Workshop Manual

competence level 2

D 2.9 L4
TD 2.9 L4
TCD 2.9 L4

0312 3982 en

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- Only lint-free cleaning cloths may be used for work on the fuel system.
- Remove loose parts (for example paint chips from assembly work) with an industrial vacuum cleaner or other suction device. Only suction may be used in assembly work on the open fuel system.
- Working materials and tools must be cleaned before work. Only use tools without damage to the chrome plating or tools which are not chrome-plated.
- Do not use used cleaning fluid or test fluid for cleaning.
- Compressed air must not be used for cleaning on the open fuel system.
- Work on removed components may only be performed at a suitably equipped workbench.
- When removing and installing components, no materials which can leave behind particles or fibres (cardboard, wood, cloths) may be used.
- Removed parts may only be rubbed down with clean, lint-free cloths. No dirt particles may be rubbed into the components.
- Openings on the components and on the engine must be closed immediately with suitable stoppers/caps.
- The stoppers/caps may only be removed immediately before installing.
- Store stoppers/caps free from dust and dirt in the original packaging and dispose of after using once.
- Only remove new parts from the original packaging just before installation.
- Removed components must be kept in new, sealable bags or - if available - in the packaging of the new parts.
- Always use the original packaging of the new part to send back the removed components.

Notes and measures for the vehicle workshop area

- For work such as removal and installation on defective hydraulic components on the Common Rail System it is recommended to partition off a separate workshop area in the factory. This must be separate from other areas in which general vehicle repairs such as brake repairs are carried out.
- The workshop floor is sealed or tiled.
- No welding gear, grinders, general machine tools, brakes or performance test benches may be operated in this room.
- Regular cleaning of the workshop area is mandatory. Draughts, ventilation systems and heating fans should be minimised.

Notes and measures for workbench and tools in the vehicle hall

- A special workbench must be set up for work on removed components.
- Clean the removal and installation tools regularly and keep them in a closed tool cabinet.
- Remove loose parts (for example paint chips from assembly work) with an industrial vacuum cleaner or other suction device.
- Working materials and tools must be cleaned before work. Only use tools without damage to the chrome plating or tools which are not chrome-plated.

3.2.3 Additional information and measures for the handling of exhaust aftertreatment systems

- Basically all the same regulations and instructions up to and including chapter 3.2.2 must also be observed for work on exhaust aftertreatment systems!
- Utmost cleanliness must be observed for all work.

DPF (Diesel Particle Filter)

- The filter regeneration must be deactivated or, in systems with a filter regeneration prompt, not activated before performing service work.
- The duration of a full filter regeneration is 25 minutes on average. High exhaust temperatures occur in the exhaust system/on the end exhaust pipe independently of the actual load state of the engine (i.e. also during engine idling).
- No foreign bodies may get into the exhaust line or the combustion chamber. If this happens, the engine must be "run free" without diesel particle filter.
- Tensions and deformations of the shape of the V-belt clip must be avoided. The DPF module may only be transported using the transport sleeves.
- V-belt clips and seals may not be reused (this also applies as soon as the screw connection has been loosened once).

Ignition system

- Caution! Dangerous high voltage.
  The ignition system operates with ignition voltages up to 10000 Volts.
- The ignition system must not be operated without a secondary load.
- Store the components in a dry and clean area.
- It is not permitted to: store the components temporarily or stack them without their transport packaging.
- Components may only be stored and transported in the specified packaging.

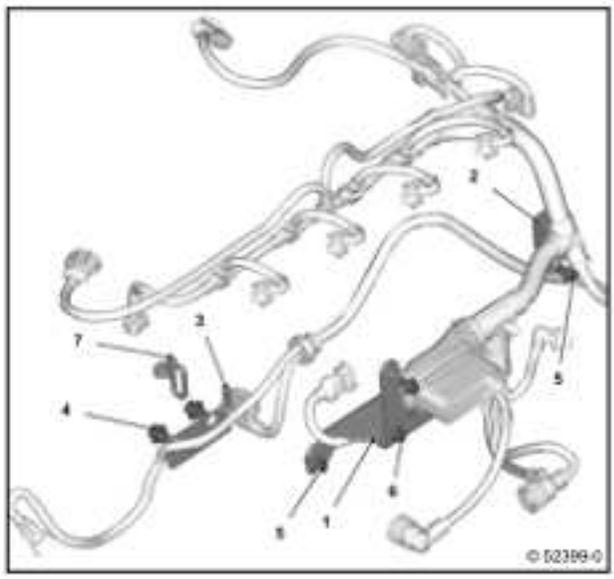
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Fastening parts

Standard tools

– Safety information / User information

1	Holder	
2	Holding plate	
3	Holding plate	
4	Hexagon head screw	60 Nm
5	Hexagon head screw	30 Nm
6	Hexagon head screw	30 Nm
7	Spacer	



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Technical Data

Tightening specifications

ID no.	Name	Screw type	Notes / Remark	Value
A71 069	Line, pressure sensor			45 Nm
A71 070	Pressure sensor, fastening			9 Nm

For the tightening procedure according to torque using a torque wrench, a maximum variation of the tightening torque of +/- 10% is permissible.

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Activity	Job card	Module
Belt drive	W 39-90-13	Fan drive
Charge air line	W 22-90-55	Charge air line
Charge air manifold	W 22-90-54	Charge air line
Charge air manifold	W 22-90-54	Charge air line
Charge air manifold	W 22-90-54	Charge air line
Closing parts	W 83-90-01	Hydraulic pump drive
Closing parts	W 83-90-01	Hydraulic pump drive
Closing parts	W 01-90-01	Crankcase
Closing parts	W 01-90-01	Crankcase
Compensator structure	W 71-90-21	Exhaust gas treatment
Compensator structure	W 71-90-21	Exhaust gas treatment
Compensator structure (assembly material)	W 71-90-21	Exhaust gas treatment
Compensator structure (assembly material)	W 71-90-21	Exhaust gas treatment
Compensator structure (assembly material)	W 71-90-21	Exhaust gas treatment
Connection ring	W 52-90-53	Connection housing
Console	W 71-90-51	Exhaust gas treatment
Coupling sleeve	W 83-90-18	Hydraulic pump drive
Coupling sleeve	W 83-90-18	Hydraulic pump drive
Engine mounting	W 46-90-15	Engine mounting
Engine mounting	W 46-90-15	Engine mounting
Engine mounting	W 46-90-15	Engine mounting
Exhaust manifold	W 71-90-36	Exhaust gas treatment
Exhaust manifold (exhaust turbocharger)	W 43-90-36	Exhaust gas turbocharger
Fan bearing	W 39-90-67	Fan bearing
Fastening parts	W 52-90-05	Connection housing
Fastening parts	W 48-90-05	Cable harness
Fastening parts	W 48-90-05	Cable harness
Fastening parts	W 48-90-05	Cable harness
Fastening parts	W 05-90-05	V-belt pulley add-on
Fastening parts	W 05-90-05	V-rib belt pulley add-on
Fastening parts	W 05-90-05	V-belt pulley add-on
Fastening parts	W 39-90-05	Fan drive
Fastening parts	W 83-90-05	Hydraulic pump drive
Fastening parts	W 37-90-05	Coolant pump
Flange	W 83-90-59	Hydraulic pump drive

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