



Department of Environmental Protection

2600 Blair Stone Road ♦ Tallahassee, Florida 32399-2400

DEP Form: 62-762.901(9)

Form Title: Storage Tank Equipment

Registration Form

Effective Date: July 2019

Incorporated in Rule 62-762.851, F.A.C.

Storage Tank System Equipment Registration Form

Fill out completely

General Information

Company Name: Morrison Bros. Co. Contact Name: Donald Montgomery
Company Address: 570 E. 7th Street City, State: Dubuque, IA Zip: 52001
E-mail: dmontgomery@morbro.com Contact Number: 563-880-6446
Product Name: Overfill Prevention Valve
Model Number(s): 9095C Product Type: Overfill Prevention Valve, pressure fill
Rule(s) citation that registration is being requested within Chapter 62-761 (UST), and/or 62-762 (AST), F.A.C.: 62-672

Write a brief description of equipment registration request including product limitations:

The 9095C series overfill prevention valve is designed to prevent the overfilling of storage tanks by providing a positive shutoff during a pressurized fill (typically when installed on an aboveground storage tank). The valve is installed in the top of a storage tank and can be set to the desired shut-off level by using standard length pipe nipples and adjusting the float.

Information Checklist (Choose Yes, No, or N/A - Not Applicable):

	Yes	No	N/A
1. Third-party Certification by a Nationally Recognized Testing Laboratory? (Required)	☒	☐	☐
2. Documentation of third-party evaluation that the equipment meets DEP Rules?	☒	☐	☐
3. Documents included about the qualifications of the Nationally Recognized Testing Laboratory?	☒	☐	☐
4. Technical information and drawings included?	☒	☐	☐
5. Installation instructions included?	☒	☐	☐
6. Annual Operability Testing Requirements (Rules 62-761.500, 62-762.501, & 62-762.502 F.A.C.)?	☒	☐	☐
7. Integrity Testing Requirements (Rules 62-761.700, 62-762.701, & 62-762.702, F.A.C.)?	☒	☐	☐
8. Compatible with fuel blends containing >10% ethanol or >20% biodiesel?	☒	☐	☐
9. Has the product been approved or registered in other countries or states? (If so provide list)	☒	☐	☐
10. Any requirements for company-certified installers or trainers?	☐	☒	☐
11. Was this product(s) previously approved or registered by the Department? If yes, EQ- <u>900</u>	☒	☐	☐
12. Any changes or modifications to the equipment since the last submittal to DEP?	☐	☒	☐

Document Information: Provide supporting documents indicated as "Yes" above including this form via email to Tanknotify@floridadep.gov, or documents can be sent to FDEP, Division of Waste Management, 2600 Blair Stone Road, MS 4560, Tallahassee, FL 32399.

Write a brief description of equipment installation and performance in the U.S.:

The 9095C is a 2 inch valve that requires a 4 inch tank top opening. The Installation and Operation Manual provides step by step information about the installation of the valve with or without a manual test mechanism. An installation video can be assessed via the Morrison Website. A minimum of 5 psi and 5 gpm are required to properly activate the pressure fill valve. The valve must be filled utilizing a tight fill connection. The 9095C float is positioned above the valve body, facilitating a higher shutoff point (1 1/4 inches from the top of the tank) than many other model over-fill prevention valves.

Equipment Registration Certification:

To the best of my knowledge and belief, all information submitted on this form is true, accurate and complete.

Donald Montgomery, Sales Manager

Printed Name and Title

Donald Montgomery

Signature (right click to sign)

Digitally signed by Donald Montgomery
Date: 2023.09.05 08:19:38 -05'00'

09/05/2023

Date

For Department Use Only:

Date Application Received: 12/11/2023 Application complete: Yes: ☒ No: ☐

EQ- 900 Date of complete or incomplete letter sent: 12/11/2023 Date Equipment Requires Renewal: 12/11/2028

Storage tank system equipment requires renewal every 5 years in accordance with subsection 62-762.851(2), F.A.C.



Model 9095C Overfill Prevention Valve

SPECIFICATION SHEET

Application

The 9095C series overfill prevention valve is designed to prevent the overfilling of storage tanks by providing a positive shut-off during a pressurized fill. The valve is installed at the fill port of a storage tank.

Features and Details

- Shut-off level can be set to within 1¼" from the top of the tank
- Installs on a 4" schedule 40 NPT male riser connection
- Standard drop tubes (Morrison 419) are easily attached with included drop tube adaptor
- Field adjustable float can be adjusted up to 5" for precise shut-off level
- Aviation model includes additional float section
- Integral anti-siphon function
- Full flow to shut-off point
- Cushioned shut-off eliminates line shock
- Integral pressure relief feature allows for safe uncoupling at the completion of the fill operation
- Integral anti-siphon function
- Maximum viscosity of 300 Centistokes
- Maximum operating pressure is 100 PSI

Materials of Construction

- Adaptor...Passivated aluminum
- Body...Passivated aluminum
- Float...Nitrophyl M
- Plunger and dashpot...Anodized aluminum
- Upper tube...E-coated steel
- Shut-off mechanism...Stainless steel
- Shaft linkage hardware...Stainless steel

Optional Criteria

- Minimum 5 PSI flow requirements
- Typical flow rate is 175 GPM at 10 PSI pressure drop
- A tight fill connection required. Top fill, remote fill, and dry disconnect connections available

**An optional manual test mechanism allows a technician to pull on the test line at any time during the filling process to actuate the float, stop the fill, and verify the valve is working properly.*

Code Compliance

NFPA 30, 30A; UFC; BOCA; SBCCI/SFC; PEI/RP 200, 600;
CARB EVR Executive Order 402; Florida DEP EQ-900



9095C-0200 AV
(shown with optional
9095CTM0100 AM
Test Mechanism)

9095C-3200 AVEVR



9095C-AV 0200 AV
(shown with optional
9095CTM0100 AM
Test Mechanism)

NOTE

For use on clean liquids only.



MORRISON BROS. CO.

Item Numbers on next page.



Model 9095C Overfill Prevention Valve (continued)

SPECIFICATION SHEET

Item Number	Description
9095C-0200 AV	2" overfill prevention valve, w/ 2" male quick disconnect x 4" female threads
9095C-3200AVEVR	2" overfill prevention valve, w/2" female threads x 4" female threads, CARB EVR approved
9095C-5200AVEVR	2" overfill prevention valve, w/2" dry disconnect adaptor x 4" female threads, CARB EVR approved
9095C-9100AVEVR	2" overfill prevention valve, less top adaptor, 2" male threads, for lowest profile tanks, CARB EVR approved
9095C-9200AVEVR	2" overfill prevention valve, less top adaptor, 2" male threads, CARB EVR approved
Aviation Models	
9095C-AV0200 AV	2" overfill prevention valve, w/ 2" male quick disconnect x 4" female threads, low specific gravity
9095CA3200AVEVR	2" overfill prevention valve, w/2" female threads x 4" female threads, low specific gravity, CARB EVR approved
9095CA5200AVEVR	2" overfill prevention valve, w/2" dry disconnect adaptor x 4" female threads, low specific gravity, CARB EVR approved
9095CA9200AVEVR	2" overfill prevention valve, less top adaptor, 2" male threads, low specific gravity, CARB EVR approved
9095CTM0100 AM	Mechanical Test Mechanism

**9095CA models used with fuels with specific gravity less than 0.72.*



9095C Overfill Prevention Valve

Installation & Maintenance Instructions

The 9095C Overfill Prevention Valve is installed at the fill port of a storage tank. Used in a pressurized tight fill application, the valve helps prevent tank overfills by closing when the liquid level reaches a pre-set warning level (90-95% full). The valve is installed through a 4" threaded opening and has a built-in bleed hole that allows the fill hose pressure to be relieved after the valve closes. This bleed hole also provides anti-siphon protection for the valve. When installed to manufacturer requirements, the Morrison Fig. 9095C Overfill Prevention Valve can eliminate hazardous liquid spills.



Failure to follow any or all of the warnings and instructions in this document could result in a hazardous liquid spill, which could result in property damage, environmental contamination, fire, explosion, serious injury or death.

Installation



Warnings

- **Fire Hazard** – Death or serious injury could result from spilled liquids.
- Any modification to this valve other than stated in these installation instructions will void the product warranty.
- This device is intended to be used only as a secondary shutoff and should not be the only system in place to prevent a tank from overfilling. It is the sole responsibility of the operator to continuously prevent any spillage regardless of the situation or status of the valve.
- The valve must be used with clean product. Contamination suspended in the liquid may cause the valve to function improperly. Line strainers or filters should be used in the fill piping or delivery vehicle to insure clean product.
- Minimum requirements for valve operation: 5 GPM inlet flow at 5 PSI inlet pressure.
- Maximum pressure is 100 PSI.
- Maximum allowable viscosity is 300 centistokes.
- A tight fill is required for the valve to operate. Do not substitute any other fill adaptors for the special adaptor supplied.
- Once closed the valve will allow flow of less than 2% of max flow to relieve fill line pressure.
- All by-pass and or limit valves of the delivery system must be functional and properly set prior to filling.
- Install in accordance with all applicable local, state, and federal laws.
- For your safety, it is important to follow local, state, federal and/or OSHA rules that apply to working inside, above, or around the storage tank and piping area. Use all personal protective equipment required for working in the specific environment.
- Tanks could be under pressure. Vapors could be expelled from tank vents, piping, valves or fittings while performing installation. Vapors could catch fire or cause an explosion. Avoid sparks, open flame, or hot tools when working on valves.
- Fill points should be labeled to identify product being transferred according to all applicable codes.

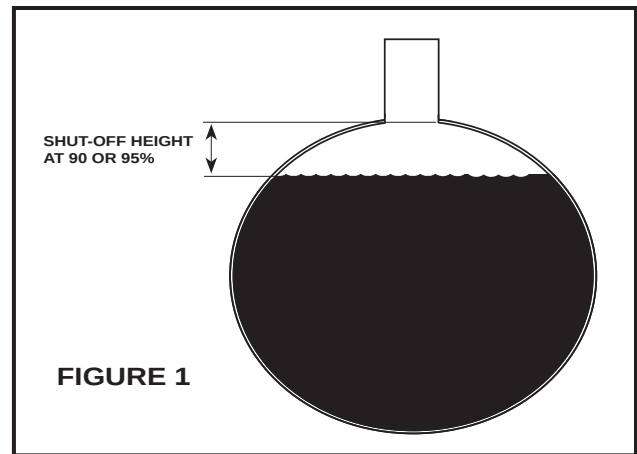
Steps

1. Remove the valve from the box and remove all packaging material. Check the valve for any shipping damage. Remove the adaptor and nipple from the valve. Check for freedom of plunger movement by securing float, turning unit upside down, and looking through the body opening at the plunger. The plunger should slide freely to contact the seal surface of the body and drop back down into the dashpot when turned to the upright position. Set the valve upright and move the float up and down to insure there is no binding.

2. Determine the SHUT-OFF DISTANCE at 90 or 95% full. (See Fig. 1 & Mfg. tank ullage chart). Record this distance as you will need it later when installing the valve.

3. Refer to Fig. 2. Select the measurement for the fuel you will be storing. Using a ruler, measure up from the bottom of the float and mark a line on your float at that measurement. Use a wax pen or chalk to mark the line.

Note: If you are storing a liquid, other than those noted in Fig. 2, and the specific gravity of your liquid is not the same as one of the liquids shown, you can use the calculation, shown at the end of this document, to determine the measurement to mark your float.



4. Measure from the top of the tank up to the point where the valve is to be attached. This is your Riser Distance shown in Fig. 1. Record this length. **Note:** this distance needs to include all pipe fittings, spill containers, etc. all the way up to the point where the valve is to be attached.

5. Move your float into the up position. Now the line that you marked on the float (Step 2) is at the point where the valve will shut off during the filling process. Measure from the line on the float all the way up to the point where the valve will thread onto the piping. We will call this Length X (See Fig. 3). Record this length.

6. Now you can make piping adjustments to insure that the line on the float will be in the tank at your desired shut off point when the unit is installed into the tank. To make these adjustments you can lengthen the Nipple shown in Fig. 3. You can also change the Riser Distance shown in Fig. 1. Lastly, you can make minor adjustments by moving the floats up or down. To do this loosen the allen screws on the float adjustment collars, shown in Fig. 3, move the floats up or down, and then tighten the allen screws.

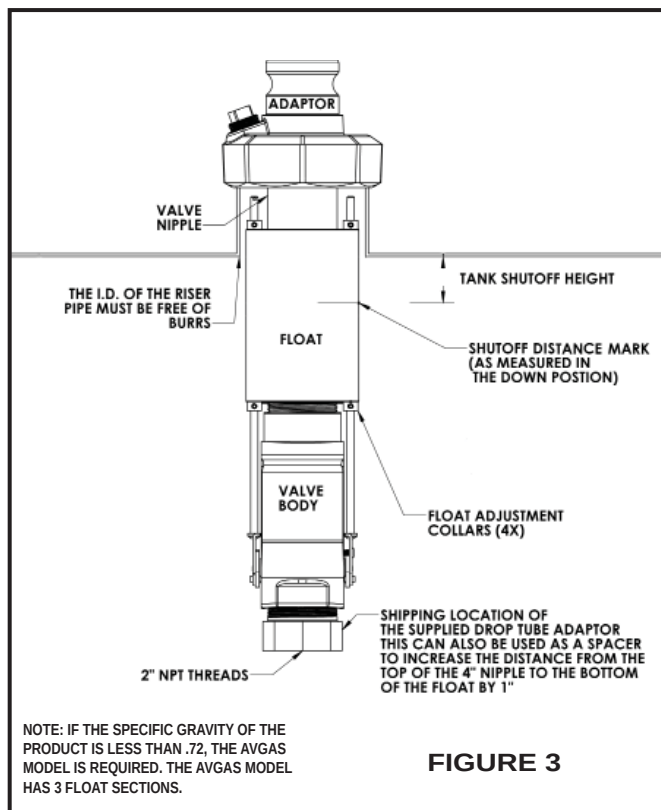
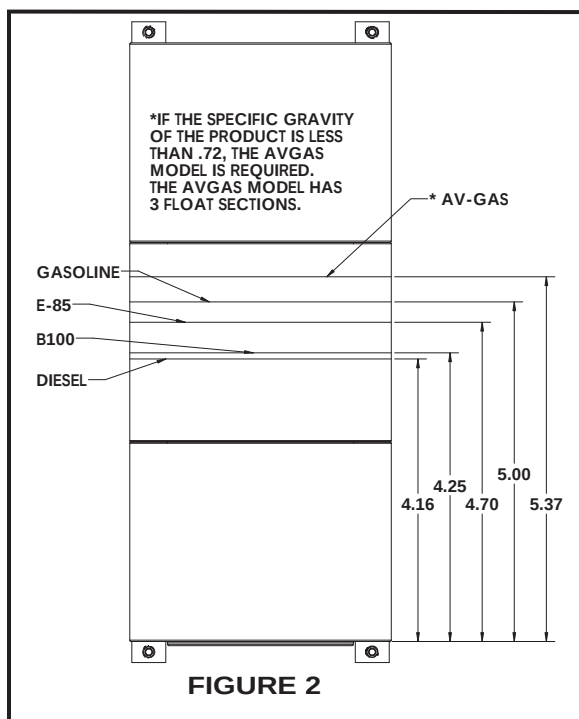
Important: After making your adjustments in Step 6, the Riser Distance (Step 4) **plus** your Shut-off Distance (Step 2) should be **equal to** Length X (Step 5).

Important: If adjustments are made to the float adjustment collars, you must set the valve in the upright position and move the float up and down to insure there is no binding.

7. Use care with floats and linkage during installation. Apply a non-hardening gasoline resistant sealant sparingly to all male threads. Attach the drop tube to the bottom of the valve. Assemble piping and install valve in the tank to distance determined in the steps above.

Caution: Excessive use of thread sealant may cause the valve to function improperly, application of thread sealant should be to male threaded members of the system only (to reduce the possibility of sealant being forced inside the system).

Important: Attach warning tag at fill point, with supplied cable tie, in location visible to operator filling the tank.



Filling Procedure

1. Make sure the fill nozzle is equipped with the appropriate mating coupler to form a secure connection with the tight fill adaptor.
2. Attach the nozzle to the tight fill adaptor making sure the connection is secure.
3. Switch on the pumping system.
4. Gradually open the fill nozzle and begin product transfer.
5. Continuously monitor tank filling process.
6. If the liquid level reaches the preset level of the 9095C valve, and the valve shuts off, the operator may see a slight movement of the fill hose and/or hear the pump by-pass activate.
7. If the 9095C shuts off during the tank fill, perform the overfill disconnect procedure.

Overfill Disconnect Procedure

1. If 9095C shut-off has occurred, close the fill nozzle immediately.
2. Turn off the pumping system.
3. Slowly release one arm of the quick coupler. This will introduce air into the fill line and allow product between nozzle and valve to drain. Wait a minimum of (1) minute for product to drain.
4. Completely uncouple and remove the nozzle after the line has drained. Attempting to disconnect the coupler from the tight fill adaptor with pressure in the hose will result in a product spill.



Failure to follow any or all of the warnings and instructions in this document could result in a hazardous liquid spill, which could result in property damage, environmental contamination, fire, explosion, serious injury or death.

Maintenance

This valve should be maintained according to local codes or to API Recommended Practice 2350.



Warnings

- **Fire Hazard** – Death or serious injury could result from spilled liquids.
- You must be trained to maintain this valve. Stop now if you have not been trained.
- For your safety, it is important to follow local, state, federal and/or OSHA rules that apply to working inside, above, or around the storage tank and piping area. Use all personal protective equipment required for working in the specific environment.
- Tanks could be under pressure. Vapors could be expelled from tank vents, piping, valves or fittings while performing maintenance. Vapors could catch fire or cause an explosion. Avoid sparks, open flame, or hot tools when working on valves

If valve is fitted with the optional test mechanism you can simulate a high product level by pulling the test mechanism lever during a fill. If the valve does not prevent product transfer when the test mechanism is pulled, or the valve is not fitted with a test mechanism, please do the following:

1. Remove valve from the tank.
2. Inspect the float and float linkages for any damage and make sure the float can move up and down freely. If the float or the float linkages have been damaged, or the float cannot move up and down freely, the valve must be sent back to the factory for evaluation.
3. Look down into the top of the valve to inspect for any debris or foreign objects that may have entered the valve. If you can see any debris or foreign objects, the valve must be returned to the factory for evaluation.
4. Check for freedom of plunger movement by securing float, turning unit upside down, and looking through the body opening at the plunger. The plunger should slide freely to contact the seal surface of the body and drop back down into the dash pot when turned to the upright position. You may also hear a clunking/clicking sound when turning valve upside down and right side up. If you cannot see the plunger move freely or if this clunking/click sound is not present, it may indicate that the valve plunger is stuck and the valve must be returned to the factory for evaluation.
5. Inspect the vent warning tag located near the tank fill point. If the tag is damaged or difficult to read, contact Morrison Bros. Co. at (800) 553-4840 for a free replacement tag.



Failure to follow any or all of the warnings and instructions in this document could result in a hazardous liquid spill, which could result in property damage, environmental contamination, fire, explosion, serious injury or death.

Calculation for shut-off point for liquids with specific gravities different than those shown in Fig. 2.

Shut-off point distance = $((1 - \text{Specific Gravity}) \times 5.5) + 3.5$

Measure this distance up from the bottom of the float and mark as indicated in Steps 3 & 4 of the Installation Steps and then follow the rest of the Installation Steps.

EXECUTIVE ORDER VR-402-F

Morrison Bros. Phase I Enhanced Vapor Recovery (EVR) System
For Aboveground Storage Tanks (AST)

EXHIBIT 1
Equipment List

<u>Equipment</u>	<u>Manufacturer/Model Number</u>
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Emergency Vent

(Figures 1A)

Morrison 244O WX YYYY AVEVR

W represented by:

dash (-) = female threads

M = male threads

F = flange mounted

S = with screen

X represented by:

S = with screen

A = Aluminum

dash (-) = Blank

YYYY represented by:

Numerical values between 0 to 9

<u>Male / Female</u>	<u>Flanged*</u>	<u>Size</u>	<u>Setting</u>
0030		2"	16 oz./sq.in.
0060		3"	16 oz./sq.in.
0170	0170	4"	16 oz./sq.in.
0900		5"	16 oz./sq.in.
0200	0050	6"	8 oz./sq.in.
0400	0075	6"	16 oz./sq.in.
0600	0100	8"	8 oz./sq.in.
0700	0200	8"	16 oz./sq.in.
	0300	10"	2.5 oz./sq.in.
	0400	10"	8 oz./sq.in.
	0500	10"	16 oz./sq.in.

***Note:** For flange mounted models use gasket material made by Fibreflex. More information is available at <http://www.fibreflex.com>.

Equipment**Manufacturer/Model Number****Overfill Prevention Valve and
Drop Tube Assembly**

Overfill Prevention Valve
(Figures 1B)

Morrison 9095W X YYYY – AVEVR

W represented by:

A = A Series

C = C Series

X = X Series

X represented by:

dash = blank

V = Nickel Plated

A = AA Series or for fuels with S.G. less 0.72

YYYY represented by:

Numerical values between 0 to 9

	<u>Size</u>	<u>Description</u>
9100	2"	Base Model
9200,7200	2"	Base Model
9300	3"	Base Model
5200	2"	Direct Fill
3200	2"	Remote Fill
3300	3"	Remote Fill
4200,6200,6800	2"	Remote Fill

Drop Tube
(Figures 1C)

Morrison 419X - -YYZZ 1TEVR

X represented by:

dash = Aluminum

A = Anodized Aluminum

YY represented by:

Numerical values between 0 to 9

	<u>Tube Size</u>
02	2"
03	3"

ZZ represented by:

Numerical values between 0 to 9

As length in Feet

Equipment**Manufacturer/Model Number****Spill Container *****Non-Integral
Spill Container***

(Figure 1D)

Morrison 516 XX – 0400 ACEVR

*X represented by:**dash = female threads**O = Offset female threads**M = male threads**MO = Offset male threads****NOTE:** Optional for protected tanks with integral spill container.**Integral Spill Container****Convault Drain Valve**

(Figure 1E)

Drain Plug

(Figure 1F)

Material: Galvanized, Brass, or Stainless SteelThread Type: NPT Pipe Fitting***NOTE:** Either is required for protected tanks with integral spill container.**Non-Rotatable Product
Adaptor**

(Figure 1G)

Morrison 927 - - - YYYY AA EVR

*YYYY represented by:**Numerical values between 0 to 9*

	<u>Thread</u>	<u>Cam & Groove</u>
	<u>Size</u>	<u>Size</u>
0200	2"	2.5"
0300	3"	4"
0400	4"	4"

Equipment**Manufacturer/Model Number****Product Adaptor Dust Caps**

(Figure 1H)

Morrison 735DC X YYYY ACEVR

*X represented by:**dash = Aluminum**A = Anodized Aluminum**YYYY represented by:**Numerical values between 0 to 9*

	<u>Size</u>
2000	2"
2500	2.5"
3000	3"
4000	4"

Product Coupler

(Figure 1I)

Morrison 928 - - - YYYY ACEVR

*YYYY represented by:**Numerical values between 0 to 9*

	<u>Thread Size</u>	<u>Cam & Groove Size</u>
0150	1.5"	2"
0200	2"	2.5"
0300	3"	4"

Note: During fuel deliveries, a MORRISON coupler (928 Series) shall be used with a MORRISON product adaptor (927 Series). The MORRISON 928 Series coupler can be provided by the fuel supplier or provided by the GDF operator.

