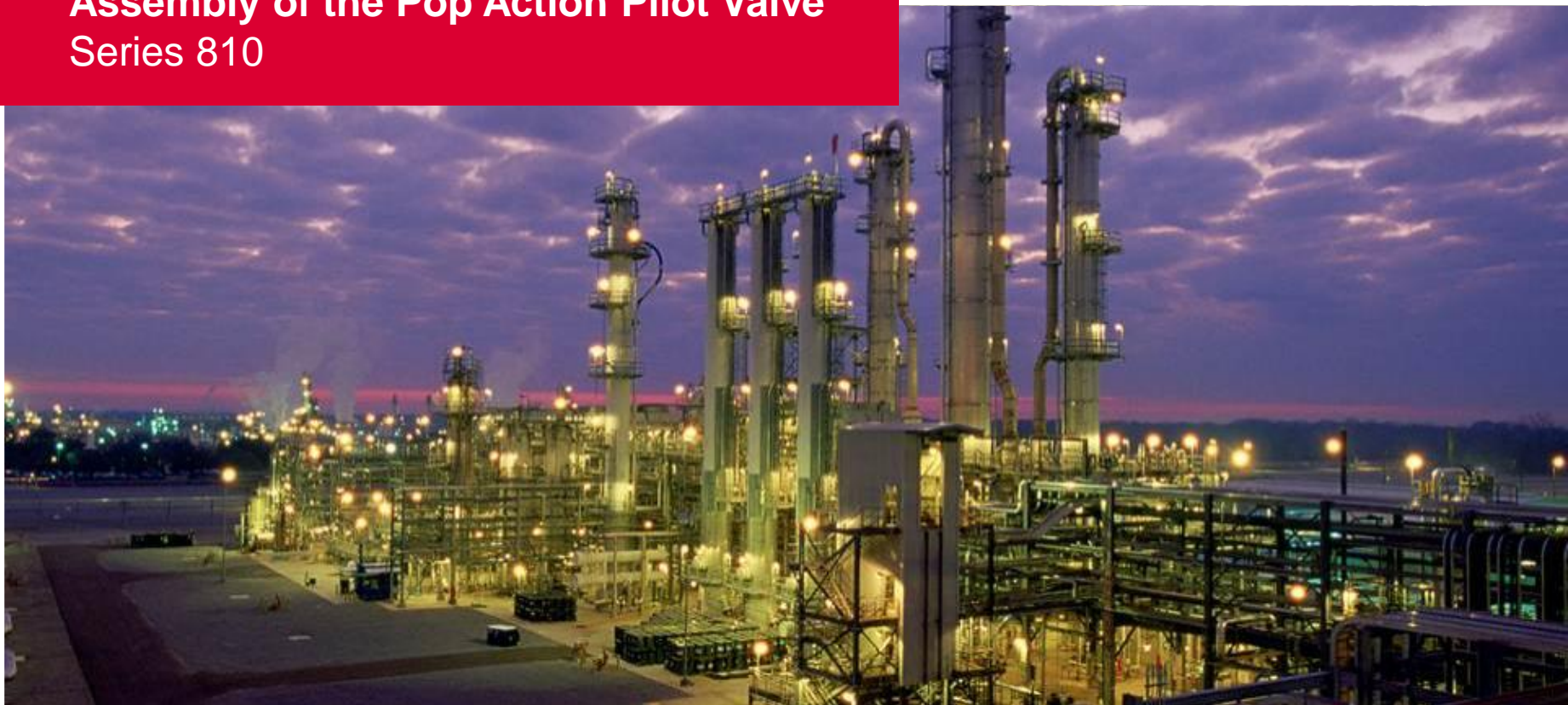


Assembly of the Pop Action Pilot Valve Series 810



LESER

The-Safety-Valve.com

Objectives of the presentation. Increase special knowledge.

1. [Objectives](#) | 2. [Manifold block](#) | 3. [Adjusting screw](#) | 4. [Exhaust seat](#) | 5. [Body, Bonnet and spring](#) | 6. [Pilot Lifting Device](#) | 7. [Completion](#) | 8. [Sealing the valve](#)

Aim of this presentation is to show how to assemble the **Pop Action Pilot Valve**.



