

Unauthorized modification of main engine fuel pump linkage

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An unsafe and unauthorized modification was identified on the main engine high-pressure fuel pump linkage arrangement.

IOGP Life Saving Rules:



Bypassing safety controls

What happened?

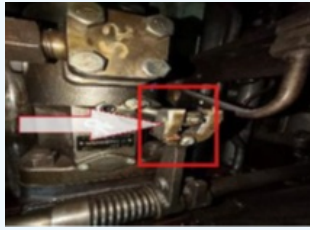
During a recent inspection on board an anchor handling vessel, an unsafe and unauthorized modification was identified on the main engine high-pressure fuel pump linkage arrangement. An external metal shim had been installed on the linkage to increase the fuel rack position, and copper wire used to secure the modification. This improvised arrangement created a risk of improper fuel control, linkage failure, and potential loss of propulsion during engine operations.

Why did it happen?

- Temporary repairs became permanent: Instead of carrying out a proper repair using approved spare parts and methods (replacement or re-calibration injectors), an improvised temporary repair was applied.
- Weak compliance with procedures: Original Equipment Manufacturer (OEM) instructions, Planned Maintenance System (PMS) procedures and Company maintenance standards were not followed.
External shim installed and secured by wire.
- Inadequate maintenance control: Maintenance work was not properly monitored, verified or inspected.

What do we learn?

- **No unauthorized modifications:** Improvised repairs on critical engine control systems can lead to catastrophic machinery failure and loss of vessel manoeuvrability.
- **Follow OEM requirements:** Critical engine components should never be modified. All maintenance and repairs should be carried out strictly in accordance with OEM recommendations.
- **No temporary fixes on safety-critical systems:** Don't use of shims, wires, fabricated or "home-made" parts, or other improvised solutions on safety-critical equipment.
- **Challenge abnormal conditions:** Temporary repairs should be promptly rectified and never accepted as a permanent solution.



Push rod secured by wire



External shim installed and secured by wire

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