

**FENDT**

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Werkstatthandbuch

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Workshopmanual

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Manuel d'atelier

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Manual de taller

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Manuale per l'officina

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Werkplaatshandboek

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*FENDT 900 Vario COM III*

X 990.005.057.012

**1**

**FENDT**

<b>A</b>	General
<b>B</b>	Faults
<b>C</b>	Documents and Diagrams
<b>D</b>	Component location
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# 2312

Engine/lubrication

## **FENDT 900 Vario - COM III**

### **Volume 1**

<b>0000</b>	<b>Overall system/tractor</b>
<b>1005</b>	<b>Overall system/transmission</b>
<b>1010</b>	<b>Transmission/differential</b>
<b>1015</b>	<b>Transmission/axle drive</b>
<b>1050</b>	<b>Transmission/housing</b>
<b>1070</b>	<b>Transmission / Brake system</b>
<b>1080</b>	<b>Transmission/drive train</b>
<b>1200</b>	<b>Transmission/front PTO</b>
<b>1220</b>	<b>Transmission / Live PTO</b>
<b>1320</b>	<b>Transmission/front wheel drive</b>
<b>2000</b>	<b>Overall system/engine</b>
<b>2010</b>	<b>Engine/cylinder head</b>
<b>2050</b>	<b>Engine/cooling</b>
<b>2060</b>	<b>Engine/fuel system</b>
<b>2210</b>	<b>Engine/crankcase</b>
<b>2312</b>	<b>Engine/lubrication</b>
<b>2400</b>	<b>Engine/exhaust system</b>
<b>2712</b>	<b>Engine/injectors</b>
<b>3000</b>	<b>Overall system/front axle</b>
<b>3120</b>	<b>Front axle/steering cylinder</b>
<b>3180</b>	<b>Front axle/cardan shaft</b>

### **Volume 2**

<b>4000</b>	<b>Overall system/steering</b>
<b>4090</b>	<b>Steering system / hydraulic steering unit</b>
<b>5030</b>	<b>Vehicle layout/operator's seat</b>
<b>5500</b>	<b>Overall system/air conditioning system</b>
<b>8100</b>	<b>Overall system/cab</b>
<b>8610</b>	<b>Power lift/EPC electro-hydraulic control</b>
<b>8631</b>	<b>Power lift/hydraulic lift</b>
<b>8800</b>	<b>Overall system/compressed air system</b>

### **Volume 3**

<b>9000</b>	<b>Overall system/electrical system</b>
<b>9015</b>	<b>Electrical system/starter lockout</b>

## FENDT 900 Vario - COM III

### Volume 4

- 9410**     **Hydraulic pump installation/LS pump**
- 9430**     **Hydraulic pump installation/steering pump**
- 9534**     **Hydraulic piping/"Rüfa"reverse operation**
- 9600**     **Overall system/hydraulic equipment**
- 9605**     **Hydraulic equipment/hydraulic connections**
- 9610**     **Hydraulic equipment/central control block  
(ZSB)**
- 9620**     **Hydraulic equipment/valve fitting**
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- 9975**     **Service/SERDIA - Deutz engine diagnostics  
program**

