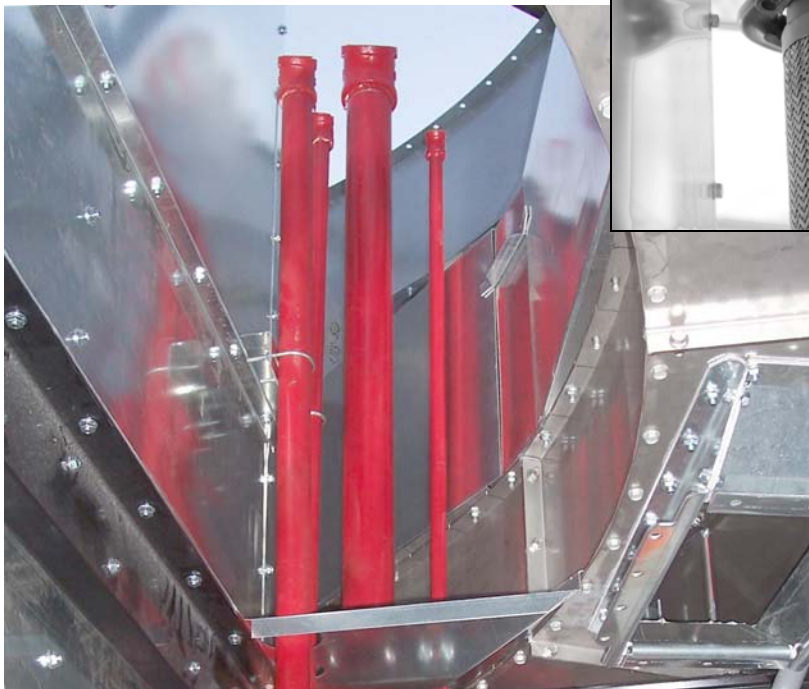


PLUMBING INSTALLATIONS



Tower Dryer
ME1000S/SG-ME2650S/SG

2014



Gas Suppliers and SAFE Plumbing Installations

DANGER!



Installation and filling of liquefied propane (LP) gas storage and transfer systems must conform to National Fire Protection Association Standard: Storage and Handling of Liquefied Petroleum Gases, NFPA No. 58, (current edition in effect at the time of the installation). Installation and/or service must be done only by licensed gas contractors conforming to national and local applicable codes. Failure to follow these requirements will result in death, serious injury, or equipment damage.



SAFETY First! Recognize SAFETY Information

This symbol is used throughout this Manual to identify particular stages where the bin Contractor and/or Operator need to take special note and precautions regarding the danger described in these Instructions. Please read all the SAFETY information and the instructions completely prior to beginning the construction.

This is the Safety-Alert Symbol. When you see this symbol on your equipment or in this Manual, be alert to the potential for personal injury.

Signal words **DANGER**, **WARNING**, or **CAUTION**, are used with the Safety-Alert Symbol. Be sure to follow ALL National and Local Safety Standards governing each installation site.



Understand Signal Words

DANGER indicates an imminently hazardous situation which, if not avoided, **WILL** result in death or serious injury.



WARNING indicates a potentially hazardous situation which, if not avoided, **COULD** result in death or serious injury.



CAUTION indicates a hazardous situation which, if not avoided, **MAY** result in minor or moderate injury.

Gas Suppliers

The BROCK® MEYER® Dryer runs on NATURAL GAS or PROPANE VAPOR. If liquid propane (LP) gas is to be used, the tanks and vaporizer to convert it to propane vapor (PV) are to be supplied by the Owner. **Locate the Specifications Plate inside the red Control Panel outer door. This plate contains specifications for natural gas and propane vapor. See the Fuel Specification Table below.**

MEYER® Fuel Specifications Table

Model	ME 1000S	ME 1200S	ME 1400S	ME 1600S	ME 1800S	ME2 2000S	ME 2400S	ME 2650S
Supply Pressure (psi)	8-15 psi	8-15 psi	8-15 psi	8-15 psi	8-15 psi	8-15 psi	8-15 psi	8-15 psi
Typical Burner Usage at 60°F / 15.6°C (drying temp 210°F) (mil. Btu/hr)	5.8	6.4	6.7	8.6	8.8	9.6	10.8	11.4
Typical Burner Usage at 10°F / 12.2°C (drying temp 210°F) (mil. Btu/hr)	7.5	8.2	8.6	11.0	11.2	12.2	13.8	14.5
Pilot Regulator								
Size / model	1/2" / 043-B	1/2" / 043-B	1/2" / 043-B	1/2" / 043-B	1/2" / 043-B	1/2" / 043-B	1/2" / 043-B	1/2" / 043-B
Pilot Regulator Setting (inwc)	14	14	14	14	14	14	14	14
Spring color / pressure (psi)	green 6-14"	green 6-14"	green 6-14"	green 6-14"	green 6-14"	green 6-14"	green 6-14"	green 6-14"
Main Regulator								
Size / model	2" / 121-8	2" / 121-8	2" / 121-8	2" / 121-8	2" / 121-8	2" / 121-8	2" / 121-8	2" / 121-8
Main Regulator								
Spring color / pressure (psi)	orange 1-2	orange 1-2	orange 1-2	orange 1-2	orange 1-2	orange 1-2	orange 1-2	black 2-4 1/4

Table of Contents

Gas Suppliers and SAFE Plumbing Installations2-3
 SAFETY First! Recognize SAFETY Information • Understand Signal Words 2
 Gas Suppliers • MEYER® Fuel Specifications Table 2
 Table of Contents • About This Manual..... 3

Proper Fuel Line Connection Is Critical4-7
 MEYER® Plumbing Systems Types and Usage Chart..... 5
 Natural Gas (NG) Supply Requirements (U.S.)..... 6
 Liquid Propane (LP) Supply Requirements to Convert to Propane Vapor (PV) 6
 LP Models with Vaporizers..... 7

Connect Inside Plumbing8-11
 Main Gas Line..... 8-10
 Gas Pilot Line..... 11

Plumbing Trains and Diagrams12-28
 Plumbing Train Schematic: Standard LP Domestic.....12-13
 Plumbing Train Schematic: Standard NG Domestic.....14-15
 Interior Upper Plumbing, 1000S-2400S LPDB LP/NAT 16
 Interior Upper Plumbing, 2650S LPDB LP/NAT 17
 Interior Upper Plumbing, 1000S-1600S Stainless Steel LP ME-S 18
 Interior Upper Plumbing, 1800S-2400S Stainless Steel LP ME-S 19
 Interior Upper Plumbing, 2650S Stainless Steel LP 20
 Exterior Lower Plumbing: Standard.....22-23
 Plumbing Train Schematic: Block-and-Bleed LP Canadian.....24-25
 Plumbing Train Schematic: Block-and-Bleed NG Canadian.....26-27
 Exterior Lower Plumbing: Block-and-Bleed28-29

Parts Lists30-31

About This Manual

**IMPORTANT!
CAUTION!**



IMPORTANT!
Always have a second person check all connections and tightening!

The intent of this Manual is to help you follow step-by-step instructions for plumbing installations in the BROCK® MEYER® Dryer.

Pay particular attention to all SAFETY Information in this Manual. Read and understand this Manual. Failure to follow proper procedures may cause damage to equipment or personal injury.

Contact your Brock Dealer to replace this Manual should it become lost or damaged. Store it in a convenient place for easy reference.

Definition of Terms and Symbols

- This **Hand-Tighten-only** symbol appears next to assemblies that *must be hand-tightened*, where impact-tightening will damage the integrity of the hardware/connection.
- “Horizontal,” “vertical,” “bottom,” and “top” refer to the Dryer as it is **standing**.

Measurements

The symbols (") equals inches and (') equals feet in English measurements. Metric measurements are shown in square brackets **following** the English measurement. For example: 15' [4.572 m] 90' [27.432 m]

(")	in inches	(')	ft feet	A	amps or amperes
FLA	full load amps	V	volts	sqft	square feet
Ph	phase	inwc	inches water column		

Identification of Parts and Hardware

- Names for some components which have BROCK® Part Numbers have been **capitalized** throughout this Manual to **call attention** to them.
- Parts and basic components are identified in **Figures** and their accompanying Tables as “Items” with a black number in white circle.
- Dimensions and lengths are noted with a white circle **on** an arrow or line, then identified with numeric values in a **Figure** Table.
- Pictures may vary slightly from actual components, which may have been modified for better fit or function.

Proper Fuel Line Connection Is Critical

DANGER!



It is of utmost importance that care be taken by the Dealer and Installer to match the type of FUEL noted on the Fuel Warning Plates. Starting the Dryer one time on the wrong fuel can produce a firestream tens of feet in length, that can destroy many Dryer components and possibly the entire Dryer. Failure to follow specific instructions on Fuel WARNING Plates could result in fire, explosion, equipment damage, death or personal injury.

Fuel WARNING Plates are located on the exterior Plumbing Train.

- Plate 5537-00050 is used for natural gas (NG): **Figure 2**
- Plate 5537-00049 is used for liquid propane (LP) combo units: **Figure 1**

Do not remove these Plates.

IMPORTANT!

A MEYER® Dryer wired and plumbed for LP Gas is already plumbed for NATURAL GAS as well.



Figure 1, above.
Fuel WARNING Plate
LP Gas Vapor
5537-00049

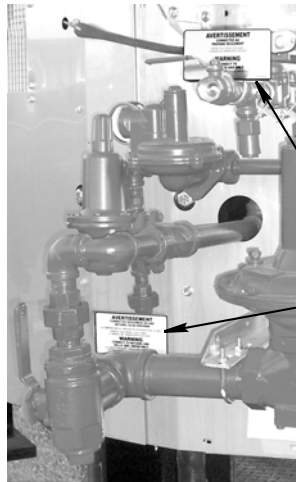


Figure 2.
Fuel WARNING Plate
Liquid LP Gas 5537-00050

- **Line sizing:** Fuel lines should be sized by your fuel supplier to deliver an adequate fuel volume at 8-15 psi to the Dryer inlet connection. Although the Inlet Valve connection for the ME1000S through ME2650S Models is 2" [5.1 cm] NPT, the fuel line size required may be larger depending on the model, fuel type, and length of supply pipe.
- **Fuel controls:** The Dryer is supplied with an Inlet Hand Valve for fuel shutoff and is equipped with the necessary final pressure regulation, double-block high and low switches—only on those with block-and-bleed (*i.e.*, Canadian), high and low pressure switches, automatic fuel modulation, and flame safeguards for safe operation. The Fuel Schematics in this Manual will show these controls. More detailed specifications are available upon request.
- **Tank capacity and placement:** LP-gas fuel tanks of 2000 gallons or less must be installed with the nearest point at least 25 feet [7.62 m] from the nearest point of the Dryer. Tanks 2001-30,000 gallons must be installed with the nearest point at least 50 feet [15.24 m] or more from the nearest point of the Dryer.
- **Liquid Propane:** The Vaporizer is electrically interlocked to the Dryer Control Panel. Follow all local and national codes for locating LP storage tanks and installing propane lines.

- **Typical operation:** The average Model ME2400S burns 125 gallons of gas per hour.
- **24-hour operation:** To assure an adequate fuel supply for **24-hour operation**, without daily fill-up, recommended LP gas fuel tank storage should be a **minimum** of 10,000 gallons (gallons in water volume). 250 gph x 24 hours / 75% = 8000 gallons. If there are multiple tanks, multiples of 10,000 gallons (20,000 or 30,000, etc.) are recommended. An LP fuel tank contains a usable fuel supply of approximately 75% of tank water volume capacity. For example, a 1000-gallon water-volume tank contains approximately 750 gallons of usable LP. Tanks should be refilled when the supply level reaches 10%.
- Schedule 80 black iron pipe should be connected to the pipe fitting on LP-gas Dryers.
- Schedule 40 black pipe is recommended for natural gas supply lines only; liquid LP piping **must** be Schedule 80 black pipe.
- If supplied natural gas pressure is higher than 25 psi, a primary regulator must be provided to reduce Dryer inlet pressure to 10-25 psi (contact gas supplier). At least 8 psi must be supplied for proper operation.
- Check the complete plumbing system for leaks or tightness of fittings, especially at unions. Use liquid soap solution with the plumbing train under normal operating pressure. Purge new plumbing lines before final assembly to blow oil, dirt, and thread chips out of the lines that could interfere with proper operation and damage plumbing components.

DANGER!



DO NOT OPERATE the Dryer while the gas tank is being filled.

MEYER® Plumbing System Type and Usage

System Type	Part Number	Descr.	Fuel	Model Usage	Mates
	3130-00040	Base	LP	ME1000SG - 2650SG	-41 and -57
	3130-00042	Base	NG	ME1000SG - 2650SG	-43 -65 and -72
	3130-00044	Base	LP	ME1000S - 2650S	-41 and -57
	3130-00045	Base	NG	ME1000S - 2650S	-43 -65 and -72
Carbon Steel	3130-00041	Upper	LP	ME1000S - 1600SG	-40 and -44
	3130-00043	Upper	NG	ME1000S - 2400SG	-42 and -45
	3130-00057	Upper	LP	ME1800S - 2400SG	-40 and -44
Low Pressure Drop Burner (LPDB)	3130-00065	Upper	NG	ME2650S-SG	-42 and -45
	3130-00067	Upper	LP	ME1800S - 2400SG	-40 and -44
	3130-00068	Upper	LP	ME2650S-SG	-40 and -44
	3130-00069	Upper	LP	ME1000S - 1600SG	-40 and -44
	3130-00072	Upper	NG	ME1000S - 2400SG	-42 and -45

Natural Gas (NG) Supply Requirements (U.S.)

