SI B17 01 07
Cooling System

October 2007
Warranties

SUBJECT

BMW Long-Term Antifreeze/Coolant: Maintenance, Repairs and Replacement Requirements

MODEL

2003 E85 (Z4)

2004 and newer, all models

INFORMATION

The cooling systems for the BMW vehicles listed above must only be filled with a long-term ethylene glycol antifreeze/coolant solution containing corrosion inhibitors that are compatible with aluminum components.

Engine Antifreeze/Coolants for BMW vehicles have four basic functions:

- Help provide sufficient cooling;
- Help provide the cooling system with protection against winter freeze-ups and summer boil-overs;
- Protect various metals (gray cast iron, steel, aluminum alloys, brass, copper and solder) against corrosion; and
- Prevent excessive silicate gel precipitation, which may cause clogging of the cooling system.

Coolant System Repairs

In conjunction with any repairs where aluminum or metal cooling system components are replaced, drain and completely replace the long-term antifreeze/coolant. These components require corrosion protection that's only available with new long-term antifreeze/coolant.

For all other repairs involving the draining of partial quantities of coolant, replenish those drained quantities with new long-term antifreeze/coolant. It is important in order to to maintain corrosion protection, to not reuse any drained coolant. Always recycle or properly dispose of used engine coolant.

Initial Filling at the Factory and Refilling

The antifreeze concentration of the coolant installed at the factory is valid for all areas of the U.S. and Canadian markets. This should be checked before the beginning of each winter for sufficient protection against freezing. An antifreeze tester is required to correctly determine the level of antifreeze concentration.

Refer to SI B17 01 06 for more details on refilling the coolant system.

Diluted or Contaminated Long-Term Antifreeze/Coolant

The corrosion inhibitors of long-term and short-term antifreeze/coolants do not work together, so it is not advisable to mix the two products. Topping off a long-term antifreeze/coolant solution with a short-term antifreeze/coolant solution dilutes the level of corrosion protection. In an emergency situation, when long-term antifreeze is not available, top off with water until a long-term antifreeze/coolant is obtained. Since adding water will dilute the level of antifreeze protection, always remember to check and adjust the antifreeze concentration as necessary after such situations.

The color of BMW-Long Term Antifreeze/Coolant is blue; however, the colors of other locally available long and

short-term coolants vary. These colors include green, orange, pink, red or yellow. Mixing BMW Long-Term Antifreeze/Coolant with these different color and types of antifreeze/coolants can result in a discolored solution in the cooling system. If a discolored antifreeze/coolant solution is found in the cooling system, determine the cause, repair the vehicle as needed and, if necessary, replace the antifreeze/coolant completely to ensure adequate corrosion protection.

BMW Long-Term Antifreeze/Coolant Chemistry

Long-term antifreeze/coolants utilize Organic Acid Technology (OAT). OAT-type antifreeze/coolant solutions use organic acid salts in place of the inorganic corrosion inhibitor additives found in traditional short-term antifreeze/coolants. OAT-type corrosion inhibitors are slower acting, last longer and provide excellent long-term corrosion protection for various coolant system aluminum and metal components, along with no required change interval.

BMW's Long-Term Antifreeze/Coolant (82 14 1 467 704) is a Hybrid OAT (HOAT) solution, since it also has added silicates to provide quick-acting protection for aluminum surfaces. Silicates help repair surface erosion caused by cavitation in the water pump.

BMW's Long-Term Antifreeze/Coolant does not contain nitrites or phosphates and has been formulated to prevent excessive silicate gel precipitation, significantly reducing the possibility of harmful deposit formation.

BMW Antifreeze/Coolant Maintenance Summary

BMW's Long-Term Antifreeze/Coolant can be used for all model years; however, its use does not eliminate or supercede a stated change interval. Always maintain the antifreeze/coolant in accordance with the cooling system maintenance requirements outlined in the corresponding vehicle's Service and Warranty Information Booklet.

The following summary details the BMW conversion, by model year (MY) and model, to a long-term antifreeze/coolant solution.

Coolant Maintenance Interval	**Every 3 years Starting from the date of production**	**Every 4 years Starting from the date of production**	**Long-Term No Replacement Interval**
		E36 (Z3, M Roadster/Coupe)	
MY 2001		E46 (3 Series and M3)	
To	E39 (M5)	E39 (5 Series)	N/A
MY 2002	E52 (Z8)	E38 (7 Series)	
		E65, E66 (7 Series)	
		E53 (X5)	
	E39 (M5)	E46 (3 Series and M3),	
MY 2003	E52 (Z8)	E39 (5 Series)	E85 (Z4)
	E52 (Alpina Roadster)	E65, E66 (7 Series)	

E53 (X5)

MY 2004 and Later	N/A	N/A	All Models

WARRANTY INFORMATION

Covered under the terms of the BMW New Vehicle Limited Warranty or the BMW Maintenance Programs.