# 2312 Engine/lubrication

**A**      **General. . . . .5**



# A General

1 Diagram: engine lubrication ..... 7

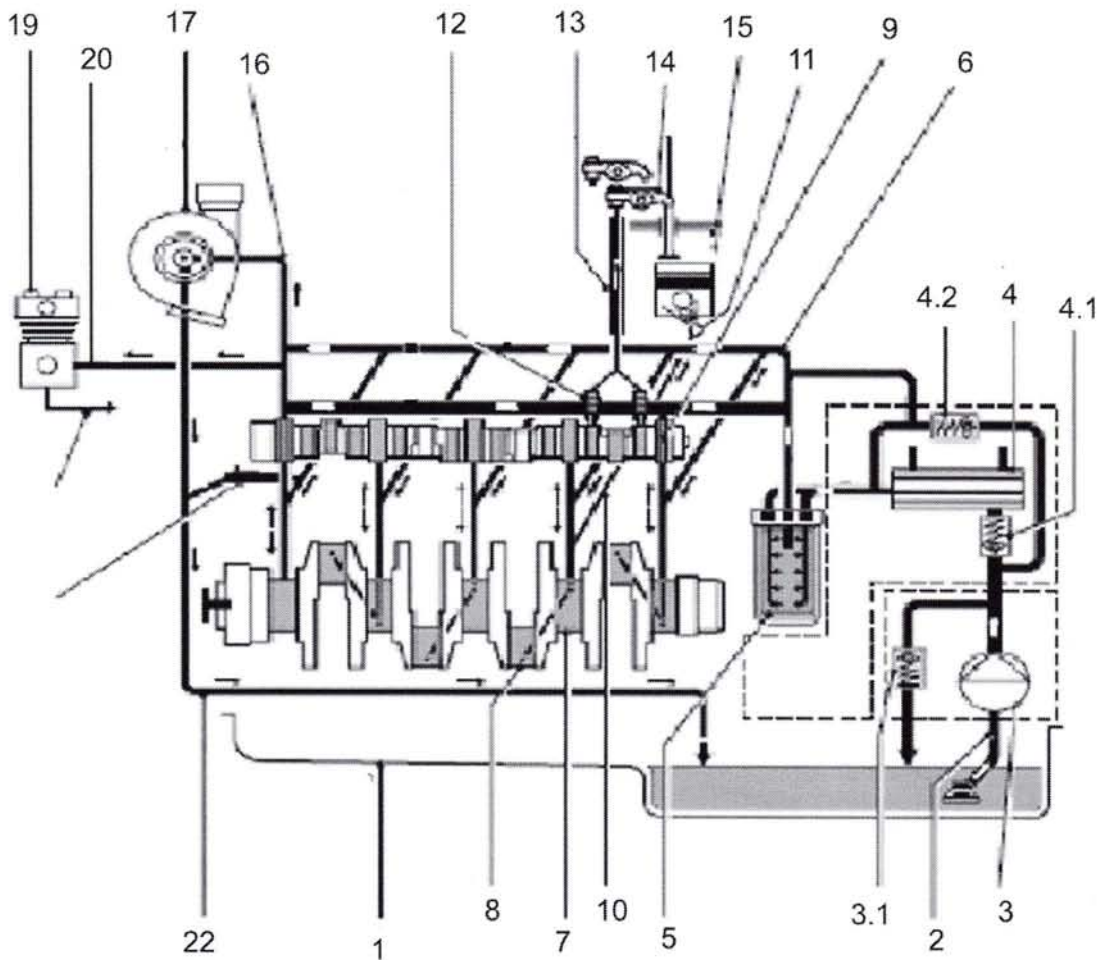




1 Diagram: engine lubrication

Engine lubrication diagram

Motorschmierung (FENDT 900 Vario) (Deutz TCD 2013)



