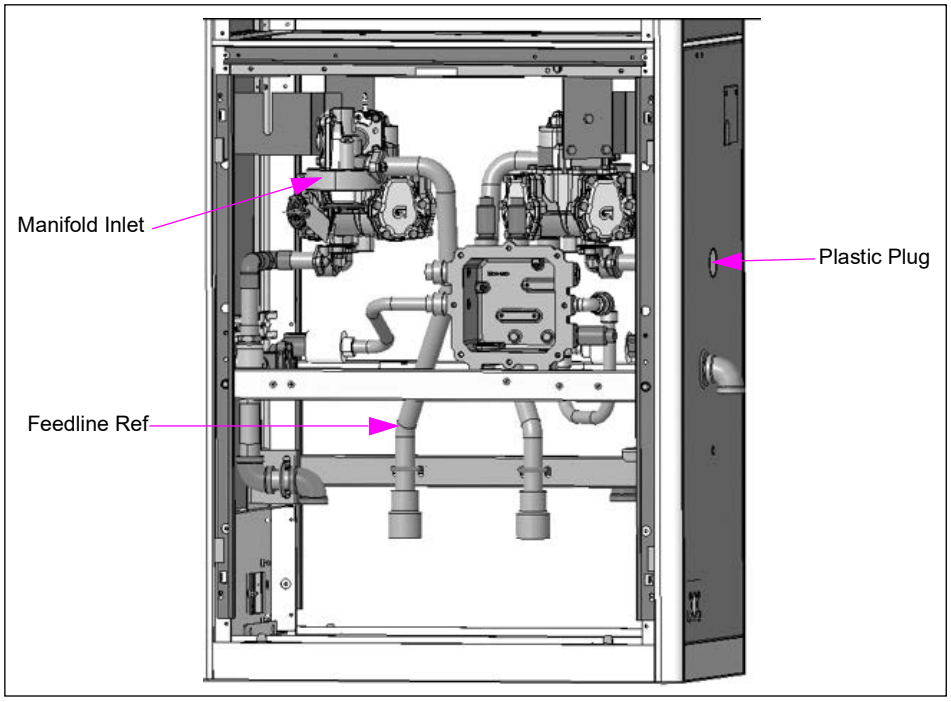
Introduction

Purpose

This document provides instructions for installing the AtlasX™ Satellite Piping Conversion Kits M20028K001 through K008 for high-flow models (9153\8853\9853).

Kit Number	Description
M20028K001	Kit, AtlasX Mech w/Sat Conversion, Single Grade 1 110V
M20028K002	Kit, AtlasX Mech w/Sat Conversion, Dual Grade 1 and Grade 2 110V
M20028K003	Kit, AtlasX Mech w/Sat Conversion, Single Grade 1 220V
M20028K004	Kit, AtlasX Mech w/Sat Conversion, Dual Grade 1 and Grade 2 220V
M20028K005	Kit, AtlasX Elec w/Sat Conversion, Single Grade 1 110V
M20028K006	Kit, AtlasX Elec w/Sat Conversion, Dual Grade 1 and Grade 2 110V
M20028K007	Kit, AtlasX Elec w/Sat Conversion, Single Grade 1 220V
M20028K008	Kit, AtlasX Elec w/Sat Conversion, Dual Grade 1 and Grade 2 220V

Figure 1: AtlasX Hi-Flow with Satellite Piping Assembly



Note: Mechanical unit 9153 is shown with CFT meter. The Electronic unit 9853 uses the V10 meter.

Table of Contents

Intended Users

The intended users of this document are Authorized Service Contractors (ASCs).

