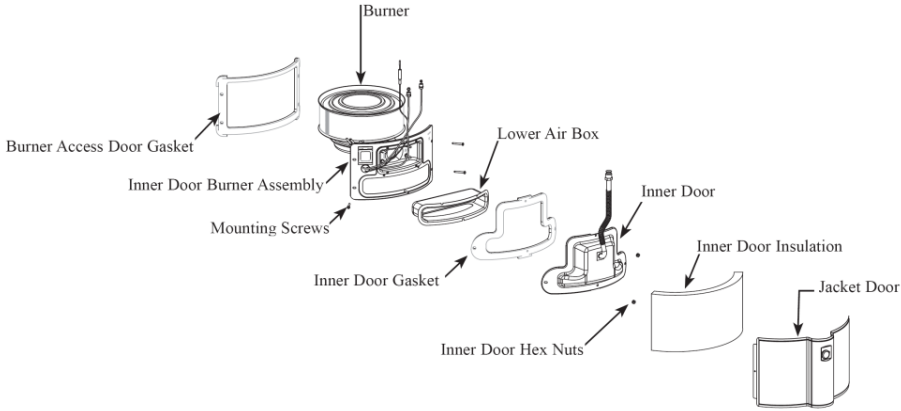


Ultra Low NOx Combustion Chamber Service

Combustion Chamber Replacement Parts



1

Combustion Chamber



2

Ultra Low NOx Combustion Chamber Service

Removing the Burner Assembly

- Special tools needed
 - 5/16" deep well socket
 - Torx 20
 - #2 Phillips



3

Removing the Burner Assembly

- Remove Outer Door



4

Ultra Low NOx Combustion Chamber Service

Disconnect Gas Valve

- Disconnect burner and pilot supply tubes from gas valve
- Disconnect wire to igniter
- Remove the two (2) 5/16" nuts from the inner door cover



Any gasket removed from the burner assembly must be replaced with a new gasket.⁵

Removing the Inner Door

- Remove the bottom two (2) Torx 20 screws
- Remove the two (2) 5/16" nuts from the inner door cover



Any gasket removed from the burner assembly must be replaced with a new gasket.⁶

Ultra Low NOx Combustion Chamber Service

Removing the Inner Door

- Gently rock the inner door until it comes free. There is a gasket to help with the seal.
- You must use a new gasket kit when re-installing the burner assembly.
- Notice the main burner orifice on the main burner supply tube.



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Removing the Lower Air Box

- Remove the two (2) #2 Phillips screws.
- Gently rock the lower air box until it comes free. There is a gasket to help with the seal.
- You must use a new gasket kit when re-installing the burner assembly.



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Ultra Low NOx Combustion Chamber Service

Removing the Burner Access Door and Burner Assembly

- Remove the top two (2) Torx 20 screws.
- Grab the burner access door and pull it back about 2 inches.
- You may have to pry the door loose due to the tight fitting gasket.



Any gasket removed from the burner assembly must be replaced with a new gasket.⁹

Removing the Burner Access Door and Burner Assembly

- Let the inner door and burner assembly drop.
- This will allow the top of the burner to clear the combustion chamber opening.



Any gasket removed from the burner assembly must be replaced with a new gasket.¹⁰

Special Instance – Removing the Burner Assembly

- If burner can't be remove from chamber....
- Remove the four 5/16” nuts from the throat of the burner door.
- Burner door and burner assembly will now come apart.



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Removing the Burner Access Door and Burner Assembly

- Pull the burner assembly from the combustion chamber.



Any gasket removed from the burner assembly must be replaced with a new gasket.¹²

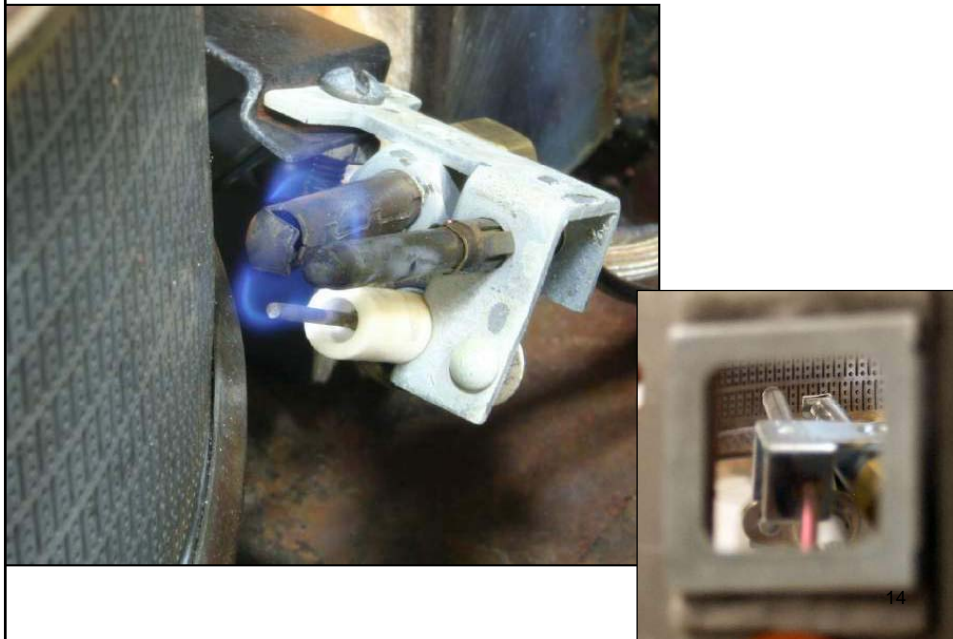
Repairing the Burner Assembly Components

- From here, you can:
 - Replace the thermocouple
 - Replace the pilot / igniter assembly
 - Inspect and clean burner surface area



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How the Pilot Works

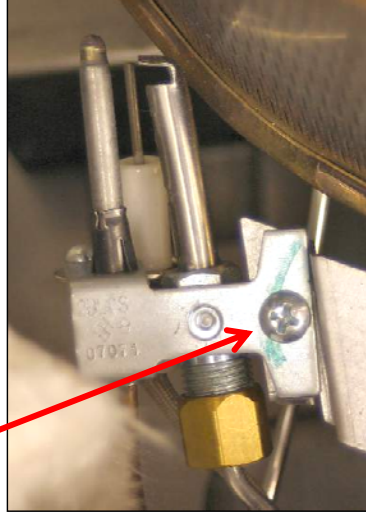


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Ultra Low NOx Combustion Chamber Service

Pilot Outage

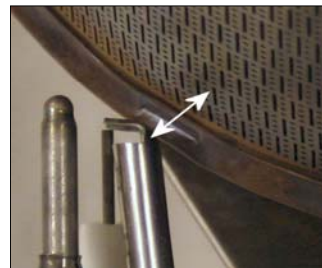
- Can be caused by
 - Weak thermocouple
 - Thermocouple not positioned in pilot flame
 - Gas valve magnetic safety assembly
 - Insufficient or no fuel pressure
 - Regular thermocouple will not withstand radiant burner temperatures
 - Special thermocouple and pilot assy needed
 - Make sure Philips retainer screw is tight



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Pilot Positioning

- Ensure that the gap between pilot hood and burner screen surface is 0.220" (7/32" drill).
- Gap is measured from the perforated burner wall to the inside edge of the pilot hood.
- The top of the pilot supply burner tube should be on a level plane with the first solid band from the bottom of the burner pan.
- TIP: without a 7/32 drill bit, you can stack 3 quarters together and you are in the ballpark.



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