# VST Installation Procedure for Phase II Coaxial EVR Balance Nozzle Repair Kits Part Number Series:

VST-FEK-100 (Front End Kit includes VCK & Nozzle Spout Assembly)
VST-VCK-100 (Vapor Collection Kit: Boot Assembly Only)

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## TOOLS

| | |
|---|---|
| Adjustable Wrench | Nozzle Band Clamp Pincers |
| Approved Fuel Container | Torque Wrench |
| Wide Mouth Funnel | Vaseline (or suitable lubricant) |

## 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

This procedure must be followed to insure 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 the dispenser shear valve prior to removing hanging hardware (hoses, safety breakaways, and nozzles).
4. Visually inspect and assess the extent of the damage to all hanging hardware components. If there are no imperfections/damages, proceed to FUNCTIONAL TEST.
5. Drain liquid product from the hanging hardware set into an approved container prior to replacing any hanging hardware components.
6. 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 the hanging hardware assembly.
7. To drain nozzle, engage nozzle interlock:
   a. Push in face seal on nozzle boot assembly
   b. Hold the backend of the nozzle over an approved container
   c. Pull nozzle lever to fully drain the nozzle

## VAPOR COLLECTION KIT (VST-VCK-100) REMOVAL

### (See Figure 1)

1. Remove large band clamp from the Vapor Collection assembly with nozzle band clamp pincers. (VST-BPT-100)
2. Pull the Vapor Collection assembly (boot) off of the clamping groove of nozzle body.
3. Pull Vapor Collection assembly off of the spout by slightly twisting to go over the spout latch ring.
4. Properly discard the removed components.

## VAPOR COLLECTION KIT (VCK) REPLACEMENT

1. Place the large band clamp on the collection sleeve. (See Figure 1)
2. Check proper orientation of the interlock rod. (See Figure 2)
3. Slide VCK over the spout.
4. Align and insert the interlock rod into the interlock port. (See Figure 2)
5. Align and center all alignment marks on top of the vapor collection kit and nozzle scuff. (See Figure 1)
6. Engage interlock a few times to check for correct alignment and functionality. (See Function Test 3)
7. Tighten collection band clamp until collection sleeve will not rotate. (See Figure 1)

## NOZZLE SPOUT ASSEMBLY REMOVAL

1. Remove Vapor Collection Assembly.
2. Loosen spout nut with smooth-jaw wrench. (See Figure 3) **NOTE** Do not use pipe wrench or locking-type pliers.
3. Once threads are completely disengaged, pull the spout straight out.

## NOZZLE SPOUT ASSEMBLY (NSA) REPLACEMENT (See Figure 3)

1. Fuel chamber should remain in the nozzle casting with the vacuum sensing tube hole oriented at the top.
2. If the fuel chamber is pulled out of the nozzle casting:
   a. Check O-ring for damage.
   b. Replace O-ring if damaged (check for cuts, nicks, etc.).
   c. Lubricate O-ring prior to re-assembly.
3. Insert fuel chamber into nozzle casting:
   a. Poppet stem with spring goes through poppet hole in the fuel chamber (center hole).
   b. Push fuel chamber until it is flush with casting.
   c. Vacuum sensing tube in the fuel chamber should be oriented at the top.

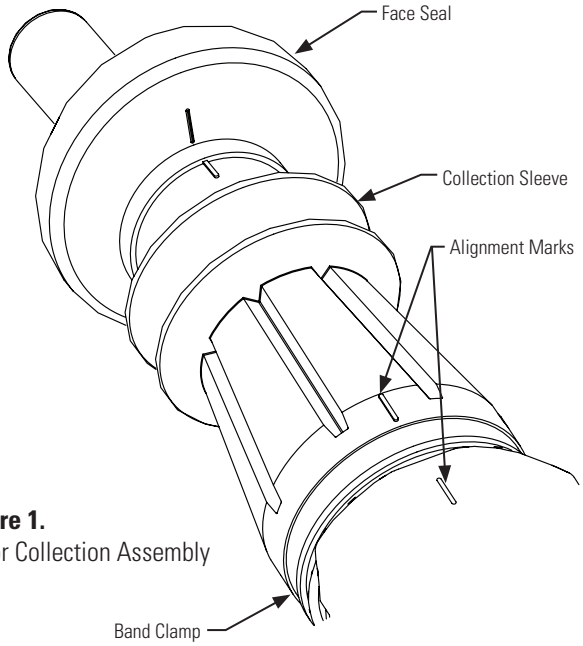



**Figure 1.**
Vapor Collection Assembly

# VST Installation Procedure for Phase II Coaxial EVR Balance Nozzle Repair Kits Part Number Series:

VST-FEK-100 (Front End Kit includes VCK & Nozzle Spout Assembly)
VST-VCK-100 (Vapor Collection Kit: Boot Assembly Only)

4. Lightly lubricate **ALL** O-rings on the spout assembly.
   **NOTE** Do not block vacuum sensing-tube hole with lubricant.
5. Align vacuum sensing tube with mating hole in the fuel chamber.
6. Align the anti-rotation bump on the spout with the casting notch. Be careful not to damage the spout O-rings.
7. Firmly insert spout assembly into the nozzle casting.
8. Apply a dab of Loctite® 565 (or equivalent thread sealant) to the male thread of the nozzle casting. Be careful not to apply the Loctite® so that it would enter into the casting notch. (See Figure 3)
9. Thread spout nut onto the nozzle casting and tighten firmly. Torque to 30 foot-pounds. Spout should be tight and not able to rotate. Do not over-tighten the spout nut.
10. After tightening the spout nut, place the Vapor Collection Kit onto the spout. Examine the location of the interlock rod to make sure it does not interfere or ride against the spout nut. If there is interference, tighten the spout nut a few degrees to allow the interlock rod to move freely.
11. Re-install the Vapor Collection Kit assembly per the Vapor Collection Kit Replacement instructions.

## FUNCTION TESTS

1. Follow the VST Installation Procedure for each hanging hardware component. (Procedures: Section 6, 8, and 9)
2. 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.
3. 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. According to U/L requirement 842, 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 the 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 liquid covers the vent hole in the spout. Verify that the fuel flow stops when the nozzle collection sleeve is decompressed (e.g. interlock rod 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 collection sleeve is fully decompressed.
4. 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 the hose. Example: The measured resistance of a 12-foot hose must not exceed 840,000 ohms (840 kilohms).

