

3-Way Valve Replacement Kit Installation Manual



Models CB199-DV / CB180-DV

⚠ WARNING

Read this manual carefully and failure to follow these instructions exactly could result in a fire or explosion, serious bodily injury and/or property damage. Installation must be performed by a qualified plumber, a licensed gas fitter, or a professional technician in accordance with all local codes. Improper installation and operation by an unqualified person will void the warranty.

⚠ CAUTION

Electrical Shock Hazard

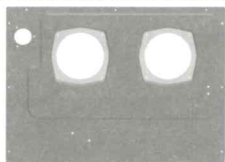


Do not turn power on until electrical wiring is finished. Disconnect power before servicing. Failure to do so may result in death or serious injury from electrical shock.







IMPORTANT

Failures and damage caused by erroneous work or work not as instructed in this manual are not covered by the warranty.

1. Included Accessories

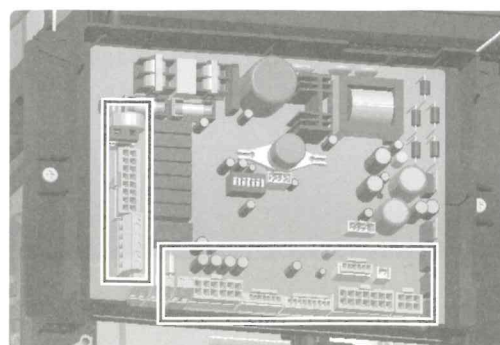
The following accessories are included with the kit. Check for any missing items before starting installation.

NO	Part	Shape	Q'ty
1	Top Plate Kit		1set
2	Relief Valve Connection Kit [w/ Gasket, O-ring (2, P22), Screw (3, M4x10L)]		1set
3	3-Way Valve Kit [w/ O-ring (2, P22A) (2, P16)]		1set

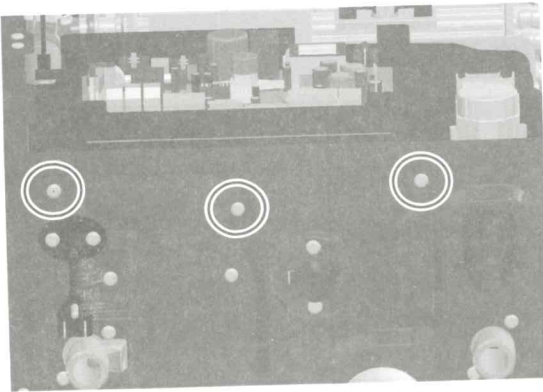
NO	Part	Shape	Q'ty
4	Relief Valve Pipe Kit [w/ O-ring (1, P12), Clip (1, Star-Large)]		1set
5	Packing (10A)		2
6	O-ring (P16)		10
7	O-ring (P22)		4
8	Installation Manual		1
9	Lubricant		1

2. Installation

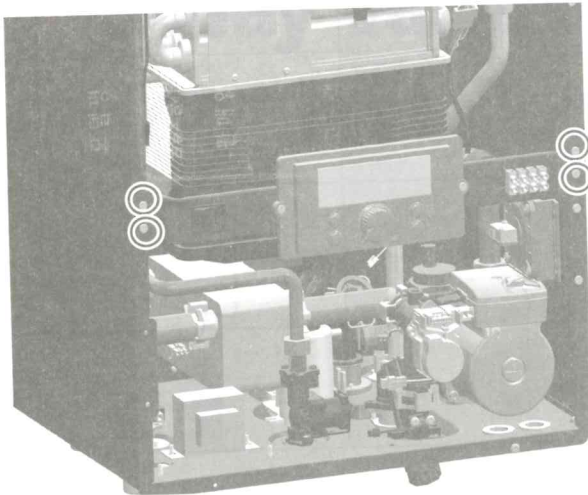
1. Close the gas shut off valve.
2. Remove 4 screws holding the front cover.
3. Turn the power off.
4. Disconnect the electrical power to the Combi Boiler.
5. Place bucket under the unit and rag under 3-Way Valve to collect the residual water from the Combi Boiler.
6. Close the both DHW inlet and the Auto Feeder Inlet water valves and Heating valves.
7. Drain water from the Heating loop and the DHW lines.
8. Disconnect all the electrical connection to the Circuit Board.



