

California Environmental Protection Agency



ARB Approved

Installation and Maintenance Manual

For the CNI Manufacturing Phase I Vapor Recovery System

Approved: September 26, 2003

Summary of Guidelines for Maintenance Activities Required of the CNI Manufacturing Phase I Vapor Recovery System¹

COMPONENT

P/V vent valve: Husky 4885

Interval: Annual

Annually inspect the P/V Vent valve for foreign objects without removing the P/V Vent valve from the vent pipe by using the following procedure: 1. Remove screws that hold top cover on. 2. Remove any debris that might be sitting inside the lower cover. 3. Check the drain holes in the lower cover for blockage. 4. Do not remove the two (2) screens. 5. Reinstall the top cover and retaining screws. 6. Tighten the screws firmly.

Note: Do not alter or cover the P/V Vent

Spill Containers: XXXX-31103

Interval: Annual and after each delivery

After each delivery, the operator must remove any standing fuel from the container. Annually, clean the interior of the container. Remove, accumulated dirt and grit.

Drain Valves: CNI RP12-PUSH

Interval: 18 months

Maintenance must be conducted if the drain valve fails the C.A.R.B. test procedure TP201.1C.and (or) once every 18 months regardless.

1. Unscrew the drain valve. 2. Unscrew the cap. 3. Remove screw and washer. 4. Pull the shaft. 5. Clean and check the screen, replace if it's damaged. 6. The "O"-ring needs to be replaced each time the drain is disassembled. 7. The plunger gasket needs to be replaced each time the drain is disassembled. 8. clean all parts before assembling. 9. To assemble reverse the procedure. 10. Torque the drain to 11 foot lbs. 11. Screw the cap back on finger tight. Also, if valve fails the decay test or C.A.R.B. test procedure TP201.1C, this valve needs to be removed, disassembled and a new gasket kit will need to be installed. The gasket kit is p/n. DVK1 which includes a plunger gasket p/n RP12-9 and an "O"-ring p/n RP12-7.

Dust Caps: CNI 64 and 611-VR-3

Interval: Annual

Annually inspect the gasket in the cap, if the gasket is worn or the cap spins freely on the adaptor, replace the gasket with a new gasket using p/n RP65.

Product Adaptor: EMCO A0030-124

Interval: Annual

Static torque test

Annually verify the static torque of the swivel adaptors by performing C.A.R.B. test procedure TP201.1B.

If the swivel adaptor fails to meet the static torque test requirements, replace both "O"-rings with the EMCO Wheaton "O"-ring kit p/n. 493995.

Leak tightness integrity test

Annually verify leak tightness integrity of the swivel adaptor by performing C.A.R.B. test procedure TP201.3.

If the swivel adaptor fails to meet the leak tightness integrity test requirements, replace both "O"-rings with the EMCO Wheaton "O"-ring kit p/n 493995 or flat gasket p/n 409628.

Vapor Adaptor: EMCO A0076-124

Interval: Annual

Static torque test

Annually verify the static torque of the swivel adaptors by performing C.A.R.B. test procedure TP201.1B.

If the swivel adaptor fails to meet the static torque test requirements, replace both "O"-rings with the EMCO Wheaton "O"-ring kit p/n. 493995.

Leak tightness integrity test

Annually verify leak tightness integrity of the swivel adaptor by performing C.A.R.B. test procedure TP201.3.

If the swivel adaptor fails to meet the leak tightness integrity test requirements, replace both "O"-rings with the EMCO Wheaton "O"-ring kit p/n 493995 or flat gasket p/n 409628.

Extractor Assembly: CNI 118F/M, 119F/M & 121 F/M

Interval: None

No maintenance is required for this product.

¹ These maintenance requirements shall not circumvent use of the manufacturer's maintenance instructions. Maintenance contractors or owner/operators shall refer to the manufacturers complete installation and maintenance instructions found here for the CNI Manufacturing System to ensure that all maintenance and torque requirements are met.

Summary of Guidelines for Maintenance Activities Required of the CNI Manufacturing Phase I Vapor Recovery System (continued)²

COMPONENT	
Ball Floats: CNI 123-12C	Interval: 3 years
Visually inspect the valve for damage, contamination, corrosion, freedom of movement of the ball float and check the bleeder orifice for proper airflow. Replace if damaged or corroded.	
Drop Tubes: CNI DT100	Interval: Annual
Annually test the drop tube using C.A.R.B test procedure TP201.1C. If it fails you need to replace the "O"-ring with a new one using p/n RP101 Next, visually inspect the drop tube to see if it is installed correctly and see if the bottom of the drop tube is a maximum of 6 inches to the bottom of the tank. Do not remove unless it fails C.A.R.B. test procedure TP201.1C.	
Tank Gauge Cap and Adaptor: CNI 613BC	Interval: Annual
Annually inspect the gasket in the cap, if the gasket is worn or the cap spins freely on the adaptor, replace the gasket with a new one using p/n RP65.	

² These maintenance requirements shall not circumvent use of the manufacturer's maintenance instructions. Maintenance contractors or owner/operators shall refer to the manufacturers complete installation and maintenance instructions found here for the CNI Manufacturing System to ensure that all maintenance and torque requirements are met.

