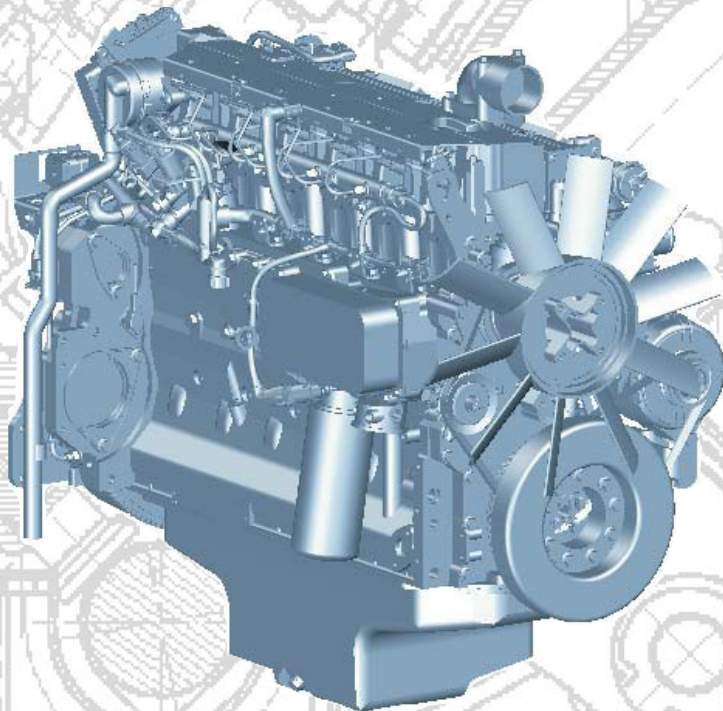


Operation Manual

TD/TCD 2012 L04/06 2V/m

TCD 2013 L04/06 2V/m



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DEUTZ diesel engines

DEUTZ diesel engines are the product of years of research and development. Profound know-how combined with high quality requirements are the guarantee for the production of engines with a long life, high reliability levels and low fuel consumption. Obviously the high requirements for the protection of the environment are also met.

Safety precautions when the engine is running

Maintenance work or repairs may only be performed on the shut-down engine. Make sure that the engine cannot be started inadvertently - **Danger of accident!**

After repair work: Check that all guards have been replaced and that all tools have been removed from the engine.

Observe industrial safety regulations when running the engine in an enclosed space or underground.

When working on the running engine, work clothing must be close fitting.

Never fill the fuel tank while the engine is running.

Service and Maintenance

Service and maintenance are also decisive for whether the engine satisfactorily meets the set demands. Recommended service intervals must therefore be observed and service and maintenance work must be carried out conscientiously.

Special care should be taken under abnormally demanding operating conditions.

Original DEUTZ parts

Original DEUTZ parts are subject to the same strict quality demands as the DEUTZ engines. Further de-

velopments for improving the engines are also introduced in the original DEUTZ parts of course. Only the use of original DEUTZ parts manufactured according to the state-of-the-art can guarantee perfect functioning and high reliability.

DEUTZ Xchange components

DEUTZ replacement parts are a low-cost alternative. Of course, the quality standards here are just as high as for new parts. DEUTZ replacement parts are equal to the original DEUTZ parts in function and reliability.

Asbestos

The gaskets used in this engine contain no asbestos. Please use the appropriate original DEUTZ parts for maintenance and repair work.

Service

We want to preserve the high performance of our engines, and with it the confidence and satisfaction of our customers. We are therefore represented worldwide by a network of service branches.

The DEUTZ name does not merely stand for engines that are the products of extensive development work, DEUTZ also stands for complete service packages that ensure optimum operation of our engines, and for customer services operations that you can count on.

Please contact your DEUTZ-partner in case of malfunctions and spare parts inquiries. Our specially trained personnel will ensure fast, professional repairs using original DEUTZ spare parts in case of damage.

The DEUTZ home page gives you a continuously up-to-date overview of the service partners in your vicinity

with notes on product responsibilities and services. Or you can use another fast, convenient way via the Internet under www.deutzshop.de. The DEUTZ P@rts Online parts catalogue gives you a direct contact to your nearest local service partner.