**MAINTENANCE** Inspect nozzles daily for damaged components parts: vapor collection sleeve, face seal, interlock rod, spout, lever, lever lock, etc. 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 vent hole becomes clogged. The nozzle will not function properly 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 VST Installation Procedure Section 10. 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 gasoline 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.

**Figure 2.**
Interlock Assembly

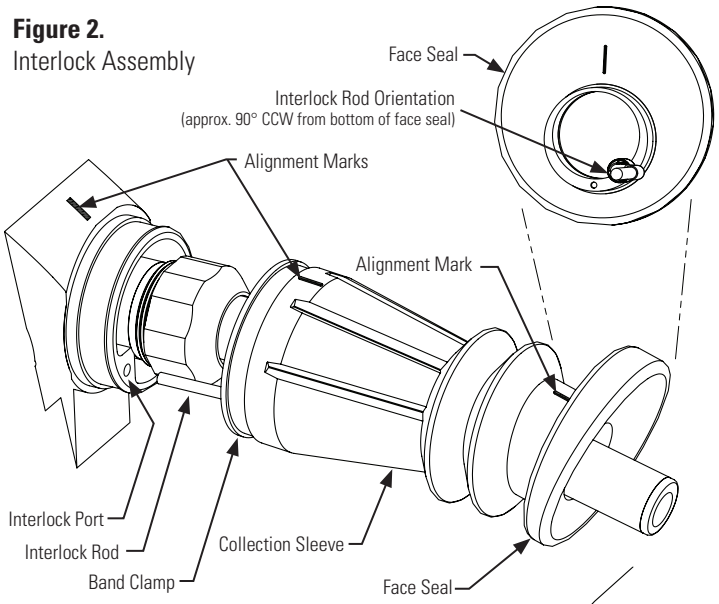
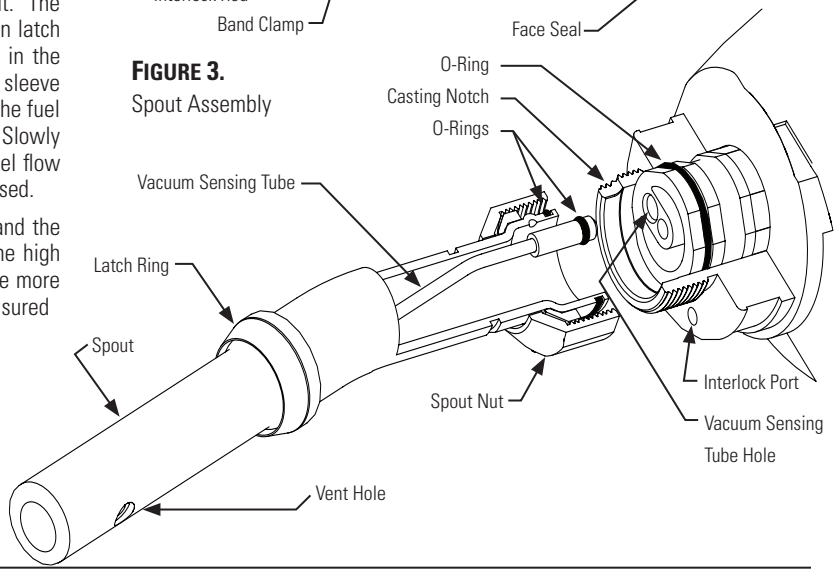



**FIGURE 3.**
Spout Assembly



EMCO® WHEATON RETAIL

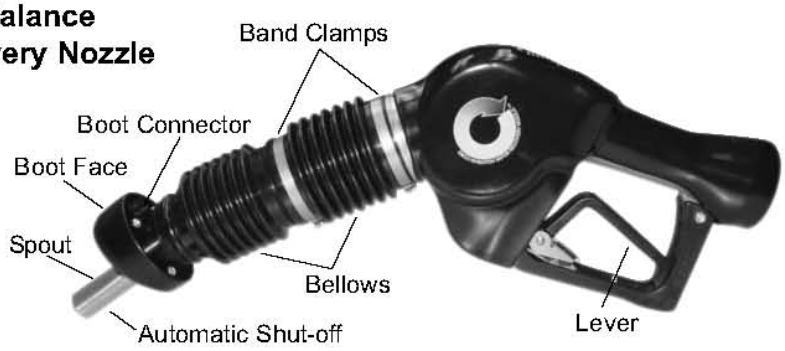
# 492775EVR

## Bellows & Boot Face Kit

**Packing List:**

(1) Bellows & Boot Face
(1) Bellows O-ring
(2) Bellows Band Clamps

**A4005EVR Balance Vapor Recovery Nozzle**




## INSTALLATION INSTRUCTIONS

**Service Tools Required:**

- Flat Head Screw Driver w/ Fine Tip
- Scribe Tool w/ 90 degree tip
- Bench Vise w/ 5" Jaw Width
- Gasoline Approved Container
- Bellows Retainer Plate Tool p/n 494712EVR
- Bellows Band Clamp Crimp Tool p/n 494652EVR

***CAUTION:***

1. Always barricade work area to keep pedestrians and vehicles from accessing the dispenser.
2. Always use a gasoline approved container or test can when performing any type of preventive maintenance.
3. Before attempting to install, remove or service the A4005EVR nozzle, turn off and tag out power to the corresponding dispenser.
4. Before attempting to install, remove or service the A4005EVR nozzle, close the emergency impact valves located inside the base of the dispenser. Relieve the line pressure and standing fuel through the nozzle spout into a gasoline approved container by compressing the bellows and squeezing the lever.

**IMPORTANT: Failure to perform cautions 3 and 4 may result in a hazardous gasoline spill, damage to equipment, personal injury and/or death.**

1

***Pre-Inspection:***

1. Carefully unpack and remove all kitted parts from the shipping container and evaluate for any kind of damage. Verify that no parts are missing from the packing list before proceeding with the installation.

***Pre-Installation:***

2. Empty all standing fuel within the spout and bellows into a gasoline approved container before attempting to service the bellows and boot face.