Natural-gas Dryers must have a MANUAL SHUTOFF VALVE installed on the supply line at least 25' [7.62 m] from the Dryer and be easily accessible.

DANGER!



Installation of and materials used in natural gas transfer systems must conform with National Fire Protection Association Standard: Natural Fuel Gas Code, NFPA No. 54 (or current edition in effect at the time of the installation). Installation and/or service must be done only by licensed gas contractors conforming to all national and local applicable codes. Failure to follow these requirements will result in death, serious injury, and equipment damage.

IMPORTANT!

A MEYER® Dryer wired and plumbed for LP Gas is already plumbed for NATURAL GAS as well.

Liquid Propane (LP) Supply Requirements to Convert to Propane Vapor (PV)

LP Dryers must have one SHUTOFF VALVE at each tank, and should have another valve within 5' - 25' [1.524 m - 7.620 m] of the Dryer. All valves must be easily accessible. All LP Dryers must have a proper EXCESS FLOW valve—in the LP fuel line at the tank--sized according to fuel line size. This is provided by the LP or tank supplier.

For manifolds connecting parallel tank installations, a **main shutoff valve** should be installed on the pipe just downstream of the manifold.

DANGER!



Installation and filling of liquefied propane (LP) gas storage and transfer systems must conform with National Fire Protection Association Standard Storage and Handling of Liquefied Petroleum Gases, NFPA No. 58, (or current edition in effect at the time of the installation). Installation and/or service must be done only by licensed gas contractors conforming to all national and local applicable codes. Failure to follow these requirements will result in death, serious injury, and equipment damage.

LP Models with Vaporizers

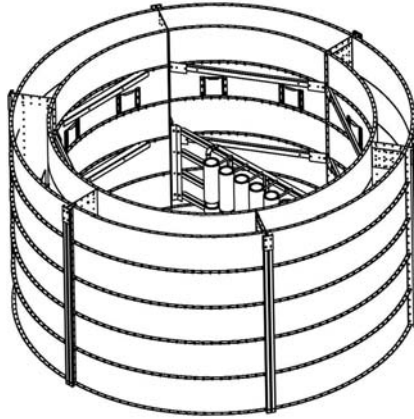
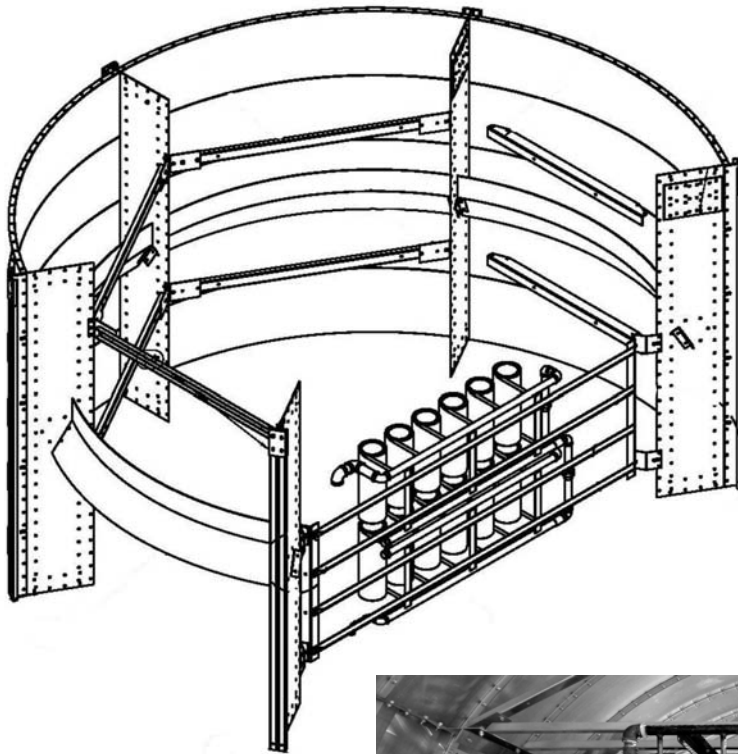
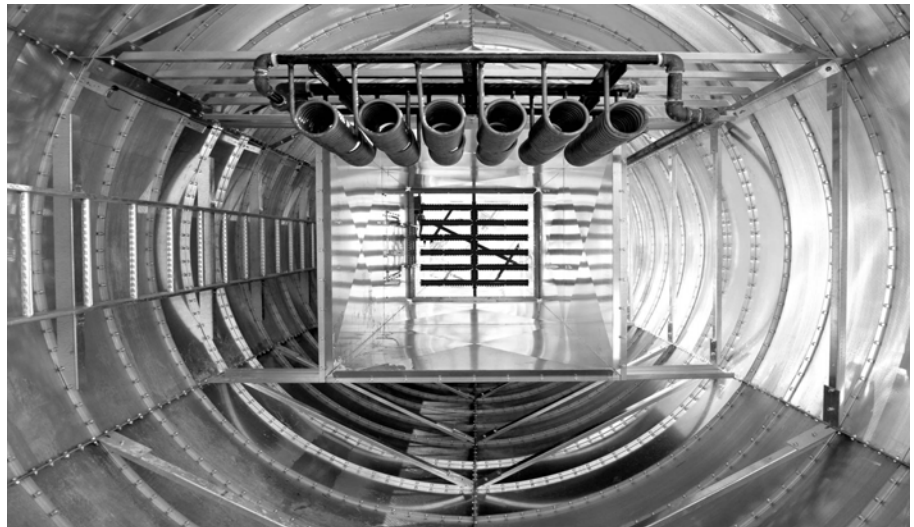


Figure 3.
Module 5 or 6 with ME, Vaporizer
(3157-00089G01)



The 3130-00035 Vaporizer is associated with the LP Gas Hardware Kit. The Vaporizer will be installed at the location shown on Module #5 of the ME1800S with LP gas only.

Figure 4.
Module #5, #6 with ME Option,
ME1800-2400 (3157-00089G01)



Connect Inside Plumbing

Main Gas Line

This will be the only installation, whether the model is NG or LP. Locate the Flexible Hoses, shipped loose. There will be Flexible hoses for all pipes in the Unload Module.

NATURAL GAS will have two (2) Flexible Hoses:

- 1/2" Pilot
- 2 1/2" Main

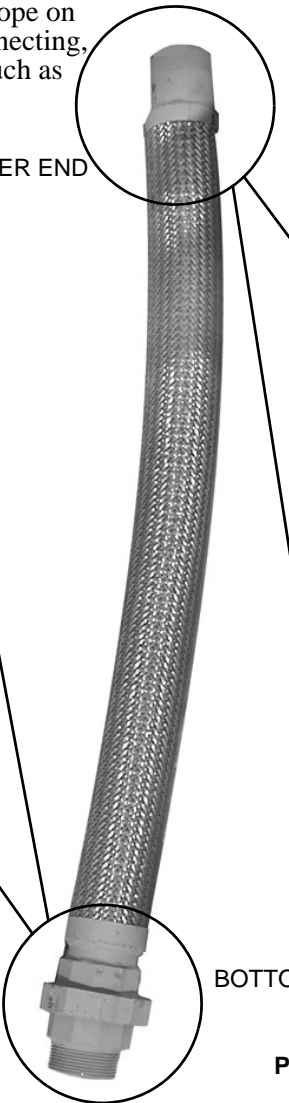
LP will have four (4) Flexible Hoses:

- 1/2" Pilot
- 3/4" Vaporizer Liquid Feed Pipe
- 1 1/4" Vaporizer Return Pipe
- 2 1/2" Main

Upper (Tower) end: Use Teflon-tape or pipe dope on threads before making connections. Before connecting, make sure pipe ends are clear of obstructions such as protective rubber caps.

UPPER/TOWER END

It may be necessary to break loose and clean the **lower** fittings.



BOTTOM (MALE) END

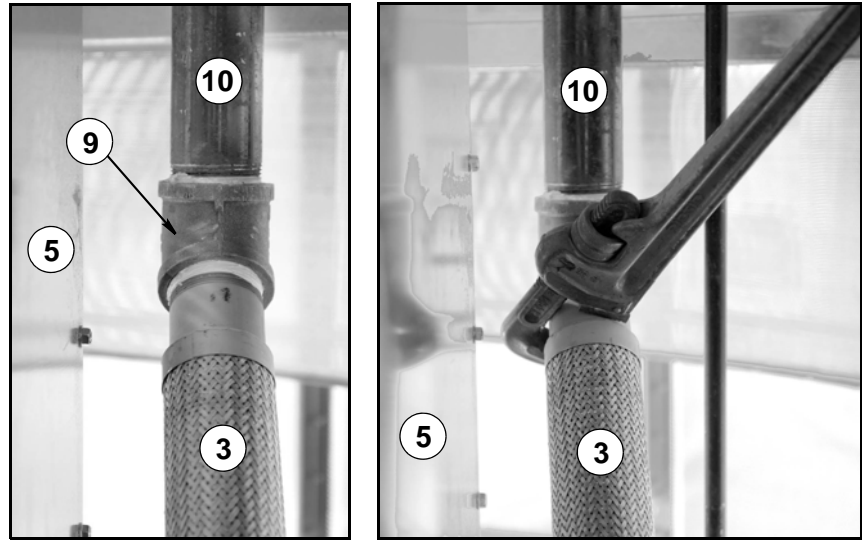


Figure 5.
Prepare Flexible Main Gas Hose

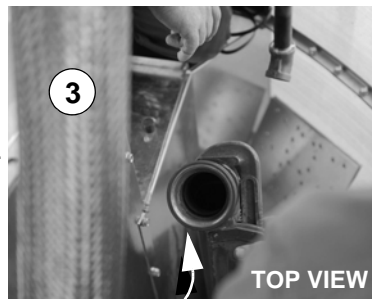
Part No.	Description
2702-01040	Hose-Flex 1/2 x 24" LG - S.S.
2702-01060	Hose-Flex 3/4 x 24" LG - S.S. (LP only)
2702-01100	Hose-Flex 1 1/4 x 30" LG - S.S. (LP only)
2702-01200	Hose-Flex 2 1/2 x 46"

Connect the **main** gas line; keep the gas line parallel with the duct work. Locate the lower end of the vertical Main Gas Pipe (Item 10) descending down from the Tower. Thread into the elbow coupling (Item 9) on the pipe end and tighten. Connect the upper end of the Flex Hose here. Tape and spread pipe dope on fittings shown. Tighten.

Figure 6.
Main Gas Flex Hose
to Bottom End of
Upper Main Gas Pipe



Item Table on facing page.



In the Base/Unload Module, locate the upper end of the vertical **Main** Gas Pipe (Item 4), the **largest** pipe at 2 1/2" in diameter. Thread the lower end of the Flex Hose into the 45° elbow coupling (Item 9) on the pipe end; tighten.

The smallest 1/2" pipe is the **Pilot** pipe (see page 10). LP Models with **Vaporizers** have two (2) additional pipes: the 3/4" feed pipe up to the Burner and the 1 1/4" return pipe.

Install the appropriate Flex Hose on all pipes.

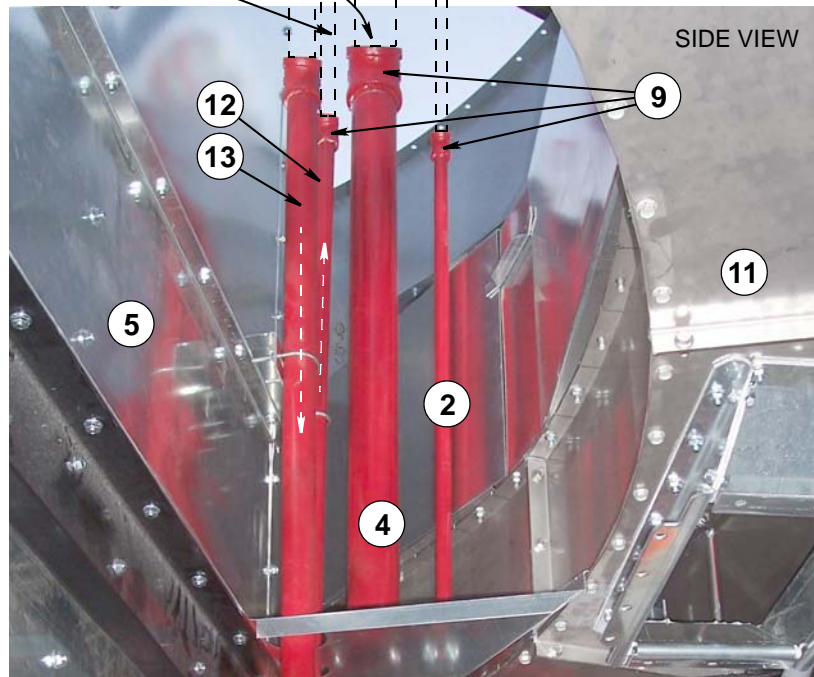
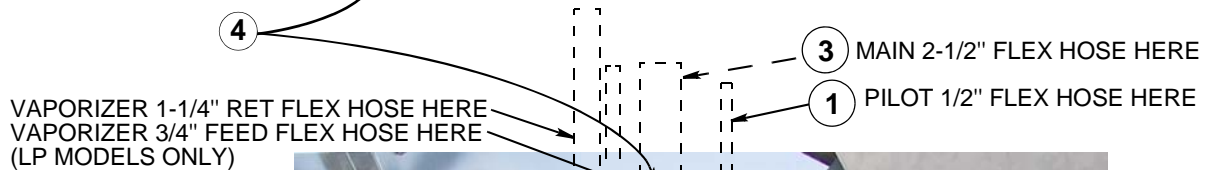


Figure 7.
Lower Plumbing as Shipped,
Base/Unload Module
(LP shown: Models with Vaporizers
will have 4 Pipes)

Teflon-tape or spread pipe dope on threads of the union. Tighten.

