Performance testing of in-service ARFF vehicles

UL, the most recognized third party testing organization in the fire service, has been testing newly manufactured pumpers at major fire apparatus manufacturers for more than 40 years, and has provided in-service fire apparatus testing for 30 years. UL’s fire apparatus testing knowledge is extensive and unmatched. UL now applies that knowledge to in-service testing of ARFF vehicles.

UL offers comprehensive on-site inspection services to assess whether in-service ARFF vehicles perform as intended. These services, outlined below, include a series of tests based on NFPA 414 Standard for Aircraft Rescue and Fire-Fighting Vehicles.

- Vehicle Readiness Tests – Demonstrate that the vehicle is ready to respond
  - Air System/Air Compressor Test
  - Electrical Charging System Test
- Vehicle Response Tests – Demonstrate that the vehicle can get to the emergency scene
  - Acceleration Tests
  - Top Speed Tests
  - Brake Operational Test
- Vehicle/Foam System Operation Tests – Demonstrate that the vehicle can provide agent under normal operations
  - Agent Discharge Pumping Test
  - Pump and Maneuver Test
  - Primary Turret Flow Rate Test
- Foam System Test – Demonstrate that the system provides proper foam concentration
  - Foam Concentration Test

For ARFF vehicles that have structural pumping capability, a fire pump performance test is available. This performance test is based on NFPA 1911 Standard for Inspection, Maintenance, Testing, and Retirement of In-Service Automotive Fire Apparatus, and includes:

- Engine Speed Test
- Vacuum Test
- Pumping Test
- Pressure Control Test
- Priming Device Test
- Pressure Gauge Accuracy Test

For ARFF vehicles with an extendable turret (articulating/telescoping boom), tests and inspections of the boom can be conducted to applicable requirements in NFPA 1911, 2012 Edition Chapter 19 – Performance Testing of Aerial Devices.

UL is an independent third-party testing organization, and is accredited by International Accreditation Services for inspection and testing systems on fire apparatus in accordance with ISO/IEC 17020, General criteria for the operation of various types of bodies performing inspection.

Get started

To receive the most complete and accurate inspection of your ARFF vehicles, please contact us or email your request to fes@ul.com.

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