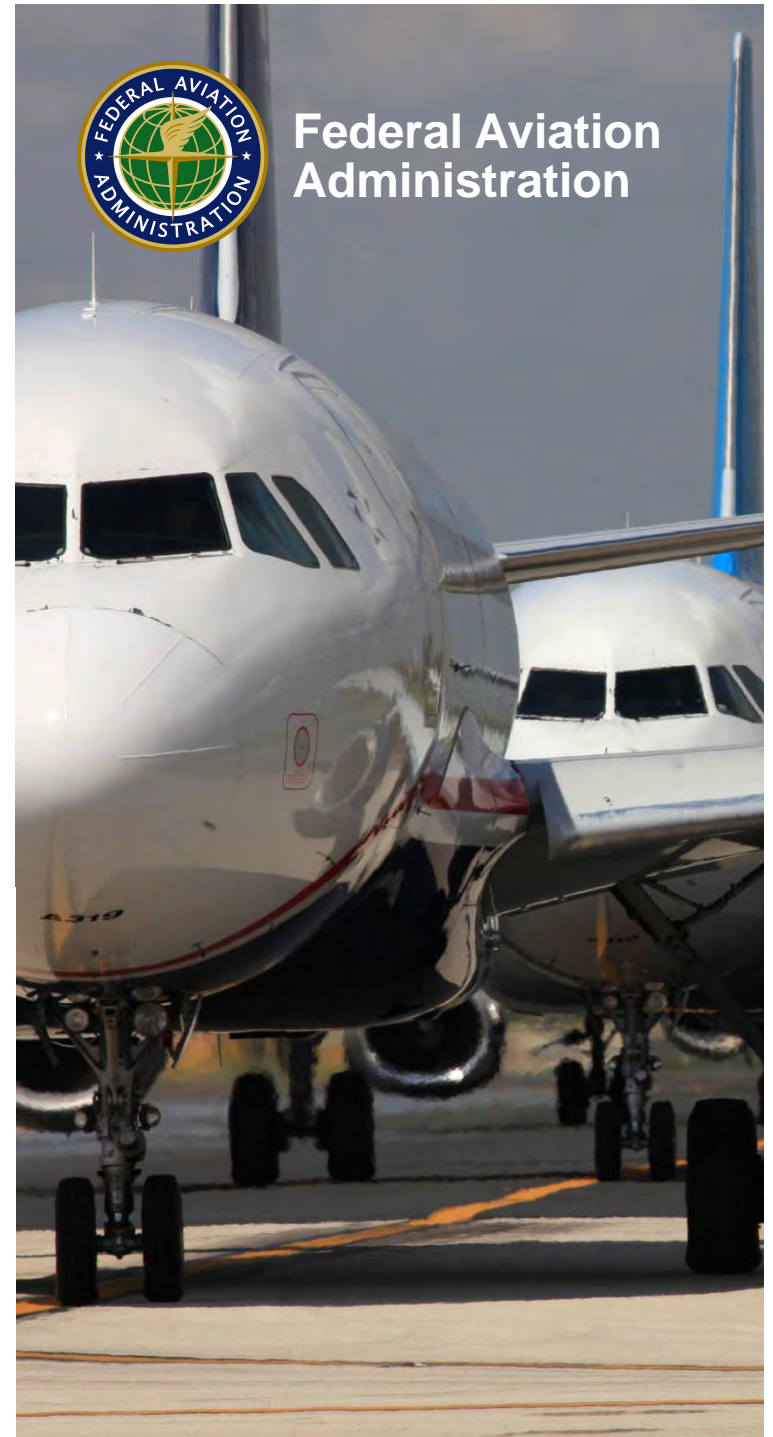


Aerodrome Inspectors Workshop

Fueling Safety

Location: Trinidad & Tobago, 9-13 JUN 2014

Presenter: Herman Smith, FAA ACSI



OBJECTIVE

- **Gain a better understanding of Fuel Safety**
- **Technique for conducting fueling inspections**
- **What to look for during a fueling inspection**



FUELING SAFETY

OVERVIEW

- **Fueling Fire Codes**
- **Fueling requirements**
- **Fueling inspections**



Fueling Safety



Fueling Safety

Fueling Fire Codes

- ICAO Annex 14 does not include standards for fueling operations, so this session only addresses FAA requirements and does not include a comparison of ICAO standards and practices for fueling operations.
- Other National aerodrome certification regulations may include fuel quality control in addition to fire safety standards for fueling operations, depending on how the National Civil Aviation Authority is organized

Fueling Safety

National Fire Protection Association (NFPA) Standards
NFPA 407, *Standard for Aircraft Fuel Servicing*, 2012
edition.

1.2 Purpose.

- 1.2.1 The purpose of this standard is to establish reasonable minimum fire safety requirements for procedures, equipment, and installations for the protection of persons, aircraft, and other property during ground fuel servicing of aircraft using liquid petroleum fuels. These requirements are based upon sound engineering principles, test data, and field experience

Fueling Safety

Fueling Fire Codes

- FAA Part 139 only addresses fire safety standards for fueling operations. Fuel quality control is inspected by the FAA Flight Standards Division Inspectors as part of inspecting airline operations. Inspection of fuel quality control by FAA Airports Division Airport Certification Inspectors would be a duplication of FAA regulations.



Fueling Safety

Fueling Fire Codes

- Inspection of airport fueling systems and mobile fuelers addressed in this session are based on the National Fire Protection Association (NFPA) 407, *Standard for Aircraft Fuel Servicing, 2012 Edition*, and NFPA 30, *Flammable and Combustible Liquids Code, 2000 Edition*, and the Code of Federal Regulations, Title 49, Part 172.

Fueling Safety

Fueling Fire Codes

- ICAO Annex 14 does not include standards for fueling operations, so this session only addresses FAA requirements and does not include a comparison of ICAO standards and practices for fueling operations.
- Other National aerodrome certification regulations may include fuel quality control in addition to fire safety standards for fueling operations, depending on how the National Civil Aviation Authority is organized

Fueling Safety

Purpose of Fueling Inspection

- The fueling inspection is conducted for compliance to the airport fire safety standards listed in the Airport Certification Manual or the Fire Code attached to the ACM
- The purpose of conducting inspections of fueling facilities and mobile fuelers is to check for fueling agent compliance to the airport operator's fire safety standards



Fueling Safety

FAA Policy:

The FAA defines “fueling agent” as “a person or company that sells fuel on the airport.”



Fueling Safety

Fueling Inspection:

- Part 139 requires airport operators to conduct inspections of the fueling agents for compliance to the airport's fire safety standards every three (3) calendar months.
- FAA inspections of fueling facilities and fuelers are basically an evaluation of the airport's required fueling inspection program



Fueling Safety

Part 139 Fueling Requirements

- Part 139.321(b) requires that the certificate holder establish fire safety standards for fueling operations.
- Part 139.321(c) requires that the certificate holder comply with the fire safety standards and require all fueling agents to comply with the fire safety standards.
- Part 139.321(d) requires that the certificate holder conduct inspections of the fueling facilities for each fueling agent every three (3) months.



Fueling Safety

Part 139 Fueling Requirements

- Part 139.321(e) addresses the fueling agent training requirements
- Part 139.321(f) requires written confirmation from fueling agents that the training requirements have been accomplished
- Part 139.321(g) requires that the certificate holder require immediate corrective action for non-compliance to the fire safety standards



