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CCN (CLAAS Component Number)

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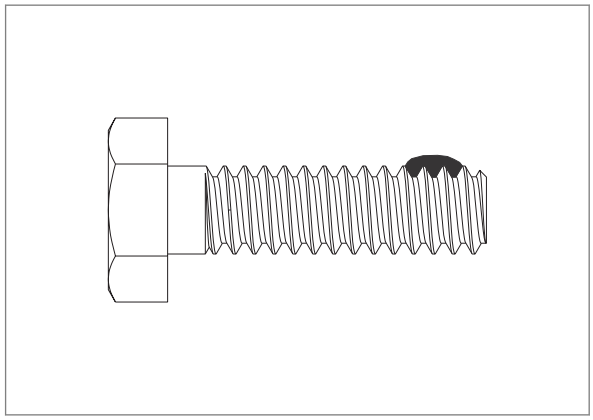
0155 Engine control 475

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1451-001
120820-003

Liquid locking compound



151599-001

1

- ► Use liquid locking compound (glue) only at the spots described in the Repair Manual.
- ► The surfaces to be joined must be absolutely clean and free of grease.
  - ► A suitable cleaner and an activator possibly delivered along with the glue can be used for cleaning.
- ► No cleaner residues may remain on the surfaces to be joined.

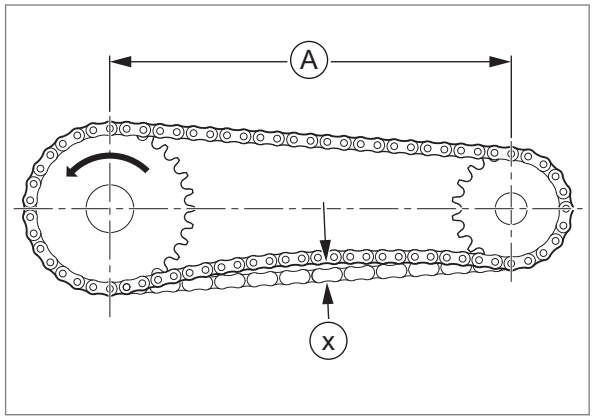
  This applies in particular to tapped holes with a bottom.
  - ► Let the surfaces dry well before applying the glue.
- ► Apply the glue only in the areas shown in the figure if possible.

  When applying the glue at an unfavourable spot or when applying too much glue, the joint may tear off when loosening.
- ► Observe the glue producer's instructions for use and application!

A joint secured by liquid locking compound can be loosened by heating up to approx. 200 °C.

120771-004

Steel roller chains



13827-006

2

Tensioning

Checking the tension of steel roller chains:

- ► Apply a small load to the tight span.
- ► Push down the slack span in the middle between the sprockets with your thumb.

You should be able to push down the slack span around 2 % of the spacing between the axles.

Example:

Axle spacing (A) = **500 mm**

Pushing distance (x) of slack span = approx. **10 mm**

1451-001
123207-004

Tightening torques for brake line screw fittings

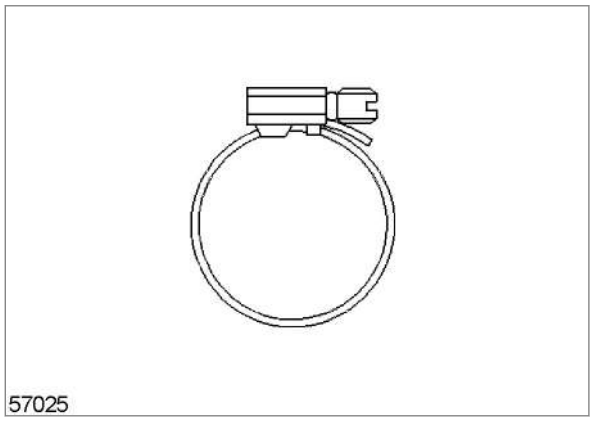
Shape F union screws

Shape FS union screws with chime

Dimensions	Tightening torque in Nm
M10 x 1	14+2

123209-003

Tightening torques for worm drive hose clamps



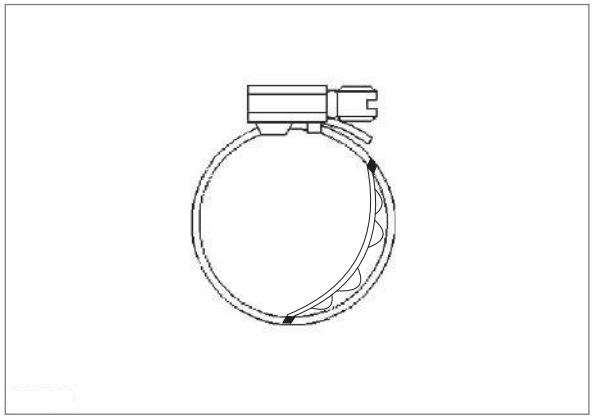
30

8515-001

Width of clip	Tightening torques for new hoses when installing for the first time	Tightening torques for retightening or reassembling
7.9 mm (0.31 inch)	0.9 ± 0.2 Nm (8 ± 2 lb in)	0.7 ± 0.2 Nm (6 ± 2 lb in)
13.5 mm (0.53 inch)	4.5 ± 0.5 Nm (40 ± 4 lb in)	3.0 ± 0.5 Nm (27 ± 4 lb in)
15.9 mm (0.63 inch)	7.5 ± 0.5 Nm (65 ± 4 lb in)	4.5 ± 0.5 Nm (40 ± 4 lb in)

