



Company Name: _____

Employee Name: _____

Date of Hire _____

Supervisor: _____

Initial Training Recurrent Training

DATE INITIALS (Supervisor)

Viewed Mobile Refueling Equipment module

Passed Examination on Mobile Refueling Equipment module

Has received hands-on training, demonstrates proficiency, and can discuss the purpose, relevant safety features, proper operation, inspection of and, if responsible, the proper maintenance and maintenance frequency for the following:

Safe Maneuvering of a Refueling Truck

Observes these safety procedures during fueling:

Wears proper Personal Protective Equipment (PPE)

Checks truck for ladder and spill kit before proceeding

Gives right-of-way to any moving aircraft

Drives slowly and observes local speed restrictions

Never drives over fueling hoses or bonding cables

Checks brakes by coming to a complete stop approximately 50' from the aircraft before proceeding and limits speed to no greater than 5-10 MPH

Positioning

Parks refueler in a manner providing at least 10' of clearance away from aircraft engines and fuel vents

Positions refueler with a clear path for exiting in the event of an emergency

Does not block aircraft exit(s) or cargo loading area(s)

Parks where gauges on the refueler/aircraft are visible during the fueling process

Engages Parking Brake before exiting refueler truck

Chocks wheel(s) before beginning the fueling process and whenever refueler truck is parked

Backing/Reversing

Knows company policy regarding backing/reversing around aircraft; if allowed has been trained to interpret marshalling hand signals

Overwing Fuel Transfers

After correctly positioning refueler, setting brakes and chocking truck trainee:

Statically bonds the refueler to approved aircraft bonding point

Positions ladder (if needed) at refueling port

Records meter totalizer and zeroes meter register

Opens belly valve/emergency internal valve on refuel truck

Engages PTO

Adjusts throttle (if necessary) to the recommended RPM setting

Places wing mat over the fueling port

Opens the reel inlet valve and unwinds enough hose to reach the aircraft (should be carried over-the-shoulder)

Bonds nozzle to the airplane before removing fuel cap(s)

Is cautious to not insert nozzle spout too far into the wing

Supports fuel hose and nozzle to prevent damage to the wing and the port's filler neck

Checks differential pressure gauge while fuel is flowing from nozzle

Observes fuel meter to ensure accuracy of delivery and periodically checks fuel level in tank so as not to overfill

Alternates wing tanks to prevent tipping plane if too much fuel is given to one side of aircraft before switching to the other wing; and when topping-off an aircraft to ensure maximum fill capabilities. Understands "Duel" overwing fueling responsibilities when applicable.

Reinstalls fuel cap(s) when fueling is complete

Carries nozzle back to the truck before rewinding hose on reel

Stows nozzle on holder

Closes inlet valve to the reel

Disengages PTO

- Closes product belly valve/emergency internal valve
- Stows wing mat
- Checks and records register gallons
- Disconnects and rewind static cable
- Stows the ladder (if used)
- Removes and stows chocks
- Applies service brakes and releases park brake before moving refueler
- Knows company procedure to follow if uncertain how to service a particular type of aircraft

Underwing Fuel Transfers (Jet-A Aircraft Only)

- After correctly positioning refueler, setting brakes and chocking truck trainee:
 - Statically bonds the refueler to approved aircraft bonding point
 - Positions ladder (if needed) under single point refueling point
 - Records meter totalizer and zeroes meter register
 - Opens belly valve/emergency internal valve on refuel truck
 - Engages PTO
 - Adjusts throttle (if necessary) to the recommended RPM setting
 - Opens the reel inlet valve and unwinds enough hose to reach the aircraft fueling adapter
 - Removes dust cover and connects to the aircraft fueling adapter then opens nozzle
 - Removes deadman handle from its receptacle and a sufficient length of cord
 - Stands in a location where it is possible to observe aircraft fuel gauges, meter and other gauges on the refuel truck
 - Squeezes deadman actuator to start the flow of fuel
 - Checks differential pressure gauge while fuel is flowing
 - When fueling is complete, releases deadman to stop the flow of fuel
 - Rewinds the deadman hose and stows the deadman in its receptacle
 - Disengages the PTO (if necessary)

- Closes product belly valve/emergency internal valve
- Closes the nozzle and disconnects it from the aircraft fueling adapter
- Reinstalls any dust covers removed from the aircraft or nozzle
- Returns any switches to their original position on the aircraft and secures any service panels accessed during fueling in their closed and locked position
- Carries nozzle back to the truck before rewinding hose on reel
- Stows nozzle on holder
- Closes inlet valve to the reel
- Disconnects and rewind static cable
- Checks and records register gallons
- Stows the ladder (if used)
- Removes and stows chocks
- Applies service brakes and releases park brake before moving refueler
- Knows company procedure to follow if uncertain how to service a particular type of aircraft

