Training

Line service technicians shall receive training prior to performing unsupervised line service operations. Initial and recurrent training shall cover facility policies and procedures and include, but not be limited to, the content listed below:

Misfueling Training ---------- *Annually*

- NATA Misfueling Prevention Program at PreventMisfueling.com
  - Take GA Misfueling Prevention Online Program (Free Training)
  - Review NATA Operational Best Practices
  - Review Fuel Type and Grade Confirmation Form
  - Review EI 1597 Publication & Watch Misfueling Prevention Video
  - Review DEF Contamination Prevention
  - Review Misfueling References

Review TrustedFuel.com ---------- *Annually*

- Misfueling Prevention “Save a Life – Verify Fuel Type”
- Quality Assurance Obligations Policy
- Phillips 66 Quality Assurance Training Videos on TrustedFuel.com
  - White Bucket Test
  - API Gravity Test
  - Nozzle Screen Inspection
  - Free Water Test
  - Filter Membrane Test
  - Fuel System Icing Inhibitor (FSII) Concentration Test
  - Other Webinars available under Training (Phillips 66 & Industry Training)

Online or Live Training (complete at least one) ---------- *24 Months*

- National Air Transportation Association (NATA) - Safety 1st
  - Online Training Center
  - Certified QC Inspector Workshop or similar program
- Aviation Continuing Education (ACE) – SafetyPro
  - Fuel Safety Supervisor (online)
  - Line Fuel Service (online)
- Fuel Safety Training meeting the FAA requirements (14 CFR Part 139.321)

Records & Documentation

- Develop and maintain an operations manual covering facility policies and procedures
- Retain records to satisfy customers, suppliers, and applicable authority having jurisdiction; at a minimum, keep the following records at the FBO for at least 1 year or longer if noted below:
  - Training documentation
  - Receipt of Fuel:
    - Bill of Lading (BOL)
    - Certificate of Analysis (COA)
    - White bucket test results
    - Observed API gravity, observed temperature (°F), and corrected API gravity results (corrected API gravity must be within +/- 1° of the API gravity on the BOL)
    - Fuel System Icing Inhibitor (FSII) concentration results (must be within 0.10 to 0.15 volume %)
  - Filtration information (previous 3 years):
    - Element model numbers, date elements changed and next due date (one year after change date)
    - Similarity data sheets and conversion decals on filter vessels from filter element manufacturer if elements have been changed from original data plate on vessel
    - If separator element (s) was cleaned and inspected per manufacturer to extend life of separator - document procedure and verify separator has not been used longer than max life of 3 years
    - Differential Pressure initial readings and daily results along with Maximum Achievable Flow (MAF) of fueling system
  - Daily, weekly, monthly, quarterly, and annual quality assurance checks
  - Equipment maintenance
- Placards required on fueling equipment
  - “Save a Life – Verify Fuel Type” heart decals on refuelers and fueling dispensers (send email to TrustedFuel@p66.com for free decals)
  - Avgas 100LL Fuel Farm (AVGAS 100LL, NO SMOKING, and FLAMMABLE)
  - Avgas 100LL Self-Service Dispenser (AVGAS 100LL, NO SMOKING, and FLAMMABLE)
  - Avgas 100LL Refueler (AVGAS 100LL, NO SMOKING, FLAMMABLE, and DOT Placard 1203)
  - Jet A Fuel Farm (JET A, NO SMOKING, and FLAMMABLE)
  - Jet A Self-Service Dispenser (JET A, NO SMOKING, and FLAMMABLE)
  - Jet A Refueler (JET A, NO SMOKING, FLAMMABLE, and DOT Placard 1863)

Aviation Fuel Quality Assurance Requirements - 2025

Version 01/01/25

Procedures

Misfueling Prevention

- Follow NATA Misfueling Prevention Program guidelines and operational best practices at PreventMisfueling.com
- Follow EI 1597 “Procedures for Overwing Fueling to Ensure Delivery of the Correct Fuel Grade to an Aircraft”
- Implement “Save a Life – Verify Fuel Type” heart decals on refuelers and fueling dispensers (send email to TrustedFuel@p66.com for free decals)

Fuel Inventory Management

- Manage fuel inventory so it does not exceed 6-month fuel retesting requirement, or verify more than half of the product has been received in the last 6-months
- Defueled product shall not be sold as branded fuel and shall remain segregated

Receipt of Fuel

- Follow Industry guidelines and use the Phillips 66 “Receipt of Fuel” or other industry approved form
- Fill points identified with grade of product and secured with different looking padlocks (blue for Avgas 100LL and black for Jet A) and different keyed padlock; label keys with Avgas 100LL or Jet A and then store the key with appropriate test equipment

Filtration

- Verify with filter manufacturer that filters/elements are fit for purpose, correct for fuel type and latest edition
- Replace coalescer, water barrier, monitor, and particulate elements if performance issues arise (e.g., differential pressure, free water test, filter membrane test); never exceed manufacturer’s 12-month service life
- Separator element life can be extended up to 36 months if cleaned and inspected per manufacturer’s guidance, current edition, same category, and same manufacturer as the coalescer elements being installed (inspection records of separator need to be signed and retained with filtration records)
- Verify current filter element information (part numbers), date elements changed, and next due date is placarded on filter vessel or near filter vessel and is correct for fuel type and latest edition
- Fueling system flow rate (Maximum Achievable Flow) shall not exceed the rated capacity of the filtration system
- Filter element installation/commissioning shall follow filter manufacturer or other industry guidance

