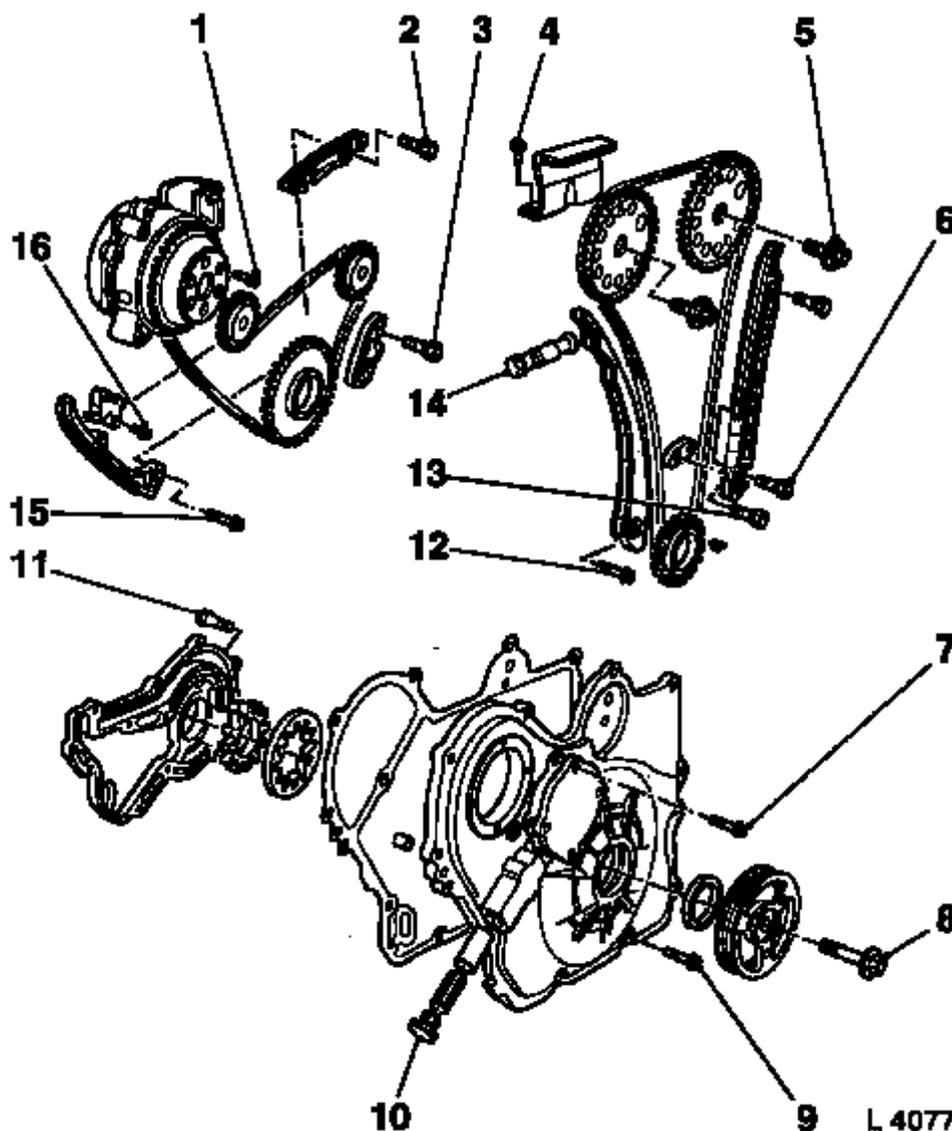


Torque Guidelines (Z 22 SE)

Schematic diagrams

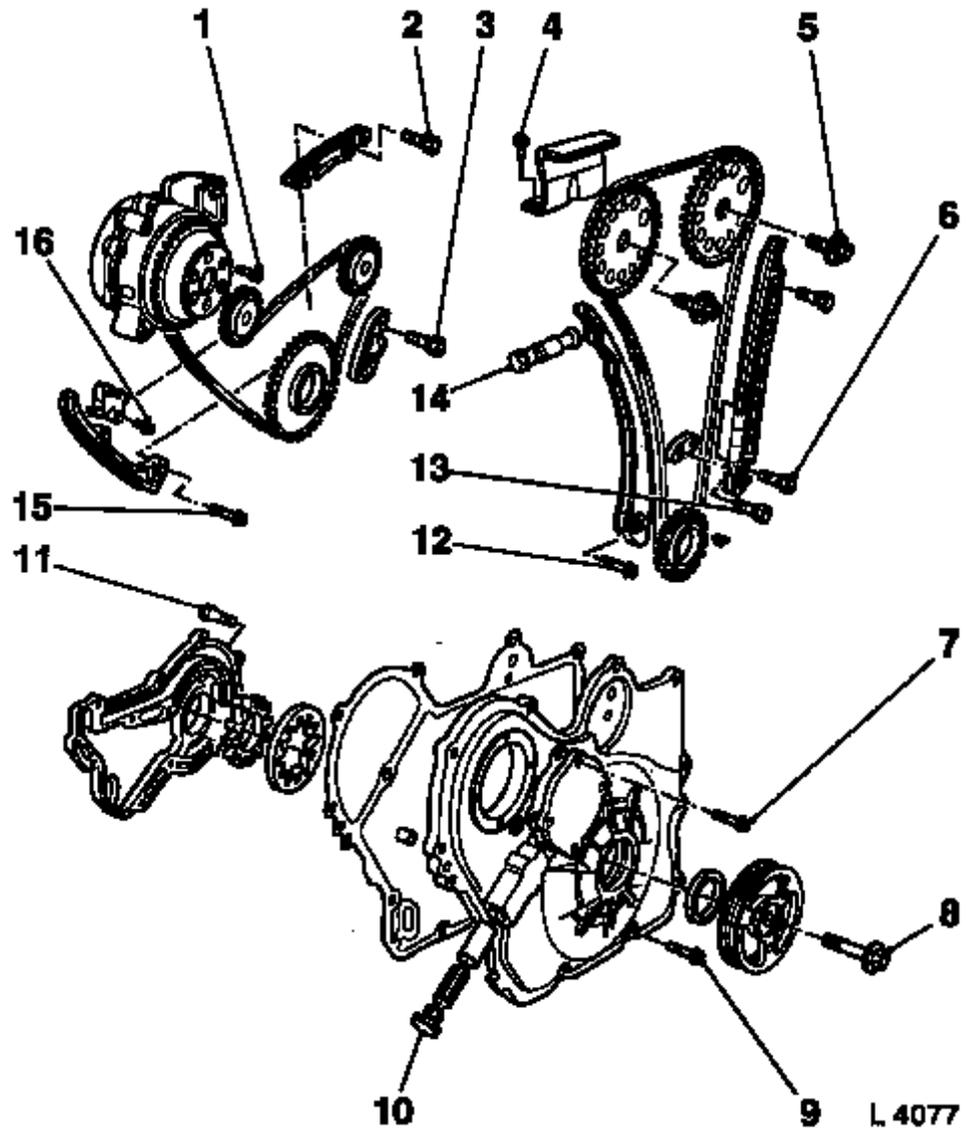
No.	Designation	Nm
1	Retaining bolts, coolant pump sprocket to coolant pump	10
2	Retaining bolts, balancer shaft timing chain guide rail to cylinder block	10
3	Retaining bolts, balancer shaft timing chain guide rail to cylinder block	10
4	Retaining bolts, guide rail to cylinder head	8 ¹⁾
5	Retaining bolts, camshaft timing sprockets to camshaft	85 + 30° + 15° 2)
6	Retaining bolts, camshaft timing chain guide rail to cylinder head and cylinder block	10