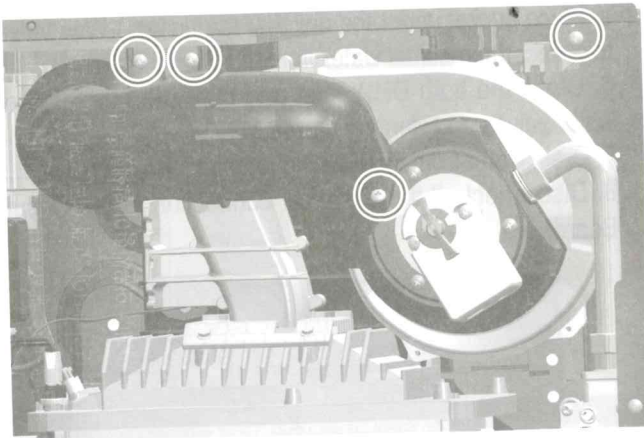
9. Remove the 3 screws to remove the Circuit Board and Circuit Board Bracket in one piece.



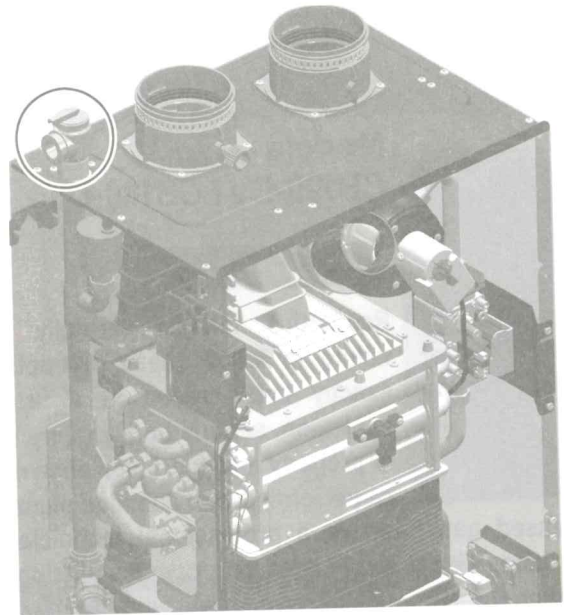
10. Remove the 4 screws and disconnect wires from the Control Panel and Power Switch. Then remove the Control Panel Bar.



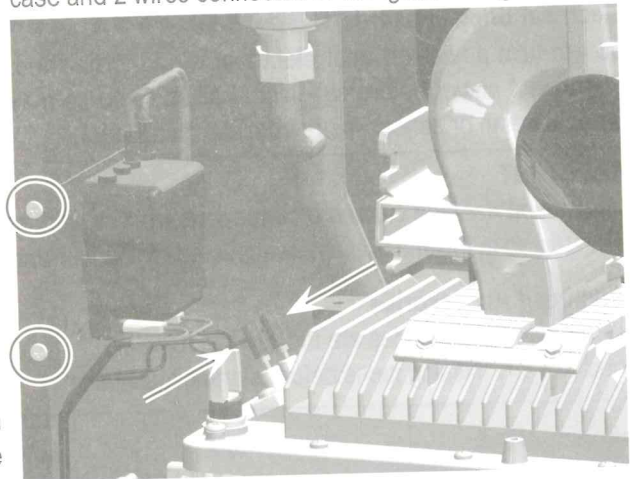
11. Remove the Air Intake Filter by removing 1 screw, then remove the 3 screws from the Silencer Body to remove from the Fan Assembly.



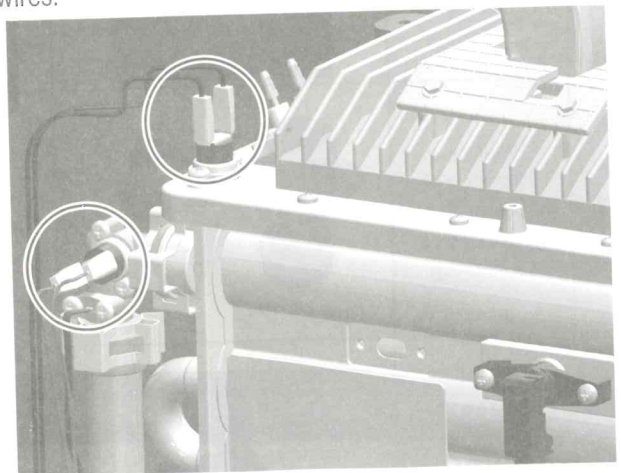
12. Remove the heating side Pressure Relief Valve.



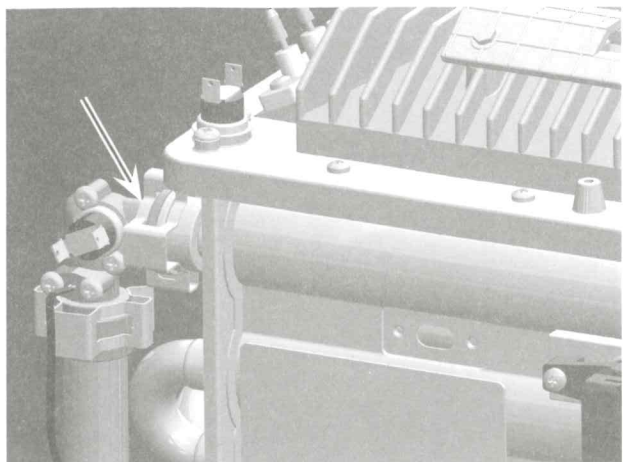
13. Remove the 2 screws holding the Igniter Box to the case and 2 wires connected to the Ignition Plug.