Non-Rotatable Vapor Adaptor

(Figure 1J)

Morrison 323 - - - YYYY AA EVR

*YYYY represented by:**Numerical values between 0 to 9*

	<u>Thread Size</u>	<u>Cam & Groove Size</u>
0300	3"	4"
0400	4"	4"

Vapor Adaptor Dust Caps

(Figure 1K)

Morrison 323C YYYY ACEVR

*YYYY represented by:**Numerical values between 0 to 9*

	<u>Size</u>
0100	4"

Equipment**Manufacturer/Model Number****Dedicated Gauging Port**

(Figure 1L)

NOTE: Per CP-206, an Above Ground Storage Tank (AST) shall include a dedicated gauging port for determining the amount of gasoline. The determination shall be accomplished manually, mechanically, or electronically

**Gauging Port and
Drop Tube Assembly
(Optional)**

Gauging Port Adapter

Morrison 305 X YYYY AA-EVR / 305 X YYYY AC-EVR

*X represented by:**blank = Brass Adaptor**C = Cap**GSP = Cap / Adapter Kit**YYYY represented by:**Numerical values between 0 to 9*

	<u>Size</u>
0000,2000	2"

Drop Tube

Morrison 419X - - YYZZ 1TEVR

(Figures 1C)

*X represented by:**dash = Aluminum**A = Anodized Aluminum**YY represented by:**Numerical values between 0 to 9*

	<u>Tube Size</u>
02	2"

*ZZ represented by:**Numerical values between 0 to 9**As length in Feet*

Equipment**Manufacturer/Model Number****Mechanical Tank Gauging
(Optional)**

Morrison Z18 XXX YYYY AGEVR

*Z represented by:**Numerical values between 8 and 9**8 = Gauge w/o Alarm**9 = Gauge w/ Alarm**X represented by:**dash = Male thread**C = Custom Clock Face Label (Male Thread)**F = Female thread**CF = Custom Clock Face Label (Female Thread)**MEF = Metric (Female Thread)**MET = Metric (Male Thread)**DP = Dual Level Points (Male Thread)**DPF = Dual Level Points (Female Thread)**YYYY represented by:**Numerical values between 0 to 9*

	<u>Size</u>	<u>Description</u>
0100, 0000	2"	with Standard Float
0400, 2000	2"	with Drop Tube Float

Note: Custom clock face label model number.

AAABCXXXXXY 2L

*AAA = Figure No. = 818 or 918**B = Units of Measure**G = Gallons**L = Liters**C = Shape of Tank*

Equipment**Manufacturer/Model Number****Monitoring Cap and
Adaptor
(Optional)**

Morrison 305XXX YYYY ZZEVR

*XXX represented by:**dash = Brass Adapter**XP = Cap with Cable Connector**XPA = Cap, Adapter and Cable Connector**YYYY represented by:**Numerical values between 0 to 9*

	<u>Cap Size</u>	<u>Description</u>
2200	2"	3/8" hole & Cable Connector
2400	2"	1/2" hole & Cable Connector
0100	4"	3/8" hole
1100	4"	1/2" hole
0200	4"	3/8" hole & Cable Connector
1200	4"	1/2" hole & Cable Connector

	<u>Adapter Size</u>	<u>Description</u>
0000	2"	Adapter
0200	4"	Adapter

*ZZ represented by:**AA = Adaptor**AC = Cap with/without Cable Connector**AK = Cap, Adapter with/without Cable Connector***Drop Tube Diffuser
(Optional)
(Figure 1M)**

Morrison 539A XZ YYYY ADEV R

*X represented by:**S = Slip-on**T = Threaded**Z represented by:**dash = blank**A = Anodized**YYYY represented by:**Numerical values between 0 to 9*

	<u>Size</u>
0200	2"
0300	3"

Equipment**Manufacturer/Model Number****Double Tapped Bushing
(Optional)**

(Figure 1N)

Morrison 184X YYYY1B / 184X YYYYMB

*X represented by:**blank = iron / steel**S = Stainless Steel**YYYY represented by:**Numerical values between 0 to 9***Extractor Fitting
(Optional)**

(Figure 1O)

Morrison 56X 0101 MBE

*X represented by:**Numerical values between 0 to 9***Drop Tube Extender
(Figure 1P)**

Morrison 419E-XX00 AEEVR

*XX represented by:**Numerical values between 0 to 9*Tube Size

02	2"
03	3"
04	4"

Wireless Tank Monitor

AMETEK ST95 LTE

TABLE 1-1
Components Exempt from Identification Requirements

Component Name	Manufacturer	Model Number
Drop Tube	Morrison	419 - - - YYXX 1TEVR 419A - - YYXX 1TEVR
305 Series Adaptors (dedicated gauging port & monitoring cap and adaptor)	Morrison	305 - - - 0000 AAEVR
Drop Tube Diffuser	Morrison	539A Series
Overfill Prevention Valve	Morrison	9095 Series
Product Coupler	Morrison	928 Series
Double Tapped Bushing	Morrison	184 Series
Extractor	Morrison	56X Series
Drop Tube Extender	Morrison	419E – XX00 AEEVR

FIGURE 1A-1
Morrison Bros. 244 Series Emergency Vents



Male Emergency Vents



Female Emergency Vents



Flanged Emergency Vents

FIGURE 1A-2
Morrison Bros. 244 Series Emergency Vents
Cover Marking Diagram

(The X designation will contain a value which may vary depending upon the size and pressure setting of the vent)



Vent Sample With Relief Opening Pressure
 Less Than 0.5 Psi
 (ONLY APPLIES TO 2" 8OZ/SQ. IN. MODELS)



Vent Sample With Relief Opening Pressure
 Greater Than or Equal to 0.5 Psi

FIGURE 1B -1
Morrison Bros. 9095A Series Overfill Prevention Valve



Base Model
(w/o adaptor or bushing)



Direct Fill Model
(w/ adaptor)



Remote Fill Model
(w/ bushing)

FIGURE 1B-2
Morrison Bros. 9095C Series Overfill Prevention Valve



Base Model
(w/o adaptor or bushing)



Direct Fill Model
(w/ adaptor)



Remote Fill Model
(w/ bushing)

FIGURE 1B-3
Morrison Bros. 9095AA Series Overfill Prevention Valve



Base Model
(w/o adaptor or bushing)



Direct Fill Model
(w/ adaptor)



Remote Fill Model
(w/ bushing)

FIGURE 1B-3 (con't)
Morrison Bros. 9095 Series Overfill Prevention Valve



9095 AA Series Base Model
(w/o adaptor and w/ 2 floats)



9095 X Series Remote Fill Model
(w/ bushing and integral seat)

FIGURE 1C
Morrison Bros. 419 Series Drop Tube



FIGURE 1D
Morrison Bros. 516 Series Direct Fill Spill Container

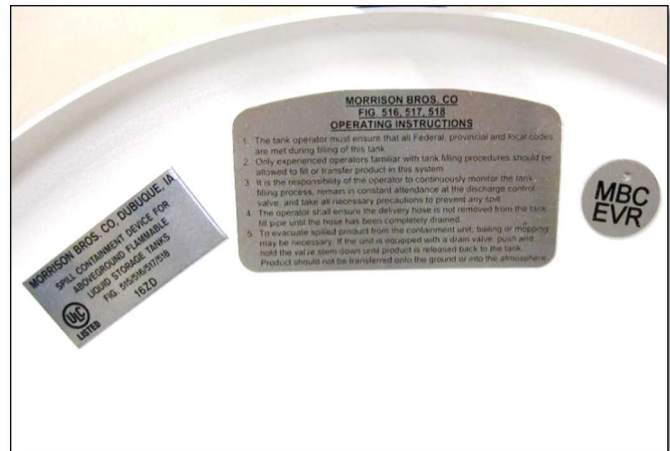


FIGURE 1E
Convault Drain Valve



FIGURE 1F
Drain Plug (Typical)



FIGURE 1G
Morrison Bros. 927 Series Non-Rotatable Product Adaptor



FIGURE 1H
Morrison Bros. 735DC Series Product Dust Cap



Note: The number 713 at the bottom of the cap refers to the aluminum the cap is made of, and not the model number of the cap itself.

FIGURE 1I
Morrison Bros. 927 Series Non-Rotatable Product Adaptor



FIGURE 1J
Morrison Bros. 323 Series Non-Rotatable Vapor Adaptor

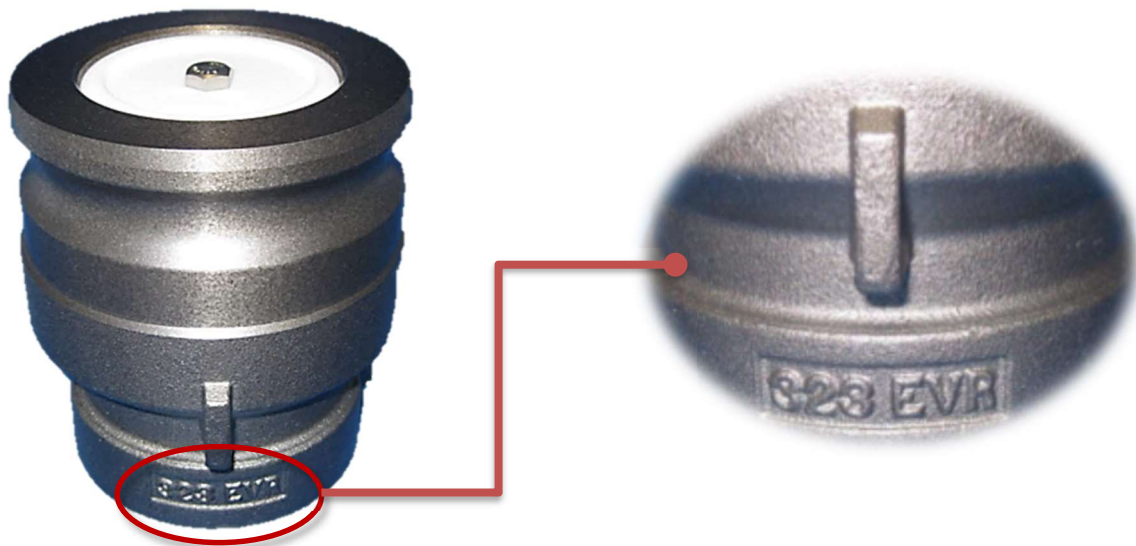


FIGURE 1K
Morrison Bros. 323C 0100 ACEVR Vapor Adaptor Dust Cap

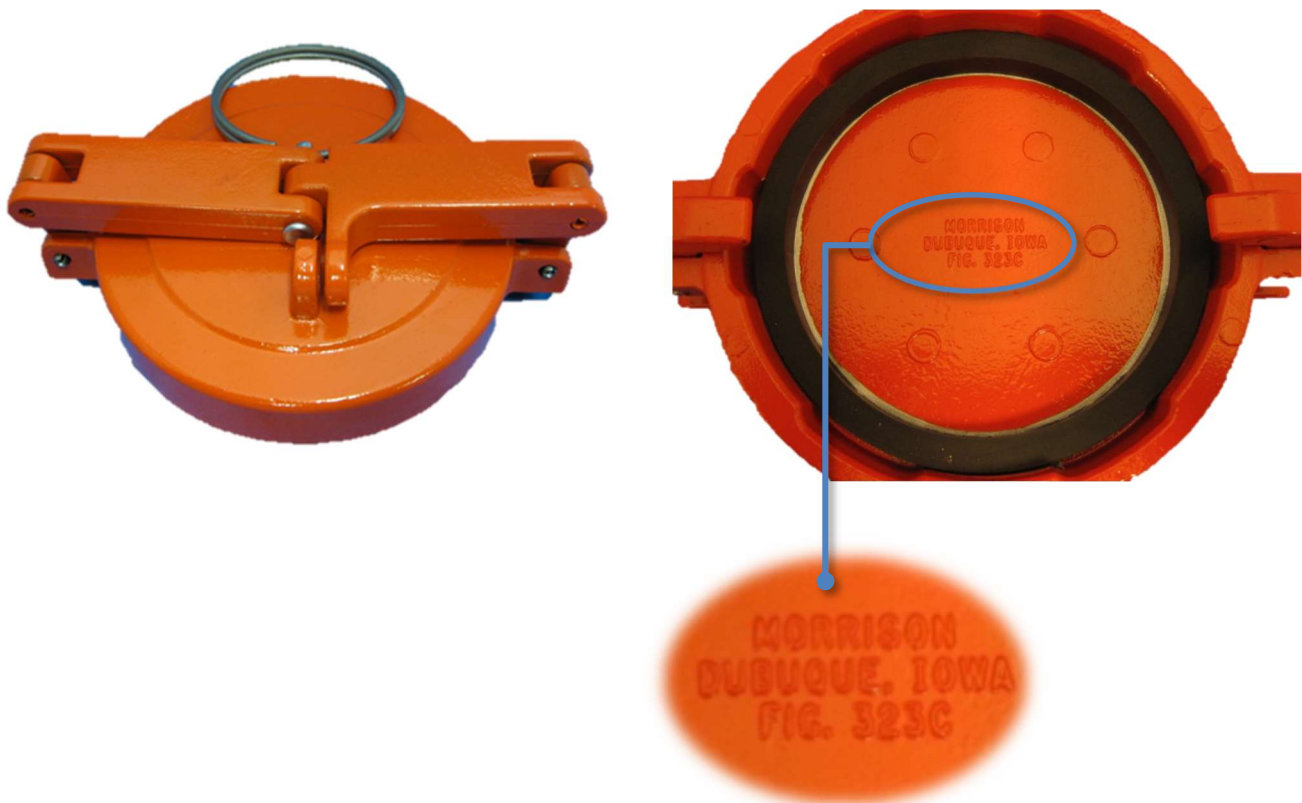


FIGURE 1L
Dedicated Gauging Port

NOTE: Per CP-206, an Above Ground Storage Tank (AST) shall include a dedicated gauging port for determining the amount of gasoline. The determination shall be accomplished manually, mechanically, or electronically

FIGURE 1L-1
Morrison Bros. 305 Series Gauge Port Adaptor and Cap
(optional)



Morrison Bros. 305 Series Gauge Port Adaptor



Morrison Bros. 305 Series Gauge Port Cap

FIGURE 1L
Dedicated Gauging Port
(continue)

FIGURE 1L-2
Morrison Bros. Mechanical Tank Gauge
(optional)



Morrison Bros. 818 Series
(optional)



Morrison Bros. 918 Series
With Alarm Output
(optional)



Morrison Bros. 918DP Series
With Dual Alarm Output
(optional)

FIGURE 1L
Dedicated Gauging Port
(continue)

FIGURE 1L-3
Morrison Bros. 305 Series Monitoring Cap & Adaptor
(optional)



FIGURE 1M
Morrison Bros. 539 Series Drop Tube Diffuser
(optional)



FIGURE 1N
Morrison Bros. 184 Series Double Tapped Bushing
(optional)



FIGURE 1O
Morrison Bros. Extractor 56X Series
(optional)

(Photo is of Fig. 562 4" x 4" x 3" x 2")



FIGURE 1P
Morrison Bros. 419E Drop Tube Extender



FIGURE 1Q
SKYBITZ AMETEK ST95 LTE Wireless Tank Monitor





Department of Environmental Protection

2600 Blair Stone Road ♦ Tallahassee, Florida 32399-2400

DEP Form: 62-762.901(9)

Form Title: Storage Tank Equipment

Registration Form

Effective Date: January 2017

Incorporated in Rule 62-762.851, F.A.C.

Storage Tank Equipment Registration Form

Fill out completely

General Information

Company Name: Morrison Bros. Co. Contact Name: Jerry Schollmeyer
Company Address: 570 East 7th Street City: Dubuque Zip: 52001
E-mail: jschollmeyer Contact Number: 563-587-2119
Product Name: Overfill Prevention Valve
Model Number(s): 9095C Product Type: Overfill Prevention valve, pressure fill
Rule(s) citation within Chapter 62-761, or 62-762, F.A.C. that registration is being requested: 62-672

Write a brief description of equipment registration request including product limitations:

The 9095C series overfill prevention valve is designed to prevent the overfilling of storage tanks by providing a positive shut-off during a pressurized fill (typically when installed on an aboveground tank). The valve is installed in the top of a storage tank and can be set to the desired shut-off level by using standard length pipe nipples and adjusting the float.

Information Checklist

	Yes	No	N/A
1. Third-party Certification by a Nationally Recognized Testing Laboratory?	☒	☐	☐
2. Documentation of third-party evaluation that the equipment meets DEP Rules?	☒	☐	☐
3. Documents included about the qualifications of the Nationally Recognized Testing Laboratory?	☒	☐	☐
4. Installation instructions included?	☒	☐	☐
5. Technical information and drawings included?	☒	☐	☐
6. Annual Operability Testing Requirements (Rules 62-761.700, 62-762.701, & 62-762.702 F.A.C.)?	☒	☐	☐
7. Compatible with fuel blends containing >10% ethanol or >20% biodiesel?	☒	☐	☐
8. Has the product been approved or registered in other countries or states? (If so provide list)	☒	☐	☐
9. Any requirements for company-certified installers or trainers?	☐	☒	☐
10. Was this product(s) previously approved or registered by the Department?	☐	☒	☐
If yes, please specify the Equipment Number: <u>EQ-_____</u>			
11. Any changes or modifications to the equipment since the last submittal to DEP?	☐	☐	☒

Document Information: Provide supporting documents indicated as "Yes" above including this form via email to Tanknotify@dep.state.fl.us, or documents can be sent to FDEP, Division of Waste Management, 2600 Blair Stone Road, MS 4560, Tallahassee, FL 32399.

Write a brief description of equipment installation and performance in the U.S.:

The 9095C is a 2 inch valve that requires a 4 inch tank top opening. The Installation and Operation Manual provides step by step information about the Installation of the valve with or without a manual test mechanism. An installation video can be accessed via the Morrison Website. A minimum of 5 psi and 5 g.p.m. are required to properly activate the pressure fill valve. The valve must be filled utilizing a tight fill connection. The 9095C float is positioned above the valve body, facilitating a higher shut-off point (1-1/4 inches from the top of the tank) than many other model over-fill prevention valves.

Equipment Registration Certification:

To the best of my knowledge and belief, all information submitted on this form is true, accurate and complete.

Gerald Schollmeyer, Sales Manager

Printed Name and Title

Jerry Schollmeyer

Signature

Digitally signed by Jerry Schollmeyer
Date: 2018.06.26 11:12:43 -05'00'

6/26/2018

Date

For Department Use Only:

Date Application Received: 6/26/2018 / Renew by 6/27/2023

Application complete:

Yes: ☒ No: ☐

EQ- 900

Date of complete or incomplete letter sent: 6/27/2018

Date of entry to the DEP Equipment Registration List: 6/27/2018



Model 9095C Overfill Prevention Valve

SPECIFICATION SHEET

Application

The 9095C series overfill prevention valve is designed to prevent the overfilling of storage tanks by providing a positive shut-off during a pressurized fill. The valve is installed at the fill port of a storage tank.

Features and Details

- Shut-off level can be set to within 1¼" from the top of the tank
- Installs on a 4" schedule 40 NPT male riser connection
- Standard drop tubes (Morrison 419) are easily attached with included drop tube adaptor
- Field adjustable float can be adjusted up to 5" for precise shut-off level
- Aviation model includes additional float section
- Integral anti-siphon function
- Full flow to shut-off point
- Cushioned shut-off eliminates line shock
- Integral pressure relief feature allows for safe uncoupling at the completion of the fill operation
- Integral anti-siphon function
- Maximum viscosity of 300 Centistokes
- Maximum operating pressure is 100 PSI

Materials of Construction

- Adaptor...Passivated aluminum
- Body...Passivated aluminum
- Float...Nitrophyl M
- Plunger and dashpot...Anodized aluminum
- Upper tube...E-coated steel
- Shut-off mechanism...Stainless steel
- Shaft linkage hardware...Stainless steel

Optional Criteria

- Minimum 5 PSI flow requirements
- Typical flow rate is 175 GPM at 10 PSI pressure drop
- A tight fill connection required. Top fill, remote fill, and dry disconnect connections available

**An optional manual test mechanism allows a technician to pull on the test line at any time during the filling process to actuate the float, stop the fill, and verify the valve is working properly.*

Code Compliance

NFPA 30, 30A; UFC; BOCA; SBCCI/SFC; PEI/RP 200, 600;
CARB EVR Executive Order 402



9095C-0200 AV
(shown with optional
9095CTM0100 AM
Test Mechanism)

9095C-3200 AVEVR



9095C-AV 0200 AV
(shown with optional
9095CTM0100 AM
Test Mechanism)

NOTE

For use on clean liquids only.



MORRISON BROS. CO.

Item Numbers on next page.



Model 9095C Overfill Prevention Valve (continued)

SPECIFICATION SHEET

Item Number	Description
9095C-0200 AV	2" overfill prevention valve, w/ 2" male quick disconnect x 4" female threads
9095C-3200AVEVR	2" overfill prevention valve, w/2" female threads x 4" female threads, CARB EVR approved
9095C-5200AVEVR	2" overfill prevention valve, w/2" dry disconnect adaptor x 4" female threads, CARB EVR approved
9095C-9100AVEVR	2" overfill prevention valve, less top adaptor, 2" male threads, for lowest profile tanks, CARB EVR approved
9095C-9200AVEVR	2" overfill prevention valve, less top adaptor, 2" male threads, CARB EVR approved
Aviation Models	
9095C-AV0200 AV	2" overfill prevention valve, w/ 2" male quick disconnect x 4" female threads, low specific gravity
9095CA3200AVEVR	2" overfill prevention valve, w/2" female threads x 4" female threads, low specific gravity, CARB EVR approved
9095CA5200AVEVR	2" overfill prevention valve, w/2" dry disconnect adaptor x 4" female threads, low specific gravity, CARB EVR approved
9095CA9200AVEVR	2" overfill prevention valve, less top adaptor, 2" male threads, low specific gravity, CARB EVR approved
9095CTM0100 AM	Mechanical Test Mechanism

*9095CA models used with fuels with specific gravity less than 0.72.



Fig. 9095CTM0100 AM Overfill Prevention Test Mechanism Installation Instructions (Optional Feature)



WARNINGS

- Any modification to this valve other than stated in these installation instructions will void the product warranty.
- This device is intended to be used only as an auxiliary test for the operator to verify the operation of the overfill prevention valve, and should not be solely relied upon to ensure operation. This device does not replace routine maintenance and inspection of the valve. It is the sole responsibility of the operator to continuously prevent any spillage of product.