3. It is unnecessary to remove the A4005EVR nozzle from the fueling point during the removal and installation of the bellows and boot face. Use the bench vise to properly secure the A4005EVR nozzle during service.

***Installation:***

**Removing the Existing Bellows & Boot Face**

4. Locate the top bellows band clamp. Use the flat head screw driver to dislodge the locking mechanism and remove the band clamp from the bellows.

2

5. Locate the bottom bellows band clamp. Use the flat head screw driver to dislodge the locking mechanism and remove the band clamp from the bellows.

6. Remove the bellows and boot face from the A4005EVR nozzle. Grab the bellows and pull away from the nozzle body.

7. Use the scribe tool to remove the bellows o-ring.

**IMPORTANT: Properly discard all removed components.**

**Installing the New Bellows & Boot Face**

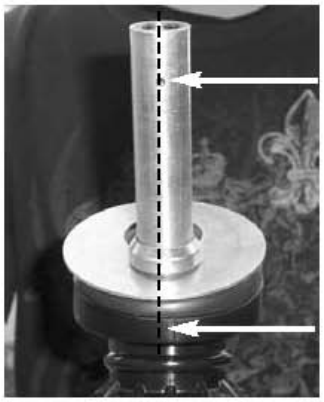
8. Before attempting to install the new bellows and boot face verify that the top of the interlock push rod is properly aligned with the bottom edge of the interlock guide.

3

9. Install the new bellows o-ring. Verify that the o-ring seats properly into the machined groove.

10. Slide the new bellows over the spout until the end reaches the nozzle body. Push down over the bellows o-ring until properly seated.

11. Use the bellows retainer plate tool p/n 494712EVR to secure and lock the bellows and boot face in place.



12. Slowly rotate the bellows until the parting line of the boot connector is aligned with the spout and automatic shut-off.

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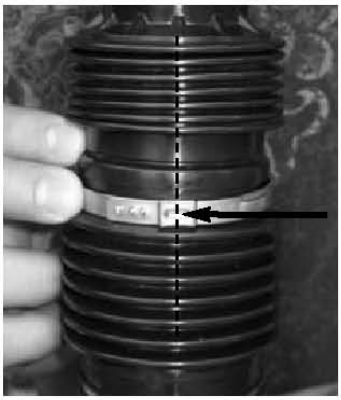
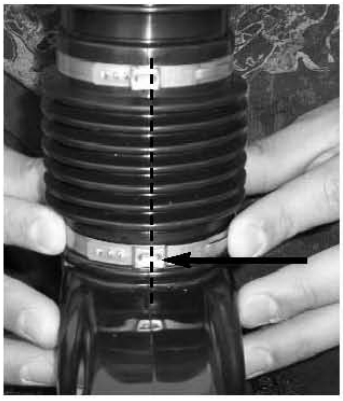


13. Install the new top bellows band clamp into the groove of the bellows. Lock and align the crimp portion with the parting line of the bellows.

14. Use the bellows band clamp crimp tool p/n 494652EVR to crimp and secure into place.



15. Install the new bottom bellows band clamp into the groove of the bellows. Lock and align the crimp portion with the parting line of the bellows.

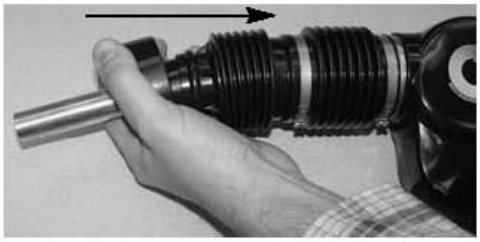
5

16. Use the bellows band clamp crimp tool p/n 494652EVR to crimp and secure into place.

17. Remove the bellows retainer plate tool p/n 494712EVR from bellows and spout.

18. Remove the A4005EVR nozzle from the bench vise.

***Post-Functional Test***:



19. Functional test the insertion interlock of the A4005EVR nozzle by compressing the bellows and then squeezing the lever. The A4005EVR nozzle will not function unless the insertion interlock is properly engaged.

***Post-Installation:***

20. Place the A4005EVR nozzle back onto the dispenser cradle.

6

## PREVENTIVE MAINTENANCE

1. Weekly inspect the bellows & boot face for tears, cuts and slits. Replace with factory authorized service kits.

| Part Number | Description |
|---|---|
| 492775EVR | Bellows & Boot Face Kit |

## PERFORMANCE STANDARDS & SPECIFICATIONS

This component was factory tested to, and met the following specifications:

1. Meets ARB Material Compatibility with Fuel Blends as per Section 3.8 of CP-201.
2. Meets ARB Capable of Refueling Any Vehicle Standards as per Section 4.7.1 of CP-201.

**IMPORTANT: Leave these installation instructions with the station owner and/ or operator.**

7

EMCO® WHEATON RETAIL

# 492776EVR
## Boot Face Kit

**Packing List:**

(1) Boot Face
(4) Mounting Screws

**A4005EVR**
**Balance Vapor Recovery Nozzle**

## INSTALLATION INSTRUCTIONS

**Service Tools Required:**

- Philips Head Screw Driver w/ Fine Tip
- Bench Vise w/ 5" Jaw Width
- Gasoline Approved Container

***CAUTION:***

1. Always barricade work area to keep pedestrians and vehicles from accessing the dispenser.
2. Always use a gasoline approved container or test can when performing any type of preventive maintenance.
3. Before attempting to install, remove or service the A4005EVR nozzle, turn off and tag out power to the corresponding dispenser.
4. Before attempting to install, remove or service the A4005EVR nozzle, close the emergency impact valves located inside the base of the dispenser. Relieve the line pressure and standing fuel through the nozzle spout into a gasoline approved container by compressing the bellows and squeezing the lever.