LESER

The-Safety-Valve.com

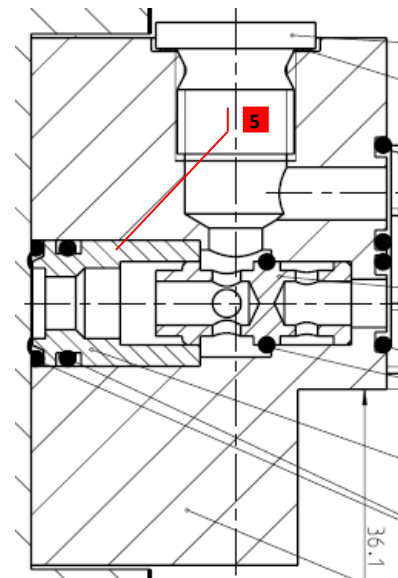
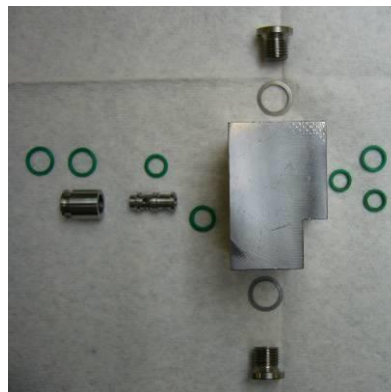
Assembly Instructions. Assembly of the manifold block.

1. Objectives | 2. Manifold block | 3. Adjusting screw | 4. Exhaust seat | 5. Body, Bonnet and spring | 6. Pilot Lifting Device | 7. Completion | 8. Sealing the valve

1. Steps – Descriptions

- 1** 1 Screw in lock screw [24.7] with gasket [24.8] into manifold block [24.1]
Tightening torque acc. to LID
Complete bushing [24.2] with O-ring [24.5]
- 2** (O-ring is 10,82 x 1,78)
Complete piston [24.3] with O-ring [24.4]
- 3** **without soapy water** (O-ring is 7,65 x 1,78)
Complete manifold block [24.1] with piston [24.3], bushing [24.2] and O- rings
- 4** 2 x 7,65 x 1,78;
2 x 9,25 x 1,78;
1 x10,82 x 1,78;

Check the correct orientation of the piston using the diagram Check the ease of movement of piston by rotating the manifold block



LESER

The-Safety-Valve.com

Assembly Instructions. Assembly of the manifold block.

1. Objectives | 2. Manifold block | 3. Adjusting screw | 4. Exhaust seat | 5. Body, Bonnet and spring | 6. Pilot Lifting Device | 7. Completion | 8. Sealing the valve

2. Supplies

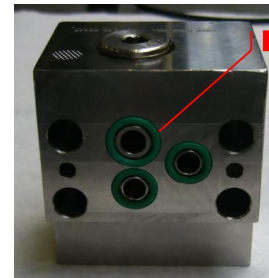
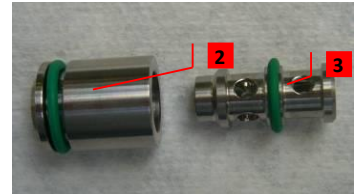
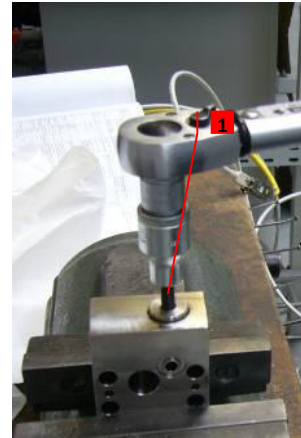
- Use soapy water for easy assembly of O-rings
- Lubricant acc. to LID

3. Tools

- Allen key acc. to LID
- Hook tool for O-rings
- Torque wrench (Tightening torques acc. to LID)

4. Appliance

- Parallel vice with aluminum jaws
- Test bench



Assembly Instructions. Assembly of the manifold block.

