

## SINGER MODEL 43

Differential (On-Off) Float Pilot Drawings A0943A and A0944A  
Installation, Operating and Maintenance Manual

### DESCRIPTION:

Singer Model 43 is a three-way, non-modulating float pilot designed to operate an on-off float valve. Level differential (level where valve opens to level where the valve closes) is adjustable.

### DESCRIPTION OF OPERATION:

Refer to Drawings A0943A and A0944A.

Body (1) has three ports marked "IN", "B" and "X". Depending on the position of Inner Valve (3) port "B" is connected to either port "IN" or port "X". Pressure in ports "IN" and "B" will not move the inner valve because the inner valve is fully balanced rotary design.

Float (22) is free to move along Float Rod (25) between Adjustable Stops (23). The linkage assembly is weight balanced by Counterweight (18) and pressure balanced as noted above.

When the level rises, Float (22) hits the upper adjustable stop (23) and lifts Float Rod (25) up. Inner Valve (3) is rotated to connect port "IN" to port "B". Port "X" is closed. Bonnet of the main valve is pressurized and the Main Valve closes. Refer to description "106/206-F-V" and "106/206-PG".

Level differential is adjusted by Adjustable Stops (23).

### INSTALLATION:

1. Install the pilot into tank or reservoir close to desired level. Be careful not to damage the pilot.
2. Waves and turbulence may hinder operation or damage float rod; it may be necessary to construct a protective cage or install the pilot where turbulence is minimal.

3. Make sure the pilot is installed vertically.

4. Check that Main Lever Arm (13) and Counterweight Lever Arm (16) are parallel. Float Rod (25) should move freely up and down and remain vertical through its travel.

5. Adjust Counterweight (18) to balance the assembly when float is held off the stops or removed. The linkage should hold any given position when not moved by the float. The pilot will not operate unless it is properly balanced.

6. Connect pilot to Main Valve as shown on schematic. Port "IN" is connected to Main Valve inlet (upstream), port "B" is connected to the bonnet of the Main Valve. Port "X" is exhaust to tank or reservoir. Use at least 1/4" pipe, preferably copper.

### ADJUSTMENT PROCEDURE:

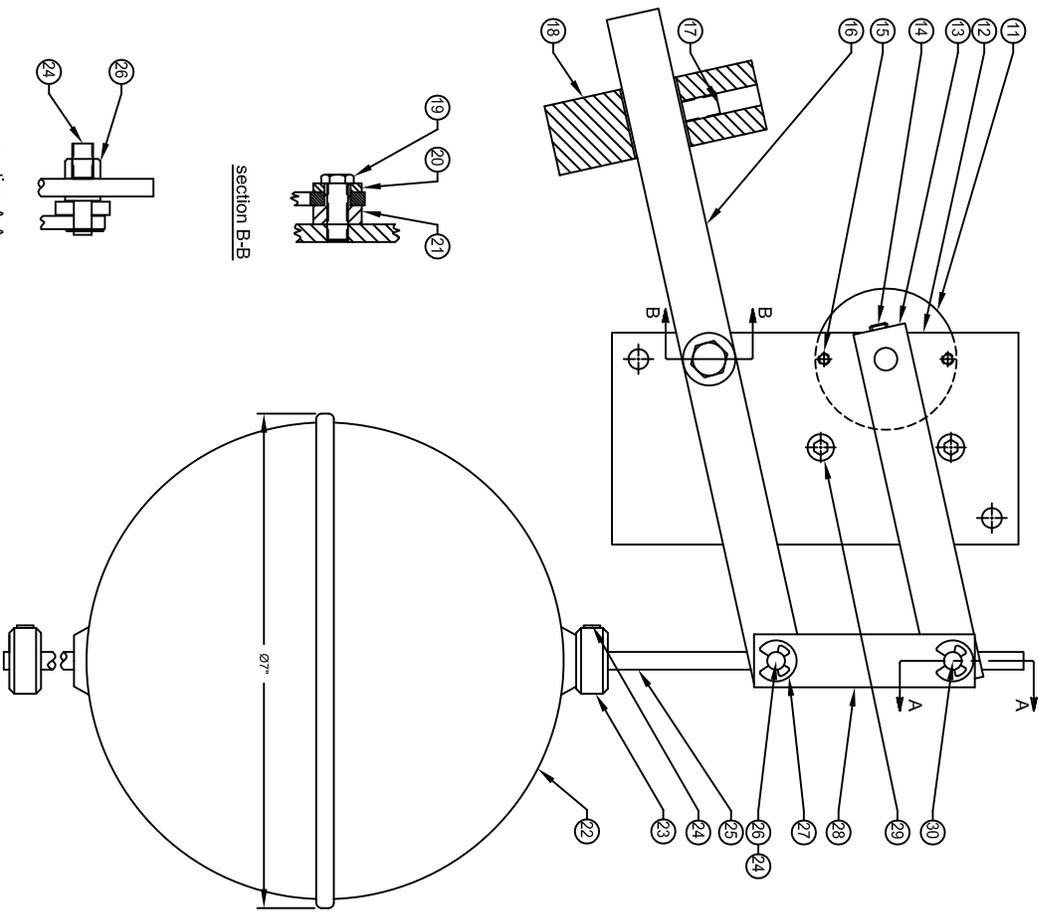
1. Loosen Clamp Capscrew (27) and move Float Rod (25) to adjust level.
2. Adjust upper and lower Adjustable Stops (23) to give desired level differential.