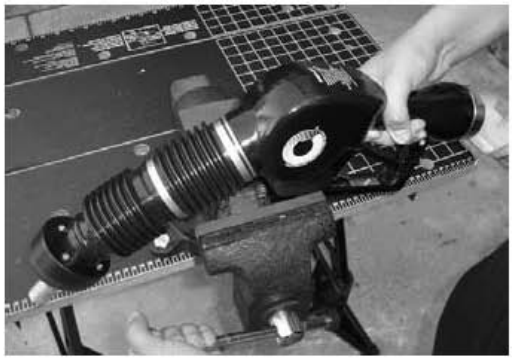
**IMPORTANT: Failure to perform cautions 3 and 4 may result in a hazardous gasoline spill, damage to equipment, personal injury and/or death.**

***Pre-Inspection:***

1. Carefully unpack and remove all kitted parts from the shipping container and evaluate for any kind of damage. Verify that no parts are missing from the packing list before proceeding with the installation.

***Pre-Installation:***

2. Empty all standing fuel within the spout and bellows into a gasoline approved container before attempting to service the boot face.



3. It is unnecessary to remove the A4005EVR nozzle from the fueling point during the removal and installation of the boot face. Use the bench vise to properly secure the A4005EVR nozzle during service.

***Installation:***

**Removing the Existing Boot Face**

4. Use the philips screw driver to remove the four mounting screws located on the back of the boot connector.

5. Remove the existing boot face by pulling out of the boot connector.

**IMPORTANT: Properly discard all removed components.**

2

**Installing the New Boot Face**

6. Install the new boot face into the boot connector by pressing evenly. Align the four mounting holes of the boot face with those of the boot connector.

7. Use the philips screw driver to install and tighten the four new mounting screws.
8. Remove the A4005EVR nozzle from the bench vise.

***Post-Installation:***

9. Place the A4005EVR nozzle back onto the dispenser cradle.

## PREVENTIVE MAINTENANCE

1. Weekly inspect the boot face for tears, cuts and slits. Replace with factory authorized service kits.

| Part Number | Description |
|---|---|
| 492776EVR | Boot Face Kit |

## PERFORMANCE STANDARDS & SPECIFICATIONS

This component was factory tested to, and met the following specifications:

1. Meets ARB Material Compatibility with Fuel Blends as per Section 3.8 of CP-201.
2. Meets ARB Capable of Refueling Any Vehicle Standards as per Section 4.7.1 of CP-201.

3

EMCO® WHEATON RETAIL

# 492834EVR
## Spout Kit

**Packing List:**

(1) Spout
(1) Bellows O-ring
(2) Bellows Band Clamps
(1) Interlock Guide
(1) Interlock Push Rod

**A4005EVR Balance Vapor Recovery Nozzle**

## INSTALLATION INSTRUCTIONS

**Service Tools Required:**

- Flat Head Screw Driver w/ Fine Tip
- 15" Crescent Wrench
- Torque Wrench w/ 45-55 ft-lbs. Setting
- Bench Vise w/ 5" Jaw Width
- Scribe Tool w/ 90 Degree Tip
- Needle Nose Pliers
- 40mm Crows Foot
- Snap Ring Pliers w/ Fine Tip
- Bellows Retainer Plate Tool p/n 494712EVR
- Bellows Band Clamp Crimp Tool p/n 494652EVR
- Gasoline Approved Container

***CAUTION:***

1. Always barricade work area to keep pedestrians and vehicles from accessing the dispenser.
2. Always use a gasoline approved container or test can when performing any type of preventive maintenance.
3. Before attempting to install, remove or service the A4005EVR nozzle, turn off and tag out power to the corresponding dispenser.
4. Before attempting to install, remove or service the A4005EVR nozzle, close the emergency impact valves located inside the base of the dispenser. Relieve the line pressure and standing fuel through the nozzle spout into a gasoline approved container by compressing the bellows and squeezing the lever.

**IMPORTANT: Failure to perform cautions 3 and 4 may result in a hazardous gasoline spill, damage to equipment, personal injury and/or death.**

***Pre-Inspection:***

1. Carefully unpack and remove all kitted parts from the shipping container and evaluate for any kind of damage. Verify that no parts are missing from the packing list before proceeding with the installation.

***Pre-Installation:***

2. Empty all standing fuel within the spout and bellows into a gasoline approved container before attempting to service the spout.

3. It is unnecessary to remove the A4005EVR nozzle from the fueling point during the removal and installation of the spout. Use the bench vise to properly secure the A4005EVR nozzle during service.

***Installation:***

**Removing the Existing Bellows & Boot Face**

4. Locate the top bellows band clamp. Use the flat head screw driver to dislodge the locking mechanism and remove the band clamp from the bellows.

2

5. Locate the bottom bellows band clamp. Use the flat head screw driver to dislodge the locking mechanism and remove the band clamp from the bellows.

6. Remove the bellows and boot face from the A4005EVR nozzle. Grab the bellows and pull away from the nozzle body.

7. Use the scribe tool to remove the bellows o-ring.

**IMPORTANT: Properly discard bellows band clamps and bellows o-ring.**

**Removing the Existing Spout**

8. Locate the snap ring on the spout. Use the snap ring and needle nose pliers to remove the snap ring from the machined groove. Slide the snap ring upward.

3

9. Disassemble the interlock guide. Remove the top piece by pulling upward and sliding over the spout. Remove the bottom piece by sliding over the spout.

10. Use the 15" crescent wrench to loosen the spout nut. Unfasten the spout nut by hand to avoid cross threading.

11. Remove the spout by slowly pulling upward.

12. Use the needle nose pliers to remove the interlock push rod.

**IMPORTANT: Properly discard all removed components.**

4

## Installing the New Spout

13. Use the needle nose pliers to install the new interlock push rod.

14. Install the new spout by inserting the vent tube connector into the nozzle vent port. Slowly push downward on the spout and align the dimple on the spout with the notch on the nozzle body.

15. Fasten the new spout nut by hand onto the nozzle threads to avoid cross threading. Use the 40mm crows foot and torque wrench to tighten the spout nut between 45 to 55 ft-lbs of torque.

16. Install the new interlock guide by sliding the top and bottom pieces over the spout. Press the top piece into the bottom piece.

5

17. Use the snap ring and needle nose pliers to install the new snap ring into the machined groove located on the spout. Slide the snap ring downward until seated properly.

**Installing the Existing Bellows & Boot Face**

18. Before attempting to install the existing bellows & boot face verify that the top of the interlock push rod is properly aligned with the bottom edge of the interlock guide.

