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# Technical Bulletin No. TB-070408E - PART I

Our Ref.: VP/Ue 08 April 2007

Subj.: VISATRON Oil Mist Detector Type VN 115/ 87, VN116/87, VN215/87
and VN115/93, VN116/93, VN215/93
Reason for Oil Mist Detector False Alarms

Problem: Why do the oil mist detectors on some engines trigger false alarms?
Answer: Accumulation of condensed water in suction pipes and oil mist detector conduits.

Schaller Oil Mist Detector types VN115/87, VN116/87, VN215/87 are proven, reliable engine safety devices when correctly installed. False alarms occur when moisture builds up in the suction pipes & measuring head.

The oil mist detector (OMD) may trigger false alarms due to high humidity in the crankcase and condensed water in the OMD system suction pipes. The humidity/water buildup increases when the engine is started for the first time after being out of operation for several hours (e.g. during the night). If the lubricating oil has water content above the permissible limit, the oil mist detector will "perceive" high humidity (water droplets) in the optical path. A good practice would be to inspect the lubricating oil separators for any water contamination to the clean side of the oil or find out whether there could be cooling water leaks. Sometimes water droplets can be seen inside the measuring head when opening the inspection cover. Also, water may be found in the pipe connection box/valve box, causing false alarms.

Excessive oil is also a reason for false alarms, especially when oil drops start falling through the measuring head across the infrared light beam. The detector reacts to turbidity caused by oil drops. **See Special Bulletin TB-070408E – PART II**.

Recommendations:

- **VN/87 series**: To overcome interruptions caused by humidity, we recommend installing a Measuring Head Heating Element (Part No. 10671) on top of the measuring head. See special bulletin "Installing Measuring Head Heating Element". The heating device, which is described in our instruction manual under ''options'', can easily be installed by Engine Room personnel.
  **VN/93 series**: The Heating Element is already integrated in the measuring head housing.

- When possible, cut off the air supply to the OMD whilst engine is not in service to minimize the accumulation of condensed water in the pipes and OMD conduits.

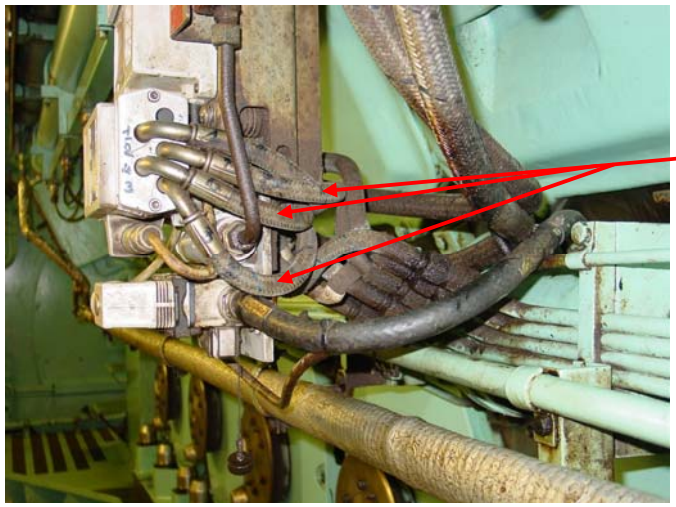
- When water condensation occurs it should be determined if the engine room ventilation fan is blowing fresh (cool) air onto the OMD. If this is the case, a simple deviation of the air stream sometimes solves the problem.

We hope that these recommendations can be of assistance to our customers and ask that you to contact us if you have additional questions regarding this subject.

Yours truly

SCHALLER AUTOMATION
Industrielle Automationstechnik GmbH & Co. KG

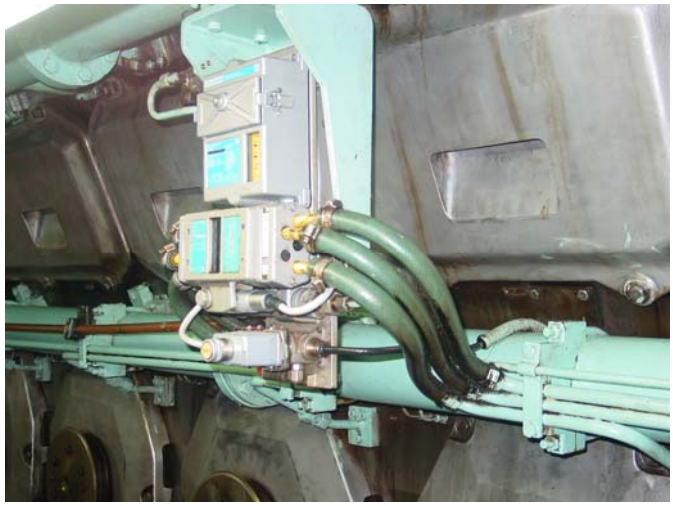
The following pages 2 to 5 contain series of pictures with hints and solutions.



