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› [Suburban](#) /

› [Suburban SF-20FQ 12V RV Furnace 2551A User Manual](#)

Suburban 2551A

Suburban SF-20FQ 12V RV Furnace User Manual

Model: 2551A

1. INTRODUCTION

The Suburban SF-Q Series furnaces are designed to provide maximum heating performance in recreational vehicles. The SF-20FQ model, with a capacity of 20,000 BTU/h, offers efficient and reliable heating in a compact design, allowing for flexible installation in various RV layouts. This manual provides essential information for the safe and effective installation, operation, and maintenance of your Suburban SF-20FQ furnace.

Key Features:

- Maximum heating performance in a low-profile design.
- 20,000 BTU/h input for efficient heating.
- Compact dimensions: 7.5" height x 17" width x 20" depth.
- Operates on 12 VDC with a low amp draw of 7.0.
- Designed for interior serviceability with front gas connection.
- Quiet, multi-ported stainless steel burners.
- Sealed forced-draft combustion and automatic direct spark ignition.



Figure 1.1: Suburban SF-20FQ 12V RV Furnace. This image shows the overall view of the furnace unit, highlighting its compact design and vent openings.

2. IMPORTANT SAFETY INFORMATION

Read and understand all instructions before installing or operating this appliance. Failure to follow these instructions could result in property damage, personal injury, or death.

- **Professional Installation:** Installation, service, and maintenance must be performed by a qualified service technician.
- **Gas Safety:** Ensure all gas connections are properly sealed and leak-tested. Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.
- **Ventilation:** Proper ventilation is crucial for safe operation. Ensure the furnace's exhaust and intake vents are clear and unobstructed.
- **Electrical Safety:** Disconnect all electrical power to the furnace before performing any service or maintenance. Ensure correct voltage (12 VDC) is supplied.
- **Carbon Monoxide:** This appliance produces carbon monoxide, which is an odorless, poisonous gas. Install a carbon monoxide detector in your RV.
- **Clearances:** Maintain proper clearances from combustible materials as specified in the installation instructions.

3. PACKAGE CONTENTS

Verify that all components are present before beginning installation:

- Suburban 2551A 12V RV Furnace SF-20FQ - 20,000 BTU/h

4. INSTALLATION & SETUP

The SF-20FQ furnace is designed for interior serviceability, meaning the gas connection is accessed from the front (inside the RV), with only a small vent terminal on the coach exterior. This allows for installation closer to walls and eliminates the need for an exterior access door.

4.1 Dimensions

Understanding the furnace dimensions is critical for proper placement and installation.

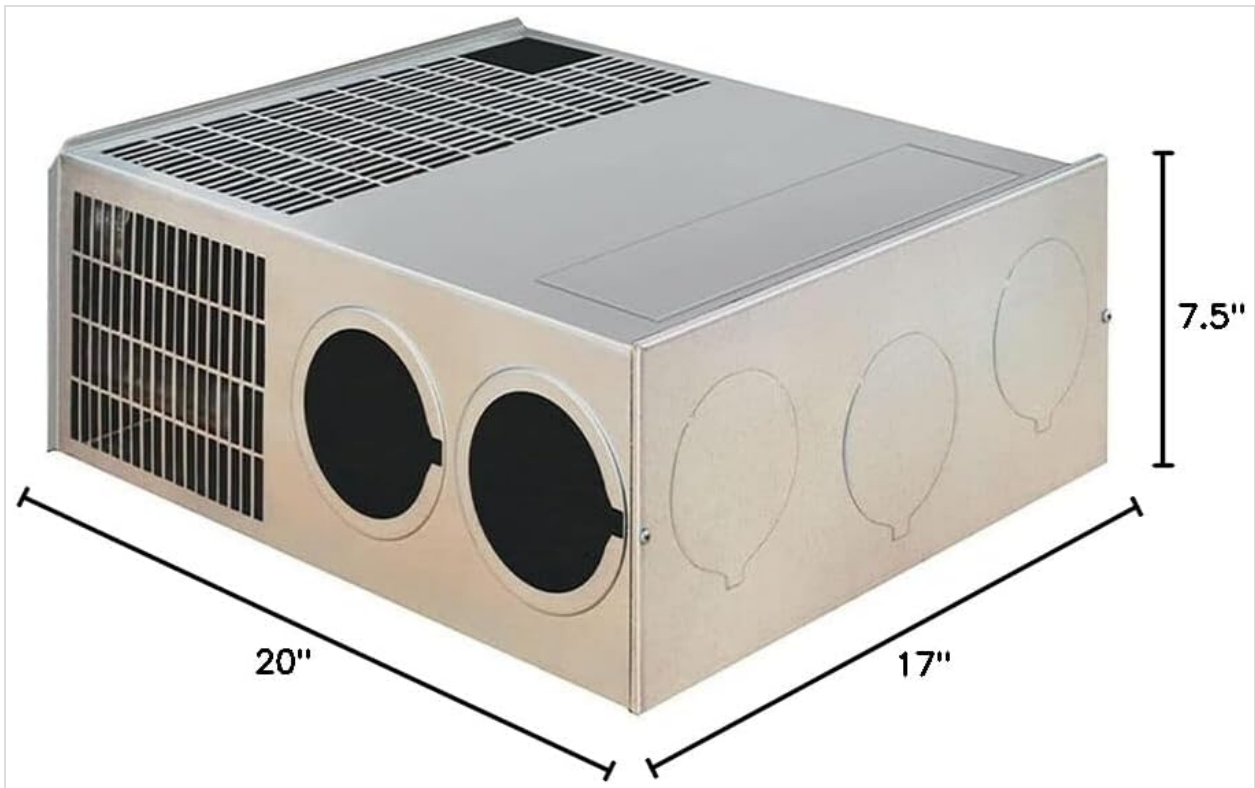


Figure 4.1: Dimensions of the Suburban SF-20FQ Furnace. The unit measures 7.5 inches in height, 17 inches in width, and 20 inches in depth.

