

Engine tightening torques
MINI; MINI (R50, R53); Works; kW: 160

Exhaust system

Exhaust manifold

24 Nm

Air intake system

Intake manifold

26 Nm

Air-conditioning system

Air-conditioning compressor

20 Nm

Air-conditioning compressor pressure line

20 Nm

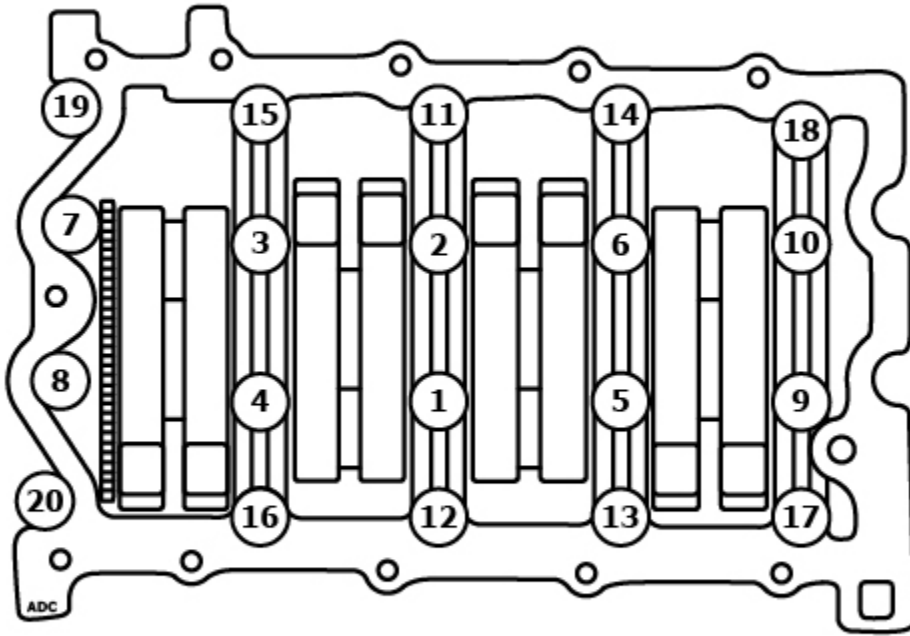
Cooling system

Coolant pump

25 Nm

Engine block

Main bearing



Screw(s) 1 - 10, 01 stage	60 Nm	Replace, wash and lubricate the screws.
Screw(s) 11 - 20, 02 stage	35 Nm	Replace, wash and lubricate the screws.
Connecting rod bearing		
	20 Nm + 90°	Use new screw(s).
Crankshaft central screw		
	115 Nm	Replace bolt.
Flywheel		
	90 Nm	Use new screw(s).