MIA Fuel Farm Fire

March 23, 2011

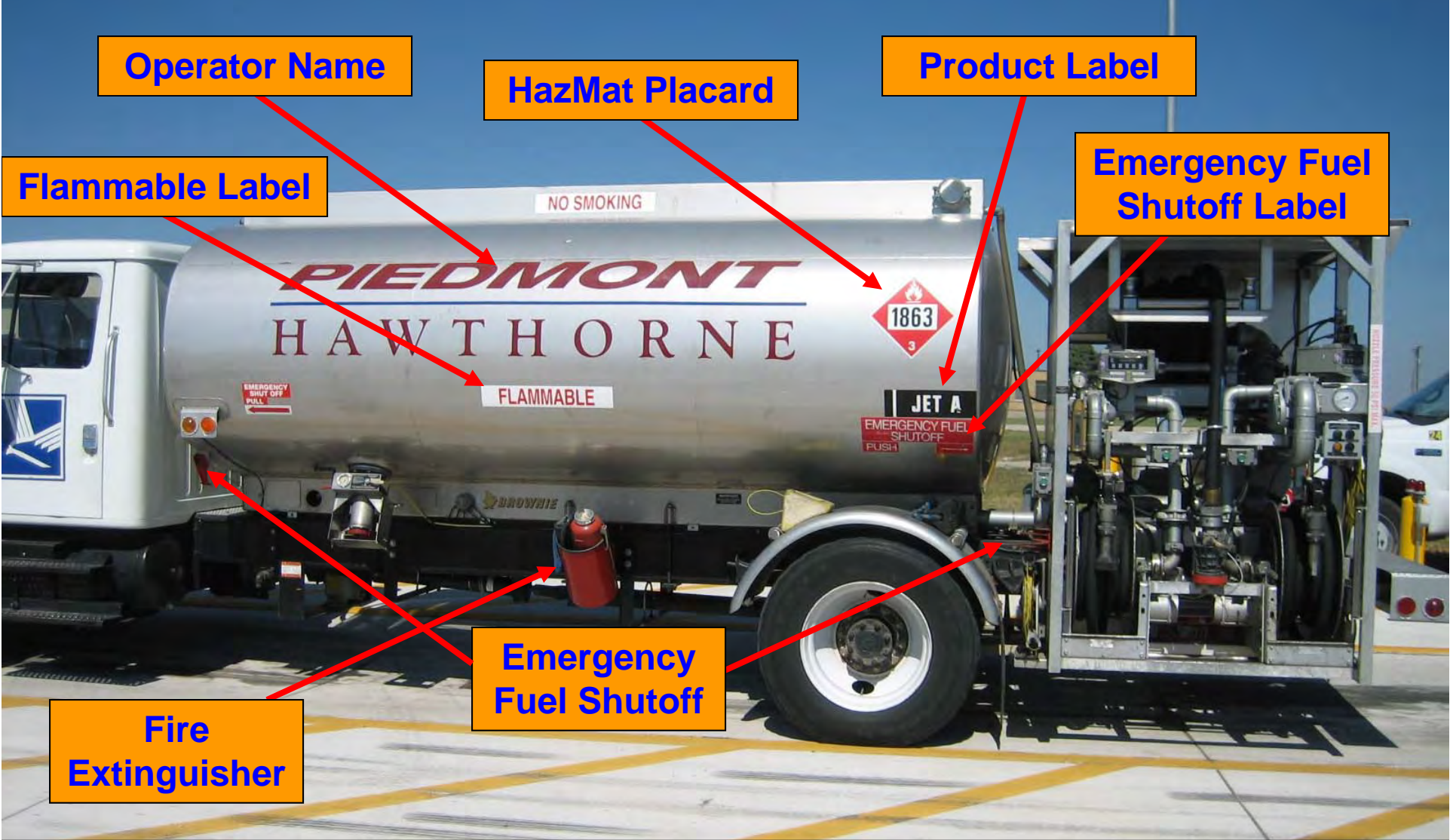


Fueling Safety

Inspecting Aircraft Fuel Servicing Vehicles

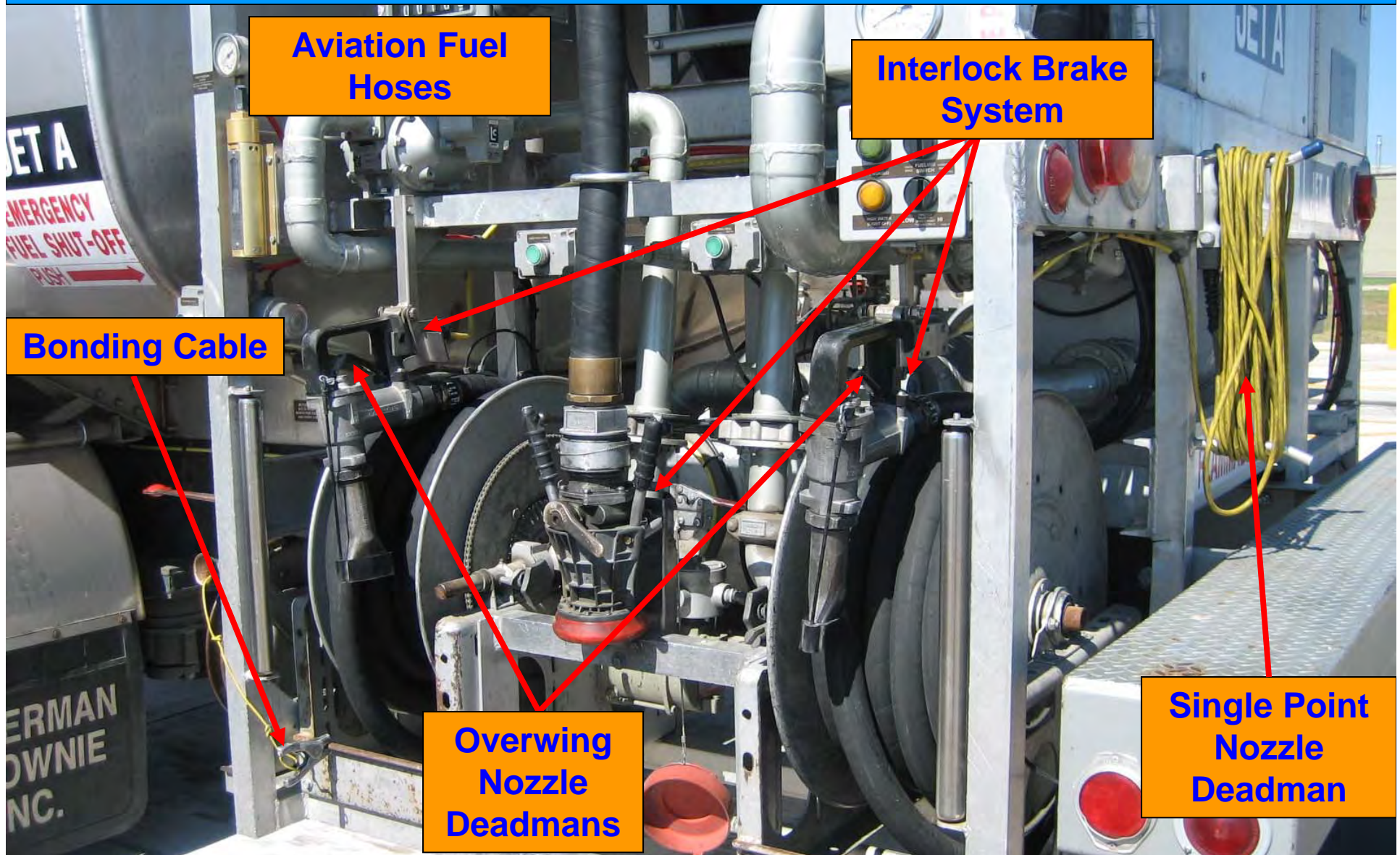


Inspecting Aircraft Fuel Servicing Vehicles



Check the sides of the truck for operator name, required HazMat placards, emergency fuel shutoffs and label placards, product label, flammable label, and fire extinguishers.

Inspecting Aircraft Fuel Servicing Vehicles



Check the fueling section of the truck for aviation fueling hose in good condition, deadman controls, bonding cable, interlock brake system. 18

Fueling Safety

Aircraft Fuel Servicing Hydrant Vehicle



Aircraft fuel servicing hydrant vehicles are vehicles equipped with facilities to transfer fuel between an Airport Fueling System hydrant and an aircraft.

Fueling Safety

Aircraft Fuel Servicing Cart



Aircraft fuel servicing carts are equipped with facilities to transfer fuel between a Airport Fueling System hydrant and an aircraft and are normally parked at a fixed location near a gate.

Fueling Safety

Conducting the Inspection

- Inspectors should have a copy of the fire safety standards or fire code for reference while conducting inspections, and use checklists to ensure that a complete inspection is conducted and to document problems.
 - Inspectors conducting fueling inspections should follow a systematic approach to inspecting a fuel servicing vehicle or cart. For example,
 - Note fuel truck parking as you approach
 - Note location of exhaust system
 - Look under a fuel servicing vehicle for leaks
 - Check cab for NO SMOKING signs and ashtrays
 - Walk around the vehicle to check placards, fire extinguishers, emergency shutoff, bonding cables, deadman controls, hoses, and potential ignition sources.

Fueling Safety

Conducting the Inspection



It would be a good idea to be accompanied by the Airport Fire Department or Fire Marshal when conducting the inspections, as they have direct enforcement authority if an unsafe fueling situation is found.

Fueling Safety

Conducting the Inspection

Parking of Aircraft Fuel Servicing Vehicles

- NFPA 407, 5.18 – Parking Aircraft Fuel Servicing Tank Vehicles.

Parking areas for unattended aircraft fuel servicing tank vehicles shall be arranged to provide the following:

- Dispersal of the vehicles in the event of an emergency.
- (1) A minimum of 10 feet of clear space between parked vehicles for accessibility for fire control purposes.
 - (2) Prevention of any leakage from draining to an adjacent building or storm drain that is not suitably designed to handle fuel.
 - (3) A minimum of 50 feet from any parked aircraft and buildings other than maintenance facilities and garages for fuel servicing tank vehicles.

Fueling Safety

Conducting the Inspection

Parking of Aircraft Fuel Servicing Vehicles



Fueling Safety

Conducting the Inspection

Parking of Aircraft Fuel Servicing Vehicles

Fueling Discrepancy - 139.321(c)



These fuel trucks are parked too close to each other to provide accessibility for fire control purposes. This is a common problem found during FAA inspections.

Fueling Safety



Marking the parking locations for fuel trucks to ensure compliance with parking standards is highly recommended. Note that the oil stains indicate fueling personnel are complying with the parking standard.

Fueling Discrepancy - 139.321(c)



One of these fuel trucks is parked within 50 feet of a building that could provide an ignition source in the event of a fuel leak.

Parking of Aircraft Fuel Servicing Vehicles

NFPA 407, 5.19 – Parking Aircraft Fuel Servicing Hydrant Vehicles and Carts.

Parking areas for unattended aircraft fuel servicing hydrant vehicles or carts shall be arranged to provide the following:

- (1) Dispersal of the vehicles in the event of an emergency.
- (2) Prevention of any leakage from draining to an adjacent building or storm drain that is not suitably designed to handle fuel.

Parking of Aircraft Fuel Servicing Vehicles



The fire code standard for parking 10 feet apart and at least 50 feet from buildings and aircraft does not apply for hydrant vehicles or carts because they do not carry much fuel.

Fueling Discrepancy - 139.321(c)

NFPA 407, 5.2.1 Fuel servicing equipment shall comply with the requirements of this standard and shall be maintained in safe operating condition. Leaking or malfunctioning equipment shall be removed from service.



Most fuel leaks will have evidence of the leak on the pavement under the truck. Even when the truck is not present, fuel stains on the pavement will indicate leaking problems.