### SUGGESTIONS:

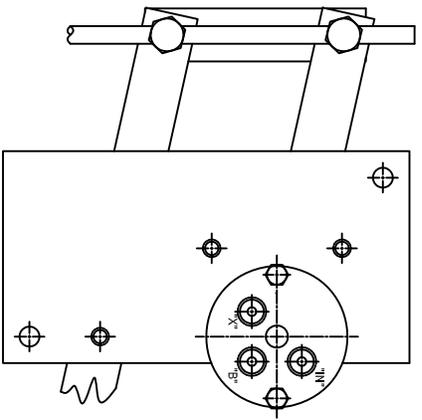
If the pilot does not operate properly, check the following:

1. Check all points under "Installation".
2. Remove Float (22). Check that Float Rod (25) moves freely and is properly balanced.
3. Remove Body (1) and Inner Valve (3). Check for dirt, scale and damage. Pay particular attention to "O" Rings.

FRONT



BACK



ITEM	PART #	QTY	PART NAME	STANDARD MATERIAL
11	M1964A	1	Model 43 pilot	Brass
12	M1665A	1	Mounting bracket	Brass
13	M1665A	1	Main lever arm	Brass
14	SST4x1/2SS	1	Main lever arm set screw	SST
15	BHF 8x3/4SS	2	Mounting cap screws	SST
16	M1966A	1	Counterweight lever arm	Brass
17	SSC4x3/8SS	1	Counterweight set screw	SST
18	M1967A	1	Counterweight	Cast iron
19	BHC4x7/8SS	1	Counterweight lever arm capscrew	SST
20	W00808B	1	Washer	SST
21	H0099A	1	Guide bushing	SST
22	M0674A	1	Float	Copper
23	M0136A	2	Adjustable stop	Brass
24	SSC4x1/4SS	4	Adjustable stop set crew	SST
25	per size	1	Float rod	Brass
26	M1968A	1	Model 43 clamp - short	Brass
27	W0118A	2	Retaining ring	SST
28	M1969A	1	Spacer bar	Brass
29	BSC4x1/2SS	2	Stroke stop	SST
30	M1986A	1	Model 43 clamp - long	Brass

