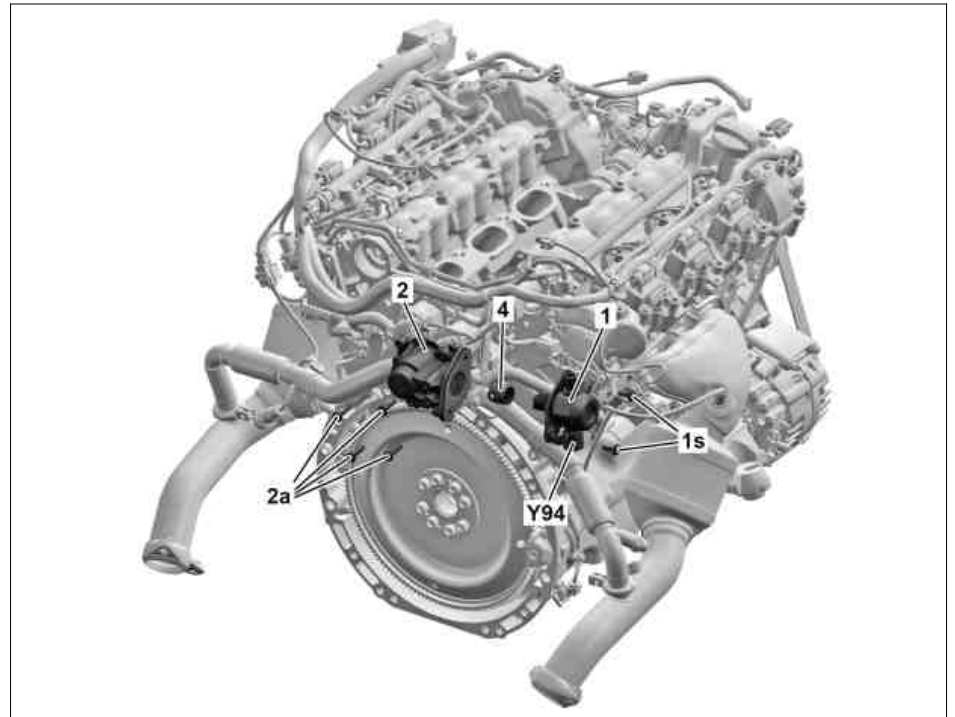


ENGINE 276 in MODEL 166, 251

Modification notes

24.9.14	Überwurfmutter Kraftstoffleitung an Serviceanschluss		BA07.03-P-1008-01D
24.9.14	Überwurfmutter Kraftstoffleitung an Hochdruckpumpe		BA07.03-P-1002-01D
24.9.14	Überwurfmutter Kraftstoffleitung an Kraftstoffverteiler		BA07.03-P-1001-01D

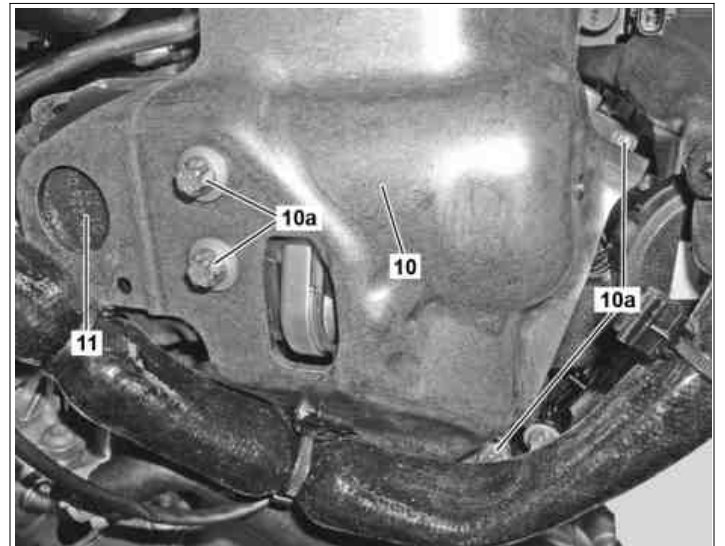
- 1 High-pressure pump
- 1s Screw/bolts
- 2 High-pressure pump housing
- 2a Screw/bolts
- 4 Tappet element
- Y94 Quantity control valve



