**INSTALLATION INSTRUCTIONS**

FOR SINGLE STAGE UPFLOW AND DOWNFLOW GAS FURNACES

**IMPORTANT:** Please read these instructions and the furnace installation instructions carefully before starting the installation. Pay attention to all safety warnings and any other special notes highlighted in these instructions. Safety markings are used frequently to designate a degree or level of seriousness and should not be ignored. **WARNING** indicates a potentially hazardous situation that if not avoided, could result in personal injury or death. **CAUTION** indicates a potentially hazardous situation that if not avoided, may result in minor or moderate injury or property damage.

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![WARNING:](image)

This twinning kit must be installed by a qualified service technician in accordance with these instructions and all codes having jurisdiction. Failure to follow these instructions could result in possible damage to equipment, serious personal injury, or death.

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**ABOUT THE TWINNING KIT**

This twinning kit is designed to operate two single stage furnaces with PSC motors, and to have the blower operation synchronized between two identical controls for installations where two furnaces are fed into the same ductwork. **NOTE:** This kit cannot be used with variable speed motors.

- With the use of the twinning boards, two furnaces will operate the blowers at the same speeds all the time whenever the blower is used.
- Each furnace will have a twinning board that is connected to the furnace board with a wire harness. The twinning boards will have the twin connection on each furnace connected with a field supplied wire. Both furnaces can also be wired in parallel.
- One furnace can be used for one stage of heating and the other furnace can be used for the second stage of heating. The installer also has the choice of running one furnace only or both furnaces.
- This twinning kit requires the use of single stage control (part no 624742) and will not operate with earlier versions. Please contact your distributor for the latest control.
- Twinned furnaces must be properly grounded according to local codes. Both furnaces must share the same ground for proper operation. **Do not use gas piping as an electrical ground!**
- Both furnaces must have a common return duct and common supply duct.
- Both furnaces must be the same phase and on the same leg of power.

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**INSTALLING THE TWINNING KIT**

1. Turn off all electrical power to the furnaces.
2. Install the twinning board on the control bracket.
3. Mount the board and bracket in the furnace. See Figure 1 for placement of twinning board according to furnace type.
4. Carefully drill a 1 inch hole in the blower deck (upflow furnaces only).
5. Connect the 6 pin harness to the expansion ports on the twin board and the the furnace control board. See Figure 2.
6. Connect the thermostat wires to the furnace control board. The C connection must be made between the twinned furnaces to ensure proper performance. See Figure 2.
   - **One stage heating:** The W connection on each furnace must be connected together and then connected to the W connection of the thermostat. This will cause both furnaces to ignite at the same time giving one stage heating.
   - **Two stage heating:** The W connection on one furnace must be connected to the W1 connection of the thermostat. The W connection of the second furnace must be connected to the W2 connection of the thermostat. This will cause one furnace to ignite for one stage of heating and the second furnace to ignite for the second stage of heating. In both cases the blowers will run at the same time and at the same speeds.
7. Attach a wire between the two twin terminals on the twinning control boards (Figure 2). Use field supplied wire and two 3/16" wire terminals supplied with the kit.
8. Adjust the blower speed switches (if necessary) on both furnace control boards. **NOTE:** The fan speeds for heating and cooling MUST be the same or the control will not operate properly.
9. Restore electrical power to the furnaces and perform startup procedures as outlined in the furnace installation instructions.
10. Verify the Green LED on the twinning control board. For normal operation, the light will stay constantly ON. Refer to Table 2 for fault code descriptions.

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**Table 1. Materials List**

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>PART #</th>
<th>QTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Twinning Control Board</td>
<td>624731</td>
<td>2</td>
</tr>
<tr>
<td>Bracket</td>
<td>2B3691</td>
<td>2</td>
</tr>
<tr>
<td>Harness</td>
<td>2B3701</td>
<td>2</td>
</tr>
<tr>
<td>3/16&quot; Terminals</td>
<td>631662</td>
<td>4</td>
</tr>
<tr>
<td>Kit Installation Instructions</td>
<td>709050</td>
<td>1</td>
</tr>
<tr>
<td>Screws</td>
<td>600255</td>
<td>4</td>
</tr>
</tbody>
</table>

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![Table 1](image)
The installer performing this work assumes all responsibility for this sub-base kit. These instructions are primarily intended to assist qualified individuals experienced in the proper installation of these components. Some local codes require licensed installation/service personnel for this type of equipment. Safety should always be the deciding factor when installing this product and using common sense plays an important role as well. Improper installation of the components or failure to follow safety warnings could result in serious injury, death, or property damage. After completing the installation, return these instructions to the Homeowner’s Package for owner-user’s future reference.

**Figure 1. Installation of Twinning Control Board**

**Figure 2. Twinning Control Board Connections**

**Table 2. Fault Codes**

<table>
<thead>
<tr>
<th>Diagnostic Description</th>
<th>Green LED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control Fault (or no power)</td>
<td>Off</td>
</tr>
<tr>
<td>Normal Operation</td>
<td>On</td>
</tr>
<tr>
<td>Twin Fault</td>
<td>Flash</td>
</tr>
<tr>
<td>Communications Fault</td>
<td>Flash</td>
</tr>
</tbody>
</table>