

## Airflow Switch Test

**WARNING:** Maintenance on Electrical Equipment should be performed by qualified personnel, who are experienced in handling all facets of electrical systems. Failure to follow this warning can result in property damage, personal injury, or death.

The airflow switch's function is to monitor the blower fans to prove they are in operation.

For example, to test the recirculation blower fan's airflow switch:

- Shut off the line power to the equipment.
- Remove the motor fuses ahead of the motor starter.  
Exception: If the fuses are shared by other devices, disconnect the motor leads at the motor starter's output terminals and isolate them
- Turn on the line power to the equipment.
- Operate all of the equipment's remaining fans (*including the recirculation fan motor starter*).
  - The airflow switch's contacts should not close, but if they do, first check the switch's current setting. Generally a switch setting of 0.2" WC (*inches of water column*) to 1.0" WC will detect a fan malfunction. Increase the setting until the contacts open, then increase the setting an additional 0.2" WC. If the contacts do not open at a setting above 2" WC, the switch is typically defective.
- Shut off the power to the equipment, and reinstall the fuses.
- Operate the equipment's fan(s).
  - The airflow switch indicator should be at the top of window with the corresponding fan running, in the ON position with no wavering. The airflow switch indicator is a metal flag seen through the indicator window located near the top of the yellow label, on the front of the airflow switch body.

To make adjustments, remove the aluminum hex cap on the top of the stem. To increase the setting, turn clockwise (**CW**) (adjustment screw down), to decrease the setting, turn counter-clockwise (**CCW**) (adjustment screw up). The position of the adjustment screw can be viewed through the slot in the stem. The top of the screw indicated the switch's pressure setting.

Note: This procedure should be repeated for each airflow switch in the system.

Common causes of airflow switch malfunction:

- Excessive vibration can cause intermittent airflow switch problems.
  - Reduce the vibration or relocate the airflow switch.
- Airflow switch's pressure settings is too low to sense a blower fan malfunction when equipment is in operation.
  - Adjust setting per above.
- Airflow switch's metering pipe is out of position, or the miter is facing the wrong direction.
  - Reposition the pipe (*miter always faces fan wheel*).
- Airflow switch is configured in single monitoring point configuration (*vacuum only*).
  - If you only have one pipe on the fan inlet (*vacuum*), Despatch recommends changing the airflow monitoring system to differential (*vacuum plus pressure*). The vacuum and pressure are then added together, which allows increased sensitivity and increased adjustable range. This can be accomplished by adding a second pipe and tubing to also monitor the discharge side (*pressure*) of the fan wheel.
  - Use Despatch Airflow Switch Pressure Port Kit #260747.