Schematic diagrams

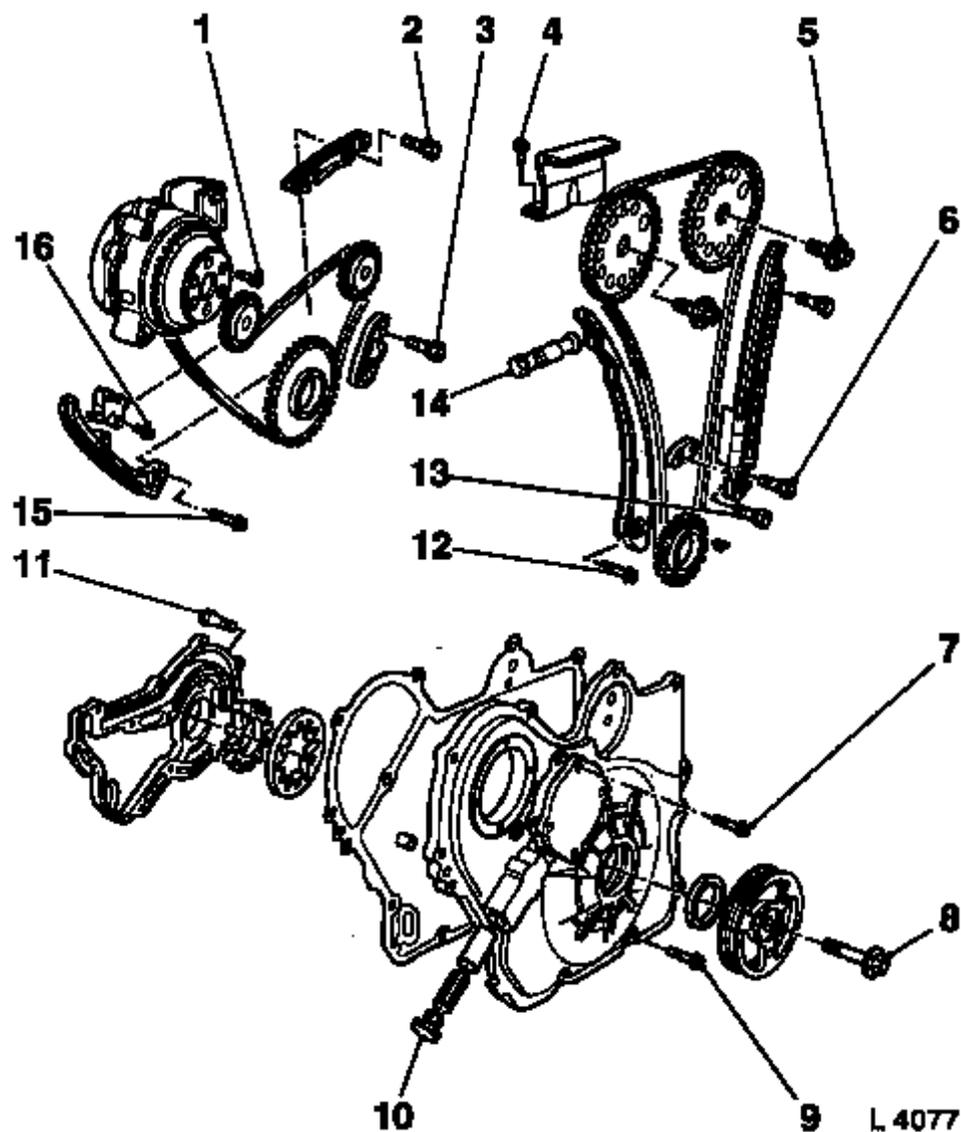
No.	Description	Nm
7	Retaining bolts, coolant pump service opening to timing case	7
8	Retaining bolts, rotational vibration damper to crankshaft hub	100 + 75° + 15° 2)
9	Retaining bolts, timing case to cylinder block and cylinder	21

	block base plate	
10	Screw plug, oil pump pressure control valve to timing case	40
11	Retaining bolts, oil pump cover to timing case	6
12	Retaining bolt, tensioner rail to cylinder block	10



