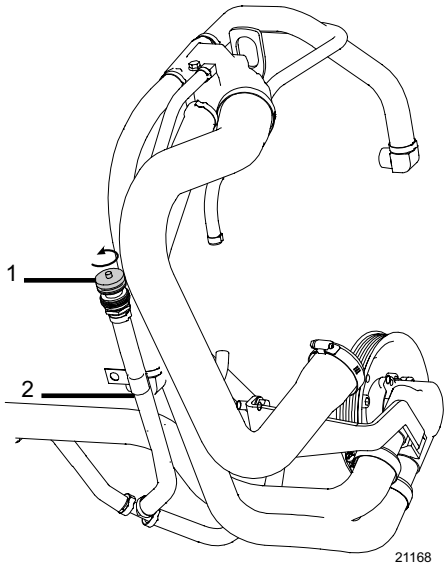
Draining Engine Block or Exhaust Manifold

4.3GXi-A/B



Draining the cooling system — raw water

1. Locate the engine flush connector (1) at the front of the engine refer to features pages for location of flush adapter. Connect a garden hose to the connector with the supplied adapter.

NOTE! The hose connection adapter supplied with the engine may not work in all geographic locations.

⚠ **Caution!**

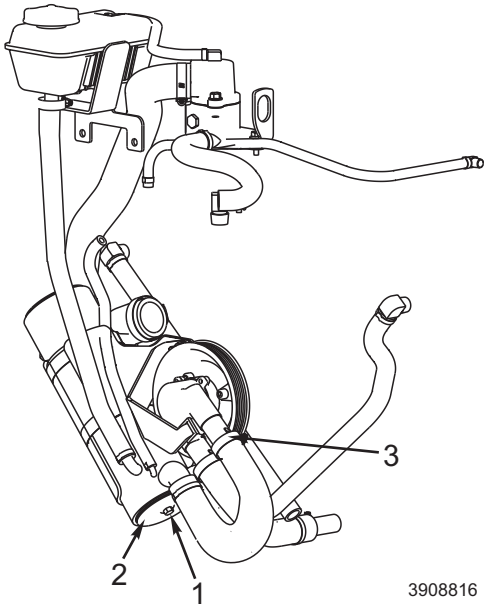
Do not run the engine during the flushing procedure. Water is not supplied to the raw water pump and the pump impeller will be damaged.

2. Turn the fresh water supply on and flush the engine with fresh water for 5 minutes to ensure the drain ports are open.
3. Turn off the fresh water supply and disconnect the garden hose from the engine flush connector. Lower the engine flush hose below the engine level and let drain.
4. After all of the water has drained out, reattach the hose cap and place back in original location.
5. Remove drain plugs from the exhaust manifold(s) and let drain completely. Reinstall the drain plug(s) and tighten.

⚠ **Caution!**

If a garden hose with fresh water supply is unavailable, you must remove the hose nipple(s) from the engine to drain the engine block. To ensure all water is drained, clear the drain hole with a piece of wire. After the engine is drained reinstall the hose nipples and flush adapter as removed. The exhaust manifolds are drained as described previously

4.3GXi, 4.3OSi F-series (closed cooling)



To drain the raw water side of the cooling system of your factory installed closed cooling on your Volvo Penta engine.

⚠ **Caution!**

4.3GXi-AF/BF/CF/DF/EF and 4.3OSi-BF/CF/DF/EF engines come factory filled with 50/50 coolant mixture of propylene glycol antifreeze and water. If the engine requires topping off, use only proylene glycol to refill the cooling system. Do not use Volvo Penta ethylene glycol in the cooling system.

If Volvo Penta antifreeze is preferred, you may use it provided the cooling system is drained and flushed before filling it wih Volvo Penta antifreeze.

