

**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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# 1200

Transmission/front PTO

## **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

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- 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)**
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## **1200 Transmission/front PTO**

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## **C Documents and diagrams**

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1 Technical drawing of front PTO

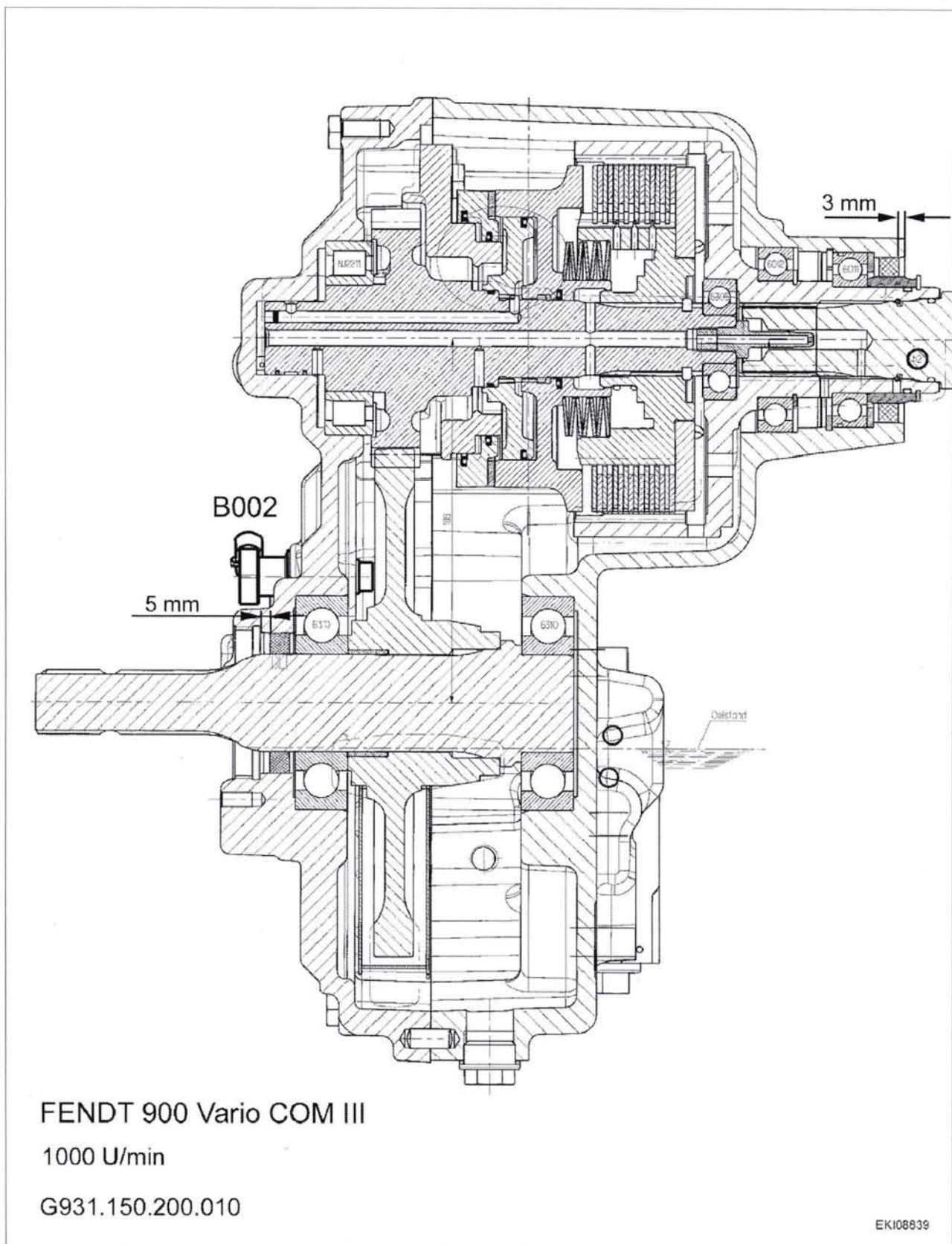


Fig. 1. Front PTO transmission

1002975

919 .. 0101-1000  
 919 .. 1001-  
 922 .. 0101-1000  
 922 .. 1001-  
 925 .. 0101-1000

925 .. 1001-  
 928 .. 0101-1000  
 928 .. 1001-  
 931 .. 0101-1000  
 931 .. 1001-