1. Objectives | 2. Manifold block | 3. Adjusting screw | 4. Exhaust seat | 5. Body, Bonnet and spring | 6. Pilot Lifting Device | 7. Completion | 8. Sealing the valve

1. Steps – Descriptions

Pull O-ring [30] on (upper) feeding disc [7] (O-ring is 6,07x1,78)

Make sure that O-ring is twist free

Stick (upper) feeding disc into the (lower) feeding disc [8]

Insert unit (from 2) into adjusting screw [12]

Place adjusting screw into assembling aid (Use parallel vice as an alternative).

Screw in feeding seat (5) into adjusting screw unit while securing adjusting screw with a drift pin.

Tightening torque acc. to LID



LESER

The-Safety-Valve.com

Assembly Instructions. Insertion of adjusting screw into body.

1. Objectives | 2. Manifold block | 3. Adjusting screw | 4. Exhaust seat | 5. Body, Bonnet and spring | 6. Pilot Lifting Device | 7. Completion | 8. Sealing the valve

5 Pull both O-rings [32] on adjusting screw [12] (O-rings are 17,17x1,78)

Make sure that O-rings are twist free

6 Lubricate thread M12x1 of adjusting screw [12]. Screw on nut [20] as far as it will go

2. Supplies

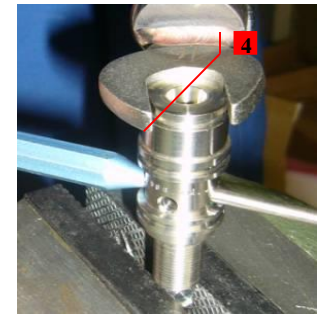
- Halocarbon 56 S
- Lubricant acc. to LID

3. Tools

- Open-end wrench acc. to LID
- Hook tool for O-rings
- Drift pin
- Torque wrench (Tightening torques acc. to LID)

4. Appliance

- Parallel vice with aluminum jaws
- Assembling aid (60S.2512.4012)



LESER

The-Safety-Valve.com

Assembly Instructions. Insertion of adjusting screw into body.

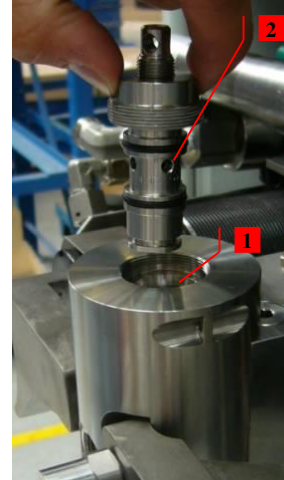
1. Objectives | 2. Manifold block | 3. Adjusting screw | 4. Exhaust seat | 5. Body, Bonnet and spring | 6. Pilot Lifting Device | 7. Completion | 8. Sealing the valve

1. Steps – Descriptions

- 1 Lubricate slide face for O-ring of body [1] with Halocarbon 56S
- 2 Insert adjusting screw unit from 9.2 into body [1]
- 3 Screw in nut [20] together with adjusting screw unit and tighten nut [20]
- 4 Establish previous adjustment of adjusting screw[12] – measured before the disassembly process
- 5 Tighten counter nut [21]

2. Supplies

- Halocarbon 56S
- Lubricant acc. to LID



LESER

The-Safety-Valve.com

Assembly Instructions. Insertion of adjusting screw into body.

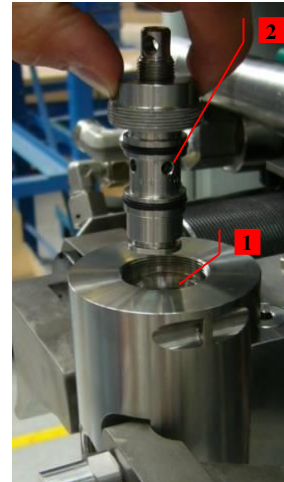
1. Objectives | 2. Manifold block | 3. Adjusting screw | 4. Exhaust seat | 5. Body, Bonnet and spring | 6. Pilot Lifting Device | 7. Completion | 8. Sealing the valve

3. Tools

- Open-end wrench acc. to LID
- Torque wrench (Tightening torques acc. to LID)

4. Appliance

- Test bench



Assembly Instructions. Assembly of exhaust seat.

