

PLEASE KEEP THESE INSTRUCTIONS FOR FUTURE REFERENCE



# S50 Suspension Kit

## INSTRUCTION MANUAL

Applicable for: 50-4074, 50-4298, 50-4299, 50-4300



This Suspension Kit has been tested for compliance to Standards:  
ANSI Z21.88 and CSA 2.33.

This Suspension Kit has been approved for use on the ENVIRO S50 fireplaces only and must be installed at the time of fireplace installation.

The following instructions must be followed in conjunction with the fireplace installation instructions to comply with the standards and allow safe operation of the installed fireplace.

# SAFETY PRECAUTIONS

- All Enviro gas-fired appliances must be installed in accordance with their instructions. Carefully read all the instructions in this manual first. Consult the building authority having jurisdiction to determine the need for a permit prior to commencing the installation.

- **NOTE:** Failure to follow these instructions could cause a malfunction of the fireplace, which could result in death, serious bodily injury, and/or property damage.

- Failure to follow these instructions may also void your fire insurance and/or warranty.

## GENERAL

- Installation and repair should be done by a qualified service person. The appliance should be inspected before the first use and, at least, annually by a qualified service person. More frequent cleaning may be required due to excessive lint from carpeting, bedding material, etc. It is imperative the control compartments, burners and circulating air passageways of the appliance be kept clean.

- Due to high temperatures, the appliance should be located out of high traffic areas and away from furniture and draperies.

**Children and adults should be alerted to the hazards of high surface temperatures and should stay away to avoid burn or clothing ignition.**

- Young children should be carefully supervised when in the same room as the appliance. Toddlers, young children and others may be susceptible to accidental contact burns. A physical barrier is required if there is a risk for individuals in the house. To restrict access to a fireplace or stove install an adjustable safety gate to keep toddlers, young children and other at risk individuals out of the room and away from hot surfaces. Any safety screen, guard, or barrier removed for servicing an appliance must be replaced prior to operating the appliance.

- Clothing or other flammable materials should not be placed on or near the appliance.

- A barrier designed to reduce the risk of burns from the hot viewing glass is provided with this appliance and shall be installed for the protection of children and other at-risk individuals. If the barrier becomes damaged, the barrier shall be replaced with the manufacturer's barrier for this appliance.

## FOR YOUR SAFETY

- Installation and service must be performed by a qualified installer, service agency or gas supplier.

- This installation must conform to local codes or, in the absence of local codes, with the National Fuel Gas Code, ANSI Z223.1/NFPA 54, or the Natural Gas and Propane Installation Code, CSA B149.1.

- To prevent injury, do not allow anyone who is unfamiliar with the stove to operate it.

- **To prevent injury, if the pilot or pilot and burners have gone out on their own, open the glass door and wait 5 minutes to air out before attempting to re-light the stove.**

- Always keep the area around these appliances clear of combustible material, gasoline and other flammable liquids and vapours.

- These appliances should not be used as a drying rack for clothing or for hanging Christmas stockings/decorations.

- Due to the paint curing on the stove, a faint odor and slight smoking will likely be noticed when the stove is first used. Open a window until the smoking stops.

Always connect this gas stove to a vent system and vent to the outside of the building envelope. Never vent to another room or inside the building. Make sure the specified vent pipe is used, properly sized and of adequate height to provide sufficient draft. Inspect the venting system annually for blockage and signs of deterioration.

**WARNING:** Failure to position the parts in accordance with the diagrams in this booklet, or failure to use only parts specifically approved with this appliance, may result in property damage or personal injury.

**WARNING:** Do not operate with the glass front removed, cracked or broken. Replacement of the glass should be done by a licensed or qualified service person.

- Never use solid fuels such as wood, paper, cardboard, coal, or any flammable liquids, etc., in this appliance.

- Do not use this appliance if any part has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system or any gas control which has been under water.

- Do not abuse the glass by striking it or slamming the door shut.

- If the S50 is pulled out of its installation, and the vent-air intake system is disconnected for any reason, ensure that the vent-air intake pipes are reconnected and re-sealed in accordance to the instructions noted in INITIAL INSTALLATION - DIRECT VENT



## DANGER



**HOT GLASS WILL  
CAUSE BURNS**

**DO NOT TOUCH GLASS  
UNTIL COOLED.**

**NEVER ALLOW CHILDREN  
TO TOUCH GLASS.**

A barrier designed to reduce the risk of burns from the hot viewing glass is provided with this appliance and must be installed for the protection of children and other at-risk individuals.

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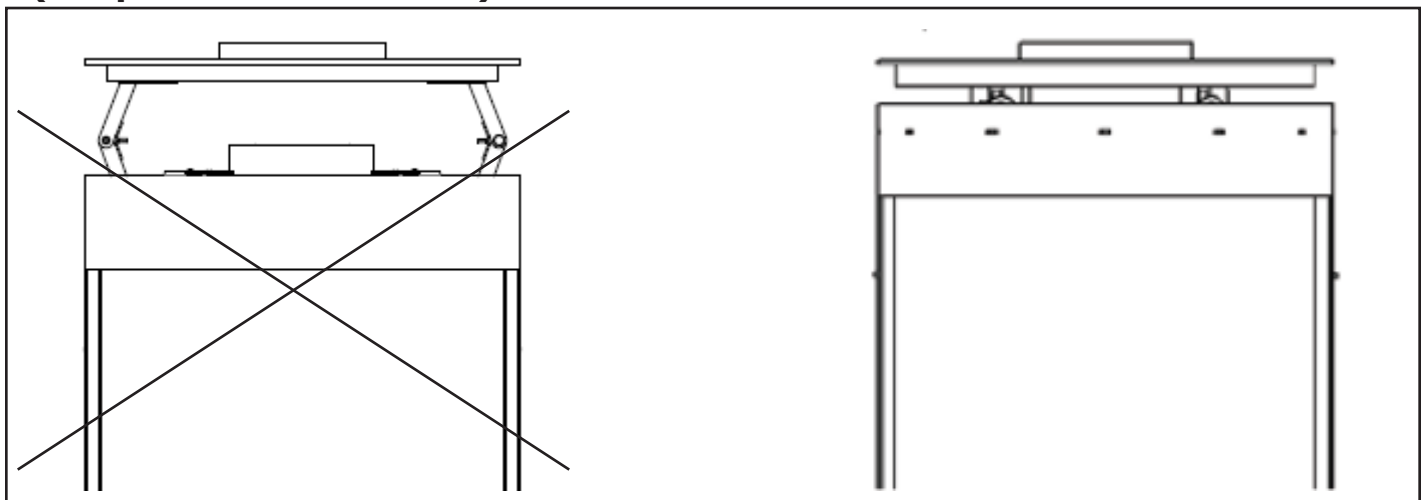
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## IMPORTANT

