

INSTALLATION AND MAINTENANCE GUIDELINES FOR ABOVEGROUND STEEL TANKS FOR FUEL OIL AND LUBRICATING OIL



Manufactured by:
Granby Industries L.P.
1020 André-Liné Granby, Québec,
Canada, J2J 1J9.
Telephone: 450-378-2334
Fax: 450-378-5202
E-mail: service@granbyindustries.com
Website: <http://www.granbyindustries.com>

1. SCOPE

This guide applies only to the installation and maintenance of domestic, aboveground fuel oil tanks manufactured by Granby Industries to CAN/ULC-S602, Aboveground Steel Tanks for Fuel Oil and Lubricating Oil.

These tanks must be installed in accordance with CAN/CSA-B139, Installation Code for Oil-Burning Equipment and in compliance with any applicable local codes or regulations.

These guidelines cover tanks of obround shape (single wall or double bottom) with a capacity ranging from 455 to 1135 Liters, double wall tanks of obround shape with a capacity ranging from 830 to 1200 Liters, vertical/cylindrical (DCV) tanks with a capacity ranging from 560 to 825 Liters, single wall horizontal/cylindrical tanks with a capacity ranging from 257 to 828 Liters and double wall horizontal/cylindrical tanks with a capacity of 455 Liters.

2. TANK INSPECTION

Inspect the tank immediately upon receipt. Minor dents and scratches may be acceptable. If damages are thought to affect the integrity and performance of the tank, do not install it; please contact your distributor.

3. TANK HANDLING

The tank must be lifted without dragging or dropping to prevent damage. Obround tanks and horizontal/cylindrical tanks are to be lifted using the handles provided on the tank heads. The double wall horizontal/cylindrical tank may be lifted using the lifting lug provided or by other alternate means. DCV tanks are to be lifted using the openings on the top and bottom rings as handles.

Do not move a tank unless it is empty.

4. TANK INSTALLATION

Authorities having jurisdiction should be consulted before the installation of the tank.

The installer shall ensure that applicable Federal, Provincial and Local Codes are met prior to installation.

In most jurisdictions, installation by a technician recognized by the authority having jurisdiction is mandated. Do-it-yourself installations are not recommended and must be inspected by the authority having jurisdiction prior to placing in service.

Only labelled tanks bearing the ULC listing mark with a serial number are eligible for warranty and installation. Under no circumstances shall a used tank of any design be installed.

4.1. Removal of temporary tank closures

All tank openings are temporarily closed with shipping caps. These caps must be removed prior to tank installation.

4.2. Condensation

Condensation can form in the tank during the shipping and storing processes. All water and ice should be removed from the tank prior to installation.

4.3. General location of the tank

Fuel oil storage tanks can either be installed inside or outside of a building. Indoor installation is preferable for heating oil applications, resulting in improved service, increased efficiency, reduced risks and increased life expectancy of the tank.

Tank location should be chosen in accordance with the following requirements:

- The tank should be placed in an area where it is unlikely to be adversely affected by normal household activities;
- The tank should be placed in an area where it can be visually inspected from all sides;
- The tank label should be visible;
- If possible, tanks should not be located directly under house eaves where they may be subject to falling snow and ice or dripping water. Protection should be provided if there are no other placement alternatives.
- Tanks should not be placed in intimate contact with walls or structures since leaves and other organic matter can accumulate and cause external corrosion of the tank.
- Tank location shall respect the local code for distance to property lines and to other energy source connection lines or storage systems.

4.4. Foundations

The tank should be properly supported to prevent it from shifting, settling, or falling over. The tank base shall be level, rigid and non-combustible. A poured concrete basement floor provides the best option while other options are also available.

All tanks are at risk from base movement; especially new outside installations placed on recently disturbed ground. A well-drained sub grade is to be provided for proper drainage. Six inches (150 mm) of crushed, clear, mechanically compacted stone is recommended. The site should have all organic materials such as sod or bark removed and the soil mechanically compacted.

4.5. Tank legs

Our domestic obround tanks and some horizontal/cylindrical tank models are provided with four threaded leg support brackets. The tank legs that fit into these supports are 1¼" threaded Schedule 40 black iron pipes with a maximum length of 12". The length of these legs should provide a slope towards the outlet and provide enough room for the shutoff valve and filter installation. The installer must verify that a minimum slope of 10 mm per 500 mm toward the fuel outlet is respected.

The use of tank cradles is not recommended on any of our tanks.

4.6. Tank piping

Fill, vent and supply piping must respect all applicable codes. Piping shall be designed so that the tank is not subjected to vacuum or pressure exceeding 1 PSIG measured at the top of the tank.

4.7. Overfill Protection

An overfill-protection device should be provided on every fuel oil supply tank. When a vent whistle is installed as an overfill protection device, no person should deliver fuel oil to the supply tank when the vent whistle does not function properly. The use of a 6 in (152 mm) long whistle is recommended for obround tank models.

4.8. Plugging of remaining tank openings

All unused openings on the tanks must be adequately plugged and sealed with liquid tight closures before the tank is put in service.