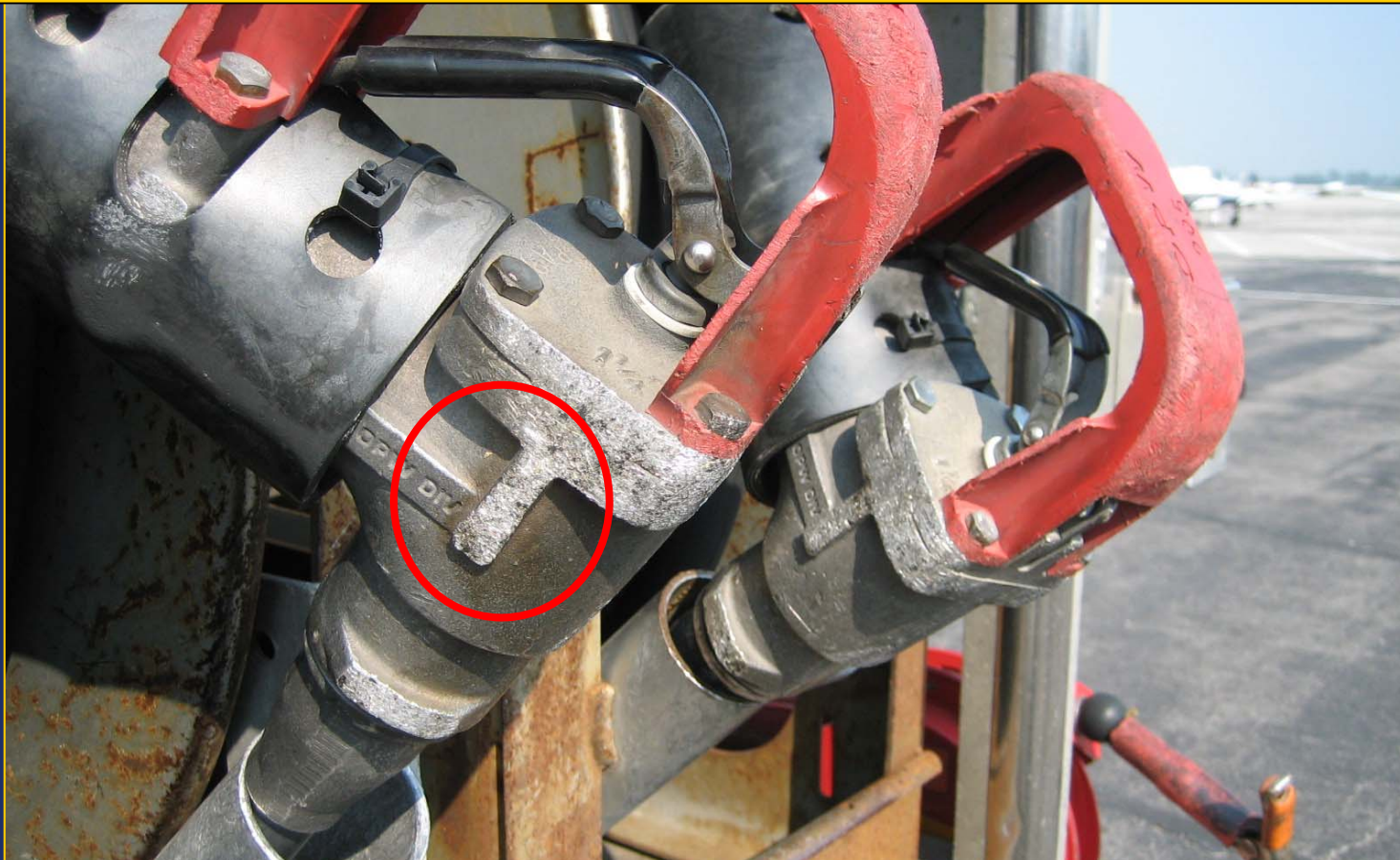
Maintenance of Aircraft Fuel Servicing Vehicles



This is one method of documenting that a fuel truck is out of service.

Fueling Discrepancy - 139.321(c)

NFPA 407, 5.2.3 Fuel nozzles shall not be dragged along the ground.



These nozzles show evidence of being dragged along the ground, which can create sparks.

Reporting of Fuel Leaks

NFPA 407, 5.2.6 The airport fire crew shall be notified if a spill covers over 10 ft in any direction or is over 50 ft in area, continues to flow, or is otherwise a hazard to persons or property. The spill shall be investigated to determine the cause, to determine whether emergency procedures were properly carried out, and to determine the necessary corrective measures.



Inspectors should verify that procedures have been established to notify the airport fire department if a fuel spill occurs.

Engine Exhaust System

NFPA 407, 4.3.6 – Engine Exhaust System.

4.3.6.1 The engine exhaust system shall be designed, located, and installed to minimize the hazard of fire in the event of any of the following:

- (1) Leakage of fuel from the vehicle or cart (where applicable) fuel tank or fuel system
- (2) Leakage from the fuel dispensing system of the vehicle or cart
- (3) Spillage or overflow of fuel from the vehicle or cart (if applicable) fuel tank or the cargo tank
- (4) Spillage of fuel during the servicing of an aircraft

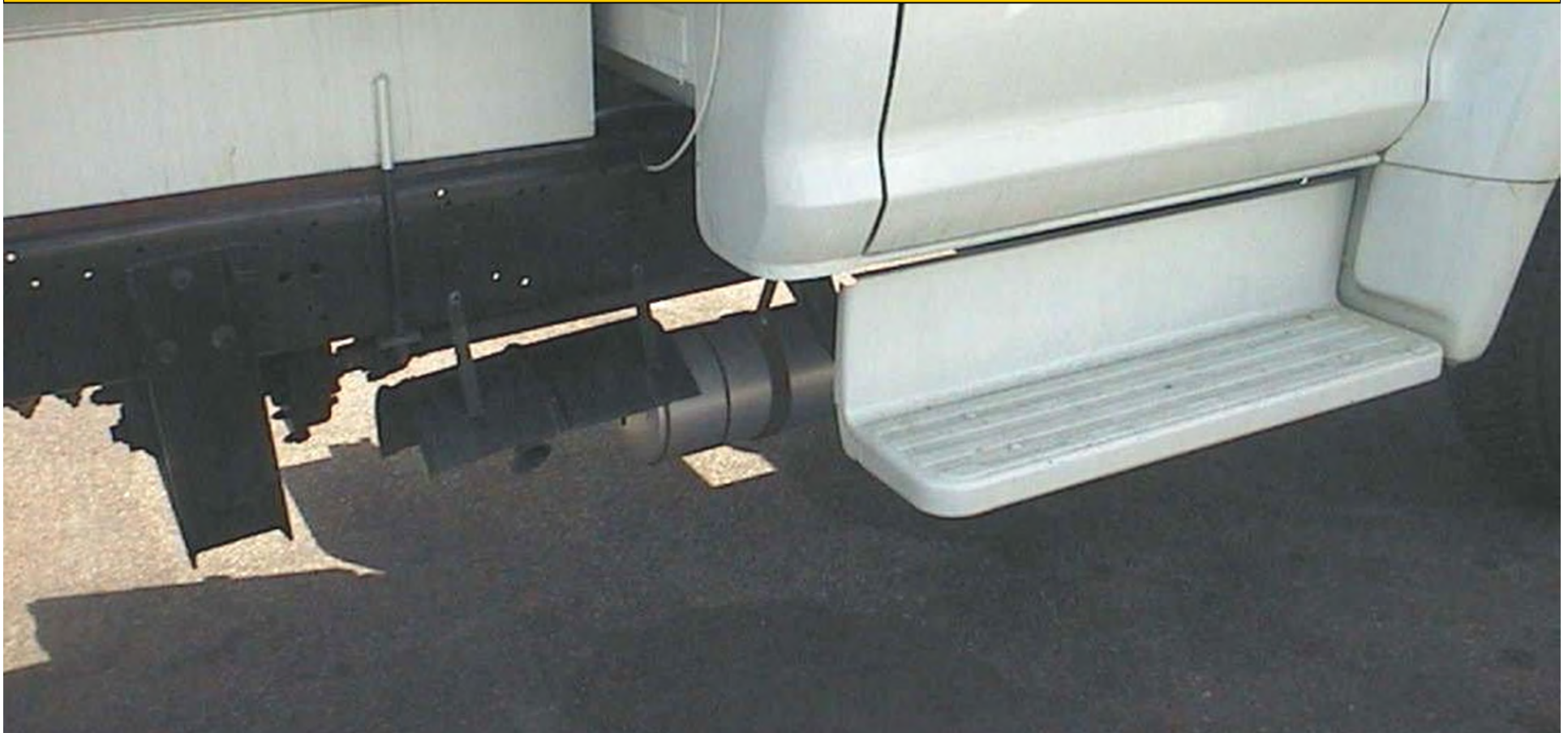
Engine Exhaust System

NFPA, 4.3.6.2 Exhaust system components shall be secured and located clear of components carrying flammable liquids and separated from any combustible materials used in the construction of the vehicle.



Most fuel trucks have the muffler and exhaust pipe at the front of the vehicle where it will be clear of fuel tanks and piping in the event of a leak.

NFPA 407, 4.3.6.3 Suitable shielding shall be provided to drain possible fuel spillage or leakage away from exhaust system components safely.



