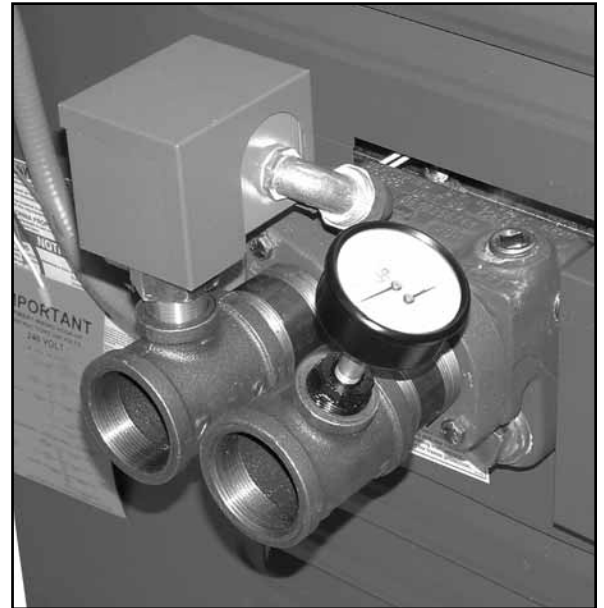


# INSTALLATION INSTRUCTIONS

## Flow Switch & Temperature/ Pressure Gauge



**For Atmospheric  
Models C-R206AE-406AE**

**For Low NOx  
Models C-R207AE-407AE**

**FOR YOUR SAFETY:** Do not store or use gasoline or other flammable vapors and liquids or other combustible materials in the vicinity of this or any other appliance. To do so may result in an explosion or fire.

**WHAT TO DO IF YOU SMELL GAS:**

- Do not try to light any appliance.
- Do not touch any electrical switch; do not use any phone in your building.
- Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
- If you cannot reach your gas supplier, call the fire department.

Installation and service must be performed by a qualified installer, service agency or the gas supplier.

**NOTE:** Not for use with millivolt units.

**NOTE:** These instructions are intended primarily for use by qualified personnel specifically trained and experienced in the installation of this type of heating equipment and related system components. Installation and service personnel must be licensed in some states. Persons not qualified shall not attempt to install this equipment nor attempt repairs according to these instructions.

**DANGER - SHOCK HAZARD:** Make sure electrical power to the heater is disconnected to avoid potential serious injury or damage to components.

## Kit Contents

Each kit includes:

- (1) Temperature and Pressure gauge
- (1) Flow Switch
- (1) Paddle
- (1) Screw, #6-32 x 3/16
- (1) Cover Assembly
- (1) Assembly, Wire Harness, 206A-407A
- (2) Female spade connector
- (2) Male spade connector

## Field Supplied Items

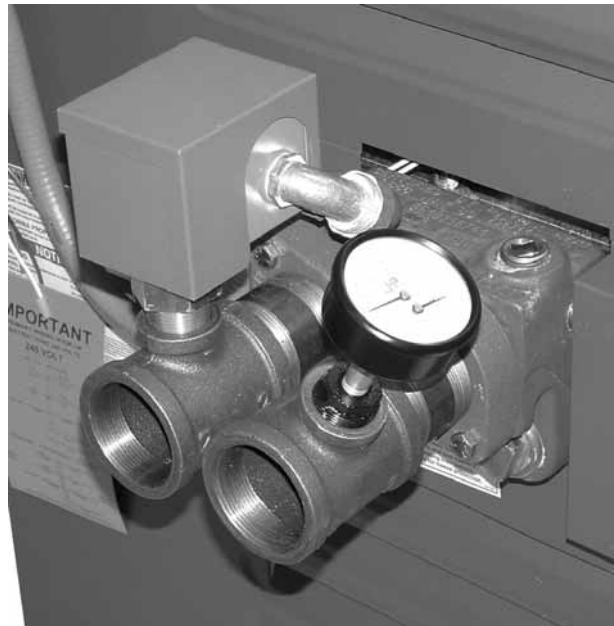
- (2) 2" NPTx3" nipples\*
- (2) 2"x2"x1" tees\*
- (1) 1" NPTx1/4" NPT reducing bushing\*
- 24" conduit and fittings

**\*Pipe fittings may be brass or CPVC. DO NOT use black iron fittings.**

This kit is primarily intended for jurisdictions requiring the addition of a flow switch and/or temperature and pressure gauge on pool heaters.

## Before Starting

- 1) Turn off power to the heater at the circuit breaker.
- 2) Turn off gas supply.
- 3) Shut off the water supply to the heater.
- 4) Allow heater to cool down before attempting work.



