



A1100 GUARDIAN OVERFILL PREVENTION VALVE

(with 493192 Installation Kit)

Assembly and Installation Instructions

Important: Read these instructions completely and carefully before attempting to install and operate this valve. Failure to do so may result in improper valve operation allowing for a potential storage tank overflow. An overflowed tank can create extremely hazardous fuel spills which may result in personal injury and property damage. For further information, please call our Customer Service Department at (252) 243-0150.

Important: Veuillez lire ces instructions attentivement avant d'installer et d'exploiter cette vanne. Ne pas le faire peut entraîner un fonctionnement incorrect de la vanne permettant un potentiel débordement de la citerne de stockage. Un réservoir trop plein peut créer des déversements de carburant extrêmement dangereuses qui peuvent entraîner des blessures et des dommages matériels. Pour plus d'informations, s'il vous plaît communiquer avec notre service à la clientèle au (252) 243-0150.

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Note: All information, illustrations and specifications in this manual are based on the latest product information available. We reserve the right to make changes at any time without notice.

CAUTION: Never disconnect the drop elbow from the tight-fill adapter when the A1100 has reached the positive shut-off level. At this point, the tank truck hose is still full and must not be disconnected until enough fuel has been removed from the underground storage tank to drain the hose. Premature disconnection will result in a hazardous spill and a potential for personal injury and property damage.

ATTENTION: Ne jamais déconnecter le coude de baisse de l'adaptateur permet le remplissage étanche lorsque le A1100 a atteint le niveau d'arrêt positive. A ce point, le tuyau de camion-citerne est encore pleine et ne doit pas être débranché jusqu'à ce que suffisamment de carburant a été éliminée du réservoir de stockage souterrain pour vidanger le tuyau. Déconnexion prématurée entraîne un déversement dangereux et un risque de blessures et de dommages matériels.

WARNING: If the underground storage tank is equipped with a ball float vent valve, make sure it is not extended below the positive shut-off point of the A1100, or remove the float vent valve.

ATTENTION: *Si le réservoir de stockage souterrain est équipé d'un flotteur évent de balle vanne, assurez-vous qu'il n'est pas prolongée en dessous du point d'arrêt positive de la A1100, ou supprimer la vanne flotteur de ventilation.*

ASSEMBLY

Tools Needed

- | | |
|--|-----------------------------|
| 1. 13/64" drill bit | 6. hammer |
| 2. hand drill | 7. fine half round file |
| 3. tape measure | 8. heavy duty pop rivet gun |
| 4. fine tooth hacksaw (24-36 teeth per inch) | |

WARNING: Do not use electrical devices near gasoline vapors, as it could result in fire or explosion.

AVERTISSEMENT: *Ne pas utiliser d'appareils électriques à proximité des vapeurs d'essence, car il pourrait provoquer un incendie ou une explosion.*

Packing List (included with A1100-010)

- | | |
|------------------------------|-----------------------------------|
| (1) valve assembly #A1100 | (8) pop rivets #564412 |
| (1) hose clamp #564421 | (1) o-ring #480049 |
| (1) warning plate #564420 | (1) counter sink indenter #564416 |
| (1) drop tube O-ring #561683 | (1) Seal-All sealant #566726 |
| (1) 572719 drill fixture | |

NOTICE: If this valve is to be used with coaxial Stage I drop tube assemblies, you must order the appropriate special kit for proper assembly:

Standard coaxial (A0070 style) kit #493195

Self sealing coaxial (A0088 style) kit #493197

TOP TUBE INSTALLATION PROCEDURE

The A1100 Guardian can only be installed after the containment manhole has been installed. Existing drop tube may be used only if:

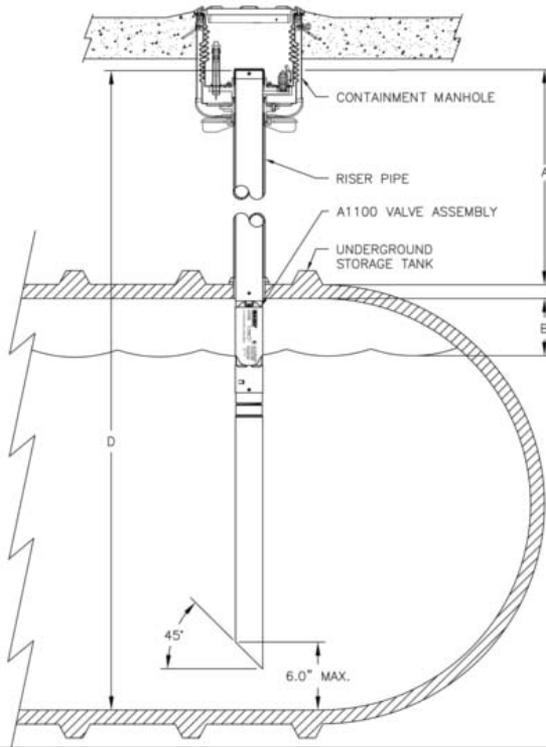
1. Tube is in good condition without holes, cracks, or bends.
2. I.D. of tube will fit over the valve body diameter.