Schematic diagrams

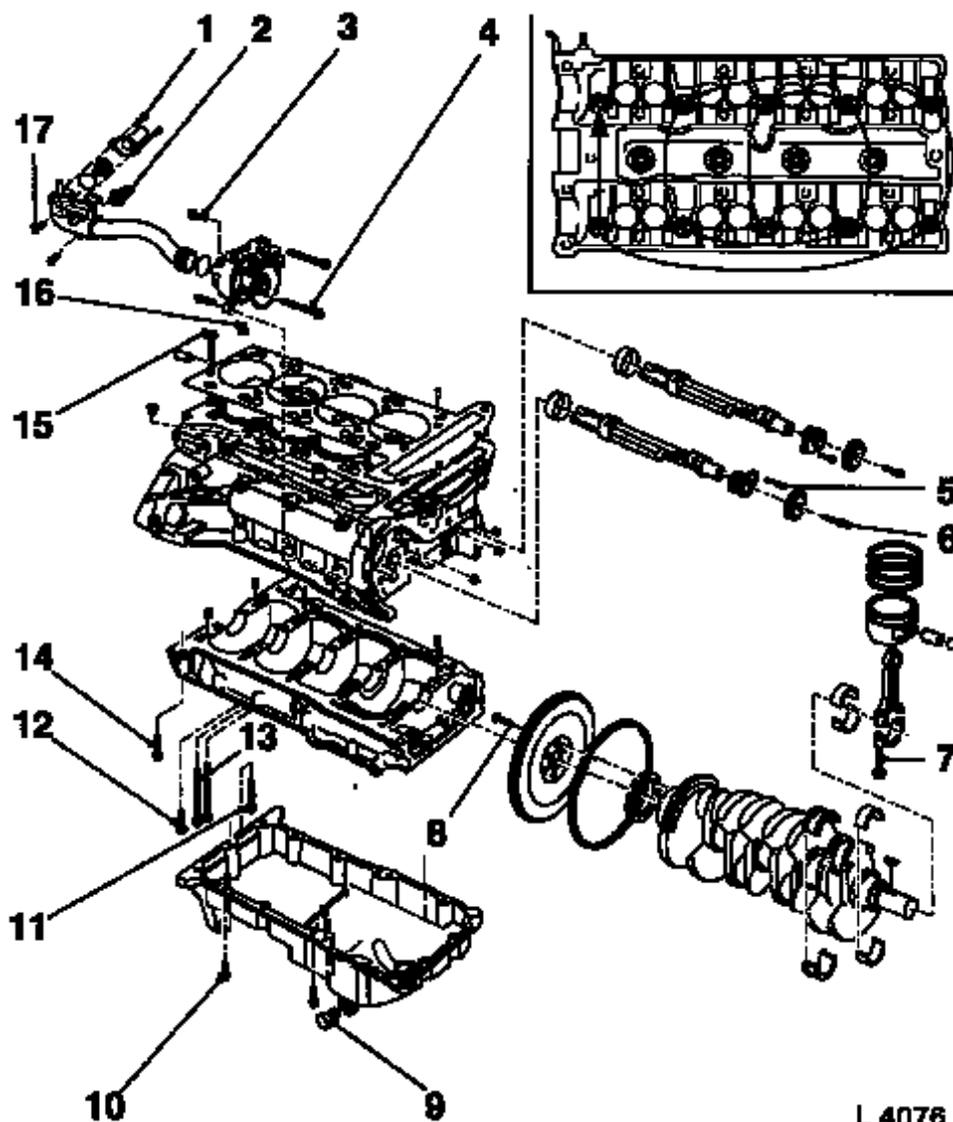
No.	Description	Nm
13	Retaining bolt, oil splash nozzle to cylinder block	10
14	Camshaft timing chain tensioner to cylinder head	75
15	Retaining bolt, balancer shaft timing chain tensioner rail to cylinder block	10
16	Retaining bolts, balancer shaft timing chain tensioner to cylinder block	10



Schematic diagrams

No.	Description	Nm
1	Retaining bolts, thermostat housing cover to thermostat housing	8
2	Coolant temperature sensor to thermostat housing	21
3	Retaining bolts, coolant pump (transmission end) to cylinder block	23
4	Retaining bolts, coolant pump (timing chain end) to cylinder	23

	block	
5	Retaining bolts, balancer shafts to cylinder block	9
6	Retaining bolts, balancer shaft timing sprockets to balancer shafts	8 + 30° 2)

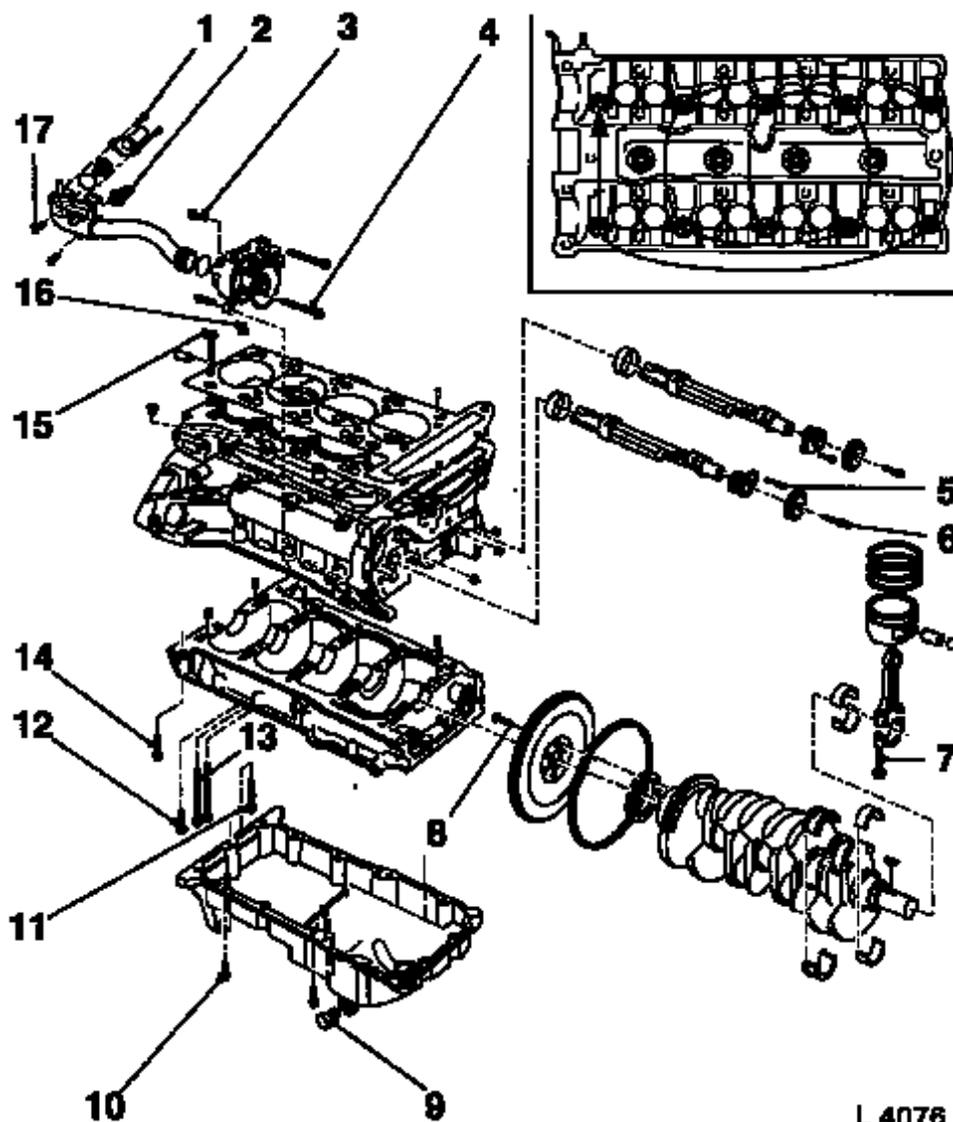


L 4076

Schematic diagrams

No.	Description	Nm
7	Retaining bolts, big-end bearing caps to connecting rods	25 + 50° + 50° + 10° 2)
8	Retaining bolts, flywheel/drive disc to crankshaft	53 + 25° 2)
9	Oil drain plug to oil pan	25
10	Retaining bolts, oil pan to cylinder block base plate	23