P07.02-2139-06

Shown on engine 276.9

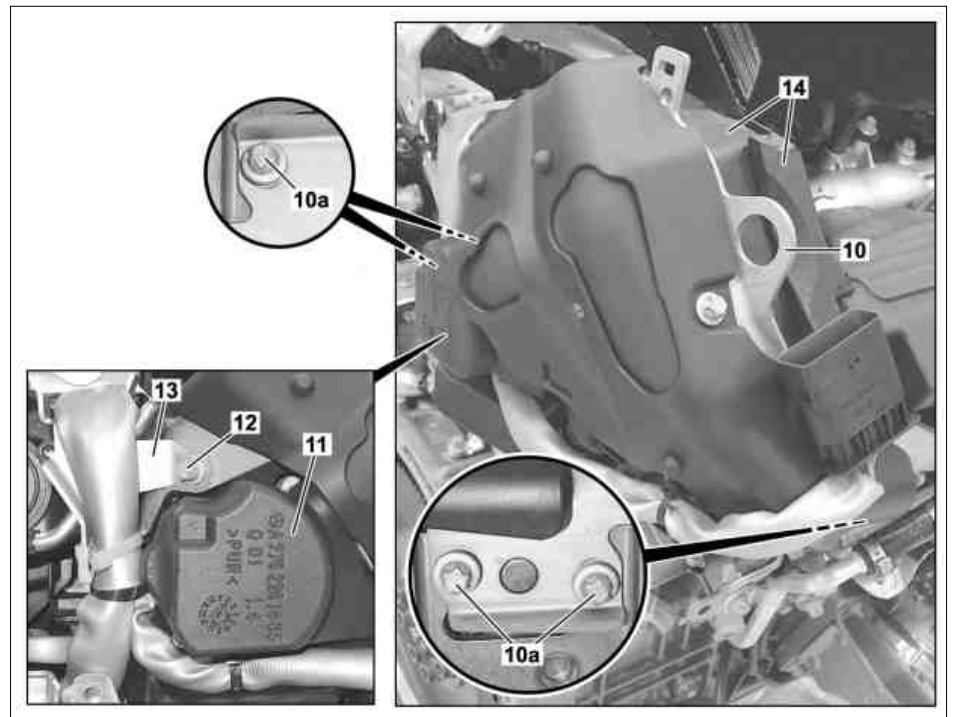
- 10 Crash plate
- 10a Screw/bolts
- 11 Insulation



P07.00-2154-11















Shown on engine 276.8

- 10 Crash plate
- 10a Screw/bolts
- 11 Insulation
- 12 Screw/bolt
- 13 Bracket
- 14 Insulation



P07.00-2158-06

	Remove/install		
Danger!	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.	No fires, sparks, open flames or smoking. Pour fuels into suitable and appropriately marked containers only. Wear protective clothing when handling fuel.	AS47.00-Z-0001-01A
	General information on work on gasoline direct injection system		AH07.00-P-2000-01A
1	Detach ground line from battery	MODEL 166	AR54.10-P-0003GZ
	Notes on battery	MODEL 251	AH54.10-P-0001-01A AR54.10-P-0003RT
2	Remove windshield wiper system	ENGINE 276 in MODEL 251	AR82.30-P-6400RT
3.1	Remove partition wall between wheel wells	MODEL 251	AR62.30-P-2400RT
3.2	Remove right, center and left bulkhead	MODEL 166 Installation: Ensure correct seating of the bulkhead.	
4.1	Remove front engine cover	ENGINE 276.9 in MODEL 166, 251	
4.2	Remove upper engine cover	ENGINE 276.8 in MODEL 166, 251	
5	Unfasten charge air cooler and pull to the front with attached coolant lines	ENGINE 276.8 in MODEL 166, 251	AR09.41-P-6819GQC
6	Rotate engine at crankshaft center bolt in direction of engine rotation to a 40° crank angle (CA) after top dead center (TDC) on cylinder 1 (ignition TDC)		AR05.10-P-7620-04MM
7.1	Remove air filter housing	ENGINE 276.9 in MODEL 166 Bolt, air filter to cylinder head cover Bolt, air filter to air intake pipe support brace	*BA09.10-P-1001-01M *BA09.10-P-1002-01M
7.2	Remove right and left air filter housing	ENGINE 276.8 in MODEL 166, 251	AR09.10-P-1150GQC
8	Unclip insulation from right rail and remove	ENGINE 276.8 in MODEL 166, 251	AR07.03-P-1010GQ
9	Remove intake manifold	ENGINE 276.9 in MODEL 166, 251	AR09.20-P-1961GQ

