

BT09.20-P-0005-01AMG

Seals and bolts on the intake manifold

BT

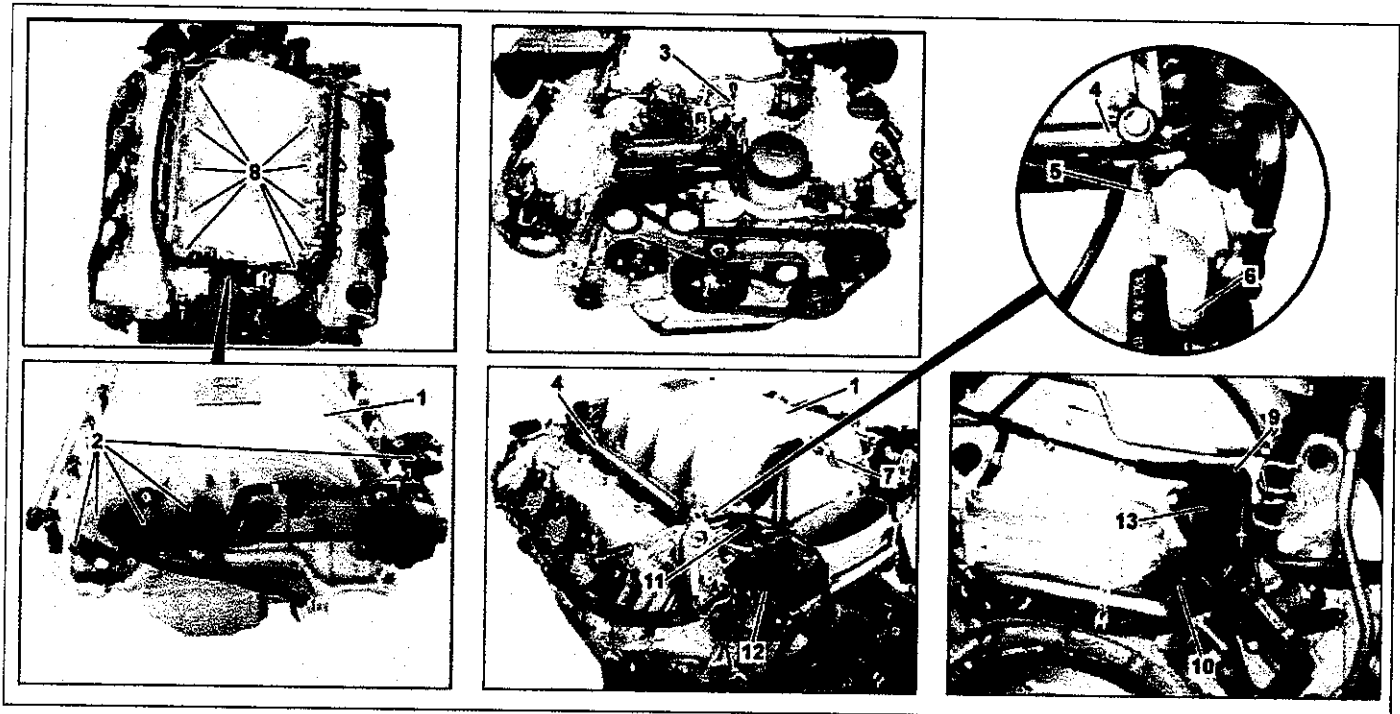
**ENGINE 156 in MODEL 164.177, 209.377 I477, 211.077 I277, 219.377, 251.077 I177**

The intake manifold seals were altered to improve leaktightness.  
When installing the altered intake manifold seals, the altered bolts  
must also be used (old: steel, new: aluminum).

**i** An altered tightening pattern arises due to the change of  
material for the bolts.

ENGINE 156.982 in MODEL 209.377 I477

ENGINE 156.983 in MODEL 211.077 I277, 219.377



- 1 Intake manifold  
2 Plug connections  
3 Vacuum line  
4 Fuel distributor

- 5 Purge line  
6 Bolt  
7 Fuel pipe  
8 Bolts

- 9 Vacuum hose  
10 Vacuum line  
11 Connection  
12 Plug connection  
13 Vacuum reservoir

P09.20-2184-09

## Modification notes

6.8.09	Value changed: Bolt, intake manifold to cylinder head	*BA09.20-P-1002-01R
	Value changed: Bolt, intake manifold to cylinder head	*BA09.20-P-1002-01R
	Value changed: Bolt, intake manifold to cylinder head	*BA09.20-P-1002-01R