123211-002

Tightening torque for spring-loaded worm drive hose clamps



31

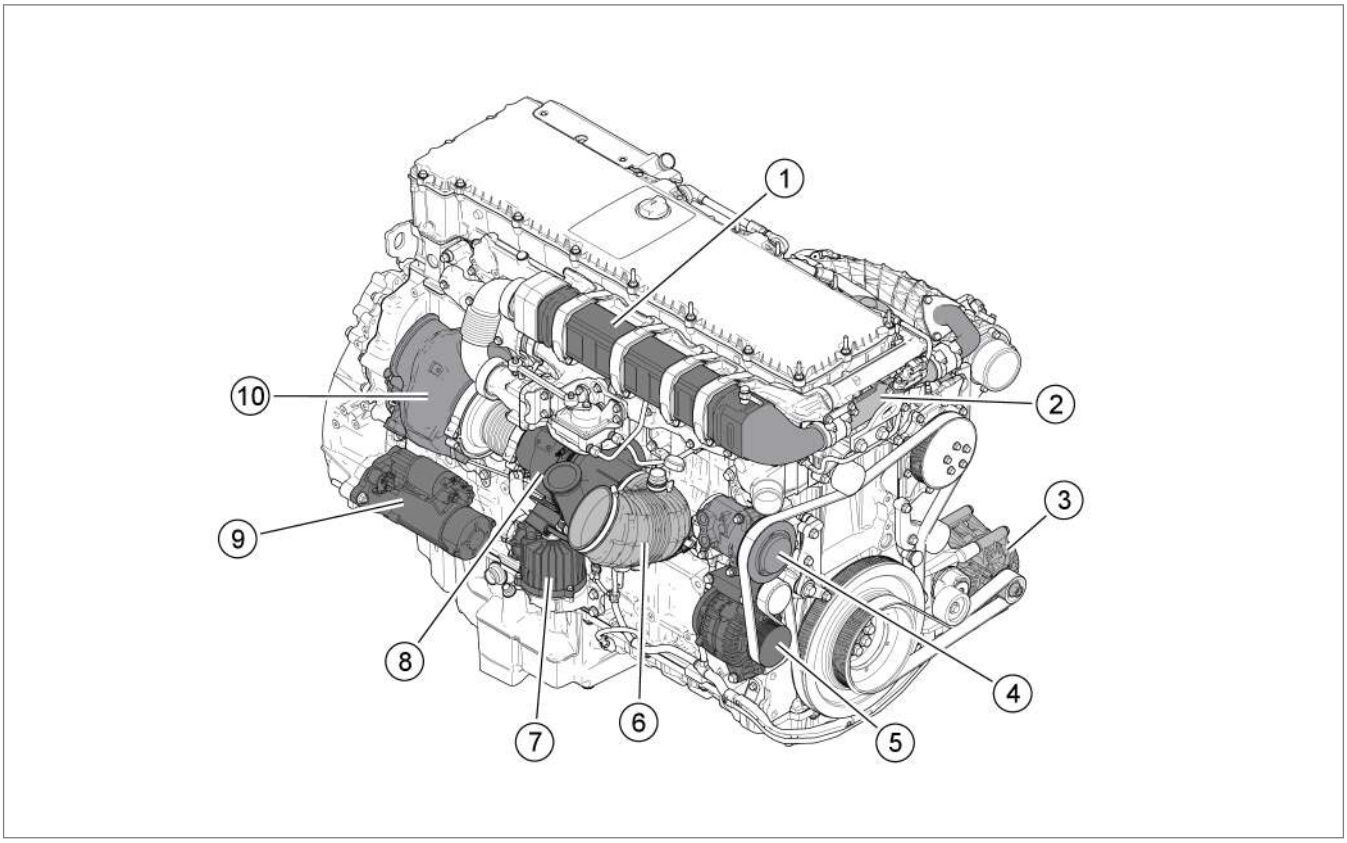
37503-001

Width of clip	Clamp diameter	Tightening torque
12 mm	60 - 80 mm	5 + 0.5 Nm
12 mm	70 - 90 mm	5 + 0.5 Nm

1451-001
175850-001

Engine description

Engine components



267318-001 **32**

Pos.	Value	CCN	Designation	
1			Exhaust gas return cooler OM 470 LA OM 471 LA	 Page 366 Page 379
2			Exhaust gas recirculation line OM 470 LA OM 471 LA	 Page 366 Page 379
3		G002	Alternator 12 V	Page 456
4			Coolant compressor	
5			Alternator 24 V Alternator 24 V Applies to: Type design 473.905	Page 456
6			Air intake tube	Page 423

1451-001

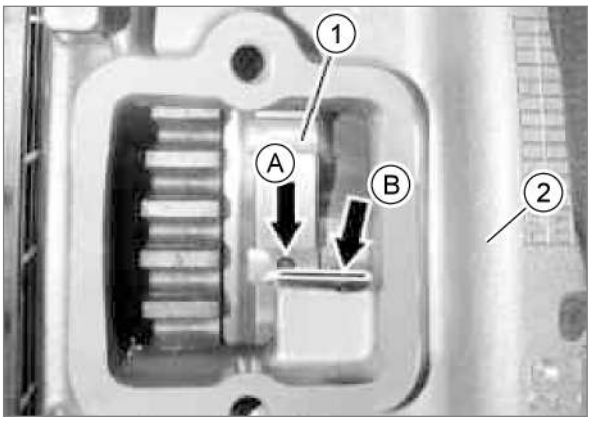
Setting the engine to ignition TDC

Applies to:

Mercedes-Benz OM 470 LA

Mercedes-Benz OM 471 LA

Mercedes-Benz OM 473 LA

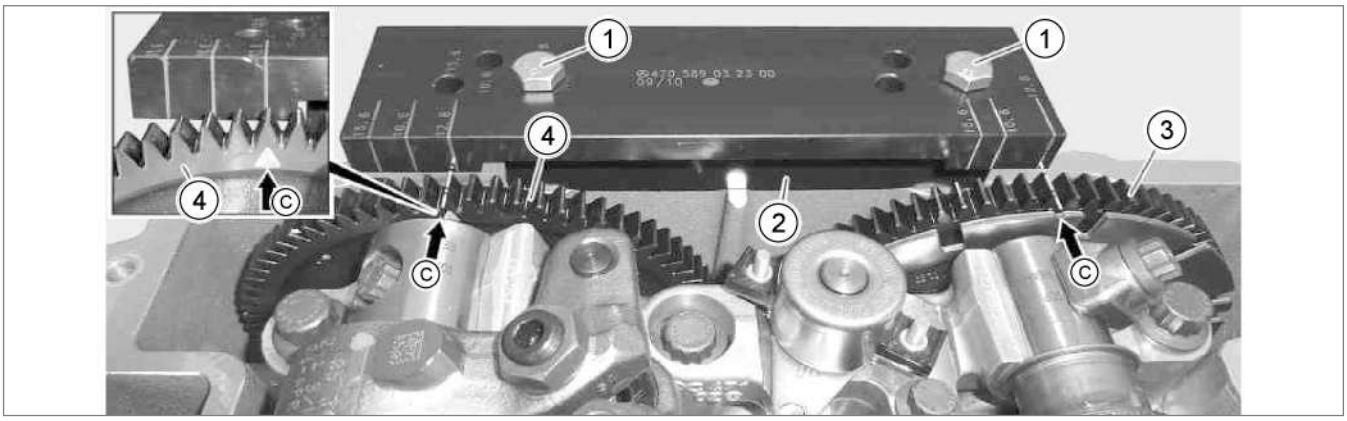


271165-001

62

Use special tool (I). Page 60

- ► Turn the flywheel (1) using the cranking tool until mark (A) on the flywheel reaches the cast edge (B) on the timing housing (2).



