



## Pneumatic Wall Thermostat & Humidistat Conversion Kit General Instructions

### DESCRIPTIVE DATA

This kit is available for replacement of the competitors' thermostats shown in table with Schneider Electric thermostats. See page 2. Refer to table and specific column where parts used are indicated. Read instructions and select needed parts. If surface run raceway wiremold or tubing is used, you must cut out section of base.

### INSTALLATION

The same general procedure for conversion of all devices applies.

1. Remove stat (and rings) from wall.
2. Remove air head (and gasket) from fitting.
3. Clean fitting surface if required.
4. See table for specific section applicable.
5. Identify correct mounting parts and instructions.
6. Place the plastic ring against the wall, with the two plastic 5/32-inch tubes drawn through. As these tubes connect to the thermostat, draw through each part added in this procedure. Identify the main and branch tubes.
7. Place the multi-slotted metal plate into the plastic ring and secure to the air head or wall using the screws indicated in the appropriate section.
8. Obtain the thermostat mounting plate and screws from the **thermostat box**.
9. Place the foam gasket between the multi-slotted plate and front plate, with tholes 24 and 25 in alignment. Secure the stat mounting plate to the front plate by using (2) 6-32 flat head screws in the tapped holes 24 and 25 in the multi-slotted plate.
10. Insert a 5/32-inch barbed coupling into each tube.
11. Cut the stat tubes to about 3 inches long and insert the 5/32-inch barbed couplings from the tubes of the wall ring assembly.
12. Remove the stat cover, push the tubes in the ring cavity and secure the stat to its mounting plate with the (3) Allen head screws.
13. Install the stat cover, the installation is complete.

### APPLICATION

Kit converts pneumatic one and two pipe thermostats to Series TK wall thermostats.

| Change From                | Change to Schneider Electric <sup>a</sup> | See Section    |
|----------------------------|---|----------------|
| HO or HP 900, 900A, B,C, D | HKS-5033 <sup>b</sup>                     | 1              |
| HP 901A                    | HKS-5033 <sup>b</sup>                     | 1              |
| TP 410A                    | TK-1001                                   | 2 <sup>c</sup> |
| TP 410B                    | TK-1101                                   | 2 <sup>c</sup> |
| TP or TO 900A D.A.         | TK-1001                                   | 1              |
| TP or TO 900A R.A.         | TK-1101                                   | 1              |
| TP or TO 900B D.A.         | TK-1301                                   | 1              |
| TP or TO 900B R.A.         | TK-1381                                   | 1              |
| TP or TO 900D              | TK-1201                                   | 1              |
| TP or TO 900G              | TK-1301                                   | 1              |
| TP or TO 901A              | TK-5001                                   | 3              |
| TP or TO 901B              | TK-5101                                   | 3              |
| TP or TO 901C              | TK-5001                                   | 4              |
| TP 910A                    | TK-1001                                   | 2 <sup>c</sup> |
| TP 901B                    | TK-1101                                   | 2 <sup>c</sup> |
| TP 911A D.A.               | TK-1301                                   | 2 <sup>c</sup> |
| TP 911C D.A.               | TK-1601                                   | 2 <sup>c</sup> |
| TP 913A, D                 | TK-1201                                   | 2 <sup>c</sup> |
| TP 913B                    | TK-1301                                   | 2 <sup>c</sup> |
| TP 923A                    | TK-5001                                   | 2 <sup>c</sup> |
| TP 923B                    | TK-5101                                   | 2 <sup>c</sup> |
| TP 924A                    | TKS-5001 <sup>b</sup>                     | 2 <sup>c</sup> |
| TP 931 D.A.                | TK-1001                                   | 5              |
| TP 931 R.A.                | TK-1101                                   | 5              |
| TP 933A R.A.               | TK-1381                                   | 2 <sup>c</sup> |
| TP 938A D.A.               | TK-1071 <sup>d</sup>                      | 6              |
| TP 938B R.A.               | TK-1171 <sup>d</sup>                      | 6              |
| TP 970A                    | TK-1001                                   | 6              |
| TP 970B                    | TK-1101                                   | 6              |
| TP 971A D.A.               | TK-1301                                   | 6              |
| TP 971B R.A.               | TK-1381                                   | 6              |
| TP 971C                    | TK-1601                                   | 6              |
| TP 972A D.A. at 15 PSI     | TK-1281                                   | 6              |
| TP 972B D.A. at 20 PSI     | TK-1201                                   | 6              |
| TP 973A                    | TK-5001                                   | 6              |
| TP 973B                    | TK-5101                                   | 6              |
| TP 974                     | TKS-5001 <sup>b</sup>                     | 6              |
| TRO 900A D.A.              | TK-1001                                   | 1              |
| TRO 900A R.A.              | TK-1101                                   | 1              |

