

VST Installation Procedure for Phase II EVR Vacuum Assist Safety Breakaway Devices

Part Number Series:

VST-HEVR-SBK;

VST-ISVR-SBK



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APPLICATION

These VST Safety Breakaway devices are intended to prevent damage to the dispenser and hose in the event of a vehicle drive off. These devices separate at pull forces up to 350 lbs. You will need to determine that 350 lbs. of pull force will not damage the dispenser.

After verifying that the dispenser is securely bolted to the island, it can be tested by using a spring scale and a length of rope. The rope must be connected at the dispenser outlet casting, which may require a threaded bushing with a hole for attaching the rope. Attach the scale to the rope and pull to 350 lbs. in several directions. Be sure to avoid damaging the dispenser.

NOTE

- The whip hose **ALWAYS** attaches to the dispenser. If a retractor is being used, the retractor clamp **MUST** be between the breakaway and dispenser.
- VST hoses are made to withstand 350 pounds tensile pull without damage. If another brand of hose is present at the dispenser, VST recommends that you contact the hose manufacturer regarding the compatibility with this breakaway device.

GENERAL INFORMATION

If hanging hardware components are involved in a drive-off or incur other customer abuse, each individual component must be functionally tested prior to customer dispensing activities.

INSTALLATION PREPARATION

These procedures must be followed to ensure leak-proof installation and operation of these safety breakaway products.

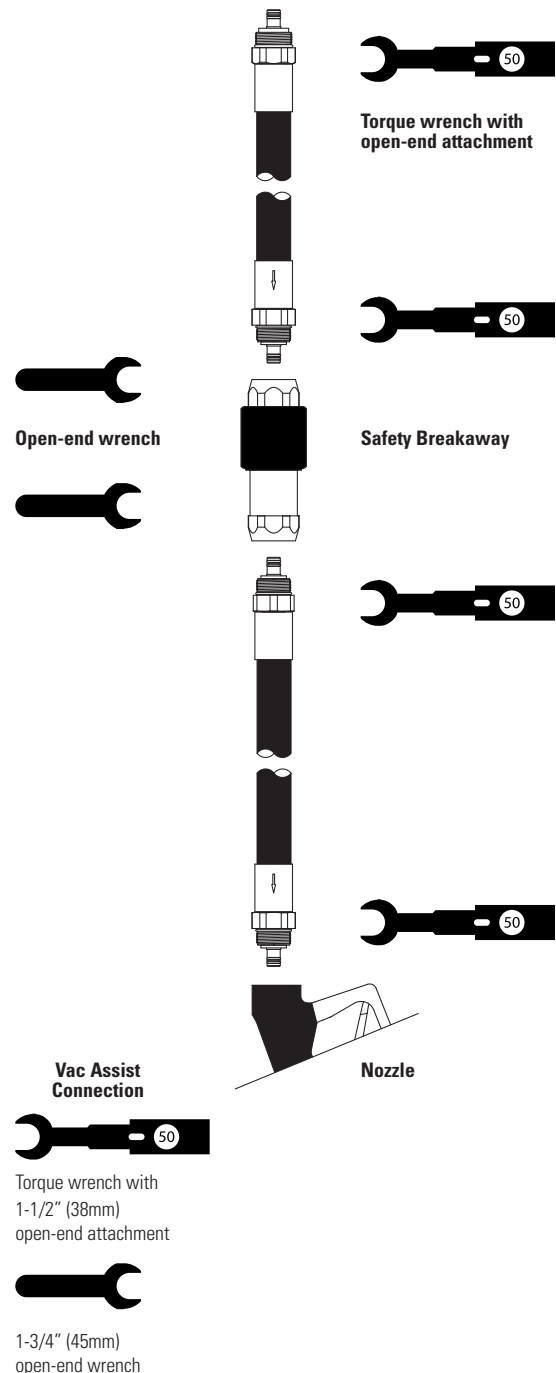
- Turn off and tag the power to the dispenser. Dispenser must be de-energized prior to service to avoid personal injury.
- Barricade work area to block vehicle access to the dispenser.
- Close dispenser shear valve prior to performing any service work with the hanging hardware (hoses, safety breakaways, and nozzles).
- Drain liquid product from the hanging hardware set into an approved container prior to replacing any hanging hardware component.
- When not using the VST Breakaway Assembly Tool (VST-BAT-200), remove hanging hardware from the dispenser prior to making replacement component assembly connections. VST recommends connecting the whip hose to dispenser as the last connection during hanging hardware assembly.

INSTALLATION AND FUNCTION TESTS

- Initial inspection:
 - Carefully unpack safety breakaway from shipping carton.
 - Inspect safety breakaway for any damage to threads, O-rings, exterior, etc.
- Lightly lubricate **ALL** O-rings on mating connections with petroleum jelly or other suitable lubricant. **DO NOT USE** pipe dope or thread sealant.
- Attach breakaway on mating connection and tighten by hand. **NOTE FLOW DIRECTION ARROW** (where applicable). Use the hex on the breakaway body to tighten. **DO NOT USE** the breakaway body to tighten the unit.

Figure 1.

EVR Vacuum Assist Hanging Hardware



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4. Tighten breakaway connection to 50 ft.-lbs. of torque. **DO NOT OVER TIGHTEN.** Use the hex on the breakaway body to tighten. Use a torque wrench with an open-end attachment to fit the hose couplings and an open-end wrench to properly tighten breakaway connections. **DO NOT USE** channel-locks or pliers to tighten connections. Proper ft.-lb. torque may not be achieved with these tools.
5. Purge air from the system by pumping one-tenth (1/10) to two tenths (2/10) of a gallon of fuel into an approved container. Inspect each breakaway joint connection for liquid leaks and meter creep. Make proper adjustments at the breakaway connection if necessary.
6. Check the nozzle shut-off action by dispensing fuel into an approved container at least three times to assure proper automatic operation. To test, operate the nozzle and submerge the spout tip in fuel until the fuel level covers the vent hole. The main valve of the nozzle automatically shuts off when liquid covers the vent hole at the end of the spout. The dispenser should deliver a minimum of 3 gpm. Hold open latch will disengage automatically when liquid covers the vent hole in the spout.