19. Install the new bellows o-ring. Verify that the o-ring seats properly into the machined groove.

20. Slide the bellows over the spout until the end reaches the nozzle body. Push down over the bellows o-ring until properly seated.

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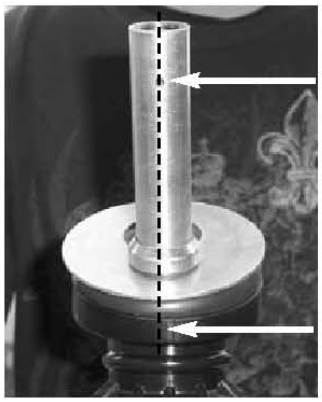
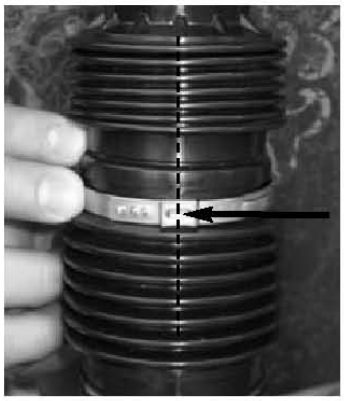
21. Use the bellows retainer plate tool p/n 494712EVR to secure and lock the bellows and boot face in place.

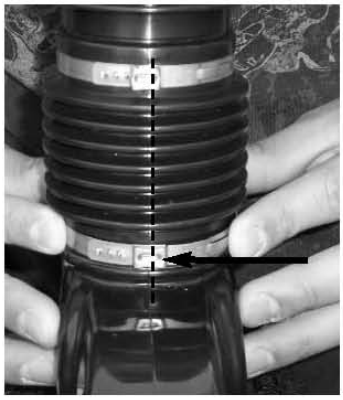


22. Slowly rotate the bellows until the parting line of the boot connector is aligned with the spout and automatic shut-off.



23. Install the new top bellows band clamp into the groove of the bellows. Lock and align the crimp portion with the parting line of the bellows.

24. Use the bellows band clamp crimp tool p/n 494652EVR to crimp and secure into place. 7



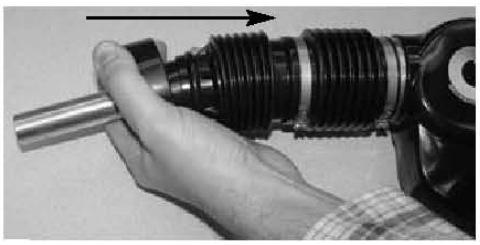
25. Install the new bottom bellows band clamp into the groove of the bellows. Lock and align the crimp portion with the parting line of the bellows.

26. Use the bellows band clamp crimp tool p/n 494652EVR to crimp and secure into place.

27. Remove the bellows retainer plate tool p/n 494712EVR from bellows and spout.

28. Remove the A4005EVR nozzle from the bench vise.

***Post-Functional Test***:



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29. Functional test the insertion interlock of the A4005EVR nozzle by compressing the bellows and then squeezing the lever. The A4005EVR nozzle will not function unless the insertion interlock is properly engaged.

30. Functional test the automatic shutoff of the A4005EVR nozzle. Begin dispensing by compressing the bellows and then squeezing the lever. Place the hold-open latch in "high" clip position to secure the lever. Dispense one gallon of fuel into a gasoline approved container. At the same time, lower the spout tip into the standing fuel until the automatic shut is completely submersed. The main valve of the A4005EVR nozzle will automatically close causing fuel flow to stop.

**IMPORTANT: Perform step 30 a minimum of three times to assure the insertion interlock , hold open latch and the automatic shutoff of the A4005EVR nozzle are operating properly.**

**According to UL requirement 842, the fuel flow rate must be greater than 3 gallons per minute for the automatic shutoff to operate properly. A common cause of low flow rates are dirty or clogged dispenser filters.**

***Post-Installation:***

31. Place the A4005EVR nozzle back onto the dispenser cradle.

## PREVENTIVE MAINTENANCE

1. Weekly inspect the spout for sheared, bent or blocked vent hole. Replace with factory authorized service kits.

| Part Number | Description |
|---|---|
| 492834EVR | Spout Kit |

## PERFORMANCE STANDARDS & SPECIFICATIONS

This component was factory tested to, and met the following specifications:

1. Meets ARB Material Compatibility with Fuel Blends as per Section 3.8 of CP-201.
2. Meets ARB Capable of Refueling Any Vehicle Standards as per Section 4.7.1 of CP-201.
3. Meets ARB Spout Dimension Standards as per Section 4.7.3 of CP-201.

EMCO®
WHEATON RETAIL

# 494748EVR
## Fuel Path O-ring Kit

**For use with Vapor Systems Technologies VST California Air Resources Board Executive Orders VR-203 and VR-204**

**Packing List:**
(2) Fuel Path O-rings

**A4005EVR Balance Vapor Recovery Nozzle**

**A4119EVR Coaxial Safe Break Valve**

## INSTALLATION INSTRUCTIONS

**Service Tools Required:**

- Pipe Wrench w/ Flat Jaws
- Bench Vise w/ 5" Jaw Width
- Petroleum Jelly or Other Suitable Lubricant
- Scribe Tool w/ 90 Degree Tip
- Gasoline Approved Container

***CAUTION:***

1. Always barricade work area to keep pedestrians and vehicles from accessing the dispenser.
2. Always use a gasoline approved container or test can when performing any type of preventive maintenance.
3. Before attempting to install, remove or service the A4005EVR nozzle and A4119EVR safe break valve, turn off and tag out power to the corresponding dispenser.
4. Before attempting to install, remove or service the A4005EVR nozzle and A4119EVR safe break valve, close the emergency impact valves located inside the base of the dispenser. Relieve the line pressure and standing fuel through the nozzle spout into a gasoline approved container by compressing the bellows and squeezing the lever.

**IMPORTANT: Failure to perform cautions 3 and 4 may result in a hazardous gasoline spill, damage to equipment, personal injury and/or death.**

1

***Pre-Inspection:***

1. Carefully unpack and remove all kitted parts from the shipping container and evaluate for any kind of damage. Verify that no parts are missing from the packing list before proceeding with the installation.