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Figure A-1

Typical Product Side Installation Using CNI Manufacturing System

Typical Product side XXXX-31103

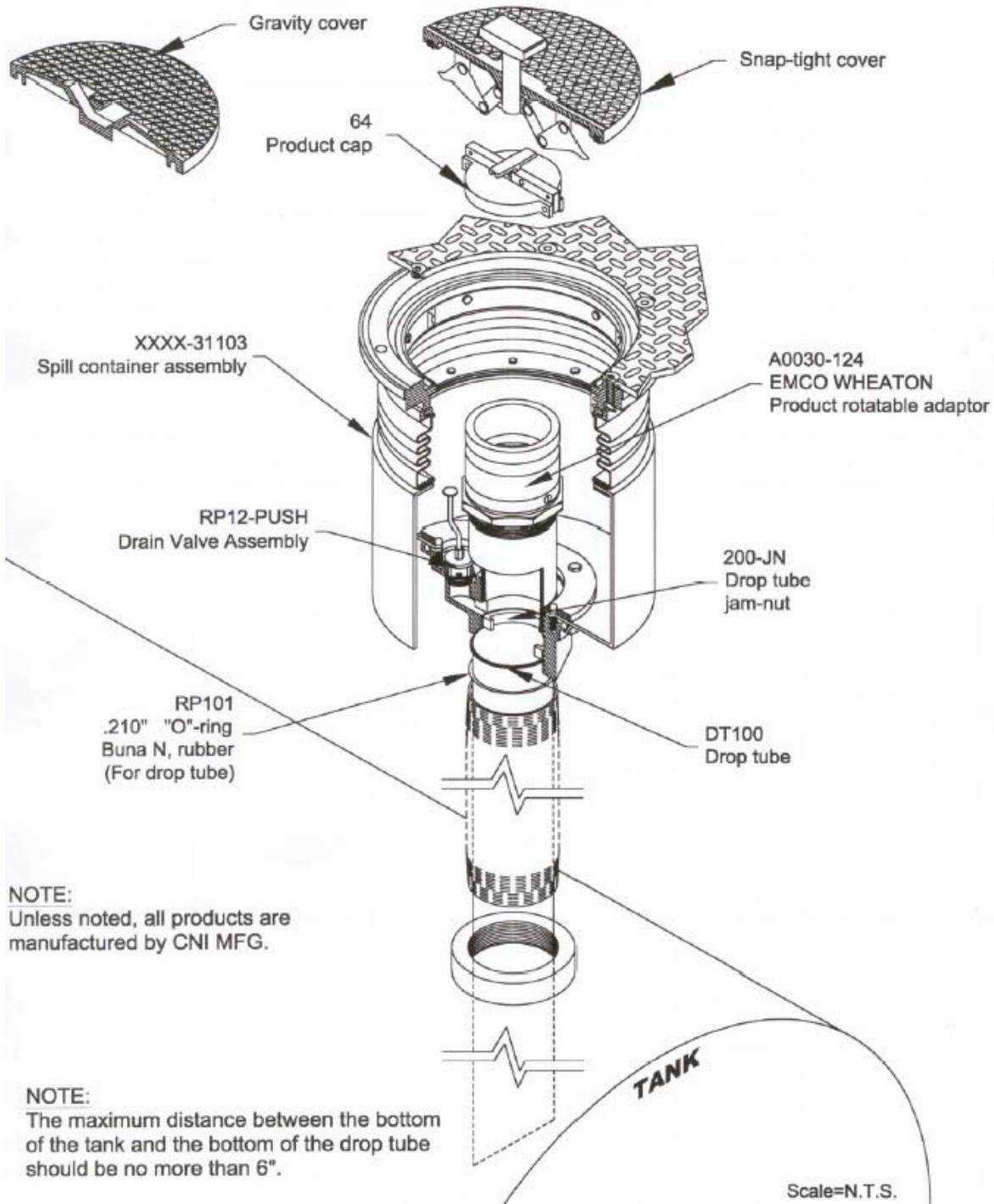


Figure A-2

Typical Vapor Recovery Installation Using CNI Manufacturing System

Typical Vapor Side XXXX-31103

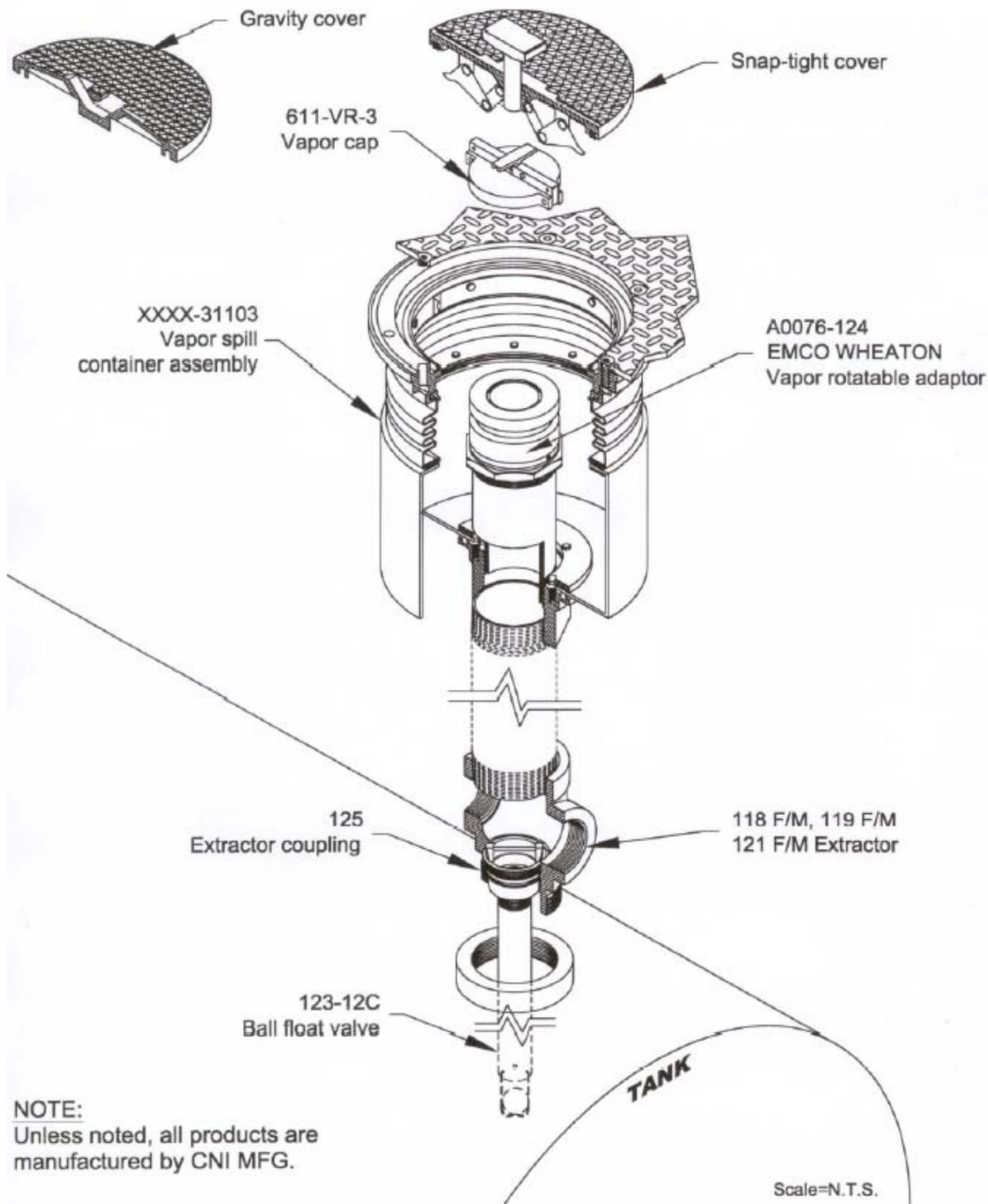


Figure B-1

Product Side Installation Instruction



(COPY MUST BE LEFT WITH OWNER OR OPERATOR)



CNI EVR EXECUTIVE ORDER VR-104-A

Add number 31103 to our standard catalog part # for The EVR Certified System, for States that require it.

PRODUCT SIDE Installation Instructions For A 2 Point System

Torque Specifications for CNI's Spill Container Assembly Installation

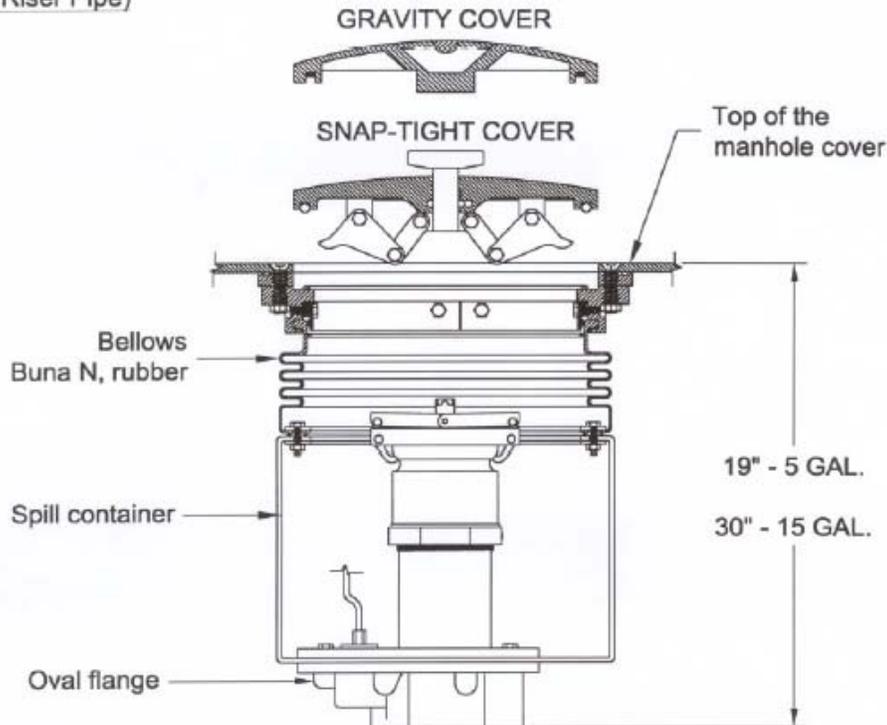
Part Description	Torque Specifications (foot lbs.)	Special Tool Needed
4" Tank Riser	250-350 foot lbs.	No, Standard chain wrench with offset
STP-22, Spill Container Oval Flange	195-200 foot lbs.	No, Standard chain wrench with offset
STP-17, Oval Flange Compression Ring	15 foot lbs.	No, Standard 1/2" socket and torque wrench
200JN, Jam Nut	45 foot lbs.	Yes, CNI Jam Nut Installation Tool P/N #EVRSYS112
4" Containment Nipple	170-175 foot lbs.	No, Standard chain wrench with offset
A0030-124, EMCO Wheaton Rotatable Product Adaptor	35 foot lbs.	Yes, CNI MFG Rotatable Adaptor Tool #EVRSYS106
STP-33, Bellows Hold Down Clamps	10 foot lbs.	No, Standard 7/16" socket and torque wrench

Pre-Assembly Notes

- The spill container assembly is pre-assembled at the factory for ease of installation.
NOTE: All containments for the State of California, you will add #31103 to our catalog part numbers for our CNI EVR System.
EXAMPLE: Catalog part #3605 add #31103 to get part #360531103 for our CNI EVR System.
- #200-JN Jam-Nut is already located in the oval flange for ease of installation.
- Inspect spill container components for damage.
- Use appropriate safety measures, to avoid fire and personal injury.
- Use ONLY the correct tools and torque wrenches for a correct installation.



Installation Instructions For A 2 Point System, Product Side Spill Container (4" N.P.T. Riser Pipe)



Installation Instructions

Step 1

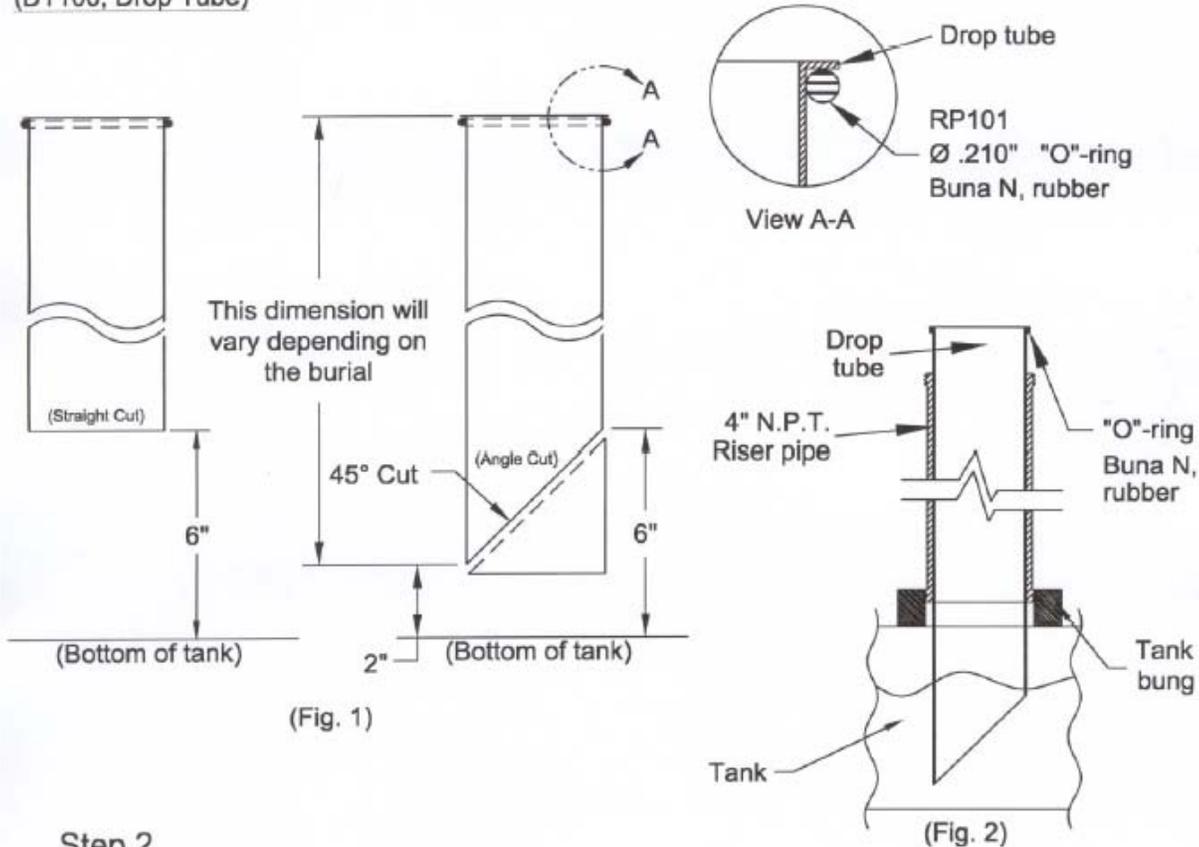
Cut the Product Riser to Length and Install

DO NOT USE HACKSAW TO CUT RISER PIPE.

1. The length of the riser pipe will vary depending upon the size of the spill container and the depth of the underground storage tank. Regardless of these variables, the riser must be cut such that the distance from the top of the tank riser and the finish grade is 19 inches (plus or minus 1/2 inch) for our 5 gallon spill container. The distance from the top of the tank riser and the finish grade should be 30 inches (plus or minus 1/2 inch) for our 15 gallon spill container.
2. Once the proper riser length is established, use a roller style 2 blade pipe cutter to ensure a flat square cut across the top of the riser. Cut the tapered threads on both ends of the riser. Ensure that a square flush smooth sealing surface is achieved on both sides. De-burr and clean riser threads. Apply a Teflon, Fire Marshall approved thread sealing compound on the lower male threads of the riser pipe.
3. Manually tighten riser pipe into tank bung, then torque to 250-350 foot lbs.