	Remove/install		
<b>Danger!</b>	<b>Risk of explosion</b> caused by fuel igniting, <b>risk of poisoning</b> caused by inhaling and swallowing fuel and <b>risk of injury</b> to eyes and skin caused by contact with fuel	No fire, sparks, open flames or smoking. Only pour fuels into suitable and appropriately marked containers. Wear protective clothing when handling fuel.	AS47.00-Z-0001-01A
<b>Danger!</b>	<b>Risk of injury</b> caused by fingers being pinched or crushed when removing, installing or aligning hoods, doors, trunk lids, liftgates or sliding roof	Keep body parts and limbs well clear of moving parts.	AS00.00-Z-0011-01A
1	Switch ignition off, remove ignition key (transmitter key).		
2	Open engine hood	Model 209 Model 211 Model 219	AR88.40-P-1000Q AR88.40-P-1000T AR88.40-P-1000TX
3	Remove both engine air intake ducts		
4	Remove front engine cover	Do not tilt front engine cover, but lift upwards vertically otherwise the retaining lugs can break off.	
5	Remove air filter housing		AR09.10-P-1150TMG
6	Release fuel pressure with pressure hose via service valve		AR07.03-P-1460-01TMG *119589046300
7	Detach fuel line from fuel distributor (4)	<b>Installation:</b> Install new sealing rings. 	*BA07.03-P-1001-01C
8	Disconnect connectors (2) at intake pipe (1) at front		
9	Detach vacuum line (3)		

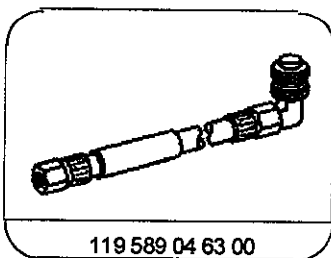
11	Remove insulating cover		
12	Disconnect connectors for injection valves	Place wiring harness to side.	
13	Remove bolt (6) and purge line (5)		*BA07.03-P-1002-01C
14	Detach vacuum hose (9) from intake manifold (1) or from vacuum unit (13)	Detach hose to vacuum reservoir.	
15	Remove vacuum line (10).		
16	Disconnect connector (12)		
17	Remove bolts (8) from intake pipe (1) then remove intake pipe (1) upwards	Close off intake ports in doing so Injection valves is not damaged. <b>Installation:</b> Clean sealing surfaces; replace intake manifold seals and bolts. <b>Installation:</b> Observe tightening pattern for fastening the intake manifold. 	AR09.20-P-1310-03AMG *BA09.20-P-1002-01R BT09.20-P-0005-01AMG
BT	Seals and bolts on the intake manifold		
18	Install in the reverse order		
Danger!	<b>Risk of accident</b> caused by vehicle starting off by itself when engine is running. <b>Risk of injury</b> caused by contusions and burns during starting procedure or when working near the engine as it is running	Secure vehicle to prevent it from moving by itself. Wear closed and snug-fitting work clothes. Do not touch hot or rotating parts.	AS00.00-Z-0005-01A
19	Carry out engine test run and check intake manifold (1) for leaks	In the event of a leak, determine and eliminate cause, otherwise malfunctions and serious environmental pollution may occur.	

Injectors, injection valves, lines

Number	Designation	Engine 156
BA07.03-P-1001-01C	Union nut, fuel line to fuel distributor	Nm 20
BA07.03-P-1002-01C	Bolt, fuel distributor to resonance intake manifold	Nm 9

Intake manifold

Number	Designation	Engine 156
BA09.20-P-1002-01R	Bolt, intake manifold to cylinder head	Stage 1 Nm 10
		Stage 2 4° 90
		Stage 3 4° 10