934 .. 0101-1000  
 934 .. 1001-

**T001201**  
 Version 1  
 07-11-2007

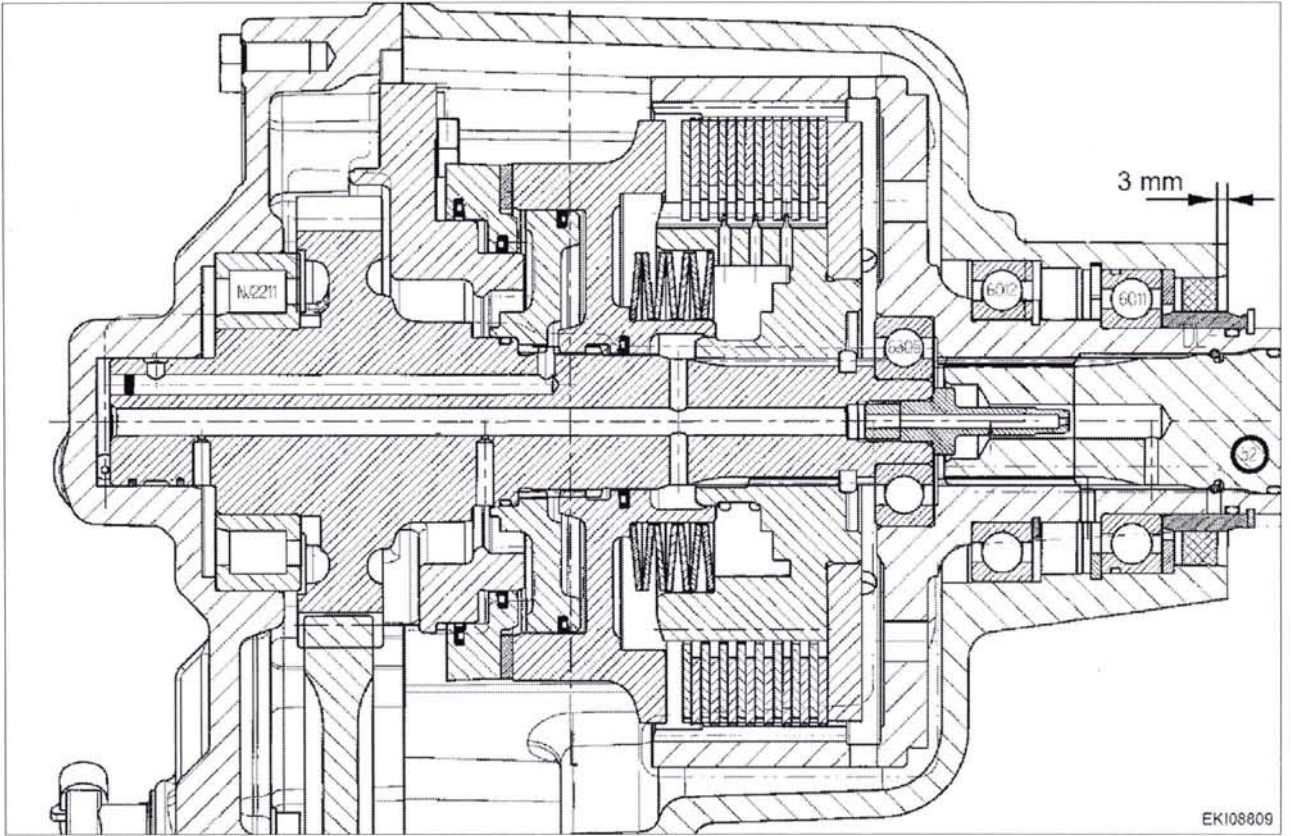


Fig. 2. Front PTO clutch

