



## Actuator Maintenance and Evaluation Checklist

Date:

Actuator Serial Number:

Tested by:

1. Connect to the actuator plug so individual wires can be accessible for testing.
2. Connect a 12VDC power source positive terminal to the actuators red wire and the ground to the black actuator wire. Place an ammeter between the power source and red wire and measure the current. The current should be approximately 0.6 amps. If not, the motor is faulty. Reverse the power and ground connections on the red and black actuator wires. Again, the current should be approximately 0.6 amps. (May be slightly more if voltage runs above 12 volts.)

Current from Red to black:

Current from Black to Red:

3. Connect a 12VDC power source positive terminal to the actuators blue wire and the ground to the green actuator wire. The clutch should engage and rod should not be moveable as indicated by applying nominal force to push or pull the rod. If the rod can be moved, the clutch is faulty.

Clutch check:

4. Disconnect the actuator from the power source.
5. Attach an ohmmeter to the brown and orange actuator potentiometer wires. The ohmmeter should read between 8K and 12K ohms. Slowly push and pull the rod by hand; the ohmmeter should remain constant (plus or minus .1K ohms). If not, the actuator potentiometer is faulty.

Potentiometer reading (K ohms):

6. Attach an ohmmeter to the brown and white actuator potentiometer wires. Move the actuator rod through its full stroke (zero to 3 inches) by slowly pushing and pulling the rod by hand. The ohmmeter reading should vary continuously fro zero to ~10k ohms as the rod is moved through its stroke. If at any time during the stroke the ohmmeter reads an infinite resistance value (i.e. open circuit), the feedback potentiometer in the actuator is faulty.

**Note:** On very sensitive meter, there could be a very small spot that has a short flash of open circuit. Normally, this will not cause the actuator to fail. But if the open circuit stays open for any noticeable movement, the actuator is faulty.

Potentiometer reading at zero stroke:

Potentiometer reading at mid stroke:

Potentiometer reading at 3 inch stroke

Smooth continuous change during stroke movement

7. Setup the actuator connected to an Actus 4-position controller (Actus p/n 771-0106). Make sure each of the onboard potentiometers are set to four distinct positions such as:

- Position 1: near full retraction
- Position 2: between full retraction and mid stroke
- Position 3: between full extension and mid stroke
- Position 4: near full extension

Using your command input device, trigger all four controller positions and ensure the actuator extends and retracts all positions consistently.

Position set check

8. If possible, continuously operate the actuator and controller system for ½ hour verifying performance. Look for smoothness of operation (no jerking or stalling) and look for looseness in the actuator that might make the actuator rod tend to buckle or bind.

Performance check

9. Recommendations for continued use: