

Action code: WHEN CONVENIENT

Liner jacket cooling water system update

- for operation on low-sulphur fuels

SL2019-687/NHN
December 2019

Concerns

Owners and operators of MAN B&W two-stroke marine diesel engines.
Type: All MAN B&W engines equipped with jacket cooling water bypass basic.

Summary

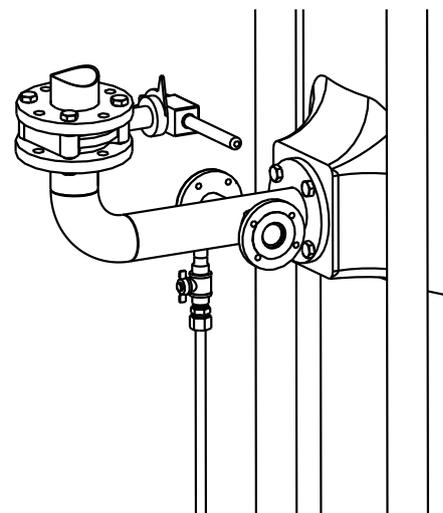
When using low-sulphur fuels, the jacket cooling water bypass can be deactivated on engines equipped with the:

- Simple JBB
- Common JBB

and the cover cooling water outlet temperature can be adjusted to 85°C.

Other relevant Service Letters are:
SL2019-671

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Dear Sir or Madam

This Service Letter provides operating guidelines for the liner jacket cooling water bypass basic (JBB) system when operating continuously on low-sulphur fuels (from 2020 and onward).

2020 IMO rules dictate the use of fuels with maximum 0.5% sulphur when a scrubber is not applied. Operation on low-sulphur fuels will reduce corrosive wear to a degree where wear is easily controlled without an increased liner cooling water temperature.

In SL2019-671 it was recommended to deactivate the JBB system when using up to 0.50% S VLSFO. The present Service Letter describes how to deactivate the JBB system.

Note that the engine cooling water outlet (CWO) can be adjusted to 85°C when JBB is deactivated.

If you have any questions or inquiries regarding this Service Letter, contact our Operation Department at Operation2S@man-es.com.
For questions regarding spareparts contact PrimeServ at Primeserv-cph@man-es.com.

Yours faithfully

Mikael C. Jensen
Vice President, Engineering

Stig B. Jakobsen
Senior Manager, Operation

Introduction

In Service Letter SL2019-671 it is stated for the JBB and the load dependent cylinder liner (LDCL) cooling water system that closing down the LDCL system and deactivating any JBB system is recommended when using up to 0.50% S VLSFO.

The guideline in this Service Letter explains the procedure for deactivating the jacket cooling water bypass if installed in the main engine cooling circuit.

Jacket cooling water bypass basic types

Depending on the cooling system, there are two types of bypasses:

1. A simple pass-through bypass, which may have been installed on engines without LDCL
2. A common bypass, which may have been installed on engines with piping prepared for LDCL.

For both systems, the deactivation procedure is simple to perform and can be done using materials often found on board.

Simple bypass

The simple bypass can be deactivated in two ways:

1. If the bypass was fitted after vessel delivery and the original pipes are still on board, simply substitute the bypass piping with the original piping
2. If the bypass was fitted before vessel delivery, remove the orifices in the pipes from liner jacket to cover jacket, which controls the jacket flow, and blank off the bypass branch with a suitable steel plate cut in the shape of a gasket.

Common bypass

The common bypass can be deactivated in two ways:

1. If the bypass was fitted after vessel delivery and if the original pipes are still on board, simply substitute the bypass piping with the original piping and remove the orifices fitted between the liner jacket cooling water outlet and the flange.
2. If the bypass was fitted before vessel delivery, the cut-off butterfly valve in the three-branch pipe needs to be closed and locked in closed position by, for example, removing the handle or fitting a lock to the handle. Furthermore, the orifices fitted between the jacket cooling water outlet and the flange must be removed.

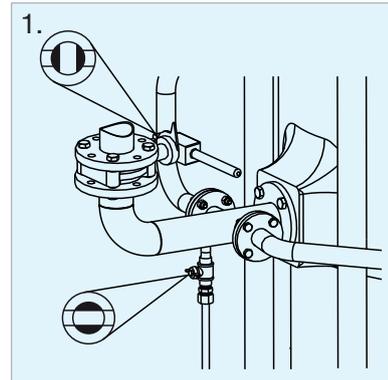
Instructions for deactivating JBB

The engine must be stopped before deactivating the JBB system.