Installation Instructions For A 2 Point System, Product Side Spill Container (DT100, Drop Tube)



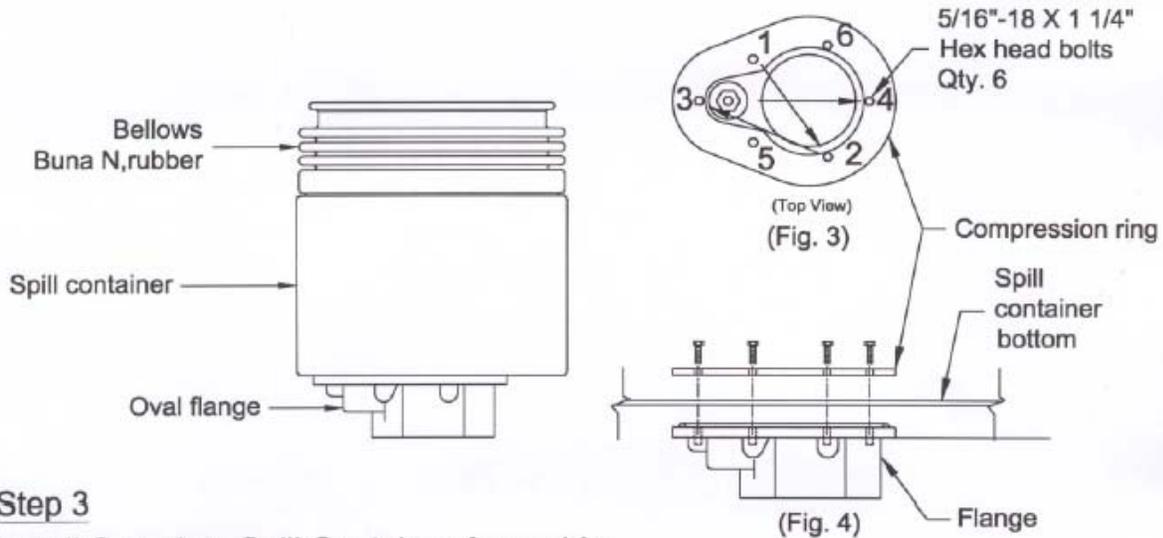
Step 2

Install drop tube

1. Measure the distance between the top of the product riser pipe and the bottom of the tank.
2. Cut the solid drop tube at a 45° angle, 6 inches from the the extreme top cut, to the bottom of the tank. For a straight cut, the dimension should also be 6" from the bottom of the drop tube to the bottom of the tank-(See Fig. 1). Cut the drop tube to the referenced dimension using a hacksaw equipped with a fine tooth blade.
NOTE: For an angle cut, the drop tube may not exceed 2 inches from the bottom of the tank.
3. Carefully remove all cutting burs from the edge of the drop tube.
4. Insert the drop tube on to the tank riser-(See Fig. 2). Carefully lower the drop tube into the tank, until the drop tube collar rests on the edge of the product riser pipe. Verify the drop tube "O"-ring is installed and properly secured.



Installation Instructions For A 2 Point System, Product Side Spill Container (XXXX-31103, Spill Container Assembly)



Step 3

Install Complete Spill Container Assembly

Note: The spill container is pre-assembled for ease of installation as shown above.

1. Apply a Teflon, Fire Marshall approved thread sealing compound on the upper male threads of the riser pipe.
2. Manually tighten the complete spill container assembly onto the riser pipe.
3. Using a chain wrench, wrap it around the hexed bottom of the flange and torque to 195-200 foot lbs.
 - A. If a chain wrench is not available, the spill container must be removed from the oval flange to be able to properly torque the flange onto the tank riser. Then proceed to steps B, C & D.
 - B. Inside the container there are 6 hex head bolts and a compression ring that must be removed-(See Figure 3). Once removed, lift the spill container to expose the oval flange.
 - C. Use an appropriate sized torque wrench and torque the oval flange to 195-200 foot lbs.
 - D. Line up the spill container on the oval flange, then align the compression rin and manually tighten the hex head bolts-(See Figure 4). Torque a little at a time in a cross over pattern for a correct seal, until you achieve 15 foot lbs.-(See Figure 3).

Maintenance

After each delivery, the operator must remove any standing fuel from the container. Annually, clean the interior of the container. Remove, accumulated dirt and grit.



Installation Instructions For A 2 Point System, Product Side Spill Container (200JN, Jam Nut)

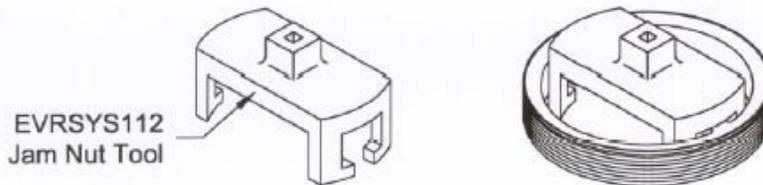
Step 4

Install Jam Nut (For Product Side Only)

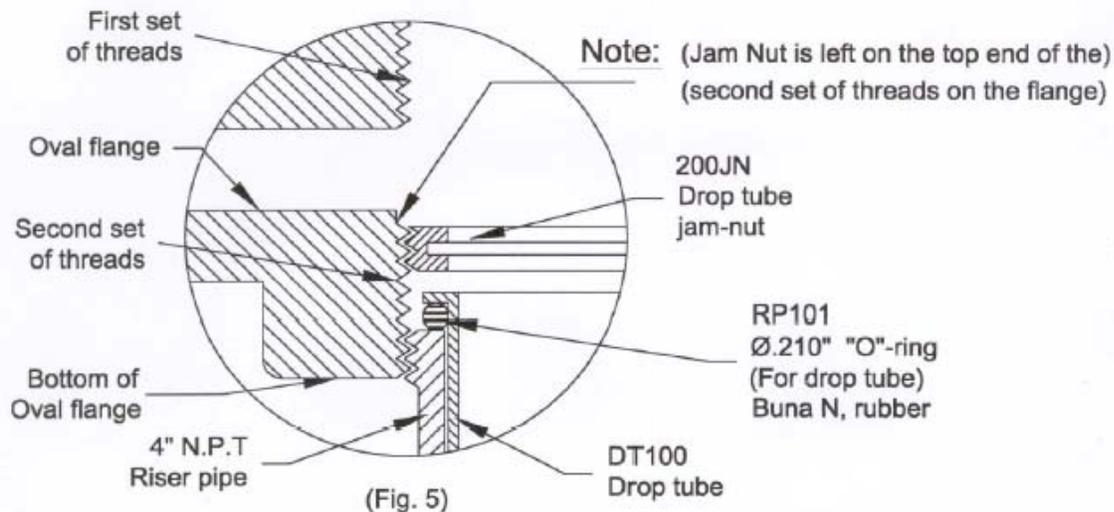
Note: The jam nut is included in the container pre-assembly. It's located on the second set of threads, on the bottom half of the flange, for ease of installation-(See Fig. 5) below.

1. Screw jam nut by hand until it sets against the drop tube.
2. Using jam nut installation/removal tool #EVRSYS112-(see example below), tighten jam nut to 45 foot lbs. The jam nut must be in contact with the drop tube flange.

Note: Tool #EVRSYS112 must be ordered seperately.

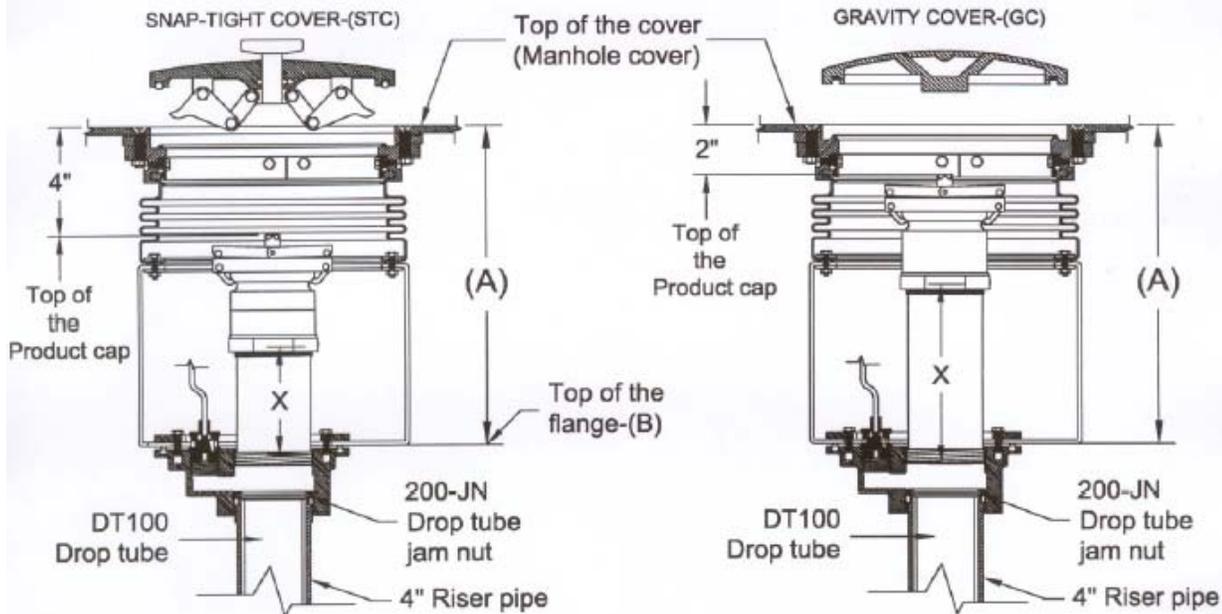


(Example)





Installation Instructions For A 2 Point System, Product Side Spill Container
 (4" N.P.T. Containment Nipple)



Step 5

Cut the Containment Nipple to Length

1. Snap Tight Cover Nipple Length Formula - (STC): $X = ((A - 4) - 6 \frac{9}{16}) + 1 \frac{1}{4}$ Gravity Cover Nipple Length Formula - (GC): $X = ((A - 2) - 6 \frac{9}{16}) + 1 \frac{1}{4}$
2. X = nipple length (inches)
 A = distance from top of round flange to top of manhole cover (inches)
 6 9/16 = product rotatable adaptor and cap length (inches)
 1 1/4 = thread length (inches)
3. Following the formula above, measure the distance from the top of the manhole cover to the top of the flange-(A). Deduct 4 inches for the Snap-tight cover or 2 inches for the Gravity cover. Next, deduct 6 9/16 inches for the product rotatable adaptor and cap. Finally you add 1 1/4 inches for the threads.



