

## OPERATING INSTRUCTIONS FOR ANDERSON 2202-JR LEVEL CONTROLLER

### Factory Pre-set:

1. Torque bar is set on axle parallel with displacer rod. If torque arm is horizontal, then the displacer rod in vessel should be horizontal.
2. Pilot adjustment screw is set so that pilot will activate as displacer rod lifts past horizontal. Pilot adjustment screw should not need to be changed.
3. Slide bar is set forward on pivot bar to the most sensitive position.

### Start up:

1. Screw displacer arm into axle.
2. Screw displacer onto displacer arm.
3. Screw controller into vessel.
4. Attach input line on the right side of the pilot.
5. Attach output line on the left side of the pilot. (Note: Input and output are labeled on top of pilot cover.)
6. Turn on supply gas.
7. As fluid level comes up on displacer, pilot will activate. If fluid level (or interface) gets higher than the top of the nozzle and torque bar has not risen past horizontal, the spring will need to be tightened by screwing in on spring adjustment screw. Fluid level can also be lowered by tightening spring. If fluid level drops too low and pilot will not exhaust air, then spring is too tight and must be loosened by screwing out on spring adjustment screw. Fluid level can also be raised by loosening spring.
8. Span is the difference in fluid level when valve opens and the level when valve closes. The controller is pre-set for the shortest span. To lengthen span slide pull bar back to be less sensitive.

### Trouble shooting:

1. Gas venting continuously: Usually caused by trash in seats. Work torque bar up and down by hand to work trash out. If this does not work, remove pilot cover. Remove ½ ball and clean seat. Spraying seats with WD-40 works well when cleaning seats.
2. Unable to adjust controller to snap on or off: If the difference in specific gravity between the fluid interfacing is less than .20, a longer rod or bigger displacer may have to be used to sense the level.
3. Motor valve closes too slow: Large motor valves that require a big volume of gas to open may exhaust gas too slow through pilot and require an external “quick exhaust” pilot.
4. Fluid dumping too fast: Snap pilots fully open motor valves. To slow down fluid dump, a smaller trim and seat needs to be installed in motor valve. One can also use throttling pilots, which dump fluid continuously by cracking valve open only as much as flow demands.
5. Loss in supply pressure: Filter is located up stream from supply gauge. If there is over a 5-lb. drop in supply pressure when snapping, the filter is probably becoming stopped up and needs to be changed. The port between supply inlet and filter may also get clogged with trash build up. To check port and change filter, remove pilot top and remove filter. Open supply gas blowing through port to make sure it is open. Shut off gas, put in new filter, and replace pilot top.
6. Throttling Pilot: (a.) Pilot leaking with “0” output: The ball is leaking on seat and probably has “trash” between ball & seat. Working pilot open & closed may blow out trash. If not, remove top, spring & ball and wipe seat clean. (b.) Pilot leaking during output. If gas is coming from exhaust hole near bottom of pin, the seat is leaking between ball and end of pin. Working pilot open & closed may work out trash. If not, remove top, spring, and ball and spray WD-40 on pilot pin to wash off trash. If gas is coming from around pin, there is a hole in rubber diaphragm. Replace diaphragm. (c.) Fluid goes down, but output pressure will not. Exhaust hole is stopped up in pilot pin.

TO SET INTERFACE:

1. Shut dump valve.
2. Raise water level over top of displacer.
3. Adjust spring so that output pressure is on 15#.
4. Open dump valve (Fluid should dump low and then come to throttling level).
5. If oil is going over with water, back off spring about 1/8 of a turn.
6. If water is going over in oil tighten spring 1/8 of a turn.

Spring size is fine.

Be sure pull bar is set most sensitive.

Check torque arm setting:

Should point about 20° above horizontal when pushed all the way up and about 20° below horizontal when pushed all the way down.

A 20" displacer rod vs. a 15" displacer rod will help sensitivity by about 15%.

If fluid is dropping faster than valve can shut, a smaller trim may be needed in motor valve.