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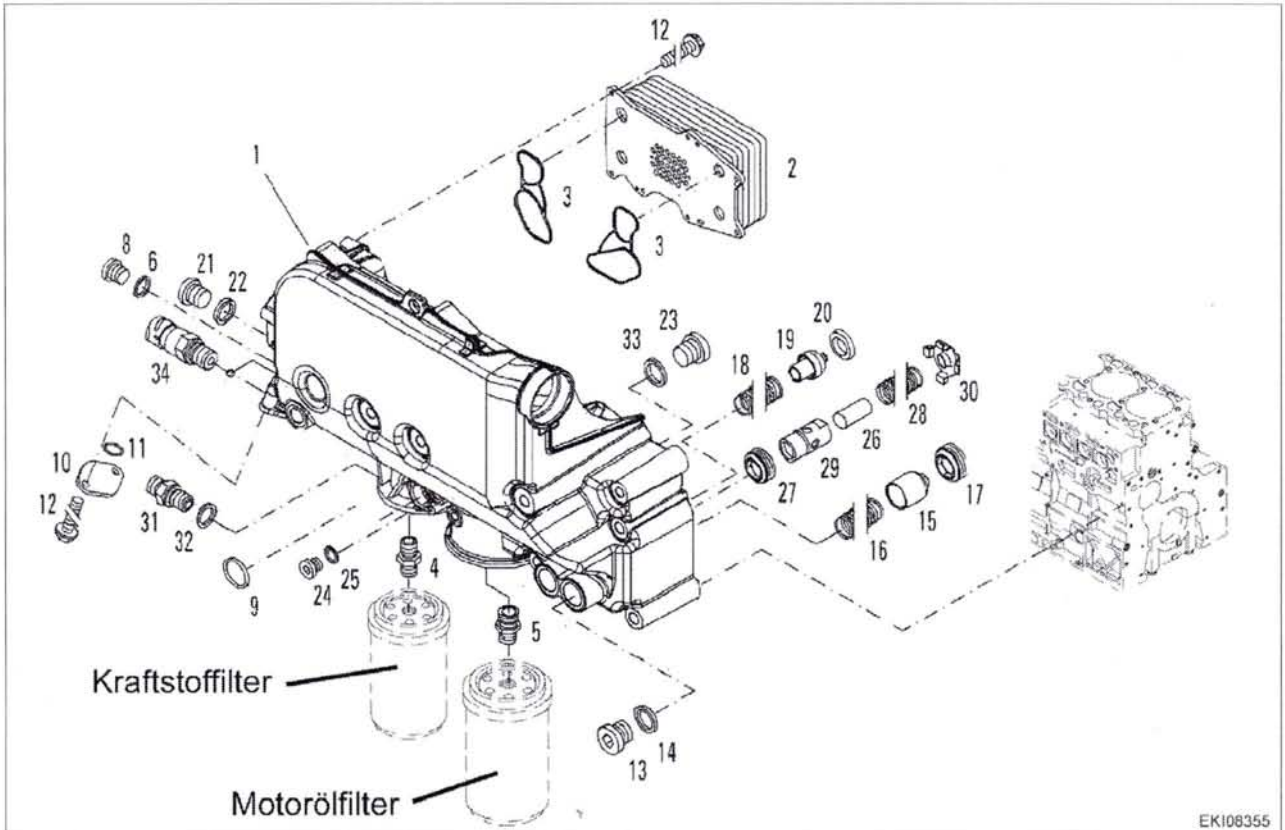
1001608

Fig. 1.

Item	Designation	Item	Designation
1	Oil sump	12	Plunger
2	Intake duct	13	Push rod (oil feed for the rocker arm)
3	Lubrication pump	14	Rocker arm
3.1	DBV lubricating oil	15	Return line to the oil sump
4	Lubrication oil cooler	16	Oil line to the exhaust turbocharger
4.1	Lock valve	17	Exhaust turbocharger
4.2	Lubrication oil cooler bypass	18	Return line from the air compressor / hydraulic pump
5	Replaceable filter	19	Air compressor / hydraulic pump
6	Main oil pipe	20	Oil line to the air compressor / hydraulic pump drive
7	Crankshaft bearing	21	Return line from the cylinder head
8	Connecting rod bearing	22	Return line from the exhaust turbocharger

Item	Designation	Item	Designation
9	Camshaft bearing		
10	Oil duct for cooling the piston head		
11	Injection nozzle for cooling the piston head		

## Oil filter console



EKI08355

Fig. 2.