Related Documents

The following document contains related information and may be helpful when using this document:

Document Number	Document Name	GOLD℠ Library
FE-371	Field Wiring Diagram AtlasX	Gasboy Atlas Pumps/Dispensers
MDE-5692	AtlasX Installation Manual	Gasboy® Commercial and Retail Pumps

Abbreviations and Acronyms

Term	Description
ASC	Authorized Service Contractor
DEF	Diesel Exhaust Fluid
NEC®	National Electrical Code
NFPA	National Fire Protection Association
OSHA	Occupational Safety and Health Administration
STP	Submersible Turbine Pump

Required Tools

- Metric socket wrench set
- 2 Pipe wrenches or 1 wrench and vise
- Silicone grease

Parts List

The M20028K001 - K008 kits contain the following parts:

Description	Part Number	K001 Qty	K002 Qty	K003 Qty	K004 Qty	K005 Qty	K006 Qty	K007 Qty	K008 Qty
Discharge line assembly	M19573A001	1	2	1	2	-	-	-	-
Discharge line assembly	M19581A001	-	-	-	-	1	2	1	2
Screw, metric M8 X 16 length	M00415B009	2	4	2	4	2	4	2	4
Elbow ST 1 X 90 MI	K02321-20	1	2	1	2	1	2	1	2
Tee pipe 1 X 1 X 1	K12630	1	2	1	2	1	2	1	2
Nipple 1 X 2	R11495-51	1	2	1	2	1	2	1	2
Nipple 1 X 2-1/2	R11495-90	1	2	1	2	1	2	1	2
Nipple 1 X 2-3/4	R11495-45	1	2	1	2	1	2	1	2
Nipple 1 X 5- 1/2	R11495-60	1	2	1	2	1	2	1	2
Grommet discharge - 1” pipe	G028960	1	2	1	2	1	2	1	2
Elbow - 1" X 90 (paint)	G024895	1	2	1	2	1	2	1	2
Bracket piping support Gr1	M19436B001	1	1	1	1	1	1	1	1
Bracket piping support Gr2	M19437B001	-	1	-	1	-	1	-	1
U-Bolt, metric, M8	M00703B002	1	2	1	2	1	2	1	2
Nut, metric M8 serrated	M00414B003	2	4	2	4	2	4	2	4
Screw, metric M8 X 18	M00417B009	2	4	2	4	2	4	2	4
Solenoid valve 110 V	G067034	1	2	-	-	1	2	-	-
Solenoid valve 220 V	G067036	-	-	1	2	-	-	1	2
Conduit valve Grade 2	M19439B001	-	1	-	1	-	1	-	1
Conduit valve Grade 1	M19438B001	1	1	1	1	1	1	1	1
O-ring 862 X .103 X .103	N16891-32	1	2	1	2	1	2	1	2
Fitting discharge	M04624B040	1	2	1	2	1	2	1	2
O-ring 1.234 Id X 1.512 Od	Q12974-218	3	6	3	6	3	6	3	6
Filter manifold	M04607B005	1	2	1	2	1	2	1	2
O-ring 1.609 Id X 0.139 Wall	Q12974-223	1	2	1	2	1	2	1	2
Strainer insert high capacity	R19457	1	2	1	2	1	2	1	2
Plug pipe 3/4 square socket	K57624	1	-	1	-	1	-	1	-
Union 1/2 Conduit	Q10016-04	1	2	1	2	1	2	1	2
Plug, Plastic Cap 1.750	Q10554-21	1	2	1	2	1	2	1	2
Elbow, 1/2 Conduit	K42448	3	3	3	3	3	3	3	3
Elbow, Pipe 1 X 90	K02312	2	4	2	4	2	4	2	4
AtlasX™ Satellite Piping Conversion Kits (M20028K00X) Installation Instructions	MDE-5789	1	1	1	1	1	1	1	1

Important Safety Information

Notes: 1) Save this Important Safety Information section in a readily accessible location.

2) Although DEF is non-flammable, Diesel is flammable. Therefore, for DEF cabinets that are attached to Diesel dispensers, follow all the notes in this section that pertain to flammable fuels.

This section introduces the hazards and safety precautions associated with installing, inspecting, maintaining or servicing this product. Before performing any task on this product, read this safety information and the applicable sections in this manual, where additional hazards and safety precautions for your task will be found. Fire, explosion, electrical shock or pressure release could occur and cause death or serious injury, if these safe service procedures are not followed.

Preliminary Precautions
You are working in a potentially dangerous environment of flammable fuels, vapors, and high voltage or pressures. Only trained or authorized individuals knowledgeable in the related procedures should install, inspect, maintain or service this equipment.

