

Action code: WHEN CONVENIENT

Fretting in main bearing bore

Replaces SL2017-645

SL2020-706/JNN

November 2020

ConcernsOwners and operators of
MAN four-stroke diesel engines.

Type:

Marine: L21/31, L27/38, L23/30H,
L28/32HStationary: L21/31S, L27/38S, L23/30S,
L28/32S, V28/32S, V28/32HPropulsion: L21/31, L27/38, L23/30,
L23/30A, V23/30, V23/30A, L28/32,
L28/32A, V28/32, V28/32A

Dual Fuel: L23/30DF, L28/32DF

Reference*SL13-582* Lube oil treatment.*B12150* Treatment and maintenance of
lube oil.*B98011* Storage of GenSet in cold
condition.*B98011* Storage of the GenSet engine
during lay up in warm condition.

Dear Sir or Madam

This service letter contains important information regarding development of fretting / corrosion at main bearing caps.

In service we occasionally observe fretting / corrosion between the main bearing shell and the main bearing cap at engines without main bearing temperature sensors installed.

The fretting / corrosion is caused by relative movement of the bearing shell and cap during engine operation, in this connection water and oil can migrate between bearing shell and cap through the sensor hole and cause the observed wear patterns at the bearing running surface.

As the extent and development of the observed corrosion are related to the presence of water in the lube oil we recommend keeping the water content at an absolute minimum at all time, reference is made to SL13-582.

In case fretting / corrosion at the bearing cap not is addressed this may cause severe engine damage due to bearing failure.

In case you have any questions or comments please forward your mail to Engineering-support-holeby@man-es.com with reference to this service letter.

Yours faithfully

**Mikael C. Jensen**
Vice President,
Engineering**Henrik Møller Hansen**
Senior Manager,
Production Support

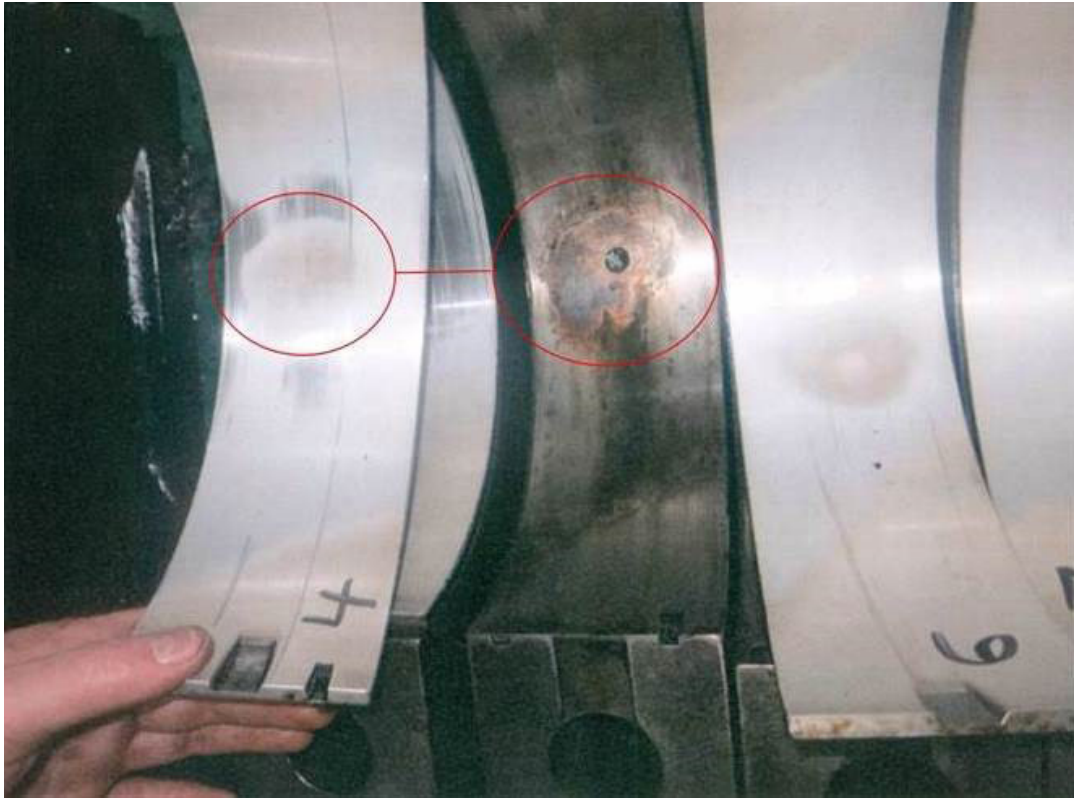


Fig. 1. Example of fretting / corrosion and related visible imprint at the main bearing shell.

Depending at the extension of the fretting / corrosion it may be possible to dress up the main bearing cap by controlled hand grinding of this.

