

13 31 Fuel Pump with Drive and Pipes

Tightening Torques

	Type	thread	tightening specification	Torque
1AZ Fuel pump to engine	All			12 Nm
2AZ Fuel pipe coupling bolt	All / with K-Jetr.	M8		9 Nm
3AZ Fuel pipe coupling bolt	All / with K-Jetr.	M12		20 Nm
4AZ Fuel pipe to pressure regulator	All / with L-Jetr.			30 Nm
5AZ Return pipe connector to pressure regulator	All / with L-Jetr.			27 Nm

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13 51 High pressure pump

Tightening Torques

	Type	Thread	Tightening specifications	Torque
1AZ Metering unit to high-pressure pump	N57 D30 O 1 / N57 D30 T 1	M5		6.5 Nm
2AZ Bracket to high-pressure pump and cylinder head	N57 D30 O 1 / N57 D30 T 1	M8	Observe tightening specification and sequence!	19 Nm
3AZ Hose clamps	N57 D30 O 1 / N57 D30 T 1	SW5		1.5 Nm
		SW6		3 Nm
4AZ High-pressure pump to cylinder head	N57 D30 O 1 / N57 D30 T 1	M8		19 Nm

13 52 High-pressure pump drive

Tightening Torques

	Type	Thread	Tightening specifications	Torque
1AZ Sprocket wheel, high-pressure pump	N57 D30 O 1 / N57 D30 T 1	M12x1		65 Nm
2AZ Tensioning rails Guide rails	N57 D30 O 1 / N57 D30 T 1	M8		20 Nm
3AZ Chain tensioner, bottom	N57 D30 O 1 / N57 D30 T 1	M6		10 Nm
4AZ Oil spray nozzle	N57 D30 O 1 / N57 D30 T 1	M6		10 Nm

13 51 High pressure pump

Tightening Torques

	Type	Thread	Tightening specifications	Torque
1AZ Metering unit to high-pressure pump	N57 D30 O 1 / N57 D30 T 1	M5		6.5 Nm
2AZ Bracket to high-pressure pump and cylinder head	N57 D30 O 1 / N57 D30 T 1	M8	Observe tightening specification and sequence!	19 Nm
3AZ Hose clamps	N57 D30 O 1 / N57 D30 T 1	SW5		1.5 Nm
		SW6		3 Nm
4AZ High-pressure pump to cylinder head	N57 D30 O 1 / N57 D30 T 1	M8		19 Nm

13 52 High-pressure pump drive

Tightening Torques

	Type	Thread	Tightening specifications	Torque
1AZ Sprocket wheel, high-pressure pump	N57 D30 O 1 / N57 D30 T 1	M12x1		65 Nm
2AZ Tensioning rails Guide rails	N57 D30 O 1 / N57 D30 T 1	M8		20 Nm
3AZ Chain tensioner, bottom	N57 D30 O 1 / N57 D30 T 1	M6		10 Nm
4AZ Oil spray nozzle	N57 D30 O 1 / N57 D30 T 1	M6		10 Nm

13 53 Fuel Injector Nozzles and Lines

Tightening Torques

	Type	Thread	Tightening specifications	Torque
1AZ Injector to cylinder head	N57 D30 O 1 / N57 D30 T 1	M8x95	Joining	8 Nm
			Final torque	26 Nm
2AZ Pressure lines to injector, rail and high pressure pump	N57 D30 O 1 / N57 D30 T 1	Coupling nut		24 Nm
3AZ Fuel pressure sensor to rail	N57 D30 O 1 / N57 D30 T 1	Pressure sensor	Grease thread lightly.	70 Nm
4AZ Pressure control valve to rail	N57 D30 O 1 / N57 D30 T 1	Pressure control valve	1. Tightening	60 Nm
			2. Opening	90 degrees
			3. Final torque	85 Nm
5AZ Mounting, cylinder head cover (support, clamping jaw)	N57 D30 O 1 / N57 D30 T 1	M6x35 with sleeve	Retightening	10 Nm

13 54 Throttle valve

Tightening Torques

	Type	Thread	Tightening specifications	Torque
1AZ Throttle body to intake system	N57 D30 O 1 / N57 D30 T 1	M6		8 Nm

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13 62 Sensors for control unit

Tightening Torques

	Type	Thread	Tightening specifications	Torque
1AZ Camshaft sensor to cylinder head cover	N57 D30 O 1 / N57 D30 T 1			3,6 Nm
2AZ Coolant temperature sensor at cylinder head	N57 D30 O 1 / N57 D30 T 1		Check O-rings.	3,5 Nm
3AZ Oxygen sensor	N57 D30 O 1 / N57 D30 T 1			50 Nm
4AZ Exhaust-gas temperature sensor to exhaust system	N57 D30 O 1 / N57 D30 T 1			30 Nm
5AZ Charging pressure sensor to intake plenum	N57 D30 O 1 / N57 D30 T 1			4 Nm
6AZ Exhaust backpressure sensor	N57 D30 O 1 / N57 D30 T 1			4 Nm
7AZ Banjo bolt for exhaust backpressure sensor	N57 D30 O 1 / N57 D30 T 1		Replace sealing rings. Use stainless steel sealing rings only	30 Nm
8AZ NOX sensor	N57 D30 O 1 / N57 D30 T 1			50 Nm
9AZ Support plate to cylinder head cover	N57 D30 O 1 / N57 D30 T 1			5 Nm
10AZ Crankshaft sensor to gear case cover	N57 D30 O 1 / N57 D30 T 1	M5		5 Nm

