A. OM 636

The opening pressure of the oil relief valve in the main oilway should be 7 to 8 atm. gauge pressure (see Spring Testing Table). The design of the oil relief valve is the same for all types with pneumatic governor attached to the injection pump (Figure 18–5/1). On the engines with centrifugal governor attached to the injection pump the relief valve had to be shorter in design due to the limited space available (Figure 18–5/2).
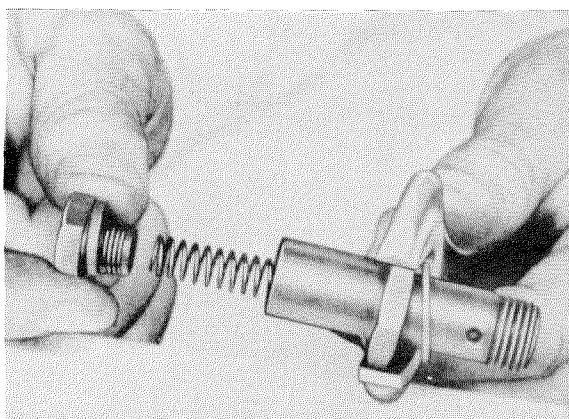

Figure 18–5/1

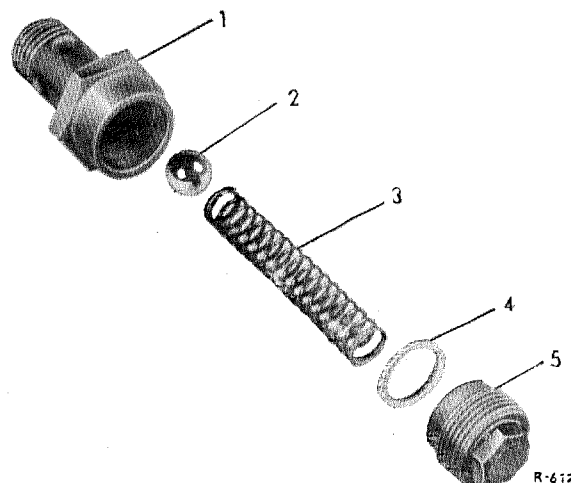Oil relief valve Part No. 136 180 04 15 (8 atm.)

1. Disassemble the oil relief valve. To do this unscrew the screw plug (5), remove the pressure spring (3), the ball (2) and the sealing ring (4) from the valve housing (1) (Figure 18–5/2).

2. Clean and check the parts. If the ball is worn, it must be replaced.

3. Test the pressure spring with a spring tester in accordance with the table below.

Figure 18–5/2

Oil relief valve Part No. 636 180 01 15 (7 atm.)

1 Valve housing	4 Sealing ring
2 Ball	5 Screw plug
3 Spring	

4. If a new sealing ring is installed during assembly make sure that only an original sealing ring is used. Thicker or thinner rings will change the initial tension of the spring and consequently the opening pressure of the valve.

Spring Testing Table

Outer dia. mm	Dia. of wire mm	No-load length mm	Length pre-loaded mm	at load kg	Length under final load mm	at load kg	Opening pressure at atm.	Part No. *
8.2	0.9	65	27	3.1	20	3.6	8 $^{+0.5}_{-0.2}$	136 993 07 05
8.2	0.9	47.4	22	2.7	16.2	3.32	7 $^{+0.5}_{-0.2}$	636 993 01 01

Load tolerance ± 5 %

During idling of the hot engine the oil pressure should not fall below 0.5 atm.

DB Part Number of the spring and the oil relief valve	installed in the engines of the type
136 993 07 05 136 180 04 15	636. { 912 914 915 916 918 919 930 931 932 934 935 } 636.917/ { 2 3 4 5 6 9 10 11 12 13 14 17 18 19 20 22 23 25 29 31 32 } 636.917– { 00 021 040 050 090 120 180 190 221 222 223 240 252 253 270 271 272 280 300 310 } and in the engines of the type 636.917/0 Version: A, B, C, F, G, H, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y and Z.
636 993 01 01 636 180 01 15	636. { 933 936 } 636.917/ { 15 16 21 24 28 30 33 } 636.917– { 022 023 251 260 290 320 330 340 350 360 370 } and in the engines of the type 636.917/0 version D and E.

B. OM 621

1. Disassemble the oil pressure relief valve. To do this, remove the lock ring (43), the piston (42) and the spring (41) from the valve housing (see Figure 18–5/3).

2. Clean and check the parts, particularly check the running surface of the piston and the cylinder. Check the spring on a spring testing scale.

The opening pressure is 6±0.5 kg/cm².
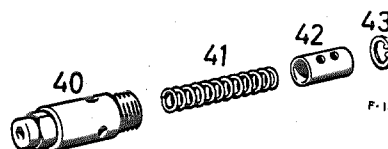
3. Re-assemble the oil pressure relief valve.

Figure 18–5/3

40 Oil pressure relief valve 6 atm. 42 Piston
41 Spring 43 Lock ring

Spring testing table

Outer dia mm	Wire thickness mm	Length untensioned mm	Length pre-tensioned mm	loaded with kg	Length block mm	loaded with kg	Opening pressure atm.	Part No.*
9.1–9.4	1.4	43.6	39	2.4	25	9.6	5.5–6.5	186 993 17 01

With hot and idling engine, the oil pressure must not drop below 0.3 atm.