Installation Instructions for Valve with Test Mechanism

Steps

1. Remove valve from box and remove all packaging material. Check the test mechanism for any shipping damage. The lever should actuate freely without binding.
2. Refer to Overfill Prevention Valve installation instructions to customize valve to desired tank fill specifications.
3. With the adaptor removed place the anodized ring and the float collars over the float rods and tighten down. (See figure 1)
4. Attach the clip to the nearest hole in the anodized ring.
5. Make sure adaptor is tightened down on top nipple of valve. Failure to do so will twist the line and tighten it so that float may be actuated.
6. Attach the test mechanism to the adaptor through the $\frac{3}{4}$ " NPT port, use a thread sealant to prevent contamination.
7. Place line sleeve over end of test line wire.
8. Extend test line wire down and pass line through loop in the anodized ring.
9. Loop test line wire back through line sleeve and pull so that there is no slack in the line with the float in the downward position.

Notice: Make sure that float is in downward most position before crimping sleeve.

10. Crimp line sleeve to secure test line.
11. Pull test mechanism to ensure that float actuates upward.

Notice: Float should move $\frac{3}{4}$ " up when lever is actuated if installed correctly.

12. Install 9095C Overfill Prevention Valve into tank.

Notice: Take care to not hit or pinch test line on tank riser when installing valve. This can damage or sever the test line.

13. Once installed actuate test mechanism to ensure proper operation and that there is no binding.



Fig. 1 Anodized Ring and Clip Assembly

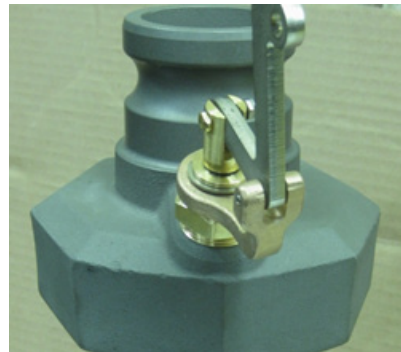


Fig. 2 Complete Assembly

Assembly of Remote Test Pull Rope

1. To hook up remote test fill rope, thread test rope through rope sleeve.
2. Pass rope through hole on test mechanism lever and back through rope sleeve.
3. Crimp rope sleeve so that rope is secure.
4. Apply rope clip at desired height on tank and warning label next to it. The rope clip will secure the rope when not in use.
5. Shorten the rope to desired length if needed.

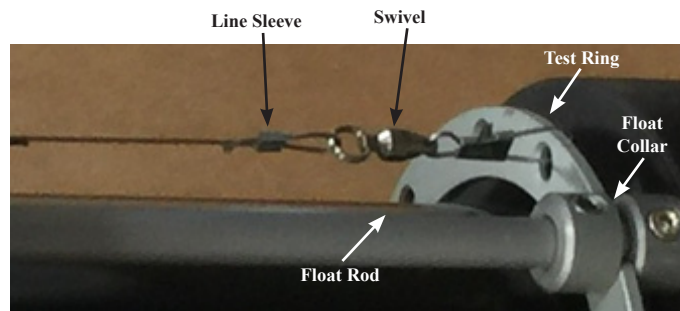
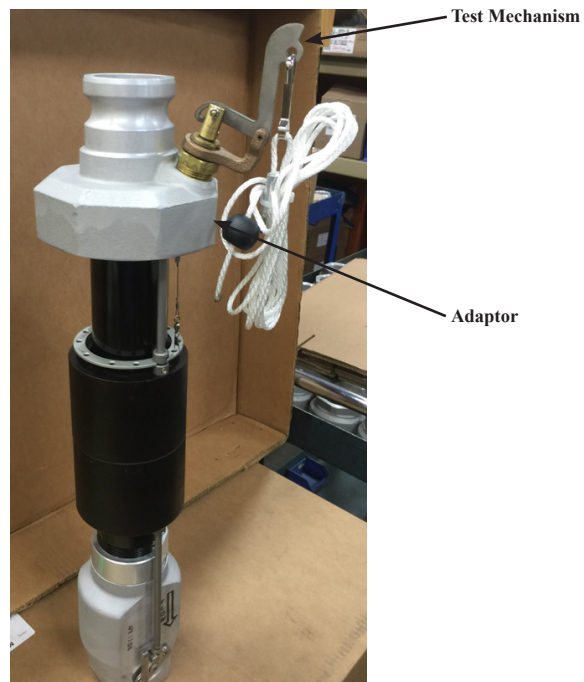


Fig. 3 Attached Line



Picture 4 Assembled Valve with Test Mechanism

**State of California
AIR RESOURCES BOARD**

**Executive Order VR-402-D
Morrison Bros. Phase I Enhanced Vapor Recovery (EVR) System
for Aboveground Storage Tanks (AST)**

WHEREAS, the California Air Resources Board (ARB) has established, pursuant to California Health and Safety Code Sections 39600, 39601 and 41954, certification procedures for systems designed for the control of gasoline vapor emissions during the filling of aboveground gasoline storage tanks (Phase I EVR System) in its Certification Procedure for Vapor Recovery Systems at Gasoline Dispensing Facilities Using Aboveground Storage Tanks (CP-206) as last amended on November 9, 2015, and incorporated by reference in Title 17, California Code of Regulations, Section 94016;

WHEREAS, ARB has established, pursuant to California Health and Safety Code Sections 39600, 39601 and 41954, test procedures for determining the compliance of Phase I EVR Systems with emission standards;

WHEREAS, Morrison Bros. Co. (Morrison Bros.) requested and was granted certification of the Morrison Bros. Phase I EVR System for ASTs ("Morrison Bros. Phase I EVR System") pursuant to CP-206 on June 22, 2011, by Executive Order VR-402-A, which was last renewed on June 29, 2015, by Executive Order VR-402-C;

WHEREAS, Morrison Bros. requested amendments of the Morrison Bros. Phase I EVR System to include a Model AA Series 2" overfill prevention valve and modifications to the emergency vents, overfill prevention valves, product adapters, and installation instructions;

WHEREAS, Convault, Inc. (Convault) requested amendments of the Morrison Bros. Phase I EVR System to include the Convault drain valve and a drain plug for integral spill containers;

WHEREAS, CP-206 provides that the ARB Executive Officer shall issue an Executive Order only to those applicants or manufacturers who have demonstrated full compliance with CP-206 and the ability to maintain such compliance as provided in CP-206; and

WHEREAS, I, Richard W. Corey, Executive Officer, find that the Morrison Bros. Phase I EVR System, as modified herein, conforms with all the requirements set forth in CP-206 and results in a vapor recovery system which is at least 98.0 percent efficient when tested pursuant to TP-206.4, Volumetric Efficiency of Phase I Vapor Recovery Systems for Aboveground Storage Tanks (November 7, 2014);

NOW THEREFORE, IT IS HEREBY ORDERED that the Morrison Bros. Phase I EVR System is certified to be at least 98.0 percent efficient when used with Standing Loss Control Vapor Recovery Systems certified by Executive Order VR-301 or Executive Order VR-302, as applicable and installed and maintained as specified herein and in the following exhibits. Exhibit 1 contains a list of the equipment certified for use with the

Morrison Bros. Phase I EVR System, Exhibit 2 contains the performance standards and specifications, typical installation drawings, and maintenance intervals applicable to the Morrison Bros. Phase I EVR System as installed in a gasoline dispensing facility (GDF) with an AST. Exhibit 3 contains the manufacturing performance specifications. Exhibit 4 contains the manufacturer warranties. Exhibit 5 contains alternate Phase I EVR installation configurations for existing AST. Exhibit 6 contains a test procedure for determination of static pressure performance of vapor recovery systems at gasoline dispensing facilities with AST.

IT IS FURTHER ORDERED that compliance with the applicable certification requirements, rules and regulations of the Division of Measurement Standards of the Department of Food and Agriculture, the Office of the State Fire Marshal of the Department of Forestry and Fire Protection, and the Division of Occupational Safety and Health of the Department of Industrial Relations are made conditions of this certification.

IT IS FURTHER ORDERED that Morrison Bros. shall provide a warranty for the vapor recovery system and components to the initial purchaser. The warranty shall be passed on to each subsequent purchaser within the warranty period. The manufacturer of components listed in Exhibit 1 not manufactured by Morrison Bros. shall provide a warranty to each of their components certified herein. The warranty shall include the ongoing compliance with all applicable performance standards and specifications, and shall comply with all warranty requirements in Section 17.5 of CP-206. Morrison Bros. or other manufacturers may specify that the warranty is contingent upon the use of trained installers. The manufacturer warranty tag, included with each component, shall be provided to the service station owner/operator at the time of installation.

IT IS FURTHER ORDERED that every certified component manufactured by Morrison Bros. shall meet the manufacturing performance specifications as provided in Exhibit 3.

IT IS FURTHER ORDERED that the certified Morrison Bros. Phase I EVR System shall be installed, operated and maintained in accordance with the ARB Approved Installation, Operation and Maintenance Manual. Equipment shall be inspected annually per the procedures identified in the ARB Approved Installation, Operation, and Maintenance Manual. This inspection requirement shall also apply to systems certified by Executive Orders VR-402-A to C. A copy of the Executive Order and the ARB Approved Installation, Operation, and Maintenance Manual shall be maintained at each GDF where a certified Morrison Bros. Phase I EVR System is installed.

IT IS FURTHER ORDERED that equipment listed in Exhibit 1, unless exempted, shall be clearly identified by a permanent identification showing the manufacturer's name, model number, and serial number.

IT IS FURTHER ORDERED that any alteration in the equipment parts, design, installation, or operation of the system provided in the manufacturer's certification application or documents and certified hereby is prohibited and deemed inconsistent with this certification unless the alteration has been submitted in writing pursuant to the process for Executive Order amendments set forth in Section 19 of CP-206 and

approved in writing by the Executive Officer or his delegate. Any sale, offer for sale, or installation of any system or component without ARB's approval as set forth above is subject to enforcement action.

IT IS FURTHER ORDERED that the following requirement be made a condition of certification. The owner or operator of the Morrison Bros. Phase I EVR System shall conduct and pass the following test no later than 60 days after startup and at least once every three years after startup testing, using the following test procedure: Exhibit 6, Determination of Static Pressure Performance of Vapor Recovery Systems at Gasoline Dispensing Facilities with Aboveground Storage Tanks. Shorter time periods may be specified by the District. Notification of testing, and submittal of test results, shall be done in accordance with District requirements and pursuant to policies established by that District. Districts may require the use of alternate test form(s), provided they include the same minimum parameters identified in the datasheet referenced in the test procedure. Alternate test procedures, including most recent version of test procedure listed above, may be used if determined by the ARB Executive Officer or his delegate, in writing, to yield equivalent results.

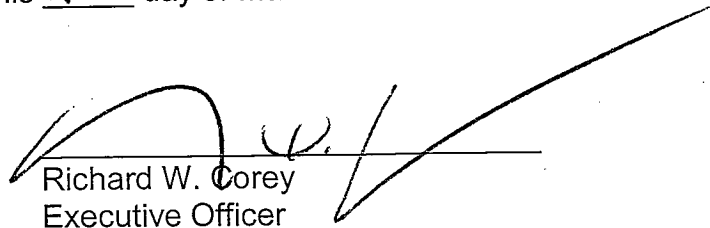
IT IS FURTHER ORDERED that the Morrison Bros. Phase I EVR System shall be compatible with gasoline in common use in California at the time of certification. The Morrison Bros. Phase I EVR System is not compatible with gasoline that has methanol content greater than 5 percent or ethanol content greater than 10 percent. Any modifications to comply with future California gasoline requirements shall be submitted in writing pursuant to the process for Executive Order amendments set forth in Section 19 of CP-206 and approved in writing by the Executive Officer or his delegate.

IT IS FURTHER ORDERED that the certification of the Morrison Bros. Phase I EVR System is valid through July 1, 2019.

IT IS FURTHER ORDERED that Executive Order VR-402-C issued on June 29, 2015, is hereby superseded by this Executive Order. Morrison Bros. Phase I EVR Systems certified under Executive Order VR-402-A through C may remain in use at existing installations up to four years after the expiration date of this Executive Order if this certification is not renewed.

IT IS FURTHER ORDERED that this Executive Order shall apply to new installations or major modification of the Phase I system at an existing gasoline dispensing facility.

Executed at Sacramento, California, this 29th day of March 2016.


Richard W. Corey
Executive Officer

Attachments: See next page

Attachments:

- Exhibit 1 Equipment List
- Exhibit 2 Installation, Maintenance, and Compliance Standards and Specifications
- Exhibit 3 Manufacturing Performance Standards and Specifications
- Exhibit 4 Manufacturer Warranty
- Exhibit 5 Alternate Phase I EVR Installation Configurations for Existing Aboveground Storage Tank
- Exhibit 6 Determination of Static Pressure Performance of Vapor Recovery Systems at Gasoline Dispensing Facilities with Aboveground Storage Tanks

EXECUTIVE ORDER VR-402-D

Morrison Bros. Phase I Enhanced Vapor Recovery (EVR) System
For Aboveground Storage Tanks (AST)

EXHIBIT 1

Equipment List

Equipment

Manufacturer/Model Number

Emergency Vent

(Figures 1A)

Morrison 244O WX YYYY AVEVR

W represented by:

dash (-) = female threads

M = male threads

F = flange mounted

S = with screen

X represented by:

S = with screen

A = Aluminum

dash (-) = Blank

YYYY represented by:

Numerical values between 0 to 9

<u>Male / Female</u>	<u>Flanged*</u>	<u>Size</u>	<u>Setting</u>
0030		2"	16 oz./sq.in.
0060		3"	16 oz./sq.in.
0170	0170	4"	16 oz./sq.in.
0900		5"	16 oz./sq.in.
0200	0050	6"	8 oz./sq.in.
0400	0075	6"	16 oz./sq.in.
0600	0100	8"	8 oz./sq.in.
0700	0200	8"	16 oz./sq.in.
	0300	10"	2.5 oz./sq.in.
	0400	10"	8 oz./sq.in.
	0500	10"	16 oz./sq.in.

***Note:** For flange mounted models use gasket material made by Fibreflex. More information is available at <http://www.fibreflex.com>.

Equipment**Manufacturer/Model Number****Overfill Prevention Valve and
Drop Tube Assembly**

Overfill Prevention Valve
(Figures 1B)

Morrison 9095W X YYYY – AVEVR

W represented by:

A = A Series

C = C Series

X = X Series

X represented by:

dash = blank

V = Nickel Plated

A = AA Series or for fuels with S.G. less 0.72

YYYY represented by:

Numerical values between 0 to 9

	<u>Size</u>	<u>Description</u>
9100	2"	Base Model
9200,7200	2"	Base Model
9300	3"	Base Model
5200	2"	Direct Fill
3200	2"	Remote Fill
3300	3"	Remote Fill
4200,6200,6800	2"	Remote Fill

Drop Tube
(Figures 1C)

Morrison 419X - -YYZZ 1TEVR

X represented by:

dash = Aluminum

A = Anodized Aluminum

YY represented by:

Numerical values between 0 to 9

	<u>Tube Size</u>
02	2"
03	3"

ZZ represented by:

Numerical values between 0 to 9

As length in Feet

Equipment**Manufacturer/Model Number****Spill Container *****Non-Integral
Spill Container***

(Figure 1D)

Morrison 516 XX – 0400 ACEVR

*X represented by:**dash = female threads**O = Offset female threads**M = male threads**MO = Offset male threads****NOTE:** Optional for protected tanks with integral spill container.**Integral Spill Container****Convault Drain Valve**

(Figure 1E)

Drain Plug

(Figure 1F)

Material: Galvanized, Brass, or Stainless SteelThread Type: NPT Pipe Fitting***NOTE:** Either is required for protected tanks with integral spill container.**Non-Rotatable Product
Adaptor**

(Figure 1G)

Morrison 927 - - - YYYY AA EVR

*YYYY represented by:**Numerical values between 0 to 9*

	<u>Thread</u>	<u>Cam & Groove</u>
	<u>Size</u>	<u>Size</u>
0200	2"	2.5"
0300	3"	4"
0400	4"	4"

Equipment**Manufacturer/Model Number****Product Adaptor Dust Caps**

Morrison 735DC X YYYY ACEVR

(Figure 1H)

*X represented by:**dash = Aluminum**A = Anodized Aluminum**YYYY represented by:**Numerical values between 0 to 9*

	<u>Size</u>
2000	2"
2500	2.5"
3000	3"
4000	4"

Product Coupler

Morrison 928 - - - YYYY ACEVR

(Figure 1I)

*YYYY represented by:**Numerical values between 0 to 9*

	<u>Thread Size</u>	<u>Cam & Groove Size</u>
0150	1.5"	2"
0200	2"	2.5"
0300	3"	4"

Note: During fuel deliveries, a MORRISON coupler (928 Series) shall be used with a MORRISON product adaptor (927 Series). The MORRISON 928 Series coupler can be provided by the fuel supplier or provided by the GDF operator.

Non-Rotatable Vapor Adaptor

Morrison 323 - - - YYYY AA EVR

(Figure 1J)

*YYYY represented by:**Numerical values between 0 to 9*

	<u>Thread Size</u>	<u>Cam & Groove Size</u>
0300	3"	4"
0400	4"	4"

Vapor Adaptor Dust Caps

Morrison 323C YYYY ACEVR

(Figure 1K)

*YYYY represented by:**Numerical values between 0 to 9*

	<u>Size</u>
0100	4"

Equipment**Manufacturer/Model Number****Dedicated Gauging Port**

(Figure 1L)

NOTE: Per CP-206, an Above Ground Storage Tank (AST) shall include a dedicated gauging port for determining the amount of gasoline. The determination shall be accomplished manually, mechanically, or electronically

**Gauging Port and
Drop Tube Assembly
(Optional)**

Gauging Port Adapter

Morrison 305 X YYYY AA EVR / 305 X YYYY AC EVR

*X represented by:**blank = Brass Adaptor**C = Cap**GSP = Cap / Adapter Kit**YYYY represented by:**Numerical values between 0 to 9*

	<u>Size</u>
0000,2000	2"

Drop Tube

Morrison 419X - - YYZZ 1TEVR

(Figures 1C)

*X represented by:**dash = Aluminum**A = Anodized Aluminum**YY represented by:**Numerical values between 0 to 9*

	<u>Tube Size</u>
02	2"

*ZZ represented by:**Numerical values between 0 to 9**As length in Feet*

Equipment**Manufacturer/Model Number****Mechanical Tank Gauging
(Optional)**

Morrison Z18 XXX YYYY AGEVR

*Z represented by:**Numerical values between 8 and 9**8 = Gauge w/o Alarm**9 = Gauge w/ Alarm**X represented by:**dash = Male thread**C = Custom Clock Face Label (Male Thread)**F = Female thread**CF = Custom Clock Face Label (Female Thread)**MEF = Metric (Female Thread)**MET = Metric (Male Thread)**DP = Dual Level Points (Male Thread)**DPF = Dual Level Points (Female Thread)**YYYY represented by:**Numerical values between 0 to 9*

	<u>Size</u>	<u>Description</u>
0100, 0000	2"	with Standard Float
0400, 2000	2"	with Drop Tube Float

Note: Custom clock face label model number.

AAABCXXXXXY 2L

*AAA = Figure No. = 818 or 918**B = Units of Measure**G = Gallons**L = Liters**C = Shape of Tank*

Equipment**Manufacturer/Model Number****Monitoring Cap and
Adaptor
(Optional)**

Morrison 305XXX YYYY ZZEVR

*XXX represented by:**dash = Brass Adapter**XP = Cap with Cable Connector**XPA = Cap, Adapter and Cable Connector**YYYY represented by:**Numerical values between 0 to 9*

	<u>Cap Size</u>	<u>Description</u>
2200	2"	3/8" hole & Cable Connector
2400	2"	1/2" hole & Cable Connector
0100	4"	3/8" hole
1100	4"	1/2" hole
0200	4"	3/8" hole & Cable Connector
1200	4"	1/2" hole & Cable Connector

	<u>Adapter Size</u>	<u>Description</u>
0000	2"	Adapter
0200	4"	Adapter

*ZZ represented by:**AA = Adaptor**AC = Cap with/without Cable Connector**AK = Cap, Adapter with/without Cable Connector***Drop Tube Diffuser
(Optional)
(Figure 1M)**

Morrison 539A XZ YYYY ADEV R

*X represented by:**S = Slip-on**T = Threaded**Z represented by:**dash = blank**A = Anodized**YYYY represented by:**Numerical values between 0 to 9*

	<u>Size</u>
0200	2"
0300	3"

Equipment**Manufacturer/Model Number****Double Tapped Bushing****(Optional)**

(Figure 1N)

Morrison 184X YYYY1B / 184X YYYYMB

*X represented by:**blank = iron / steel**S = Stainless Steel**YYYY represented by:**Numerical values between 0 to 9***Extractor Fitting****(Optional)**

(Figure 1O)

Morrison 56X 0101 MBE

*X represented by:**Numerical values between 0 to 9*

TABLE 1-1
Components Exempt from Identification Requirements

Component Name	Manufacturer	Model Number
Drop Tube	Morrison	419 - - - YYXX 1TEVR 419A - - YYXX 1TEVR
305 Series Adaptors (dedicated gauging port & monitoring cap and adaptor)	Morrison	305 - - - 0000 AAEVR
Drop Tube Diffuser	Morrison	539A Series
Overfill Prevention Valve	Morrison	9095 Series
Product Coupler	Morrison	928 Series
Double Tapped Bushing	Morrison	184 Series
Extractor	Morrison	56X Series

FIGURE 1A-1
Morrison Bros. 244 Series Emergency Vents



Male Emergency Vents



Female Emergency Vents



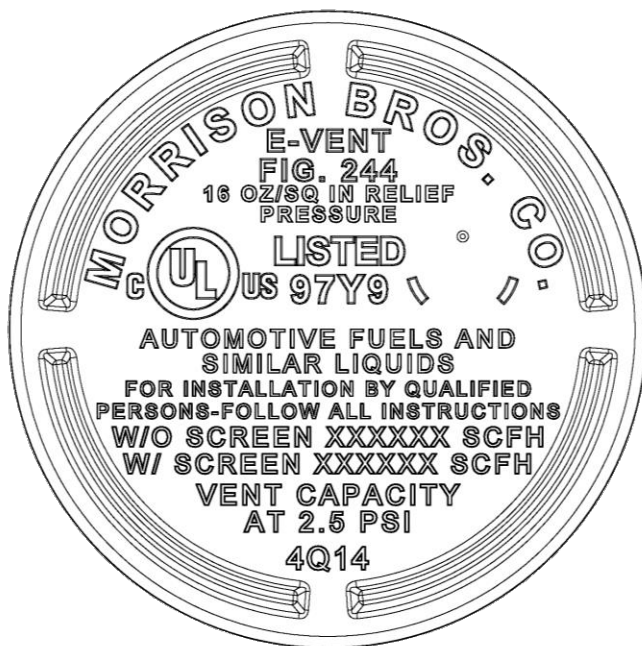
Flanged Emergency Vents

FIGURE 1A-2
Morrison Bros. 244 Series Emergency Vents
Cover Marking Diagram

(The X designation will contain a value which may vary depending upon the size and pressure setting of the vent)



Vent Sample With Relief Opening Pressure
Less Than 0.5 Psi
(ONLY APPLIES TO 2" 8OZ/SQ. IN. MODELS)



Vent Sample With Relief Opening Pressure
Greater Than or Equal to 0.5 Psi

FIGURE 1B -1
Morrison Bros. 9095A Series Overfill Prevention Valve



Base Model
(w/o adaptor or bushing)



Direct Fill Model
(w/ adaptor)



Remote Fill Model
(w/ bushing)

FIGURE 1B-2
Morrison Bros. 9095C Series Overfill Prevention Valve



Base Model
(w/o adaptor or bushing)



Direct Fill Model
(w/ adaptor)



Remote Fill Model
(w/ bushing)

FIGURE 1B-3
Morrison Bros. 9095AA Series Overfill Prevention Valve



Base Model
(w/o adaptor or bushing)



Direct Fill Model
(w/ adaptor)



Remote Fill Model
(w/ bushing)

FIGURE 1B-3 (con't)
Morrison Bros. 9095 Series Overfill Prevention Valve



9095 AA Series Base Model
(w/o adaptor and w/ 2 floats)



9095 X Series Remote Fill Model
(w/ bushing and integral seat)

FIGURE 1C
Morrison Bros. 419 Series Drop Tube



FIGURE 1D
Morrison Bros. 516 Series Direct Fill Spill Container

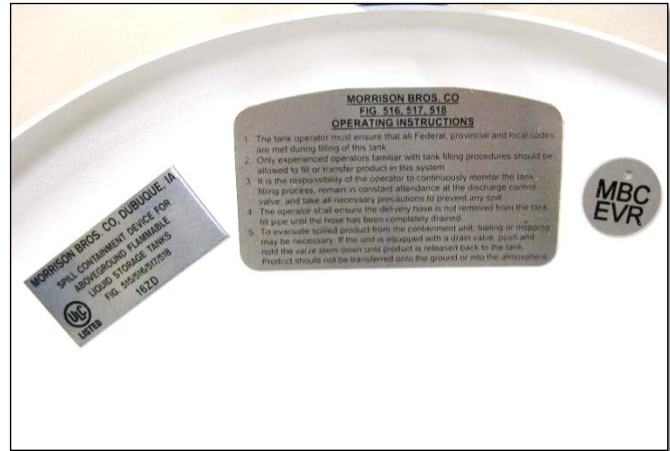


FIGURE 1E
Convault Drain Valve



FIGURE 1F
Drain Plug (Typical)



FIGURE 1G
Morrison Bros. 927 Series Non-Rotatable Product Adaptor



FIGURE 1H
Morrison Bros. 735DC Series Product Dust Cap



Note: The number 713 at the bottom of the cap refers to the aluminum the cap is made of, and not the model number of the cap itself.

