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Automax Lockup System

Introduction

The Automax lockup system provides a fail in-place lockup system for Automax actuators upon supply and/or instrument signal air failure. The lockup system provides a reliable, quick response due to the immediate on-off operation of the 2-way, pilot operated lockup valve. The lockup system is an economical and compact design for easy installation where space limitations are a concern, and is offered in a 1/4" NPT port size. The switching valve provides an easy, accurate adjustment to achieve the desired pressure change necessary to operate the lockup valves. The adjustable trip pressure can be set for supply and/or signal pressure to the system.

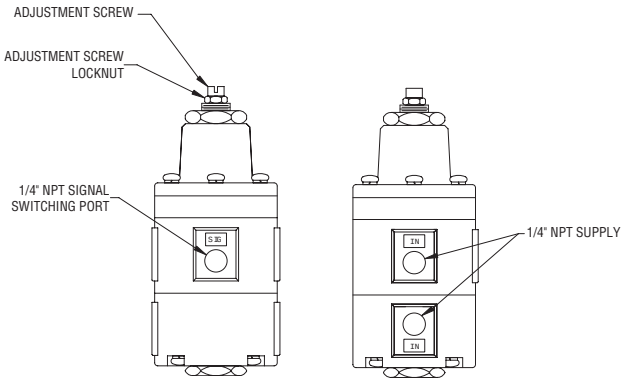


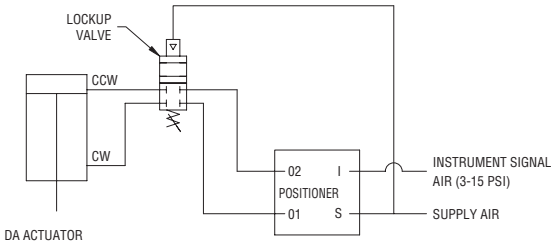
Fig. 1 – Lockup Valve

Operation

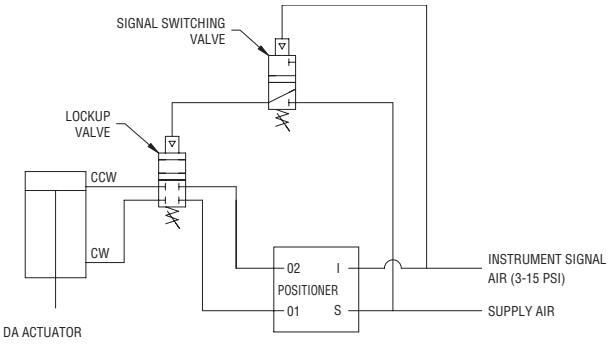
When the air supply pressure is greater than the set point of the supply switching valve, the 2-way air pilot operated lockup valves will shift to the actuated position. The actuator can then be operated by the positioner or solenoid valve. When the air supply pressure drops below the set point, the switching valve will shift, interrupting the pilot supply to the lockup valves and causing the actuator to fail in place. When the air supply returns to a pressure greater than the switching valve set point, normal operation will occur. The lockup system for loss of signal or supply operates in the same manner, with the signal switching valve adjusted to shift when the signal air pressure drops below 3 psig.

Calibration

1. To change the set point of the switching valve, loosen the locknut on the adjustment screw.
2. With the air supply regulated to the desired failure pressure, rotate the adjustment screw. Turn the adjustment screw clockwise to increase the control pressure, or counterclockwise to decrease the control pressure. The supply switching valve is factory set at 40 psig, and the signal switching valve is factory set at 2 psig.
3. <u>For supply switching valve adjustment:</u>
   With regulated input signal air supplied to signal port on lockup valve, cycle actuator while turning adjustment screw on lockup valve. Actuator will lock in place when adjustment screw setting corresponds to desired input signal pressure.
   <u>For signal switching valve adjustment:</u>
   Rotate the adjustment screw until the supply air bleeds through port C, and then turn in the opposite direction until bleeding ceases. The bleeding air from port C indicates that the valve has shifted (see Fig. 1).
4. Tighten the locknut after adjustment.



<u>Loss of Supply</u>



<u>Loss of Supply or Signal</u>