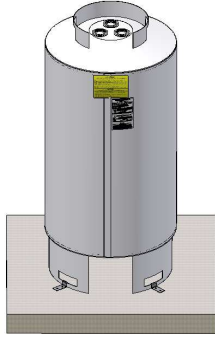
4.9. Cross-connected Tanks

Two oil tanks may be cross-connected in accordance with the installation requirements and limits specified in CAN/CSA-B139, Installation Code for Oil-Burning Equipment.

4.10. Flood Plains and High Wind Areas

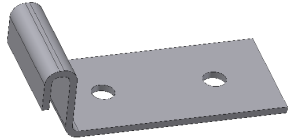
Additional stability should be considered in flood plain areas or areas of high wind. This would require some form of shelter and/or anchoring that does not adversely affect the operation of the tank.

4.11. Anchoring of DCV tanks



When installed inside or outside, DCV tanks must be secured to its base with the following components:

- (4x) DCV anchors brackets
(Graby Steel Tank part# TA01001):



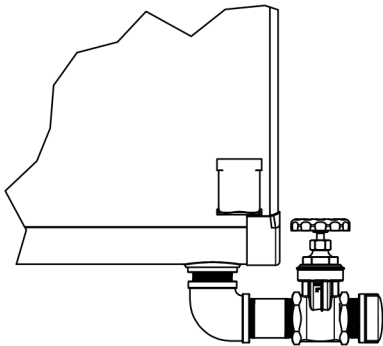
- (8x) ¼"dia. x 1 ¾" long Concrete Tapcon® Screws:



4.12. Tanks Installed in a Top Draw Configuration

Tanks installed in a top draw configuration i.e., where the supply of oil to the burner(s) is made through an opening located on the top of the tank, and having the following characteristics:

- 4.12.1. Is not provided with an outlet below liquid level:
 - The tank must be equipped with and sloped towards a DEDICATED opening on top of the tank used for the sole purpose of verifying and removing water from the tank;
- 4.12.2. Provided with a side outlet below liquid level:
 - The tank must be sloped towards the outlet as per section 4.5 of this installation manual; and
 - The tank must be equipped with a DEDICATED opening on top of the tank used for the sole purpose of verifying and removing water from the tank;
- 4.12.3. Provided with a bottom outlet underneath the tank:
 - The tank must be sloped towards the outlet as per section 4.5 of this installation manual; and
 - The tank must be equipped with a DEDICATED opening on top of the tank used for the sole purpose of verifying and removing water from the tank. Alternatively, the water can be removed through a drain valve, sized 1" minimum, installed in the outlet as shown below:



5. TESTING

Oil storage systems **MUST** be tested for leaks before oil is put into the tank. The installed oil tank **MUST** be tested according to the procedure described in the applicable installation code.

All tanks that leave the factory have been tested twice for leakage. The oil tank could have sustained unforeseen damage during handling, transportation, installation and connection. The installer, oil company representative or a designated person shall be in attendance at the initial filling of the tank. This person shall also visually inspect all seams and fittings for leakage once the tank is full.

Tanks that are not filled immediately after installation shall have all lines blocked and the fill pipe shall be marked to prevent inadvertent filling and to ensure that the first fill inspection is performed.

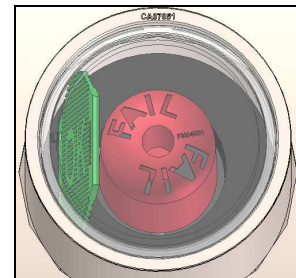
6. OIL TANK MAINTENANCE

It is important for the homeowner to understand that the oil tank is their property and their responsibility. The tank owner should ensure that it is properly maintained. Proper tank maintenance should include, but is not limited to, the following:

- Subscribing to a maintenance program performed by a heating oil system licensed service technician;
- Visually inspecting the tank(s) at least once per year. Careful visual inspection will uncover traces of oil on the tank surface;
- Asking a service technician to check, at least once per year, for the presence of water inside the tank and to remove it. Immediate correction of an unstable foundation or if the tank is likely to topple. The services of a licensed installer should be used with
- verification that the minimum slope of 10 mm per 500 mm toward the fuel outlet is still respected;
- Maintenance of the outside surface of the tank at least once per year by:
 1. Gently brushing the rusted areas on the outside of the tank with sandpaper;
 2. Cleaning the surface;
 3. Applying a coat of rust-proofing metallic paint (available at any hardware store) to affected areas. If needed, Granby Industries has color matched touch-up paint canisters. Contact the order desk for more details.

The manufacturing process of our tanks is completed by the (baked on) application of a high quality, weather-resistant, electrostatic FINISHING Powder Paint. Maintaining this surface is a good practice and the application of touch-up paint will not void the warranty of the tank.

- Maintaining the tank liquid level as high as possible during the summer months to limit water condensation within the tank.
- Verifying the status of a double bottom tank at least once per year by performing the following:
 - When the tank is full, look into the monitoring opening on top of the tank:
 - For tanks equipped with a "flush inspection cap" (Manufactured prior to May 2010): If the red "FAIL" indicator can be seen from the top of the tank, it indicates a problem; contact Granby Industries.



- For tanks equipped with a "protruding inspection cap" (Manufactured since May 2010): If the red "FAIL" indicator can be seen from the side of the tank, it indicates a problem; contact Granby Industries.

