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Peerless[®] Pinnacle[®]

926 Replacement Control Kit Instructions

WARNING

Installation of the primary safety ignition control is to be performed by **qualified** service personnel in strict accordance with these instructions and all applicable codes and requirements of the authority having jurisdiction. The qualified service person is responsible for proper installation of this kit. The installation is not complete until the operation of the appliance is checked using a combustion analyzer as specified in these instructions. Failure to comply may result in severe personal injury, death or major property damage.

WARNING

If the information in these instructions is not followed exactly, a fire, an explosion or production of carbon monoxide may result causing severe personal injury, death or major property damage.

STOP! READ THESE INSTRUCTIONS OR ANY WARRANTY ON THE APPLIANCE OR THE REPLACEMENT COMPONENT WILL BE VOID!

WARNING

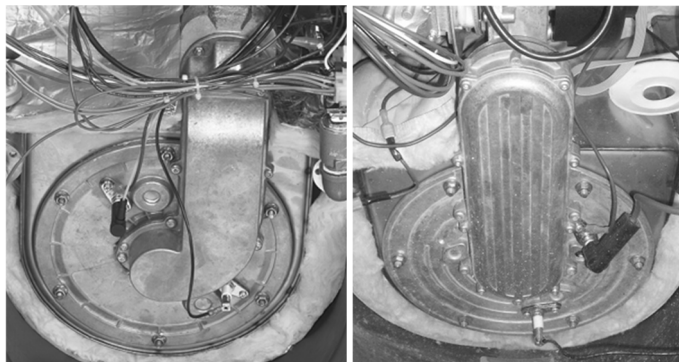
Before installing this component be certain that:

- The gas supply to the boiler is turned off at the inlet to the appliance.
- All electrical power is disconnected.

Scope These instructions are intended to guide a **qualified** installer in replacing a faulty control on a PINNACLE[®] Boiler. The following chart references stock code numbers for 926 Control Kits and which boiler model/revision level to which they should be applied.

Boiler Model	REV 1 (P125)	REV 2 (P825)
PI-T50	91613	
PI-T80	91614	
PI-80	91615	91619
PI-140	91616	91620
PI-199	91617	91621
PI-399	91618	91622

The following photographs show the difference between Revision 1 and Revision 2 boilers.



Revision 1

Revision 2

Note: There is no difference in the shape of the premix channel between REV 1 and REV 2 boilers for the PI-T50 & PI-T80 models.

Pinnacle® 926 Replacement Control Kit Instructions

Parts List The following parts are included in the control replacement kit. Be sure that all items are present before beginning the installation.

Stock Code	Description	Qty.
See Below*	926 Control Board	1
91612	926 Display PC Board with Ribbon Cable	1
	926 Upgrade Instruction Supplement	1

* The following matrix indicates the control requirement based on the boiler model and revision number.

Boiler Model	Replacement 926 Control Board	
	Rev. 1	Rev. 2
PI-T50	PI613	
PI-T80	PI614	
PI-80	PI615	PI619
PI-140	PI616	PI620
PI-199	PI617	PI621
PI-399	PI618	PI622

Tools Required

- Combustion Analyzer with the capability to read Carbon Dioxide (CO₂) and Carbon Monoxide (CO) emissions (Testo 325M or equivalent)
- #1 Phillips Screwdriver
- Small Flat Blade Screwdriver

Step 1 Turn off all electrical power to the boiler:

- Turn off the power at the disconnect leading to the boiler or at the fuse/breaker box.