Figure 2.

VST Breakaway Assembly Tool



7. Measure the resistance between the dispenser outlet casting and the tip of the nozzle spout. Use an electronic multimeter set on the high range of the ohmmeter function. Resistance should not indicate more than 70,000 ohms per foot of hose. Example: The measured resistance for a 12-foot hose must not exceed 840,000 ohms (840 kilohms).

BREAKAWAY REATTACHMENT PROCEDURES

These VST reattachable breakaways can be reconnected in either one of two methods:

METHOD 1: Use of the VST Breakaway Assembly Tool (VST-BAT-200) with the appropriate reassembly plates for this breakaway.

1. Follow **INSTALLATION PREPARATION** steps 1 - 3.
2. Inspect both safety breakaway halves for damage that may have occurred during separation. Include looking for external damage to the product, damaged threads, damaged O-rings, missing O-rings, proper placement of O-rings, etc. **If damage is detected, replace with new product.**
3. Prior to reassembling, be sure the mating parts are undamaged and clean.
4. Lightly lubricate **ALL** O-rings on mating connections with petroleum jelly or other suitable lubricant.
5. Utilize the VST Breakaway Assembly Tool with the appropriate reassembly plates to reassemble the breakaway. The tool is used to provide appropriate leverage for the ease of reassembly of the breakaway. This can be done without disassembling the hoses from the breakaway halves. **See Figure 2.**
6. Press the button on the VST Breakaway Assembly Tool to spread the end clamps apart. This will allow for the two separated breakaway halves to fit between the top and bottom clamps.
7. Slide the top clamp of the VST Breakaway Assembly Tool behind the hex on the breakaway half still connected to the whip hose. **See Figure 2.**
8. Slide the separated bottom half of the breakaway, with curb hose and nozzle attached, onto the bottom clamp of the VST Breakaway Assembly Tool. **See Figure 2.**
9. Slowly squeeze the VST Breakaway Assembly Tool trigger to bring the breakaway halves together.
10. Carefully align the two breakaway halves.
 - a. Align the anti-rotation studs (2) inside the breakaway half on the curb hose with the slots (2) on the other half of the breakaway attached to the whip hose. **See Figure 3.**
11. Continue squeezing the VST Breakaway Assembly Tool trigger to finish reassembly.
12. The two aligned breakaway halves need to be assembled concentrically (properly aligned) until they snap into place.
 - a. Listen for a "click" to indicate that the two halves have been properly reattached.
 - b. If the two breakaway halves become cocked (misaligned) or otherwise do not snap together easily, pull them apart and repeat steps 7 - 12.

CAUTION: Reconnection can cause a small amount of gasoline to leak out of the breakaway. A towel wrapped loosely around the breakaway can help to minimize spills.

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13. After the two breakaway halves are properly snapped together, remove the VST Breakaway Assembly Tool (press the button on the tool to allow it to release), and give the reassembled breakaway a strong pull to verify that it is properly connected.
14. Perform Section 1.4 – Procedure for Operator Reconnection of Breakaway and Testing Fueling Point after a Drive-Off in the Assist Systems Scheduled Maintenance.

METHOD 2: Without the use of the VST Breakaway Assembly Tool.

1. Follow **INSTALLATION PREPARATION** steps 1 - 5.
2. Disconnect hoses from the safety breakaway halves.
3. Inspect both safety breakaway halves for damage that may have occurred during separation. Include looking for external damage to the product, damaged threads, damaged O-rings, missing O-rings, proper placement of O-rings, etc. **If damage is detected, replace with new product.**
4. Prior to reassembling, be sure the mating parts are undamaged and clean.

Figure 3.

Anti-Rotation Studs and Slots



5. Lightly lubricate **ALL** O-rings on mating connections with petroleum jelly or other suitable lubricant.
6. Carefully align the 2 breakaway halves.
 - a. Align the anti-rotation studs inside the breakaway half on the curb hose with the slots on the other half of the breakaway -inside the breakaway half on the whip hose. **See Figure 3.**
7. The two aligned breakaway halves need to be assembled concentrically (properly aligned) until they snap into place.
 - a. Listen for a “click” to indicate that the two halves have been properly reattached.
 - b. If the two breakaway halves become cocked (misaligned) or otherwise do not snap together easily, pull them apart and start over.
8. After the two breakaway halves are properly snapped together, give the reassembled breakaway a strong pull to verify that it is properly connected.
9. Perform Section 1.4 – Procedure for Operator Reconnection of Breakaway and Testing Fueling Point after a Drive-Off in the Assist Systems Scheduled Maintenance.

MAINTENANCE

Inspect breakaways regularly for damage, loose connections or leaks. Replace as necessary. Subject to customer abuse, breakaways should be replaced when damaged.

The breakaway is designed and constructed to give lasting service if properly handled and maintained. If for any reason it should need attention, contact your VST distributor for proper disposition.

NOTE:

Due to abuse, misuse, changing gasoline formulas, variation in maintenance practices, environmental conditions and/or conditions beyond the manufacture's control, dispensing equipment may need replacement before five (5) years. Inspections and proper maintenance procedures should be followed by the station manager to determine if replacement is required before five (5) years.

WARNING

Unauthorized rebuilding or modifying of breakaways voids ALL approvals and warranties.

VST products must be used in compliance with applicable federal, state and local laws and regulations.

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