I002047

Item	Designation	Item	Designation
1	Oil filter console	19	Cone (lubrication oil cooler bypass)
2	Engine oil cooler	20	Valve seat
3	Gasket	21	Screw plug
4	Threaded bush	22	Seal ring
5	Screw socket	23	Screw plug
6	Seal ring	24	Screw plug
8	Screw plug	25	Seal ring
9	O-ring seal	26	Valve piston (shutoff valve)
10	Blind flange: (engine preheater, cooling water)	27	Retaining screw
11	O-ring seal	28	Spring
12	Hex screw	29	Bushing
13	Screw plug	30	Securing plate
14	Seal ring	31	Coupling
15	Valve piston (lock valve)	32	Seal ring
16	Spring	33	Seal ring
17	Valve seat	34	B087 fuel low pressure sensor
18	Spring	34	B090 engine oil pressure sensor

**Oil intake and lubrication pump**

TCD 2013 series engines have forced feed lubrication.  
 The lubrication oil flows from the lubrication pump to the oil filter through the oil cooler.  
 Both components are attached to the oil filter console.  
 The oil filter console is flange-mounted on the crankcase.  
 The lubrication pump is mounted in the crankcase end cover.

Oil intake with intake filter

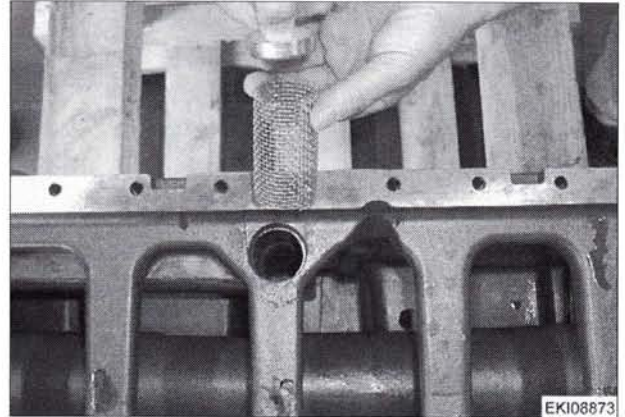


Fig. 3.

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Lubrication pump oil intake (arrowed)

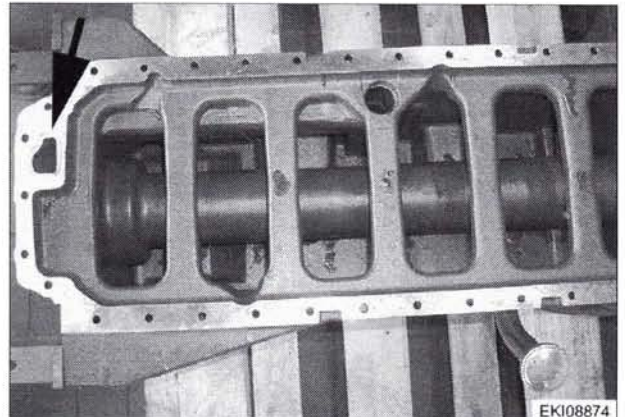


Fig. 4.

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 1003272

Lubrication pump drive gear (arrowed)  
 Lubrication pump intake (arrowed)

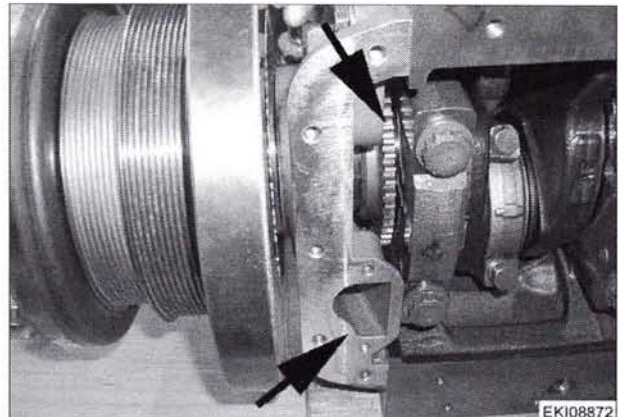


Fig. 5.