California

Proposition 65 Warning

Diesel engines and some of its constituents are known to the State of California to cause cancer, birth defects and other reproductive harm.

Masthead

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Danger



This symbol is used for all safety instructions which, if not observed, present a direct danger to life and limb for the person involved. Observe these carefully. The attention of operating personnel should be drawn to these safety instructions. Furthermore, the legislation for "general regulations for safety and the prevention of accidents" must be observed.

Caution



This symbol indicates a danger to the part and engine. The relevant instructions must be observed, failure to do so can lead to destruction of the part and the engine.

Notes



This symbol accompanies notes of a general kind.

Engine type designation

This manual covers the following engine types

TD 2012 L04 2V m

TCD 2012 L04 2V TCD 2013 L04 2V

TCD 2012 L06 2V TCD 2013 L06 2V

TCD 2012 L04 2V m TCD 2013 L04 2V m

Emissions legislation

The engines of these operating instructions fulfill the following exhaust emissions regulations

USA EPA Tier III

EU Stage IIIA

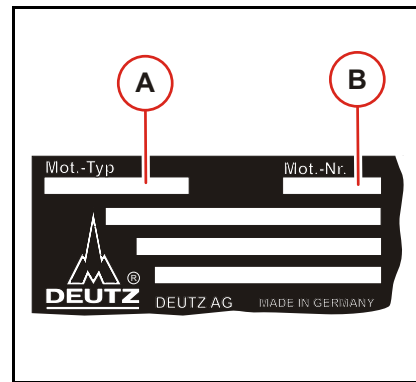
TCD	
T	Exhaust gas turbocharger
C	Charge air cooler
D	Diesel

2012/2013	
2012	Series
2013	Series

L04/L06	
L	in series
04	No. of cylinders
06	No. of cylinders

2V	
2V	Number of valves

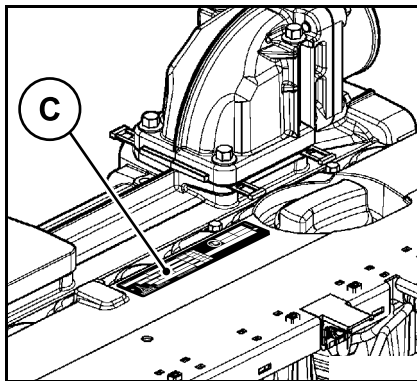
m	
m	Mechanical injection system Pump-pipe-nozzle



Rating plate

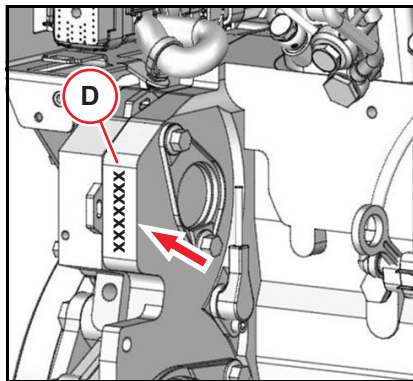
The type (A), engine number (B) and performance data are stamped on the rating plate.

The engine type and number must be stated when purchasing spare parts.



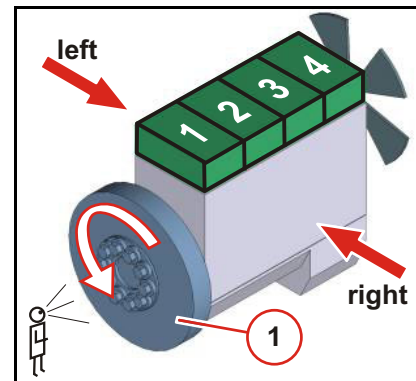
Location of the rating plate

The rating plate (C) is fixed to the cylinder head cover or the crankcase.



Engine serial number

The engine number (D) is stamped onto the crankcase (arrow) and onto the rating plate.



Cylinder numbering

Cylinder arrangement

The cylinders are counted consecutively starting from flywheel (1).

Direction of rotation

Looking onto the flywheel.
rotating to the left: counter-clockwise.