Emergency Total Electrical Shut-Off
The first and most important information you must know is how to stop all fuel flow to the pump/dispenser and island. Locate the switch or circuit breakers that shut off all power to all fueling equipment, dispensing devices, and Submerged Turbine Pumps (STPs).

⚠ WARNING

The EMERGENCY STOP, ALL STOP, and PUMP STOP buttons at the cashier's station WILL NOT shut off electrical power to the pump/dispenser. This means that even if you activate these stops, fuel may continue to flow uncontrolled.
You must use the TOTAL ELECTRICAL SHUT-OFF in the case of an emergency and not the console's ALL STOP and PUMP STOP or similar keys.

Total Electrical Shut-Off Before Access
Any procedure that requires access to electrical components or the electronics of the dispenser requires total electrical shut off of that unit. Understand the function and location of this switch or circuit breaker before inspecting, installing, maintaining, or servicing Gasboy equipment.

Evacuating, Barricading and Shutting Off
Any procedure that requires access to the pump/dispenser or STPs requires the following actions:

- An evacuation of all unauthorized persons and vehicles from the work area
- Use of safety tape, cones or barricades at the affected unit(s)
- A total electrical shut-off of the affected unit(s)

Read the Manual
Read, understand and follow this manual and any other labels or related materials supplied with this equipment. If you do not understand a procedure, call a Gasboy Authorized Service Contractor or call the Gasboy Service Center at 1-800-444-5529. It is imperative to your safety and the safety of others to understand the procedures before beginning work.

Follow the Regulations
Applicable information is available in National Fire Protection Association (NFPA) 30A; *Code for Motor Fuel Dispensing Facilities and Repair Garages*, NFPA 70; *National Electrical Code (NEC)*, Occupational Safety and Health Administration (OSHA) regulations and federal, state, and local codes. All these regulations must be followed. Failure to install, inspect, maintain or service this equipment in accordance with these codes, regulations and standards may lead to legal citations with penalties or affect the safe use and operation of the equipment.

Replacement Parts
Use only genuine Gasboy replacement parts and retrofit kits on your pump/dispenser. Using parts other than genuine Gasboy replacement parts could create a safety hazard and violate local regulations.

Safety Symbols and Warning Words

This section provides important information about warning symbols and boxes.

Alert Symbol

This safety alert symbol is used in this manual and on warning labels to alert you to a precaution which must be followed to prevent potential personal safety hazards. Obey safety directives that follow this symbol to avoid possible injury or death.

Signal Words
These signal words used in this manual and on warning labels tell you the seriousness of particular safety hazards. The precautions below must be followed to prevent death, injury or damage to the equipment:

DANGER: Alerts you to a hazard or unsafe practice which will result in death or serious injury.

WARNING: Alerts you to a hazard or unsafe practice that could result in death or serious injury.

CAUTION with Alert symbol: Designates a hazard or unsafe practice which may result in minor injury.

CAUTION without Alert symbol: Designates a hazard or unsafe practice which may result in property or equipment damage.

Working With Fuels and Electrical Energy

Prevent Explosions and Fires
Fuels and their vapors will explode or burn, if ignited. Spilled or leaking fuels cause vapors. Even filling customer tanks will cause potentially dangerous vapors in the vicinity of the dispenser or island.

DEF is non-flammable. Therefore, explosion and fire safety warnings do not apply to DEF lines.

No Open Fire

Open flames from matches, lighters, welding torches or other sources can ignite fuels and their vapors.

No Sparks - No Smoking

Sparks from starting vehicles, starting or using power tools, burning cigarettes, cigars or pipes can also ignite fuels and their vapors. Static electricity, including an electrostatic charge on your body, can cause a spark sufficient to ignite fuel vapors. Every time you get out of a vehicle, touch the metal of your vehicle, to discharge any electrostatic charge before you approach the dispenser island.