Fuel Transfers Between Fuel Storage Systems and Refueler Trucks

- Remains onsite during any fuel transfer operation
- Has verified that deadman control and safety shutoff devices are working properly and that all other daily inspections have been performed on the fuel storage system before beginning any fuel transfers
- Properly positions refueler truck in the fuel storage containment area
- Applies parking brake
- Ensures truck engine is cutoff before beginning any fuel transfer
- Chocks the refueler truck
- Bonds refueler truck to the fuel storage system before making any other connections
- Knows the proper fill level of the tank being loaded
- Opens the bottom load gate on the truck and connects the fuel storage transfer nozzle to the bottom loading adapter on the truck

- Opens the shutoff valve behind the bottom loading adapter and positions the loading nozzle handle to open position to allow fuel to flow
- Correctly positions storage system valves for transferring fuel to the refuel truck
- Engages the deadman to begin fuel transfer and starts and stops the deadman to test for proper function
- Properly performs “pre-check” test to ensure high level shutoff is working on the truck
 - Has been trained what to do if the “pre-check” test fails
- Continues fuel transfer if “pre-check” test confirmed proper function of high level shutoff
- Once fuel transfer is complete returns the “pre-check” valve to normal position and closes shutoff valve behind the bottom load adapter
- Closes valve on loading hose and disconnects from bottom load adapter, replaces dust cover
- Replaces dust cover on bottom load adapter and closes bottom load gate on refuel truck
- Disconnects and rewinds the bonding clamp and cable
- Removes and stows chocks
- Applies service brakes and releases park brake before moving refueler
- Top Loading (if performed)**
 - Trainee has been trained regarding the following top loading concerns and safety practices:
 - There is no “selective coupling” when top loading to prevent misfueling
 - There is no high level shutoff when top loading
 - Must monitor fuel level in the tank to prevent overflow
 - A drop tube extending to the bottom of the tank needs to be used
 - “Splash” loading without a drop tube is not allowed because of the potential for static discharge in the vapor space of the tank
 - Drop tube must be bonded to the refueler truck
 - Wears proper PPE and safety gear
 - Is aware of potentially dangerous fumes emitted during the transfer from the open manway

Mobile Refueler Truck Components and Inspection Procedures

Can identify and discuss the following refueler truck components:

Internal/Belly Valve(s)

Emergency internal valves also sometimes called belly valves

Trainee can locate the internal valve(s) and discuss how they function in the following circumstances:

During bottom loading

When emergency fuel shutoff system is activated

The 2 most common methods for actuating internal valves

Can explain the difference between a refueler truck with 1 internal valve and a truck with 2

Bottom Loading System

Trainee can explain how the internal valve functions/opens during bottom loading

Pre-Check and High Level Shutoff System

Trainee can explain what the pre-check is and what the high level shutoff does

Pre-checks can be designed as 1 line or 2 line systems- trainee can explain the operation of both

Trainee can explain what the likely result of blocking a deadman during bottom loading is and why it can occur

Additive Injection System (Jet-A Refueler Only)

Trainee understands and can discuss how the additive injection system works

Trainee checks additive reservoir at the start of shift prior to using the refueler and knows local procedure to follow if additive level is too low

Trainee can assess the condition of desiccant dryer on additive reservoir and knows local procedure to follow if it needs replacing

Emergency Fuel Shutoff

Trainee knows how this very important safety feature works to shut down the flow of fuel in the event of an emergency and how to test the system on all equipment used.

Tanker Vent(s) and Dome Cover

Trainee knows how vents operate during the dispensing or receiving of fuel and how a dome cover needs to face forward so that movement of the truck would cause it to close if accidentally left open; must be a double latching system

PTO (Power Take-Off)

Trainee can explain the function of the PTO and its relation to the product pump

Trainee can identify, engage and disengage the pumping systems on all FBO refueling equipment

Pressure Controls (Jet-A Refuelers set-up for Underwing fueling only)

Trainee can identify the primary means of pressure control on the truck and knows its set point (to determine if a failure has occurred)

Trainee can identify the secondary means of pressure control and knows its set point (to determine if a failure has occurred)

Brake Safety Interlock System

Trainee can explain the situations in which a refueler should not move:

When a hose is connected to the bottom loading point (or the bottom loading gate is open)

When a nozzle is removed from a reel

When PTO is engaged (if designed this way)

