48V Large Rooftop Units
27.5-100 Ton
LP Gas Conversion Kit

Installation Instructions

Part No. CRLPELEV020A00,021A00, 022A00, 023A00

CONTENTS

IMPORTANT: Read these instructions completely before attempting to install this accessory.

SAFETY CONSIDERATIONS

Improper installation, adjustment, alteration, service, maintenance, or use can cause explosion, fire, electrical shock, or other conditions which may cause death, personal injury, or property damage. Consult a qualified installer, service agency, or your distributor or branch for information or assistance. The qualified installer or agency must use factory-authorized kits or accessories when modifying this product. Refer to the individual instructions packaged with the kits or accessories when installing.

Follow all safety codes. Wear safety glasses, protective clothing, and work gloves. Have a fire extinguisher available. Read these instructions thoroughly and follow all warnings or cautions included in literature and attached to the unit. Consult local building codes, the current editions of the National Fuel Gas Code (NFGC) NFPA 54/ANSI Z223.1, and the National Electrical Code (NEC) NFPA 70.

In Canada refer to the current editions of the National Standards of Canada CAN/CSA-B149.1 and .2 Natural Gas and Propane Installation Codes, and Canadian Electrical Code CSA C22.1.

Recognize safety information. This is the safety-alert symbol ⚠ . When you see this symbol on the unit and in instructions or manuals, be alert to the potential for personal injury. Understand the signal words DANGER, WARNING, and CAUTION. These words are used with the safety-alert symbol. DANGER identifies the most serious hazards which will result in severe personal injury or death. WARNING signifies hazards which could result in personal injury or death. CAUTION is used to identify unsafe practices which may result in minor personal injury or product and property damage. NOTE is used to highlight suggestions which will result in enhanced installation, reliability, or operation.

⚠ WARNING

FIRE, EXPLOSION, CARBON MONOXIDE POISONING, PROPERTY DAMAGE HAZARD

Failure to follow this warning could result in personal injury, death or property damage.

This conversion kit shall be installed by a qualified service agency in accordance with the manufacturer's instructions and all applicable codes and requirements of the authority having jurisdiction. The qualified service agency is responsible for the proper installation of this kit. The installation is not proper and complete until the operation of the converted furnace is checked as specified in the manufacturer's instructions supplied in the kit.

⚠ AVERTISSEMENT

FEU, EXPLOSION, EMPOISONNEMENT PAR CARBON DE MONOXYDE, RISQUE DE DOMMAGE ÀLAPROPRIÉTÉ

La négligeance de suivre l'avis suivant, peut causer des blessures personnelles, la mort ou du dommage à la propriété.

Cette trousse de conversion doit être installée par un Entrepreneur qualifié, selon les instructions du fabricant et doit se conformer à toutes les exigences et tout les codes pertinents de l'autorité compétente. L'Entrepreneur qualifié est responsable, et doit s'assurer de bien suivre les instructions dans cet avis. L'installation sera considèrèè conforme et rencontrant les spécifications et instructions du fabriquant qui sont inclus dans la trousse, seulement aprés vérification de l'opération de la fournaise convertie.

⚠ WARNING

FIRE, EXPLOSION, ELECTRICAL HAZARD

Failure to follow this warning could result in personal injury, death or property damage.

Gas supply MUST be shut off before disconnecting electrical power and proceeding with conversion.

⚠ WARNING

EXPLOSION, PERSONAL INJURY HAZARD

Failure to follow this warning could result in personal injury or death.

Unit is designed to operate at 10.0 in. wg of manifold pressure on HIGH stage and 6.6 in. wg on LOW stage with PROPANE gas.

⚠ WARNING

ELECTRICAL SHOCK HAZARD

Failure to follow this warning could result in personal injury or death.

Before installing or servicing system, always turn off main power to system. There may be more than one disconnect switch. Tag disconnect switch with suitable warning label.