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**Suspension kit is ONLY compatible with S50 models that have a "twist lock" top plate. NOT compatible with models that have the original top plate hinge system. (see pictures down below)**



Hinge System

Twist Lock System

# GENERAL INFORMATION

This kit is the required starting point to suspend the S50 from a ceiling. This kit is to be combined with additional 1ft and 2ft segments (50-4299 and 50-4300 respectively) to create the desired structure height to suspend your S50. These instructions will go over what this kit contains, details about framing and clearances, and instructions for assembly. These instructions can be used for either version of the starter kit (50-4074 Metallic Black, 50-4298 Carrara White).

**Note: S50 Suspension Kits only work for flat ceilings. Not compatible with vaulted, cathedral or arched ceilings.**

**A qualified engineer or architect MUST sign off on the structure supporting the hanging kit prior to installation. Maximum total system weight is 400lb.**

## KIT CONTENTS - STARTER KIT

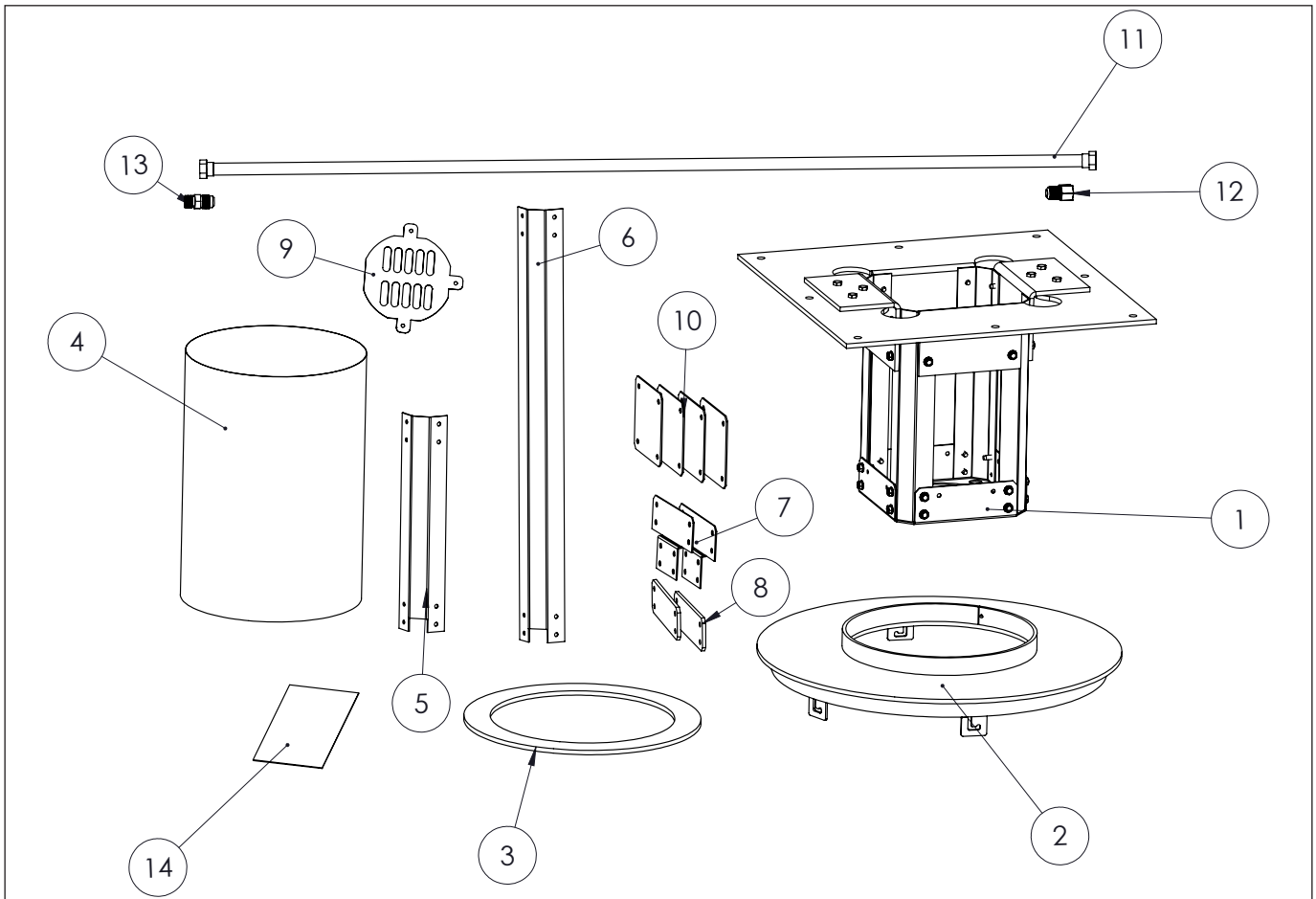


Figure 1: Starter Kit Contents (50-4074 or 4298)

Table 1: Starter Kit Content Descriptions

Item	Description	Item	Description
1	Ceiling Mount Assembly	7	S50-S Air Box Joint Plate (x2)
2	S50-S Top Plate Assembly	8	S50-S Air Box Joint Spacer (x2)
3	Duravent 10" Trim Collar	9	S50 Fan Cover
4	Duravent 10" Slip Section	10	Section connect plate (x4)
5	S50-S 1FT Brace Cutout	11, 12, 13	4ft Long Gas Flex Line w/ fittings
6	S50-S 2FT Brace Cutout	14	Manual Bag

