

# Smart-Wall TV Kit

- Installation & Operation Instructions -

If any parts are missing or damaged, contact your Dealer before starting installation. **DO NOT** install a damaged kit. Be sure to also reference the appliance Installers Guide.

## Approvals

The flexible duct in this Smart-Wall TV kit is manufactured and marked to the requirements of UL-181, Class I air duct.

## Introduction

The Smart-Wall TV kit conveys warm air from the appliance through an air duct to remote locations in the same room or other rooms of the building. See Figure 1. This kit is only approved for use with the following models: RAVE4013-IFT, RAVE3012-IFT, COSMO42-IFT, COSMO32-IFT, JADE42IN, JADE42IL, JADE32IN.

**NOTICE: DO NOT** install a GFK-160A fan kit in a fireplace equipped with the Smart-Wall TV kit. The GFK-160A fan could cause the TV to overheat.

The Smart-Wall TV kit requires an IFT-RC400 and IFT-ACM (which comes with the IFT-RC400). This may need to be purchased separately if the appliance is not already equipped with these components.

The purpose of this kit is to keep the area above the appliance at a temperature that is within the flat screen style TV manufacturer's specified maximum operating temperature.

The ability of the Smart-Wall TV Kit to accomplish this purpose is expressly dependent upon the following conditions.

- The manufacturer's specified maximum operating temperature (for the TV unit being used in this application) being no less than 100 degrees Fahrenheit (consult your manufacturer to determine the maximum operating temperature for your TV unit);

If the specified maximum operating temperature for your TV unit is less than 100 degrees Fahrenheit, do not use that particular TV in this application.

- The back of the TV unit (after installation on a wall mounted bracket) having and maintaining not less than a 3-inch gap between the back of the TV unit and the wall. This is the gap between the back of the TV and the wall which is vital for proper air and temperature circulation.
- The ambient temperature of the room is maintained at 75 degrees Fahrenheit or less.
- The Smart-Wall TV Kit and the TV must be installed and operated in strict compliance with all other applicable installation and operation instructions for this kit.

Hearth & Home Technologies does not guarantee that a user's TV will safely operate long-term in conditions not strictly in compliance with those described in the previous paragraph.



## Preliminary Preparation

### Contents of kit:

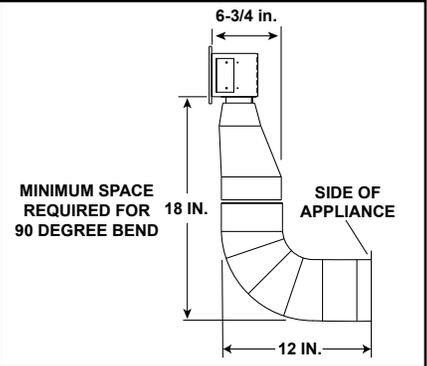
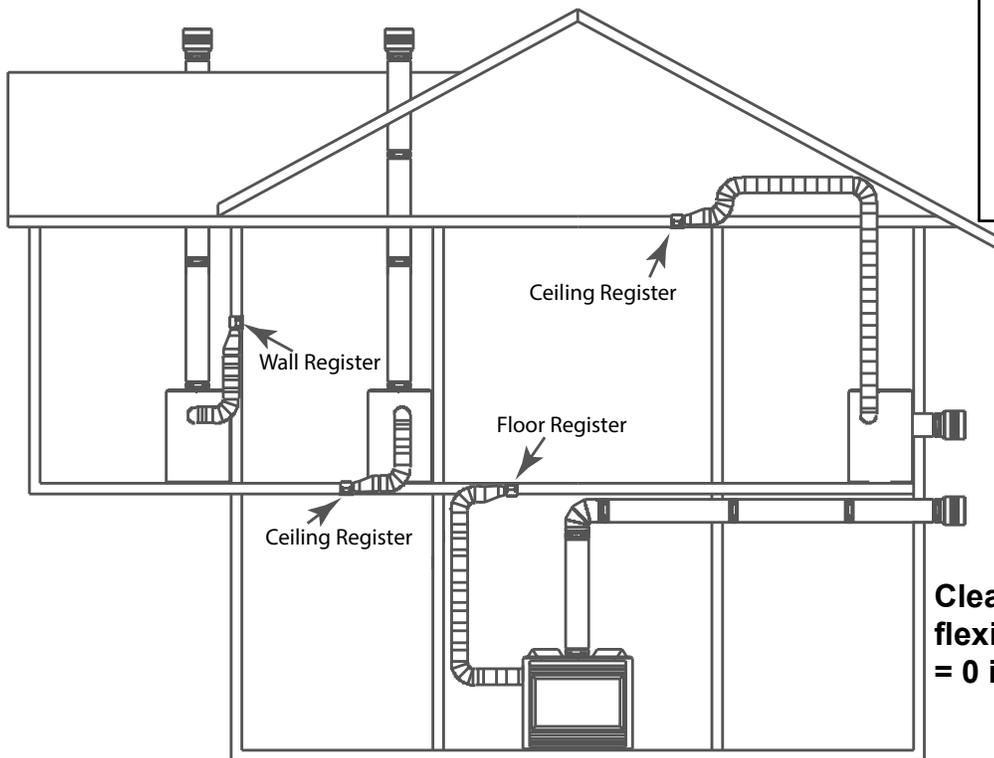
DESCRIPTION	SERVICE PART NO.
20 ft. Length of 6 in. Insulated Round Duct	659-200
Fan Housing Assembly	659-001A
Junction Box	659-122
Smart-Wall Control Module	2326-180
Air Register	659-150
Register Adaptor Frame-Thick	695-125
Appliance Duct Collar	659-125
Duct Adaptor (Round to Oval)	659-129
Accessory Cable (20 ft.)	4086-349
Power Harness	2326-136

