

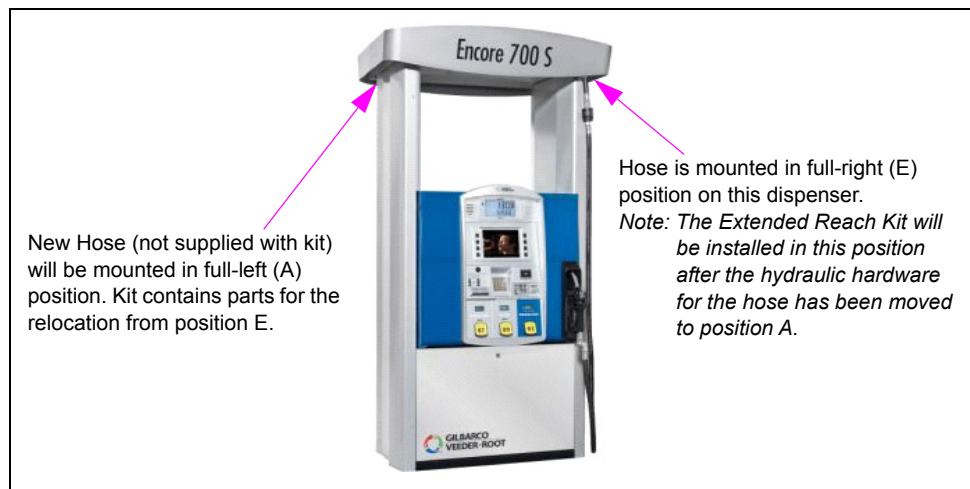
## Introduction

### Purpose

This manual provides instructions to install the Extended Reach Hose Field Retrofit Kit M03516K001 (Standard/Non-Vapor Recovery) or M03516K002 (VaporVac®) in the following single-hose dispensers:

- Encore® 300 with Digital or Proportional Valves
- Encore 500 with Proportional Valves
- Encore 700

**Figure 1: Single-Hose Encore Dispenser - Non Extended Reach**



*Notes: 1) Order one kit for Single or Two Single or One Double-Sided units.  
2) California Air Resources Board (CARB) has not approved the Encore extended reach option for balance vapor recovery systems. CARB has approved this option for VaporVac Systems.*

### Intended Users

This manual is written for Gilbarco®-Authorized Service Contractors (ASCs). To ensure warranty, it is recommended that this kit is installed by a Gilbarco ASC.

## Required Reading



Before installation, the installer must read, understand, and follow:

- This manual.
- National Fire Protection Agency (NFPA) 30A, The Automotive and Marine Service Station Code.
- NFPA 70®, The National Electrical Code (NEC®).
- Applicable federal, state, and local codes and regulations.

Failure to do so may adversely affect the safe use and operation of the equipment.

*Note: To ensure warranty, this kit must be installed by a Gilbarco ASC. For assistance, call Gilbarco Help Desk at 1-800-800-7498.*

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## Required Tools

The following tools are required for installing the Encore extended reach upgrade kit:

- Center Punch
- Clean Rags
- Deburring Tool
- Drill (Pneumatic)
- Drill Bit (3/8")
- Flaring Tool
- [Greenlee®](#) Hydraulic Knockout Set
- Greenlee 1-3/8" Knockout Punch
- Hex Wrench Set, Standard U.S.
- Machine Oil, [WD-40®](#) or Equivalent
- Medium Slotted Screwdriver
- Pliers
- Tape Measure
- Tube Cutter

# Parts List

*Note: Refer to the table that follows to find the applicable bracket in accordance with the Lower Frame manufactured date.*

Description	Lower Frames Release Date
Gen 1	Before August 2012
Gen 2	After September 2012
Gen 3	After June 2015

## Standard (Non Vapor Recovery) Kit - M03516K001

The following table lists the parts included in the M03516K001 Kit:

Description	Part Number	Quantity	Used on Gen1	Used on Gen2	Used on Gen3
Washer 3/8 STD (.44x1.00x.08)	K02206	2	✓	✓	✓
Washer 5/16 NRO (.328x.62x.065)	K6687201	2	✓	✓	✓
Screw Metric, Serrated Flange, Hex Head (M5 x 16)	M00415B003	8	✓	✓	✓
Cable Retriever 1/8 x 74	K8721807	2	✓	✓	✓
Clamp, Parflange, Double Tube 7/8	M00133B001	2	✓	✓	✓
Nut, Metric, Hex, M8 Serrated Flange	M00414B003	24	✓	✓	✓
Screw, Metric, Serrated Flange, Hex Head (M8 x 20)	M00415B010	12	✓	✓	✓
Screw, Metric, Socket Bottom Head (M8 x 20)	M01257B010	20	✓	✓	✓
Bracket, Retriever Guide, Outer, Encore	M01805B001	2	✓	✓	✓
Bracket, Retriever Support	M01809B002	2	✓	✗	✗
Bracket, Retriever Weight Guide, Inner, Encore	M01916B001	2	✓	✗	✗
Bumper Stop, Rubber, Retrieval	M01918B001	2	✓	✓	✓
Tube, Weight Guide	M01923B001	2	✓	✗	✗
Assembly, Retriever Weight	M01925A001	2	✓	✗	✗
Bumper, Retriever Stop, Inner, Encore	M01993B001	2	✓	✗	✗
Assembly, Retriever Clamp, Encore	M02045A001	2	✓	✓	✓
Cable, Valve Reverse, Extended Reach	M02081A001	2	✓	✓	✓
Manifold Angle, Casting Open	M02087B010	2	✓	✓	✓
Bracket Support, Retriever, Encore XR	M02586B001	2	✓	✓	✓
Cable, Pulser Reverse, Extended Reach	M02972A001	2	✓	✓	✓
Label, Miscellaneous, Graphics Material	M02994B201	2	✓	✓	✓
Bracket, Retriever Guide, Inner Encore	M04490B001	2	✓	✓	✓
Assembly, Hose Retriever Pulley	M06434A001	4	✓	✓	✓
Label(s), Miscellaneous	M09260B003	2	✓	✓	✓

## Parts List

Description	Part Number	Quantity	Used on Gen1	Used on Gen2	Used on Gen3
Plug, Angle Casting	M11310B001	4	✓	✓	✓
Bumper, Rubber	M11728B001	2	✓	✓	✓
Guide, Cable	N23485	2	✓	✓	✓
Pad, Neoprene	N23530	2	✓	✗	✗
Pad, Neoprene	N23543	12	✓	✓	✓
Bolt, Socket Head, Sholder 5/16-18	Q10113-102	4	✓	✓	✓
Nut, Hex Flanged, Serrated, Locking Face	Q11890-05	4	✓	✓	✓
O-Ring (862 ID x 1.068)	Q12974-118	8	✓	✓	✓
Guide, Cable	M12719B030	4	✓	✓	✓
Hose, Clamp (V/R)	R19493-9	2	✓	✓	✓
Cord, 125 x 74, Retriever, Extended Reach, Encore	M13161B002	2	✓	✓	✓
Assembly, Bracket, Lower Extended Reach	M14405A001	2	✗	✗	✓
Bracket, Upper, Extended Reach	M12722B001	2	✗	✓	✓
Tube, Guide Weight	M12723B001	2	✗	✓	✓
Assembly, Retriever Weight	M12724A001	2	✗	✓	✓
Pad, Shock Absorber	M12728B001	2	✗	✓	✓
Bracket, Lower, Extended Reach	M15830B001	2	✗	✓	✓
Screw, Metric (M8 x 18), Thread Forming, Hex Washer Head and Pozidrive Pan Head	M00417B009	4	✗	✓	✗

## VaporVac Kit - M03516K002

*Note: The Encore extended reach option is CARB approved for VaporVac systems.*

The following table lists the parts included in the M03516K002 Kit:

Description	Part Number	Quantity	Used on Gen1	Used on Gen2	Used on Gen3
Washer 3/8 STD (.44x1.00 x.08)	K02206	2	✓	✓	✓
Washer 5/16 NRO (.328x.62 x.065)	K6687201	2	✓	✓	✓
Screw Metric, Serrated Flange, Hex Head (M5 x 16)	M00415B003	8	✓	✓	✓
Assembly, Hose Retriever pulley	M06434A001	4	✓	✓	✓
Clamp, Parflange, Double Tube 7/8	M00133B001	2	✓	✓	✓
Nut, Metric, Hex, M8 Serrated Flange	M00414B003	24	✓	✓	✓
Screw, Metric, Serrated Flange, Hex Head (M8 x 20)	M00415B010	12	✓	✓	✓
Clamp, Parflange 1/2 Tubing Wide	M00444B001	2	✓	✓	✓
Plug, Angle Casting	M11310B001	4	✓	✓	✓
Screw, Metric, Socket Bottom Head (M8 x 20)	M01257B010	20	✓	✓	✓
Bracket, Retriever Guide, Outer, Encore	M01805B001	2	✓	✓	✓
Bracket, Retriever Guide, Inner Encore	M04490B001	2	✓	✓	✓
Bracket, Retriever Support	M01809B002	2	✓	✗	✗
Bracket, Retriever Weight Guide, Inner, Encore	M01916B001	2	✓	✗	✗
Bumper Stop, Rubber, Retrieval	M01918B001	2	✓	✓	✓
Tube, Weight Guide	M01923B001	2	✓	✗	✗
Assembly, Retriever Weight	M01925A001	2	✓	✗	✗
Bumper, Retriever Stop, Inner, Encore	M01993B001	2	✓	✗	✗
Cable, Valve Reverse, Extended Reach	M02081A001	2	✓	✓	✓
Manifold Angle, Casting Open	M02087B010	2	✓	✓	✓
VV, Extended Reach, Tubing	M02221A001	2	✓	✓	✓
Bracket Support, Retriever, Encore XR	M02586B001	2	✓	✓	✓
Cable, Pulser Reverse, Extended Reach	M02972A001	2	✓	✓	✓
Label, Miscellaneous, Graphics Material	M02994B201	2	✓	✓	✓
O-Ring (862 ID x 1.068)	Q12974-118	8	✓	✓	✓
Guide, Cable	N23485	2	✓	✓	✓
Pad, Neoprene	N23530	2	✓	✗	✗
Cord, 187 x 74, Retriever Extended Reach, Encore	M13161B001	2	✓	✓	✓
Pad, Neoprene	N23543	12	✓	✓	✓
Bolt, Socket Head, Sholder 5/16-18	Q10113-102	4	✓	✓	✓
Nut, Hex Flanged, Serrated, Locking Face	Q11890-05	4	✓	✓	✓
Guide, Cable	M12719B030	4	✓	✓	✓

Description	Part Number	Quantity	Used on Gen1	Used on Gen2	Used on Gen3
Hose, Clamp (V/R)	R19493 08	2	✓	✓	✓
Bumper, Rubber	M11728B001	2	✓	✓	✓
Assembly, Bracket, Lower Extended Reach	M14405A001	2	✗	✗	✓
Bracket, Upper, Extended Reach	M12722B001	2	✗	✓	✓
Tube, Guide Weight	M12723B001	2	✗	✓	✓
Assembly, Retriever Weight	M12724A001	2	✗	✓	✓
Pad, Shock Absorber	M12728B001	2	✗	✓	✓
Bracket, Lower, Extended Reach	M15830B001	2	✗	✓	✓
Screw, Metric (M8 x 18), Thread Forming, Hex Washer Head and Pozidrive Pan Head	M00417B009	4	✗	✓	✗

## Related Documents

Document Number	Title	GOLD <sup>SM</sup> Library
FE-363	Field Wiring Diagrams for Encore 500/700/800 (M07555 Power Supply Only)	Encore and Eclipse®
MDE-3804	Encore and Eclipse Start-Up/Service Manual	Encore and Eclipse
PT-1936	Encore Series Pumps and Dispensers Illustrated Parts Manual	Encore and Eclipse

## Abbreviations and Acronyms

Term	Description
ASC	Authorized Service Contractor
ATC	Automatic Temperature Compensation
CARB	California Air Resources Board
GOLD	Gilbarco Online Documentation
OSHA	Occupational Safety and Health Administration
NEC	National Electrical Code
NFPA	National Fire Protection Association
UL®	Underwriters Laboratories

# 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 Gilbarco 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 the Technical Assistance Center (TAC) at 1-800-743-7501. 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 Gilbarco replacement parts and retrofit kits on your pump/dispenser. Using parts other than genuine Gilbarco 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.

## Important Safety Information

### 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**

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.

## 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.



## Extended Reach Hose Recommendations

### **WARNING**



Usage of Hoses longer than recommended will result in Trip Hazard and poor Installation appearance.

### Standard (Non Vapor Recovery) System (for use with M03516K001)

Internal Diameter of Hose	Maximum Hose Length	Other Restrictions	Recommended Manufacturer/Model
5/8" (15.875 mm)	14' (4.2672 m)	Use Clamp M02045A001	Goodyear/Flexsteel®
1" (25.4 mm)	14' (4.2672 m)	Use Clamp R19493-09	Goodyear/Flexsteel

### Balance Vapor Recovery System

CARB has not approved the Encore extended reach option for balance vapor recovery systems.


### VaporVac System (for use with M03516K002)

*Note: The Encore extended reach option is CARB approved for VaporVac systems.*


Internal Diameter	Maximum Length	Other Restrictions	Recommended Manufacturer/Model
3/4" (19.05 mm)	15' (4.572 m)	No more than 6" (152.4 mm) may be in contact with the ground and / or island. Use clamp R19493-08.	Goodyear/Flexsteel

# Installing Encore Extended Reach Upgrade Kit

## Before You Begin

 **WARNING**

You must use the TOTAL ELECTRICAL SHUT-OFF in the case of an Emergency and not only the Cashier Station "Stops."




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.

- Read and follow all Safety Instructions and procedures on [page 7](#).
- Close and test all unit shear valves.
- Turn off the power to the entire unit and all of the STPs involved.


## Preparing Unit for Installation

To prepare the unit for installation, proceed as follows:


 **WARNING**

If you inhale any Gasoline, seek emergency help immediately. Inhaled gasoline may cause unconsciousness and burns to Lips, Mouth and Lungs.

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



Always wear proper eye protection. Fuel spray from residual pressure in lines can cause serious eye injuries.

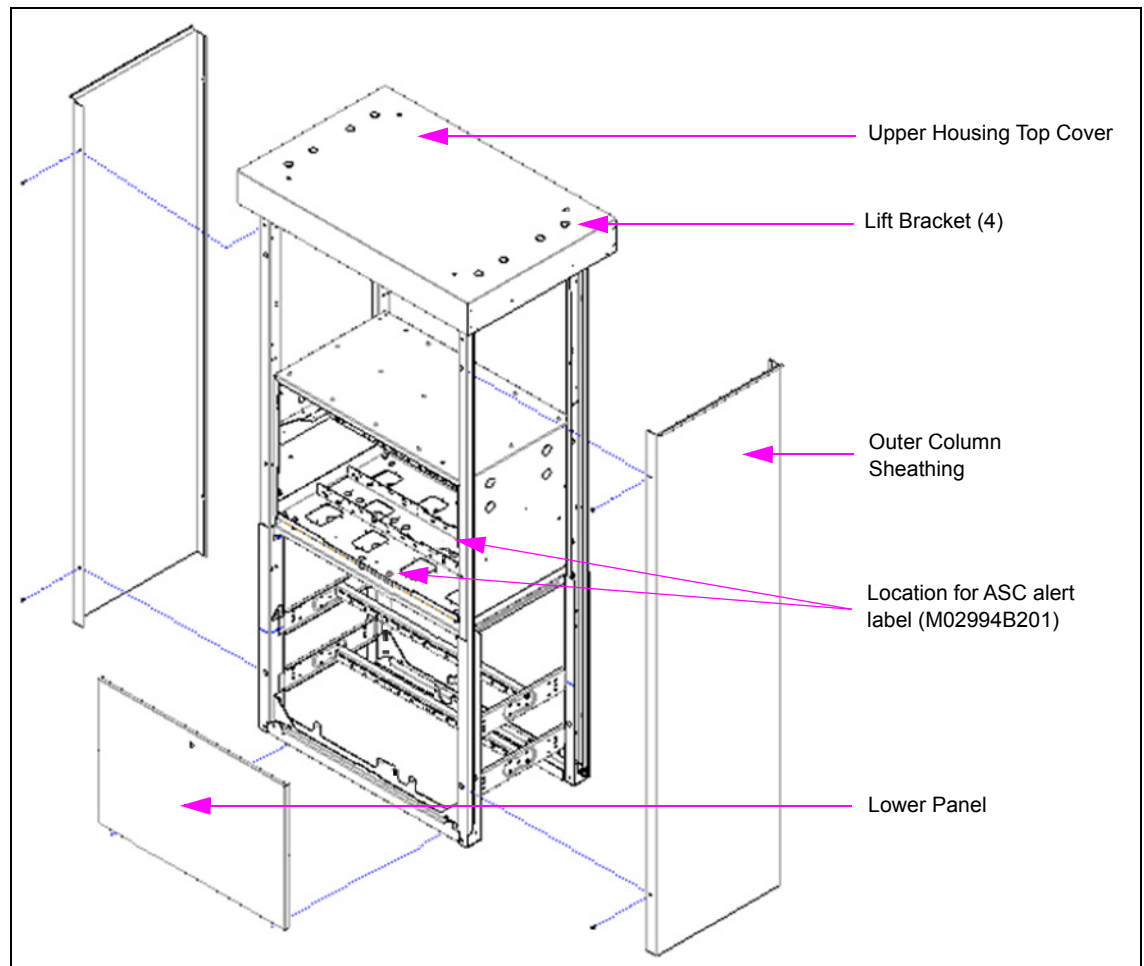


Collect, Transport and Dispose Fuel in approved containers specifically designed for this purpose only.

- 1 Hold the nozzle into an approved fuel container. Squeeze the handle and release the pressure in the hanging hardware assembly.
- 2 Use appropriate wrenches and remove the nozzle from the hose end. Drain the hose into an approved fuel container.
- 3 Use appropriate wrenches and remove the hose from hose outlet casting on the dispenser.
- 4 If the unit is double sided, repeat steps [1](#) through [3](#) for the other hose.

- 5 Remove the lower panel assemblies (see [Figure 2](#)).
- 6 Remove the outer and inner column sheathing. Keep the hardware mount for reinstallation.
- 7 Remove the external lifting brackets (see [Figure 2](#)). Keep the brackets and bolts mount for reuse.
- 8 Remove the upper housing bottom plate and upper housing top cover (see [Figure 2](#)). Keep the hardware mount for reinstallation.

**Figure 2: Removal of External / Cosmetic Sheet Metal from the Encore Unit**




- 9 Store all the removed sheet metal in a place where it will not be damaged at the time of installation of the Extended Reach Kit components.

## Shifting Position of Hose Outlet from E to A (If Required)

To shift the hose outlet from position E to A, proceed as follows:

- 1 Remove discharge lines in lower hydraulics cabinet (see [Figure 3](#)).

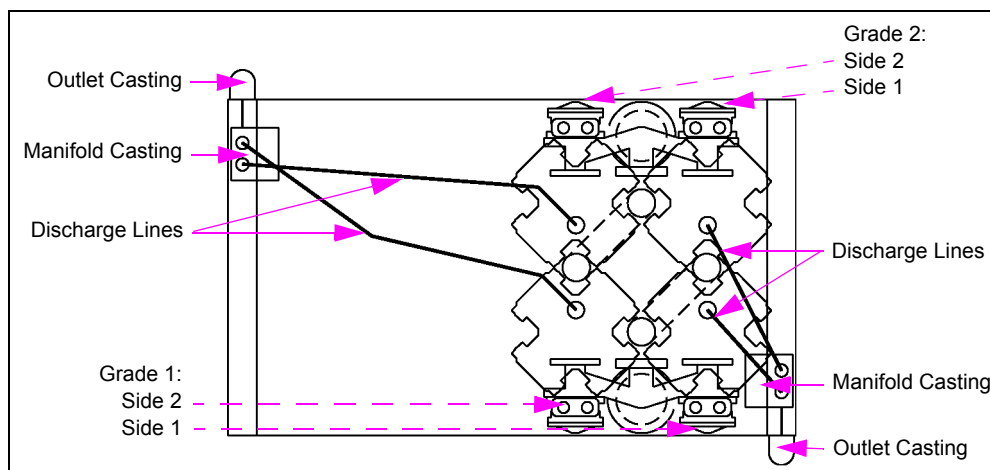
**⚠ WARNING**



Spraying fuel from residual pressure in lines can cause serious eye injuries. Always wear eye protection.

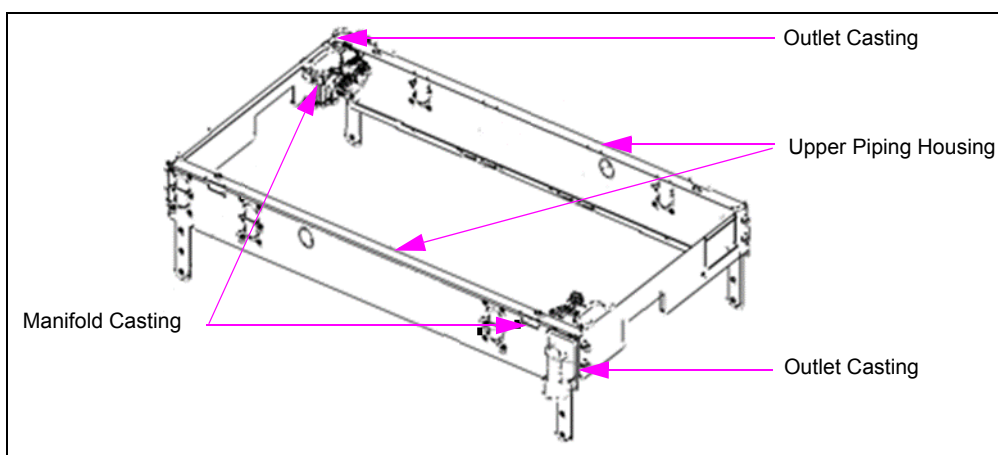
Gasoline spilled in eyes may cause burns to eye tissue. Rinse eyes with water for approximately 15 minutes. Seek medical advice immediately.

**Figure 3: Discharge Lines - Before**




- 2 Remove angle manifold and hose discharge outlet castings (see [Figure 4](#)).

**Figure 4: Castings - Before**



- 3 For VaporVac units, remove VaporVac tube assemblies.

⚠
**WARNING**

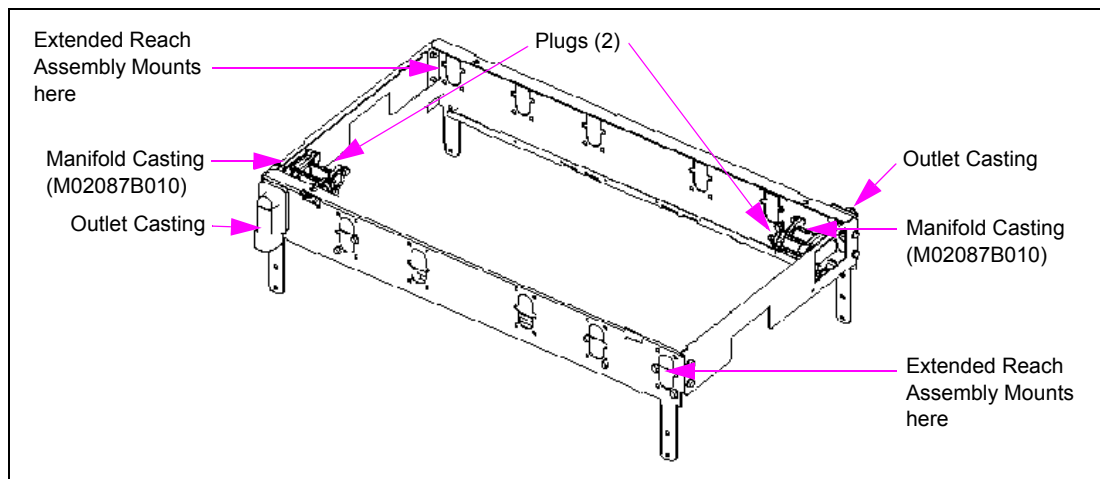


Spraying fuel from residual pressure in lines can cause serious eye injuries. Always wear eye protection.

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

- 4 Remove old O-rings from hose discharge outlet castings.
- 5 Lightly lubricate new O-rings (Q12974-118) with oil or grease.
- 6 Install two (2) new lightly lubricated O-rings on the back of each casting.  
*Note: A light coating of grease can be used to hold the O-rings in place during assembly.*
- 7 Install the castings in the far-left position (A) on each side of the dispenser (see [Figure 5](#)).
- 8 For VaporVac units, install VaporVac tube assemblies (M02221A001).
- 9 Install the new angle manifold castings to the far-left position (A) when facing the upper housing (see [Figure 5](#)).

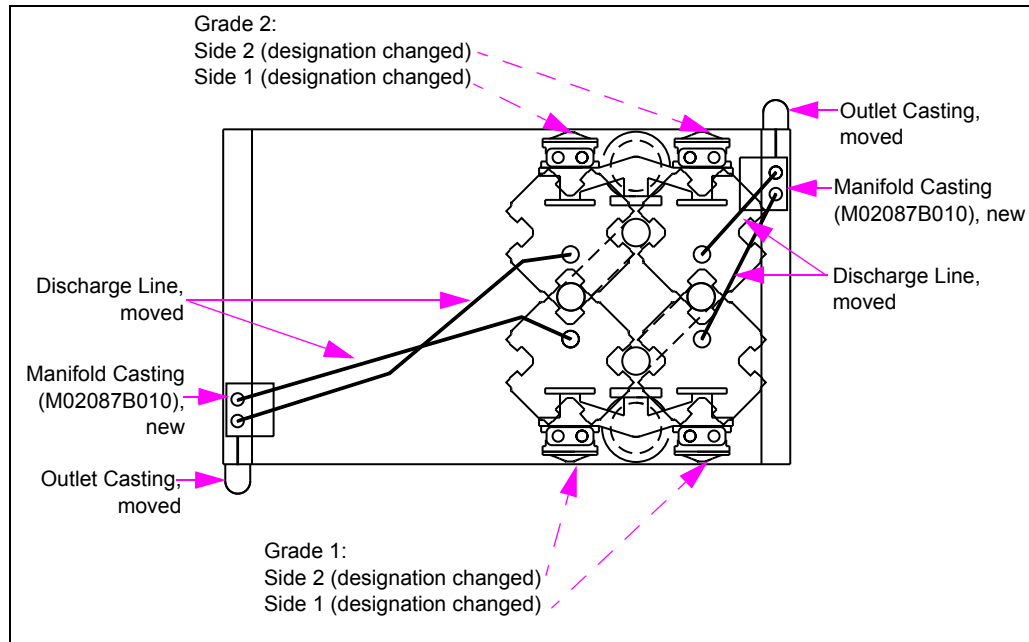
**Figure 5: Castings - After**



- 10 Install the two Angle Casting Plugs (M11310B001) in each angle manifold (see [Figure 5](#)).

- 11 Reassemble the discharge lines to connect with the new Angle Manifold Castings (M02087B010) as shown in (see [Figure 6](#)).

**Figure 6: Discharge Lines - After**



## Assembling Extended Reach Kit

*Note: 1) Refer to [Figure 12](#) on [page 18](#) and [Figure 20](#) on [page 24](#) to see how the Kit fits into the dispenser and how the dispenser should appear after the kit and hose (not supplied with Kit) have been installed.*