4.2 Mounting

- Select a suitable location within the RV that allows for proper clearances and ducting.
- Ensure the mounting surface is sturdy and capable of supporting the furnace's weight (approximately 35 pounds).
- Secure the furnace firmly using appropriate fasteners.

4.3 Electrical Connections

- Connect the furnace to a dedicated 12 VDC power supply.
- Ensure proper polarity. Refer to the wiring diagram provided with the furnace for specific connections.
- The furnace draws 7.0 amps; ensure the circuit is adequately fused.

4.4 Gas Connections

- Connect the RV's LP gas supply line to the furnace's front gas connection.
- Use appropriate gas-rated fittings and sealants.
- After connection, perform a thorough leak test using a non-corrosive leak detection solution.

4.5 Ducting

- Connect the required ductwork to the furnace's output ports. The SF-Q models offer nine duct connection choices (top, front, side, and bottom).

- Ensure duct runs are as short and straight as possible to maximize airflow and heating efficiency.
- Seal all duct connections to prevent heat loss.

5. OPERATING INSTRUCTIONS

5.1 Initial Startup

1. Ensure all gas and electrical connections are secure and leak-free.
2. Open the LP gas supply valve.
3. Turn on the 12 VDC power supply to the furnace.
4. Set the RV thermostat to a temperature above the current ambient temperature.
5. The furnace will initiate its ignition sequence. This typically involves the blower starting, followed by the igniter sparking and the main burner igniting.
6. Allow the furnace to run for a few minutes to ensure stable operation.

5.2 Normal Operation

- The furnace will cycle on and off automatically to maintain the temperature set on the RV thermostat.
- The blower will typically run for a short period after the burner shuts off to dissipate residual heat.

5.3 Shutting Down

- To temporarily turn off the furnace, set the RV thermostat to its lowest setting or to the 'OFF' position.
- For extended periods of non-use or maintenance, close the LP gas supply valve and turn off the 12 VDC power to the furnace.

6. MAINTENANCE

Regular maintenance ensures the longevity and efficient operation of your furnace.

6.1 Regular Maintenance (Monthly/Quarterly)

- **Inspect Vents:** Ensure the exterior intake and exhaust vents are free from obstructions (e.g., dirt, leaves, insect nests).
- **Clean Blower Compartment:** Periodically inspect and clean the blower wheel and motor area to remove dust and debris.
- **Check Ductwork:** Verify that all duct connections are secure and free from leaks.

6.2 Seasonal Maintenance (Before/After Heating Season)

- **Gas Line Inspection:** Have a qualified technician inspect the gas lines and connections for any signs of wear or leaks.
- **Burner and Heat Exchanger:** A qualified technician should inspect the burner assembly and heat exchanger for cleanliness and integrity.
- **Electrical Connections:** Check all electrical terminals for tightness and corrosion.

7. TROUBLESHOOTING

Before contacting a service technician, review the following common issues and their potential solutions.

- **Furnace Does Not Start:**

- Check if the RV thermostat is set above the ambient temperature.
- Verify the LP gas supply valve is open and there is gas in the tank.
- Ensure 12 VDC power is supplied to the furnace and check for blown fuses.
- Inspect the exterior vents for obstructions.

- **Blower Runs, But No Heat:**

- This indicates an ignition failure. Check gas supply and ensure the igniter is clean.
- The furnace may attempt to ignite multiple times before locking out. Reset by turning the thermostat off for a few minutes, then back on.

- **Weak Airflow:**

- Check for obstructions in the ductwork or at the furnace's intake/output.
- Ensure the blower wheel is clean.

- **Unusual Noises:**

- A squealing noise may indicate a worn blower motor bearing.
- Rattling could be loose components or debris in the blower.

If these steps do not resolve the issue, contact a qualified RV service technician for further diagnosis and repair.

8. SPECIFICATIONS

Detailed technical specifications for the Suburban SF-20FQ 12V RV Furnace.

Specification	Value
Model	2551A (SF-20FQ)
Manufacturer	Suburban
BTU/h Input	20,000
Voltage	12 VDC
Amp Draw	7.0 Amps
Dimensions (Height)	7.5 inches
Dimensions (Width)	17 inches
Dimensions (Depth)	20 inches
Item Weight	35 pounds
Power Source	Corded Electric (12V DC)
Control Method	Remote (via RV thermostat)

Specification	Value
Warranty Type	Limited

9. WARRANTY INFORMATION

The Suburban SF-20FQ furnace comes with a limited warranty. Specific terms and conditions of the warranty, including coverage period and exclusions, are typically provided with the product documentation. Please refer to the warranty card or contact Suburban customer support for detailed information regarding your warranty coverage.

10. CUSTOMER SUPPORT

For technical assistance, parts, or service inquiries, please contact your authorized Suburban dealer or the manufacturer directly. When contacting support, please have your furnace model number (2551A) and serial number readily available.