



CASE STUDY

MAGNETIC COMPASS REPAIR

This compass has become faulty as a result of a steel filler screw being used as a replacement to a stainless steel screw. As a result, the steel screw corroded and contaminated the damping liquid, producing a rusty colour dye and making it near impossible to read the compass headings.



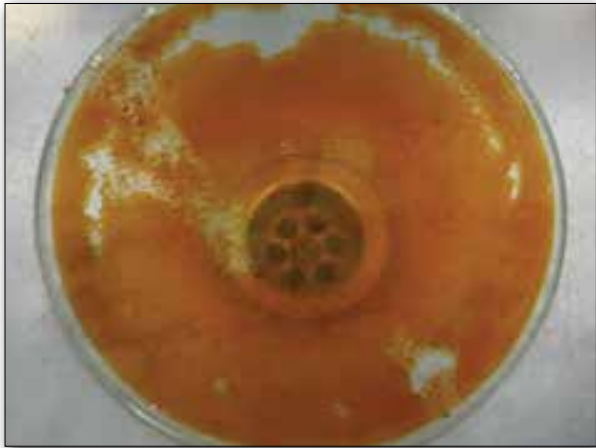
STEP 1

The inside of the compass bowl is dirty with rust due to the steel filler screw placed there by a third party.



STEP 2

Silicone is found around the filler screw. This was most likely applied by a third party to avoid any leaks.



STEP 3

At this point, we begin to dismantle and clean the compass, starting with the top glass and bezel ring which has a layer of rust on it.



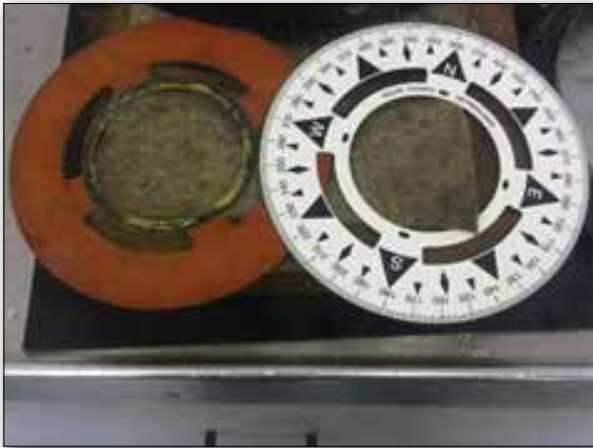
STEP 4

After removing the top glass from the compass, you can see the dirty card and float caused by rust from the steel filler screw.



STEP 5

The white rubber gasket is flattened and hard. This will be replaced at a later stage during the repair to seal the compass when finished.



STEP 6

On the left side you can see the old card minus the float, and on the right side you can see a new card.

The old card could not be cleaned because the dye from the rust could not be removed.



STEP 7

After removal of the liquid, the bottom glass can be removed, and then the inside of the compass bowl can be cleaned.

The compass bowl needs to be stripped of paint and sandblasted, as the dye from the rust has stained the paint with a brown colour.



STEP 8

This is the result after cleaning, dismantling, sandblasting and repainting the complete compass bowl.

STEP 9

When the new layer of paint is dry, the compass is reassembled step by step.

During reassembly, the rubber lines are checked for correctness and the centre position of pivot before placing the card and float back inside the compass and sealing the top.

The new card is placed in the repainted float and checked for correct North reference, and is horizontally levelled.

All findings are reported in our database.

After the compass is ready, we test the complete unit on seven different calibration equipments, and recertify with an NSI (Netherlands Shipping Inspection) certificate.



STEP 10

Final result of the overhauled magnetic compass.

The compass is now ready to be transported to the vessel along with its NSI certificate, valid for 2 years, and ready for navigation.

For further information please contact us using the details below.