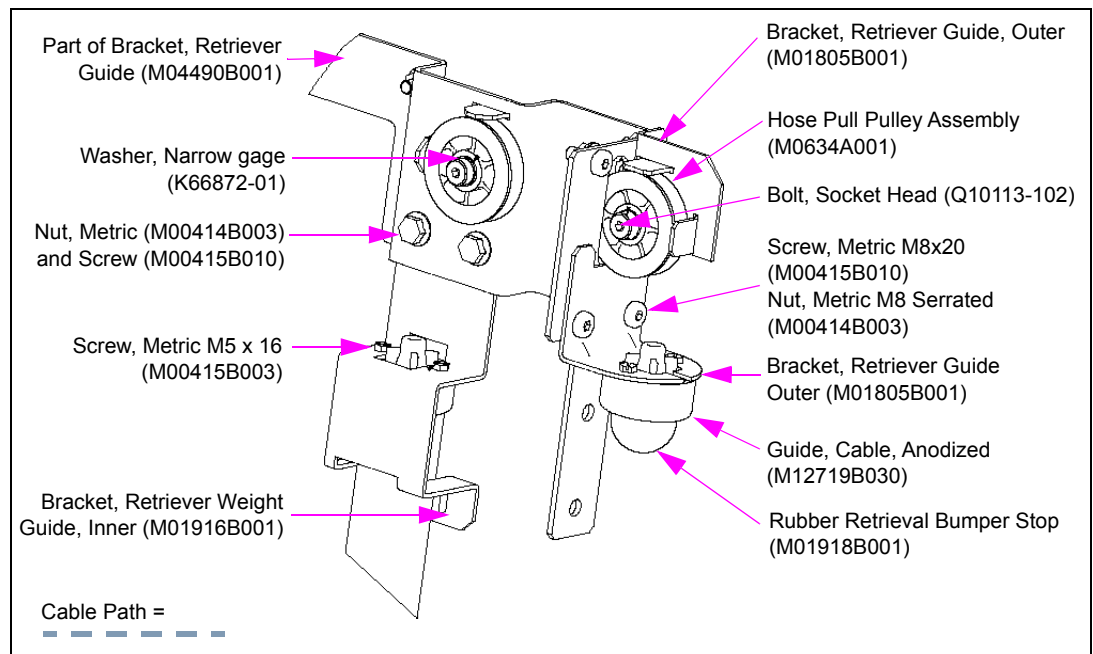
*2) The knots referenced in this section are standard Marlinespike / Nautical knots. A figure is shown for each knot where used. If needed, you may refer to a reference such as [www.boatsafe.com/marlinespike/knots.htm](http://www.boatsafe.com/marlinespike/knots.htm) for step-by-step instructions on how to tie each of the knots.*

*Note: These instructions are applicable for units built before August, 2012, (i.e. with Gen 1 lower frames). For more specifications, refer to “[Parts List](#)” on [page 3](#).*

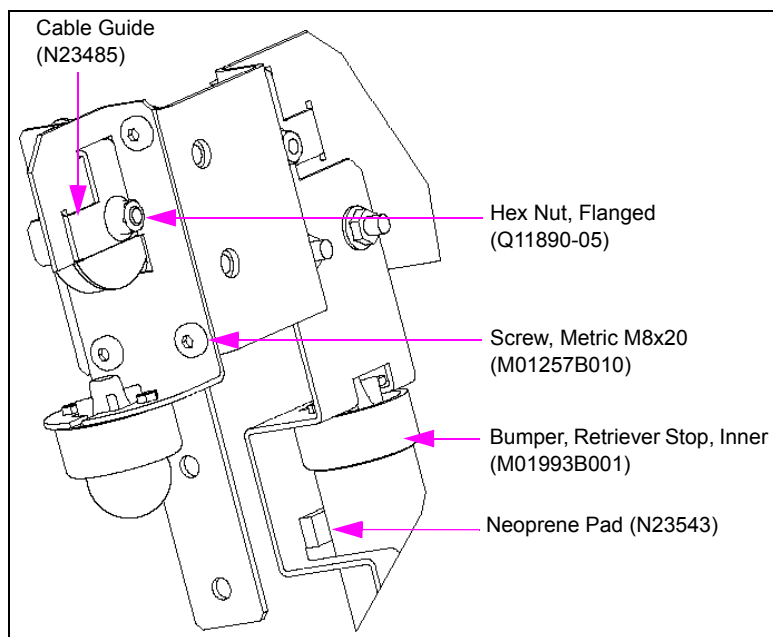
- 1 Assemble parts into upper retriever assembly (see [Figure 7](#), [Figure 8](#), and [Figure 9](#) on [page 16](#)).

*Note: Once the retriever cable is looped across the pulleys, tie it to the hose clamp on one end and to the weight on the other end. See [Figure 10](#) on [page 17](#) for more details on the knot for the hose clamp; see [Figure 11](#) on [page 17](#) for more details on the knot for the weight.*

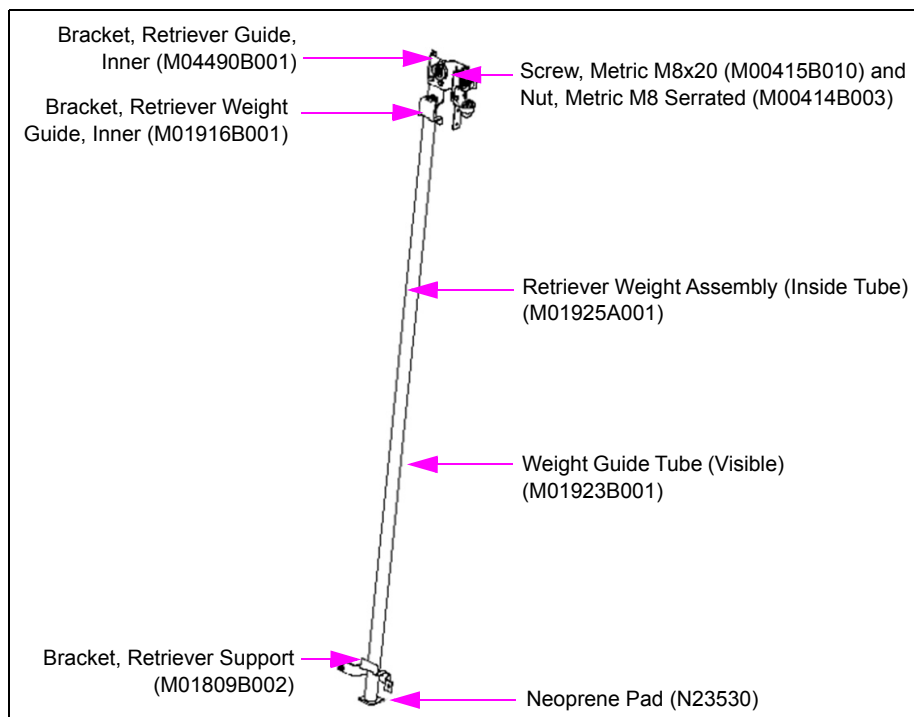
**Figure 7: Upper Retriever - Details A**



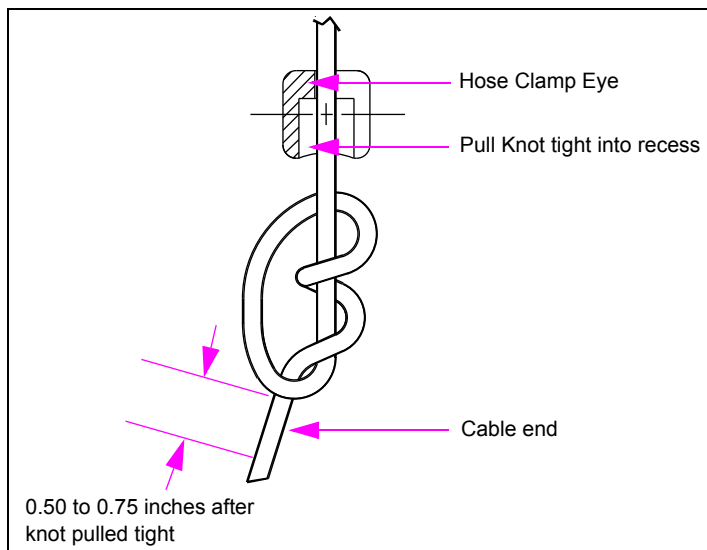
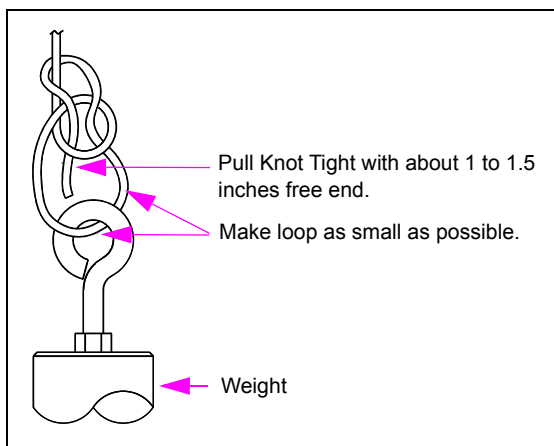
**Figure 8: Upper Retriever - Details B**