IMPORTANT: The accessories described in this installation instructions manual are suitable for use on the models listed in Table 1. DO NOT ATTEMPT TO INSTALL ON MODELS AND SIZES NOT INCLUDED IN TABLE 1.

GENERAL

The 48V Series large rooftop units are shipped from the factory equipped to operate with natural gas at elevations up to 3000 ft (914 m). The units must be modified if installed at elevations above 3000 ft (914 m) using natural gas, or if operated with propane at any altitude. See Table 1 for accessory package contents and unit usage.

For installations in Canada, the unit rating must be derated by 10% for altitudes of 2000 ft (610 m) to 4500 ft (1372 m) above sea level.

Four different gas conversion kits are available, as shown in Table 1. Each kit contains a particular range of orifice sizes plus, hardware and labels necessary for converting the unit. See Fig. 1 for typical low gas heat unit access location. See Fig. 2 and 3 for burner assembly parts and installation. See Fig. 4 and 5 for orifices and spark gap dimensions. See Fig. 6-9 for applicable label.

Table 1 — Package Contents and Usage

ACCESSORY PART NO.	DESCRIPTION	CONTENTS	QTY	ACCESSORY USAGE
CRLPELEV020A00	Liquid Propane Conversion	Label	1	27-50 Ton Low Heat
		Instructions	1	
		LH32RF079 (#47 Orifice)	9	
		LH32RF076 (#48 Orifice)	9	
		LH32RF073 (#49 Orifice)	9	
CRLPELEV021A00	Liquid Propane Conversion	Label	1	27-35 Ton High Heat
		Instructions	1	
		LH32RF079 (#47 Orifice)	16	
		LH32RF076 (#48 Orifice)	16	
		LH32RF073 (#49 Orifice)	16	
CRLPELEV022A00	Liquid Propane Conversion	Label	1	40-50T High Heat / 55-100 Ton Low Heat
		Instructions	1	
		LH32RF079 (#47 Orifice)	18	
		LH32RF076 (#48 Orifice)	18	
		LH32RF073 (#49 Orifice)	18	
CRLPELEV023A00	Liquid Propane Conversion	Label	1	55-100 Ton High Heat
		Instructions	1	
		LH32RF079 (#47 Orifice)	27	
		LH32RF076 (#48 Orifice)	27	
		LH32RF073 (#49 Orifice)	27	

