

Document Title: <b>Engine, description</b>	Function Group: <b>200</b>	Information Type: <b>Service Information</b>	Date: <b>2014/3/30</b>
Profile: <b>MEW, MW500 [GB]</b>			

## Engine, description

The machines are equipped with a Deutz TCD 2012 L04 2V engine.

The engine is a four cylinder, four stroke in-line diesel engine with direct injection, exhaust turbocharger and liquid cooling system.

See Workshop Manual:

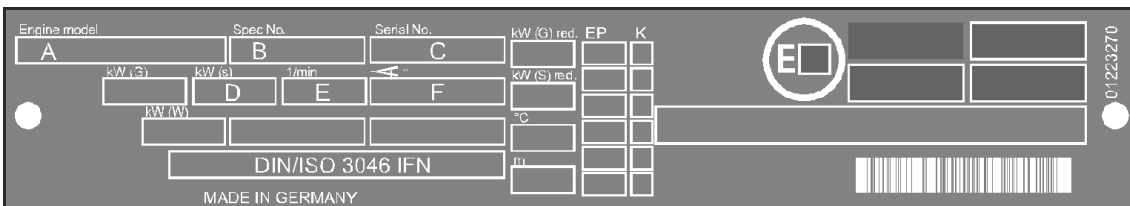
“Deutz Workshop Manual, Competency Class 3 TCD 2012 2V, Order No. 0312 1975 de” for adjustment and repair instructions on the engine.

Order address: Deutz AG Service Information Systems Ottostraße 1 D-51149 Köln www.deutz.com Email: info@deutz.com

The exhaust is recirculated and returned to the combustion air in the cylinder head by an **unregulated internal exhaust gas recirculation system (IEGR)**, to meet the emission limits for the turbocharged engine. The exhaust contains only a minimum amount of oxygen. A minimum amount of oxygen reduces the temperature peaks during combustion and therefore contributes to reduction of the oxide of nitrogen (NO<sub>x</sub>).

### Engine Identification Plate

The engine identification plate indicates: Engine model, engine number and performance data. The engine number is also embossed on the crankcase. It is necessary to specify the engine model and engine number when ordering parts. The direction of rotation is counter-clockwise looking at the flywheel. Firing sequence: 1-3-4-2 (cylinder No. 1 on flywheel side).