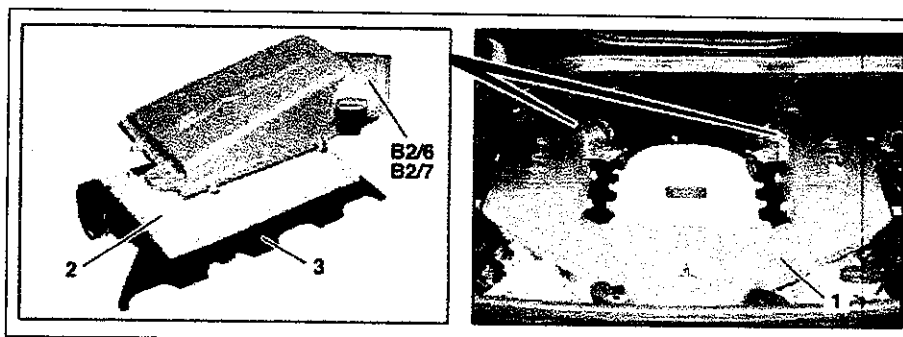


119 589 04 63 00

Pressure hose

ENGINE 156.983 in MODEL 211, 219

- 1 Front engine cover
- 2 Air filter element
- 3 Air filter housing
- B2/6 Left hot film MAF sensor
- B2/7 Right hot film MAF sensor



P09.10-2177-04

Remove/install and replace			
1	Switch off ignition		
2	Remove front engine cover (1)		
3	Remove both air filter housing covers with hot film mass air flow sensors (B2/6, B2/7)		
AR	Remove/install hot film mass air flow sensor		AR07.07-P-1453TMG
4	Remove air filter elements (2) from air filter housing (3)		
	Clean		
5	Clean the insides of the air filter housing (3)	LU cleaner	*BR00.45-Z-1028-04A
6	Install in the reverse order		

Repair materials

Number	Designation	Order number
BR00.45-Z-1028-04A	LU 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

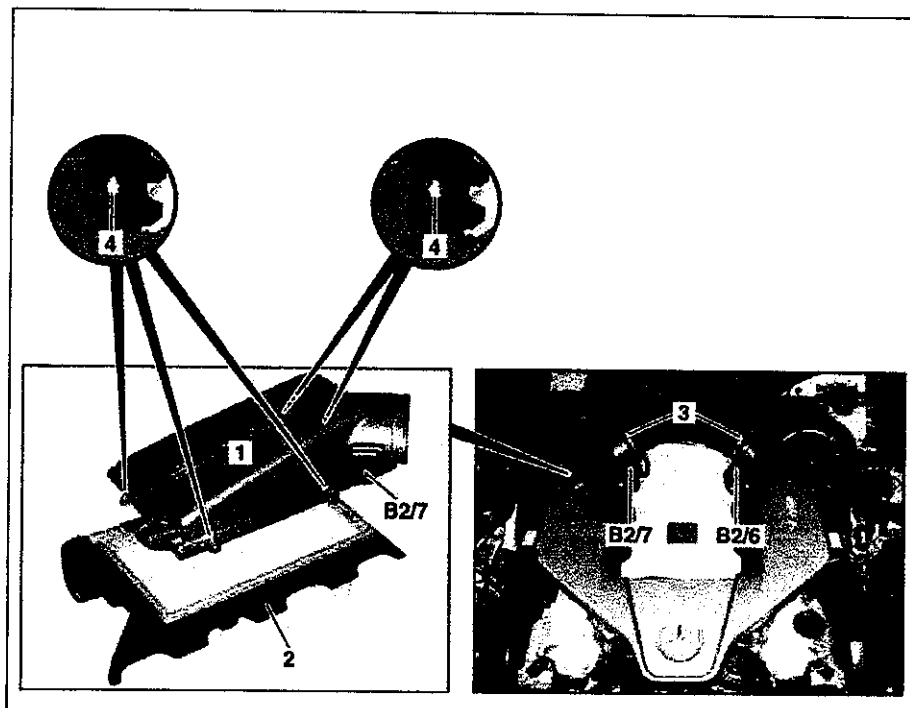
ENGINE 156.982 in MODEL 209.377 /477

ENGINE 156.983 in MODEL 211.077 /277, 219.377

- 1 Top section of air filter housing
- 2 Bottom section of air filter housing
- 3 Hose clamp
- 4 Bolts

