Heat Sensor and Thermometer Location Installation.

Refer to Figure 1 (one heater with mod valve) and Figure 2 (two heaters with a mod valve on each) for typical installations.

Heat Sensor Installation

Approximately 2 to 3 feet to the right side of the transition (if multiple installation see Figure 2 for locations) and halfway between the foundation and the bin floor and centered in the hill of the corrugation drill a 1 $^{15}/_{32}$" diameter hole tap with 1" NPT threads. Thread base of squeeze connector into the bin. Slip rubber squeeze connector and threaded cap over heat sensor with threaded end facing the bottom end of the sensor. Insert heat sensor into the bin making sure that the word "top" that is stamped in the heat sensor is in the upright position before tightening the squeeze connector in place. Be careful not to break or kink the capillary tube. Heat sensor should extend completely into the bin without any obstructions. Heat sensor tip must be in a horizontal position or slightly tilted down to operate properly.

Thermometer Installation

Approximately 4" to the right of the heat sensor drill a $^{3}/_{4}$" hole and thread the hole to a $^{1}/_{2}$" NPT. Mount the thermometer into this hole.

OPERATING INSTRUCTIONS

NOTE: The modulating valve uses the plenum air temperature to regulate the gas flow into the burner maintaining a constant plenum air temperature.

1. Operation of the heater is the same as outlined in its manual.

2. Adjustment of the modulating valve is accomplished by turning the handle in (clockwise) to increase temperature range and turning it out (counterclockwise) to decrease the temperature range.

3. Maximum operating pressure of the modulating valve is 30 psi.

4. Standard Temperature range is 90-210 degrees F and this should not be exceeded or possible damage to the valve will result.

5. Low heat applications of the modulating valve may result in ignition shut down, because sufficient heat is not available at the flame probe. The flame probe bracket provided should then be added, as shown in Bulletin 975. The flame probe should be adjusted to sense the flame.

Warning: The regulators outlet pressure should be set approximately two psi higher then the gas pressure that is being delivered by the modulating valves at the coldest part of the day. **Failure to do so could result in a grain bin fire**. If the modulating valves mechanical workings would fail (ex. mechanical damage to the capillary) the heaters firing rate would be dependent on the outlet pressure of the regulator. If the regulator is set with a high outlet gas pressure there is the possibility of fire from the high air temperature that would be delivered to the grain bin.

NOTE: The modulating valve is shipped with a blank orifice. Orifices provided with this assembly can be used to maintain a minimum temperature rise. For example: the green bypass orifice will maintain an approximate 30 degrees F temperature rise irregardless of the modulating valve setting. A bypass orifice would be used to avoid ignition shut down from the flame sensor if the modulating valve operating temperature is changed repeatedly during operation. For an illustration on how to remove and change orifices, refer to the diagram on the package in which the orifices were shipped.