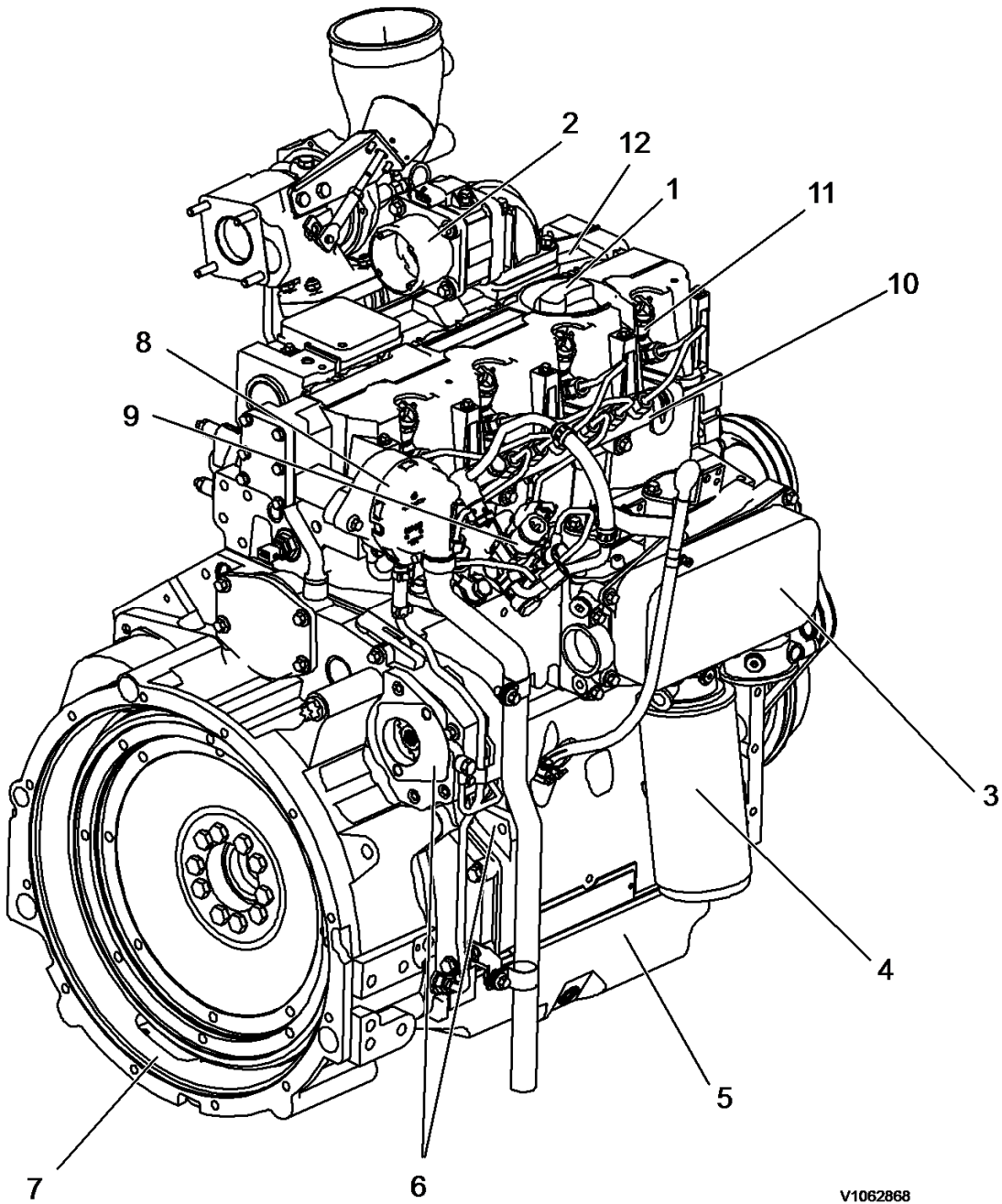


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**Figure 1**  
**Engine, Identification Plate**

- A. Engine Model
- B. Part Number
- C. Engine Number
- D. Output
- E. Rated speed
- F. Start of Injection

