

ENGINE PERFORMANCE

Fuel System - Tightening Torques - X6

CARBURETOR

13 11 CARBURETOR

CARBURETOR - TIGHTENING TORQUE SPECIFICATIONS

	Type	thread	tightening specification	Measure
1AZ Carburetor to intake manifold	M10/M20/M30			10 Nm
2AZ Carburetor to insulating flange	M10/M20/M30			10 Nm
3AZ Insulating flange to intake manifold	M10/M20/M30			10 Nm
4AZ Idling shut off valve; max.	M10/M20/M30			5 Nm
5AZ Flow valve; max.	M10/M20/M30			28 Nm
6AZ Throttle valve assembly to float housing; max.	M10/M20/M30			9 Nm
8AZ Throttle valve control to carburetor; max.	2BE			3 Nm
9AZ Warm-up regulator to engine	M10/M20/M30			23 Nm

FUEL PUMP WITH DRIVE AND LINE

13 31 FUEL PUMP WITH DRIVE AND PIPES

FUEL PUMP WITH DRIVE AND PIPES - TIGHTENING TORQUE SPECIFICATIONS

	Type	thread	tightening specification	Measure
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

FUEL FILTER

13 32 FUEL FILTER

FUEL FILTER - TIGHTENING TORQUE SPECIFICATIONS

	Type	Thread	Tightening specification	Measure

1AZ Fuel line to filter housing and injection pump				
Coupling nut	M21/M51/M41	M14 x 1.5		14 Nm
Adapter	M21/M51/M41	M12 x 1.5		9 Nm
Hollow bolt	M21/M51/M41	M14 x 1.5		14 Nm
2AZ Fuel filter to holder	M51/M41	M8		22 Nm
3AZ Air duct to fuel cooler	M47			5.7 Nm
	M57			2 Nm
4AZ Fuel filter cover	M47			25 Nm
5AZ Fuel filter with holder to body	N42			8.8 Nm

INJECTION PUMP, REGULATOR, MIXTURE REGULATOR

13 51 INJECTION PUMP, CONTROL RECEPTACLE

INJECTION PUMP, CONTROL RECEPTACLE - TIGHTENING TORQUE SPECIFICATIONS

	Type	Thread	Tightening specification	Measure
1AZ Plug for high pressure section of injection pump	M21/M51/M41			25 Nm
2AZ Distributor injection pump to holder	M21/M51/M41			25 Nm
3AZ Electric shutoff to injection pump	M21/M51/M41			20 ± 5 Nm
4AZ Electric cold start valve to injection pump	M21			20 Nm
5AZ Coupling bolt (OUT) to injection pump (fuel return)	M21/M51/M41			25 Nm
6AZ Pressure valve holder to injection pump	M21/M51			45 Nm
7AZ Expansion element housing (temperature dependent idling speed boost) to injection pump	M21			18 Nm
8AZ Distributor injection pump to flange and console	M21/M51/M41			22 Nm
9AZ Electr. line on fuel cutout device	M51/M41			2.5 Nm
10AZ Fuel feed line to injection pump (VP44)	M47			30 Nm
11AZ Fuel return line to injection pump (VP44)	M47			25 Nm
12AZ Plug for static basic adjustment (injection pump VP44)	M47			13 Nm
13AZ Blocking screw for injection pump shaft without spacer plate (injection pump VP44)	M47			31 Nm
14AZ Blocking screw for injection pump shaft with spacer plate (injection pump VP44)	M47			13 Nm

15AZ Injection line (union nut) to injection pump (VP44)	M47			30 Nm
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13 51 INJECTION PUMP, CONTROL

INJECTION PUMP, CONTROL - TIGHTENING TORQUE SPECIFICATIONS

	Type	Thread	Tightening specification	Measure
1AZ High-pressure fuel pump to vacuum pump	N54, N53	M6 x 25		9 Nm

INJECTION NOZZLE AND LINES

13 53 FUEL INJECTION NOZZLES AND PIPES

FUEL INJECTION NOZZLES AND PIPES - TIGHTENING TORQUE SPECIFICATIONS

	Type	Thread	Tightening specification	Measure
1AZ Rail, high-pressure side, to cylinder head	N54, N53	M7 x 16		13 ± 2 Nm
2AZ High-pressure line to cylinder head	N54, N53	M7 x 16		13 ± 2 Nm
3AZ High-pressure fuel sensor	N54, N53	M10		30 - 5 Nm
4AZ Low-pressure fuel sensor	N54, N53	M10		20 - 3 Nm
5AZ Holding-down element to cylinder head	N54, N53	M7 x 20		13 ± 2 Nm
6AZ Feed line to high-pressure pump	N54, N53	M14	Coat screw connection with transmission oil	30 ± 3 Nm
7AZ High-pressure line to rail and high-pressure pump	N54, N53	M14	Coat screw connection with transmission oil	30 ± 3 Nm
8AZ High-pressure lines to rail and injector	N54, N53	M12	Coat screw connection with transmission oil	23 ± 3 Nm
9AZ Fuel feed line	N54, N53	M8 x 17	Replace screw	
			1. Tightening	10 Nm
			2. Angle-of-rotation tightening	90° ± 15°
10AZ Bracket, fuel line, to engine support frame	N54, N53	M6 x 12		8 Nm

