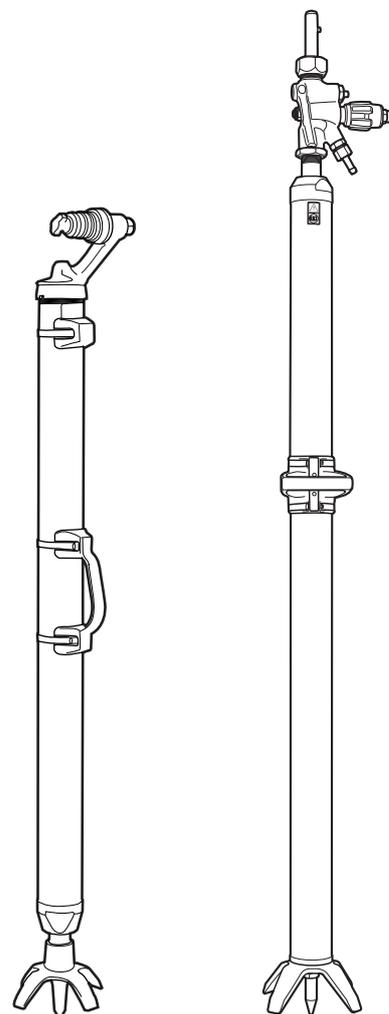
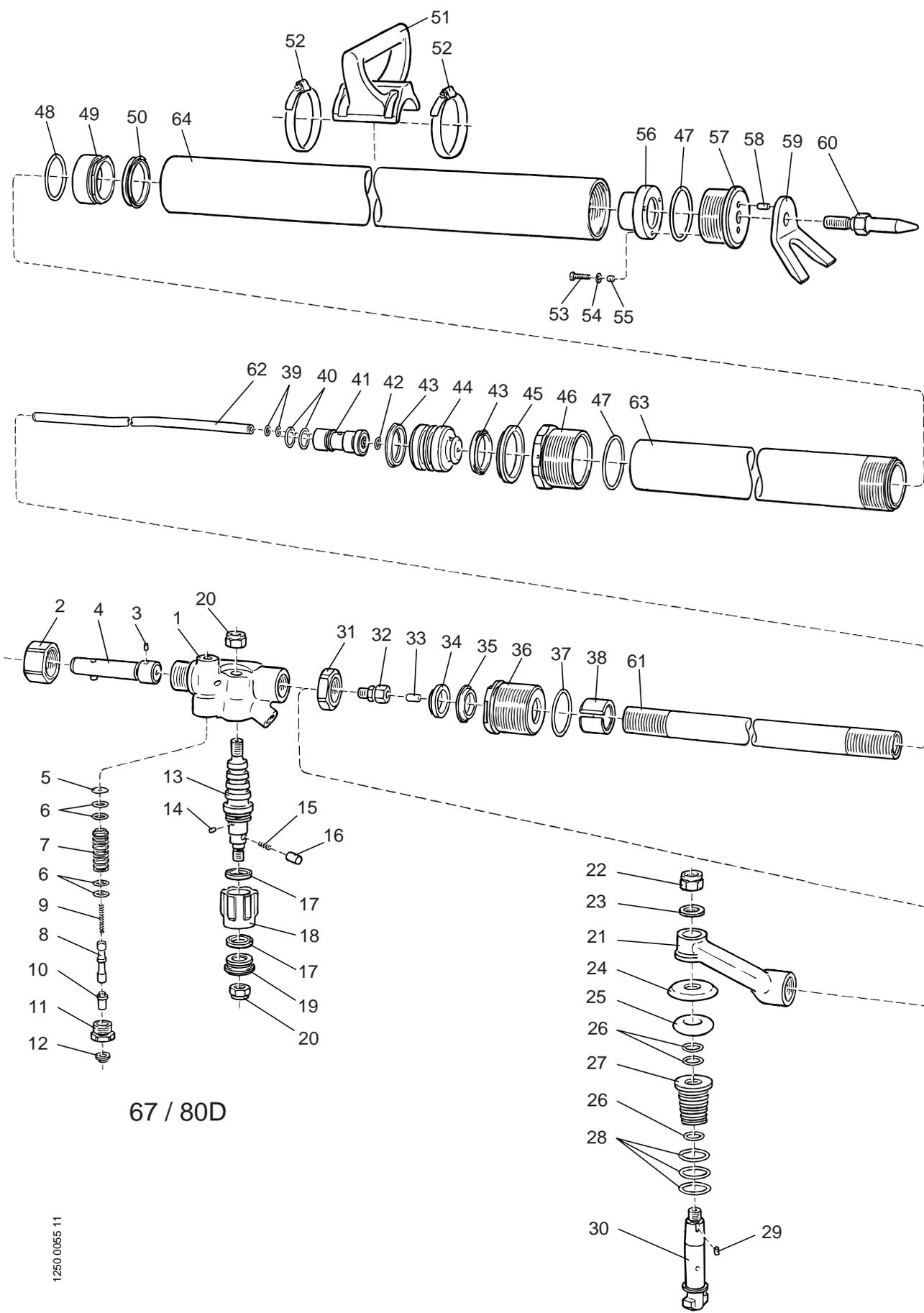