271204-001

63

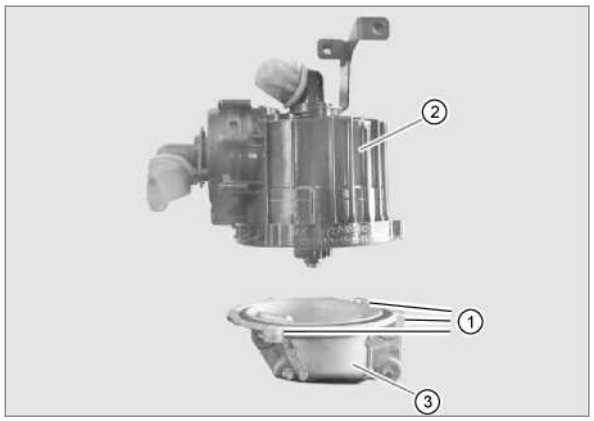
Use special tool (II). Page 60

- ► Insert the bolts (1) into the corresponding drilled holes on the special tool and screw them in tightly.
  - ► OM 470 LA engine: Designation 10.6
  - ► OM 471 LA engine: Designation 12.8
  - ► OM 473 LA engine: Designation 15.6
  - ► If there is a reinforcing frame installed on the OM 470 LA and OM 471 LA engines, do not use the spacer (2).
- ► Check the marks (C) on the gearwheel (3) of the inlet camshaft and on the gearwheel (4) of the outlet camshaft.

  The marks (C) must match the designations on the special tool.
  - ► OM 470 LA engine: Designation 10.6
  - ► OM 471 LA engine: Designation 12.8
  - ► OM 473 LA engine: Designation 15.6

1451-001

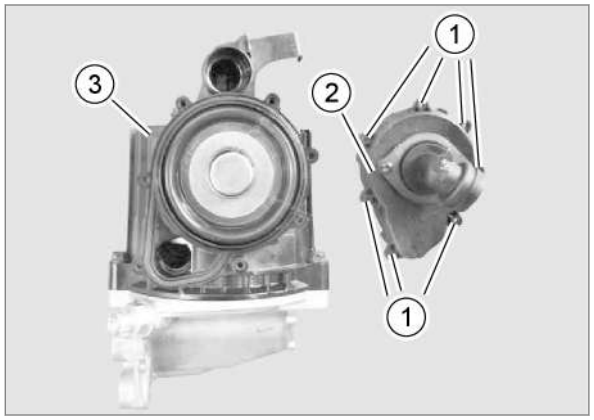
Disassembly



268134-001

145

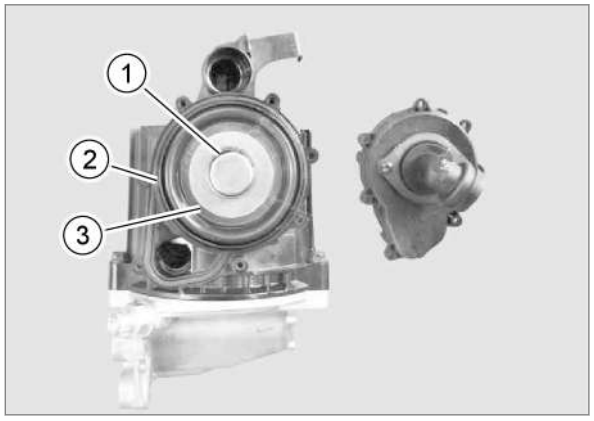
- ► Unscrew bolts (1).
- ► Remove the centrifuge housing (1) from the oil separator housing (2).



268149-001

146

- ► Unscrew bolts (1).
- ► Remove the cover (2) from the centrifuge housing (3).

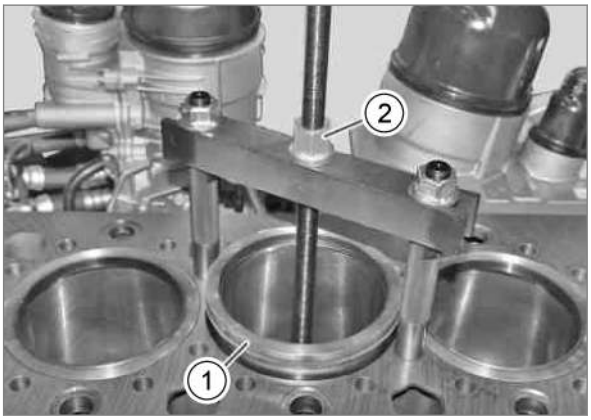


268151-001

147

- ► Remove the spring (1), ring (2) and membrane (3).

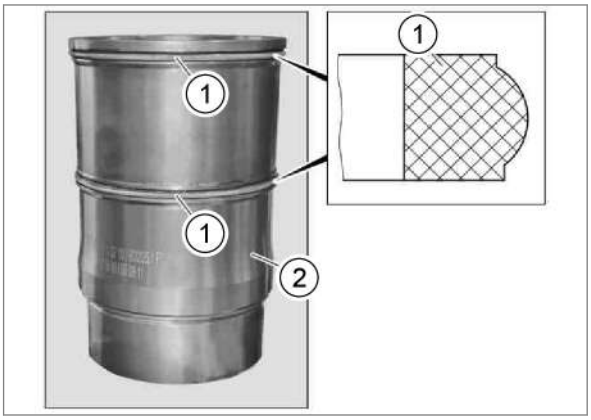
1451-001



274366-001

189

► Pull out the cylinder liner (1) by turning the nut (2).
► Remove the special tool.

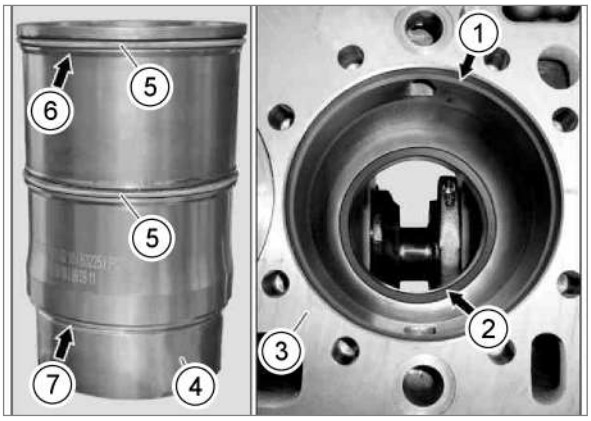


274369-001

190

► Remove the sealing rings (1) from the cylinder liner (2).

