

INSTALLATION INSTRUCTIONS

MODULATING GAS VALVE & SOLENOID VALVE REPLACEMENT KIT XVERS (POWERED BY KOR) BOILERS (SIZES: 3507 & 4007 ONLY)

⚠ WARNING

These instructions are 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 may be required to be licensed in some states. Persons not qualified shall not attempt to install this equipment nor attempt repairs according to these instructions.

⚠ WARNING

Make sure water, gas, and power have been turned OFF before making any repairs or servicing this equipment. Make sure the heat exchanger is not under any pressure before attempting to service this part. Allow the appliance to cool before attempting this installation.

⚠ DANGER

SHOCK HAZARD: Make sure the electrical power to the unit is disconnected to avoid damage to components, potential serious personal injury or death.

SCOPE: The details of this document provide information for replacing the modulating gas valve and solenoid valve on Raypak XVers (powered by KOR) boilers (sizes: 3507 and 4007 only).

RAYPAK INCLUDED PARTS:

Kit Number	Description	Qty.
100-10009205	Dungs Modulating Gas Valve 110VAC	1
	Solenoid Valve	1
	Rubber Tubing (1/4")	4 ft.
	Cable Tie (3-7/8")	4
	Tee (1/4")	1
	Cap (1/4")	1
	Screw (10-24 X 3/8")	2

TOOLS REQUIRED:

Description
• 6 mm Hex Key
• Calibrated Torque Wrench (capable of 134 in-lb)
• Slotted Screwdriver
• Phillips Head Screwdriver

PREPARATION

1. Turn off the electrical power to the unit at the breaker panel and at the unit's power switch.
2. Turn off gas to the unit's manual shut-off valve.
3. Close the incoming water valves.

NOTE: Before disconnecting any wires from the gas valve, take a clear photo or label each wire according to its terminal location to ensure accurate reassembly.

NOTE: Two boiler configurations may be encountered in the field. One configuration includes a tubing support bracket mounted on the rear of the power supply box to secure additional tubing. The second configuration does not include this bracket. Both configurations use the same installation procedure for the replacement gas and solenoid valves mentioned herein.

4. Release the four (4) snap fasteners to remove the unit's front panel. Vertically lift the side-panels from the unit. Place the panels aside for re-assembly.

DISASSEMBLY

5. Using a slotted screwdriver, remove the retaining screw securing the gas valve's wiring cover. Carefully lift and detach the wiring cover to expose and unplug the four (4) terminal connections. See **Figure 1**.
6. Using a 6 mm hex key, remove the eight (8) socket head cap screws securing the gas valve to the inlet and outlet flanges. Each flange is fastened with four (4) screws. See **Figure 1**.
7. Detach the flex tubing from the bottom of the gas valve port. See **Figure 2**.
8. Detach the flex tubing from the left and right sides of the installed solenoid valve. See **Figure 3**.
9. Remove the gas valve and the existing solenoid valve from the unit (two screws hold this valve in place).
10. Identify the two red wires attached to the solenoid valve, follow them to the wire harness connection, and disconnect the terminals.

INSTALLATION

11. Position the gas valve between the inlet and outlet flanges. Install the eight (8) socket head cap screws finger-tight, ensuring the gas flow arrow on the valve body points toward the pressure switch.
12. Torque all screws in a crisscross pattern to 134 in/lbs. +/- 10%.

