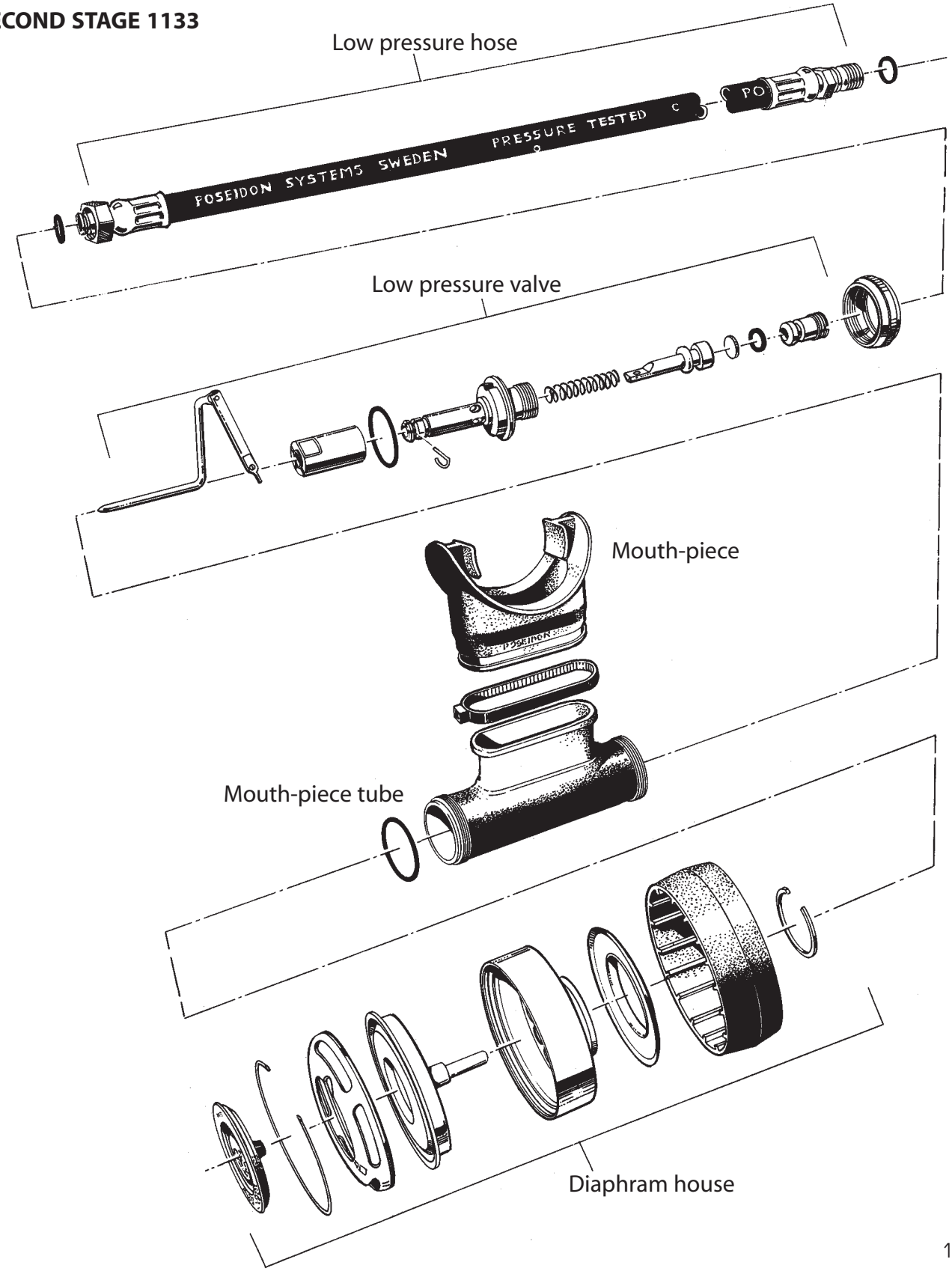
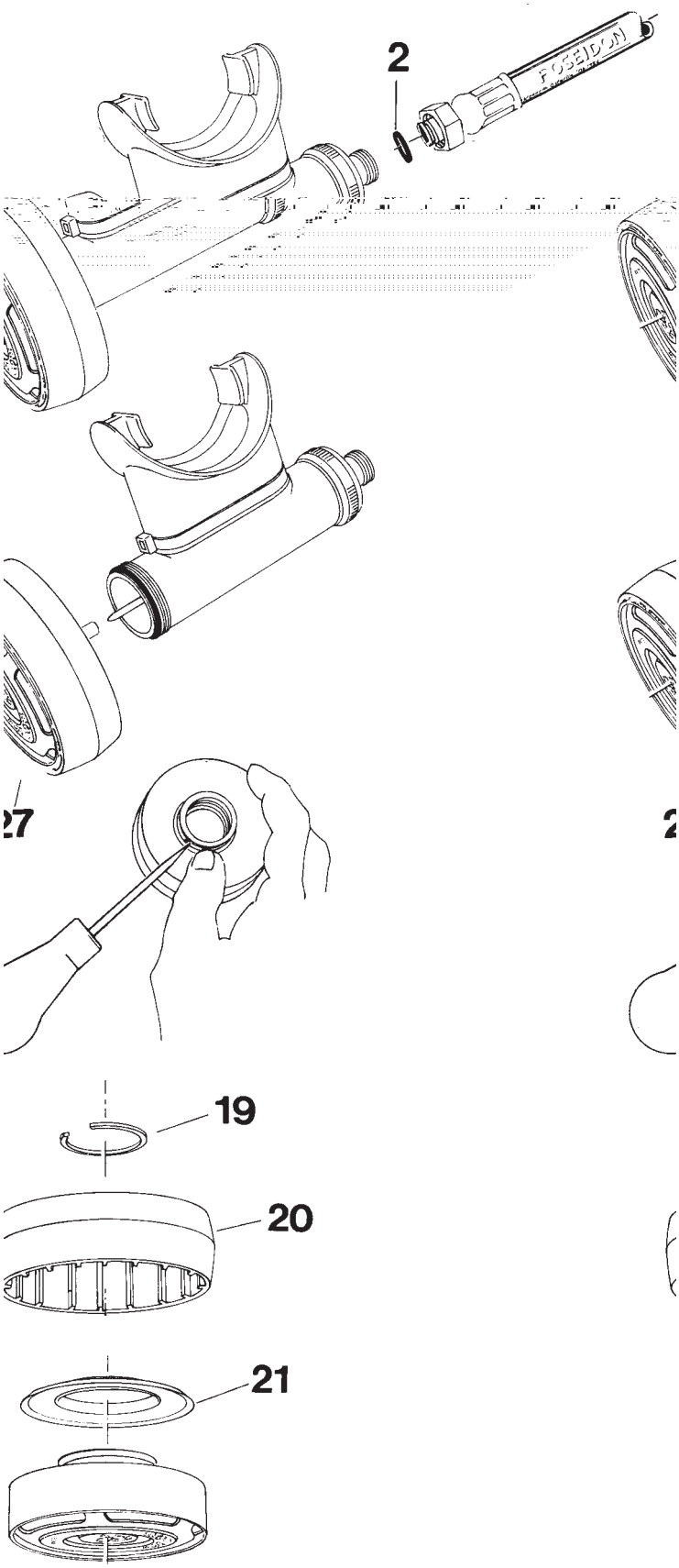
REPAIR INSTRUCTIONS SECOND STAGE DEMAND VALVE

