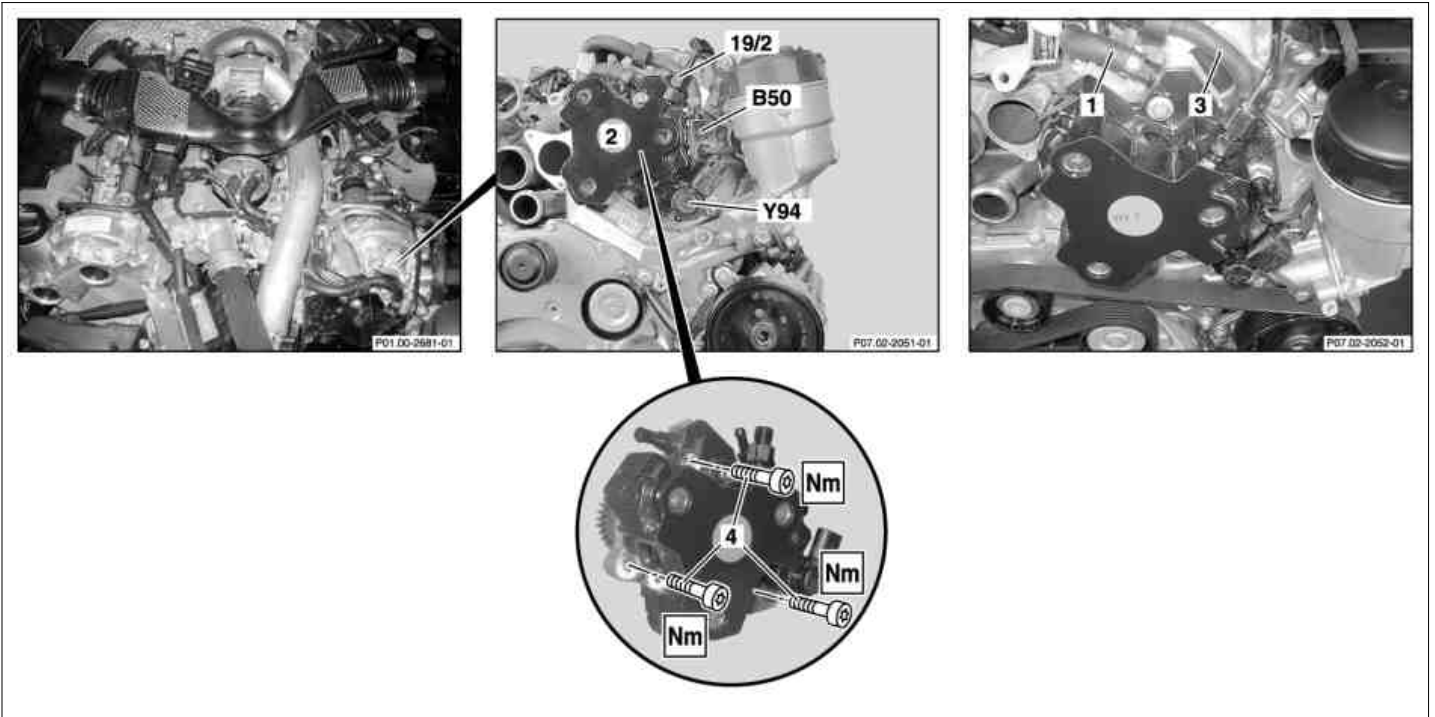


ENGINE 642 in MODEL 207, 212, 218, 221



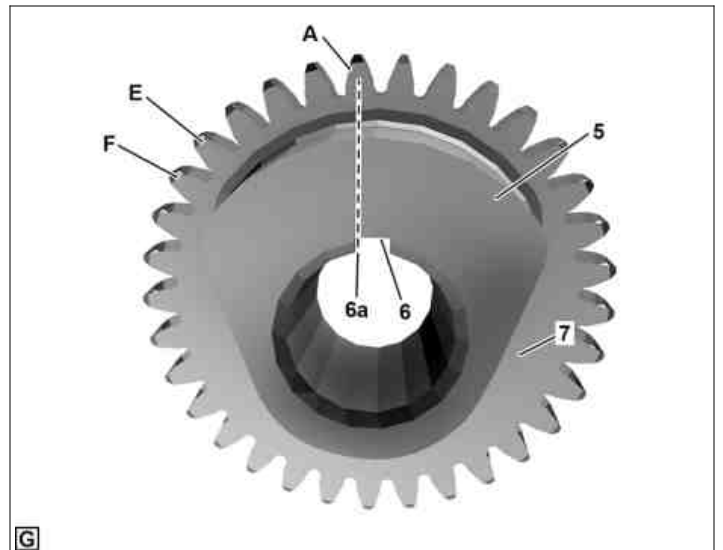
P07.02-2066-09

Illustrated on model 207

- | | | | | | |
|---|--------------------|------|-------------------------|-----|------------------------|
| 1 | Fuel hose | 4 | Bolts | Y94 | Quantity control valve |
| 2 | High pressure pump | 19/2 | Pressure line | | |
| 3 | Fuel hose | B50 | Fuel temperature sensor | | |