Engine mounting

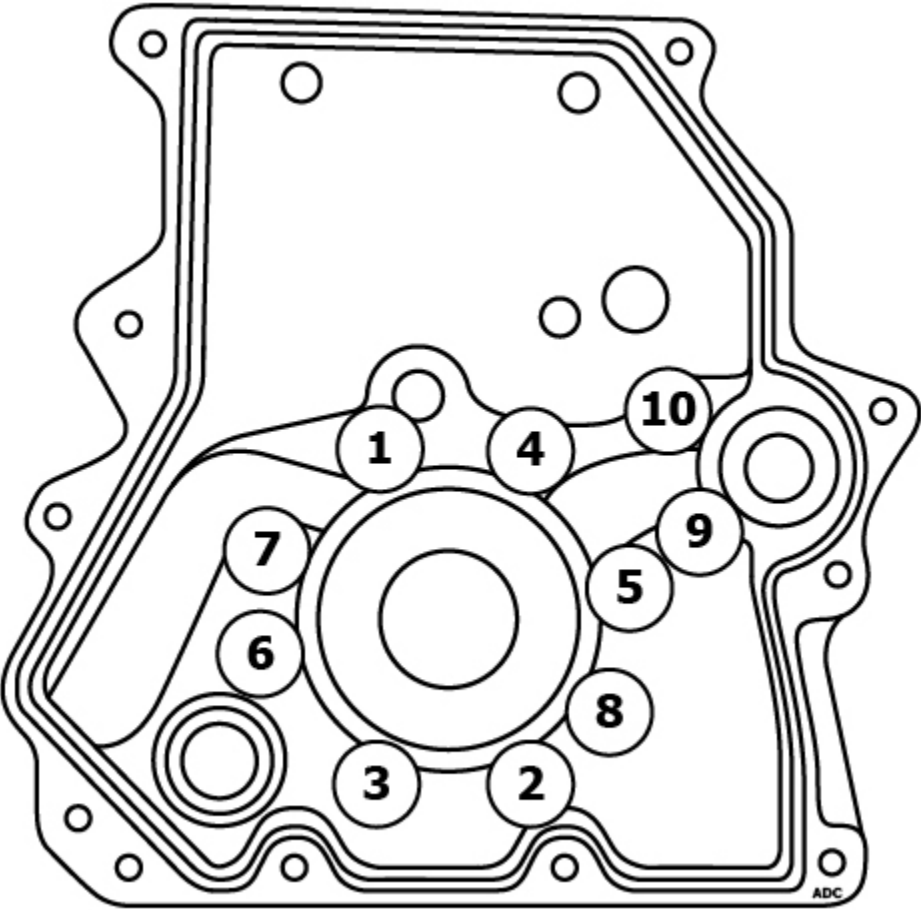
Subframe		
M12, Screw(s)	100 Nm	
Extension for subframe		
M12, Screw(s)	100 Nm	
M8, Screw(s)	22 Nm	
Torque arm		
onto torque support bracket	100 Nm	
at subframe	100 Nm	
on engine bracket	100 Nm	
Torque support holder		
on oil sump, M10	45 Nm	
on chassis, M12	68 Nm	
Engine mounting		
on chassis, M10	56 Nm + 90°	Use new screw(s).
on chassis, M12	68 Nm	
on engine bracket	66 Nm	
on engine mounting	68 Nm	

Engine management

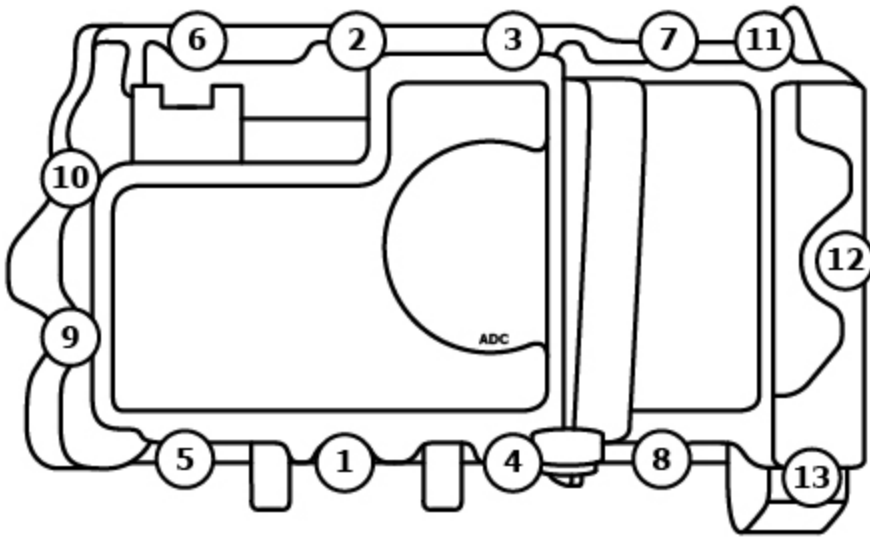
Knock sensor	22 Nm
Crankshaft sensor	9 Nm
Lambda sensor	39 Nm
M18	9 Nm
Camshaft sensor	

Engine lubrication

Oil drain plug(s)	25 Nm
Oil filter housing	
M8, Screw(s)	30 Nm
Oil filter cover	25 Nm
Oil cooler	12 Nm
Oil pump	



