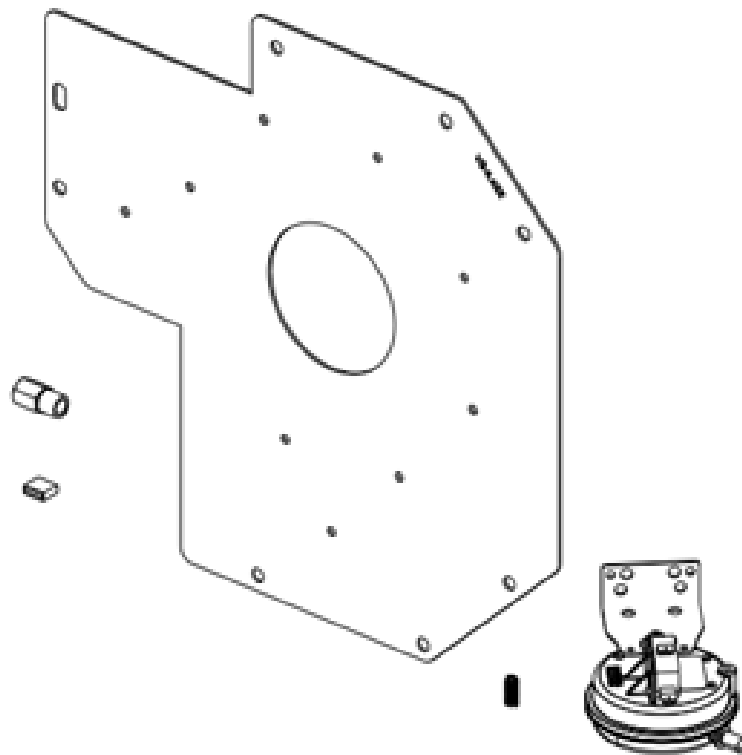




## Installation Guide

# LP/Elevation Conversion Kit

## Voyager 3 27.5 to 50 Tons Packaged Rooftop Units



**Kit Numbers:**

439549230001-0031

439549240001-0063

**Used With:**

Natural Gas Elevation Conversion

NG to LP Conversion w/ Elevation

### **▲ SAFETY WARNING**

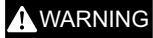
Only qualified personnel should install and service the equipment. The installation, starting up, and servicing of heating, ventilating, and air-conditioning equipment can be hazardous and requires specific knowledge and training. Improperly installed, adjusted or altered equipment by an unqualified person could result in death or serious injury. When working on the equipment, observe all precautions in the literature and on the tags, stickers, and labels that are attached to the equipment.



## Warnings, Cautions, and Notices

Safety advisories appear throughout this manual as required. Your personal safety and the proper operation of this machine depend upon the strict observance of these precautions.

The three types of advisories are defined as follows:



Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury. It could also be used to alert against unsafe practices.



Indicates a situation that could result in equipment or property-damage only accidents.

### Important Environmental Concerns

Scientific research has shown that certain man-made chemicals can affect the earth's naturally occurring stratospheric ozone layer when released to the atmosphere. In particular, several of the identified chemicals that may affect the ozone layer are refrigerants that contain Chlorine, Fluorine and Carbon (CFCs) and those containing Hydrogen, Chlorine, Fluorine and Carbon (HCFCs). Not all refrigerants containing these compounds have the same potential impact to the environment. Trane advocates the responsible handling of all refrigerants.

### Important Responsible Refrigerant Practices

Trane believes that responsible refrigerant practices are important to the environment, our customers, and the air conditioning industry. All technicians who handle refrigerants must be certified according to local rules. For the USA, the Federal Clean Air Act (Section 608) sets forth the requirements for handling, reclaiming, recovering and recycling of certain refrigerants and the equipment that is used in these service procedures. In addition, some states or municipalities may have additional requirements that must also be adhered to for responsible management of refrigerants. Know the applicable laws and follow them.

#### **⚠ WARNING**

##### **Proper Field Wiring and Grounding Required!**

Failure to follow code could result in death or serious injury.

All field wiring **MUST** be performed by qualified personnel. Improperly installed and grounded field wiring poses **FIRE** and **ELECTROCUTION** hazards. To avoid these hazards, you **MUST** follow requirements for field wiring installation and grounding as described in **NEC** and your local/state/national electrical codes.