B2/6 Left hot film MAF sensor

B2/7 Right hot film MAF sensor

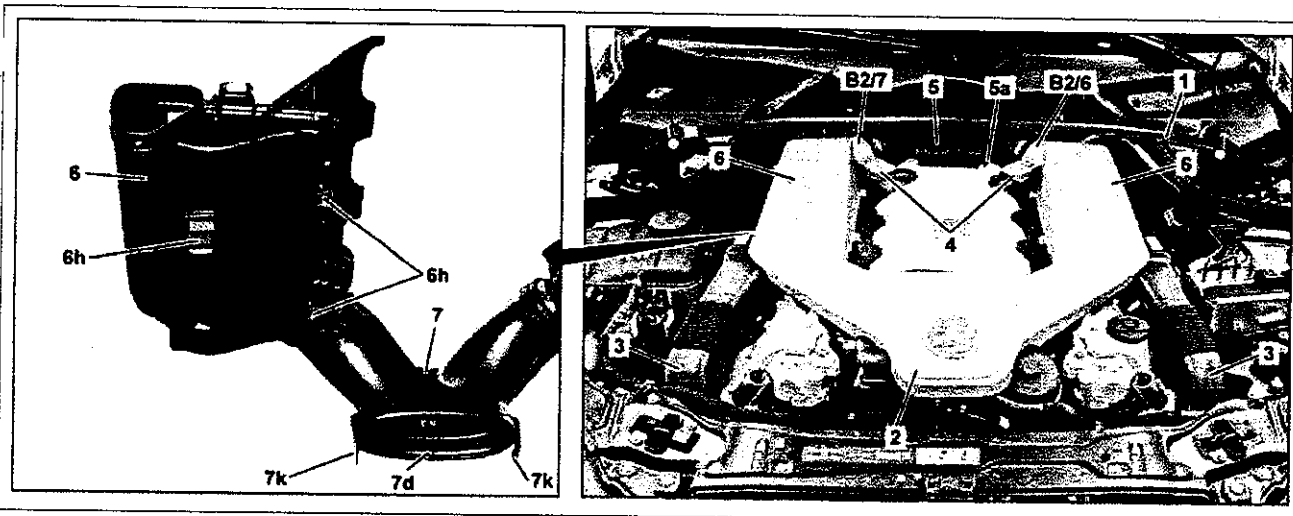


P07.07-2069-06

	Remove/install		
1	<p><b>Danger!</b></p> <p><b>Risk of injury</b> caused by fingers being pinched or crushed when removing, installing or aligning hoods, doors, trunk lids, tailgates or sliding roof.</p> <p>Open engine hood</p>	<p>Keep body parts and limbs well clear of moving parts.</p> <p>Model 209 Model 211 Model 219</p>	<p>AS00.00-Z-0011-01A</p> <p>AR88.40-P-1000Q AR88.40-P-1000T AR88.40-P-1000TX</p>
2	Remove front engine cover	<p>⚠ Do not tilt front engine cover, but lift upwards vertically otherwise the retaining lugs can break off.</p>	
3	Remove cover from hot film MAF sensor from above	<p>ⓘ Depending on which hot film MAF sensor, on the right or left, should be removed.</p>	
4	Open hose clamp (3)	<p>ⓘ Depending on which hot film MAF sensor, on the right or left, should be removed.</p>	
5	Remove air filter housing on right or left	<p>ⓘ Depending on which hot film MAF sensor, on the right or left, should be removed.</p> <p>ⓘ The left hot film mass air flow sensor (B2/6) and right hot film MAF sensor (B2/7) are located respectively on the top section of air filter housing.</p>	AR09.10-P-1150TMG
6	Remove bolts (4)		
7	Disconnect top section of air filter housing (1) from bottom section of air filter housing (2)	<p>ⓘ <b>Installation:</b> The left hot film mass air flow sensor (B2/6) and right hot film MAF sensor (B2/7) must be completely replaced with the top section of air filter housing (1) in the case of a defect.</p>	
8	Install in the reverse order		
9	<p><b>Danger!</b></p> <p><b>Risk of accident</b> caused by vehicle starting off by itself when engine is running. <b>Risk of injury</b> caused by contusions and burns during starting procedure or when working near the running engine</p> <p>Carry out engine test run</p>	<p>Secure vehicle to prevent it from moving by itself.</p> <p>Wear closed and snug-fitting work clothes.</p> <p>Do not grasp hot or rotating parts.</p>	AS00.00-Z-0005-01A

ENGINE 156.982 in MODEL 209.377 /477

ENGINE 156.983 in MODEL 211.077 /277, 219.377



P09.10-2203-08

- 1 Strut tower brace  
2 Front engine cover  
3 Intake air duct  
4 Cover

- 5 Pressure reservoir  
5a Pneumatic line  
6 Air cleaner housing  
6h Brackets  
7 Intake port