***Pre-Installation:***

2. Empty all standing fuel within the spout and bellows into a gasoline approved container before attempting to service the fuel path o-rings.

3. It is necessary to remove the A4005EVR nozzle and A4119EVR safe break valve from the curb hose during the removal and installation of the fuel path o-rings. Use the pipe wrench with flat jaws to loosen the curb hose connector. Unfasten the curb hose connector by hand from the A4005EVR nozzle to avoid cross threading.

**IMPORTANT: Drain the fuel from the hanging hardware into a gasoline approved container when removing the A4005EVR nozzle from the curb hose.**

**A4005EVR Nozzle**

**A4119EVR Safe Break Valve**

4. Use the bench vise to properly secure the A4005EVR nozzle or A4119EVR safe break valve during service.

2

***Installation:***

**Removing the Existing Fuel Path O-rings**

**A4005EVR Nozzle**

**A4119EVR Safe Break Valve**

5. Use the scribe tool to remove the existing fuel path o-rings.
6. Clean and remove all existing grease, fuel residue, debris, etc. from within the machined grooves.

**IMPORTANT: Properly discard all removed components.**

**Installing the New Fuel Path O-rings**

**A4005EVR Nozzle**

**A4119EVR Safe Break Valve**

7. Use the scribe tool to install the new fuel path o-rings. Verify that both o-rings seat properly into the machined grooves.

**A4005EVR Nozzle**

**A4119EVR Safe Break Valve**

8. Lightly lubricate the fuel path o-rings using petroleum jelly or other suitable lubricant.

3

***Post-Installation:***

9. Before attempting to reinstall the A4005EVR nozzle or A4119EVR safe break valve, please refer to the following installation instructions below.
    - A4005EVR Balance Vapor Recovery Nozzle p/n 570435
    - A4119EVR Coaxial Safe Break Valve p/n 569043

## PREVENTIVE MAINTENANCE

1. Weekly inspect the A4005EVR nozzle and A4119EVR safe break valve connections for leaks or fuel residue. Replace with factory authorized service kits.

| Part Number | Description |
|---|---|
| 494748EVR | Fuel Path O-ring Kit |

## PERFORMANCE STANDARDS & SPECIFICATIONS

This component was factory tested to, and met the following specifications:

1. Meets ARB Material Compatibility with Fuel Blends as per Section 3.8 of CP-201.

**IMPORTANT: Leave these installation instructions with the station owner and/ or operator.**

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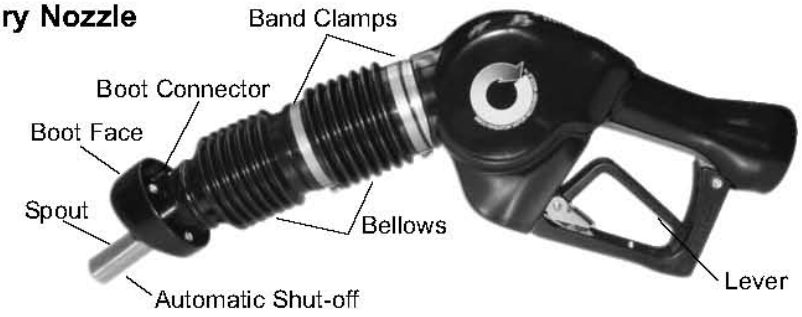
# 494750EVR
## Bellows Band Clamp Kit

**Packing List:**

(6) Bellows Band Clamps

**A4005EVR Balance Vapor Recovery Nozzle**




## INSTALLATION INSTRUCTIONS

**Service Tools Required:**

- Flat Head Screw Driver w/ Fine Tip
- Bench Vise w/ 5" Jaw Width
- Bellows Retainer Plate Tool p/n 494712EVR
- Bellows Band Clamp Crimp Tool p/n 494652EVR
- Gasoline Approved Container

***CAUTION:***

1. Always barricade work area to keep pedestrians and vehicles from accessing the dispenser.
2. Always use a gasoline approved container or test can when performing any type of preventive maintenance.
3. Before attempting to install, remove or service the A4005EVR nozzle, turn off and tag out power to the corresponding dispenser.
4. Before attempting to install, remove or service the A4005EVR nozzle, close the emergency impact valves located inside the base of the dispenser. Relieve the line pressure and standing fuel through the nozzle spout into a gasoline approved container by compressing the bellows and squeezing the lever.

**IMPORTANT: Failure to perform cautions 3 and 4 may result in a hazardous gasoline spill, damage to equipment, personal injury and/or death.**

***Pre-Inspection:***

1. Carefully unpack and remove all kitted parts from the shipping container and evaluate for any kind of damage. Verify that no parts are missing from the packing list before proceeding with the installation.

***Pre-Installation:***

2. Empty all standing fuel within the spout and bellows into a gasoline approved container before attempting to service the bellows band clamps.

3. It is unnecessary to remove the A4005EVR nozzle from the fueling point during the removal and installation of the bellows band clamps. Use the bench vise to properly secure the A4005EVR nozzle during service.

***Installation:***

**Removing the Existing Bellows Band Clamps**

4. Locate the top bellows band clamp. Use the flat head screw driver to dislodge the locking mechanism and remove the band clamp from the bellows.

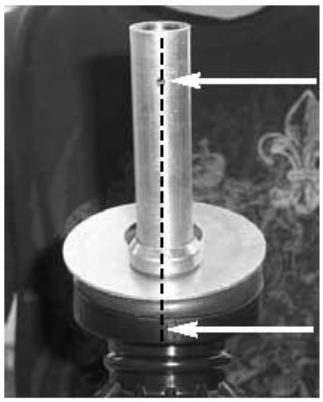
2

5. Locate the bottom bellows band clamp. Use the flat head screw driver to dislodge the locking mechanism and remove the band clamp from the bellows.

