

# USER'S INFORMATION MANUAL

# XVers

CONDENSING FIRE TUBE



**Models 0856 - 3006**  
**Type H**



**WARNING:** If the information in this manual is not followed exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

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.

**AVERTISSEMENT:** Assurez-vous de bien suivre les instructions données dans cette notice pour réduire au minimum le risque d'incendie ou d'explosion ou pour éviter tout dommage matériel, toute blessure ou la mort.

Ne pas entreposer ni utiliser d'essence ni d'autres vapeurs ou liquides inflammables dans le voisinage de cet appareil ou de tout autre appareil.

#### QUE FAIRE SI VOUS SENTEZ UNE ODEUR DE GAZ:

- Ne pas tenter d'allumer d'appareils.
- Ne touchez à aucun interrupteur. Ne pas vous servir des téléphones dans le bâtiment où vous vous trouvez.
- Appelez immédiatement votre fournisseur de gaz depuis un voisin. Suivez les instructions du fournisseur.
- Si vous ne pouvez rejoindre le fournisseur de gaz, appelez le service des incendies.

L'installation et l'entretien doivent être assurés par un installateur ou un service d'entretien qualifié ou par le fournisseur de gaz.

**Raypak**  
A Rheem Company

# WARNINGS

## Pay Attention to These Terms

<b>▲ DANGER</b>	Indicates the presence of immediate hazards which will cause severe personal injury, death or substantial property damage if ignored.
<b>▲ WARNING</b>	Indicates the presence of hazards or unsafe practices which could cause severe personal injury, death or substantial property damage if ignored.
<b>▲ CAUTION</b>	Indicates the presence of hazards or unsafe practices which could cause minor personal injury or product or property damage if ignored.
<b>CAUTION</b>	CAUTION used without the warning alert symbol indicates a potentially hazardous condition which could cause minor personal injury or product or property damage if ignored.
<b>NOTE</b>	Indicates special instructions on installation, operation, or maintenance which are important but not related to personal injury hazards.

**▲ DANGER:** Make sure the gas on which the boiler will operate is the same type as that specified on the heater rating plate.

**▲ WARNING:** Boiler using propane gas are different from natural gas models. A natural gas heater will not function safely on propane and vice versa. Conversions of boiler gas type should only be made by qualified installers using factory supplied components. The heater should only use the fuel type in accordance with listing on rating plate. Any other fuel usage will result in death or serious personal injury from fire and/or explosion.

**▲ WARNING:** Should overheating occur or the gas supply valve fail to shut, do not turn off or disconnect the electrical supply to the heater. Instead, shut off the gas supply at a location external to the heater.

**▲ WARNING:** Do not use this heater if any part has been under water. Immediately call a qualified service technician to inspect the heater and to replace any part of the control system and any gas control which has been under water.

**▲ WARNING:** To minimize the possibility of improper operation, serious personal injury, fire, or damage to the heater:

- Always keep the area around the heater free of combustible materials, gasoline, and other flammable liquids and vapors.
- Heater should never be covered or have any blockage to the flow of fresh air to the heater.

**CAUTION:** This boiler requires forced water circulation when the burner is operating. See I&O Manual for flow rate information. Severe damage will occur if the heater is operated without proper water flow circulation.

**▲ WARNING:** Risk of electrical shock. More than one disconnect switch may be required to de-energize the equipment before servicing.

**NOTE:** Minimum pipe size for the heater inlet/outlet connections is dependent on the equivalent length of piping between the load loop and the heater loop, the operating conditions and the size of the heater.

**▲ WARNING:** Both natural gas and propane have an odorant added to aid in detecting a gas leak. Some people may not physically be able to smell or recognize this odorant. If you are unsure or unfamiliar with the smell of natural gas or propane, ask your local gas supplier. Other conditions, such as "odorant fade," which causes the odorant to diminish in intensity, can also hide, camouflage, or otherwise make detecting a gas leak by smell more difficult.

**▲ CAUTION:** If this boiler is to be installed in a negative or positive pressure equipment room, there are special installation requirements. Consult factory for details.

Revision 2 reflects the following changes:



Removed California Proposition 65 warning.

