



NORWEGIAN HULL CLUB

# Casualty Information

No. 100 – February 2019

Norwegian Hull Club wishes to emphasise increased safety onboard with a focus on **welfare, the environment, assets** and the distribution of **useful experience**. In this newsletter, we focus on **proper inspection of Lubricating Oil Filters for 4-stroke diesel engines to avoid dangerous engine breakdowns**

## Dear seafarer,

A number of Norwegian Hull Club’s clients have experienced major breakdowns of smaller 4-stroke engines. In several cases, complete engine renewal was required.

As such, The Club sees the potential for a major incident threatening both health and wellbeing, as well as assets.

## Failure

In several cases, the breakdown was the result of the Duplex Lubricating Oil Filter check valve failing. It was observed that parts from the valve’s rubber sealing and securing knobs had loosened, finding their way into the engine lubrication system.

This resulted in the oil passages to the bearings becoming clogged and an immediate halt in lubrication flow to the bearings. This in turn led to overheating and damage to the crankshaft. In some cases, pistons and connecting rods were found on the floor after being thrown from the engine.

## Recommendations

The manufacturer and service provider for this type of 4-stroke engine with a Duplex Lubrication Oil Filter - designed with the possibility to change filters during operation - have sent out recommendations to owners to carefully inspect the change-over valve, as well as to open and inspect the lubrication system. This is to ensure that no parts from the valve sealing ring/securing knobs are blocking, reducing or

preventing the flow of oil to the bearings. In addition to advice on inspecting the check-valve sealings and how to locate the missing parts in the lubricating oil system, the manufacturer sent out a technical update on converting to a Simplex Filter housing in case a Duplex Filter is not required operationally.

The update highlighted the part named the Valve AS-Check, as shown here:

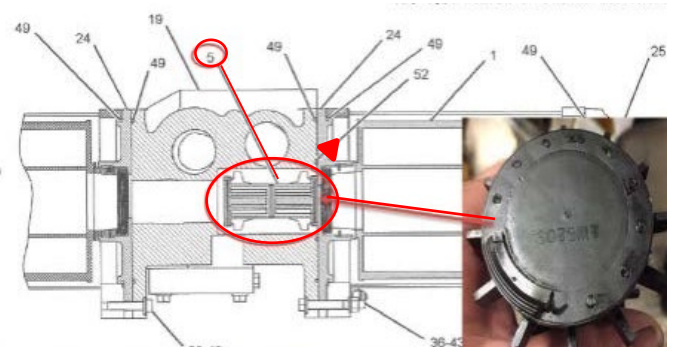
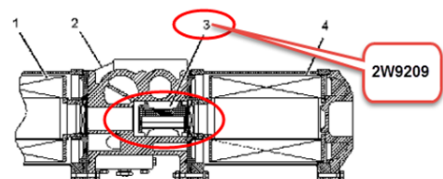


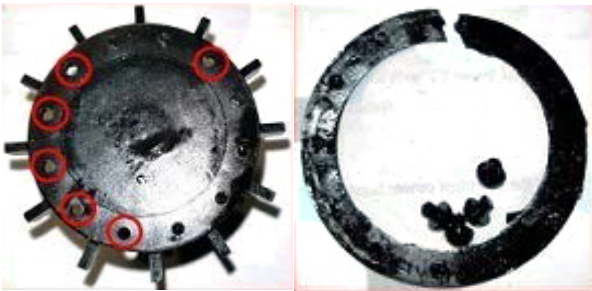
Illustration 1  
View A-A  
(1) Main oil filter elements  
(2) Control valve assembly  
(3) Check valve  
(4) Auxiliary oil filter element

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Regarding this particular part, the following component checks and actions were advised:

- Check the change-valve sealing ring / securing pins;
- Inspect the check-valve sealing ring / securing knobs;
- Ensure that the rubber-seal ends of the check-valve have not separated from the body or are loose.



*Examples of damage to securing pins and the sealing ring are shown in the images above.*

**Advice**

Given the above and what Norwegian Hull Club has seen, we strongly advise that the recommendations stated in the manufacturer and service company updates are followed. For more information, please contact The Club's technical department at [tech@norclub.com](mailto:tech@norclub.com)

*Norwegian Hull Club wishes you all fair winds and following seas.*