



# Roth DWT Lube Tank Installation Kits

## Installation Instructions

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### CAUTION

- All accessory threaded connections should be made using a petroleum compatible non-hardening thread sealing material. Do not use Teflon® tape.
- When tightening accessory into the NPT adapter, be certain to hold the shoulder of the adapter with channel locks or a pipe wrench while tightening the accessory. Failure to do this may result in damage to the #3 gasket between the adapter and the tank nozzle resulting in leaks or odor issues.

### WARNING

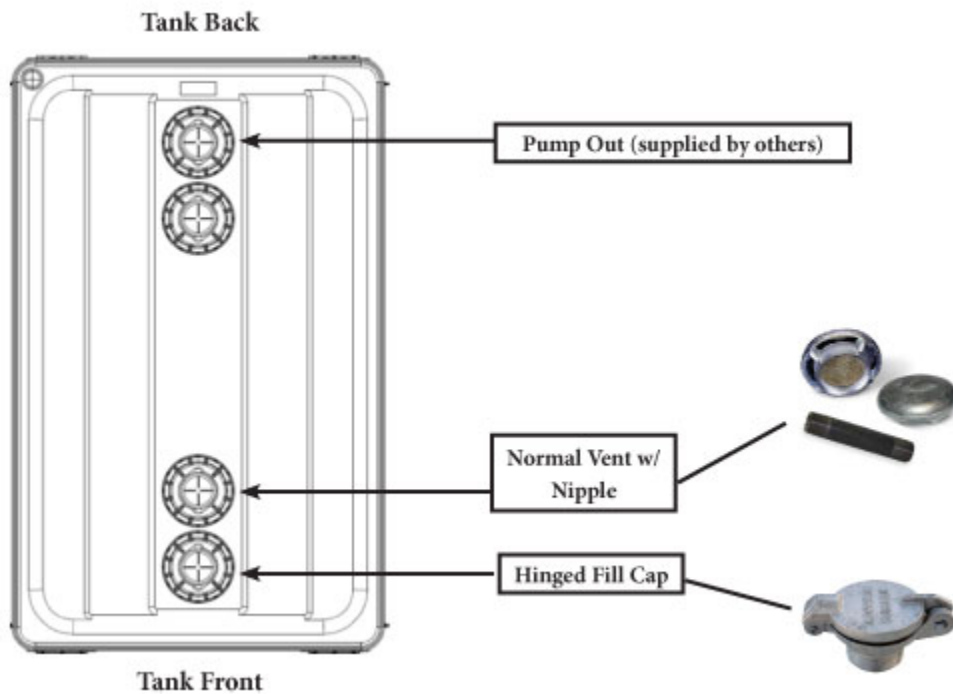
- All atmospheric storage tanks must include a normal vent. This allows air to leave the tank during filling operations to avoid pressure buildup and to enter the tank during liquid pump out to avoid creating a vacuum condition. Failure to provide a normal vent when installing the Roth DWT in lube applications may result in damage to the product and will void the product warranty.



## Lube Installation Kit - Basic Kit

The **BASIC KIT** is to be used in jurisdictions where tank emergency venting is not required and an open normal vent is acceptable.

<b>INSTALLATION KIT - BASIC</b> (Includes standard metal mushroom vent cap with nipple and hinged lockable fill cap)	
Lube Installation Kit - Basic - for all tank sizes	2315002101



All accessories are supplied with 2 inch MPT threads and install directly on the Roth Metallic NPT adapters.

### Hinged Fill Cap

The fill cap includes a locking tab that may be fitted with a padlock for extra security if desired. It is advantageous if it is mounted near the point of closest access to the tank for ease of filling. It installs directly into a metallic adapter with thread sealant, tighten to 10-15 ft. lbs.

