

## SINGER MODEL 81-RPD

### Differential Pressure Relief Pilot Schematic A0662C Installation, Operating and Maintenance Instructions

#### DESCRIPTION:

Model 81-RPD senses differential pressure and opens when the pressure below the diaphragm exceeds the pressure above the diaphragm by an amount that is sufficient to overcome the spring force.

#### INSTALLATION:

1. Flush system of all foreign matter before installing the valve.
2. The valve can be installed in any position.
3. Check direction of flow and install the valve accordingly. Refer to enclosed schematic and check the arrow in the valve body.
4. Connect control tubing from the sensing connection of the valve to the point of control. Refer to enclosed schematic.

#### ADJUSTING PROCEDURE:

1. Loosen the locknut. Lift the thread seal to avoid damaging it.
2. Turn the adjusting screw clockwise for increased setting, counterclockwise for reduced setting.
3. Lock adjustment by tightening adjusting screw locknut.

#### DISASSEMBLY:

1. Turn Adjusting Screw (8) counterclockwise until Spring (7) is free.
2. Remove Body Capscrews (10).
3. Remove Seat Ring (3).
4. Resilient part of Inner Valve can be inspected once the Seat Ring has been removed.
5. To remove Inner Valve (4), use a  $\frac{3}{4}$ " socket (not impact socket) to prevent the Inner Valve from turning when removing Inner Valve Nut (13).

#### SERVICE SUGGESTIONS:

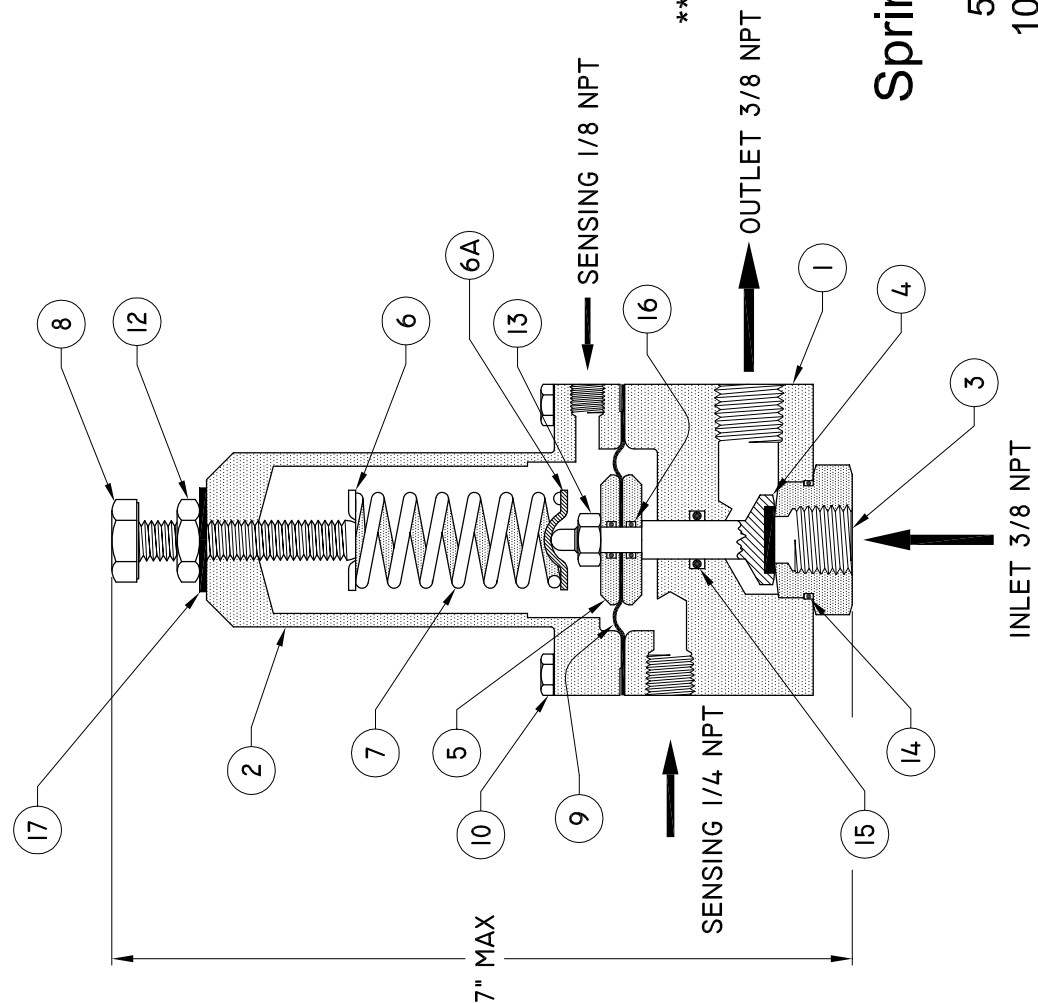
##### FAILS TO OPEN

1. Spring overset.
2. Foreign material in valve.
3. Diaphragm ruptured.

##### FAILS TO CLOSE

1. Spring underset.
2. Foreign material in valve.

# DIFFERENTIAL PRESSURE RELIEF PILOT



## Item Description

1. Body
2. Spring Casing
3. Seat Ring
4. Inner Valve
5. Clamp Plate (2)
6. Spring Step
7. Spring
8. Adjusting Screw
9. Diaphragm
10. Body Capscrew
11. Adjusting Screw Bearing
12. Locknut
13. Inner Valve Nut
14. Seat Ring Seal
15. Body Seal
16. Clamp Plate Seal
17. Thread Seal
- \*\* 18. Spring Adapter

## Material

- Brass B-16
- Brass B-16
- Stainless Steel
- Stainless Steel & Buna-N
- Brass B-16
- Brass B-16
- Stainless Steel
- Stainless Steel
- Buna-N
- Stainless Steel
- Stainless Steel
- Stainless Steel
- Stainless Steel
- Buna-N
- Buna-N
- Buna-N
- Steel & Buna-N
- Brass B-16

## Spring Ranges:

- 5 - 25 psid
  - 10 - 80 psid
  - 20 - 200 psid \*\*
  - 100 - 350 psid \*\*
- \*\* Used in these spring ranges only.  
Not shown in drawing.



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**Model 81-RPD**