Please note, while the Smart-Wall TV Kit, when installed and used properly will allow most TVs to operate above the fireplace appliance without damaging the TV, operating a TV at the higher end of the manufacturer's maximum operating temperature range, may and likely will have some impact on the life span of the TV appliance compared to operating it at normal ambient temperatures.

The Smart-Wall uses a control module that must be used with the IntelliFire™ Touch control system. The Smart-Wall blower turns on and operates for two minutes before the ignition sequence begins. The Smart-Wall blower remains on for 20 minutes after the appliance is turned off to remove residual heat so the TV does not overheat.

TV installation must follow the guidelines in Figure 13 for the Smart-Wall to function properly.

## Possible Air Duct Runs/Locations



**Clearance from insulated flexible duct to combustibles = 0 inches.**

Register must be located a minimum of two feet horizontally from TV unless register is mounted at least 12 inches above the TV.

Figure 1

This kit is tested and safe when installed in accordance with this installation manual. It is your responsibility to read all instructions before starting installation and to follow these instructions carefully during installation.

Installation of this kit **MUST** be performed by a qualified service technician.

The Smart-Wall kit is carefully engineered and must be installed only as specified. If you modify it or any of its components you will void the warranty, and you may possibly cause a fire hazard. Installation must be done according to applicable local, state, provincial, and/or national codes.

**CAUTION!** All wiring should be done by a qualified electrician and shall be in compliance with local codes and with the National Electric Code ANSI/NFPA No. 70-current (In the United States), or with the current CSC22.1 Canadian Electric Code (in Canada).

### Pre-Installation

1. Plan the location of the appliance and the warm air duct run. See Figure 1 for potential installation options.

### Venting Guidelines

**MAXIMUM** Duct Run = 20 ft. (6.1 m)

**MINIMUM** Duct Run = None: For runs out from the appliance to adjacent room OR down to the room below.

**MINIMUM** Duct Run = 31 in. (787 mm) top of appliance to room above.

- Maintain smooth turns in duct to minimize restriction.

### Installation

1. Remove the knockout or cover plate from the side of the appliance and discard it. See Figure 2.
2. Center the duct collar around the exposed hole and attach it to the appliance with three screws.

**Note:** Do this before final positioning of the appliance.

3. Determine the location for the air register/fan housing assembly. Cut a 5 in. x 13-5/8 in. (127 mm x 346 mm) hole between framing members (wall studs or floor joists). The fan and electrical connections must be accessible for servicing per local code requirements.

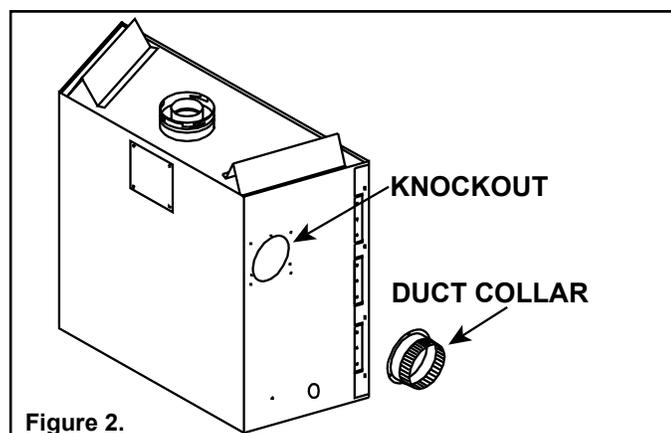


Figure 2.

4. Mount and secure the fan housing assembly to framing members so the front surface is 1/4 in. (6 mm) below the finished wall or floor surface. Use the adjustable mounting brackets and screws provided in the kit. See Figure 3 and Figure 4.

**Note:** The brackets can be rotated 180° and mounted to the back side of the 2 x 4 if necessary.

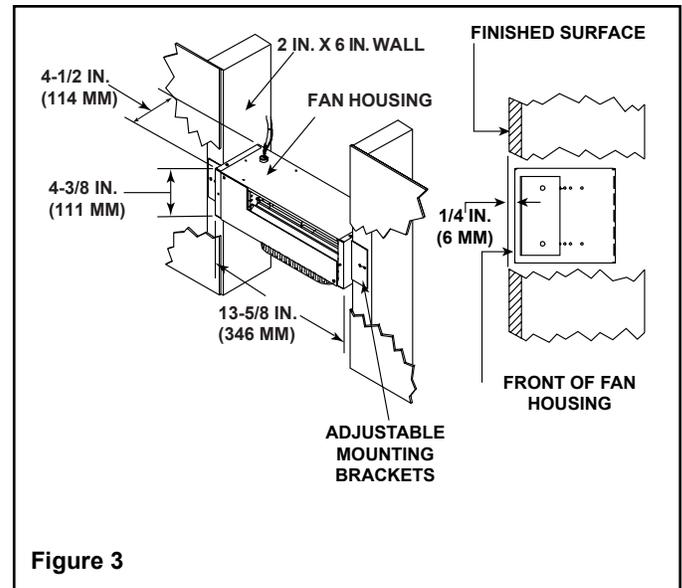


Figure 3

**Note:** If the fan housing is installed in a 2 x 4 wall, the front of the housing will protrude approximately 1/2 in. (13 mm) out of the wall. See Figure 4.