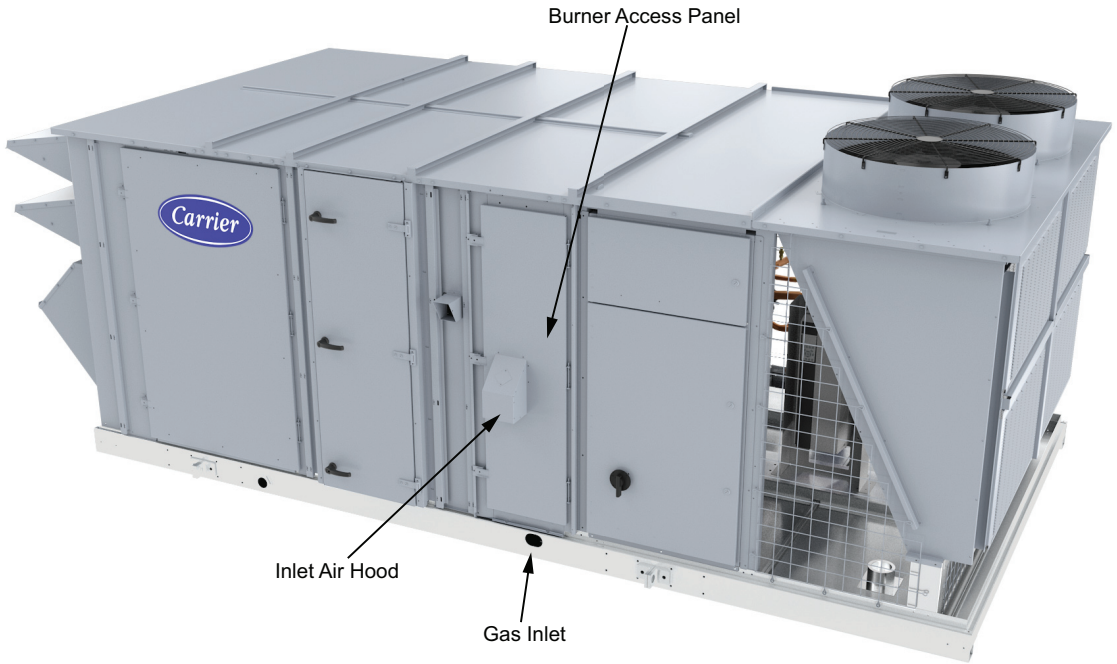

Fig. 1 — Typical Low Gas Heat Unit

INSTALLATION

⚠ WARNING

FIRE OR EXPLOSION HAZARD

Failure to follow the safety warnings exactly could result in serious injury, death or property damage.

Never test for gas leaks with an open flame. Use a commercially available soap solution made specifically for the detection of leaks to check all connections. A fire or explosion may result causing property damage, personal injury or loss of life.

⚠ AVERTISSEMENT

RISQUE D'INCENDIE OU D'EXPLOSION

Si les consignes de sécurité ne sont pas suivies à la lettre, cela peut entraîner la mort, de graves blessures ou des dommages matériels.

Ne jamais vérifier la présence de fuites de gaz au moyen d'une flamme nue. Vérifier tous les raccords en utilisant une solution savonneuse commerciale conçue spécialement pour la détection de fuites. Un incendie ou une explosion risque de se produire, ce qui peut entraîner la mort, des blessures ou des dommages matériels.

Step 1 — Modify Burner Assembly

To modify the burner assembly with the liquid propane (LP) gas conversion kit, perform the following:

1. Shut off manual gas valve (in unit).
2. Shut off power to unit.
3. Remove gas heat access panel. Refer to Fig. 1 for access panel location.

   NOTE: Steps 4 to 7 refer to all gas sections of the unit. Each step must be repeated for each gas section.
4. Separate burners from frame by removing screws. Save screws. See Fig. 2 and 3 for burner assembly and parts information.
5. Replace orifices with those provided in accessory LP conversion kit. See usage and contents in Table 1. See Fig. 3 for typical orifice locations. See Fig. 4 for orifice projection dimensions.
6. Remount burners to support frame. Make sure the end burners are in their original location. The tabs at the frame end should interlock. Use screws saved from Step 4.
7. Clean the male and female threads on the gas pipe and union and apply approved gas thread sealant.
8. Check spark gap. See Fig. 5 for spark gap dimensions.
9. Attach conversion label inside of the left gas heat access panel. See Fig. 6-9 for warning and conversion label examples.
10. Attach warning label to corner post. See Fig. 6-9 for warning and conversion label examples.
11. Perform Step 2 "Check Unit Operation and Make Necessary Adjustments" on page 5.

    NOTE: Save all natural gas parts removed during accessory installation. It is recommended that these parts be saved in the event that the unit needs to be converted back to natural gas.

