

TO: ALL ISUZU POWERTRAIN DISTRIBUTORS AND DEALERS: SALES, SERVICE & PARTS PERSONNEL
SUBJECT: COOLANT REQUIREMENTS AND MAINTENANCE

Isuzu Motors America, LLC, (ISZA) takes pride in the durability of our engines and is providing this bulletin so that the service life of engines sold can be maximized. This bulletin outlines the proper usage and maintenance of coolant for Isuzu off-highway and marine diesel engines. The term "coolant" is referring to the mixture of water and Long Life Coolant antifreeze used in diesel engine cooling systems.

Water Quality Requirements

- To avoid water quality requirement it is recommended to use pre-mixed coolant (50/50).
- High levels of dissolved chlorides, sulfates, magnesium and calcium in tap / ground water causes scale deposits and corrosion, which may result in water pump failures, poor heat transfer and overheating.
- It is recommended to use distilled deionized water and the water must meet the following limits.
 - pH 6.0~8.0
 - Cl⁻ Less than 30ppm (max)
 - SO₄²⁻ Less than 30ppm (max)
 - HCO₃³⁻ Less than 30ppm (max)
 - Mg²⁺ Less than 10ppm (max)
 - Ca²⁺ Less than 30ppm (max)
 - Hardness Less than 116

Antifreeze

- **Isuzu PowerTrain's recommended coolant can be purchased on ICS (Distributors) or from the Isuzu Distributor. Please order Part Number: 8-12346-290-0**
- Organic Acid Technology (OAT) Long Life Coolant meeting **GM6277M or equivalent standards** is also acceptable
- Antifreeze lowers the freezing point of coolant as well as raises the boiling point. A 50 / 50 mixture of antifreeze and water provides optimum freezing and boiling point protection.
- Coolant concentrations less than 40 percent antifreeze increases the possibility of coolant freezing and increases the chances of liner pitting in wet liner applications.
- Coolant should never exceed 60 percent antifreeze, except in arctic climates but never exceed 65 percent.

Maintenance

- Coolant to be replaced yearly
- If 15 percent or more coolant is lost, the cooling system should be refilled with an appropriate coolant mixture and retested.
 - Caution - the addition of 100 percent water or 100 percent antifreeze may lower the cooling or freezing properties of the coolant.
 - Long Life Coolant can be contaminated by over-dilution with water or conventional coolant. If Long Life Coolant becomes contaminated the performance of the corrosion inhibitors may be reduced.
- It is important that routine cooling system maintenance is recorded. The following information should be recorded:
 - Date of service and service performed
 - Hours on engine and coolant (if changed previously)
 - Freezing point
 - Coolant top-off amount
 - Laboratory coolant test results (if applicable)

Caution

- Never use methyl alcohol base antifreeze.
- Never use inorganic antifreeze or additives (silicate, borate, etc.).
- Never use cooling system sealing additives.
- Never use coolants with less than 30 percent antifreeze in marine applications.
- Never use coolants with less than 40 percent antifreeze on engines with EGR.

Coolant Recommendations for all emissions tier levels and operation:

Supplier	Items	LLC Concentration
Isuzu PowerTrain Coolant	Part Number: 8-12346-290-0	50 / 50
Arteco Chevron Texaco Caltex	Caltex Extended Life Coolant	
	Havoline XLC (OF02)	
	Havoline Extended Life Anti-Freeze/Coolant Concentrate	
	Texaco Ursa ELC NF Concentrado	
	Havoline Dex-Cool Extended Life Antifreeze	
	Havoline Dex-Cool Extended Life AF/C-B	
	Chevron Dex-Cool extended Life Antifreeze/Coolant	
	Chevron Dex-Cool Extended Life AF/C-B	
	Texaco Extended Life Coolant/Antifreeze-NF	
	Chevron Delo Extended Life Coolant/AF-NF	
Havoline XLX		
Total	Glacelf Auto Supra	
	Coolelf Auto Supra 37	
BP Castrol	Castrol Antifreeze SF	
Shell	Dex-Cool Antifreeze/Coolant	
	ShellZone dex-Cool Antifreeze/ Coolant	
AC Delco	Dex-Cool Extended Life	
PENNZOIL	Dex-Cool Extended Life Antifreeze and Summer Coolant	
Valvoline	Zerex Dex-Cool Antifreeze/Coolant	
Prestone	Dex-Cool Extended Life Antifreeze/Coolant	
BASF	Glysantin G34	

Warning: Dispose of used coolant in a manner adhering to local environmental regulations. Coolant is toxic and can be fatal to children and pets.

If you should have any questions or concerns, please contact your Service Representative.

Best Regards,

Tomas Gonzalez, 99

Service Engineer