

Tightening torque

General tightening torque

Note! Screws coated with a locking fluid or self locking nuts must be replaced with new when reinstalled.

See the table below to find the tightening torques for components not included in the summary.

Nuts and screws which are not self locking can be reused provided that they are in good condition.

Applies to screwed joint with strength class 8.8.	
Thread	Tightening torques (Nm)
M5	5
M6	10
M7	17
M8	24
M10	50
M12	80
M14	130

Summary of tightening torques for specific components

Note! Screws coated with locking fluid or sealant must be replaced with new when reinstalled.

Always use **new screws and nuts** when angle tightening. Any exceptions to this rule will be indicated in the method.

Angle-tightening in tight spaces. See [Screwed joint, torque/angle tightening](#) .

Exhaust bend (to the turbocharger (TC))	24 Nm
Cylinder head Tighten the screws in sequence from the centre and outwards.	Stage 1.....20 Nm Stage 2.....60 Nm Stage 3.....angle-tighten 130°
Manifold (cylinder head side)	25 Nm
Sub-frame nut (lower torque rod)	65 Nm. Angle-tighten 60°
Pipe screws (water heated crankcase ventilation.)	26 Nm
Pipe screws (coolant pipe / turbocharger (TC))	26 Nm
Pipe screws (oil pressure line / turbocharger (TC))	18 Nm
Pipe screws (oil pressure line / engine block)	38 Nm
Sub-frame screw	105 Nm angle-tighten 120°

Intake manifold (joint upper / lower section)	19 Nm
Intake manifold (cylinder head side)	19 Nm
Centre screw for the timing belt	25 Nm
Knock sensor (KS)	20 Nm
Piston cooling valve (piston cooling oil duct)	35 Nm
Timing gear pulley (camshafts without variable valve timing)	20 Nm
Timing gear pulley (camshafts with variable valve timing)	10 Nm
Carrier plate	Stage 1.....45 Nm Stage 2.....angle-tighten 50°
Intermediate section Tighten the screws in sequence from the centre and outwards.	Stage 1 M10.....20 Nm Stage 2 M10.....45 Nm Stage 3 M8.....24 Nm Stage 4 M7.....17 Nm Stage 5 M10.....angle-tighten 90°
Torque converter	50 Nm
Engine mounting Right side (M10x35 to cylinder block)	Stage 1.....35 Nm Stage 2.....angle-tighten 60°
Engine mounting Right side (M8x23 to cylinder block)	Stage 1.....20 Nm Stage 2.....angle-tighten 60°
Lower torque rod, gearbox screw.	35 Nm. Angle-tighten 40°
Lower torque rod, sub-frame nut	65 Nm. Angle-tighten 60°
Oil filter (environmental filter)	25 Nm
Oil trap	15 Nm
Sump plug	38 Nm
Oil pump (20 countersunk M6 Allen screws hold the pump housing together)	6 Nm
Oil return line (turbocharger (TC))	12 Nm
Oil pressure switch	50 Nm
Stud (at exhaust port, manifold, turbocharger (TC))	20 Nm
Plug (check hole for gauging valve clearance)	20 Nm
Plug (gauge hole / crankshaft seal)	38 Nm
Belt tensioner (mechanical belt tensioner)	25 Nm
Tensioner pulley (lever mechanical belt tensioner)	30 Nm
Flywheel	Stage 1.....45 Nm

	Stage 2.....angle-tighten 65°
Vibration damper	Stage 1.....35 Nm Stage 2.....angle-tighten 50°
Temperature sensor (coolant)	22 Nm
Front timing cover	12 Nm
Upper timing cover	8 Nm
Pressure control valve (piston cooling oil duct)	35 Nm
Turbocharger (TC) (to manifold)	25 Nm
Spark plugs	30 Nm
Crankshaft centre nut	300 Nm
Connecting rod cap	Stage 1.....20 Nm Stage 2.....angle-tighten 90°
Variable valve timing / centre screw	120 Nm
Variable valve timing / centre plug	35 Nm