| Change From                    | Change to Schneider Electric <sup>a</sup> | See Section |
|--------------------------------|---|-------------|
| <b>JOHNSON</b>                 |   |             |
| H 101, 102, 103, 105           | HKS-5033 <sup>b</sup>                     | 7           |
| H 4100, 5100                   | HKS-5033 <sup>b</sup>                     | 8           |
| T 400 D.A., 401 D.A., 403 D.A. | TK-1001                                   | 7           |
| T 400 R.A., 401 R.A., 404 R.A. | TK-1101                                   | 7           |
| T 432                          | TK-1281                                   | 7           |
| T 460 D.A.                     | TK-1301                                   | 7           |
| T 460 R.A.                     | TK-1281                                   | 7           |
| T 465                          | TK-1601                                   | 7           |
| T 4002 D.A.                    | TK-1001                                   | 8           |
| T 4002 R.A.                    | TK-1101                                   | 8           |
| T 4003 D.A.                    | TK-1071                                   | 8           |
| T 4003 R.A.                    | TK-1171                                   | 8           |
| T 4004 D.A.                    | TK-5001                                   | 8           |
| T 4004 R.A.                    | TK-5101                                   | 8           |
| T 4502 D.A.                    | TK-1301                                   | 8           |
| T 4502 R.A.                    | TK-1301-150                               | 8           |
| T 4512 D.A.                    | TK-1601                                   | 8           |
| T 4512 R.A.                    | TK-1601-150                               | 8           |
| T 4752 D.A. AT 15 PSI          | TK-1201                                   | 8           |
| T 4752 R.A. AT 20 PSI          | TK-1201-150                               | 8           |
| T 5002                         | TKS-5001 <sup>b</sup>                     | 8           |
| <b>POWERS</b>                  |   |             |
| HU 186, 190, 190 SM            | HKS-5033 <sup>b</sup>                     | 14          |
| HT 186 (Room)                  | HKS-5033 <sup>b</sup>                     | 13          |
| HT 190 (190-1396)              | HKS-5033 <sup>b</sup>                     | 14          |
| TH 180D                        | TK-1001                                   | 13          |
| TH 180R                        | TK-1101                                   | 13          |
| TH 180HC                       | TK-1201                                   | 13          |
| TH 180DN                       | TK-1301                                   | 13          |
| TH 180DNV                      | TK-1601                                   | 13          |
| TH 180RDN                      | TK-1381                                   | 13          |
| Type "D" (TH 832)              | TK-1001                                   | 14          |
| TT 180                         | TKS-5001 <sup>b</sup>                     | 14          |
| TT 184 (Room)                  | TKS-5001 <sup>b</sup>                     | 13          |
| Model 5 (TH 181)               | TK-1201                                   | 14          |
| <b>ROBERTSHAW</b>              |   |             |
| H 10, 50                       | HKS-5033 <sup>b</sup>                     | 10, 11, 12  |
| T 15-101                       | TK-1001                                   | 10, 11, 12  |
| T 16-101                       | TK-1101                                   | 10, 11, 12  |
| T 18-101                       | TK-1001                                   | 9           |
| T 19-101                       | TK-1101                                   | 9           |
| T 21-101                       | TK-1301                                   | 10, 11, 12  |
| T25                            | TK-1601                                   | 10, 11, 12  |
| T 26-101                       | TK-1301                                   | 10, 11, 12  |
| T 30, T 31-101                 | TK-1201                                   | 10, 11, 12  |
| T 32                           | TK-1201                                   | 9           |
| T 51, 52                       | TKS-5001 <sup>b</sup>                     | 10, 11, 12  |

<sup>a</sup> See page 11 for energy conservation options.

<sup>b</sup> May also need RKS-1001 or RKS-5001.

<sup>c</sup> AT-536 not required. Holes in thermostat mounting plate match Honeywell mounting holes. Use of AT-505 is recommended to facilitate piping and improve appearance.

<sup>d</sup> Restriction in main must be removed. Action of reset signal must be reversed for R.A. model.

Note: AT-536 kit is not complete for stats replaced with Schneider Electric TK-16XX, 1X7X stats. Additional parts must be furnished by the office.

Table-1

| Main Air Pressure Requirements for Day-Night and Heating-Cooling Dual Pressure Thermostats |                     |                     |                     |                           |
|--|---------------------|---------------------|---------------------|---------------------------|
| Schneider Electric   | Johnson             | Honeywell           | Powers              | Robertshaw                |
| 15 psig and 20 psig <sup>a</sup>   | 15 psig and 20 psig | 13 psig and 18 psig | 18 psig and 25 psig | 15-17 psig and 21-25 psig |

<sup>a</sup> TK-1700 Series requires 22 psig.

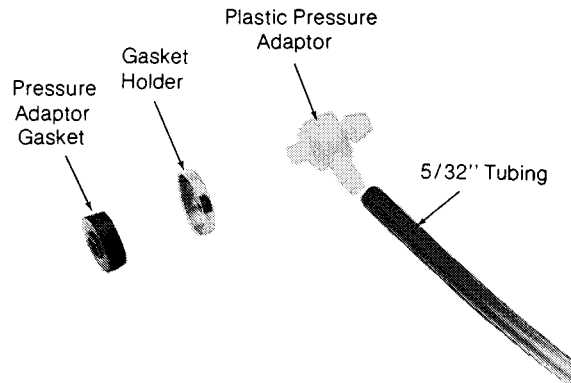


Figure-A Assembly of Connector Fitting.