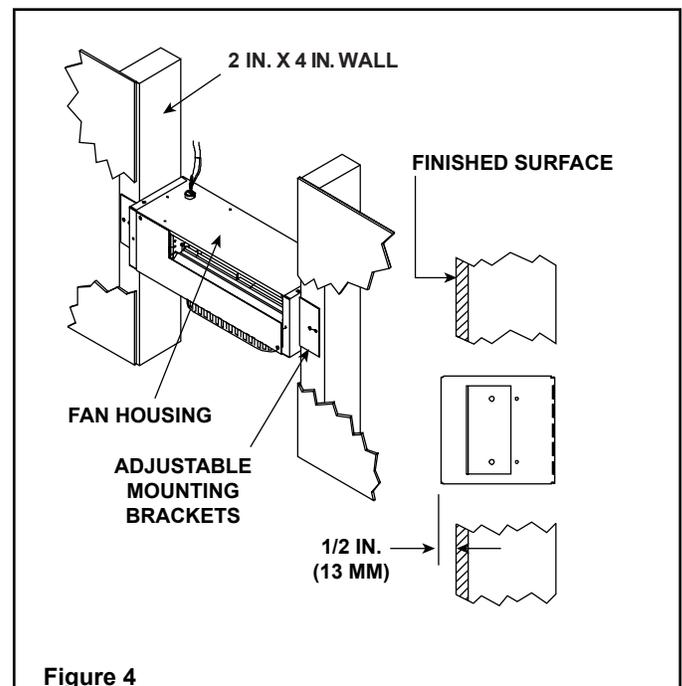
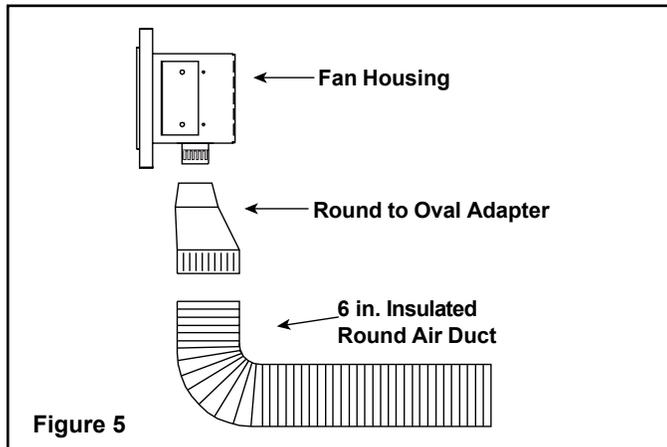


Figure 4

5. Install the air duct run to the appliance duct collar. **Note:** Fold outer poly layer of flexible duct back to maintain clearance to combustibles on the appliance. Secure flexible duct to the collar with clamp provided.

6. **Insulated Round Air Duct:** Run the flexible duct to the fan housing. Attach the round-to-oval adapter to the fan housing with 2 self-tapping sheet metal screws and the air duct to the adapter with the clamp provided. See Figure 5.
7. Support duct at intervals of no greater than four feet, with no more than 1/2 in. (12 mm) sag between supports as required by local code. **Note:** Secure the duct so that clearance to the appliance outer wrap is maintained. Tape all seams with aluminum tape (1-1/4 in. (30 mm) minimum width, or as specified by local codes).



8. Connect the strain relief from accessory cable (4086-349) to the Smart-Wall junction box.
9. Connect the white (neutral) and black (hot) wires from the accessory cable to the corresponding wires on the Smart-Wall blower assembly. Connect the ground wire eyelet to the Smart-Wall housing using the green screw provided. See Figure 10.
10. Screw the Smart-Wall fan junction box to the Smart-Wall fan housing.
11. Screw the register adapter frame and the air register to the fan housing.

## Wiring the Appliance for the Smart-Wall with IntelliFire™ Touch (IFT) Controls

**NOTICE:** When integrating the Smart-Wall onto an appliance with IntelliFire™ Touch (IFT) controls, the RC400 remote control and the Auxiliary Control Module (IFT-ACM) must be equipped on the appliance. The IFT-RC400 includes the RC400 and the IFT-ACM. The IFT-ACM is available separately for appliances already equipped with the RC400 remote control.

**NOTICE:** Electrical wiring must be done in accordance with national, provincial, and/or local electric codes.

**CAUTION! Risk of shock!** Disconnect electrical power from fireplace/power vent before performing any maintenance, repair, or electrical wiring.

**NOTICE:** Electrical service of 120 VAC-60Hz must be supplied to the junction box of the fireplace in order for the Smart-Wall to operate correctly.