# GENERAL INFORMATION

## KIT CONTENTS - 1FT & 2FT SECTIONS

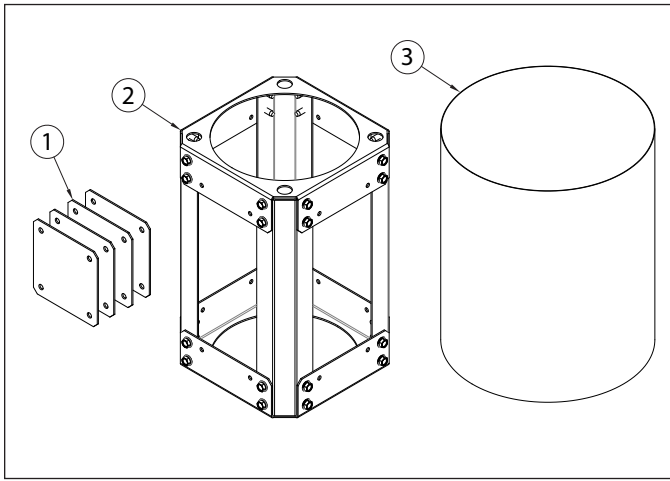


Figure 2: 1ft Section Kit Contents (50-4299)

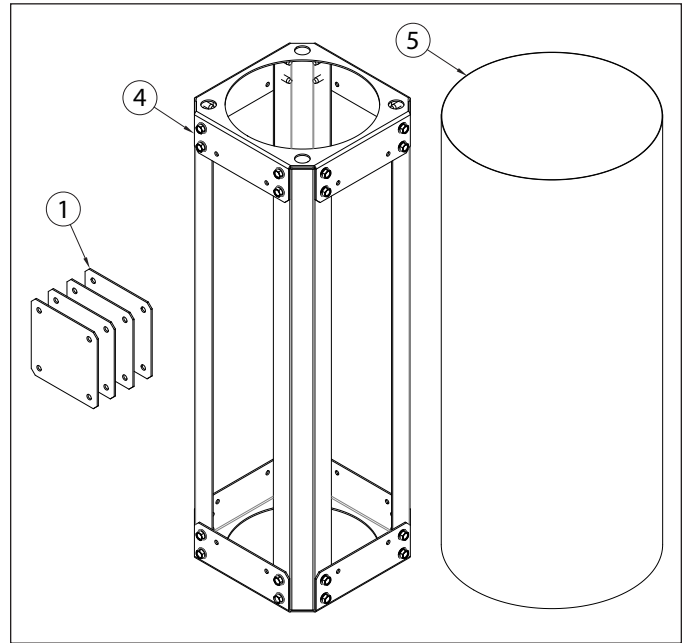


Figure 3: 2ft Section Kit Contents (50-4300)

Table 2: 1FT & 2FT Section Kit Content Descriptions

Item	Description
1	Section Joint Plate (x4)
2	1ft Section Assembly
3	Duravent DuraBlack 10" 1ft
4	2ft Section Assembly
5	Duravent DuraBlack 10" 2ft
-	Fastener Bag

# FRAMING AND CLEARANCES

## WARNING

When installing the S50 Suspension Kit, all clearances and venting requirements must be adhered to. Failure to do so could result in serious injury, death, or property damage.

Refer to the Clearance to Combustibles and Top Vent Configuration sections within the Owner's Manual for more details.

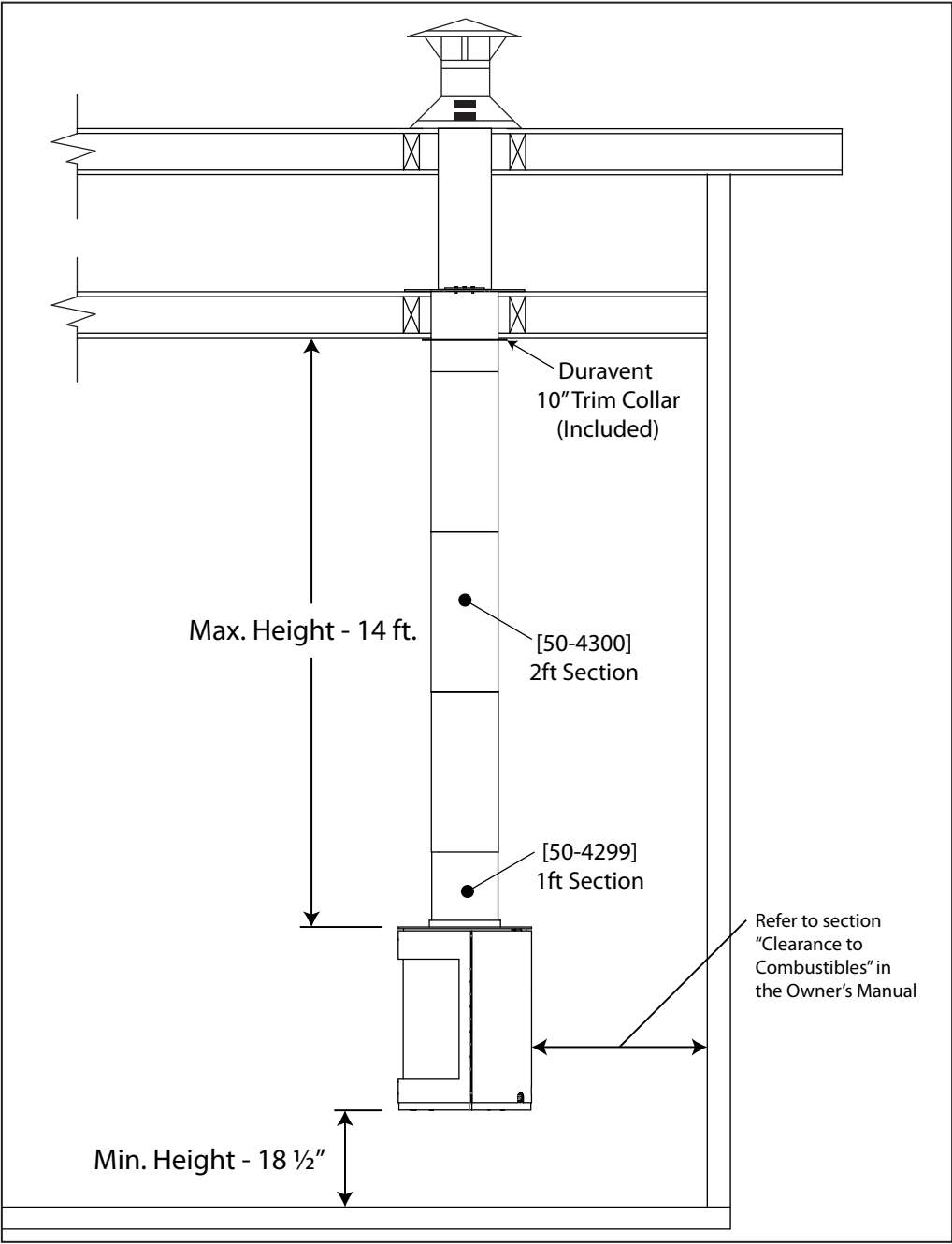


Figure 4: S50-S Installation Diagram

**Note: S50 Suspension Kits only work for flat ceilings. Not compatible with vaulted, cathedral or arched ceilings.**

# INSTALLATION

**A qualified engineer or architect MUST sign off on the structure supporting the hanging kit prior to installation. Maximum total system weight is 400lb.**

## CEILING MOUNT INSTALLATION

1. Align the Ceiling Mount Assembly directly over where the S50 will be suspended, between two joists in the ceiling as shown in Figure 5.

