



# FAN CONTROLS

## Pressure/Timer Switch

P/N 99 058

INSTALLATION  
OPERATION  
MAINTENANCE

### READ AND SAVE THESE INSTRUCTIONS

#### GENERAL

American ALDES Pressure/Timer Switch recognizes dryer operation and activates a booster fan from an independent electrical circuit. This eliminates connections through the dryer circuit, which may void the manufacturer's warranty, as well as manual systems that require the attention of the operator, and costly current/temperature sensing systems.

The electrical to the booster fan is connected in series through a normally open terminal on the switch. A pressure tap is connected to a nipple on the side of the switch. When the dryer begins operation, positive pressure in the duct causes the switch diaphragm to expand, closing the circuit to the booster fan. An integral delay-on-make timer in the switch will turn the fan on for intervals of approximately 10 minutes. This will continue until the dryer has stopped and the timer delay period has lapsed. Drying cycles, the booster fan, the delay timer, and the pressure switch are not adversely affected by the starting and stopping intervals.

#### PRESSURE/TIMER SWITCH KIT INCLUDES:

- 1 Pressure/Timer Switch with Integral Delay
- 1 3 ft. Section of NPT Tubing
- 1 Grommet for Tubing
- 4 Wire Nuts for Electrical Connection
- 1 Packet with Switch Mounting Hardware

#### GENERAL INSTALLATION GUIDELINES

The Pressure/Timer Switch can be mounted at any point in the duct between the dryer and booster fan. However, in installations when the switch is used to control an XMV fan, it may be necessary to locate the pressure/timer switch in front of an elbow. (See additional installation notes on Pages 2 and 3.) Be sure to allow adequate space for the switch. Refer to the dimensional and clearance data in Figure 1 For optimum switch sensitivity, the diaphragm must be mounted vertically. Refer to Figure 3 for correct and incorrect switch diaphragm positioning. The switch should be mounted within 30 inches from the point where the pressure tap will be inserted into the dryer exhaust duct.

#### INSTALLATION INSTRUCTIONS

**Note:** Installation by a licensed electrician is recommended. Installation and use of this equipment must be in accordance with provisions of the national electrical code. Applicable local codes and pertinent industry standards should be verified before installation.

FIGURE 1: DIMENSIONAL DATA

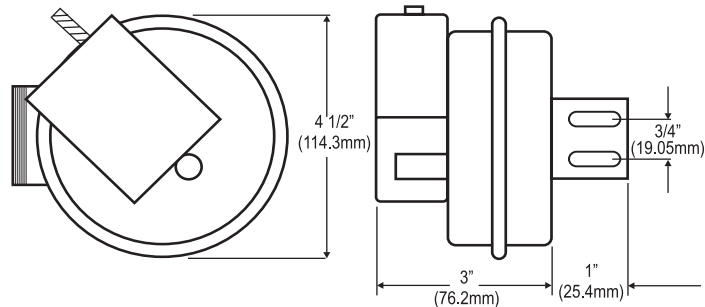
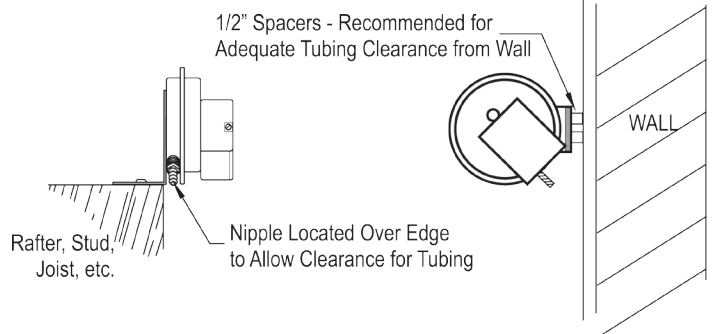


FIGURE 2: CLEARANCE DIAGRAM



#### STEP 1: SELECTING SWITCH LOCATION

The switch must be located between the dryer and the booster fan in order to work properly. The switch can be installed at any point along the duct run. However, if the switch is used in conjunction with an XMV fan, the best location may be upstream of an elbow. (Refer to Page 3 for additional installation details.)