FIGURE 1I
Morrison Bros. 927 Series Non-Rotatable Product Adaptor



FIGURE 1J
Morrison Bros. 323 Series Non-Rotatable Vapor Adaptor

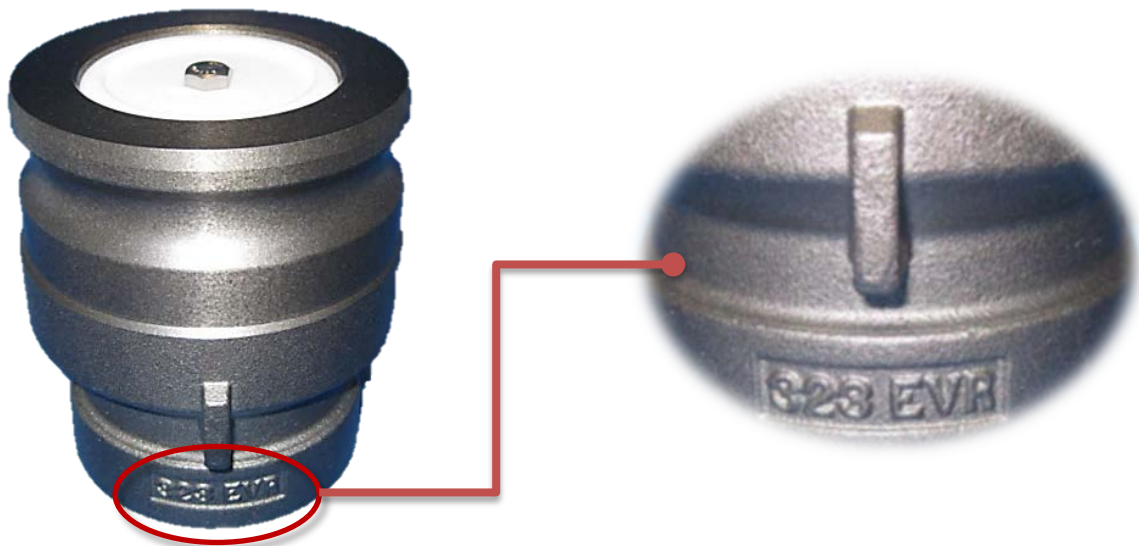


FIGURE 1K
Morrison Bros. 323C 0100 ACEVR Vapor Adaptor Dust Cap

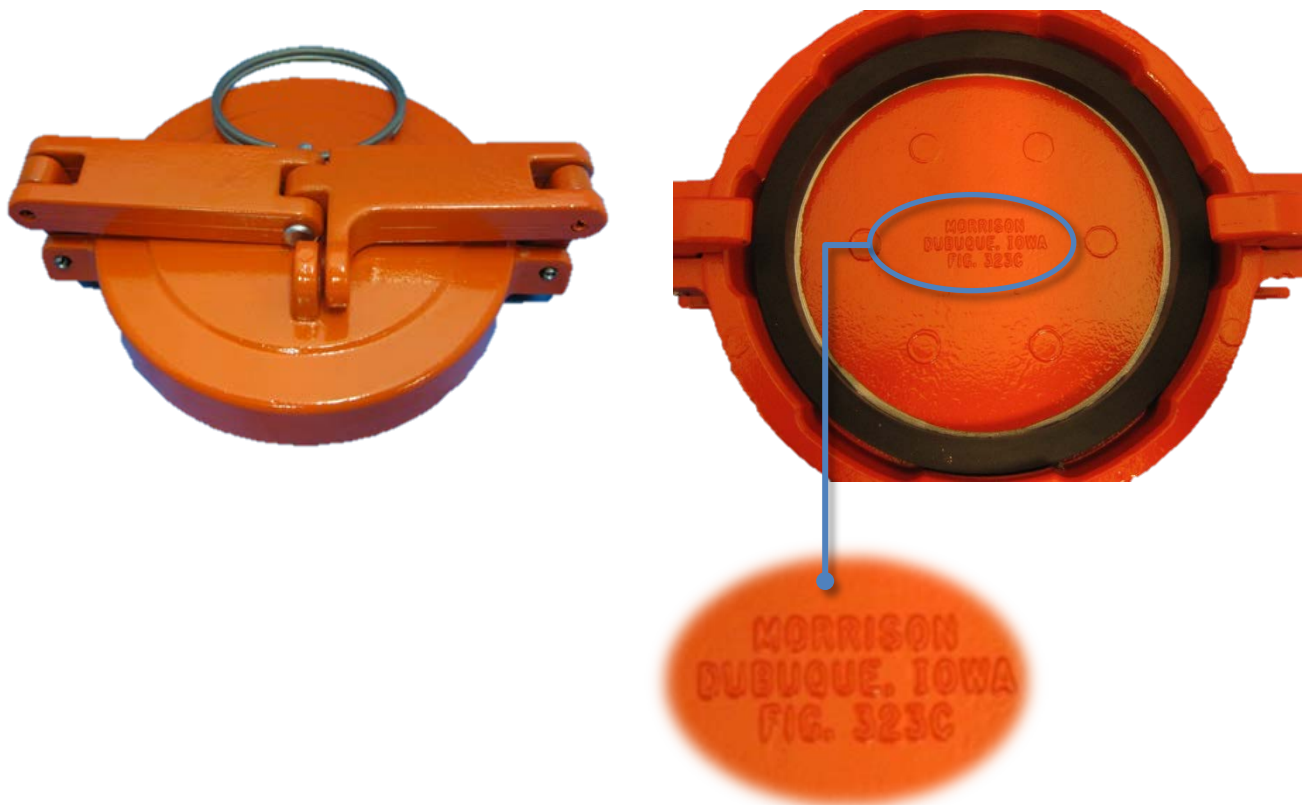


FIGURE 1L
Dedicated Gauging Port

NOTE: Per CP-206, an Above Ground Storage Tank (AST) shall include a dedicated gauging port for determining the amount of gasoline. The determination shall be accomplished manually, mechanically, or electronically

FIGURE 1L-1
Morrison Bros. 305 Series Gauge Port Adaptor and Cap
(optional)



Morrison Bros. 305 Series Gauge Port Adaptor



Morrison Bros. 305 Series Gauge Port Cap

FIGURE 1L
Dedicated Gauging Port
(continue)

FIGURE 1L-2
Morrison Bros. Mechanical Tank Gauge
(optional)



Morrison Bros. 818 Series
(optional)



Morrison Bros. 918 Series
With Alarm Output
(optional)



Morrison Bros. 918DP Series
With Dual Alarm Output
(optional)

FIGURE 1L
Dedicated Gauging Port
(continue)

FIGURE 1L-3
Morrison Bros. 305 Series Monitoring Cap & Adaptor
(optional)



FIGURE 1M
Morrison Bros. 539 Series Drop Tube Diffuser
(optional)



FIGURE 1N
Morrison Bros. 184 Series Double Tapped Bushing
(optional)



FIGURE 1O
Morrison Bros. Extractor 56X Series
(optional)

(Photo is of Fig. 562 4" x 4" x 3" x 2")



EXECUTIVE ORDER VR-402-D

Morrison Bros. Phase I Enhanced Vapor Recovery (EVR) System
For Aboveground Storage Tanks (AST)

EXHIBIT 2

**Installation, Maintenance, and Compliance
Standards and Specifications**

This exhibit contains the installation, maintenance and compliance standards and specifications applicable to the Morrison Bros. Phase I Enhanced Vapor Recovery (EVR) system (Morrison Bros. System) installed on aboveground storage tanks (AST). Table 2-1 summarizes the compliance standard and specification with the corresponding test method. Table 2-2 describes the maintenance interval for the Phase I EVR System components.

General Specifications

1. Typical installations of the Morrison Bros. System and system components are shown in Figures 2A, 2B, 2C, 2D, 2E, 2F, 2G, 2H, 2I, 2J, 2K, 2L, 2M, 2N, and 2O.
2. The Morrison Bros. System shall be installed, operated, and maintained in accordance with the ***ARB Approved Installation, Operation and Maintenance Manual for the Morrison Bros. Phase I Enhanced Vapor Recovery System for Aboveground Storage Tanks***.
3. Any repair or replacement of system components shall be done in accordance with the ***ARB Approved Installation, Operation and Maintenance Manual for the Morrison Bros. Phase I Enhanced Vapor Recovery System for Aboveground Storage Tanks***.
4. Unless otherwise specified in this Executive Order (EO), the Morrison Bros. System shall comply with the applicable performance standards and performance specifications in CP-206.
5. Maintenance and repair of system components, including removal and installation of such components in the course of any required tests, shall be performed by Morrison Certified Technicians. Additional certifications may be required in accordance with District requirements.

Non-rotatable Product and Vapor Adaptors

Morrison Bros. non-rotatable vapor adaptors and product adaptors are not specifically certified with an allowable leak rate and shall not leak. Compliance with this requirement shall be verified by the use of commercial liquid leak detection solution or by bagging, when the vapor containment space of AST is subjected to a non-zero pressure. (Note: Leak detection solution will detect leaks only when positive gauge pressure exists).

The bung diameter and associated vapor return piping of the AST shall be greater than or equal to the diameter of the Phase I product drop tube. In addition, no liquid condensate traps are allowed within the Phase I vapor return path piping under this configuration.

Product Coupler

Morrison Bros. product couplers shall fit the matching non-rotatable Morrison Bros. product adapters so that spillage of gasoline during fuel deliveries is minimized. During fuel deliveries, a Morrison Bros. coupler (928 Series) shall be used with a Morrison Bros. product adaptor (927 Series). The Morrison Bros. 928 Series coupler can be provided by the fuel supplier or provided by the gasoline dispensing facility (GDF) operator.

Vapor and Product Adaptor Dust Caps

Dust caps with intact gaskets shall be installed on all Phase I product and vapor adaptors.

Emergency Vents

The emergency vents are not specifically certified with an allowable leak rate and shall not leak. Compliance with this requirement shall be verified by the use of commercial liquid leak detection solution or by bagging, when the vapor containment space of AST is subjected to a non-zero pressure. (Note: Leak detection solution will detect leaks only when positive gauge pressure exists).

Overfill Prevention Valve Assembly and Drop Tube

1. The overfill prevention device (overfill device) is designed to restrict the flow of gasoline delivered to AST when liquid levels exceed a specified capacity.
2. The overfill prevention device is installed below the Morrison Bros. product adaptor (see figure 2A and 2E) which has a built in poppet to prevent vapor leakage and spillage of product after delivery. The overfill prevention device is not specifically certified with an allowable leak rate and the leak rate cannot be determined by testing. Testing to determine the leak rate of the overfill prevention device is not needed since leaks from other components (e.g., product and vapor adaptors, emergency vents, spill container drain valves, dedicated gauging port, tank gauge components, connectors, and fittings) can be determined by procedures specified in this Exhibit.
3. The discharge opening of the drop tube must be entirely submerged when the liquid level is above the bottom of the tank as shown in figures 2A, 2E, 2H, 2J, 2K, 2L, 2M, 2N, and 2O (see figures for installation details).

Direct Fill Spill Container Drain Valve

The Morrison Bros. direct fill spill container does not contain a drain valve and is not specifically certified with an allowable leak rate. Excess liquid is to be evacuated and disposed of according to local and federal regulations.

Direct Fill Integral Spill Container Drain Valve

The Convault direct fill integral spill container drain valve shall not leak. Compliance with this requirement shall be verified by the use of commercial liquid leak detection solution when the vapor containment space of the AST is subjected to a non-zero pressure.

(Note: Leak detection solution will detect leaks only when positive gauge pressure exists).

Dedicated Gauging Port with Drop Tube (Optional)

A dedicated port for manual tank gauging is used to measure gasoline levels in the AST with a gauging stick. The gauging port shall have a drop tube with a Morrison Bros. cap and adapter. The dedicated port and all associated components are not specifically certified with an allowable leak rate and shall not leak. Compliance with this requirement shall be verified by the use of commercial liquid leak detection solution or by bagging, when the vapor containment space of AST is subjected to a non-zero pressure. (Note: Leak detection solution will detect leaks only when positive gauge pressure exists).

Tank Gauge Components (Optional)

The tank gauge components are not specifically certified with an allowable leak rate and shall not leak. Compliance with this requirement shall be verified by the use of commercial liquid leak detection solution or by bagging, when the vapor containment space of an AST is subjected to a non-zero pressure. (Note: Leak detection solution will detect leaks only when positive gauge pressure exists).

Monitoring Cap And Adaptor (Optional)

The monitoring cap and adaptor is not specifically certified with an allowable leak rate and shall not leak. Compliance with this requirement shall be verified by the use of commercial liquid leak detection solution or by bagging, when the vapor containment space of the AST is subjected to a non-zero pressure. (Note: Leak detection solution will detect leaks only when positive gauge pressure exists).

Drop Tube Diffuser (Optional)

The drop tube diffuser is designed to reduce turbulence when filling a tank and minimize vapor generation. The diffuser is not specifically certified with an allowable leak rate and the leak rate cannot be determined by testing. Testing to determine the leak rate of the diffuser is not needed because the device is submerged below the liquid level.

Remote Fill Configuration

Under remote fill configurations (also referred to as side fill), the Phase I vapor recovery piping shall be constructed of galvanized-steel or an equivalent material that has been listed for use with gasoline. If a material other than galvanized steel is used AST operator shall provide a manufacturers' listing demonstrating that the material is compatible for use with gasoline. The diameter and associated vapor return piping of AST shall be greater than or equal to the diameter of the Phase I product drop tube opening. In addition, no liquid condensate traps are allowed within the Phase I vapor return path piping under this configuration. The fill pipe may have to be removed upon District request to verify that the bottom of the fill pipe is no greater than 6 inches from the bottom of the tank.

Connections and Fittings

All connections and fittings not specifically certified with an allowable leak rate shall not leak. Compliance with this requirement shall be verified by the use of commercial liquid leak detection solution or by bagging, when the vapor containment space of the AST is subjected to a non-zero pressure. (Note: Leak detection solution will detect leaks only when positive gauge pressure exists).

Maintenance Records

Each GDF operator/owner shall keep records of maintenance performed at the facility. Such record shall be maintained on site or in accordance with district requirements or policies. The records shall include at a minimum the maintenance or test date, repair date to correct test failure, maintenance or test performed, affiliation, telephone number, name and Certified Technician Identification Number of individual conducting maintenance or test. Additional information may be required in accordance with district requirements. An example of a Phase I Maintenance Record is shown in Figure 2P.

TABLE 2-1
AST Compliance Standards and Specifications

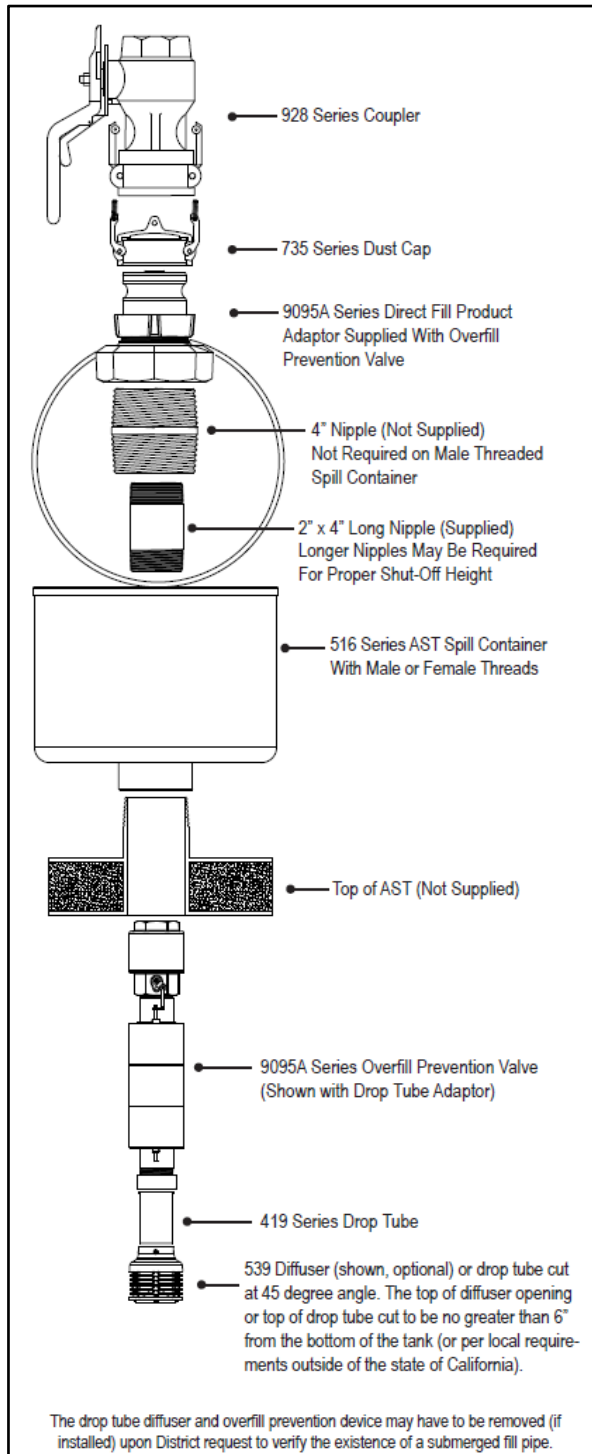
Component / System	Test Method	Standard or Specification
Phase I Adaptors	Leak Detection Solution or Bagging	No Leaks
Emergency Vents	Leak Detection Solution or Bagging	No Leaks
Dedicated Gauging Port with Drop Tube and Tank Gauge components	Leak Detection Solution or Bagging	No Leaks
Vapor Recovery System	EXHIBIT 6 Determination of Static Pressure Performance of Vapor Recovery Systems at Gasoline Dispensing Facilities with Aboveground Storage Tanks	Exhibit 6
Drain Valve	Leak Detection Solution or Bagging	No Leaks
All connections and fittings certified without an allowable leak rate	Leak Detection Solution or Bagging	No Leaks

TABLE 2-2**Maintenance Intervals for Morrison Bros. Phase I EVR AST System Components**

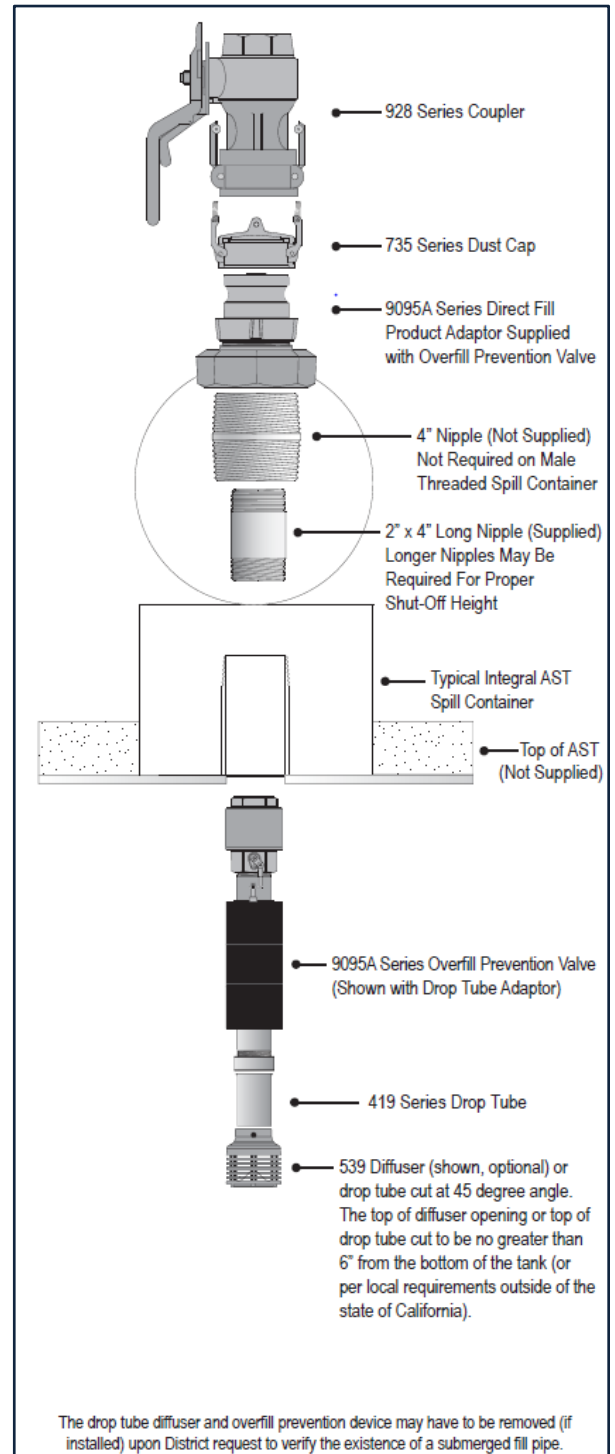
Manufacturer	Component	Maintenance Interval
Morrison Bros.	Tank Gauge Components	Annual
Morrison Bros.	Dust Caps	Annual
Morrison Bros.	Emergency Vents	Annual
Morrison Bros.	Phase I Product and Vapor Adaptors	Annual
Morrison Bros.	Spill Container	Annual
Morrison Bros.	Drop Tube Overfill Prevention Device	None
Morrison Bros.	Drop Tube	None
Morrison Bros.	Product Coupler	Annual
Morrison Bros.	Monitoring Caps	Annual
Morrison Bros.	Drop Tube Diffuser	None
Husky Corp.	Pressure/Vacuum Vent Valve 5885	Annual