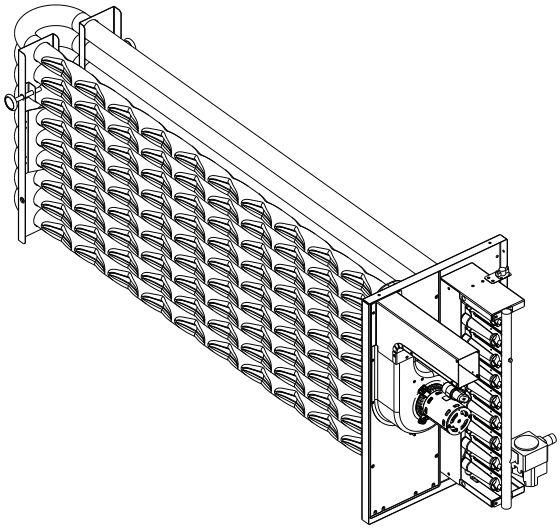

Fig. 2 — Gas Heat Burner Assembly

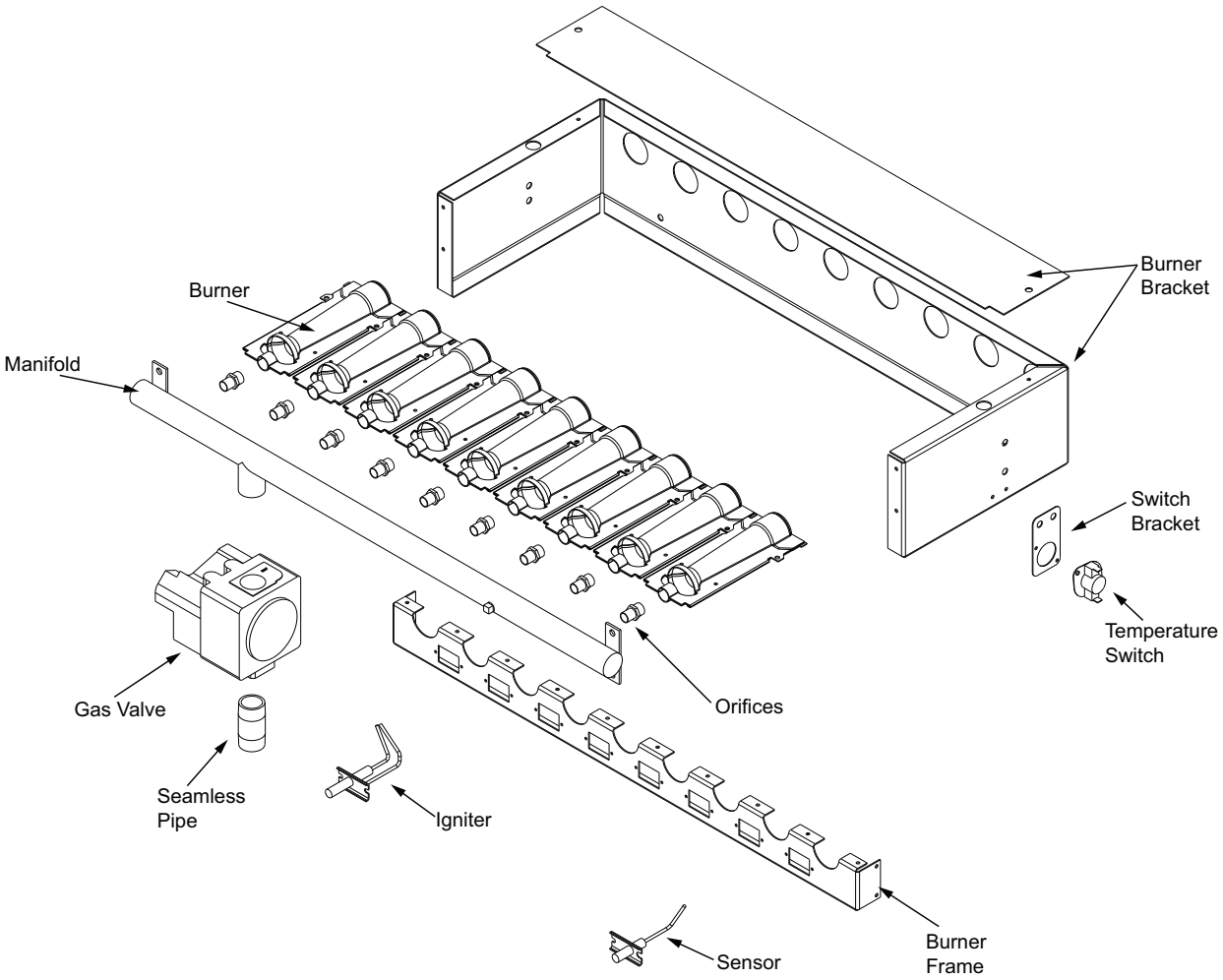

Fig. 3 — Gas Heat Burner Parts (Exploded View)