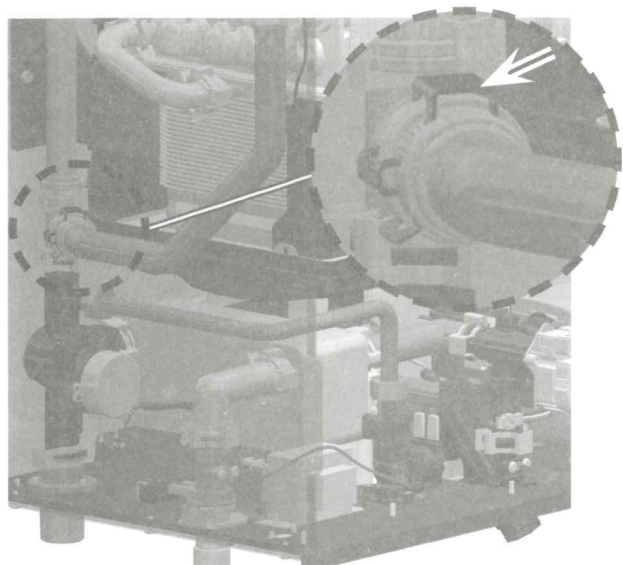
14. Disconnect both Burner and Heat Exchanger High Limit wires.



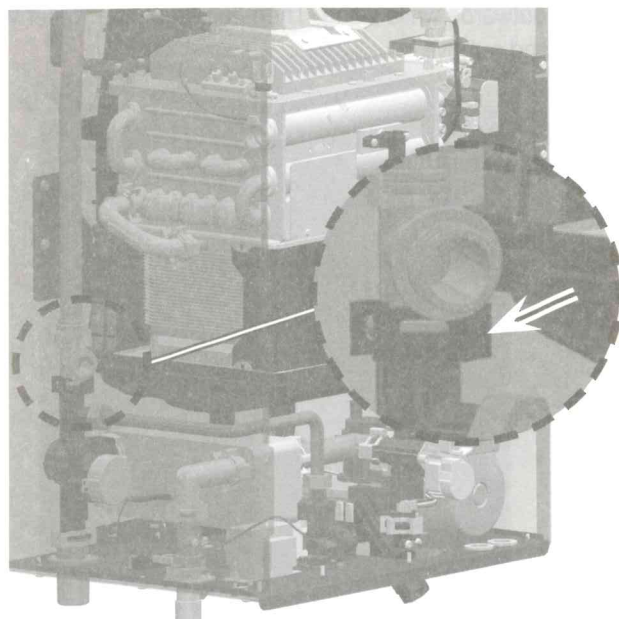
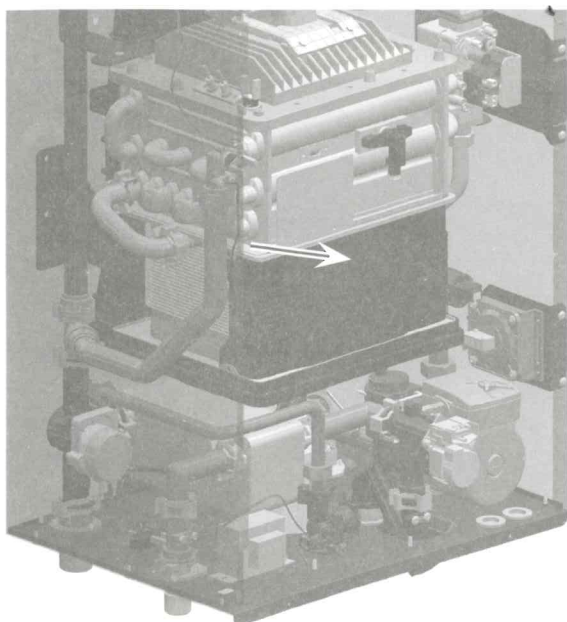
15. Remove the clip from the top of the Hot Water Outlet Elbow. 18. Remove the clip from the top of the 3-Way Valve.



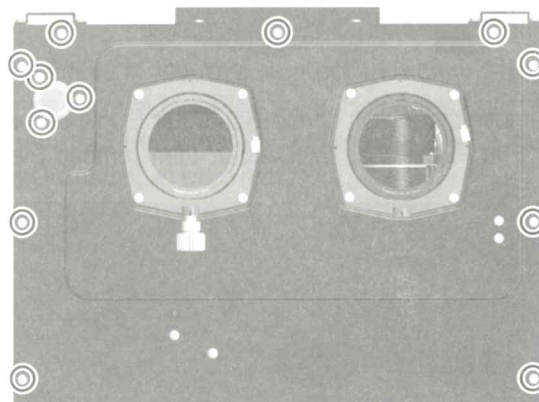
16. Remove the clip from the bottom of the Hot Water Outlet Pipe.