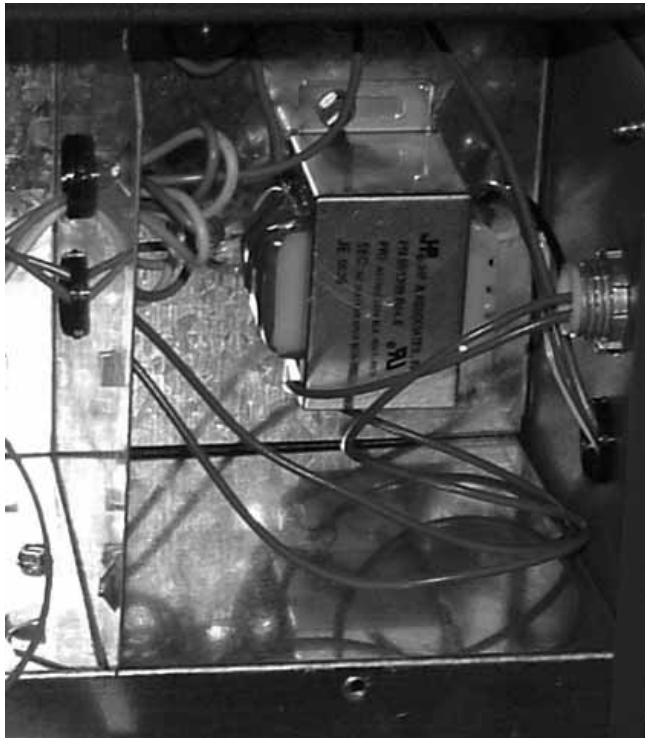
**Fig. 1: Flow Switch and Temperature and Pressure Gauge**

## INSTALLATION

**NOTE:** The flow switch should be mounted on the inlet piping of the heater to reduce the chance of installation issues. The Temperature and Pressure Gauge **MUST** be mounted at the outlet of the heater.

1. Remove main front panel door and set aside.
2. Remove the front control panel screws (2 each located at the ends of the panel). Lower front panel to expose the main circuit board.
3. Remove transformer cover located on either the upper right or left side.
4. Locate conduit opening above power conduit opening on the waterside of the heater.
5. Locate inlet/outlet header.
6. Remove retaining bolts from at least one of the inlet/outlet header flanges (removing both flanges is recommended for ease of installation). Retain gaskets for reinstallation.
7. Cut into or remove inlet and outlet piping and install a tee (not supplied) on each pipe with the branch side pointing up. The tee must be full size for the heater water connections. However the branch may be reduced but no smaller than 1" NPT.

- a. If branch of tee is full size, DO NOT use more than one reducing bushing or flow switch may not function properly.
8. Install a 1"NPT x 1/4" NPT reducing bushing (not supplied) into the heater outlet tee and install the temperature and pressure gauge.
    - a. Rotate the gauge face to a position for easy viewing. See Fig. 1.
  9. Install the flow switch paddle onto the flow switch stem in accordance with the directions supplied with the flow switch. Install the flow switch into the 1" NPT opening of the heater inlet tee.
    - a. Do not use Teflon tape as a thread sealant.
  10. Be sure to verify the flow switch is positioned correctly to sense the proper direction of water flow into the heater.
    - a. Arrow on flow switch indicates direction of flow.
  11. Route the supplied wire harness through the upper control panel as indicated in Fig. 2. The "fork" connector ends must remain outside of the heater.
  12. Remove the flow switch cover and install the "fork"



**Fig 2: Transformer Box**

connectors onto the "common" and "normally open" connections.

- a. The switch must electrically close upon sufficient flow of water.
- b. You must route the external wires for the flow switch through the proper conduit (not supplied). See Fig. 3.



**Fig. 3: Conduit**

13. Cut the white "spare" jumper located on the back of the circuit board in the upper control panel. See Fig. 4.
14. Strip 1/4" of insulation from each end of the white "spare" jumper cut in the previous step. Install and crimp a female spade connector (supplied in kit) on each stripped end.
  - a. Ensure the connectors being crimped are of the proper size and shape to accept the connectors on the end of the wire harness.
  - b. Ensure the crimp is tight.
15. Plug the connectors from the flow switch wire harness into the connectors just installed on the white "spare" jumper.
16. Verify with a multi-meter that each of the wires in the harness has continuity and was not damaged during installation.



**Fig 4: Spare Connection**

- a. If continuity is not present in each wire, repair and/or replace as necessary.
17. Reinstall flow switch cover.
18. Install the cover assembly over the flow switch.
19. Reinstall header flanges onto water piping and reattach them to the inlet/outlet header of the heater using the gasket(s) removed in step 6.
20. Reinstall the sheet metal transformer cover.
21. Close front control panel and reinstall the four screws (two at each end).
22. Reinstall front main panel door onto the heater.
23. Turn water on to the heater and check for leaks.
  - a. If leaks are found, repair immediately.
24. Turn on gas to the heater.
25. Turn on power to the heater.
26. Cycle the heater a few times to verify flow switch operation.