Step 1: If already in place, remove the existing 4" cap, adapter and drop tube assembly.

Step 2: Find measurement A which is the distance from the top of the tank to the top of the 4" riser pipe as shown in Figure 1.

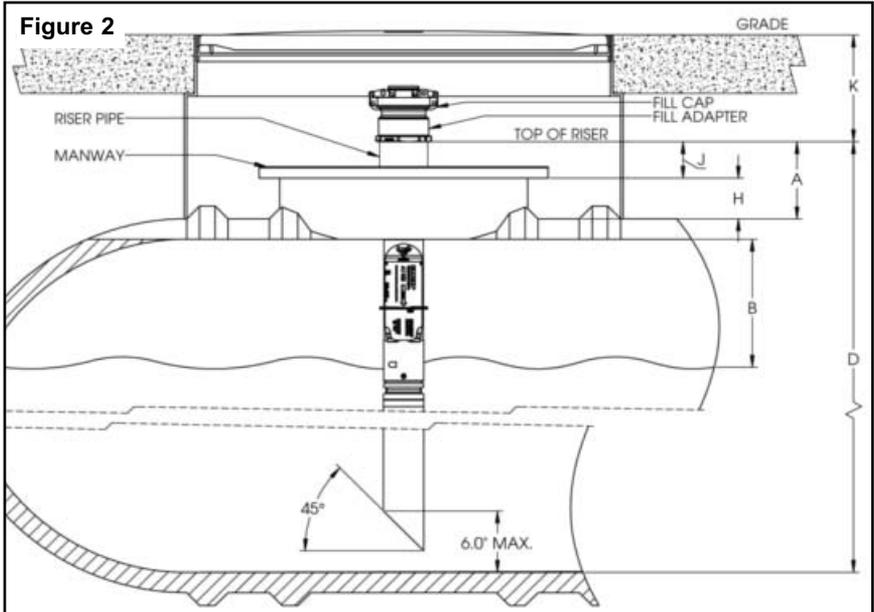
If the tank has a manway, make sure to include the height of the manway when finding measurement A as shown in Figure 2, $A = J + H$. Consult your tank diagram to determine the proper H dimension. If this dimension cannot be found, use 6" as the H dimension (typical manway height is 5"-7").

Figure 1



Riser Pipe With Spill Containment Manhole

Figure 2



Riser Pipe Installed Inside Manway

Step 3: Find measurement B from the chart below. It is the distance from the maximum fluid height allowed to the inside top of the tank. Calculations are based on cylindrical tanks with flat ends. For exact dimensions, consult the tank gauge chart provided with your tank. Use the actual capacity of the tank for calculations. NFPA30 Guidelines limit tank fill to 95%.

<u>Tank Diameter</u>		<u>95% Shut-off B Dimension</u>	
<u>Feet</u>	<u>Meters</u>	<u>Inches</u>	<u>MM</u>
6.5'	1.98	7.5"	190
7.0'	2.13	8.0"	203
7.6'	2.29	9.0"	229
8.0'	2.44	9.5"	241
8.2'	2.50	9.5"	241
8.5'	2.59	10.0"	254
9.0'	2.74	10.5"	267
9.5'	2.90	11.0"	279
10.0'	3.05	11.5"	292
12.0'	3.66	14.0"	336

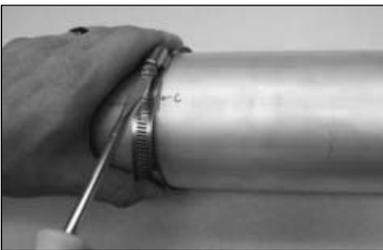
The A1100 Overfill Prevention Valve is not recommended for tanks under 6.5' in diameter.

Step 4: To determine the top tube cut length, C: Add A and B; subtract 2".

$$A + B - 2 = C$$

Step 5: Place a tape measure at one end of the drop tube and mark length C.

Note: If you are using an unflanged tube, you will require part #566679 collar kit.

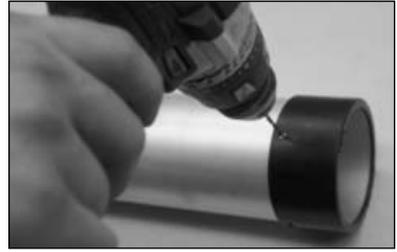


Step 6: Secure the hose clamp (p/n 564421, supplied) at cut mark C from Step 5 as shown.

Step 7: Cut tube to proper length using a fine tooth hacksaw. The hose clamp acts as a guide.

IMPORTANT: Do not use a power saw or tubing cutter to cut the tube.

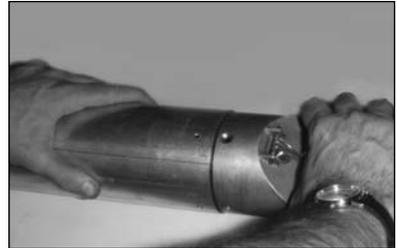
Step 8: Remove clamp. File away cutting burrs to prevent damage to the O-ring when attaching to the valve.



Step 9: Slide the drill fixture (p/n 572719, supplied) on the drop tube. Drill the four holes using the 13/64" drill bit. Remove drill fixture and set aside.



