

ENGINE TECHNICAL DATA [SKYACTIV-D 2.2]

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Item	Specification
Difference between target idle speed and the engine speed	Within 50 rpm
Target idle speed (reference)	<p>[MTX] Normal: 750 rpm DPF auto regeneration: 775 rpm Injector learning: 775 rpm</p> <p>[ATX] Normal: 800 rpm DPF auto regeneration: 800 rpm Injector learning: 775 rpm</p>
Compression	<p>Standard: 2255 kPa {22.99 kgf/cm², 327.1 psi}[180 rpm] Minimum: 1804 kPa {18.40 kgf/cm², 261.6 psi}[180 rpm] Maximum difference between cylinders: 147 kPa {1.50 kgf/cm², 21.3 psi} [180 rpm]</p>
OCV coil resistance	6.9—7.9 ohms [20 °C {68 °F}]
Cylinder head bolt length L	L: 169.2—169.8 mm {6.662—6.685 in}
Cylinder head bolt length L maximum	L: 170.5 mm {6.713 in}
Front oil seal press on amount	0—0.5 mm {0—0.019 in}
Rear oil seal press on amount	0—0.5 mm {0—0.019 in}
Engine oil capacity (approx. quantity)	<p>Oil replacement: 4.8 L {5.1 US qt, 4.2 Imp qt} Oil and oil filter replacement: 5.1 L {5.4 US qt, 4.5 Imp qt} Total (dry engine): 6.0 L {6.3 US qt, 5.3 Imp qt}</p>
Oil pressure (reference value) [oil temperature: 80—90 °C {176—194 °F}, coolant temperature: 80—90 °C {176—194 °F}]	<p>Lo: 140—190 kPa {1.43—1.93 kgf/cm², 20.4—27.5 psi} [1,500 rpm] Hi: 300—440 kPa {3.06—4.48 kgf/cm², 43.6—63.8 psi} [3,500 rpm]</p>
Engine coolant capacity (approx. quantity)	<p>L.H.D.: 9.0 L {9.5 US qt, 7.9 Imp qt} R.H.D. MTX: 9.0 L {9.5 US qt, 7.9 Imp qt} R.H.D. ATX: 9.1 L {9.6 US qt, 8.0 Imp qt}</p>
Cooling system cap valve opening pressure	93.2—122.6 kPa {0.951—1.250 kgf/cm ² , 13.6—17.7 psi}
Thermostat initial-opening temperature	80—84 °C {176—183 °F}
Thermostat full-open temperature	95 °C {203 °F}
Thermostat full-open lift	8.5 mm {0.33 in} or more
Cooling fan motor No.1, No.2 standard current	15—21 A [12 V]
Glow plug resistance (specification)	Approx. 1.0 Ω [20 °C {68 °F}]
Compressor bypass solenoid valve resistance (specification)	30—34 ohms [20 °C {68 °F}]
Regulating solenoid valve resistance (specification)	9.8—11.2 ohms [20 °C {68 °F}]
Wastegate solenoid valve resistance (specification)	9.8—11.2 ohms [20 °C {68 °F}]
Fuel injector resistance (specification)	0.9—1.1 Megohms [20 °C {68 °F}]
Fuel pressure relief valve resistance (specification)	0.96—1.16 ohms [20 °C {68 °F}]
Suction control valve resistance (specification)	Approx. 2.1 ohms [20 °C {68 °F}]
Fuel warmer resistance (specification)	Approx. 0.5—2.0 ohms
EGR valve resistance (specification)	0.3—100 Ω [20 °C {68 °F}]
EGR cooler bypass valve resistance (specification)	Other than infinity [20 °C {68 °F}]
Intake shutter valve resistance (specification)	0.3—100 ohms [20 °C {68 °F}]
Battery parasitic draw (When the ignition is off (key is removed), all doors and the hood are closed.)	40—65 mA
Generator standard voltage [IG-ON]	<p>Terminal B: B+ Terminal P: Approx. 1 V or less Terminal D: Approx. 0 V</p>
Generator standard voltage [Idle, 20 °C {68 °F}]	<p>Terminal B: 13—15 V Terminal P: Approx. 3—8 V Terminal D: Turn the electrical loads (headlights, blower motor, rear window defroster, brake lights, etc.) on and verify that the voltage reading increases.</p>
Generator rotor resistance (between slip rings) [20 °C {68 °F}]	1.8—2.1 ohms
Generator brush length	<p>Standard: 22.5 mm {0.886 in} Minimum: 5.0 mm {0.20 in}</p>

Item	Specification
Generator brush spring force	Standard: 4.1—5.3 N {0.42—0.54 kgf, 1.0—1.1 lbf} Minimum: 1.7 N {0.17 kgf, 0.38 lbf}
Starter no-load test voltage	11 V
Starter no-load test current	90 A or less

Engine oil [Europe]

Recommended engine oil		Alternative engine oil
Mazda Original Oil Supra DPF 0W-30	Mazda Original Oil Ultra DPF 5W-30	ACEA C3 0W-30, 5W-30

Engine oil [Except Europe]

Item	Specifications	
Grade	ACEA C3	ACEA C1 ^{*1} or JASO DL-1 ^{*1}
Viscosity (SAE)	0W-30, 5W-30	5W-30 ^{*1}

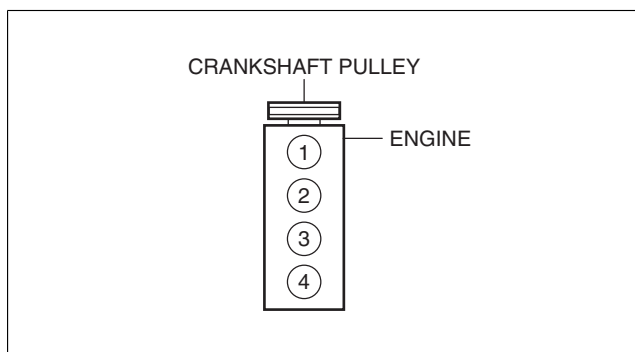
*1 : Australian specs.

Generator generated current (reference value) [Ambient temperature: 20 °C {68 °F}, Engine hot]

Engine speed (rpm)	Terminal B voltage (V)	Generator output current (A)
1,000	13	125
1,000	15	128
2,000	13	148
2,000	15	163

* Field coil current control signal 100%

Cylinder number



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