#### **⚠ WARNING**

##### **Personal Protective Equipment (PPE) Required!**

Failure to wear proper PPE for the job being undertaken could result in death or serious injury.

Technicians, in order to protect themselves from potential electrical, mechanical, and chemical hazards, **MUST** follow precautions in this manual and on the tags, stickers, and labels, as well as the instructions below:

- Before installing/servicing this unit, technicians **MUST** put on all PPE required for the work being undertaken (Examples; cut resistant gloves/sleeves, butyl gloves, safety glasses, hard hat/bump cap, fall protection, electrical PPE and arc flash clothing). **ALWAYS** refer to appropriate Safety Data Sheets (SDS) and OSHA guidelines for proper PPE.
- When working with or around hazardous chemicals, **ALWAYS** refer to the appropriate SDS and OSHA/GHS (Global Harmonized System of Classification and Labelling of Chemicals) guidelines for information on allowable personal exposure levels, proper respiratory protection and handling instructions.
- If there is a risk of energized electrical contact, arc, or flash, technicians **MUST** put on all PPE in accordance with OSHA, NFPA 70E, or other country-specific requirements for arc flash protection, **PRIOR** to servicing the unit. **NEVER PERFORM ANY SWITCHING, DISCONNECTING, OR VOLTAGE TESTING WITHOUT PROPER ELECTRICAL PPE AND ARC FLASH CLOTHING. ENSURE ELECTRICAL METERS AND EQUIPMENT ARE PROPERLY RATED FOR INTENDED VOLTAGE.**

#### **⚠ WARNING**

##### **Follow EHS Policies!**

Failure to follow instructions below could result in death or serious injury.

- All Trane personnel must follow the company's Environmental, Health and Safety (EHS) policies when performing work such as hot work, electrical, fall protection, lockout/tagout, refrigerant handling, etc. Where local regulations are more stringent than these policies, those regulations supersede these policies.
- Non-Trane personnel should always follow local regulations.

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## Revision History

Updated Inspection chapter.



# Table of Contents

General Information .....	5	Installation .....	9
Inspection .....	6		



## General Information

These instructions describe converting natural gas package unit models from 0 - 1,999 ft. of elevation to 9,999 ft. in increments of 1,000 ft. These instructions also describe conversion from natural gas to propane (LP) gas

at the same elevations. Gas type and/or elevation conversion is a critical procedure, so these instructions must be followed.

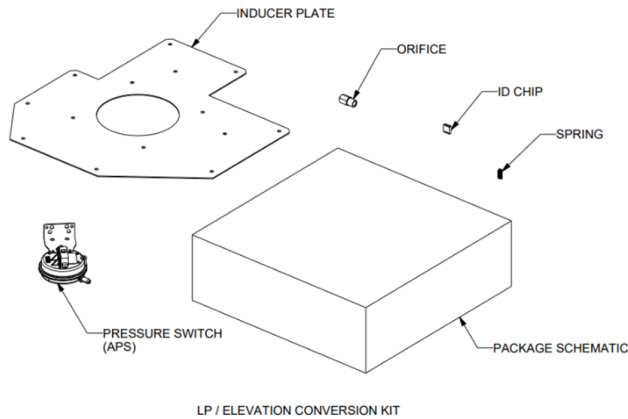
# Inspection

1. Unpack all components of the elevation or LP conversion kit.
2. Check carefully for any shipping damage and/or missing parts. Contact local Trane Parts Center if assistance is needed. The gas orifices, circuit board ID chip(s), inducer plate(s), spring kit(s), and the pressure switch(es) must all be applied, as applicable, for a complete conversion.

**Notes:**

- All furnaces come from the factory pre-configured for natural gas at 0 - 1,999 ft. (2-stage) or 0 - 9,999ft. (modulating) of elevation.
- Unit configurations containing a single modulating 400MBh heater are 10:1 turndown and would use MOD10 kits in the below tables. 800MBh modulating heaters are a 400MBh 5:1 turndown and 400MBh 2-stage heater in series. The 400MBh modulating heater would use MOD5 kits in the below tables. For a complete conversion on 800MBh heaters, a kit must be purchased for both heaters in series.
- Each kit will contain all necessary parts to complete the conversion necessary for that specific furnace configuration. See parts list below for the bill of materials of each individual kit. If there is a blank spot for the component, the component listed is not applicable to that specific kit.