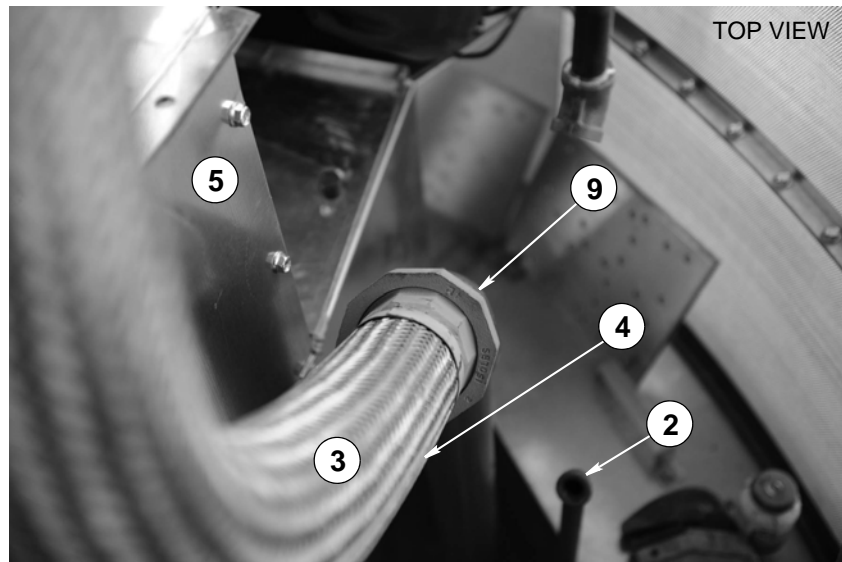


Figure 8.
Flex Hose Union with Lower Main Gas Pipe

Item	Description
2	Lower 1/2" Pilot Pipe (in Unload Module)
3	Flexible Hose, Main Gas Line 2 1/2"
4	Lower Main Gas Pipe (in Unload Module) 2 1/2"
5	Air Duct
8	Upper Pilot Pipe (near Duct)
9	45° Elbow Fitting (diameters vary)
10	Upper Main Gas Pipe
11	Unload Trough
12	Vaporizer feed/liquid pipe 3/4" (LP only)
13	Vaporizer return pipe 1 1/4" (LP only)

Gas Pilot Line

After the **main** gas line is connected, repeat the same steps for connecting the gas **pilot** line. Locate the pilot pipes. The lower end of the upper Pilot Pipe (Item 8) coming down from the Burner will be near the inside wall Screen (**Figure 9**) and will have a 45° elbow fitting (Item 9) on the bottom end..

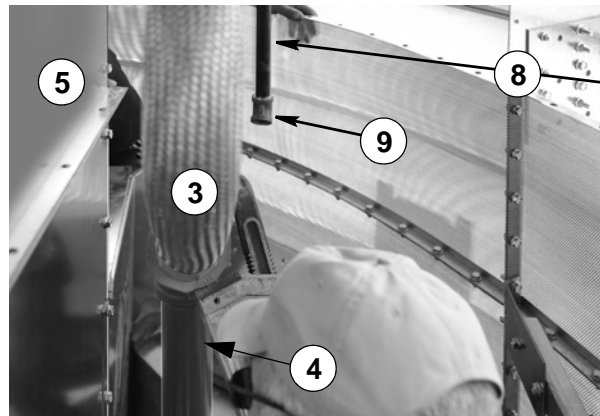


Figure 9.
Locate the Upper Pilot Pipe

Install 1/2" Flexible Hose (Item 1) between the lower end of the Pilot pipe (Item 8) and the upper end of the Pilot Pipe in the Unload Module (Item 2).

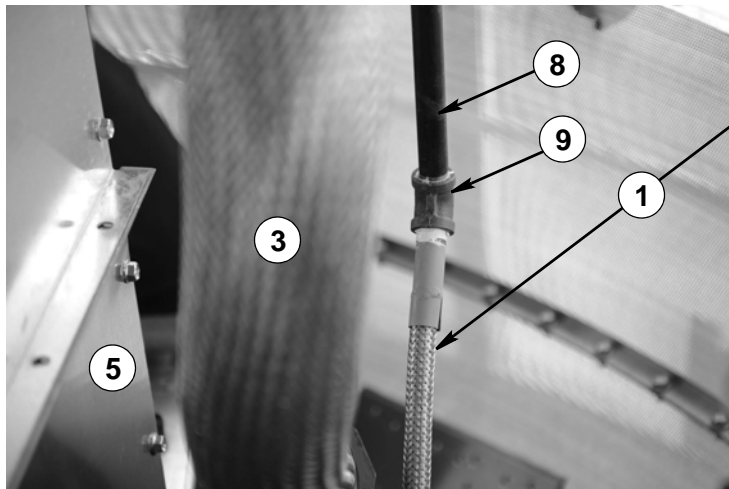
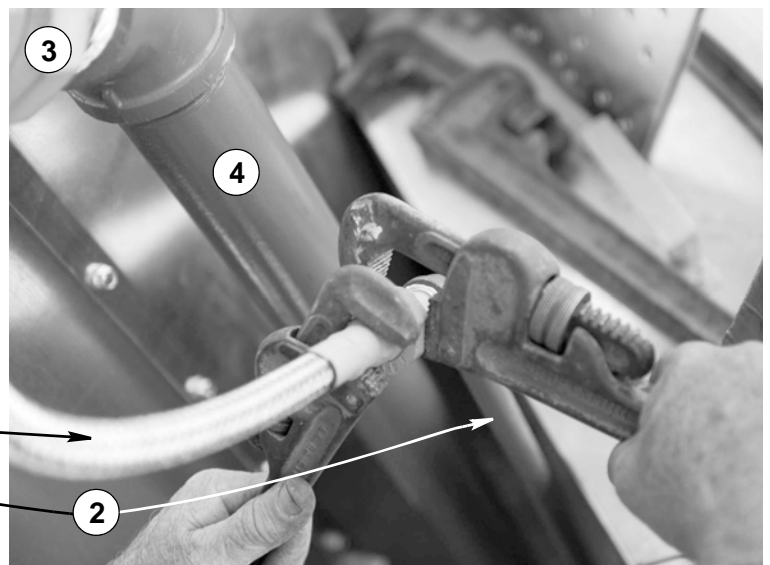


Figure 10.
Flexible Hose from Lower End of Upper PILOT Gas Line

Item	Description
1	Flexible Hose for Pilot Line 1/2"
2	Lower Pilot Pipe (in Unload Module)
3	Flexible Hose/Fitting for Main Gas Line
4	Lower Main Gas Pipe (in Unload Module)
5	Air Duct
8	Upper Pilot Pipe (near Duct)
9	45° Elbow Fitting

Install 1 - 1/4" Flexible Hose (Item 1) between the lower end of the Pilot pipe (Item 8) and the upper end of the Pilot Pipe in the Unload Module (Item 2).

Figure 11.
PILOT Flexible Hose to PILOT Gas Line (Unload Module)



Plumbing Trains and Diagrams

Plumbing Train Schematic: Standard LP Domestic

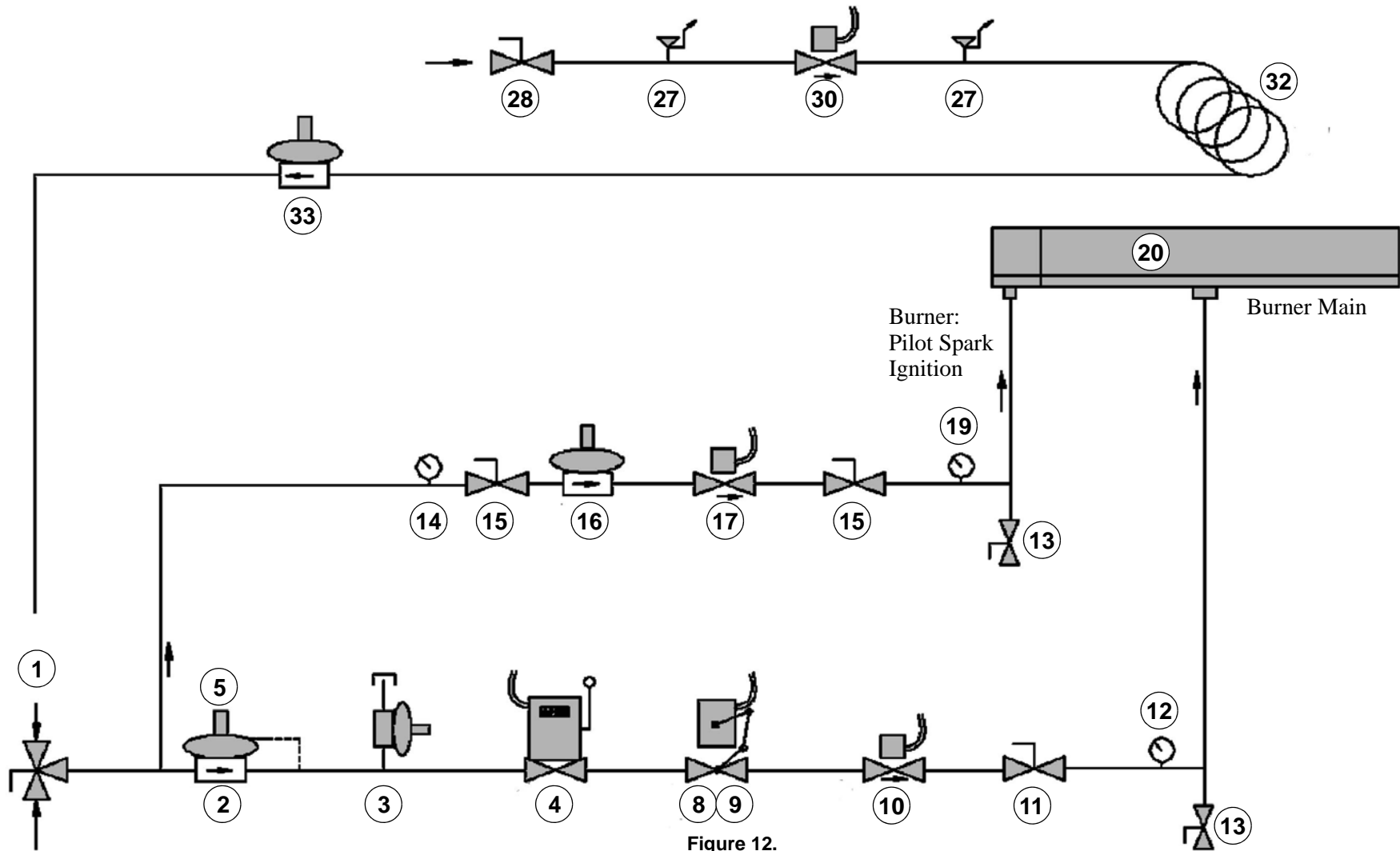


Figure 12.
Fuel Schematic: Standard
LP Domestic

Item	Part No.	Description
Main Fuel Train (M)		
1	2434-00164	Valve Gas 2" 3-way, Gas Shutoff
2	2448-00011	Pressure Regulator 2" 1-2 psi (main)
3	2433-00005	Valve, Safety Pressure Relief 1" 289H 4.5 psi
4	2431-00007	Maxon Shutoff Valve 2 1/2" Manual Reset
5	2445-00015	Spring, Black-131 and 243 VAPO * with 3108-00019 only
8	2431-00033	Butterfly Valve 2 1/2"
9	2541-00056	Modulating Actuator Motor, 3-position step
10	2430-00009	Heat Solenoid Valve 2 1/2"
11	2434-00201	Ball Valve 2 1/2"
12A	2460-00026	Pressure Gauge, 0-60 inwc
12B	2460-00028	Pressure Gauge, 0-100 inwc for SS Burner
13	2434-00004	Ball Valve 1/2"
Pilot Fuel Train (P)		
14	2460-00027	Inlet Gas Pressure Gauge, 0-30 psi
15	2434-00004	Ball Valve 1/2"
16	2446-00029	Pilot Regulator, 1/2" 6-14 inwc Spring, 13-20 inwc (orange)
16.1	2446-00028	Spring, Regulator 13-20 inwc orange
17	2430-00016	Pilot Solenoid Valve 1/2"
19	2460-00025	Pressure Gauge, 0-30 inwc
Burner Assembly		
20	5508-00001G02	Burner Assy, MES w/Baffle
	3108-00019	Burner Assy, ME2650 Stainless Tube * with 3108-00019 only
18.1	2533-00001	Flame Safety Device
18.2	1268-00003	Flame Sensor - Thermocouple
18.3	2403-00003	Pilot Spark Ignitor 1-64-4
18.4	2502-00001	Ignition Transformer .175va 120vac
Liquid Propane Fuel Train		
27.1	2433-00017	Valve, Hyd Relief 1/2" npt 300 psi
27.2	2433-00018	Adapter, Relief Valve
28	2434-00006	Valve, 3/4" Ball
30	2430-00061	Valve, 3/4" Ball NC Solenoid-250 psi MOPD
31	2449-00030	Regulator, 1 npt 10-20 psi
32	3130-00035	Vaporizer Assembly