1. Objectives | 2. Manifold block | 3. Adjusting screw | 4. Exhaust seat | 5. Body, Bonnet and spring | 6. Pilot Lifting Device | 7. Completion | 8. Sealing the valve

1. Steps – Descriptions

- 1** Place O-ring [31] into (upper) exhaust seat [13].
- 2** Insert (lower) exhaust seat [14] into (upper) exhaust seat [13] (O-ring is 7,65x1,78)
- 3** Assembled exhaust seat

2. Supplies

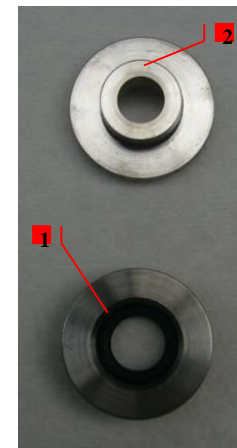
- None

3. Tools

- None

4. Appliance

- None

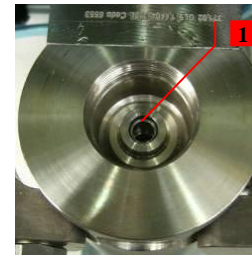
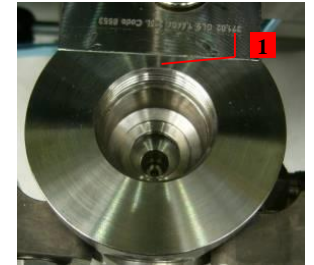
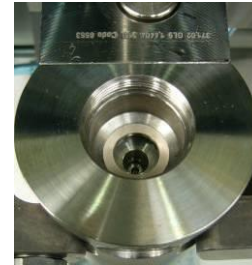


Assembly Instructions. Insertion of the outlet valve into the body.

1. Objectives | 2. Manifold block | 3. Adjusting screw | 4. Exhaust seat | 5. **Body, Bonnet and spring** | 6. Pilot Lifting Device | 7. Completion | 8. Sealing the valve

1. Steps – Descriptions

- 1** Insert flat gasket [35] and unit from 9.4 into body [1]
- 2** Insert plunger [15]
- 3** Insert outlet disc [11] into guide bushing [2] and place both into body
- 4** Insert, screw in and tighten bonnet (base part) [10]



LESER

The-Safety-Valve.com

Assembly Instructions. Insertion of the outlet valve into the body.

1. Objectives | 2. Manifold block | 3. Adjusting screw | 4. Exhaust seat | 5. **Body, Bonnet and spring** | 6. Pilot Lifting Device | 7. Completion | 8. Sealing the valve

2. Supplies

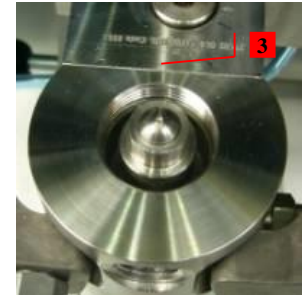
- Halocarbon 56S
- Lubricant acc. to LID

3. Tools

- Open-end wrench acc. to LID
- Torque wrench (Tightening torques acc. to LID)

4. Appliance

- Test bench



LESER

The-Safety-Valve.com

Assembly Instructions. Preassembly of bonnet.

1. Objectives | 2. Manifold block | 3. Adjusting screw | 4. Exhaust seat | 5. **Body, Bonnet and spring** | 6. Pilot Lifting Device | 7. Completion | 8. Sealing the valve

1. Steps – Descriptions

- 1** Insert PTFE-bushing into adjusting screw [18]
- 2** Lubricate thread of adjusting screw [18] with Molykote D paste
- 3** Screw lock nut [19] on adjusting screw [18]
- 4** Screw in adjusting screw unit into bonnet [9]

2. Supplies

- Molykote D paste (Halocarbon 56S as an alternative)
- Lubricant acc. to LID

3. Tools

- None

4. Appliance

- None



LESER

The-Safety-Valve.com

Assembly Instructions. Assembly of bonnet and spring.

1. Objectives | 2. Manifold block | 3. Adjusting screw | 4. Exhaust seat | 5. **Body, Bonnet and spring** | 6. Pilot Lifting Device | 7. Completion | 8. Sealing the valve

1. Steps – Descriptions



Make sure that spring is selected in accordance with spring chart LGS 3632

Place (lower) spring plate [17] and spring [54] onto outlet disc [11]

Note: If a pilot lifting device is applied follow 9.8 for spindle assembly.

