

Engine 157, 278 in model 212, 218

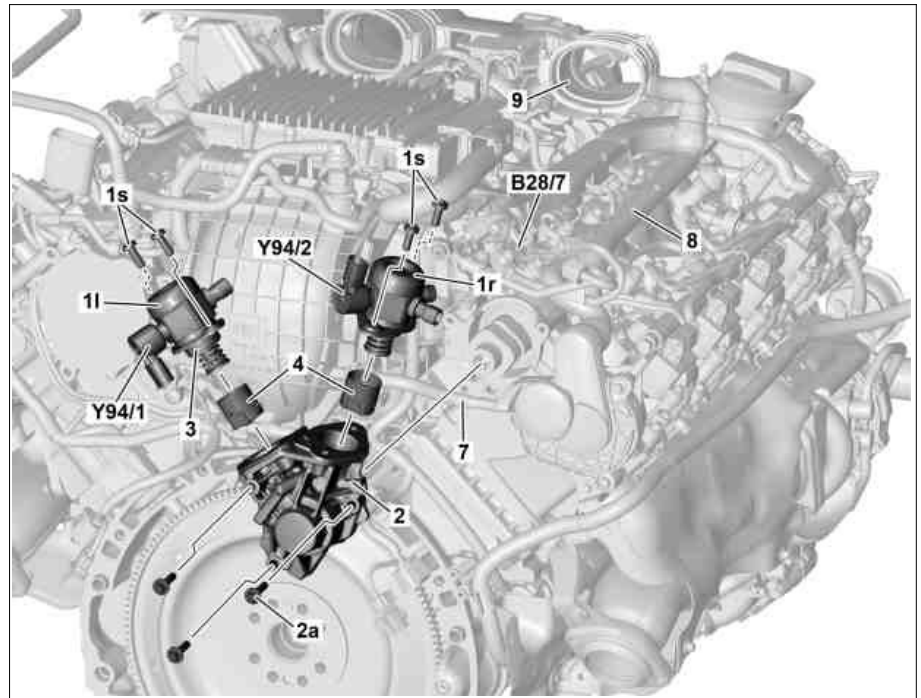
Engine 278 in model 207

Modification notes

05.04.2013	Tightening procedure for housing of the fuel system high pressure pump, added	Operation step 22	
04.07.2016	Überwurfmutter Kraftstoffleitung an Kraftstoffverteiler		BA07.03-P-1001-01E
04.07.2016	Überwurfmutter Kraftstoffleitung an Hochdruckpumpe		BA07.03-P-1002-01E

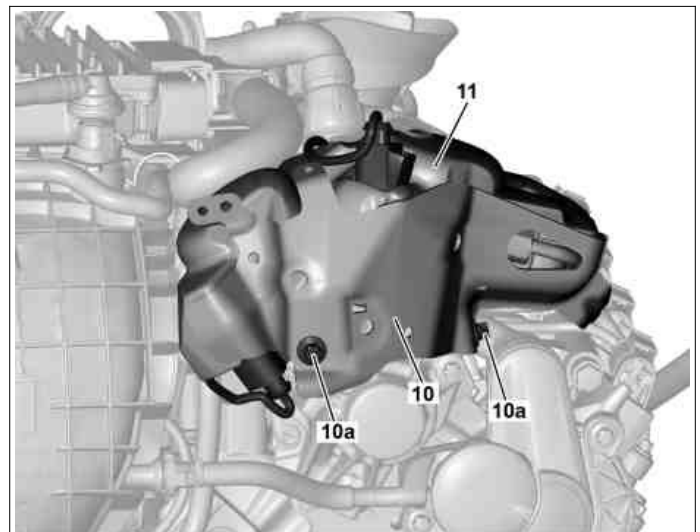
Shown on model 218.373

- 1l Left high-pressure pump
- 1r Right high-pressure pump
- 1s Screw/bolts
- 2 High-pressure pump housing
- 2a Screw/bolts
- 3 Sealing ring
- 4 Tappet elements
- 7 Vacuum line
- 8 Crankcase breather line
- 9 Boot
- B28/7 Pressure sensor downstream of throttle valve
- Y94/1 Left quantity control valve
- Y94/2 Right quantity control valve




















