

INSTALLATION AND MAINTENANCE GUIDELINES FOR STEEL TANKS FOR OIL-BURNER FUELS AND OTHER COMBUSTIBLE LIQUIDS



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1. SCOPE

These guidelines apply only to the installation and maintenance of domestic, aboveground fuel oil tanks manufactured by Granby Industries to UL80, Steel Tanks for Oil-Burner Fuels and Other Combustible Liquids. These tanks have an obround shape, are of a single-walled or double-bottom design, and available in capacities ranging from 120 to 330 gallons.

These tanks must be installed in accordance with NFPA 31, Standard for the Installation of Oil-Burning Equipment and in compliance with any applicable local codes or regulations.

The instructions in this document are intended as recommended guidelines only for tank installation. For more specific installation instructions, please refer to your local code enforcement agency.

2. TANK INSPECTION

Inspect the tank immediately upon receipt. Minor dents and scratches may be acceptable. Do not install the tank if damages are thought to affect the integrity and performance of the tank. Contact your distributor.

3. TANK HANDLING

The tank must be lifted without dragging or dropping to prevent damage. Obround tanks are to be lifted using the handles provided on the tank heads.

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 all applicable 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 UL 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 shipped from the factory with temporary 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; and
- Tank location shall respect the local code for distance to property lines, to other energy sources or to other storage systems.

4.4. Foundations

The tank should be properly supported by a level, rigid and non-combustible base. The base should be designed to prevent uneven settling and to minimize corrosion of any part of the tank resting on the foundation. 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 should be provided for proper drainage. Six inches 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 are provided with four threaded leg supports. The tank legs that fit into these supports are Schedule 40 1¼" threaded black iron pipes with a maximum length of 12". The leg supports installed on the tank should:

- provide enough clearance for the tank accessories; and
- provide for proper drainage slope. The tank should be pitched longitudinally, towards the drain, at least 1/4 inch per foot of tank length.

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.

Refer to recommended best practice when installing a threaded component into the bottom of the tank as described on the label next to the tank outlet.

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. 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 NFPA 31, Standard for the Installation of Oil-Burning Equipment.

4.10. Flood Plains and High Wind Areas

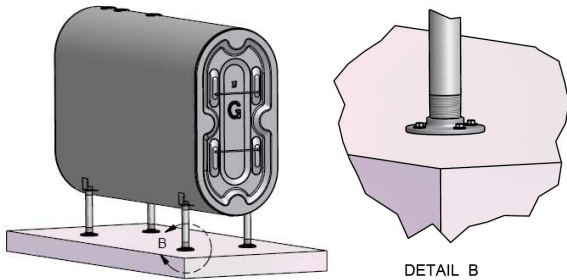
Additional stability should be considered in flood plain areas or areas of high wind. This would require some form of shelter and/or anchoring that does not adversely affect the operation of the tank.

4.11. Tank anchoring

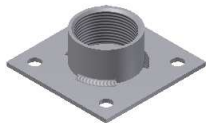
A tank must be anchored to its foundation (as shown below) if it meets one of the following conditions:

- It is intended for outside installation; or
- It is intended for inside installation and will not be connected to secured fill and vent pipes passing through a concrete wall or foundation.

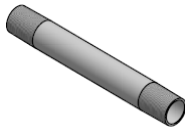
Anchoring method:



(16x) ¼"dia. x 1¾" long Concrete **Tapcon®** Screws



(4x) 1¼" NPT floor flanges

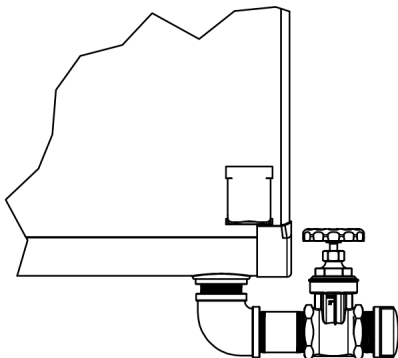


(4x) 1¼" Schedule 40 pipes of appropriate length

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. 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;
- 4.12.2. 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

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 visually inspect all tank seams and fittings for leakage once the tank is full WITHOUT APPLYING PRESSURE INTO THE TANK.

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

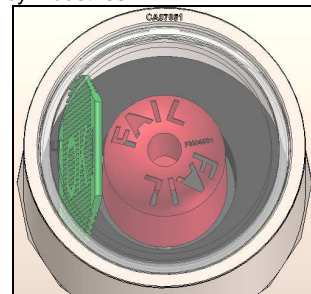
6. OIL TANK MAINTENANCE

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 a year. Careful visual inspection will uncover traces of oil on the tank surface;
- Asking a service technician to check, at least once a year, for the presence of water inside the tank and to remove it.
- Immediately correcting an unstable foundation or when the tank is likely to topple. The services of a licensed installer should be used;
- Maintaining the tank's exterior surface, at least once per year, by:
 1. Gently brushing the rusted areas on the tank's exterior with sandpaper;
 2. Cleaning the sanded surface; and
 3. Applying a coat of rust proof metallic paint (readily available at any hardware store). If needed, Granby Industries has color matched touch-up paint canisters. Contact the order desk for more details.

- Maintaining the tank's exterior 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; and
 - Verifying the status of a double-bottom tank model, at least once per year, by performing the following:

1. When the tank is full, look into the monitoring opening on top of the tank;
2. 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.