EXPLODED VIEW
SECOND STAGE 1133





SECOND STAGE
1133, 3224, 3354, 3536

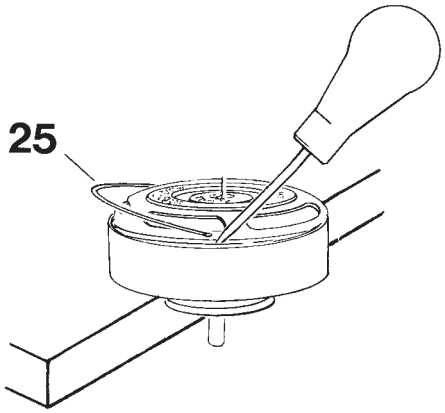
Removal:

1. Disconnect the low pressure hose from the second stage with a 17 mm. open wrench. Remove the oring (2) with an o-rings remover.

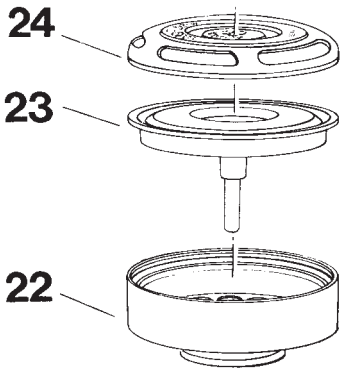
2. Remove the diaphragm housing (27) from the mouth piece tube.

3. To release the exhalation cover, remove the locking ring with a small screwdriver.

4. Remove the exhalation diaphragm (21).

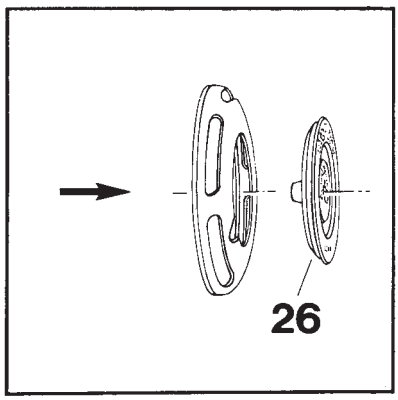


1. Remove the locking ring (25) with an awl. Support the diaphragm house, see diagram. Make sure that the sealing surface for the exhalation diaphragm is not damaged.