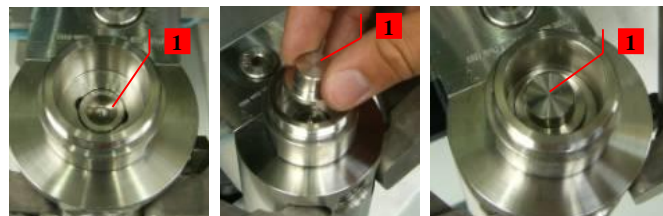
Place (upper) spring plate [16] into spring [54]

Screw on bonnet [9] on base part [10] by hand

Make sure that upper spring plate



[16] is vertically aligned to adjusting screw [18] by screwing in adjusting screw as far as possible until spring force is felt. If necessary use a drift pin to align



LESER

The-Safety-Valve.com

Assembly Instructions. Assembly of bonnet and spring.

1. Objectives | 2. Manifold block | 3. Adjusting screw | 4. Exhaust seat | 5. **Body, Bonnet and spring** | 6. Pilot Lifting Device | 7. Completion | 8. Sealing the valve

Tighten bonnet [9] while securing base part [10] with an open-end wrench



Follow test procedure instructions acc. to LIDxxx

2. Supplies

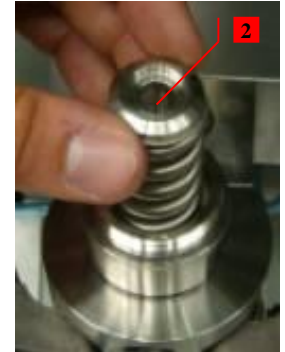
- Lubricant acc. to LID

3. Tools

- Open-end wrench acc. to LID
- Drift pin
- Torque wrench (Tightening torques acc. to LID)

4. Appliance

- Test bench



LESER

The-Safety-Valve.com

Assembly Instructions. Assembly of bonnet and spring.

1. Objectives | 2. Manifold block | 3. Adjusting screw | 4. Exhaust seat | 5. **Body, Bonnet and spring** | 6. Pilot Lifting Device | 7. Completion | 8. Sealing the valve

1. Steps – Descriptions

- 1** Cover thread of spindle [12] with adhesive liquid Delo ML 5449
- 2** Screw in spindle [12] into (lower) spring plate [17] hand-tight Follow 9.7 for assembling of bonnet and spring
- 3** Place coupling [40.12] on the end of spindle [12] and insert parallel pin [40.13]
- 4** Put O-ring [40.19] in groove of cap [40.1]
- 5** Lubricate thread of cap [40.1] with Molykote D paste
- 6** Tighten cap [40.1]. Put lifting button [40.2] and roll pin [40.16] on coupling [40.12]. Secure roll pin [40.16] with securing ring [40.14]



LESER

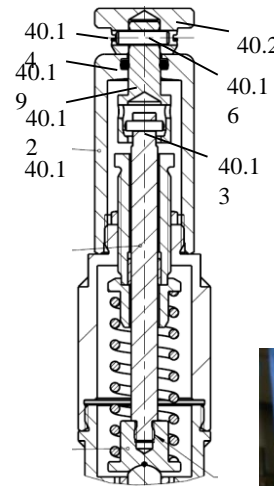
The-Safety-Valve.com

Assembly Instructions. Assembly of Pilot Lifting Device (optional only).

1. Objectives | 2. Manifold block | 3. Adjusting screw | 4. Exhaust seat | 5. Body, Bonnet and spring | 6. Pilot Lifting Device | 7. Completion | 8. Sealing the valve

1. Steps – Descriptions

- 1** Cover thread of spindle [12] with adhesive liquid Delo ML 5449
- 2** Screw in spindle [12] into (lower) spring plate [17] hand-tight Follow 9.7 for assembling of bonnet and spring
- 3** Place coupling [40.12] on the end of spindle [12] and insert parallel pin [40.13]
- 4** Put O-ring [40.19] in groove of cap [40.1]
- 5** Lubricate thread of cap [40.1] with Molykote D paste
- 6** Tighten cap [40.1]. Put lifting button [40.2] and roll pin [40.16] on coupling [40.12]. Secure roll pin [40.16] with securing ring [40.14]



LESER

The-Safety-Valve.com

Assembly Instructions. Completion.