Step 2 — Check Unit Operation and Make Necessary Adjustments

1. Remove manifold pressure tap plug from manifold and connect pressure gauge or manometer.
2. Turn on electrical supply.
3. Turn on unit main gas valve.
4. In the SmartVu™ control, enable Service Run mode and command the heater capacity to 100%. See Appendix A "SERVICE RUN MODE FOR GAS HEAT TESTING" on page 7 for details on accessing and operating service run mode.
5. When all burners ignite, adjust regulator for 3.5 in w.g. manifold pressure. Check manifold and orifices for leaks. See Fig. 4 for orifice projection details.
6. Check firing rate and readjust pressure if necessary. See unit nameplate.
7. Shut off manual gas valve and shut off power to unit.
8. Remove pressure gauge or manometer and replace manifold pressure tap plug.
9. Turn on power to unit, then main gas valve. With burners ignited, check pressure tap for gas leaks. Repair if necessary.
10. Replace gas heat access panels.
11. Remove warning tags for disconnect switch and gas supply shutoff valve.

NOTE: Never use Teflon®[1] tape to seal gas orifice threads because peeling tape can plug the orifice.

1. Third-party trademarks and logos are the property of their respective owners.

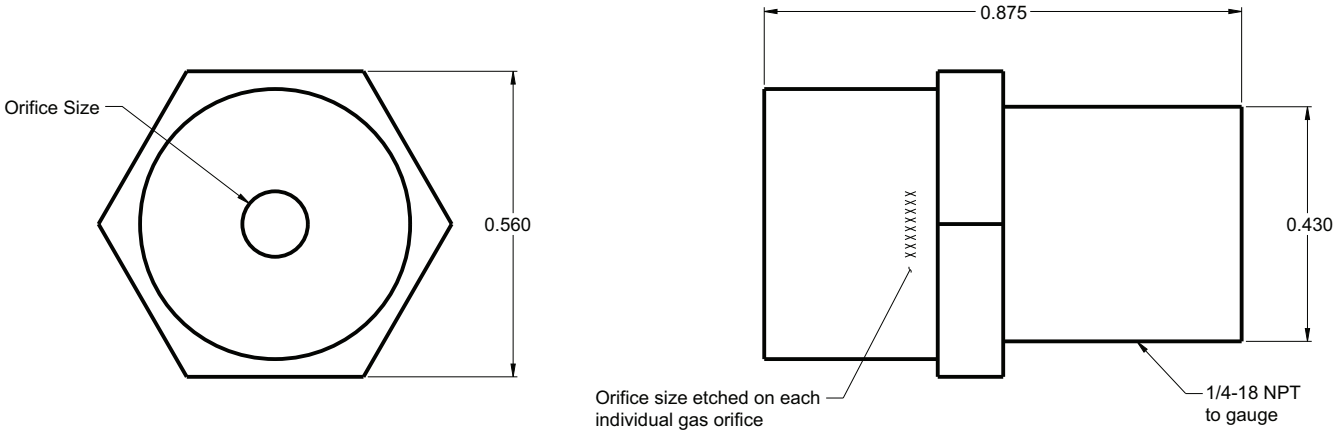

Fig. 4 — Orifice Projection