### CAUTION!

- Smart-Wall must be paired to IFT-ACM before installation is complete.
- If you have 120 VAC Power & Gas to appliance:
  - Immediately after connecting the Smart-Wall module connector to the IFT-ACM, the IFT control must be paired to recognize the Smart-Wall as part of the control configuration.
  - Appliance and Smart-Wall function must be verified before installation is complete.
  - Consult installation manuals for details.
- If you DO NOT have 120 VAC Power & Gas:
  - DO NOT connect the Smart-Wall module to IFT-ACM.
  - Disconnect 6V power to lock-out appliance.

## REMOVAL OF UNNECESSARY PARTS

Refer to Figure 6 for steps 1 through 4. Some features may or may not exist on appliance. The shaded portion corresponding to the numbered step is the task to be performed.

1. Unplug control module power.
2. Remove and discard battery pack (if present).
3. Detach wires from 6 pin harness that connect an optional appliance on/off control (if present) and discard.
4. Remove jumper/splitter wire (if present) and discard.

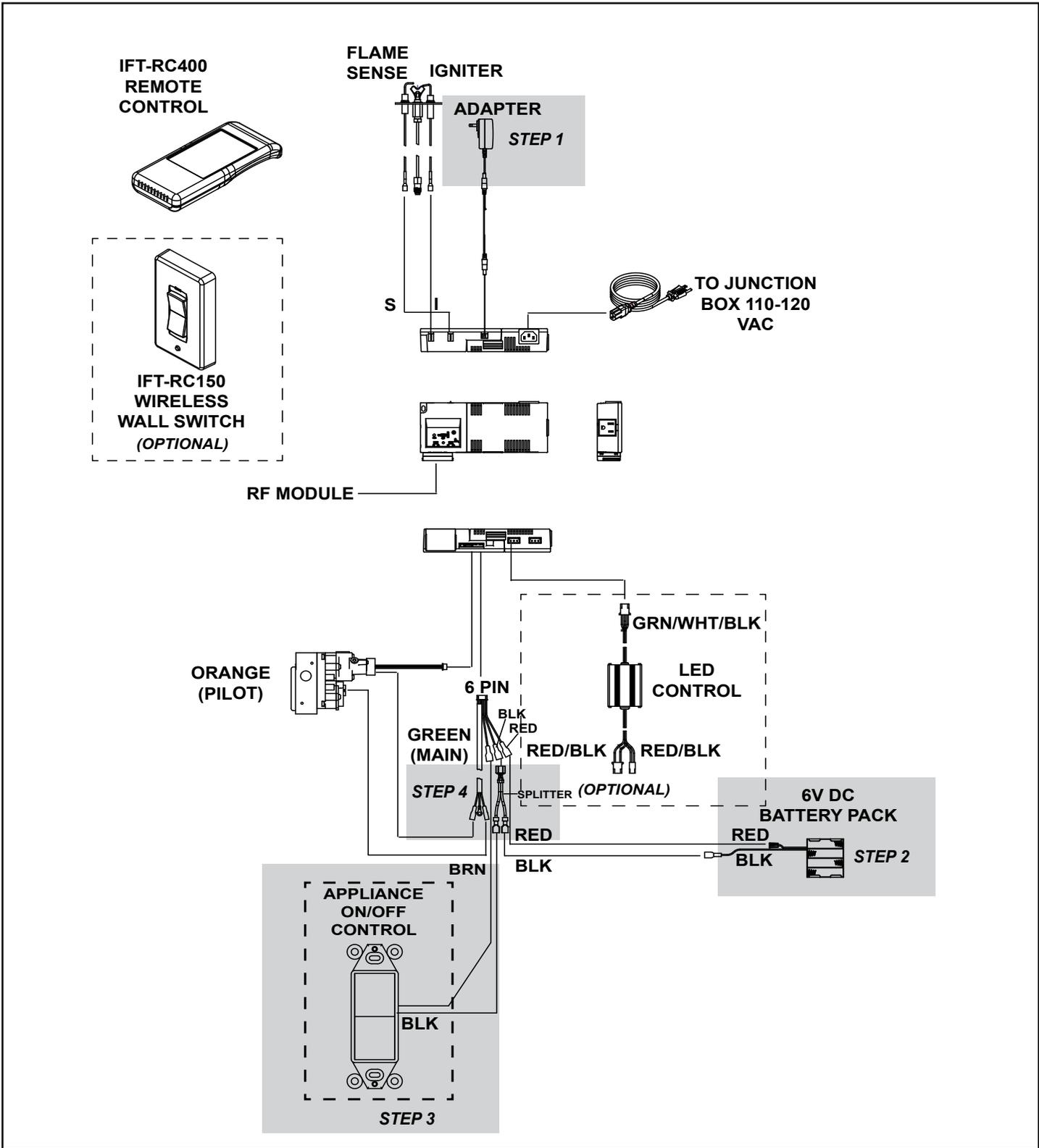


Figure 6 IFT-RC400 Wiring Diagram without Smart-Wall

## Installation Steps:

If the appliance is equipped with an IFT-ACM, proceed to step 6. If not, proceed to next step.

