

2009 Toyota Highlander Limited

2009 SPECIFICATIONS INDEX Highlander

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System	Specification/Procedure
Air Conditioning	
Service	<u>SERVICE DATA</u>
Torque	<u>TORQUE SPECIFICATIONS</u>
Axle Nut/Hub Nut	
Front	294 N.m (3,000 kgf.cm, 217 ft. lbf)
Battery	<u>ON-VEHICLE INSPECTION</u> (1AR-FE)
	<u>ON-VEHICLE INSPECTION</u> (2GR-FE)
Brakes	
Bleeding Sequence	<u>BRAKE FLUID</u>
Disc Brakes	<u>SERVICE DATA</u>
Drum Brakes	<u>SERVICE DATA</u>
Torque	<u>TORQUE SPECIFICATIONS</u>
Charging	
1AR-FE	
Generator	<u>SERVICE DATA</u>
Torque	<u>TORQUE SPECIFICATIONS</u>
2GR-FE	
Generator	<u>SERVICE DATA</u>
Torque	<u>TORQUE SPECIFICATIONS</u>
Drive Belts	
1AR-FE	
Adjustment	Belt Tensioned by Auto Belt Tensioner
Belt Routing	<u>INSTALLATION</u>
2GR-FE	
Adjustment	Belt Tensioned by Auto Belt Tensioner
Belt Routing	<u>INSTALLATION</u>
Engine Cooling	
1AR-FE	
General Service Specifications	<u>SERVICE DATA</u>
Radiator Cap Pressure	Standard Value, 93.3 to 122.7 kPa (0.95 to 1.25 kgf/cm ² , 13.5 to 17.8 psi) Minimum Standard Value, 78.5 kPa (0.8 kgf/cm ² , 11.4 psi)

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Thermostat R & I	<u>THERMOSTAT</u>
Water Pump R & I	<u>WATER PUMP</u>
2GR-FE	
General Service Specifications	<u>SERVICE DATA</u>
Radiator Cap Pressure	Standard Value, 93.3 to 122.7 kPa (0.95 to 1.25 kgf/cm ² , 13.5 to 17.8 psi) Minimum Standard Value, 78.5 kPa (0.8 kgf/cm ² , 11.4 psi)
Thermostat R & I	<u>THERMOSTAT</u>
Water Pump R & I	<u>WATER PUMP</u>
Engine Mechanical	
1AR-FE	
Compression	<u>SERVICE DATA</u>
Oil Pressure	@ idle, 30 kPa (0.3 kgf/cm ² , 4.4 psi) or more @ 4,000 rpm, 260 kPa (2.7 kgf/cm ² , 38 psi) or more
Overhaul	<u>SERVICE DATA</u>
Torque	<u>TORQUE SPECIFICATIONS</u>
2GR-FE	
Compression	<u>SERVICE DATA</u>
Oil Pressure	@ idle, 80 kPa (0.8 kgf/cm ² , 11.6 psi) or more @ 3,000 rpm, 380 kPa (3.9 kgf/cm ² , 55.1 psi) or more
Overhaul	<u>SERVICE DATA</u>
Torque	<u>TORQUE SPECIFICATIONS</u>
Fluid Specifications	See FLUIDS under MAINTENANCE tab.
Flywheel/Flex Plate (Drive Plate) Torque	
1AR-FE	99 N.m (999 kgf.cm, 72 ft. lbf)
2GR-FE	83 N.m (846 kgf.cm, 61 ft. lbf)
Fuel System	
1AR-FE	
Pressure Specification	304 to 343 kPa (3.1 to 3.5 kgf/cm ² , 44.1 to 49.7 psi)
Fuel Pressure Test Procedure	<u>ON-VEHICLE INSPECTION</u>
Fuel Filter Location	<u>COMPONENTS</u>
2GR-FE	

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Pressure Specification	304 to 343 kPa (3.1 to 3.5 kgf/cm ² , 44.1 to 49.7 psi)
Fuel Pressure Test Procedure	<u>ON-VEHICLE INSPECTION</u>
Fuel Filter Location	<u>COMPONENTS</u>
Ignition	
Firing Order & Cylinder Identification	<u>FIRING ORDER & CYLINDER IDENTIFICATION</u>
Spark Plug	
1AR-FE	
Type	DENSO SK16HR11
Gap	Standard electrode gap, 1.0 to 1.1 mm (0.039 to 0.043 in.) Maximum electrode gap, 1.3 mm (0.0512 in.)
Torque	25 N.m (254 kgf.cm, 18 ft. lbf)
2GR-FE	
Type	DENSO FK20HR11
Gap	Standard electrode gap, 1.0 to 1.1 mm (0.039 to 0.043 in.) Maximum electrode gap, 1.4 mm (0.055 in.)
Torque	18 N.m (184 kgf.cm, 13 ft. lbf)
Starting	
1AR-FE	
Starter	<u>SERVICE DATA</u>
Torque	<u>TORQUE SPECIFICATIONS</u>
2GR-FE	
Starter	<u>SERVICE DATA</u>
Torque	<u>TORQUE SPECIFICATIONS</u>
Wheel Alignment	
Adjustment Specifications	<u>SERVICE DATA</u>
Torque	<u>TORQUE SPECIFICATIONS</u>
Wheel & Tire	
Wheel Lug Nut Torque	103 N.m (1,050 kgf.cm, 76 ft. lbf)