



# THERM-X-TROL® ST SERIES REPLACEMENT BLADDER INSTRUCTIONS

## Models ST-447C through ST-457(C)

**NOTE:** Inspect for shipping damage and notify freight carrier or store where purchased immediately if damage is present. To avoid risk of personal injury and property damage, if the product appears to be malfunctioning or shows signs of corrosion, call a qualified professional immediately. Current copies of the Product manual can be viewed at [www.amtrol.com](http://www.amtrol.com). Use proper safety equipment when installing.



**THIS IS THE SAFETY ALERT SYMBOL. IT IS USED TO ALERT YOU TO POTENTIAL PERSONAL INJURY AND OTHER HAZARDS. OBEY ALL SAFETY MESSAGES THAT FOLLOW THIS SYMBOL TO REDUCE THE RISK OF PERSONAL INJURY AS WELL AS PROPERTY DAMAGE.**

**WARNING** READ CAREFULLY THE EXTROL REPLACEMENT BLADDER INSTRUCTIONS TO AVOID SERIOUS PERSONAL INJURY AND PROPERTY HAZARDS AND TO ENSURE SAFE USE AND PROPER CARE OF THIS PRODUCT.

**WARNING** EXPLOSION OR RUPTURE HAZARD. THE EXPANSION TANK MUST BE OPERATED SO THAT THE PRESSURE DOES NOT EXCEED THE MAXIMUM WORKING PRESSURE.

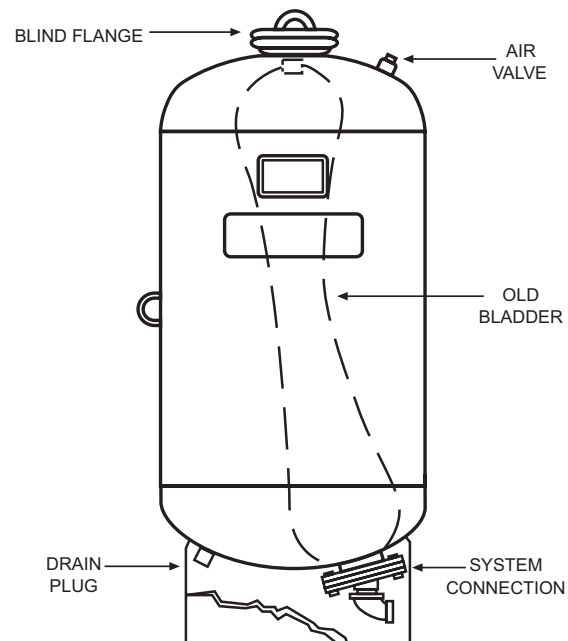
**WARNING** This Product, like most Products under pressure, may over time corrode, weaken and burst or explode, causing serious or fatal injury, leaking or flooding and/or property damage. To minimize risk, a licensed professional must install and periodically inspect and service the Product. A drip pan connected to an adequate drain must be installed if leaking or flooding could cause property damage. Do not locate in an area where leaking could cause property damage to the area adjacent to the appliance or to lower floors of the structure.

**WARNING** This product can expose you to chemicals including lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

### Installation

**WARNING** THIS PRODUCT MUST BE INSTALLED BY A LICENSED PROFESSIONAL.

1. Isolate tank from system.
2. Drain water from bladder.
3. Remove air valve core (Figure 1) to bleed remaining air charge.
4. Remove drain plug (Figure 2).
5. Disconnect system connection.
6. Unbolt and remove system connection after marking flanges (Figure 3).
7. Unbolt blind flange from tank and attach suitable lifting



8. Push bladder flange into tank at system connection.
9. Pull old bladder from tank.
10. Unbolt blind flange (Figure 4) from old bladder and remove old gasket.