11	Retaining bolts, oil pan (transmission end) to cylinder block base plate	23
12	Retaining bolts, cylinder block base plate to cylinder block	23
13	Retaining bolts, cylinder block base plate (crankshaft bearings) to cylinder block	20 + 70° + 15° 2)

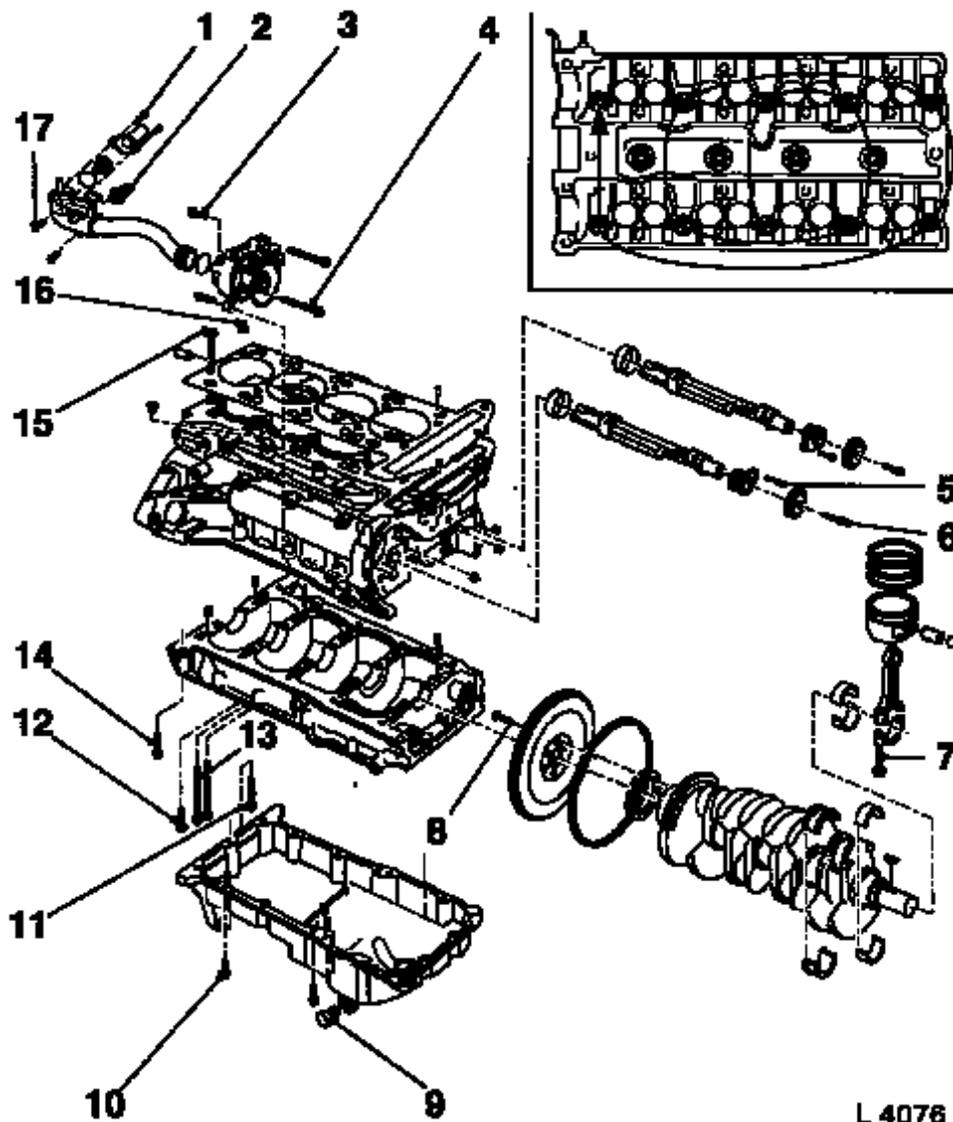


L 4076

Schematic diagrams

No.	Description	Nm
14	Retaining bolts, cylinder block base plate (transmission end) to cylinder block	23
15	Retaining bolts, cylinder head to cylinder block	30 + 75° + 75° + 15° 2)
16	Coolant pump drain plug to coolant pump	20
17	Retaining bolts,	9

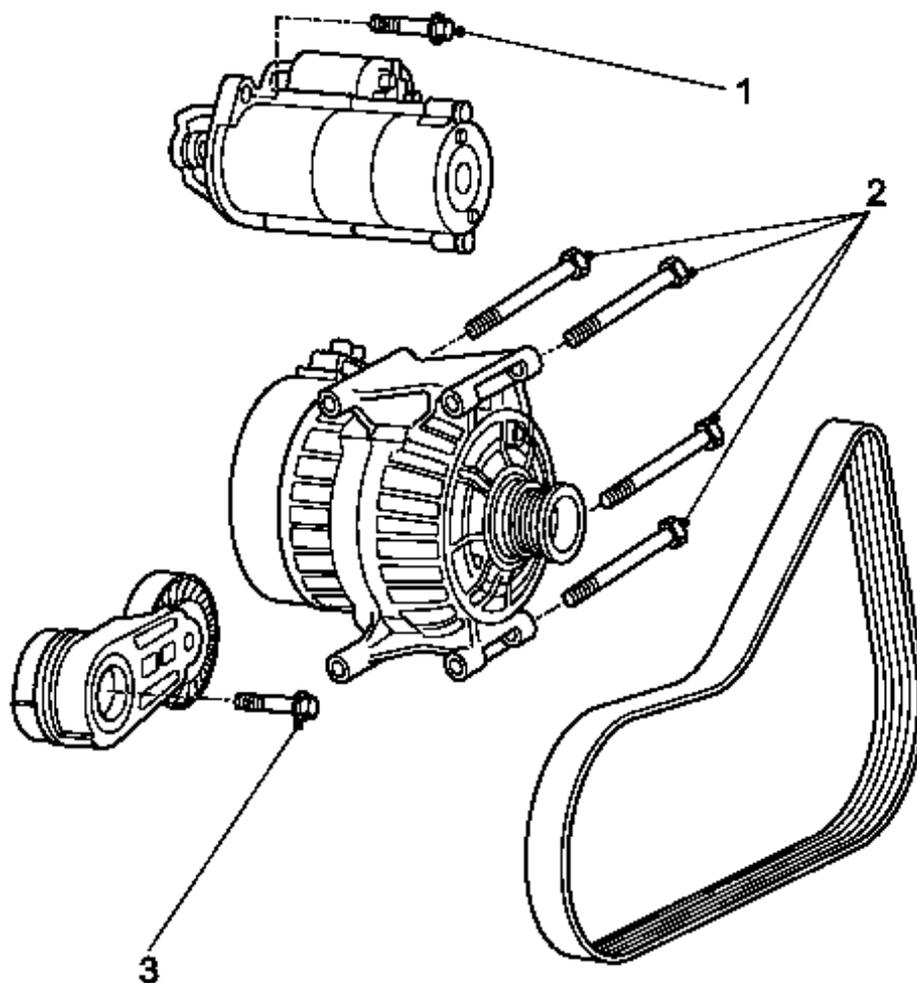
thermostat housing to cylinder block	
--------------------------------------	--



