

PERKO®

Figs. 0456 & 0457 FlushPro™ **MARINE ENGINE FLUSHING AND WINTERIZING SYSTEM** **OPERATING INSTRUCTIONS**

To Install FLUSH-PRO™ Flushing System:

1. Locate FLUSH-PRO™ such that:
 - It is on the inlet side of any/all cooling system pumps.
 - It is not likely to strike against objects as a result of shock or vibration.
 - Connecting hoses are in-line to prevent any bending or twisting stresses on the FLUSH-PRO™.
 - If located in a naturally straight section of hose at least 12 inches long, make sure that at least 6 inches of hose is available on one side of the FLUSH-PRO™ to attach without excessive bending or flexing. (These dimensions do not include the portion of hose over a barb or spud).
 - If located in a section of hose that has an existing bend, then alter the connections to provide a straight section of hose for installation without stressing the FLUSH-PRO™. This can be accomplished by:
 - Lengthening the hose.
 - Adding an elbow.
 - Using a portion of a carefully selected pre-molded hose with an accommodating shape.
 - Adding multiple hose supports adjacent to the FLUSH-PRO™.
2. Cut intake hose leading to engine's impeller pump and remove 5-1/2" inches of hose.
3. Insert FLUSH-PRO™ valve with arrow pointing away from raw water intake and towards engine impeller pump and tighten hose clamps. (During normal boat use, water continues to flow through FLUSH-PRO™ to pump.)
4. To flush engine, remove FLUSH-PRO™ cap and connect ordinary garden hose.
5. Water pressure from the garden hose will automatically open check valve and begin the flushing process from the new water source.

Directions for Flushing Your Boat (Out of Water):

1. Connect garden hose.
2. Turn on water to 1/3 pressure.
3. Start engine at idle.
4. Immediately turn garden hose to full pressure.
5. Flush for approximately 5 to 10 minutes. **Do not exceed 1100 RPM.**
NOTE: If garden hose pressure is insufficient to force open small check valve, **SHUT DOWN IMMEDIATELY.**
6. Shut off engine.
7. Turn off garden hose.

Directions for Flushing Your Boat (In Water):

NOTE: In order to avoid drawing raw water in addition to city water, your vessel must be equipped with a seacock.

1. Connect city water to FlushPro™ valve.
2. Turn on city water.
3. Close seacock.
4. Start engine. You are now flushing your engine with city water, continue flushing for 5 to 10 minutes. **Do not exceed 1100 RPM.**
5. Shut down engine(s), and then turn off city water.
6. Open seacock before restarting engine.

Winterizing Your Boat:

The black winterizing adapter is attached to the cap strap. Undo the strap from the top, take the adapter, scalloped end down and insert it as far as possible into the garden hose receptacle on the FLUSHPRO™. Cut a short length of garden hose (with a male connector on one end). Screw the male fitting into the garden hose adapter on the FLUSH-PRO™ and place the other end in the anti-freeze container. The winterizing adapter will open a small check valve inside the FLUSHPRO™ allowing the anti-freeze to be siphoned into the cooling system once the engine is started.

Directions for Winterizing Your Boat (Out of Water):

1. After flushing with fresh water, open all drain cocks.
2. When all water is drained out of the engine, close drain cocks and tape shut the water inlet on the bottom of the boat.
3. Insert adapter into garden hose connection on the top of the valve.
4. Using a 5 gallon bucket, mix applicable amount of anti-freeze and water (See anti-freeze directions for temperatures and appropriate amounts of anti-freeze and water mixture).
5. Place end of hose into bucket of anti-freeze mixture.
6. Start engine, **Do not exceed 1100 RPM.** Allow engine to draw all anti-freeze solution into engine. Immediately shut off engine to prevent loss of anti-freeze from exhaust.
7. Remove tape from intake and garden hose from valve.

Directions for Winterizing Your Boat (In Slip):

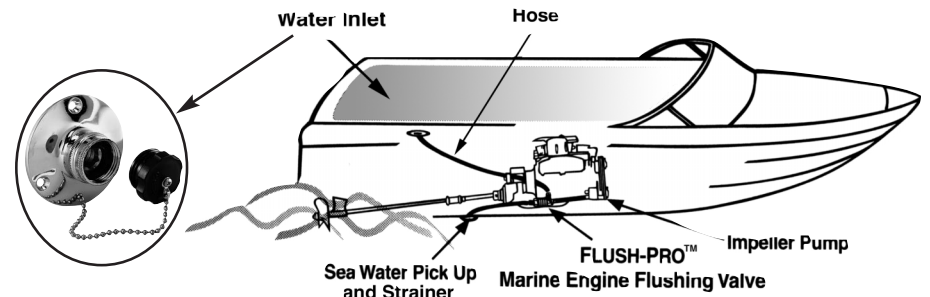
1. After flushing process is complete, remove adapter from FlushPro™ cap strap and insert adapter into FlushPro™ valve.
2. Using a piece of garden hose, place male end of hose into FlushPro™ valve and place the other end into applicable amount of bio-degradable anti-freeze mixture bucket, container etc. (approximately 5 to 10 gallons).
3. Open all pet cocks and drain engine block and water cooled headers. If pet cocks are plugged, use a small nail to unclog openings. When all the water has drained out, close all pet cocks and replace any plugs you have removed.
4. Start engine(s) and your sea water pump will automatically pump anti-freeze from the bucket into your engine and headers. **Do not exceed 1100 RPM.** When the bucket is empty **Immediately** shut down engine(s). You are now winterized.