THROTTLE AND OPERATION

13 54 THROTTLE AND ACTUATOR

THROTTLE AND ACTUATOR - TIGHTENING TORQUE SPECIFICATIONS

	Type	Thread	Tightening specification	Measure
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1AZ Throttle-valve assembly to intake manifold	N54	M6 x 50	8 Nm
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SENSOR FOR CONTROL UNIT

13 62 SENDERS FOR CONTROL UNIT

SENDERS FOR CONTROL UNIT - TIGHTENING TORQUE SPECIFICATIONS

	Type	Thread	Tightening specification	Measure
1AZ Temperature time switch	M21/M51			18 Nm
2AZ Temperature sensor, water	M60/1/M60/2/M21/M51			18 Nm
	all others			13 Nm
3AZ Temperature switch	All			28 Nm
4AZ Temperature sensor, air	All			13 Nm
5AZ Charge-air pressure sensor to bracket	M51/M41			4 Nm
Charge-air pressure sensor to intake manifold	M47			5 Nm
6AZ Dual temperature sensor (4-pin plug connection)	M41/M43/M44/S50/S52/M52/M57/M67/M62/M73			13 Nm
7AZ Air-mass sensor on lower section of intake filter housing	M51			3.5 Nm
Air-mass flow sensor to cylinder head cover	M47/M47TU/M57/M57TU/M57T2			4.5 Nm
8AZ Pulse generator, camshaft to cylinder head cover	M57			4.5 Nm
	M47TU/M57TU			3.5 Nm
	M57T2			2.3 Nm
9AZ Intake neck on air-mass flow sensor	M47			9 Nm

13 62 SENDERS FOR CONTROL UNIT

SENDERS FOR CONTROL UNIT - TIGHTENING TORQUE SPECIFICATIONS

	Type	Thread	Tightening specification	Measure
1AZ Coolant temperature sensor	N54	M12 x 1.5		13.5 Nm
2AZ Intake pressure sensor	N54	K50 x 18		3.5 Nm
3AZ Camshaft sensor to cylinder head	N54	M6 x 16		8 Nm
4AZ Crankshaft sensor to crankcase	N54	M6 x 16		8 Nm
5AZ Knock sensor to crankcase	N54	M8 x 30		21.5 Nm

START VALVES

13 64 FUEL INJECTORS

FUEL INJECTORS - TIGHTENING TORQUE SPECIFICATIONS

	Type	Thread	Tightening specification	Measure
1AZ Fuel injector to intake manifold	All	M6		10 Nm
2AZ Coupling nut on fuel injector	All / with K-Jetr.			25 Nm

INTAKE SILENCER

13 71 AIR INTAKE SILENCER

AIR INTAKE SILENCER - TIGHTENING TORQUE SPECIFICATIONS

	Type	Thread	Tightening specification	Measure
1AZ Air duct, compressor 1, to intake muffler	N54	Hose clamp		3 Nm
2AZ Air duct, compressor 2, to intake muffler	N54	Hose clamp		3 Nm
3AZ Air duct, compressor 1&2, to crankcase/cylinder	N54	M6 x 25		9 Nm

head				
4AZ Charge-air duct to bracket	N54	M6 x 20		9 Nm
5AZ Intake duct to front wall	N54	Self-tapping screw		2 Nm
6AZ Charge-air duct Intercooler before throttle valve assembly to charge-air duct Intercooler to throttle valve assembly	N54	Screw hose clamp with tensioning spring		4.5 Nm
7AZ Raw air snorkel/ Pit sensor to charge-air duct	N54	Oval-head screw for plastic		2 Nm
8AZ Bracket, air duct, compressor 2, to cylinder head	N54	M6 x 15		9 Nm
9AZ Charge-air duct to compressor outlet	N54	V-band clamp		3.5 Nm
10AZ Charge-air duct, intercooler, to throttle-valve assembly	N54	M6 x 20		9 Nm
11AZ Air duct, compressor 1&2, to engine block	N54	M6 x 25		9 Nm
12AZ Clean air Y-pipe to intake muffler	N54	L89-96	Clamp	3 Nm
13AZ Clean air duct to clean air Y-pipe	N54	L53-60	Clamp	3 Nm
14AZ Clean air duct to EPPC bracket	N54	K50 x 30		3.5 Nm
15AZ Charge-air duct, cold (vehicle-fixed to engine-fixed)	N54	L65-72	Clamp	3 Nm
16AZ Rubber mount to electric fan cowl	N54	K60 x 45		5 Nm
17AZ Raw air diversion to lock support	N54	K50 x 20		6 Nm
18AZ Clean air duct to compressor 2	N54	M6		8 Nm