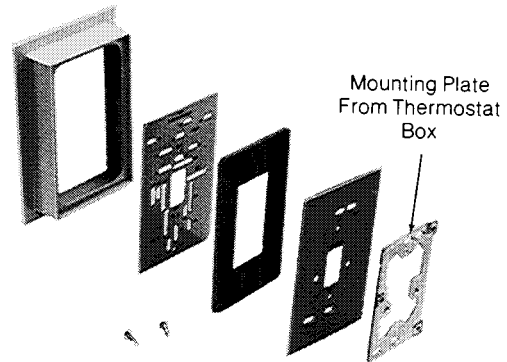
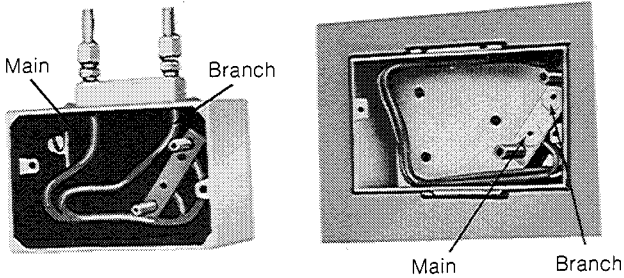


Figure-B Stat Mounting Parts.

## HONEYWELL HO, HP, TO, TP, TRO 900



**Surface Box**

**Flush Box**

Figure-1

### Collect Parts From Bag and Assemble

Obtain plate and spacers. Assemble connectors as shown in Fig. A and insert into holes indicated below.

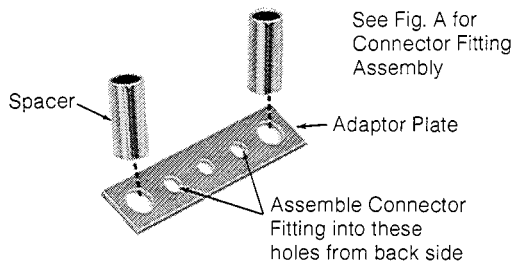


Figure-2

### Install Air Head Adapter

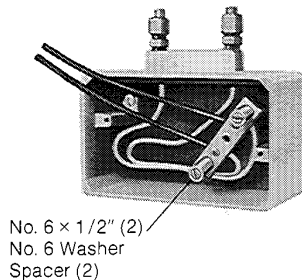


Figure-3

1. Position the plate, with connectors installed, over the threaded bosses in the air head, with rubber rings down against air head holes.
2. Place spacers over threaded bosses in air head.
3. Obtain (2) #6 x 1/2-inch machine screws and two washers. Place washers on screws and insert screws into threaded bosses and tighten.

### Install "Stat" Mounting Parts

Collect parts shown in Fig. B and the screws indicated below for appropriate type of air head. Refer to step 6 under "Installation".

Use Slots 2 and 19

No. 6 x 2" Screws (2)

*Note:* Schneider Electric thermostat mounts horizontally for this application. Rotate all parts in Fig. B 90° CCW.

## HONEYWELL TP-410, 910-924, 933

*Note:* AT-536 not required on thermostats shipped after 10-1-82. See (°) note on page 2.

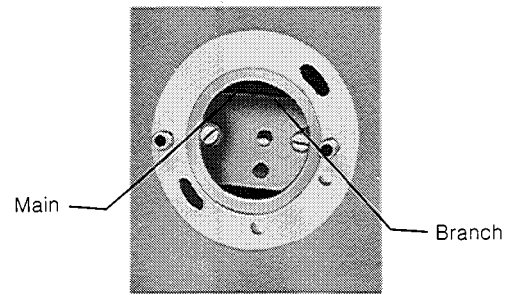


Figure-4 Flush Banjo.

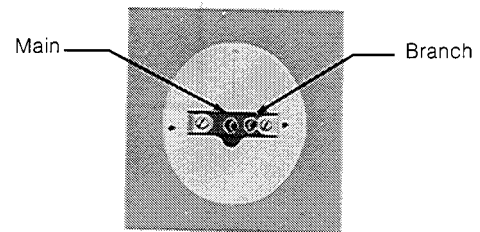


Figure-5 Mortar Joint.

### Insert Tubes Carefully into "O" Rings; Use New "O" Rings from Bag Only If Necessary

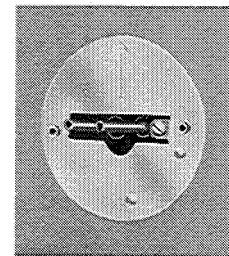


Figure-6

Obtain from kit (2) 5/32-inch tubes. Insert the tubes carefully into the "O" rings in the air head. Use the new "O" rings from the kit only if the existing "O" rings appear cracked, hard, deformed or not capable of sealing on the new tubes.

