



PLEASE READ THE FOLLOWING INSTRUCTIONS
CAREFULLY

Before reading the following information, it is important that you know what type of tank installation you have. There are four sections of this package and some of the sections may not be applicable to your type of installation.

1. For Aboveground Storage Tanks where the bottom of the tank and piping are clearly visible, please read and utilize the information provided in sections 1 and 4. On the checklist, found at the end of this package, please check off number 1 and numbers 3 through 6 indicating that you have read and understand the applicable requirements.
2. For Aboveground Storage tanks where the bottom of the tank and piping are NOT clearly visible, please read and utilize the information provided in sections 2 and 4. On the checklist, found at the end of this package, please check off number 1 and numbers 3 through 6 indicating that you have read and understand the applicable requirements.
3. For Underground Storage Tanks, please read and utilize the information provided in sections 3 and 4. On the checklist found at the end of this package, please check off numbers 2 through 6 indicating that you have read and understand the applicable requirements.

Please complete the checklist found at the end of this package and review the return options stated at the bottom of the checklist.

NOTE: PLEASE RETAIN THIS ENTIRE PACKAGE ON FILE FOR FUTURE REFERENCE.

SECTION 1:
**ABOVEGROUND STORAGE TANKS WHERE THE BOTTOM OF
THE TANK AND PIPING ARE CLEARLY VISIBLE**

Below is the detail of instructions to be reviewed by the owner or operator of the facility in the event that an Aboveground Storage Tank where the bottom of the tank and piping are clearly visible is installed.

Inspection of Self Contained or Dyked Aboveground Stage Tanks for Leaks

1. The following must be conducted on a weekly basis:
 - a) Inspect that neither surface water nor product is accumulating in the dyke area (if applicable).
 - b) Inspect hoses, nozzles, pumps and the area underneath the tank for leaks.
 - c) Inspect for spills from the storage tank; and
 - d) Check vacuum gauge on tank (if applicable) and if there is no pressure reading (gauge reads 0) there could be a breach in the inner and/or outer wall of the tank. If this is the case, contact your tank manufacturer or your fuel supplier as soon as possible.

In the event that you own an Aboveground Storage Tank where the tank bottom and piping are clearly visible, it is your responsibility to perform a visual tank inspection on weekly basis. The records of this inspection must be maintained on record for life the tank. The attached sheet is a sample of a Visual Tank Inspection Form that may be used in the event that you have this type of installation and are required to complete a visual inspection.

SECTION 2:
**FOR ABOVEGROUND STORAGE TANKS WHERE THE BOTTOM
OF THE TANK AND PIPING ARE NOT CLEARLY VISIBLE**

Below is the detail of instructions to be reviewed by the owner or operator of the facility in the event that an Aboveground Storage Tank where the bottom of the tank and piping are NOT clearly visible is installed.

Inspection of Self Contained or dyked Aboveground Storage Tanks for Leaks

1. The following must be conducted on a weekly basis:
 - a) Inspect that neither surface water nor product is accumulating in the dyke area (if applicable).
 - b) Inspect hoses, nozzles, pumps and the area underneath the tank for leaks.
 - c) Inspect for spills from the storage tank; and
 - d) Check vacuum gauge on tank (if applicable) and if there is no pressure reading (gauge reads 0) there could be a breach in the inner and /or outer wall of the tank. If this is the case, contact the tank manufacturer or your fuel supplier as soon as possible.

SECTION 3: UNDERGROUND STORAGE TANKS

Below is the detail of the instructions to be reviewed by owner or operator of the facility in the event that an Underground Storage Tank is installed.