Plumbing Train Schematic: Standard NG Domestic

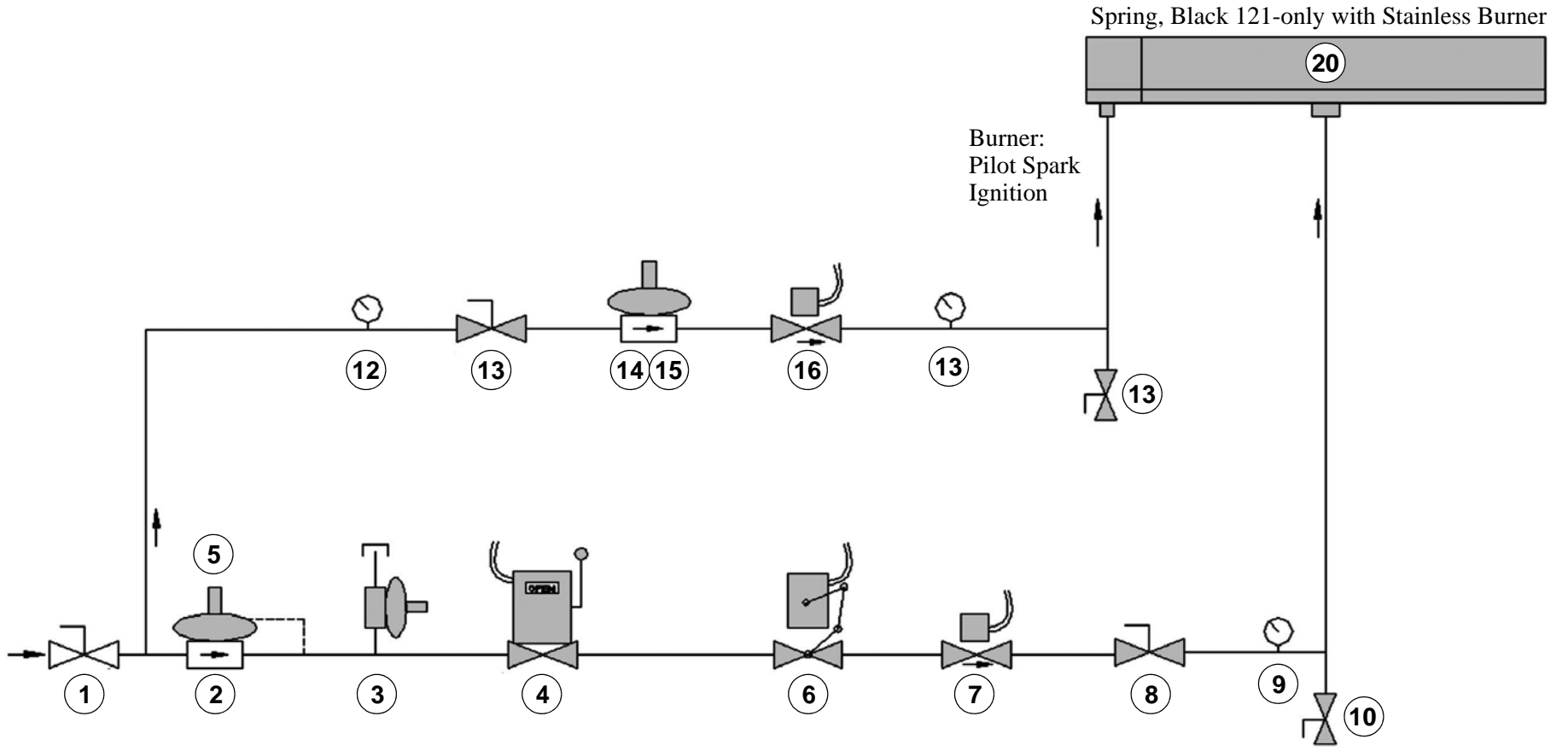
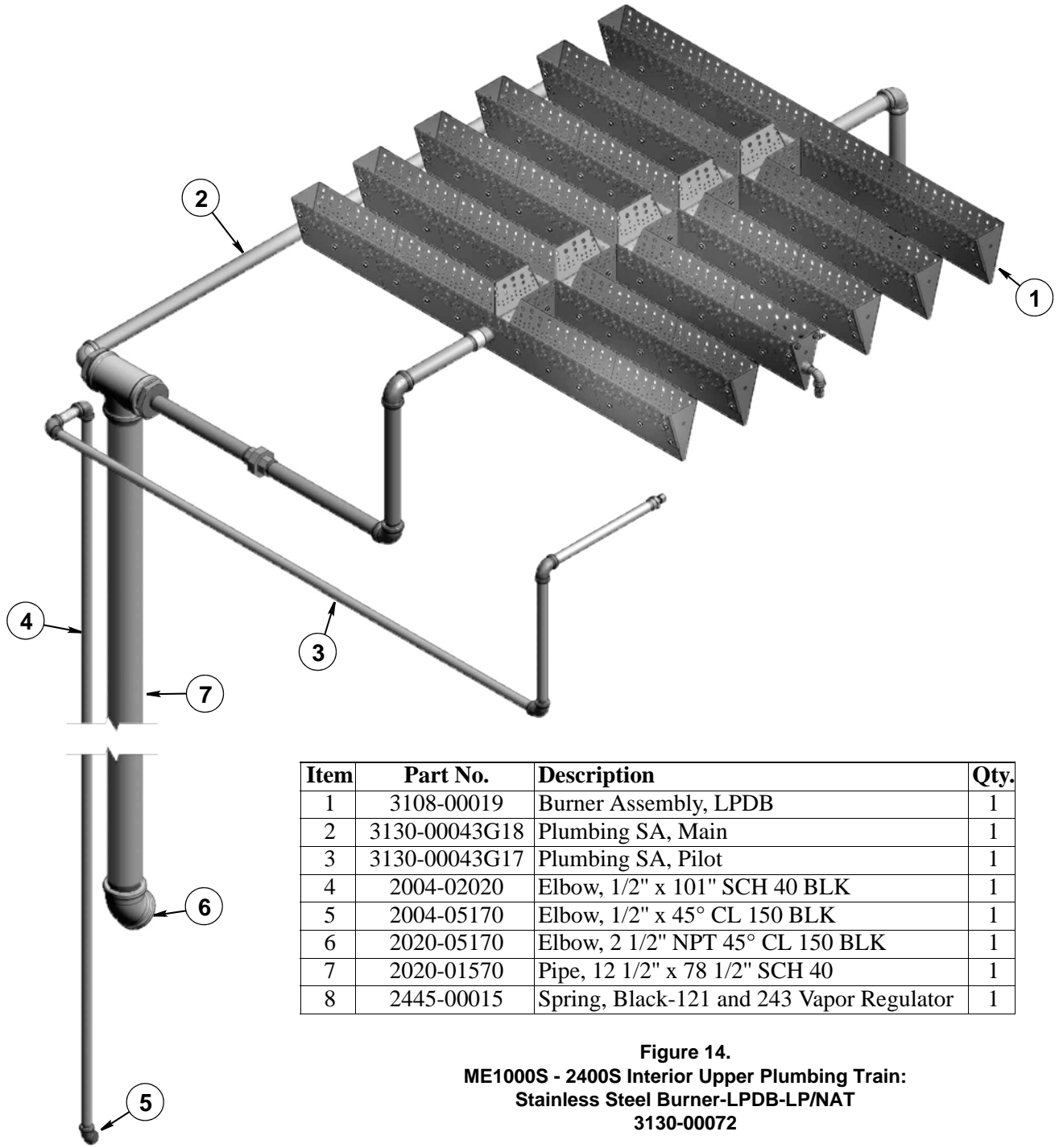


Figure 13.
Fuel Schematic: Standard
Natural Gas Domestic

Item	Part No.	Description
Main Fuel Train (M)		
1	2434-00161	Valve, 2" Ball CGA (Legend T01002)
2	2448-00011	Pressure Regulator 2" 1-2 psi (main)
3	2433-00005	Valve, Safety Pressure Relief 1" 289H 4.5 psi
4	2431-00007	Maxon Shutoff Valve 2 1/2" Manual Reset
5	2445-00015	Spring, Black-121 and 243 VAPO * with 3108-00019 only
6A	2431-00033	Butterfly Valve 2 1/2"
6B	2541-00056	Modulating Actuator Motor, 3-position step
7	2430-00009	Heat Solenoid Valve 2 1/2"
8	2434-00201	Ball Valve 2 1/2"
9A	2460-00026	Pressure Gauge, 0-60 inwc
9B	2460-00028	Gauge, 0-100 inwc for SS Burner (Ashcroft)
10	2434-00004	Ball Valve 1/2"
11	2445-00015	Spring, Black-121 and 243 VAPO
Pilot Fuel Train (P)		
12	2460-00027	Inlet Gas Pressure Gauge, 0-30 psi
13	2434-00004	Ball Valve 1/2" (Pilot Line Drain)
14	2446-00029	Pilot Regulator, 1/2" 6-14 inwc Spring, 13-20 inwc (orange)
15	2446-00028	Spring, Regulator 13-20 inwc orange
16	2430-00016	Pilot Solenoid Valve 1/2"
17	2460-00025	Pressure Gauge, 0-30 inwc
Burner Assembly		
18.1	2533-00001	Flame Safety Device
18.2	1268-00003	Flame Sensor - Thermocouple
18.3	2403-00003	Pilot Spark Ignitor 1-64-4
18.4	2502-00001	Ignition Transformer .175va 120vac
20A	5508-00001G02	Burner Assy, MES w/Baffle
20B	3108-00019	Burner Assy, Stainless Tube ME2650

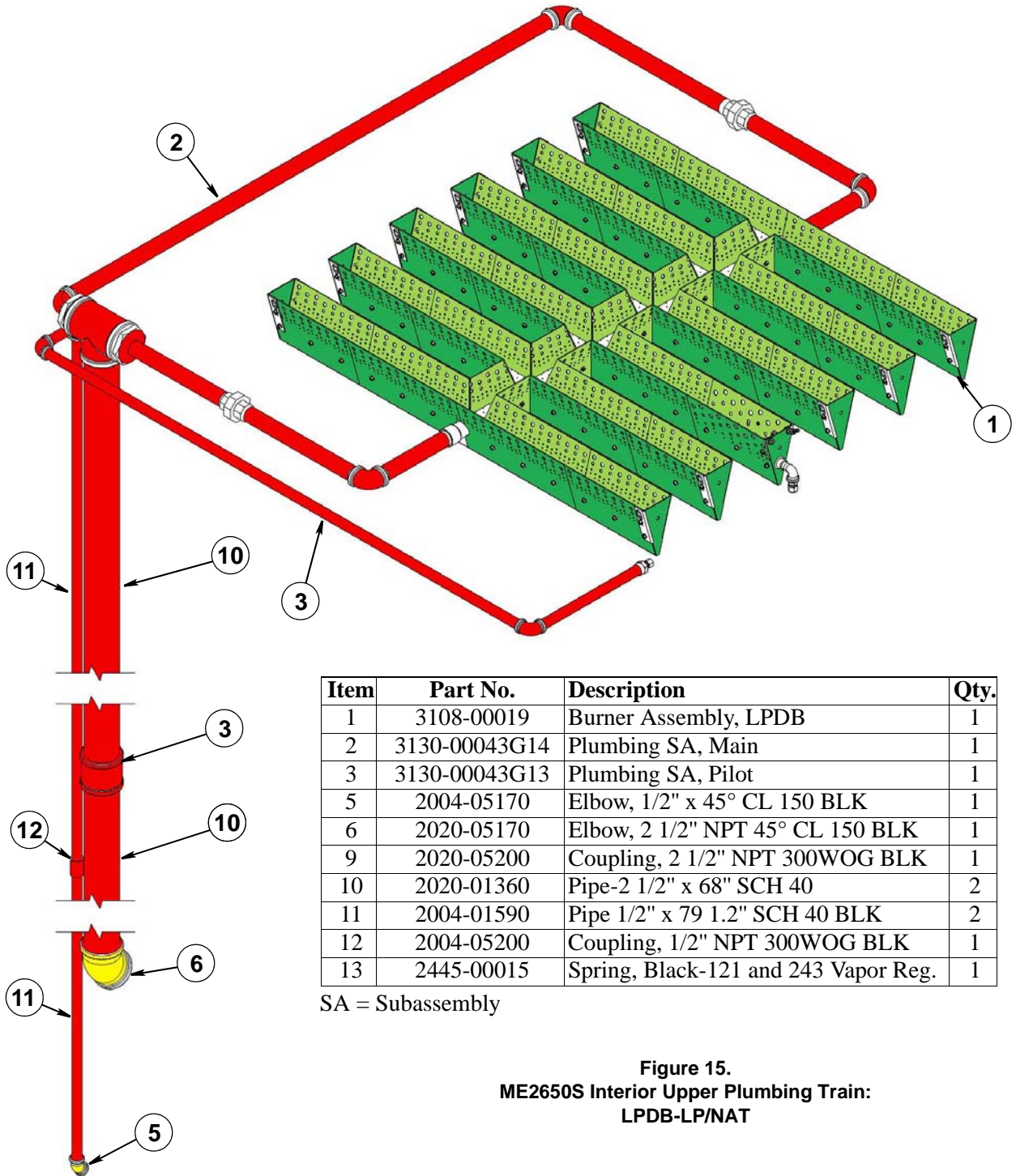
Interior Upper Plumbing, 1000S-2400S LPDB LP/NAT



