Honeywell

TP970-TP973 Pneumatic Thermostats

INSTALLATION INSTRUCTIONS

INSTALLATION

These instructions cover mounting the thermostat to a wall without additional hardware. For replacement of existing competitive and older Honeywell thermostats, use the appropriate adapter kit and follow instructions packed with kit.

Installation Tools

The following tools will be useful during calibration check and cover installation:

Part No.	Description (Fig. 1)
305965	Gage, 0 to 30 psi (0 to 207 kPa)
CCT729A	Gage Adapter for thermostats with gage tap fitting
CCT735A	Thermostat Tool

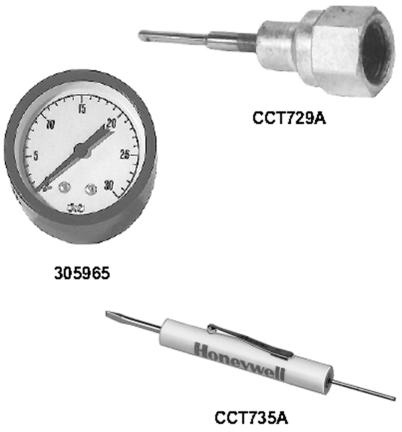
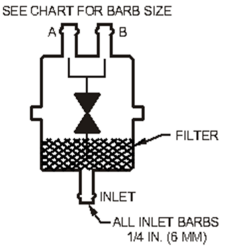


Fig. 1. Thermostat installation tools.

Remote Restrictors

When remote restrictors are required, (one pipe TP973) select from Figure 2.



REMOTE RESTRICTORS

Part No. 14002913–	Orifice Size in inches	Body Color	Barb Size in inches (MM)	
			A	B
–001*	0.005	Blue	1/4 (6)	5/32 (4)
–004	0.005	Blue	5/32 (4)	5/32 (4)

* One Barb Cap 14003567-001 Furnished with Restrictor

C3931-1

Fig. 2. Remote restrictors.

Piping

Use 5/32-in. O.D. polyethylene tubing. Connect main and branch lines to the backplate, connecting main to the left side barb fitting as viewed from the back and branch to the right side barb. Leave the third (lower) fitting open, except for a three-pipe TP971 Thermostat.

Mounting

See Figure 3. If mounting on other than a hollow wall, see Installation Instructions 95-5597.

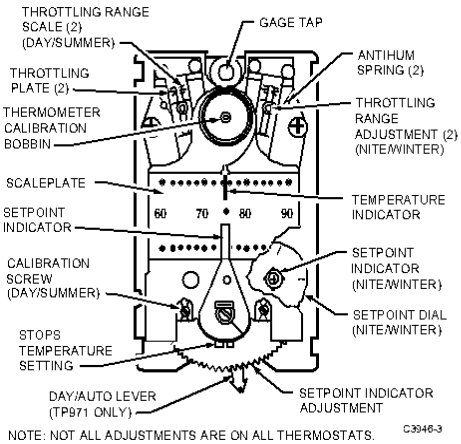


Fig. 3. Installing TP970-TP973 without wall box.

ADJUSTMENTS

After installation, set the thermostat to the desired setpoint and let the system operate long enough to stabilize. The length of time required for stabilization depends on system response time. This could be only a few minutes or as long as several hours. Make certain that the system has stabilized before checking calibration. If the temperature stabilizes within one-half of the throttling range of the setpoint, no calibration is required.

NOTE: All thermostats are accurately factory calibrated and should require only a calibration (bleed-off) check to ensure correct operation.

Throttling Range

Throttling ranges (TR) are factory set at 4F (2K) and should not require any change under normal operating conditions.

If a change in throttling range is necessary, reset the throttling range to the values specified on the job drawings. Use the following procedures:

1. Remove stat cover and install 0 to 30 psi (0 to 207 kPa) gage in gage tap (Fig. 4)
2. Slide the TR indicator to the desired position on the TR scale.
3. Mechanically check the TR by moving setpoint lever to determine the difference in setpoint indication when the branchline pressure reads 3 psi (21 kPa) and 13 psi (91 kPa). (It may be necessary to turn the calibration screw to adjust TR into the stat range.)
4. Reset TR to within ±2F (±1K) of required setting for accurate control.
5. Follow RECALIBRATION procedures.