FIGURE 2A

Typical Direct Fill (Product Side) Installation of Morrison Bros. Phase I EVR System for AST

**FIGURE 2A-1**

With Morrison 516 Series Spill Container

**FIGURE 2A-2**

With Integral Spill Container

FIGURE 2B
Typical Vapor Recovery Adaptor Configuration
of Morrison Bros. Phase I EVR System for AST

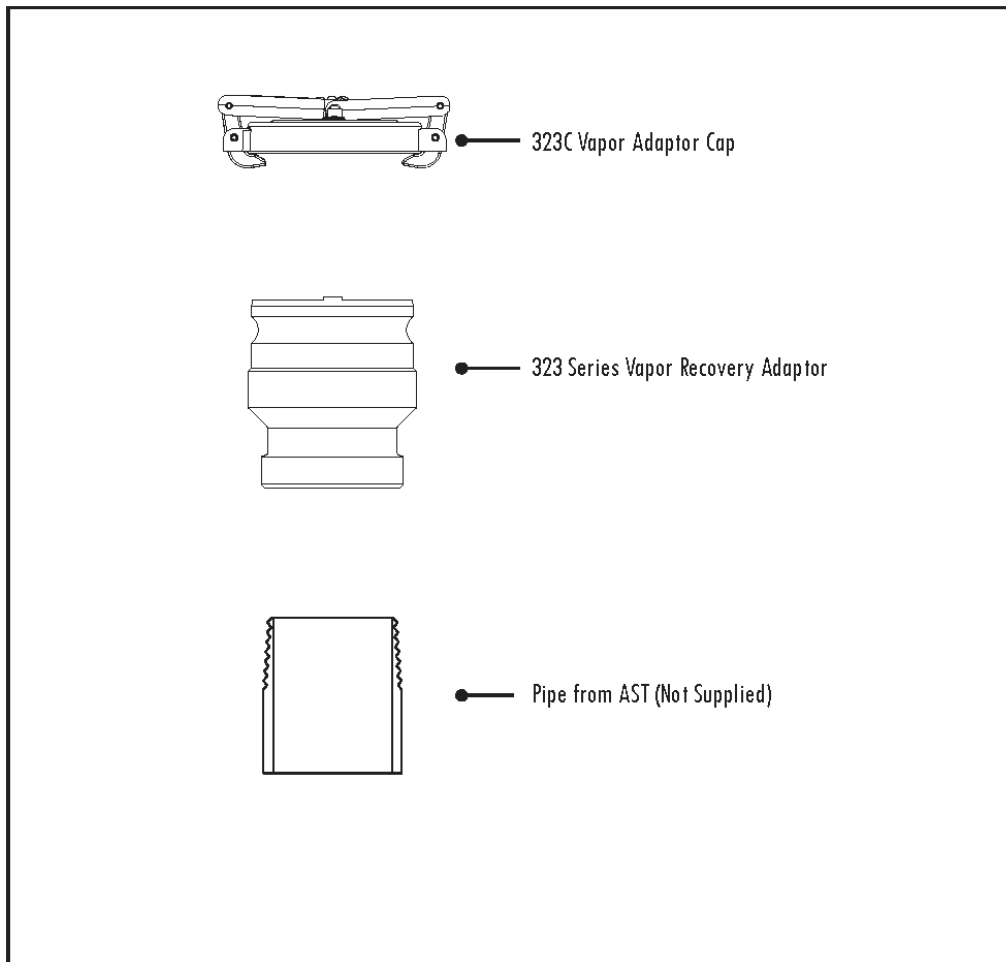
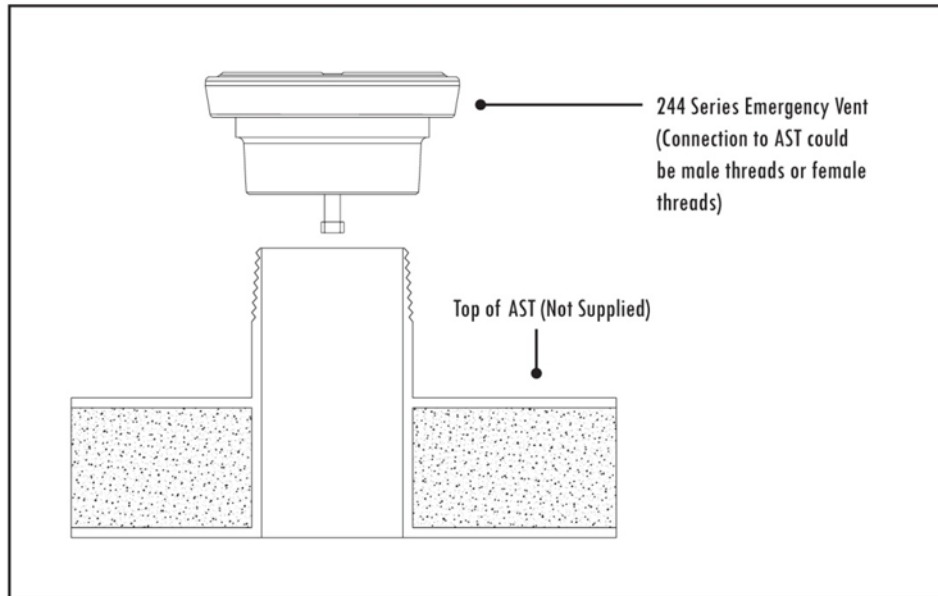
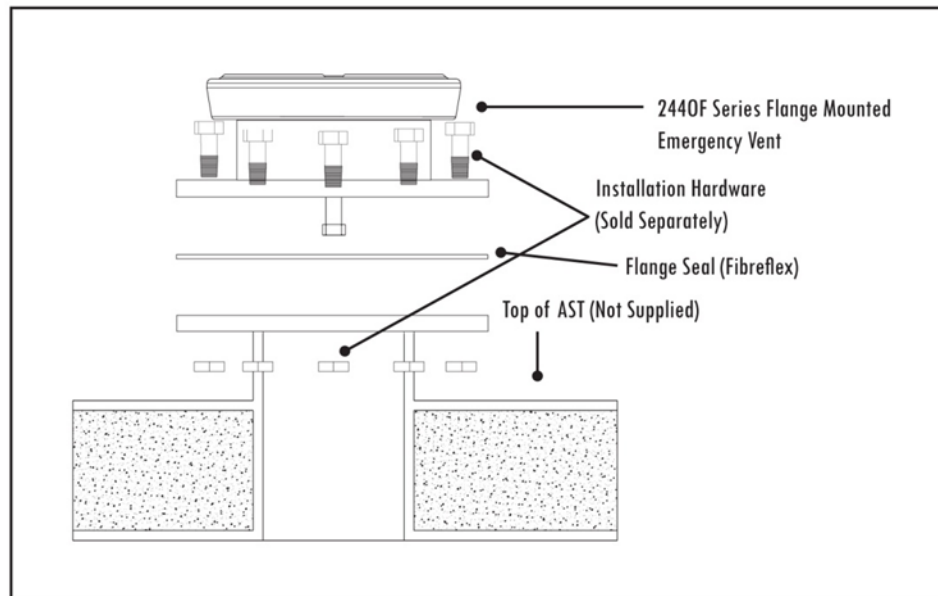


FIGURE 2C**Typical Emergency Vent Valve Installation
of Morrison Bros. Phase I EVR System****FIGURE 2C-1 – Threaded**

NOTE: For flange models, use gasket material made by Fibreflex.
More Information is available at <http://www.fibreflex.com>

FIGURE 2C-2 - Flanged

FIGURE 2D
Typical Remote Fill Configuration
of Morrison Bros. Phase I EVR System for AST

(NOTE: The remote spill container is optional and not a vapor recovery component.)

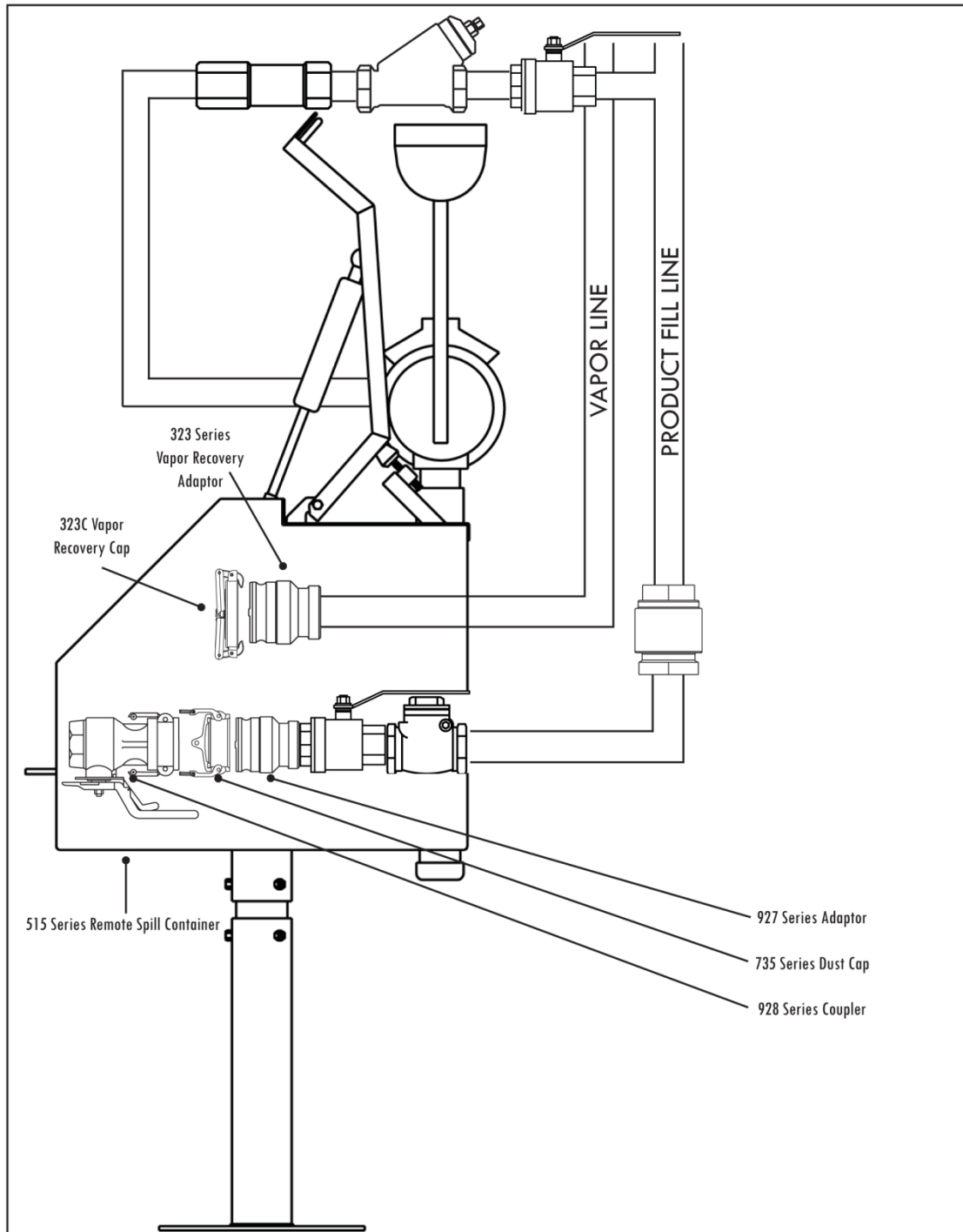


FIGURE 2E

Typical Remote Product Pathway Configuration for AST – Tank Side

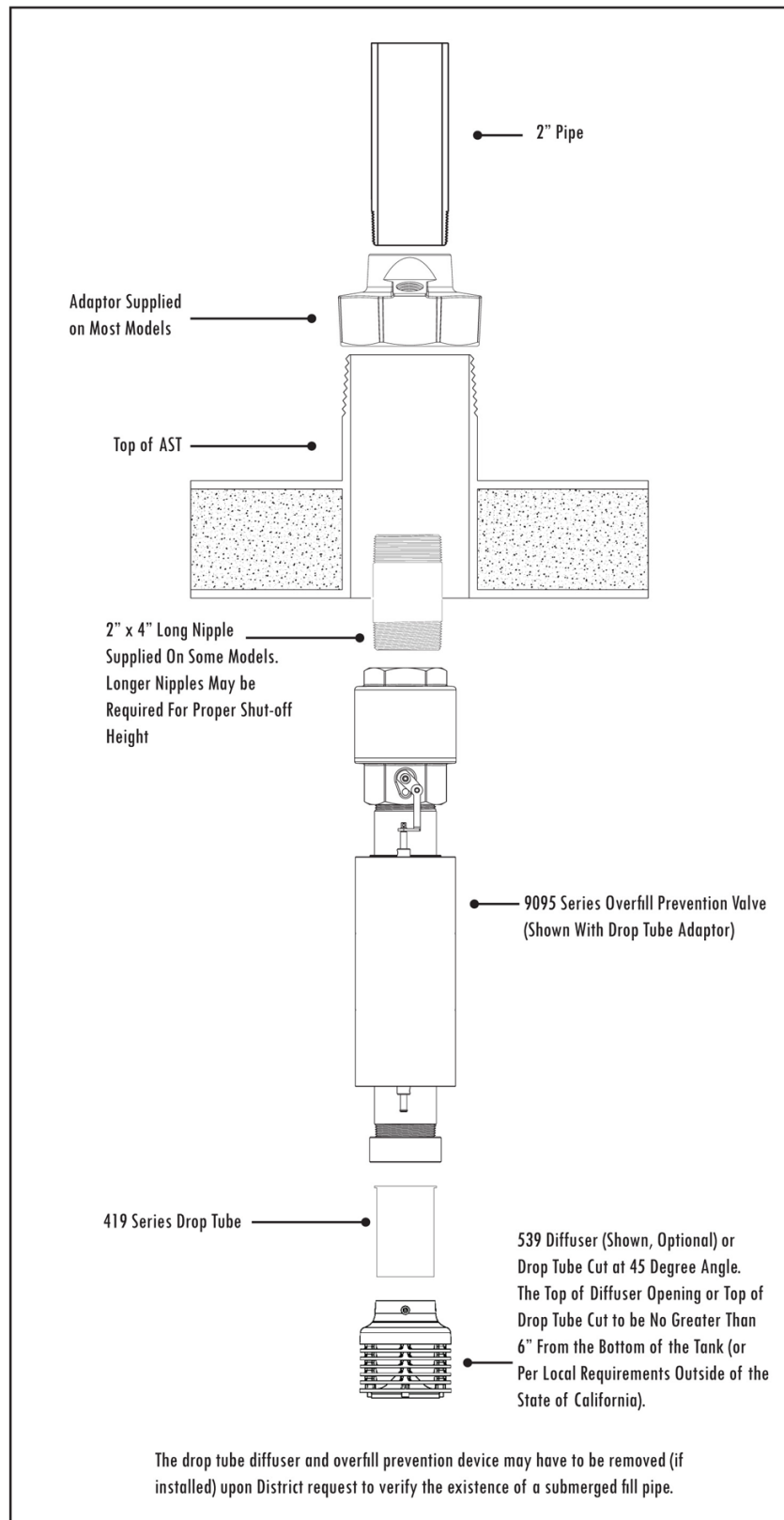


Figure 2F
Typical Morrison Bros. Coupler and Adaptor

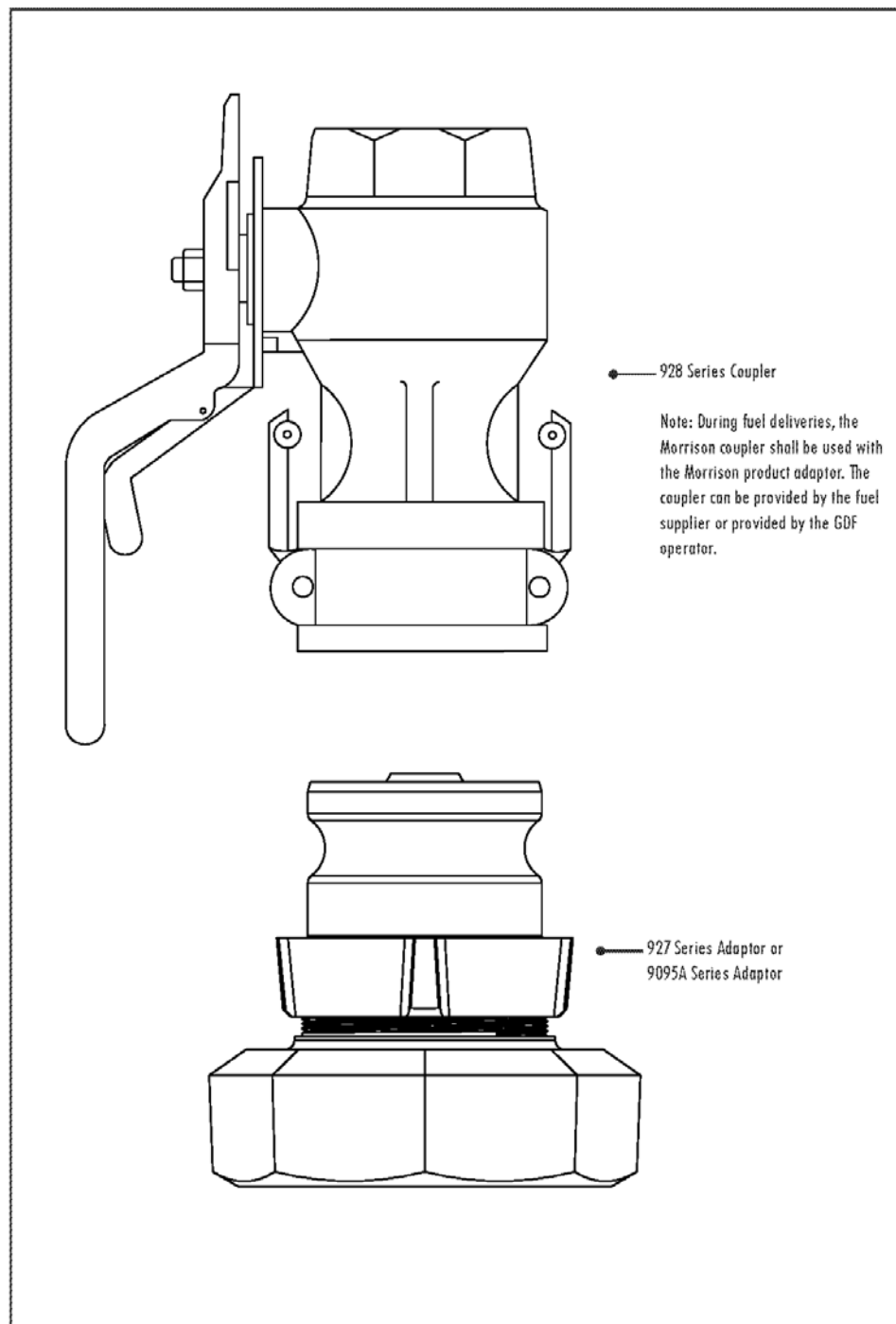


FIGURE 2G

Typical Mechanical Tank Gauge Configuration
of Morrison Bros. Phase I EVR System for AST (Optional)