### Components, Service View

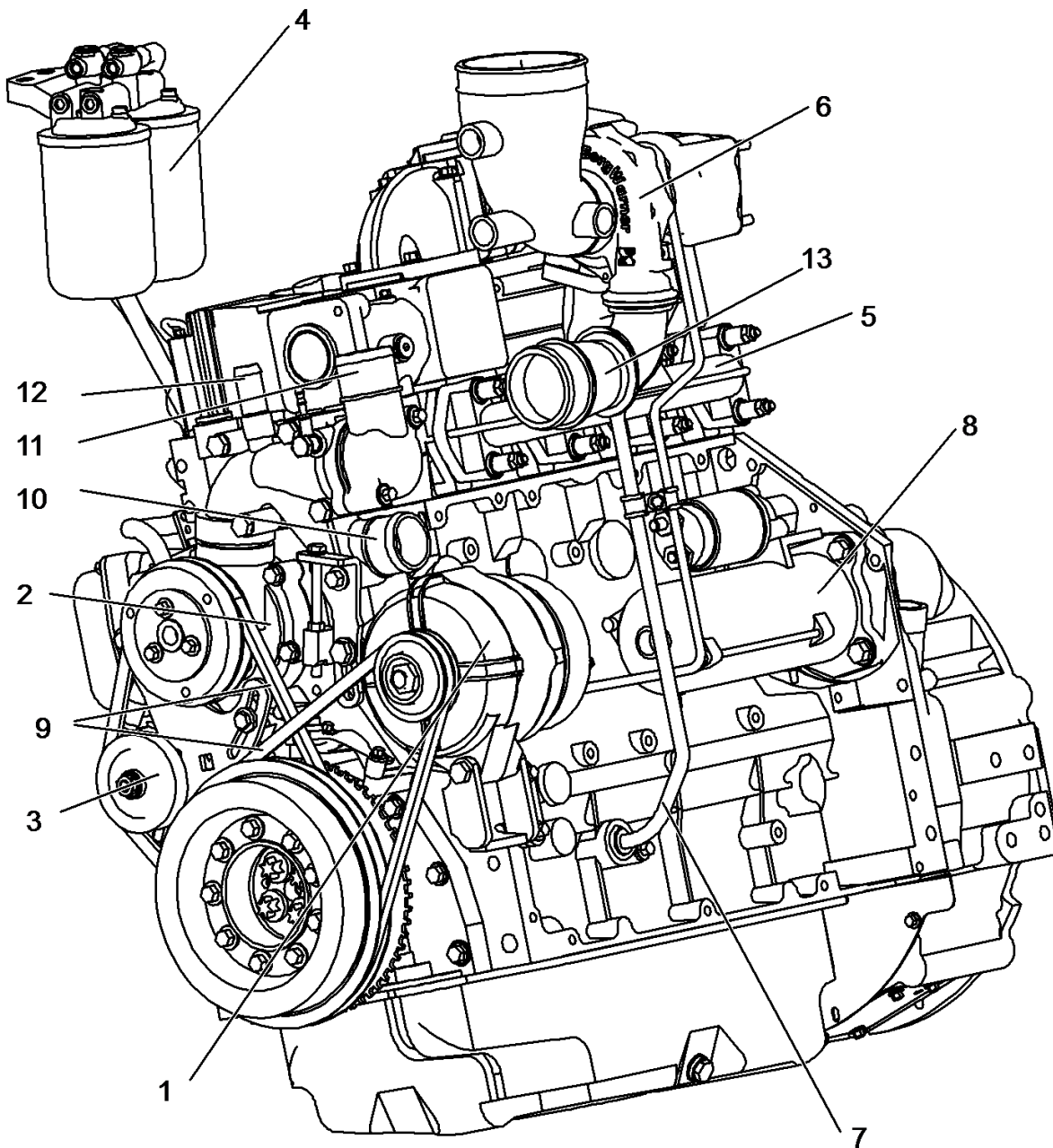


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**Figure 2**  
**Components, Service View**

1. Oil Filler Opening
2. Combustion Air Intake
3. Oil Cooler
4. Oil Filter
5. Oil Pan
6. Attachment Possibility for Hydraulic Pumps
7. Flywheel
8. Crankcase Ventilation Valve
9. Fuel Control Unit
10. Rail
11. Injector
12. Charge Air Pipe

**Components, Exhaust View**



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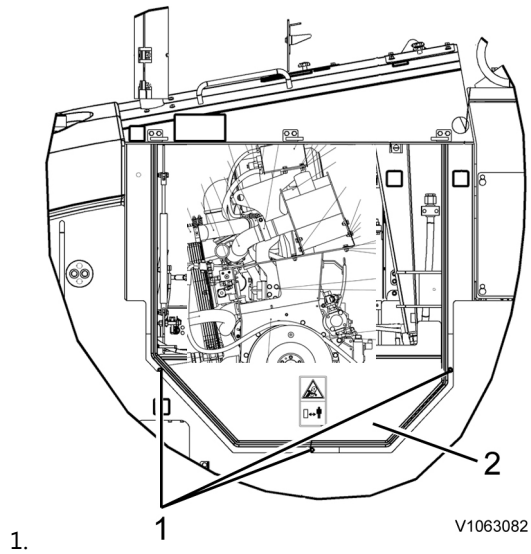
**Figure 3**  
**Components, Exhaust View**

1. Alternator
2. Coolant Pump
3. Tensioner Roller / Fuel Pump
4. Fuel Filter
5. Exhaust Manifold
6. Exhaust Turbocharger
7. Return Line from Exhaust Turbocharger
8. Relay / Starter
9. V-Belt
10. Coolant Inlet
11. Coolant Outlet
12. Connection for Compensation Line
13. Charge Air Connection to Cooler

Document Title: <b>Protecting plate, removal</b>	Function Group: <b>200</b>	Information Type: <b>Service Information</b>	Date: <b>2014/3/30</b>
Profile: <b>MEW, MW500 [GB]</b>			

## Protecting plate, removal

Op nbr 715-015



**Figure 1**  
**Guard Plate, Removal**

1. Bolts
2. Guard Plate

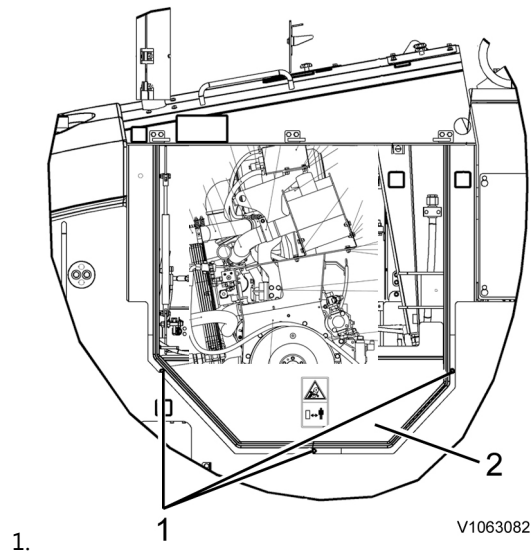
Open and Secure Maintenance Door.

2. Remove bolts (1).
3. Remove guard plate (2).

Document Title: <b>Protecting installation plate,</b>	Function Group: <b>200</b>	Information Type: <b>Service Information</b>	Date: <b>2014/3/30</b>
Profile: <b>MEW, MW500 [GB]</b>			

## Protecting plate, installation

Op nbr 715-016



**Figure 1**  
**Guard Plate Installation**

1. Bolts
2. Guard Plate

Install Guard Plate (2).