- 7d Gasket  
7k Retaining clamp

- B2/6 Left hot film MAF sensor  
B2/7 Right hot film MAF sensor

	Remove/install		
	<b>Danger!</b>	<b>Risk of injury</b> caused by fingers being pinched or crushed when removing, installing or aligning hoods, doors, trunk lids, tailgates or sliding roof.	Keep body parts and limbs well clear of moving parts.
	<b>Danger!</b>	<b>Risk of injury</b> to skin and eyes caused by handling hot or glowing objects.	Wear safety gloves, protective clothing and safety glasses, if necessary.
		Information on preventing damage to electronic components due to electrostatic discharge	AH54.00-P-0001-01A
		Notes on avoiding damage through contamination and foreign objects	AH00.00-P-5000-01A
1	Open engine hood and raise to vertical position	Model 209 Model 211 Model 219	AR88.40-P-1000Q AR88.40-P-1000T AR88.40-P-1000TX
2	Remove strut tower brace (1)	Model 209 with code P98 Black Series	AR62.30-P-2500QBS
3	Remove front engine cover (2)		In order to prevent damage lift front engine cover (2) straight up without tipping and place it on a padded base.
4	Remove the intake air ducts (3)		
5	Remove covers (4)		
6	Release and disconnect electrical connectors at left and right hot film mass air flow sensors (B2/6, B2/7)		
7	Detach pneumatic line (5a) from pressure reservoir (5) Intake port altered	Vehicles with a pressure reservoir (5) mounted on the intake port (7)	BT09.10-P-0001-01A
8	Loosen both air filter housings (6) of intake manifold and cylinder head covers		<b>Installation:</b> Apply lubricating paste to brackets (6h) and seal (7d). 
			<b>Installation:</b> Check correct interlocking of all brackets (6h) on intake manifold and cylinder head covers. Lubricating paste
			*BR00.45-Z-1002-06A
9	Unlock retaining clips (7k) on intake port (7) with hook wrench and remove both air filter housings (6) with intake port (7)		In order to avoid damage, lay air filter housing (6) with intake port (7) on padded base. 
			<b>Installation:</b> Check condition of seal (7d) on intake port (7) and check for correct seating; replace if necessary. Apply lubricating paste.

10	Install in the reverse order	Lubricating paste	*BR00.45-Z-1002-06A
----	------------------------------	-------------------	---------------------

**Repair materials**

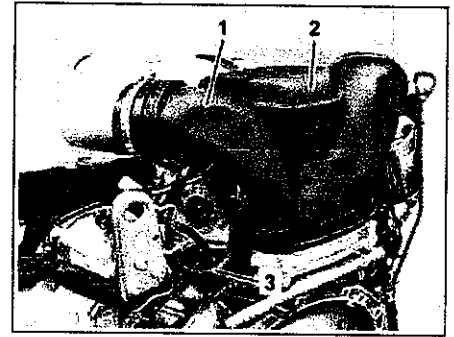
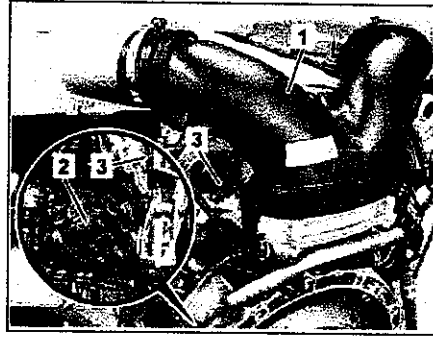
Number	Designation	Order number
BR00.45-Z-1002-06A	Lubricating paste, rubber parts 2.5 kg, DB supply specification 6867.00	A 000 989 01 60

**ENGINE**

156

**Left picture the outside version**

- 1 Intake port
- 2 Vacuum reservoir
- 3 Vacuum hose

**Right picture the new version**

- 1 Intake port
- 2 Vacuum reservoir
- 3 Vacuum hose

P09.10-2192-01

P09.10-2191-01

The vacuum reservoir (2) was bottomed on the intake port (1). The altered intake port (1) is exclusively obtainable as a replacement part with a bottomed vacuum reservoir (2) (right picture).

If the intake port (1) was replaced the vacuum hose (3) must be removed from the outside air temperature vacuum reservoir (2) and connected to the new one. The old vacuum reservoir (2) remains in the vehicle.