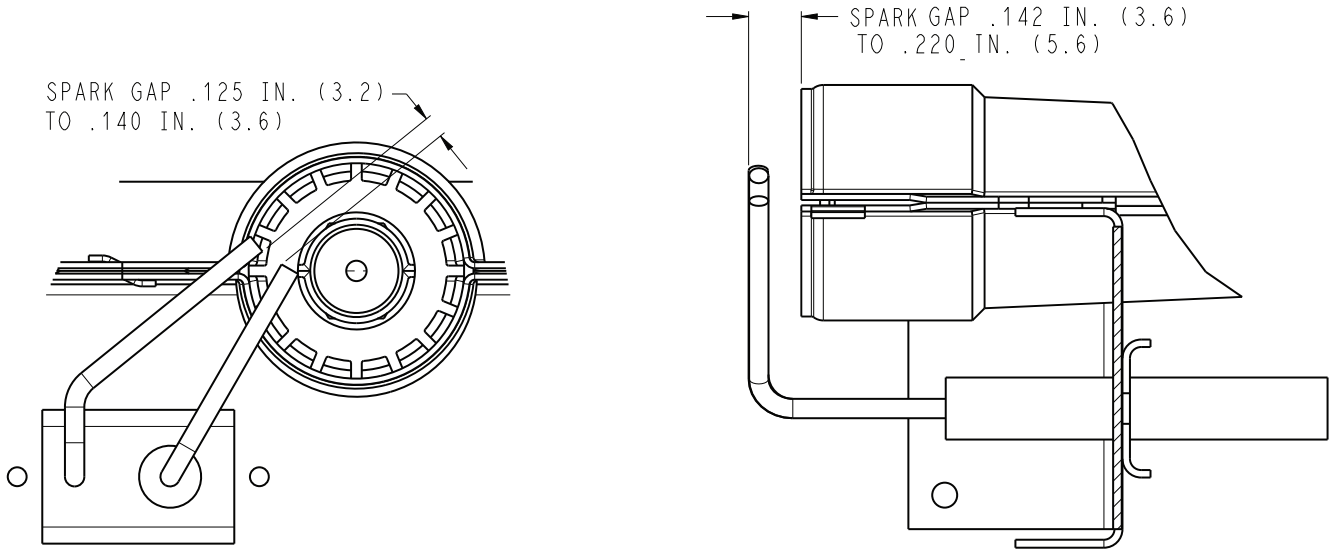

Fig. 5 — Spark Gap

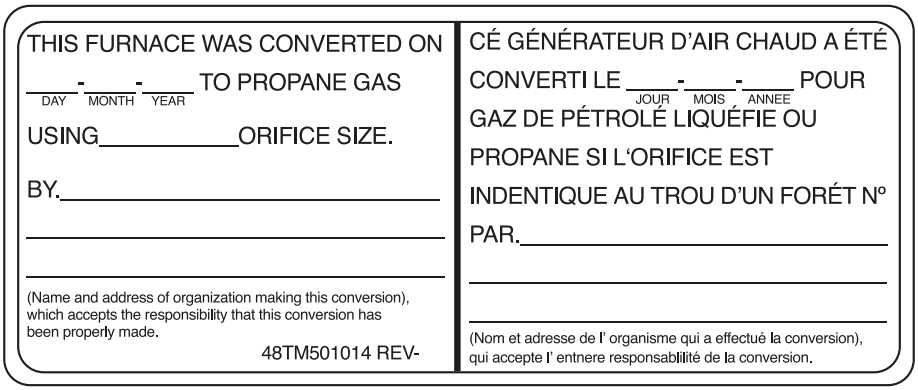

Fig. 6 — Propane Responsibility Label

Fig. 7 — Unit Warning Label – Propane Only

Fig. 8 — Propane Conversion Label – Propane Only

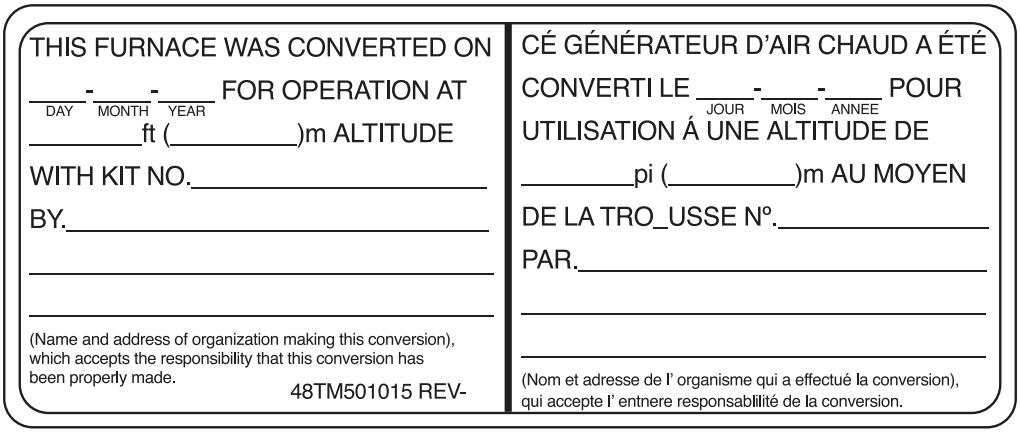

Fig. 9 — High-Altitude Responsibility Label

APPENDIX A — SERVICE RUN MODE FOR GAS HEAT TESTING

OVERVIEW

The SmartVu™ controls include test modes that can be used as part of the installation and start-up process. See below for guidance on initiating Service Run Mode to test the heat system.

Step 1 — Login with User Access Level

The User access level is required to enable component tests and set configurations and setpoints. To login, navigate to the User Login screen (*press on the top bar→**User Login***), Press `Touch To Enter Password` on to bring up the keyboard and enter the user password (1111 default).

Step 2 — Enable Service Run Mode

Service can be used to enable and test systems, such as cooling, dehumidification, and heating. The unit must be in Service Run mode to perform system tests.

Prior to enabling Service Run, it is recommended to disable unit operation. To disable unit operation, navigate to the Start/Stop screen (*press on the top bar)* and press disable unit. This will disable all unit components prior to starting Service Run. See Fig. A for Start/Stop screen layout.

