



# **Troubleshooting Guide**

## **ProMation Engineering PA - PD**

### **Spring Return Actuators**

# Troubleshooting ON/OFF Spring Return Actuators

## 1. Motor does not operate or overheats.

Possibilities	Solution
<ul style="list-style-type: none"> <li>a. The capacitor failed. Open circuit or surface of the capacitor deforms.</li> <li>b. It takes longer time to reach fully-closed position. (Change in torque such as valve's rubber is increasing rigidity)</li> <li>c. Foreign objects in the flow stream.</li> <li>d. Broken motor stem or bearing.</li> <li>e. The limit switch for failsafe position does not change state.</li> </ul>	<ul style="list-style-type: none"> <li>a. Replace with a new part. See Below</li> <li>b. Use hand-wheel for test or change to a new valve.</li> <li>c. Check if any obstructions.</li> <li>d. Replace to a new part.</li> <li>e. Operate the actuator manually to fully-closed position and confirm if the limit switch trips.</li> </ul>

## 2. The actuator operates well but the motor is hot.

Possibilities	Solution
<ul style="list-style-type: none"> <li>a. Actuator operates too frequently. (Starting frequency is too high.)</li> <li>b. Overload.</li> <li>c. Under or over rated voltage.</li> <li>d. Wrong power supply</li> </ul>	<ul style="list-style-type: none"> <li>a. Reduce the duty cycle of actuator.</li> <li>b. This situation often happens after operating for a long time. It is suggested to replace a new valve.</li> <li>c. Check the supply current.</li> <li>b. Check the power supply.</li> </ul>

## 3. The valve can not fully-open or fully-closed by either power supply or hand-wheel.

Possibilities	Solution
<ul style="list-style-type: none"> <li>a. The actuator does not mount with the valve tightly during installation process.</li> <li>b. The torque of valve is larger than the torque of actuator.</li> <li>c. The sprung (motor drive stop) set screw of the cam is loose or incorrect</li> <li>d. The installing angle of actuator and valve is not correct.</li> </ul>	<ul style="list-style-type: none"> <li>a. Readjust mounting or tighten mounting hardware</li> <li>b. Replace to a new valve or a larger actuator.</li> <li>c. Tighten or readjust the limit switch</li> <li>d. Check the angle of the valve and actuator.</li> </ul>

## 4. Failed Capacitor (deformed, incorrect capacitance measured, open circuit measured)

Possibilities	Solution
<ul style="list-style-type: none"> <li>a. Overload (exceed the rated torque of actuator).</li> <li>b. Over service life.</li> </ul>	<ul style="list-style-type: none"> <li>a. Replace part or component causing excessive torque (valve) or change to a larger actuator.</li> <li>b. Check the capacitance and surface every year.</li> </ul>