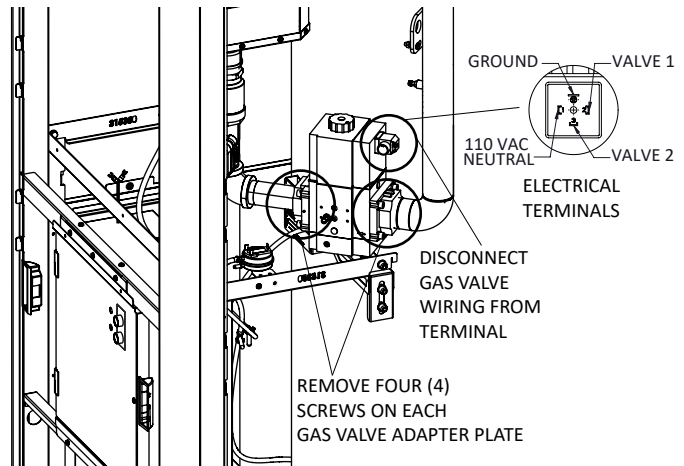


Figure 1. Remove Valve Wiring and Screws

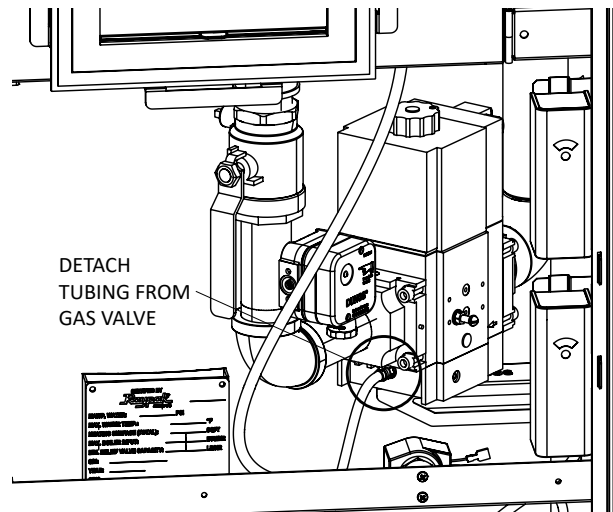


Figure 2. Detach Tubing from Gas Valve

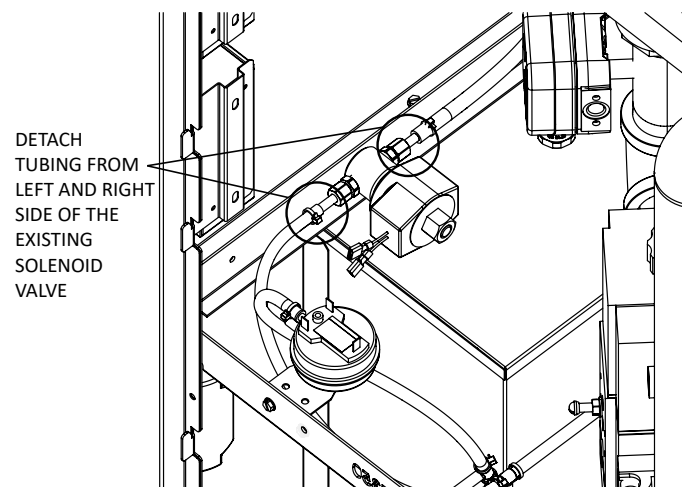


Figure 3. Detach Tubing from Solenoid Valve

13. Reconnect the four (4) terminal connections to their original locations on the gas valve. Install the wiring cover and secure it with the retaining screw using a slotted screwdriver. See **Figure 1**.

14. Secure the solenoid valve to the mounting surface using two screws. Reconnect hoses and the two wires to the unit's harness removed in Step 10. See **Figure 4**.

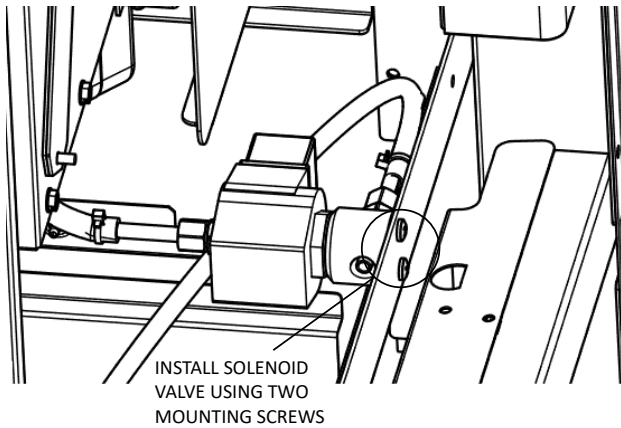


Figure 4. Install Solenoid Valve

15. The supplied tee shall be installed between the solenoid and the gas valve for air measurement purposes. Secure all hosing with supplied cable ties. Ensure the tee remains capped when not in use. See **Figure 5**.

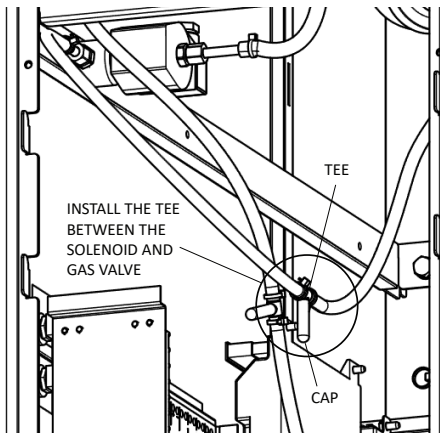


Figure 5. Install Tee Between Solenoid and Gas Valve

GAS SUPPLY PRESSURE VERIFICATION

16. After mounting the gas valve, solenoid valve and all tubing connections, verify the gas supply pressures to ensure the gas valve is operating correctly.

NOTE: Refer to Page 88 of the XVers with KOR Installation Manual for instructions on verifying gas supply pressures. Scan the QR code to access the manual.



17. Reinstall the unit's panels, then follow step 3 through step 1 in reverse order to restore the unit to operational status.

VERIFICATION AND STARTUP

- Verify inlet gas pressure per XVers with KOR Installation Manual.
- Start unit and allow to stabilize for 5 minutes.
- Measure CO₂ and O₂ at high fire and low fire.
- Confirm values fall within Table A.

Model Sizes	CO ₂ % High-Fire		CO ₂ % Low-Fire		Nat. Gas CO ppm	Pro. CO ppm
	Nat. Gas	Pro.	Nat. Gas	Pro.		
3507-4007	9.0 to 9.8%	10.6 to 11.4%	8.5 to 9.5%	10.5 to 11.2%	<150	<150

Model Sizes	O ₂ % High-Fire		O ₂ % Low-Fire	
	Nat. Gas	Pro.	Nat. Gas	Pro.
3507-4007	5.1 to 3.7	4.8 to 3.6	6.0 to 4.2	5.0 to 3.9

Table A. High-Fire and Low-Fire CO₂% & O₂ Values

COMPLETION CRITERIA

- No gas leaks detected.
 - Wiring secured and covers installed.
 - Panels reinstalled.
 - Combustion values meet criteria.
 - Tee capped and secured.
18. This completes the installation.