**Figure 1. Conversion kit parts**



**Table 1. Parts list of natural gas elevation conversion kits**

Trane Kit P/N	Furnace Configuration				Kit Bill of Materials					
	Furnace BTU	Control	Fuel	Elevation (ft.)	Gas Orifice Size	Gas Orifice Qty	VB1285 Program Chip	Inducer Plate Size (in.)	NG Spring Kits	APS (in w.c.)
439549230001	350	MOD	NG	0 - 9999	3.15 mm	8	3002.2-HMA350-NG-10-V3.s19	3.25	2	—
439549230002	600	MOD	NG	0 - 9999	3.30 mm	12	3001.2-HMA600-NG-10-V3.s19	3.438	2	—
439549230003	400	MOD5	NG	0 - 9999	3.30 mm	8	3004.2-HMB400-NG-5-V3.s19	3.125	1	—
439549230004	400	MOD10	NG	0 - 9999	3.30 mm	8	3003.2-HMB400-NG-10-V3.s19	3.125	2	—
439549230005	350	2ST	NG	0 - 1999	3.15 mm	8	—	2.75	1	—
439549230008	350	2ST	NG	2000 - 2999	#30	8	—	—	—	—
439549230009	350	2ST	NG	3000 - 3999	3.25 mm	8	—	—	—	—
439549230010	350	2ST	NG	4000 - 4999	1/8"	8	—	—	—	—
439549230011	350	2ST	NG	5000 - 5999	3.10 mm	8	—	—	—	—
439549230012	350	2ST	NG	6000 - 6999	#31	8	—	—	—	—
439549230013	350	2ST	NG	7000 - 7999	#32	8	—	—	—	-1.1
439549230014	350	2ST	NG	8000 - 8999	2.90 mm	8	—	—	—	-1.1
439549230015	350	2ST	NG	9000 - 9999	#34	8	—	—	—	-1.1
439549230006	600	2ST	NG	0 - 1999	3.30 mm	12	—	3.25	2	—
439549230016	600	2ST	NG	2000 - 2999	#30	12	—	—	—	—
439549230017	600	2ST	NG	3000 - 3999	3.25 mm	12	—	—	—	—
439549230018	600	2ST	NG	4000 - 4999	1/8"	12	—	—	—	—
439549230019	600	2ST	NG	5000 - 5999	3.10 mm	12	—	—	—	—
439549230020	600	2ST	NG	6000 - 6999	#31	12	—	—	—	—

**Table 1. Parts list of natural gas elevation conversion kits (continued)**

Trane Kit P/N	Furnace Configuration				Kit Bill of Materials					
	Furnace BTU	Control	Fuel	Elevation (ft.)	Gas Orifice Size	Gas Orifice Qty	VB1285 Program Chip	Inducer Plate Size (in.)	NG Spring Kits	APS (in w.c.)
439549230021	600	2ST	NG	7000 - 7999	#32	12	—	—	—	-1.3
439549230022	600	2ST	NG	8000 - 8999	2.90 mm	12	—	—	—	-1.3
439549230023	600	2ST	NG	9000 - 9999	#34	12	—	—	—	-1.3
439549230007	400	2ST	NG	0 - 1999	3.30 mm	8	—	3.00	1	—
439549230024	400	2ST	NG	2000 - 2999	#30	8	—	—	—	—
439549230025	400	2ST	NG	3000 - 3999	3.25 mm	8	—	—	—	—
439549230026	400	2ST	NG	4000 - 4999	1/8"	8	—	—	—	—
439549230027	400	2ST	NG	5000 - 5999	3.10 mm	8	—	—	—	—
439549230028	400	2ST	NG	6000 - 6999	#31	8	—	—	—	—
439549230029	400	2ST	NG	7000 - 7999	#32	8	—	—	—	-1.1
439549230030	400	2ST	NG	8000 - 8999	2.90 mm	8	—	—	—	-1.1
439549230031	400	2ST	NG	9000 - 9999	#34	8	—	—	—	-1.1