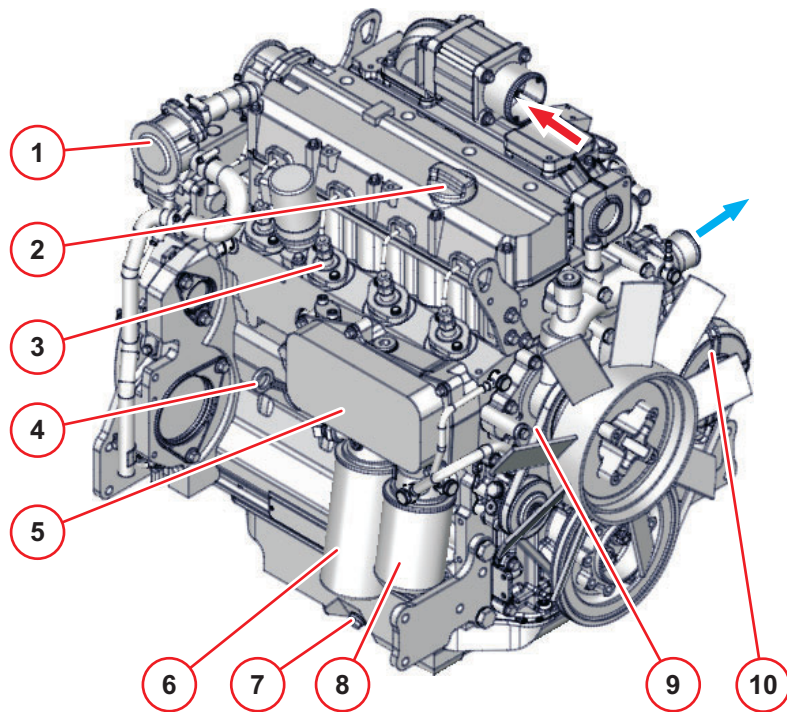
Engine sides

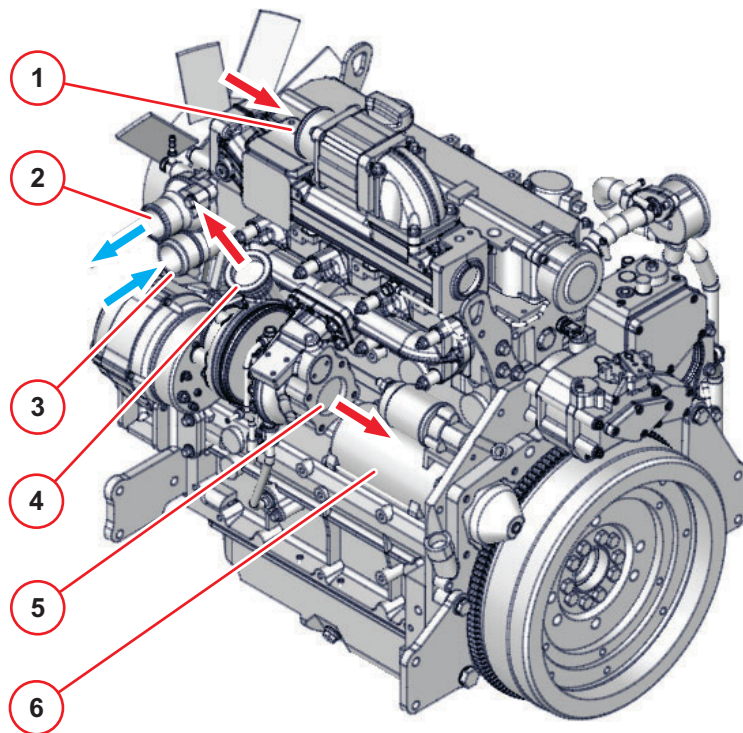
Looking onto the flywheel.