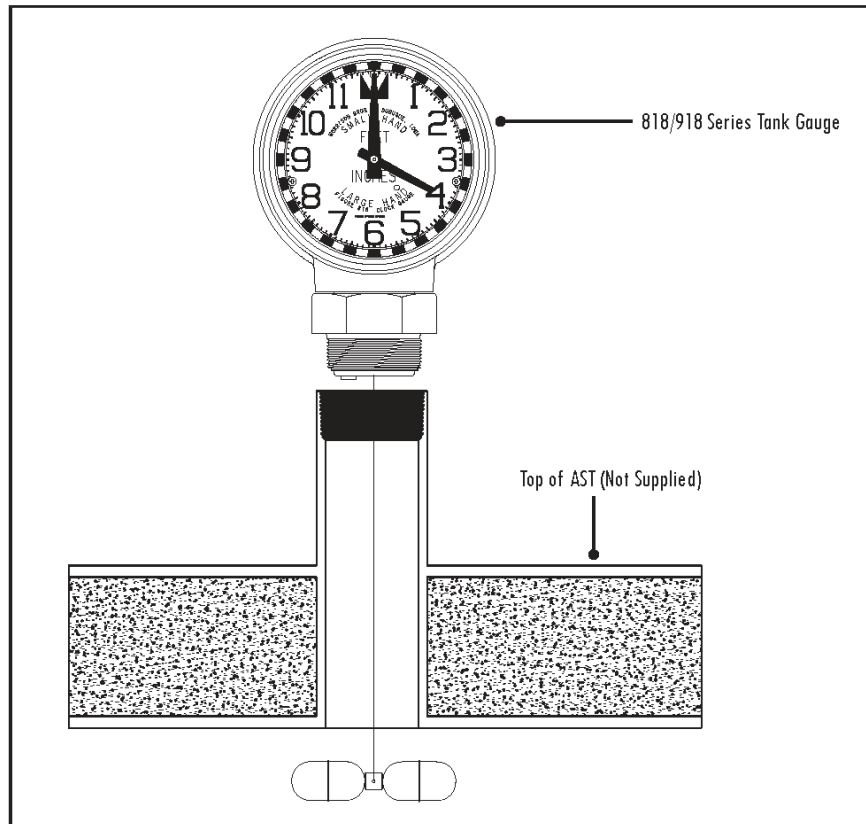


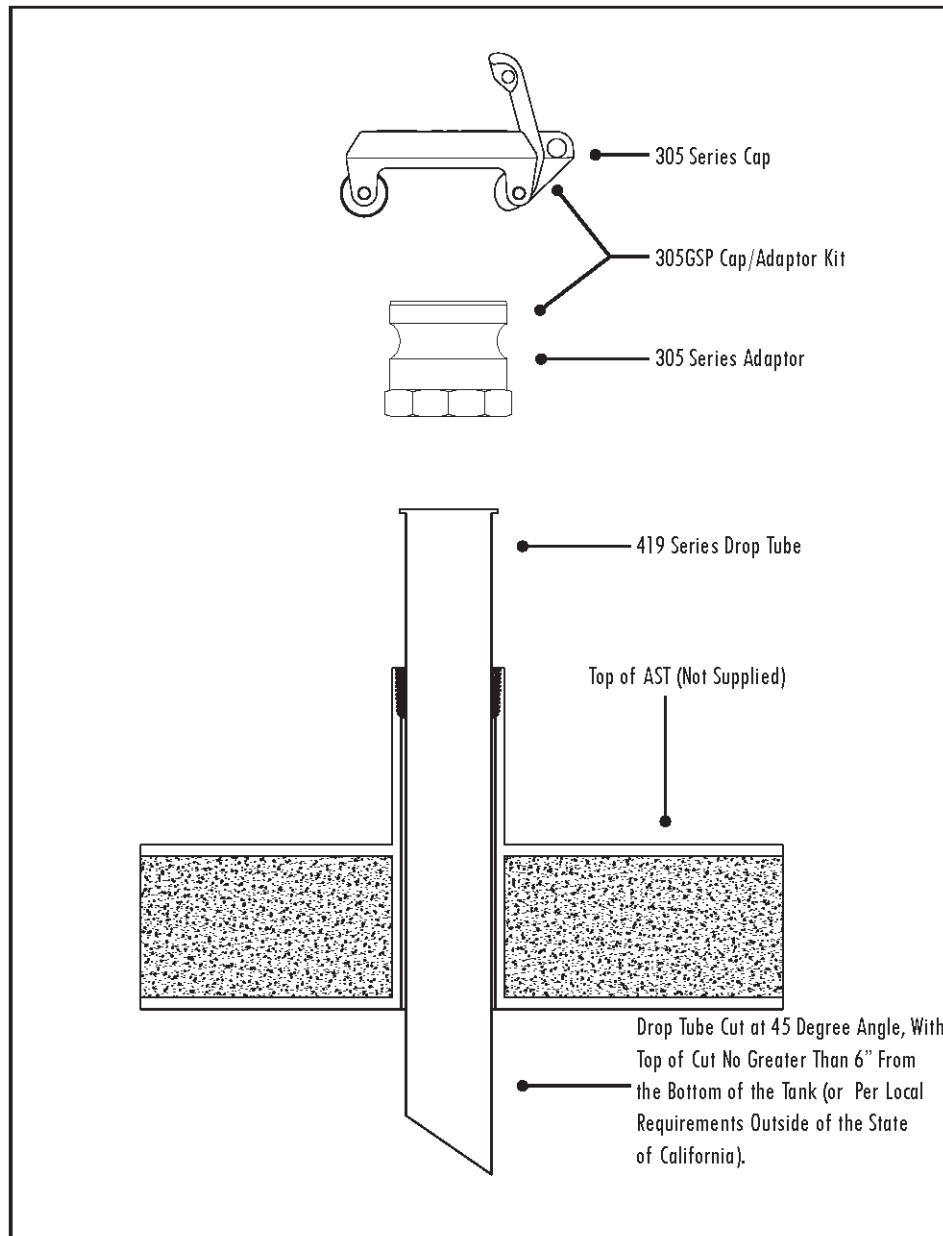
FIGURE 2H**Typical Dedicated Gauging Port with Drop Tube
of Morrison Bros. Phase I EVR System for AST**

FIGURE 2I
Typical Monitoring Cap and Adaptor Configuration
for Morrison Bros. Phase I EVR System for AST

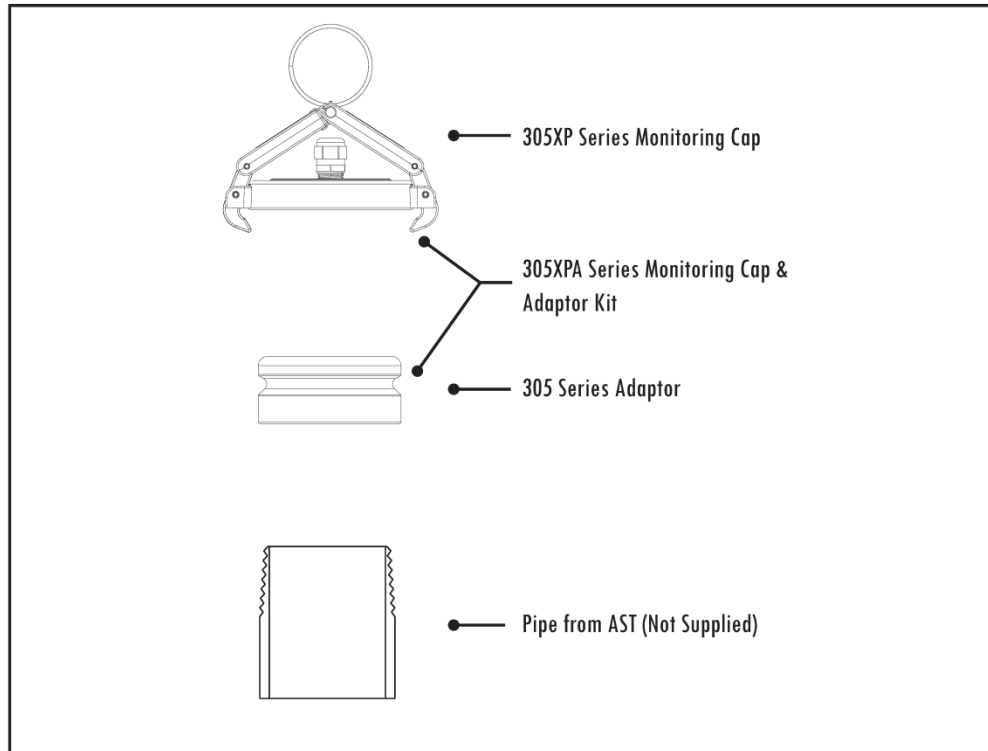
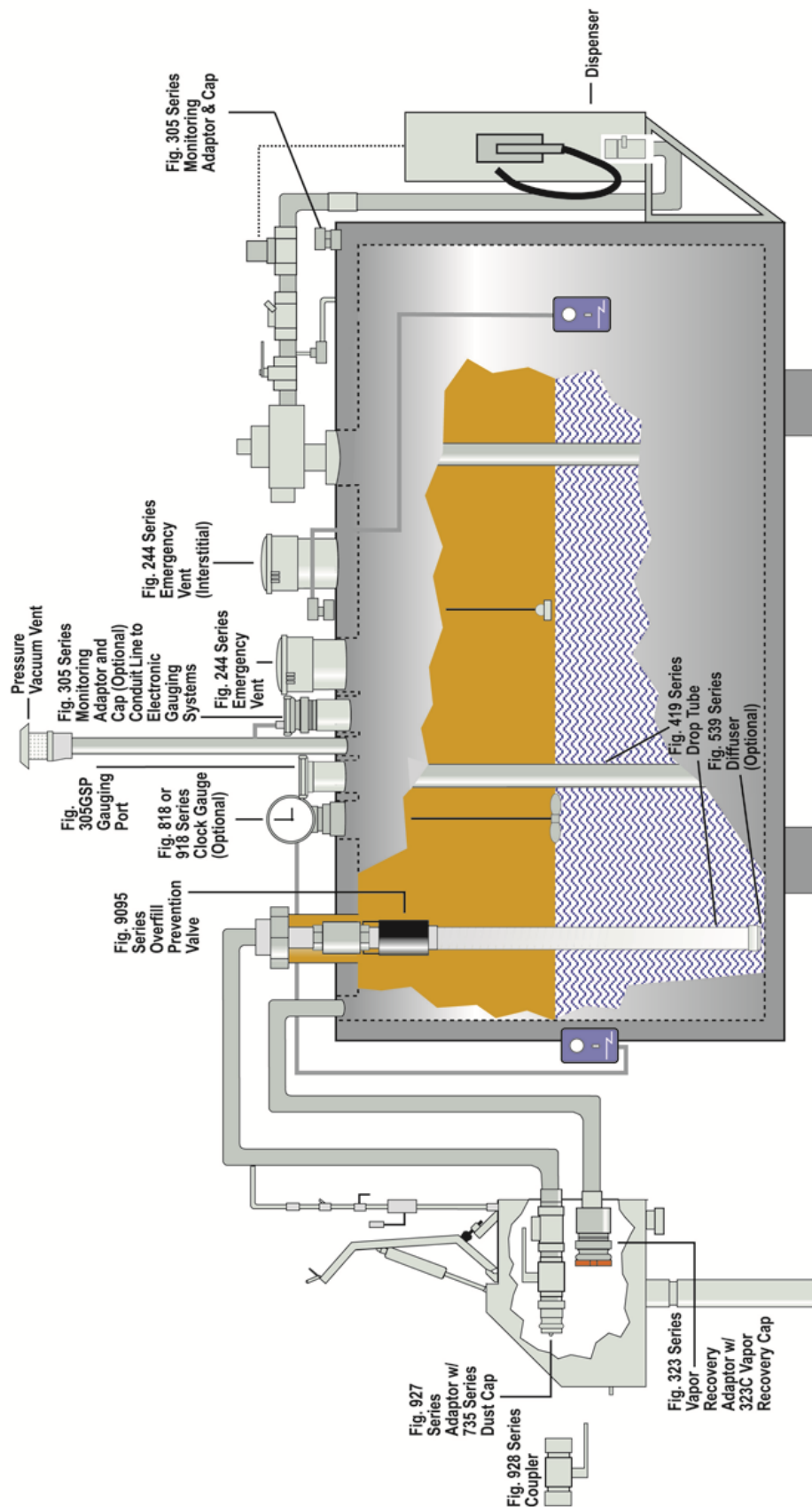


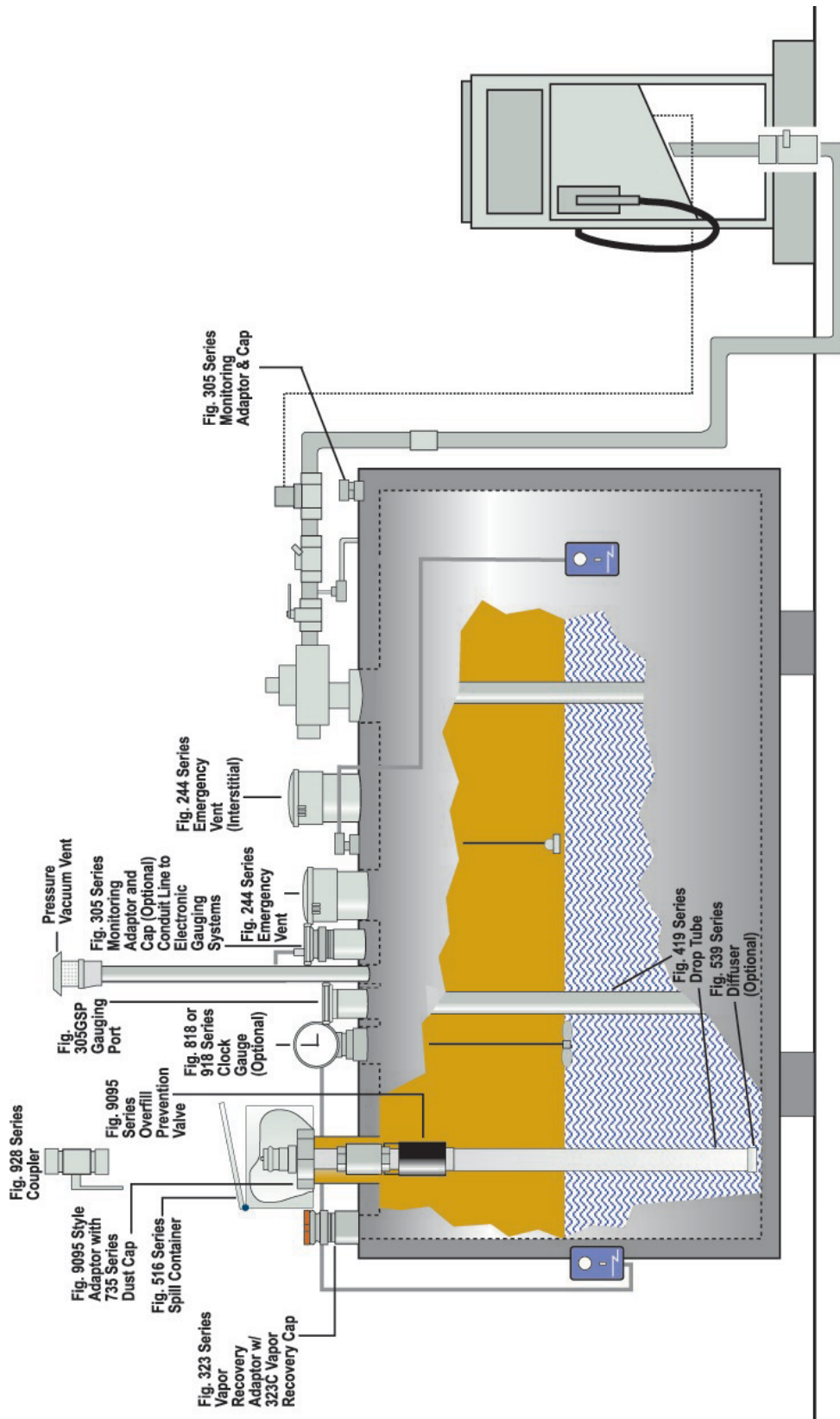
FIGURE 2J
Protected Double-Wall AST with Remote Fill



Remote Fill systems: 539 diffuser (shown, optional) or drop tube cut at 45 degree angle. The top of diffuser opening or top of drop tube cut to be no greater than 6" from the bottom of the tank (or per local requirements outside of the State of California).

The fill pipe may have to be removed upon District request to verify that the bottom of the fill pipe is no greater than 6" from the bottom of the tank.

FIGURE 2K
Protected Double-Wall AST with Direct Fill

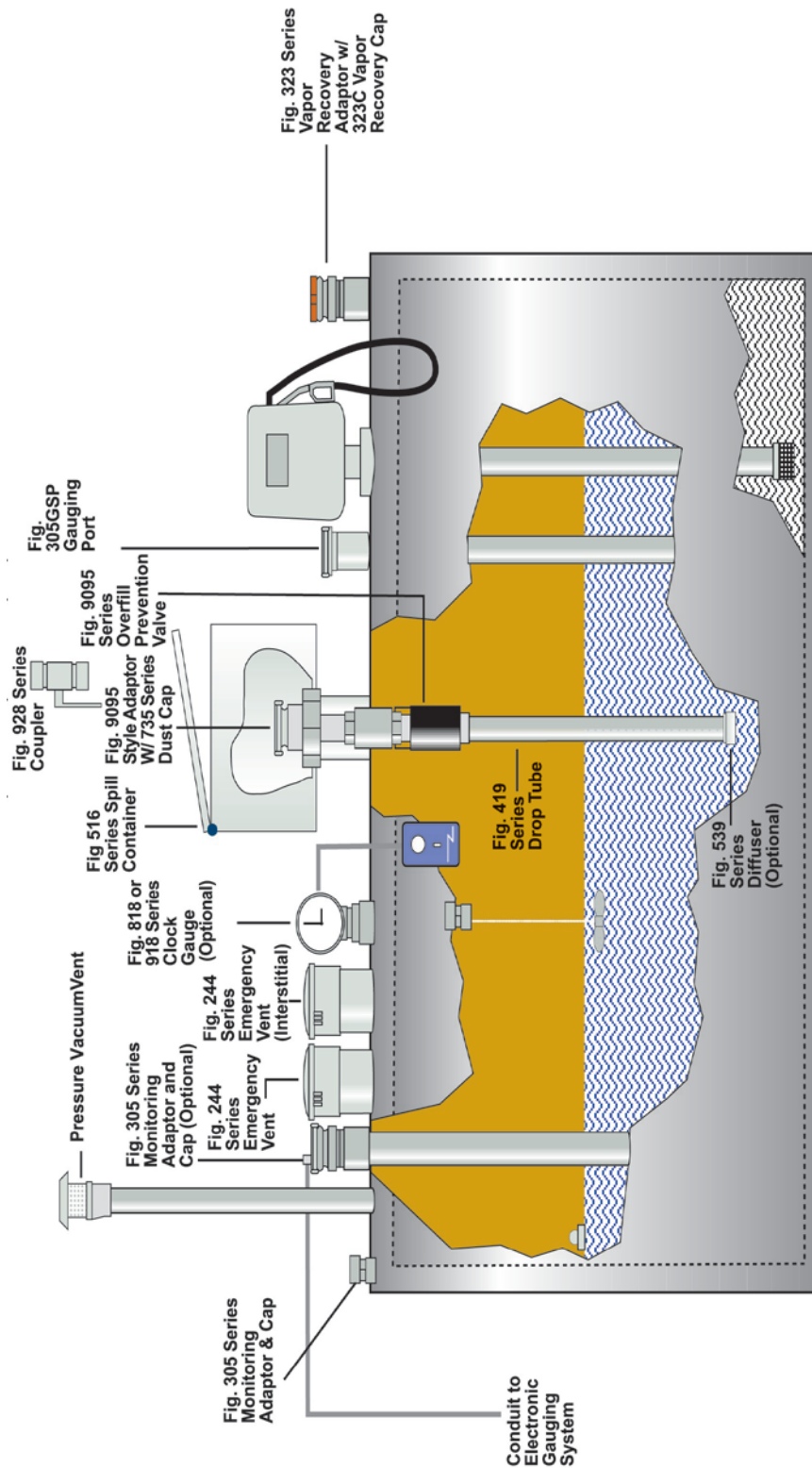


Direct Fill systems: 539 diffuser (shown, optional) or drop tube cut at 45 degree angle. The top of diffuser opening or top of drop tube cut to be no greater than 6" from the bottom of the tank (or per local requirements outside of the State of California).

The fill pipe may have to be removed upon District request to verify that the bottom of the fill pipe is no greater than 6" from the bottom of the tank.

FIGURE 2L

Protected Double-Wall AST with Top Fill and Top Mounted Pump

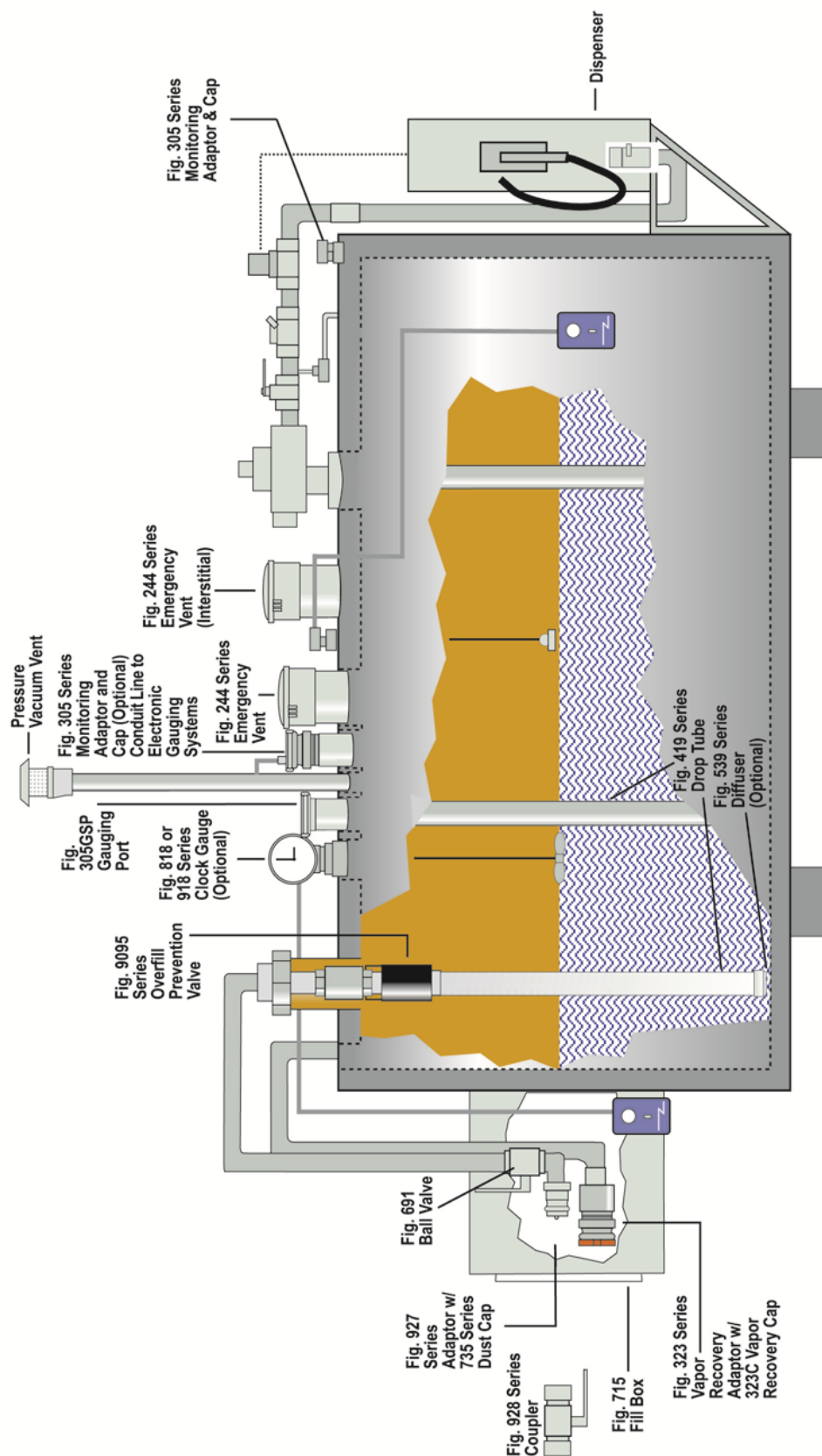


Remote Fill systems: 539 diffuser (shown, optional) or drop tube cut at 45 degree angle. The top of diffuser opening or top of drop tube cut to be no greater than 6" from the bottom of the tank (or per local requirements outside of the State of California).

The fill pipe may have to be removed upon District request to verify that the bottom of the fill pipe is no greater than 6" from the bottom of the tank.

FIGURE 2M

Protected Double-Wall AST with Tank Mounted Remote Fill



Remote Fill systems: 539 diffuser (shown, optional) or drop tube cut at 45 degree angle. The top of diffuser opening or top of drop tube cut to be no greater than 6" from the bottom of the tank (or per local requirements outside of the State of California).