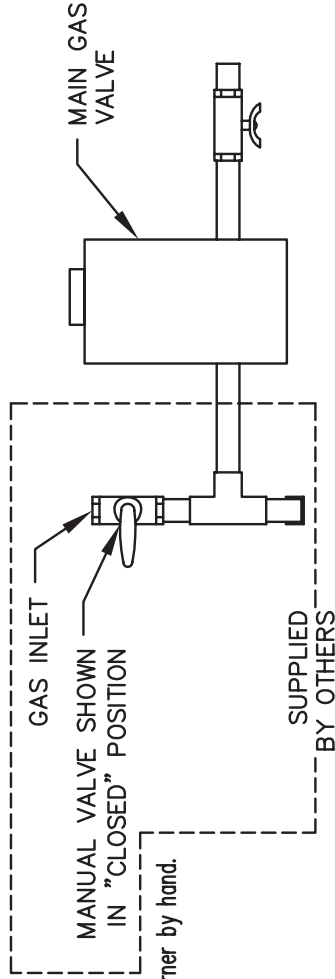
## FOR YOUR SAFETY READ BEFORE OPERATING

**WARNING:** If you do not follow these instructions exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

- A. This appliance does not have a pilot. It is equipped with an ignition device which automatically lights the burner. Do not try to light the burner by hand.
- B. **BEFORE OPERATING:** Smell all around the appliance area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor.  
**WHAT TO DO IF YOU SMELL GAS—**
  - \* Do not try to light any appliance.
  - \* Do not touch any electric switch;
  - \* Do not use any phone in your building.
  - \* Immediately call your gas supplier from a neighbor's phone. Follow gas supplier's instructions.
- \* If you cannot reach your gas supplier, call the fire department.
- C. Use only your hand to push in or move the gas control lever. Never use tools. If the lever will not push in or move by hand, don't try to repair it, call a qualified service technician. Force or attempted repair may result in a fire or explosion.
- D. Do not use this appliance if any part has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system and any gas control which has been under water.

## OPERATING INSTRUCTIONS

1. **STOP!** Read the safety information on this label.
2. Turn off all electric power to the appliance.
3. This appliance is equipped with an ignition device which automatically lights the burner. Do not try to light the burner by hand.
4. Turn manual valve clockwise  to "CLOSED" position.
5. Wait five (5) minutes to clear out any gas. Then smell for gas, including near the floor. If you smell gas, **STOP!** Follow "B" in the safety information above on this label. If you don't smell gas, go to the next step.
6. Turn manual valve counter clockwise  to "OPEN" position.
7. Turn on all electric power to the appliance.



8. If the appliance will not operate, follow the instructions below "To Turn Off Gas To Appliance" and call your service technician or gas supplier.

## TO TURN OFF GAS TO APPLIANCE

1. Turn off all electric power to the appliance if service is to be performed.
2. Turn manual valve clockwise  to "CLOSED" position.

P/N 901810 REV 1

## POUR VOTRE SÉCURITÉ LISEZ AVANT DE METTRE EN MARCHÉ

**AVERTISSEMENT:** Quiconque ne respecte pas à la lettre les instructions dans la présente notice risque de déclencher un incendie ou une explosion entraînant des dommages, des blessures ou la mort.

- A. Cet appareil ne comporte pas de veilleuse. Il est muni d'un dispositif d'allumage qui allume automatiquement le brûleur. Ne tentez pas d'allumer le brûleur manuellement.
  - B. AVANT DE FAIRE FONCTIONNER, reniflez tout autour de l'appareil pour déceler une odeur de gaz. Reniflez près du plancher, car certains gaz sont plus lourds que l'air et peuvent s'accumuler au niveau du sol.
- QUE FAIRE SI VOUS SENTEZ UNE ODEUR DE GAZ:**
- Ne pas tenter d'allumer d'appareil.
- Ne touchez à aucun interrupteur; ne pas vous servir des téléphones se trouvant dans le bâtiment.
  - Appelez immédiatement votre fournisseur de gaz depuis un voisin. Suivez les instructions du fournisseur.
  - Si vous ne pouvez rejoindre le fournisseur, appelez le service des incendies.
- C. Ne poussez ou tournez la manette d'admission du gaz qu'à la main; ne jamais utiliser d'outil. Si la manette reste coincée, ne pas tente de la réparer; appelez un technicien qualifié. Le fait de forcer la manette ou de la réparer peut déclencher une explosion ou un incendie.
  - D. N'utilisez pas cet appareil s'il a été plongé dans l'eau, même partiellement. Faites inspecter l'appareil par un technicien qualifié et remplacez toute partie du système de contrôle et toute commande qui ont été plongés dans l'eau.