### Install "Stat" Mounting Parts

Collect parts shown in Fig. B and the screws indicated below for appropriate type of air head. Refer to step 6 under "Installation".

|                                  | Slots   | Screws           |
|----------------------------------|---------|------------------|
| <b>Flush Banjo</b>               | 13 & 10 | No. 6 x 1/2" (2) |
| <b>Surface Banjo<sup>a</sup></b> | or      | No. 6 x 1" (2)   |
| <b>Mortar Joint</b>              | 13 & 12 | No. 6 x 1" (2)   |

<sup>a</sup> Cut out section of base for tubes.

## HONEYWELL TP 901A, B

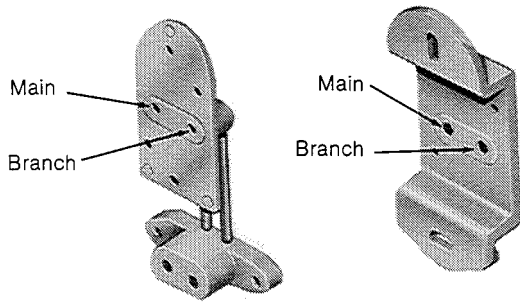


Figure-7 Flush Fittings.

### Collect Parts From Bag and Assemble

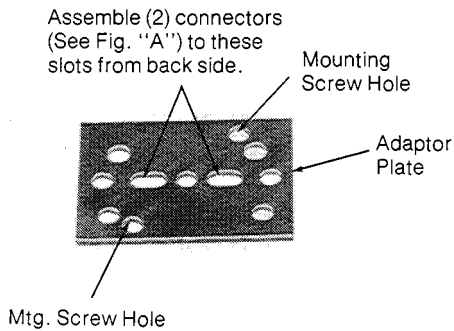


Figure-8

### Install Air Head Adapter

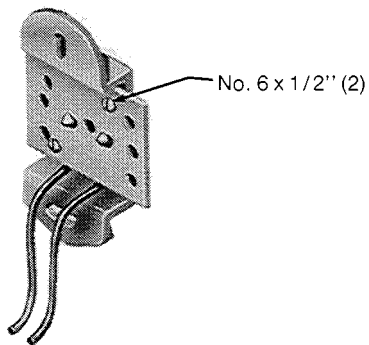


Figure-9

Attach the plate to the air head, with the rubber rings of the connectors positioned against the air head. Use (2) #6 x 1/2-inch machine screws.

### Install "Stat" Mounting Parts

Collect parts shown in Fig. B and the screws indicated below for appropriate type of air head. Refer to step 6 under "Installation".

|                      | Slots  | Screws             |
|----------------------|--------|--------------------|
| <b>Flush Fitting</b> | 8 & 15 | No. 6 x 1-1/2" (2) |
| <b>Plaster Back</b>  | 5 & 15 | No. 6 x 2" (2)     |

## HONEYWELL TP 901C

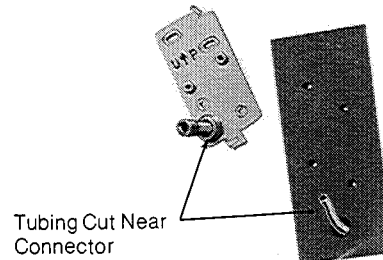


Figure-10 Mullion or Partition.

### Splice Plastic and Copper Tubing

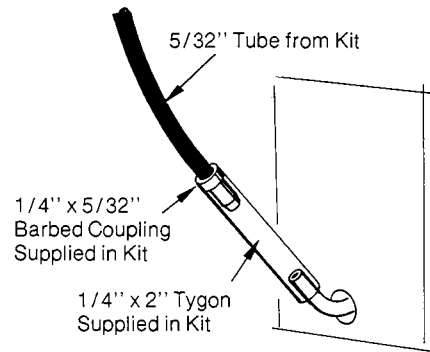


Figure-11

### Install "Stat" Mounting Parts

Collect parts shown in Fig. B and the screws indicated below for appropriate type of air head. Refer to step 6 under "Installation".

|                     | Slots  | Screws              |
|---------------------|--------|---------------------|
| <b>Flush</b>        | 3 & 14 | No. 8 Sht. Mtl. (2) |
| <b>Plaster Back</b> | 9 & 12 | No. 6 x 2" (2)      |

## HONEYWELL TP 931

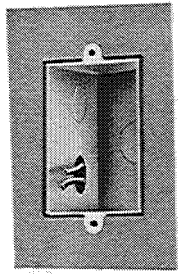
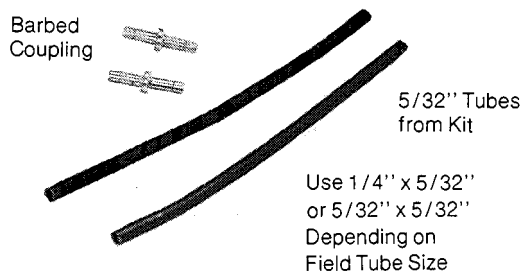


Figure-12 Flush Electrical Box.

