



90° P-TRAP VENT

1670 / 1671 / 1674

INSTALLATION INSTRUCTIONS

11/01

69489 Rev. A

SAVE THESE INSTRUCTIONS

⚠ CAUTION:

The vessel manufacturer must comply with the requirements of CFR 40 1060.202. Any questions can be directed to www.attwood.com

Failure to follow these instructions may result in accidental fuel system over-pressurization. Users must follow these instructions to ensure vessel function and operation

EMISSION-RELATED INSTALLATION INSTRUCTIONS

Failing to follow these instructions when installing the Attwood Integrated Fuel Demand Valves in a piece of nonroad equipment violates federal law (40 CFR 1068.105(b)), subject to fines or other penalties as described in the Clean Air Act.

FEATURES:

The Attwood water-resistant 90° P-trap Vent is designed for permanently installed fuel systems and is intended for use with 5/8" (16mm) vent hose. Hull thickness should be 1" maximum. Use 1/2" (13mm) thick spacer for hull thickness between 1/2" (13mm) and 3/4" (19mm). Use 3/4" (19mm) thick spacer for hull thickness between 1/4" (6mm) and 1/2" (13mm).

The unique design helps avoid ingestion of water into the fuel tank under normal sea conditions and washdown.

The design includes a series of baffles and traps to allow air to move freely while reducing the possibility of water splashing back into the tank.

Eliminates the need for an anti-siphon loop in the vent hose and allows a more direct routing of the hose to the fuel tank requiring less hose for installation.

Meets ABYC H-24 ventilation specifications,

U.S. Patent Nos. 4,877,152 and D,314,548

⚠ WARNING:

Do not install this vent in a location lower than the top of the fuel tank. It may allow fuel to escape creating a fire hazard.

TOOLS AND MATERIALS REQUIRED FOR INSTALLATION

- Drill
- 1-3/8" (35mm) hole saw
- 3/16" (5mm) hex head wrench
- 7/16" (11mm) hex head wrench
- Appropriate marine sealant
- Ruler or tape measure

MOUNTING INSTRUCTIONS

1. Select location that is the highest point possible above the top of the fuel tank as installed in the boat under normal operating conditions. Install as high and as far forward toward the helm as practical. It is important that the vent is in a location where it will not be submerged or exposed to constant wave action or splashing. **MAKE SURE THERE IS ENOUGH ROOM INSIDE THE HULL FOR THE VENT AND HOSE BEFORE DRILLING THE MOUNTING HOLE** (See Figure 1). Hull thickness should be 1/4" (6mm) maximum (See Spacer Chart, Figure 3).
2. Carefully drill a 1-3/8" (35mm) diameter hole for installation of the vent. Keep the hole clear of burrs and fiberglass strands.
3. Remove cap with 3/16" (5mm) hex head wrench. Remove screen to expose 7/16" (11mm) hex socket, use this socket to tighten in Step 5.

4. Apply a small bead of sealant on the vent body threads.
5. Put gasket onto threaded area of vent body. Insert vent body into predrilled hole from outside of hull and screw into the P-trap body, making sure the hose fitting is pointing down. Tighten to 3-5 ft-lbs.

⚠ CAUTION: Over tightening will damage the plastic threads

6. Using a corrosion-resistant clamp, install vent hose to hose fitting.
7. Install endcap with hex wrench - tighten to 30-35 in-lb. torque, 3.39 to 3.95 N-Meters.

MAINTENANCE

You will know the vent needs maintenance if vapor rushes into or out of fuel tank when you open deck fill cap. You may also notice difficulty while fueling (back-splash or pump shutting off continuously during fill).

Debris and spider webs can block vent, especially after storage. Use these steps to clean vent screen before and after storage, or at least once a year.

Do this maintenance while boat is out of the water, so you do not risk losing parts.

1. Use a 3/16" (5mm) hex wrench to turn cap off counter-clockwise. Set cap aside for re-installation. (Figure 2)
2. While cleaning, DO NOT allow debris to fall down the vent tube into tank.
3. Remove screen and clean with solvent or air pressure.
4. Replace screen in original position.
5. Replace and tighten vent cap (30-to-35 in-lb. torque, 3.39 to 3.95 N-Meters).

MANUFACTURER REQUIREMENTS

The information below applies only to EPA CFR 40 1060.135. The vessel manufacturer is responsible to meet all additional regulatory labeling requirements including EPA, CARB, USCG and others as necessary. The below information is for reference only. The vessel manufacturer should refer to CFR 40 for complete labeling guidelines.

In order to meet the requirements of CFR 40 1060.135, the vessel must be labeled with respect to evaporative emissions in the following manner when installing certified components;

Excerpt from CFR 40 1060.135

(a) You must affix a permanent and legible label identifying each engine or piece of equipment before introducing it into U.S. commerce. The label must be—

- (1) Attached in one piece so it is not removable without being destroyed or defaced.
- (2) Secured to a part of the engine or equipment needed for normal operation and not normally requiring replacement.
- (3) Durable and readable for the equipment's entire life.
- (4) Written in English.
- (5) Readily visible in the final installation. It may be under a hinged door or other readily opened cover. It may not be hidden by any cover attached with screws or any similar designs. Labels on marine vessels must be visible from the helm.

(c) If you produce equipment without certifying with respect to evaporative emissions, the equipment label specified in paragraph (a) of this section must—

- (1) State: "MEETS U.S. EPA EVAP STANDARDS USING CERTIFIED COMPONENTS."
- (2) Include your corporate name.