Item	Part No.	Description	Qty.
1	3108-00019	Burner Assembly, LPDB	1
2	3130-00043G18	Plumbing SA, Main	1
3	3130-00043G17	Plumbing SA, Pilot	1
4	2004-02020	Elbow, 1/2" x 101" SCH 40 BLK	1
5	2004-05170	Elbow, 1/2" x 45° CL 150 BLK	1
6	2020-05170	Elbow, 2 1/2" NPT 45° CL 150 BLK	1
7	2020-01570	Pipe, 12 1/2" x 78 1/2" SCH 40	1
8	2445-00015	Spring, Black-121 and 243 Vapor Regulator	1

Figure 14.
ME1000S - 2400S Interior Upper Plumbing Train:
Stainless Steel Burner-LPDB-LP/NAT
3130-00072

Interior Upper Plumbing, 2650 LPDB LP/NAT

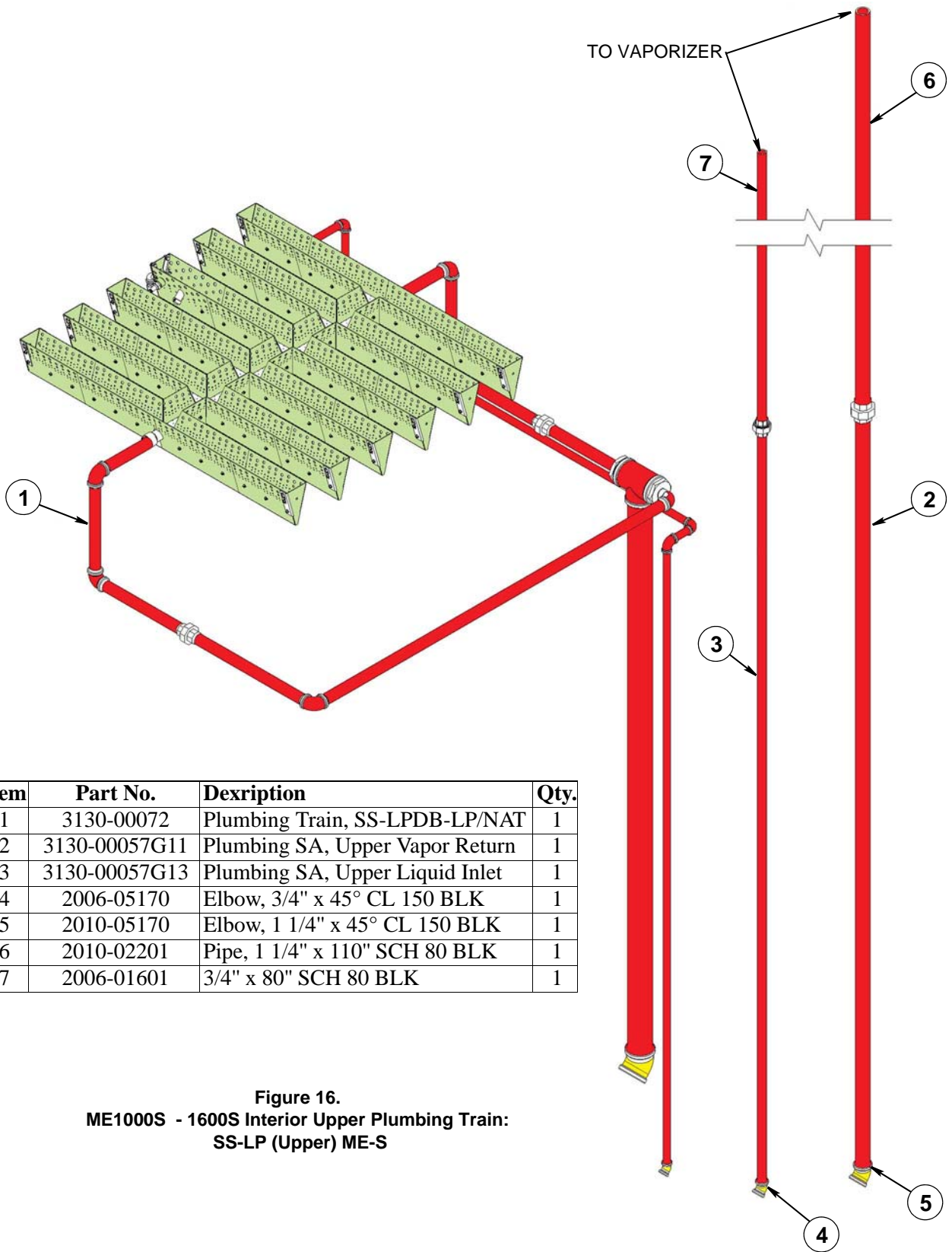


Item	Part No.	Description	Qty.
1	3108-00019	Burner Assembly, LPDB	1
2	3130-00043G14	Plumbing SA, Main	1
3	3130-00043G13	Plumbing SA, Pilot	1
5	2004-05170	Elbow, 1/2" x 45° CL 150 BLK	1
6	2020-05170	Elbow, 2 1/2" NPT 45° CL 150 BLK	1
9	2020-05200	Coupling, 2 1/2" NPT 300WOG BLK	1
10	2020-01360	Pipe-2 1/2" x 68" SCH 40	2
11	2004-01590	Pipe 1/2" x 79 1.2" SCH 40 BLK	2
12	2004-05200	Coupling, 1/2" NPT 300WOG BLK	1
13	2445-00015	Spring, Black-121 and 243 Vapor Reg.	1

SA = Subassembly

Figure 15.
ME2650S Interior Upper Plumbing Train:
LPDB-LP/NAT

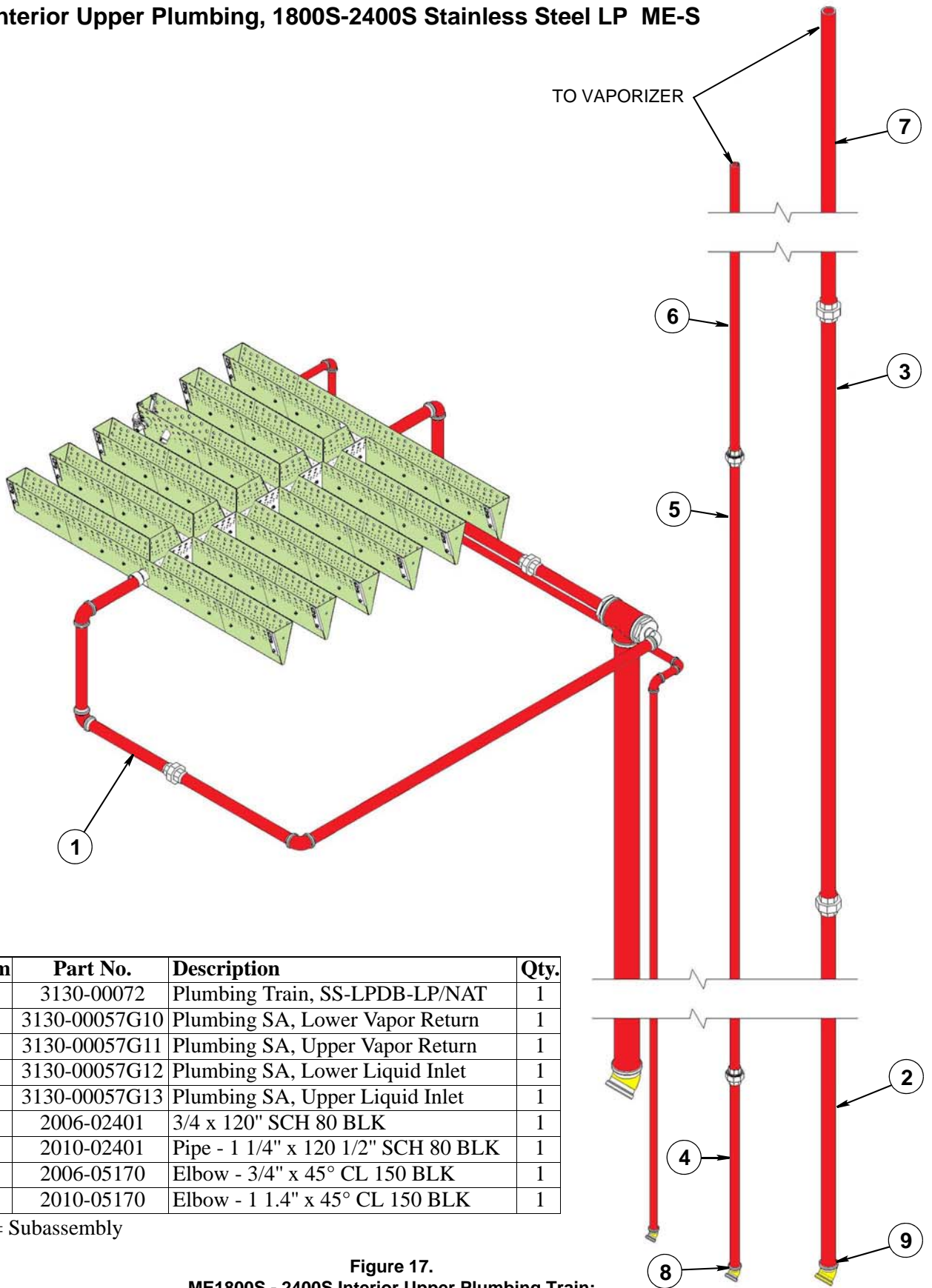
Interior Upper Plumbing, 1000S-1600S Stainless Steel LP ME-S



Item	Part No.	Description	Qty.
1	3130-00072	Plumbing Train, SS-LPDB-LP/NAT	1
2	3130-00057G11	Plumbing SA, Upper Vapor Return	1
3	3130-00057G13	Plumbing SA, Upper Liquid Inlet	1
4	2006-05170	Elbow, 3/4" x 45° CL 150 BLK	1
5	2010-05170	Elbow, 1 1/4" x 45° CL 150 BLK	1
6	2010-02201	Pipe, 1 1/4" x 110" SCH 80 BLK	1
7	2006-01601	3/4" x 80" SCH 80 BLK	1

Figure 16.
ME1000S - 1600S Interior Upper Plumbing Train:
SS-LP (Upper) ME-S

Interior Upper Plumbing, 1800S-2400S Stainless Steel LP ME-S

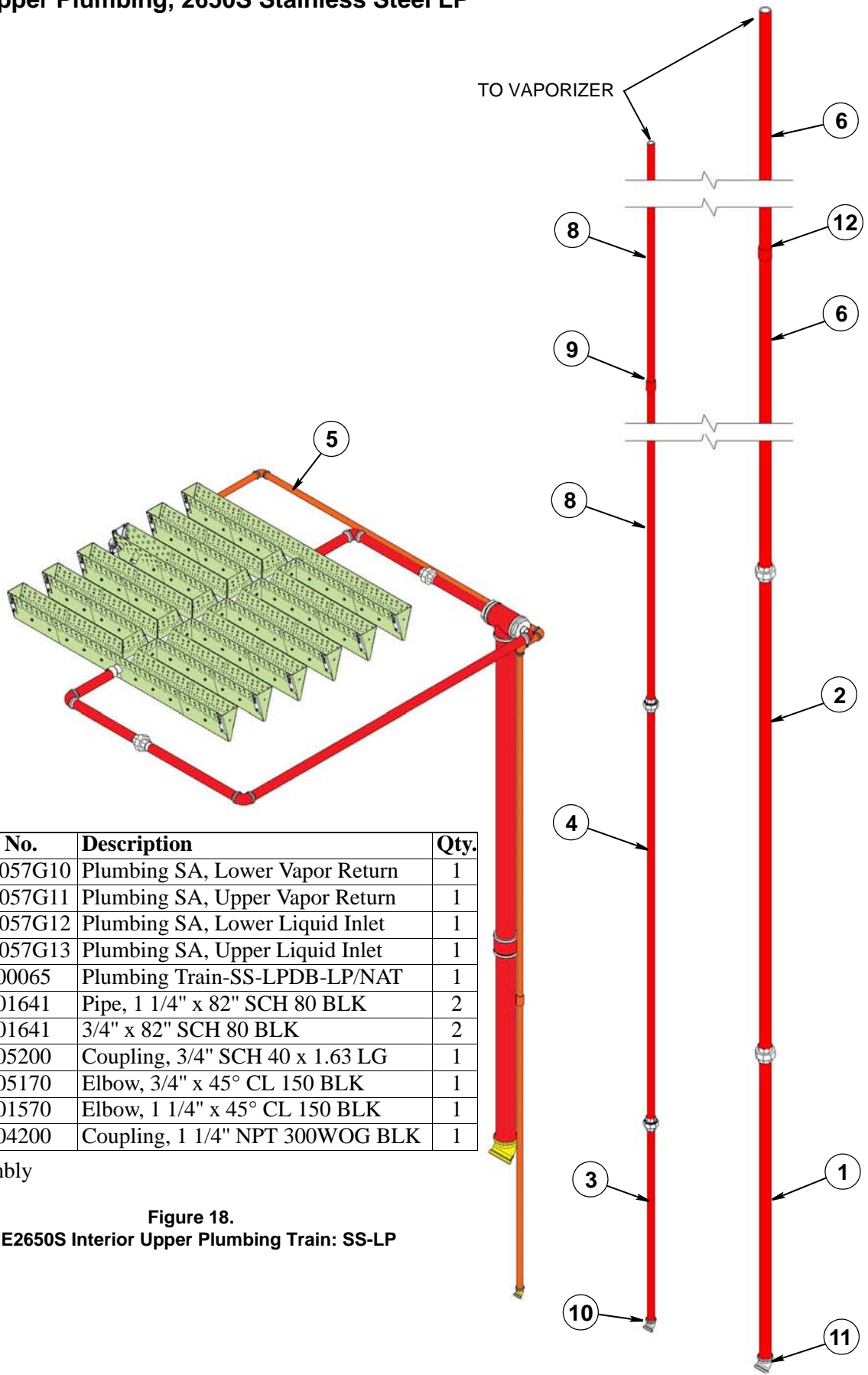


Item	Part No.	Description	Qty.
1	3130-00072	Plumbing Train, SS-LPDB-LP/NAT	1
2	3130-00057G10	Plumbing SA, Lower Vapor Return	1
3	3130-00057G11	Plumbing SA, Upper Vapor Return	1
4	3130-00057G12	Plumbing SA, Lower Liquid Inlet	1
5	3130-00057G13	Plumbing SA, Upper Liquid Inlet	1
6	2006-02401	3/4 x 120" SCH 80 BLK	1
7	2010-02401	Pipe - 1 1/4" x 120 1/2" SCH 80 BLK	1
8	2006-05170	Elbow - 3/4" x 45° CL 150 BLK	1
9	2010-05170	Elbow - 1 1.4" x 45° CL 150 BLK	1

