


The present document was valid at the time of print. A later version may be available online

WM 170117 Draining and filling in engine oil (changing engine oil)

Tools

Designation	Type	Number	Description	
PIWIS Tester 2	Special tool	9818		

Technical values

Location	Description	Type	Basic value	Tolerance 1	Tolerance 2
Oil filling capacity without oil filter, V8		Filling capacity	8.5 litres		
Oil filling capacity with oil filter, V8		Filling capacity	9.0 litres		
Oil filling capacity without oil filter, V6		Filling capacity	7.7 litres		
Oil filling capacity with oil filter, V6		Filling capacity	8.5 litres		
Oil filling capacity after oil filter is removed, V8		Filling capacity	0.5 litres		
Oil filling capacity after oil filter is removed, V6		Filling capacity	0.8 litres		

Preliminary work

Preliminary work

1. Jack up the vehicle at the points provided.
2. Remove engine underbody panelling. → *108019 Removing and installing engine guard (underbody panelling)*

Draining and filling in engine oil

Draining and filling in engine oil

NOTICE

Incorrect oil level

- **Risk of damage to engine or catalytic converter**

- Check the oil level regularly.
- The oil level must not fall below the Minimum marking or rise above the Maximum marking.
- Only use approved engine oils.

**Hot fluid**

- **Danger of scalding**

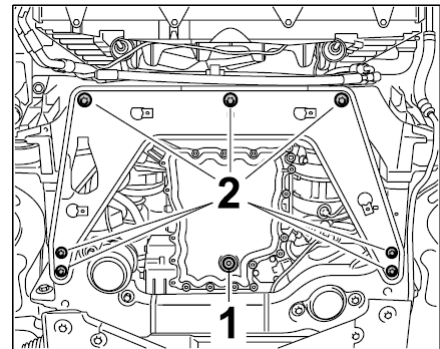
- Avoid contact with hot fluid.
- Wear personal protective gear.

**Information**

The tightening specifications for the basic engine are stored centrally (→ *1001IN Tightening torques, tightening sequences, assembly overviews*).

Tightening torques and assembly instructions for other assemblies (e.g. chassis, electrics, transmission or body) or for peripheral engine equipment can be found in the corresponding documents.

1. Loosen the oil drain plug **-1-** and collect the engine oil in a container (allow to drain for approx. 5 minutes). Dispose of waste oil in accordance with legal requirements.



Oil drain plug and shear panel

2. Replace sealing ring on oil drain plug and fit oil drain plug.
3. Fill in engine oil of the stipulated viscosity and quality. Oil filling capacity without oil filter, V8 → **Filling capacity: 8.5 litres**; oil filling capacity with oil filter, V8 → **Filling capacity: 9.0 litres**; oil filling capacity without oil filter, V6 → **Filling capacity: 7.7 litres**; oil filling capacity with oil filter, V6 → **Filling capacity: 8.5 litres**

Removing and installing oil filter**Removing and installing oil filter**

NOTICE

Incorrect oil level

- **Risk of damage to engine or catalytic converter**

- Check the oil level regularly.
- The oil level must not fall below the Minimum marking or rise above the Maximum marking.
- Only use approved engine oils.

**Hot fluid**

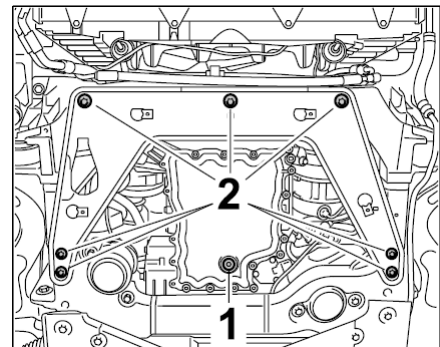
- **Danger of scalding**

- Avoid contact with hot fluid.
- Wear personal protective gear.

