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“A Repair to Steel Boiler Tubes”

This document was written by Kevin Slater and was originally published by Bristol SMEE and republished by the FMES in the May 2025 Newsletter

Kevin worked on a four-year-old boiler with a few leaking tubes that required repair. Expanding tubes is not usually a challenge if they are new and clean. However, there were challenges cleaning the inside of the tubes on this used steamboat boiler.

Small flap wheels were initially used to clean the rust/soot/grunge from the expander landing area at the end of each leaking tube. This was only marginally successful, and the rolling action of the expander cracked away and crushed more 'grunge'. This meant having to repeatedly clean the expanding tool.



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Despite the laborious process, Kevin successfully re-expanded the tubes and proved it by conducting a hydraulic pressure test to 500 p.s.i. on the boiler



The quality of Wickstead's expanders was proven as they remained undamaged.

Replacing the tubes with new ones would have been a much more expensive alternative.