1. Objectives | 2. Manifold block | 3. Adjusting screw | 4. Exhaust seat | 5. Body, Bonnet and spring | 6. Pilot Lifting Device | 7. **Completion** | 8. Sealing the valve

1. Steps – Descriptions

Conduct completion of valve after test procedure

1 Tighten cap [40]

2 Screw in bug-screen [64]

In case of test gag:

3 Screw in short hexagon bolt [TG.5] into cap [40] and tighten cap

2. Supplies

■ None

3. Tools

- Open-end wrench acc. to LID
- Torque wrench (Tightening torques acc. to LID)

4. Appliance

■ Test bench



LESER

The-Safety-Valve.com

Assembly Instructions. Sealing the valve.

1. Objectives | 2. Manifold block | 3. Adjusting screw | 4. Exhaust seat | 5. Body, Bonnet and spring | 6. Pilot Lifting Device | 7. Completion | 8. Sealing the valve

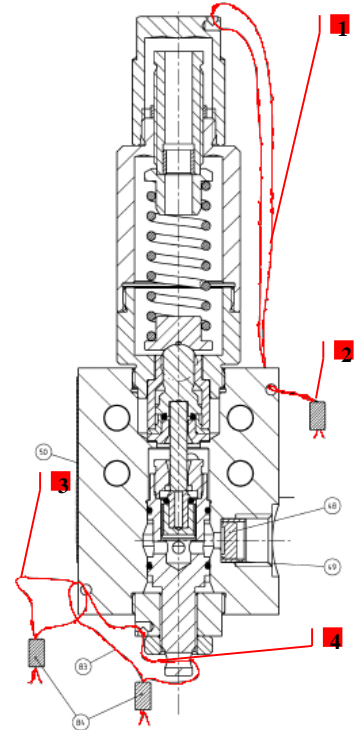
1. Steps – Descriptions

Seal valve after all assembly and test procedures
Note: Sealing prevents unauthorized appliance of set pressure, blowdown adjustment and separation of pilot and main valve

1 Pass wire through hole in cap [40]. Wind wire tight around bonnet [9] in clockwise direction. Pass ends of wire through hole in body [1]

2 Close the wire ends with seal

In case of inspection, sealing is done by a regulatory body



LESER

The-Safety-Valve.com

Assembly Instructions. Sealing the valve.

1. Objectives | 2. Manifold block | 3. Adjusting screw | 4. Exhaust seat | 5. Body, Bonnet and spring | 6. Pilot Lifting Device | 7. Completion | 8. Sealing the valve

- 3 Seal body [1] with main valve body separately
Seal adjusting screw [12] with body [1] separately

e.g. TÜV, NBBI

- 4 Seal body [1] with main valve body separately
Seal adjusting screw [12] with body [1] separately

2. Supplies

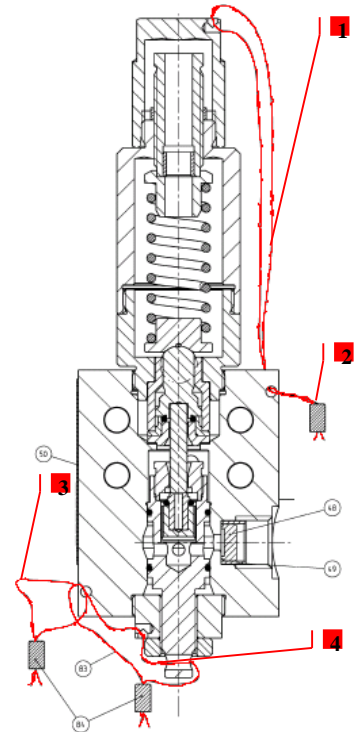
- None

3. Tools

- Sealing pliers

4. Appliance

- None



LESER

The-Safety-Valve.com

Assembly of the Pop Action Pilot Valve
Thank you for your attention.



LESER

The-Safety-Valve.com