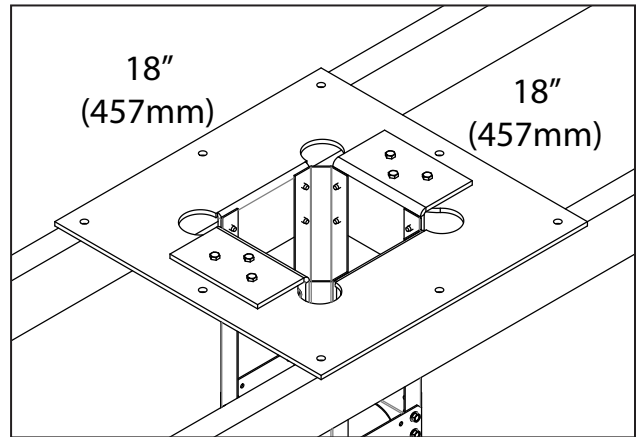
To better line up the ceiling mount with the final location of the S50, a string with a small weight attached can be slowly dropped through the center of the Ceiling Mount Assembly.

2. Secure the Ceiling Mount Assembly to the joists once the final location has been determined.
3. Working from the ceiling downwards, begin attaching sections one-by-one to create the full suspension structure.

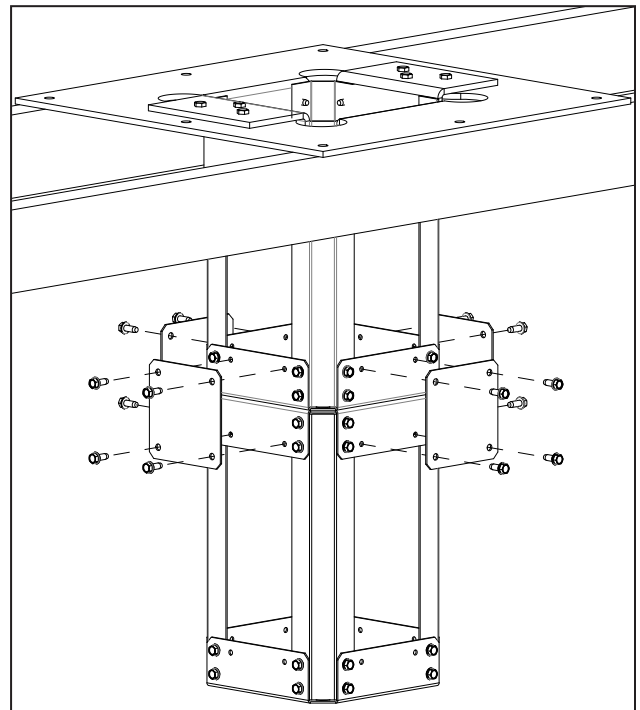
**\*NOTE:** One structure section should be set aside to attach to the S50.

Each section will come packaged with four (4) joint plates that are used to secure the sections together. Use the included fasteners to attach the sections together as shown in Figure 6.

4. As sections are attached, slide vent pieces through the center of the structure and attach to any other existing vent pieces. (See picture in next page) Keep the very top piece unattached for the time being as it will need to attach to the unit once it has been secured to the suspension structure.
5. Continue attaching suspension structure and venting pieces until there is only one suspension structure piece left (set aside at a previous step)



**Figure 5: Ceiling Mount Attachment**



**Figure 6: Suspension Structure Attachment - Ceiling**

# INSTALLATION

## UNIT PREPARATION

1. Remove the stock top plate from the S50. Refer to section "Removing Top Plate" in the Owner's Manual for details on how to properly remove.
2. Remove the Door Frame and Rear Chassis from the S50. Refer to the Owner's Manual for details on how to properly remove.
3. On the top of the S50, near the exhaust adapter, remove the wire channel shown in Figure 7. Any wires currently passing through the channel will need to be routed around the suspension structure once it is installed.
4. Retrieve the single set aside suspension structure section from the previous section. Depending on whether the set aside section is a 1ft or 2ft section, find the corresponding S50-S brace cutout that was included with the starter kit (refer to Figure 1). One of the braces on the remaining suspension structure will need to be replaced with this S50-S brace cutout. Remove the eight (8) 1/4-20 hex head bolts securing the brace and replace with the S50-S brace cutout.
5. Retrieve the two (2) Air Box Joints and the two (2) Air Box Joint Spacers that are included with the starter kit. Attach

the spacers and joints to the remaining suspension structure as shown in Figure 8. A few things of note:

- The joints should be attached on opposite sides.
- The jog should be moving away from the center of the suspension structure.
- The joints should be attached on the same end as the cutout of the new brace.