#### STEP 2: MOUNTING SWITCH

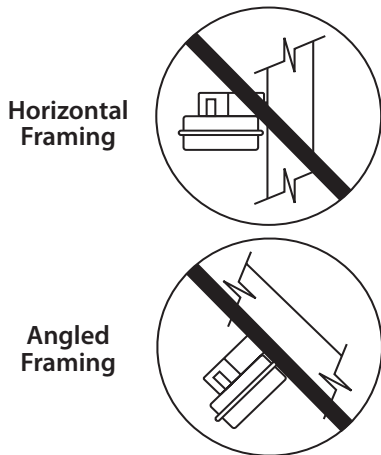
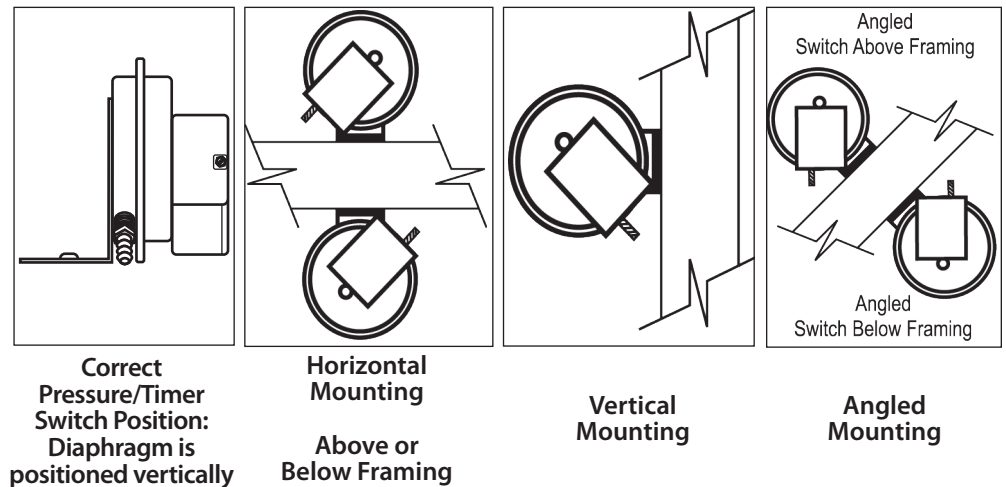
**Note:** Switch diaphragm must be mounted vertically for optimum sensitivity. Refer to Figure 3A-B. When mounting the switch to a stud, joist, rafter, etc., in order to prevent the tubing from being crimped, locate the nipple so that it clears the edge of the beam. (Refer to Figure 2.) Using the wood screws provided, secure the switch to the beam. When mounting the switch to a wall, mount the 1/2" spacers (provided) between the switch mounting bracket and the wall to prevent the tube from being crimped. When mounting the switch to drywall, concrete, etc., it is recommended that the anchors provided be used to securely hold the screws.

#### STEP 3: INSTALLING GROMMET AND TUBING

**Note:** Grommet should be mounted no more than 30 inches from the pressure switch in order to allow the tubing to reach from the switch to the duct. First, drill a 1/4" to 5/16" diameter hole in the duct wall. Carefully insert the grommet into the hole. (Drilling a metal duct may produce burrs. Be careful not to be cut by the burrs or the duct.)

Next, force one end of the tubing over the nipple on the switch. It may be necessary to use a lubricant in order to slide the tubing over the entire nipple. Make a mark 1/2" from the other end of the tubing. Slide this end of the tubing through the center of the grommet up to the mark, as illustrated in Figure 4. Do not use a lubricant on this end of the tubing.

For some installations, it may be necessary to insert the grommet and tubing (or duct-pressure tap) in the upstream side (the side the air enters) of an elbow. Installations which may require that the tap be located upstream of an elbow include those with an XMV fan mounted at the end of a long, straight duct run (15' or more) and those in high elevation regions.

**FIGURE 3A: INCORRECT DIAPHRAGM POSITIONING**

**FIGURE 3B: CORRECT DIAPHRAGM POSITIONING**


#### ADDITIONAL INSTALLATION NOTES

##### Pressure/Timer Switch used with an XMV Series Fan

The XMV Series fans create very little resistance against the dryer fan airflow when the XMV fan is not operating. A minimum amount of pressure (approximately 0.05" - 0.07") is required in order to trigger the switch. For installations where there is a long horizontal duct run prior to terminating at the fan, it may be necessary to insert one or two elbows. The elbow(s) increases the static pressure on the upstream side of the elbow. As illustrated in **Figure 5**, the duct-pressure tap should then be installed in the upstream side of the first elbow. The dotted lines show an alternate location for the duct-pressure tap for systems with one elbow added. As an alternative to inserting an elbow near the fan, the switch and duct-pressure tap may be located upstream of an existing elbow (as shown in **Figure 4**) or they may be installed closer to the dryer.