P07.02-2136-06

- 10 Crash plate
- 10a Screw/bolts
- 11 Insulation



P07.02-2137-11

		<p>Check high-pressure lines</p> <p>Mount high-pressure lines.</p> <p>Check fuel high pressure circuit.</p> <p> Union nut, fuel line to fuel distributor</p> <p> Union nut, fuel line to high-pressure pump</p> <p> Bolt, fuel line service valve to cylinder head cover</p> <p> Bolt, right bracket for fuel line clamp to high pressure pump drive housing/cylinder head</p> <p> Bolt, left bracket for high pressure line clamp to cylinder head cover/cylinder crankcase</p> <p> Bolt, fuel line clamp to charge air distribution line</p> <p>Assembly cleaner</p>	<p>AR07.03-P-1010-03MM</p> <p>AR07.03-P-1010-02MMB</p> <p>AR07.03-P-1010-04MM</p> <p>*BA07.03-P-1001-01E</p> <p>*BA07.03-P-1002-01E</p> <p>*BA07.03-P-1003-01E</p> <p>*BA07.03-P-1004-01E</p> <p>*BA07.03-P-1005-01E</p> <p>*BA07.03-P-1006-01E</p> <p>*BR00.45-Z-1028-04A</p>
15	Remove screw/bolts (1s) for high-pressure pump(s) (1r, 1l)	<p> Screw/bolts (1s) must be screwed in and out by half a revolution alternately for removal or installation of the high-pressure pump(s) (1r, 1l). .</p> <p>Damage can occur to the high-pressure pump(n) (1r, 1l) otherwise.</p> <p> Installation: The high-pressure pump(s) (1r, 1l) must lie flat on the high pressure pump housing (2) after tightening the screw/bolts (1s) under the screw/bolts (1s)..</p> <p> Bolt, high-pressure pump to high-pressure pump drive housing</p>	*BA07.02-P-1001-01C
16	Raise high-pressure pump on the left (1l) somewhat and disconnect electrical connection on left quantity control valve (Y94/1)	When removing left high-pressure pump (1l)	
17	Remove high-pressure pump(s) (1r, 1l)	<p> Installation:</p> <p>Dry green sealing ring (3) coated with low-friction paint and insert the black sealing ring (3) wet with oil into the high pressure pump housing (2).</p> <p>Leakage can occur otherwise.</p> <p> Installation: Clean mount(s) for the high-pressure pump(s).</p> <p> Installation: Replace sealing ring (3). There are two variants of the sealing rings (3) which can be differentiated between based on their color.</p>	
18	Pull tappet elements (4) out of the high-pressure pump housing (2)	<p> Installation:</p> <p>The tappet elements (4) must be installed in such a way that the drive rollers for the tappet elements (4) sit on the camshaft.</p> <p>Damage can occur to the camshaft otherwise.</p>	
	Check		
19	Check tappet elements (4) for wear, check for damage and replace if necessary		
	Only perform operation steps 20 to 23 to remove the high-pressure pump housing (2)		
20	Remove centrifuge vacuum line (7) on intake manifold		
21	Remove bracket for high-pressure pump housing (2) on cylinder head cover		
22	Remove screw/bolts (2a) for high-pressure pump housing (2)	<p> Observe assembly specification and tightening sequence.</p> <p>Damage can occur otherwise to the camshaft and cylinder head.</p> <p> Bolt, high-pressure pump drive housing to cylinder head/cylinder head cover</p>	<p>AR07.02-P-1020-02MM</p> <p>*BA07.02-P-1002-01C</p>
23	Take out high-pressure pump housing (2) upwards	 Installation: Replace seals (5, 6).	
24	Install in the reverse order		

25	Switch on ignition	⚠	The ignition must be switched on for 5 s before the engine start in order to fill the high-pressure pump (1l, 1r) with fuel. Damage can occur to the high-pressure pumps (1r, 1l) otherwise.	
⚠ Warning	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.		Secure vehicle to prevent it from starting off by itself. Wear buttoned-up and snug-fitting work clothes. Do not touch hot or rotating parts.	AS00.00-Z-0005-01A
26	Perform an engine test run and check fuel system for proper operation and leaktightness			AR07.03-P-1010-04MM

Nm High pressure pump

Number	Designation		Engine 157	Engine 278
BA07.02-P-1001-01C	Bolt, high-pressure pump to high-pressure pump drive housing	Nm	14	14

Nm High pressure pump

Number	Designation		Engine 157	Engine 278	
BA07.02-P-1002-01C	Bolt, high-pressure pump drive housing to cylinder head/cylinder head cover	Stage 1	Nm	1	1
		Stage 2	Nm	14	14

Nm High pressure pump

Number	Designation		Engine 157	Engine 278
BA07.02-P-1003-01C	Bolt, shield to housing for high-pressure pump drive/bracket	Nm	14	14

Nm Injection nozzles, injection valves, lines

Number	Designation		Engine 157	Engine 278		
BA07.03-P-1001-01E	Union nut, fuel line to fuel In case of reusability distributor		Nm	22	22	
		For new lines	Stage 1	Nm	15	15
			Stage 2	Δ°	90	90

Nm Injection nozzles, injection valves, lines

Number	Designation		Engine 157	Engine 278		
BA07.03-P-1002-01E	Union nut, fuel line to high-pressure pump	In case of reusability	Nm	22	22	
		For new lines	Stage 1	Nm	15	15
			Stage 2	Δ°	90	90

Nm Injection nozzles, injection valves, lines

Number	Designation		Engine 157	Engine 278
BA07.03-P-1003-01E	Bolt, fuel line service valve to cylinder head cover	Nm	9	9

Nm Injection nozzles, injection valves, lines

Number	Designation		Engine 157	Engine 278
BA07.03-P-1004-01E	Bolt, right bracket for fuel line clamp to high pressure pump drive housing/cylinder head	Nm	14	14

Nm Injection nozzles, injection valves, lines

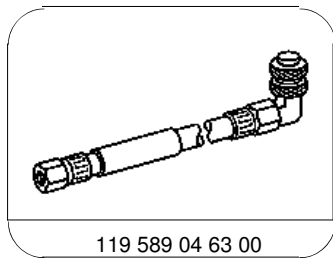
Number	Designation	Engine 157	Engine 278
BA07.03-P-1005-01E	Bolt, left bracket for high pressure line clamp to cylinder head cover/ cylinder crankcase Nm	9	9

Nm Injection nozzles, injection valves, lines

Number	Designation	Engine 157	Engine 278
BA07.03-P-1006-01E	Bolt, fuel line clamp to charge air distribution line Nm	5	5

Nm Injection nozzles, injection valves, lines

Number	Designation	Engine 157	Engine 278
BA07.03-P-1007-01E	Protective cap on service valve Plastic Nm	2	2
	Metal Nm	15	15



119 589 04 63 00

Pressure hose

Repair materials

Number	Designation	Order number
BR00.45-Z-1028-04A	Assembly cleaner	Adolf Würth GmbH & Co. KG Reinhold-Würth-Str. 12-17 74653 Künzelsau-Gaisbach Germany Tel. +49 7940 15-0 Fax +49 7940 15-1000 http://www.wuerth.de