Step 2 Remove the existing control board:

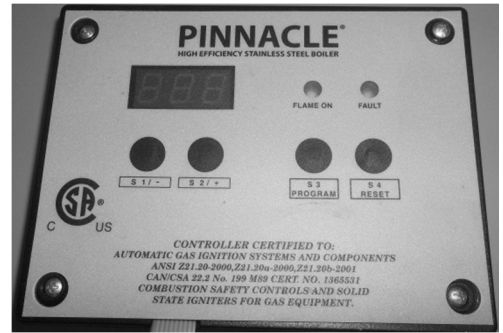
- Remove the screws holding the plastic/metal sub-base to the plastic cabinet and remove the control/sub-base assembly.
- Disconnect the red ignition boot from the ignition electrode on the front of the boiler.
- Disconnect the (4) Molex Electrical Connectors from the exposed edge of the printed circuit board.
- Disconnect the Display ribbon cable that leads to the display from the control.
- Release (5) plastic mounting clips that hold the control board to the sub-base. Inspect the mounting clips for damage and replace as necessary using the spare clips included with the replacement kit.

Step 3 Remove the existing display board:

- Remove existing display board from the cabinet (it is attached to the plastic with adhesive-backed Velcro).
- THIS DISPLAY BOARD IS NOT COMPATIBLE WITH THE 926 CONTROL. The printed circuit board in this display device must be replaced.

Step 4 Remove the printed circuit board from the display device:

- Remove screws from all (4) corners of the display cover.
- Remove the display cover from the case.
- Carefully remove the plastic rivets using a flat blade screwdriver.
- Remove the replacement printed circuit board from its packaging and place it in the case.
- Re-install the plastic rivets by hand.
- Re-attach the cover. Be sure that the ribbon cable is properly located in the notch provided. Do not over-tighten the screws.