section A-A

section B-B



**SINGER VALVE**  
 Result-Based Solutions. Globally.

www.singervalve.com 12850-87th Avenue, Surrey, B.C. V3W 3H9

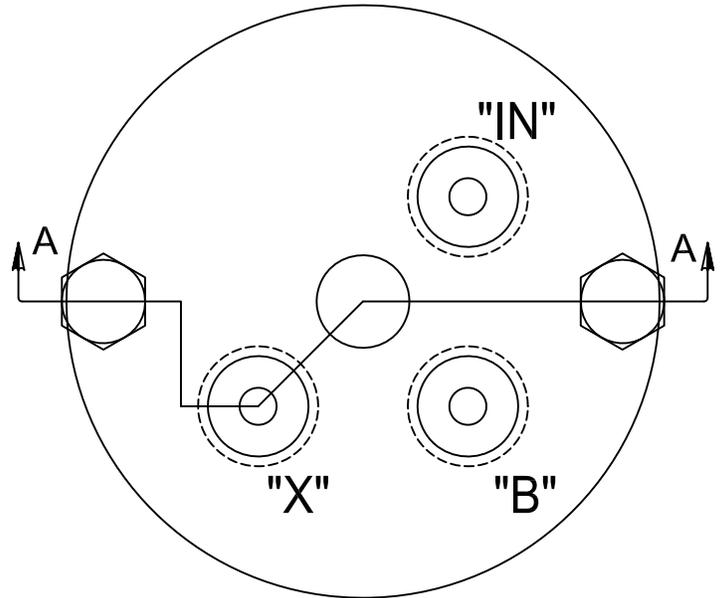
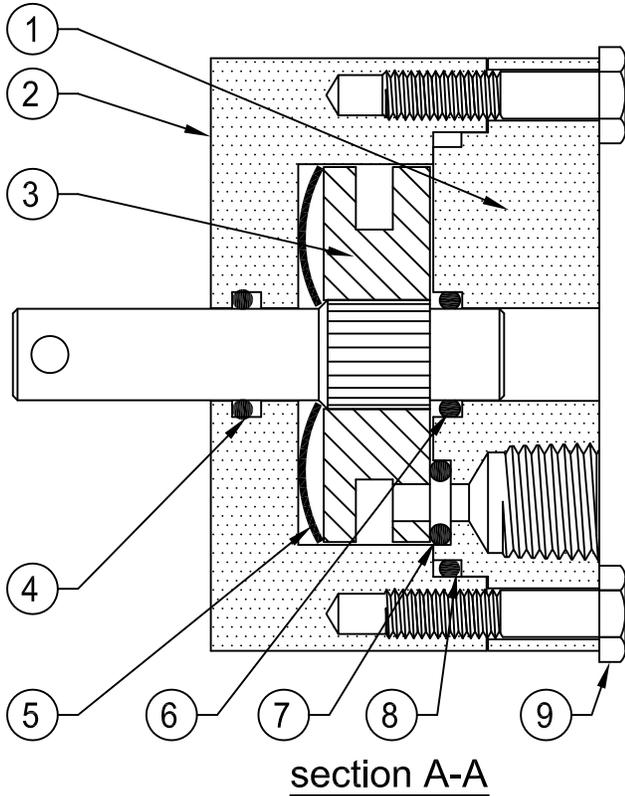
Drawn By: VICTOR SCHLESINGER

Approved By:

Date: MARCH 14th 2008

Drawing: A0944A

MODEL 43 DIFFERENTIAL FLOAT PILOT



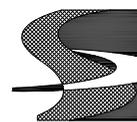
**LETTERING DETAILS:**

"IN" = Inlet boss main valve

"B" = Bonnet boss main valve

"X" = Exhaust to drain

ITEM	PART #	QTY	PART NAME	STANDARD MATERIAL
1	B1386A	1	Body	SST
2	E0223A	1	Casing	SST
3	V0629A	1	Inner valve	Teflon or Delrin
4	R0011A	1	O-ring	Buna-N
5	X0541A	1	Wave spring washer	SST
6	R0011A	1	O-ring	Buna-N
7	R0007A	3	O-ring	Buna-N
8	R0028A	1	O-ring	Buna-N
9	BHF8x3/4SS	2	Screw	SST



**SINGER VALVE**  
*Result-Based Solutions. Globally.™*

[www.singervalve.com](http://www.singervalve.com) 12850-87th Avenue, Surrey, B.C. V3W 3H9

Drawn By:

VICTOR SCHLESINGER

Approved By:

Date:

APRIL 4th 2008

Drawing:

A0943A

**MODEL 43 MAIN PILOT**