Overhauling instructions

Pusher legs





1250 0055 11

Fig. 1. ALF 67/80D

67 / 80

General

To ensure good results, ALF 67/80D pusher legs must be overhauled in a workshop in which the place of work is isolated from particle generating activities such as grinding and welding.

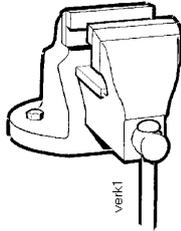
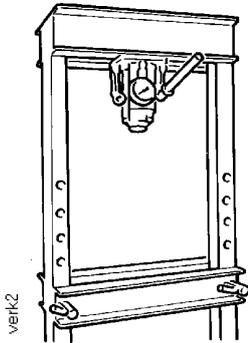
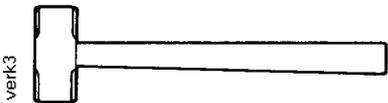
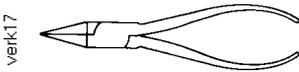
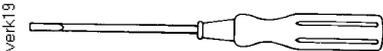
The place of work must be free of dust and dirt, and must be equipped with washing and blow-cleaning facilities.

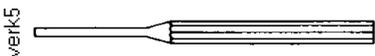
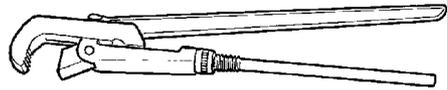
The place of work must also be equipped with all standard- and special tools needed to overhaul the machine.

The numbers that appear in brackets in the text refer to the exploded view of the pusher leg (see page opposite).

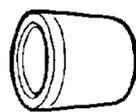
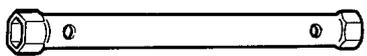
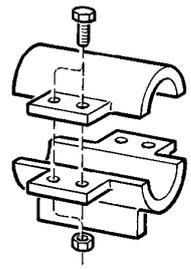
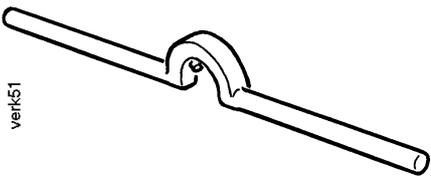
N.B. These instructions cover full disassembly and re-assembly of the pusher leg. If only part of the machine is to be overhauled, simply follow the appropriate part of the instructions.

List of tools / Standard tools

	A. Vice with soft jaw linings and V-block
	B. Hydraulic press
	C. Copper- or plastic mallet
	D. Flat-nose pliers
	E. Screwdrivers

 <p>verk5</p>	<p>F. Copper mandrel</p>
 <p>verk6</p>	<p>G. Combination spanners, widths 24, 28, 55, 65, 70, 90 mm</p>
 <p>verk20</p>	<p>H. Pipe wrench</p>

List of tools / Special tools

 <p>verk23</p>	<p>J. Mandrel for piston seal (inner piston) Part number 3115 2331 00</p>
	<p>K. Mandrel for piston seal (outer piston) Part number 3115 2332 00</p>
 <p>verk24</p>	<p>L. Box spanner for centre pipe with adapter Part number 0462 1201 28</p>
 <p>verk50</p>	<p>M. Machine clamp for outer centre pipe, inside diameter 90 mm. To be manufactured locally.</p>
	<p>N. Machine clamp for inner centre pipe, inside diameter 75 mm. To be manufactured locally.</p>
 <p>verk51</p>	<p>O. Hook spanner for removal and fitting of piston. To be manufactured locally.</p>

