

Conquest 90 Gas Furnace Troubleshooting Manual



Conquest 90 gas furnace troubleshooting manual is an essential resource for homeowners and HVAC technicians alike, providing valuable information on diagnosing and resolving common issues related to the Conquest 90 gas furnace. This furnace model is known for its efficiency and reliability, but like any mechanical system, it can encounter problems that require attention. In this article, we will explore the various components of the Conquest 90 gas furnace, common issues that may arise, and step-by-step troubleshooting procedures to restore optimal performance.

Understanding the Conquest 90 Gas Furnace

The Conquest 90 gas furnace is designed to provide efficient heating for residential spaces. It operates using natural gas or propane and features a high-efficiency design that can achieve an Annual Fuel Utilization Efficiency (AFUE) rating of up to 90%. This means that a significant portion of the fuel used is converted into heat, resulting in lower energy bills and a reduced environmental impact.

Key Components of the Conquest 90 Gas Furnace

1. Burner Assembly: This component is responsible for igniting the gas and producing heat.
2. Heat Exchanger: Transfers heat from the combustion gases to the air circulated in the home.
3. Blower Motor: Moves heated air through the ductwork.
4. Thermostat: Regulates the temperature by signaling the furnace to turn on or off.
5. Flame Sensor: Detects the presence of a flame to ensure safe operation.
6. Control Board: Acts as the brain of the furnace, managing various functions and safety protocols.

Common Issues with the Conquest 90 Gas Furnace

Despite its efficiency and reliability, the Conquest 90 gas furnace may encounter several common issues over time. Recognizing these problems early can save you time and money.

1. No Heat

A common complaint among homeowners is that the furnace does not produce heat. This can be caused by several factors:

- Thermostat Issues: The thermostat may be set incorrectly or malfunctioning.
- Power Supply Problems: A tripped circuit breaker or blown fuse can interrupt power to the furnace.
- Gas Supply Issues: Ensure that the gas valve is open and that there is gas supply to the furnace.
- Clogged Filters: Dirty air filters can restrict airflow and cause overheating.

2. Strange Noises

Unusual noises can indicate underlying issues within the furnace. Common sounds include:

- Banging: Could indicate loose components or a malfunctioning blower motor.
- Squeaking: Often a sign of a worn-out blower motor bearing.
- Rattling: Loose panels or components may be causing vibrations.

3. Frequent Cycling

If the furnace turns on and off frequently, it can be a sign of inefficiency or a malfunction. Possible causes include:

- Improper Thermostat Location: If the thermostat is located near drafts or heat sources, it may misread the temperature.
- Dirty Filters: Clogged filters can lead to restricted airflow, causing the furnace to overheat.
- Oversized Furnace: A furnace that is too large for the space can heat up too quickly and cycle frequently.

4. Yellow Flame or Soot Buildup

A healthy gas flame should burn blue. A yellow flame or soot buildup may indicate incomplete combustion, which can be dangerous. This may be due to:

- Dirty Burners: A buildup of dirt and debris can affect combustion efficiency.
- Improper Gas Mixture: Ensure the gas being used is appropriate for the furnace type.
- Ventilation Issues: Poor ventilation can lead to combustion problems.

Troubleshooting Steps for Common Issues

When troubleshooting your Conquest 90 gas furnace, it is essential to follow a systematic approach to identify and resolve issues. Below are detailed steps for addressing some common problems.

1. No Heat

- Check the Thermostat:
 - Ensure it is set to "Heat" mode.
 - Verify that the temperature setting is higher than the current room temperature.
- Inspect Power Supply:
 - Check the circuit breaker and reset it if necessary.
 - Inspect the power cord for damage.
- Examine Gas Supply:
 - Confirm the gas valve is open.
 - Check for any gas leaks by using soapy water on connections.
- Replace Dirty Filters:
 - Remove and inspect the air filter.
 - Replace if it appears dirty or clogged.

2. Strange Noises

- Identify the Source:
 - Listen carefully to determine where the noise is coming from.
- Inspect Loose Components:
 - Tighten any loose screws or panels.
- Check the Blower Motor:
 - Lubricate bearings if necessary, or consider replacing the motor if it is worn out.

3. Frequent Cycling

- Relocate the Thermostat:
 - If it is near drafts or heat sources, consider moving it to a more central location.

- Clean or Replace Filters:
- Regular maintenance of filters can prevent airflow issues.
- Evaluate Furnace Size:
- Consult with a professional to determine if the furnace is appropriately sized for your home.

4. Yellow Flame or Soot Buildup

- Inspect the Burners:
- Turn off the furnace and clean the burners gently with a brush.
- Adjust Gas Mixture:
- Consult a professional to ensure the gas pressure is correct.
- Check Ventilation:
- Ensure that the venting system is clear of obstructions.

Preventive Maintenance Tips

To keep your Conquest 90 gas furnace running efficiently and to minimize the likelihood of problems, consider the following preventive maintenance tips:

- Regular Filter Replacement: Change air filters every 1-3 months, depending on usage and type of filter.
- Annual Professional Inspections: Schedule a yearly check-up with an HVAC professional to inspect and tune the furnace.
- Keep the Area Around the Furnace Clear: Ensure that there are no obstructions around the furnace that could restrict airflow.
- Test the Thermostat: Regularly check the thermostat's functionality to ensure it is accurate.

Conclusion

The Conquest 90 gas furnace troubleshooting manual serves as a comprehensive guide for homeowners and technicians to address common issues effectively. By understanding the components of the furnace, recognizing potential problems, and following troubleshooting steps, you can maintain optimal performance and extend the life of your heating system. Regular maintenance and timely repairs will ensure that your furnace continues to operate efficiently, keeping your home warm and comfortable. If issues persist despite troubleshooting efforts, it's advisable to contact a qualified HVAC technician to diagnose and resolve more complex problems.

Frequently Asked Questions

What are the common symptoms indicating a problem with

the Conquest 90 gas furnace?

Common symptoms include the furnace not igniting, unusual noises, fluctuating temperatures, or the pilot light being out.

How can I reset my Conquest 90 gas furnace?

To reset your furnace, turn off the power supply, wait for a few minutes, and then turn it back on. You may also need to reset the thermostat.

What should I check if my Conquest 90 gas furnace is blowing cold air?

Check if the thermostat is set to heat, ensure that the gas supply is on, and inspect the air filter for clogs or dirt.

What does a flashing LED light on my Conquest 90 indicate?

A flashing LED light typically indicates a fault code. Refer to the troubleshooting manual for specific codes and their meanings.

How often should I perform maintenance on my Conquest 90 gas furnace?

It is recommended to perform maintenance at least once a year, preferably before the heating season starts, to ensure optimal performance.

What is the purpose of the pressure switch in the Conquest 90 gas furnace?

The pressure switch ensures that the furnace has proper airflow and that the venting is functioning correctly before allowing ignition.

Why is the blower motor running continuously on my Conquest 90 furnace?

The blower motor may run continuously due to a faulty limit switch, a thermostat set to 'on' instead of 'auto', or a malfunction in the control board.

What steps should I take if my Conquest 90 gas furnace is producing a strong gas smell?

Immediately turn off the furnace, evacuate the area, and contact a professional technician. Do not attempt to troubleshoot further if you smell gas.

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