By means of the dressing tool the bottom end of the bearing bore may be reduced by maximum 0.05 mm, maximum allowable dressing area is 50 degree at each side of the sensor hole, see Fig. 2.

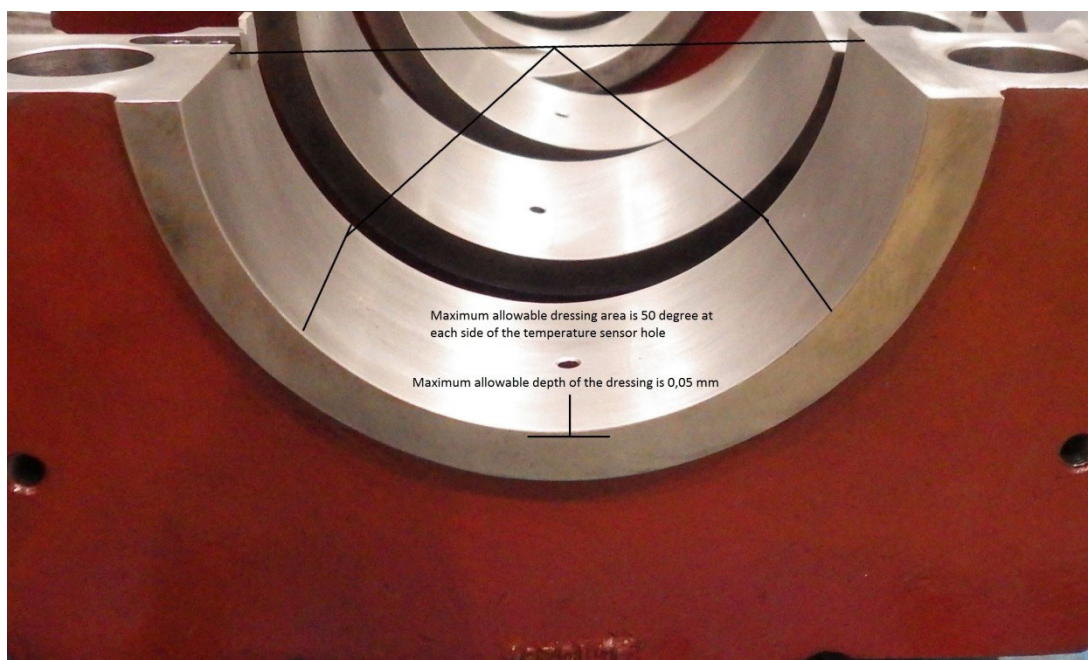


Fig. 2.



Fig. 3. Example of tool for dressing work

Before the dressing work is started two reference measurements are to be taken at each side of the main bearing cap in order to be able to check the depth of the performed dressing, see Fig. 4.

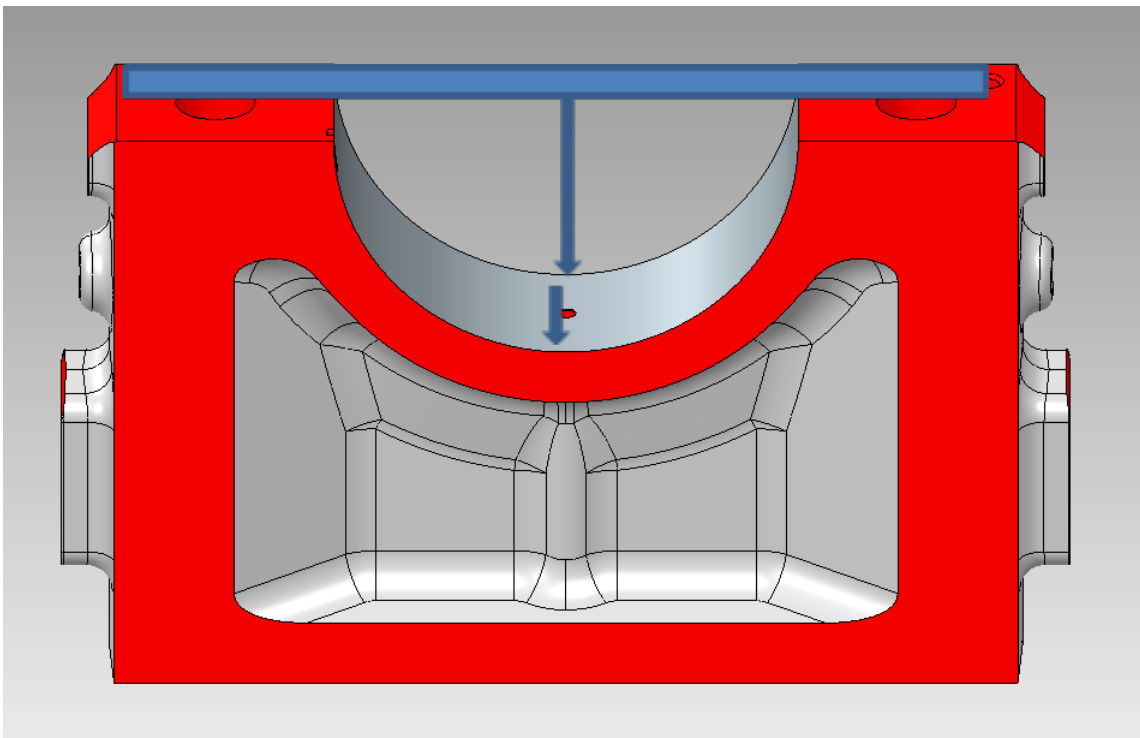


Fig. 4. Two reference measurements must be taken before the dressing work is initiated

