



Vapor Systems Technologies, Inc.

Corporate Profile

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News and Notes for
the Fuel Dispensing
Industry Professional

The Voice

Volume 15

Dec, 2018

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Inside this issue:

- Tech Talk
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Hello!

Merry Christmas and a Happy New Year from all of us at VST!

In this issue of the VST Voice, Doug Harty shares the steps for converting California GDF sites from Vac Assist to VST Balance. It details the steps necessary for technicians to make the conversion. And on another topic, he lists the VST tools available to service VST products.

In the VST Training section, I continue to point out the steps for keeping your VST certifications current.

And finally, Bob Treadway, Product Manager, discusses the deadline for converting to Conventional (non-vapor recovery) low-perm hoses. He additionally points out how VST's fast shipping can help you avoid Notices of Violation (NOVs). And he covers the future of ECS Membrane replacement parts.

Until next time...

Susie

Susie McLaughlin
Editor, The VST Voice

Tech Talk

BY DOUG HARTY: SENIOR APPLICATIONS ENGINEER: HARTY@VSTHOSE.COM

VST ZERO Conversion Guide

VST has just circulated a new Technical Bulletin as a guide for converting California GDF sites from Vac Assist to VST Balance. It details the steps necessary for technicians to make the conversion.

VST Balance Hanging Hardware + an existing FFS Clean Air Separator (CAS) = VST **ZERO** system

VST Platinum Balance is recommended for superior safety, durability and performance.

Technical Bulletin

VST ZERO Balance System
Conversion Guide

December 5, 2018



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Many California GDFs have made this upgrade, but many more still need to make the conversion. To help with that process, VST is providing this conversion guide.

Simply stated, the VST ZERO is a combination of:

- CARB certified VST Balance hanging hardware (hoses, breakaways, and nozzles)
- An existing FFS Clean Air Separator (CAS) at the station
- The existing In-Station Diagnostics (ISD) software

Key points to remember when planning a Balance System conversion from a Vacuum Assist System:

- All Veeder-Root Assist Flow Meters MUST be replaced with Veeder-Root Balance Flow Meters.
- FFS INCON™ systems will require a software upgrade.
- FFS Flow Meters are universal for Balance or Assist systems, thus they are not required to be replaced.
- Be sure all the vapor piping maintains a downward slope towards the vapor recovery riser to prevent liquid traps.
- 1" vapor piping is recommended, so remove all Vacuum Assist copper piping.
- The ISD Phase II must be changed from Assist to VST Balance.
- Adjustments will need to be made to the VFC STP settings or even upgrading to 2 HP STP's to maximize flow.
- VST Platinum EVR Balance Systems are capable of 9 GPM if they are correctly configured.

For additional guidance from VST, please contact:

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Senior Application Technician

Email: harty@vsthose.com

Phone: 209-247-6886

Technical Bulletin

VST ZERO Balance System
Conversion Guide

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Example 1 – Vacuum Assist to VST Balance Using Copper Piping: Gilbarco Encore Series Dispenser

Dispenser Piping Equipment: Per Dispenser	
QTY.	ITEM
1	10' length 1" copper pipe
4	1" copper elbows (C x C)
1	1" coupler (C x C)
1	1" C to 1" NPT adapter
	Torch, flux, solder

Procedure	
1	Start by removing the existing copper Vacuum Assist Piping and Veeder-Root Assist Flow Meter, if present. See Figure 1. <ul style="list-style-type: none"> • If FFS INCON Flow Meter is present, it may stay.
2	Then remove the existing VP1000 Vacuum Pump. See Figure 2.
3	Remove the existing copper Vacuum Assist Piping that runs up the side of the dispenser. See Figures 3 - 4.
4	Keep the fitting at the top of the dispenser that connects to the existing Vapor Recovery Manifold. See Figure 5.
5	Cut the compression fitting from the existing Vacuum Assist Piping. See Figure 6.
6	Use 1" copper pipe to fabricate a replacement Vacuum Assist Pipe. See Figure 7.
7	Sweat the existing flare fitting onto the new 1" Vacuum Assist Pipe. See Figure 7.
8	Dry fit the piping. See Figure 7.
9	Plan out a new piping layout to minimize backpressure. <ul style="list-style-type: none"> • Be sure to maintain the correct slope towards the Vapor Shear Valve. • Be sure to leave a test port under the Vapor Flow Meter for conducting a Wet Blockage Test at startup.
10	Assemble the piping to make sure the downward slope is maintained. See Figure 8.
11	Install a new Veeder-Root Balance Flow Meter near the dispenser Vapor Riser, if required. See Figure 9.
12	Remove the Assist Hanging Hardware.
13	Replace with VST Balance Hanging Hardware. HINT: To save time, assemble the Hanging Hardware before bringing to the job site.
14	Lube the O-Rings during installation.
15	Make sure the TLS-350 Phase II Vapor Recovery settings are switched to Balance.
16	Conduct a Pressure Decay Test to ensure the site is vapor tight.