**IMPORTANT: Properly discard all removed components.**

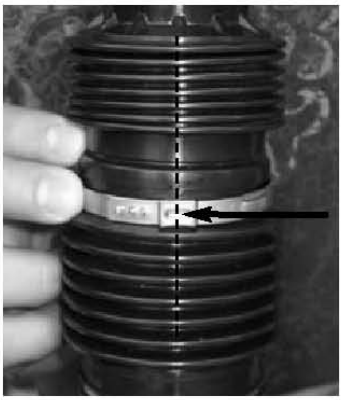
**Installing the New Bellows Band Clamps**

6. Use the bellows retainer plate tool p/n 494712EVR to secure and lock the bellows and boot face in place.



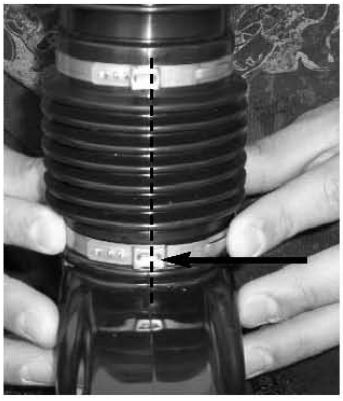
7. Slowly rotate the bellows until the parting line of the boot connector is aligned with the spout and automatic shut-off.

3



8. Install the new top bellows band clamp into the groove of the bellows. Lock and align the crimp portion with the parting line of the bellows.

9. Use the bellows band clamp crimp tool p/n 494652EVR to crimp and secure into place.



10. Install the new bottom bellows band clamp into the groove of the bellows. Lock and align the crimp portion with the parting line of the bellows.

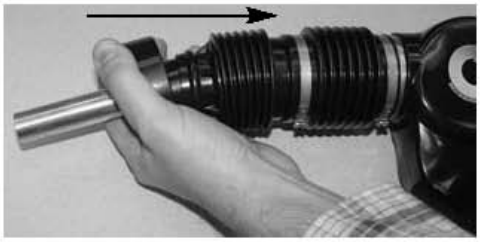
4

11. Use the bellows band clamp crimp tool p/n 494652EVR to crimp and secure into place.

12. Remove the bellows retainer plate tool p/n 494712EVR from bellows and spout.

13. Remove the A4005EVR nozzle from the bench vise.

***Post-Functional Test***:



14. Functional test the insertion interlock of the A4005EVR nozzle by compressing the bellows and then squeezing the lever. The A4005EVR nozzle will not function unless the insertion interlock is properly engaged.

***Post-Installation:***

15. Place the A4005EVR nozzle back onto the dispenser cradle.

5

## PREVENTIVE MAINTENANCE

1. Weekly inspect the bellows band clamps for damage or if missing. Replace with factory authorized service kits.

| Part Number | Description |
|---|---|
| 494750EVR | Bellows Band Clamp Kit |

## PERFORMANCE STANDARDS & SPECIFICATIONS

This component was factory tested to, and met the following specifications:

1. Meets ARB Material Compatibility with Fuel Blends as per Section 3.8 of CP-201.
2. Meets ARB Capable of Refueling Any Vehicle Standards as per Section 4.7.1 of CP-201.

**IMPORTANT: Leave these installation instructions with the station owner and/ or operator.**

EMCO® WHEATON RETAIL

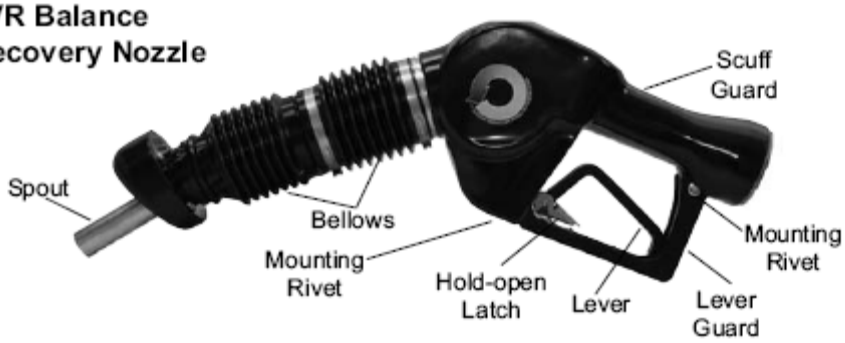
# 494150EVR
## Latch Kit

**For use with Vapor Systems Technologies VST California Air Resources Board Executive Orders VR-203 and VR-204**

**Packing List:**

(1) Latch Assembly
(2) Mounting Rivets
(1) Dust Plug

**A4005EVR Balance Vapor Recovery Nozzle**




## INSTALLATION INSTRUCTIONS

**Service Tools Required:**

- Pipe Wrench w/ Flat Jaws
- Flat Head Screw Driver w/ Wide Tip
- 1/8" Diameter Punch
- Bench Vise w/ 5" Jaw Width
- Awl w/ ¼"Tip
- Hammer
- 5/8" Diameter Punch
- Gasoline Approved Container
- Lever Guard Rivet Installation Tool p/n 494653EVR
- Needle Nose Pliers

***CAUTION:***

1. Always barricade work area to keep pedestrians and vehicles from accessing the dispenser.
2. Always use a gasoline approved container or test can when performing any type of preventive maintenance.
3. Before attempting to install, remove or service the A4005EVR nozzle, turn off and tag out power to the corresponding dispenser.
4. Before attempting to install, remove or service the A4005EVR nozzle, close the emergency impact valves located inside the base of the dispenser. Relieve the line pressure and standing fuel through the nozzle spout into a gasoline approved container by compressing the bellows and squeezing the lever.

1

**IMPORTANT: Failure to perform cautions 3 and 4 may result in a hazardous gasoline spill, damage to equipment, personal injury and/or death.**

***Pre-Inspection:***

1. Carefully unpack and remove all kitted parts from the shipping container and evaluate for any kind of damage. Verify that no parts are missing from the packing list before proceeding with the installation.

***Pre-Installation:***

2. Empty all standing fuel within the spout and bellows into a gasoline approved container before attempting to service the latch.

3. It is necessary to remove the A4005EVR nozzle from the curb hose during the removal and installation of the latch. Use the pipe wrench with flat jaws to loosen the curb hose connector. Unfasten the curb hose connector by hand from the A4005EVR nozzle to avoid cross threading.

**IMPORTANT: Drain the fuel from the hanging hardware into a gasoline approved container when removing the A4005EVR nozzle from the curb hose.**

***Installation:***

**Removing the Existing Latch**

4. Pull the rear end of the scuff guard over the nozzle body unit the dust plug is visible. Use the bench vise to properly secure the A4005EVR nozzle during service.