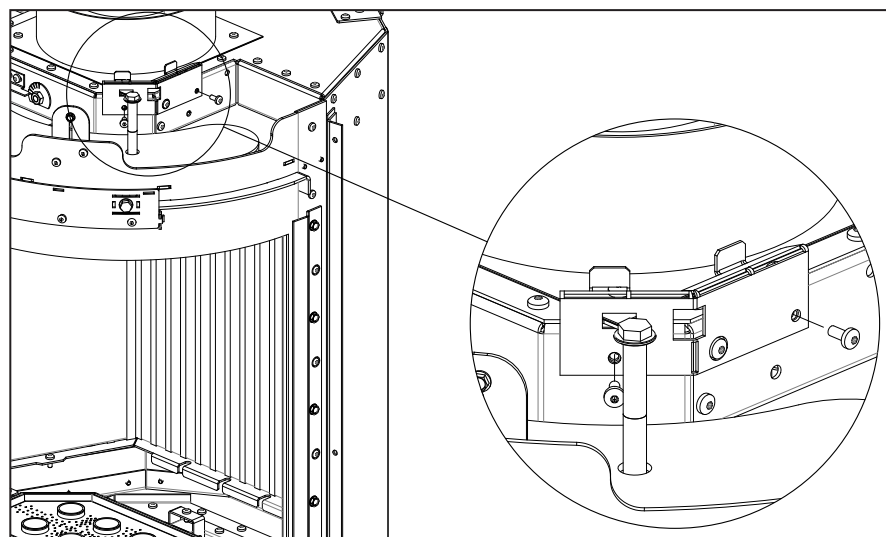
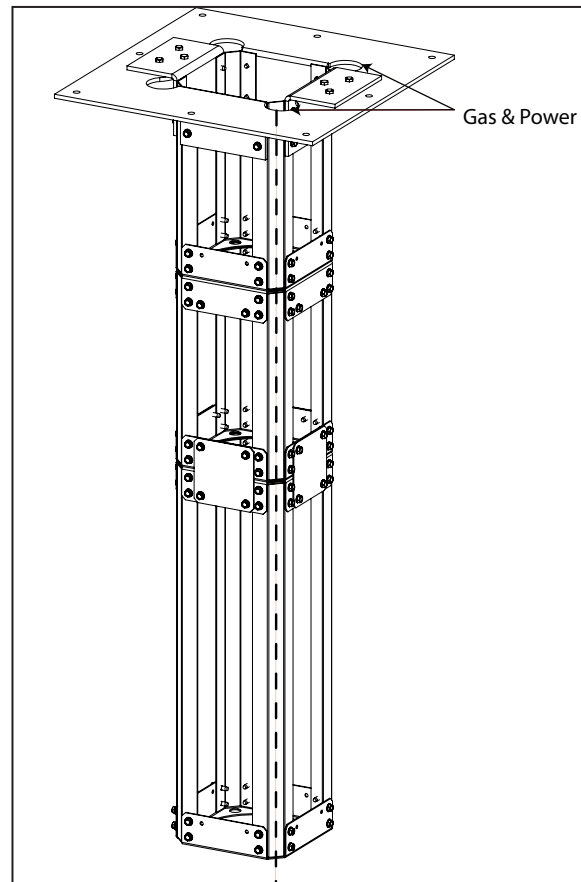


Figure 7: Wire Cover Removal

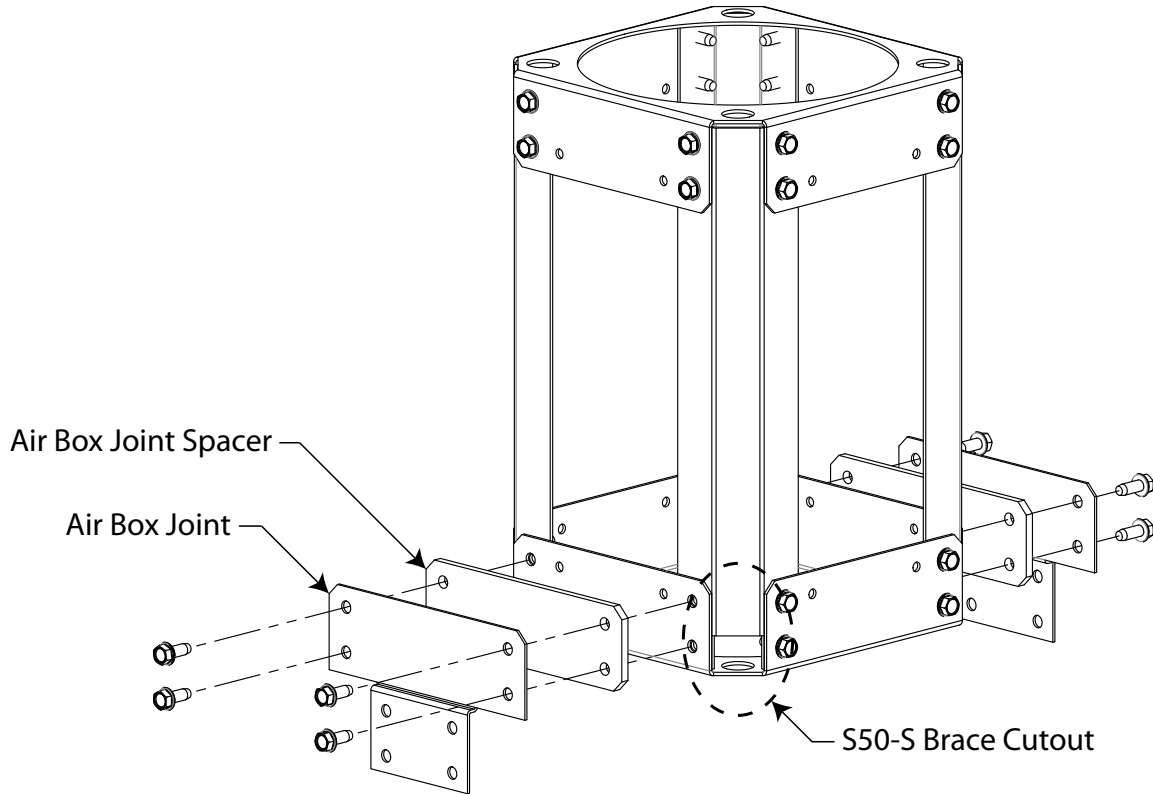
6. Align the now modified support

structure with the top of the S50 as shown in Figure 9. The Air Box Joints will line up with three (3) holes on each side of the airbox. Secure in place using six (6) 1/4-20 Hex head bolts.

\*NOTE: If you have an older version of the S50, these attachment points will be missing. Align the support structure over the top exhaust adapter and let it rest on the air box. Spot drill holes through the pre-punched holes of the Air Box Joints into the air box.