Working Alone

It is highly recommended that someone who is capable of rendering first aid be present during servicing. Familiarize yourself with Cardiopulmonary Resuscitation (CPR) methods, if you work with or around high voltages. This information is available from the American Red Cross. Always advise the station personnel about where you will be working, and caution them not to activate power while you are working on the equipment. Use the OSHA Lockout/Tagout procedures. If you are not familiar with this requirement, refer to this information in the service manual and OSHA documentation.

Working With Electricity Safely

Ensure that you use safe and established practices in working with electrical devices. Poorly wired devices may cause a fire, explosion or electrical shock. Ensure that grounding connections are properly made. Take care that sealing devices and compounds are in place. Ensure that you do not pinch wires when replacing covers. Follow OSHA Lockout/Tagout requirements. Station employees and service contractors need to understand and comply with this program completely to ensure safety while the equipment is down.

Hazardous Materials

Some materials present inside electronic enclosures may present a health hazard if not handled correctly. Ensure that you clean hands after handling equipment. Do not place any equipment in the mouth

⚠ WARNING

In the event of inclement weather, including snow, ice, or flooding that makes driving conditions dangerous, please avoid servicing units. Always use available door stops to secure upper doors against unwanted/unexpected movement, especially during high winds. If necessary, reschedule service to avoid damage to the equipment. Weather may change unexpectedly; be aware of local weather conditions. During service, if conditions develop making service unsafe, close the unit(s) and proceed to a safe location.

⚠ WARNING

The pump/dispenser contains a chemical known to the State of California to cause cancer.

⚠ WARNING

The pump/dispenser contains a chemical known to the State of California to cause birth defects or other reproductive harm.

Gilbarco Veeder-Root encourages the recycling of our products. Some products contain electronics, batteries, or other materials that may require special management practices depending on your location. Please refer to your local, state, or country regulations for these requirements.

In an Emergency

Inform Emergency Personnel

Compile the following information and inform emergency personnel:

- Location of accident (for example, address, front/back of building, and so on)
- Nature of accident (for example, possible heart attack, run over by car, burns, and so on)
- Age of victim (for example, baby, teenager, middle-age, elderly)
- Whether or not victim has received first aid (for example, stopped bleeding by pressure, and so on)
- Whether or not a victim has vomited (for example, if swallowed or inhaled something, and so on)

⚠ WARNING

Gasoline/DEF ingested may cause unconsciousness and burns to internal organs. Do not induce vomiting. Keep airway open.
Oxygen may be needed at scene. Seek medical advice immediately.

⚠ WARNING

DEF generates ammonia gas at higher temperatures. When opening enclosed panels, allow the unit to air out to avoid breathing vapors. If respiratory difficulties develop, move victim away from source of exposure and into fresh air. If symptoms persist, seek medical attention.

⚠ WARNING

Gasoline inhaled may cause unconsciousness and burns to lips, mouth and lungs.
Keep airway open.
Seek medical advice immediately.

⚠ WARNING

Gasoline/DEF spilled in eyes may cause burns to eye tissue.
Irrigate eyes with water for approximately 15 minutes.Seek medical advice immediately.

⚠ WARNING

Gasoline/DEF spilled on skin may cause burns.
Wash area thoroughly with clear water.
Seek medical advice immediately.

⚠ WARNING

DEF is mildly corrosive. Avoid contact with eyes, skin, and clothing. Ensure that eyewash stations and safety showers are close to the work location. Seek medical advice/recommended treatment if DEF spills into eyes.

IMPORTANT: Oxygen may be needed at scene if gasoline has been ingested or inhaled. Seek medical advice immediately.

Lockout/Tagout

Lockout/Tagout covers servicing and maintenance of machines and equipment in which the unexpected energization or start-up of the machine(s) or equipment or release of stored energy could cause injury to employees or personnel. Lockout/Tagout applies to all mechanical, hydraulic, chemical, or other energy, but does not cover electrical hazards. Subpart S of 29 CFR Part 1910 - Electrical Hazards, 29 CFR Part 1910.333 contains specific Lockout/Tagout provision for electrical hazards.

Installing the AtlasX Hi-Flow Satellite Conversion Kits M20028K001 - K008

To install the AtlasX Hi-flow with the Satellite conversion kit, proceed as follows:

Preparing for the Installation

⚠ CAUTION

Bleed pressure prior to disassembly and wear proper eye protection.