Installation Instructions For A 2 Point System, Product Side Spill Container (4" N.P.T. Containment Nipple, Rotatable Adaptor, Bellows Hold Down Clamp)

Step 6

Install the 4" N.P.T. Containment Nipple

DO NOT USE HACKSAW TO CUT CONTAINMENT NIPPLE.

1. Once the proper nipple length is established, use a roller style 2 blade pipe cutter to ensure a flat square cut across the top of the nipple.
2. Cut the tapered threads on both ends of the nipple.
3. Ensure that a square flush smooth sealing surface is achieved on both sides. De-burr and clean nipple threads.
4. Apply a Teflon, Fire Marshall approved thread sealing compound on lower nipple threads.
5. Manually tighten the containment nipple into oval flange, then torque to 170-175 foot lbs.

Step 7

Install Product Rotatable Adaptor

Install product rotatable adaptor, according to manufacturers installation instructions.

Step 8

Install the manhole cover

1. Use two men to pick up the floor plate cover and align with containment area.
2. Reach in and work the bellows bead-(A) into the groove-(B) of the cover ring.-(See Fig. 6)
3. Line up the bellows 3 piece hold down clamp-(C), screw on the bolts and tighten. Using a 7/16 inch socket, torque to 10 inch-lbs.-(See Fig. 6)

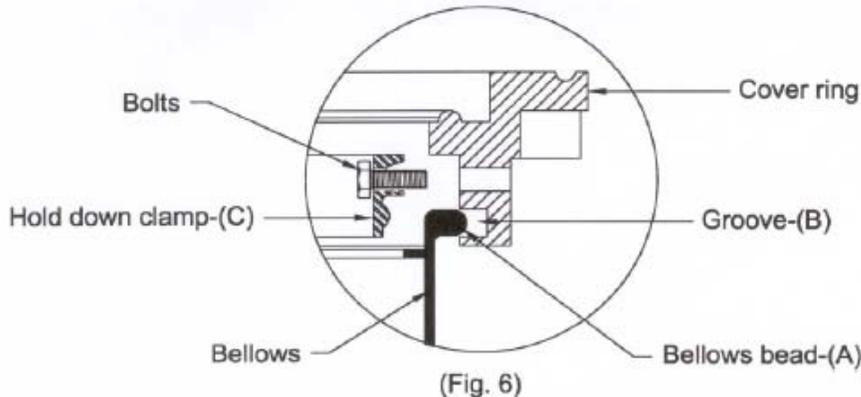


Figure B-2

Vapor Side Installation Instruction



(COPY MUST BE LEFT WITH OWNER OR OPERATOR)



CNI EVR EXECUTIVE ORDER VR-104-A

Add number 31103 to our standard catalog part # for The EVR Certified System, for States that require it.

VAPOR SIDE Installation Instructions For A 2 Point System

Torque Specifications for CNI's Spill Container Assembly Installation

Part Description	Torque Specifications (foot lbs.)	Special Tool Needed
118 F/M, 119 F/M & 121-F/M Extractor	250-350 foot lbs.	No, Standard chain wrench with offset
125, Extractor Coupling	80 foot lbs.	No, Standard chain wrench with offset
123-12C, Ball Float Valve	60 foot lbs.	No, Standard chain wrench with offset
4" Tank Riser	250-350 foot lbs.	No, Standard chain wrench with offset
STP-24, Spill Container Round Flange	195-200 foot lbs.	No, Standard chain wrench with offset
STP-18, Round Flange Compression Ring	15 foot lbs.	No, Standard 1/2" socket and torque wrench
4" Containment Nipple	170-175 foot lbs.	No, Standard chain wrench with offset
A0076-124, EMCO Wheaton Rotatable Vapor Adaptor	35 foot lbs.	Yes, CNI MFG Rotatable Adaptor Tool #EVRSYS106
STP-33, Bellows Hold Down Clamps	10 foot lbs.	No, Standard 7/16" socket and torque wrench

Pre-Assembly Notes

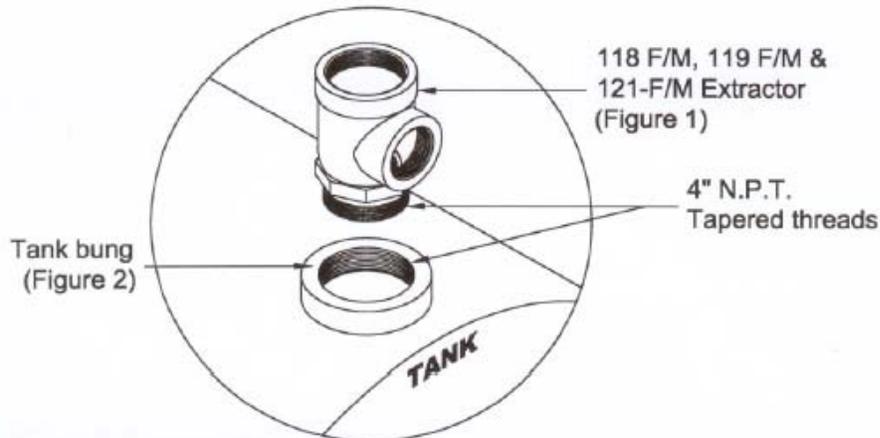
- The spill container assembly is pre-assembled at the factory for ease of installation.
NOTE: All containments for the State of California, you will add #31103 to our catalog part numbers for our CNI EVR System.
EXAMPLE: Catalog part #3605 add #31103 to get part #360531103 for our CNI EVR System.
- Inspect spill container components for damage.
- Use appropriate safety measures, to avoid fire and personal injury.
- Use ONLY the correct tools and torque wrenches for a correct installation.

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Installation Instructions For A 2 Point System, Vapor Side Spill Container

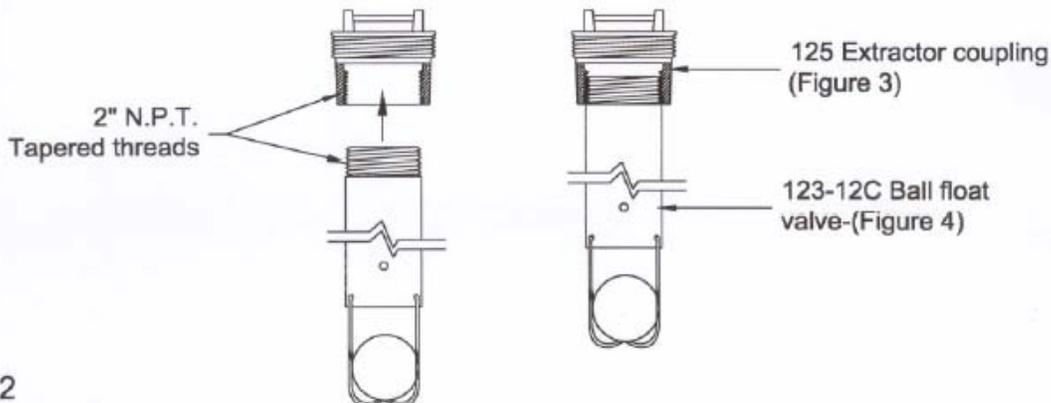
(118 F/M, 119 F/M & 121 F/M Extractor, 125 Extractor Coupling and 123-12C Float Ball Valve)



Step 1

Install The Extractor Into Tank Bung

1. Apply a Teflon, Fire Marshall approved thread sealing compound on the male extractor threads.
2. Manually tighten the extractor-(Figure 1) into the tank bung-(Figure 2), then torque to 250-350 foot lbs.



Step 2

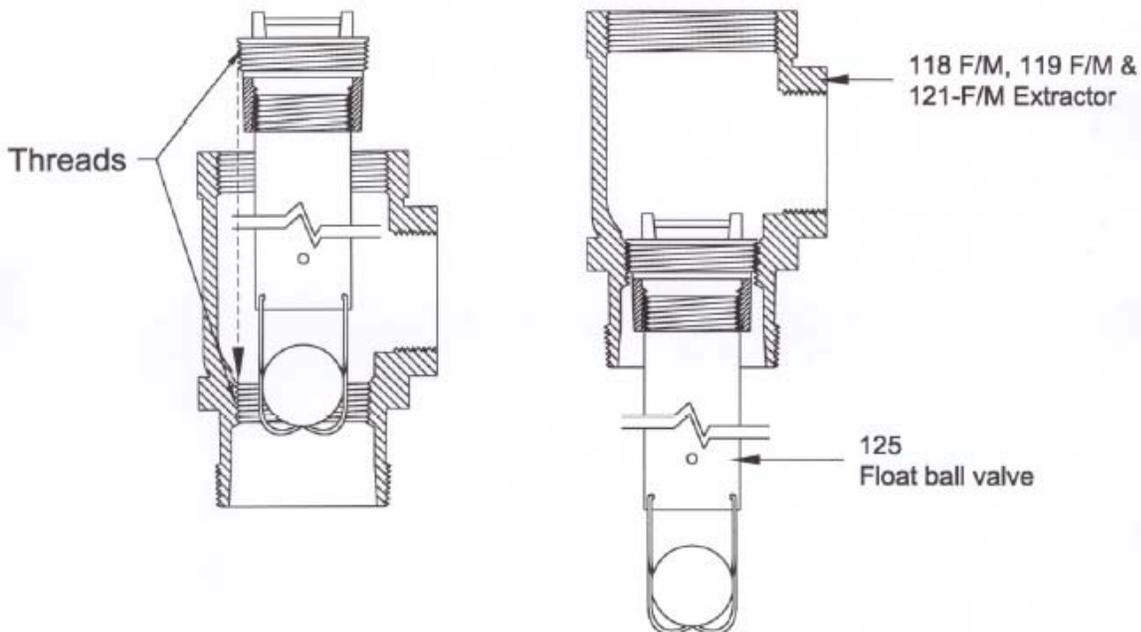
Install Ball Float Valve Into Extractor Coupling

1. Apply a Teflon, Fire Marshall approved thread sealing compound on the male threads of the ball float valve.
2. Manually tighten the ball float ball valve-(Figure 3) into the extractor coupling-(Figure 4), then torque to 60 foot lbs.