Trainee knows where indicator lights are located

Trainee knows location and operation of brake interlock override in the event of an emergency (override should be sealed with breakaway safety wire in the normal position- any tampering needs to be reported)

Trainee understands how the interlocks on all FBO refueling equipment works and has been trained on how to properly test their function

Exhaust Systems with Diesel Oxidation Catalyst (DOC) & Diesel Particulate Filter (DPF) (if equipped):

Trainee has been trained per NFPA 407 requirements and local authority guidelines/ procedures for the safe regeneration of FBO vehicles equipped with DOC/DPF

Understands the importance of regular refueler maintenance (engine, transmission, pump, axels, swivels, additive injectors, and air dryers etc., to be maintained per manufacturer's instructions at recommended maintenance intervals), thorough record keeping and how to perform the following inspections at their designated frequency:

Daily Inspections

General Condition (under-inflated tires; tire tread worn below a safe limit; cracks in mirrors or windows; proper function of horns, lights, beacons; leaks on chassis, engine, transmission or axels; properly functioning engine gauges; functioning wipers; working parking and service brakes; no excess play in steering wheel; placards visible, etc.)

Sump Filter Vessel (can properly perform, rate and record a sump sample with the vessel under pressure)

Tank Sump(s) (can properly perform, rate and record a tank sump sample from all low points ensuring truck is parked on a level surface prior to sampling)

Filter Differential Pressure (records reading under maximum flow conditions on first fuel transfer of the day from refueler into aircraft, or via recirculation prior to first fueling use; result is compared to previous days for trend analysis; understands what a rise or drop in DP can indicate and what "corrected" DP is)

Deadman Control (safety feature required by the NFPA on a mobile refueler; they must **never** be defeated; user must check to ensure proper function- when the deadman is released the flow of fuel must cease within 5 % of system's rated flow)

Brake (Safety) Interlocks (tests the function of each interlock prior to shift and reports any deficiencies)

Nozzle Fueling Pressure-PSI (records Jet-A truck nozzle pressure on first fuel transfer of the day from refueler into aircraft, or via recirculation prior to first fueling use, to ensure pressure control is functioning at or below primary 40 PSI setting during single point refueling operations)

Hoses (per API guidelines-inspects condition looking for cracking, abrasions, cuts, soft spots, blisters, chaffing, twists, sharp ends or other irregularities; knows that API and NFPA 407 recommend hose service life not to exceed 10 years)

Swivels (inspects for proper tightness, smooth movement, free of leaks)

Nozzles (inspects single point/underwing for nicks and cracks on the nose seal, ensures overwing nozzles are in place, flared spout for jet and smaller round for avgas, checking all for excessive wear, sharps edges, loose components, bonding clips and cables, ensures dust covers are used and 100 mesh screens are in place)

- Ground Reels, Cables and Clamps (checks grounding reels, cables and clamps for damage, tightness and corrosion; checks integrity of connection to grounding rod; repair/replace defective equipment promptly)
- Fire Extinguisher(s) (knows that NFPA 407 requires two 20 B:C rated extinguishers one on each side of the truck; ensures they are visible and unobstructed for ease of use with seals intact and no evidence of low charge; knows to remove deficient extinguisher from service and not to use refueler until replaced)
 - Trainee has been trained on additional local requirements for fire extinguishers imposed by the AHJ (if applicable)
- Tanker Troughs & Drains (checks to ensure there is no standing water in the trough; if water is found, checks drain tubes to ensure there is no obstruction which could allow water to accumulate and contaminate the fuel)
- Air Tanks (drains air supply tanks daily to purge system of moisture that can cause failures in air operated components)
 - Reports continued excess moisture in the supply tanks as this may indicate the air dryer may need servicing
- Tanker Bottom Loading Pre-Check (verifies function of high level shutoff during bottom loading)
- Spill Kit (checks to make sure kit is provisioned with a full complement of absorbent materials to contain and clean a fuel spill)
- FSII Desiccant Dryer (inspects to ensure efficacy; replaces when 80 percent color change is noted)
- Lift Platform (if equipped-checks proper operation, triggers brake interlock; extends its full height; emergency release lowers lift fully)
- Surge Tank Sump (if equipped- safety device found on some refuelers that pump over 600 gpm to help minimize static accumulation that can occur at higher flow rates; sump the vessel discarding any visible contaminants)
- Fuel Leaks (checks for visible drips or evidence of staining around couplers, flanges, joints, bottom loading connection point, piping, valves, pumps, nozzles, filter vessels, meters and hoses reporting them for repair)
- Weekly Inspections
 - Ensure Oil Level (ensures level is adequate)
 - Belts, Hoses and Tires (checks integrity of chassis belts, hoses and vehicle tires)