1. Locate the IntelliFire™ Touch electronic control module (IFT-ECM) in the control cavity of the appliance and move the three-position switch to the OFF position. See Figure 7.
2. Remove protective rubber cap from connector on the top of the IFT-ECM. See Figure 7.

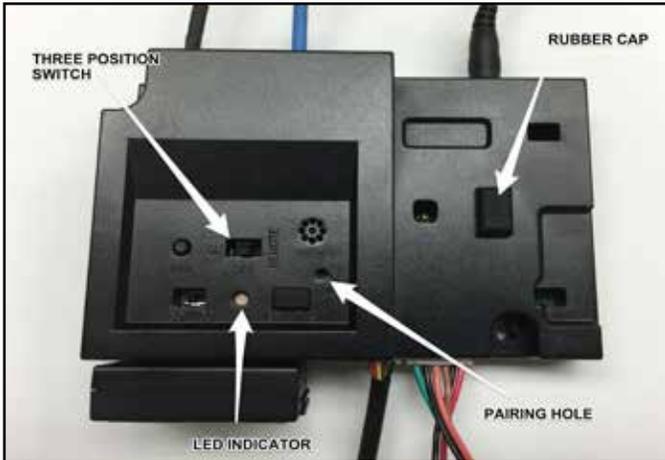


Figure 7. IFT-ECM

3. Attach velcro included with the IFT-ACM to the bottom of the ACM. See Figure 8.
4. Connect the IFT-ACM to the IFT-ECM by aligning the pins and tabs and pushing the IFT-ACM into the IFT-ECM until both tabs latch in place. Ensure the IFT-ECM and IFT-ACM are aligned with each other and fastened securely. See Figure 8.



Figure 8. Connecting IFT-ACM and IFT-ECM

**WARNING! Risk of Shock! DO NOT touch male pins.** Leave rubber cap on all ports unless port is being connected to a load.

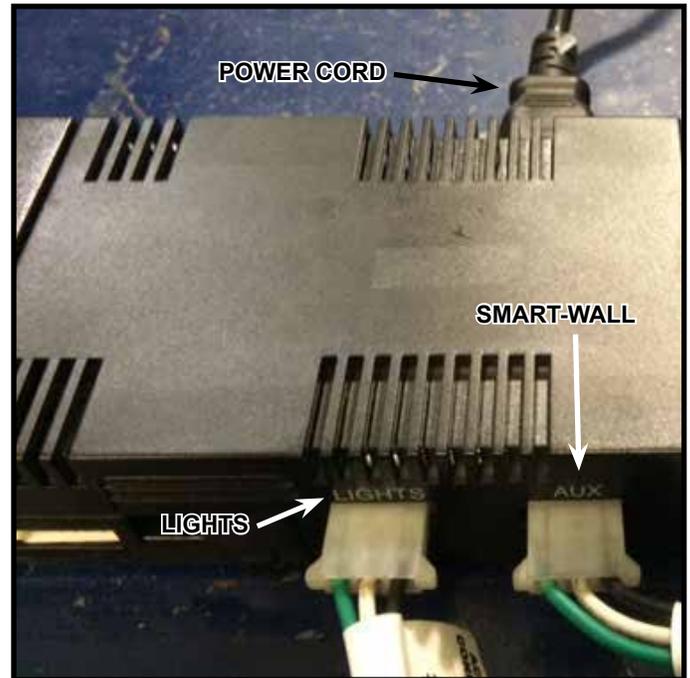


Figure 9. Fan, Lights and Smart-Wall Connection

5. The IFT-ACM can provide power to HHT approved options including lights and Smart-Wall.

- To connect a light kit to the IFT-ACM, remove protective rubber cap labeled 'LIGHTS' and connect the female cord that was supplied in your lights kit into the three male pins on the IFT-ACM. See Figure 9.
- To connect a Smart-Wall kit to the IFT-ACM, remove protective rubber cap labeled 'AUX' and connect the female end connector of the Smart-Wall control module leads to the three male pins on the IFT-ACM. See Figure 9.

**WARNING! Risk of Shock! DO NOT touch male pins.** Leave rubber cap on all ports unless port is being connected to a lead.

**Note:** It will be necessary to re-pair the remote after installing HHT approved options to the appliance. Refer to Page 9 for pairing the remote.

6. Refer to wiring diagram with the Smart-Wall to make remaining connections. See Figure 10.
7. Attach the Smart-Wall control module to the bottom of the appliance using the velcro provided in the kit.
8. Ensure the selector switch on the Smart-Wall module is set to A.

9. A hole measuring 7/8 inch in diameter must be bored in the side of the appliance outer wrap in which the three wires from the Smart-Wall will be routed. The hole should be located 2 inches (48 mm) to the side of the junction box and 3 inches (76 mm) up from the base of the appliance.
10. Connect the accessory cable coming from the Smart-Wall blower to the 3 pin male connector on the Smart-Wall control module.
11. Connect the 3 pin female connector on the Smart-Wall control leads to the Aux port on the IFT-ACM.
12. Connect the brown wire from the IFT-ECM wire harness to the white wire coming from the Smart-Wall control module.
13. Connect the male DC jack connector from the power harness (2326-136) to the female DC jack connector on the IFT-ECM.
14. Connect the 6 volt adapter from the junction box to the female DC jack connector on the power harness (2326-136).
15. Connect the 1/4" insulated connectors from the power harness (2326-136) to the corresponding male/female connectors on the red and black wires from the Smart-Wall control module.
16. Plug the IFT-ACM 120VAC power cord into the junction box. This will already be plugged in if equipped on the appliance, or it is included in the IFT-ACM kit if the appliance is not equipped with an IFT-ACM.
17. Plug the 6Vdc adapter back into the junction box to restore power to the control module.