### Normal Vent Nipple and Cap

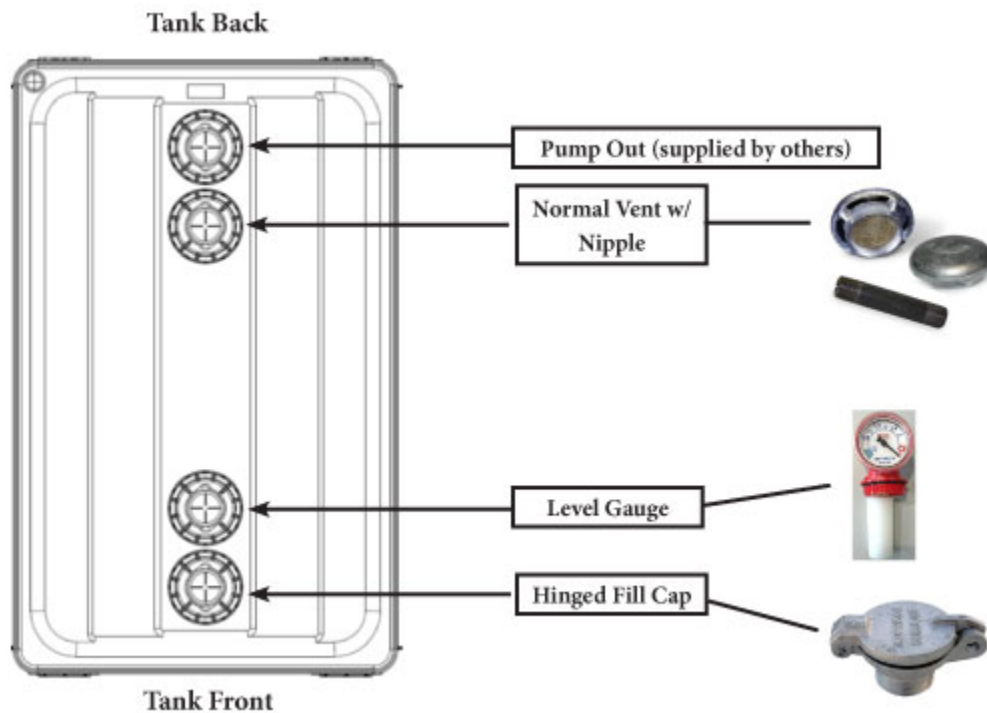
Install vent nipple and cap in a metallic adapter with thread sealant, tightened to 10-15 ft. lbs.



## Lube Installation Kit Basic Plus

The **BASIC PLUS KIT** is to be used in installations in jurisdictions where tank emergency venting is not required and an open normal vent is acceptable.

<b>INSTALLATION KIT - BASIC PLUS</b> (Includes standard metal mushroom vent cap with nipple, hinged lockable fill cap and standard gauge)	
Lube Installation Kit Basic PLUS (use with 400L)	2315002102
Lube Installation Kit for Basic PLUS (use with 620L and 1000L)	2315002103
Lube Installation Kit Basic PLUS (use with 1000LH)	2315002104
Lube Installation Kit Basic PLUS (use with 1500L)	2315002105



All accessories are supplied with 2 inch MPT threads and install directly on the Roth Metallic NPT adapters.

### Hinged Fill cap

The fill cap includes a locking tab that may be fitted with a padlock for extra security if desired. It is advantageous if it is mounted near the point of closest access to the tank for ease of filling. It installs directly into a metallic adapter with thread sealant, tighten to 10-15 ft. lbs.



### **Normal Vent Nipple and Cap**

Install vent nipple and cap in a metallic adapter with thread sealant, tightened to 10-15 ft. lbs.