NOTE 1: Close loop system for flushing heat exchangers only.

NOTE 2: Before using vessel again you must open your seacock(s).

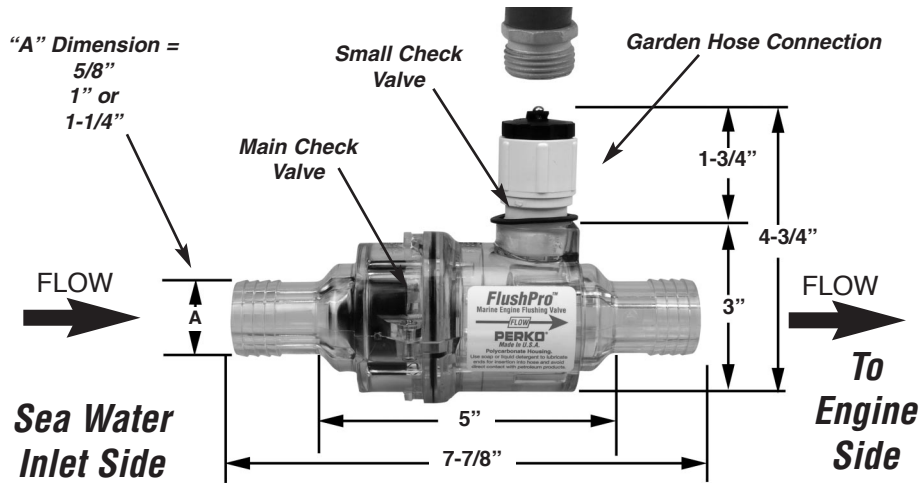
NOTE 3: The FLUSHPRO™ Housing is made of a Polycarbonate material . Use soap or liquid detergent to lubricate ends for insertion into hose and avoid direct contact with petroleum products.

NEVER DISPOSE OF ANTI-FREEZE IN A LAKE OR RIVER



Features:

- Flush your boat engine safely and easily.
- Transparent body allows for visual inspection of water flow.
- Durable check valve system activated by water pressure from a garden hose.
- Check valve automatically shuts off hull intake when water pressure is applied.
- Adapter supplied with FlushPro™ makes winterizing your boat easy.
- Can be used with onboard generators & air conditioning units.



PERKO®

We Make it Right, Right Here!!™

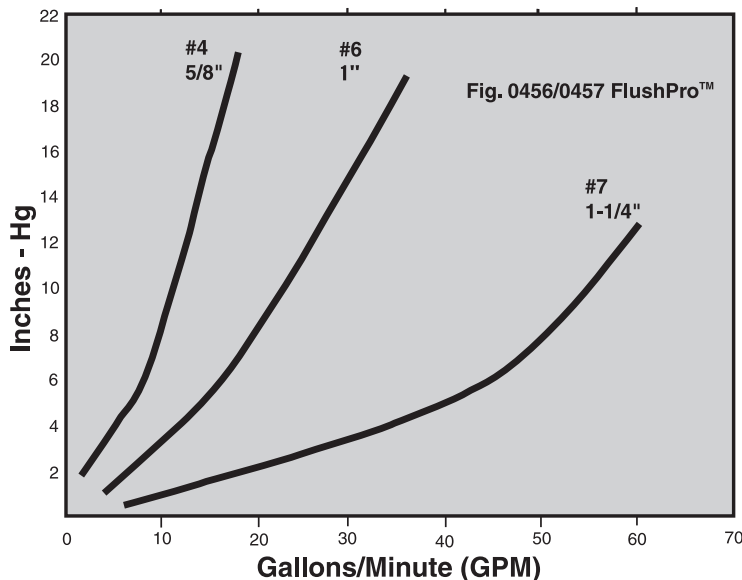
Figs. 0456 & 0457

FlushPro™

**MARINE ENGINE FLUSHING AND WINTERIZING SYSTEM
INSTALLATION & OPERATING INSTRUCTIONS**



FlushPro™ Differential Pressure Graph



MODELS AVAILABLE:

- **Cat. No. 0456DP4**
FlushPro™ Valve for 5/8" Hose
- **Cat. No. 0456DP6**
FlushPro™ Valve for 1" Hose
- **Cat. No. 0456DP7**
FlushPro™ Valve for 1-1/4" Hose
- **Cat. No. 0457DP4**
FlushPro™ Valve and Water Inlet Kit for 5/8" Hose
- **Cat. No. 0457DP6**
FlushPro™ Valve and Water Inlet Kit for 1" Hose
- **Cat. No. 0457DP7**
FlushPro™ Valve and Water Inlet Kit for 1-1/4" Hose

**Inboard Direct Drive
Engine Packages:**

- P.C.M.
- MerCruiser 5.7 and above
- Indmar
- Jet Drive
- Volvo Penta
- Onboard Generators
- All Ocean Going Systems with Heat Exchangers
- Outdrives without Internal Impeller Pump