

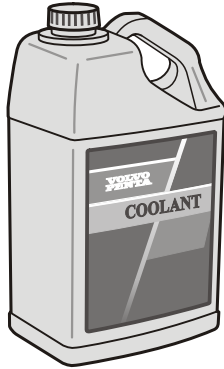
Coolant Recommendations for Gas Engines

Gas engines 4.3, Gas engines 5.0, Gas engines 5.7 , Gas engines 8.1

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Date: 01-2011

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Numerous types of coolant (anti-freeze) are available for use in engine cooling systems. Volvo Penta gas engines, if equipped with freshwater cooling systems, currently use a silicate based ethylene glycol coolant (typically green in color). Do not use other coolant types in these engines .

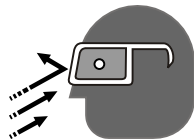


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WARNING!

Ethylene Glycol coolant is poisonous to humans and animals if ingested.

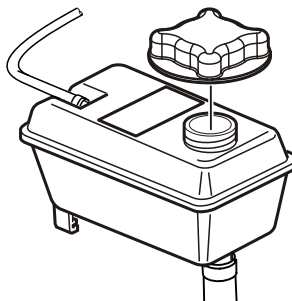
Children and animals are especially susceptible to accidental ingestion of coolant. Carefully control all coolant removed from the engine, quickly clean up all spilled coolant, and dispose of coolant and absorbent materials according to local environmental regulations.



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CAUTION!

Ethylene glycol coolant is an eye irritant. Wear eye protection when working with coolant.



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To prevent deterioration of the protective qualities of the factory coolant, other types of coolants must not be mixed with Volvo Penta coolant or used in Volvo Penta gas engines. It is recommended that Volvo Penta coolant be used whenever replacing or topping off the coolant in a freshwater cooled engine. Use of the genuine Volvo Penta coolant insures the correct coolant type is used in the engine.

Volvo Penta coolant contains glycol, which prevents the coolant mixture from freezing. Volvo Penta coolant also contains inhibitors, which protect the cooling system against corrosion and deposits. The inhibitors are matched with all the various materials in the engine to prevent unwanted reactions between the coolant and the metals and seals in the cooling system.

Part Numbers

See the Electronic Parts Catalog for coolant part numbers.



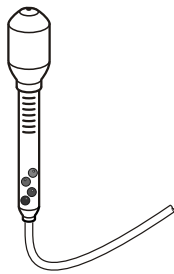
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Volvo VCS Coolant

VCS coolant (yellow color), while also ethylene glycol based, contains different inhibitors and additives, and must not be mixed with the Volvo Penta green coolant. The VCS yellow coolant is used in some Volvo Penta diesel engines and is sold by Volvo Penta Parts. However yellow coolant, from any source, can **not** be used in gas engines.

Propylene Glycol

Do not use propylene glycol in engines with ethylene glycol coolant.

Between 1998 and July 2004, gas engines were produced with propylene glycol coolant. Any of these earlier engines still using propylene glycol should continue with this coolant. Volvo Penta does not sell this coolant.

Starting with serial number 4012133180 the gas engines used ethylene glycol.

OAT, HOAT Coolants

OAT = Organic Acid Technology

HOAT = Hybrid Organic Acid Technology

Do not use either of these new coolant types in Volvo Penta gas engines.

In general, a gas engine should be maintained on the same coolant type as the original fill from the factory. When changing coolant it is difficult to completely remove all the old coolant from the engine. When adding a different coolant, some portion of the original coolant remains in the engine. If the two coolant types are not compatible (example: silicate and OAT), the coolant mixture will break down and the coolant will not have the corrosion protection properties needed by the engine. Engine damage could occur!

Winterization or Other Storage

As part of winterization (specified in both the service and operator's manuals), Volvo Penta highly recommends that the coolant be checked for the correct freeze protection level. Use a coolant test kit (hydrometer) to check a sample of the coolant. The temperature indicated by the hydrometer should be at least 10° F lower than the lowest expected temperature for the area where the engine will be stored. Check the coolant at ambient temperature, do not check hot coolant (safety and inaccurate reading concerns).

NOTE! Propylene glycol coolants require testing equipment designed specifically for that coolant type.

The coolant can be strengthened to protect at lower temperatures by draining half a gallon (two liters) of coolant from the engine and replacing with a half gallon of full strength anti-freeze. Run engine for 10 minutes to ensure proper mixing of solution and recheck for level of temperature protection. Repeat, if necessary until the desired temperature is obtained on the hydrometer.

Distilled Water

Volvo Penta recommends the use of distilled water for diluting coolant or full-strength anti-freeze. Water from public water systems, wells or other sources may contain high amounts of minerals or chemicals, these may cause problems with the inhibitors in the anti-freeze.