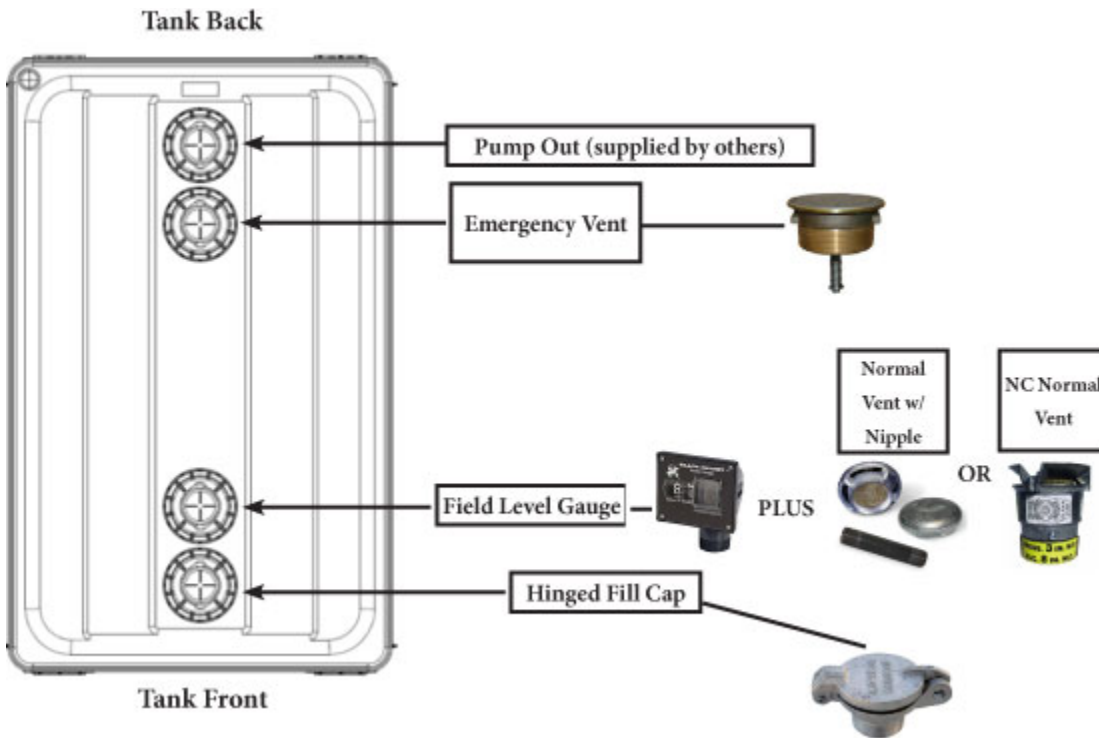
### **Level Gauge**

Roth recommends that the level gauge be mounted away from the pump out port where the gauge string can become entangled in pump dip tubes installed in the tank. When installing the gauge, pull the float string out slowly vs simply dropping the float into the tank to avoid tangling in the gauge mechanism. Rotate the gauge and adapter to make it clearly visible during filling operations. The Roth level gauge includes an O-Ring at the point where it seats against the adapter so no thread sealant is necessary and the gauge can be hand tightened into the adapter to seat the O-Ring, no wrenches are required.

## Lube Installation Kit with Emergency Vent - Open or Closed Version

The **EMERGENCY VENT KIT** is to be used in installations in jurisdictions where tank emergency venting is required and an open normal vent is acceptable.

<b>INSTALLATION KIT - EMERGENCY VENT</b> (Includes emergency vent, hinged lockable fill cap, field adjustment gauge PLUS either a metal mushroom cap with nipple (Open Version EVO) or normally closed (NC) pressure vacuum vent (Closed Version EVC))	
Lube Installation Kit - EVO - for all tank sizes	2315002106
Lube Installation Kit - EVC - for all tank sizes	2315002107



**Note:** Some installations may require a normally closed normal vent vs. an open vent cap. This vent opens when the tank is being filled to avoid tank pressurization and also opens when the tank contents are being pumped out to avoid vacuum accumulation. Otherwise it is closed, preventing infiltration of contamination from outside the tank and evaporation of the tank contents.

### Fill Cap

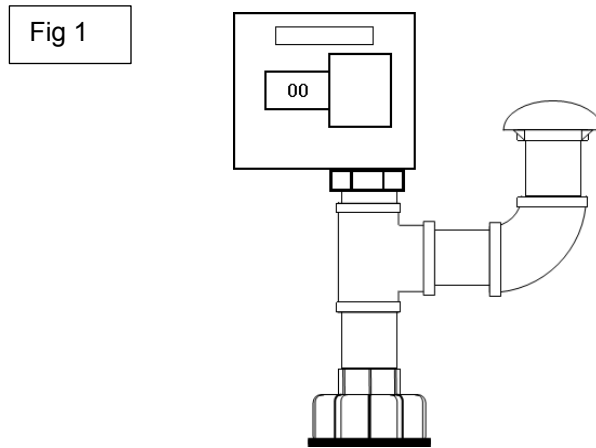
The fill cap includes a locking tab that may be fitting with a padlock for extra security if desired. It is advantageous if it is mounted near the point of closest access to the tank for ease of filling. It installs directly into a metallic adapter with thread sealant, tighten to 10-15 ft. lbs.