L 4076

Schematic diagrams

No.	Description	Nm
1	Retaining bolts, starter motor to cylinder block base plate	40
2	Retaining bolts, alternator to cylinder block	21
3	Retaining bolts, compressor to cylinder block base plate	21
4	Retaining bolt, ribbed V-belt tensioner to cylinder block	43

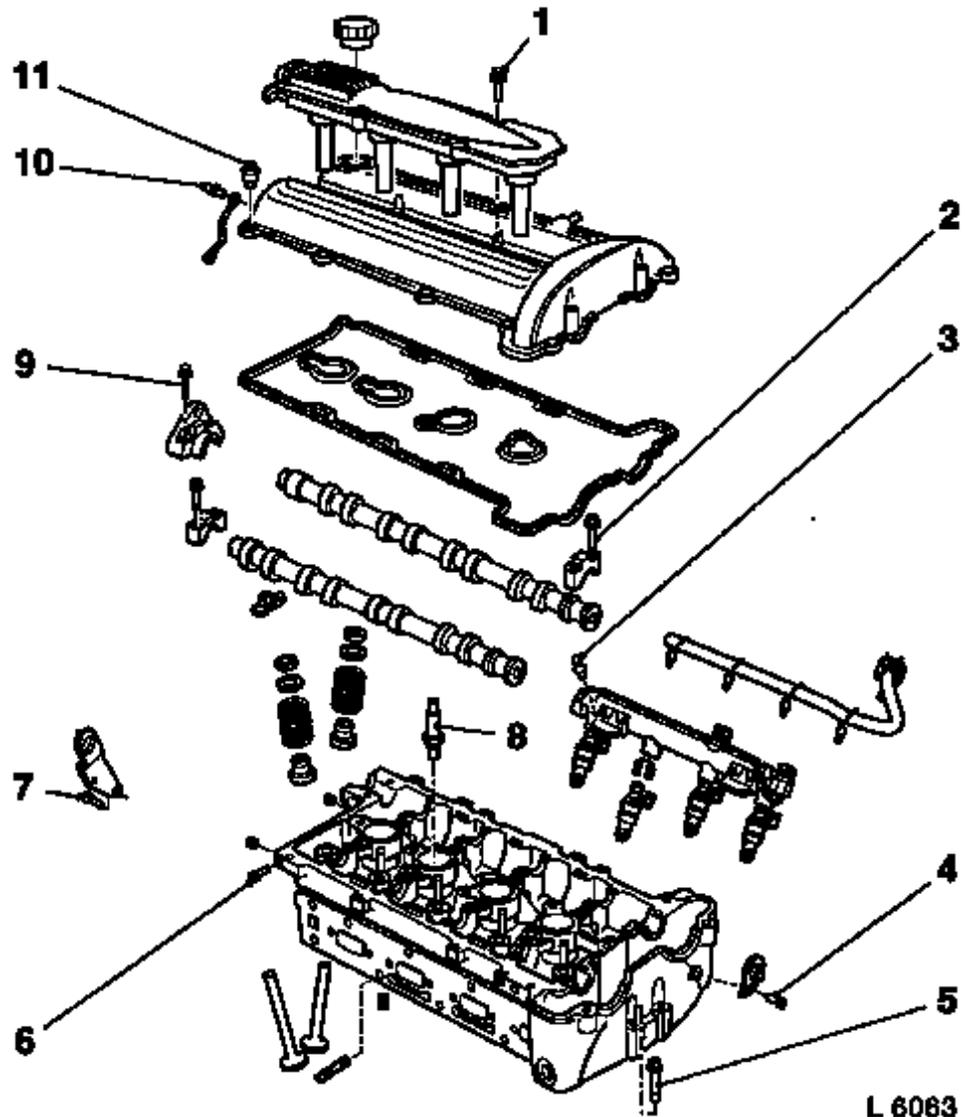


T 9504

Schematic diagrams

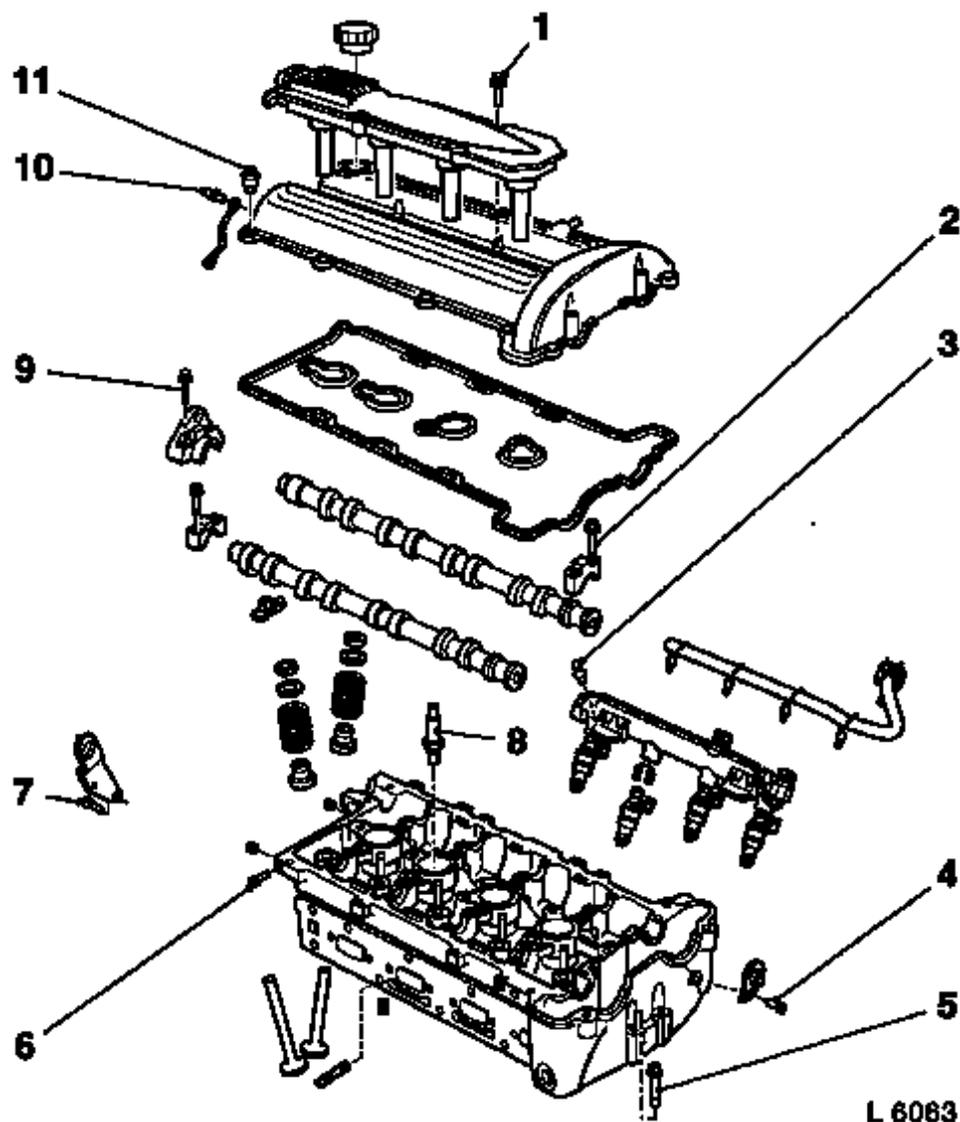
No.	Description	Nm
1	Retaining bolts, ignition module to cylinder head cover	9
2	Retaining bolts, camshaft bearing caps to cylinder head	9
3	Retaining bolts, fuel distribution pipe to cylinder head	9
4	Retaining bolt, engine lifting eye to cylinder head	23

5	Retaining bolts, cylinder head to cylinder block	35 ¹⁾
6	Retaining bolt, ground cable to cylinder head	9
7	Retaining bolt, engine lifting eye to cylinder head	23



Schematic diagrams

No.	Description	Nm
8	Spark plug to cylinder head	20
9	Retaining bolts, camshaft connecting flange bearing cap to cylinder head	22
10	Retaining bolt, ground cable to cylinder head cover	9
11	Retaining bolts, cylinder head cover to cylinder head	9