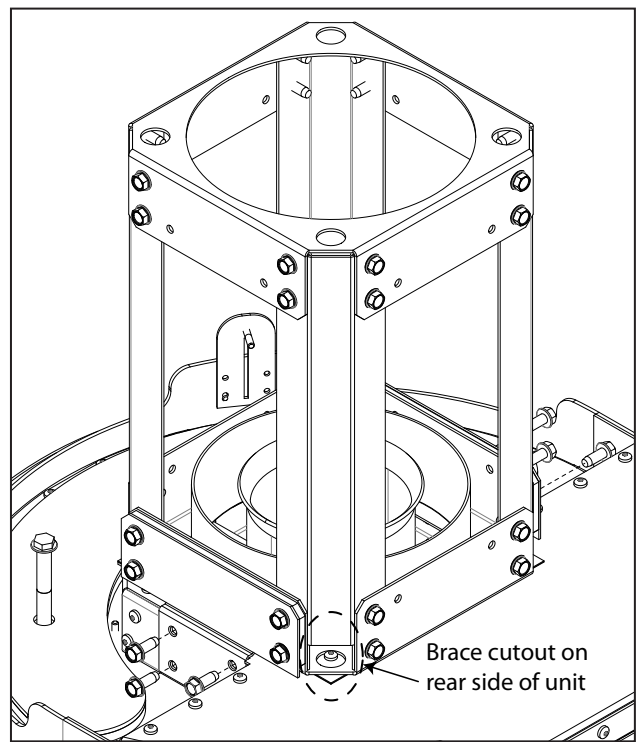


# INSTALLATION



**Figure 8: Suspension Section Modification**

7. Slide a vent piece through the center of the suspension structure and attach to the exhaust adapter on the S50.
8. Retrieve the replacement S50 top cover and attach it to the unit following the same steps used to remove the stock top cover.



**Figure 9: Suspension Section Unit Attachment**

# INSTALLATION

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## ELECTRICAL REQUIREMENTS:

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The appliance must be electrically connected and grounded in accordance with local codes or, in the absence of local codes, with the current CSA C22.1 Canadian Electrical Code Part 1, Safety Standards For Electrical Installations, or The National Electrical Code ANSI / NFPA 70 in the US.

**WARNING:** The electrical grounding instructions must be followed.

**CAUTION:** When servicing controls, label all wires prior to disconnection. Wiring errors can cause improper and dangerous operation. Verify proper operation after servicing.

If any of the original 3 conductor power cable supplied with the kit requires replacement, it must be replaced with 18 AWG wire with a temperature rating of at least 105°C / 221°F. If the supplied mica wires require replacement please contact your local Enviro dealer.

## WIRING & GAS

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A power cable will be passed through the suspension structure from the ceiling down to the unit. Three high-temp wires will join to the power cable using a ceramic terminal block and connect to the S50. **The ceramic Block must be located 2 feet Above top of the unit.** The S50 top plate can reach very high temperatures while in operation. Failure to use proper wiring could cause electrical failure in the unit.

Similarly, the gas line will follow the same path as the electrical wiring. However, the gas connection can use the same line throughout. Use soft 1/2" ID gas copper tube in this application.

**Important CSST Installation Note** - If Corrugated Stainless Steel Tubing (CSST) is desired for use the following conditions must be met:

- Type of CSST used has a rated operating temperature limit of 180°F (82°C) or better
- CSST must stop a minimum height of 6 ft (1.83m) above the top of the S50 and transition to copper tube or black iron pipe as shown in figure 10. Using CSST within the suspension structure closer than 6ft (1.83m) will expose it to temperatures above the maximum rating.

Retrieve the power cable included in the kit. From the top of the suspension structure, thread the power cable and gas line through the holes that align with the rear side of the unit as shown in Figure 10. Thread both lines through the entire suspension structure and provide additional length at the very end.

The gas and wiring connections will be completed once the unit is attached to the suspension structure. Refer to pages 12 & 13.

# INSTALLATION

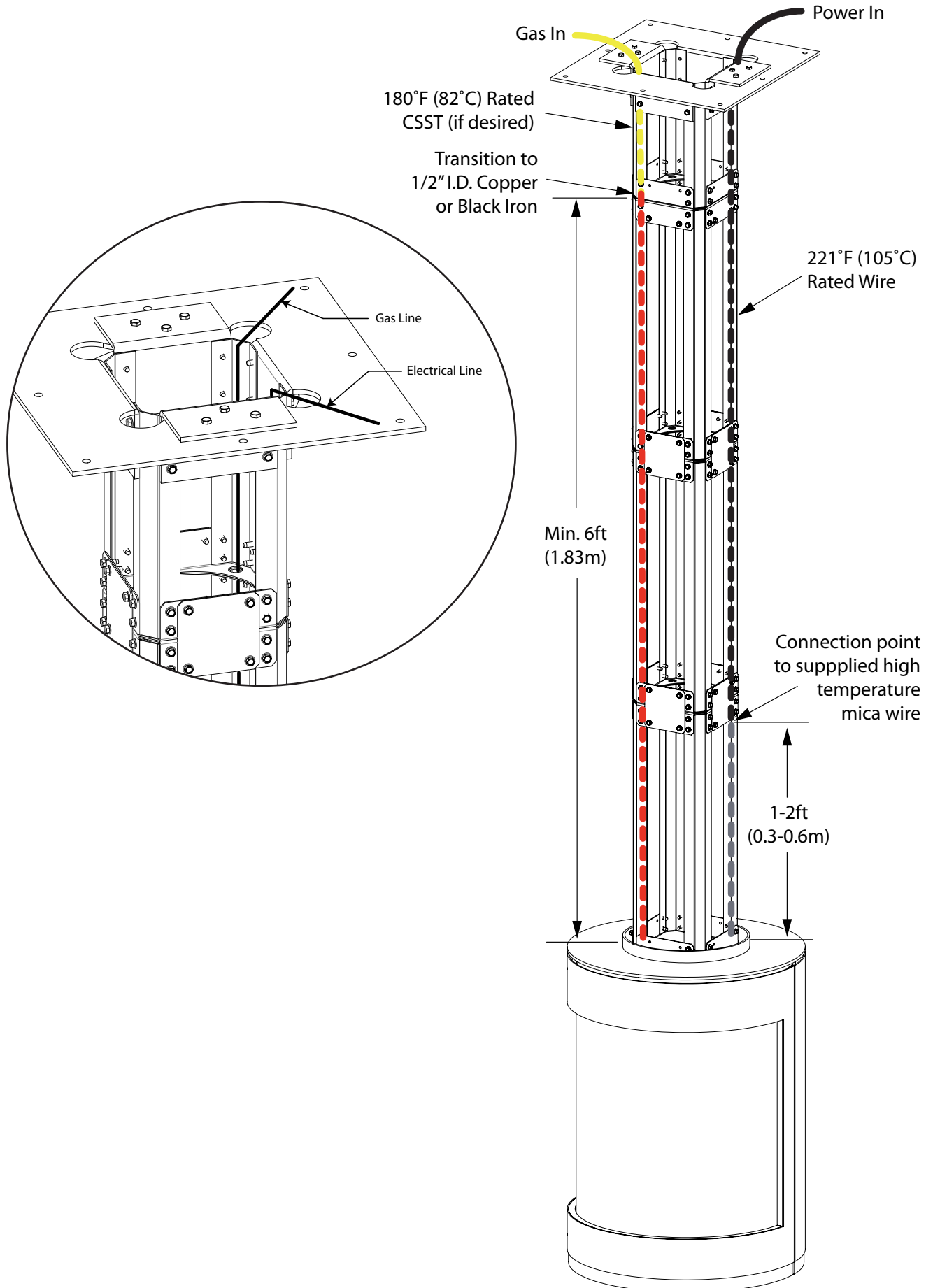


Figure 10: Gas/Electrical Line Through Structure

# INSTALLATION

## UNIT INSTALLATION

Position the S50 near the suspension structure. Prior to attaching the unit to the suspension structure, ensure all additional covers and components are placed onto the suspension structure/unit as described below:

### S50

1. Place the top collar and Duravent 10" slip section (both included in the starter kit, see Figure 1) over the suspension structure attached to the unit and rest them on top of the S50.
2. Each suspension structure piece includes a DuraVent Dura Black 10" section. Retrieve the section for the suspension structure attached to the unit and slide it onto the unit. The slip section from the previous step should slide inside this component. Refer to Figure 11.

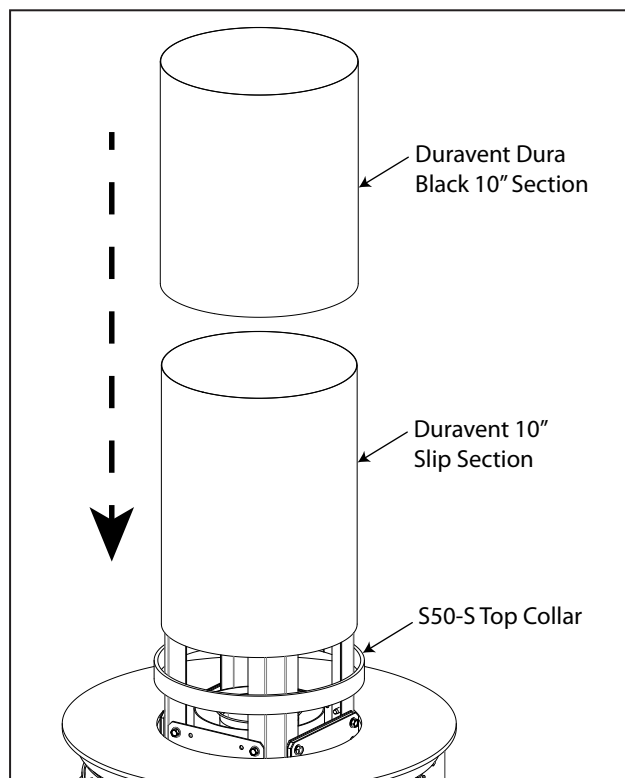


Figure 11: S50 Outer Components

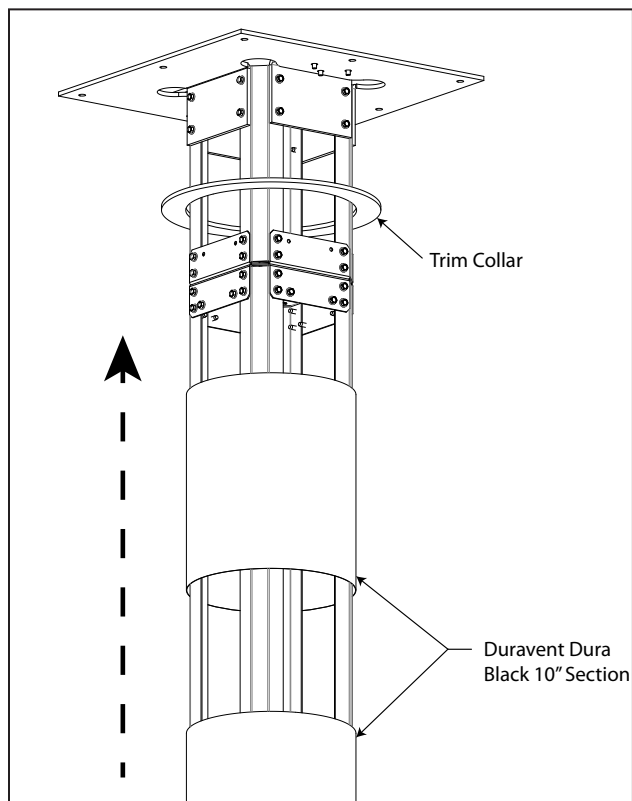


Figure 12: Suspension Structure Outer Components

### Suspension Structure

3. Slide the trim collar around the suspension structure and secure to the ceiling.
4. Each suspension structure piece includes a DuraVent Dura Black 10" section. Gather these parts and slide them one-by-one over the suspension structure as shown in Figure 12.
5. Carefully lift the S50 and position it below the suspension structure. Thread the high-temp wires through the remaining suspension structure in the same way as the previous sections.
6. With the remaining joint plates, attach the S50 to the suspension structure. Ensure the inner exhaust vents properly mate as the structure is connected.

# INSTALLATION

## GAS FLEX LINE INSTALLATION

With the unit now properly secured to the suspension structure, the supplied 4ft long gas flex line can be routed and connected.

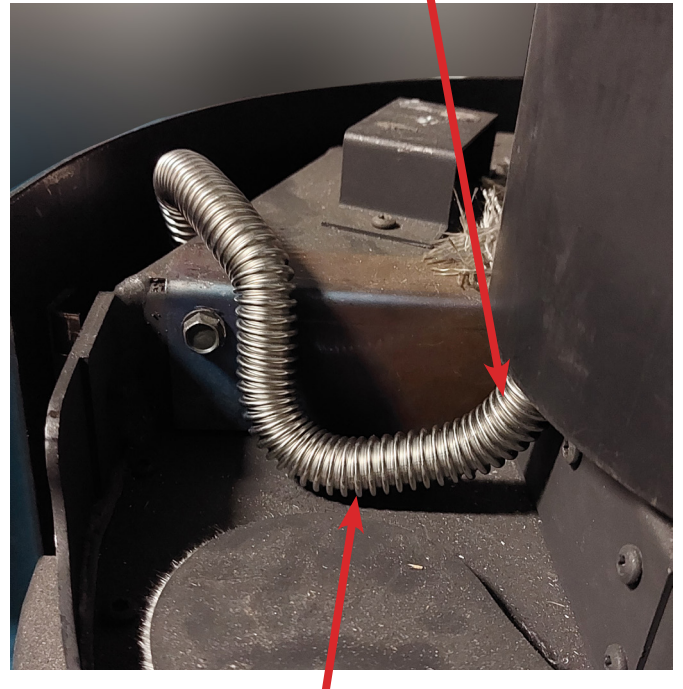
1. Lift the S50 top plate to access the bottom area of the suspension structure. The Duravent slip section also will need to be lifted to complete the gas connection.
2. Route the supplied flex line down the left side of the S50 cabinet back as shown in the pictures below. Removal of the cabinet back will improve the ease of installation but is not required:



**Figure 13: Flex Line Installation - Step 1**

3/8 NPT fitting. Connect to incoming copper line.

