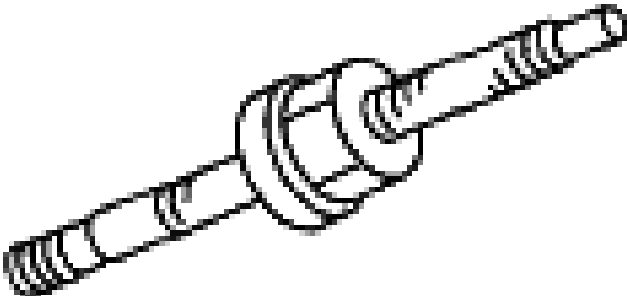
2007 ENGINE Technical Data (MZI-3.5) - CX-9

**2007 ENGINE****Technical Data (MZI-3.5) - CX-9****ENGINE TECHNICAL DATA [MZI-3.5]****ENGINE TECHNICAL DATA SPECIFICATION**

<b>Item</b>	<b>Specification</b>
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}
Oil pressure (reference value) [oil temperature: 93.3 °C {200 °F}]	310-621 kPa {3.17-6.33 kgf/cm <sup>2</sup> , 45.0-90.0 psi} [2,000 rpm]
Engine coolant capacity (approx. quantity)	Dual fan control module: 11.7 L {12.4 US qt, 10.3 Imp qt} Single fan control module: 1.11 L {11.7 US qt, 9.77 Imp qt}
Cooling system cap valve opening pressure	93.2-122.6 kPa {0.95-1.25 kgf/cm <sup>2</sup> , 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	331-485 kPa {3.38-4.94 kgf/cm <sup>2</sup> , 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	Vehicles with immobilizer system: 50-60 mA Vehicles without immobilizer system: 55 mA or less
Battery slow charge current	80D26L (55): 5.5-6.5 A
Battery quick charge current [30	80D26L (55): 35 A

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min]	
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
Item	Specification
	1-4-2-5-3-6
Firing order	
Spark plug type	ZZJ1 18 110
Spark plug gap	1.29-1.45 mm {0.051-0.057 in}
Spark plug resistance	2-20 kilohms
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	Standard: 0.5 mm {0.02 in}

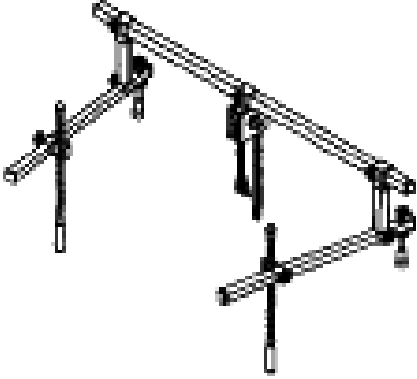
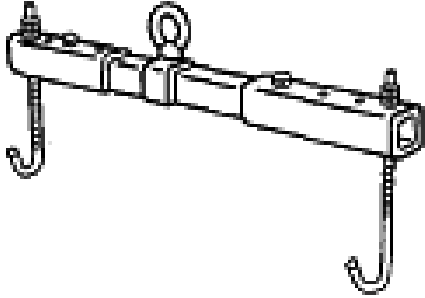
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commutator	Minimum: 0.2 mm {0.008 in}
Starter brush length	Standard: 12.3 mm {0.48 in} Minimum: 5.5 mm {0.22 in}
Starter brush spring force	Standard: 15.0-20.4 N {1.53-2.08 kgf, 3.38-4.58 lbf} Minimum: 2.75 N {0.28 kgf, 0.62 lbf}

### ENGINE OIL SPECIFICATION

### ENGINE OIL SPECIFICATION

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