10	Unclip transmission wiring harness electrical connection on crash plate (10) and disconnect		
11	Disconnect electrical connection for oxygen sensor upstream and downstream of catalytic converter	ENGINE 276.8 in MODEL 166, 251	AR07.52-P-5303GQC
12	Detach engine wiring harness on crash plate (10)	ENGINE 276.8 in MODEL 166 ENGINE 276.8 in MODEL 251 ENGINE 276.9 in MODEL 166 ENGINE 276.9 in MODEL 251	AR01.00-P-2410-02GQC AR01.00-P-2410-02RTC AR01.00-P-2410-02GQ AR01.00-P-2410-02RTZ
13	Remove screw/bolt (12) and press the bracket (13) to one side.	ENGINE 276.8 in MODEL 166, 251	
14	Unscrew screw/bolts (10a) and remove crash plate (10)	 Bolt, shield to high-pressure pump drive housing	*BA07.02-P-1003-01C
15	Remove insulation (11, 14)		
16	Unclip engine wiring harness on exhaust gas recirculation positioner bracket	ENGINE 276.9 in MODEL 166, 251	
17	Relieve fuel pressure through service valve	 Cap on service connection  Pressure hose	AR07.03-P-1460-01VA *BA07.03-P-1007-01D *119589046300
18	Relieve fuel pressure in fuel high-pressure circuit		AR07.03-P-1460-02MM
19	Detach low-pressure line and high-pressure line on the rails and on the high-pressure pump (1)	Check high-pressure lines Mount high-pressure lines. Check fuel high pressure circuit.  Do not kink or bend high-pressure line and low-pressure line . Leaks or damage can occur otherwise.  Installation: The sealing cone for the high-pressure line and low-pressure line must be checked before assembly. The work instructions absolutely must be observed for assembly work. Checking of the fuel high-pressure circuit must be carried out after assembly.  Union nut, fuel line to fuel distributor  Union nut, fuel line to high-pressure pump  Screw/bolt, fuel line service connection to cylinder head cover  Screw/bolt, fuel line clamps  Union nut, fuel line to service connection Assembly cleaner	AR07.03-P-1010-03MM AR07.03-P-1010-02MMA AR07.03-P-1010-04MM *BA07.03-P-1001-01D *BA07.03-P-1002-01D *BA07.03-P-1003-01D *BA07.03-P-1005-01D *BA07.03-P-1008-01D *BR00.45-Z-1028-04A
20	Remove screw/bolts (1s) for high-pressure pump (1)	 Screw/bolts (1s) must be screwed in and out by half a revolution alternately for removal or installation of the high-pressure pump (1). Damage could occur to the high-pressure pump (1) otherwise.  Installation: The high-pressure pump (1) must lie flat on the high-pressure pump housing (2) after tightening the screw/bolts (1s) .  Bolt, high-pressure pump to high-pressure pump drive housing	*BA07.02-P-1001-01C
21	Disconnect electrical connection at quantity control valve (Y94)		
22	Remove high-pressure pump (1)	 Thoroughly clean area around the fuel high-pressure circuit so that no dirt can find its way into the fuel injection system. Failure of the fuel injection system can occur otherwise.	