### Collect Parts Shown



Note: 5/32" coupling usable on 3/16" tube.

Figure-13

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Note: 5/32" coupling usable on 3/16" tube.

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### Splice Plastic Tubing

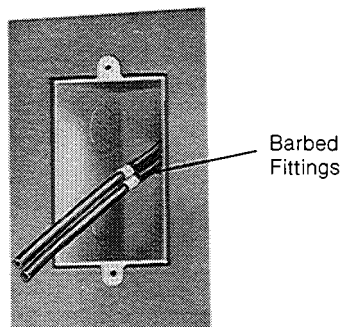


Figure-14

1. Insert 5/32 x 5/32 or 1/4 x 5/32-inch barbed couplings from the kit into plastic tubes.
2. Push the (2) 5/32-inch tubes, from the kit, onto the couplings.

### Install "Stat" Mounting Parts

Collect parts shown in Fig. B and the screws indicated below for appropriate type of air head. Refer to step 6 under "Installation".

Use Slots 3 and 17.

No. 6 x 1-1/2" Screws (2).

## HONEYWELL TP 970-974

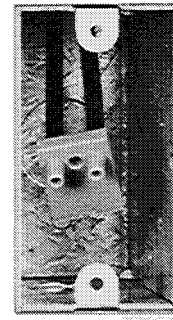


Figure-15 Deep Wall Box.

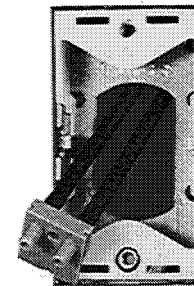


Figure-16 Shallow Wall Box with Plaster Ring.

### Cut Off Plastic Tubes Close to Air Head

1. Insert 5/32 x 5/32 or 1/4 x 5/32-inch barbed couplings, from the kit, into the plastic tubes leading from the air head.
2. Push the (2) 5/32-inch tubes, from the kit, onto the couplings.

### Install "Stat" Mounting Parts

Collect parts shown in Fig. B and the screws indicated below for appropriate type of air head. Refer to step 6 under "Installation".

Use Holes 22 and 23.

No. 6 x 1-1/2" Screws (2).

**JOHNSON T 400, 401, 403, 432, 460, 465,  
H 101, 102, 103, 105**

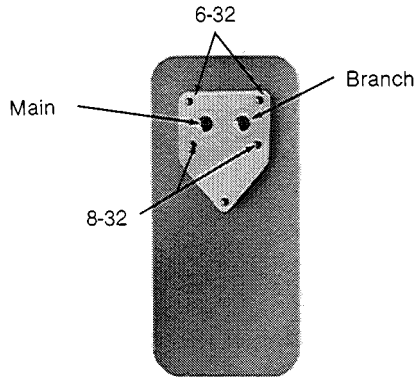


Figure-17 Flush Fitting.

**Collect Parts From Bag and Assemble**

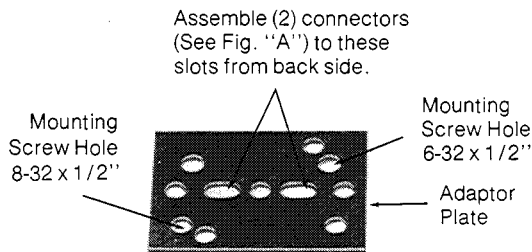


Figure-18

**Install Air Head Adaptor.**

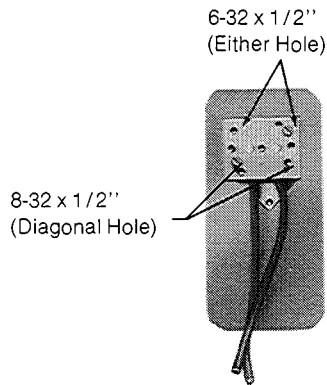


Figure-19

Attach the plate to the air head with the rubber rings of the connectors positioned against the air head. Use (1) #6-32 x 1/2-inch screw (upper right corner) and one #8-32 x 1/2-inch screw.

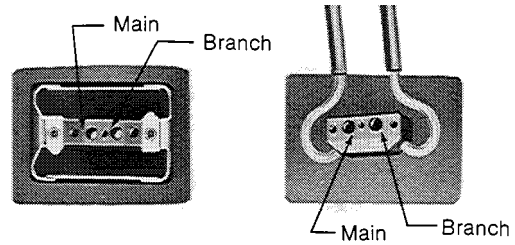
**Install "Stat" Mounting Parts.**

Collect parts shown in Fig. B and the screws indicated below for appropriate type of air head. Refer to step 6 under "Installation".

Use Slots 13 and 18.

No. 8 x 1-1/2" Sheet Metal Screws (2).

**JOHNSON H & T 4000, 5000**



**Flush Box**

**Surface Fitting**

Figure-20

When removing thermostat and mounting hardware, be sure to remove flat clamp plate and rubber "duck-bill" valve from the air head.