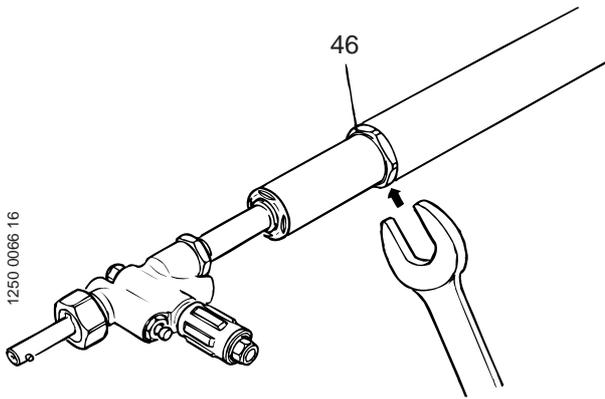


Fig. 2

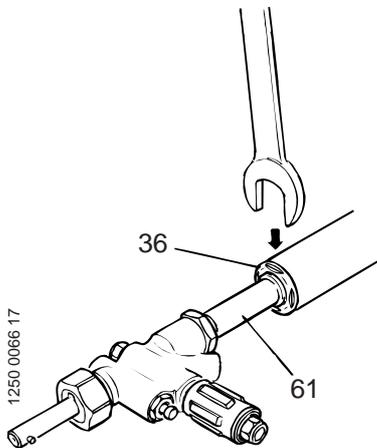


Fig. 3

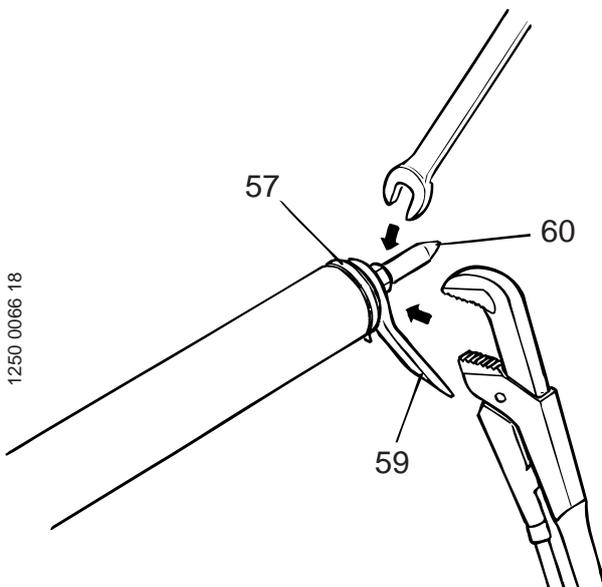


Fig. 4

Disassembly into main parts

1. Clamp the pusher leg in a machine clamp (or vice with soft jaw linings). Remove the hose clamps (52), which secure the handle (51). **N.B.** To avoid the risk of deforming the cylinder barrel (64), do not tighten the clamp or vice too much.
2. Remove the upper guide socket (46) using a 90 mm combination spanner. See fig. 2.
3. Pull out the piston rod (61) and cylinder barrel (63) as a complete unit.
4. Clamp the cylinder barrel (63) in a machine clamp (or in a vice fitted with V-jaws). Remove the guide socket (36) using a 65 mm combination spanner (see fig. 3) and pull out the complete piston rod (61).

The pusher leg is now disassembled into its main parts:

- Outer cylinder barrel
- Inner cylinder barrel
- Piston rod

Each of the above units is dealt with individually (see following chapters).

Outer cylinder barrel

Disassembly

1. Clamp the cylinder barrel (64) in a machine clamp or in a vice fitted with soft jaw linings or a V-block.
2. Remove the spike (60) using a 28 mm open-ended spanner, and remove the support (59) with its cylindrical pin (58). See fig. 4.
3. Remove the end piece (57) complete with damper (56) using a pipe wrench. See fig. 4.

Inspection

1. Check that the cylinder barrel (64) is free of scratches and dents. Minor scratches can be removed with the aid of a suitable whetstone. In the event of more serious damage, change the cylinder barrel.
2. Check that there is no external damage on the damper (56). Change the damper if it is chipped or has lost its resilience. Remove the damper (56) by removing the three screws (53) together with the washers (54) and sleeves (55). See fig. 5.
3. Check that the O-ring (47) is not damaged. If it is damaged or feels dry and brittle, it must be changed.