**Table 2. Parts list of natural gas to LP conversion with elevation kits**

Trane Kit P/N	Furnace Configuration				Kit Bill of Materials					
	Furnace BTU	Control	Fuel	Elevation (ft.)	Gas Orifice Size	Gas Orifice Qty	VB1285 Program Chip	Inducer Plate Size (in.)	NG Spring Kits	APS (in w.c.)
439549240001	350	MOD	LP	0 - 9999	1.90 mm	8	3005.2-HMA350-LP-10-V3.s19	3.313	2	—
439549240010	600	MOD	LP	0 - 9999	2.05 mm	12	3008.2-HMA600-LP-10-V3.s19	5.25	2	—
439549240019	400	MOD5	LP	0 - 9999	2.05 mm	8	3006.2-HMB400-LP-5-V3.s19	3.50	1	—
439549240028	400	MOD10	LP	0 - 9999	2.05 mm	8	3007.2-HMB400-LP-10-V3.s19	3.50	2	—
439549240037	350	2ST	LP	0 - 1999	1.90 mm	8	—	3.125	1	—
439549240038	350	2ST	LP	2000 - 2999	1.85 mm	8	—	3.125	1	—
439549240039	350	2ST	LP	3000 - 3999	1.80 mm	8	—	3.125	1	—
439549240040	350	2ST	LP	4000 - 4999	1.75 mm	8	—	3.125	1	—
439549240041	350	2ST	LP	5000 - 5999	#51	8	—	3.125	1	—
439549240042	350	2ST	LP	6000 - 6999	1.70 mm	8	—	3.125	1	—
439549240043	350	2ST	LP	7000 - 7999	1.65 mm	8	—	3.125	1	-1.1
439549240044	350	2ST	LP	8000 - 8999	#52	8	—	3.125	1	-1.1
439549240045	350	2ST	LP	9000 - 9999	1.60 mm	8	—	3.125	1	-1.1
439549240046	600	2ST	LP	0 - 1999	2.05 mm	12	—	4.50	2	—
439549240047	600	2ST	LP	2000 - 2999	2.00 mm	12	—	4.50	2	—
439549240048	600	2ST	LP	3000 - 3999	#47	12	—	4.50	2	—
439549240049	600	2ST	LP	4000 - 4999	#48	12	—	4.50	2	—
439549240050	600	2ST	LP	5000 - 5999	1.90 mm	12	—	4.50	2	—
439549240051	600	2ST	LP	6000 - 6999	1.85 mm	12	—	4.50	2	—
439549240052	600	2ST	LP	7000 - 7999	1.80 mm	12	—	4.50	2	-1.3
439549240053	600	2ST	LP	8000 - 8999	1.75 mm	12	—	4.50	2	-1.3
439549240054	600	2ST	LP	9000 - 9999	#51	12	—	4.50	2	-1.3
439549240055	400	2ST	LP	0 - 1999	2.05 mm	8	—	3.50	1	—
439549240056	400	2ST	LP	2000 - 2999	2.00 mm	8	—	3.50	1	—



# Inspection

**Table 2. Parts list of natural gas to LP conversion with elevation kits (continued)**

Trane Kit P/N	Furnace Configuration				Kit Bill of Materials					
	Furnace BTU	Control	Fuel	Elevation (ft.)	Gas Orifice Size	Gas Orifice Qty	VB1285 Program Chip	Inducer Plate Size (in.)	NG Spring Kits	APS (in w.c.)
439549240057	400	2ST	LP	3000 - 3999	#47	8	—	3.50	1	—
439549240058	400	2ST	LP	4000 - 4999	#48	8	—	3.50	1	—
439549240059	400	2ST	LP	5000 - 5999	1.90 mm	8	—	3.50	1	—
439549240060	400	2ST	LP	6000 - 6999	1.85 mm	8	—	3.50	1	—
439549240061	400	2ST	LP	7000 - 7999	1.80 mm	8	—	3.50	1	-1.1
439549240062	400	2ST	LP	8000 - 8999	1.75 mm	8	—	3.50	1	-1.1
439549240063	400	2ST	LP	9000 - 9999	#51	8	—	3.50	1	-1.1



# Installation

## ⚠ WARNING

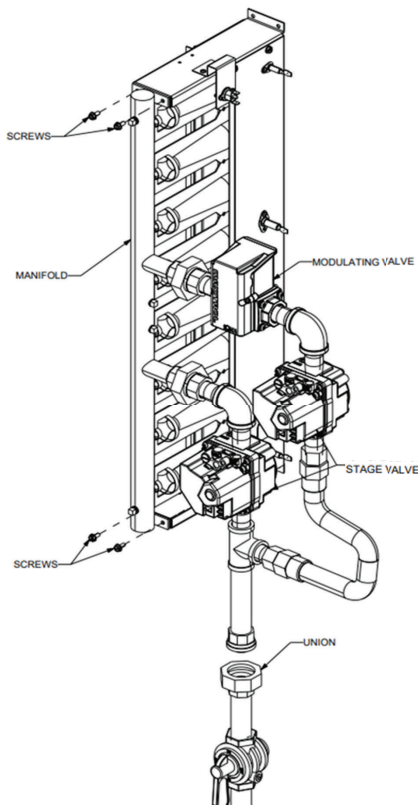
### Hazardous Voltage and Gas!