SA = Subassembly

Figure 17.
ME1800S - 2400S Interior Upper Plumbing Train:
SS-LP (Upper) ME-S

Interior Upper Plumbing, 2650S Stainless Steel LP



Item	Part No.	Description	Qty.
1	3130-00057G10	Plumbing SA, Lower Vapor Return	1
2	3130-00057G11	Plumbing SA, Upper Vapor Return	1
3	3130-00057G12	Plumbing SA, Lower Liquid Inlet	1
4	3130-00057G13	Plumbing SA, Upper Liquid Inlet	1
5	3130-00065	Plumbing Train-SS-LPDB-LP/NAT	1
6	2010-01641	Pipe, 1 1/4" x 82" SCH 80 BLK	2
8	2006-01641	3/4" x 82" SCH 80 BLK	2
9	2006-05200	Coupling, 3/4" SCH 40 x 1.63 LG	1
10	2006-05170	Elbow, 3/4" x 45° CL 150 BLK	1
11	2010-01570	Elbow, 1 1/4" x 45° CL 150 BLK	1
12	2010-04200	Coupling, 1 1/4" NPT 300WOG BLK	1

SA = Subassembly

Figure 18.
ME2650S Interior Upper Plumbing Train: SS-LP

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Exterior Lower Plumbing: Standard

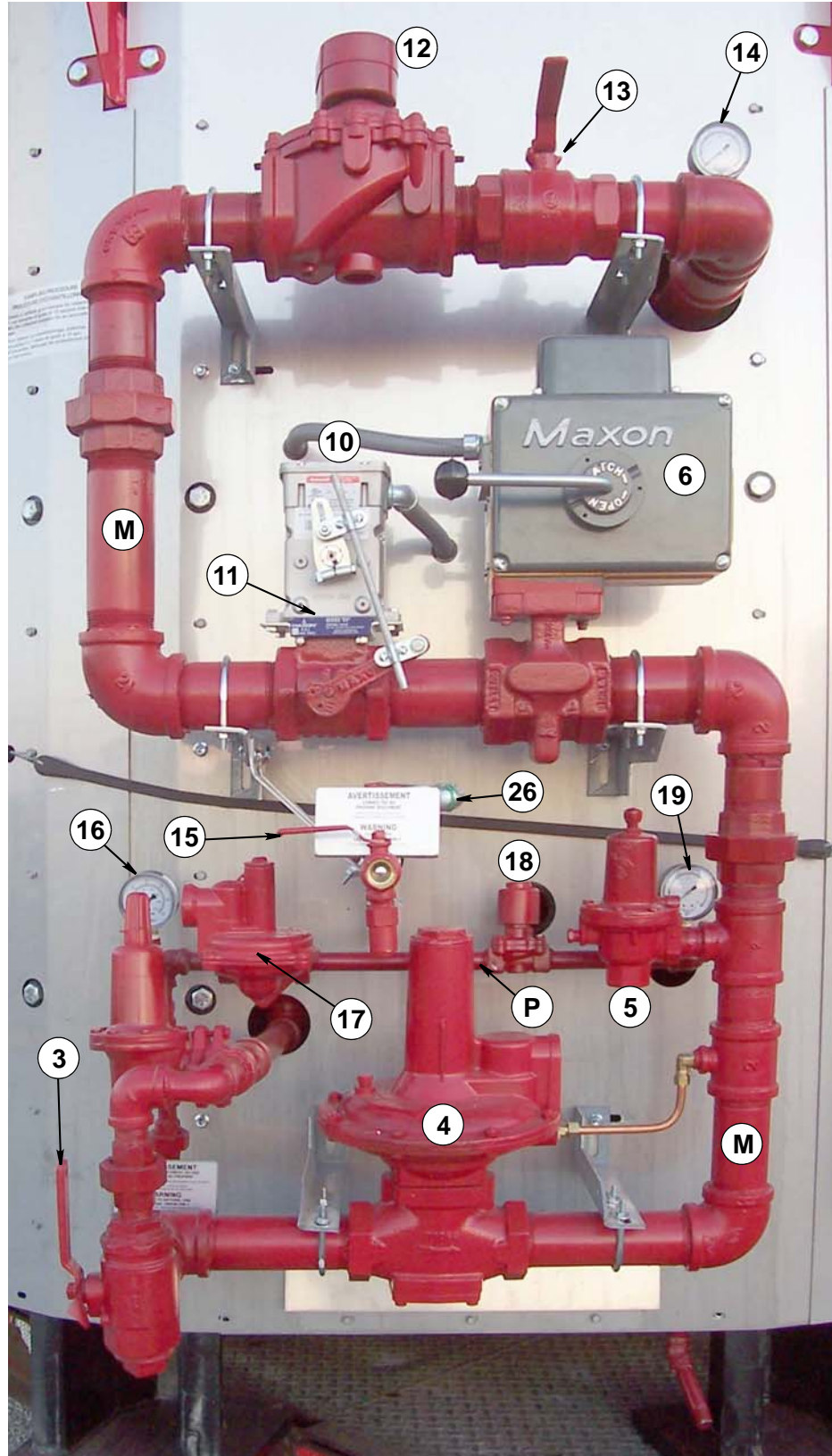
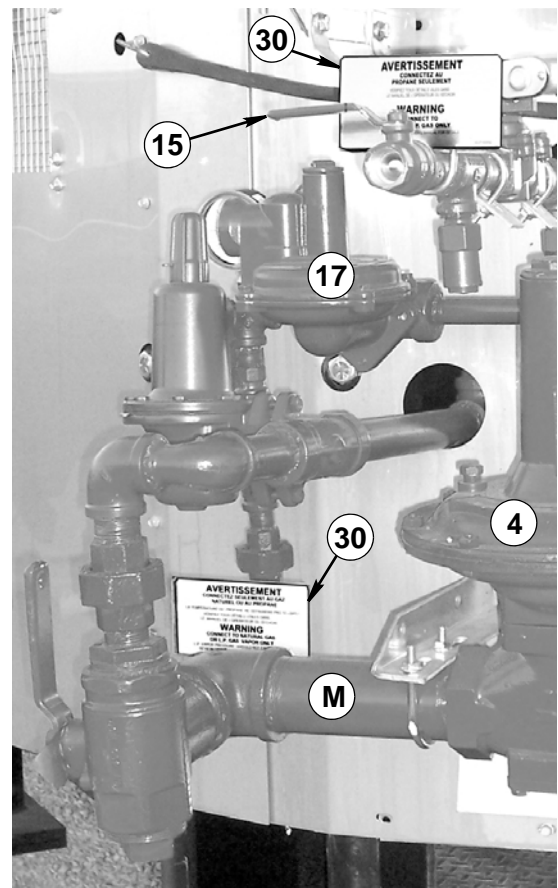


Figure 19.
Exterior Lower Plumbing: Standard
(Fuel Plates removed to show components)

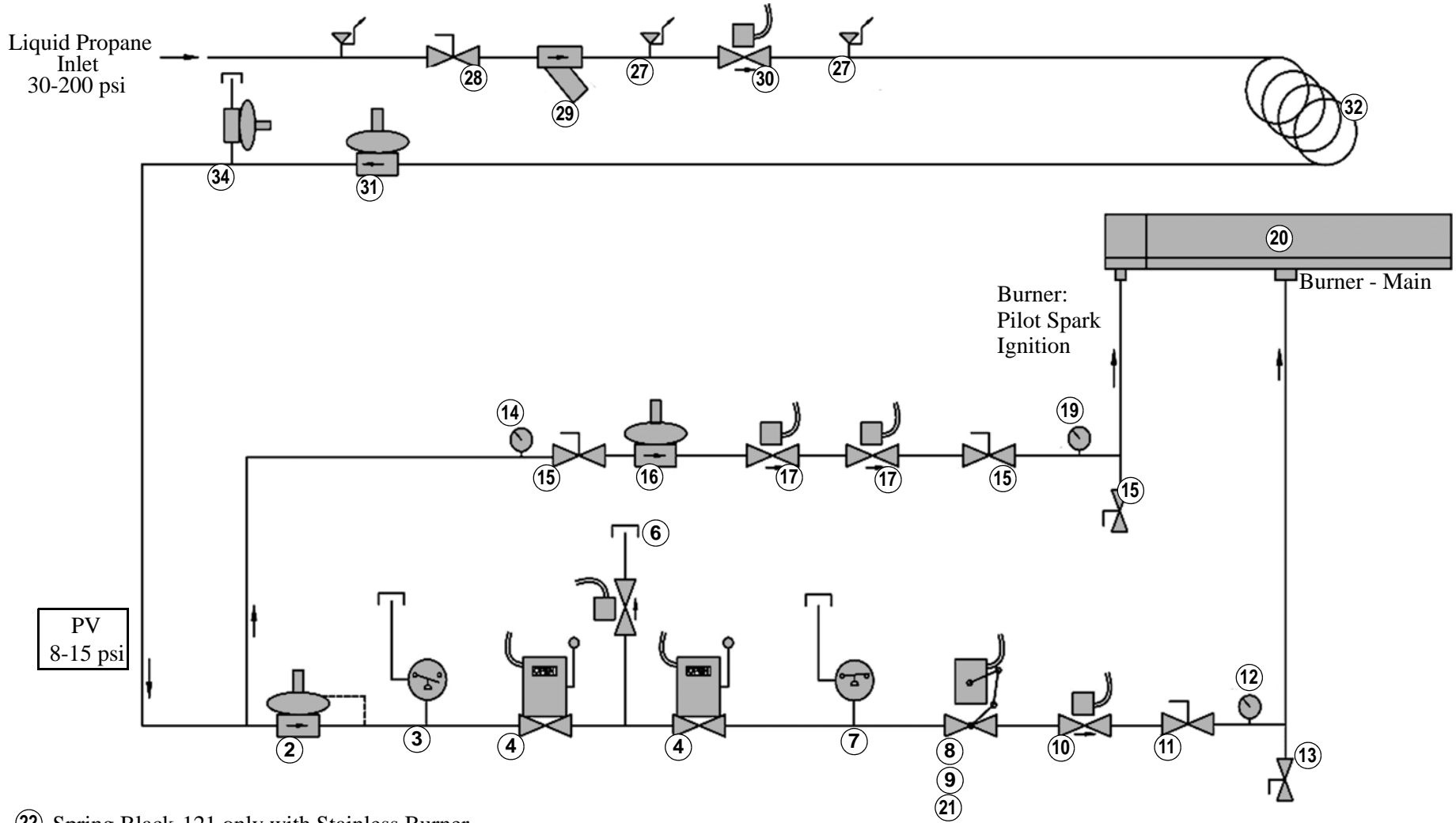
Item	Part No.	Description
Main Fuel Train (M)		
1		Propane Vapor Inlet 8-15 psi
2		Natural Gas Inlet 8-15 psi
3	2434-00164	Valve Gas 2" 3-way, Gas Shutoff
4	2448-00011	Pressure Regulator 2" 1-2 psi (main)
5	2433-00005	Valve, Safety Pressure Relief 1" 289H 4.5 psi
6	2431-00023	Maxon Shutoff Valve 2 1/2" Manual Reset
10	2541-00056	Modulating Actuator Motor, 3-position step
11	2431-00033	Butterfly Valve 2 1/2"
12	2430-00009	Heat Solenoid Valve 2 1/2"
13	2434-00201	Ball Valve 2 1/2"
14	2460-00026	Pressure Gauge, 0-60 inwc
15	2434-00004	Ball Valve 3/4"
15A	2434-00004	Ball Valve 1/2" (Main Line Drain; inside)
Pilot Fuel Train (P)		
15	2434-00004	Ball Valve 3/4"
16	2460-00027	Inlet Gas Pressure Gauge, 0-30 psi
17	2446-00029	Pilot Regulator, 1/2" 6-14 inwc
18	2430-00016	Pilot Solenoid Valve 1/2"
19	2460-00025	Pressure Gauge, 0-30 inwc
26	2430-00018	Valve, Main Solenoid 3/4" NC LP
30	5537-49 or 5537-50	WARNING Fuel Plate

IMPORTANT! All Hand Valves should be opened very slowly to allow the downstream line pressure to build up and equalize pressure through the system.