- Fluid Levels (ensure adequate levels of coolant, brake and power steering fluid)
- Lights, Lenses and Beacon (checks function of all lights-head, tail, running and brake lights, turn signal indicators; lenses intact, no exposed bulbs or wiring; rotating beacon function)
- Monthly Inspections
 - Filter Membrane [Millipore] Free Water Test [PPM] (run monthly downstream of the filter vessel to check filter element condition and effluent water content in turbine fuel; water content downstream of filter vessel not to exceed 15 PPM)
 - Bond/Ground Cable Continuity (test conductivity of ground reels, cables, clamps and grounding rods with a volt/ohm meter; continuity between these components and pumping skid not to exceed 25 ohms)
 - Nozzle Screens (inspects and cleans 100 micron mesh screens; can identify contaminants and their probable source, example rubber pieces could be from hose lining, seals, gaskets, etc.)
 - Fuel Hose(s) (pulls hose its full length off the reel and inspects it under pressure for cracking, abrasions, cuts, soft spots, blisters, chaffing, twists, sharp ends or other irregularities; checks coupling indicator for slippage)
 - Signs & Placards (Must be visible from at least 25 feet; Flammable, No Smoking and product identification signage posted on both sides and rear of the truck meeting NFPA 407 height and color requirements and meeting API 1541 standard color coding and banding for Jet-A or Avgas/100LL; No Smoking sign must be posted prominently in the cab of the truck; each 'Emergency Fuel Shutoff' must be placarded to meet NFPA 407 requirements and indicate the method of operation- with an arrow or the words "push" or "pull"; (If required- DOT placards 1863 or 1203 are on both sides and rear of truck though some local authorities will also request a DOT placard on front of vehicle too)
 - Meter Seals (inspects to ensure meter calibration tag is current and seals are intact)
 - Fire Extinguisher(s) (checks to see fire extinguisher certification tag is current, in place; monthly inspection tag-if required is current; properly charged with seals and pins in place and secured)
 - Emergency Fuel Shutdown System (ensures fuel flow is stopped to the product pump within 5% overrun of full flow when activated)
 - FSII Calibration (checks the percent by volume rate of injection to ensure adequate additive is dispensed; recommended range is 13-19 ounces per 100 gallons or 379-568 milliliters per 100 gallons; mid-range of 16 ounces per 100 gallons is ideal)

- Tanker Interior (performs visual inspection of tank interior (visually inspects tank interior for rust, sediment, foreign objects, and tank lining defects- if applicable, using a hand-held mirror)
 - Has been trained per local requirements regarding any PPE, safety gear, fall protection, etc., necessary for performing this inspection
- Tanker Vent(s) and Dome Cover (checks vent screen for damage, with PTO engaged inspect vent for proper function; inspects vent for proper function during bottom load; inspect dome cover gaskets for deterioration, cracks or other damage; check proper orientation of lid)
- Tanker Troughs and Drains (drops a penny down each drain tube to ensure tubes are free of any obstruction)
- Internal Valve Integrity Check (tests the belly valve to ensure complete closure per NFPA 407)
- Quarterly Inspections
 - Vehicle Inspection (Lubricate all systems, check all fluid levels including PTO gear box; check pinion seals, wheel seals, axle flanges for leaks; service and tune the engine per manufacturer's recommendations)
 - Primary Pressure Control (checks primary pressure control-typically set at 40 PSI to ensure function)
 - Secondary Pressure Control (checks secondary pressure control-typically set at 50 PSI to ensure function)
 - Water Defense External Check (shuts down the pumping system when they encounter a slug of water; Float operated type with external mechanical test feature are tested by depressing plunger to simulate a slug of water to verify that fuel flow ceases)
 - Brake Interlock Override (with an interlock actuated- verify truck will move when interlock override is activated; reseal when testing complete)
- Annual Inspections
 - Filter Elements (are to be changed annually per manufacturer's recommendation and vessel's interior inspected)
 - Pressure & Differential Pressure Gauges (verifies the accuracy of gauges- including nozzle and pump pressure gauges via certified/calibrated gauge; defective gauges repaired or replaced immediately; DP gauge filters replaced per manufacturer's recommendations)
 - Fuel Meter Proving (accuracy is checked by calibration)



Water Defense System (must be tested by injecting water to ensure functionality using manufacturer guidelines-typically performed just prior to annual filter change out: Never inject water into monitor type elements)

Fire Extinguisher Certifications (has licensed contractor certify and tag fire extinguishers for use)

Remarks: _____