TCD 2012 L04 2Vm

View from right (example)

- 1 Crankcase breather
- 2 Lubricating oil filling
- 3 Injection pump
- 4 Lubricating oil dipstick
- 5 Lube oil cooler
- 6 Lube oil replacement filter
- 7 Lubricating oil drain plug
- 8 Exchangeable fuel filter
- 9 V-belts
- 10 Generator





TCD 2012 L04 2Vm

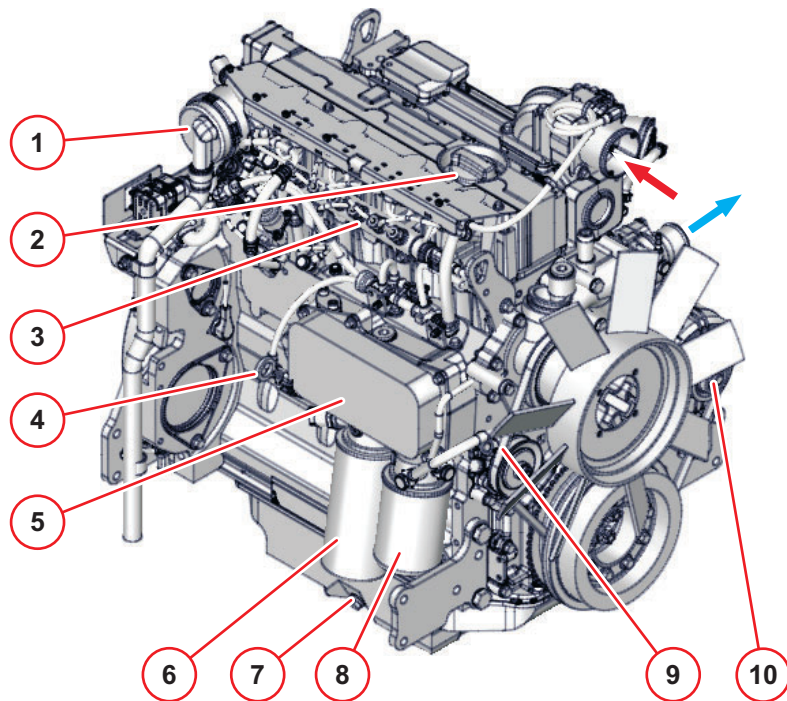
View from left (example)

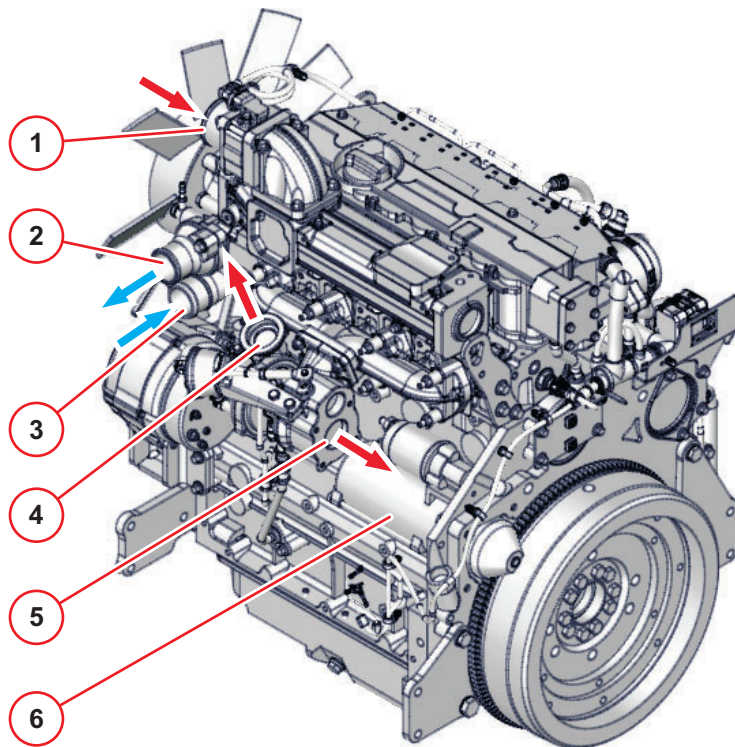
- 1 Combustion air inlet
- 2 Coolant outlet
- 3 Coolant inlet
- 4 Connections charge air cooler
- 5 Exhaust outlet
- 6 Starter

TCD 2012 L04 2V

View from right (example)