2. Tighten bolts (1).
3. Close Maintenance Door.

Document Title: <b>Engine, removing</b>	Function Group: <b>210</b>	Information Type: <b>Service Information</b>	Date: <b>2014/3/30</b>
Profile: <b>MEW, MW500 [GB]</b>			

## Engine, removing

### Op nbr 210-070

Cross member, carrying capacity at least 1 t, dimension see drawing

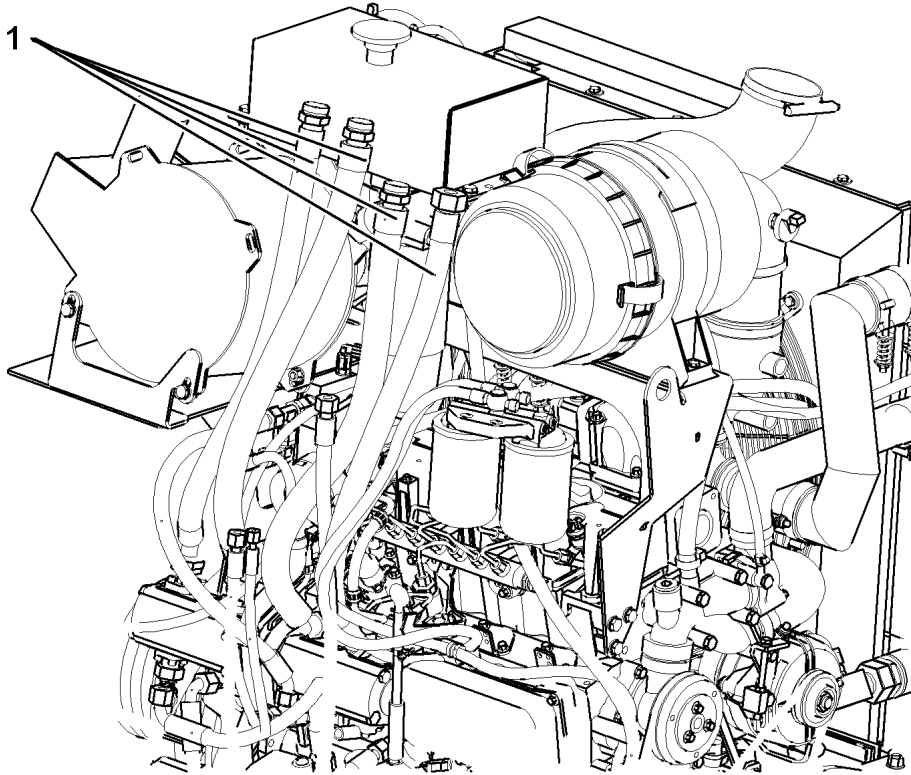


**Removal of residual pressure from the circuit must be done prior to any maintenance.**

#### **NOTE!**

Mark all hoses before disconnecting! Plug disconnected hydraulic hoses!

1. Move machine to maintenance position 5, see [173 Service positions](#).
2. Remove left guard plate, see [200 Protecting plate, removal](#).
3. Remove right guard plate, see [200 Protecting plate, removal](#).
4. Open right access door (on fuel filter).
5. Remove middle cover (engine bonnet), see [821 Engine hood, removing](#).
6. Remove adjustment plate on bracket for right gas pressure strut.
7. Remove water tank, see [9852 Water tank, removing](#).
8. Remove top milling drum drive belt, see [9883 Changing the V-belt](#).
9. Completely drain hydraulic oil, see [173 Hydraulic oil, changing](#).



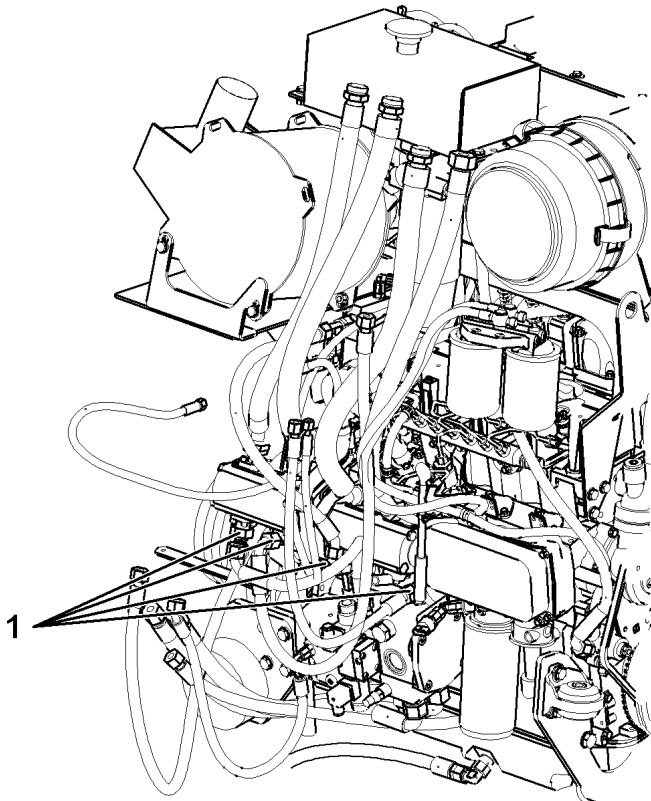
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**Figure 1**  
**Intake hoses, gear pump**