**Collect Parts From Bag and Assemble**

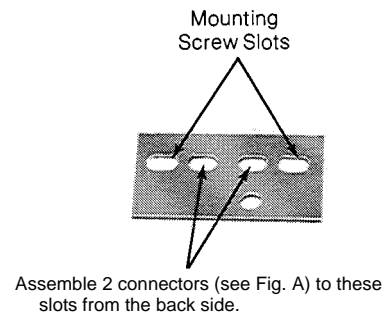


Figure-21

**Install Air Head Adapter**

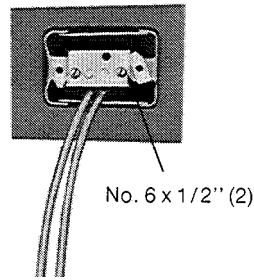


Figure-22

Attach the plate to the air head, with the rubber rings of the connectors positioned against the air head. Use (2) #6 x 1/2-inch screws.

**Install "Stat" Mounting Parts**

Collect parts shown in Fig. B and the screws indicated below for appropriate type of air head. Refer to step 6 under "Installation".

|                                | Slots                | Screws                          |
|--------------------------------|----------------------|---------------------------------|
| <b>Mortar Joint</b>            | 13 & 11 or<br>9 & 16 | No. 6 x 1-1/2" (2)              |
| <b>Flush Box</b>               |                      | No. 6 x 1" (2)                  |
| <b>Surface Box<sup>a</sup></b> | 5, 13 & 15           | No. 8 x 1-1/2" Sht. Mtl.<br>(3) |

<sup>a</sup> Clip out section of base for tubes.

## ROBERTSHAW T 18, 19, 32

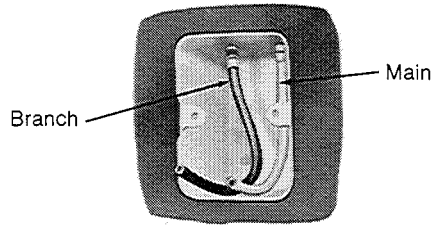
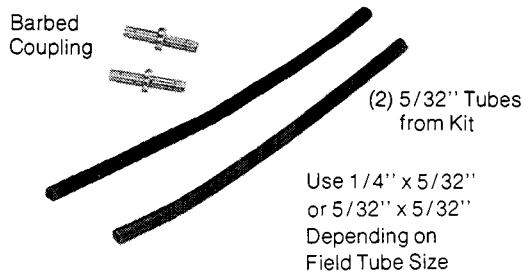


Figure-23 Flush Box.

### Collect Parts Shown



Note: 5/32" coupling usable on 3/16" tube.

### Splice Plastic Tubing

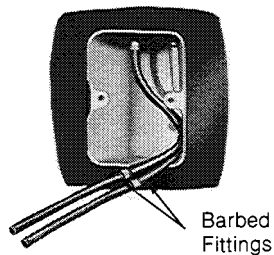


Figure-24

1. Insert 5/32 x 5/32 or 1/4 x 5/32-inch barbed couplings, from the kit, into the plastic tubes.
2. Push the (2) 5/32-inch tubes, from the kit, onto the couplings.

### Install "Stat" Mounting Parts

Collect parts shown in Fig. B and the screws indicated below for appropriate type of air head. Refer to step 6 under "Installation".

Use Slots 12 and 13.

No. 5 x 1-1/2" Screws (2).

## ROBERTSHAW H 10, 50, 52, T 15, 16, 21, 25, 26, 30, 31, 51, 52

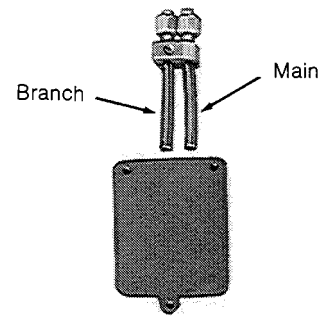


Figure-25 Surface Fitting.

### Collect Parts Shown

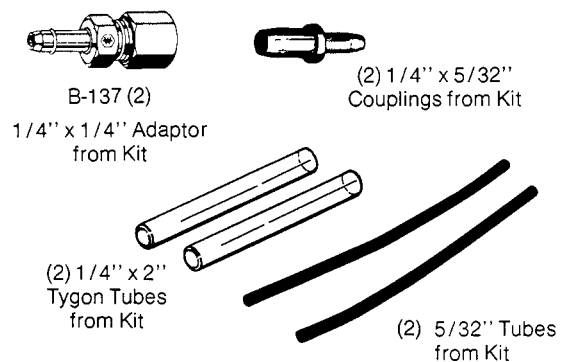


Figure-26

### Splice Plastic Tubing to Copper Tubing with Adaptors and Couplings

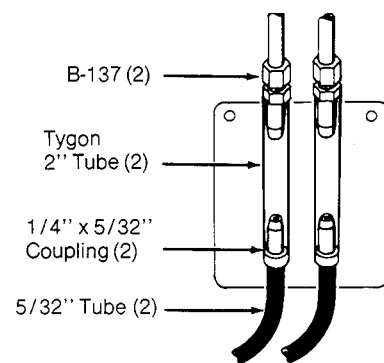


Figure-27

### Install "Stat" Mounting Parts

Collect parts shown in Fig B and the screws indicated below for appropriate type of air head. Refer to step 6 under "Installation".