Fuel Warning Plate Detail

Plumbing Train Schematic: Block-and-Bleed LP (Canadian)



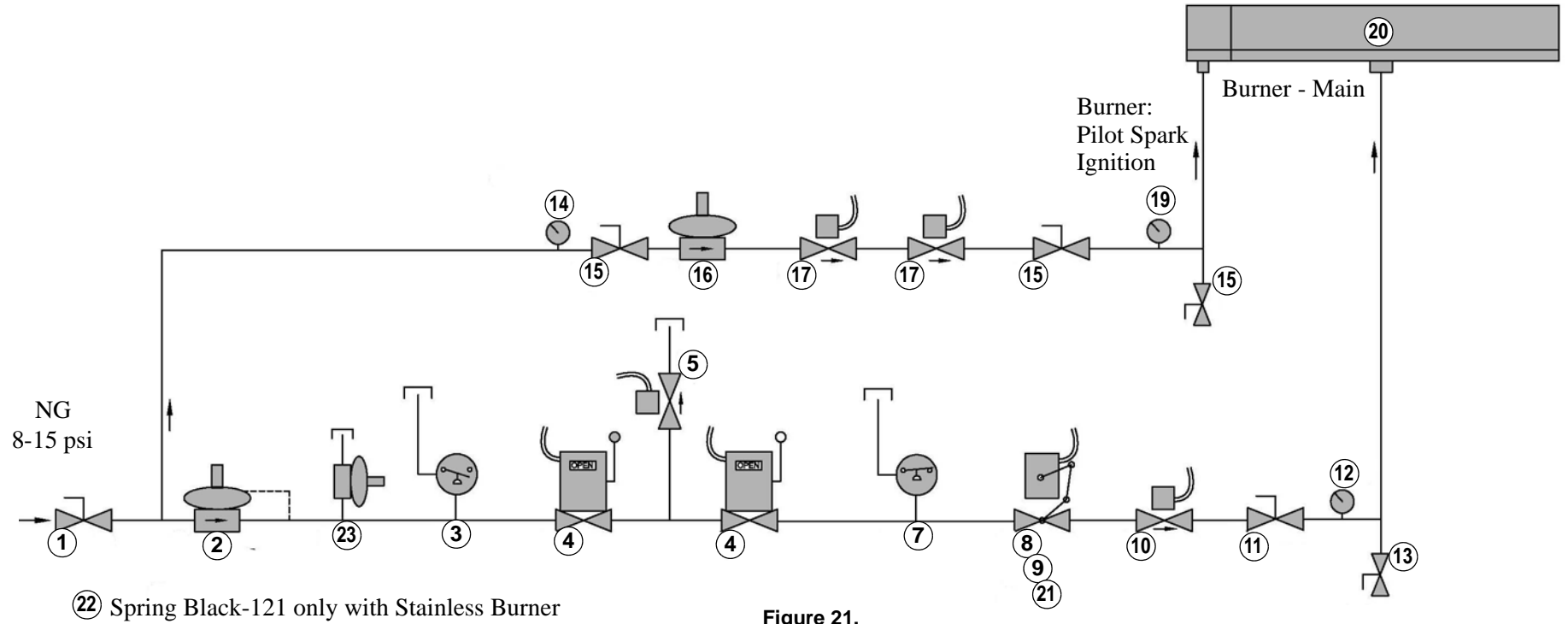
22 Spring Black-121 only with Stainless Burner

Figure 20.
Fuel Schematic: Block-and-Bleed
LP Canadian 3130-00062

Item	Part No.	Description
Main Fuel Train (M)		
2	2448-00011	Pressure Regulator 2" 1-2 psi (main) 121-8
3	2429-00019	Pressure Switch Low Gas NO 1-26 inwc
4	2431-00007	Shutoff Valve 2 1/2" Manual Reset
6	2430-00015	Solenoid Vent Valve 1 1/4" npt NO 120vac
4	2431-00007	Shutoff Valve 2 1/2" Manual Reset
7	2429-00020	Pressure Switch 1-10 psi High gas NC
8	2431-00033	Butterfly Valve 2 1/2"
9	2541-00056	Modulating Actuator Motor, 3-position step
10	2430-00009	Solenoid Valve 2 1/2"
11	2434-00201	Ball Valve 2 1/2"
12	2460-00026	Pressure Gauge, 0-60 inwc
12	2431-00023	Switch, Maxon 18428 VCS-1
12	2460-00028	Pressure Gauge, 0-100 inwc for Stainless Steel Burner
13	2434-00004	Ball Valve 1/2" (Main Line Drain)
21	2431-00035	CV Valve POC SW Kit, (Canada)
22	2445-00015	Spring, Black-121 And 243 VAPO
Pilot Fuel Train (P)		
14	2460-00027	Pressure Gauge, 0-30 psi
15	2434-00004	Ball Valve 1/2"
16	2446-00029	Pilot Regulator, 1/2" Spring, 6-14" inwc (green)
16.1	2446-00028	Spring, Regulator 13-20 inwc orange
17	2430-00066	Pilot Solenoid Valve 1/2"
19	2460-00025	Pressure Gauge, 0-30 inwc

Item	Part No.	Description
Burner Assembly		
20	3108-00031	Burner Assy, w/UV Sensor
20	3108-00032	Burner Assy, Stainless Steel Tube w/UV Sensor
18.1	2542-00062	Mini Peeper 1/2" MTG and 24' Leads
18.2	2403-00003	Pilot Spark Ignitor 1-64-4
18.3	2542-00040	Flame Controller
18.4	2502-00001	Ignition Transformer .175va 120vac
Liquid Propane Fuel Train		
27.1	2433-00017	Hydro-Relief Valve 300 psi 1/2" npt
27.2	2433-00018	Adapter, Relief Valve
28	2436-00004	Quick-Release Valve 3/4 npt
29	2790-00001	Strainer "Y" 3/4" npt
30	2430-00061	Liquid Solenoid Valve 3/4 npt NC LP
32		Vaporizer Assembly
31	2449-00030	Regulator, 1 npt 10-20-psi
34	2433-00019	Valve, Pressure Relief 1 npt 25 psi

Plumbing Train Schematic: Block-and-Bleed Natural Gas (Canadian)



②② Spring Black-121 only with Stainless Burner

Figure 21.
Fuel Schematic: Block and Bleed
Natural Gas Canadian 3130-00063

Item	Part No.	Description
Main Fuel Train (M)		
1	2434-00161	Ball Valve 2"
2	2448-00011	Pressure Regulator 2" 1-2 psi (main) 121-8
3	2429-00019	Pressure Switch Low Gas NO 1-26 inwc
4	2431-00007	Shutoff Valve 2 1/2" Manual Reset
6	2430-00015	Solenoid Vent Valve 1 1/4" npt NO 120vac
4	2431-00007	Shutoff Valve 2 1/2" Manual Reset
7	2429-00020	Pressure Switch 1-10 psi High gas NC
8	2431-00033	Butterfly Valve 2 1/2"
9	2541-00056	Modulating Actuator Motor, 3-position step
10	2430-00009	Solenoid Valve 2 1/2"
11	2434-00201	Ball Valve 2 1/2"
12	2460-00026	Pressure Gauge, 0-60 inwc
12	2460-00028	Pressure Gauge, 0-100 inwc for Stainless Steel Burner
13	2434-00004	Ball Valve 1/2" (Main Line Drain)
21	2431-00035	CV Valve POC SW Kit, (Canada)
22	2445-00015	Spring, Black-121 and 243 VAPO
23	2433-00005	Pressure Relief Valve 1" 4.5 psi
Pilot Fuel Train (P)		
14	2460-00027	Pressure Gauge, 0-30 psi
15	2434-00004	Ball Valve 1/2"
16	2446-00029	Pilot Regulator, 1/2" Spring, 6-14" inwc (green)
16.1	2446-00028	Spring, Regulator 13-20 inwc orange
17	2430-00066	Solenoid Valve, 1/2" (Pilot)
19	2460-00025	Pressure Gauge, 0-30 inwc
Burner Assembly		
20	3108-00031	Burner Assy w/UV Sensor
20	3108-00032	Burner Assy, Stainless Steel Tube w/UV Sensor
18.1	2542-00062	Mini Peeper 1/2" MTG and 24' Leads
18.2	2403-00003	Pilot Spark Ignitor 1-64-4
18.3	2542-00040	Flame Controller
18.4	2502-00001	Ignition Transformer .175va 120vac

Exterior Lower Plumbing: Block-and-Bleed

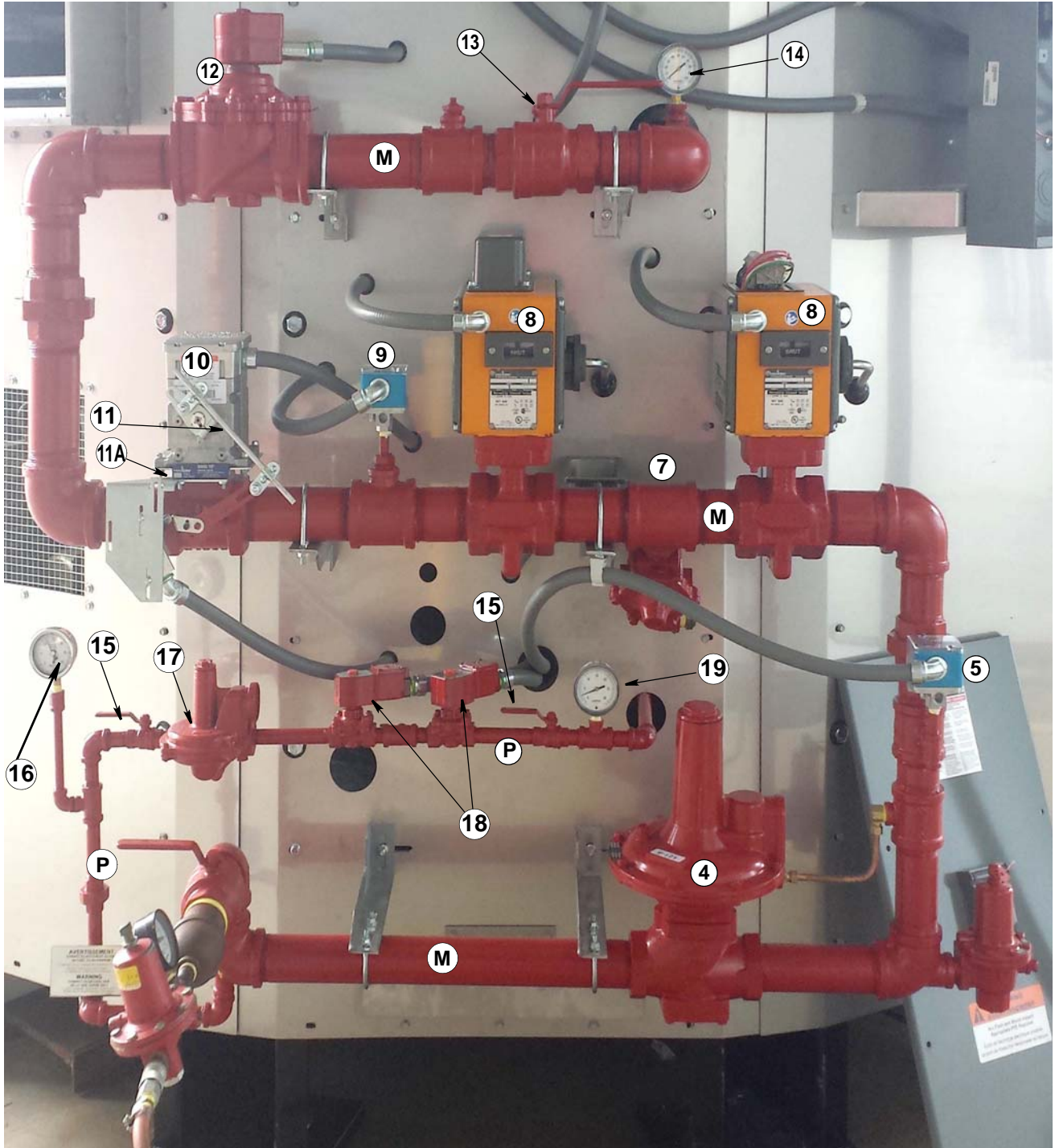


Figure 22.
Exterior Lower Plumbing: Block-and-Bleed

IMPORTANT! *All Hand Valves should be opened very slowly to allow the downstream line pressure to build up and equalize pressure through the system.*

