



To Owners and Operators of
MAN B&W Holeby Four-Stroke Diesel Engines,
Type: All Types

SERVICE LETTER

SL97-350/ESC
November 1997

**Subject: Damage of Main Bearings on Rigidly Mounted Auxiliary Engines
caused by External Vibrations from the Hull Structure**

Dear Sirs,

Lately, the MAN B&W Diesel A/S, Holeby Service Department has seen several examples of main bearings with an abnormality in the form of a black coating on the entire contact surface between bearing and bearing journal, see enclosed Technical Information No 305-S6/610-S5.

So far, we have only observed this coating in engine types S28LH-4/E, L28/32, L28/32H, but it may occur on all rigidly mounted engine types.

In some cases the coating was found even before the engine was put into operation during repairs on board which included replacement of main bearings.

Analysis of a damaged main bearing has shown the black coating to be lead oxide caused by static fretting. Measurements have shown the coating to be 6 to 7 times harder than the bearing material.

Such a coating destroys the main bearing surface and results in increased wear of the main bearing journal.

Static fretting occurs during engine standstill, as a consequence of the movement of the main bearings in relation to the crankshaft, caused by external vibrations transmitted to the engine from the hull structure.

This phenomenon is described in technical literature.

We have discovered that the high vibration level is the result of insufficient support of the deck on which the auxiliary engines are mounted. This combined with the fact that the engines are rigidly mounted causes vibrations from the hull to be transmitted to the auxiliary engines.

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HOLEBY
GENERATING SETS

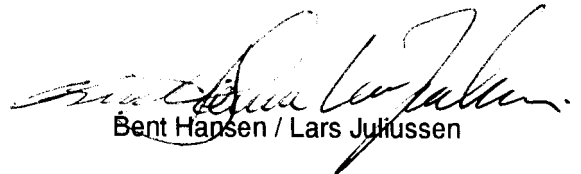
Finding a solution to this problem requires involvement of a naval architect to make proposals for a change of the deck / platform support.

Continuous operation of the **prelubricating** oil pump during engine standstill may result in certain improvement, although with limited effect.

Alternatively the engines could be mounted resiliently, to which end MAN B&W Diesel A/S, Holeby may be of assistance. However, it is important to bear in mind that the necessary changes will be extensive as all pipe connections etc. must be flexible, and the base frame has to be replaced. Due to the necessity in changing the base frame the foundation has to be modified.

If you have any questions concerning the above or in general, please do not hesitate to contact the Service Department of MAN B&W Diesel A/S, Holeby.

Yours faithfully,
MAN B&W Diesel A/S, Holeby



Bent Hansen / Lars Juliusen

Encls: Technical Information No 305-S6/610-S5: Damage of Main Bearings

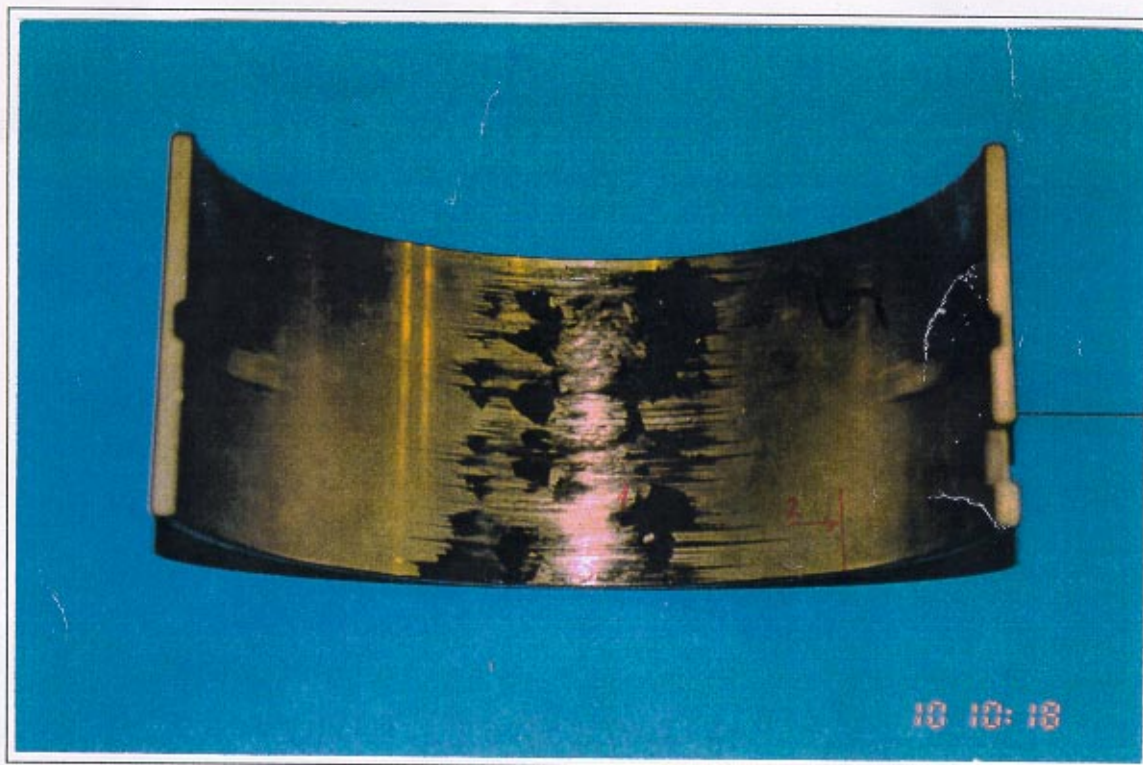


Fig. 1. General view



Fig. 2. Blackened and pitted bore

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