► Plug all openings tightly.



274408-001

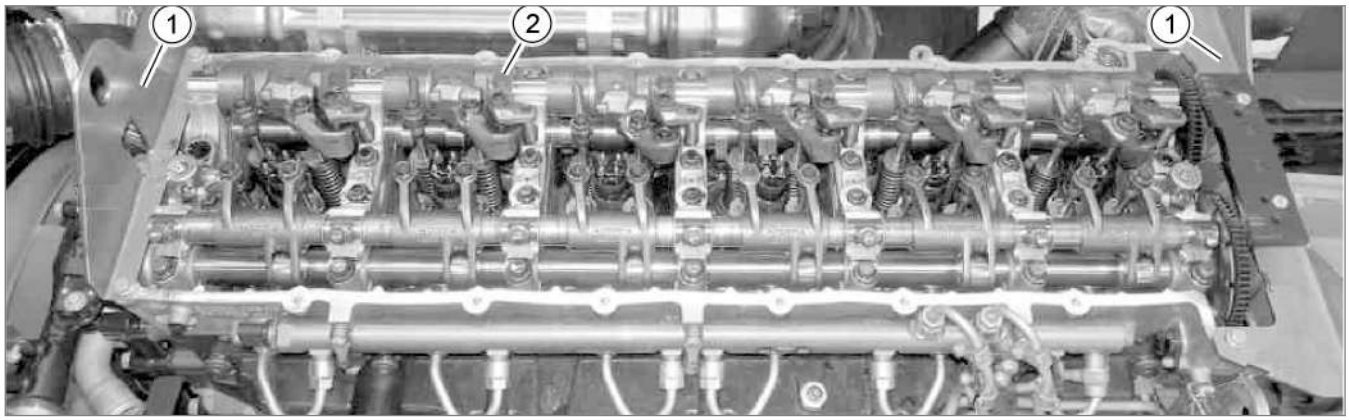
191

Checking

Use brake cleaner and a lint-free cleaning cloth.

► Clean the cylinder liner hole.
► Clean the upper centring seat (1).
  ► Vacuum the upper centring seat and clean it using compressed air.
► Clean the lower collar seat (2).
  ► If the collar seat is scored or damaged, the crank case must be replaced.
► Clean the separating surface (3).
  ► Vacuum the separating surface and clean it using compressed air.
► Vacuum all openings and clean them using compressed air.
► Clean the cylinder liner (4).
► Clean the grooves (5), centring chamfer (6) and thread (7).
► Check the centring chamfer (6) and thread (7) for damage.
  ► Replace the cylinder liner and pistons if necessary.
► Check the centring seat (1) and collar seat (2) for damage.

1451-001

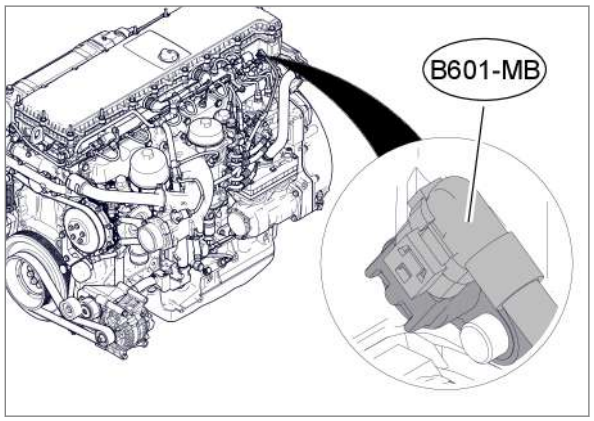


270714-001 **268**

Use special tool (I). Page 179

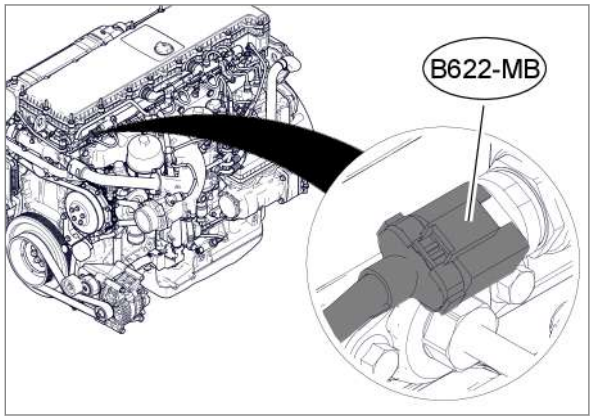
- ► Attach the adapter set (1) to the camshaft housing (2).

- ► Attach the cranking tool to the timing housing. Page 72
- ► Set the engine to ignition TDC for the first cylinder and lock it. Page 73
- ► Remove the inlet rocker arm mechanism. Page 229
- ► Remove the outlet rocker arm mechanism. Page 235



270760-001 **269**

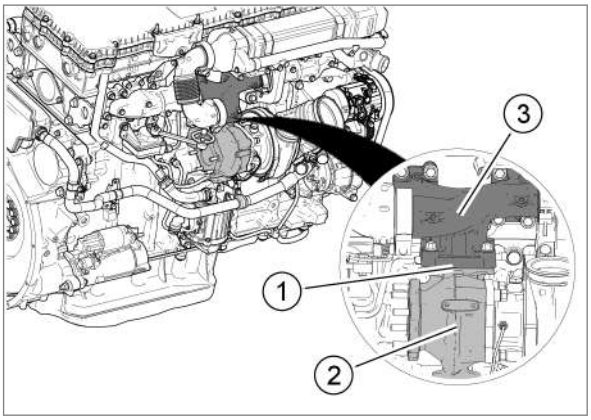
- ► Disconnect the plug-in connection (B601-MB).



270762-001 **270**

- ► Disconnect the plug-in connection (B622-MB).

1451-001

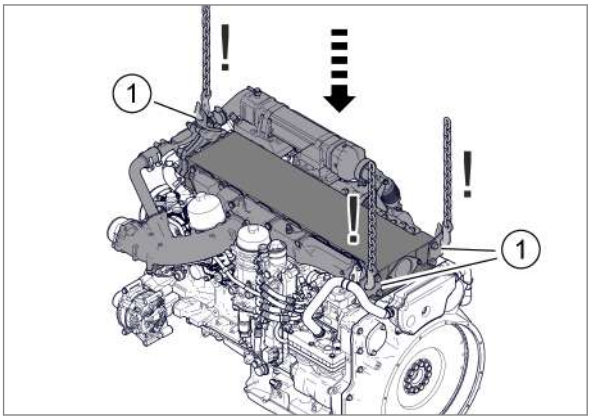


268760-001

350

► Install a new seal (1) between the exhaust turbo charger (2) and exhaust manifold (3).

