SINGER VALVE
Result-Based Solutions. Globally.™

12850-87th Avenue
Surrey, BC. Canada. V3W 3H9
Ph: 604-594-5404
Fx: 604-594-8845
www.singervalve.com

SINGER MODEL 160

Pressure Reducing Pilot Drawing A0708D
Installation, Operating and Maintenance Instructions

DESCRIPTION AND OPERATION:

Model 160 is a direct acting, spring and diaphragm type pressure reducing valve. The valve is held open by the spring. The outlet pressure acting on the diaphragm opposes the spring to close the valve.

INSTALLATION:

1. Install the valve as shown in the enclosed schematic or drawing.
2. Note the direction of flow and install the valve accordingly.
3. The valve should be installed with the adjusting screw pointing up.

ADJUSTMENT:

Turn the adjusting screw clockwise for increased pressure, counterclockwise for reduced pressure setting. Range of adjustment is shown on the name plate.

DISMANTLING:

1. Close upstream and downstream isolating valves.
2. Remove the valve from the pilot system.
3. Remove the adjusting screw.
4. Remove the body screws (11) and remove the spring casing assembly.
5. Loosen the diaphragm if it adheres to the body and remove the Stem/Yoke assembly. Be careful to avoid damage to the stem as any interference or friction between the stem (4) and guide bushing (10) can cause problems.

If further disassembly is required:

INNER VALVE REPLACEMENT:

Hold the inner valve (5) HEX in a vise and use a screwdriver or similar tool to turn the Yoke (6).

DIAPHRAGM REPLACEMENT:

- Note the orientation of the diaphragm to help install the replacement diaphragm properly.
- Hold the inner valve (5) HEX in a vise and use a **3/16" Allen Key (Hex Drive)** on top of the stem (4) to turn the stem counterclockwise. If required, use a screwdriver or similar tool at the Yoke (6) to prevent the yoke from turning. BE CAREFUL NOT TO DAMAGE THE STEM GUIDING SURFACE.
- Replace the diaphragm and orient it to straddle the legs of the yoke.

REASSEMBLY:

Reassembly is the reverse of disassembly. Ensure that parts are replaced in the sequence shown on the drawing.

TEST PROCEDURE:

Connect a source of air or water to the inlet. Attach a 3/8" line with a pressure gauge and shut-off valve to the outlet. Back off the adjusting screw, then proceed to turn it in. The gauge should show an increase within the range marked on the valve. Open the shut-off valve slightly and bleed flow to atmosphere. Pressure should drop slightly and return to setting when the shut-off valve is closed. This check should be performed at various settings.

SERVICE SUGGESTION:

POSSIBLE CAUSE / REMEDY

FAILS TO OPEN:

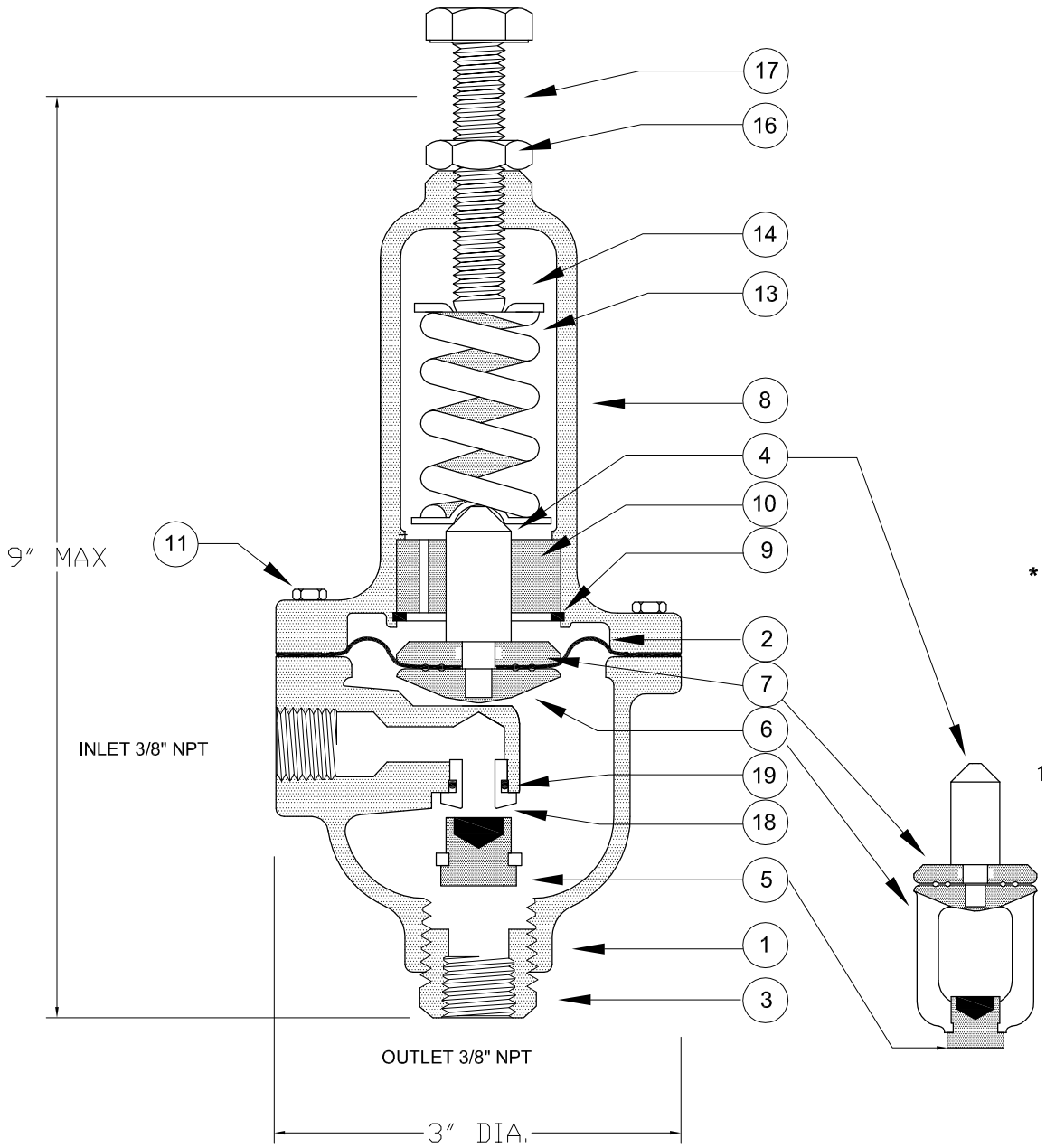
Valve underset./ Increase setting.

FAILS TO CLOSE:

Valve overset. / Reduce setting.
Obstruction on seat. / Clear obstruction.
Ruptured diaphragm. / Replace diaphragm.
Worn inner valve. / Replace inner valve.

A0708D

PRESSURE REDUCING PILOT



Item	Description	Material
1.	Body	Bronze
* **2.**	**Diaphragm**	**EPDM**
3.	Outlet Connector	Brass
4.	Stem	Stainless Steel
* **5.**	**Inner Valve**	**Stainless Steel & EPDM**
6.	Yoke	Silicon Bronze
7.	Clamp Plate	Brass
8.	Spring Casing	Bronze
9.	Retaining Ring	Stainless Steel
10.	Guide Bushing	DELRIN
11.	Casing Screw (8)	Stainless Steel
13.	Spring	Spring Steel
14.	Spring Step (2)	Stainless Steel
16.	Locknut	Stainless Steel
17.	Adjusting Screw	Stainless Steel
18.	Seat Ring	Stainless Steel
19.	Seat Ring Seal	Buna-N
** 20.	Bucking Spring	Stainless Steel

*** Recommended Spare Parts - supplied in Parts KIT.**

** NOT SHOWN – USED ONLY WITH SPRING RANGE 5 – 50 PSI.

SPRING RANGES	ADJUSTMENT (PSI/TURN)
5 – 50 PSI	7
10 – 80 PSI	12
20 – 200 PSI	26
100 – 300 PSI	35

SINGER VALVE
Result-Based Solutions. Globally.™
www.singervalve.com 12850-87th Avenue. Surrey, B.C. V3W 3H9

Drawn By:	Approved By:
Kari Oksanen	Kari Oksanen
Date:	Drawing:
November 15, 2003	A0708D

Model 160