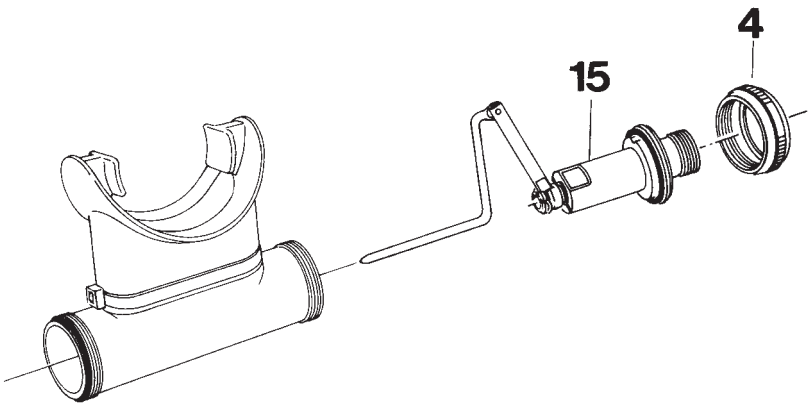


2. Remove the cover (24) and the inhalation diaphragm (23).

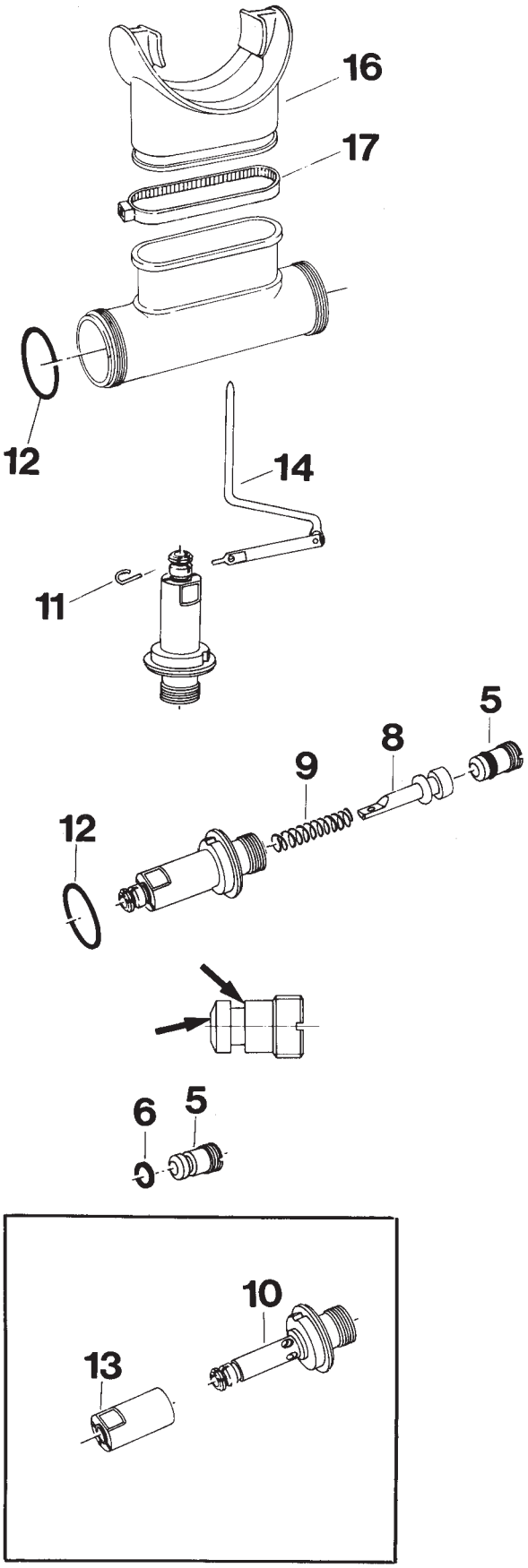
Removal: Push out the purge button



IMPORTANT! The purge button (26) should not be removed if it is undamaged



3. Remove the connecting ring (4) and the low pressure valve (15).



1. Cut off the locking strap (17) with cutting pliers.

2. Remove the mouth-piece (16) and the o-ring (12).

1. Remove the lever pin (11).

2. Remove the operating device (14).

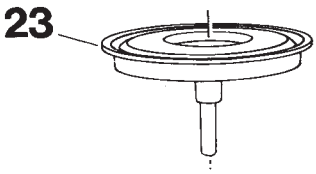
3. Remove the o-ring (12).

4. Unserew the valve seat (5) with an 8.5 mm screwdriver. NOTE! the valve seat has a very fragile tightening edge; put the seat with the edge upwards.

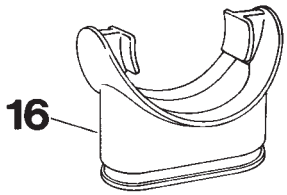
5. Remove the valve piston (8) and the spring (9). In order to protect the piston bond, the old rubber plate should be kept until the new shall be fixed.

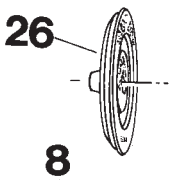
6. Remove the o-ring (6) with an oring remover. Make sure the sealing surfaces ar not damaged.

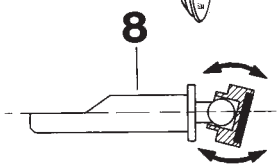
IMPORTANT! The ejector sleeve should not be removed if it is functional and undamaged. Check to see that the sleeve can be rotated to any position, but that it does not rotate freely.

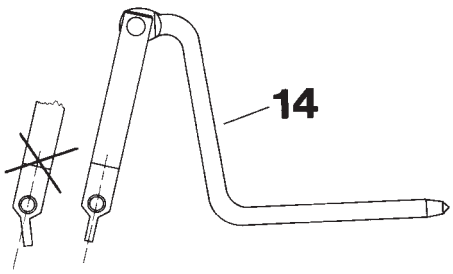


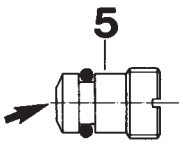


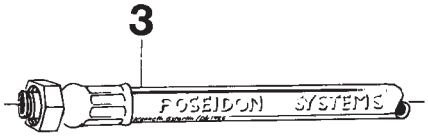


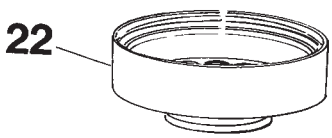












When servicing the regulator the following parts should be replaced: See chapter Servicekit.