EKI08872  
 1003273

919 .. 0101-1000	925 .. 1001-	934 .. 0101-1000
919 .. 1001-	928 .. 0101-1000	934 .. 1001-
922 .. 0101-1000	928 .. 1001-	
922 .. 1001-	931 .. 0101-1000	
925 .. 0101-1000	931 .. 1001-	

Crankcase end cover with the lubrication pump

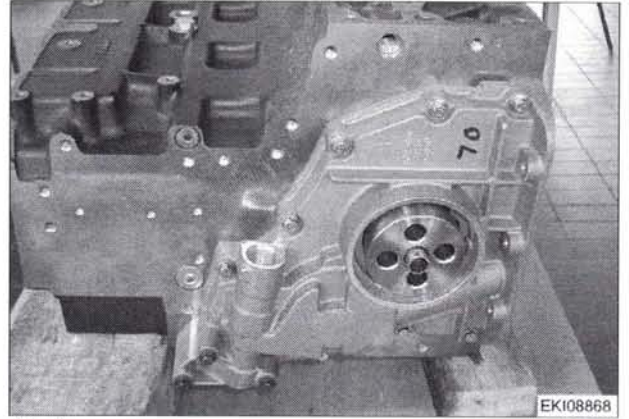


Fig. 6.

Crankcase end cover with the lubrication pump

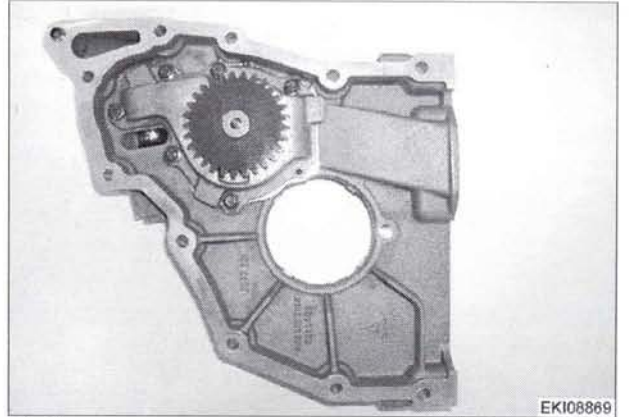


Fig. 7.

Lubrication pump (rotor pump)

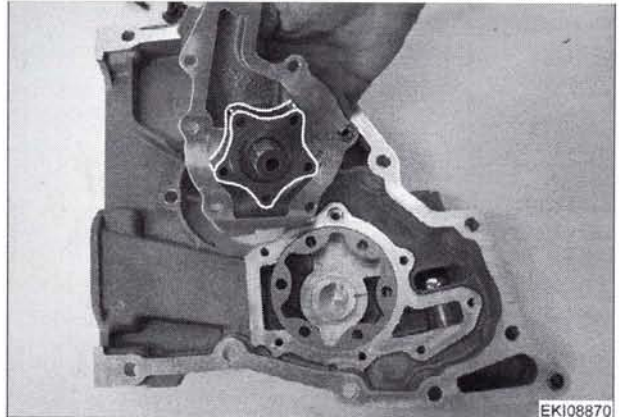


Fig. 8.

**Function diagram of the lubrication pump (rotor pump)**

- 1 Internal pipe
- 2 Pressure chamber for crankcase
- 3 Suction chamber
- 4 Carrier

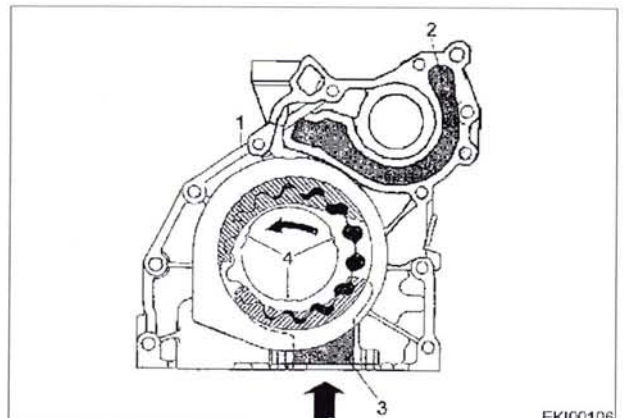


Fig. 9.