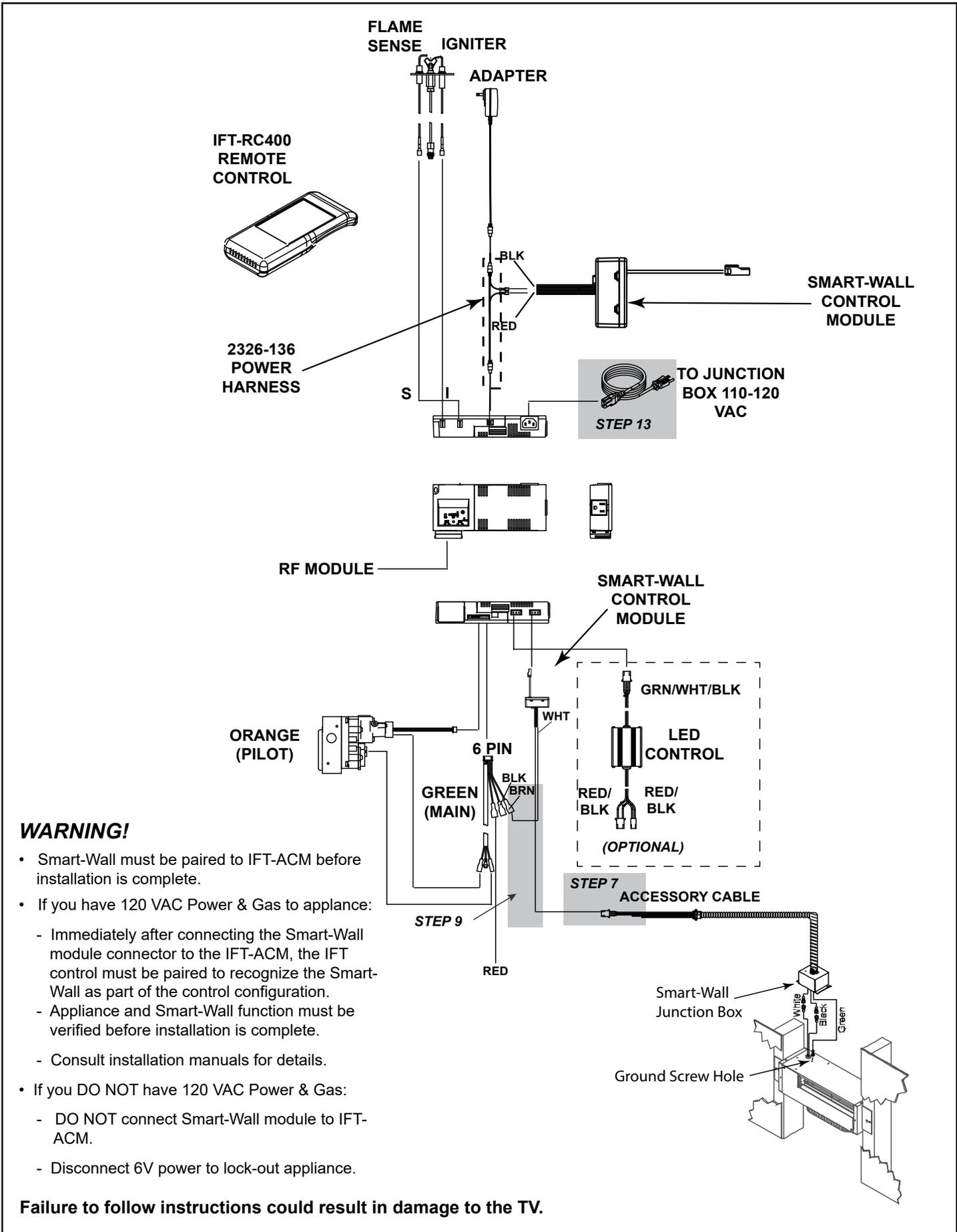


Figure 10. IFT-RC400 Wiring Diagram with Smart-Wall

## Pairing or Re-Pairing the IFT-RC400 to the Electronic Control Module (IFT-ECM)

**WARNING!** After installation of Smart-Wall components, the RC400 and IFT-ECM **MUST BE** re-paired to detect the Smart-Wall accessories.

**CAUTION! Risk of Burns! DO NOT** program the IFT Remote Controls to the IFT-ECM when flame or cold climate function is on or when appliance is hot.

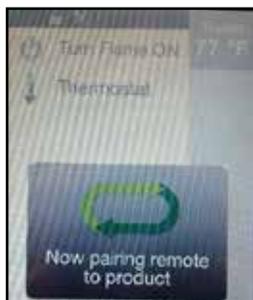
1. On the IFT-ECM, move the ON/OFF/REMOTE switch to the REMOTE position. The green LED will blink three times. A few seconds later, an audible “beep” will occur to indicate that the system is ready.