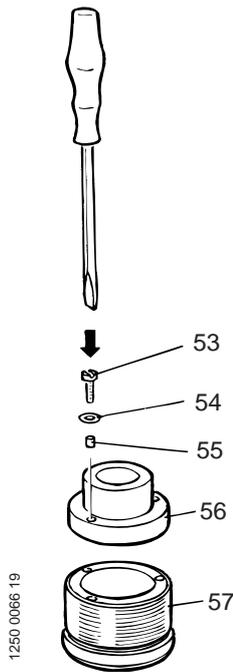


Fig. 5

Assembly

1. Fit the three sleeves (55) into the damper (56) with the aid of a press.
2. Fit the O-ring (47) on to the end piece (57).
3. Fix the damper (56) securely to the end piece (57) using the three screws (53) and washers (54). See fig. 5.
4. Now thread the complete end piece (57) into the cylinder barrel (64).
5. Fit the pin (58) into the end piece (57), and fit the support (59) so that it locates on the pin. Now tighten the spike (60) using a 28 mm combination spanner. See fig. 6.
6. Fit the end piece (57) using a pipe wrench. See fig. 6.

Inner cylinder barrel

Disassembly

1. Clamp the inner cylinder barrel (63) in a machine clamp or in a vice fitted with soft jaw linings or a V-block. To avoid the risk of deforming the cylinder barrel, do not tighten the clamp or vice too hard.
2. Remove the piston (49) and seal (50) using a 70 mm combination spanner. See fig. 7.
3. Remove the guide socket (46) from the inner cylinder barrel (63).

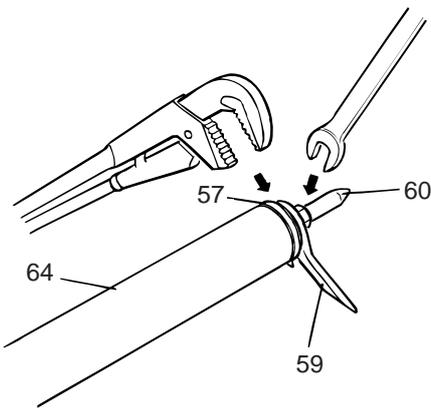


Fig. 6

Inspection

1. Check the external and internal surfaces of the cylinder barrel for scratches and deformation. Minor scratches can be removed with the aid of a suitable whetstone. In the event of more serious damage, change the cylinder barrel.
2. Check the piston seal (50) for wear and/or any change in the nature of the material or shape of the seal. Change the seal if necessary.
3. Check the O-ring (48) for damage and/or any change in the nature of the O-ring material. Change the O-ring if necessary.
4. Check the O-ring (47) and wiper (45) of the guide socket (46). Check for damage and/or any change in the nature of the material. Change the parts if necessary.

Assembly

1. Fit the piston seal (50) and O-ring (48) to the piston (49). Check that the sealing surface of the piston seal faces downwards. See fig. 7. Now fit the piston (49) on to the inner cylinder barrel (63).
2. Fit the wiper (45) and O-ring (47) on to the guide socket (46).
3. Fit the guide socket (46) into the inner cylinder barrel (63).