EK108809

1003543

2 Technical drawing: front PTO drive

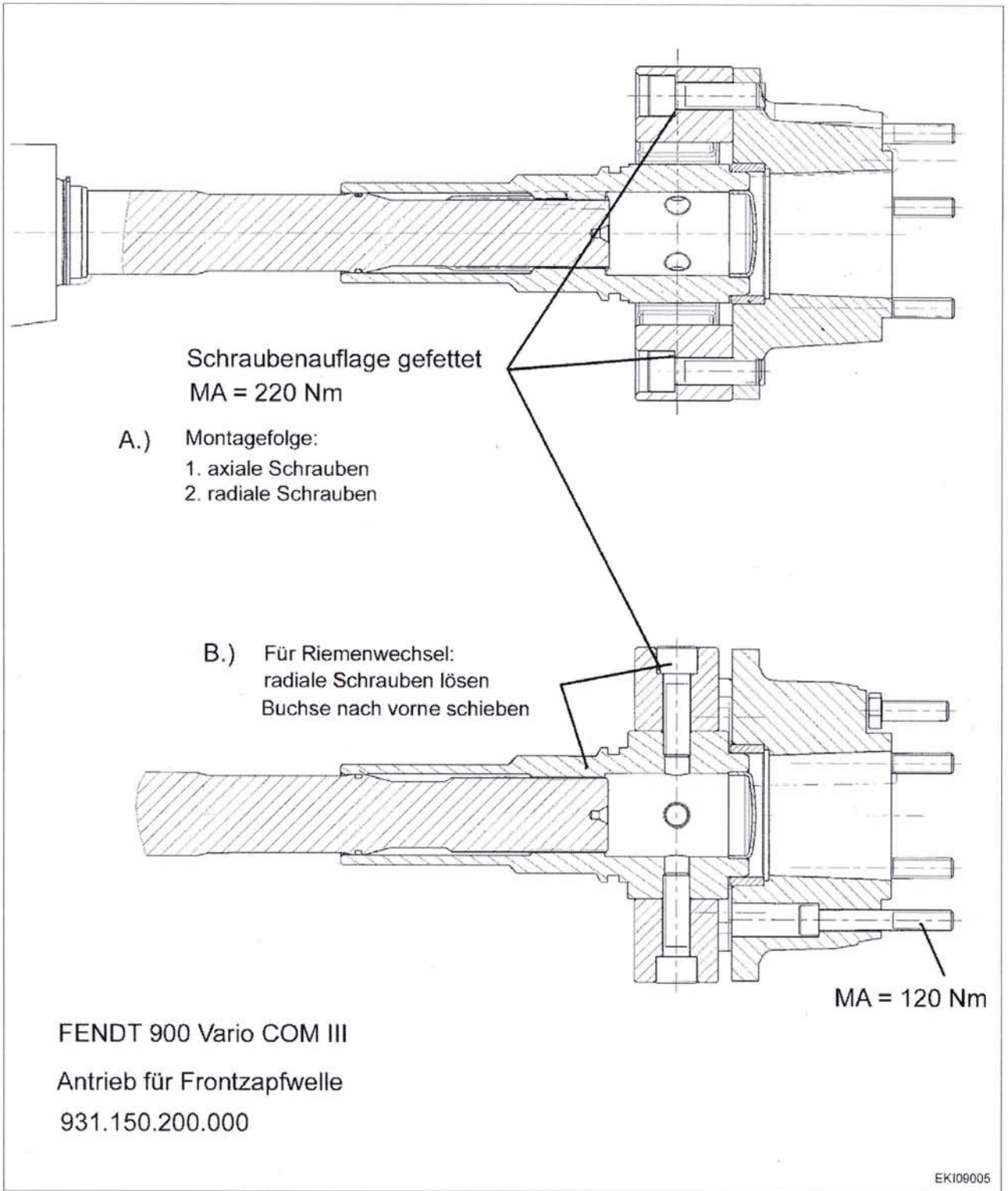
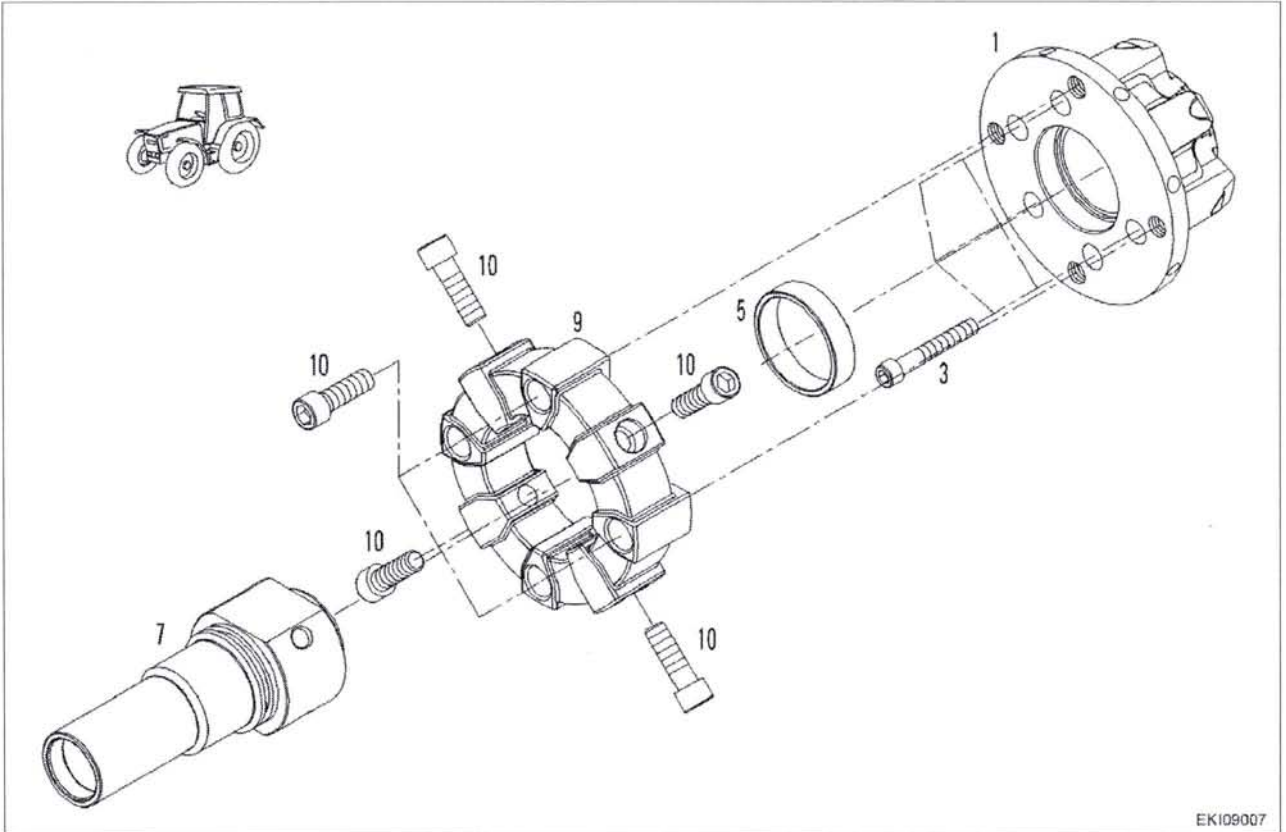