Item	Part No.	Description
Main Fuel Train (M)		
1		Propane Vapor Inlet 8-15 psi
2		Natural Gas Inlet 8-15 psi
3	2434-00016	Ball Valve 2"
4	2448-00011	Pressure Regulator 2" 1-2 psi (main) 121-8
5	2429-00019	Pressure Switch Low Gas NO 1-26 inwc
7	2430-00015	Solenoid Vent Valve 1 1/4" npt NO 120vac
8	2431-00007	Shutoff Valve 2 1/2" Manual Reset
9	2429-00020	Pressure Switch 1-10 psi High gas NC
10	2541-00056	Modulating Actuator Motor, 3-position step
11	2431-00033	Butterfly Valve 2 1/2"
11A	2431-00035	Microswitch, Proof-of-Closure, w/ Bracket
12	2430-00009	Solenoid Valve 2 1/2"
13	2434-00201	Ball Valve 2 1/2"
14	2460-00026	Pressure Gauge, 0-60 inwc
15	2434-00004	Ball Valve 1/2" (Main Line Drain)
Pilot Fuel Train (P)		
15	2434-00004	Ball Valve 1/2"
16	2460-00027	Pressure Gauge, 0-30 psi
17	2446-00029	Pilot Regulator, 1/2" Spring, 6-14" inwc (green)
18	2430-00066	Valve, Main Solenoid 1/2" NC
19	2460-00025	Pressure Gauge, 0-30 inwc
20	2434-00004	Ball Valve 1/2" (Pilot Line Drain)
21	2431-00035	CV Valve POC SW Kit, (Canada)

Parts Lists

Part Number	Model Type	Notes
3130-00005	Assembly, Vaporizer	
3130-00035	Vaporizer Assembly	ME1000S-2650S LP
3130-00040	Plumbing Train-LP (Base) Canadian	ME1000SG-ME2400SG LP Canadian
3130-00040g02	Plumbing Kit-LP (Base) Canadian	ME1000SG-ME2400SG CA Canadian LP
3130-00040g10	Plumbing SA, LP Inlet Base Block-Bleed	ME-S MODELS w/Block-Bleed Plumbing
3130-00040g12	Plumbing SA, LP Inlet-Base-Block-Bleed	All ME-S W/ LP Block-Bleed Plumbing
3130-00040g14	Plumbing SA, Vapor Regulator	All ME-S W/ LP Block-Bleed Plumbing
3130-00040g20	Plumbing Kit, LP Inlet	ME-S MODELS w/Block-Bleed Plumbing
3130-00040g22	Plumbing Kit, LP Inlet-Base	All ME-S W/ LP Block-Bleed Plumbing
3130-00040g24	Plumbing Kit, Vapor Regulator	All ME-S W/ LP Block-Bleed Plumbing
3130-00041	Plumbing Train-LP (Upper)	ME1000S-ME1600S
3130-00041g02	Plumbing Kit -LP (Upper)	ME1000S-ME1600SG
3130-00042	Plumbing Train-NAT. (Base) Canadian	ME1000S-ME2400S Canadian
3130-00042g10	Plumbing SA, Gas Inlet-Base Plumbing	*00+ ME1000SG-2400SG 1 (NAT)
3130-00042g11	Plumbing SA, Block-Bleed-Base	*00+ ME1000SG-2650SG 1 (NAT and LP)
3130-00042g12	Plumbing SA, Burner Shutoff-Base Plumbing	*00+ ME1000SG-2650SG 1 (NAT and LP)
3130-00042g13	Plumbing SA, Pilot-Base Plumbing	*00+ ME1000SG-2400SG 1 (NAT)
3130-00042g14	Plumbing SA, Lower to Upper Main-Base	*00+ ME1000SG-2400SG 1 (NAT)
3130-00042g15	Plumbing SA, Lower to Upper Pilot-Base	*00+ ME1000SG-2400SG 1 (NAT)
3130-00042g16	Plumbing SA, Upper Line Drain-Base	*00+ ME1000SG-2400SG 1 (NAT)
3130-00042g17	Plumbing SA, 1 Lower Drain Line-Base	*00+ ME1000SG-2400SG 1 (NAT)
3130-00042g20	Plumbing Kit, Gas Inlet-Base Plumbing	*00 ME1000S-2400SG 1 (NAT GAS)
3130-00042g21	Plumbing Kit, Block-Bleed-Base	*00 ME1000S-2650SG 1 (NAT and LP)
3130-00042g22	Plumbing Kit, Burner Shutoff-Base	*00 ME1000S-2650SG 1 (NAT and LP)
3130-00042g23	Plumbing Kit, Pilot-Base Plumbing	*00 ME1000S-2400SG 1 (NAT GAS)
3130-00042g24	Plumbing Kit, Lower to Upper Main-Base	*00 ME1000S-2400SG 1 (NAT GAS)
3130-00042g25	Plumbing Kit, Lower to Upper Pilot-Base	*00 ME1000S-2400SG 1 (NAT GAS)
3130-00042g26	Plumbing Kit, Upper Line Drain-Base	*00 ME1000S-2400SG 1 (NAT GAS)
3130-00042g27	Plumbing Kit, Lower Drain Line-Base	*00 ME1000S-2400SG 1 (NAT GAS)
3130-00043	Plumbing Train-NAT (Upper)	ME1000S-ME2400S NAT
3130-00043g02	Plumbing Kit-NAT (Upper)	ME1000S-ME2400S NAT
3130-00043g10	Plumbing SA, Burner-Upper Plumbing Train	*00+ ME1000S-2400SG 1 (NAT)
3130-00043g11	Plumbing SA, Main-Upper Plumbing Train	*00+ ME1000S-2400SG 1 (NAT)
3130-00043g12	Plumbing SA, Pilot-Upper Plumbing Train	*00+ ME1000S-2400SG 1 (NAT)
3130-00043g13	Pilot, LPDB Plumbing	ME1000S-1400S; ME1800S-2400S
3130-00043g14	Main Burner, LPDB Plumbing	ME1000S-1400S; ME1800S-2400S
3130-00043g15	Pilot, LPDB Retro Plumbing	ME1000S-2400S
3130-00043g16	Main Burner, LPDB Retro Plumbing	ME1000S-2400S
3130-00043g17	Plumbing SA, Pilot	ME1600S
3130-00043g18	Plumbing SA, Main	ME1600S
3130-00043g20	Plumbing Kit, Burner	*00 ME1000S-2400SG 1 (NAT GAS)
3130-00043g21	Plumbing Kit, Main	*00 ME1000S-2400SG 1 (NAT GAS)
3130-00043g22	Plumbing Kit, Pilot	*00 ME1000S-2400SG 1 (NAT GAS)
3130-00043g23	Pilot, LPDB Plumbing	ME1000S-1400S; ME1800S-2400S
3130-00043g24	Main Burner, LPDB Plumbing	ME1000S-1400S; ME1800S-2400S
3130-00043g25	Pilot, LPDB Retro Plumbing	ME1000S-2400S
SA = SubAssembly		
3130-00043g26	Main Burner, LPDB Retro Plumbing	ME1000S-2400S
3130-00043g27	Plumbing SA, Pilot	ME1600S
3130-00043g28	Plumbing SA, Main	ME1600S
3130-00044	Plumbing Train-LP (Base) ME-S	ME1000S-2650S
3130-00044g02	Plumbing Kit-LP (Base) ME-S	ME1000S-ME2400S LP
3130-00044g10	Plumbing SA, LP/NAT Inlet-Base Plumbing	*00+ ME1000S-2650S 1 (Combo)
3130-00044g11	Plumbing SA, Liquid Inlet-Base Plumbing	*00+ ME1000S-2400S 1 (Combo)
3130-00044g12	Plumbing SA, Upper Liquid Inlet-Base	*00+ ME1000S-2400S 1 (Combo)

Part Number	Model Type	Notes
3130-00044g13	Plumbing SA, Upper Vapor Return-Base	'00+ ME1000S-2400S 1 (Combo)
3130-00044g14	Plumbing SA, Vapor Regulator-Base	'00+ ME1000S-2400S 1 (Combo)
3130-00044g15	Plumbing SA, Lower Drain Line-Base	'00+ ME1000S-2400S 1 (Combo)
3130-00044g20	Plumbing Kit, Natural Inlet	'00 ME1000S-2400S 1 (Combo)
3130-00044g21	Plumbing Kit, Liquid Inlet	'00 ME1000S-2400S 1 (Combo)
3130-00044g22	Plumbing Kit, Upper Liquid Inlet	'00 ME1000S-2400S 1 (Combo)
3130-00044g23	Plumbing Kit, Upper Vapor Return	'00 ME1000S-2400S 1 (Combo)
3130-00044g24	Plumbing Kit, Vapor Regulator	'00 ME1000S-2400S 1 (Combo)
3130-00044g25	Plumbing Kit, Lower Drain Line	'00 ME1000S-2400S 1 (Combo)
3130-00045	Plumbing Train-NAT (Base)	ME1000S-ME2650S NAT
3130-00045g02	Plumbing Kit-NAT (Base)	ME1000S-ME2400S
3130-00045g10	Plumbing SA, NAT Inlet-Base	'00+ ME1000S-2400S 1 (NAT)
3130-00045g11	Plumbing SA, Maxon-Base Plumbing Train	'00+ ME1000S-2400S 1 (NAT)
3130-00045g12	Plumbing SA, Burner Shutoff-Base	'00+ ME1000S-2400S 1 (NAT)
3130-00045g13	Plumbing SA, Pilot-Base Plumbing Train	'00+ ME1000S-2650S 1 (NAT)
3130-00045g14	Plumbing SA, Lower to Upper Main-Base	'00+ ME1000S-2400S 1 (NAT)
3130-00045g15	Plumbing SA, Pilot Inner-Base Plumbing	'00+ ME1000S-2400S 1 (NAT)
3130-00045g20	Plumbing Kit, Natural Inlet	'00 ME1000S-2400S 1 (NAT)
3130-00045g21	Plumbing Kit, Maxon	'00 ME1000S-2400S 1 (NAT)
3130-00045g22	Plumbing Kit, Burner Shutoff	'00 ME1000S-2400S 1 (NAT)
3130-00045g23	Plumbing Kit, Pilot	'00 ME1000S-2650S 1
3130-00045g24	Plumbing Kit, Lower to Upper Main	'00 ME1000S-2400S 1 (NAT)
3130-00045g25	Plumbing Kit, Pilot Inner	'00 ME1000S-2400S 1 (NAT)
3130-00046p01	Copper Tubing, 3/8" OD	
3130-00046p02	Copper Tubing, 3/8" OD	
3130-00047g01	Tubing SA, Pilot Gas	ME1000S-2650S
3130-00047g02	Tubing SA, Pilot Gas	ME1000SG-2400SG
3130-00055p01	Copper Tubing, 3/8" OD	ME1000S-2650S
3130-00055p02	Copper Tubing, 3/8" OD	ME1000SG-2650SG
3130-00056g01	Tubing SA, Vapor Regulator	ME1000S-2400S
3130-00056g02	Tubing SA, Vapor Regulator	ME1000SG-2400SG
3130-00057	Plumbing Train-LP (Upper)	ME1800S-ME2400S LP
3130-00057g02	Plumbing Kit-LP (Upper)	ME1800S-ME2400S LP
3130-00057g10	Plumbing SA, Lower Vapor Return	'00+ ME1800S-2400SG 1 (LP)
3130-00057g11	Plumbing SA, Upper Vapor Return	'00+ ME1000S-2400SG 1 (LP)
3130-00057g12	Plumbing SA, Lower Liquid Inlet	'00+ ME1800S-2400SG 1 (LP)
3130-00057g13	Plumbing SA, Upper Liquid Inlet	'00+ ME1000S-2400SG 1 (LP)
3130-00057g20	Plumbing Kit, Lower Vapor Return	'00 ME1800S-2400SG 1 (LP)
3130-00057g21	Plumbing Kit, Upper Vapor Return	'00 ME1800S-2400SG 1 (LP)
3130-00057g22	Plumbing Kit, Lower Liquid Inlet	'00 ME1800S-2400SG 1 (LP)
3130-00057g23	Plumbing Kit, Upper Liquid Inlet	'00 ME1800S-2400SG 1 (LP)
3130-00058	Plumbing Train - LP Combo w/Maxon	
3130-00058g02	Plumbing Train - LP Combo w/Maxon	
SA = SubAssembly		
3130-00059	Plumbing Train-LP w/Block-Bleed	
3130-00059g02	Plumbing Train-LP w/Block-Bleed	
3130-00060g02	Plumbing Train-LP w/Block-Bleed	
3130-00064	Plumbing Train SS-NAT (Upper) ME-S	ME1000-2400S
3130-00065	Plumbing Train SS-LPDB-LP/NAT	ME2650S
3130-00066	Plumbing Train-LP (Upper) ME2	ME2650S
3130-00067	Plumbing Train SS-LP (Upper) ME-S	ME1800S-2400S
3130-00068	Plumbing Train SS-LP (Upper) ME-S	ME2650S
3130-00069	Plumbing Train SS-LP (Upper) ME-S	ME1000-1600S
3130-00070	Plumbing Train-NAT (Upper) ME-S	ME2650
3130-00071	Kit-LPDB Conversion	ME1000S-2400S
3130-00072	Plumbing Train-SS-LPDB-LP/NAT	ME1000S-2400S
3130-80001g01	Crate, LP Plumbing Option	ME1000SX-2400SX
3130-81004g02	Crate, NAT Block-Bleed Plumbing Option	ME1000ES-2650HS (Hungary)



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Changes this issue:

Pages 24-25: The Canadian Block-and-Bleed LP PlumbingTrain changed.

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