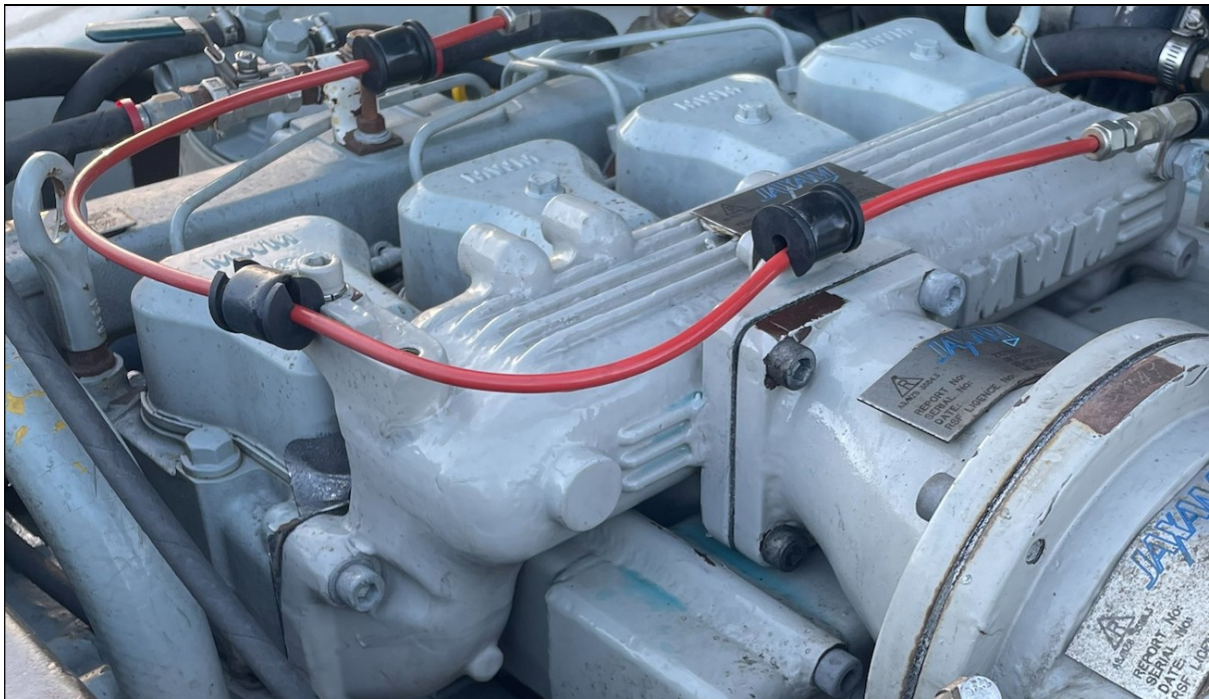




PRODUCT TECHNICAL BULLETIN 36339 MWM INLET MANIFOLD WELD FAILURE



Date: 08-05-2024
Issue: A (release)
Prepared for: Industry/ End Users

Applicable machines: MWM 4.1TCA engines used in underground coal mines design registration MDR 114056 DES.

Background:

During soapy water testing, a leak was detected on the flange weld of the MWM inlet manifold 7-054441-700. The leak was found to have been due to weld cracking through the throat area of the internal weld connection and propagating to the external stitch weld.

Communication:

The Failure of the weld has led to a loss of the explosion protection properties of the diesel engine system. The manifold was removed from service for further investigation.



Figure 1: External leak through stitch weld



Figure 2: Crack through internal fillet weld

Findings:

- The specific Manifold could not be identified via its serial number with OEM records.
- The weld method had been revised from an external stitch weld to a full weld since 2015 and hence the age of manifold was estimated to be approximately 10 years.
- Weld size was lacking on the external stitch weld and had led to an overloading of the internal weld.

Recommendations:

- Inlet manifolds should be subject to non-destructive testing of the flange welds during a code D overhaul.
- Inlet manifolds that are not fully welded on the external weld are recommended to be replaced at the next available service opportunity.



Figure 3



Figure 4

Figures 3 & 4: Inlet Manifold views examples of fully welded flange connection

Please distribute this bulletin to all relevant personnel

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