DBV lubricating oil

**NOTE:** See also:  
 Chapter 9000 Reg.E - Measuring and testing the B090 engine oil pressure sensor

**B090 engine oil pressure sensor**

X1659 separation point on B090 sensor

B087 fuel low pressure sensor



On oil filter housing.

**NOTE:** For measuring and testing engine oil pressure, see chapter 9000 Reg.E – Measuring and testing B090 engine oil pressure sensor.

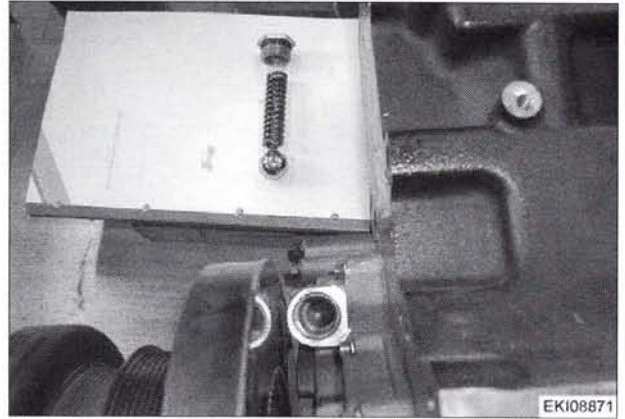


Fig. 10.

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Fig. 11.

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**Piston base cooling**

Nozzle for piston base cooling

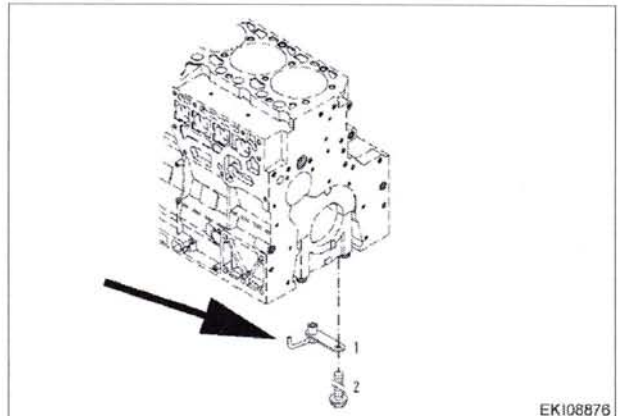


Fig. 12.

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Piston with cast ring channel for piston base cooling

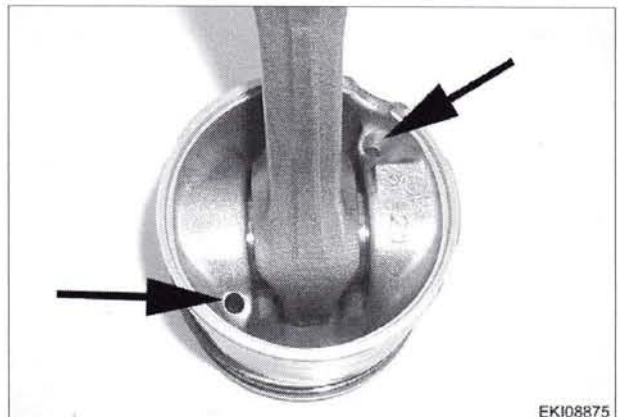


Fig. 13.

EKI08875  
 1003278

919 .. 0101-1000	925 .. 1001-	934 .. 0101-1000
919 .. 1001-	928 .. 0101-1000	934 .. 1001-
922 .. 0101-1000	928 .. 1001-	
922 .. 1001-	931 .. 0101-1000	
925 .. 0101-1000	931 .. 1001-	