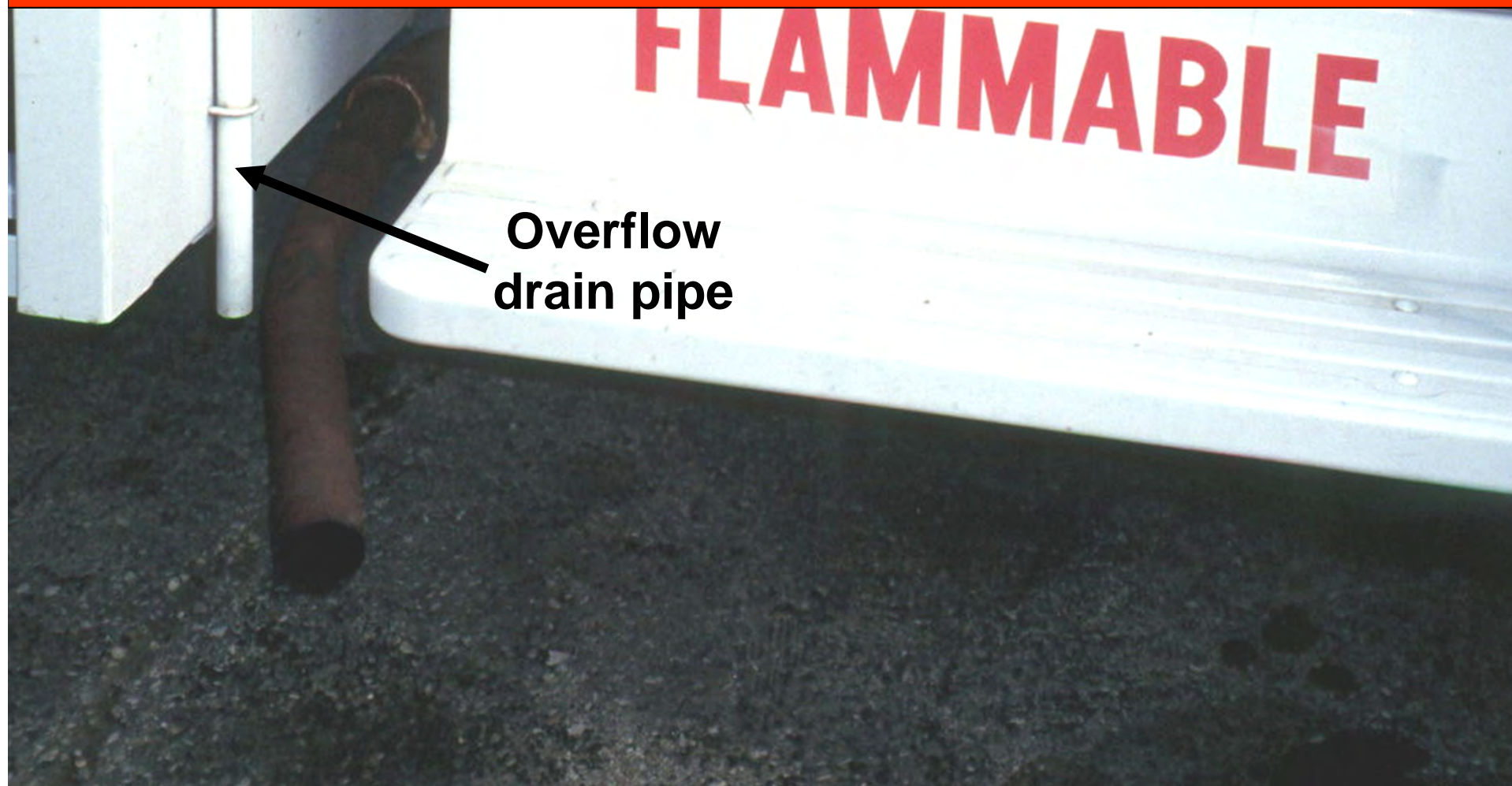
Any part of the engine exhaust system that extends out under the fuel tank or piping must be adequately shielded to prevent leaking fuel from dripping on the hot exhaust pipe.

Fueling Discrepancy - 139.321(c)



After the muffler was replaced with a longer muffler, the shielding is no longer adequate. Corrective action in this case was to shorten the exhaust pipe. The shield could also be extended in this situation.

Fueling Discrepancy - 139.321(c)



This engine exhaust pipe located under the overflow drain pipe could be an ignition source in the event of overfilling the tank.

Smoking Restrictions

NFPA 407, 4.3.11 – Smoking Restrictions.

4.3.11.1 A “no smoking” sign shall be posted prominently in the cab of every aircraft fuel service vehicle.

4.3.11.2 Smoking equipment such as cigarette lighters and ash trays shall not be provided. If a vehicle includes such equipment when initially procured, it shall be removed or rendered inoperable.

Smoking Restrictions

NFPA 407, 4.3.11.1 A “no smoking” sign shall be posted prominently in the cab of every aircraft fuel service vehicle.



No “NO SMOKING” are required in the cab of mobile fuelers.

Smoking Restrictions

NFPA 407, 4.3.11.2 Smoking equipment such as cigarette lighters and ash trays shall not be provided. If a vehicle includes such equipment when initially procured, it shall be removed or rendered inoperable.



Cigarette lighters and ashtrays are prohibited.

Fueling Discrepancy - 139.321(c)



A “NO SMOKING” sign is missing in the cab of this fuel truck.

Placards

NFPA 407, 4.3.18 – Product Identification Signs.

Each aircraft fuel servicing vehicle or cart shall have a sign on each side and the rear to identify the product. The sign shall have letters at least 3 inches high and shall be of a color contrasting sharply with the sign background for visibility.

The word FLAMMABLE and the name of the product carried, such as JET A, JET B, GASOLINE, or AVGAS shall appear on the sign.



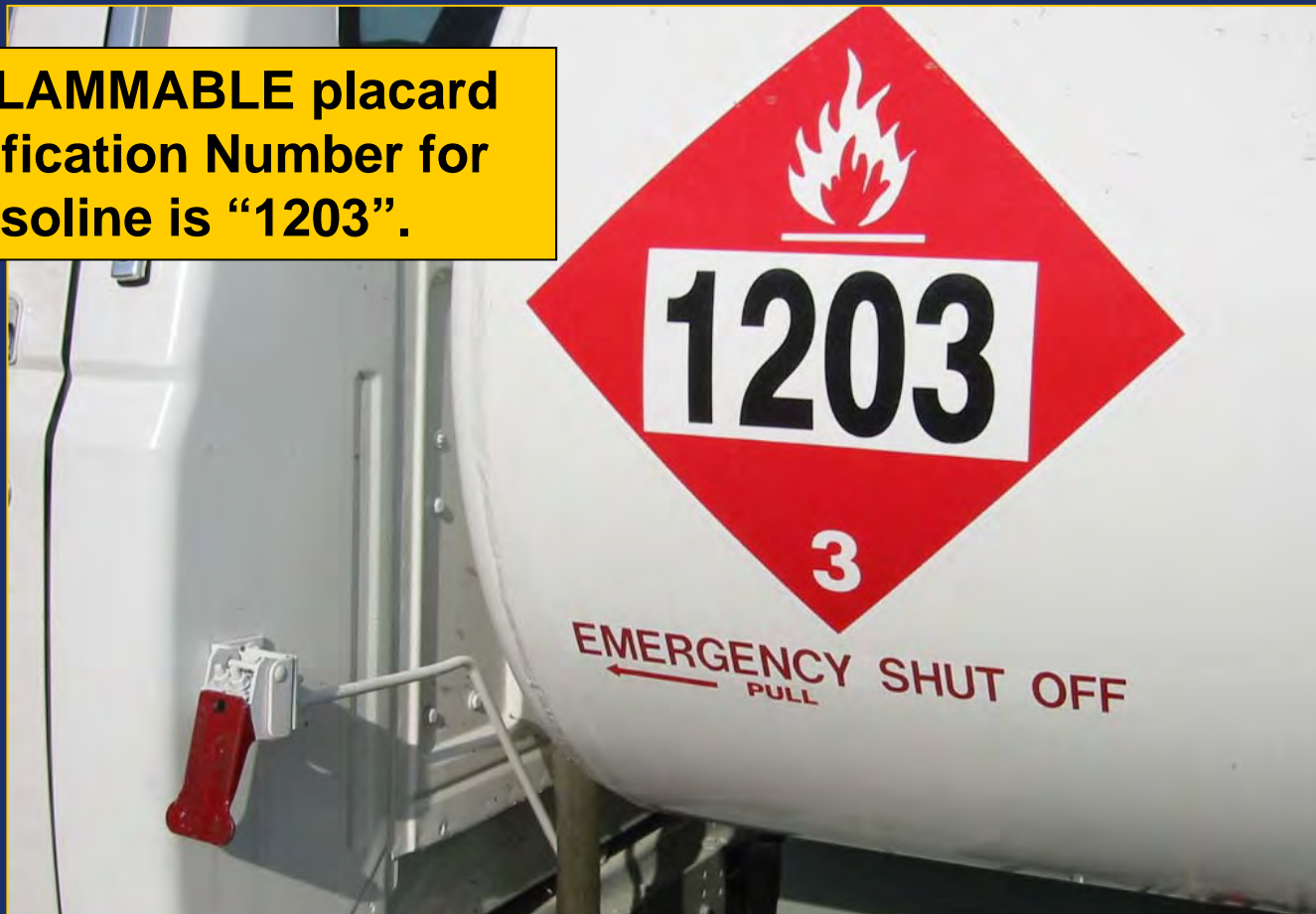
NFPA 407, 4.3.18 Each aircraft fuel servicing vehicle or cart shall have a sign on each side and the rear to identify the product. The sign shall have letters at least 3 inches (7.62 cm) high and shall be of a color contrasting sharply with the sign background for visibility. The word FLAMMABLE and the name of the product carried, such as JET A, JET B, GASOLINE, or AVGAS shall appear on the sign.

Fueling Discrepancy - 139.321(c)



This FLAMMABLE sign is faded and not clearly visible.

**The FLAMMABLE placard
Identification Number for
gasoline is “1203”.**



**The requirements and standards for Hazardous
Materials placards are contained in Code of
Federal Regulations, Title 49, Part 172, Subpart F,
Placarding.**

The FLAMMABLE placard Identification Number for Jet fuel is “1863”.

Symbol for FLAMMABLE hazardous materials

Class 3 is for FLAMMABLE hazardous materials

FLAMMABLE placards must have a red background with white symbol, class and inner border.

NFPA 407, 4.3.3.3 Cables shall be provided on the vehicle or cart to allow the bonding operations specified in Section 5.4.



Bonding cables are required on fueling vehicles.

Bonding

NFPA 407, 5.4 – Bonding.