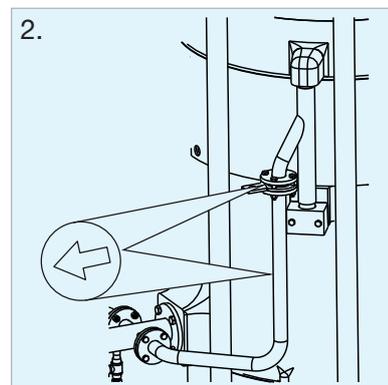
NOTE: Due to variations in the piping for different engine types, the actual layout of the piping may vary slightly from the piping shown in the sketches.

Simple JBB version 1, rebuild original piping

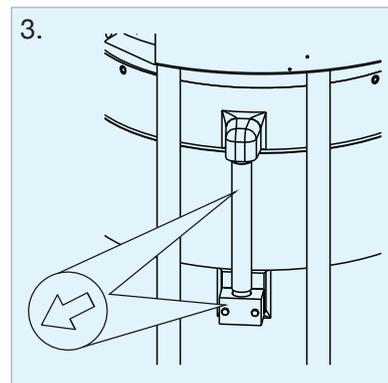
1. Close the cooling water inlet and outlet valves and open the cooling water drain.



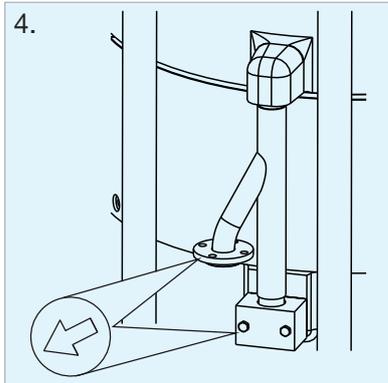
2. Remove the bypass pipes and the orifice plates.



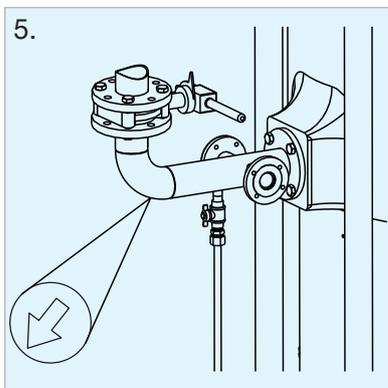
3. Remove the non-flanged cooling water connection pipes from the manoeuvring side of the cylinder liner.



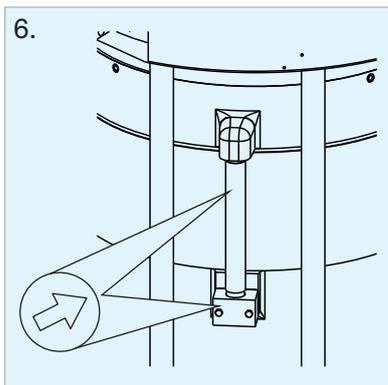
- Remove the flanged cooling water connection pipes from the exhaust side of the cylinder liner.



- Remove the JBB type cooling water inlet pipe.



- Re-mount the four original cooling water connection pipes between the cylinder liner cooling jacket and the cylinder cover cooling jacket. Remember to fit new O-rings on the connection pipes and new gaskets on the cooling water outlet blocks.

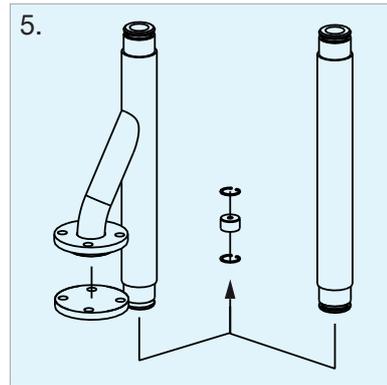


- Close the drain valves and open the cooling water inlet and outlet valves. Check the system for leakages.