Failure to turn off gas or disconnect power before servicing could result in an explosion or electrocution which could result in death or serious injury. Turn off the gas supply and disconnect all electric power, including remote disconnects, before servicing the unit. Follow proper lockout/tagout procedures to ensure the power can not be inadvertently energized.

**Note:** Prior to conversion, confirm that gas supply to unit is shut off and power to unit is disconnected.

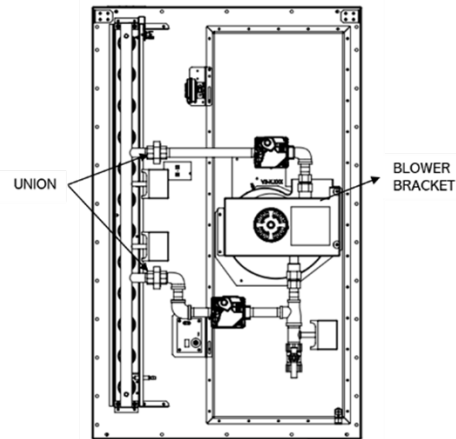
1. Remove the gas valve access panel(s).
2. Turn off the gas supply to the unit.
3. Remove the union(s) below each valve.

**Figure 2. Remove manifold**



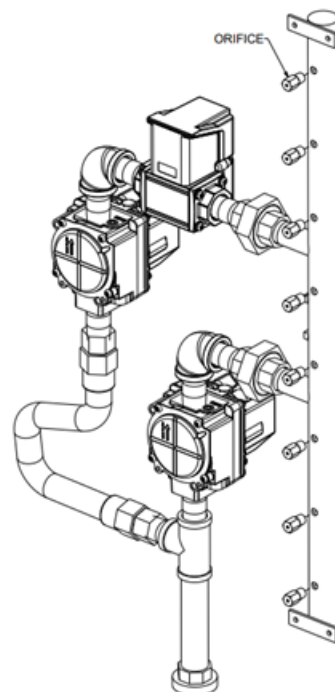
**Note:** If the gas train pipe (600 MBh) goes through the draft inducer bracket, undo additional unions to remove the gas train pipe.

**Figure 3. Gas train pipe(s) through the blower bracket**



4. Remove two screws at the top of the manifold and two screws at the bottom of the manifold. See [Figure 2, p. 9](#).
5. Remove natural gas orifices from the manifold and install the LP/elevation conversion orifices.
6. Engage threads of the manifold and tighten the orifice three and one half (3 1/2) turns.