Fig. 3.

- A.)**  
 Greased screw seat  
**Assembly sequence:**  
 1. Tighten axial bolts (tightening torque = 220 Nm)  
 2. Tighten radial bolts (tightening torque = 220 Nm)
- B.)**  
**For drive belt change:**  
 Loosen the radial bolts and slide the bush forwards

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-	



EK109007

Fig. 4.

1003562

Item	Designation	Item	Designation
1	Adapter	7	Connecting sleeve
3	Socket head cap screw	9	Clutch
5	Bush	10	Socket head cap screw

**10**

**T001206**  
 Version 1  
 07-11-2007

919 .. 0101-1000  
 919 .. 1001-  
 922 .. 0101-1000  
 922 .. 1001-  
 925 .. 0101-1000

925 .. 1001-  
 928 .. 0101-1000  
 928 .. 1001-  
 931 .. 0101-1000  
 931 .. 1001-

934 .. 0101-1000  
 934 .. 1001-

## E Measuring and testing

1	Checking the front PTO system and clutch pressure. . . . .	13
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1 Checking the front PTO system and clutch pressure

Circuit diagram: Front PTO valve block

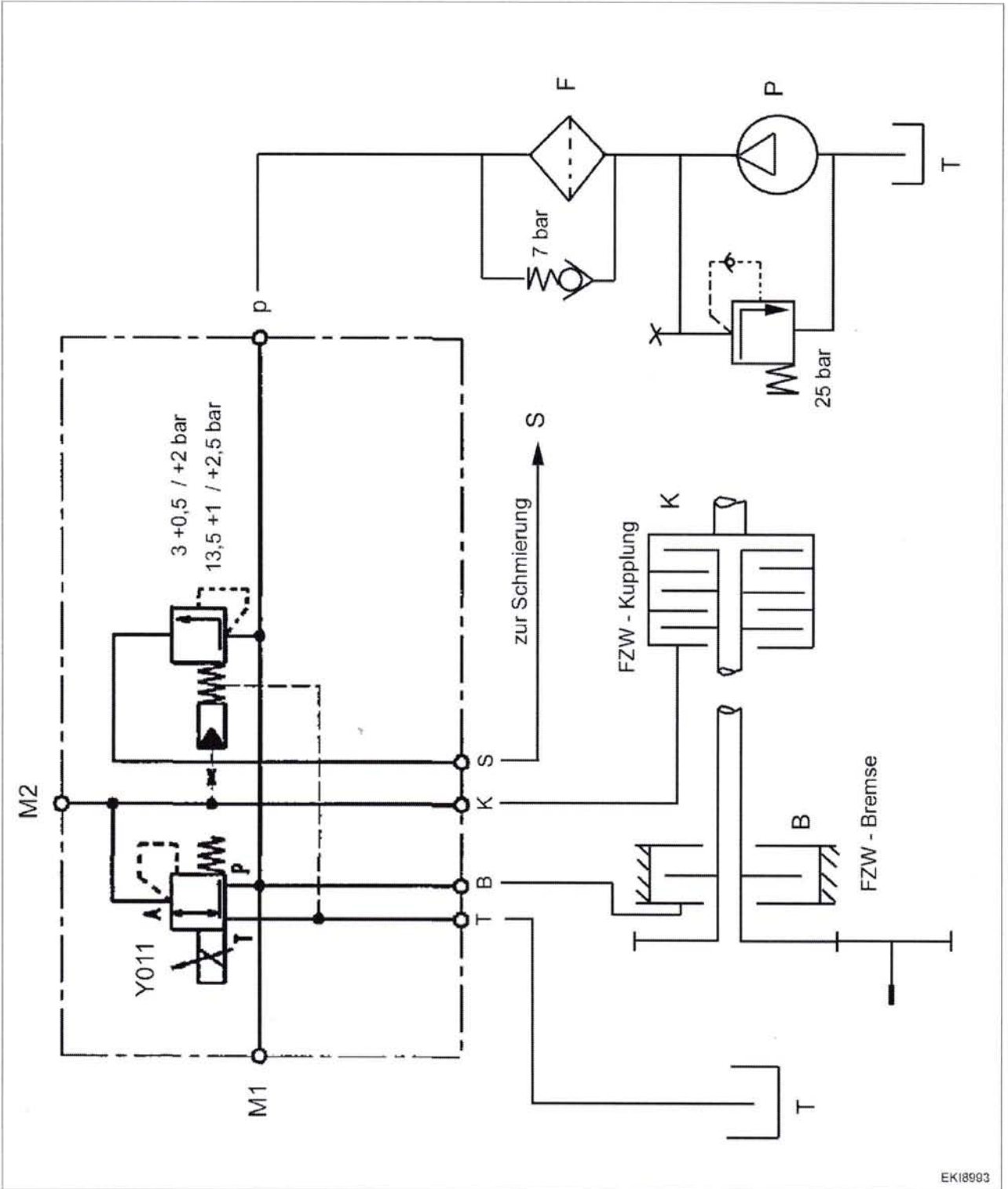


Fig. 1.

EK18993

1003545

Item	Designation	Item	Designation
<b>B</b>	Front PTO - brake	<b>F</b>	Oil filter: <b>Bypass = 7 bar</b>