57765-002



269146-001

351

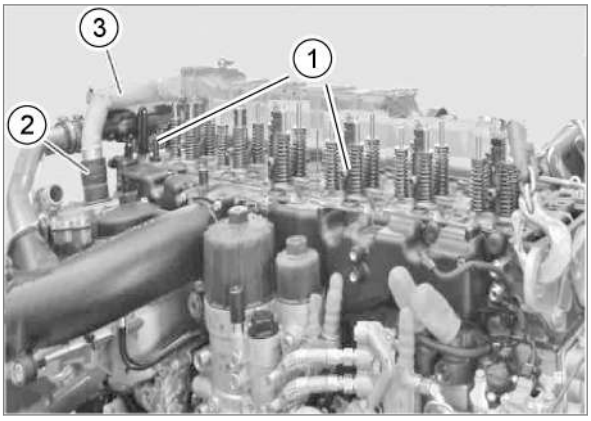
⚠WARNING

Lifting heavy components.

Risk of death or serious injury.

► Use a lifting tool with a sufficient bearing load.
► Use a lifting tool that operates reliably.
► Use the lifting tool on solid and even ground.
► Attach the lifting tool to the component at the intended or a suitable position.
► Only use faultless and sufficiently dimensioned lifting accessories.
► Protect lifting accessories against sharp corners and edges, for example using protectors.

► Suspend the cylinder head using a suitable lifting device at the suspension eyes (1) intended for this purpose.
  ► Ensure that the chains are fitted to the lifting device **vertically** to the lifting eyes!
  ► Use a suitable supporting arm.
  ► Weight of the cylinder head: Page 213



269197-001

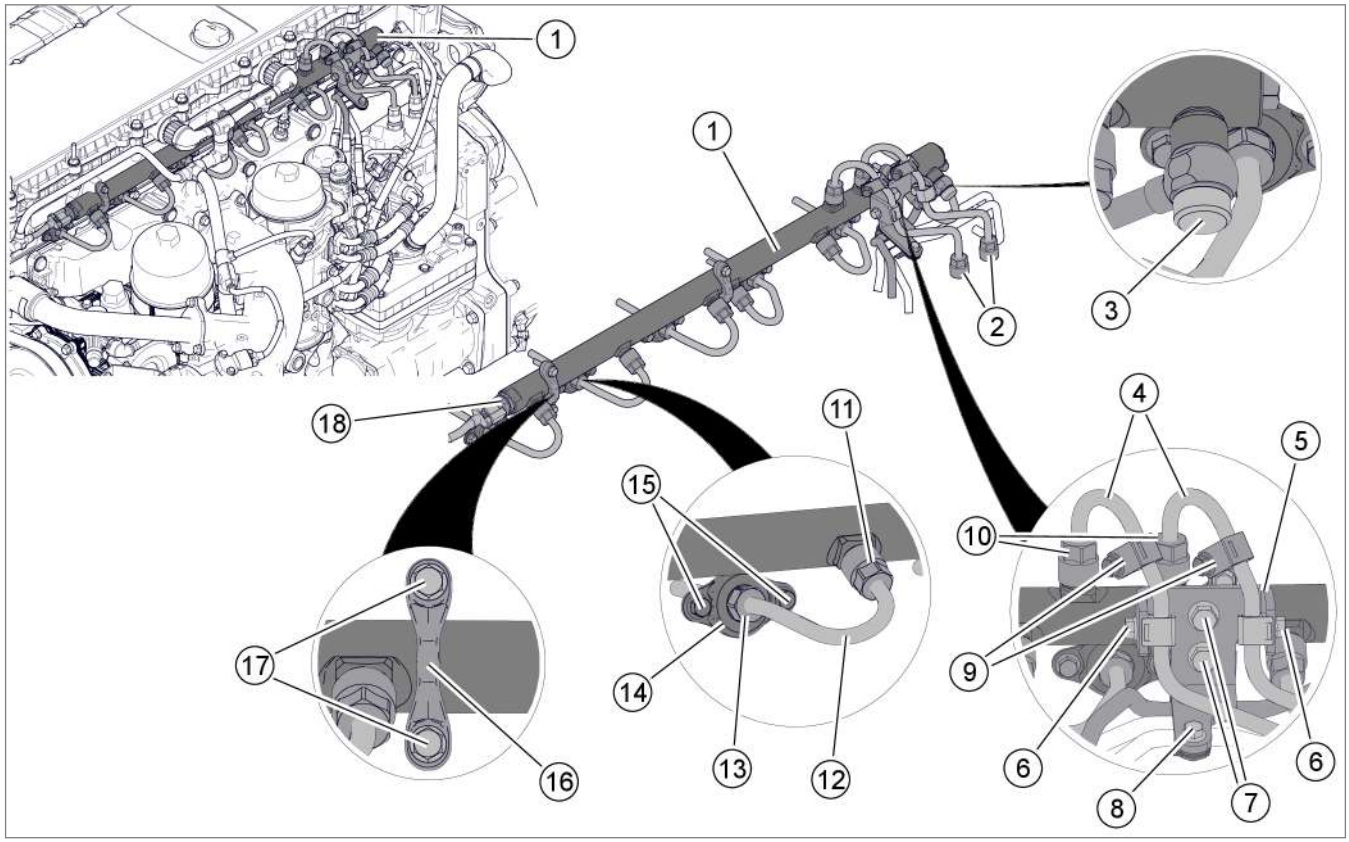
352

Use special tool (V). Page 211

► Insert the guide pins (1) in the holes of the cylinder head screws on the front and rear crank case.
► Position the cylinder head (2) over the guide pin (1) using lifting equipment.
► Slide on a new connecting piece (3).
  Slide on the connecting piece until it reaches the stop on the connector for the oil coolant module (4).

