

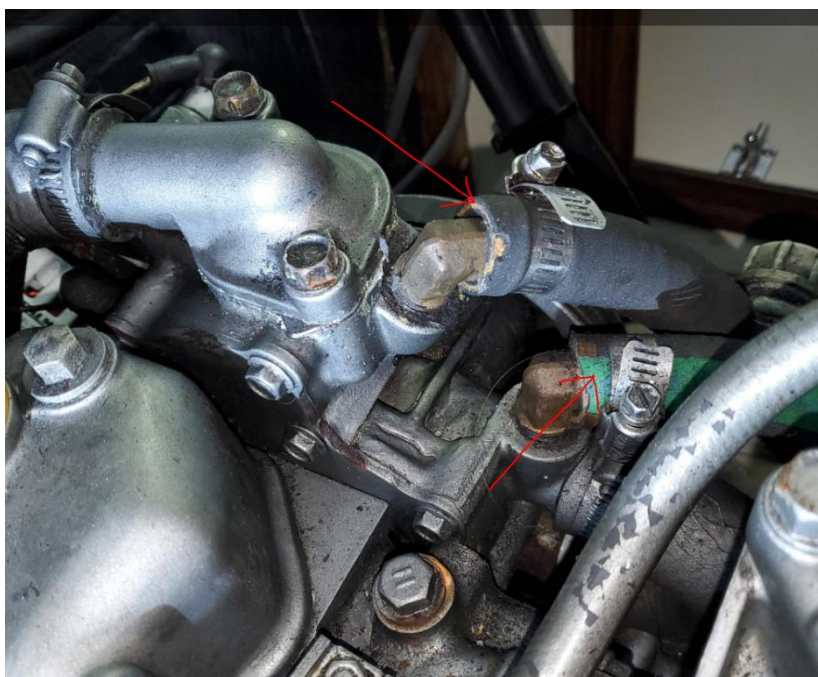
How to Drain and clean Engine Coolant from Yanmar 4JH2-TE Engine.

The cleaning and changing of coolant are split into two main sections,

The Engine

The Water Heater.

First let's disconnect the Out Pipe and Return Pipe from the Water Heater that connects to the Engine, and seal off the loop with a temp pipe (this will stop flush spilling out from the engine onto the floor)



Now let's remove old coolant from the engine by opening the Four tap valves.

- 1 Top end (heat exchanger), there is a knob you open at a drain tube, turn it and the fluid will drain out. This drain is on the port side near the back of the engine. Take the coolant fill cap off so it is not airlocked. Close the knob when the coolant stops running
2. The bottom end (engine block), there is a knob to open at a drain tube, turn and the fluid will drain out. This drain is on the starboard side back end near the bottom of the engine. Close the knob when the coolant stops running.
- 3 there is a Nob on the Front of the engine.
4. There is a final nob coming from the Turbo on the back of the engine (this is the hardest tap to get to)

The overflow container. Remove the hose off the container and it slides up. Mark how much was in it and fill to that mark after you fill the engine.

Once all coolant has been removed, lets close all the taps, and refill the engine with fresh water, with the Cap off, start the engine and let it run for 15 mins till it gets hot.

Switch it off – leave it cool for 10 mins, and drain and repeat the above steps

Do this until the liquid is running clear.

Now (ensuring the pipes to the Water heater are still looped off on the engine, run any chemical cleaning fluid you might have and follow the instructions)

When this is complete, run a good few litre of distilled water through the engine, and recycle this a good few times to clean out any tap water.

This is now complete

The Water Heater

Put the first pipe – into a bucket - - use the pipe that comes from the water exchange to the engine to do this, - then take the other pipe and blow air through the pipe – this will blow out any coolant or rubbish that’s in the pipe.

Now connect a water hose and push clean water through the pipe again until the water runs clean.

When this has been complete, run a good few litre of distilled water through this pipe.

Once this is finished block off one end of the pipe, or at least hold it in the air, and put fresh coolant down the other end of the pipe until it comes out of the other end, and try if possible, to stabilise the level, then very carefully put the pipes back onto the engine and secure.

Now re fill the engine with coolant, until you can see it fill to the top of the heat exchanger, - start the engine with the cap off and blow out any further air, keep topping up the engine until your happy all air has been pushed out.

Take your boat for a little spin, make sure engine runs as expected.

JOB DONE>