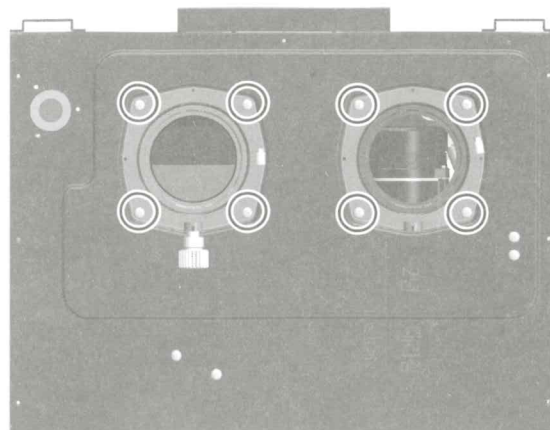
17. Remove the Hot Water Outlet Pipe.



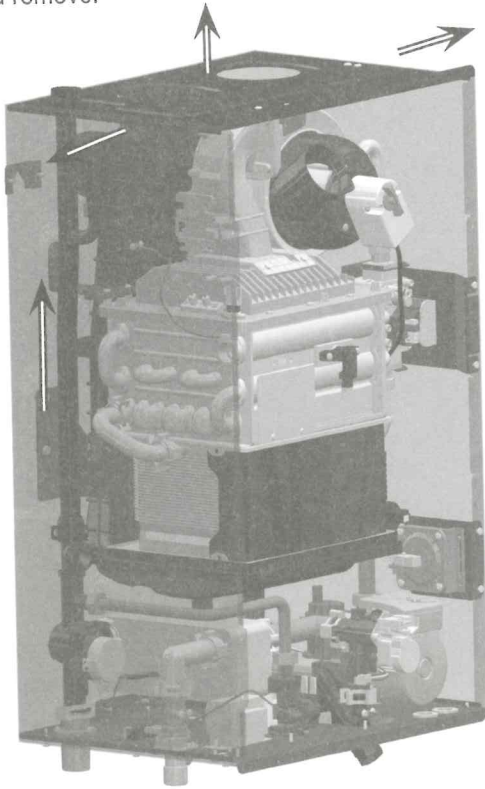
19. Remove the 9 screws located on the top of the case. Also remove the 3 screws for the Relief Valve Fitting.



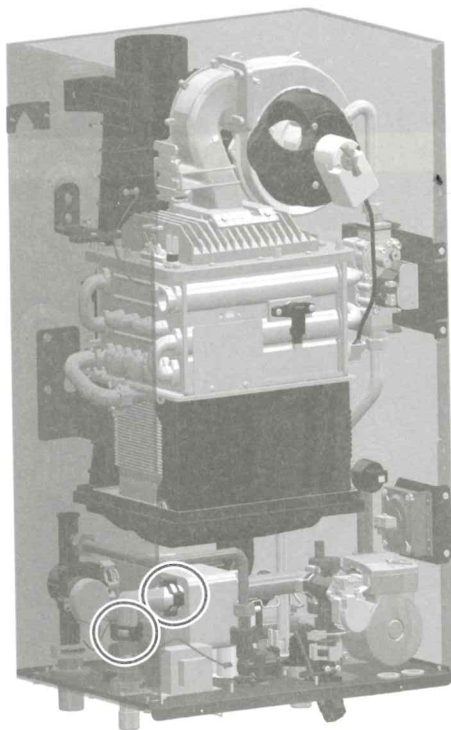
20. Remove the 4 screws each on the Exhaust and Air Intake Adapters and move away from the unit.



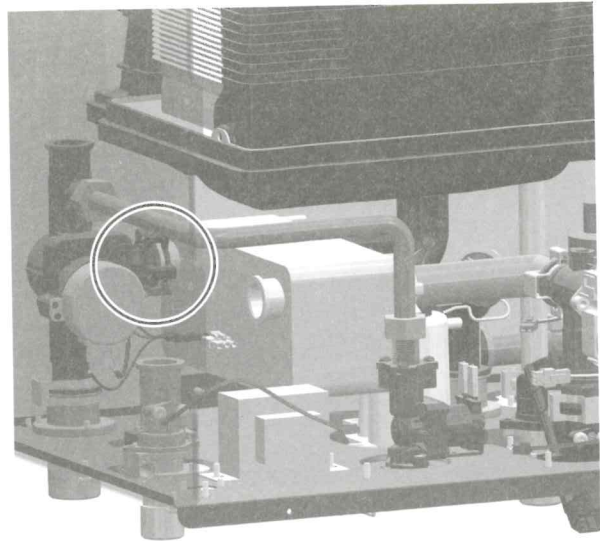
21. Remove the top of the case by pushing the sides of the case outwards while lifting. Then pull up on the Relief Valve Pipe and remove.