**Figure 9: Upper Retriever Assembly**

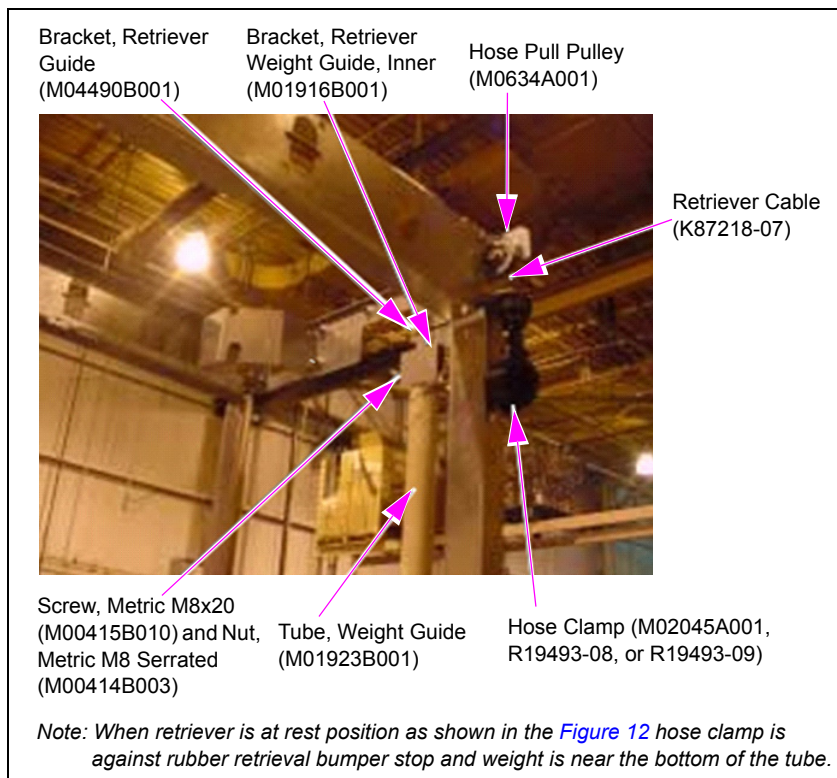




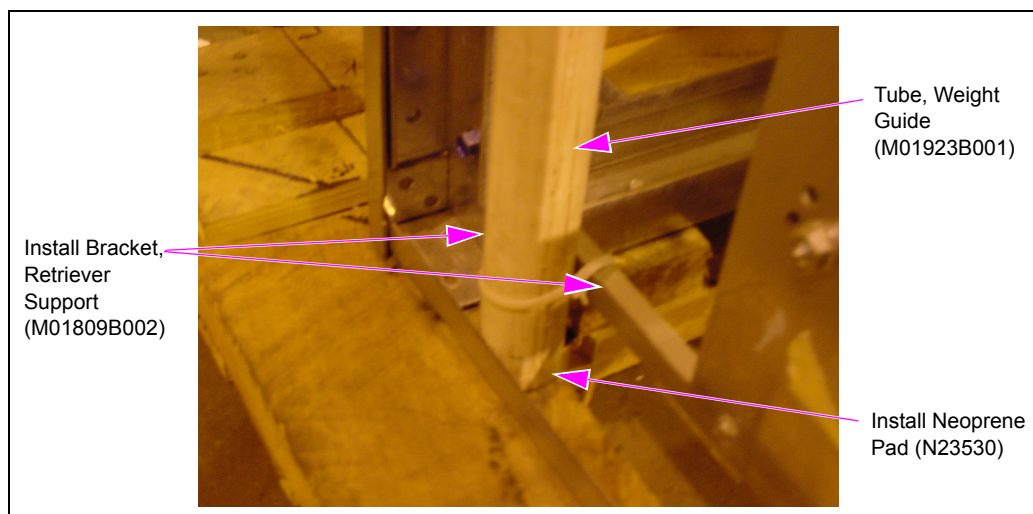
**Figure 10: Hose Clamp Knot (Anchorbend Knot)****Figure 11: Weight Knot (Bowline Knot)**

- 2 Install retriever assembly in full-right position (E) in dispenser (see [Figure 12](#)).

