



PROCEDURE FOR INSTALLING EXTERNAL CONTROL LINE TO THE OPD GOVERNOR

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9/15

1. The external control line installation is approved by CSA. Make sure before installation that the piping is clear of all oil, debris and has been tested for leaks.
2. All work should be carried out by trained, qualified and authorized personnel using the correct tools and equipment to install and adjust the regulator to all relevant standards, local codes, requirements and procedures. Make sure the piping is supported and no stressful force is placed upon the regulator. The regulator can be mounted in any position with the directional flow arrow facing in the direction of the flow. Preferably, the regulator should be mounted in a vertical position on the pipe with the pressure adjustment screw upright. If using an external vent limiter, the flat top of the vent limiter must be facing up, with the threads facing down, so it operates properly. If mounting the regulator in any position other than horizontal, you must use the 90 degree external vent limiter adapter to ensure the vent limiter faces up. When venting is required, remove the cover of the vent cap using a union at the connection, then connect the vent pipe, being careful to place the outlet in a safe place in accordance to all local codes, standards, and requirements.
3. A drawing is provided below for reference.
4. The external control taps must be installed in the downstream piping a minimum of 4 pipe diameters from where the pipe increases to its largest size. The pipe taps should be a minimum of 1/4" NPT or larger for 1/2" through 1" regulators. 1 1/4" and larger should be at least 1/2" NPT. These lines should be separated because if one line would get damaged the other one would still control and limit the downstream pressure.
5. The OPD regulators with external control comes with an external sensing line tapped on the lower diaphragm case. 1/8" tubing is sufficient for 1/2" to 1" Governors and 1/4" or 3/8" OD tubing should be used for 1 1/4" sizes and above.
6. Plug the Worker S regulators internal sensing line pitot tube with silicone.
7. Connect the Monitor M regulator sensing line to tap A
8. Connect the Worker S regulator sensing line to tap B
9. START UP: Partially open before any use of the test ports if used. If the test points have a plastic pipe cap in them, and if so, remove the cap or, if they are not activated, with the regulator removed from the line, activate the port by drilling a 1/16" hole in the port. Install the regulator and connect the gauge to the port. Slowly open the inlet shut-off valve and check for leaks within connected measuring equipment. Continue the start up as indicated in .
10. PRESSURE REGULATION ADJUSTMENT: The Governor OPDs are set by the factory to the regulation pressure indicated on the regulator. You will need a 7/16" Allen wrench to remove the cap 1, and 7/16" or 8mm Allen wrench on 1/2" to 1 1/2" models and 7/16" or 12 mm Allen wrench on 2" and larger models to adjust the spring. The spring range pressure settings are indicated on the nameplates. To adjust pressure, unscrew cap 1, turning ring nut 4 clockwise to increase the pressure, and counter-clockwise to decrease the pressure.
11. On the Worker regulator S, remove the spring cap . With the use of a 7/16" Allen wrench, remove spring nut, and then remove the spring.

11. On the Monitor regulator M, remove the spring cap.
12. Partially open the downstream line so gas may be vented.
13. Slowly open the inlet shut-off valve.
14. Using a screwdriver or higher range spring, insert it in the spring opening, and press down on the diaphragm, which opens the Worker regulator valve completely. At the same time, on the Monitor regulator, M, turn the adjusting spring nut to adjust the setting up to the desired value **.
15. Close the downstream vent and the inlet shut-off valve.
16. Insert the spring and adjustment spring nut back into the Worker S regulator.
17. Open the inlet shut-off valve very slowly.
18. Turning the adjusting spring nut, adjust the Worker regulator setting up to the desired value** and check for lock up.
19. If lock up is OK, open the outlet valve and make your final adjustments to the equipment.
20. Reinstall the spring cap on both units and when the measuring equipment is disconnected, plug the test port by using a threaded plug.

** NOTE: The Monitor setting should always be 70% higher than the Worker regulator. Example: If the Worker regulator set point is to be 10" w.c., the Monitor set point is then $10" \text{ w.c.} \times 1.7 (70\%) = 17" \text{ w.c.}$ Refer to the installation manual for further instructions.