1. Intake hoses

10. Remove intake hoses (1) for gear pump on hydraulic oil tank.

- with conveyor: 5 intake hoses
- without conveyor: 4 intake hoses

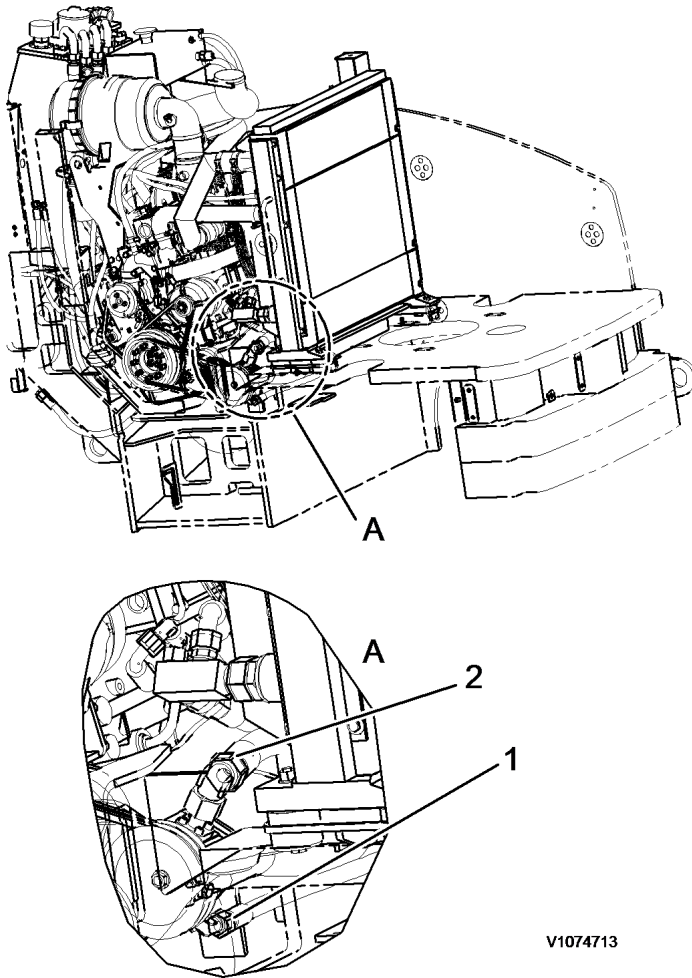


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**Figure 2**  
**Pressure hoses, gear pump**

1. Pressure hoses





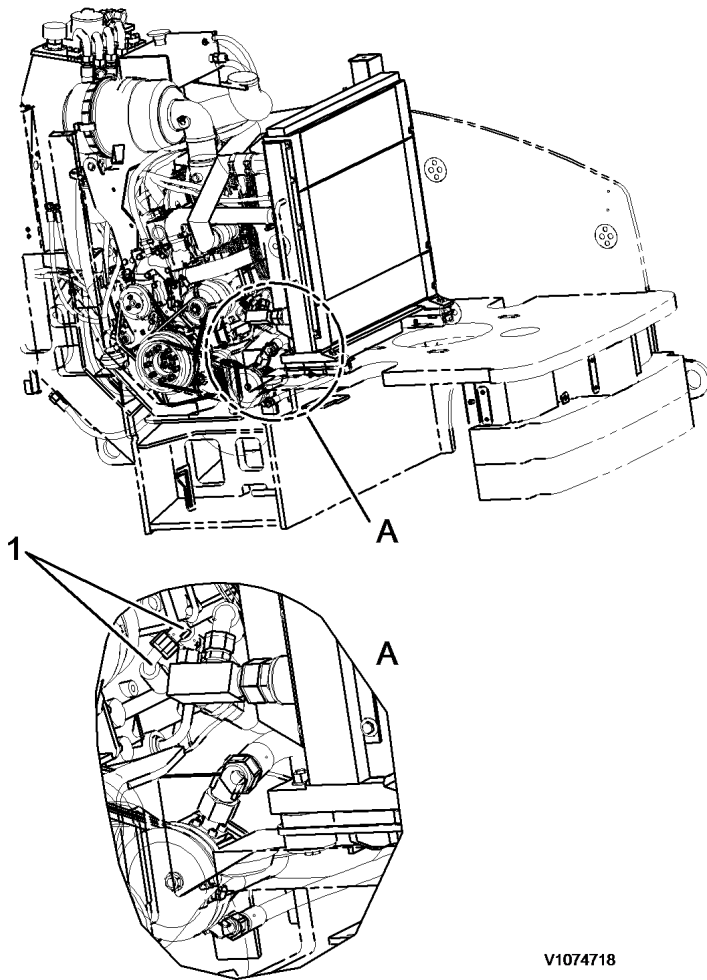
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**Figure 3**  
**Pressure hoses, conveyor drive**

