



Keys to Fueling-Operations Safety

Aircraft fueling operations are an integral part of aviation ramp operations, whether general, commercial or military. Fueling vehicles vary by aircraft type and fuel-delivery systems. Most fueling is done by fuel hydrant trucks or tanker vehicles using under-wing or over-wing fuel hoses. Aircraft fueling should be done in accordance with NFPA 407, Standard for Aircraft Fuel Servicing.

Regardless of the method of fuel delivery, a number of safety concerns are common to them and should be included as part of any ramp safety evaluation:

1. Fuel-vehicle speeds should not exceed 8 kph (5mph) within the safety circle (the zone 8 meters [25 feet] around the aircraft). Fuel vehicles should also come to a complete stop outside the safety circle to check their brakes.
2. Fuel vehicles should not position too close to the aircraft. They should be at least 1 meter laterally away from any aircraft surface and positioned either off the wingtip or in front of the wing's leading edge, except for large aircraft with high ground-to-wing clearance requiring the use of platform fuel trucks. The fuel-vehicle engine should be at least 3 meters (10 feet) away from the aircraft wing vent.
3. Fuel vehicles are to be positioned so that they are not blocked in by other ramp vehicles/equipment.
4. Vehicles should have their wheels chocked to help prevent unintentional movement while connected to the aircraft. Brake interlocks should also be checked for proper operation to prevent movement while the fuel hoses are deployed.
5. Fuel trucks with elevating platforms are to be driven only when the platform is in the fully lowered position.
6. The fuel vehicle is to be bonded to the aircraft before the hose is attached to the aircraft. Grounding of the fuel vehicle is no longer required.
7. All fuel vehicles must be equipped with a "deadman" switch that is held at all times by the operator and will shut off the fuel flow when released. Deadman switches are never to be wrapped, tied, wired or blocked in the open position. Over-wing hand-held fuel-dispensing nozzles must automatically close when released. Hold-open latches are not allowed.
8. When the deadman switch is released, the fuel flow must shut off with no more than a 5 percent overshoot of the flow rate (liters or gallons per minute). For example, on a fuel truck pumping 100 liters per minute, when the deadman switch is released, no more than 5 liters can pump through before the fuel flow stops completely.
9. Fuel vehicles must be equipped with two 20-B-rated fire extinguishers, and one 80-B wheeled fire extinguisher must be available within 30 meters of the fueling operation.



10. On in-ground fuel hydrant systems, the emergency fuel-cutoff switch should be readily visible and accessible to the fuel operations area. Fuel hydrants should have a break-away shutoff valve that will cut off fuel flow if the hydrant hoses are accidentally pulled out or broken off.

The above 10 items are some of the more common problem areas for aircraft fueling operations. Ensuring compliance with these items will reduce the potential for fuel spills, fires, and aircraft or equipment damage.

- Lee Rose
International Air Transport Member

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