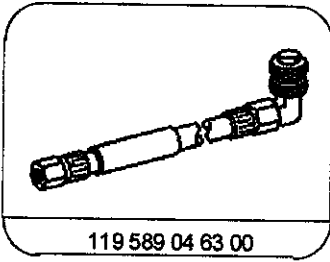
AR07.03-P-1460-01TMG

**⚠ Danger!**

Reduce fuel pressure through service valve  
**Risk of explosion** caused by fuel igniting,  
**risk of poisoning** caused by inhaling and  
swallowing fuel and **risk of injury** to eyes  
and skin caused by contact with fuel!

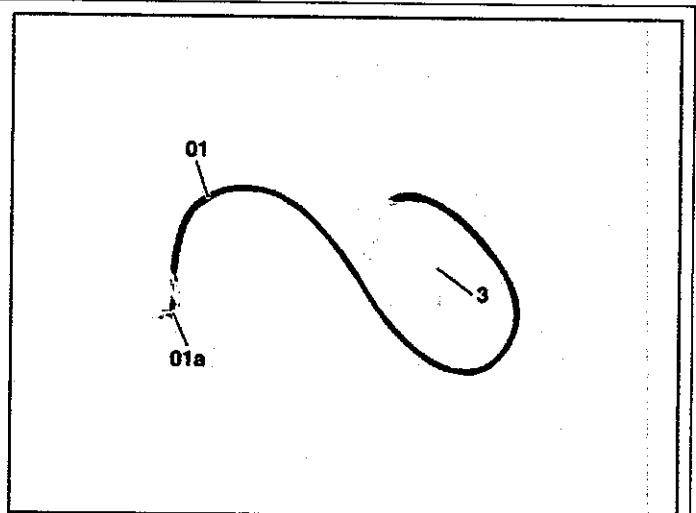
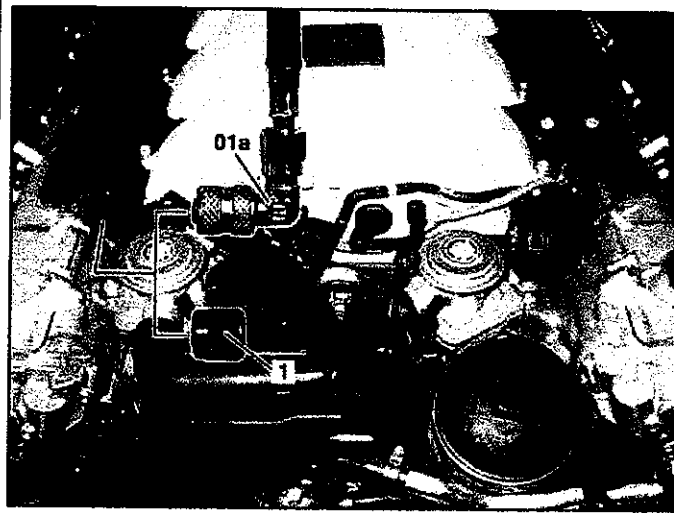
No fire, sparks, open flames or  
smoking.  
Only pour fuels into suitable and  
appropriately marked containers.  
Wear protective clothing when handling  
fuel.

AS47.00-Z-0001-01A




119 589 04 63 00

Pressure hose



P07.03-2201-08

- 1 Unscrew protective cap (1) on fuel distributor service valve.
- 2 Insert end of  pressure hose (01) into a suitable container.
- 3 Screw union nut from angled piece (01a) onto service valve.  
**i** At this point, the service valve is opened and the fuel pressure in the fuel distributor is reduced.  
**i** Collect feathering-out fuel in a suitable reservoir (3)
- 4 Unscrew the union nut of the angled piece (01a) from the service valve.
- 5 Screw protective cap (1) onto service valve for fuel distributor.

**Modification notes**

6.8.09	Value changed: bolt, intake manifold to cylinder head		*BA09.20-P-1002-01R
	Value changed: bolt, intake manifold to cylinder head		*BA09.20-P-1002-01R
	Value changed: bolt, intake manifold to cylinder head		*BA09.20-P-1002-01R

**Intake manifold**

Number	Designation	Engine 156		
BA09.20-P-1002-01R	Bolt, intake manifold to cylinder head	Stage 1	Nm	10
		Stage 2	⌘°	90
		Stage 3	⌘°	10

1 Tighten bolts on the intake manifold in numerical sequence.

X Front side of the engine