13 71 Intake silencer

Tightening Torques

	Type	Thread	Tightening specifications	Torque
1AZ Outside air intake hood to vehicle front wall	N57 D30 O 1 / N57 D30 T 1			2 Nm
2AZ Hot film air mass meter to clean air pipe	N57 D30 O 1 / N57 D30 T 1			2 Nm
3AZ Clean air pipe, upper part to lower section	N57 D30 O 1 / N57 D30 T 1			3 Nm
4AZ Clean air pipe	N57 D30 O 1 / N57 D30 T 1			8 Nm
5AZ Intake filter housing to clean-air pipe	N57 D30 O 1 / N57 D30 T 1			3 Nm
6AZ Intake filter housing to intake manifold	N57 D30 O 1 / N57 D30 T 1			3,5 Nm

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16 11 Fuel Tank and Mounting Parts

Tightening Torques

	Type	Thread	Tightening specifications	Torque
1AZ Fuel tank to body (hexagon nut)	F20 / F21 / F22 / F23 / F30 / F31 / F32 / F33 / F34 / F35 / F36	M8	Replace self-locking nuts.	19 Nm
2AZ Tension strap to body (hexagon screw)	F20 / F21 / F22 / F23 / F30 / F31 / F32 / F33 / F34 / F35 / F36	M8		19 Nm
3AZ Hose clip to clamping ring (filler pipe)	F20 / F21 / F22 / F23 / F30 / F31 / F32 / F33 / F34 / F35 / F36		Replace hose clamp.	3,5 Nm

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16 12 Fuel Delivery

Tightening Torques

	Type	Thread	Tightening specifications	Torque
1AZ Hose clamps 42 - 48 mm dia.	F20 / F21 / F22 / F23 / F30 / F31 / F32 / F33 / F34 / F35 / F36			4 Nm
2AZ Fuel filler pipe to body	F20 / F21 / F22 / F23 / F30 / F31 / F32 / F33 / F34 / F35 / F36	M5	Plastic nut	4 Nm
	F20 / F21 / F22 / F23 / F30 / F31 / F32 / F33 / F34 / F35 / F36	M6	Hexagon nut	8 Nm

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16 13 Tank ventilation

Tightening Torques

	Type	Thread	Tightening specifications	Torque
1AZ Carbon canister on tank holder	F20 / F21 / F22 / F23 / F30 / F31 / F32 / F33 / F34 / F35 / F36	M6x25		4 Nm
2AZ Tank leak diagnosis module to carbon canister	F20 / F21 / F22 / F23 / F30 / F31 / F32 / F33 / F34 / F35 / F36			2 Nm
3AZ Dust filter to body	F20 / F21 / F22 / F23 / F30 / F31 / F32 / F33 / F34 / F35 / F36			4 Nm

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16 14 Fuel pump

Tightening Torques

	Type	Thread	Tightening specifications	Torque
1AZ El. fuel pump ECU to body	F20 / F21 / F22 / F23 / F30 / F31 / F32 / F33 / F34 / F35 / F36	M6		4 Nm

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16 19 Fuel tank with attachment, SCR technology

Tightening Torques

	Type	Thread	Tightening specifications	Torque
1AZ Recirculating pump unit to passive tank	F20 / F21 / F22 / F23 / F30 / F31 / F32 / F33 / F34 / F36	M5		3 Nm
2AZ Active tank to body	F20 / F21 / F22 / F23 / F30 / F31 / F32 / F33 / F34 / F36	M6		8 Nm
3AZ Tensioning strap, active tank	F20 / F21 / F22 / F23 / F30 / F31 / F32 / F33 / F34 / F36	M6		8 Nm
	F20 / F21 / F22 / F23 / F30 / F31 / F32 / F33 / F34 / F36	M8		19 Nm
4AZ Passive tank to body	F20 / F21 / F22 / F23 / F30 / F31 / F32 / F33 / F34 / F36	M6		8 Nm
5AZ Tensioning strap, passive tank	F20 / F21 / F22 / F23 / F30 / F31 / F32 / F33 / F34 / F36	M6		8 Nm
	F20 / F21 / F22 / F23 / F30 / F31 / F32 / F33 / F34 / F36	M8		19 Nm
6AZ Hose clamp filler channel passive tank/active tank	F20 / F21 / F22 / F23 / F30 / F31 / F32 / F33 / F34 / F36		Replace hose clamp.	3,5 Nm