<b>K</b>	Front PTO - clutch	<b>Y011</b>	Front PTO solenoid valve <b>Front PTO OFF= 0 ADC</b> <b>Front PTO ON = approx. 1.7 ADC</b>
<b>p</b>	Hydraulic pump: <b>Pressure-limiting valve (DBV): 25 bar</b>	<b>M1</b>	System pressure
<b>S</b>	Lubrication	<b>M2</b>	Clutch pressure
<b>T</b>	Tank (front axle housing)		

## Functional description

<b>Y011 solenoid valve de-energised</b>	<ul style="list-style-type: none"> <li>- <b>Front PTO - clutch (K)</b> bleeds to tank (front axle housing)</li> <li>- <b>The front PTO clutch (K) is open</b></li> <li>- The pressure-limiting valve is set to <b>approx. 4 bar</b></li> <li>- The counter piston of the <b>front PTO brake (B)</b> is pressurised with approx. 4 bar .</li> <li>- <b>The front PTO brake (B) is closed with the help of spring force</b></li> </ul>
<b>Y011 solenoid valve energised (approx. 1.7 ADC)</b>	<ul style="list-style-type: none"> <li>- The pressure-limiting valve is set to approx. 17 bar</li> <li>- The front PTO clutch (K) is pressurised with approx. 17 bar . <b>The front PTO clutch is closed</b></li> <li><b>The front PTO brake (B) is open</b></li> </ul>