##### Pressure/Timer Switch used with an In-line Duct Fan

Unlike the XMV Series, the "A" Series fans create enough resistance to the dryer fan flow to trigger the pressure switch. When using the switch with an in-line duct fan, the switch and duct-pressure tap may be installed near the fan or at any point along the duct between the dryer and the fan. One advantage to locating the switch and duct-pressure tap near the fan is their proximity to one another for servicing, maintenance, troubleshooting, etc. (See **Figure 6.**)

#### ELECTRICAL CONNECTION

DO NOT CONNECT POWER SUPPLY UNTIL SWITCH IS COMPLETELY INSTALLED. MAKE SURE ELECTRICAL SERVICE TO THE SWITCH IS LOCKED IN "OFF" POSITION.

**WARNING: TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS - OBSERVE THE FOLLOWING:**

1. Use this unit only in the manner intended by the manufacturer. If you have questions, contact the factory.
2. Before servicing or cleaning, switch

3. power OFF at service panel and lock service panel to prevent circuit from being switched on accidentally. When the service disconnecting means cannot be locked, securely fasten a prominent warning device, such as a tag, to the service panel.
3. Installation work and electrical wiring must be done by qualified person(s) in accordance with all applicable codes and standards, including fire-rated construction.
4. When cutting or drilling into wall or ceiling, do not damage electrical wires or other hidden utilities.

#### WIRING PROCEDURE

**STEP 1:** A 4" x 4" junction box (J-Box) is recommended to ensure adequate space for all wiring connections. The box should be mounted a maximum of 4 inches from the switch. (Refer to illustrations above.)

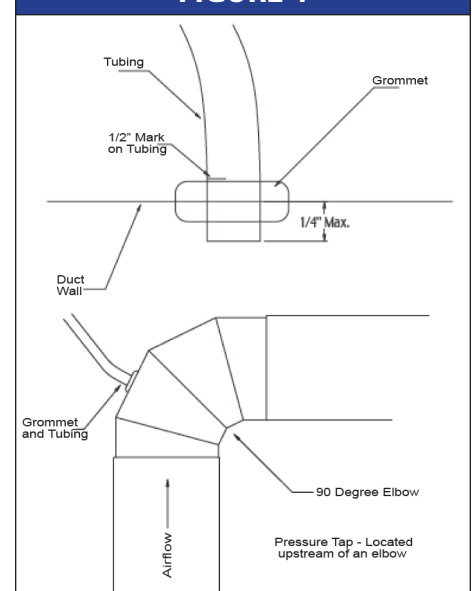
**STEP 2:** Using the wire nuts provided, connect the incoming electrical supply, the switch leads and the power supply to fan as shown in the schematic on the right.

#### MAINTENANCE

No maintenance required for Pressure/Timer Switch.

##### Recommended Maintenance for "A" Series and XMV Fans:

1. Since fan bearings are sealed and provided with an internal lubricating material, no additional lubrication is necessary.
2. Fan impeller may accumulate lint. Periodic inspection, based upon dryer usage, should be performed to ensure that the fan impeller is not obstructed or loaded with lint. Under normal conditions, fan should be inspected a minimum of every six (6) months. **Note: Excessive booster fan noise or vibration may be an indication of lint build-up on the impeller.**
3. To inspect and clean the impeller:

**FIGURE 4**


- a. Disconnect the incoming power supply at the source.
- b. Remove the duct from the fan inlet and remove any lint buildup on the impeller.
- c. Reconnect the duct to the fan.
- d. Turn power supply on.

#### TROUBLESHOOTING

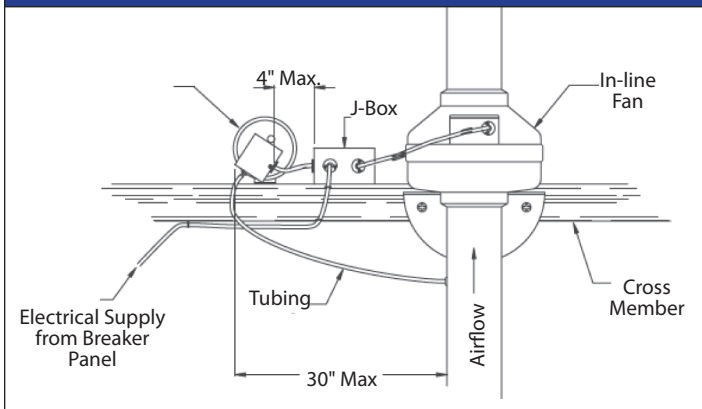
**Note: Prior to performing Steps 1 - 4, be certain that the electrical supply to the fan/switch is turned OFF.**

If fan fails to start when the dryer cycle begins, follow the procedure listed below:

1. Check the incoming supply for proper voltage.
2. Consult schematic shown to ensure proper connection. See **Figures 8A-B** for fan wiring diagrams.