Technical Bulletin

VST ZERO Balance System
Conversion Guide

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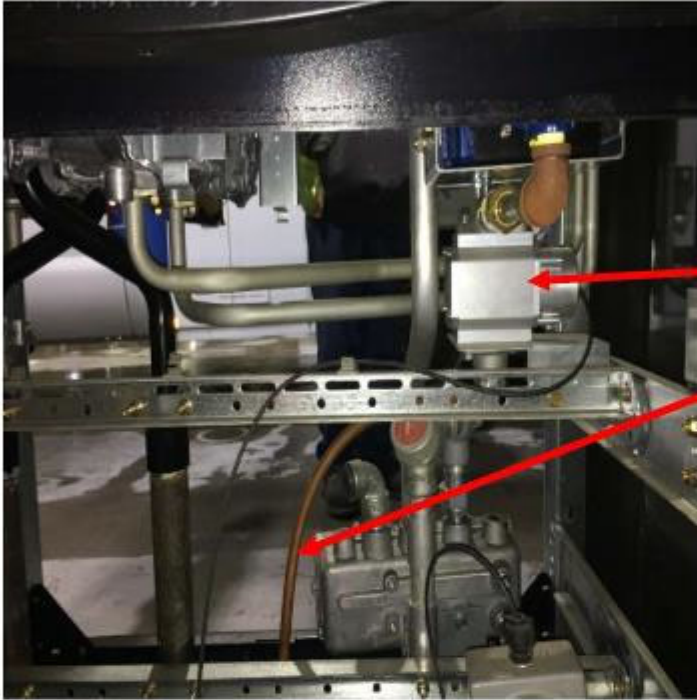


Figure 1:
Factory installed Vacuum Assist copper tubing
and Veeder-Root Assist Flow Meter: Gilbarco
Encore 700



Figure 2:
Factory installed VP1000
Vacuum Pump

Technical Bulletin

VST ZERO Balance System
Conversion Guide

...continued...



Figure 3:
Existing Vacuum Assist copper
Vapor Piping:

Replace with 1" copper Vapor
Piping



Figure 4:
Removed Vacuum Assist
copper Vapor Piping



Figure 5:
Fitting at top of existing
Vapor Recovery Manifold
in the Dispenser.

Technical Bulletin

VST ZERO Balance System
Conversion Guide

...continued...



Figure 6:
Cut the compression fitting from existing Vapor Piping and sweat onto new 1" copper Vapor Piping.

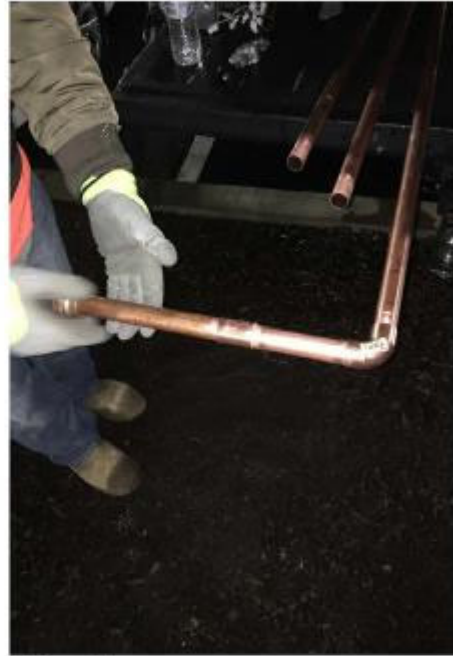


Figure 7:
New fabricated copper 1" Vapor Pipe.



Figure 8:
Maintain downward slope of newly fabricated 1" Vapor Piping.



Figure 9:
Install new Veeder-Root Balance Flow Meter.

Technical Bulletin

VST ZERO Balance System
Conversion Guide

...continued...