1. All o-rings, including the one in the low-pressure hose.
2. Rubber plate (7).

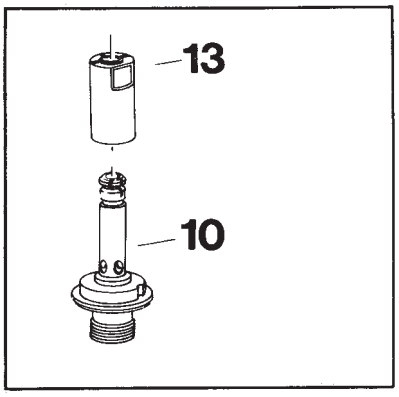
CLEANING:

If corrosion or salt deposits occurs, place all metal parts – concentrated Hempocid* or 15% Hydrochloric acid for about 10 minutes. Then, rince the parts thoroughly and blow dry with air. The synthetic parts in the second stage must not be treated with solvent. They shall be cleaned in freshwater only.

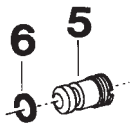
**Hempocid = Acid Liquid Detergent Containing phosphoric acid (5 - 10%) and bactericid for desinfectant cleaning.*

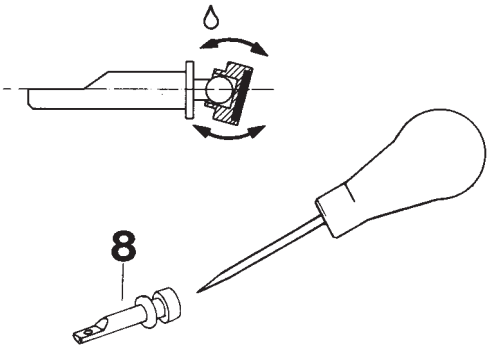
BEFORE INSTALLING CHECK THE FOLLOWING:

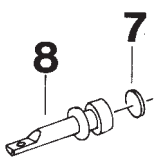
1. Diaphragms (21) (23). Check the sealing surface of the diaphragm to see if it is even and uncracked.
2. The mouth-piece (16). Make sure that there are no cracks.
3. The purge button (26). Make sure there are no cracks.
4. Valve piston (8). Ensure that the ball joint is working correctly by manipulating and rotating the joint.
5. Operating device (14). Make sure that the joint articulates smoothly. Important: The operating device must be replaced, if the lever tab is bent. The tab should not be straightened, as this would weaken it and make subsequent failure possible.
6. Valve seat (5). Check to make sure the sealing surfaces are undamaged.
7. Low pressure hose (3). Check to make sure that the sealing surface is undamaged, and that the rubber does not show any flaws.
8. Diaphragm housing (22). Make sure that the sealing surfaces are free from defeas and that the track for the inhalation diaphragm is absolutely clean and free from lubricant.

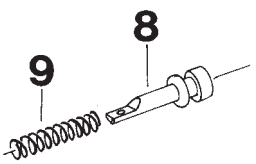


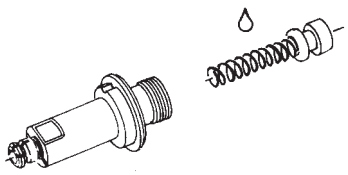












Assembly:

Install the ejector sleeve (13) on the valve housing (10). Press the sleeve into the low pressure valve so the slits of the sleeve are exceedingly small.

Lubricate:

Grease:

Oil:

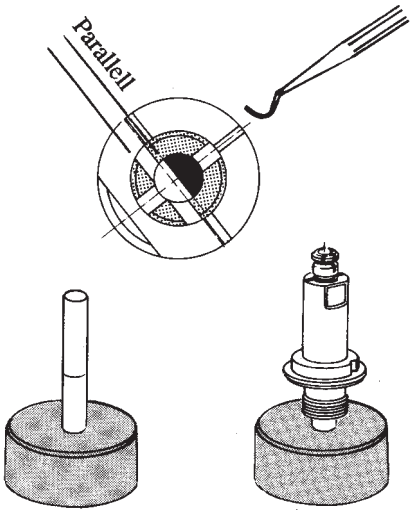
1. Install the o-ring (6) on the valve seat (5). Make sure that the sealing surface is not damaged.

