

OMD Technical Note TN18001

Graviner Oil Mist Detector Head Cleaning

Introduction

The detection chamber in the Graviner OMD Detector Head should be cleaned at regular intervals to remove any buildup of oil splash and carbon deposits created by the heat from the engine.

This Technical Note describes the tools required and the cleaning procedure to be used to clean the Detector. The cleaning process is applicable to all variants of the Mk6 and Mk7 Detector Heads.

The cleaning interval is unique to each engine and depends upon many factors including the way the vessel engine is operated, the engine temperature, the oil condition and the engine service interval.

As required by IACS M67 Graviner Mk6 and Mk7 OMD systems will warn the Users when the detection window becomes partially obscured and must be cleaned. Graviner recommend establishing a cleaning regime to minimize any warnings of this type and maximise the service life of each Detector Head.

Please Note

Graviner Detector Heads should only be cleaned with the recommended cleaning fluid and cleaning buds. Graviner offer Service Kit (P/N D9221-027) for this task.

Many cleaning fluids have been evaluated by Graviner but only the Electrolube GLC fluid offers the best cleaning ability and leaves no residue on the glass chamber.



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The contents of the Service Kit are as follows.
 Items are also available from Graviner as individual parts.

Service Kit (part number) D9221-027 consists of:			
Description	Part No	Qty	Category
Fan Retainer	1-B3741-902	5	Spares
Compression Spring	1-B3721-006	5	Spares
Base Moulding Seal	1-C1513-802	5	Spares
Fan Connector Seal (1 Screw)	1-C1413-801	5	Spares
Fan Connector Seal (2 Screw)	1-35134-K037	5	Spares
M3 Screw	1-21833-H01	5	Spares
Glass Cleaner 250ml	1-A7311-002	1	Consumables
Foam Buds Pkts	1-B6910-217	2	Consumables
4mm Hexagon Key	1-B691 0-219	2	Tools
Pulling Tool	1-D9131-002	1	Tools
Materials Safety Data Sheet	-	2	Information

Cleaning the Detector

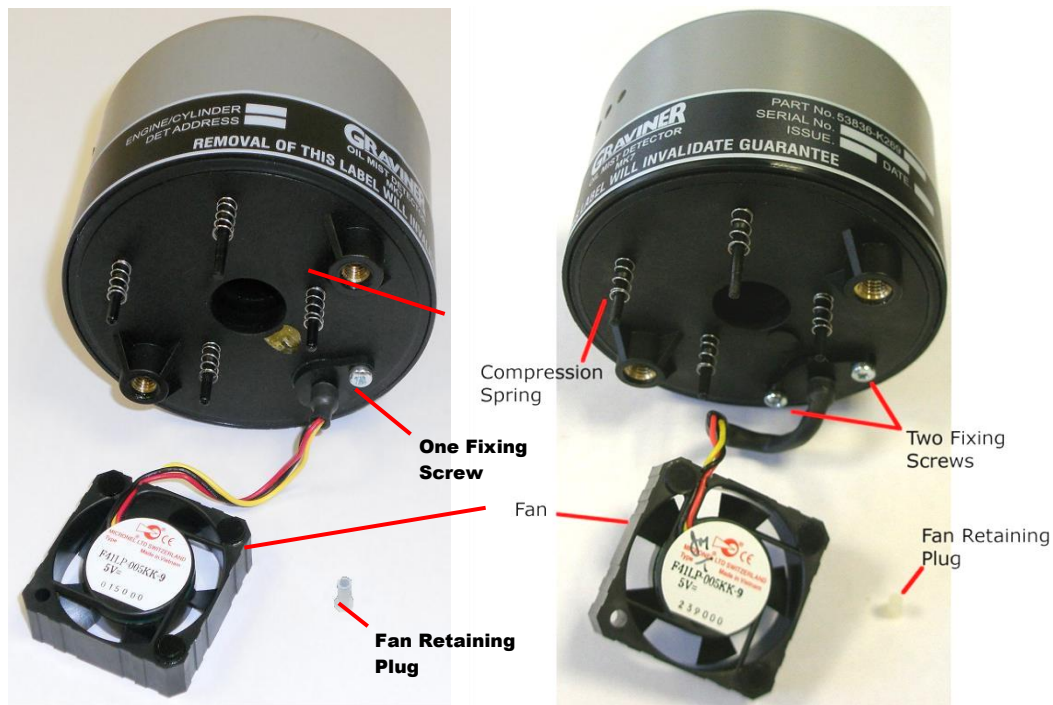
1. Switch off the OMD system (ONLY if safe to do so) or isolate the Detector as described in the respective OMD system instruction manual.
2. Disconnect the cable connector fitted to the top of the Detector
3. Using a 4mm hexagonal key, loosen the two fixing screws in the Detector base unit. The screws are self-retaining.
4. Remove and invert the top part of the Detector Head so the Fan is visible.
5. Examine the base unit seal and replace if damaged or perished.