- 1. Pressure hose, conveyor drive
- 2. Intake hose, conveyor drive

11. Dismount pressure hoses (1) of the gear pump.

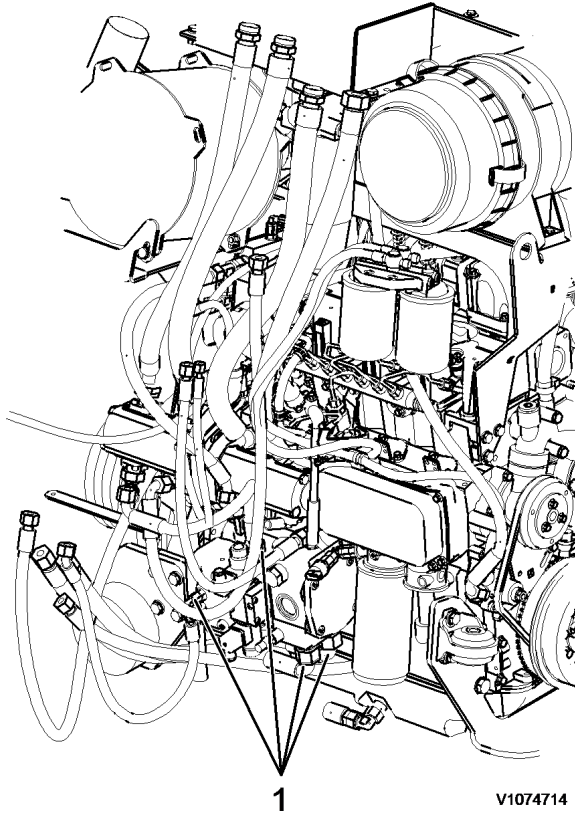
- with conveyor: 5 pressure hoses
- without conveyor: 4 pressure hoses



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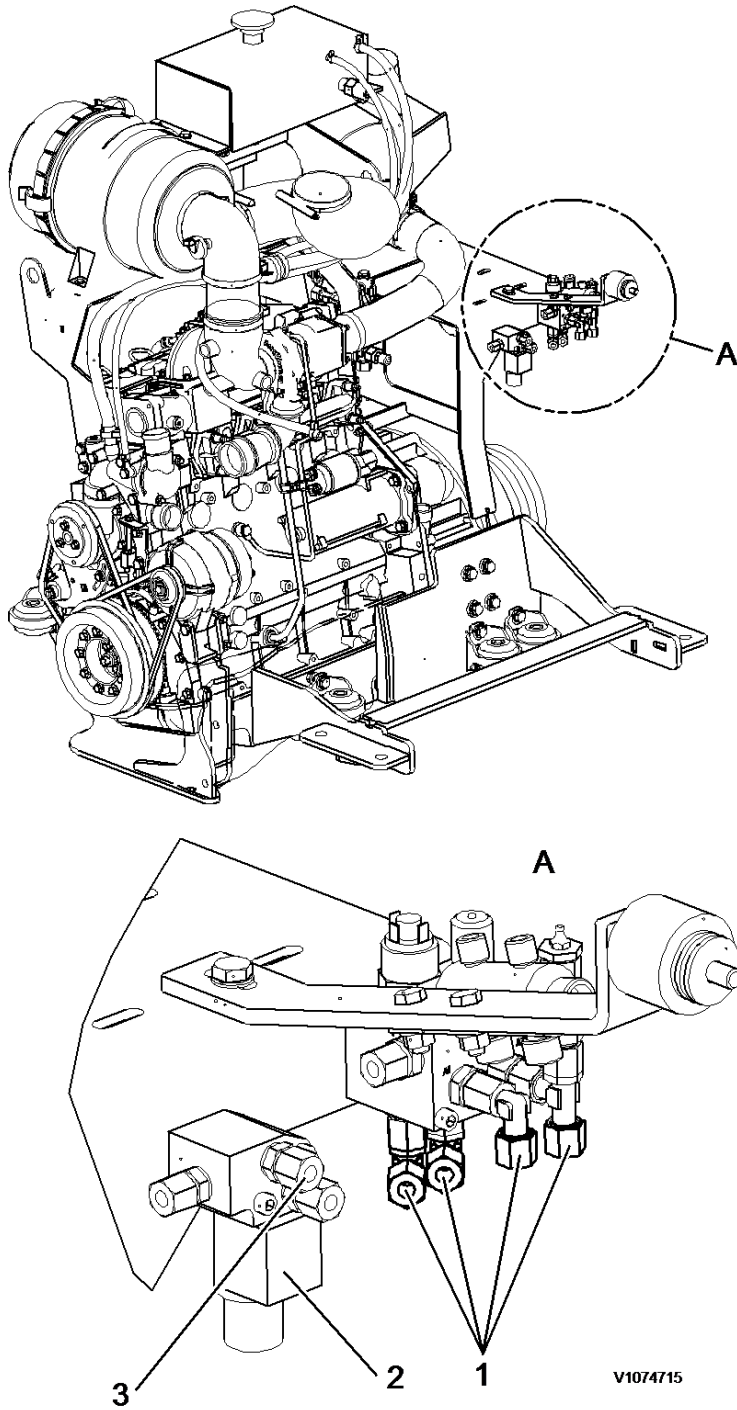
**Figure 4**  
**Hydraulic hoses return line collector**