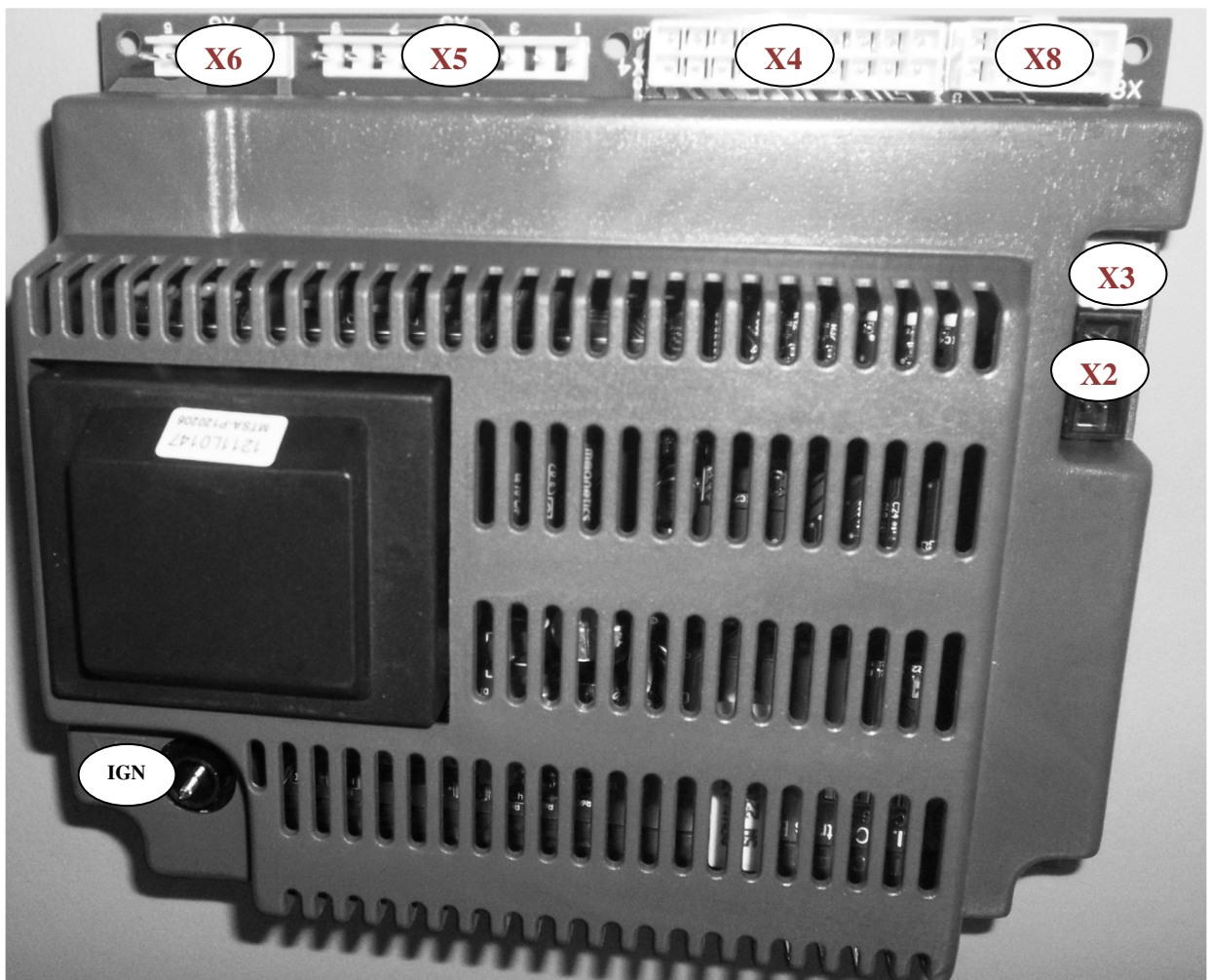


Step 5 Install the updated display device:

- Re-attach the display to the boiler cabinet to the existing velcro.

Step 6 Install the 926 control board:

- Attach the 926 control to the sub-base.
- Attach the ribbon cable to the black connector (X2) on the 926 control.
- Attach Molex® connectors to X6, X5, X4 and X8 on the 926 control.
- Attach the red ignition cable to the single pin connector (IGN) on the 926 control.
- Attach the sub-base to the boiler cabinet where it was previously installed.



Step 7 Check operation:

- Turn on the electrical power to the unit.
- Enter the boiler service mode by pressing and holding the S3 "PROGRA M" key while the S2 "+/" key is held.
 - The display will alternately display "SER" and a number which represents the fan speed in revolutions per minute (rpm) ÷ 10 (*4600 rpm will show as 460*). By default, the fan speed will start at the ignition fan speed (values listed below).
- Verify that the fan is running at approximately the correct ignition fan speed (Fan speed values should be within 500 rpm of the listed value).
- Using a combustion analyzer, check to see that the CO and CO₂ emissions are within the values for high fire combustion specified below.
- Press the S2/+ key to increase the fan speed until it doesn't continue to increase
 - Verify the high fire fan speed.
 - Check the emissions.
- Press the S1/- key to decrease the fan speed until it doesn't continue to decrease.
 - Verify the low fire fan speed.
 - Check the emissions.
- If fan speeds or combustion values do not match the recommended values, contact your PB Heat, LLC representative or your distributor.

Fan Speeds

Boiler Model	Revision 1			Revision 2		
	Low Fire	Ignition	High Fire	Low Fire	Ignition	High Fire
PI-T50	1250	3000	3200	1250	3000	3200
PI-T80	1200	3000	4700	1200	3000	4700
PI-80	2000	4600	4600	1600	2765	4300
PI-140	1400	2000	4300	1400	2765	3850
PI-199	2100	3745	6000	1550	2765	5350
PI-399	2500	5000	8250	1900	3000	7700

Recommended Combustion Ranges

	Natural Gas		Propane (LP)	
	Low Fire	High Fire	Low Fire	High Fire
Carbon Monoxide (CO)	< 50 ppm	< 100 ppm	< 50 ppm	< 100 ppm
Carbon Dioxide (CO ₂)	8.8% to 10.0%	8.5% to 9.5%	9.8% to 11.0%	9.5% to 10.5%
Excess Oxygen (O ₂)	3.4% to 5.4%	4.2% to 6.0%	4.2% to 6.0%	4.9% to 6.5%
Excess Air	17.3% to 31.0%	22.4% to 35.8%	22.4% to 35.8%	27.3% to 40.1%