To enable Service Run mode, navigate to the Start/Stop screen (*press on the top bar*). Press on the Service Run button to enable Service Run mode. The Service Test Menu link will appear on the Start/Stop screen when Service Run mode is enabled.

Fig. A — Start/Stop Screen in Test Mode

Step 3 — Test Heater Using Service Run

Press on the Service Test Menu button on the Start/Stop screen to navigate to the Service Test Menu and press on the Test Air System icon to get to the Air System Test screen.

In the Test Air System menu, press the radial button next to On in the heater mode section to enable the heater. See Fig. B for Test Air System screen layout when Service Run is enabled. After the heater is operational, check all fittings for leaks, check combustion (flames should all be blue and approximately the same size), and check the manifold pressure and adjust as needed.

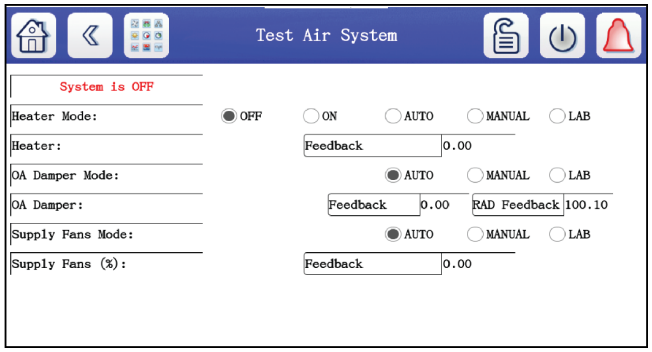

Fig. B — Test Air System Screen (Service Run)

Manufacturer reserves the right to discontinue, or change at any time, specifications or designs without notice and without incurring obligations.

Catalog No. 04-53480473-01 Printed in U.S.A. Form No. 48V-2ASI Pg 8 5-25 Replaces: NEW