Check the clutch pressure and system pressure

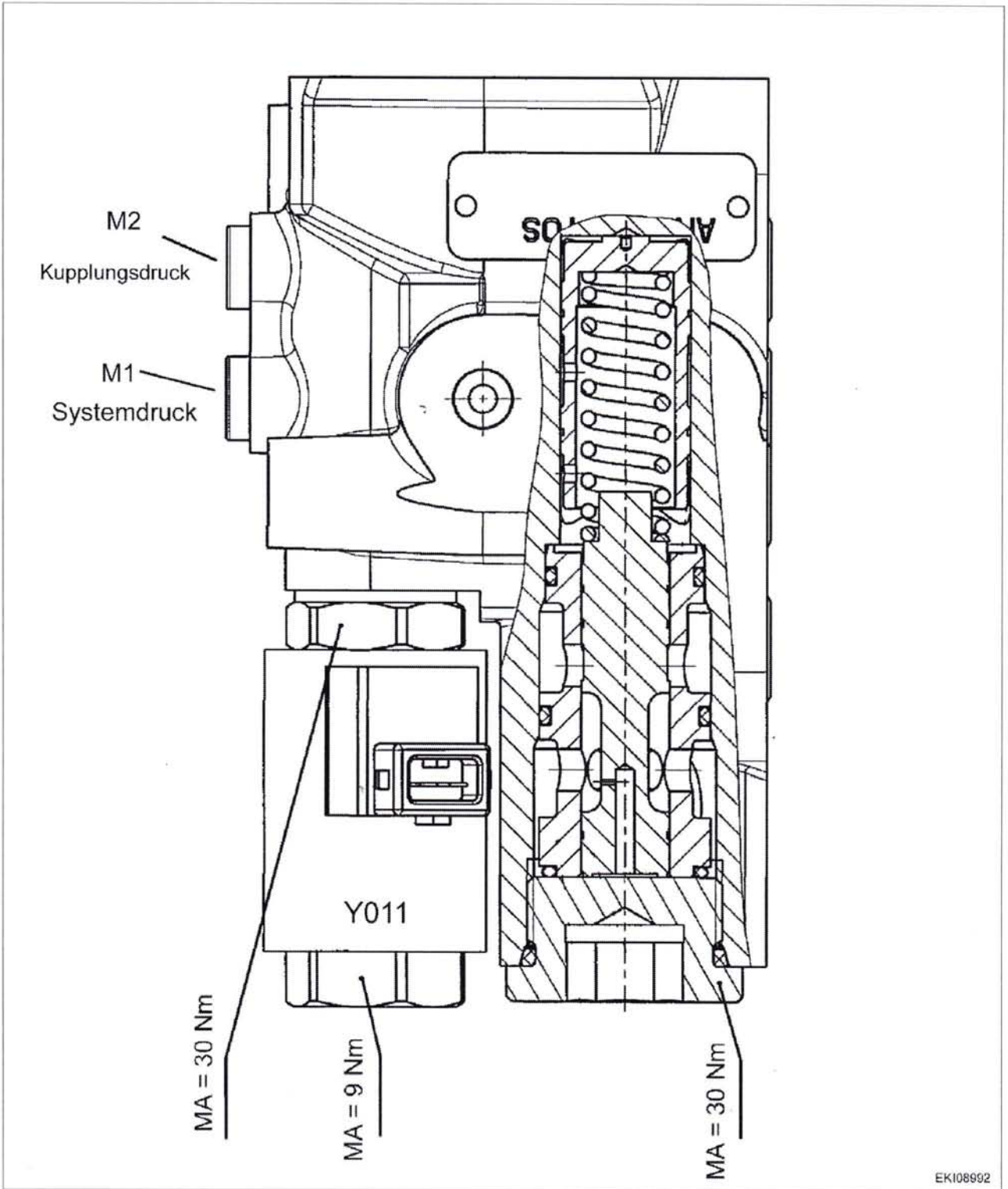


Fig. 2.

EKI08992

I003548

M1 = system pressure

M2 = clutch pressure



at the on front PTO transmission

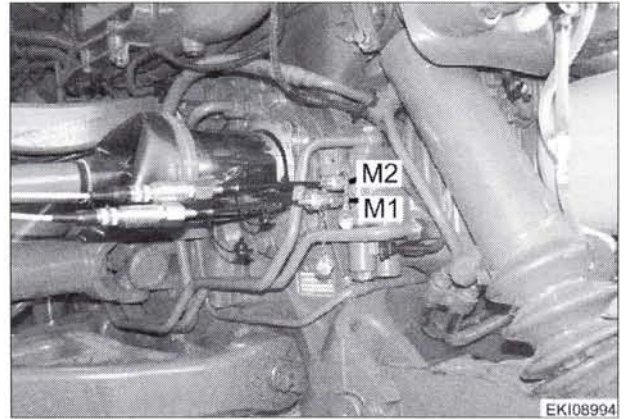


Fig. 3.

EK108994  
1003549

	System pressure (M1)	Clutch pressure (M2)
<b>Front PTO OFF</b> Y011 solenoid valve de-energised (clutch open, brake closed)	approx. 4 bar	0 bar
<b>Front PTO ON</b> Y011 solenoid valve energised (clutch closed, brake open)	approx. 17 bar	approx. 17 bar