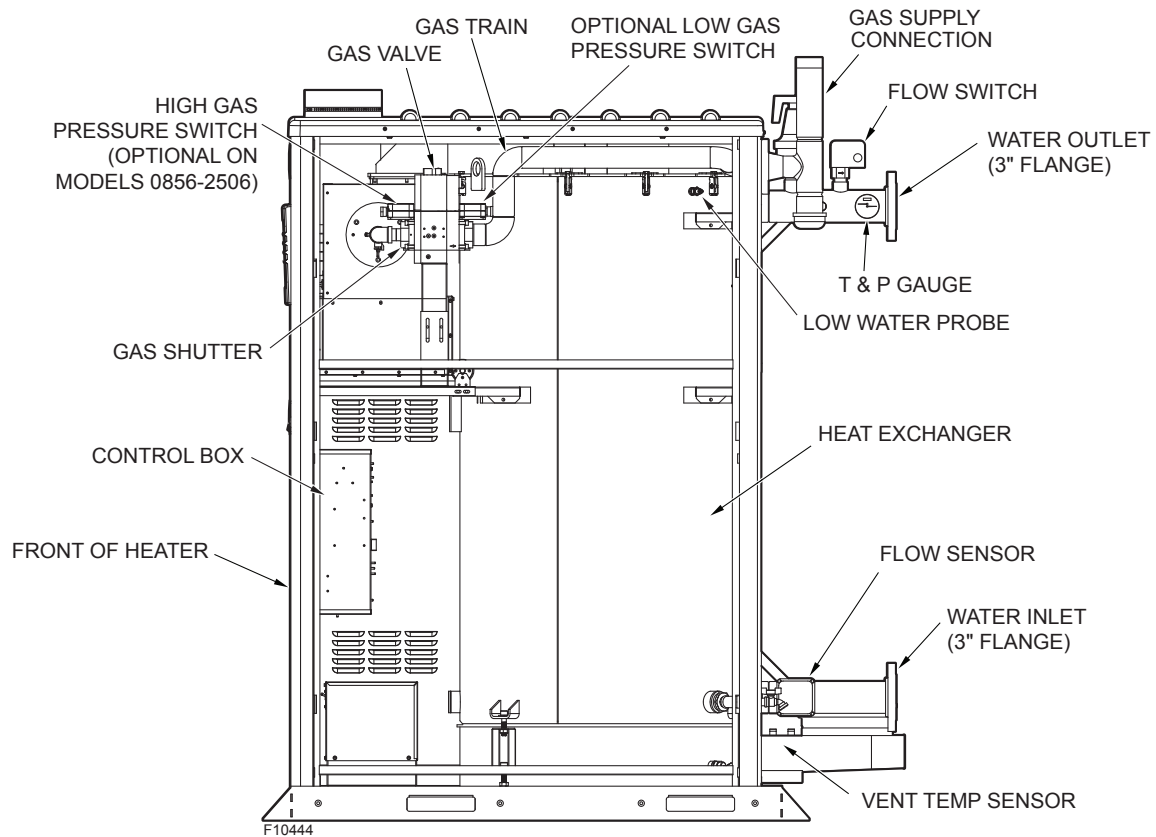
## INSTRUCTIONS DE MISE EN MARCHÉ

1. ARRÊTEZ! Lisez les instructions de sécurité sur la portion supérieure de cette étiquette.
2. Réglez le thermostat à la température la plus basse.
3. Coupez l'alimentation électrique de l'appareil.
4. Cet appareil ne comporte pas de veilleuse. Il est muni d'un dispositif d'allumage qui allume automatiquement le brûleur. Ne tentez pas d'allumer le brûleur manuellement.
5. Enlever le panneau de porte du réchauffeur.
6. Enfoncer légèrement le bouton de commande de gaz et le tourner dans le sens horaire à la position (Off).
7. Attendre cinq (5) minutes pour laisser échapper tout le gaz. Reniflez tout autour de l'appareil, y compris près du plancher, pour déceler une odeur de gaz. Si vous sentez une odeur de gaz, ARRÊTEZ! Pas-sez à l'étape B des instructions de sécurité sur la portion supérieure de cette étiquette. S'il n'y a pas d'odeur de gaz, passer à l'étape suivante.
8. Tourner le bouton de commande de gaz dans le sens antihoraire à la position (ON).
9. Reposer le panneau de porte du réchauffeur.
10. Rétablir toutes les alimentations électriques de l'appareil.
11. Réglez le thermostat à la température désirée.
12. Si l'appareil ne se met pas en marche, suivre les instructions intitulées "Comment couper l'admission de gaz de l'appareil" et appelez un technicien qualifié ou le fournisseur de gaz.