2

5. Use the awl and hammer to lightly tap and remove the dust plug.

6. Use the flat head screw driver to loosen the brass screw. Use the needle nose pliers to remove the brass screw and spring from the nozzle body.

7. Remove the A4005EVR nozzle from the bench vise and place on a flat surface. Use the 1/8" diameter punch and hammer to lightly tap and remove both mounting rivets located on the lever guard.

8. Remove the lever guard from the nozzle body.

3

9. Remove the existing latch by slowly pulling upward until the square stem clears the nozzle body.

**IMPORTANT: Properly discard the dust plug and mounting rivets and latch.**

**Installing the New Latch**

10. Locate the notch on the square stem and align to the right of the nozzle body. Install the new latch by pressing downward on the square stem.

11. Remove the A4005EVR nozzle from the bench vise and turn top side up. Install the existing spring around the square stem. Fasten the existing brass screw by hand onto the top of the square stem to avoid cross threading. Use the flat head screw driver to tighten.

4

12. Install the new dust plug. Use the 5/8 punch and hammer to light tap into place.

13. Remove the A4005EVR nozzle from the bench vise and place on flat surface. Install the existing lever guard onto the nozzle body using the new mounting rivets. Use the lever guard rivet installation tool p/n 494653EVR and hammer to properly flare the ends of the mounting rivets.

14. Install the existing scuff guard by pulling over the nozzle body.

***Post-Installation:***

15. Before attempting to reinstall the A4005EVR nozzle, please refer to the A4005EVR Balance Vapor Recovery Nozzle Installation Instructions p/n 570435.

5

## PREVENTIVE MAINTENANCE

1. Weekly inspect the latch for damage or if missing. Replace with factory authorized service kits.

| Part Number | Description |
|---|---|
| 494150EVR | Latch Kit |

## PERFORMANCE STANDARDS & SPECIFICATIONS

This component was factory tested to, and met the following specifications:

1. Meets ARB Material Compatibility with Fuel Blends as per Section 3.8 of CP-201.

**IMPORTANT: Leave these installation instructions with the station owner and/ or operator.**

6

EMCO®
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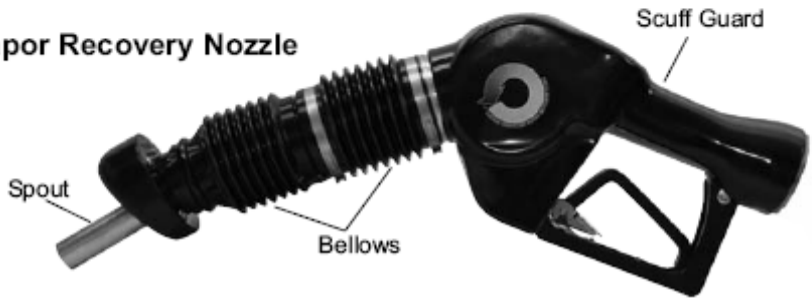
# A0557EVR
## Scuff Guard Kit

**For use with Vapor Systems Technologies VST California Air Resources Board Executive Orders VR-203 and VR-204**

**Packing List:**

(1) Scuff Guard

**A4005EVR**
**Balance Vapor Recovery Nozzle**




## INSTALLATION INSTRUCTIONS

**Service Tools Required:**

- Pipe Wrench w/ Flat Jaws
- Gasoline Approved Container
- Utility Knife

***CAUTION:***

1. Always barricade work area to keep pedestrians and vehicles from accessing the dispenser.
2. Always use a gasoline approved container or test can when performing any type of preventive maintenance.
3. Before attempting to install, remove or service the A4005EVR nozzle, turn off and tag out power to the corresponding dispenser.
4. Before attempting to install, remove or service the A4005EVR nozzle, close the emergency impact valves located inside the base of the dispenser. Relieve the line pressure and standing fuel through the nozzle spout into a gasoline approved container by compressing the bellows and squeezing the lever.

**IMPORTANT: Failure to perform cautions 3 and 4 may result in a hazardous gasoline spill, damage to equipment, personal injury and/or death.**

1

***Pre-Inspection:***

1. Carefully unpack and remove all kitted parts from the shipping container and evaluate for any kind of damage. Verify that no parts are missing from the packing list before proceeding with the installation.

***Pre-Installation:***

2. Empty all standing fuel within the spout and bellows into a gasoline approved container before attempting to service the scuff guard.

3. It is necessary to remove the A4005EVR nozzle from the curb hose during the removal and installation of the scuff guard. Use the pipe wrench with flat jaws to loosen the curb hose connector. Unfasten the curb hose connector by hand from the A4005EVR nozzle to avoid cross threading.

**IMPORTANT: Drain the fuel from the hanging hardware into a gasoline approved container when removing the A4005EVR nozzle from the curb hose.**

***Installation:***

**Removing the Existing Scuff Guard**

4. Place the A4005EVR nozzle on a flat surface. Use the utility knife to make the first cut along the front side of the scuff guard.

2

5. Use the utility knife to make the second cut along the rear side of the scuff guard.

6. Remove the scuff guard from the nozzle body.

**IMPORTANT: Properly discard all removed components.**

**Installing the New Scuff Guard**

7. Before attempting to install the new scuff guard. Soften the scuff guard by soaking in hot water and soap.

8. Install the new scuff guard by sliding over the spout and bellows. Pull the scuff guard completely over the nozzle body.

***Post-Installation:***

9. Before attempting to reinstall the A4005EVR nozzle, please refer to the A4005EVR Balance Vapor Recovery Nozzle Installation Instructions p/n 570435.

## PREVENTIVE MAINTENANCE

1. Weekly inspect the scuff guard for the Emco Wheaton Retail manufacturer's logo. Replace with factory authorized service kits.

| Part Number | Description |
|---|---|
| A0557EVR | Scuff Guard Kit |

3

## PERFORMANCE STANDARDS & SPECIFICATIONS

This component was factory tested to, and met the following specifications:

1. Meets ARB Material Compatibility with Fuel Blends as per Section 3.8 of CP-201.

**IMPORTANT: Leave these installation instructions with the station owner and/ or operator.**