**Figure 12: Installed Extended Reach Kit - Top**

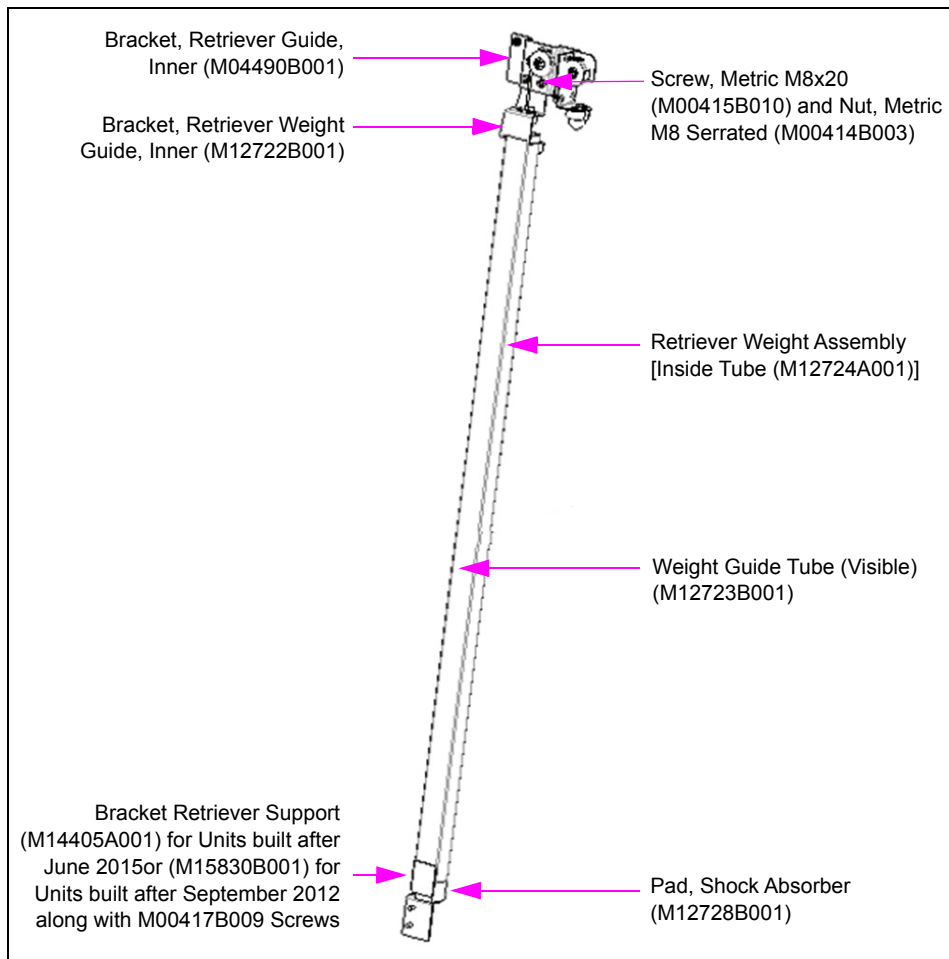


**Figure 13: Installed Extended Reach Kit - Top**

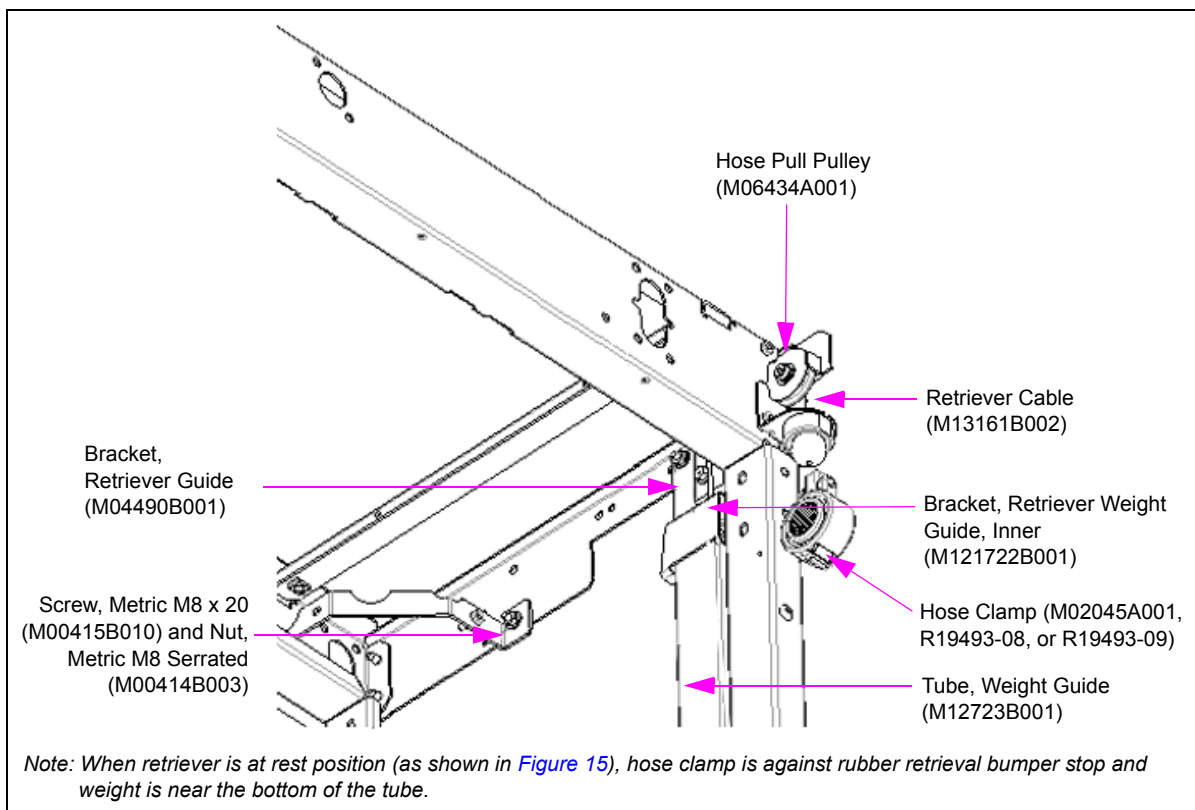


*Note: For units built after September 2012 and June 2015, the general installation instructions remain the same, but replace only required parts with new parts (see “Parts List” on page 3). Also see Figure 14 through Figure 16:*

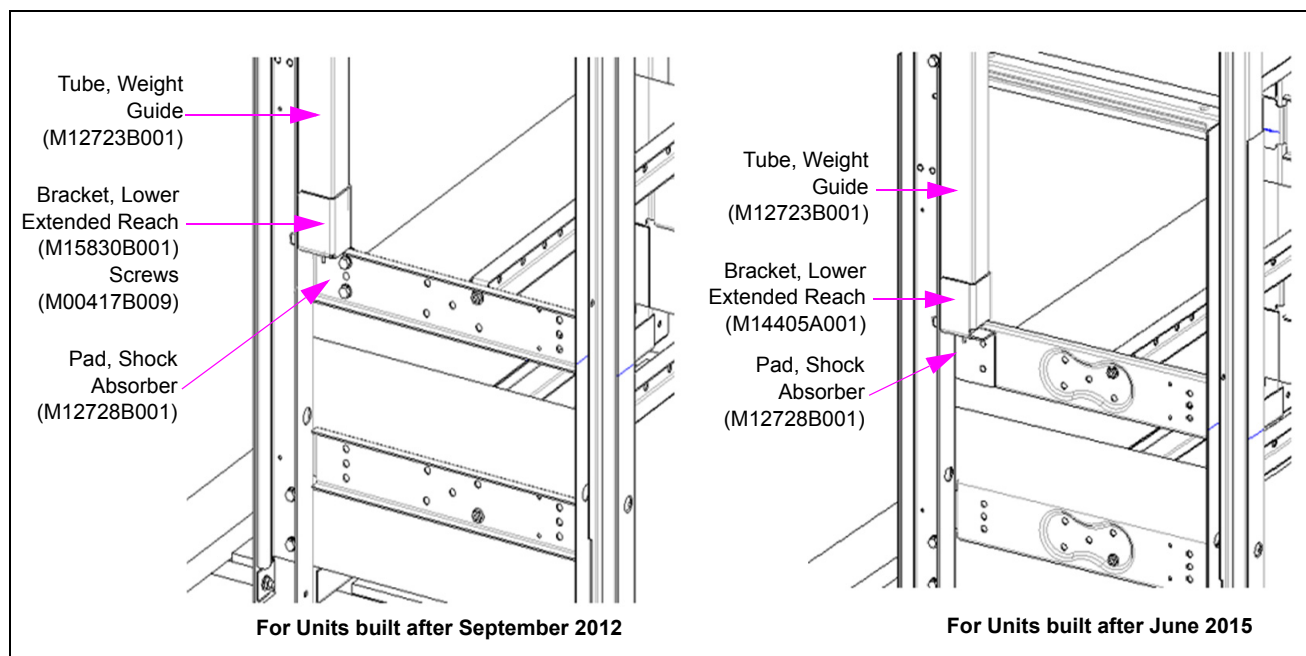
**Figure 14: Upper Retriever Assembly (For Gen 2 and Gen 3 Units)**



**Figure 15: Installed Extended Reach Kit - Top (For Gen 2 and Gen 3 Units)**



**Figure 16: Installed Extended Reach Kit - Bottom (For Gen 2 and Gen 3 Units)**



## Installation Completion

- 1 Install a hose breakaway for each hose.

### CAUTION

A hose breakaway must be used with this system. The breakaway hose must be attached to the nozzle and the breakaway coupling to the breakaway hose.