Faulty installation VN215/93:

1. Repeated false alarms, unwanted engine stops.
2. Sagging suction hoses
3. Hoses filled with water and oil
4. OMD requires constant attention and repeated cleaning of suction hoses with compressed air

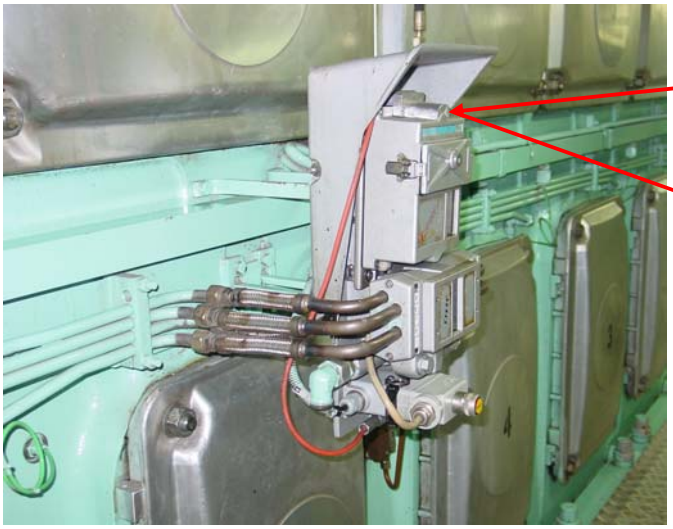
<u>Solution:</u>
Install hoses with proper (shorter) length with continuous rising slope to valve box.



Functional installation VN215/87:

1. No false alarms, unless excessive water content is found in the lube oil
2. Suction hoses have proper slope
3. Hoses do not fill with water or oil
4. OMD requires minimal attention

<u>Recommendation:</u>
Install Measuring Head Heating Element, Part No 10671 to eradicate potential false alarms.



Functional installation VN215/87:

1. No false alarms, Measuring Head Heating Element 10671 is installed
2. Suction hoses are not sagging
3. Hoses do not fill with water or oil
4. OMD requires minimal attention

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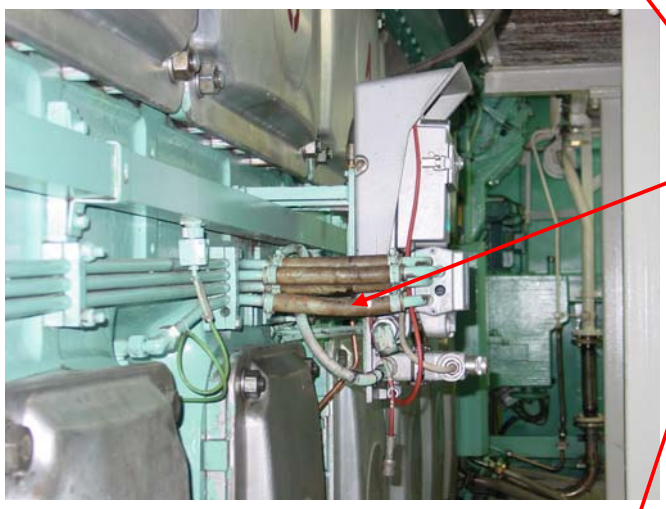
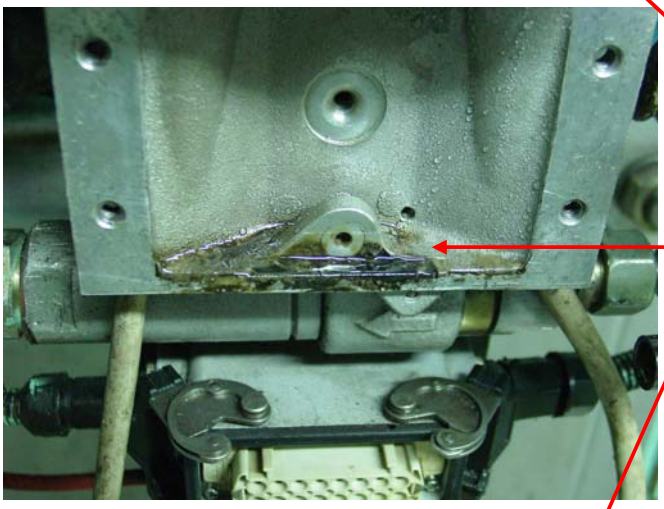


Faulty installation of VN215/87:

1. Sagging pipe & suction hoses
2. Hoses fill with water and oil
3. OMD requires repeated cleaning of suction hoses with compressed air