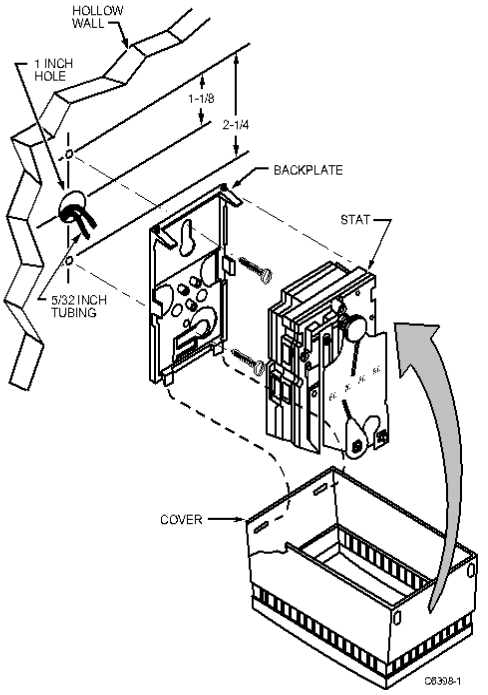


Fig. 4. TP971 and TP972A2218 controls and indicators. Front view—cover off.

Calibration Check

To check calibration, the control space temperature must be within the scale range of the thermostat.

On direct-acting bimetal elements:

1. Turn setpoint down five degrees below actual room temperature and allow thermostat to build up branchline pressure.
2. Turn setpoint indicator (Fig 4) up slowly.
3. If thermostat begins to bleed off between 1F (0.5C) and 3F (1.5C) below room temperature, no further calibration is necessary.

On reverse-acting, bimetal elements:

1. Turn setpoint up five degrees above actual room temperature as measured by a test thermometer, and allow thermostat to build up branchline pressure.
2. Turn down setpoint indicator (Fig. 4) slowly.
3. If thermostat begins to bleed off between 1F (0.5C) and 3F (1.5C) above room temperature, no further calibration is necessary.

Calibration

⚠ CAUTION

The thermostat is very sensitive and should not be heated by excessive handling during calibration.

NOTE: Reference in the following procedures to a 30 psi gage implies the gage and gage adapter listed in INSTALLATION TOOLS section.

TP970

1. Remove the thermostat cover and install a 30 psi gage into the gage tap.
2. Set the temperature setpoint indicator at the indicated temperature.
3. Turn the calibration screw (see Fig. 4) until the gage reads 0 psi.
4. Turn the calibration screw in the opposite direction until the gage reads 8 psi (56 kPa) plus or minus 1 psi (7 kPa). The thermostat is now calibrated.
5. Remove the gage and replace cover.

TP971

1. Remove the thermostat cover and install a 30 psi gage into the gage tap.
2. Set the temperature setpoint indicator at the indicated temperature.
3. With 13 psi (91 kPa) (DAY) main air pressure, turn the DAY (left) calibration screw (see Fig. 4) until the gage reads 0 psi.
4. Turn the calibration screw in the opposite direction until the gage reads 8 psi (56 kPa) plus or minus 1 psi (7 kPa).
5. With 18 psi (126 kPa) (NITE) main air pressure, rotate the night setpoint dial until its setting agrees with the indicated temperature.
6. Repeat Steps 2, 3, and 4 using the NITE setpoint and (right) calibration screw. The thermostat is now in calibration.
7. Remove the gage and replace cover.

TP972

1. Remove the thermostat cover and install a 30 psi gage into the gage tap.
2. Set the temperature setpoint indicator to the indicated temperature.
3. With 13 psi (91 kPa) (SUMMER) main air pressure, turn the SUMMER (left) calibration screw (see Fig. 4) until the gage reads 0 psi.
4. Turn the calibration screw in the opposite direction until the gage reads 8 psi (56 kPa) plus or minus 1 psi (7 kPa).
5. With 18 psi (126 kPa) (WINTER) main air pressure, repeat Steps 3 and 4, using the WINTER (right) calibration screw. The thermostat is now in calibration.
6. Remove the gage and replace the cover.

TP973

Same as TP970.

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