Variant A

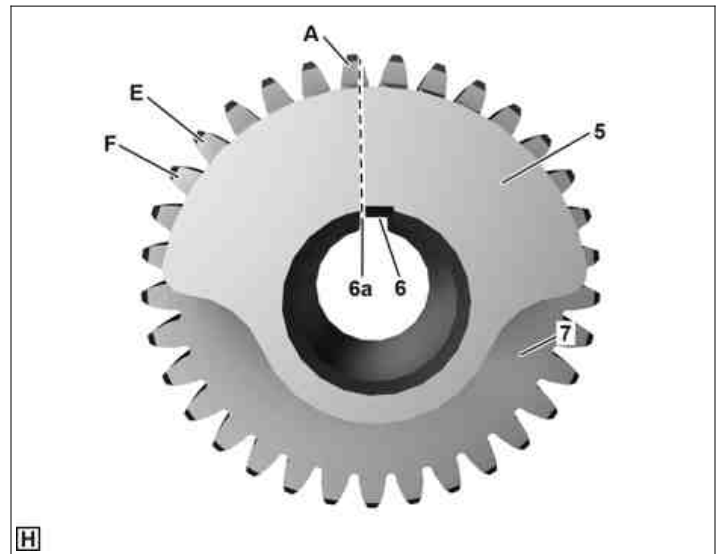
- 5 Correctional weight
- 6 Groove
- 6a Left edge
- 7 Drive gear
- A Tooth
- E Tooth
- F Tooth



P07.02-2190-11


















Variant B

- 5 Correctional weight
- 6 Groove
- 6a Left edge
- 7 Drive gear
- A Tooth
- E Tooth
- F Tooth



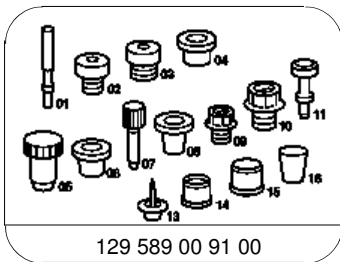
P07.02-2191-11

| | | | |
|--------------------------|---|---|---|
| <p>⚠ Danger !</p> | <p>Risk of explosion caused by fuel igniting, risk of poisoning caused by inhaling and swallowing fuel as well as risk of injury to eyes and skin caused by contact with fuel.</p> | <p>No fires, sparks, open flames or smoking. Pour fuels into suitable and appropriately marked containers only. Wear protective clothing when handling fuel.</p> | <p>AS47.00-Z-0001-01A</p> |
| <p>⚠ Danger !</p> | <p>Risk of explosion caused by fuel igniting. Risk of injury to skin and eyes caused by fuel spraying out at high pressure</p> | <p>Keep all ignition sources out of hazard area. Do not carry out any work on system when it is pressurized.</p> | <p>AS07.16-Z-0001-01A</p> |
| <p>🗑</p> | <p>Remove</p> | | |
| <p>1</p> | <p>Remove engine cover</p> | <p>MODEL 207, 212, 218, 221 with ENGINE 642 MODEL 221 with ENGINE 642</p> | <p>AR01.10-P-2405SXI</p> |
| <p>2</p> | <p>Remove cover for belt drive</p> | <p>MODEL 207, 212, 218 with ENGINE 642</p> | |
| <p>3</p> | <p>Remove retaining clamp on high-pressure line from cylinder head cover</p> | <p>MODEL 207, 212, 218 with ENGINE 642</p> | |
| <p>4.1</p> | <p>Detach pressure line (19/2) at high-pressure fitting</p> | <p>MODEL 207, 212, 218 with ENGINE 642</p> <p>ⓘ Seal the pressure line (19/2) using a suitable stop plug. This will prevent ingress of foreign bodies.</p> <p>i Counterhold threaded sleeve of pressure line (19/2) when releasing using an appropriate tool.</p> <p>🔧 Record plug</p> | <p>AR07.16-P-1080SXI</p> <p>🔧</p> <p>*129589009100</p> |
| <p>4.2</p> | <p>Remove pressure line (19/2)</p> | <p>MODEL 221 with ENGINE 642</p> <p>ⓘ Seal the pressure line (19/2) using a suitable stop plug. This will prevent ingress of foreign bodies.</p> <p>i Counterhold threaded sleeve of pressure line (19/2) when releasing using an appropriate tool.</p> <p>🔧 Record plug</p> | <p>AR07.16-P-1080SXI</p> <p>🔧</p> <p>*129589009100</p> |
| <p>7</p> | <p>Detach fuel hoses (1, 3) on high-pressure pump (2)</p> | <p>ⓘ Close off fuel hose (1, 3) using a suitable stop plug. This will prevent ingress of foreign bodies.</p> <p>🔧 Record plug</p> | <p>🔧</p> <p>*129589009100</p> |
| <p>8</p> | <p>Disconnect electrical connection at quantity control valve (Y94)</p> | | |
| <p>9</p> | <p>Disconnect electrical connection on fuel temperature sensor (B50)</p> | | |