Use Slots 1, 4 and 17.

No. 8 x 1-1/2" Sheet Metal Screws (3).

Cut out section in base for tubes.

**ROBERTSHAW H 10, 50, 52, T 15, 16, 21, 25, 26, 30, 31, 51, 52**

**ROBERTSHAW H 10, 50, 52, T 15, 16, 21, 25, 26, 30, 31, 51, 52**

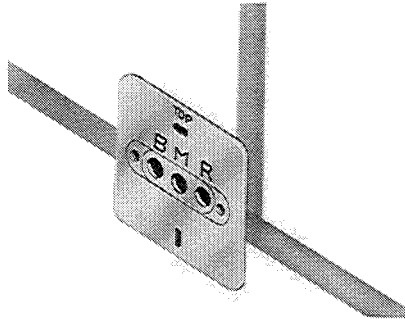
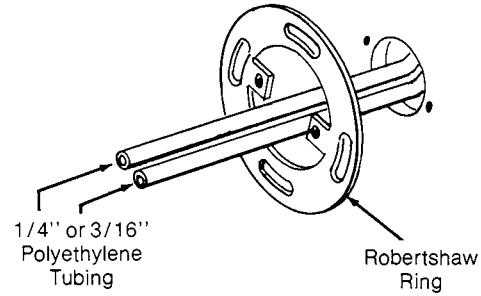


Figure-28 Mortar Joint.



1/4" or 3/16" Polyethylene Tubing  
Robertshaw Ring  
Same Mounting Ring on Wall, Mortar Joint Fitting, or Surface Mounting Fitting

**Collect Parts From Bag and Assemble**

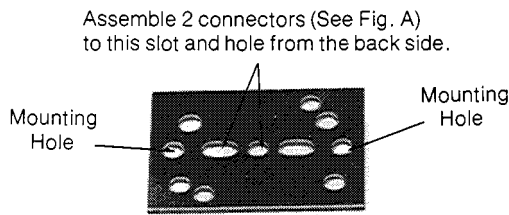


Figure-29

Assemble 2 connectors (See Fig. A) to this slot and hole from the back side.

**Install Air Head Adaptor**

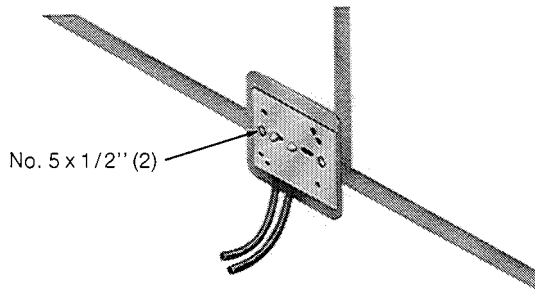


Figure-30

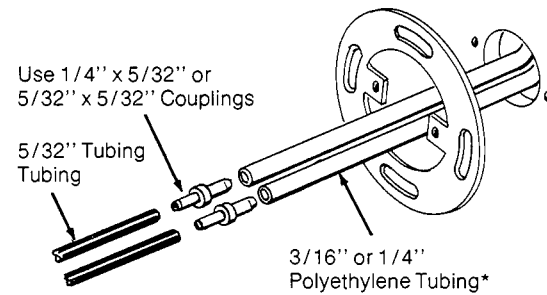
Attach the plate to the air head, with the rubber rings of the connectors positioned against the air head. Use (2) #5 x 1/2-inch screws.

**Install "Stat" Mounting Parts**

Collect parts shown in Fig. B and the screws indicated below for appropriate type of air head. Refer to step 6 under "Installation".

Use Slots 13 and 2.

No. 5 x 1-1/2" Screws (2).



Use 1/4" x 5/32" or 5/32" x 5/32" Couplings  
5/32" Tubing Tubing  
3/16" or 1/4" Polyethylene Tubing\*  
\*If 3/16" polyethylene, use two small barbed fittings in Kit.

Figure-31

**Install "Stat" Mounting Parts**

Collect parts shown in Fig. B and the screws indicated below for appropriate type of air head. Refer to step 6 under "Installation".

Use Slots 12 and 13.

No. 5 x 1-1/2" Screws (2).



## POWERS HT 186, TT 184, TH 180

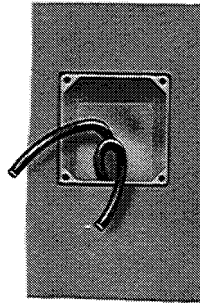


Figure-32 Flush Box.

