

**From:** [Scott Elferdink](#)  
**To:** [Young Brian](#)  
**Subject:** Re: Island Lady - Raw and Jacket Water Diagram  
**Date:** Friday, October 26, 2018 15:45:47  
**Attachments:** [SEBU7005.pdf](#)

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Brian,

I did manage to find an operation and maintenance manual for this engine. Please find attached "SEBU7005".

There are a few errors in your drawing. Sea water does not enter the turbo or engine oil cooler, these are both cooled by engine coolant. The "transmission cooler" and "reduction gear cooler" are the same thing. It was engine mounted on these engines. The transmission has oil supply and return oil lines that are plumbed to the transmission oil cooler from the transmission.

The engines sea water (raw water) circuit is as follows...

- Sea water is pumped from the engine's raw water pump through the engine's aftercooler first. The aftercooler cools the intake air entering the engine from the turbocharger.
- From the aftercooler, sea water flows to the engines heat exchanger.
- Sea water then travels from the heat exchanger to the transmission cooler, also known as a reduction gear cooler.
- Sea water leaves the transmission oil cooler by means of customer installed hose to the exhaust spray ring. The spray ring mixes the sea water with exhaust.

The engines fresh water circuit (engine coolant) is as follows...

- The engine's water pump first pumps coolant through the engine's oil cooler.
- Coolant leaves the engine oil cooler to supply the engine block and cylinder head, exhaust manifold, and turbocharger with coolant.
- Coolant is then combined back from engine block, exhaust manifold, and turbocharger to pass through the thermostat.
- From the thermostat, coolant flows through the heat exchanger to be cooled by sea water.
- Coolant then leaves the heat exchanger and flows back to the engine water pump.



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**From:** Young Brian [REDACTED]  
**Sent:** Friday, October 26, 2018 10:19:48 AM  
**To:** Scott Elferdink  
**Subject:** FW: Island Lady - Raw and Jacket Water Diagram

Scott,

Thank you for all your help with my last minute requests. Can you please take a look at the diagram we created for our report to show the cooling water systems for the 3406? We are mostly trying to show the raw water system flow and components in a very basic diagram. Can you just check to see if it is accurate? One of the questions we had was if there was any raw water piped to the turbocharger.

Thanks very much,  
Brian

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