Installation Instructions For A 2 Point System, Vapor Side Spill Container

(118 F/M, 119 F/M & 121 F/M Extractor, 125 Extractor Coupling and 123-12C Ball Float Valve)



Step 3

Install the Ball Float Valve and Extractor Coupling Assembly into Extractor

1. Apply a Teflon, Fire Marshall approved thread sealing compound on the male threads of the extractor coupling
2. Manually install the ball float ball and extractor coupling assembly into the extractor fitting then torque to 80 foot lbs.

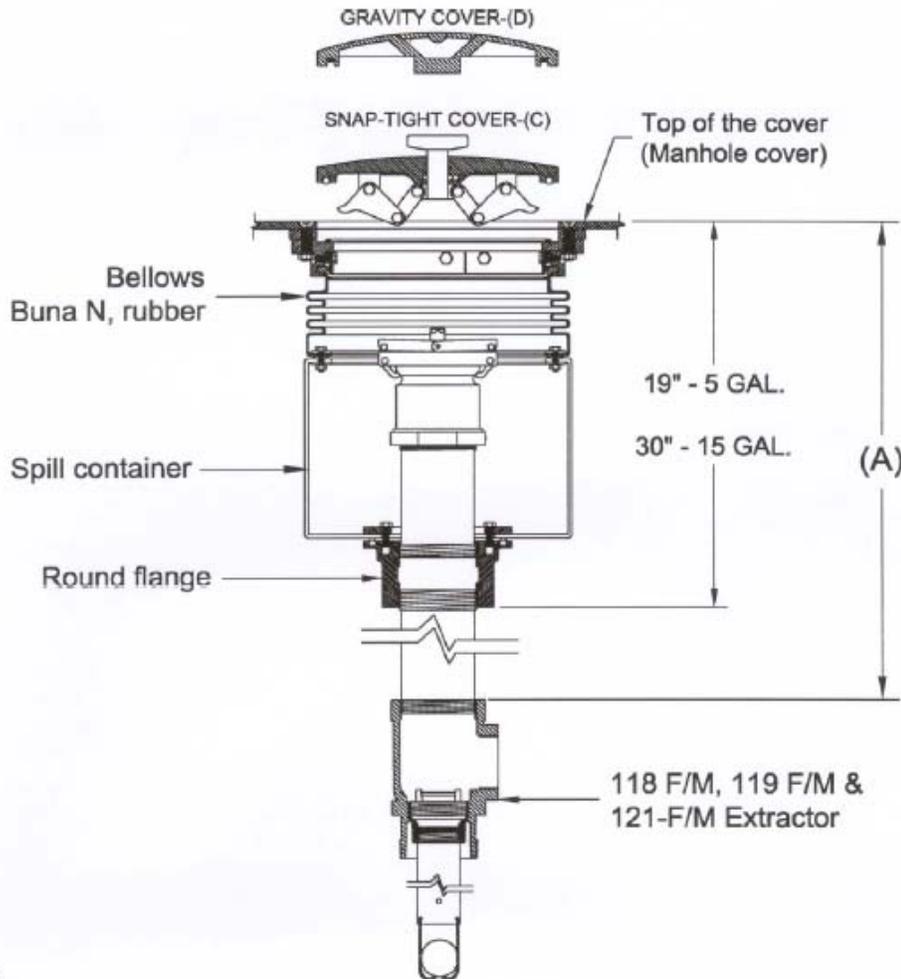
Maintenance

Visually inspect the valve for damage, contamination, corrosion, freedom of movement of the ball float and check the bleeder orifice for proper airflow. Replace if damaged or corroded.



Installation Instructions For A 2 Point System, Vapor Side Spill Container

(4" N.P.T. Riser Pipe)



Step 4

Cut the Vapor Riser to Length and Install

DO NOT USE HACKSAW TO CUT RISER PIPE.

1. The length of the riser pipe will vary depending upon the size of the spill container and the depth of the underground storage tank. To determine the length of the riser pipe, measure the distance (A) from the top of the manhole cover to the top of the extractor. Deduct 19 inches (plus or minus 1/2 inch) for 5 gallon spill containers. Deduct 30 inches (plus or minus 1/2 inch) for 15 gallon spill containers.

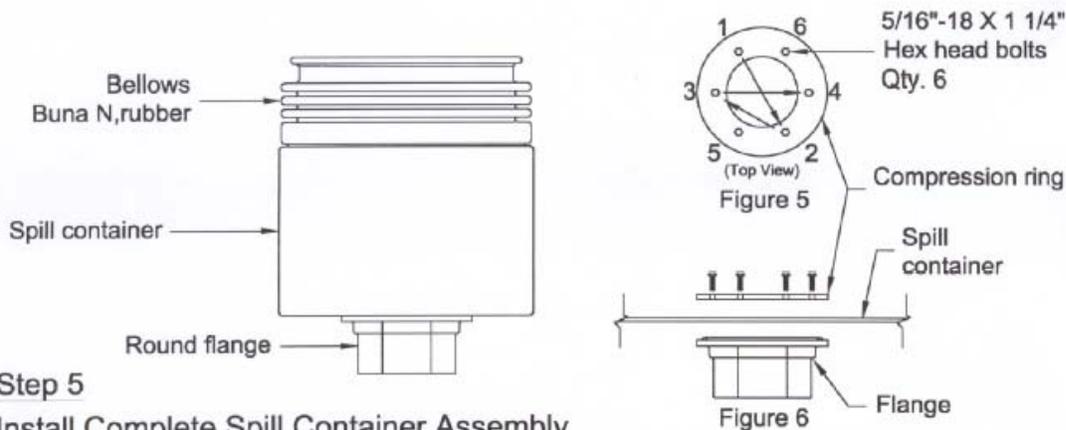


Installation Instructions For A 2 Point System, Vapor Side Spill Container

(4" N.P.T. Riser Pipe and XXXX-31103, Spill Container Assembly)

Step 4.....continued

2. Once the proper riser length is established, use a roller style 2 blade pipe cutter to ensure a flat square cut across the top of the riser. Cut the tapered threads on both ends of the riser. Ensure that a square flush smooth sealing surface is achieved on both sides. De-burr and clean riser threads. Apply a Teflon, Fire Marshall approved thread sealing compound on the lower male threads of the riser pipe.
3. Manually tighten riser pipe into extractor fitting, then torque to 250-350 foot lbs.



Step 5

Install Complete Spill Container Assembly

Note: The spill container is pre-assembled for ease of installation as shown above.

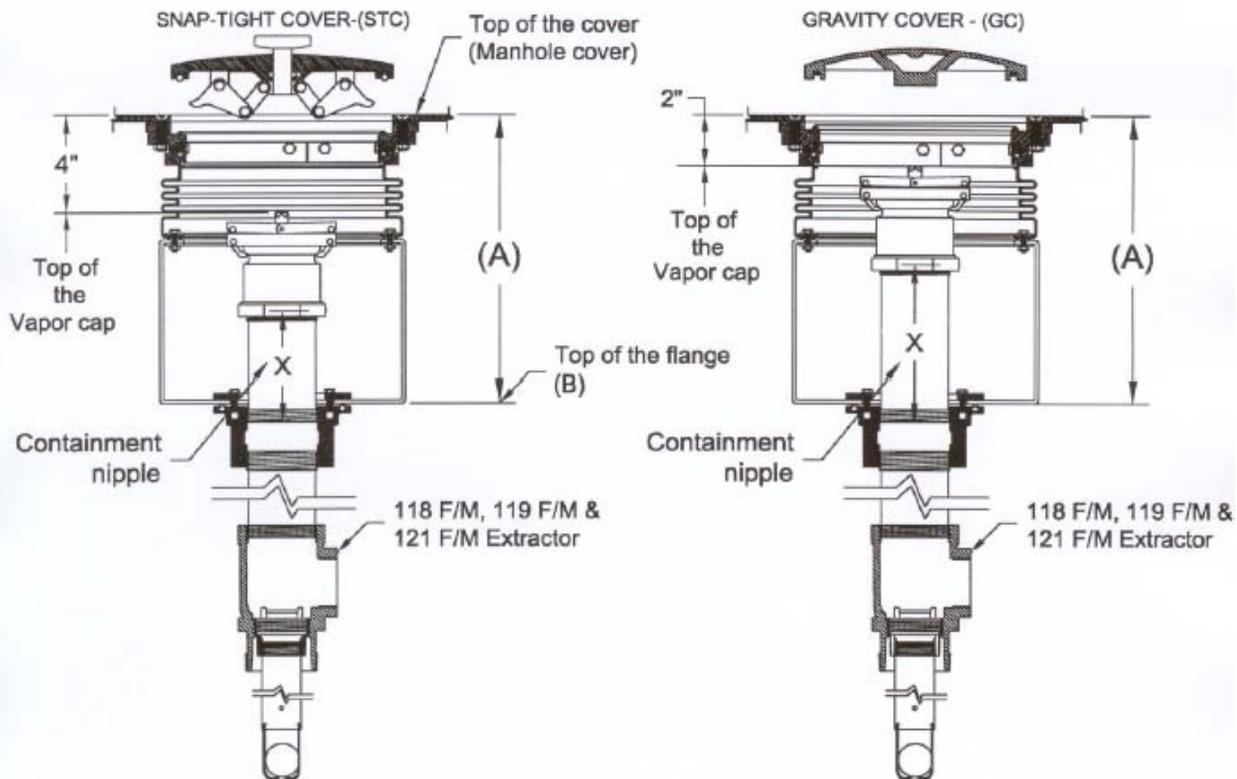
1. Apply a Teflon, Fire Marshall approved thread sealing compound on the upper male threads of the riser pipe.
2. Manually tighten the complete spill container assembly onto the riser pipe.
3. Using a chain wrench, wrap it around the hexed bottom of the flange and torque to 195-200 foot lbs.
 - A. If a chain wrench is not available, the spill container must be removed from the oval flange to be able to properly torque the flange onto the tank riser. Then proceed to steps B, C & D.
 - B. Inside the container there are 6 hex head bolts and a compression ring that must be removed-(See Figure 5). Once removed, lift the spill container to expose the oval flange.
 - C. Use an appropriate sized torque wrench and torque the oval flange to 195-200 foot lbs.
 - D. Line up the spill container on the oval flange, then align the compression ring and manually tighten the hex head bolts-(See Figure 6). Torque a little at a time in a cross over pattern for a correct seal, until you achieve 15 foot lbs.-(See Figure 5).