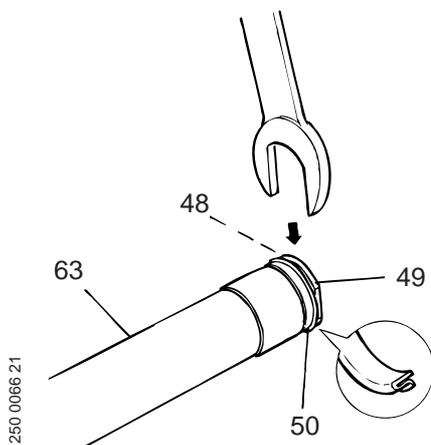


Fig. 7

Piston rod

Disassembly

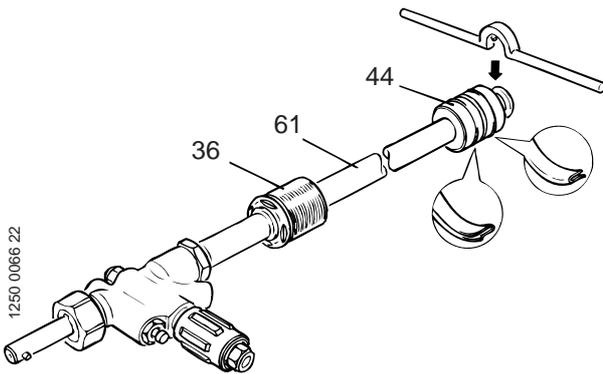


Fig. 8

1. Clamp the valve housing (1) in a vice.
2. Remove the piston (44) with the aid of a hook spanner (see fig. 8).
3. Pull the guide socket (36) off the piston rod (61).
4. Remove the nut (31) using a 55 mm combination spanner. See fig. 9.
5. Unthread the piston rod (61) with the aid of a pipe wrench.
N.B. Take care not to damage the piston rod.
6. Pull the insert (41) out of the piston rod (61).
7. Remove the centre pipe (62) with the aid of the box spanner. Remove the insert sleeve (33) and pipe coupling (32). See fig. 10.
8. Remove the nut (2) and piston-rod end (4). See fig. 11.
9. Remove the adapter (11) and dismantle the valve parts (5, 6, 7, 8, 9, 10 and 12). See fig. 12.
10. Remove the nut (20) that retains the control knob (18). Then remove the washer (19) and knob (18) together with the spring (15) and detent pin (16). See fig. 13.
11. Remove the nut (20) that secures the control knob (18) to the valve (13). Now remove the valve (13) with the aid of a soft mandrel. See fig. 13.