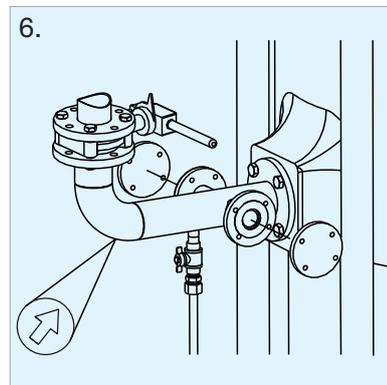
Simple JBB version 2, modify JBB piping

The preparations are the same as steps 1-4 for version 1.

- Modify the JBB type cooling water connection pipes, both flanged and non-flanged, by removing the two retaining rings and the orifice mounted inside each pipe and fit blind flanges on the flanged connection pipes.



- Reuse the JBB type cooling water inlet pipe after fitting blind flanges on the side flanges of the inlet pipe.



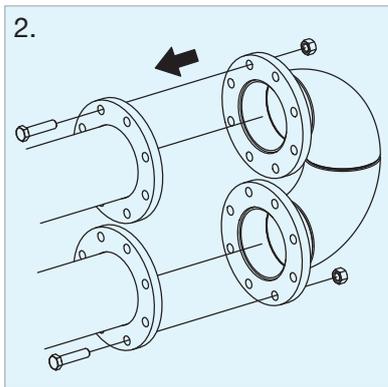
- Close the drain valves and open the cooling water inlet and outlet valves. Check the system for leakages.

Common bypass version 1, rebuild original piping

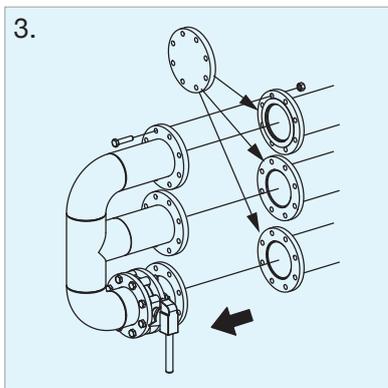
The engine must be stopped before deactivating the JBB system.

NOTE: Due to variations of the piping for different engine types, the actual layout of the piping may vary slightly from the piping shown in the sketches.

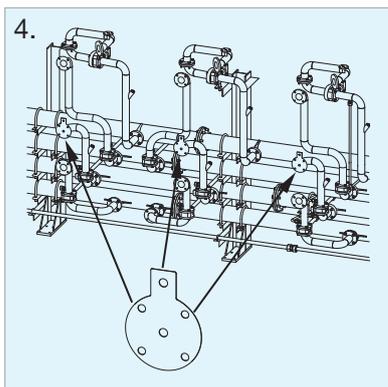
1. Drain off the engine cooling water.
2. Mount the U-connection pipe between the main pipes for cylinder liner cooling water outlet and cylinder cover cooling water inlet. Use new gaskets.



3. Remove the three-way distributor pipe, including orifice plates and valve. Fit blind flanges.



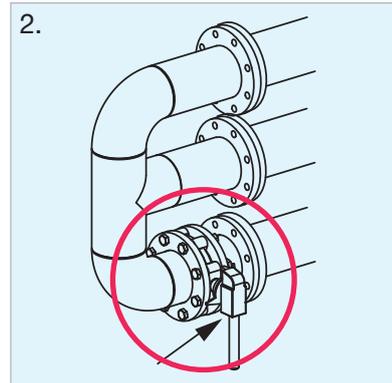
4. Remove the thin steel orifice between each liner jacket cooling water outlet and the pipe flange.



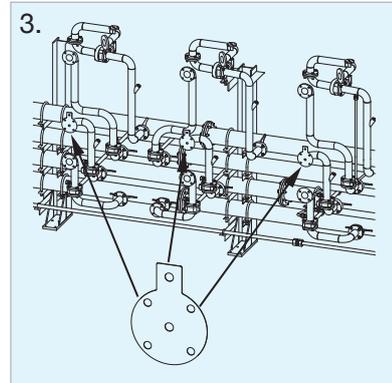
5. Close the drain valves and open the cooling water inlet and outlet valves. Check the system for leakages.

Common bypass version 2, modify piping

1. Drain off the engine cooling water
2. Close the shut-off butterfly valve at the three-branch manifold and either remove the handle or lock it securely against tampering.



3. Remove the thin steel orifice between each liner jacket cooling water outlet and the pipe flange.



4. Close the drain valves and open the cooling water inlet and outlet valves. Check the system for leakages.