

## NTSB: Fire on vessel – escaped exhaust gases

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The National Transportation Safety Board of the United States (NTSB) published “[Safer Seas Digest 2023](#)”, which includes a number of incidents which may be of interest to IMCA members. This is one of them.

### What happened?

A fire broke out in a stateroom on board a small towing vessel on the Gulf Intracoastal Waterway. The fire was extinguished and the crew were evacuated safely. There were no injuries, and no pollution was reported, but the vessel was destroyed.

An off-watch pilot was awakened by a smoke alarm and the smell of smoke in his stateroom. About the same time, the captain, who was on watch in the wheelhouse, heard a smoke detector beep (but didn't smell smoke) in the wheelhouse, and the other sleeping deckhand woke up to “a burnt smell.”

A fire had started behind panels in the pilot's stateroom, which was located between the vessel's two stacks, each containing engine exhaust mufflers and piping. Cracks in the welds on the upper section of the starboard muffler located inside the starboard stack—which may have been caused by a latent issue, such as a defect in the muffler during construction or the exhaust system design's allowance for thermal expansion and contraction of exhaust piping above the muffler outlet—allowed the hot exhaust gases from the operating starboard engine to escape into the stack area and increase the temperature of the space and its bulkheads.

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### What was the (probable) cause

The NTSB's investigation suggested that **undetected cracks** in the starboard muffler allowed exhaust gases from an operating engine to escape and ignite wooden structures affixed to the common bulkhead of an accommodation space. Contributing to the extent of the fire damage was the substantial use of combustible materials in the joinery, outfitting, and furnishings in the accommodation spaces.

### Lessons learned

- Remember that engine and other machinery exhaust systems generate tremendous amounts of heat. These systems often run through tight

spaces that are difficult to access and inspect and are often located near materials or equipment that obstruct entry and direct observation.

- Consider inspection of welding and other potential weak points in such areas.

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