5.4.1 Prior to making any fueling connection to the aircraft, the fueling equipment shall be bonded to the aircraft by use of a cable, thus providing a conductive path to equalize the potential between the fueling equipment and the aircraft. The bond shall be maintained until fueling connections have been removed, thus allowing separated charges that could be generated during the fueling operation to reunite. **Grounding during aircraft fueling shall not be permitted.**

5.4.2 In addition to the above, where fueling overwing, the nozzle shall be bonded with a nozzle bond cable having a clip or plug to a metallic component of the aircraft that is metalically connected to the tank filler port. The bond connection shall be made before the filler cap is removed. If there is no plug receptacle or means for attaching a clip, the operator shall touch the filler cap with the nozzle spout before removing the cap in order to equalize the potential between the nozzle and the filler port. The spout shall be kept in contact with the filler neck until the fueling is completed.

Fire Extinguishers

NFPA 407, 4.3.9 – Fire Extinguishers for Aircraft Fuel Servicing Vehicles or Carts.

4.3.9.1 Each aircraft fuel servicing tank vehicle shall have two listed fire extinguishers, each having a rating of at least 20-B:C with one extinguisher mounted on each side of the vehicle.

4.3.9.2 There shall be one listed extinguisher having a rating of at least 20-B:C installed on each hydrant fuel servicing vehicle or cart.

4.3.9.3 Extinguishers shall be readily accessible from the ground. The area of the paneling or tank adjacent to or immediately behind the extinguisher(s) on fueling vehicles or carts shall be painted with a contrasting color.

4.3.9.4 Extinguishers shall be kept clear of elements such as ice and snow. Extinguishers located in enclosed compartments shall be readily accessible, and their location shall be marked clearly in letters at least 2 in. high.

Fire Extinguishers

NFPA 407, 4.3.9.1 Each aircraft fuel servicing tank vehicle shall have two listed fire extinguishers, each having a rating of at least 20-B:C with one extinguisher mounted on each side of the vehicle.



Two fire extinguisher are required on fuel servicing tank vehicles, with one mounted on each side.

Fire Extinguishers

NFPA 407, 4.3.9.4 Extinguishers shall be kept clear of elements such as ice and snow.



NFPA 407, Annex A Explanatory Material - A.5.13.5 Protection of Extinguishers Against Inclement Weather. **During inclement weather, extinguishers not in enclosed compartments may be permitted to be protected by canvas or plastic covers. If icing occurs, the extinguisher should be sprayed with deicing fluid.**

Fueling Discrepancy - 139.321(c)



Dry chemical extinguishers are the most common type used. Dry chemical extinguishers must be B C rated. ABC rated multipurpose dry chemical extinguishers are highly corrosive to aircraft and can cause significant damage to aircraft engines.

Fire Extinguishers

NFPA 407, Annex A Explanatory Material - A.4.1.6.1 **Multipurpose dry chemical (ammonium phosphate) should not be selected due to corrosion concerns relative to the agent. Carbon dioxide extinguishers should not be selected due to their limited range and effectiveness in windy conditions.**



When fueling agents have their fire extinguishers inspected, extinguishers from hangars sometimes get mixed up with extinguishers from fuelers. This dry chemical extinguisher needs to be replaced with a B C rated dry chemical extinguisher.

Fire Extinguishers



Check fire extinguishers for proper charge, pin sealed and current inspection tags. Extinguishers should be inspected at least annually by a fire extinguisher servicing company.

Deadman Controls

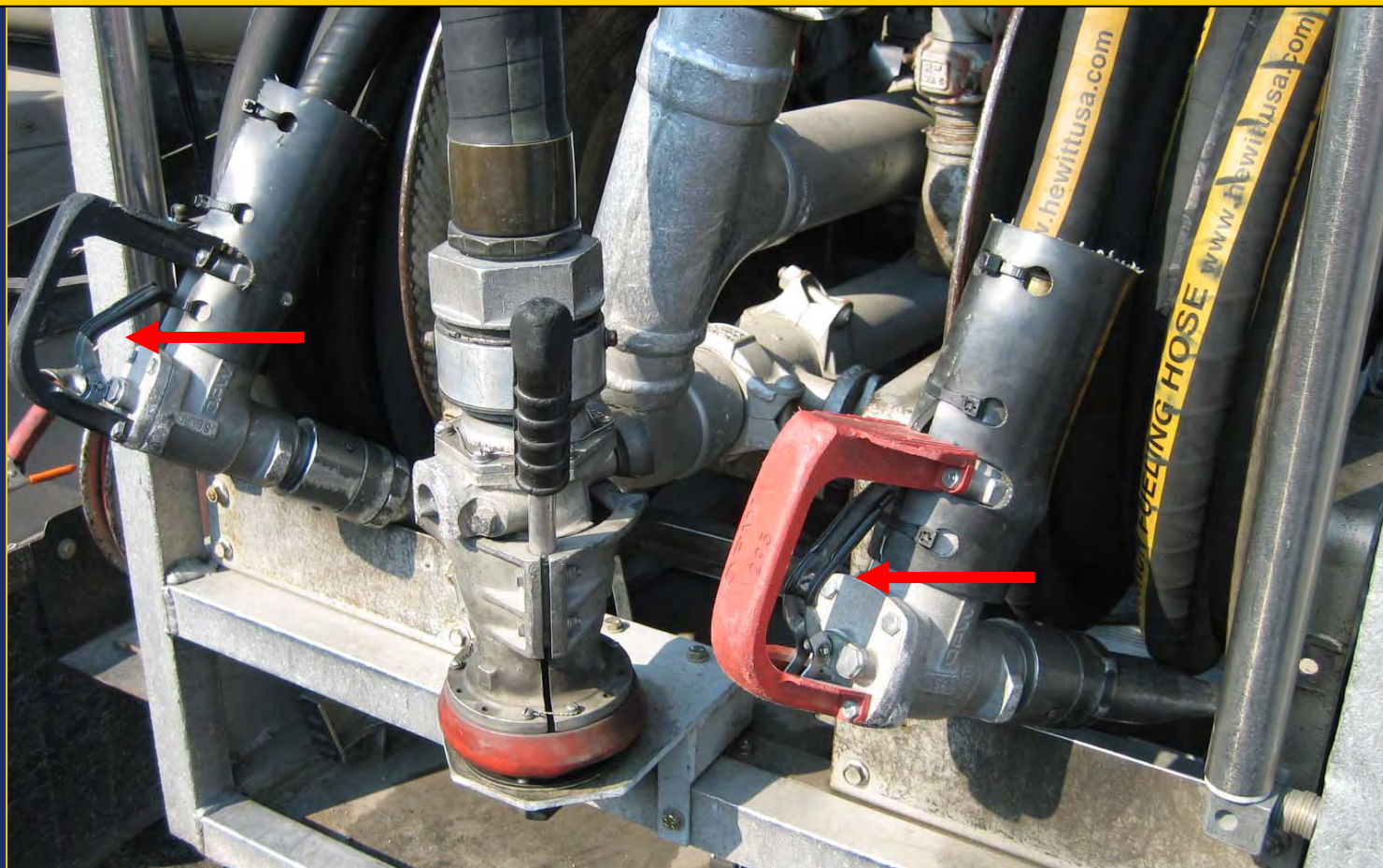
NFPA 407, 4.1.7 – Deadman Controls.

4.1.7.1 The valve that controls the flow of fuel to an aircraft shall have a deadman control. The deadman control device shall be arranged to accommodate the operational requirements of Section 5.15. The fuel flow control valve shall be one of the following:

- (1) The hydrant pit valve
- (2) At the tank outlet on a tank vehicle
- (3) A separate valve on the tank vehicle
- (4) On the hose nozzle for overwing servicing

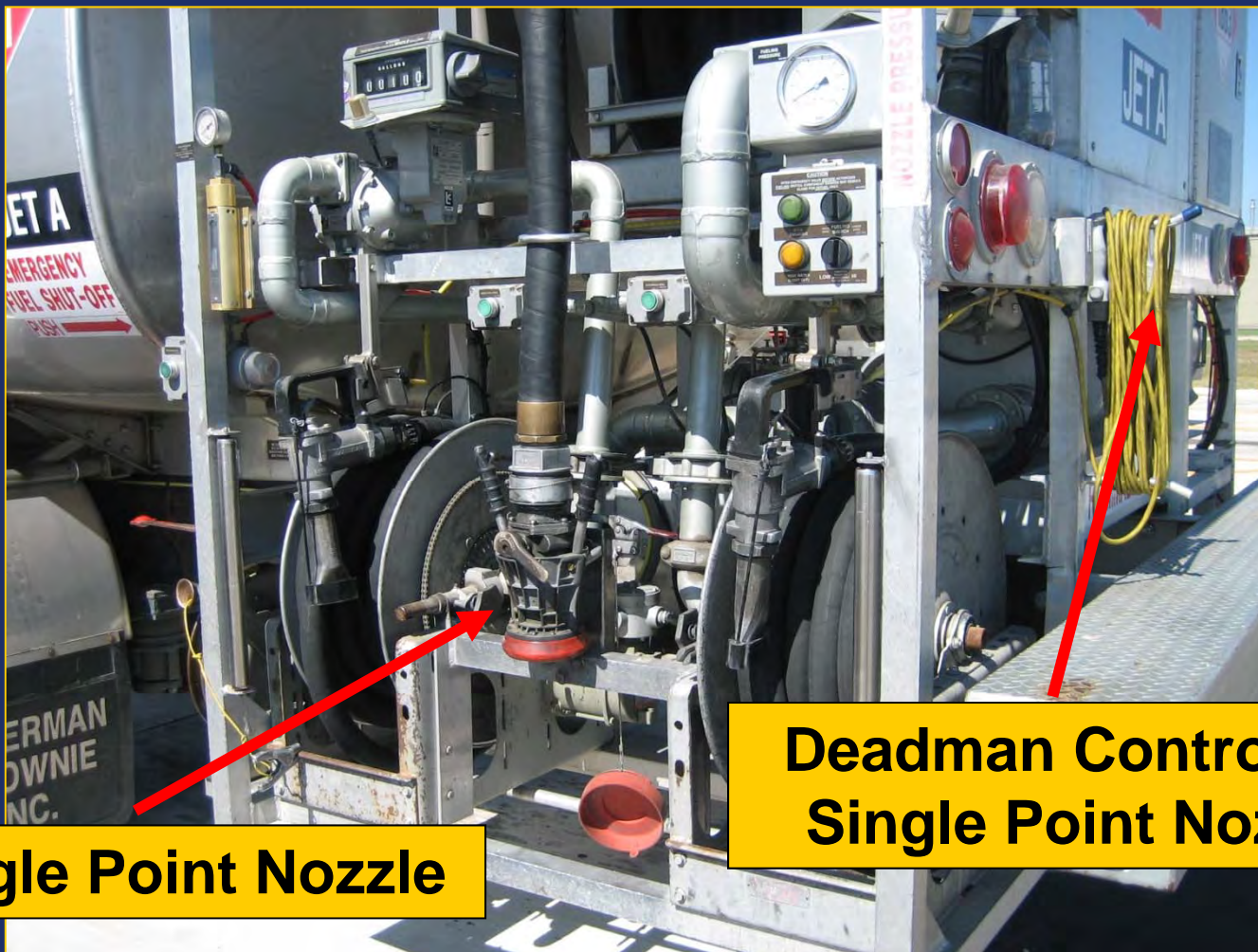
4.1.7.2 Deadman controls shall be designed to preclude defeating their intended purpose.