1451-001

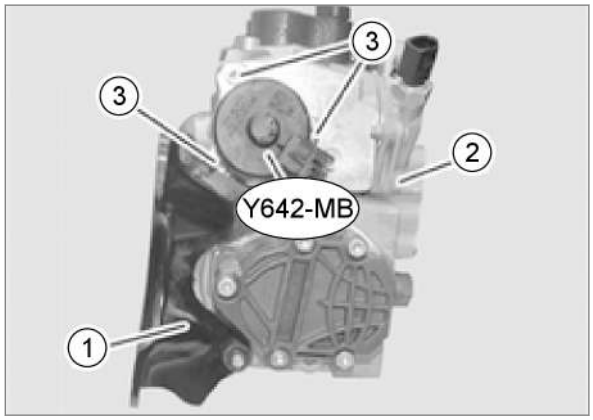
Technical specifications



272948-001 **451**

	Value	CCN	Remark / designation	
1			Rail	
2	40 Nm		Union nuts	
3	30 Nm		Hollow screw	
4			High-pressure lines	
5			Retainers	
6	15 Nm		Mounting bolts for the clamp	
7	M6: 15 Nm M8: 30 Nm		Bracket mounting bolts	
8	25 Nm		Bracket mounting bolt	
9			Oscillation damper	
10	40 Nm		Union nuts	
11	40 Nm		Union nut	
12	40 Nm		High-pressure line	
13	40 Nm		Union	
14			Seal	
15	15 Nm		Mounting bolts for the seal	
Tightening torques not specified, see "Introduction / Tightening torques" chapter				

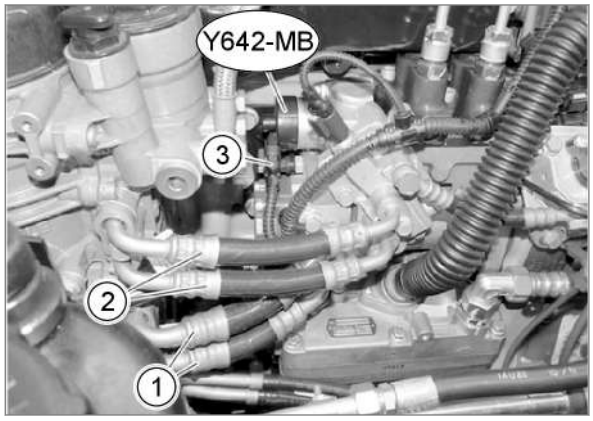
1451-001



278566-001

522

- ► Insert the flow control valve (Y642-MB) in the housing flange (2) and tighten the bolts (3).
  Tightening torque: Page 316
- ► Attach the bracket (1) to the high-pressure fuel pump (2).
  Tightening torque: Page 316
- ► Install the bracket (1) on the crank case.
  Tightening torque: Page 316



278558-001

523

- ► Connect the plug-in connection (3) to the flow control valve (Y642-MB).
- ► Attach the fuel lines (1) and (2). Page 304

- ► Fill the low-pressure fuel circuit on the engine.
  See the Operator's Manual of the machine in question.

If the flow control valve has been replaced:

- ► Reset the programmed values for the high-pressure fuel pump using the CDS.

- ► Start the diesel engine and let it run idling for at least 1 minute.
  - ► If the engine does not start or only runs for a brief period, fill the low-pressure fuel circuit.
  - ► See the Operator's Manual of the machine in question.
- ► Run the diesel engine at a higher speed.
- ► Switch off the diesel engine and check for leaks.