**Figure 4. Remove and install natural gas orifices**

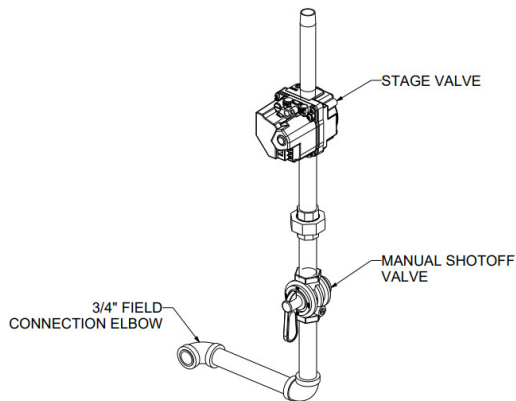


7. Reinstall the manifold by reversing the disassembly procedure. Secure all the components.

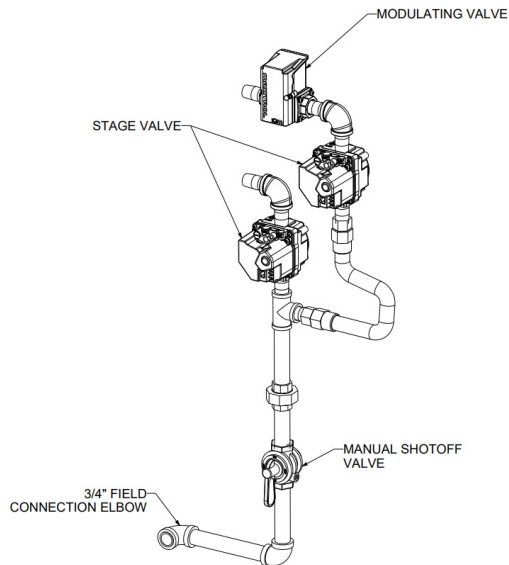
## Installation

8. If the unit is 800 MBh, repeat from [Step 2](#) for the second manifold. Otherwise, proceed to the next step.
9. Install the LP/elevation conversion gas valve springs (if included in the kit). Follow the instructions provided in the valve conversion spring kit. For staged valve locations, refer to the gas train [Figure 5](#), p. 10.