- 1 Crankcase breather
- 2 Lubricating oil filling
- 3 Rail
- 4 Lubricating oil dipstick
- 5 Lube oil cooler
- 6 Lube oil replacement filter
- 7 Lubricating oil drain plug
- 8 Exchangeable fuel filter
- 9 V-belts
- 10 Generator





TCD 2012 L04 2V

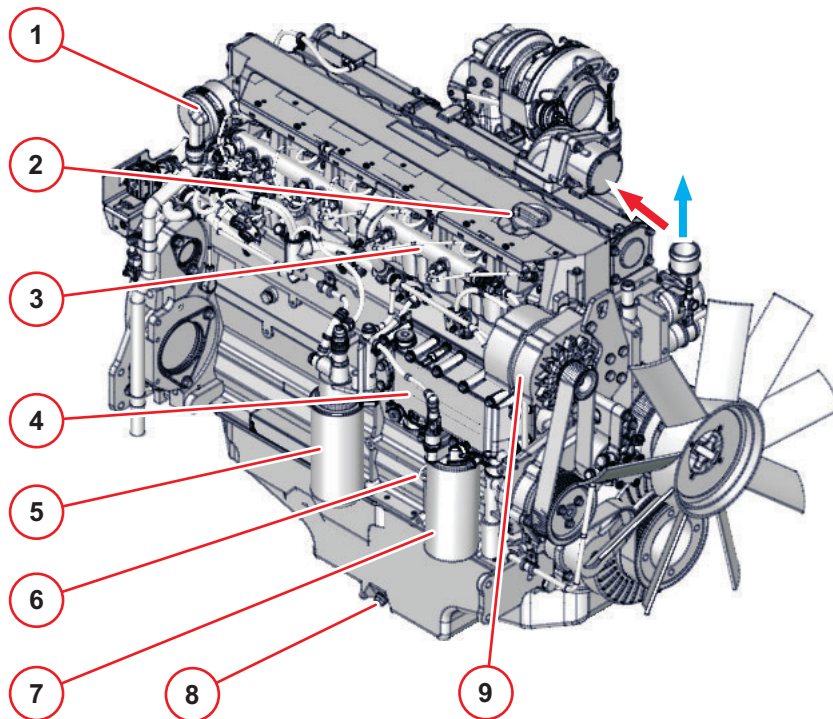
View from left (example)

- 1 Combustion air inlet
- 2 Coolant outlet
- 3 Coolant inlet
- 4 Connections charge air cooler
- 5 Exhaust outlet
- 6 Starter

TCD 2013 L06 2V

View from right (example)

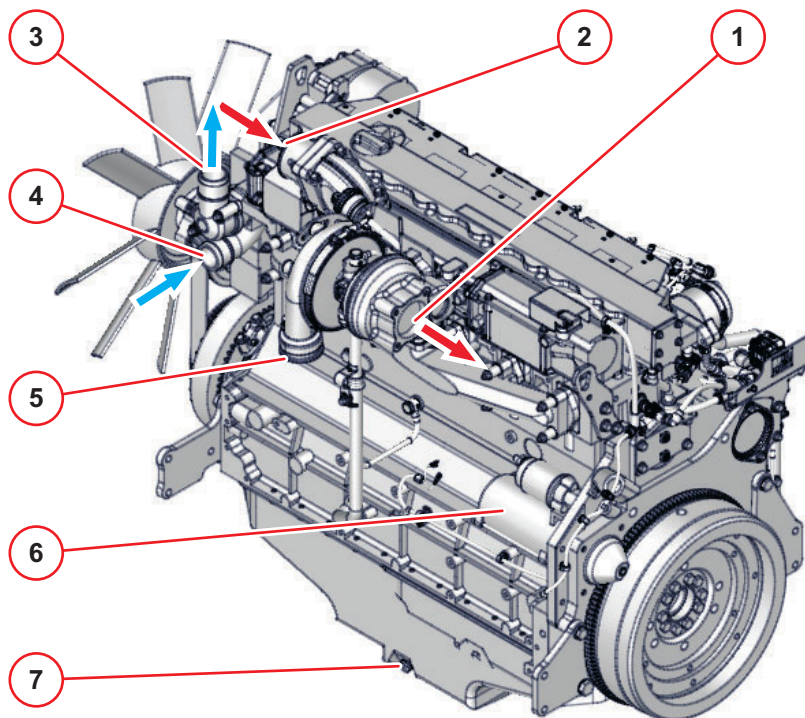
- 1 Crankcase breather
- 2 Lubricating oil filling
- 3 Rail
- 4 Lube oil cooler
- 5 Lube oil replacement filter
- 6 Lubricating oil dipstick
- 7 Exchangeable fuel filter
- 8 Lubricating oil drain plug
- 9 Generator