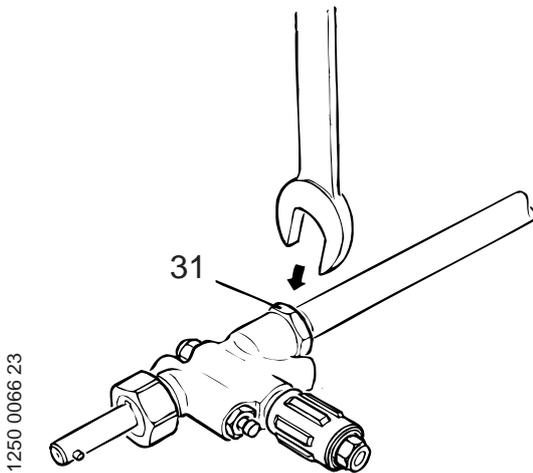


Fig. 9

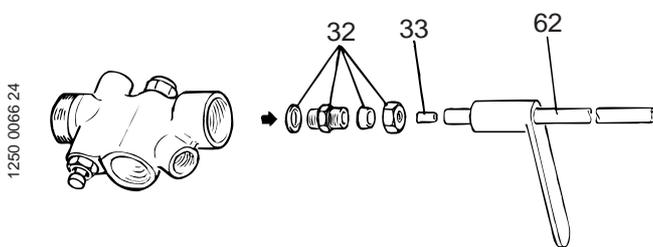


Fig. 10

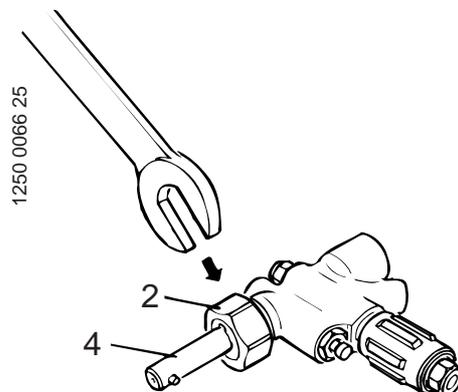


Fig. 11

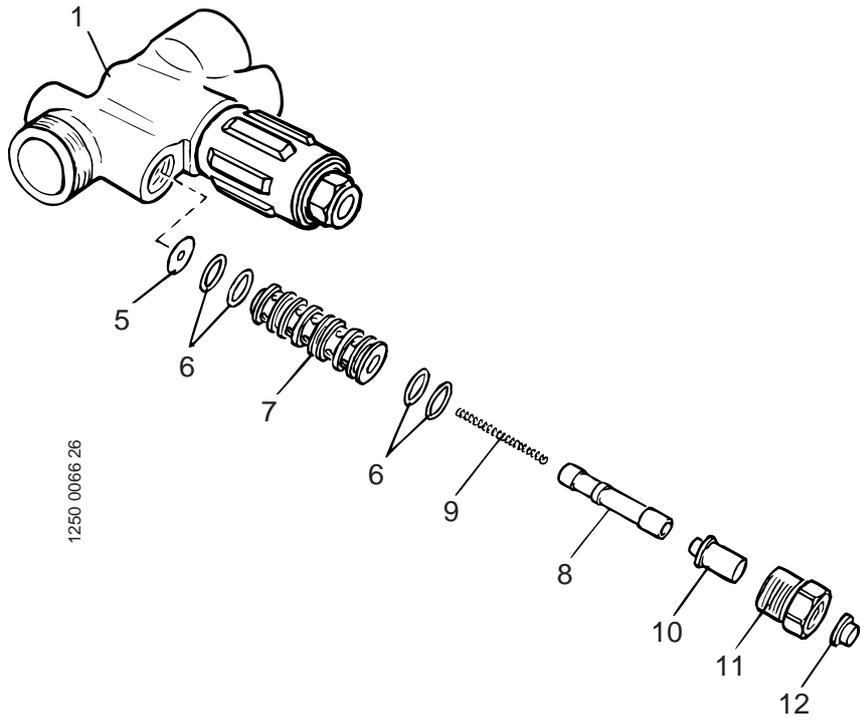


Fig. 12

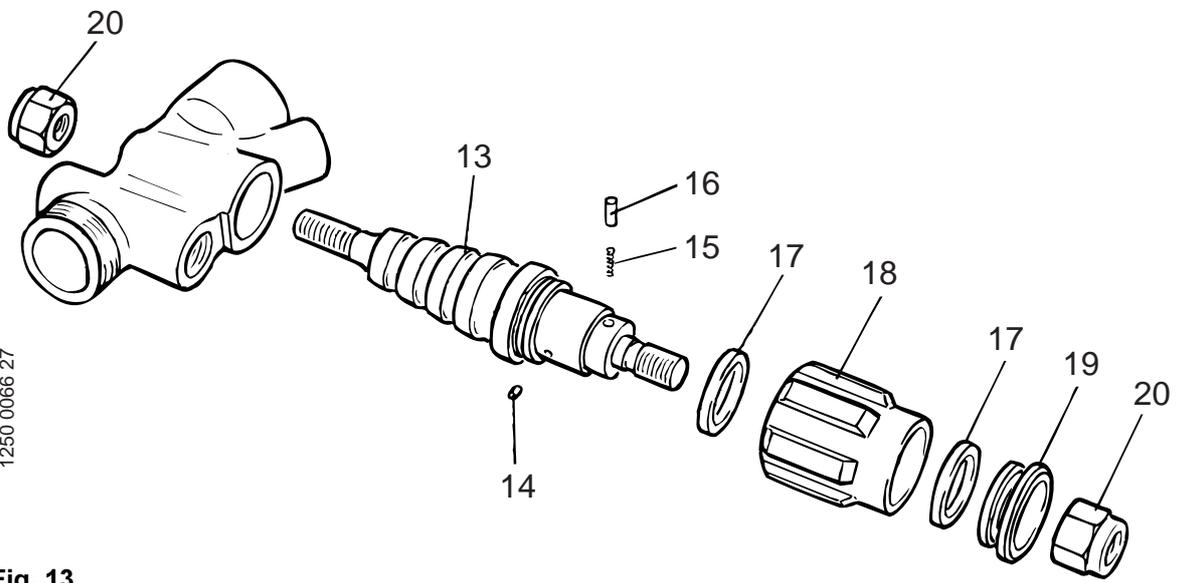
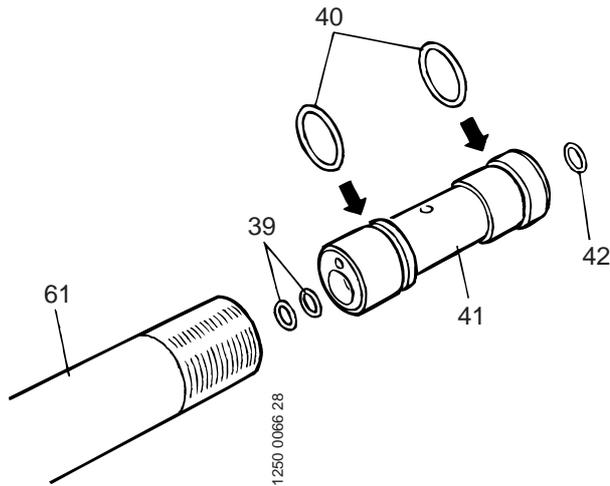