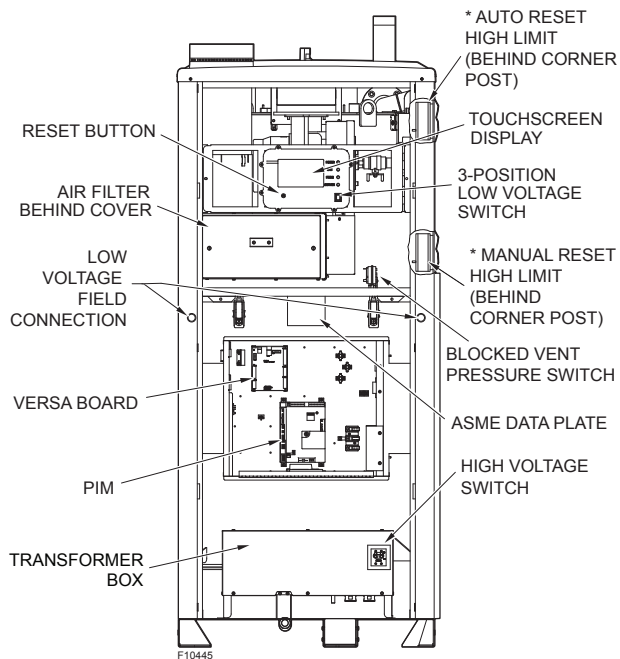
## COMMENT COUPER L'ADMISSION DE GAZ DE L'APPAREIL

1. Réglez le thermostat à la température la plus basse.
2. Coupez l'alimentation électrique de l'appareil s'il faut procéder à l'entretien.
3. Enlever le panneau de porte du chauffe-eau.
4. Tourner le bouton de commande de gaz dans le sens horaire à la position (OFF). S'assurer que le bouton reste contre l'arrêt.
5. Replacer le panneau de porte du chauffe-eau.

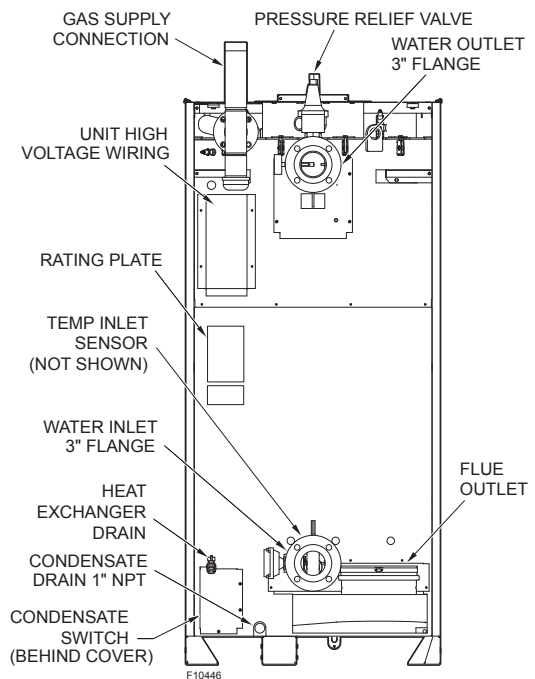
# Component Locations



**Fig. 1: Component Locations — Sides**



**Figure 2. Component Locations — Front View**



**Figure 3. Component Locations — Rear View**

# MAINTENANCE

## Suggested Minimum Maintenance Schedule

Regular service by a qualified service agency and maintenance must be performed to ensure maximum operating efficiency.

Maintenance as outlined below may be performed by the owner.

### Daily

1. Check that the area where the boiler is installed is free from combustible materials, gasoline, and other flammable vapors and liquids.
2. Check for and remove any obstruction to the flow of combustion or ventilation air to boiler.