| | | | |
|--|---|--|---------------------|
| 10 | Position piston of cylinder 1 on crankshaft to ignition TDC |  The engine must not be turned back against its direction of rotation. The timing chain can skip otherwise and engine damage can occur. | |
| 11 | Remove coolant hose from bracket | MODEL 207, 212, 218 with ENGINE 642 | |
| 12 | Remove screw/bolts for cover bracket in front of belt drive and remove bracket | MODEL 207, 212, 218 with ENGINE 642 | |
| 13 | Unscrew bolts (4) of the high pressure pump (2) |  Clean threads. Cold degreasing agent/cold cleaning solvent HAKU 1025-920 | *BR00.45-Z-1051-04A |
| 14 | Detach high-pressure pump (2) from the cylinder head |  The high-pressure pump (2) must not be disassembled or opened. | |
|  | Install | | |
| 15 | Modify drive gear (7) | When replacing the high-pressure pump (2). | AR07.02-P-1021SXI |
| 16 | Clean sealing surfaces of the high-pressure pump (2) | | |
| 17 | Replace O-ring on high-pressure pump (2) |  Apply engine oil to O-ring. | |
| 18 | Apply marking to tooth (A) of the drive gear (7) |  To apply the markings in operation steps 17 and 18 and to adjust in operation step 19 the high-pressure pump (2) must be brought (for example held) in the removed condition in the installation position.  Place groove (6) vertically, determine from the left edge (6a) of the groove (6) vertically to the upper tooth (A) and mark. | |
| 19 | Apply markings to teeth (E, F) |  Determine from tooth (A) counterclockwise the teeth (E, F). Here tooth (A) is the 1st tooth and teeth (E, F) the 5th and 6th tooth. | |
| 20 | Adjust position of drive gear (7) relative to high-pressure pump (2) |  Teeth (E, F) must be positioned vertically upright. | |
| 21 | Place high-pressure pump (2) on cylinder head |  Ensure that the previously adjusted drive gear (7) is not twisted. Vibrations will occur otherwise. | |
| 22 | Screw on high-pressure pump (2) with screw/bolts (4) |  Replace screw/bolts (4) due to micro-encapsulation.  Screw/bolt, high-pressure pump to cylinder head | *BA07.16-P-1021-01C |
| 23 | Place cover bracket upstream of belt drive and screw screw/bolts in for cover bracket upstream of belt drive | MODEL 207, 212, 218 with ENGINE 642 | |
| 24 | Insert coolant hose into the bracket | MODEL 207, 212, 218 with ENGINE 642 | |
| 25 | Connect electrical connection at fuel temperature sensor (B50) | | |
| 26 | Connect electrical connection to quantity control valve (Y94) | | |
| 27 | Mount fuel hoses (1, 3) on high-pressure pump (2) |  Check condition of hose clamps and fuel hoses (1, 3) and replace if necessary. | |
| 28 | Install pressure line (19/2) |  Counterhold threaded sleeve for the pressure line (19/2) when releasing using an appropriate tool. | AR07.16-P-1080SXI |
| 29 | Attach covering for the belt drive | MODEL 207, 212, 218 with ENGINE 642 | |
|  Danger ! | Risk of accident from vehicle starting off by itself when engine running. Risk of injury (bruises and burns) resulting from working on the engine while it is being started or when it is running. Check fuel system for leaks with engine running | Secure vehicle to prevent it from starting off by itself. Wear closed and snug-fitting work clothes. Do not touch hot or rotating parts.  When replacing the high-pressure pump (2) the ignition must be switched on for at least 15 seconds before the engine is started. The high-pressure pump (2) would be damaged otherwise. | AS00.00-Z-0005-01A |
| 30 | | | |
| 31 | Fit engine cover | MODEL 207, 212, 218, 221 with ENGINE 642 MODEL 221 with ENGINE 642  Ensure correct seating of the engine cover. | AR01.10-P-2405SXI |

Nm Common rail diesel injection (CDI)

| Number | Designation | | ENGINE 642 |
|--------------------|---|----|------------|
| BA07.16-P-1021-01C | Screw/bolt, high-pressure pump to cylinder head | Nm | 15 |



Record plug

Repair materials

| Number | Designation | Order number |
|--------------------|---|---|
| BR00.45-Z-1051-04A | Cold degreasing agent/cold cleaning solvent HAKU 1025-920 | Chemische Werke Kluthe GmbH Gottlieb-Daimler-Str. 12 69115 Heidelberg Germany Tel. +49 6221 5301-0 Fax + 49 6221 5301-176 www.kluthe.de |