2. Lubricate the ball joint. Tilt the position head according to the figure to ensure that it rotates and articulates smoothly.

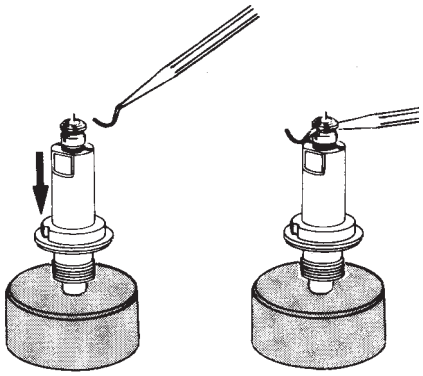
3. Remove the rubber plate (7) with an awl and make sure the sealings surface on the valve is clean. Install the new rubber plate.

4. Put the spring (9) on the valve piston (8). Lubricate the spring

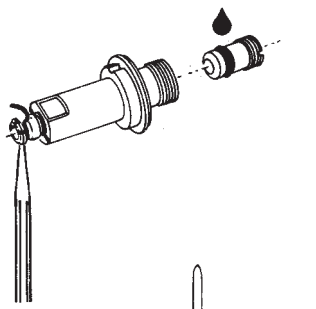
5. Install the valve piston/spring in the valve housing with the flat part of the valve piston upwards.



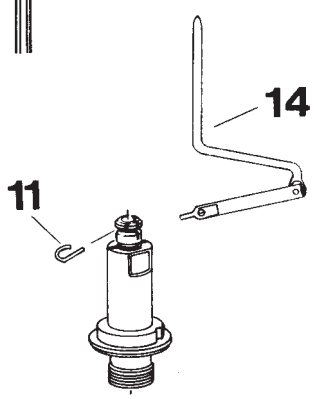
1. Place the valve housing on a drift seated on a block.
   Press the valve housing down, compressing the spring. Keep the flat part of the valve piston parallel with the horizontal slot in the end of the valve housing. Move the valve piston up and down a few times to check for freedom of movement.



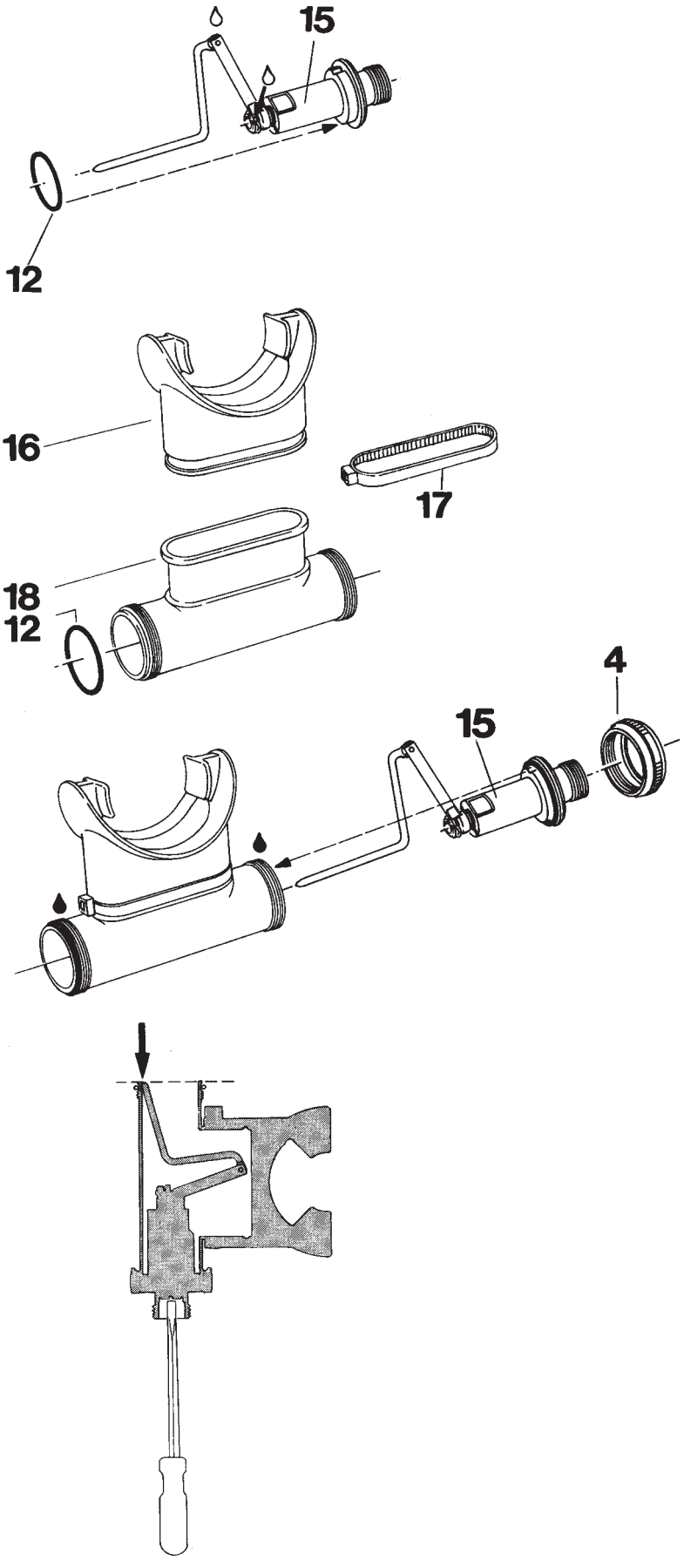
2. Press the valve housing down and slide an o-ring remover through the hole in the valve piston. See diagram.