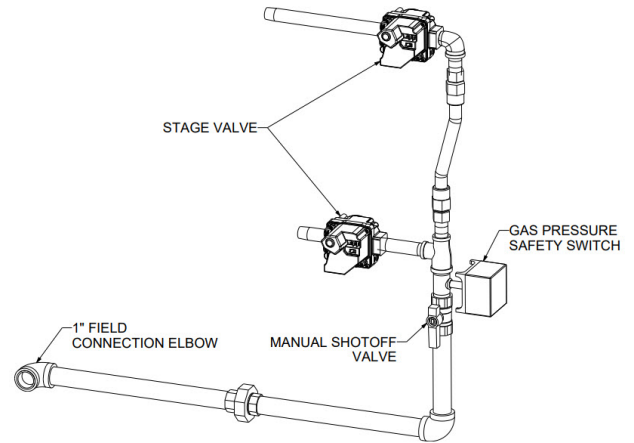
**Figure 5. 350MBh 2-stage gas train**



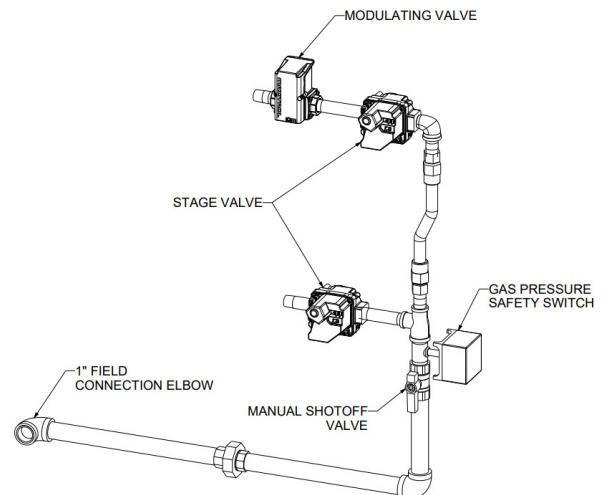
**Figure 6. 350MBh Mod gas train**



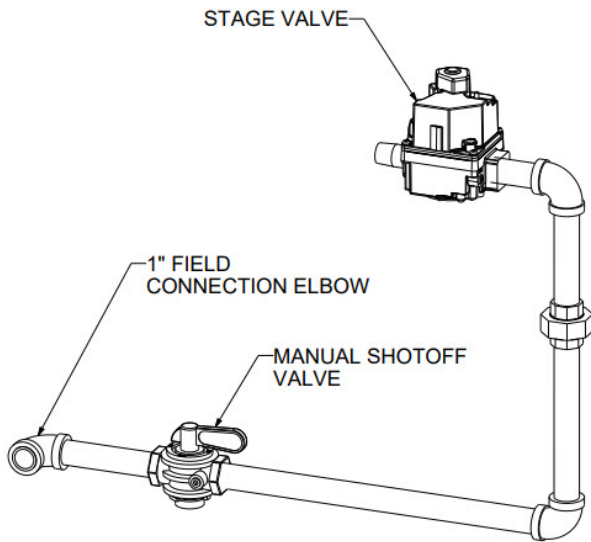
**Figure 7. 600MBh 2-stage gas train**



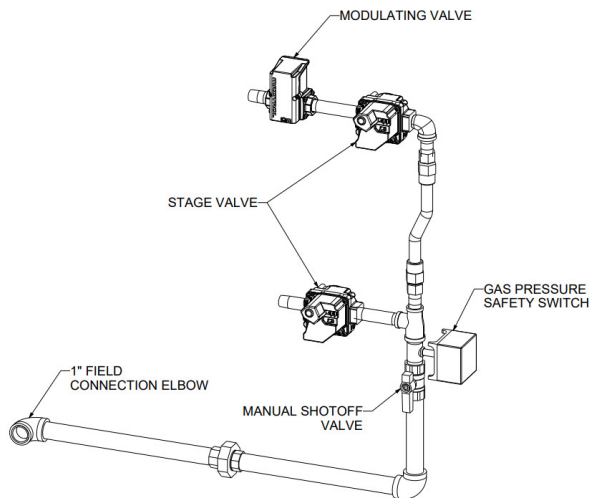
**Figure 8. 600MBh Mod gas train**



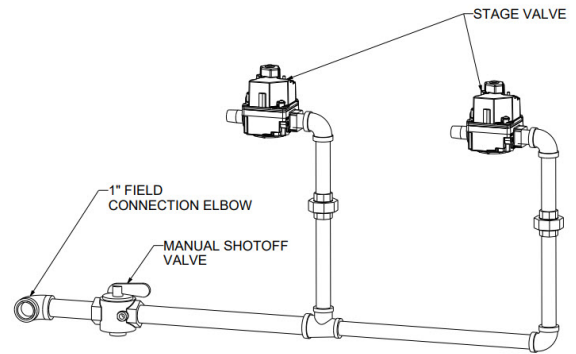
**Figure 9. 400MBh 2-stage gas train**



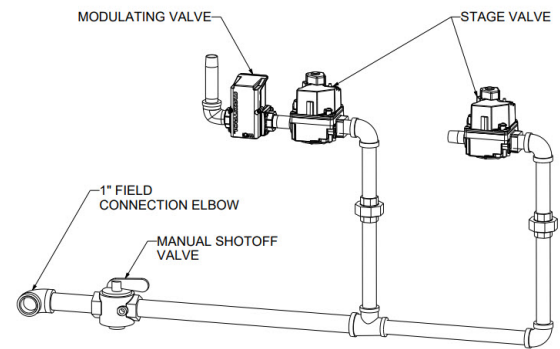
**Figure 10. 400MBh Mod gas train**



**Figure 11. 800MBh 2-stage gas train**



**Figure 12. 800MBh Mod gas train**



10. Attach the LP or elevation label provided to the valves.
11. Attach the Trane LP conversion label to the inside of the gas heat control panel near the gas heat nameplates, if applicable.

**Figure 13. Trane LP conversion label (0 – 1999 ft.)**

*Note: Label subject to changes and is representative only.*

TRANE  
CLARKSVILLE, TN 37040

LP GAS CONVERSION FOR V3 DOE 27.5-50 TONS

This furnace was converted on: \_\_\_\_\_  
(day-month-year)

to LP gas with Kit No. \_\_\_\_\_

by \_\_\_\_\_

\_\_\_\_\_  
(Name and address of organization making conversion)

The gas orifice has been changed as shown below.

LP Gas Kit Part Number	Total Input (BTUH)	Gas Orifice Size
439549240037	350,000	1.90mm (0.075" dia)
439549240001		
439549240046	600,000	2.05mm (0.081" dia)
439549240010		
439549240055	400,000	2.05mm (0.081" dia)
439549240028		
439549240019		

Min Supply Pressure 11.0 in. w.c. (2.739 kpa)  
Max Supply Pressure 14.0 in. w.c. (3.487 kpa)  
Manifold Pressure 10.0 in. w.c. (2.491 kpa)

Ce générateur d'air chaud a été converti le \_\_\_\_\_  
(jour mois année)

pour fonctionner au gaz GPL à l'aide de l'ensemble n' \_\_\_\_\_

par \_\_\_\_\_

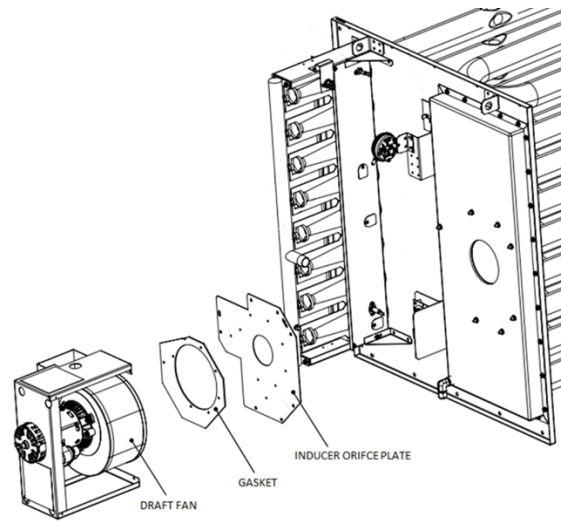
\_\_\_\_\_  
(nom et adresse de l'organisme qui a effectué la conversion)