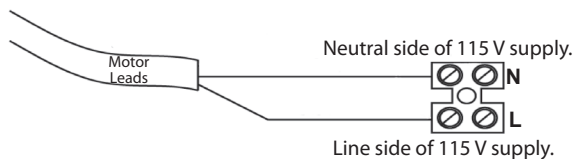
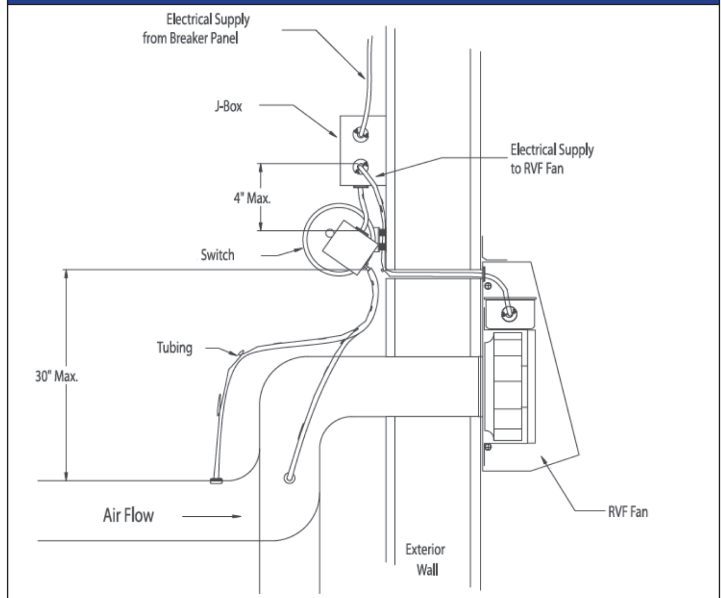
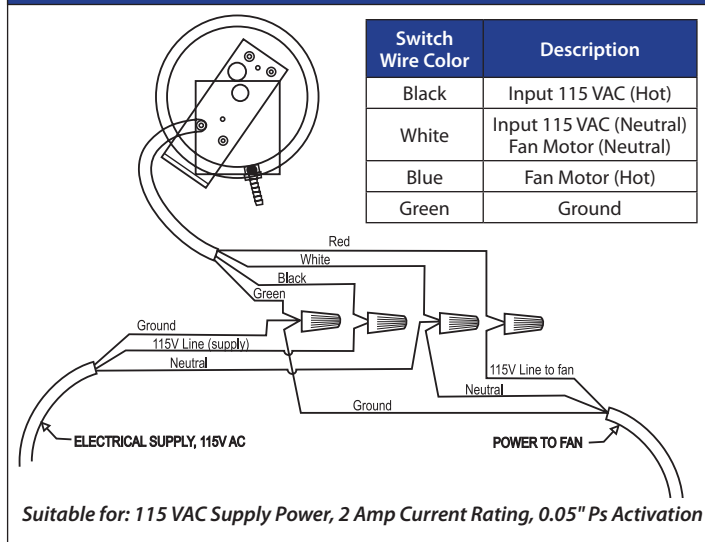
3. Use a meter to test for continuity across the fan motor leads. In order to do this, the capacitor must be disconnected (do not test the capacitor; capacitors do not meter continuity). If motor leads show continuity, rewire the fan.
4. Turn on the electrical supply and restart the dryer cycle. Check that the fan starts. If fan still fails to start after performing Steps 1 - 4, follow steps 5-9.
5. Verify that the pressure-switch diaphragm is vertical, as illustrated in **Figure 3B**. If the diaphragm is not vertical, reposition the pressure switch and check for fan operation against another dryer cycle.
6. Verify that the tubing is not crimped and that the tubing connections are not obstructed.
7. If switch diaphragm is vertical and fan still fails to start, with the electrical supply ON:
  - a. Remove the tubing from the grommet in the duct and blow gently into the tubing
  - b. If fan starts, consult American ALDES for additional technical support.
8. If fan fails to start after blowing into the tubing:
  - a. Disconnect incoming power supply at the source.
  - b. Connect the incoming power supply directly to the fan motor as shown in **Figure 7**.
  - c. Turn power to fan ON.
9. If fan fails to start, please call 1-800-255-7749 for additional technical support from American ALDES.

#### WARRANTY ???

**FIGURE 6**

**FIGURE 8A**

#### Schematic for A-4, A-5, and XMV-A4 Models

Note: Ground "A" Series Fans and XMV Models beneath a screw in the terminal box.


**FIGURE 5**

**FIGURE 7**

**FIGURE 8B**

#### Schematic for all other "A" Series Fans and XMV Models

Note: Ground "A" Series Fans and XMV Models beneath a screw in the terminal box.