### Collect Parts Shown

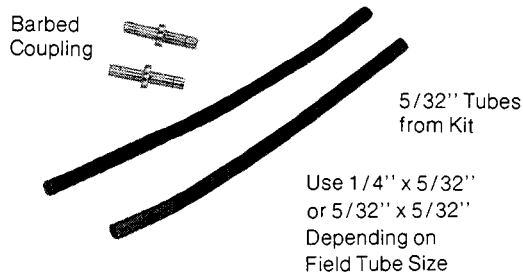


Figure-33

### Splice Plastic Tubing

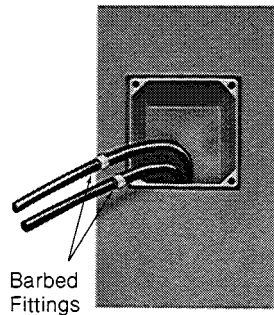


Figure-34

1. Insert 1/4 x 5/32 or 5/32 x 5/32-inch barbed coupling, from the kit, into the plastic tubes.
2. Push the (2) 5/32-inch tubes, from the kit, onto the couplings.

### Install "Stat" Mounting Parts

Collect parts shown in Fig. B and the screws indicated below for appropriate type of air head. Refer to step 6 under "Installation".

Use Slots 9 and 12 or 8 and 14.

No. 6 x 1-1/2" Screws (2).

## POWERS "D", MODEL 5, HU 186, 190, TT 180, HT 190

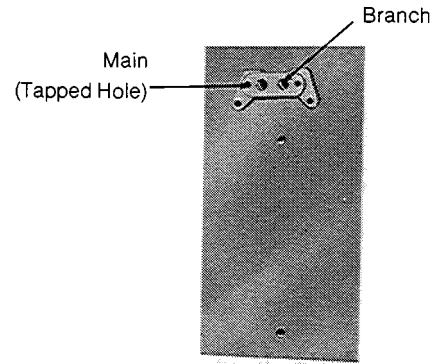
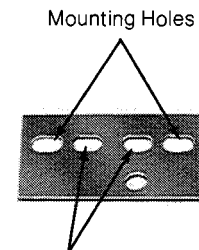


Figure-35 Flush Fitting.

### Collect Parts From Bag and Assemble



Assemble 2 connectors (See Fig. A) to these slots from the back side.

### Install Air Head Adaptor

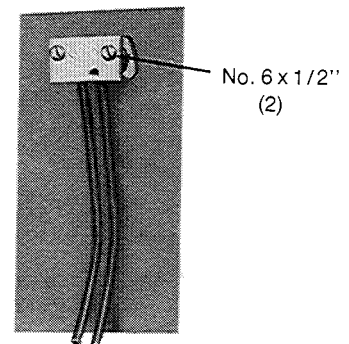


Figure-36

Attach the plate to the air head, with the rubber rings of the connectors positioned against the air head. Use (2) #6 x 1/2-inch screws.

### Install "Stat" Mounting Parts

Collect parts shown in Fig. B and the screws indicated below for appropriate type of air head. Refer to step 6 under "Installation".

Use Slots 7 and 20.

No. 10 x 2" Sheet Metal Screws (2).

**Table-2**

| Direct Schneider<br>Electric Replacement | OPTIONS FOR ENERGY CONSERVATION  |                        |                   |                               |                    |                               |
|--|----------------------------------|------------------------|-------------------|-------------------------------|--------------------|-------------------------------|
|  | Energy Conserving Dial<br>Ranges |                        | Two Setpoints     |                               |                    |                               |
|  | Heating                          | Cooling                | Day/Night         |                               | Heating/Cooling    |                               |
|  |                                  |                        | 1 Dial            | 2 Dials                       | 1 Dial             | 2 Dials                       |
| <b>TK-1001</b>                           | TK-1002<br>TK-1002-065           | TK-1003<br>TK-1003-078 | TK-1300<br>Series | TK-1710,<br>TK-1750<br>Series |                    |                               |
| <b>TK-1101</b>                           | TK-1102<br>TK-1102-065           | TK-1103<br>TK-1103-078 | TK-1380<br>Series | TK-1720,<br>TK-1760<br>Series |                    |                               |
| <b>TK-1201</b>                           |                                  |                        |                   |                               | TK-1530<br>TK-1570 | TK-1731<br>TK-1735<br>TK-1736 |
| <b>TK-1281<br/>(TK-1201-150)</b>         |                                  |                        |                   |                               | TK-1540<br>TK-1580 | TK-1741<br>TK-1745<br>TK-1746 |
| <b>TK-1301</b>                           | TK-1302<br>TK-1302-065           | TK-1303                |                   | TK-1710,<br>TK-1750<br>Series |                    |                               |
| <b>TK-1381<br/>(TK-1301-150)</b>         | TK-1382                          | TK-1383                |                   | TK-1720,<br>TK-1760<br>Series |                    |                               |
| <b>TK-1601</b>                           | TK-1602<br>TK-1602-065           | TK-1603                |                   |                               |                    |                               |
| <b>TK-1681<br/>(TK-1601-150)</b>         | TK-1682                          | TK-1683                |                   |                               |                    |                               |
| <b>TK-5001</b>                           | TK-5002                          | TK-5003                |                   |                               |                    |                               |
| <b>TK-5101</b>                           | TK-5102                          | TK-5103                |                   |                               |                    |                               |



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