1 Close and test shear valves. Run the unit to bleed off pressure and drain the fuel into an approved container.

2 Request permission from the manager/owner to remove power from the unit and then remove power using normal procedures. Perform the lockout/tagout safety procedures.

3 Ensure that you have the proper kit for the model dispenser to be retrofitted.

4 Follow all applicable safety rules and procedures.

Installing the Conversion Kits (M20028K00X)

Removing the Existing Solenoid Valve and Discharge Line

1 Remove the exterior discharge fitting and any grommet. Residual pressure may exist. Wear eye protection.

2 Remove and retain the two screws holding the discharge casting to the bottom of the meter. Remove the discharge casting and the attached discharge piping. Collect fuel in an approved container, and clean up any spills and dispose properly.

3 Disconnect the solenoid valve wiring in the junction box. Mark the connections in the junction box for all wires connected to the solenoid valve, so that the valve replacement can easily be connected to the correct wires.

4 Disconnect the feedline from the solenoid valve/filter manifold on the meter. Disconnect the valve conduit union.

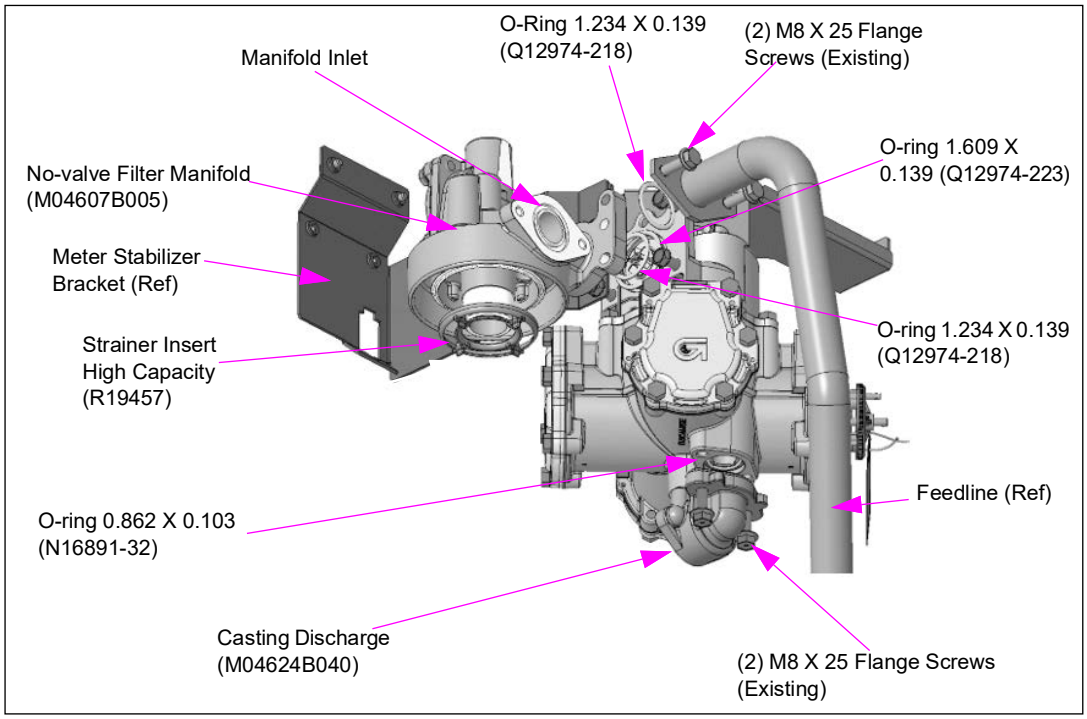
5 Loosen but do not remove the nut holding the meter stabilizer bracket to the frame so that the bracket can be maneuvered to permit removal of the valve/filter manifold. Remove the solenoid valve/filter manifold from the meter and pull the coil wires through the conduit. Retain the mounting hardware.