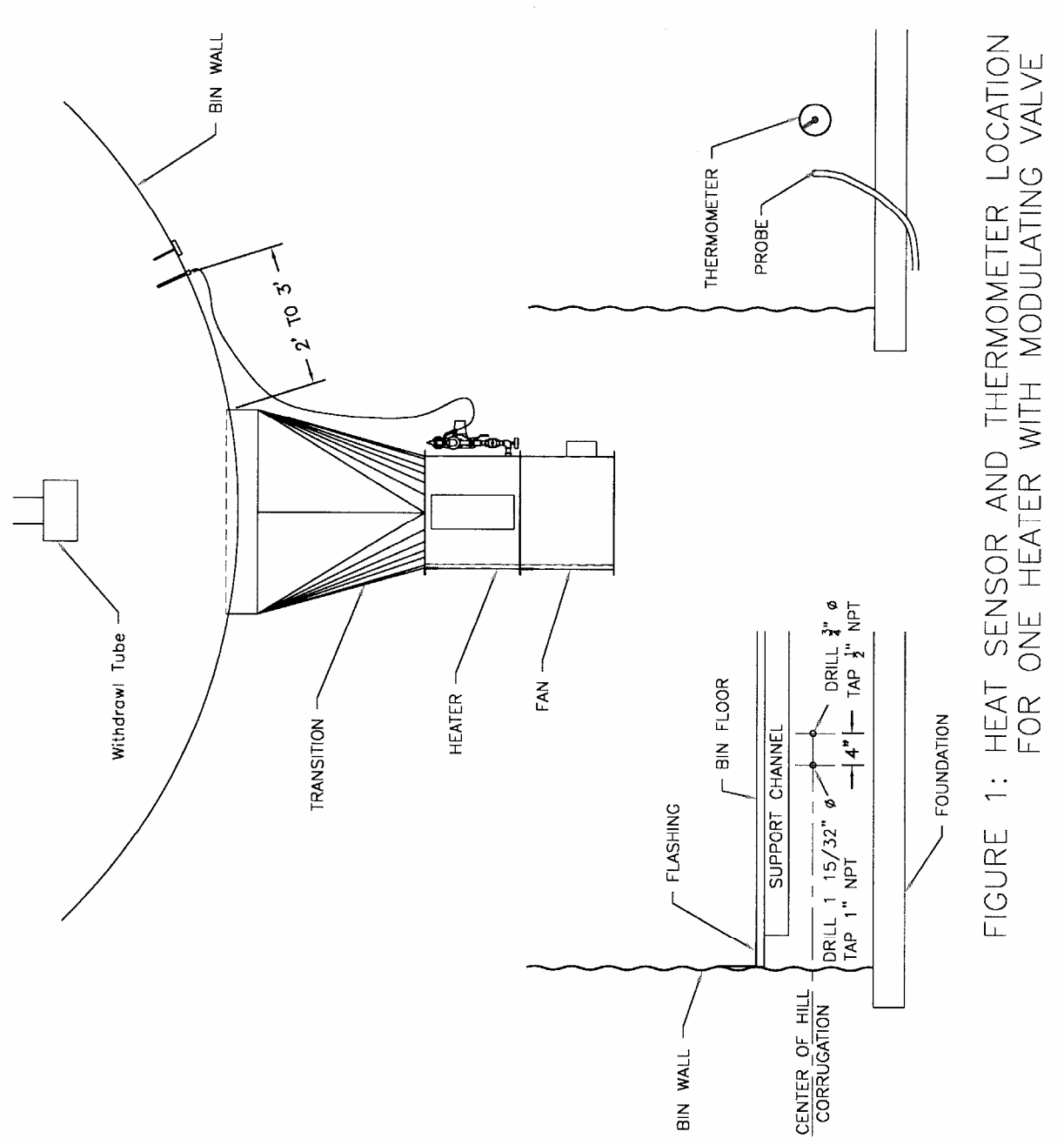

FIGURE 1: HEAT SENSOR AND THERMOMETER LOCATION FOR ONE HEATER WITH MODULATING VALVE

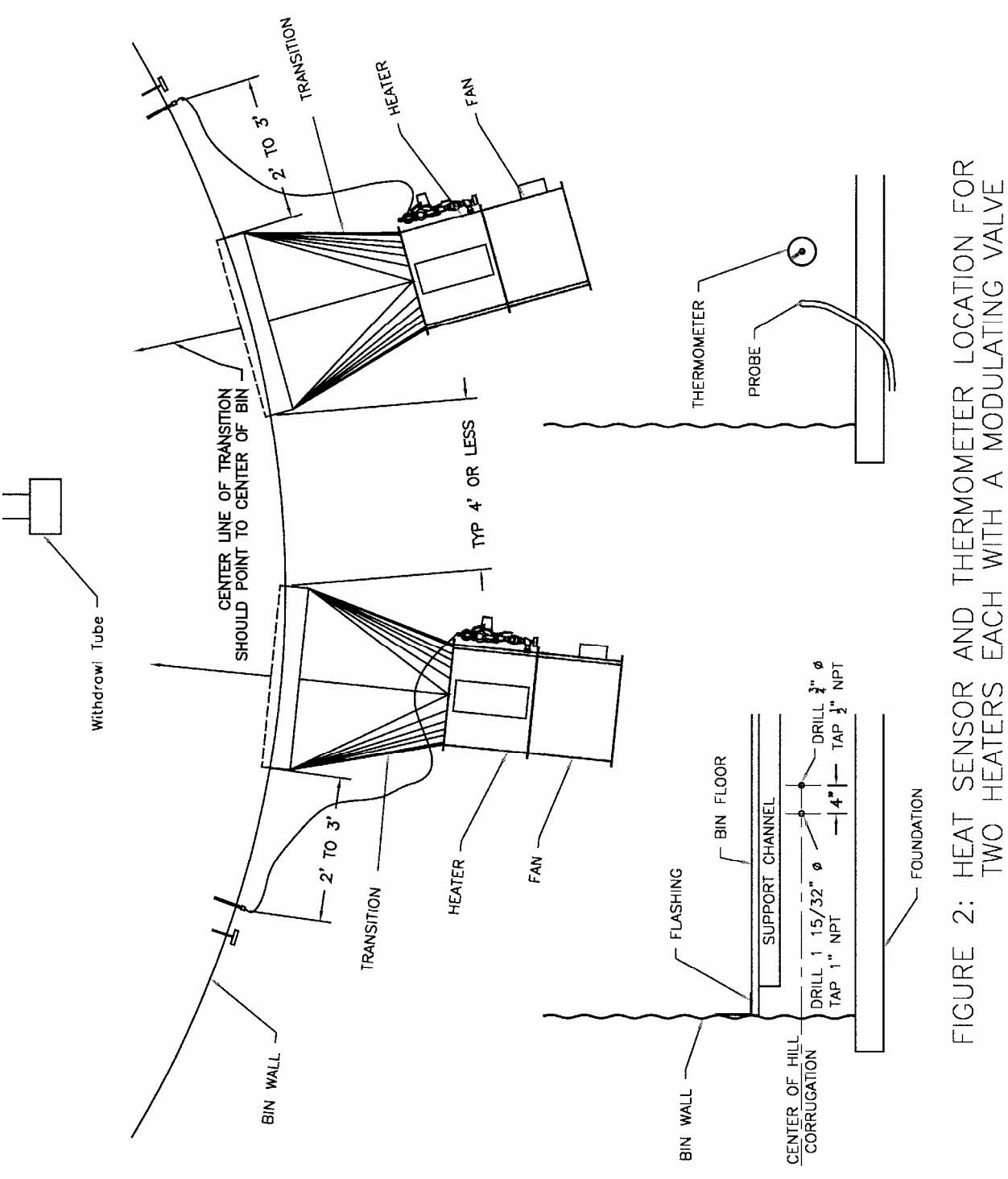

FIGURE 2: HEAT SENSOR AND THERMOMETER LOCATION FOR TWO HEATERS EACH WITH A MODULATING VALVE