



Cleaning Engine Raw Water Cooling System

1. Locate raw water inlets and close all sea cock valves associated with the system to be cleaned. Also locate raw water pump, and isolate the overboard discharge (overboard is normally connected to main exhaust).
2. Once the sea cocks and all drains are closed, make sure that there is not a heat exchanger located before the raw water pump (mostly found on fuel coolers on Caterpillar engines). If a heat exchanger is located between the sea cock and raw water hose of your raw water pump, use it as the supply for **RYDLYME** Marine. You will need to take out the rubber impeller in the raw water pump hosing since the liquid cannot be forced through the raw water pump.
3. If there is not a heat exchanger present before the raw water pump, locate and see if the raw water pump has a zinc anode on the discharge side of the pump. If so, this can be used as an inlet to inject **RYDLYME** Marine. If not, disconnect the main supply hose to your raw water pump and use it as your inlet.
4. Make sure there is no other system connected to your raw water cooling system by inspecting the piping from the discharge side of the raw water pump to the overboard discharge. In some cases, the propeller shaft is cooled by this loop, and if so, it will need to be isolated.
5. Once all systems are isolated, you can disconnect the overboard discharge and use it as your return line.
6. Now you will need to adapt your circulation equipment to the system. To do this, when using the engine's raw water hose, hose barb fittings are inserted and clamped down. It is very important to make sure all hoses are secure to prevent any spillage.
7. Next, you will need to determine the quantity of liquid the system holds. This can be accomplished by measuring the length and diameter of all hoses and piping involved in the raw water cooling system. Then, take the different diameters and lengths and cross reference them with the pipe gallonage chart for a close approximation of the gallons in the system. Remember that you dilute **RYDLYME** Marine with water by a 1:1 ratio.
8. Once you determine the quantity, pour **RYDLYME** Marine into the catch bucket, start pump, add water, and circulate for appropriate times. If little scale buildup, circulate 1 to 2 hours. If there is excessive scale buildup, circulate 2 to 4 hours.
9. Once the cleaning is completed, use a full volume, full pressure water flush to purge any insoluble such as; sand, marine growth, or organics etc. Reconnect the system,

check oil, check coolant and run the engines to make sure no leaks are present per manufacturer's request.

NOTE: Magnesium/Zinc anodes will either need to be removed prior to cleaning or replaced after cleaning.

IN SERIES: If desired, you can clean more than one piece of equipment at a time by connecting the discharge hose of the engine to the inlet of the second engine or other equipment.

WARNING: *RYDLYME* Marine may discolor stainless steel, chrome, aluminum and some electrolytic plating may occur when circulating between dissimilar metals.

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