Maintenance

After each delivery, the operator must remove any standing fuel from the container. Annually, clean the interior of the container. Remove, accumulated dirt and grit.



Installation Instructions For A 2 Point System, Vapor Side Spill Container (4" N.P.T. Containment Nipple)



Step 6

Cut the Containment Nipple to Length

1. Snap Tight Cover Nipple Length Formula - (STC): $X = ((A - 4) - 6 \frac{5}{16}) + 1 \frac{1}{4}$ Gravity Cover Nipple Length Formula - (GC): $X = ((A - 2) - 6 \frac{5}{16}) + 1 \frac{1}{4}$
2. X = nipple length (inches)
A = distance from top of round flange to top of manhole cover (inches)
6 5/16 = vapor rotatable adaptor and cap length (inches)
1 1/4 = thread length (inches)
3. Following the formula above, measure the distance from the top of the manhole cover to the top of the flange-(A). Deduct 4 inches for the Snap-tight cover or 2 inches for the Gravity cover. Next, deduct 6 5/16 inches for the vapor rotatable adaptor and cap. Finally you add 1 1/4 inches for the threads.



Installation Instructions For A 2 Point System, Vapor Side Spill Container (4" N.P.T. Containment Nipple, Rotatable Adaptor, Bellows Hold Down Clamp)

Step 7

Install the 4" N.P.T. Containment Nipple

DO NOT USE HACKSAW TO CUT CONTAINMENT NIPPLE.

1. Once the proper nipple length is established, use a roller style 2 blade pipe cutter to ensure a flat square cut across the top of the nipple.
2. Cut the tapered threads on both ends of the nipple.
3. Ensure that a square flush smooth sealing surface is achieved on both sides. De-burr and clean nipple threads.
4. Apply a Teflon, Fire Marshall approved thread sealing compound on lower nipple threads.
5. Manually tighten the containment nipple into round flange, then torque to 170-175 foot lbs.

Step 8

Install Vapor Rotatable Adaptor

Install Vapor Rotatable Adaptor, according to manufacturers installation instructions.

Step 9

Install The Manhole Cover

1. Use two men to pick up the floor plate cover and align with containment area.
2. Reach in and work the bellows bead-(A) into the groove-(B) of the cover ring.-(See Fig. 1)
3. Line up the bellows 3 piece hold down clamp-(C), screw on the bolts-(D) and tighten. Using a 7/16 inch socket, torque to 10 inch lbs.-(See Fig. 7)

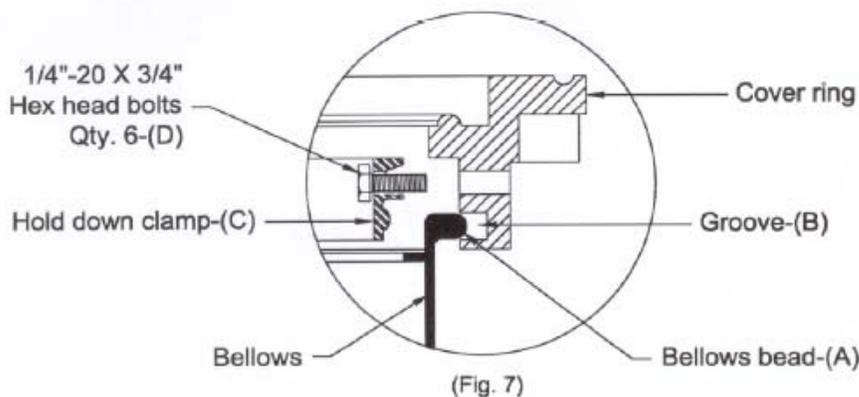


Figure C-1

Drain Valve Maintenance Instructions

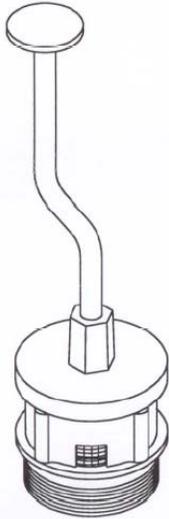


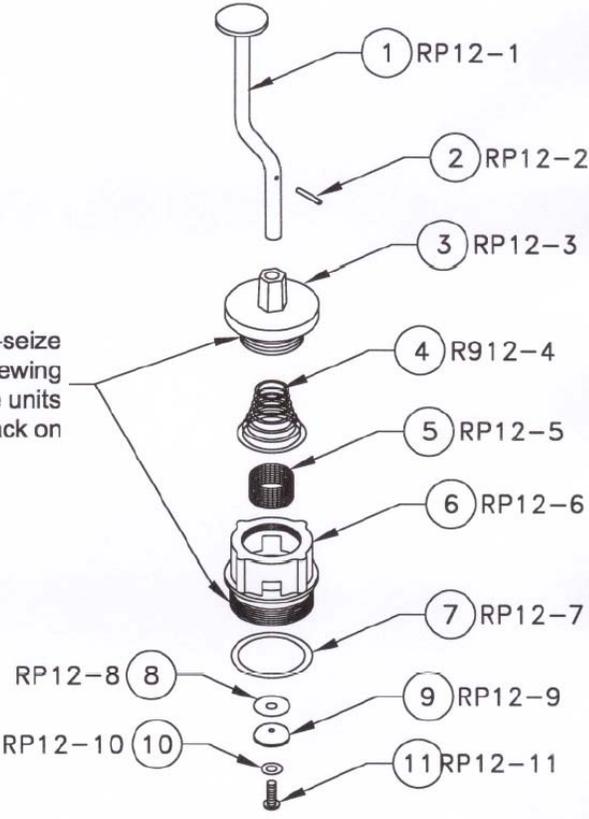
CNI
MANUFACTURING

**Maintenance Instructions for
 Drain Valve Assembly**



MEMBER
PEI
Partnership in Excellence



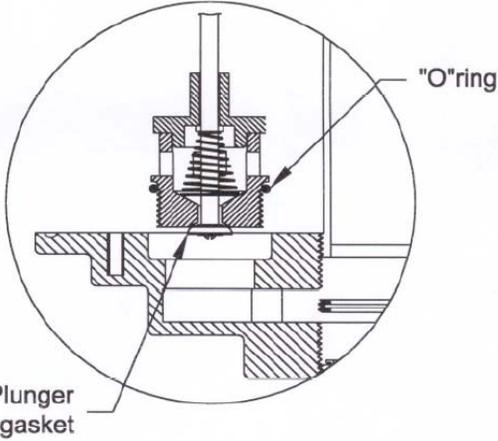


Use Anti-seize before screwing these units back on

NOTE:
 Maintenance must be conducted if the drain valve fails the C.A.R.B. test procedure TP201.1C. and (or) once every 18 months, regardless. If the drain valve assembly fails it needs to be removed, disassembled and a new gasket kit installed. You will need to replace the "O"-ring-(#7) and the plunger gasket-(#9) with a new one using KIT #DVK1

Maintenance steps:

1. Unscrew the drain valve.
2. Unscrew cap-(#3).
3. Remove screw and washer #10 & #11.
4. Pull the shaft-(#1).
5. Clean and check the screen-(#5), replace it if it's damaged.
6. The "O"-ring-(#7), needs to be replaced each time the valve is removed.
7. The plunger gasket-(#9) needs to be replaced each time the drain is disassembled.
8. Clean all parts before assembling.
9. To assemble reverse the procedure.
10. Torque the drain @11 foot-pounds.
11. Screw the cap-(#3) back on finger tight.



"O"ring
Plunger gasket

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 WEB SITE: HTTP://WWW.CNI-MFG.COM EMAIL: INFO@CNI-MFG.COM

Performance Specification: Drain Valve leak rate is not to exceed 0.17 CFH at 2.0 inches of water column pressure.

Figure D-1

CNI Manufacturing Dust Caps



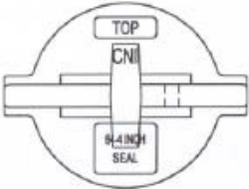
CNI
MANUFACTURING

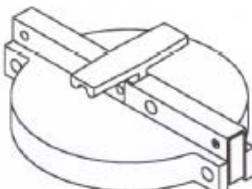
Maintenance Instructions for Product, Vapor Cap and Gasket

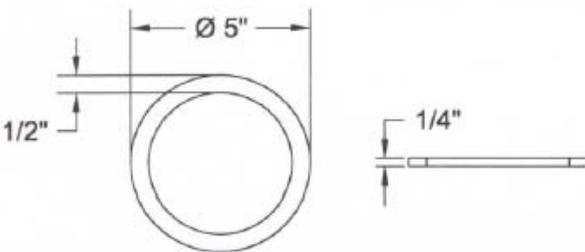
(P/N 64 & 611-VR-3)



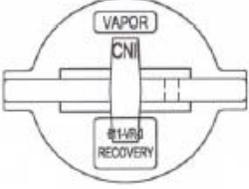
MEMBER
PEI
PULP & ENVIRONMENTAL INDUSTRIES

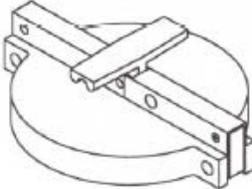

64, Product side cap





MATERIAL:
BUNA N, RUBBER
ALL RUBBER COMPONENTS ARE COMPATIBLE
WITH ALL GASOLINE AND OILS IN THE
STATE OF CALIFORNIA.


611-VR-3, Vapor side cap



Warranty and Maintenance.

- * CNI warrants that products sold by it are free from defects in material and workmanship for a period of one year from the date of manufacture by CNI. Proof of purchase may be required. As the exclusive remedy under this limited warranty, CNI will at its sole discretion, repair, replace, or issue credit for future orders for any product that may prove defective within the one year date of manufacture period (repairs, replacements, or credits may be subject to prorated warranty for remainder of the original warranty period, complete proper warranty claim documentation required.) This warranty shall not apply to any product that has been altered in any way, which has been repaired by any party other than a service representative authorized by CNI, or when failure is due to misuse, or improper installation or maintenance. CNI shall have no liability whatsoever for special, incidental or consequential damages to any party, and shall have no liability for the cost of labor, freight, excavation, clean up, downtime, removal, installation, loss of profit, or any other cost or charges.
For any product certified to California 2001 standards, CNI warrants that product sold by it are free from defects in material and workmanship for a period of one year from date of manufacture or one year from date of registration of installation not to exceed 15 months from date of manufacture by CNI.
- * Annually inspect the gasket in the cap, if the gasket is worn or the cap spins freely on the adaptor, replace the gasket with a new gasket using p/n RP65.