Deadman Controls



Deadman controls are required on all nozzles by NFPA 407, 4.1.7. This is an example of an overwing nozzles with the deadman controls located on the nozzle.

Deadman Controls

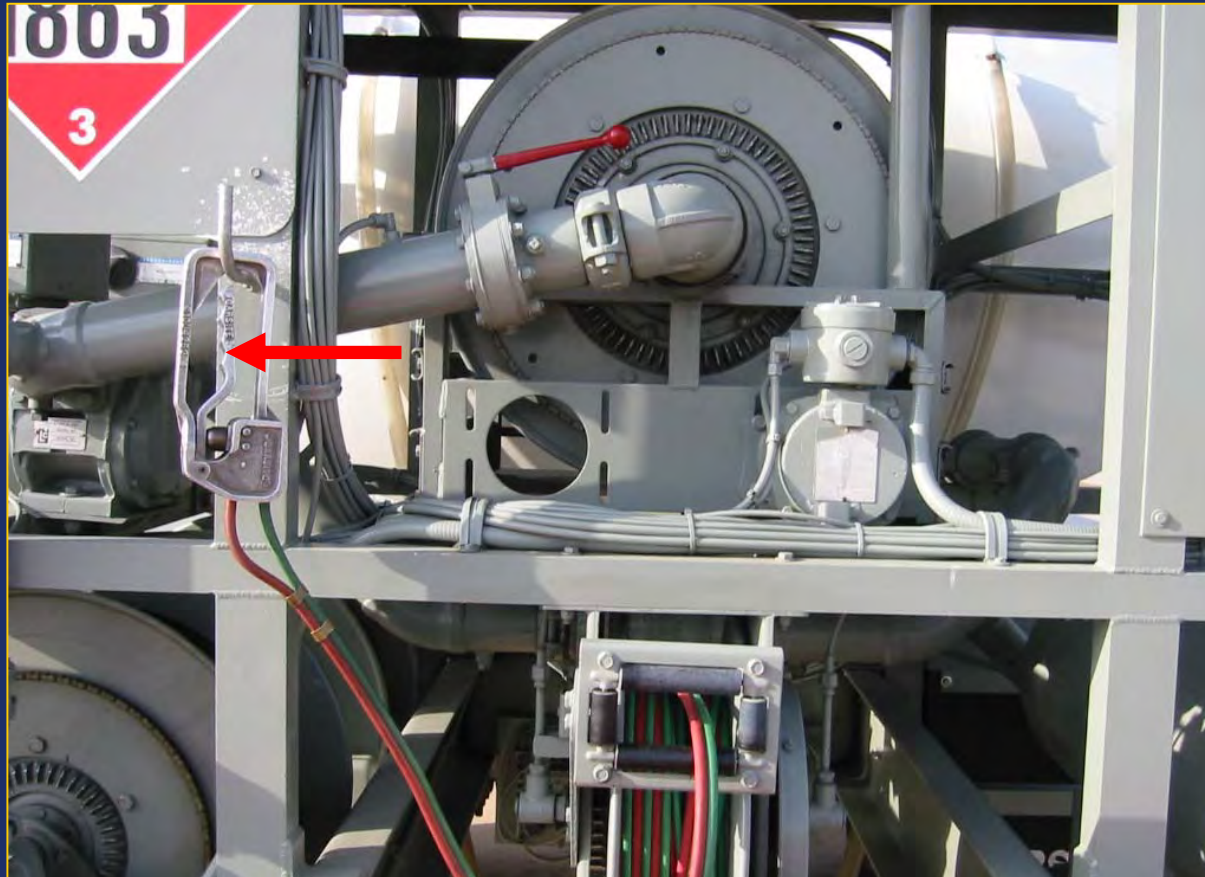


Single Point Nozzle

**Deadman Control for
Single Point Nozzle**

This is an example of a single point nozzle for Jet fuel.

NFPA 407, 3.3.13 Deadman Control. A device that requires a positive continuing action of a person to allow flow of fuel.



Deadman controls for single point fueling nozzles for Jet fuel normally require squeezing a lever or button that maintains the flow control valve in the open position.

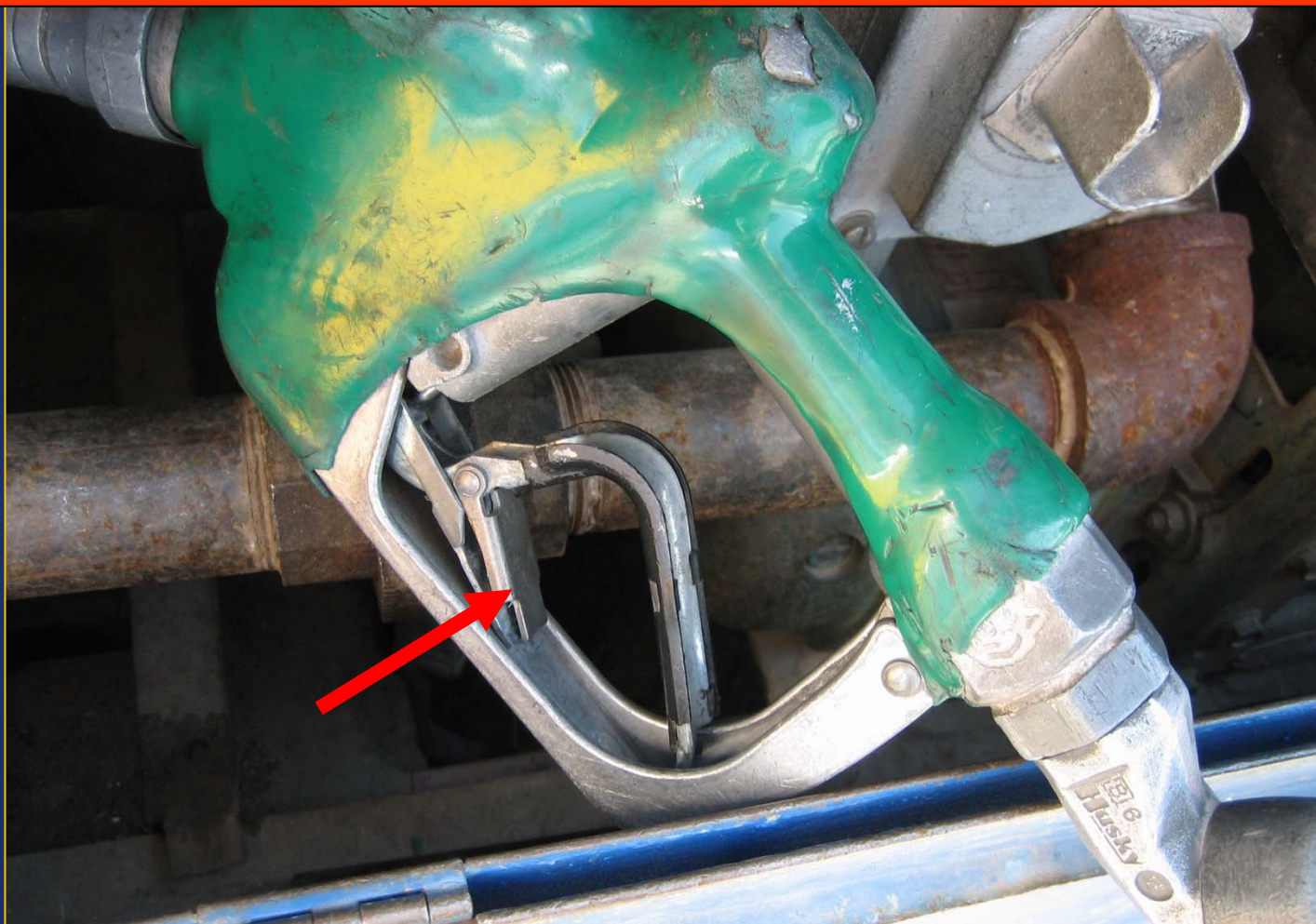
Fueling Discrepancy - 139.321(c)

NFPA 407, 4.3.16.2 The deadman flow control in the nozzle shall be permitted for overwing fueling. Notches or latches in the nozzle handle that could allow the valve to be locked open shall be prohibited.



This nozzle has notches that allow bypassing the deadman control.

Fueling Discrepancy - 139.321(c)



This nozzle has a latch system that allows bypassing the deadman control.

Emergency Shutoffs

NFPA 407, 4.3.15 – Outlet Valves and Emergency Shutoff Controls.