TCD 2013 L06 2V

View from left (example)

- 1 Exhaust outlet
- 2 Combustion air inlet
- 3 Coolant outlet
- 4 Coolant inlet
- 5 Connections charge air cooler
- 6 Starter
- 7 Lubricating oil drain plug

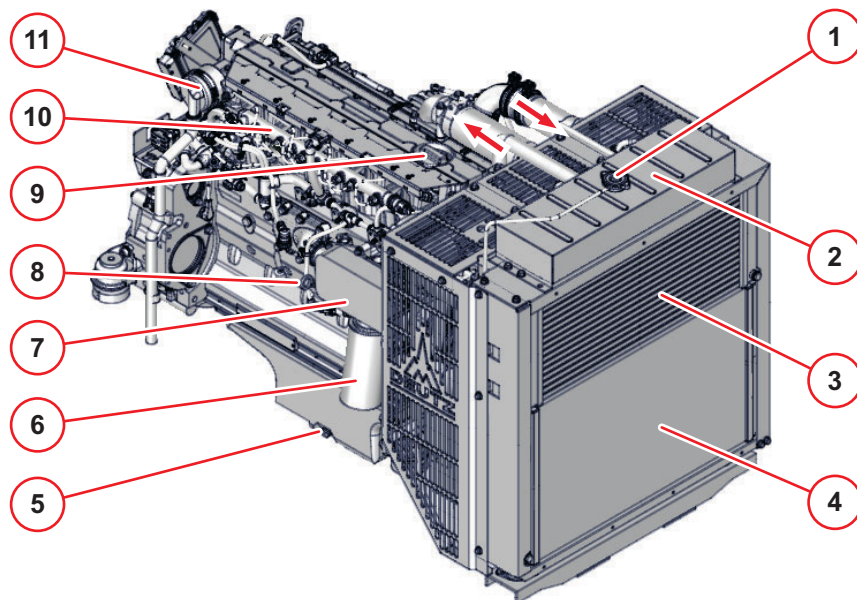


TCD 2012 L06 2V

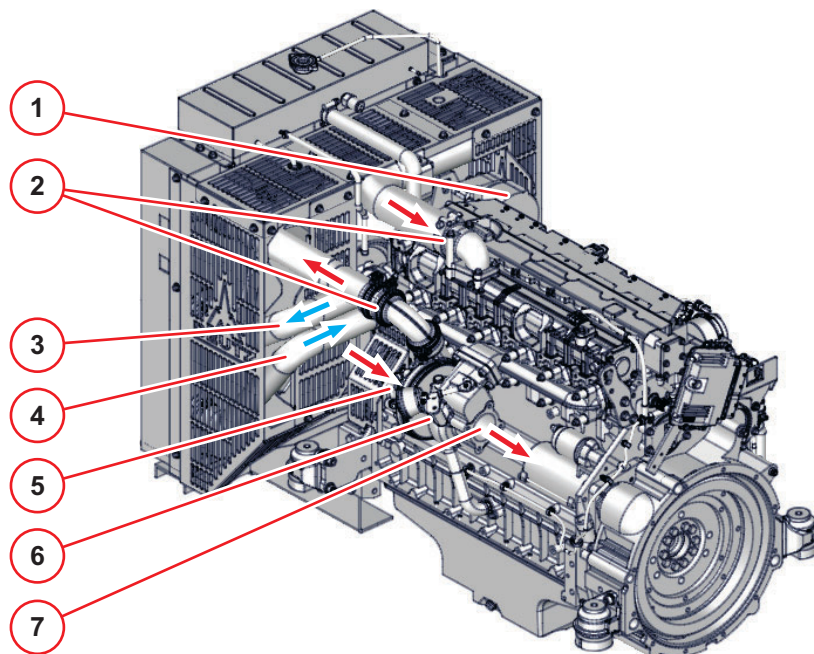
PowerPack

The complete solution of engine and cooling system offered by DEUTZ is called PowerPack