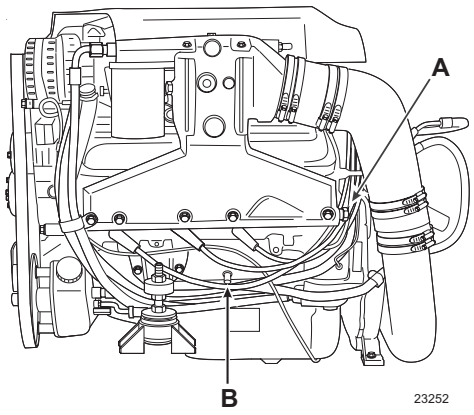
Note! The boat should be out of the water and the bow down slightly to allow complete drainage.

1. Using a 9/16 inch wrench, loosen but do not remove the cover bolt (1) on the bottom of the heat exchanger approximately three revolutions.
2. Twist the heat exchanger cover and gasket (2) in either direction and allow the water to completely drain from the system.
3. After the heat exchanger is drained, retighten the cover bolt to 27 N•m (20 lb. ft.)
4. Loosen the hose clamp (3) on the raw water inlet hose and remove the hose from the raw water pump.
5. Allow all the water to drain and reinstall the hose and tighten the hose clamp.

⚠ **Caution**

Ensure there is sufficient antifreeze in the closed side of the cooling system to protect the engine for the anticipated temperatures. Follow the antifreeze manufacturers instructions for proper water/antifreeze ratios.

4.3GXi-C/D



1. With the engine turned off, locate and open the engine drain petcocks (B) located on both sides of the engine block.

⚠ **Caution!**

Be sure that all water is drained from the engine. If no water drains when the petcocks are opened, remove the petcocks and use a piece of wire to clear any obstructions from the drain hole. Failure to drain all the water from the engine may result in engine damage during freezing temperatures.

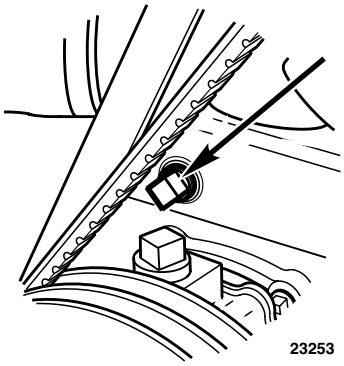
2. Remove drain plugs from exhaust manifolds (A). Raise or lower the bow of the boat to ensure complete drainage. After the water has completely drained, reinstall the drain plugs and torque to 29 N•m (22 lb. ft.).

3. Note the hose orientation on the raw water pump. Loosen the hose clamps and remove the hoses from the raw water pump. Crank the engine briefly, (1 or 2 crankshaft revolutions) but do not start the engine, to clear the water from the pump. Reinstall the hoses and secure the clamps in the same orientation as removed.

⚠ **Caution!**

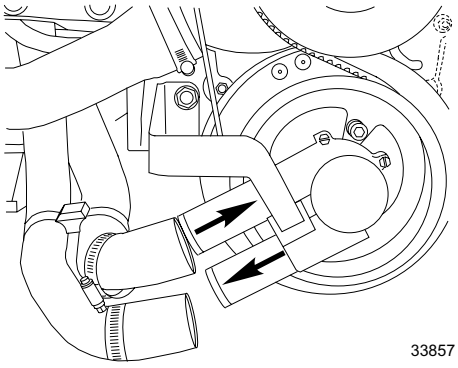
Failure to connect the raw water pump hoses in the correct orientation may damage the raw water pump impeller.

4.3GXi-A, and 4.3GL Draining Only



When draining the 4.3GXi-A and the 4.3GL, be sure to remove the intake manifold drain plug, located behind the alternator tensioning bracket, to drain any remaining water in the intake manifold. Otherwise, follow the directions below.

Draining Supply Pump



1. Loosen and slide hose clamps back. Remove hoses from the pump and drain.
2. Crank the engine no more than 2 seconds (DO NOT START) to expel any water trapped in water pump. Reattach hoses.