4.3.15.2 There shall be at least two emergency shutoff controls, one mounted on each side of the vehicle. These controls shall be quick-acting to close the tank outlet valve in case of emergency. They also shall be remote from the fill openings and discharge outlets and shall be operable from a ground-level standing position. In addition, all vehicles or carts equipped with a top deck platform shall have an emergency shutoff control operable from the deck.

4.3.15.3 Emergency fuel shutoff controls shall be placarded **EMERGENCY FUEL SHUTOFF** in letters at least 50 mm (2 in.) high and shall be of a color that contrasts with the placard background for visibility. **The method of operation shall be indicated by an arrow or by the word PUSH or PULL, as appropriate.**

Emergency Shutoffs

NFPA 407, 4.3.15.3 Emergency fuel shutoff controls shall be placarded EMERGENCY FUEL SHUTOFF in letters at least 2 in. high and shall be of a color that contrasts with the placard background for visibility. The method of operation shall be indicated by an arrow or by the word PUSH or PULL, as appropriate.



FLAMMABLE
EMERGENCY FUEL SHUTOFF
←
PULL

Fueling Discrepancy - 139.321(c)

If both PUSH and PULL are on the placard, check the operation of the emergency shutoff to see if it is one way or the other. Some decal kits come with both PUSH and PULL labels to use, as appropriate, and the PUSH label needs to be removed on this truck. In addition, the placard is missing the “FUEL” portion of the EMERGENCY FUEL SHUTOFF placard.



Emergency Shutoffs



Physically activating the cable operated emergency shutoff systems when inspecting fuelers is highly recommended. Cable operated emergency shutoffs have problems with cables not being properly adjusted or being inoperable due to freezing or rust problems inside the cable sheaths.

NFPA 407, 5.3.4 Emergency fuel shutoff systems shall be operationally checked at intervals not exceeding 6 months. Each individual device shall be checked at least once during every 12 month period.



Ask fueling personnel what their procedure is for physically checking emergency fuel shutoff systems. Many fueling agents include a check of the emergency shutoff systems in their weekly or monthly checklists.

Aircraft Fueling Hose

NFPA 407, 5.16 – Aircraft Fueling Hose.

5.16.1 Aircraft fueling hose shall be inspected before use each day. The hose shall be extended as it normally would be for fueling and checked for evidence of blistering, carcass saturation or separation, cuts, nicks, or abrasions that expose reinforcement material, and for slippage, misalignment, or leaks at couplings. If coupling slippage or leaks are found, the cause of the problem shall be determined. Defective hose shall be removed from service.

Aircraft Fueling Hose



NFPA 407, 4.1.2.4 API BULL 1529, Aviation Fueling Hose, Type C hose (semiconductive) shall be used to prevent electrostatic discharges but shall not be used to accomplish required bonding. API BULL 1529, Type A hose that does not have a semiconductive cover shall not be used. Type F hose (hard wall) and Type CT hose (cold temperature) shall be permitted because they have semiconductive covers.

NFPA 407, 4.2.2.5 The hose at the end of each coupling ferrule shall be permanently marked prior to hydrostatic testing to serve as a reference to determine whether a coupling has slipped during testing or while in service.



Check the coupling area of the hose for signs of hose slippage.

Lighting and Electrical Equipment

NFPA 407, 4.3.7 – Vehicle or Cart Lighting and Electrical Equipment.

4.3.7.6 Lamps and switching devices, other than those covered in 4.3.7.4 and 4.3.7.5, shall be of the enclosed, gasketed, weatherproof type. Other electrical components shall be of a type listed for use in accordance with NFPA 70, *National Electrical Code*, Class I, Division 2, Group D locations.

Fueling Discrepancy - 139.321(c)



This missing tail light lens provides a potential ignition source.

Inspecting Airport Fueling Systems



Fueling Discrepancy - 139.321(c)



NFPA 30, 5.9.2 Smoking.

Smoking shall be permitted only in designated and properly identified areas.

Grounding



Above ground fuel tanks need to be grounded or bonded together and connected to a grounding rod.

Grounding



Check above ground fuel tanks for proper grounding.

Fueling Discrepancy - 139.321(c)

NFPA 30, 2.5.7.3 Ground areas around tank storage facilities shall be kept free of weeds, trash, or other unnecessary combustible materials.



The ground area around this tank storage facility is not free of weeds, which can contribute to the spread of fire.

Emergency Shutoffs

NFPA 407, 4.4.5 – Emergency Fuel Shutoff Systems.

4.4.5.1 Each fuel system, as required by 4.4.3.3, shall have means for quickly and completely shutting off the flow of fuel in an emergency. This requirement shall be in addition to the requirement in 4.1.7 for deadman control of fuel flow.

NFPA 407, 4.4 – Airport Fuel Systems.

4.4.3.3 The emergency fuel shutoff system shall be designed and installed as an integral part of the airport fuel system. Operating controls for emergency fuel shutoff of the system shall be located to be accessible readily and safely in the event of an accident or spill.

Emergency Shutoffs

NFPA 407, 4.3.22 – Emergency Remote Control Stations.

4.3.22.1 Each tank vehicle loading station shall be provided with an emergency fuel shutoff system. This requirement is in addition to the deadman control required by 4.3.20.5 for top loading and by 4.3.21.7 for bottom loading. It shall be the purpose of this system to shut down the flow of fuel in the entire system or in sections of the system if an emergency occurs. This system shall be of a fail-safe design.

NFPA 407, 4.4.5.4* At least one emergency shutoff control station shall be conveniently accessible to each fueling position.



NFPA 407, 4.4.5.3 The emergency fuel shutoff system shall include shutoff stations located outside of probable spill areas and near the route that normally is used to leave the spill area or to reach the fire extinguishers provided for the protection of the area.



Note that a metal rod is attached by chain to break the glass.

NFPA 407, 4.4.5.7 (continued) Any action necessary to gain access to the shutoff device (e.g., BREAK GLASS) shall be shown clearly.

NFPA 407, 4.4.6.1 Underground piping shall be used in the vicinity of aircraft movement areas unless the piping is protected by a substantial barrier guard.



This loading station is protected against physical damage by ground vehicles.

Prevention and Control of Spills

NFPA 407, 5.2* Prevention and Control of Spills

5.2.1 Fuel servicing equipment shall comply with the requirements of this standard and shall be maintained in safe operating condition. Leaking or malfunctioning equipment shall be removed from service.



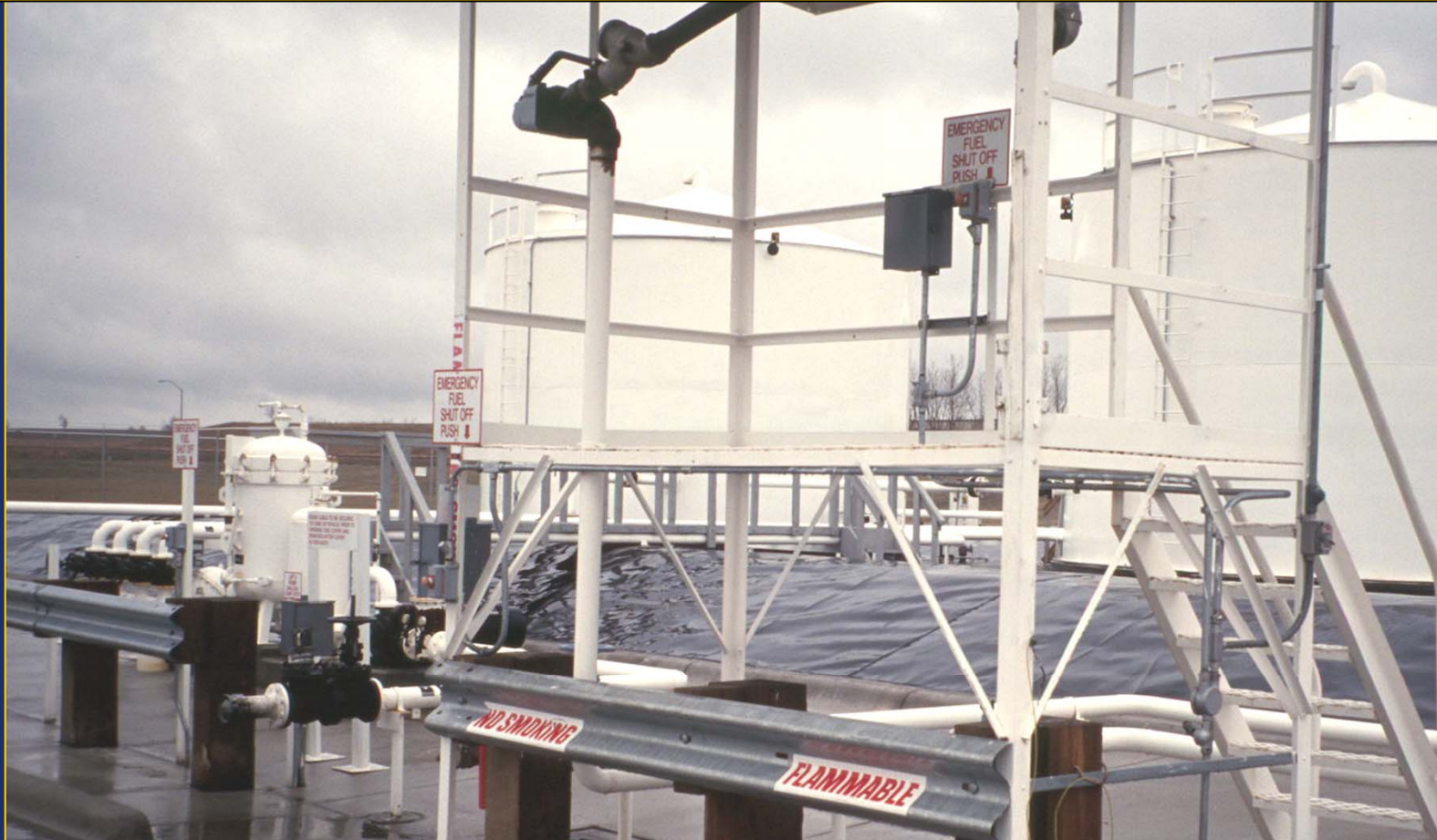
Fueling Discrepancy - 139.321(c)

NFPA 407, 5.2.1 Fuel servicing equipment shall comply with the requirements of this standard and shall be maintained in safe operating condition. Leaking or malfunctioning equipment shall be removed from service.