1. Hydraulic hoses return line collector
12. Remove 2 hydraulic hoses (1) of the return line collector.



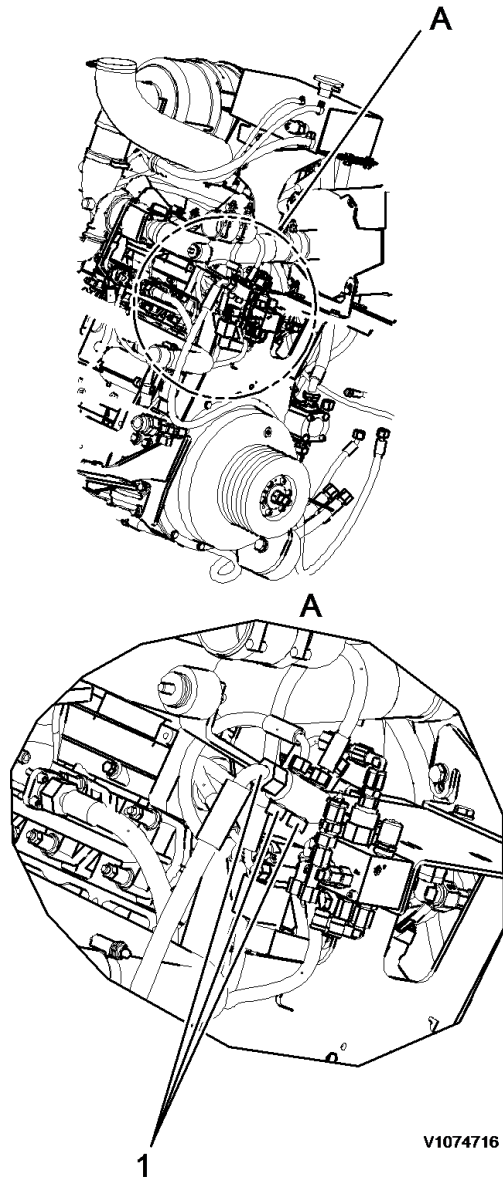
**Figure 5**  
**Hydraulic connections Drive travel pump**

1. Hydraulic connections Drive travel pump
13. Remove 4 hydraulic hoses of the drive travel pump (1).



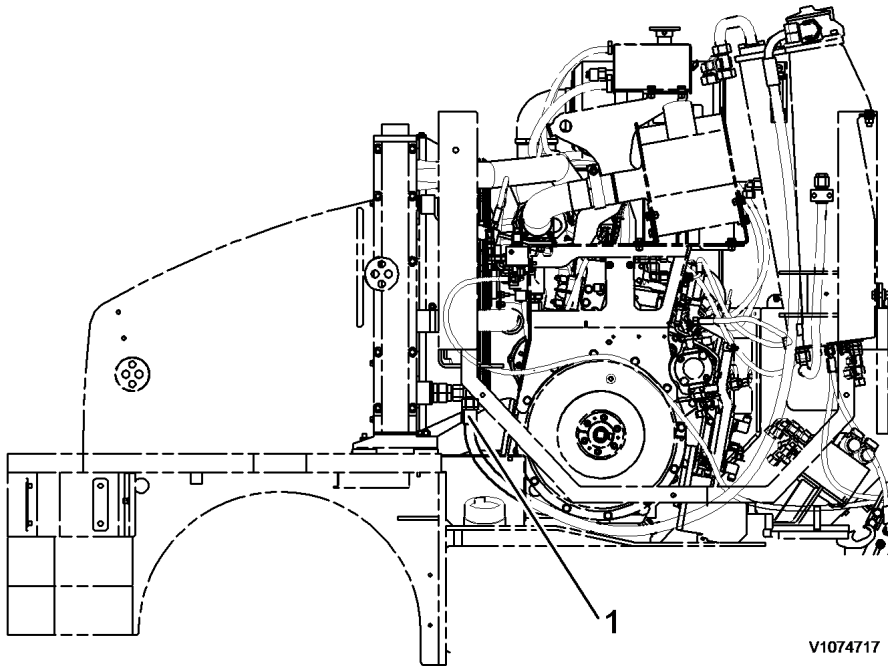
**Figure 6**  
**Hydraulic connections distribution block brake**

1. Hydraulic connections distribution block brake
  2. Valve block brake
  3. Connection P
14. Remove hydraulic hoses A1, A2, A3, A4 from brake distribution block (1).  
 Remove the solenoid valve connector from the brake valve block (2).  
 Remove the hydraulic hose on connection P (3) from the brake valve block (2).