3. Lubricate the o-ring and the thread of the valve seat. Screw in the valve seat with an 8.5 mm screw driver until the o-ring remover comes loose.



4. Install the operating device (14). Insert the lever pin (11) through the slot, engaging the hole in the operating device. Rotate the lever pin 90 degrees to lock it in place.



1. Install the o-ring (12).

   Lubricate. See diagram.

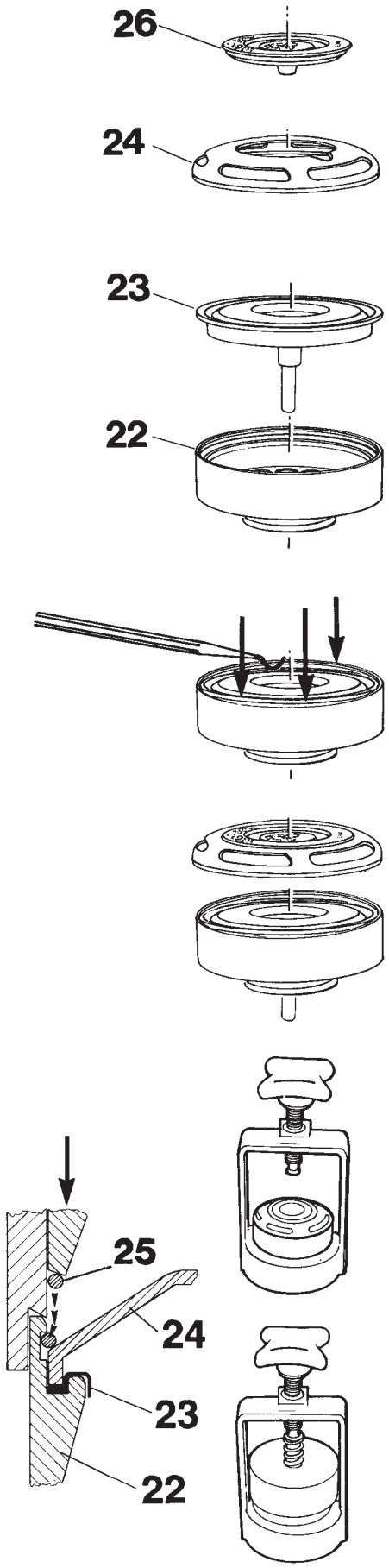
2. Install the mouth piece (16) and the plastic band (17). Tighten and cut off plasticband with plastic band pliers.

3. Install the o-ring .(12)

4. Lubricate the threads on the mouth piece

5. Install the low pressure valve (15) in the mouth piece tube. Set the indent notch at the top of the valve housing against the key at the top of the mouth piece tube. Screw on the connecting ring (4).