Revision: 091603

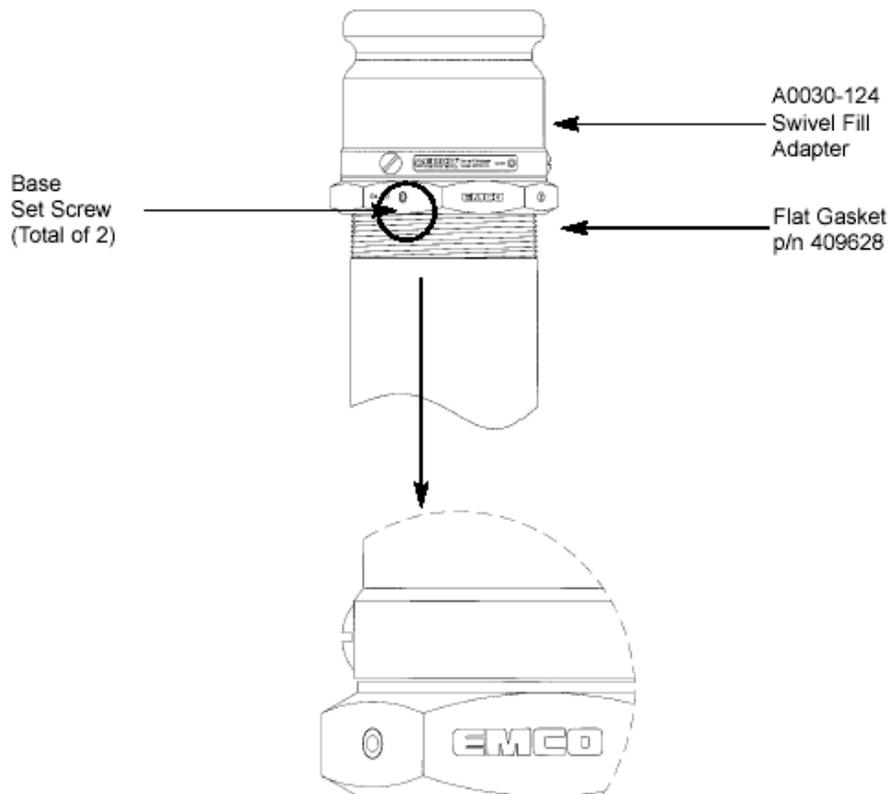
Figure E-1

Emco Wheaton Fill Adapter

EMCO®
WHEATON RETAIL

A0030-124
Swivel Fill Adapter

INSTALLATION INSTRUCTIONS



1. Using a 5/32" Allen wrench, remove both set screws from the base of the swivel adapter.
2. The top edge of the top riser nipple must be filed flat and square, with threads free of all debris to insure a proper sealing surface between the riser nipple and the base of the swivel adapter.
3. Before installing the swivel adapter, verify that the flat gasket is properly in place. Manually tighten the swivel adapter on to the top riser nipple to avoid cross threading. Using the Emco Wheaton Retail A0081 Adapter Wrench, torque the swivel adapter to 35 ft-lbs.

IMPORTANT: Do not use pipe thread sealant compound when installing the swivel adapter.

4. Apply lock-tite model #222MS on both set screws. Re-install and torque to 20 in-lbs.

Figure E-1 (continued)

PREVENTIVE MAINTENANCE

Static Torque Test

1. Annually verify the static torque of the swivel adapter by performing CARB test procedure TP-201.1B.
2. If the swivel adapter fails to meet the static torque test requirements, replace both o-rings with the Emco Wheaton o-ring kit p/n 493995.

Leak Tightness Integrity Test

1. Annually verify leak tightness integrity of the swivel adapter by performing CARB test procedure TP-201.1C.
2. If the swivel adapter fails to meet the leak tightness integrity test requirements, replace both o-rings with the Emco Wheaton o-ring kit p/n 493995 or flat gasket p/n 409628.

PERFORMANCE SPECIFICATIONS

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

1. TP-201.1B - Complies with the allowable maximum: 108 in-lbs. average static torque.
2. Meets CARB Cam and Groove Standard.
3. TP-201.1B - Complies with 360 degree rotation requirement

WARRANTY POLICY

Emco Wheaton Retail Corporation products are warranted to be free from defects in material and workmanship under normal use and service for a period of twelve (12) months from the date of manufacture. Emco Wheaton Retail Corporation shall, at its option, repair or replace that part which proves to be defective. This warranty is void unless the original purchaser returns the claimed defective item to Emco Wheaton Retail Corporation for inspection to determine whether the claimed defect is covered by this warranty. The exclusive and sole remedy under this warranty is repair or replacement of the defective part. Emco is not responsible for claims for damage caused by improper installation or maintenance; corrosive fluids; misuse of the product or use the product for other than its intended purpose; or accident, acts of God, or natural phenomena. Emco will not pay for labor or related expenses, nor shall Emco be liable for any incidental, consequential or exemplary damages. This warranty is void if the Emco Wheaton Retail Corporation product has been previously repaired with parts not approved by Emco Wheaton Retail Corporation. Emco Wheaton Retail Corporation products certified to California 2001 standards are warranted to be free from defects in material and workmanship under normal use and service for a period of fifteen (15) months from the date of manufacture. EMCO WHEATON RETAIL CORPORATION MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, (WHETHER WRITTEN OR ORAL), INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE.

Emco Wheaton Retail Corp.
2300 Industrial Park Dr. • Wilson, NC 27893
252-243-0150 • 252-243-4759 (fax)
619-421-1743 (Technical Services, California)

p/n 568679
Rev. A, 05/03

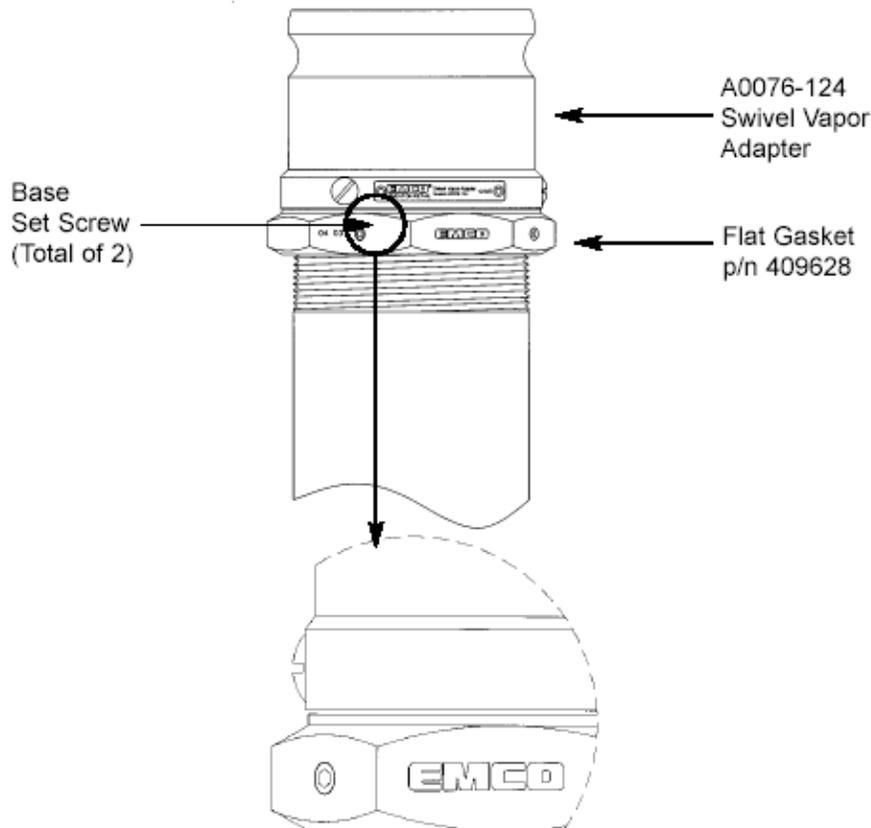
Figure E-2

Emco Wheaton Vapor Adapter

EMCO®
WHEATON RETAIL

A0076-124
Swivel Vapor Adapter

INSTALLATION INSTRUCTIONS



1. Using a 5/32" Allen wrench, remove both set screws from the base of the swivel adapter.
2. The top edge of the top riser nipple must be filed flat and square, with threads free of all debris to insure a proper sealing surface between the riser nipple and the base of the swivel adapter.
3. Before installing the swivel adapter, verify that the flat gasket is properly in place. Manually tighten the swivel adapter on to the top riser nipple to avoid cross threading. Using the Emco Wheaton Retail A0081 Adapter Wrench, torque the swivel adapter to 35 ft-lbs.
IMPORTANT: Do not use pipe thread sealant compound when installing the swivel adapter.
4. Apply lock-tite model #222MS on both set screws. Re-install and torque to 20 in-lbs.

Figure E-2 (continued)

PREVENTIVE MAINTENANCE

Static Torque Test

1. Annually verify the static torque of the swivel adapter by performing CARB test procedure TP-201.1B.
2. If the swivel adapter fails to meet the static torque test requirements, replace both o-rings with the Emco Wheaton o-ring kit p/n 493995.

Leak Tightness Integrity Test

1. Annually verify leak tightness integrity of the swivel adapter by performing CARB test procedure TP-201.3.
2. If the swivel adapter fails to meet the leak tightness integrity test requirements, replace both o-rings with the Emco Wheaton o-ring kit p/n 493995 or flat gasket p/n 409628.

PERFORMANCE SPECIFICATIONS

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

1. TP-201.1B - Complies with the allowable maximum: 108 in-lbs. average static torque.
2. Meets CARB Cam and Groove Standard CID A-A-59326.
3. TP-201.1B - Complies with 360 degree rotation requirement

WARRANTY POLICY

Emco Wheaton Retail Corporation products are warranted to be free from defects in material and workmanship under normal use and service for a period of twelve (12) months from the date of manufacture. Emco Wheaton Retail Corporation shall, at its option, repair or replace that part which proves to be defective. This warranty is void unless the original purchaser returns the claimed defective item to Emco Wheaton Retail Corporation for inspection to determine whether the claimed defect is covered by this warranty. The exclusive and sole remedy under this warranty is repair or replacement of the defective part. Emco is not responsible for claims for damage caused by improper installation or maintenance; corrosive fluids; misuse of the product or use the product for other than its intended purpose; or accident, acts of God, or natural phenomena. Emco will not pay for labor or related expenses, nor shall Emco be liable for any incidental, consequential or exemplary damages. This warranty is void if the Emco Wheaton Retail Corporation product has been previously repaired with parts not approved by Emco Wheaton Retail Corporation. Emco Wheaton Retail Corporation products certified to California 2001 standards are warranted to be free from defects in material and workmanship under normal use and service for a period of fifteen (15) months from the date of manufacture. EMCO WHEATON RETAIL CORPORATION MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, (WHETHER WRITTEN OR ORAL), INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE.