Confirm flex line is not pinched when slip section is lowered back down



**IMPORTANT** - Flex line must be clear of relief plate.

**Figure 14: Flex Line Installation - Step 2**



**Figure 15: Flex Line Installation - Step 3**

Correct flex line routing with top plate in position

# INSTALLATION

3. Disconnect the 10" long factory flex line from the outlet side of the SIT gas valve and discard.
4. Install the supplied 3/8 to 1/2 brass adaptor fitting and connect the other end of the new 4ft flex line to the SIT gas valve as shown:

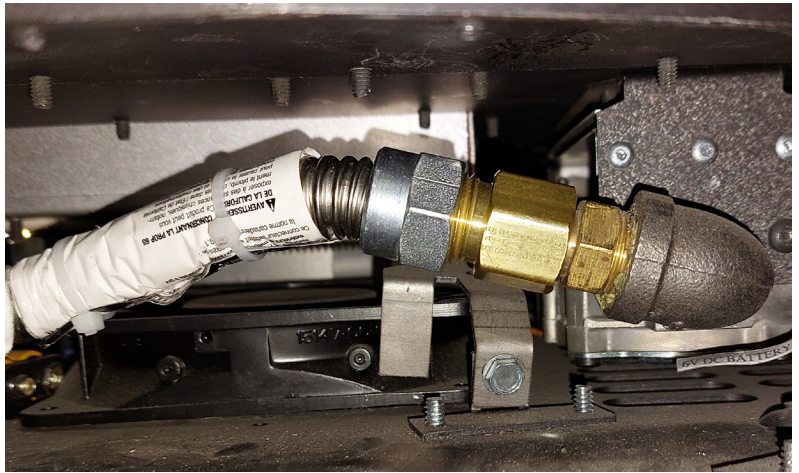


Figure 16: Flex Line Installation - Step 4

## INCOMING POWER INSTALLATION

With the installation of the gas flex line complete the incoming power wire can be routed and properly connected.

1. Lift the S50 top plate to access the bottom area of the suspension structure. The Duravent slip section can also be lifted to provide better access. Find the high-temp wires and gas line and thread them through the brace cutout shown in Figure 17.
2. Run the incoming power down the right side of the cabinet back and into the electrical component area. Removal of the cabinet back will improve ease of installation but is not required.

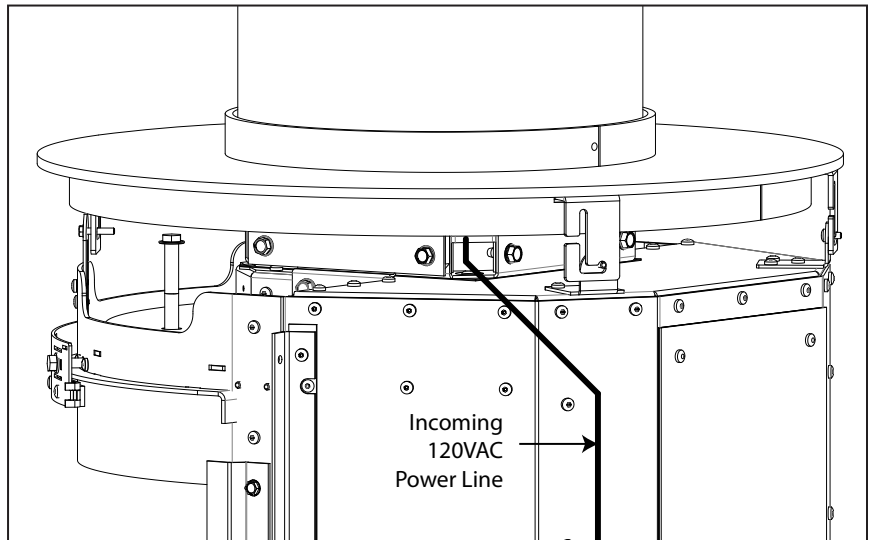


Figure 17: Routing Incoming Power

3. Disconnect the main power cord from the socket on the back to provide a flush surface for the cabinet back to reattach. Refer to section "Relocating Gas/Electrical" in the Owner's manual for more details. *\*Note: You do not need to move the adapters to their new, bottom facing positions as described in this section.*

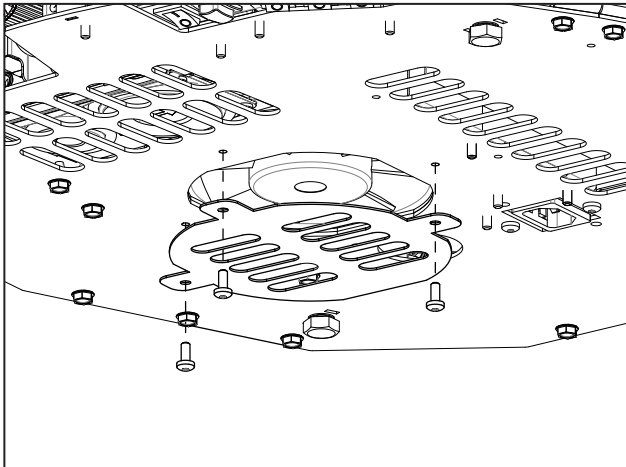


Figure 18: Fan Cover Installation

4. The new incoming power wires will need to be joined to the electrical circuit of the unit. This will vary based on the version of S50 being used. Refer to the electrical diagram in the Owner's Manual for your unit and join the wires where the power cord is shown within the circuit.
5. Retrieve the fan cover included with the starter kit and attach it to the bottom of the unit using four (4) #8 T20 screws as shown in Figure 18.

**MANUFACTURED BY:**  
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