

# VST Installation Procedure for ENVIRO-LOC ECO Diesel Nozzles

Part Number Series: VST-DS-ND(cc) and VST-DS-ND(cc)R  
cc = Scuff Guard Color Code and R = Rebuilt



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## 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 nozzles.

1. Turn off and tag the power to the dispenser. Dispenser must be de-energized prior to service to avoid personal injury.
2. Barricade work area to block vehicle access to the dispenser.
3. Close dispenser shear valve prior to performing any service work with the hanging hardware (hoses, safety breakaways and nozzles).
4. Drain liquid product from the hanging hardware set into an approved container prior to replacing any hanging hardware component. (Pull nozzle lever.)

If the nozzle has an interlock device, engage the interlock before pulling the lever.

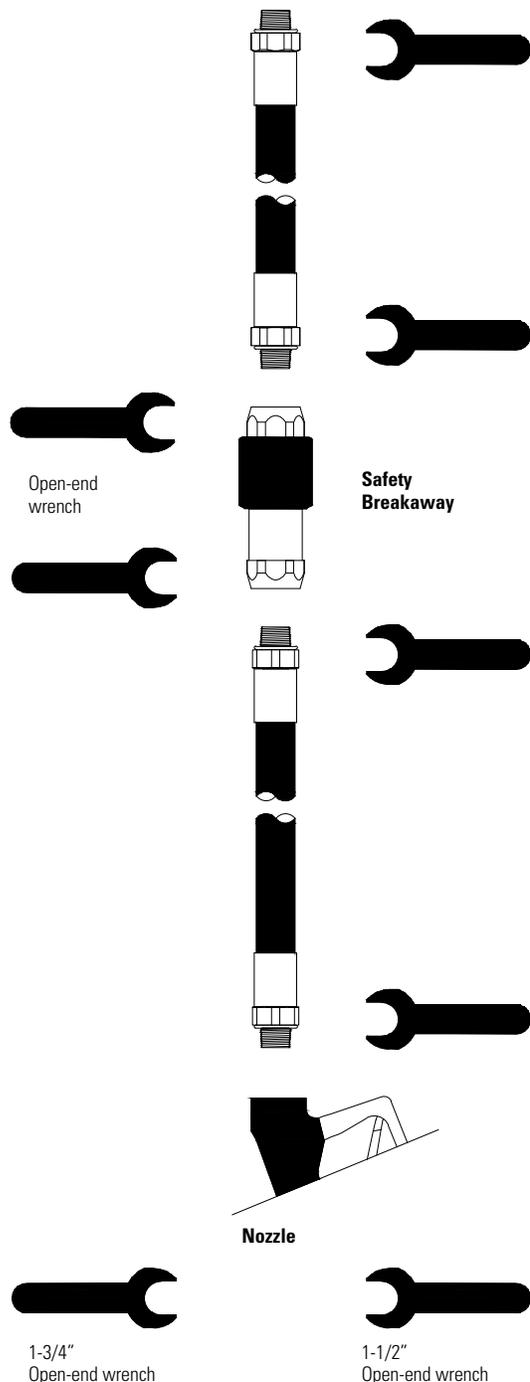
5. Remove hanging hardware from the dispenser prior to making replacement component assembly connections. VST recommends connecting the whip hose to the dispenser as the last connection during hanging hardware assembly.

## INSTALLATION AND FUNCTION TESTS

**STOP!** If this is a new facility installation, the fueling point must be flushed into an approved container before installing the nozzle. Using this nozzle to flush the system could result in foreign material becoming lodged in the nozzle's valve and cause it to not shut off.

1. Initial inspection:
  - a. Carefully unpack nozzle from shipping carton.
  - b. Inspect nozzle exterior for any damage.
  - c. Inspect threads, lever, lever lock, spout, spout boot, and face plate to determine that they are present and undamaged.
  - d. Verify interlock rod alignment. Check interlock for engagement and release. Nozzle will not function without the interlock rod properly engaged.
  - e. Inspect spout vent hole. It should be clear of debris.

Figure 1



# VST Installation Procedure for ENVIRO-LOC ECO Diesel Nozzles

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2. These are pipe thread connections. Use of thread sealant is recommended. Do not use Teflon tape. With pipe thread connections, the amount of torque necessary to obtain a seal is dependent on the mating materials and the thread condition.  
**Only enough torque to achieve sealing should be used.**
3. Attach nozzle on mating connections and tighten to finger tight. After finger tight, hold the nozzle securely and use a wrench **ONLY** on the hex flats of the hose coupling to tighten an additional 1 to 1½ TFFT (turns from finger tight.) This is normally sufficient to obtain a proper seal. Do not exceed 40 ft.-lbs for 3/4" pipe threads.
  - a. DO NOT OVER TIGHTEN.
  - b. DO NOT USE channel locks or pliers to tighten connections.
4. Visually inspect all hose connections for signs of potential leak points. Repair any issue immediately before proceeding.
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 the nozzle connection for liquid leaks and make proper adjustments at the hose connection if necessary.
6. Check the nozzle shut-off action by dispensing fuel into an approved container at least three times to assure the proper automatic operation of the interlock rod. The fuel flow-rate must be greater than 3 gpm for the automatic shut-off mechanism to operate.

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 nozzle is not designed to operate on gravity flow. The hold-open latch will disengage automatically when the liquid covers the vent hole in the spout. Verify that that the fuel flow stops when the face plate is decompressed (e.g. interlock is disengaged). To test that the fuel flow stops, dispense some fuel into an approved container. Slowly remove the nozzle from the container while dispensing fuel. Fuel flow should stop when the nozzle face plate is fully decompressed.
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).

## MAINTENANCE

Inspect nozzles regularly for damaged component parts: boot, face plate, spout, lever, lever lock, interlock rod functionality.

Damaged components must be replaced. Vent hole at the end of the spout should be clear of debris. The nozzle will not operate properly:

- If the vent hole becomes clogged.
- Without the interlock rod properly engaged.

Keep the hose connections tight.

Should there be a drive-off or incidence of customer abuse, follow the initial inspection instructions found in the INSTALLATION section. The nozzle should be replaced when damaged. The nozzle 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 fuel formulas, variation in maintenance practices, environmental conditions and/or conditions beyond the manufacturer'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 nozzles voids **ALL** approvals and warranties.

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

If local regulatory codes prohibit use of the nozzle's hold-open clip, it must be removed prior to nozzle installation. Remove the nozzle to a safe work area.

Place the nozzle on a flat surface.

Locate the alloy rivet securing the hold-open clip and spring in the nozzle's handle. Use a drill with a 3/16" (5mm) drill bit, drill out the rivet securing the hold-open clip, and discard the clip, spring, and all other rivet debris.

## DISCLAIMER

Not all vehicle filler necks (OEM or Aftermarket models) are designed the same. Some nozzles may experience interface compatibility issues due to design variability by the different vehicle manufacturers. In limited instances, the VST nozzle may require to be hand held in order to achieve proper fueling.