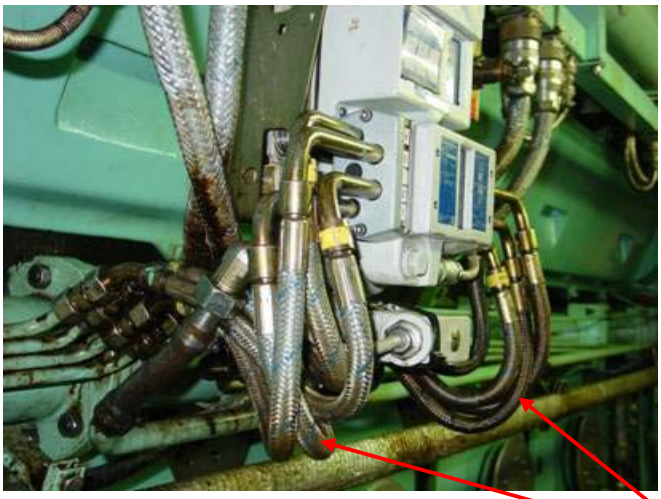
<u>Solution:</u>
Install pipes and hoses with continuous ascending slope to valve box.

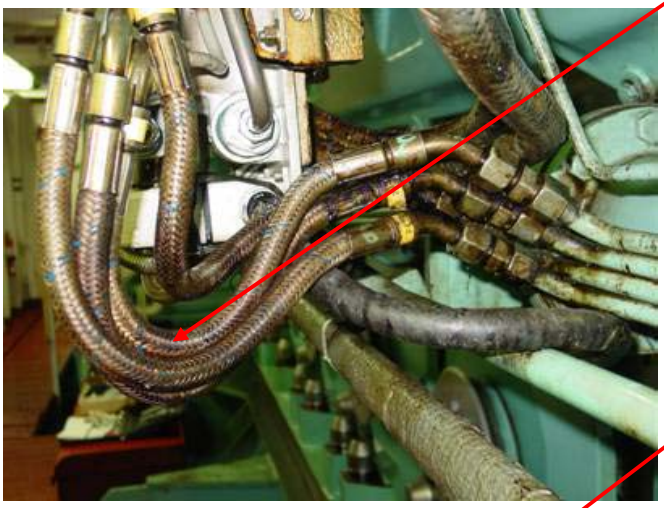


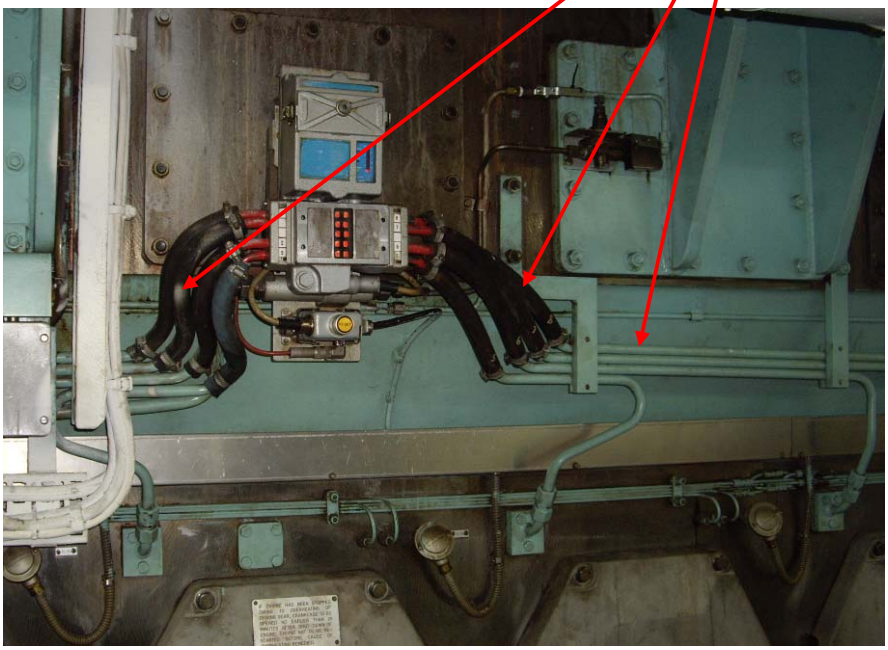
Sagging suction pipes and hoses can produce false alarms and unwanted engine stops.

Accumulating water and oil in OMD cavities and valve box requires repeated OMD cleaning with compressed air.

<u>Solution:</u>
Install pipes and hoses to valve box with continuous ascending slope.







Sagging suction hoses of this installation will cause constant operation disorder.

Accumulating water and oil in flexible hoses produces false alarms and requires repeated cleaning of suction pipe system and OMD with compressed air.

<u>Solution:</u>
Install OMD, pipes and hoses to valve box with continuous ascending slope.