### Monthly

1. Check for piping leaks around pumps, mixing valves, relief valves, and other fittings. If found, repair at once. DO NOT use petroleum-based stop-leak compounds.
2. Visually inspect venting system for proper function, deterioration or leakage.
3. Visually inspect for proper operation of the condensate drains in the venting, and the internal condensate trap. Clean trap as necessary. If leaks are observed, repair at once.
4. Check air vents for leakage.

### Yearly (Beginning Of Each Heating Season)

Schedule annual service call by qualified service agency.

1. Visually check top of vent for soot. Call service person to clean. Some sediment at bottom of vent is normal.
2. Visually inspect venting system for proper function, deterioration or leakage. Ensure that condensate

drain is inspected and ensure that condensate is being directed to appropriate condensate treatment system or drain, as required by local codes.

3. Check that area is free from combustible materials, gasoline, and other flammable vapors and liquids.
4. Check for and remove any obstruction to the flow of combustion or ventilation air to boiler.
5. Follow pre-start-up check in the Start-up section.
6. Check flame strength signal as noted on display. Remove and visually inspect hot surface igniter and sensor for damage, cracking or debris build-up.
7. Check operation of safety devices. Refer to manufacturers' instructions.
8. Follow oil-lubricating instructions on pump (if re-quired). Over-oiling will damage pump. Water-lubricated circulators do not need oiling.
9. To avoid potential of severe burn, DO NOT REST HANDS ON OR GRASP PIPES. Use a light touch; return piping will heat up quickly.
10. Check blower and blower motor
11. Check for piping leaks around pumps, relief valves and other fittings. Repair, if found. DO NOT use petroleum-based stop-leak.

### Periodically

1. Check relief valve. Refer to manufacturer's instructions on valve.
2. Test low water cut-off (if equipped). Refer to manufacturer's instructions.

## Preventive Maintenance Schedule

The following procedures are recommended and are good practice for all XVers installations.

### Daily

1. Check gauges, monitors and indicators.
2. Check instrument and equipment settings. (See "Post Start-Up Check" in the I&O Manual.)

## Weekly

For low-pressure boilers, test low-water cut-off device. (With boiler in pre-purge, depress the low water cut-off test button. Boiler should shut-off and ignition fault light should come on. Depress reset button on front of boiler control panel to reset).

## Monthly

1. Check flue, vent, stack, or outlet dampers.
2. Test blower air pressure. (See the I&O Manual.) Replace the filter when the intake air pressure increases by  $-0.5$  in. WC from the reading recorded on the start-up checklist.
3. Test high and low gas pressure interlocks (if equipped). (See "Safety Inspection" in the I&O Manual.)

## Semi-Annually

1. Recalibrate all indicating and recording gauges.
2. Check flame failure detection system components.
3. Check firing rate control by checking the manifold pressure. (See "Manifold Check" in the I&O Manual.)
4. Check piping and wiring of all interlocks and shut-off valves.
5. Check air filter and replace as necessary.

## Annually

1. Test flame failure detection system and pilot turn-down.
2. Test high limit and operating temperature. (See "Post Start-Up Check" in the I&O Manual.)
3. Check flame sensor.
4. Conduct a combustion test at high and low fire. Carbon dioxide should be 8.6 to 9.4% at full fire for natural gas, and between 9.9 to 10.7% for propane gas. Carbon monoxide should be  $<100$  ppm.

5. Check valve coil for 60 cycle hum or buzz. Check for leaks at all valve fittings using a soapy water solution (while boiler is operating). Test other operating parts of all safety shut-off and control valves and increase or decrease settings (depending on the type of control) until the safety circuit opens. Reset to original setting after each device is tested.
6. Perform leakage test on gas valves (See I&O Manual).
7. Inspect and clean burner using shop air (See I&O Manual).

## As Required

1. Recondition or replace low water cut-off device.
2. Check drip leg and gas strainers.
3. Check flame failure detection system. (See "Post Start-Up Check" in the I&O Manual.) Verify high and low fire flame signal, compare to start-up data.
4. Check flame signal strength as noted on display.
5. Check igniter (Resistance reading should be 40-75 ohms at  $77^{\circ}\text{F}$  ( $25^{\circ}\text{C}$ )).
6. Check firing control by checking manifold pressure. (See "Manifold Check" on I&O Manual).
7. Test safety/safety relief valves in accordance with ASME Heater and Pressure Vessel Code Section IV.
8. Inspect filter and replace as necessary.



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