DO NOT INSTALL THE BREAKAWAY HOSE AND COUPLING BETWEEN THE DISPENSER OUTLET HOSE CASTING AND HOSE CLAMP OR THE BREAKAWAY DEVICE MAY NOT WORK PROPERLY.

- 2 Install hose(s).

### WARNING



If you use hoses longer than recommended, it will result in Trip Hazard and poor Installation appearance.

*Note: Refer to “[Extended Reach Hose Recommendations](#)” on [page 9](#) for recommended hose lengths.*

- 3 Ensure that all the installed fasteners and connections are secured.
- 4 Open the bezel.

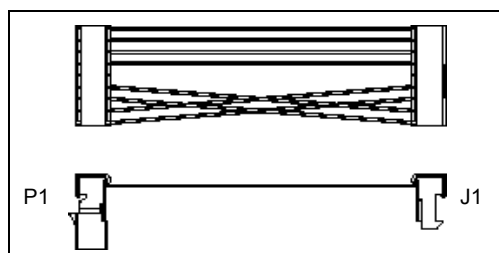
- 5 Connect the valves and pulsers to the hydraulic Interface/valve converter board as follows.

### WARNING

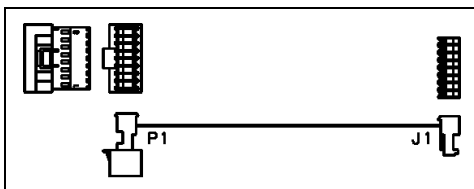
This area contains a chemical known to the State of California to cause cancer.  
This area contains a chemical known to the State of California to cause birth defects or other reproductive harm.

Dispenser Type	Valve Type	Board	Valve-to-Board Connections				Pulser-to-Board Connections			
Encore 300	Digital	M01546	1. Disconnect valve cable from P309A of M01546 board. 2. Connect valve to P1 of M02081A001 cable (see <a href="#">Figure 17</a> ). 3. Connect J1 of M02081A001 cable (see <a href="#">Figure 17</a> ) to P309A of M01546 board. 4. Disconnect Valve cable from P309B of M01546 board. 5. Connect Valve to P1 of the M02081A001 cable (see <a href="#">Figure 17</a> ). 6. Connect J1 of M02081A001 cable (see <a href="#">Figure 17</a> ) to P309B of M01546 board.				A1 to PB1	B1 to PA1	A2 to PB2	B2 to PA2
	Proportional	M02335	A1 to P1202B	B1 to P1202A	A2 to P1204B	B2 to P1204A	1. Disconnect J1 from P1112 of M02335 board. 2. Connect J1 to P1 of M02972A001 cable ( <a href="#">Figure 18</a> ). 3. Connect J1 of M02972A001 cable ( <a href="#">Figure 18</a> ) to P1112 of M02335 board.			
Encore 500	Proportional	M02044	11 to P1202B	21 to P1202A	12 to P1204B	22 to P1204A	1. Disconnect J1 from P1112 of M02044 board. 2. Connect J1 to P1 of M02972A001 cable (see <a href="#">Figure 18</a> ). 3. Connect J1 of M02972A001 cable (see <a href="#">Figure 18</a> ) to P1112 of M02044 board.			

**Figure 17: M02081A001 Valve Reverse Cable**



**Figure 18: M02972A001 Pulser Reverse Cable**

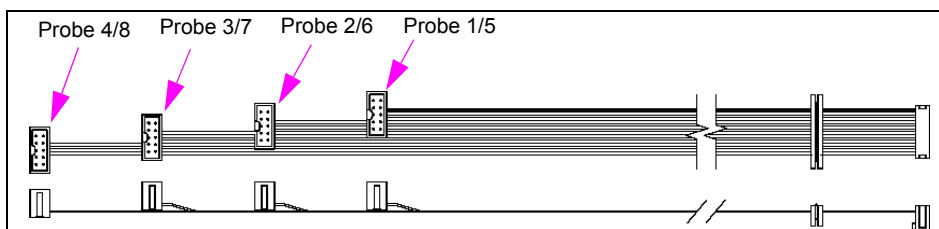


- 6 If the Automatic Temperature Compensation (ATC) option is present, the ATC probe connections (R20148-G3, [Figure 19](#)) must change to match the meter designation. The probes that are on grade 1, old sides 1 and 2, must be swapped to maintain correct designations; the probes on grade 2, old sides 1 and 2, must be swapped to maintain correct designations.

Designation		
Grade	Old ( <a href="#">Figure 3</a> )	New ( <a href="#">Figure 6</a> )
1	Side 1	Side 2
	Side 2	Side 1
2	Side 1	Side 2
	Side 2	Side 1

*Note: The meters have not physically moved. They have been redesignated or "renamed." To maintain proper ATC operation, the connections on cable R20148-G3 must follow the name (Grade 1, Side 1, etc.) which means the probe cable connections must be reconnected to the proper renamed grade-and-side connector.*

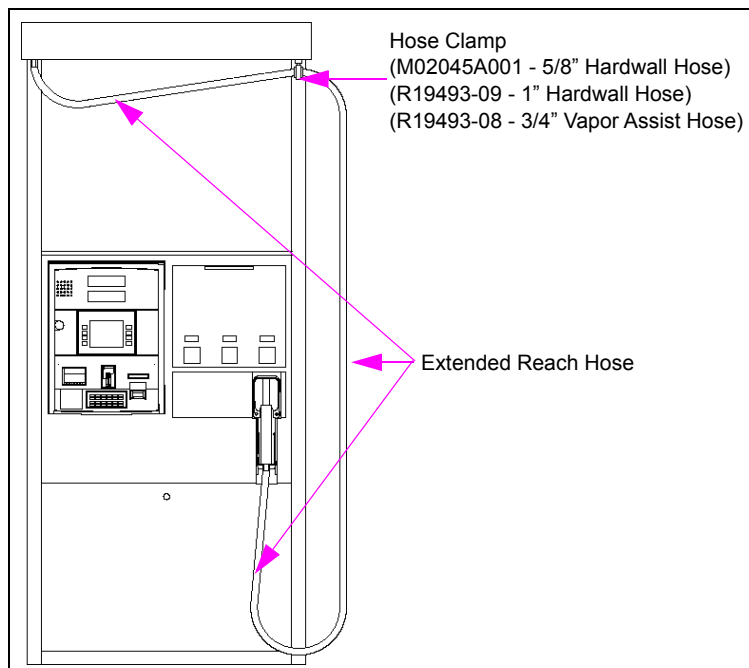
**Figure 19: R20148-G3 Meter Probe Cable**



- 7 Install ASC Alert Label (M02994B201) on bottom-center of CD module (see [Figure 2](#) on [page 11](#)).
- 8 Install Underwriters Laboratories (UL) Label (M02994B003) on the lower-right area of the UL barrier.
- 9 Close the bezel.
- 10 Turn on the power to the unit.
- 11 Turn on power to the STPs and open the shear valves.
- 12 Dispense at least 10 gallons of fuel through each hose position. Ensure that there are no fuel leaks.
- 13 If there are no fuel leaks, remove two knock-outs in top cover for position(s) A or E as required.
- 14 Reinstall the sheathing, lower panels, and top cover.

- 15 Check the operation of retrievers. Hose clamp must be retracted completely to the retriever with nozzle in boot (see [Figure 20](#)).

**Figure 20: Extended Reach Kit Properly Installed**



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