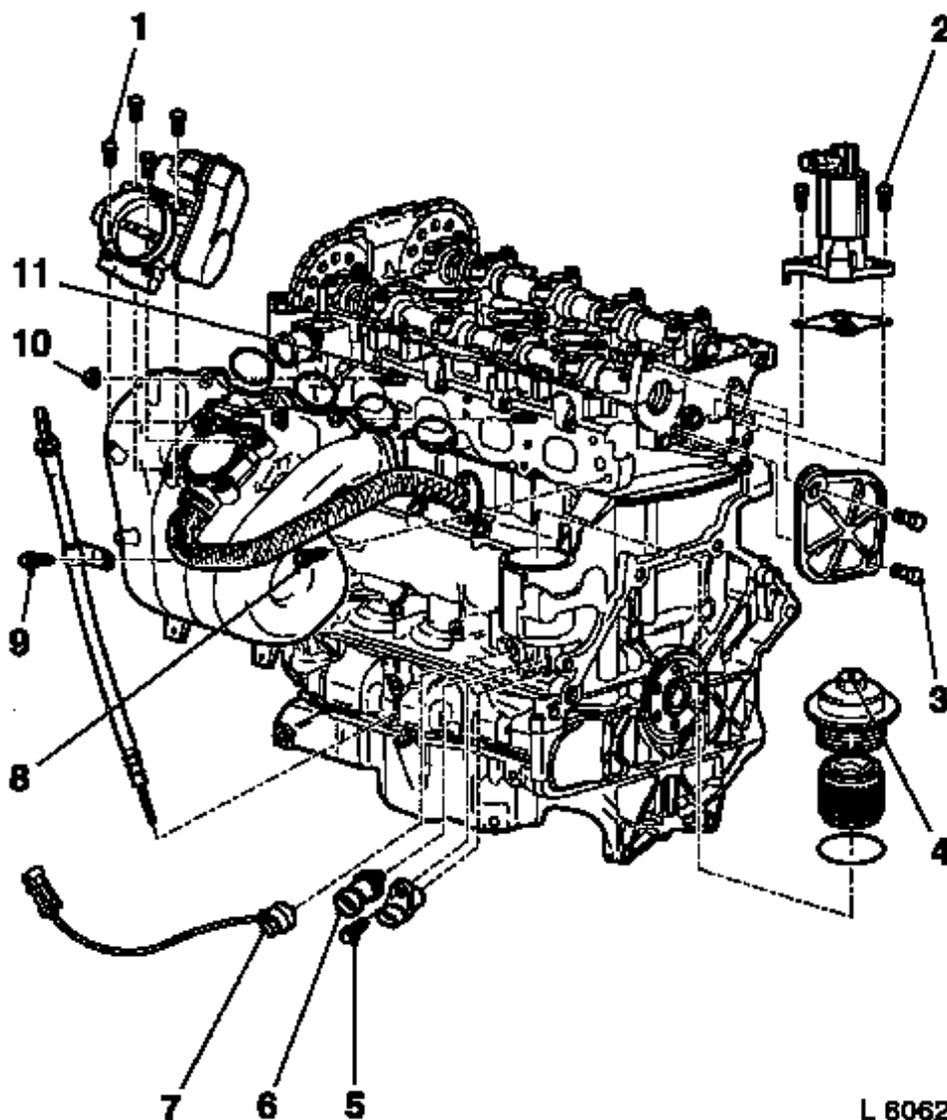


L 6063

Schematic diagrams

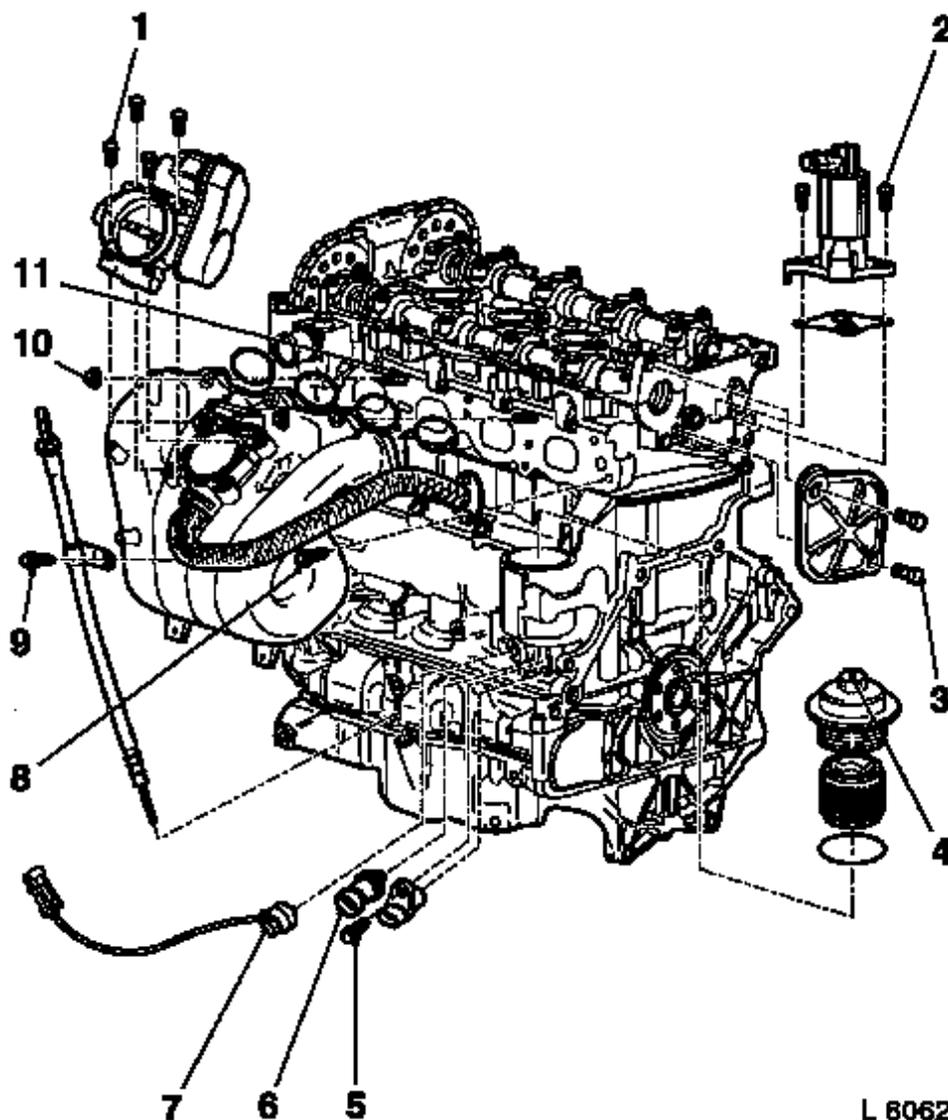
No.	Description	Nm
1	Retaining bolts, throttle body to intake manifold	9
2	Retaining bolts, EGR valve to cylinder head	23
3	Retaining bolts, camshaft connecting flange cover to cylinder head and camshaft connecting flange bearing cap	23
4	Oil filter housing cover to oil filter housing	25

5	Retaining bolt, crankshaft pickup to cylinder block	9
6	Oil pressure switch to cylinder block	18
7	Retaining bolt, knock sensor to cylinder block	23



Schematic diagrams

No.	Description	Nm
8	Retaining bolts, EGR pipe to cylinder head	9
9	Retaining bolt, oil dipstick guide tube to intake manifold	9
10	Retaining bolts, intake manifold to cylinder head	9
11	Studs, intake manifold to cylinder head	9