The fill pipe may have to be removed upon District request to verify that the bottom of the fill pipe is no greater than 6" from the bottom of the tank.

FIGURE 2N
Convault Spill Container
with Drain Valve

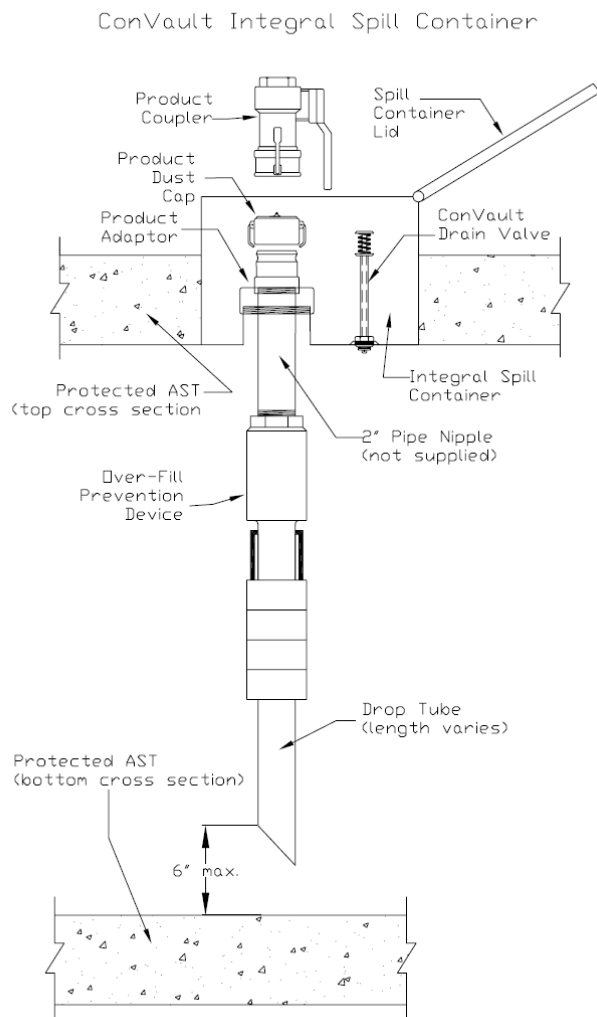
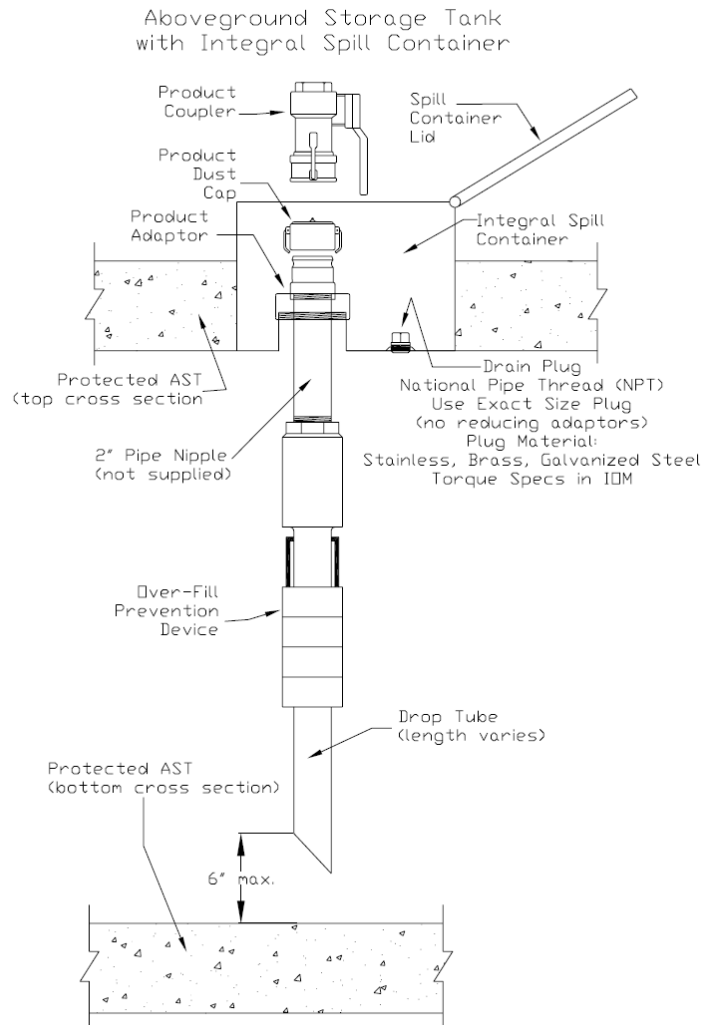


FIGURE 2O
Typical Integral Spill Container
with Drain Plug



EXECUTIVE ORDER VR-402-D

Morrison Bros. Phase I Enhanced Vapor Recovery (EVR) System
For Aboveground Storage Tanks (AST)

EXHIBIT 3

Manufacturing Performance Standards and Specifications

The Morrison Bros. Phase I EVR System for aboveground storage tanks (AST) and all components shall be manufactured in compliance with the applicable Phase I performance standards and specifications in CP-206, as well as the requirements specified in this Executive Order. All components shall be manufactured as certified; no change to the equipment, parts, design, materials or manufacturing process shall be made unless approved in writing by the Executive Officer. Unless specified in Exhibit 2 or in the ***ARB Approved Installation, Operation and Maintenance Manual for the Morrison Bros. Phase I Enhanced Vapor Recovery System for Aboveground Storage Tanks***, the requirements of this section apply to the manufacturing process and are not appropriate for determining the compliance status of a gasoline dispensing facility (GDF).

MANUFACTURING PERFORMANCE STANDARDS AND SPECIFICATIONS

Non-rotatable Product and Vapor Recovery Adaptors

1. The non-rotatable product and vapor recovery adaptors shall not leak.
2. The Morrison Bros. non-rotatable product adaptor cam and groove is not manufactured in accordance with the cam and groove specifications shown in Figure 4A of CP-206. This was deemed acceptable since the Morrison Bros. product coupler shall be used during fuel transfers to reduce the amount spillage that would otherwise occur.
3. The non-rotatable vapor recovery adaptor cam and groove shall be manufactured in accordance with the cam and groove specifications shown in Figure 4B of CP-206.
4. Each Morrison Bros. non-rotatable vapor recovery adaptor and non-rotatable product adapter shall be tested at the factory to have a zero leak rate.

Drop Tube Overfill Prevention Device

Each Drop Tube Overfill Prevention Device shall be tested at the factory to meet all applicable performance standards or specifications listed in Table 3-1. The overfill device is installed downstream of the Morrison Bros. product adaptor (see figures 2A and 2E, Exhibit 2) which has a built in poppet to prevent spillage of product after delivery and vapors from escaping.

Emergency Vents

Each emergency vent shall be tested at the factory to meet all applicable performance standards or specifications listed in Table 3-1. Emergency vents are not certified with an allowable leak rate and shall not leak.

Tank Gauge Components

Tank gauge components shall be tested at the factory to meet all applicable performance standards or specifications listed in Table 3-1. Tank gauge components are not certified with an allowable leak rate and shall not leak.

Product Coupler

Each product coupler shall be tested before shipment to meet the specification listed in table 3-1. Morrison Bros. product couplers shall fit the matching non-rotatable Morrison Bros. product adapters.

TABLE 3-1
Manufacturing Component Standards and Specifications

Component	Test Method	Standard or Specification
Phase I Product Adaptors*	Exhibit 4	No Leaks
Phase I Vapor Adaptors	Micrometer	Cam and Groove Standard (CP-206)
Overfill Prevention Device	Morrison Bros. 9095 Series Test Procedure	Maximum leakage of 2% of maximum rated flow per CAN/ULC-S661
Emergency Vent	Morrison Bros. 244 Series Test Procedure	No Leaks
Tank Gauge	Morrison Bros. 818/918 Series Test Procedure	No Leaks
Product Coupler	Morrison Bros. 928 Series Test Procedure	No Leaks

***NOTE:** Product adaptor does not meet cam and groove standard. This was deemed acceptable because the Morrison Bros. coupler shall be used for product delivery

EXECUTIVE ORDER VR-402-D
Morrison Bros. Phase I Enhanced Vapor Recovery (EVR) System
For Aboveground Storage Tanks (AST)

EXHIBIT 4
Manufacturer Warranty

The Phase I Vapor Recovery system manufacturer warranties for all components listed in Exhibit 1, including replacement parts and subparts. The manufacturer warranty tag, included with each component, shall be provided to the service station owner/operator at the time of installation.

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MORRISON BROS. WARRANTY

WARRANTY— All Morrison products are thoroughly tested before shipment and meet all applicable performance standards and specifications of related ARB executive orders and vapor recovery procedures of CP-206 (Certification Procedure for Vapor Recovery Systems at Gasoline Dispensing Facilities Using Aboveground Storage Tanks) or CP-201 (Certification Procedure for Vapor Recovery Systems at Dispensing Facilities). This warranty shall include the ongoing compliance with all applicable performance standards and specifications for the duration of the warranty. Only material found to be defective in manufacture will be repaired or replaced. Claims must be made within one year from the date of installation, and Morrison Bros. Co. will not allow claims for labor or consequential damage resulting from purchase, installation or misapplication of the product. This warranty will include the initial purchaser and any subsequent purchasers of the initial equipment within the warranty period. This warranty registration must remain with the equipment and be provided to the end user. If a warranty claim needs to be pursued, a copy of this information and the invoice of these products to the purchaser must be supplied to Morrison for verification.

MORRISON BROS. CO. WARRANTY REGISTRATION

All Morrison products are thoroughly tested before shipment and meet all applicable performance standards and specifications of related ARB executive orders and vapor recovery procedures of CP-206 (Certification Procedure for Vapor Recovery Systems at Gasoline Dispensing Facilities Using Aboveground Storage Tanks) or CP-201 (Certification Procedure for Vapor Recovery Systems at Dispensing Facilities). This warranty shall include the ongoing compliance with all applicable performance standards and specifications for the duration of the warranty. Only material found to be defective in manufacture will be repaired or replaced. Claims must be made within one year from the date of installation, and Morrison Bros. Co. will not allow claims for labor or consequential damage resulting from purchase, installation or misapplication of the product. This warranty will include the initial purchaser and any subsequent purchasers of the initial equipment within the warranty period.

Installation Date: _____

Name of Installer/Contractor _____

Installation Company: _____

Name _____

Address: _____

City: _____

State: _____

Zip: _____

Business at Installation Site: Name: _____

Address: _____

City: _____

State: _____

Zip: _____

Morrison Product(s) I.D Numbers with Date of Manufacture: _____

Date of manufacture can be found on the product identification label applied to the finished product. This warranty registration must remain with the equipment and be provided to the end user. If a warranty claim needs to be pursued, a copy of this information and the invoice of these products to the purchaser must be supplied to Morrison for verification.

CONVAULT AST



The Industry Leader In Aboveground Fuel Storage Systems

CONVAULT LIMITED WARRANTY CALIFORNIA

ConVault, Inc. warrants each CONVAULT® tank against defects in material or workmanship to the original owner, for a period 12 months from the date of installation. Installation date is determined to be when the tank has been installed at the final destination, and all equipment necessary to meet the Air Resources Board requirements has been installed. This tank and its drain valve and plug have been factory tested and will comply for the 12 month warranty period with all applicable performance standards and specifications to which it was tested. Tanks remaining in their original installation location will retain warranty eligibility if the facility where the tank is installed is sold to a new entity. The new owner must inform the tank manufacturer in writing of the date of change in ownership and the new owner's contact information. Additionally, this tank carries a warranty up to 30 years from the date of manufacture, depending on the model number. ConVault agrees to repair or replace any defective unit without charge provided that the tank is operated and maintained in accordance with the manufacturer's Owner's Manual except as set forth herein. **FAILURE TO INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS WILL VOID THIS WARRANTY.**

CONVAULT® tanks are designed for storage of products compatible with steel. CONVAULT® tanks are not designed for storage of corrosives or toxic materials. To continue this warranty in effect, the user has a duty to conduct visual inspections at least weekly to check for leaks and to maintain the CONVAULT® tank in accordance with the Owner's Manual in effect on the date of shipment from the manufacturer. The primary tank must be inspected monthly for the presence of water and any water found must be removed. In the event leaks are determined, ConVault, Inc. must be contacted within two (2) working days at the following toll free number: 800-222-7099 or at 209-632-7571. This warranty does not cover damage resulting from accident, misuse or abuse, lack of reasonable care, or acts of God. This warranty is limited to the tank only and does not include paint, signs and decals, vents, pump, or any other accessories affixed to the tank. This warranty does not cover transportation cost of the replacement tank, the cost of labor or any other installation costs. Small cracks in concrete result from normal expansion and contraction and are not covered by warranty. Such cracks will not affect primary or secondary containment or fire retardation abilities of the tank. The limited warranties set forth herein are subject to the manufacturer receiving full payment for the products covered in this warranty.

THIS WARRANTY IS LIMITED TO REPLACEMENT OR REPAIR OF THE CONVAULT® TANK AT THE OPTION OF CONVAULT, INC. AND EXCLUDES ANY OTHER OR FURTHER REMEDIAL MEASURES. NO RESPONSIBILITY OR LIABILITY IS ASSUMED FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES. Under no circumstances, shall the liability of CONVAULT® under this warranty, exceed the original purchase price of the tank. There are no warranties, which extend beyond the face hereof.

You may obtain warranty service by contacting any dealer of ConVault, Inc.

For testing purposes, CONVAULT® primary tanks may be pressurized up to 3 psig only, provided, however, that after flammable or combustible liquids have been placed in the tank, the tank shall be pressurized using inert gases such as Nitrogen. If any additional testing is required, please contact ConVault, Inc. for instructions prior to testing.

You may fill out the Warranty Registration Card on line or download a printable form at <http://www.convault.com>.



ConVault, Inc., 4109 E. Zeering Road, Denair, CA 95316

800-222-7099, 209-632-7571

<http://www.convault.com>, info@convault.com

CALIFORNIA WARRANTY TAG

The following information **MUST** be provided to the **END USER**
per California Air Resources Board regulations CP206 Section 17.5.3

1. This ConVault Aboveground Storage Tank and its drain valve has a warranty period of 12 months for material and workmanship beginning from the date of installation. Installation date is determined to be when the tank has been installed at the final destination, and all equipment necessary to meet the Air Resources Board requirements has been installed. Additionally, this tank carries a warranty up to 30 years from the date of manufacture, depending on the model number. Please review the ConVault Limited Warranty included in the Owner's Manual for details.
2. The date of manufacture of this tank and its model number are listed on the Underwriters Laboratories label which is attached to the side of the tank.
3. This tank must be installed, operated and maintained in accordance with the ConVault Owner's Manual.
4. This tank should be installed as soon as practical to prolong the expected useful life of the unit. If stored prior to final installation location, it must be placed on a flat surface, strong enough to carry the weight of the tank without causing differential settlement.
5. This tank has been factory tested and will comply for the 12 month warranty period with all applicable performance standards and specifications to which it was tested.
6. This tank has been manufactured, listed, and labeled according to the Underwriters Laboratories Standard 2085 for Protected Aboveground Tanks for Flammable and Combustible Liquids.
7. This tank has been certified by the California Air Resources Board according to CP 206 certification procedures.

Effective March 1, 2012

EXECUTIVE ORDER VR-402-D

Morrison Bros. Phase I Enhanced Vapor Recovery (EVR) System
For Aboveground Storage Tanks (AST)

EXHIBIT 5

**Alternate Phase I EVR Installation Configurations for
Existing Aboveground Storage Tank**

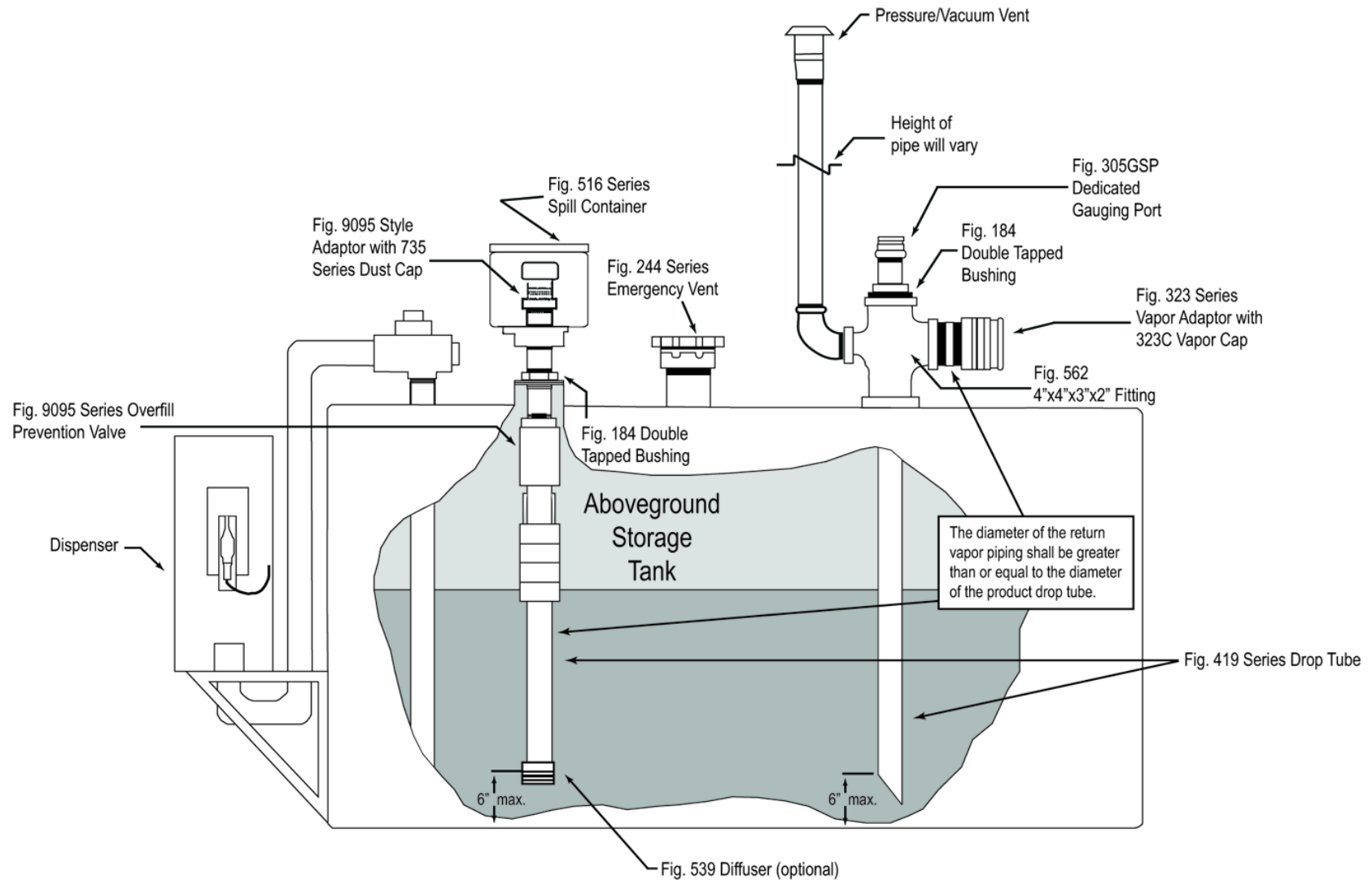
Existing aboveground storage tanks (AST) may be configured with a limited number of available bung openings and bung diameters. In order to provide flexibility in regards to Phase I EVR equipment installation, the figures in this exhibit provide examples of typical alternate Phase I EVR installation configurations.

General Specifications

1. Alternate installation configurations for the Morrison Bros. Phase I EVR System (Morrison System) for existing ASTs are shown in Figures 5A, 5B, and 5C.
2. A properly sized, dedicated opening must be provided for the emergency vent in accordance with Section 1 of the ***ARB Approved Installation, Operation and Maintenance Manual for the Morrison Bros. Phase I Enhanced Vapor Recovery System for Aboveground Storage Tanks***.
3. The Morrison System shall be installed, operated, and maintained in accordance with ***ARB Approved Installation, Operation and Maintenance Manual for the Morrison Bros. Phase I Enhanced Vapor Recovery System for Aboveground Storage Tanks***.
4. Any repair or replacement of system components shall be done in accordance with ***ARB Approved Installation, Operation and Maintenance Manual for the Morrison Bros. Phase I Enhanced Vapor Recovery System for Aboveground Storage Tanks***.
5. Unless otherwise specified in this Executive Order (EO), the Morrison System shall comply with the applicable performance standards and performance specifications in CP-206.
6. Maintenance and repair of system components, including removal and installation of such components in the course of any required tests, shall be performed by Morrison Bros. Certified Technicians. Additional certifications may be required in accordance with District requirements.
7. Per Exhibit 2 of the Executive Order, the diameter of return vapor piping of AST shall be greater than or equal to diameter of the associated drop tube.
8. Other alternate installation configurations may be utilized if approved by the local air pollution control district and fire marshal/fire agency.