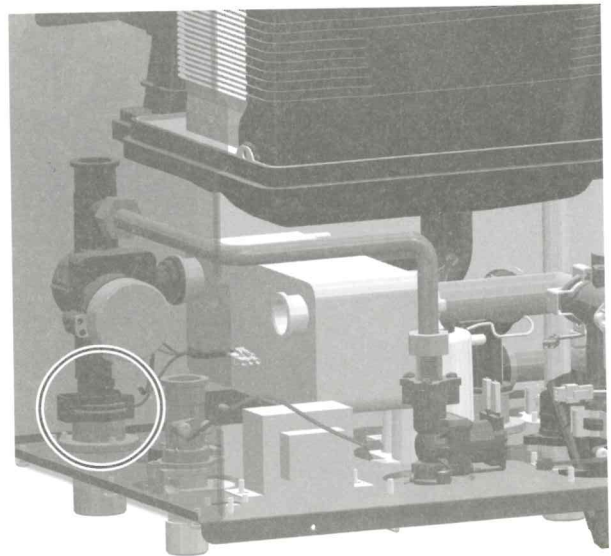
22. Remove the 2 clips on the Hot Water Elbow connected to the Flat Plate Heat Exchanger, then remove the Hot Water Elbow.



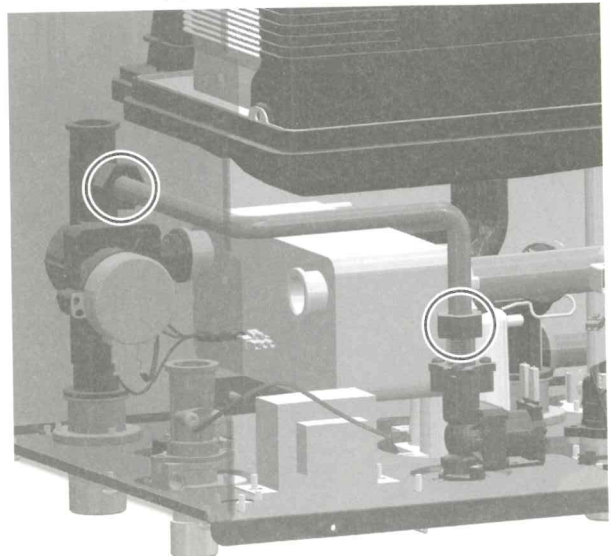
23. Remove the clip on the right side of the 3-Way Valve.



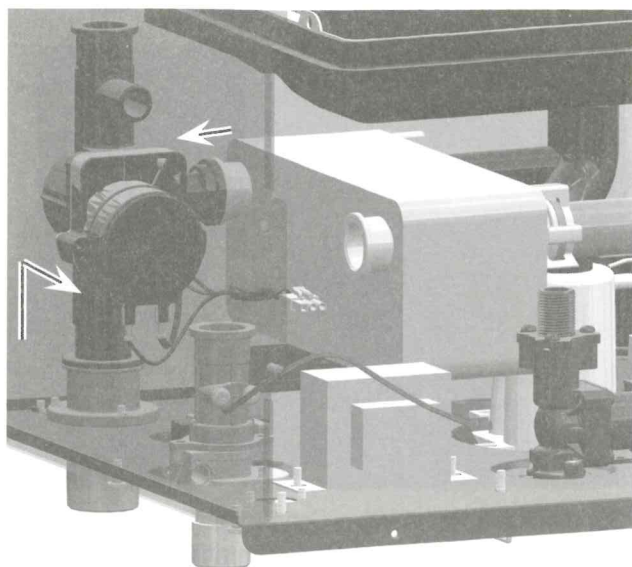
24. Remove the clip on the bottom of the 3-Way Valve.