Step 10: Lubricate the O-ring (p/n 480049, supplied) with the Seal-All and insert into the top groove of the A1100 valve. Lubricate the top 1" of the outside circumference of the valve with Seal-All.



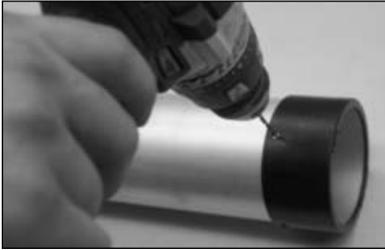
Step 11: Insert the A1100 valve into the top tube. Align the holes.



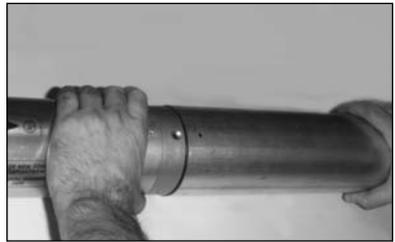
Step 12: Using the indent tool #564416, countersink one hole. Secure with a pop rivet. Apply sealant over the rivet. Repeat this process with the remaining three holes.



BOTTOM TUBE INSTALLATION PROCEDURE

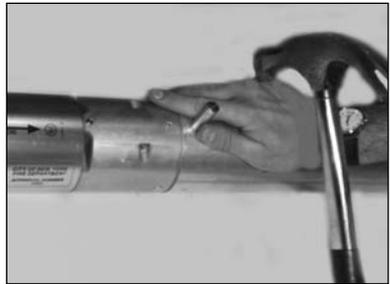


Step 13: Slide the 572719 Drill Fixture on drop tube. Drill the four holes using the 13/64" drill bit. Remove drill fixture. File cutting burrs from end of tube.



Step 14: Lubricate bottom of A1100 valve with Seal-All and install bottom tube, being careful to align holes.

Step 15: Using the indent tool, countersink one hole and install a rivet. Apply sealant over the rivet. Repeat with remaining three holes.



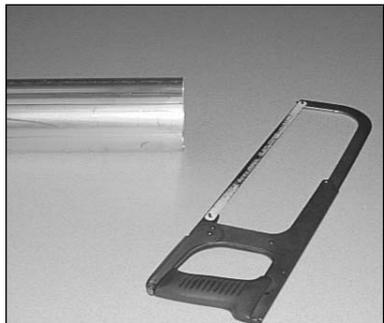
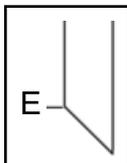
Step 16: Measure from top of riser pipe to the bottom inside of the tank, measurement D, Figure 1.

Step 17: Subtract 6" from measurement D to obtain the correct total assembly length E. Measure length E ($D - 6" = E$) on the assembly from the flanged end. Mark tube to length E.

Step 18: Secure the hose clamp to the tube.

Step 19: Square cut the the lower tube to length E.

Optional: 45 degree cut - The shortest point should start at length E to maintain the 6" maximum clearance requirement at bottom of tank.



INSTALLATION OF COMPLETED ASSEMBLY INTO THE TANK

Step 21: Turn completed assembly upside down and shake vertically to remove any metal chips left from the drilling process.



Step 22: Install the O-ring (p/n 561683, supplied) on the top flange.

Step 23: Position the completed assembly vertically over the riser pipe with the square cut down. Carefully lower the completed drop tube/valve assembly into the riser pipe.



Step 24: Use the hose clamp to clamp the warning plate (p/n 564420, supplied) onto the riser below the threads. Make sure label is facing up.

Step 25: Reinstall the adapter onto the riser and torque with an adapter wrench. Replace the tightfill cap.



The system is now in place and ready for operation.

MAINTENANCE

The A1100 Guardian is maintenance free. Periodic inspection of drop tube wear due to corrosion is suggested.

Please leave these instructions with the owner/operator of the service station for future reference.

WARRANTY

Emco Wheaton Retail Corporation service station 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.

The warranty set forth herein shall be the exclusive warranty made by Emco Wheaton Retail Corporation and in lieu of all other warranties, expressed 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 Corporation's liability under this warranty is limited to, at Emco Wheaton Retail Corporation's option, the repair or replacement of that part which proves to be defective within twelve (12) months of date of manufacture. Emco Wheaton Retail Corporation is not responsible for claims for damage due to improper installation or maintenance, corrosive fluids, or use of a product for a purpose other than that for which it was specifically designed.

Emco Wheaton Retail Corporation shall have no liability or be required to fulfill any obligation under this warranty 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.

Under no circumstances shall Emco Wheaton Retail Corporation be liable for any consequential, special or contingent damages or expenses or any other charges beyond the invoice value of the defective items. The remedies set forth herein shall be the exclusive remedies available to the user and are in lieu of all other remedies except for the remedies described below.

If an Emco Wheaton Retail Corporation product fails within the warranty period, call the Customer Service Department at **(800) 234-4394**. Describe the problem and provide the product date stamp information to the customer service representative. The customer service representative will provide a product complaint number, if applicable. Ship the defective equipment **PREPAID**, to Emco Wheaton Retail Corporation for repair or replacement.

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