FIGURE 5A

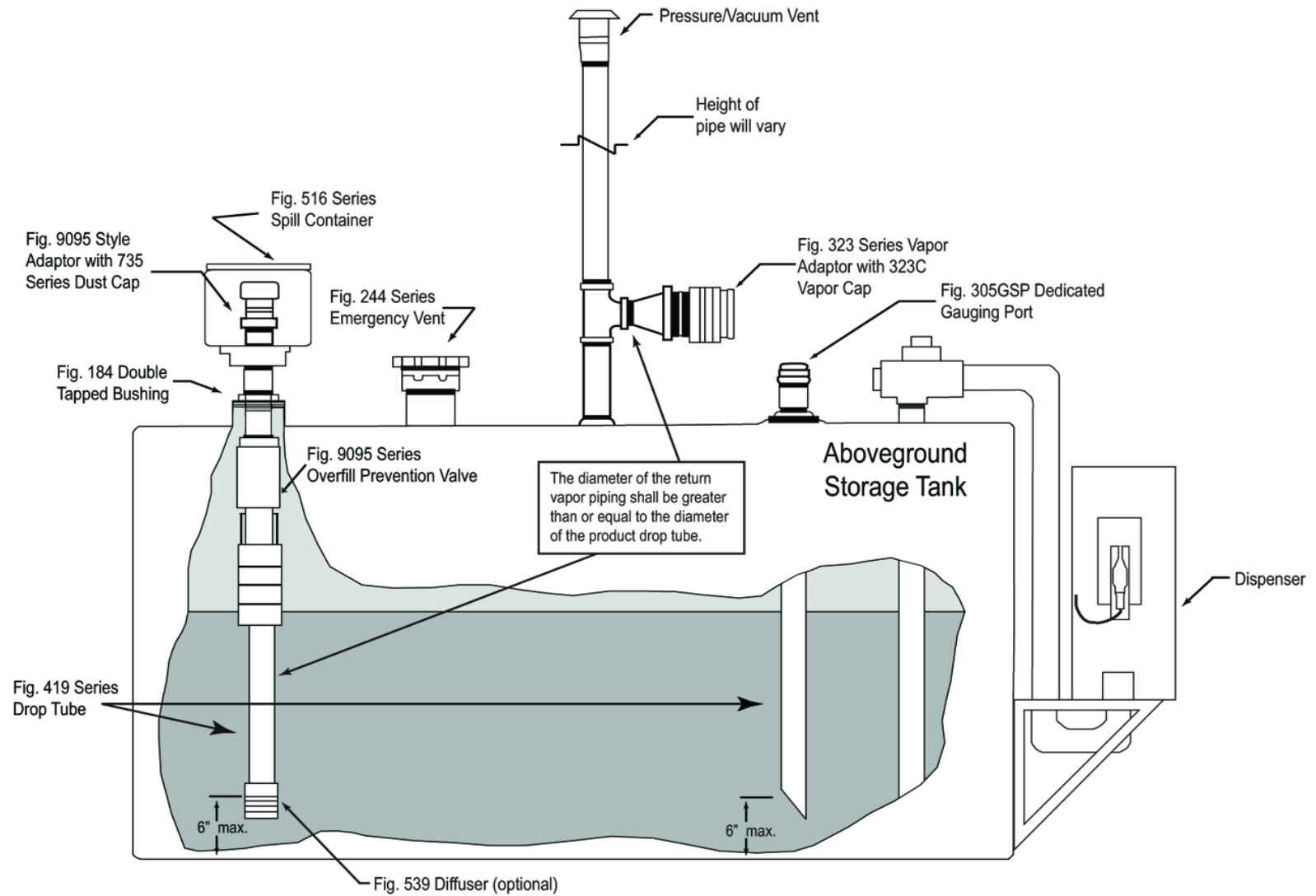
Alternate Phase I Installation Configurations for Existing Aboveground Storage Tanks



Tank gauging may be done by way of a mechanical gauge (Fig 818 or 918 Series) or an electronic gauge (Fig 305 Series)"

FIGURE 5B

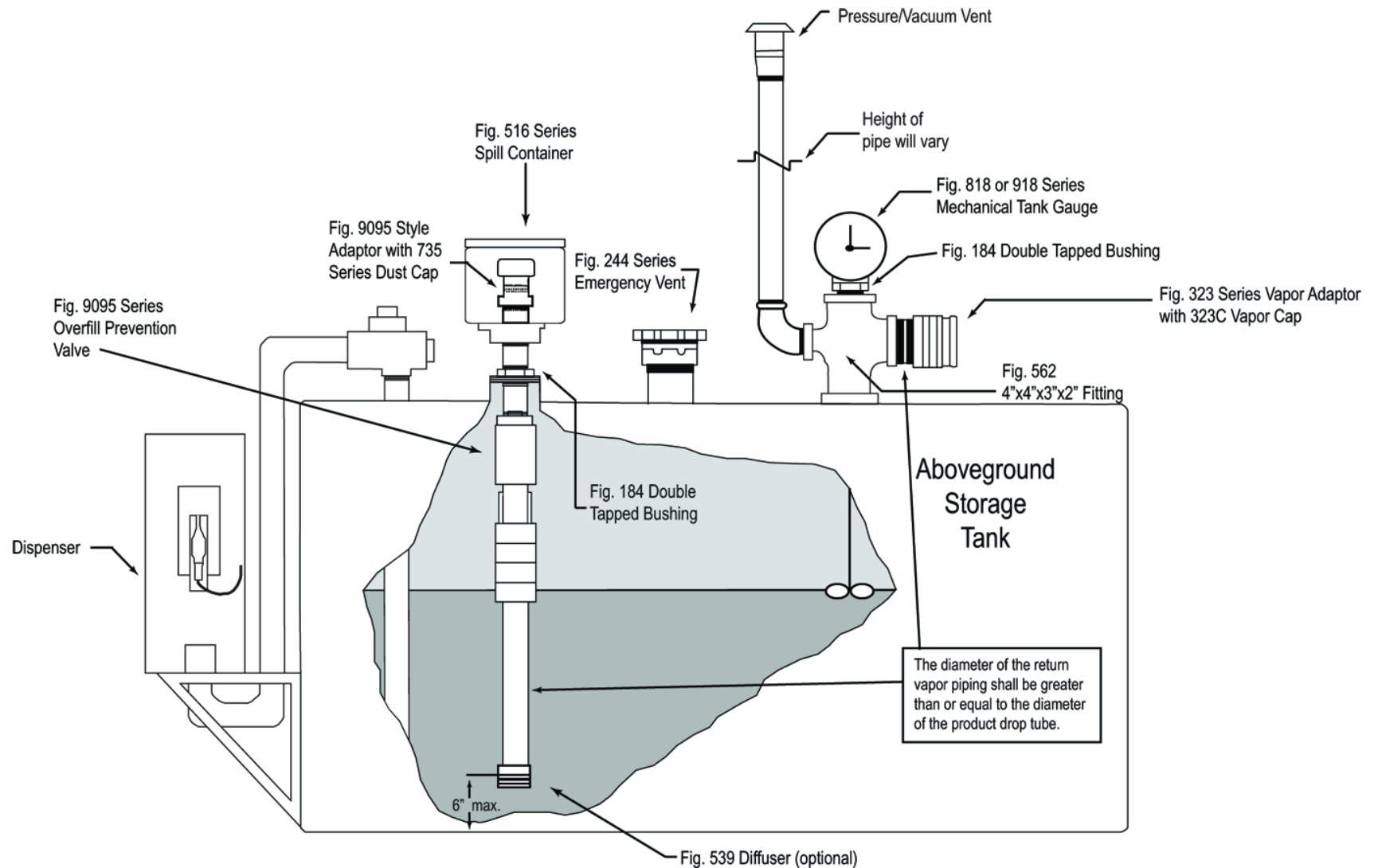
Alternative Phase I Installation Configurations for Existing Aboveground Storage Tanks



Tank gauging may be done by way of a mechanical gauge (Fig 818 or 918 Series) or an electronic gauge (Fig 305 Series)"

FIGURE 5C

Alternate Phase I Installation Configurations for Existing Aboveground Storage



Tank gauging may be done by way of a mechanical gauge (Fig 818 or 918 Series) or an electronic gauge (Fig 305 Series)"

EXECUTIVE ORDER VR-402-D

Morrison Bros. Phase I Enhanced Vapor Recovery (EVR) System
For Aboveground Storage Tanks (AST)

EXHIBIT 6

**Determination of Static Pressure Performance of
Vapor Recovery Systems at Gasoline Dispensing Facilities
with Aboveground Storage Tanks**

Definitions common to all certification and test procedures are in:

D-200 Definitions for Vapor Recovery Procedures

For the purpose of this procedure, the term "ARB" refers to the California Air Resources Board, and the term "Executive Officer" refers to the ARB Executive Officer or his or her authorized representative or designate.

1. PURPOSE AND APPLICABILITY

The purpose of this test procedure is used to quantify the vapor tightness of an aboveground storage tank (AST) installed at a gasoline dispensing facility (GDF).

This test procedure is used to determine the static pressure performance standard of a vapor recovery system during the certification process and subsequently to determine compliance with that performance standard for any installation of such a system.

The applicability of this test procedure for static pressure performance is for installations of systems with AST certified by:

CP-206 Certification Procedure for Vapor Recovery Systems at Gasoline
Dispensing Facilities Using Aboveground Storage Tanks

2. PRINCIPLE AND SUMMARY OF TEST PROCEDURE

The entire vapor recovery system is pressurized with nitrogen to two (2.0) inches water column. The system pressure is then allowed to decay for five (5) minutes. The acceptability of the final pressure is based upon the vapor system ullage.

3. BIASES AND INTERFERENCES

- 3.1 For tanks equipped with vapor recovery processor systems, the processor must be isolated or the processor outlet is capped. Leakage at the processor will indicate a system component leak.
- 3.2 Leaks in the test equipment will bias the results toward noncompliance. Prior to conducting the test, this bias is eliminated by conducting a leak check of the equipment.
- 3.3 There shall be no Phase I bulk product deliveries into the storage tank(s) within three (3) hours prior to this test. There shall be no product dispensing within thirty (30) minutes prior to this test. There shall be no Air to Liquid or Volume to Liquid Volumetric Ratio Test (TP-201.5 or equivalent) conducted within the twenty-four (24) hour period immediately prior to this test.
- 3.4 Product levels less than four (4) inches above the highest opening at the bottom of the submerged drop tube may bias the test toward noncompliance.
- 3.5 For systems which utilize a destructive processor, power to the collection unit and the processor shall be turned off during testing.
- 3.6 For vacuum-assist systems with positive displacement vacuum pumps, which locate the vacuum producing device in-line between the Phase II vapor riser and the storage tank, the following requirements shall apply:
 - 3.6.1 A valve shall be installed at the vacuum producing device. When closed, this valve shall isolate the vapor passage downstream of the vacuum producing device.
 - 3.6.2 The upstream vapor passage (nozzle to vacuum producing device) shall also be tested. Methodology for this test shall be submitted to the Executive Officer for approval prior to submission of test results or shall be conducted in accordance with the procedures set forth in the applicable ARB Executive Order.

4. EQUIPMENT SPECIFICATIONS

- 4.1 Traffic Cones. If needed for safety, use traffic cones to encircle the area while the test is being conducted.
- 4.2 Care must be exercised to prevent exposure of testing personnel to benzene, a carcinogen. Use of appropriate safety gear such as gloves and respirator is suggested.
- 4.3 Use commercial grade nitrogen in a high pressure cylinder, equipped with a two-stage pressure regulator and one pressure per square inch gauge (psig) pressure relief valve. The minimum and maximum nitrogen feed rates into the system shall be 1.0 and 5.0 cfm (cubic feet per minute) respectively.

- 4.4 The System Leak Test Assembly is shown in Figure 1. Use a modified vapor cap compatible with the Phase I vapor adaptor. The vapor cap shall be equipped with a nitrogen inlet port.
- 4.5 Use a Dwyer flowmeter, Model RMC-104, or equivalent, to determine the required pressure setting of the delivery pressure gauge on the nitrogen supply pressure regulator. This pressure shall be set such that the nitrogen flowrate is between 1.0 and 5.0 cfm.
- 4.6 Electronic pressure measuring devices or digital pressure indicators shall be used. The maximum full-scale range of the device shall be 10 inches water column. The minimum accuracy shall be 1.5 percent of full scale and the pressure measuring device shall be readable to the nearest 0.01 inches water column. A copy of the most current calibration shall be kept with the equipment. Instrument shall be calibrated every six months.
- 4.7 Stopwatch. Use a stopwatch accurate to within 0.10 seconds to time the one-minute pressure stabilization period, and the five-minute decay test period.
- 4.8 Leak Detection Solution or a Combustible Gas Indicator. Any liquid solution designed to detect vapor leaks may be used to verify the pressure integrity of system components during this test; or a combustible gas detector that complies with the requirements of U.S. EPA Method 21, "Determination of Volatile Organic Compounds Leaks", 40 CFR Ch. 1, Part 60, App. A-7 (36 FR 24877, December 23, 1971) and section 5 of this test procedure. Personnel shall assume that the combustible gas detector will be operated in an explosive atmosphere and comply with all pertinent regulations.

5. CALIBRATION PROCEDURE

- 5.1 The electronic pressure measuring device or digital pressure indicator shall be calibrated using a National Institute of Standards and Technology (NIST) traceable standard or reference standard traceable to NIST within 180 days prior to conducting the testing and the calibration. In addition, calibration shall be conducted after any repairs or alterations to the pressure measuring or indicating device. Calibrations shall be conducted per manufacturer's instructions, ensuring it complies with the minimum accuracy requirement of 1.5 percent of full scale. A copy of the most current calibration shall be kept with the equipment.
- 5.2 The flowmeter shall be calibrated every 180 days using a NIST traceable standard or a reference standard traceable to NIST as specified by the manufacturer's instructions.
- 5.3 Calibrate the combustible gas detector per the manufacturer's recommendation. Calibration gas shall be certified traceable to NIST-SRM.
 - 5.3.1 The calibration gases must be certified according to one of the following options:

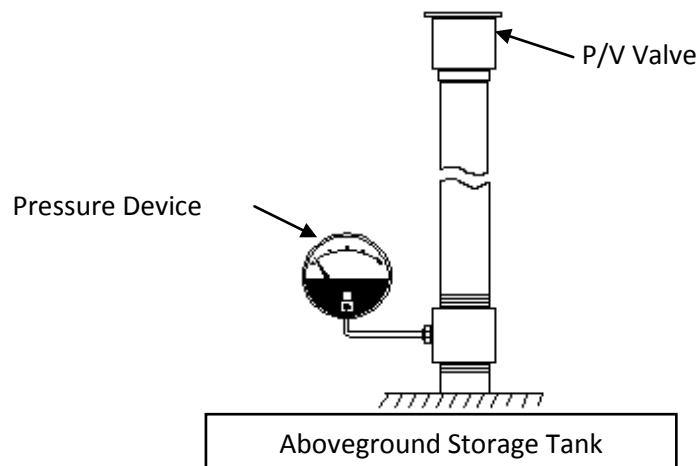
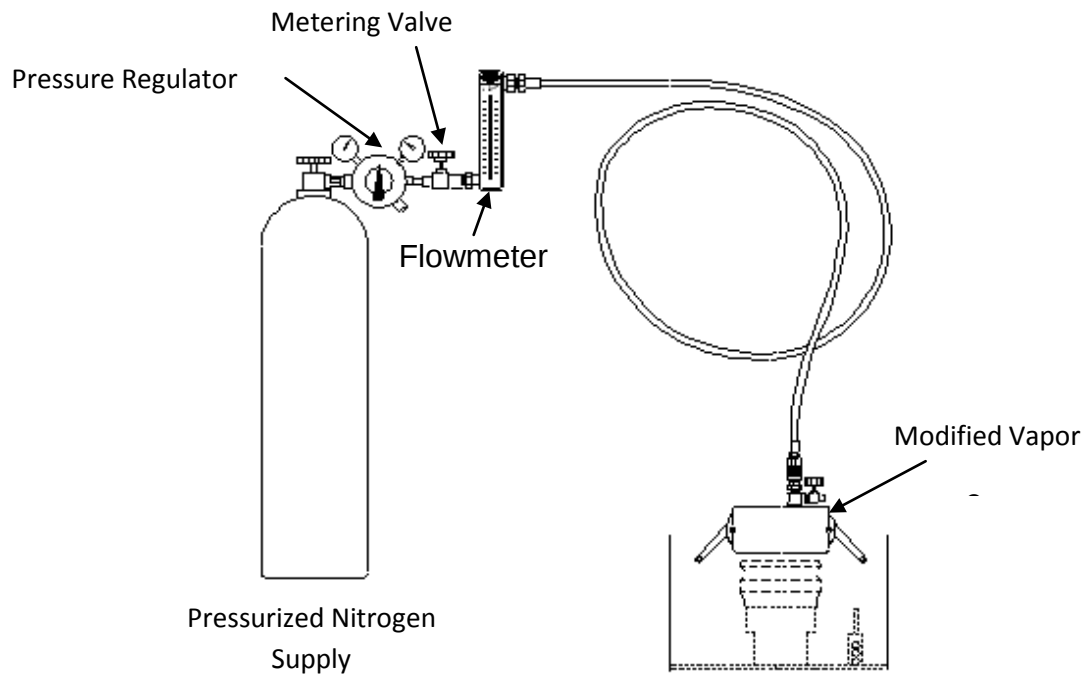
- 5.3.1.1 The EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards (EPA-600/R-12/531, May 2012), or
- 5.3.1.2 To an analytical accuracy of ± 2 percent, traceable to a reference material approved by the National Institute of Standards and Technology (NIST) and recertified annually.
- 5.3.2 Documentation. Information on calibration gas cylinders shall be entered into a log identifying each cylinder by serial number. Sufficient information shall be maintained to allow a determination of the certification status of each calibration gas and shall include: (1) the date put in service, (2) assay result, (3) the dates the assay was performed, (4) the organization and specific personnel who performed the assay, and (5) the date taken out of service.

6. PRE-TEST PROCEDURES

- 6.1 Place the traffic cones around the perimeter of the testing area, allowing sufficient space to safely conduct the test.
- 6.2 Electronic manometers shall have a warm-up period of at least 15 minutes followed by a five-minute drift check. If the drift exceeds 0.01 inches water column, the instrument should not be used.
- 6.3 Record system information on Form 1.
- 6.4 The minimum ullage during the test shall be 25 percent of the tank capacity and the maximum ullage during the test shall be 75 percent of the tank capacity. For manifolded tanks, the minimum ullage during the test shall be 25 percent of the aggregate tank capacity and the maximum ullage during the test shall be 75 percent of the aggregate tank capacity.
- 6.5 Determine the allowable system leak rate using Equation 8-1 in section 8.
- 6.6 Ensure the nozzle(s) are properly hung in the dispenser boot and all dispenser cabinet covers are in place. No dispensing shall be allowed during the test.
- 6.7 If a steel-braided nitrogen supply line is not used, a ground strap should be employed during the introduction of nitrogen into the system.
- 6.8 This test shall be conducted with the dust caps removed from both the product and the vapor coupler(s).
- 6.9 If the Phase I containment box is equipped with a drain valve, this test shall be conducted with the drain valve installed.
- 6.10 Conduct visual inspection of vapor recovery components to ensure no cracks, tears, or other anomalies are present that may cause a failure of the leak test.

6.11 Install system leak test assembly. An example is shown in Figure 1. Additional examples can be found in TP-201.3 (Figures 1-3).

FIGURE 1
Typical System Leak Test Assembly



7. TEST PROCEDURE

- 7.1 Observe the initial storage tank pressure. If the initial pressure is greater than one-half (0.50) inch H₂O gauge, proceed to Section 7.1.1. If the initial pressure is less than zero (0.00) inch H₂O gauge, proceed to Section 7.1.2. In the case where the storage tank pressure is between 0.00 and 0.50 inches H₂O, proceed to section 7.2.
 - 7.1.1 If the initial storage tank pressure is greater than one-half (0.50) inch H₂O gauge, carefully bleed off the excess pressure in accordance with all applicable safety procedures for a maximum of 30 seconds. Do not allow the tanks to remain open to atmosphere for more than 30 seconds or the ingestion of fresh air and additional vapor growth may result. Start the stopwatch and measure the storage tank pressure for three (3) minutes. If the 3-minute pressure exceeds 0.50 inches H₂O or continues to change at a rate exceeding ± 0.02 inches H₂O in 3 minutes, repeat this Section. Several attempts may be required.
 - 7.1.2 If the initial storage tank pressure is less than zero (0.00) inches H₂O gauge, slowly introduce nitrogen so that the storage tank pressure is between zero (0.00) and one-half (0.50) inches H₂O gauge. Start the stopwatch and measure the storage tank pressure for three (3) minutes. If the 3-minute pressure is not between 0.00 and 0.50 inches H₂O or continues to change at a rate exceeding ± 0.02 inches H₂O in 3 minutes, repeat this Section.
- 7.2 Open the nitrogen gas supply valve, regulate the delivery pressure to at least 10 psig, and pressurize the vapor system (or subsystem for individual vapor return line systems) to or slightly above 2 inches water column. The minimum and maximum nitrogen feed rates in to the system shall be 1.0 and 5.0 cfm respectively. It is critical to maintain the flow until both flow and pressure stabilize, indicating temperature and pressure stabilization in the tanks. Close the nitrogen supply valve.
- 7.3 Check the system leak test assembly using leak detection solution to verify that the test equipment is leak tight. Quickly remove the vapor cap assembly.
- 7.4 Re-open the nitrogen supply valve, and reset the tank pressure to reestablish a pressure slightly greater than 2 inches water column. Close the nitrogen supply valve and start the stopwatch when the pressure reaches an initial pressure of 2.0 inches of water column.
- 7.5 At one-minute intervals during the test, record the system pressure on Form 1. After five minutes, record the final system pressure on Form 1. Carefully remove the system leak test assembly.
- 7.6 Use Equation 8-1 in section 8 or Table 1 to determine the compliance status of the facility by comparing the final five-minute pressure with the minimum allowable pressure.

8. CALCULATING RESULTS

Minimum Allowable Pressure

The minimum allowable pressure after five (5) minutes, with an initial pressure of 2.0 inches water column, shall be calculated as shown below, or obtained from Table 1:

Equation 8-1

$$P_f = 2e^{(-223.9/V)}$$

where:

- P_f = Minimum pressure after 5 minutes, inches water column
- V = Ullage of the system, gallons
- e = Constant equal to 2.71828
- 2 = Initial starting pressure, inches water column
- -223.9 = Decay constant for a 5 minute test

9. REPORTING RESULTS

Report the results as indicated on Form 1. District may require the use of alternate forms provided they include the same minimum parameters identified in Form 1.

10. ALTERNATIVE TEST PROCEDURES

This procedure shall be conducted as specified. Modifications to this test procedure shall not be used to determine compliance unless prior written approval has been obtained from the ARB Executive Officer, pursuant to Section 15 of Certification Procedure CP-206.

FORM 1

Summary of Source Test Data

Static Pressure Performance Test				
GDF Name and Address:	PHASE II SYSTEM TYPE (Check One)			
	Balance _____			
	VacAssist _____			
	Other _____			
GDF Representative and Title:	Manufacture: _____			
GDF Phone #:	Permit Conditions:			
GDF #: _____				
Manifolded? Y or N				
TANK #:	1	2	3	4
1. Product Grade				
2. Actual Tank Capacity, gallons				
3. Gasoline Volume				
4. Ullage, gallons (ullage = capacity-volume)				
5. Initial Pressure (inches water column)				
6. Pressure After 1 Minute				
7. Pressure After 2 Minutes				
8. Pressure After 3 Minutes				
9. Pressure After 4 Minutes				
10. Final Pressure After 5 Minutes				
11. Allowable Final Pressure				
Test Conducted by:	Test Company:			
Date of Test:	Test Contractor Certification Number:			
	Expiration Date:			

TABLE 1
Leak Rate Criteria

ULLAGE (GALLONS)	MINIMUM PRESSURE AFTER 5 MINUTES, (INCHES OF WATER COLUMN)
100	0.21
150	0.45
200	0.65
250	0.82
300	0.95
350	1.05
400	1.14
450	1.22
500	1.28
550	1.33
600	1.38
650	1.42
700	1.45
750	1.48
800	1.51
850	1.54
900	1.56
950	1.58
1,000	1.60
1,200	1.66
1,400	1.70
1,600	1.74
1,800	1.77
2,000	1.79
2,200	1.81
2,400	1.82
2,600	1.83
2,800	1.85
3,000	1.86
3,500	1.88
4,000	1.89
4,500	1.90
5,000	1.91
6,000	1.93
7,000	1.94
8,000	1.94
9,000	1.95
10,000	1.96
15,000	1.97
20,000	1.98