Press Min d'Alim 11.0 in. w.c. (2.739 kpa)  
Press Max d'Alim 14.0 in. w.c. (3.487 kpa)  
Press Au Collecteur 10.0 in. w.c. (2.491 kpa)

MADE IN U.S.A. X39004369001A

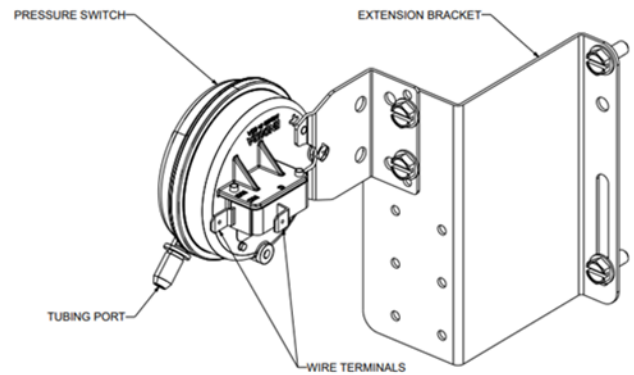
12. Replace the inducer orifice plate, see [Table 1, p. 6](#) and [Table 2, p. 7](#) to check the models which require this. More details can be found in the installation instructions provided in the conversion kit.

**Figure 14. Draft inducer orifice plate**



13. Replace Combustion Pressure Switch(es) with one(s) provided in kit, if applicable. Confirm that extension bracket remains. Tubing and wiring connections will be the same as the connections to the switch being removed.

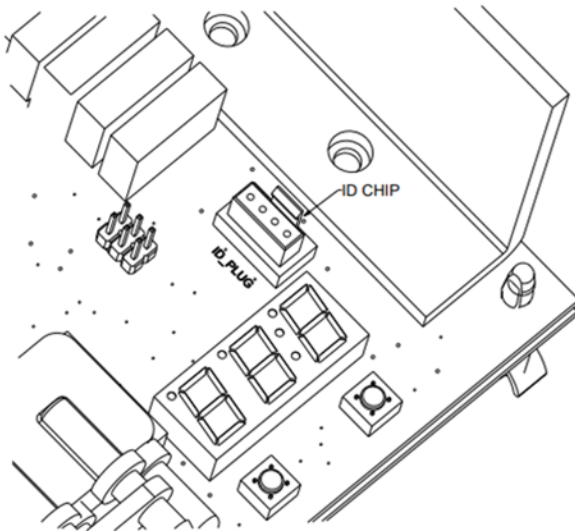
**Figure 15. Combustion pressure switch with extension bracket**



*Note: For 800 MBh Mod model, the left model is the 400MBh Mod and the right model is the 400MBh 2-stage. Only some of the 2-stage models require replacing the air pressure switch. See [Table 1, p. 6](#) and [Table 2, p. 7](#) for the correct pressure switch info.*

14. Replace ID chip(s) on the control board(s), if applicable. Depress the tab on the ID chip and remove from plug on control board.

**Figure 16. Control board with ID chip and ID plug**



**Note:** Only modulating model's control board (VB1285) requires replacing the ID chip. The 800MBh has two control boards, the top one is the VB1285. Refer to [Table 1, p. 6](#) and [Table 2, p. 7](#) for correct ID chip info.

15. Check all piping joints and electrical connections for tightness.
16. Turn on the gas supply to the unit.
17. Measure the gas pressure. If the pressure exceeds 14-inch w.c., reset the regulator at the gas supply.
18. Restore unit power.
19. Check the manifold gas pressure of each gas valve. Follow the High Fire Adjustment procedure in the Gas Furnace Start-up section of the unit IOM RT-SVX34\*-EN.
20. Set the manifold pressure to 10.0-inch w.c. for each valve at high fire.
21. Replace access panel(s).



**Notes**

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ACC-SVN266B-EN 15 Aug 2024  
Supersedes ACC-SVN266A-EN (November 2022)

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