Example 2 – Vacuum Assist to VST Balance Using Hard Pipe Conversion Method: Wayne Ovation Dispenser

Typical Parts Required - Per Dispenser	
QTY.	ITEM
1	1" Galvanized Pipe and 1" NPT Pipe Threader/cutter
Assorted	1" tees, couplers, unions, 45-degree fittings
Assorted	3/4" fittings to adapt dispenser piping to 1"
2	3/4" to 1" bushings/adapters

Procedure	
1	Start by removing the existing copper Vacuum Assist Piping and Veeder-Root Assist Flow Meter, if present. See Figure 10.
	<ul style="list-style-type: none"> • If FFS INCON Flow Meter is present, it may stay.
2	Then remove the existing VP1000 Vacuum Pump. See Figure 10.
3	Plan out a new piping layout to minimize backpressure.
	<ul style="list-style-type: none"> • Be sure to maintain the correct slope towards the Vapor Shear Valve. • Be sure to leave a test port under the Vapor Flow Meter for conducting a Wet Blockage Test at startup.
4	Assemble the galvanized piping to make sure the downward slope is maintained. See Figure 11 - 12.
5	Install a new Veeder-Root Balance Flow Meter near the dispenser Vapor Riser, if required.
6	Remove the Assist Hanging Hardware.
7	Replace with VST Balance Hanging Hardware.
	HINT: To save time, assemble the Hanging Hardware before bringing to the job site.
8	Lube the O-Rings during installation.
9	Make sure the TLS-350 Phase II Vapor Recovery settings are switched to Balance.
10	Conduct a Pressure Decay Test to ensure the site is vapor tight.

Technical Bulletin

VST ZERO Balance System
Conversion Guide



...continued...



Figure 10:
VP 1000 Vacuum Pump and Vacuum Assist copper tubing kit: Wayne Ovation.

Technical Bulletin

VST ZERO Balance System
Conversion Guide

...continued...



Figure 11:
Galvanized Piping Configuration



Figure 12:
Galvanized Piping Configuration

Tech Talk

Dec, 2018

BY DOUG HARTY: SENIOR APPLICATIONS ENGINEER: HARTY@VSTHOSE.COM

VST Tools for Servicing VST Nozzles

VST Tools save time and effort installing, testing and servicing VST products.




<p>VST-STP-100</p>	<p style="text-align: center;"><u>Spout Test Plug</u></p> <p>Required in the Liquid Removal Test Procedure in VST (CARB) Executive Orders VR-203 and VR-204 Exhibit 5.</p>	
<p>VST-TSS-100</p>	<p style="text-align: center;"><u>Test Surrogate Spout</u></p> <ul style="list-style-type: none"> Required in the ISD Vapor Flow Meter Operability Test Procedure in the VST (CARB) Executive Order VR-204 Exhibit 17 	
<p>VST-STA-100</p>	<p style="text-align: center;"><u>Spout Test Adapter</u> <i>(Includes 3 sponge seals)</i></p> <p>Required in the Liquid Removal Test Procedure:</p> <ul style="list-style-type: none"> CARB VST Balance Nozzle Executive Orders VR-203 and VR-204, Exhibit 5, and in the ISD Vapor Flow Meter Operability Test Procedure in the VST (CARB) Executive Order VR-204 Exhibit 17 	
<p>VST-TAS-100</p>	<p style="text-align: center;"><u>Spout Test Adapter Seals</u> <i>(Includes 5 sponge seals)</i></p> <ul style="list-style-type: none"> Replacements for the VST-ATA-100 Spout Test Adapter above 	

Tech Talk

Dec, 2018

BY DOUG HARTY: SENIOR APPLICATIONS ENGINEER: HARTY@VSTHOSE.COM

VST Tools for Servicing VST Nozzles, continued...

<p>VST-SRT-200</p>	<p align="center"><u>Spout Nut Ratchet Head</u></p> <p>Matches angled profile of VST Balance Nozzle spout nut, for use when replacing spout assemblies</p>	
<p>VST-NTT-100</p>	<p align="center"><u>Torque Tool</u></p> <p>Assists in holding onto the VST EVR Balance Dripless Nozzle so that proper torque may be applied when making the connection to the VST EVR hose assembly</p>	 
<p>VST-BPT-100</p>	<p align="center"><u>Band Clamp Pincers</u> <i>(Includes 3 sponge seals)</i></p> <p>For replacing Upper Band Clamp during VST EVR G2 Balance Nozzle servicing</p>	

Tech Talk



Dec, 2018

BY DOUG HARTY: SENIOR APPLICATIONS ENGINEER: HARTY@VSTHOSE.COM

VST Tools for Servicing VST Breakaways

The VST Breakaway assembly tools aid in Breakaway repair after drive-offs. And remember, all VST Breakaways are re-attachable.

Go to: www.vsthose.com/education.aspx > Training videos to see how to install the VST Breakaway and how to re-attach it.