**Information**

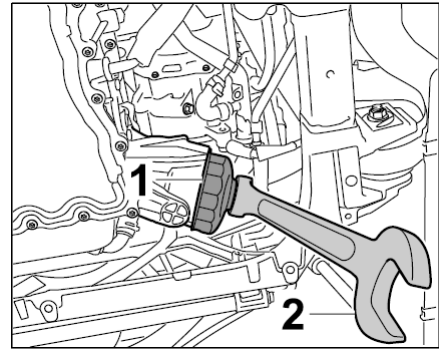
- *Do not remove the sealing ring with a sharp object.*
- *The oil filter cover contains a cut-out through which the O-ring can be removed.*
- *Position collecting container as close as possible to the oil filter so that no hot oil sprays out at the side!*
- *Have sufficient cleaning cloths ready.*
- *Cover chassis hoses with cleaning cloths.*

1. Remove the shear panel. **-2-**



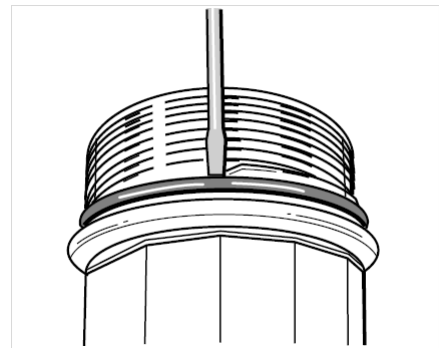
Oil drain plug and shear panel

2. Loosen the oil filter cover **-1-** with a suitable hexagon socket or ring wrench **-2-** and unscrew it.



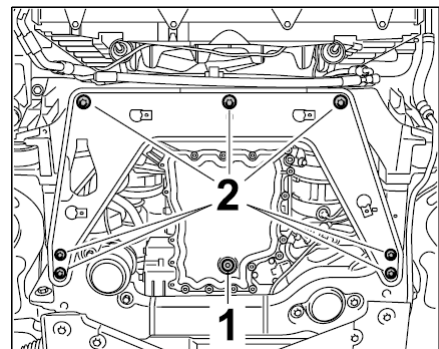
Oil filter cover

3. Slowly open the oil filter cover. Drain the remaining oil into a container.
4. Remove the filter element. Dispose of the filter in accordance with legal requirements.
5. Clean the oil filter cover thoroughly inside and outside and replace the sealing ring. Carefully lever off the sealing ring → *Cleaning oil filter cover and replacing sealing ring* . Do not damage the oil filter cover while doing so.



Cleaning oil filter cover and replacing sealing ring

6. First fit the filter element into the oil guide housing.
7. Lightly oil the sealing ring on the oil filter cover with engine oil. Screw in the oil filter cover and tighten it hand-tight using a suitable ring wrench. For details of final tightening, see → *1001TW Tightening torques, tightening sequences and assembly overviews*
8. Fit the shear panel -2- . For details of tightening torques, see Chassis.



Oil drain plug and shear panel

9. Fill in engine oil. The oil filling capacity after removing the oil filter is → **Filling capacity: 0.5 litres** on a

V8 engine and → **Filling capacity: 0.8 litres** on a V6 engine.

Checking engine-oil level

Checking engine-oil level

- The vehicle must be horizontal.
- The engine must be at operating temperature.
- Always check that there is enough engine oil in the engine.

NOTICE

Incorrect oil level

- **Risk of damage to engine or catalytic converter**

- Check the oil level regularly.
- The oil level must not fall below the Minimum marking or rise above the Maximum marking.
- Only use approved engine oils.



Information

- *The engine-oil level can be checked on the instrument cluster display or using **PIWIS Tester 2 9818**.*

Initial fill quantity with filter in litres (e.g. after disassembling engine completely and washing parts)	Maximum change quantity with filter in litres	Minimum change quantity with filter in litres
V8 => 11.3	V8 => 9.0	V8 => 8.0
V6 => 9.8	V6 => 8.5	V6 => 7.7

1. For details of checking the oil level using the instrument cluster, see Driver's Manual.
2. To check the engine-oil level using **PIWIS Tester 2 9818**, select **DME**, **Maintenance/repairs**, **Oil filling**. Follow the instructions for oil fill measurement on the Tester. If the engine oil has not yet reached measuring temperature, it can be heated to operating temperature by leaving the vehicle running while stationary or test-driving the vehicle. Check the engine-oil level after the test drive using the Tester. The Tester shows the oil level as a percentage and recommends a top-up quantity in litres.

Subsequent work

1. Fit engine underbody panelling. → *108019 Removing and installing engine guard (underbody panelling)*
2. Check engine-oil level. → *170101 Checking engine-oil level*

970110, 970111, 970120, 970121, 970410, 970411, 970420, 970421, 970430, 970431, 970440, 970441, 970450, 970451, 970810, 970811, 970820, 970821

Model year as of 2010

C00, C02, C05, C07, C08, C09, C10, C11, C12, C13, C14, C15, C16, C18, C19, C20, C21, C22, C23, C24, C25, C26, C27, C28, C32, C33, C34, C35, C36, C37, C38, C39, C45, C46, C98, C99