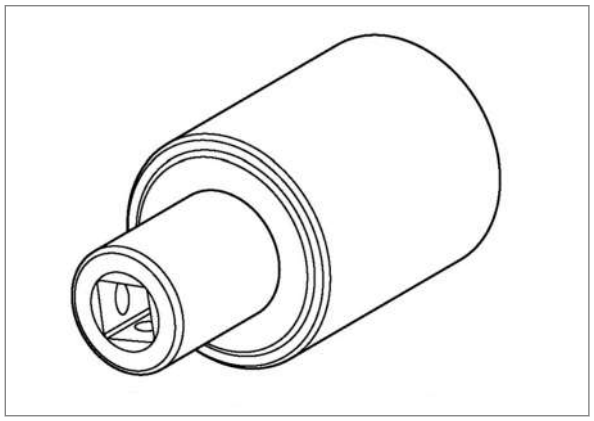
1451-001
181934-001

Oil thermostat

Applies to:
Mercedes-Benz OM 470 LA
Mercedes-Benz OM 471 LA

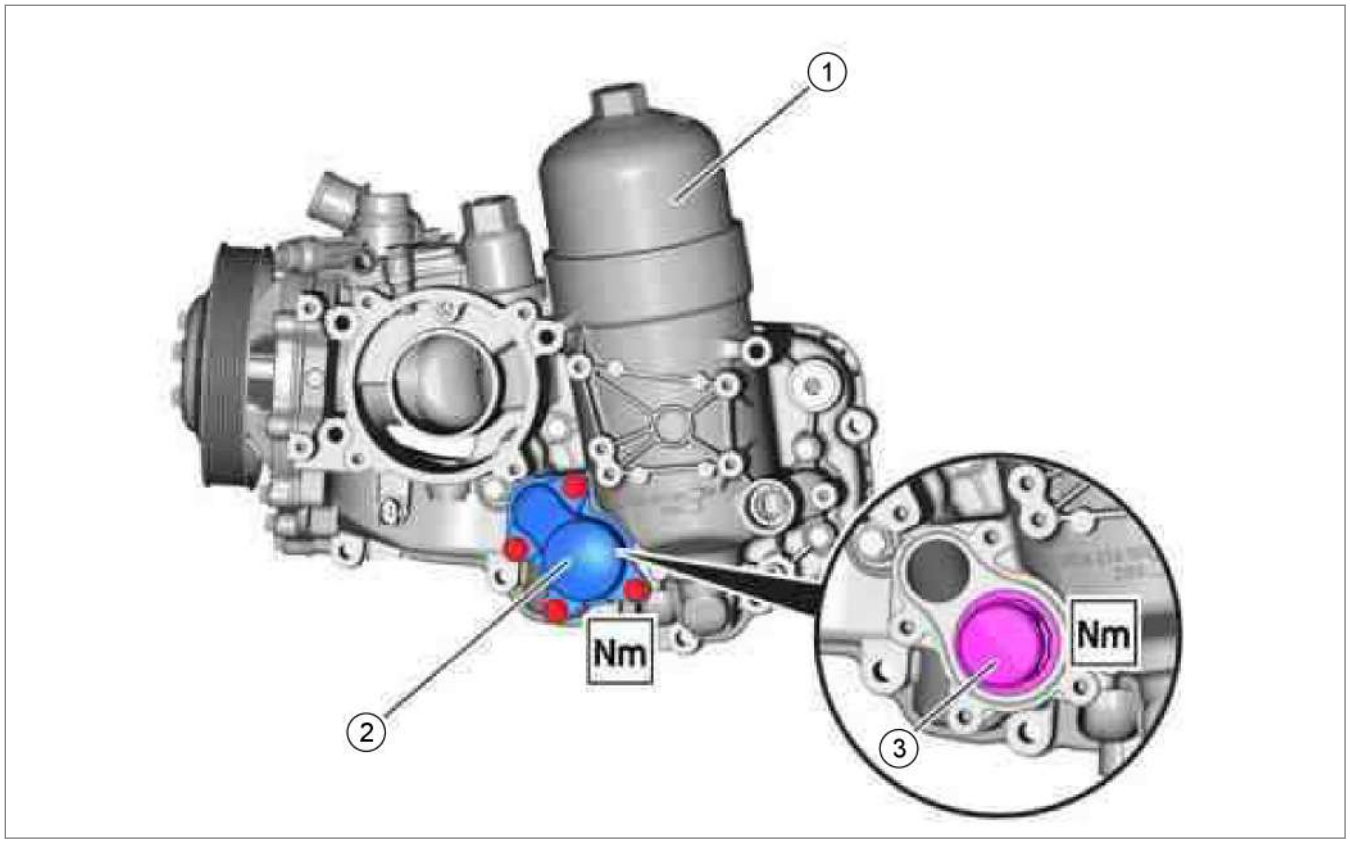
Special tool

	Special tool (I)	Pcs.
	Socket 00 1998 586 0	1



282342-001 **572**

Technical specifications



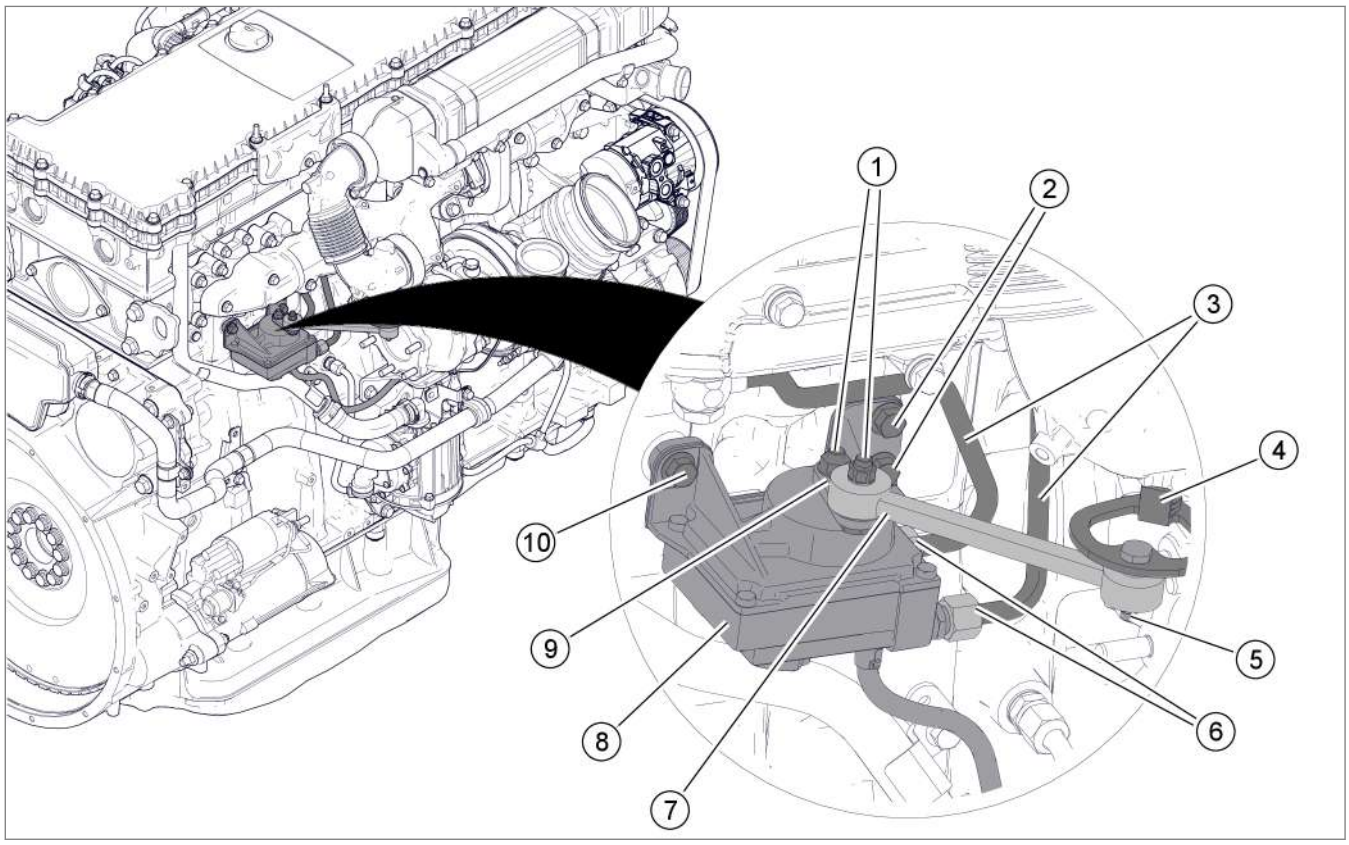
282338-001 **573**

1451-001
176834-001

Exhaust gas recirculation actuator

Applies to:
Mercedes-Benz OM 470 LA
Mercedes-Benz OM 471 LA

Technical specifications



269997-001 **658**

	Value	CCN	Remark / designation	
1	20 Nm		Nuts – Replace the nuts during assembly.	
2	30 Nm		Hex. bolts	
3			Coolant lines	
4			Exhaust gas recirculation valve	
5	20 Nm		Nuts – Replace the nuts during assembly.	
6	40 Nm		Union nuts	
7			Connecting rod	
8		Y621-MB	Exhaust gas recirculation actuator	
Tightening torques not specified, see section on tightening torques				

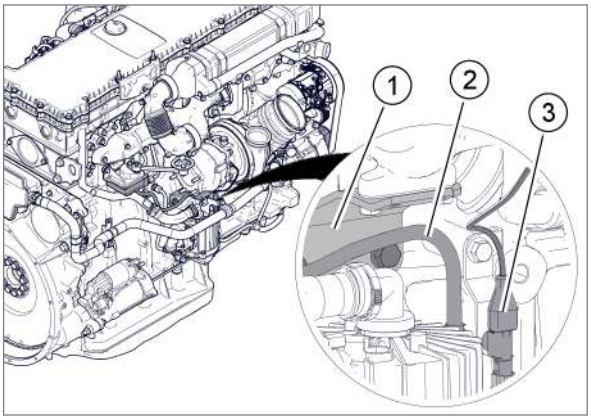
1451-001



273225-001

709

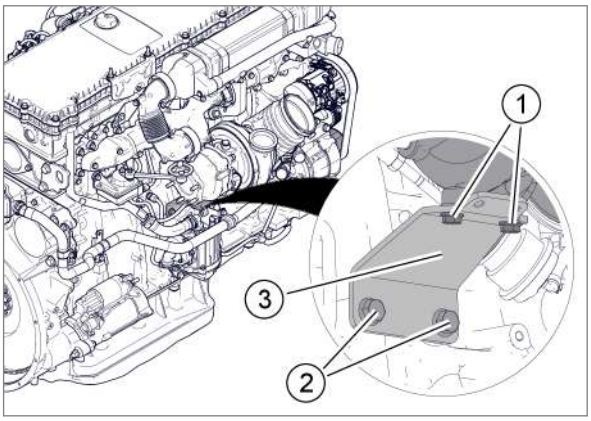
► Remove seals (1) and (2).