**Note:** If the green LED continues to blink slowly (system is searching for a clear channel), wait until it stops before proceeding to step 2.

2. Locate the pairing hole on the IFT-ECM. See Figure 11. Using a paper clip or similar item, press and release the pairing button. The IFT-ECM will “beep” once and the green LED will blink for 14 seconds. During the 14 seconds, it is normal for installed accessories such as lights, fan, and Smart-Wall to energize momentarily.

While the green LED on the IFT-ECM is blinking, tap anywhere on the gray indicator bar located at the top of the IFT-RC400 screen. Tap on the pairing function as shown in Figure 12. If the IFT-RC400 has been paired successfully to the IFT-ECM, a double audible “beep” will be heard from the IFT-ECM.

**Note:** If the RC400 displays the 'Now pairing remote to product' display as shown below **before** able to reach the diagnostic menu on remote, you must repeat the process as follows;



- A. Remove one battery from the RC400.
  - B. Press the pairing button on the IFT-ECM.
  - C. Quickly install the battery into the RC400.
  - D. As soon as the main screen appears, tap on the RC400 gray indicator bar. Then immediately tap the pairing icon. Successful pairing will be indicated by a double beep from the IFT-ECM.
3. If the pairing is unsuccessful, repeat steps 1 & 2.

**Note:** If additional components are added such as blowers, lights or Smart-Wall after initial pairing, the pairing process must be repeated again to detect additional components.

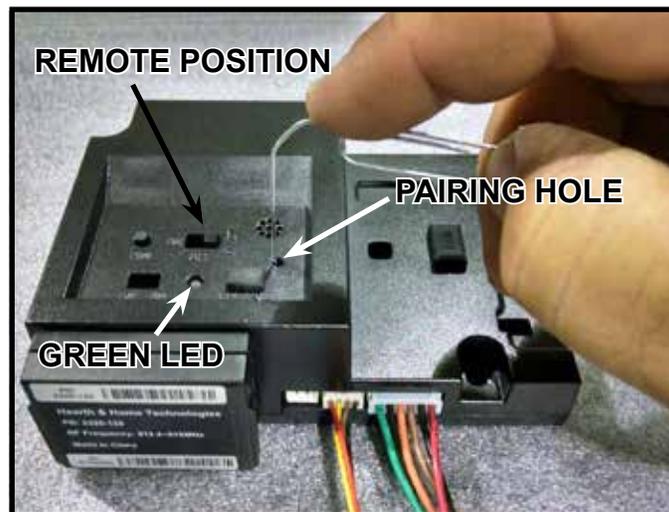


Figure 11. Pairing IFT-ECM



Figure 12. IFT-RC400 Wall Mount / Pairing Screen

**NOTE:** Refer to Operating Guide and Troubleshooting Section of IFT-RC400 Installation Manual for Operation and Maintenance Sections of Remote Control.

## Installation Inspection

1. Follow safety inspection procedures recommended by national, provincial, and/or local codes.
2. Be certain all electrical connections are properly made and secure.
3. Visually inspect the vent system and determine that there is no flue gas spillage, blockage or restriction, leakage, corrosion or other unsafe deficiencies.
4. Make sure the blower is running after installation of the Smart-Wall module.
5. Inspect the duct to make sure there are no kinks in the duct work.
6. Inspect the air register to ensure there is nothing blocking its airflow.
7. If another type of air register is installed, it must have the same square inch opening as the air register supplied with the Smart-Wall kit.
8. An operable air register that can be closed or reduce airflow is not allowed to be used with the Smart-Wall kit.
9. Do not install a speed control on the blower for the Smart-Wall kit.

**CAUTION! Risk of electrical shock! DO NOT allow 120VAC wires to contact hot metal surfaces. Use wire ties to bundle wires away from flue pipe, fan housing and other metal surfaces.**

If RC400 display is incorrect, touch 'Turn Flame OFF' and refer to troubleshooting section.

4. If the RC400 display is correct, the Smart-Wall will be running and the 2-minute countdown timer will run, after which the pilot will ignite followed by the main burner.
5. Touch 'Turn Flame OFF' on the RC400. The pilot and main will extinguish. The Smart-Wall will continue to run for 20 min.

**WARNING! After installation of Smart-Wall components, the RC400 and IFT-ECM MUST BE re-paired to detect the Smart-Wall accessories.**

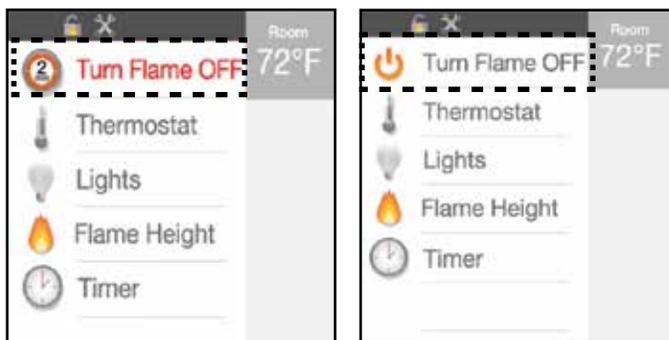
**NOTE: In the event of a Smart-Wall TV system failure, the RC400 will display "Call Dealer, Power Vent Error," and the appliance ECM will flash a five red and one green LED blink code. Call dealer for service.**

## Smart-Wall Operating Instructions

After installation of the Smart-Wall, follow the operation instructions below for the IFT/RC400.