**Figure 7**  
**Hydraulic connections Leak oil collector**

1. Hydraulic connections Leak oil collector
15. Remove 3 hydraulic hoses (1) on the leak oil collector..

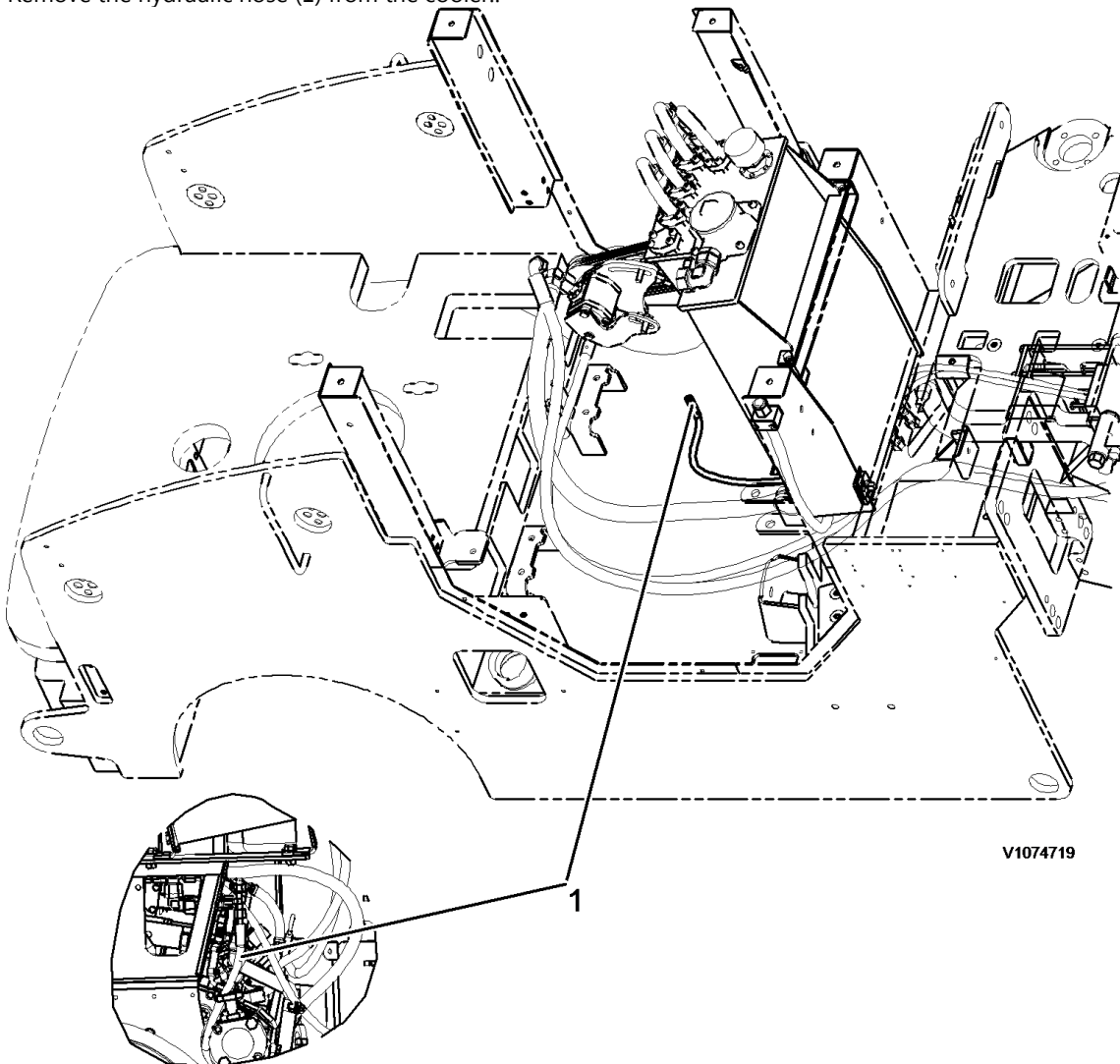


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**Figure 8**  
**Hydraulic hose cooler**

1. Hydraulic hose cooler

16. Remove the hydraulic hose (1) from the cooler..



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