View from right (example)



- 1 Coolant inlet
- 2 Compensation tank
- 3 Charge air cooler
- 4 Cooler
- 5 Lubricating oil drain plug
- 6 Lube oil replacement filter
- 7 Lube oil cooler
- 8 Lubricating oil dipstick
- 9 Lubricating oil filling
- 10 Rail
- 11 Crankcase breather



TCD 2012 L06 2V

PowerPack

The complete solution of engine and cooling system offered by DEUTZ is called PowerPack

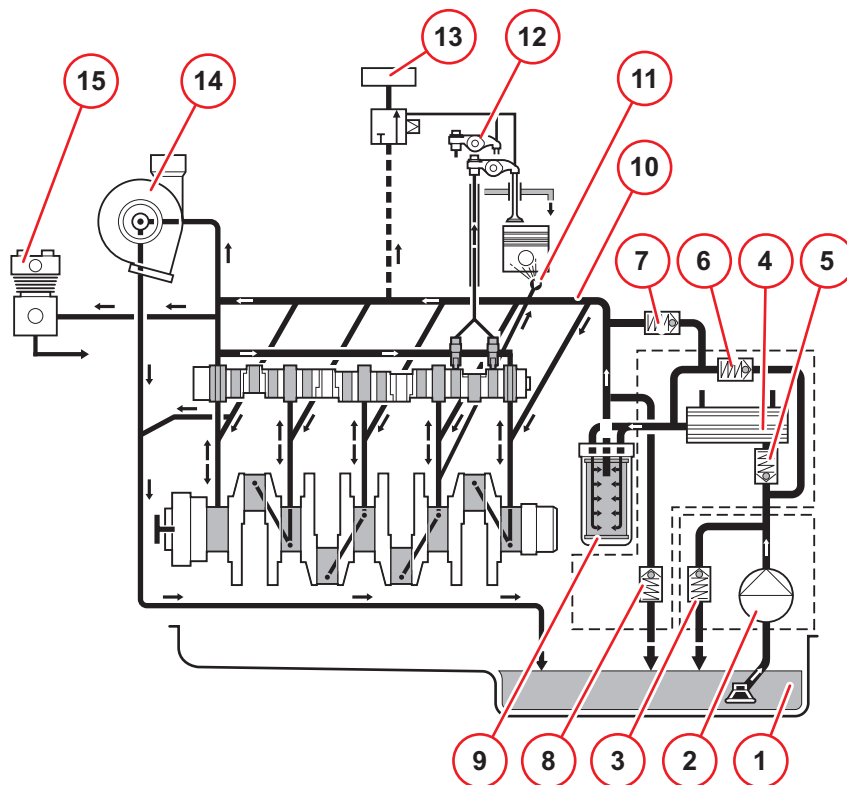
View from left (example)

- 1 Generator
- 2 Connections charge air cooler
- 3 Coolant outlet
- 4 Coolant inlet
- 5 Combustion air inlet
- 6 Turbocharger
- 7 Exhaust outlet

Lubricating oil system

(example)

- 1 Lubricating oil sump
- 2 Lubricating oil pump
- 3 Pressure limiting valve
TD/TCD 2013
- 4 Lube oil cooler
- 5 Check valve
TD/TCD 2012
- 6 Bypass valve
- 7 Bypass valve
- 8 Pressure control valve
- 9 Lubricating oil filter
- 10 Main lube oil channel
- 11 Piston cooling nozzle
- 12 Rocker arm
- 13 Internally switched exhaust gas return
TCD 2012/2013L06
- 14 Turbocharger
- 15 Air compressor



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