Hydraulic oil supply

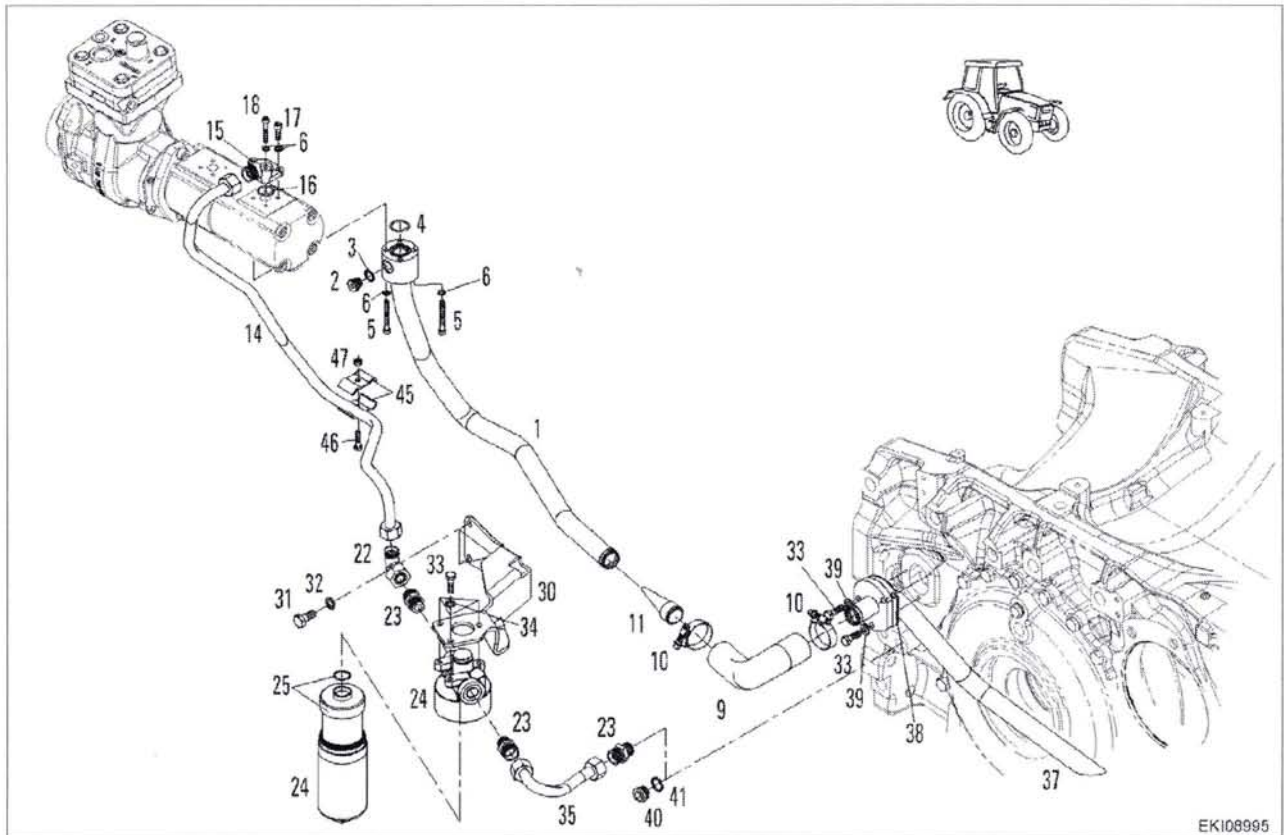


Fig. 4.

EK108995  
1003552

Item	Designation	Item	Designation
1	Suction pipe	24	Filter
2	Screw plug	25	Filter cartridge
3	Seal ring	30	Retainer
4	O-ring	31	Hex screw
5	Socket head cap screw	32	Spring washer