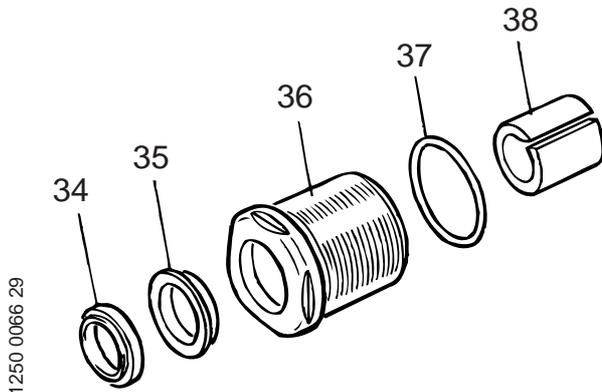
Fig. 13



F
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Inspection

1. Inspect the O-rings (6) and wiper (12). Look for damage and/or any change in the nature of the material or shape of the parts. Change the parts if necessary.
2. Check the seals (17) for wear and damage. Change the seals if necessary.
3. Check the piston seals (43) for wear and/or any change in the nature of the material or shape of the parts. Change the piston seals if necessary.
4. Check the O-rings (39, 40 and 42) of the insert (41). Look for damage and/or any change in the nature of the O-ring material (see fig. 14). Change the O-rings if necessary.
5. Check that the centre pipe (62) is not damaged or blocked. Clean or change the centre pipe as necessary.
6. Check the wiper (34), seal (35), O-ring (37) and bushing (38) of the guide socket (36). Look for damage and/or any change in the nature of the material or shape of the parts. Change the parts if necessary.



F
ig. 15

Assembly

1. Fit the bushing (38), seal (35), wiper (34) and O-ring (37) to the guide socket (36). Check that the bushing (38) locates correctly, otherwise the piston rod (61) will damage the bushing as it enters the guide socket. See fig. 15.
2. Fit the guide socket (36) to the piston rod (61).
3. Fit the O-rings (39, 40 and 42) to the insert (41). See fig. 14.
4. Fit the centre pipe (62) with insert sleeve (33) and pipe coupling (32) into the end piece (21) with the aid of the box spanner. See fig. 16.
5. Fit the insert (41) into the piston rod (61). Check that the centre pipe (62) enters the insert.
6. Fit the piston seals (43) to the piston (44) with the aid of a mandrel.
7. Fit the piston (44) to the piston rod (61) and tighten with the aid of the hook spanner.
8. Fit the nut (31) to the piston rod (61) and fit the piston rod to the end piece (21).
9. Lock the piston rod (61) by tightening the nut (31). See fig. 17.