<u>VST EVR Balance Breakaway</u>		
VST-BAT-100	<p><u>New:</u> VSTA-EVR-SBKA</p> <p><u>Factory Serviced:</u> SERV-SBKA</p>	
VST-BAT-200	<ul style="list-style-type: none"> • VST Vac Assist Breakaways, and • VST Conventional, non-vapor recovery Breakaways • VST-HEVR-SBK (EVR Healy Style Vac Assist) • VST-ISVR-SBK (EVR M-34 thread Vac Assist) • VST-IS-SBK (Pre-EVR M-34 thread Vac Assist) • VST-CP-SBK (3/4" Conventional) • VST-DS-SBK (1" Conventional) 	 <p style="text-align: center;">Reassembly Tool</p>
VST-ATP-100 VST-ATP-200	<p><u>Replacement Plates for assembly tools:</u></p> <ul style="list-style-type: none"> • VST-ATP-100 for VST EVR Balance Breakaways • VST-ATP-200 for all VST Vac Assist & Conventional non-vapor recovery Breakaways <p>(Plates can be interchanged on the VST-BAT assembly tools above)</p>	

VST Training

BY SUSIE MCLAUGHLIN: MANAGER, TRAINING & CERTIFICATIONS: MCLAUGHLIN@VSTHOSE.COM

Level A Training - Get it Done!

Executive Orders VR-203/204 Rev. P were signed in April of 2014. And with them came the **new requirement** that all contractors with existing VST Level A certifications are REQUIRED to re-certify their VST Level A by taking the Level A online training.

VST offers this training online, in a self-paced format, and at no charge to afford contractors an efficient / no cost way to keep themselves compliant with Air & Resources Board requirements. We strongly urge all contractors to get this done as soon as possible to take advantage of this wonderful opportunity.

The Level A training is available online, at no cost.

To access the training, go to <http://www.vsthose.com/education.aspx>

Level B/C Certification Extensions

If you have previously held a VST Level B or Level C certification, you are eligible for an extension on both levels by sending in the appropriate paperwork. Just scan and email the paperwork below to me, Susie McLaughlin: mclaughlin@vsthose.com

To get a Level B or a Level B/C extension:

1. Provide VST with a copy of your Level A certificate generated from the online training.
2. Provide VST with current Veeder-Root certs:
 - For Level B: VR Tank Monitoring
 - For Level C: VR Vapor Products

VST Training Videos

And on a final note... all VST training videos are available on the VST website.

Here is the link:

<http://www.vsthose.com/education.aspx> - In the "Sales Support" section

Updates from the Sales Department

BY BOB TREADWAY: CUSTOMER SERVICE MANAGER: TREADWAY@VSTHOSE.COM

VST Low Perm Conventional Hoses & Breakaways

The **09.24.2018** CARB deadline to replace all California Vac Assist systems to Low Perm hoses has passed.

Meanwhile, certain California Conventional (non-vapor recovery) Hose sites were also supposed to convert to Low Perm Hoses. There was a **06/10/18** deadline to convert these sites to **Conventional Low Perm** style, such as VST V58EC 5/8" and V34EC 3/4" ENVIRO-LOC™ hoses. Some sites in California can be permitted to use Conventional Low Perm hoses. Examples are rental car, municipal, and police sites that refuel only newer ORVR vehicles.

We know some of these missed the deadline because we are still getting urgent requests for overnight shipments to California. If you have such a site or know someone who does, please address this as soon as possible to avoid NOV's. VST can help with fast shipping of all orders.

VST ENVIRO-LOC™ Low Perm Conventional Fuel hoses are gaining popularity in **California, Ohio and New Jersey. Other states** are considering mandating the technology. Low Perm prevents substantial loss of hydrocarbons to atmosphere through the hose wall. VST Low Perm Hoses also have superior kink resistance, cover life, and flexible handling. V34EC 3/4" Hoses include VST Lip Seal swivels, which are far superior to all other swivels in longevity and easy swivel action.

Updates from the Sales Department

BY BOB TREADWAY: CUSTOMER SERVICE MANAGER: TREADWAY@VSTHOSE.COM

VST Discontinuing ECS Membrane Processor Replacement Parts

VST is discontinuing the ECS Membrane Processor Replacement Parts from our product offering – EFFECTIVE December 31, 2018. Due to product transitions that have occurred in the EVR marketplace, and significantly reduced activity, these older model UST Pressure Management processor parts will no longer be available.

VST will accept orders, based on availability of the parts, through December 31, 2018.

VST can help with your urgent shipping needs...

VST can help with your urgent shipping needs.

VST's policy is to ship all orders within 24 to 48 hours, either same day or next day, depending on if it arrives early or late in the day. This includes common standard lengths, and uncommon non-stock lengths, any order quantity.

Air Freight options are available. See the last page of the VST List Price Schedule for Shipping Policy details.

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Merry Christmas & Happy New Year