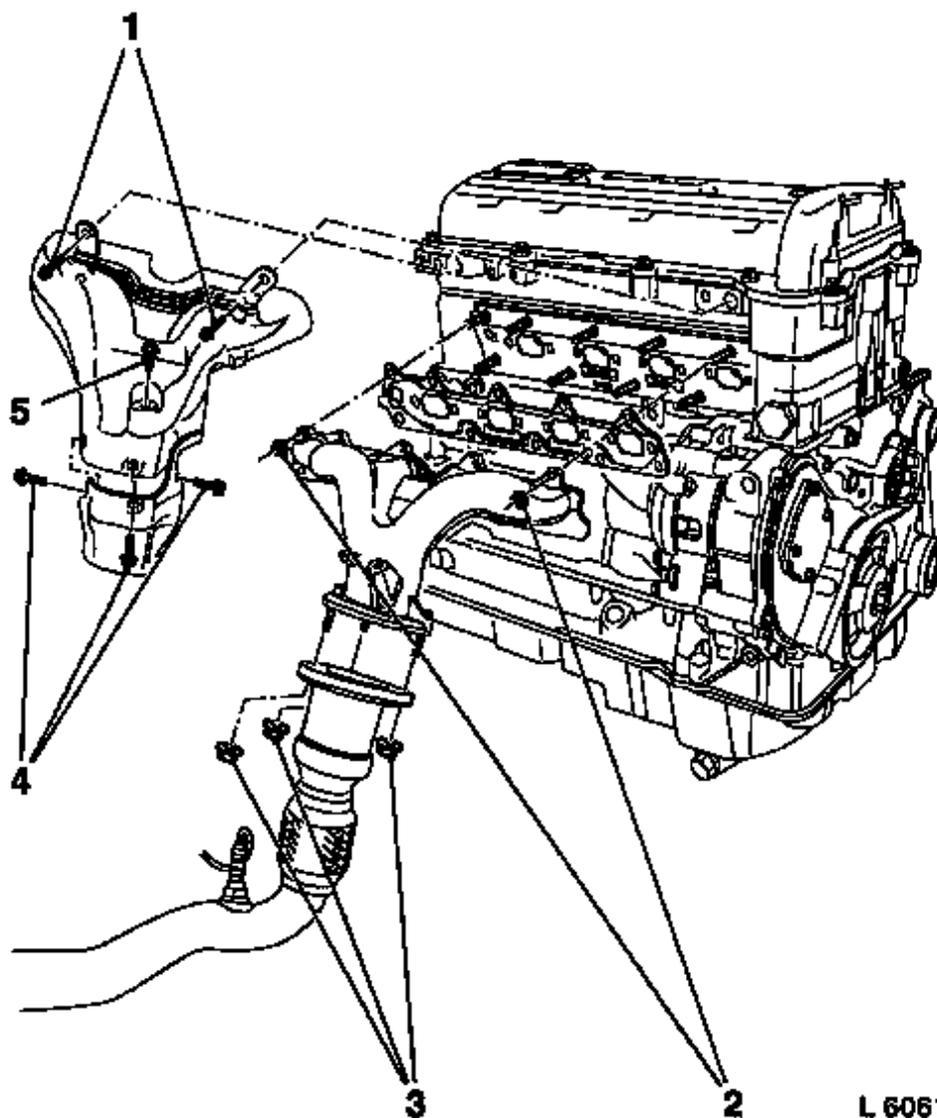


L 6062

Schematic diagrams

No.	Description	Nm
1	Retaining bolts, upper heat shield to cylinder head	23
2	Retaining nuts, exhaust manifold to cylinder head	12 ³⁾
3	Retaining nuts, front exhaust pipe to exhaust manifold	16 ³⁾
4	Retaining bolts, lower heat shield to upper heat shield	8

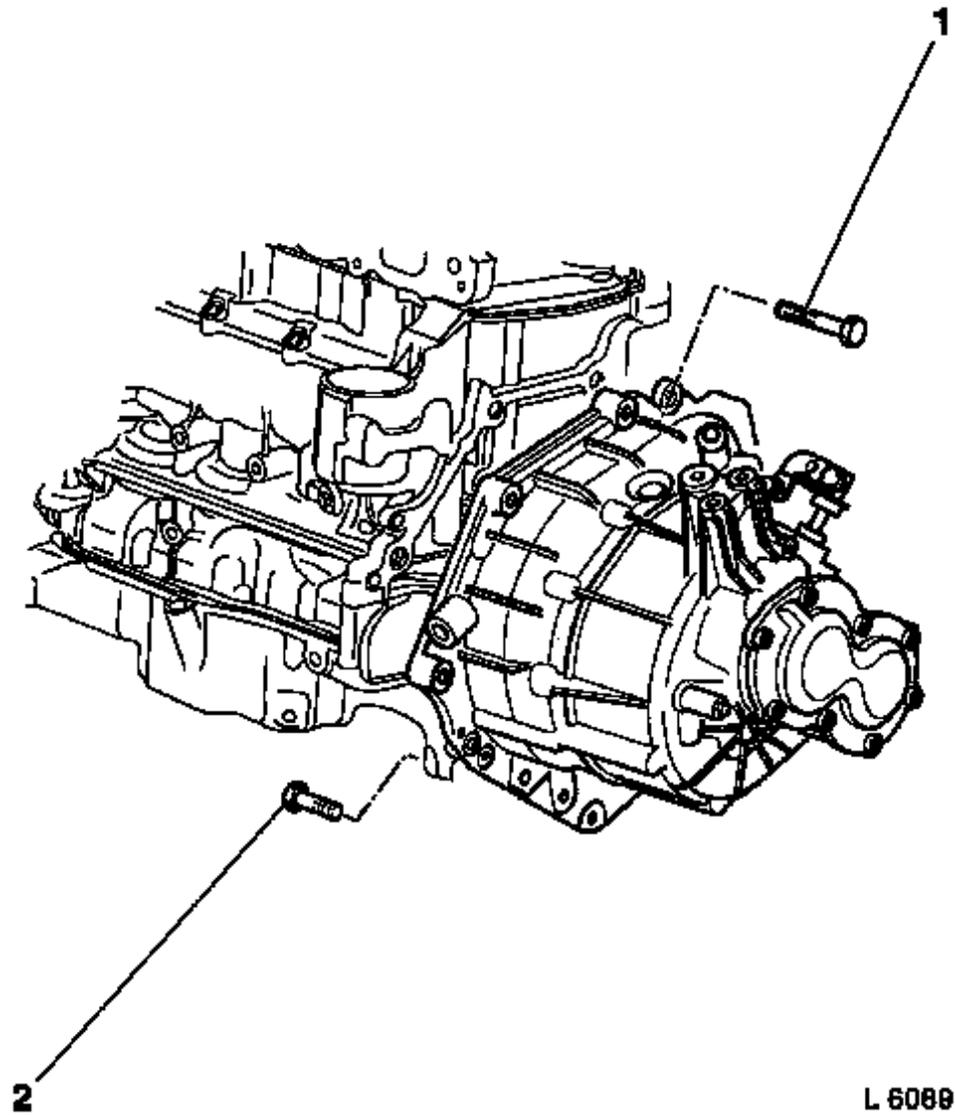
5	Retaining bolt, upper heat shield to exhaust manifold	23
---	---	----



L 6061

Schematic diagrams

No.	Description	Nm
1	Retaining bolts, transmission to cylinder block	60
2	Retaining bolts, oil pan to gearbox housing	22

**L 6089**

	Nm
Axle shaft to wheel hub	4)
Fuel pressure regulator to fuel distribution pipe	8
Dynamic oil level control to oil pan	10
Accelerator pedal to bulkhead	12
Engine damping block bracket (left-hand side) to transmission	35
Engine damping block bracket to cylinder block	50
Cable duct bracket to cylinder head	10
Fuel pipe bracket to cylinder head cover	9
Engine damping block bracket (rear) to transmission	80
Engine damping block support to engine damping block bracket (left-hand side)	55
Engine damping block support to engine damping block bracket (right-hand side)	55
Engine damping block support to engine damping block (left-hand side)	55
Engine damping block support to engine damping block (right-hand side)	55
Fuel pipes to fuel distribution pipe	10
Air intake pipe to throttle body and upper part of air cleaner housing	3,5
Ground cable to engine control unit	9

Engine damping block (rear) to engine damping block support	55
Engine damping block (rear) to front axle body	55
Engine damping block (left-hand side) to body (longitudinal member)	20
Engine damping block (right-hand side) to body (longitudinal member)	35
Engine damping block (front) to transmission	60
Engine damping block (front) to front axle body	55
Engine control unit to intake manifold	9
Wheel to wheel hub	90
Screw plug, guide rail to cylinder head	65

-
- 1) Coat the retaining bolts with thread locking compound (red) before inserting them.
 - 2) Use new retaining bolts(s).
 - 3) Use new retaining nut(s).
 - 4) Tighten the new castellated nut to 120 Nm, then undo it until it can be freely turned by hand. Tighten the castellated nut to 20 Nm + 80° and secure it with a new split pin.