25. Completely loosen both nuts on the Auto Feeder Pipe and remove the pipe.



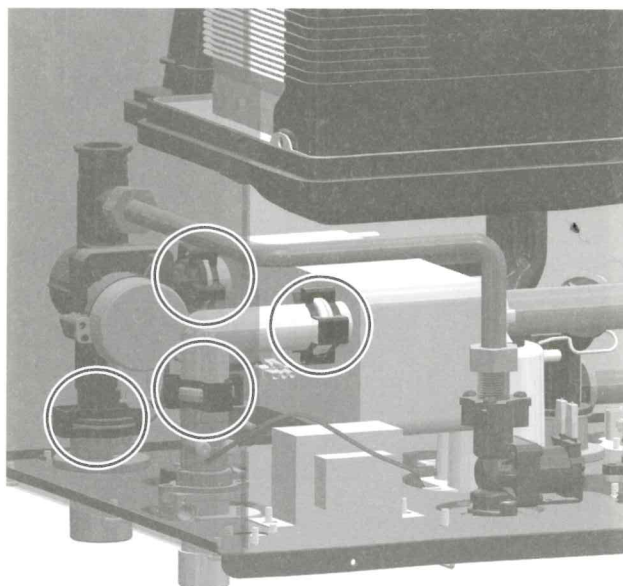
26. Slide the 3-Way Valve away from the Flat Plate Heat Exchanger and up off the Heating Supply Connection.



27. Replace the 3-Way Valve with new part along with new O-rings.

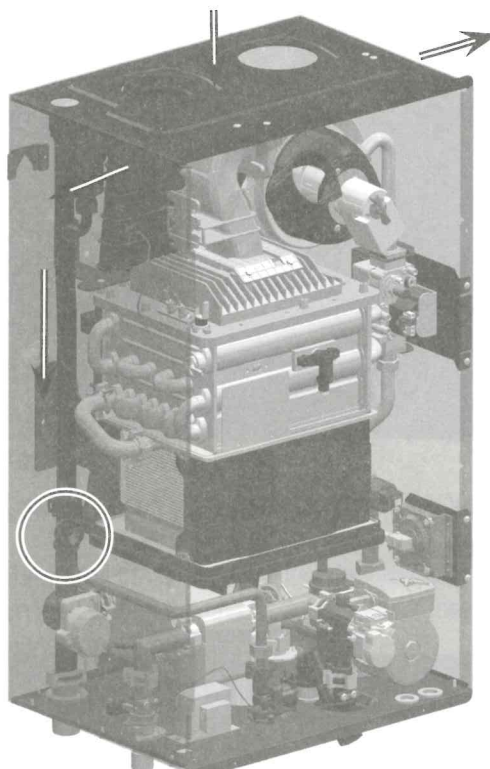
Note: Make use of "Lubricant" on the new O-rings included in this kit.

28. Assemble in the reverse order with new O-rings till the parts (Auto Feeder Pipe, bottom and side clips of 3-Way Valve, DHW Elbow and 2 clips) were removed.

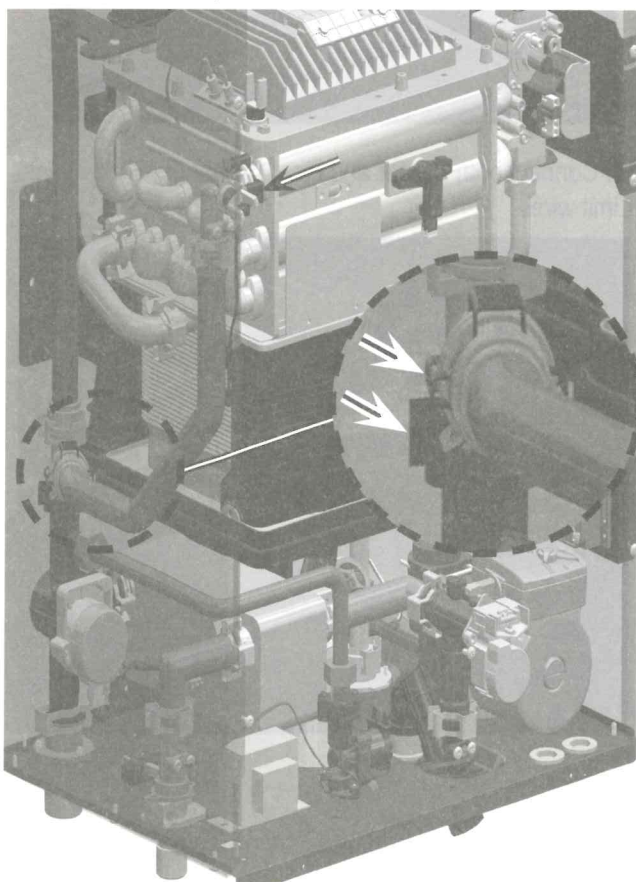


29. Remove the Air Vent and T-Elbow from old Relief Valve Pipe, then install the Air Vent and T-Elbow to the new Relief Valve Pipe with new O-rings and clip.

