

## Commissioning and servicing of bus and coach fire suppression systems

### The incident

On Friday 26 June 2022, the driver of a northbound tourist coach operating in NSW was alerted to an active fire within the vehicle's engine bay by both the Original Equipment Manufacturer (OEM) fire alarm and the Engine Bay Fire Suppression System (EBFSS). Although there was an alarm and panel notification of discharge, the EBFSS did not discharge the suppressant as designed. The driver subsequently extinguished the fire with the assistance of another driver from the same company.

The Office of Transport Safety Investigations (OTSI) later inspected the vehicle and found an isolation device which should have been removed when the fitted system was commissioned. The isolation device remained secured in place to both EBFSS agent tank valve bodies. This device rendered the system unable to discharge the suppressant agent.

Records of the installation and information provided by the EBFSS supplier identified that the system was installed by an organisation known to the supplier that was authorised to service their systems but was neither trained nor authorised to carry out installations of their systems (which included the initial commissioning of the system).

### Key points for operators

- Ensure that a vehicle equipped with EBFSS does not enter service unless the EBFSS is fully operational as evidenced by applicable commissioning and service documentation.
- Undertake a visual check of all vehicles as soon as possible to confirm the EBFSS has been commissioned correctly and is in an operational state.
- Ensure that EBFSS servicing and pressure testing is carried out in accordance with Australian Standard AS5062 - 2016 (*Fire protection for mobile and transportable equipment*) and OEM guidelines.
- Ensure staff and/or contractors are accredited, competent, and appointed to the level of service being conducted on the EBFSS.
- Ensure that all components and agents used in the commissioning and servicing of critical safety systems are in accordance with all relevant standards and the OEM specifications and standards under which the systems are approved and installed.
- Retain records as evidence of the operational status, maintenance and competency requirements relating to the EBFSS as described above.

### Safety message

The EBFSS is an important device to mitigate against risks to passengers and operators as a result of fire in the vehicle's engine bay. The system is designed to discharge a fire suppressant agent to inhibit a fire and to allow additional evacuation time for passengers and operators as well as increase the likelihood of preserving the vehicle.

Operators must ensure that an appropriate level of diligence is applied to EBFSS installation and maintenance as well as the monitoring of the operational status of the system to reflect its criticality to safe vehicle operations. This will ensure the system operates as designed in the event of an emergency.



Left image:  
Fire suppression system installed on the vehicle involved in the detailed thermal event. Red isolation screw observed in the right-hand side of the valve body on both agent tanks which impeded the system's automatic discharge operation.

Right image:  
Agent cylinder valve body shown with the red system isolation screw inserted. The operational green screw hanging by the OEM tether is ready for system commission or system use. Red screw used for system service and decommissioning activities.



Left image:  
Picture of disassembled valve body showing the internal function of the red isolation screw.