Mounting the No-Valve Filter Manifold and Meter Discharge Fitting

1 Insert the filter strainer (R19457) into the no-valve filter manifold (M04607B005) from the kit. Push the strainer fully into the cavity so that it does not interfere with the filter boss threads. Install the filter or filter cap.

2 Ensure that the meter check valve is still in place in the meter inlet. Grease the O-rings and insert them into the grooves in the meter inlet and in the no-valve filter manifold discharge flange. Attach the flange to the meter inlet and replace the two screws on the right. Reposition the meter stabilizer bracket to the back side of the manifold flange and replace the two screws on the left. Tighten all the four screws and tighten the meter stabilizer bracket nut against the frame.

Figure 2: No-Valve Filter Manifold and Meter Discharge Fitting



Note: Mechanical unit 9153 upper hydraulics is shown with CFT meter. The Electronic unit 9853 upper hydraulics uses the V10 meter.

3 Insert the feedline O-ring into the manifold inlet and lightly grease to retain and attach the feedline. Insert and tighten the two screws.

4 Lightly grease the meter discharge O-ring and insert it into the groove in the meter discharge. Ensure that the O-ring is fully seated in the groove and is not offset by the O-ring retainer tabs in the meter discharge.

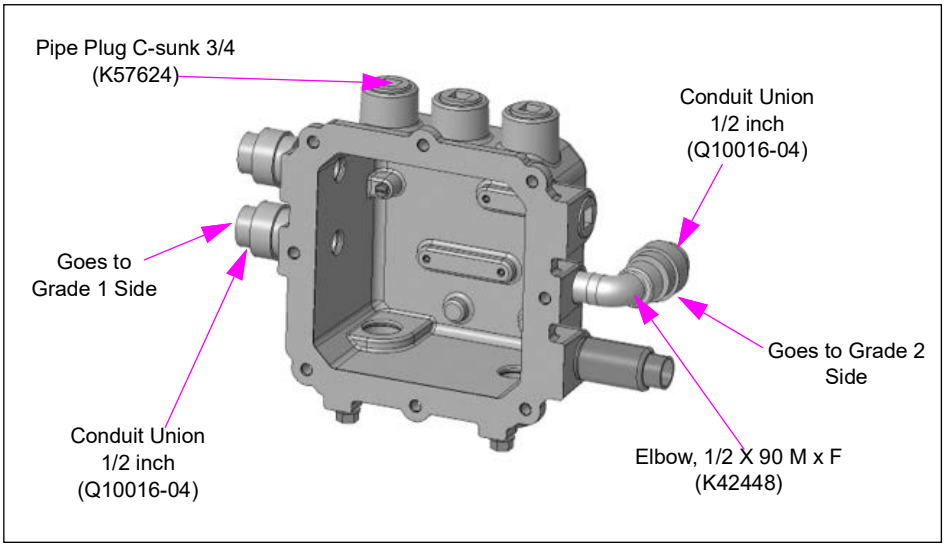
5 Attach the meter discharge casting to the meter discharge and insert the two screws and tighten them.