Leak Detection for approved Underground Storage Tanks (UST)

1. Reconciliation of inventory in the tank is mandatory. This means that you must keep track of your usage in terms of product on hand (delivered to your tank) minus (-) product used (fuel removed from the tank). This difference must equal the amount that is left in your tank at the time of your weekly dip. For example, 400 litres of dyed diesel is delivered to your tank. Over the course of the week you used 300 litres, which should leave approximately 100 litres of product in your tank. This amount should match the dip that you take.
2. The Information obtained by you in Number 1 above must be kept on site for a minimum period of two (2) years.
3. Any tank product inventory records older than two (2) years must be kept on file until such time the tank is removed.
4. on a weekly basis it is mandatory that you test for traces of water in the tank. This is achieved by applying water finding paste to the bottom inch of your dipstick. If the paste changes colour you have water in your tank and you need to investigate what the problem is.
5. All UST's must have an approved corrosion protection monitoring system. The system shall be tested (every 2 years) and certified in writing to be in working order by a professional engineer or by a person with qualifications approved by TSSA. The record of testing and certification shall be retained in your files as per Number 2 and 3 above. If the corrosion protection system cannot be certified, you have 180 days to rectify it or you must discontinue using the UST.

In the event that an Underground Storage Tank is installed, inventory reconciliation must be done. Attached are instructions for performing inventory reconciliation for Underground Storage Tanks. As well, a sample of a Petroleum Inventory Reconciliation Form has been provided for your use.

SECTION 4: GENERAL REQUIREMENTS FOR ALL TYPES OF TANK INSTALLATIONS

Below is the detail of the instructions to be reviewed by owner or operator of the facility for all installation types.

Maintaining Record of the Inspections/Tests

1. Record the date of inspection and maintain record of inspection on site.
2. Maintain a copy of the cathodic protection test for the Underground Storage Tank, which is done every two (2) years.
3. Maintain records of visual inspections for Aboveground Storage Tank for life of the tank.
4. Retain records older than two (2) years for Underground Storage Tanks until the tank has been removed, properly disposed of, and the site has been properly cleaned.

Reporting of Suspected Leaks, Spills or Discovery of Petroleum Fuels that have Escaped into the Environment

1. Spills are product escapes that result from operating errors. **Any spill of petroleum product must be reported immediately to the Spills Action Centre (1-800-268-6060) if in excess of:**
 - 100 litres at sites restricted from public access (i.e. bulk facility, private fuel outlet, private residence, etc); or
 - 25 litres at sites with public access (i.e. retail service station, marina etc)

Spills of lesser quantity do not need to be reported unless the spill would:

- Create a hazard to public health or safety;
- Contaminate any fresh water source or waterway;
- Interfere with the rights of any person; or
- Allow entry of product into a sewer system, underground stream, or drainage system.

Even small spills need to be cleaned up!

2. Leaks are product escapes that result from equipment failures. **All confirmed leaks, regardless of quantity released, must be reported to the Spills Action Centre at 1-800-268-6060.**

The discovery of a petroleum product that has escaped into either the environment or inside a building must be reported. MacDonnell Fuels has a well-trained and equipped Emergency Response Team. We urge you to notify us immediately (24 hrs/day) at 519-376-1916 so that we can assist you.

3. In Case of a Spill or Leak

- Initial action must be taken as quickly as possible. Locate the source of the leak creating the spill and stop it, if it is safe to do so. Use whatever means available (i.e. snow, sand, dirt, kitty litter or a spill kit) to stop the flow and contain the spilled product.
- Eliminate all sources of ignition in the immediate area. Warn others of possible dangers and have a fire extinguisher ready. If a fire occurs, extinguish it if possible.
- Notify emergency services if needed.
- Contact your fuel supplier IMMEDIATELY!
- Call the **Spills Action Centre at 1-800-268-6060**.

Safe Dispenser Operations

1. The following must be considered:
 - a) You must have an explosion proof connection to all electric dispensers.
 - b) Smoking is not permitted within 8 meters of the tank.
 - c) You must turn the engine off before filling vehicle.
 - d) You may fill only **approved containers**, in safe condition and not filled beyond normal capacity only as per Appendix D of the Liquid Fuels Handling Code (see following page)
 - e) A portable container cannot be filled while the container is in the vehicle.
 - f) A drum, on a vehicle or trailer, cannot be filled unless the drum is **electrically bonded** to the vehicle or trailer, cannot and **the vehicle engine is turned off**.
 - g) Class I (gasoline) or Class II (diesel fuel and fuel oil) products cannot be dispensed at any facility by any person unless, that **person is trained by the owner or operator of the facility in the proper use of equipment and procedures for dispensing product, and the person dispensing product remains in attendance at the vehicle during fuelling**.