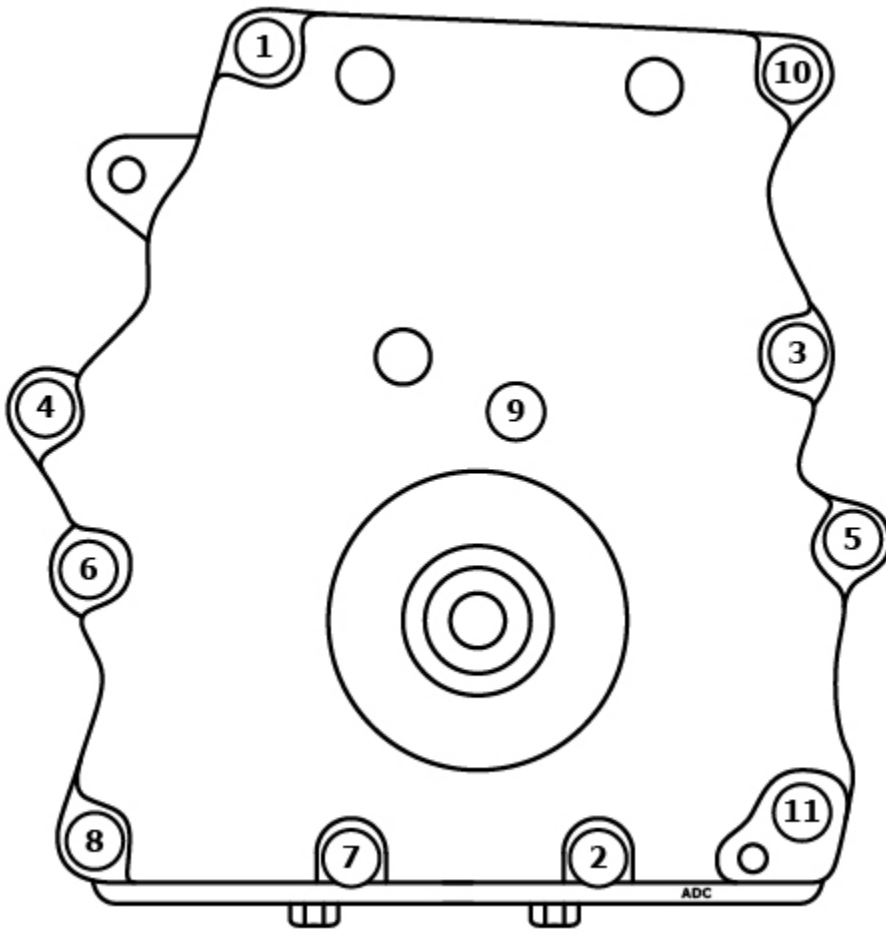
Oil sump	18 Nm
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31 Nm

Engine timing

Camshaft timing gear	
M12	102 Nm
Camshaft timing chain guide rail	
Cap	28 Nm
Camshaft timing chain tensioning rail	
Cap	18 Nm
Chain tensioner locking screw	
	28 Nm
Timing case cover	
	18 Nm
	63 Nm



M6, Screw(s) 12 Nm
 M8, Screw(s) 18 Nm

Auxiliary units

Alternator 25 Nm
Accessory drive belt tensioning device 45 Nm
Accessory drive belt deflection pulley 45 Nm

Start system

Starter 85 Nm

Ignition system

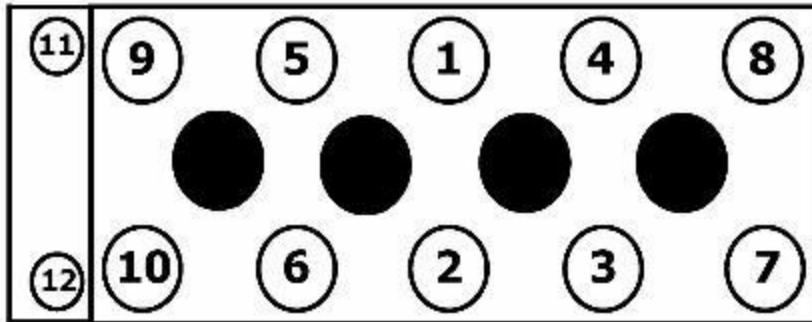
Spark plugs 27 Nm
 M14

Cylinder head

Rocker arm bridge 30 Nm
Valve cover (set) 30 Nm

Tighten in steps from inside to outside.

Cylinder head screws



ADC

Screws 1-10, 01 stage
 Screws 1-10, 02 stage
 Screws 11-12, 03 stage

40 Nm
 90°
 28 Nm

Repair/maintenance work have to be carried out by a specialist who has completed his training in the motor vehicle trade (e.g. car mechanic, car electrician, car mechatronics specialist).
 Alternatively, the repair can also be performed by a trained and experienced mechanic.