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p/n 568680
Rev. A, 05/03

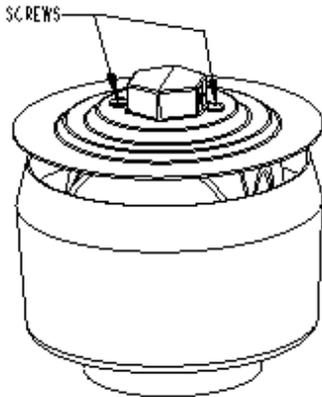
Figure F-1

Husky Model 4885 2-Inch Threaded Pressure/Vacuum Vent Valve

PRESSURE/VACUUM VENT MODEL 4885 INSTALLATION AND MAINTENANCE INSTRUCTIONS

INSTALLATION

The P/V Vent is designed to fit on top of a 2" vent pipe. Remove the P/V Vent from the carton and visually inspect for any shipping damage.



Model 4885 Thread-On P/V Vent

Apply fuel resistant pipe sealant to the threads on the 2" vent stack. Screw the P/V Vent onto the vent stack and tighten to a range of 20 to 50 ft-lbs with a suitable wrench. DO NOT OVER-TIGHTEN. Periodic maintenance is recommended (see below).

MAINTENANCE

Annually inspect the P/V Vent valve for foreign objects without removing the P/V Vent valve from the vent pipe by using the following procedure:

1. Remove the screws that hold the top cover on.
2. Remove any debris that might be sitting inside the lower cover.
3. Check the drain holes in the lower cover for blockage.
4. The two (2) screens should not be removed.
5. Reinstall the top cover and retaining screws.
6. Tighten the screws firmly.

NOTE: DO NOT ALTER OR COVER THE P/V VENT



TESTING CRITERIA

Leak rate: Pressure = .05 CFH at 2" WC,
Vacuum = .21 CFH at -4" WC.
Cracking Pressure: 2 1/2" to 3 1/2" WC,
Vacuum = -6" to -10" WC.
Per ARB procedure TP-201.1E or the applicable
ARB Executive Order.

PRESSURE VACUUM VENT WARRANTY INFORMATION

Husky Corporation will, at its option, repair, replace, or credit the purchase price of any Husky manufactured Pressure Vacuum Vent which proves upon examination by Husky, to be defective in material and/or workmanship within EIGHTEEN (18) MONTHS from the date of shipment for any Husky Pressure Vacuum Vent, except as otherwise provided herein. For all other Husky manufactured product, see Husky Form No. PS2002-Term (4/15/02) at www.husky.com.

The warranty period on repaired or replacement product is only for the remainder of the warranty period. Buyer must return the products to Husky, transportation charges prepaid. This Warranty does not apply to equipment or parts which have been installed improperly, damaged by misuse, improper operation or maintenance, or which are altered or repaired in any way other than by Husky.

The Warranty provisions contained herein apply ONLY to original purchasers and subsequent commercial purchasers within the warranty period who use the equipment for commercial or industrial purposes. THERE ARE NO OTHER WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR OTHERWISE, AND ANY OTHER SUCH WARRANTIES ARE HEREBY SPECIFICALLY DISCLAIMED.

Husky assumes NO LIABILITY for labor charges or other costs incurred by Buyer incidental to the service, adjustment, repair, return, removal or replacement of products. HUSKY ASSUMES NO LIABILITY FOR ANY INCIDENTAL, CONSEQUENTIAL, OR OTHER DAMAGES UNDER ANY WARRANTY, EXPRESS OR IMPLIED, AND ALL SUCH LIABILITY IS HEREBY EXPRESSLY EXCLUDED.

Husky reserves the right to change or improve the design of any Husky fuel dispensing equipment without assuming any obligations to modify any fuel dispensing equipment previously manufactured.



**HUSKY CORPORATION • 2325 HUSKY WAY •
PACIFIC, MO 63069**
www.husky.com **PHONE: 800-325-3558**
009063-0 6/5/02

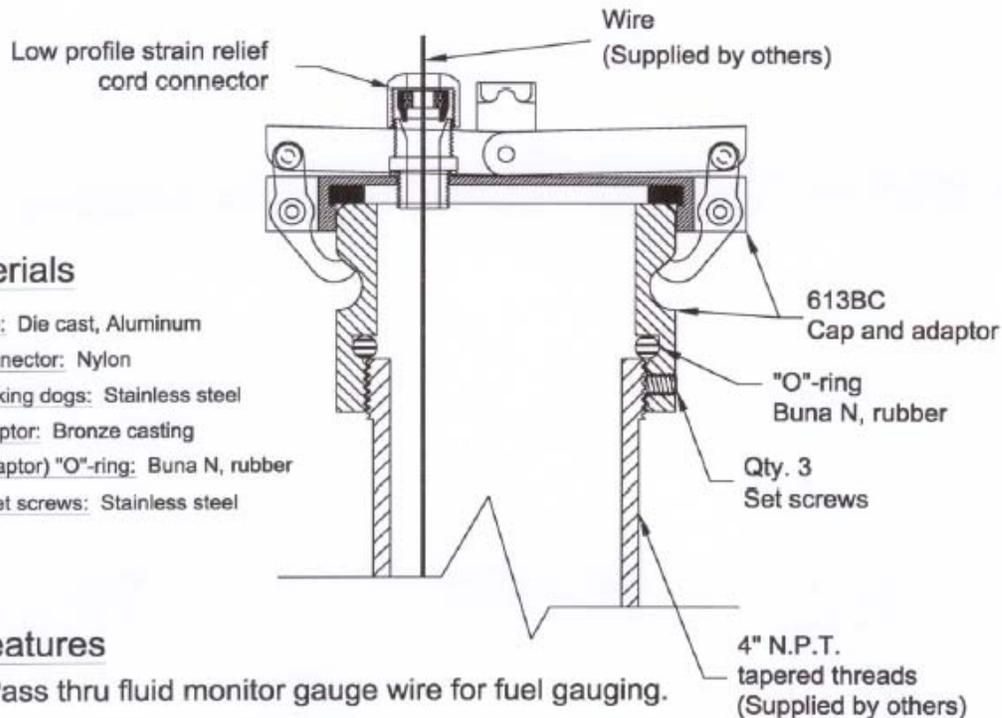
Figure G-1

CNI Manufacturing Tank Gauge Port Components



Installation Instructions

For the 613BCC Tank Gauge Cap And Adaptor



Materials

1. Cap: Die cast, Aluminum
2. Connector: Nylon
3. Locking dogs: Stainless steel
4. Adaptor: Bronze casting
5. (Adaptor) "O"-ring: Buna N, rubber
6. 3 Set screws: Stainless steel

Features

- * Pass thru fluid monitor gauge wire for fuel gauging.

Installation Instructions

1. Install adaptor onto a 4" N.P.T. tank riser. Manually tighten the adaptor then, torque it to 35 ft-lbs.
Note: Ensure that the "O"-ring is present and properly installed in the lower portion of the adaptor.
2. Using a 5/32" allen wrench, tighten each set screw a little at a time, until fully tightened.
3. Pass the gauge wire thru the strain relief cord connector and manually tighten the plastic nut. Ensure the connector is adequately tightened in order to avoid any vapor leakage.
4. Pass the gauge wire thru the wire compression plastic connector and hand tighten the plastic nut by hand.
5. Lay the cap on the adaptor and snap tight the cap handle.

Maintenance

Annually inspect the gasket in the cap, if the gasket is worn or the cap spins freely on the adaptor, replace the gasket with a new gasket using p/n RP65.

Figure H-1

CNI Manufacturing Warranty Card

CNI's Warranty Card

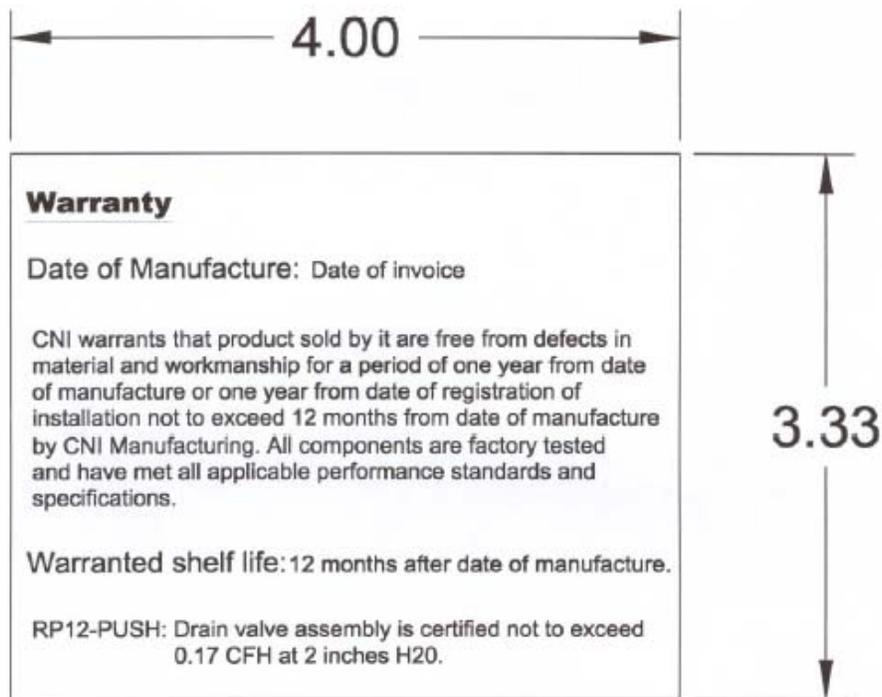


Figure J-1

CNI Manufacturing Drop Tube Maintenance



CNI-MFG.
EVR SYSTEM



Drop Tubes: CNI DT100

Interval: Annual

Annually test the drop tube using C.A.R.B test procedure TP201.1C. If it fails you need to replace the "O"-ring with a new one using p/n RP101 Next, visually inspect the drop tube to see if it is installed correctly and see if the bottom of the drop tube is a maximum of 6 inches to the bottom of the tank. Do not remove unless it fails C.A.R.B. test procedure TP201.1C.