Dressing beyond 0.05 mm is not allowed, in case the fretting / corrosion not can be removed within this limit the shaft line must be re-machined by an authorized workshop.

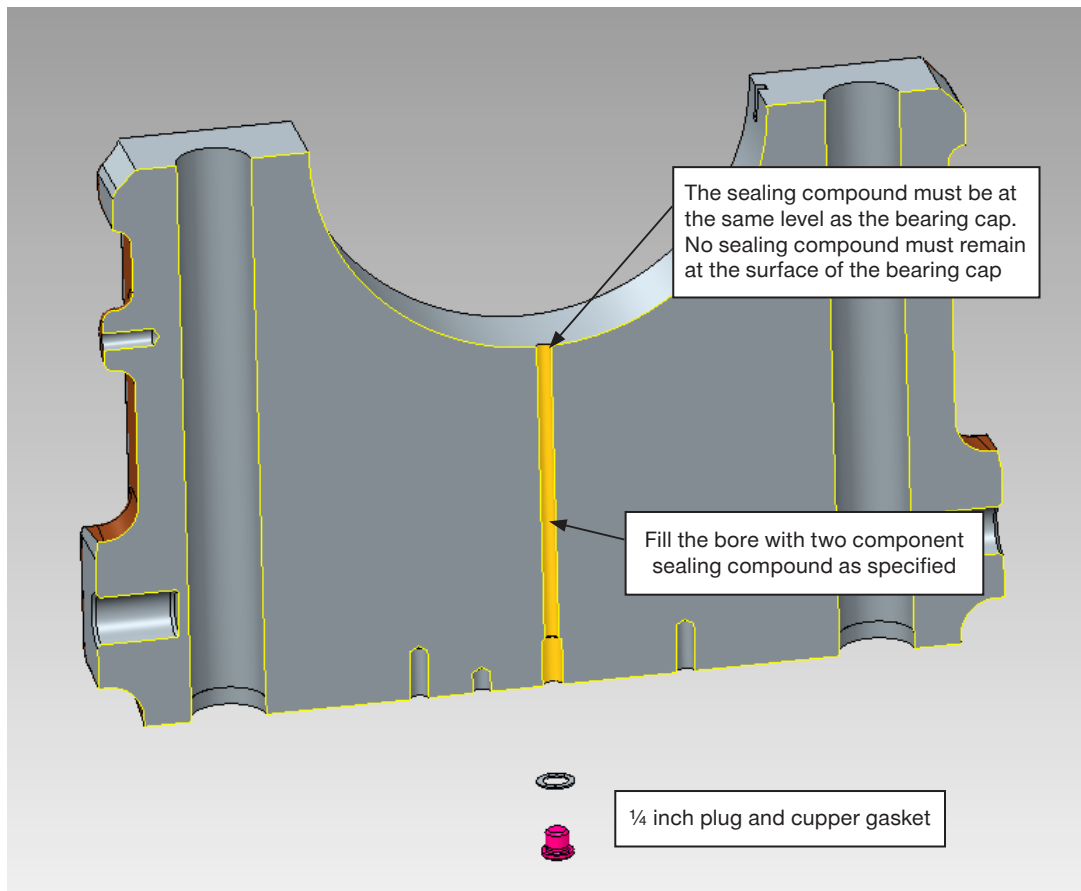


Fig. 5.

In order to reduce / avoid further development of the fretting / corrosion we recommend to plug the hole in the main bearing cap and fill the bore with a two component sealing compound e.g. Loctite EA 3430 or Loctite EA E-05MR or similar.

As a first precaution at engines in service, plugging of the holes can be performed without applying the sealing compound to the hole, this may following be done at first opportunity e.g. in connection with a main bearing inspection.

After the dressing work has been performed new main bearings must be installed.

The backside of the bearing as well as the mating surface of the bearing cap must be cleaned and degreased by appropriate cleaning detergent before installation of the new bearing shell.

Before starting up the engine, the deflection at the crankshaft must be measured, if the limits are exceeded the cause to this must be determined and rectified.

The above dressing work requires specific knowledge and skills we therefore recommend to contact our worldwide PrimeServ organization for assistance in case dressing work are to be carried out at your engine.