**16** **T001202**  
Version 1  
07-11-2007

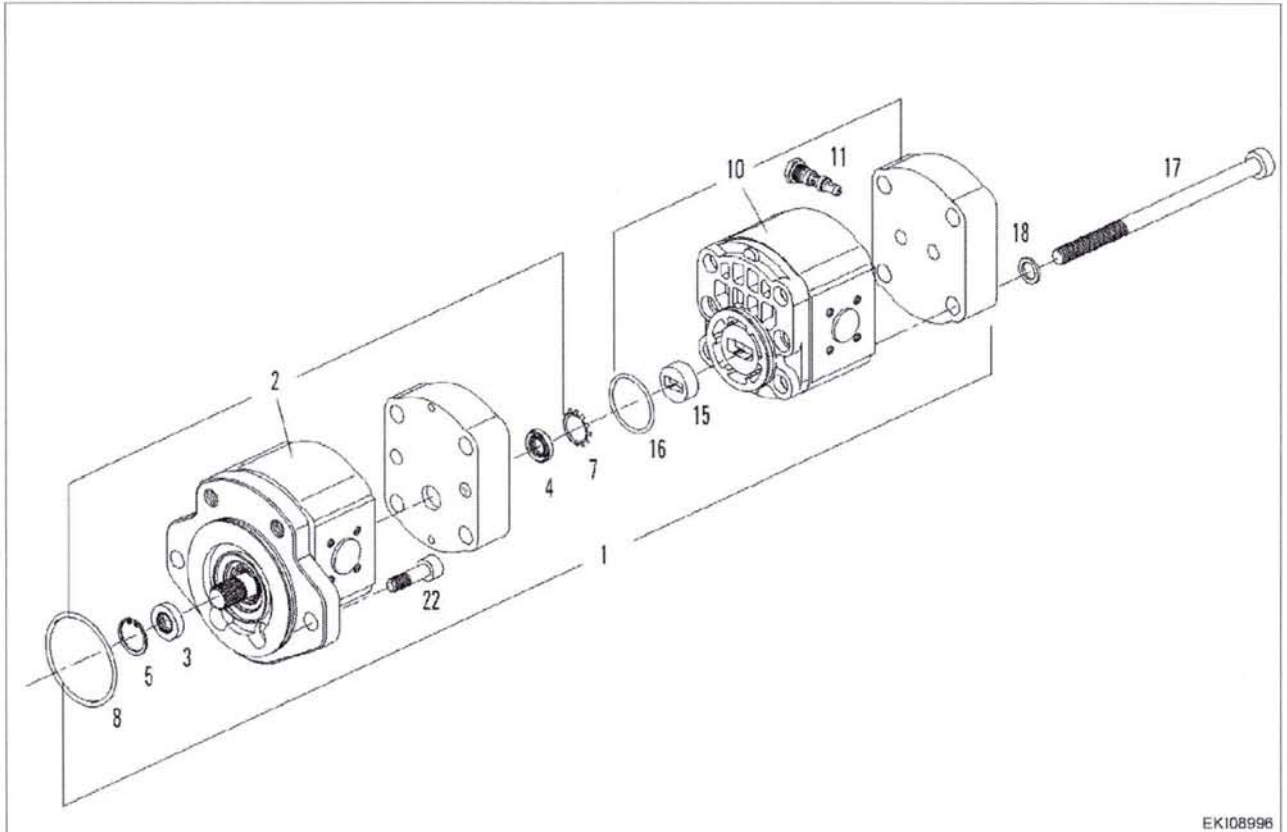
919 .. 0101-1000  
919 .. 1001-  
922 .. 0101-1000  
922 .. 1001-  
925 .. 0101-1000

925 .. 1001-  
928 .. 0101-1000  
928 .. 1001-  
931 .. 0101-1000  
931 .. 1001-

934 .. 0101-1000  
934 .. 1001-

Item	Designation	Item	Designation
6	Spring washer	33	Hex screw
9	Hose bend	34	Spring washer
10	Hose clamp	35	Pressure pipe
<b>11</b>	<b>Prefilter strainer</b>	37	Suction pipe
14	Pressure pipe	38	Gasket
15	Flange socket	39	Washer
16	O-ring	40	Screw plug (only for 1-circuit brake)
17	Socket head cap screw	41	Seal ring
18	Socket head cap screw	45	Clamp
22	Screw coupling	46	Hex screw
23	Screw socket (not applicable for 1-circuit brake)	47	Hex nut

**Checking the hydraulic pump**



EKI08996

Fig. 5.

1003559

Item	Designation	Item	Designation
<b>1</b>	<b>Tandem pump:</b>  PH - auxiliary pump for the working and steering hydraulics (22.5 cc)  <b>Front PTO pump</b> Tractors with 1-circuit brake and front PTO (8 ccm) Tractors with 2-circuit brake and front PTO (16 ccm)	<b>10</b>	<b>Front PTO pump</b> Tractors with 1-circuit brake and front PTO (8 ccm) Tractors with 2-circuit brake and front PTO (16 ccm)
2	PH - auxiliary pump for the working and steering hydraulics	<b>11</b>	<b>Pressure-limiting valve (DBV): 25 bar</b>
3	Shaft seal ring	15	Carrier

919 .. 0101-1000  
 919 .. 1001-  
 922 .. 0101-1000  
 922 .. 1001-  
 925 .. 0101-1000

925 .. 1001-  
 928 .. 0101-1000  
 928 .. 1001-  
 931 .. 0101-1000  
 931 .. 1001-

934 .. 0101-1000  
 934 .. 1001-

Item	Designation	Item	Designation
4	Shaft seal ring	16	Seal ring
5	Circlip	17	Socket head cap screw
7	Notched ring	18	Washer
8	O-ring	22	Socket head cap screw

Description	Delivery rate	Oil pressure
Tractors with 1-circuit brake and front PTO <b>Pump (8 cc)</b>	8 cc/revolution Drive ratio = 0.896 <b>9 l/min.</b> (engine speed 1000 rpm)  <b>18 l/min.</b> (engine speed 2000 rpm)	25 bar
Tractors with 2-circuit brake and front PTO <b>Pump (16 cc)</b>	16 cc/revolution Drive ratio = 0.896 <b>17 l/min.</b> (engine speed 1000 rpm)  <b>35 l/min.</b> (engine speed 2000 rpm)	25 bar