### Normal Vent Nipple and Cap

The Emergency Vent Kit requires that one of the openings on the tank be shared between two accessories due to the addition of the emergency vent which requires its own dedicated connection. The normal vent and level gauges can be combined to meet this requirement. Roth recommends a field assembled pipe manifold (Fig 1) to provide mounting capability for both the normal vent and the level gauge.

### Level Gauge

To share a tank opening with the vent, a field scalable level gauge is required, the standard Roth level gauge is a fixed calibration and will not function properly if installed in the required manifold configuration (Fig 1). This kit therefore includes a field scalable level gauge. Thread level gauge into manifold tee with thread sealant and hand tighten, no wrenches are required.



The Level-Vent mounting manifold (Fig 1) can be easily field fabricated using the following materials

Item	Qty	Description
A	(3)	2in dia. x 4 inch black iron pipe nipple, sch 40
B	(1)	2 in plain black iron pipe tee, sch 40
C	(1)	2 in plain black iron 90 deg Elbow, sch 40

### Emergency Vent- Morrison Brothers Model 244

#### Installation Steps for Emergency Vent:

- 1) Inspect the unit for shipping damage. Replace unit if damage is found.
- 2) Check vent openings for foreign matter such as packaging material. Remove any that is found.
- 3) Inspect sealing surfaces between cover and body. Remove any dust or debris.
- 4) Ensure mounting pipe/connection is in the vertical (plumb) position.
- 5) Verify vent cover is moving freely before and after installation into the system.
- 6) Do not paint vent unless necessary. If painting, extreme caution must be exercised to make sure that the paint does not inhibit proper vent operation.
- 7) Follow appropriate mounting instruction below.



**Threaded Connection for Emergency Vent:**

- 1) Apply a fuel resistant, non-hardening, anti-seize sealant to the male threads on the vent body.
- 2) Thread vent into Roth G2 in adapter avoiding excessive torque, which may damage vent. (15 ft. /lbs. maximum)

**Field Scalable Level Gauge-** Husky BJE Black Knight level gauge

- 1) Determine tank depth in inches.
- 2) Pull chain out of groove in swivel nut.
- 3) Remove cap from swivel nut and pull chain through cap to free chain.
- 4) Remove all tissue paper allowing chain to free-fall. Hold gauge chain firmly. Do not let go of gauge chain: It will retract into body and be irretrievable.
- 5) Confirm gauge chain is knot-free.
- 6) While holding gauge chain firmly, retract gauge chain slowly until gauge shows 1.5” (38 mm) less than tank depth (determined in step 1) and mark chain at bottom of nipple.
- 7) Pull out approximately an additional 18” / 452 mm of gauge chain.
- 8) Cut gauge chain at mark.
- 9) Feed gauge chain through connector in center of float chain.
- 10) Re-attach eyelet to end of gauge chain.
- 11) Slowly pull float down then retract gauge chain to confirm gauge is functioning properly.
- 12) Apply appropriate pipe thread sealant to male threads of gauge.
- 13) Ensure there is no sealant on the chain or internal mechanism, as this may void the warranty.
- 14) Using the gauge chain, slowly lower the float assembly to the bottom of the tank-do not drop float in.
- 15) Install gauge to tank fitting or adaptor, tighten firmly - approximately 1 to 2 turns past hand tight - but do not overtighten.

**Normally Closed Pressure-Vacuum Vent-** Morrison Brothers Model 749

**Installation Steps for Normally Closed Pressure-Vacuum Vent:**

- 1) Inspect the unit for shipping damage. Do not use if damage is found.
- 2) Check vent openings for foreign matter such as packaging material. Remove any that is found,
- 3) Ensure mounting connection is in the vertical (plumb) position.
- 4) Do not paint or cover the vent in any manner. This will inhibit proper vent operation.
- 5) Follow appropriate mounting instructions below.

**Threaded Connection for Normally Closed Pressure-Vacuum Vent:**

- 1) Apply a thin layer of grease to the seal gasket in the vent body. Grease should be compatible with fuel and the Buna N seal gasket.
- 2) Thread vent onto riser pipe until seal gasket contacts the flat end of the vent pipe. **Hand tighten only, do not use a wrench.**
3. **Do not use pipe sealant. Vent is designed to seal on the gasket, not on threads.**