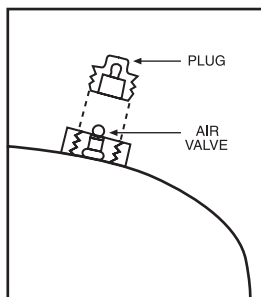


Figure 1

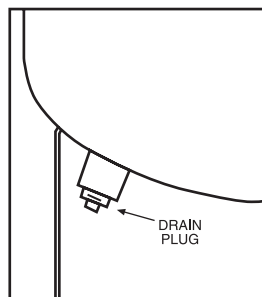


Figure 2

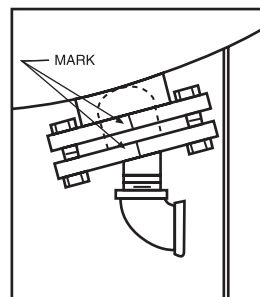


Figure 3

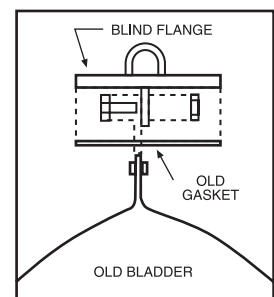


Figure 4

11. Wash down inside walls of tank as necessary.
12. Mop up remaining water.
13. Dry out inside of tank (reversed vacuum cleaner or air line from a compressor).
14. Clean out any remaining dirt.
15. Examine interior for any rust blisters and remove them.
16. Fold new bladder lengthwise and tape at necessary intervals (Figure 5).
17. Fold in bladder neck and tape.
18. Rebolt blind flange to new bladder and use new gasket.
19. Working by hand, insert bladder into tank with flange pointing to opening in system connection removing tape as it is inserted into tank. Do not remove tape from bladder flange.
20. Find and pull bladder flange into position and remove tape. Check through top flange opening to assure bladder is not twisted.
21. Rebolt blind flange to tank. Torque to 25 ft. lbs.
22. Rebolt system connect after aligning flange marks (Figure 3). Torque to 40-50 ft. lbs.
23. Install drain plug (Figure 2) using a liberal amount of TITE-SEAL COMPOUND 55 or equal. This connection must be absolutely airtight.

**⚠ WARNING** FAILURE TO PROPERLY SEAL VALVE CAP WILL RESULT IN LOSS OF PRE-CHARGE CAUSING TANK TO FAIL.

24. Install air valve core. Charge tank pre-charge to equal system pressure using dry air or nitrogen.

**⚠ WARNING** DANGER! EXPLOSION HAZARD. IF YOU ADJUST THE PRE-CHARGE PRESSURE OR ADD PRESSURE TO A TANK IS CORRODED OR DAMAGED OR WITH DIMINISHED INTEGRITY THE TANK CAN BURST OR EXPLODE, POSSIBLY CAUSING SERIOUS OR FATAL PERSONAL INJURY AND/OR PROPERTY DAMAGE.

- ONLY ADJUST THE PRE-CHARGE AS DESCRIBED IN THIS MANUAL WHEN THE TANK IS NEW OR WHEN THE INTEGRITY OF THE TANK AND LACK OF INTERNAL OR EXTERNAL CORROSION IS CONFIRMED.
- ONLY QUALIFIED PROFESSIONALS SHOULD CHECK, ADJUST OR RE-CHARGE THE PRE-CHARGE OF TANKS.

25. Using soapy water, check the drain fitting threads, air valve core and flange joints for leakage.
26. Connect tank to system. Open fill-valve and check operation. Always pre-charge tank before completing this step.

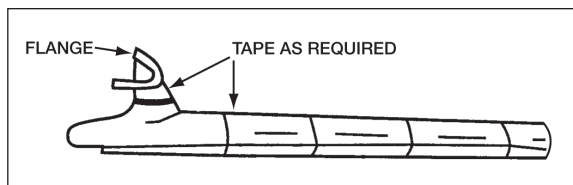


Figure 5



**IMPORTANT:** If increasing pre-charge pressure above 55 psig the following steps must be followed:

- a. Tank must be connected to the system with isolation valve open.
- b. System must be pressurized to 55-60 psig or slightly higher than the pre-charge setting of the tank.
- c. Isolation valve needs to be shut.
- d. Pre-charge pressure of tank can now be increased to the recommended high pressure setting.
- e. Bring system up to pressure, and then open the isolation valve to the tank.

**Failure to follow these steps could result in damage to the bladder and void all warranties.**

**FAILURE TO FOLLOW ALL WARNINGS MAY RESULT IN SERIOUS INJURY OR FATAL PERSONAL INJURY AND/OR PROPERTY DAMAGE AND WILL VOID THE WARRANTY.**

## Warranty

ST-447C through ST-457(C): One (1) Year Limited Warranty

Visit [www.amtrol.com](http://www.amtrol.com) for complete warranty details.

## Required Tooling & Supplies:

1. Plumbers Tool Box
2. Source of Compressed Dry Air or Nitrogen
4. Light with 20 ft. Cord
5. Power Extension Cord (as required)
6. Chain Block
7. Pressure Gauge and Air Valve Tool (to remove valve core)
8. New AMTROL Bladder



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