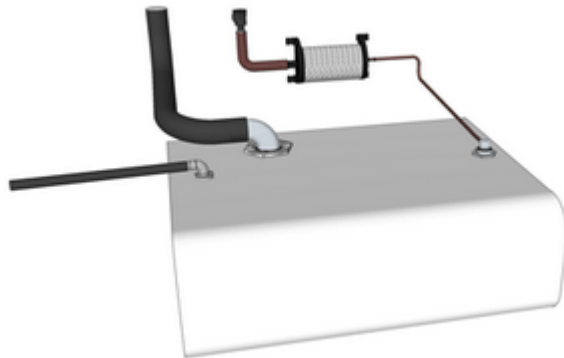


## Carbon Canister Construction & Installation Details



### Function

Installed in fuel tank vent lines, Perko's EPA compliant Carbon Canisters prevent fuel vapors from escaping from boat and vehicle fuel systems into the atmosphere.



They do this via activated carbon pellets which adsorb hydrocarbon molecules out of the fumes that vent from fuel tanks in small quantities during daytime warming and expansion of the fuel, and in large quantities as the tank is refilled.

The hydrocarbons loosely adhere to the surface of the carbon pellets.

The carbon in the canisters is then purged of the adsorbed hydrocarbons when fresh air is drawn into the fuel tank during nighttime cooling and contraction of the fuel and vapors in the tank, or while the engine is running – desorbing the hydrocarbons off the pellets and back into the fuel.

### Construction

The activated carbon Perko uses in these canisters is a special marine grade carbon – which features lower moisture adsorption than the carbon used in automotive applications.

A spring-loaded volume compensator compresses the contained carbon particles to reduce damage from internal abrasion caused by vibrations. The heavy wall, elliptically shaped body and location of the volume compensator near the end of the canister permit higher pressures (up to 5 psi) during installation pressure testing, thus simplifying the pressure test set up.

- Large surface area filters located at each end of the canister keep the carbon particles contained and allow for the lowest airflow restrictions available.
- A patented "floating mounting bracket" rotates on the body and allows for easy installation while reducing the transmission of torque to the canister body, end caps and spuds.
- The "floating mounting bracket" also protects the end caps from heat so that the factory installed heat shield (on models that have them) is all that is needed to meet engine compartment requirements for fire protection. Builders simply install the canister as usual with no additional effort or insulation requirements.
- An extruded polymer body allows various length canisters with a low tooling investment – keeping cost down.
- End caps are heat welded to the extruded body.
- Optional heat shield on certain models allows for mounting in engine compartments.

### **Selection and Installation**

By regulation, installed canisters must be protected from water and raw fuel, as both reduce their ability to function properly.

Some carbon canister models are equipped with a heat shield for protection in engine room installations.

Perko's marine Carbon Canisters are available in sizes ranging from 0.5 liters to 4.0 liters. Each size offers hose barb connection options of 5/16" Inlet x 5/16" or 5/8" Outlet, or 5/8" Inlet x 5/8" Outlet.

Canister size selection is dictated by both vessel and tank size. Refer to the product entries for details.

**For a more comprehensive overview of Perko's Carbon Canisters, with information about dimension, mounting, certifications and relevant EPA regulations visit this webpage:**

<http://www.perkofuelsystems.com/components/canister/>