CAUTION: - Do NOT press the fan label, handle only the fan outer housing.

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- Using the Pulling Tool (see below), slowly remove the Fan Retaining Plug by capturing the shoulder and pulling. Carefully remove the Fan from its mountings.

BEWARE: - Please take extreme care NOT to lose any of the Compression Springs or the Fan Retaining Plug.



- Examine the 4 Compression Springs and the Fan Retaining Plug; replace any damaged items from the spares.
- Ensure the Fan is free running and not clogged by oil residues.
- If Fan damage is suspected refer to section 3.4 on Fan Replacement, in the MK7 IOM Manual or the Mk6 IOM
- Whilst not necessary for service cleaning, spares of the M3 screw and the fan connector seal are included in the Service Kit.

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11. Apply Graviner recommended glass cleaning fluid to a foam bud and wipe carefully around the inside of the smoke detection opening (see image on right).
12. **To ensure thorough cleaning we recommend that step 11 is repeated with cleaning fluid applied to another foam bud.**
13. Examine the base body cavity and sampling tube, and wipe clean where necessary.
14. Reassemble the Fan to the Detector Head using the Fan Retaining Plug.

CAUTION: Do not press the centre label of the fan, only handle the fan by the outer housing.

15. Reattach the Detector head to base and re-tighten the fixing screws. Attach the cable to the Detector Head.
16. If the OMD system was switched off, switch back on and allow the system to initialise.
17. Otherwise De-Isolate the Detector, Press OK on the Remote Display Unit or Control Panel, the display will then return to normal.
18. Using the Mk7 OMD system or Graviner Diagnostic tools measure and note the Contamination Level of the Detector being cleaned.
19. If the Contamination Level reading does NOT return to within 20% of the original Contamination Level the Detector Head should be replaced as it is approaching the end of its operational service life.
20. Repeat the above procedure for all Detectors to be cleaned.



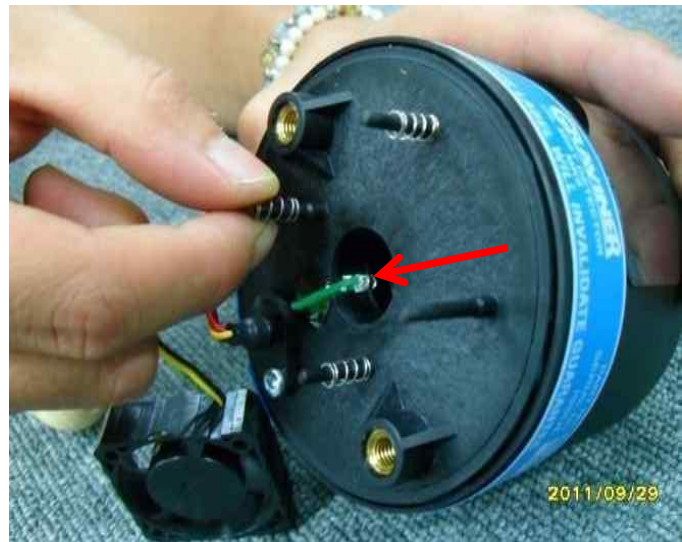
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Additional Information

Earlier versions of the Mk6 Detector Head were designed with an external Test LED PCB (arrowed in image).

For the earlier versions care should be taken when cleaning around the TEST LED with the foam bud.

(Note on later versions the TEST LED has now been integrated into the Detector Head).



For any further information please contact paul.leighton@fs.utc.com