### IFT/RC400

1. Touch screen on RC400 to wake up.
2. Touch 'Turn Flame On'.
3. Observe touch screen - if system is configured properly for Smart-Wall Operation, a 2-minute countdown timer will be displayed next to 'Turn Flame OFF'. See Figure below.

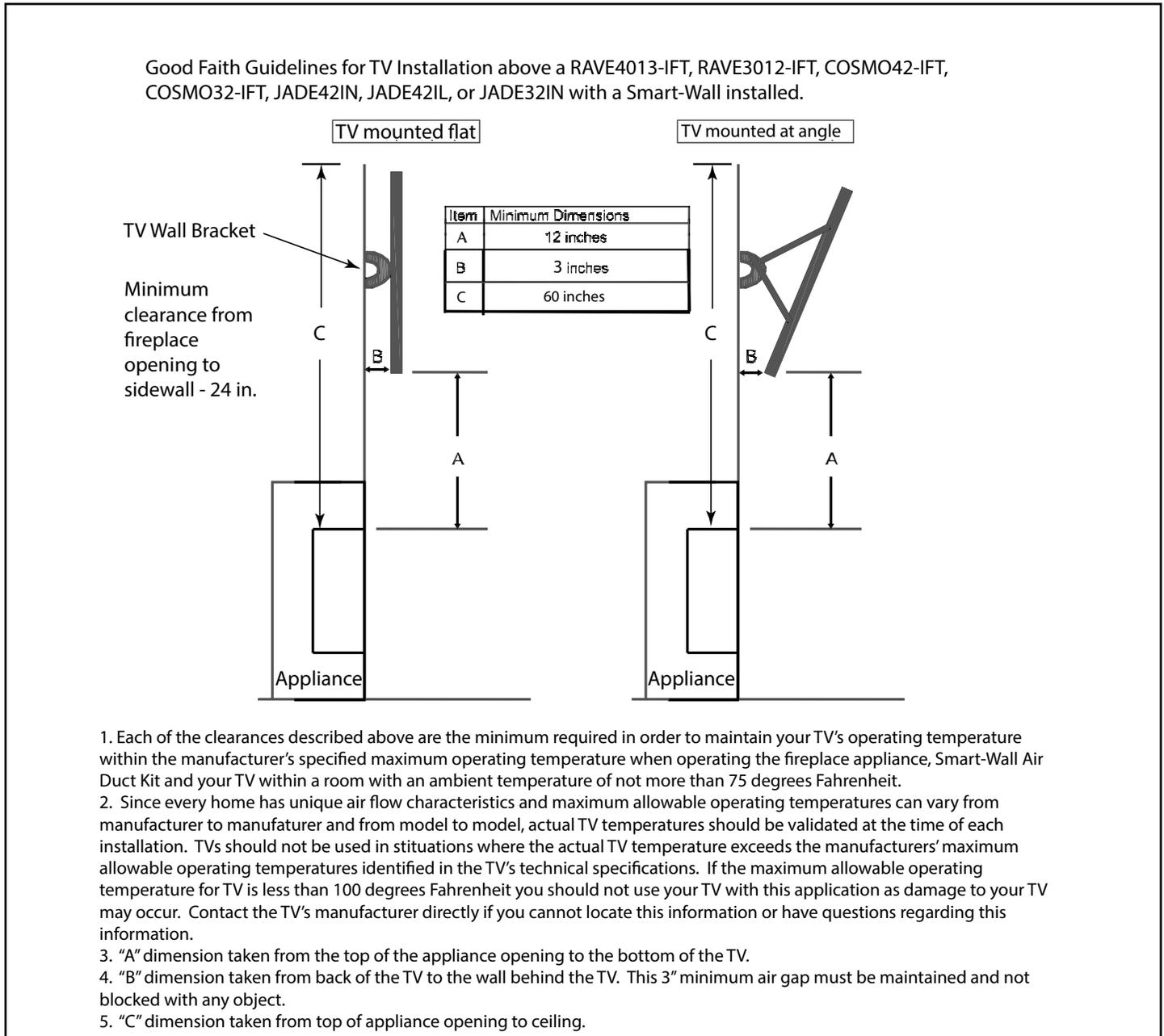


**CORRECT  
SMART-WALL DISPLAY**

**INCORRECT  
SMART-WALL DISPLAY**

## Operation

The Smart-Wall uses a control module that must be used with the IntelliFire™ Touch control system. The Smart-Wall blower turns on and operates for two minutes before the ignition sequence begins. The Smart-Wall blower will remain on for 20 minutes after the appliance is turned off to remove residual heat so the TV does not overheat.



**Figure 13. Good Faith Guidelines for TV Installation**

## Maintenance

Service and maintain the gas appliance per instructions.  
Keep the air register clean and free of any blockage.

Please contact your Hearth & Home Technologies  
dealer with any questions or concerns.  
For the location of your nearest Hearth & Home Technologies  
dealer, please visit [www.hearthnhome.com](http://www.hearthnhome.com).

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