Modifying the Junction Box

1 Remove all conduits and fittings associated with the old solenoid valves.

2 Add the new fittings.

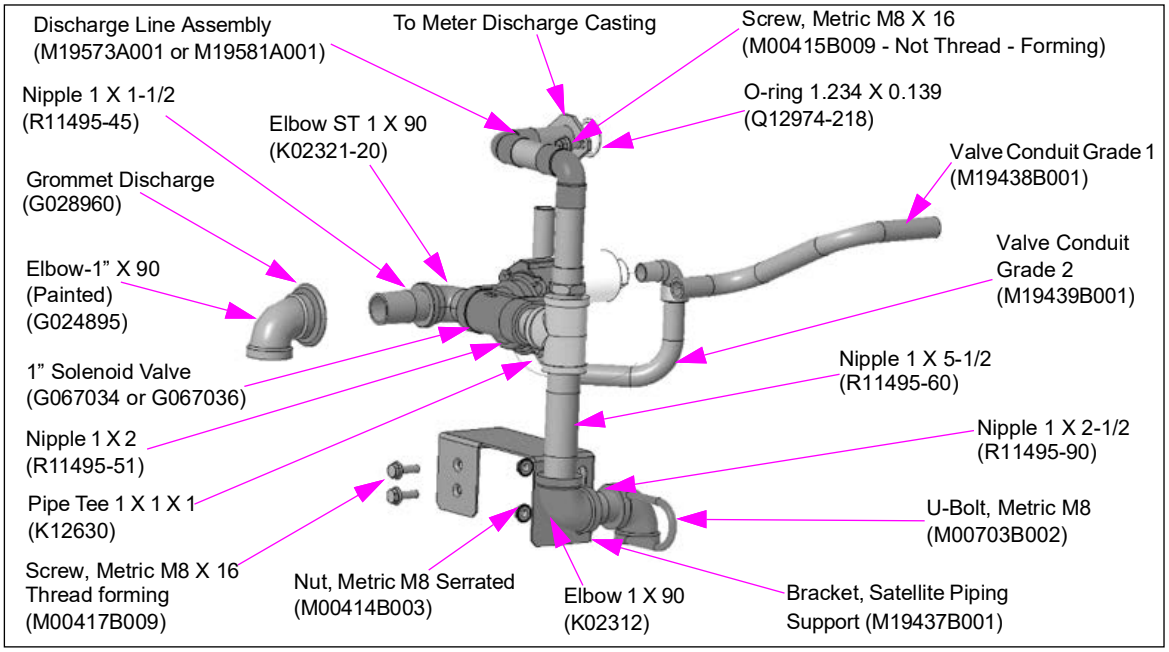
Figure 3: Modifying the Junction Box



Discharge Line Assembly

Note: For Discharge Line assembly, assemble all the parts in Figure 4 except the Discharge Grommet and Painted elbow.

Figure 4: Discharge Line Assembly



1 Assemble the following parts as shown in Figure 4 using pipe sealant on the male threads:
- 1 inch Solenoid valve
- Nipples 1 X 2, 1 X 2-1/2, 1 X 5-1/2, 1 X 2-3/4
- Pipe tee 1 X 1 X 1
- Elbow ST 1 X 90
- Elbows 1 X 90
- Discharge line assembly

CAUTION

Use a pipe sealant approved for use with fuels. DO NOT USE TEFLON TAPE.

2 Depending on whether you are assembling the discharge for Grade 1 or Grade 2, route solenoid coil wires through the appropriate conduit (refer to Figure 4). Grade 1 is on the left when facing the junction box.

3 Lightly grease the O-ring and insert it into the groove on the meter discharge casting (refer to Figure 2 on page 7). Attach the flange on the copper tube assembly (refer to Figure 4 on page 9) to the meter discharge flange and insert two M8 X 16 screws and tighten them.

CAUTION

Ensure that you select the M00415B009 screws, not the M00417B009 thread formers or the threads will be damaged.

4 Route the valve coil wires into the junction box. Attach the conduit to the fitting in the junction box and tighten them. Connect wires from the valve as per *FE-371 Field Wiring Diagram AtlasX*.

5 Remove the plastic plug from lower cutout in sheathing. Check discharge piping alignment and adjust as needed.

6 Attach the satellite piping support bracket (refer to Figure 4 on page 9) to the dispenser inlet support plate, insert and tighten the two M8 thread forming screws.

7 Insert the U-bolt (refer to Figure 4 on page 9) around the pipe elbow and through the slots on the support bracket. Attach two nuts and tighten all fasteners.

8 Insert the discharge grommet (refer to Figure 4 on page 9) into the cutout in the sheathing around the outlet nipple 1 X 2-3/4.

9 Assemble the painted elbow (refer to Figure 4 on page 9) onto the outlet nipple 1 X 2-3/4 outside the unit.

10 Insert plastic plug Q100554-21 into the unused cutout in the sheathing.

Completing the Installation

1 Replace the junction box cover.

2 If the unit is modified on the island, inform the manager/owner that power will be restored to the unit and then restore power using normal procedures. Purge the unit of air.

3 Check for leaks.

4 Release the emergency shutoff valve.

5 Remove the lockout/tagout and return to normal operation.

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