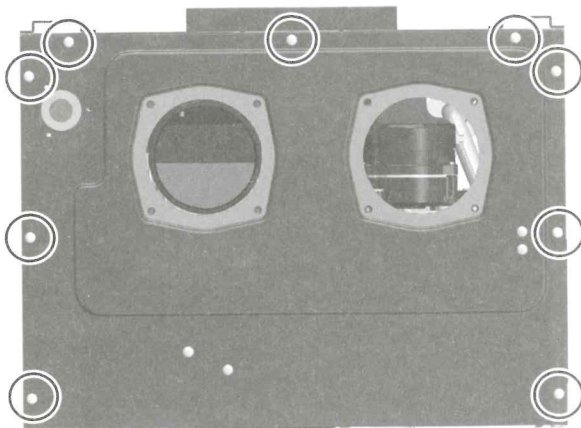
30. Assemble the new Relief Valve Pipe with the T-Elbow, and the new Top Plate Kit.



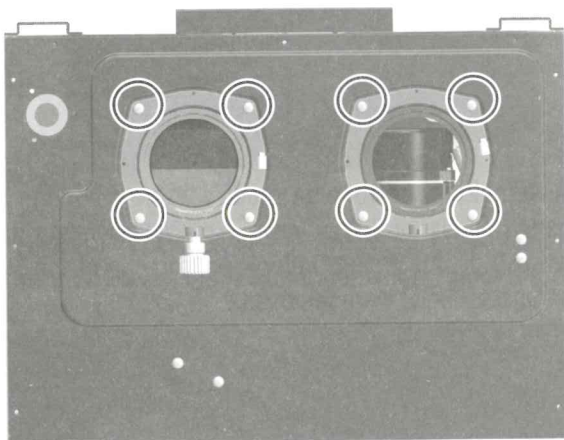
31. Assemble in the reverse order with new O-rings till the parts (top clip of 3-Way Valve, Hot Water Outlet Pipe, bottom clip of Hot Water Outlet Pipe, top clip of the Hot Water Outlet Elbow) were removed.



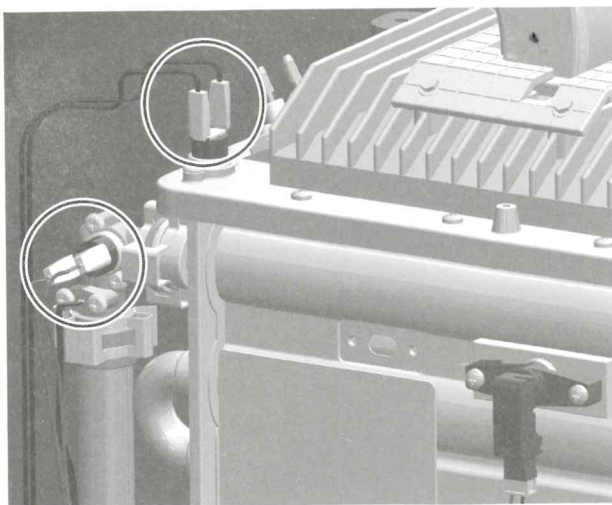
32. Tighten the 9 screws on the top of the case.



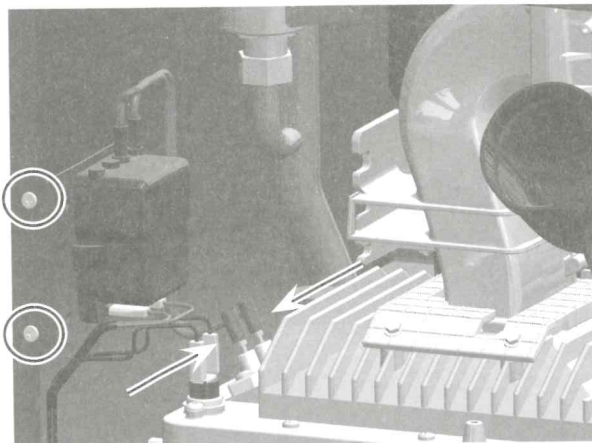
33. Tighten the 4 screws each on the Exhaust and Air Intake Adapters.



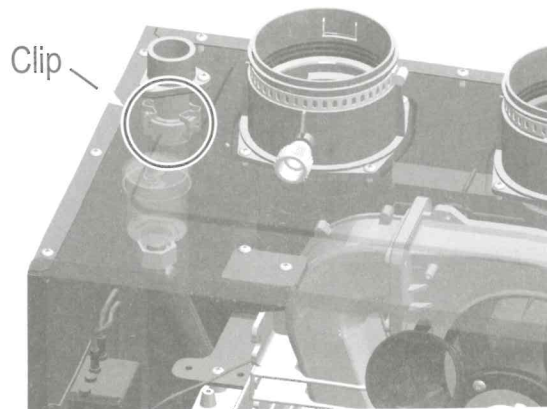
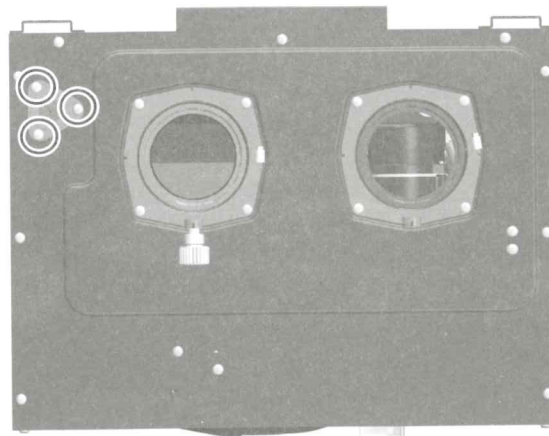
34. Connect both Burner and Heat Exchanger High Limit wires.



