



K0003 Kubota IND625 Cooling System Care

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MARKETING BULLETIN



Cooling System Care

As you maybe aware Kubota is now supplying aluminium radiators with our vertical range of liquid cooled diesel engines. Just like the radiator and cooling system in the average family sedan they require particular service and maintenance to ensure long life and reliability.

The following are some guide lines with regard to care and maintenance of current Kubota cooling systems.

Looking After Your Cooling System

It is imperative that the correct coolant is used and that it is well maintained to ensure long life from your radiator and other components. Coolants must not be mixed and must be replaced when stipulated by the manufacturer - it may look the same after this date, but may no longer be doing its job. Some OAT (Organic Acid Technology) coolants may damage seals and gaskets. **NEVER** mix coolants from different manufacturers. **ALWAYS** use a coolant that is recommended by the manufacturer. **KUBOTA recommend 50% Ethylene Glycol LLC mixed with good quality water.**

Aluminium is normally seen as corrosion resistant because an oxide layer forms on the exposed surfaces that acts as a barrier to further corrosion. However, in conditions where this barrier is broken, corrosion can be very rapid as aluminium is actually a very reactive metal. This is why care of the coolant becomes even more important when using an Aluminium radiator.

Copper/brass cores are quite tolerant to water quality and although there are some chemicals that can cause problems, and corrosion inhibitors must be used, normal tap water is reasonably well tolerated. The same does not apply to aluminium cores.

A few important points to note regarding coolants:

1. Use the correct coolant specified by the manufacturer. Coolants are selected to suit the product. The requirements for aluminium and copper brass radiators are different and a common coolant may not suit. The radiator is not the only part of the coolant system and some coolants may have been selected to protect other parts of the cooling system.
2. Use the correct concentration of coolant. Coolants for aluminium radiators are mainly composed of ethylene glycol but also contain chemicals to protect the cooling system. High-ethylene glycol content will actually reduce the heat rejection performance of the cooling system*. This results in the engine running hotter than normal when the thermostat is fully open.
3. Always use good quality water to blend with the coolant. Distilled water, demineralised water or rain water are the preferred options. Many town water supplies contain high concentrations of chemicals, such as salts, that are very damaging to an aluminium radiator.



4. Do not mix coolants. Many coolants use different chemical systems and combining them may neutralise the effect of the chemical protection. Some Organic Acid Technology (OAT) Coolants may damage seals and gaskets.
5. Replace the coolant at the specified intervals. During service the ethylene glycol eventually deteriorates and becomes acidic. This acid will attack the internal oxide coating on the aluminium and lead to corrosion.
6. Flush the coolant system with clean water after the coolant is drained. It is important to remove any scale or deposits from the system and remove old coolant and chemicals that may adversely affect the new coolant.
7. Check that the system is properly filled and that any air is removed. Air in the coolant will increase the rate of corrosion and air pockets can lead to uneven cooling of the engine. The engine should be run for a while before the cap is replaced to allow the air to escape.
8. If the coolant is topped up it should be with a properly mixed coolant solution so that the concentration of the system is not changed. Ensure that the coolant type is the same as is already used in the engine to ensure it is compatible.

*Low-ethylene glycol content will not carry the required concentration of additives and can also result in an incorrect Ph level. This leads to damage of the radiator due to corrosion. NOTE: Ethylene glycol is toxic. Please follow specific manufacturer instructions for handling and disposal. It is also important to clean up spills.