- h) Combustible materials must be stored at least 3 meters from the pumps/dispenser at the facility.
- i) No Class I (gasoline) product can be stored or transferred within a building at a facility unless the building meets the requirements of the Ontario Fire Code.
- j) Empty containers that previously contained Class I (gasoline) product cannot be stored within a building at a facility unless the building meets the requirements of the Ontario Fire Code.
- k) Class I (gasoline) or Class II (diesel fuel and fuel oil) product cannot be dispensed or transferred from a container with a capacity of more than 45 litres but less than 227 litres except by using a barrel pump having a vapour tight seal, or a electric pump.
- l) Every portable container at a facility that contains product must be kept tightly closed when not in use and the contents of the container must be clearly marked on the container.
- m) Dispensing of product at a facility **must** be done by pumping and the dispensing equipment must be located not less than:
 - 3 meters from the property line,
 - 3 meters from any highway as defined in the Highway Traffic Act,
 - 4.5 meters from an y opening in a building,
 - 1 meter from a building, and
 - 7.5 meters from any fixed source of ignition.
- n) The distance from a water well to a Liquid Fuel Aboveground Storage Tank must be in accordance with the following:
 - The distance from drilled water well to storage tanks at any facility shall not be less than 15 meters.
 - The distance from a dug well or waterway to a storage tank at any facility shall not be less than 30 metres.

Responsibility of an Owner or Operator of a Private Fuel Outlet or Farm

An owner or operator is responsible for instructing each person who handles fuel products on the facility.

1. Each person must be trained on how to inspect equipment for leaks, reporting requirements for leaks and spills, and safe dispenser operation.
2. The owner or operator must maintain a record of the training that has been given to the user of the equipment.

Appendix D from the Liquid Fuels Handling Code

Portable Containers and Drums

1. A metal or plastic portable container bearing the label of ULC or of CSA
2. A portable fuel tank for Marine use
3. A jerry can
 - a) bearing the embossed marking: “UN” followed by 31/X/175; 3A1/Y/175; 3B1/X/175; 3B1/Y/175; 3H1/X/175 or 3H1/Y/175;
 - b) of less than 60 litres capacity and bearing the embossed marking: “UN” followed by 1H1/X/175 OR 1H1/Y/175 OR
 - c) conforming to ANSI/ASTM D 3435-80, Standard Specification for Plastic Containers (Jerry Cans) for Petroleum Products or ASTM F 852-86, Standard Specification for Portable Gasoline Containers for Consumer Use;
4. A Drum bearing the embossed certification marking “CTC”, “BTC”, “ICC”, “DOT”, or “TC” followed by “5”, “5A”, “5B”, “5C”, or “5M”, or
5. A drum bearing the embossed marking: “UN” followed by 1A1/X/175; 1A1/Y/175; 1B1/X/175; 1B1/Y/175.

Inventory Reconciliation – Aboveground storage Tanks

Inventory Reconciliation is the comparison of the amount of deliveries and product used to the dipstick measure of how much fuel is actually in the tank. This type of inventory shows any gains or losses in the amount of product that should be in the tank.

Your petroleum product stage tank system must be:

- a) Gauged or dipped, including a water dip, at least once a week.
- b) The gauge or dip readings should be reconciled with receipt and withdrawal records weekly.
- c) A weekly recorded reconciliation of volumes determined in a) and b).

These records have to be retained on site for two (2) years.

Where the reconciliation shows an unexplained loss of product greater than either the lesser of .5% of the monthly tank throughput, or 3% of the capacity of the storage tank system, the operator shall:

- Commence an investigation into the cause of the loss of product; and
- If a leak is confirmed, report the leak as outlined in Section 4 of this package.