35. Tighten the 2 screws holding the Igniter Box to the case and connect the 2 wires to the Ignition Plug.

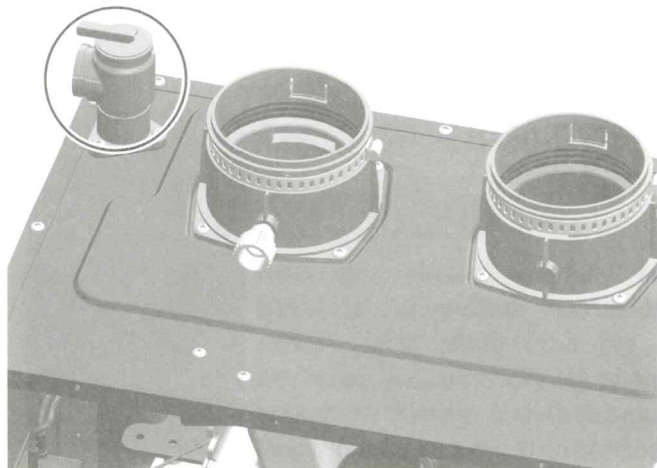


36. Insert the Relief Valve Connection Gasket to the new Relief Valve Connection, then assemble to the Relief Valve Pipe. Install Clip and tighten the 3 screws on the top of case.

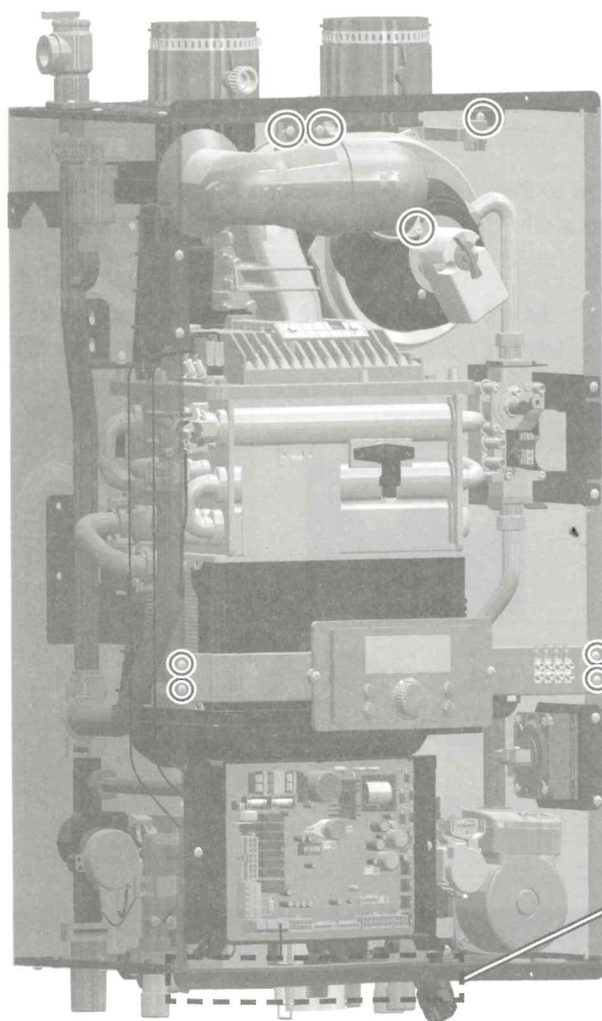


Note : Make use of "Lubricant" on the new O-rings included in this kit.

37. Assemble the heating side Pressure Relief Valve.



38. Assemble in the reverse order till the parts (Silence Body, Air Intake Filter, Control Panel and Power Switch, Control Bar, Circuit Board and Circuit Board Bracket) were removed.



39. Connect all the electrical connection to the Circuit Board.

40. Open gas supply valve.

41. Open water valves to both Heating and DHW side.

42. Check for any water leaks.

43. Reconnect electrical power.

44. Turn unit on and check for any exhaust, gas and water leaks and ensure proper operation.

Note:

1. Check wire condition connected to 3-Way Valve.
2. Make sure the O-rings are inserted correctly when assembling the unit back together. If they are damaged, replace with new ones.

