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## **Mk5 – Mk7 OMD Retrofit Guidelines**

**These guidelines are to be used in conjunction with the Mk7 OMD Installation, Operation and Maintenance Manual to ensure correct installation of system.**

**Caution:** Before commencing the retro fitting of the OMD system, please ensure that all of the Mk7 OMD components are available.

**Warning:** Before commencing to remove the Mk5 system, ensure the power is switched off or isolated and ensure the relay outputs are isolated to prevent accidental engine shutdown.

### **1 Removal of Mk5 OMD System**

- 1.1 Disconnect the flexible pipes from the underneath of the OMD, leave them connected to the sample pipes.
- 1.2 Ensuring that the supply has been safely isolated, remove the lid from the MK5 OMD Junction Box.
- 1.3 Disconnect the power & alarm output cables from the terminal strip.
- 1.4 Undo the relative cable glands and pull the two cables out of the junction box. Remove all parts of the gland from the cables and screw back into the gland body. Leave the junction box installed.
- 1.5 Remove the 4 fixings that are used to mount the Mk5 OMD on the engine  
**Note:** The Mk5 is heavy; it is recommended that two people remove the Mk5 OMD system from the engine.
- 1.6 Disconnect the sample pipes from the engine, ensuring that any crank case fittings are removed and that just a threaded hole is left.  
**Note:** The engine must not be operating whilst this is being done.
- 1.7 Remove all of the Mk5 components from the work area so they do not present a trip hazard.

## 2 Installation of the Mk7 OMD System



ATTENTION  
OBSERVE PRECAUTIONS  
FOR HANDLING  
ELECTROSTATIC  
SENSITIVE  
DEVICES

**Caution:** Ensure that anti static handling procedures are observed applied when working on the system, i.e. Anti- Static Wrist Straps

- 2.1 Using appropriate nuts and screws, mount the Mk7 Control Unit to the retrofit plate (part number / drawing number – 35100-K274) using the 4 predrilled holes in the middle of the plate.
- 2.2 Mount the plate where the Mk5 OMD had been fitted using appropriate fittings using the 4 holes in the corners of the plate.
- 2.3 Screw the detectors into the threaded holes from where the Mk5 OMD sample pipes had been removed and then lock in place. **Note:** Ensure that the horizontal & vertical limits shown in the manual are maintained.
- 2.4 Fit a detector cable to each of the detectors, ensuring that the longest cables are fitted to the detectors furthest away from the control unit and the shorter ones on the detectors nearer to the control unit. The cables should be mounted and clipped onto a cable tray to avoid any possibility of them being damaged should any maintenance work be carried out on the engine.
- 2.5 Fit the other end of the cables to the Control Unit by screwing the connector into the appropriate socket, cylinder 1 should go to the number 1 position on the Control Unit, cylinder 2 to position 2 and so on until all of the cables are connected.
- 2.6 The Mk7 system has an optional Remote Display Unit which needs to be mounted in a convenient position in the control room, the position should ensure that the display is easily read and the touch screen display is easily accessed.
- 2.7 There will be a requirement to run some new cables, these will be as follows
  - 2.7.1 24v DC supply cable to supply the Control Unit.
  - 2.7.2 24v DC supply cable to supply the Remote Display Unit.
  - 2.7.3 Modbus cable to run between the Remote Display Unit and the Control unit.

**Note:** The existing alarm output cables can be utilized by either re-routing them into the Mk7 control unit or leaving them in the Mk5 OMD Junction Box and running cables from the Junction Box to the Mk7 OMD Control Unit. If the 4<sup>th</sup> alarm is required then a new cable will need to be installed.

All required cable specifications and connection details are in the Mk7 Manual (Section 2).
- 2.8 Once the above has been completed, please follow the System Checks Prior To Switching On section in the Mk7 Manual (section 2.8).