The Gauge Stick (dipstick), which is made of wood or other non-sparking material, is used to measure the depth of the liquid in the storage tank system. These sticks are marked or notched in ½ centimetre increments, starting with bottom of the stick. It is important that the stick is in good condition, as worn ends, cut off ends, and worn off varnish coating can result in inaccurate level readings.

Paste For Finding Water Traces: To improve the quality of a reading from a gauge stick, a fuel sensitive paste can be smeared over a range an approximately six inches if gauge stick where the fuel is expected to be. The paste changes colour when it comes into contact with the fuel. Similarly, there are water-sensitive pastes, which can be put on the bottom of a gauge stick to test for the presence of water in the tank. If you are storing ethanol gasoline, you must use a special paste such as SAR-GEL.

Tank Chart: The chart used to convert stick measurements into gallons (or litres) must be the right one for the tank. The chart should have dipstick measurements listed to within 0.5 cm to minimize mathematical errors, which occur when using charts marked off to the nearest centimetre. It could be useful to laminate the chart and have it attached to your storage tank.

For information on how to obtain tank charts, dipsticks and water finding paste (SA-GEL for ethanol blended gasoline), please contact our office.

Inventory Reconciliation – Underground Storage Tanks

Inventory Reconciliation is the comparison of the amount of deliveries and product used to the dipstick measure of how much fuel is actually in the tank. This type of inventory shows any gains or losses in the amount of product that should be in the tank.

1. Your Underground Storage Tank must have:
 - A. A daily record (excluding weekends or holidays if the system is not used) showing;
 - i) measurement of the contents of each tank;
 - ii) measurement of the amount of product withdrawn or delivered to each tank;
 - iii) a reconciliation of the above for each tank if they are not inter-connected by siphons or joined together by product piping; and
 - iv) a recorded measurement of any water traces in each tank.
 - B. A record made every 6 months confirming the operation of the interstitial space monitoring system, if applicable;
 - C. A reconciliation of the measurement of the tank content just before closing prior to a weekend or holiday, with the measurement of the tank contents prior to reopening;
 - D. These records have to be retained on site for at least two (2) years, records older than two (2) years must be kept until the tank has been removed, properly disposed of, and the site has been properly cleaned.
2. Where there is a change of ownership or operator, the new owner of operator shall be provided with all of the records.
3. The owner or operator of the facility where the dispenser is not metered shall;
 - i) at least twice per month not receive or withdraw product for at least a 12 hour;
 - ii) measure product level at the start and the end of the 12 hour period, including performing water indication test;
 - iii) investigate any level change to determine if a leak exists; and
 - iv) maintain a record of the measurements and investigations for the life of the tank.

In any case, where the reconciliation shows an unexplained loss of product greater than either the lesser of .5% of the monthly tank throughput, or 3% of the capacity of the storage tank system, the operator shall:

- Commence an investigation into the cause of the loss of product, and
- If a leak is confirmed, report the leak as outlined in Section 4 of this package

The Gauge Stick (dipstick), which is made of wood or other non-sparking material, is used to measure the depth of the liquid in the storage tank system. These sticks are marked or notched in $\frac{1}{2}$ centimetre increments, starting with bottom of the stick. It is important that the stick is in good condition, as worn ends, cut off ends, and worn off varnish coating can result in inaccurate level readings.

Paste For Finding Water Traces: To improve the quality of a reading from a gauge stick, a fuel sensitive paste can be smeared over a range an approximately six inches if gauge stick where the fuel is expected to be. The paste changes colour when it comes into contact with the fuel. Similarly, there are water-sensitive pastes, which can be put on the bottom of a gauge stick to test for the presence of water in the tank. If you are storing ethanol gasoline, you must use a special paste such as SAR-GEL.

Tank Chart: The chart used to convert stick measurements into gallons (or litres) must be the right one for the tank. The chart should have dipstick measurements listed to within 0.5 cm to minimize mathematical errors, which occur when using charts marked off to the nearest centimetre. It could be useful to laminate the chart and have it attached to your storage tank.

For information on how to obtain tank charts, dipsticks and water finding paste (SA-GEL for ethanol blended gasoline), please contact our office.