

YE SERVICE NEWS

Subject	Cleaning of Air Cooler (Rev.2)	No. : YEN-CM-21892-3 Date:2019/11/15
Engine Model	All Models	Use
		Engine No.
		Marine Main & Aux. Engines -

It is extremely important to clean the air cooler both at the air- and water-sides on a periodical basis for displaying the engine performance fully. Not a few cases in the past showed use that carbon, etc. accumulated due to insufficient cleaning of the air cooler air side, which subsequently caused high exhaust temperature and faulty combustion. We recommend maintaining the air cooler on a periodical basis according to the points described below:

【Cleaning Agent】

We recommend you to use Yanmar KURIPPEARL S320, (KURIPPEARL).

This agent is not corrosive against metals, of pH7.5~8.5 mildly alkaline, of non-toxic and is easy to use.

For ordering this product from us, please advise your contact at Yanmar Engineering Co., Ltd.

※KURIPPEARL S320 (20Kg/unit) Parts No.:Y29-S-320

【Maintenance of Air Cooler】

① Extract Air Cooler Core:

For extracting air cooler core, refer to operation manual of the respective engine model.

※Points (for Seawater Spec. Air Cooler):

- Check the remaining amount of anti-corrosion zinc and replace it when it draws near to the use limit.

Replacement Standard:

A: Engines with Cyl. Bore >170 mm...If consumed more than 70%(2/3) of the new item

B: Engines with Cyl. Bore ≤170 mm...If consumed more than 50%(1/2) of the new item.

The replacement timing of anti-corrosion zinc varies depending on water characteristics and operating condition of engine. Check the zinc periodically and decide the specific inspection interval characteristic to that engine, (with reference to the replacement standard above.)

- Check if or not antirust coating inside the air cooler casing was defoliated. If defoliated, provide Neoprene Coating in the area of water jacket. If defoliated at air passage, provide Pyrosin In color G2 (produced by OSHIMA KOGYO CO.,Ltd.) or equivalent one .

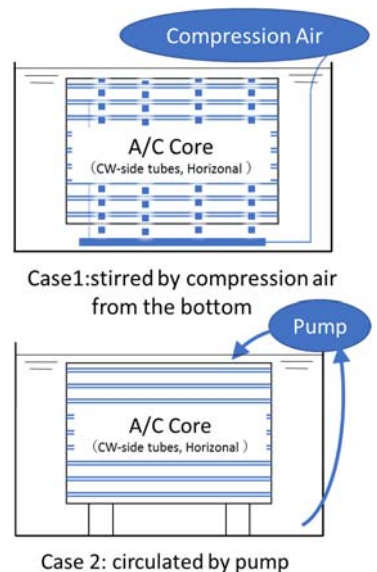
(In the case of freshwater cooling, Neoprene Coating and anti-corrosion zinc installation are not required.)

② Cleaning of Air-side Cooling Fins

Prepare a container with 10~15% KURIPPEARL solution for submerging the air cooler core. Submerge the core in the solution for 4~5 hours. (Limit the submerging time to 6 hours per time.)

Cleaning is more effective either when the solution is circulated by pump, or stirred by compression air from the bottom, or is heated once to 30~50°C for circulation. Be sure to conduct water-washing after agent cleaning. Conduct water-washing until carbon, etc. defoliated will be removed completely.

Drying without water-washing will make contaminants once removed to stick again, which are hard to be removed again.

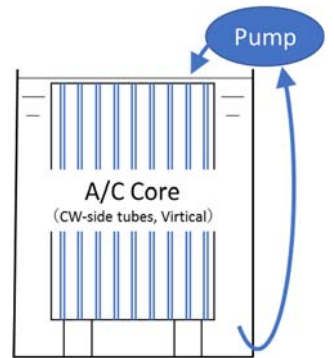


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③ Cleaning of CW-side Tube

- For large engines, after conducting KURIPPEARL cleaning, clean inside the CW-side tubes with nylon brush for all quantities. In usual cases, the cleaning is easy, (excepting for the case with many seashells attached.)
- In some cases of small & medium engines with smaller CW-side tubes, cleaning with nylon brush may not be possible. In these cases, turn the CW-side upside down to change the core direction for conducting KURIPPEARL cleaning.



④ Pressure Test

Install the air cooler core to the casing (according to the instructions of the engine's operation manual) and conduct water pressure test. (As a standard, apply 0.7MPa pressure to medium & large engines and 0.4MPa pressure to small engines for about 5~10 minutes and check that no pressure leaks.)

※Distortion of Air Gallery-side Fins

Cleaning may not improve the performance in case the air gallery-side fins were distorted.

Fins may be distorted by contacts during servicing or fins worn and became thin due to long hours' use may be distorted by wind pressure.

Be sure to exert full care when extracting the core and reassembling it for restoration.



Air Cooler Core before Cleaning



Air Cooler Core after Cleaning
(Submerged in 10% solution of KURIPPEARL S320 for 5 hrs.)



Submerged Cleaning in CREPEARL Solution
(Circulated by compressed air/implemented by halves in 2 times)