This fuel servicing equipment is leaking and is not being maintained in safe operating condition.

Loading of Aircraft Fuel Servicing Tank Vehicles



NFPA 407, 4.3.20 – Top Loading.

4.3.20.5 A deadman control shall be provided and located so that the operator can observe the liquid level in the tank as it fills.

Fueling Cabinets



NFPA 407, 4.4.10 – Fuel Servicing Hydrants, Pits and Cabinets.

4.4.10.3 Fueling hydrants, cabinets, and pits shall be located at least 50 ft from any terminal building, hangar, service building, or enclosed passenger concourse (other than loading bridges).

Monitoring Fueling Operations



Observe fueling operations while inspecting aircraft fuel servicing vehicles to check for compliance with fire safety standards. In particular, check for proper bonding procedures and use of deadman controls.

Fueling Discrepancy - 139.321(c)

NFPA 407, 5.10.1 Aircraft fuel servicing shall be performed outdoors.



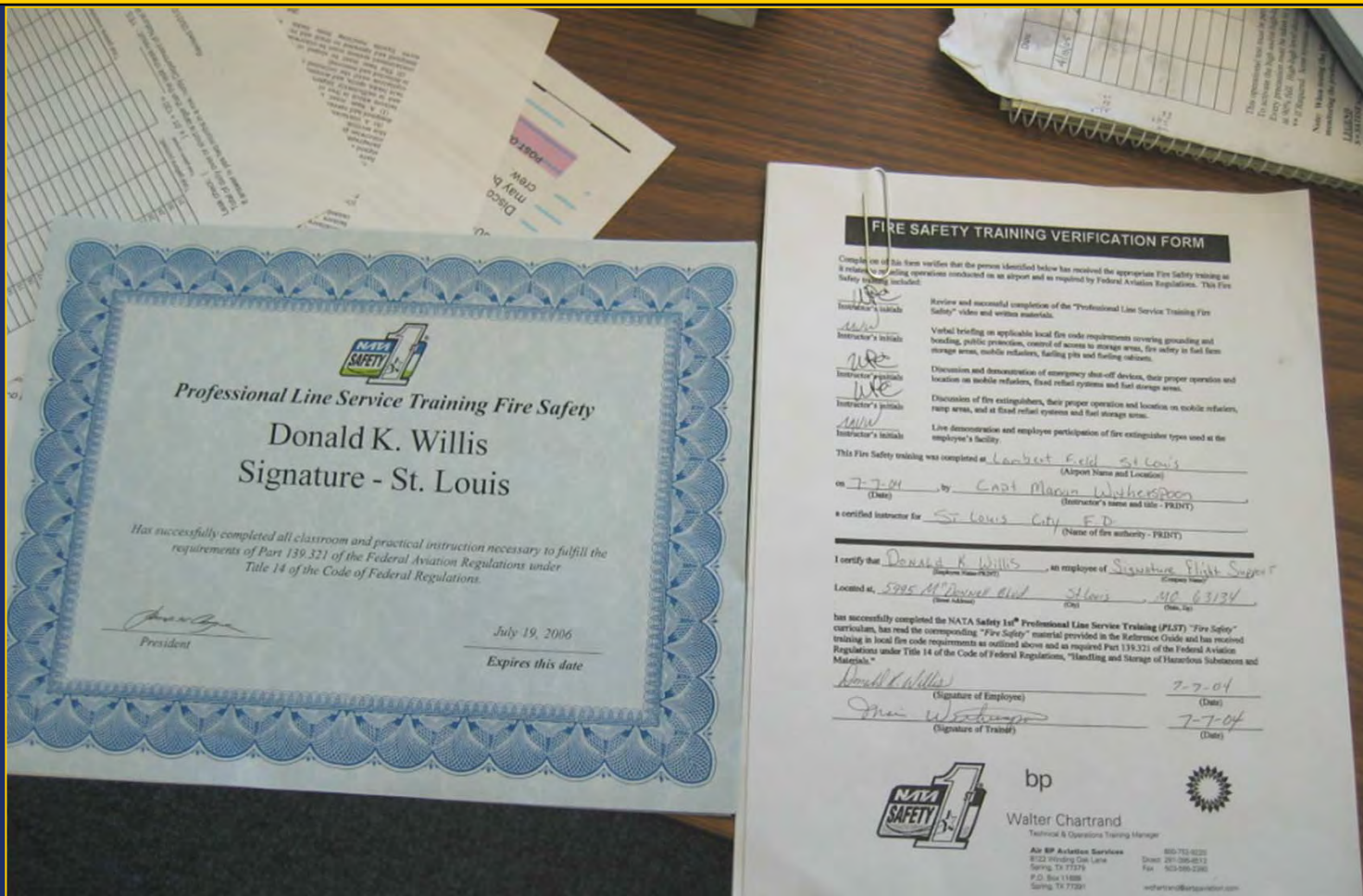
Fueling personnel are fueling inside a hangar, contrary to fire safety standards.

Monitoring Fueling Operations



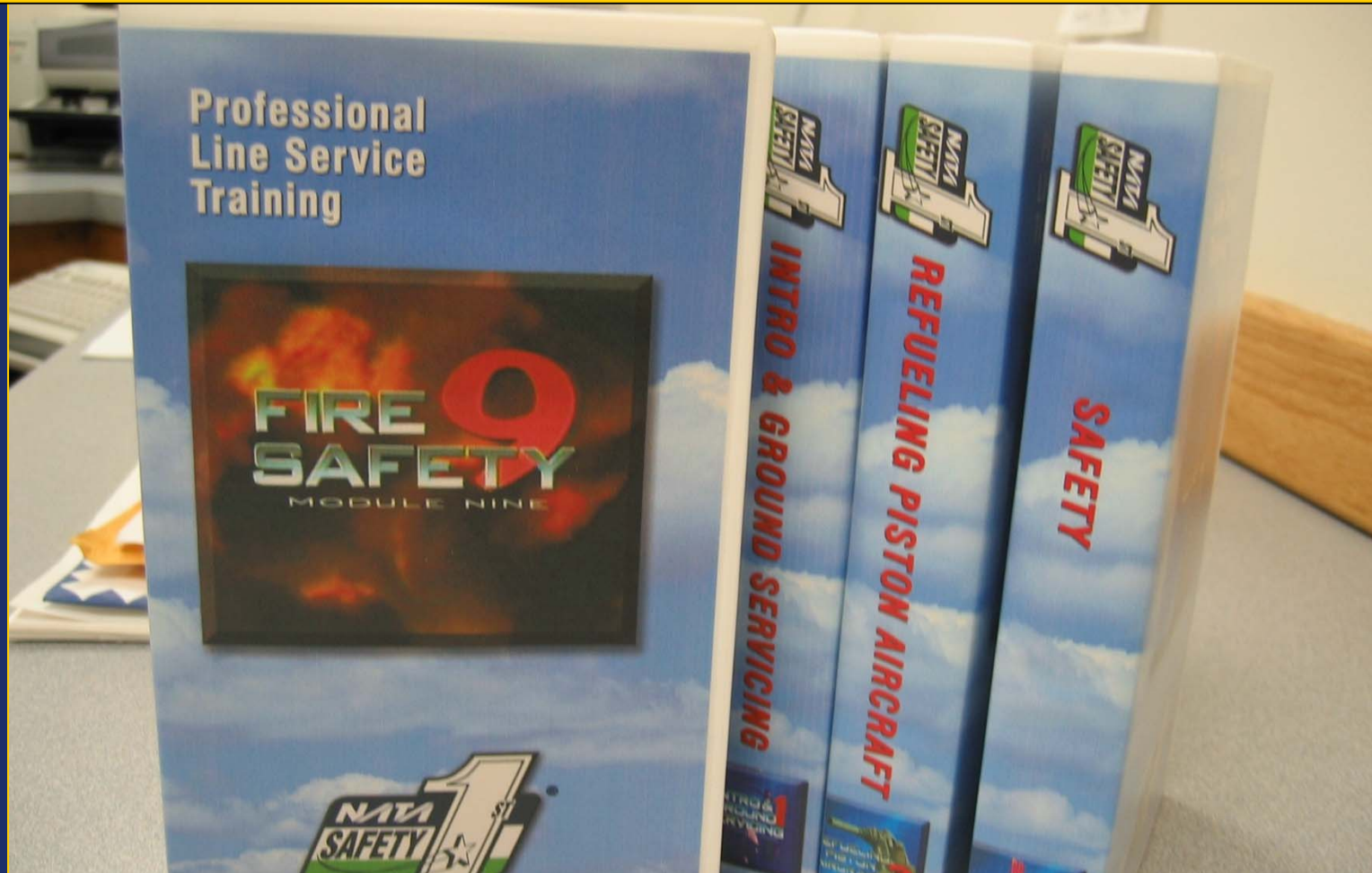
NFPA 407, 5.12.1 Aircraft fuel servicing vehicles and carts shall be positioned so that a clear path of egress from the aircraft for fuel servicing vehicles shall be maintained.

Fueling Agent Training Records



Fueling agent training records should be reviewed to ensure that the records are being maintained and are available for FAA inspection.

Fueling Agent Training Records



Check the fueling agent supervisor training to ensure that the aviation fuel training course in fire safety is acceptable by the FAA.

Questions?