273230-001

710

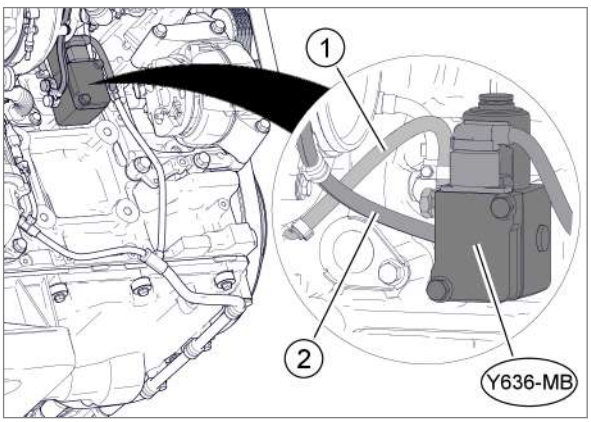
► Detach the line (2) from the bracket (1).
► Disconnect connector (3).



273239-001

711

► Unscrew bolts (1) and (2) and remove the bracket (3).



273454-001

712

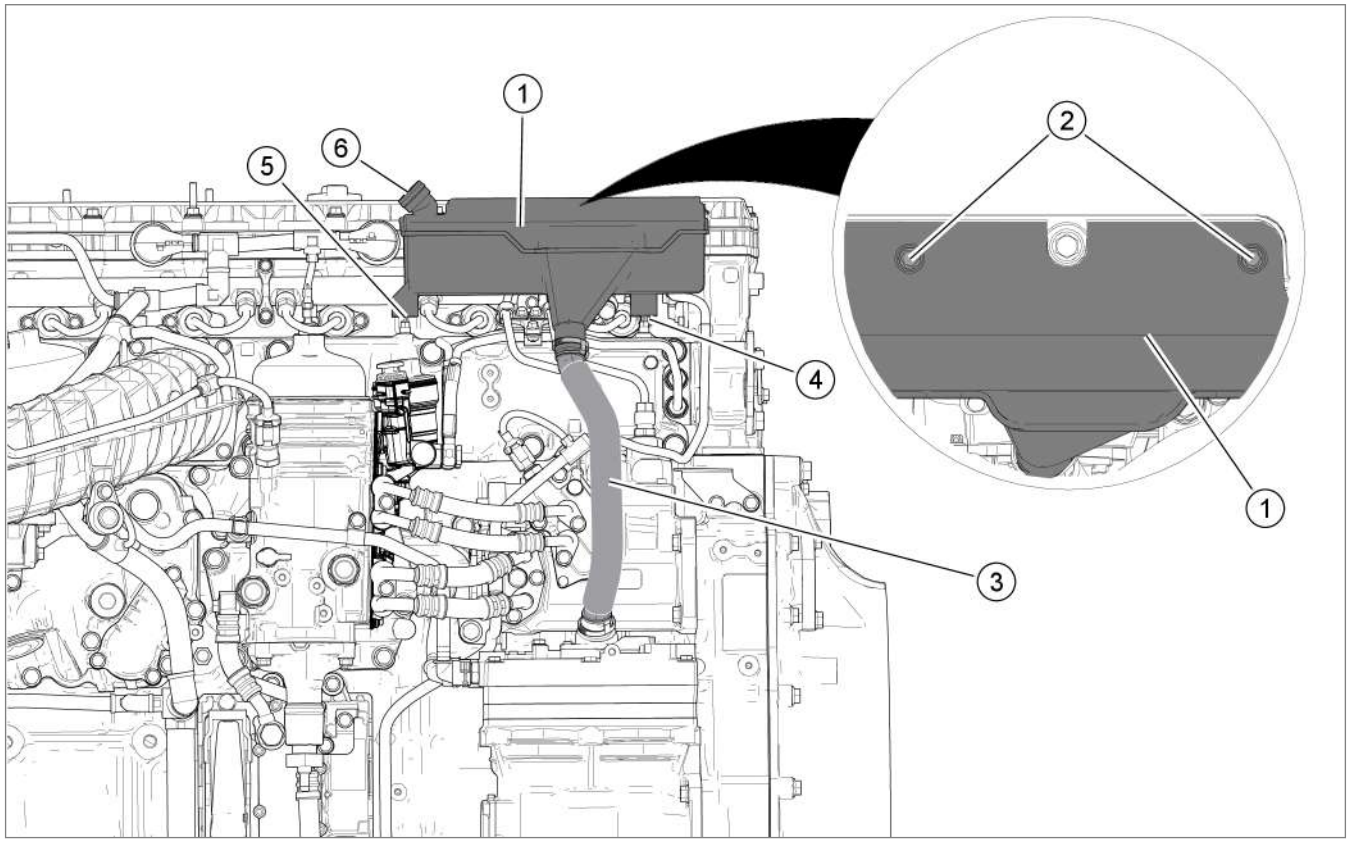
► Detach lines (1) and (2) from the charge pressure actuator (Y636-MB).

1451-001
181067-001

Resonance vessel

Applies to:
Mercedes-Benz OM 471 LA

Technical specifications



280452-001 **778**

	Value	CCN	Remark / designation	
1			Resonance vessel	
2	10 Nm		Mounting bolts for the resonance vessel	
3			Air intake line – Check the sealing ring and replace the air intake line if necessary.	
4			Journal – Ensure that the plugs are correctly seated in the resonance vessel guides (1).	
5			Journal – Ensure that the plugs are correctly seated in the resonance vessel guides (1).	
6			Air intake line – Check the sealing ring and replace the air intake line if necessary.	
Tightening torques not specified, see section on tightening torques				