Below is an example of a label specified by CFR40 1060.135 for use with certified components;

MEETS U.S. EPA EVAP STANDARDS USING CERTIFIED COMPONENTS

CORPORATE NAME

Please refer to CFR 40 1060.135 to review EPA vessel labeling requirements.

The NMMA has a program to supply OEM builders with labels. Please refer to the NMMA website below for further information regarding the NMMA label program;

www.nmma.org/certification/products/labelsanddecals.aspx

TWO-YEAR WARRANTY & LIABILITY

Generally: Attwood Integrated Fuel Demand Valves are covered by a two (2) year limited warranty from the date of a Vessel's first retail sale.

Pre-requisites to Warranty Eligibility: For the warranty coverage described herein to apply, the following conditions must be met:

- Component must have been properly installed per Attwood installation instructions; and
- The component cannot have been altered or abused by Boat Company or its customers.

Warranty Terms for Components:

Attwood warrants that any Attwood Integrated Fuel Demand Valves are free from defects in materials and workmanship and are designed, built, and equipped to conform at the time of sale to Boat Company with the 40CFR.1060 requirements. For two (2) years from the date of a Program Boat's first retail sale, Attwood will, at its sole option, repair or replace any components that fail due to a defect in material or workmanship. ATTWOOD PROVIDES NO WARRANTIES WITH RESPECT TO ANY PART OR COMPONENT NOT MANUFACTURED BY ATTWOOD, INCLUDING FUEL TANKS. Boat Company is responsible for the installation of all Systems, whether installed by Boat Company or under its direction. For any breach of the warranties in this Section 6(c), Boat Company's exclusive remedy shall be the repair or replacement of components, which in no event shall exceed the fair market value of the components as of the date of the claim.

Limitations on Warranty:

THE WARRANTIES AND REMEDIES CONTAINED HEREIN ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED OR STATUTORY, INCLUDING ANY LIABILITY ARISING UNDER ANY WARRANTY OF MERCHANTABILITY. IN ADDITION, ATTWOOD EXPRESSLY DISCLAIMS ANY WARRANTY OR LIABILITY WITH RESPECT TO COMPLIANCE WITH LAWS, REGULATIONS, OR OTHER OFFICIAL GOVERNMENT RELEASES APPLICABLE TO BOAT COMPANY, WHICH SHALL BE THE SOLE RESPONSIBILITY OF BOAT COMPANY. Attwood is not responsible for any damage, loss or expense due to the acts or omissions of Boat Company's employees, agents, contractors, or its customers. Limitation of Liability. IN NO EVENT SHALL ATTWOOD BE LIABLE TO BOAT COMPANY OR ANY THIRD PARTY, INCLUDING TANK MANUFACTURER, FOR, NOR SHALL THE MEASURE OF DAMAGES INCLUDE, ANY AMOUNTS FOR INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES FOR ANY REASON OR UPON ANY CAUSE OF ACTION, WHETHER SOUNDING IN TORT, CONTRACT OR ANY OTHER LEGAL THEORY. To the fullest extent permitted by applicable law, the total aggregate liability of Attwood, regardless of whether such liability is based on breach of contract, tort, strict liability, breach of warranties, failure of essential purpose or otherwise, under this Agreement and/or with respect to the components and/or Services, shall be limited to the amounts paid to Attwood for components purchased related to Boat Company's Systems for the prior twelve (12) month period.

A.B.Y.C.

American Boat & Yacht Council
3069 Solomon's Island Road
Edgewater, Maryland 21037
www.abycinc.org

E.P.A.

401 "M" Street, SW
Washington, DC 20593 www.epa.gov

U.S. Coast Guard

Washington, DC 20460
www.uscgboating.org

ISO

iso.org

National Marine

Manufacturers Association (NMMA)
231 S. LaSalle Street
Suite 2050
Chicago, IL 60604
www.NMMA.org

Figure 1

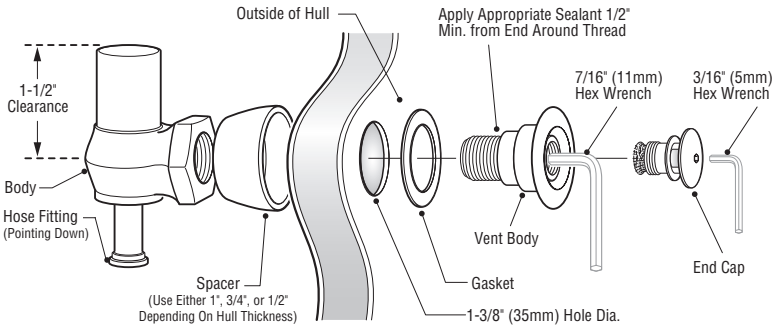


Figure 2

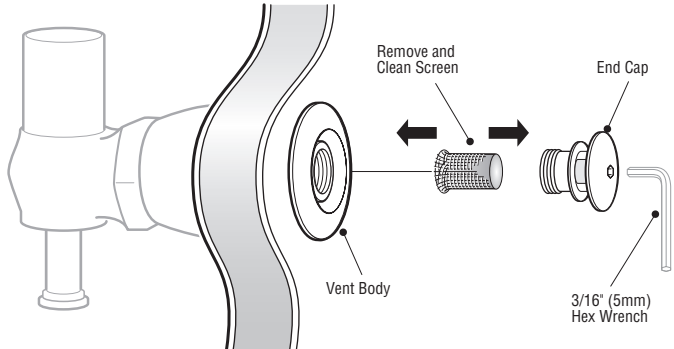


Figure 3

Spacer Size	Hull Thickness
1"	0" To 1/4"
3/4" P/N 911508	1/4" To 1/2"
1/2" P/N 911507	1/2" To 3/4"
None	3/4" To 1"