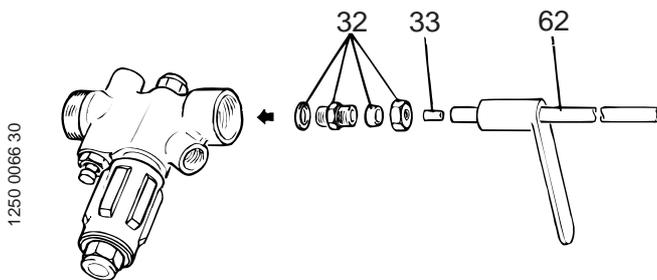


Fig. 16

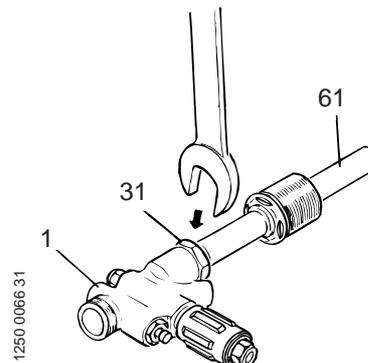


Fig. 17

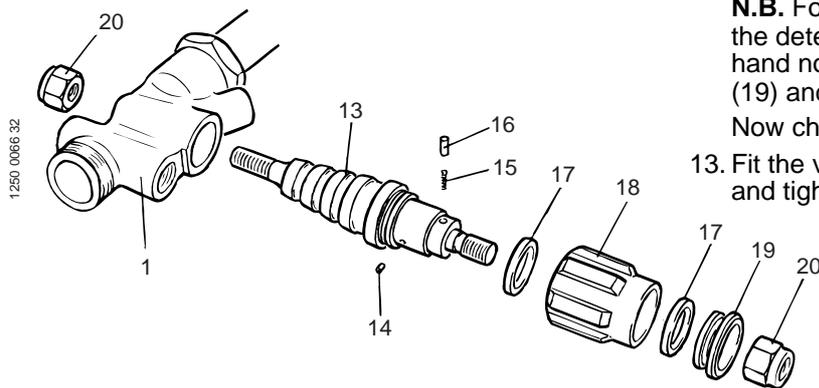


Fig. 18

10. Fit the seals (17) to the valve (13). See fig. 18.
11. Fit the pin (14), spring (15) and detent pin (16). See fig. 18.
12. Fit the control knob (18) to the valve (13).
N.B. For the correct function to be obtained, the detent pin (16) must be fitted in the right-hand notch in the control knob. Fit the washer (19) and nut (20). See fig. 18.
Now check the function of the control knob.
13. Fit the valve (13) into the valve housing (1). Fit and tighten the nut (20). See fig. 18.

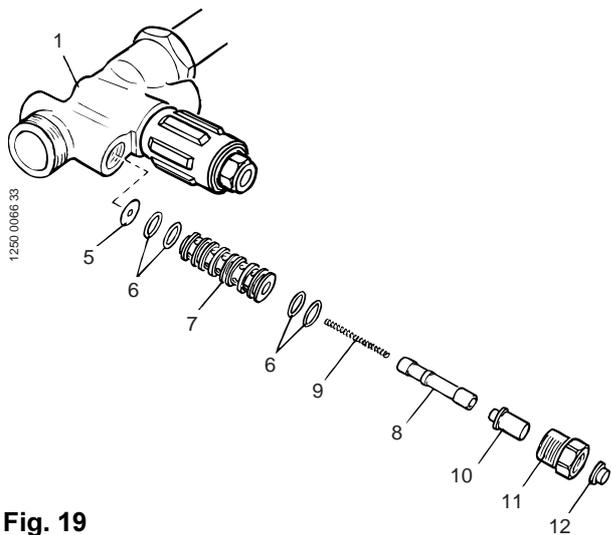


Fig. 19

14. Fit the O-rings (6) on to the valve liner (7). Fit the washer (5) into the valve housing (1), and then insert the valve liner (7) into the valve housing. See fig. 19.
15. Insert the spring (9) into the valve (8), and then fit the valve into the valve liner (7). See fig. 19.
16. Fit the wiper (12) and valve pin (10) into the adapter (11). Now fit the adapter complete into the valve housing (1). See fig. 19.
17. Fit the piston-rod end (4) with pin (3) into the valve housing (1). Tighten the nut (2). See fig. 20.

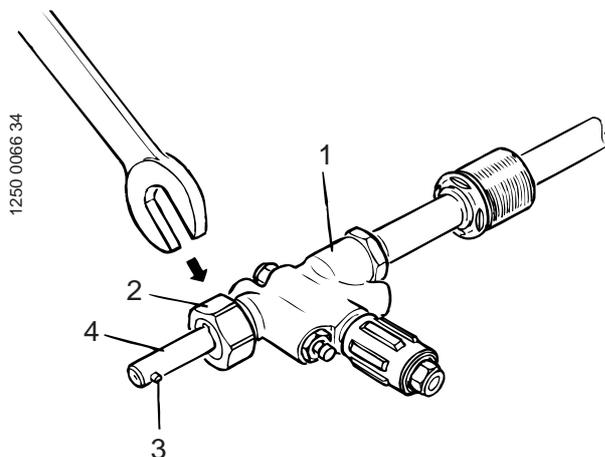


Fig. 20

Function check

Connect a 12.5 mm compressed-air hose to the pusher leg and test the function of the machine, at the same time checking for leakage.

N.B. The 2nd extension of the pusher leg is returned pneumatically by pressing the valve pin (10), while the 1st extension is returned manually.



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