		<p>! Installation: Replace sealing ring of the high-pressure pump (1). There are two variants of the sealing rings which can be differentiated based on their color. Dry green sealing ring coated with low-friction paint and insert the black sealing ring wet with oil into the high-pressure pump housing (2). Leakage can occur otherwise.</p> <p>i Installation: Clean mount for high-pressure pump (1) in high-pressure pump housing (2).</p>	
23	Pull tappet element (4) out of high-pressure pump housing (2)	<p>! Installation: The tappet element (4) must be installed in such a way that the drive roller for the tappet element (4) sits on the camshaft. Damage can occur to the camshaft otherwise.</p>	
	Check		
24	Check tappet element (4) for wear, check for damage and replace if necessary		
	Only perform operation steps 24 to 26 to remove high-pressure pump housing (2)		
25	Remove bracket on the high-pressure pump housing (2)	Nm Screw/bolt, additional bracket for high-pressure line to high pressure pump drive housing	*BA07.03-P-1006-01D
26	Remove screw/bolts (2a) for high-pressure pump housing (2)	<p>! Observe assembly specification and tightening sequence. Damage can occur otherwise to the camshaft and cylinder head.</p> <p>Nm Bolt, high-pressure pump drive housing to cylinder head/cylinder head cover</p>	AR07.02-P-1020-02MM *BA07.02-P-1002-01C
27	Take out high-pressure pump housing (2) upwards	i Installation: Replace seal.	
28	Install in the reverse order		
29	Switch on ignition	<p>! The ignition must be switched on for 5 s before the engine start in order to fill the high-pressure pump (1) with fuel. Damage could occur to the high-pressure pump (1) otherwise.</p>	
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.	Secure vehicle to prevent it from starting off by itself. Wear closed and snug-fitting work clothes. Do not touch hot or rotating parts.	AS00.00-Z-0005-01A
30	Perform an engine test run and check fuel system for proper operation and leaktightness		

Nm High pressure pump

Number	Designation		ENGINE 276
BA07.02-P-1001-01C	Bolt, high-pressure pump to high-pressure pump drive housing	Nm	14

Nm High pressure pump

Number	Designation			ENGINE 276
BA07.02-P-1002-01C	Bolt, high-pressure pump drive housing to cylinder head/cylinder head cover	Stage 1	Nm	1
		Stage 2	Nm	9

Nm High pressure pump

Number	Designation		ENGINE 276
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BA07.02-P-1003-01C	Bolt, shield to high-pressure pump drive housing	Nm	14
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Nm Injection nozzles, injection valves, lines

Number	Designation			ENGINE 276
BA07.03-P-1001-01D	Union nut, fuel line to fuel distributor	Stage 1	Nm	15
		Stage 2	Δ°	90

Nm Injection nozzles, injection valves, lines

Number	Designation			ENGINE 276
BA07.03-P-1002-01D	Union nut, fuel line to high-pressure pump	Stage 1	Nm	15
		Stage 2	Δ°	90

Nm Injection nozzles, injection valves, lines

Number	Designation			ENGINE 276
BA07.03-P-1003-01D	Screw/bolt, fuel line service connection to cylinder head cover		Nm	9

Nm Injection nozzles, injection valves, lines

Number	Designation			ENGINE 276
BA07.03-P-1005-01D	Screw/bolt, fuel line clamps		Nm	9

Nm Injection nozzles, injection valves, lines

Number	Designation			ENGINE 276
BA07.03-P-1006-01D	Screw/bolt, additional bracket for high-pressure line to high pressure pump drive housing		Nm	9

Nm Injection nozzles, injection valves, lines

Number	Designation			ENGINE 276
BA07.03-P-1007-01D	Cap on service connection	Plastic	Nm	2
		Metal	Nm	15

Nm Injection nozzles, injection valves, lines

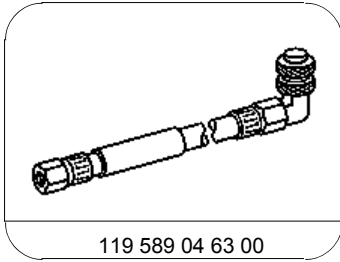
Number	Designation			ENGINE 276
BA07.03-P-1008-01D	Union nut, fuel line to service connection	Stage 1	Nm	15
		Stage 2	Δ°	90

Nm Air filter

Number	Designation			ENGINE 276.9
BA09.10-P-1001-01M	Bolt, air filter to cylinder head cover		Nm	9

Nm Air filter

Number	Designation		ENGINE 276.9
BA09.10-P-1002-01M	Bolt, air filter to air intake pipe support brace	Nm	9



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 www.wuerth.de