6. Screw the valve seat down until the highest part of the operating device is even with the level og the opening of the mouth piece tube. Hold the second stage valve vertically. See fig.



1. Install the purge button (26) in the cover (24).Screw the button in the cover-cavity

2. Install the inhalation diaphragm (23) on the diaphragm housing (22).

3. Seat the lip on the diaphragm into the recess on the inner rim of the diaphragm housing. Use an o-ring remover or other blunt pointed instrument.

4. Set the inhalation cover (24) on the diaphragm housing over the diaphragm.

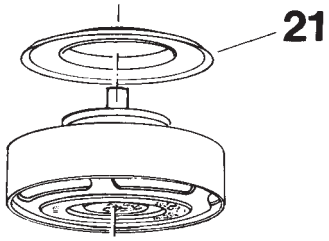
5. Place the diaphragm housing complete with diaphragm and cover into the frame of the assembly tool.

6. Insert the locking ring (25) into the upper groove of the press of the assembly tool. See diagram

7. Place the press on top on the diaphragm housing.

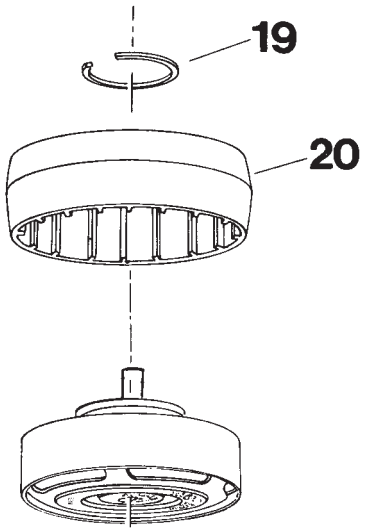
8. Tum the knob until you hear or feel a slight click. Continue turning until you encounter resistance, then back off the knob to release the housing.

9. Check the locking ring placement to make sure that it has completely entered the groove.



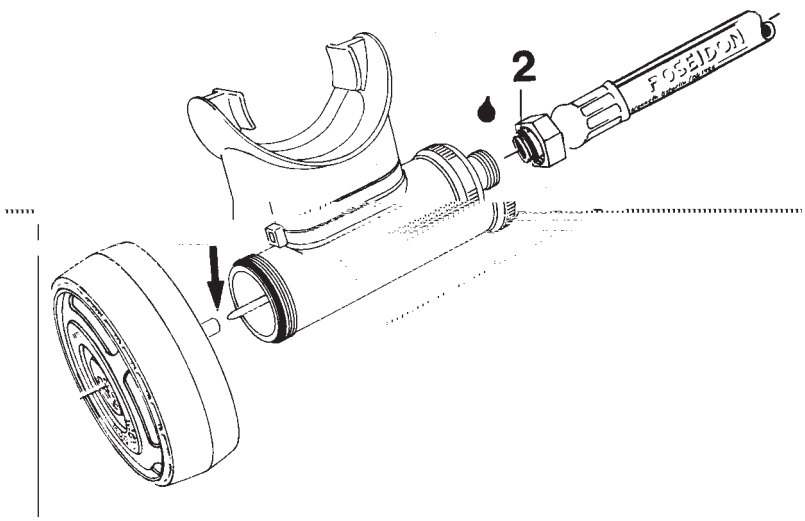
1. Install the exhalation diaphragm (21) on the diaphragm housing. Control that the diaphragm is packing on the diaphragm housing.

2. Install exhalation diaphragm cover (20) and locking ring (19).



3. Install the diaphragm housing on the mouthpiece tube. Be sure to slip the operating device into the diaphragm guide sleeve.

4. Checking the second stage for leaks: Place the mouth piece against your lips the low pressure hose correction with your thumb and inhale lightly. This will create a partial vacuum inside the second stage. If the pressure does not equalize in 5 seconds the second stage leaks. See chapter Fault-tracing scheme.



5. Install the o-ring (2) on the LP hose and lubricate

6. Screw on the LP-hose. Do not tighten the connecting ring until after the function test.