Sampling & Testing

- Perform visual test to confirm fuel is free of particulate and water, and check for unfamiliar color or odor:
  - Storage tanks ---------- *Daily*
  - Refueler tanks ---------- *Daily*
  - Filter vessels ---------- *Daily*
  - Relaxation Chambers ---------- *Daily*
  - Overwing nozzle samples ---------- *Weekly*
- Perform FSII additive test (Jet A w/ FSII) ---------- *Monthly* ++

Filtration

- Monitor differential pressure ---------- *Daily*
- Move fuel at Maximum Achievable Flow (MAF) or at least 50% of flow rate ---------- *Weekly*
- Confirm water defense system (float or probe) shuts down properly per manufacturer ---------- *Quarterly*
- Perform Free Water Test (Jet A or Jet A w/ FSII) ---------- *Monthly* ++
- Perform Filter Membrane Test (Jet A or Jet A w/ FSII) ---------- *Monthly* +

Hoses & Nozzles

- Check hose condition ---------- *Daily*
- Flush hose line fill if in sporadic or occasional use ---------- *Weekly*
- Nozzle Screen: Inspect, clean, and replace per industry guidance:
  - Overwing ---------- *Monthly*
  - Single Point ---------- *Monthly* **

\+ Recommended ++ Highly Recommended (may be required in 2026)

** If single point nozzle is used less than 8 times per month; inspection of nozzle screen can be extended to quarterly if nothing was found in the previous nozzle screen inspection

Aviation Fuel Quality Assurance Requirements - 2025

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Equipment (Fixed & Mobile)

Tanks and Piping

- Dedicated to a single type and grade of product
- Placarded properly:
  - Storage Tank: minimum two sides (Product Name, No Smoking, and Flammable) per EI 1542
  - Refueler: front, back, & both sides (Product Name, No Smoking, Flammable, and DOT Placard) per EI 1542
  - "Save a Life – Verify Fuel Type" heart decals on refuelers and fueling dispensers
- Fill points identified for grade of product and secured:
  - Avgas 100LL: Painted blue or red with a blue band and labeled with product name
  - Jet A: Painted black and labeled with product name
  - Secure with different looking padlocks (blue for Avgas 100LL and black for Jet A) and different keyed padlock; label keys with Avgas 100LL or Jet A and then store the key with appropriate test equipment
- Sump drain or sump pump required on tanks (dust covers recommended)
- Stainless-steel piping is recommended per EI 1540
- Copper or cadmium alloys, cadmium plating, galvanized steel or other zinc material coatings, and plastic materials are not permitted in fuel systems

Filtration

- Aviation approved particulate and water filtration required (latest edition):
  - Immediately upstream of the aircraft fueling dispenser (maximum 15' of 3" pipe or equivalent)
  - Into mobile fueling equipment
  - On mobile fueling equipment

Fuel Type	Coalescer / Separator EI-1581 (6th edition) *	Water Barrier EI-1588 (2nd edition) *	Monitor EI 1583 (7th edition) **
Jet A w/ FSII	Category "M"	Yes	No
Jet A	Category "C" or "M"	Yes	Yes
Avgas 100LL	Category "C" or "M"	Yes	Yes

* Current Edition - Always use the Latest Edition of Elements - Contact Filter Supplier with any questions

** Monitor filtration is being phased out of the Aviation Industry - Contact Filter Supplier with any questions

- Verify filter elements are on the approved filter element list available from Phillips 66 Aviation or approved
- Do not mix elements from different manufacturers in the same vessel
- Placards on filter vessels or near filter vessel indicating:
  - Current element model numbers installed (latest edition)
  - Date elements were changed, and due date shall be displayed (not to exceed 12 months)
- Fueling system flow rate (Maximum Achievable Flow) shall not exceed the rated capacity of the filtration system
- Water defense system (float or probe) required on coalescer/separator filtration dispensing fuel into aircraft
- Sump drain on filter vessels and relaxation chambers (dust covers and stainless-steel pipe recommended)
- Differential pressure gauge on all filter vessels (direct read type with peak hold ++)
- Water Barrier filtration requires direct read differential pressure gauges with limit switches or peak hold

Dispensers, Hoses & Nozzles

- Dispensers placarded by Product Name, No Smoking, and Flammable per EI 1542
- "Save a Life – Verify Fuel Type" heart decals on refuelers and fueling dispensers
- Avgas 100LL overwing nozzle shall have a red handle per EI 1542
- Jet A overwing nozzle shall have a black handle per EI 1542
- Duckbill spouts required on jet overwing fueling nozzles per EI 1597
- Nozzle Screens (100 mesh) required on fueling nozzles
- Dust covers or other protective devices required on fueling nozzles
- Aviation fueling hoses shall be marked with EI 1529 or EI/API 1529 and in good condition; never exceed manufacturer's 10-year service life

++ Highly Recommended (may be required in 2026)

FSII Additive Injection at the FBO (if applicable) _____

Adhere to a Fuel System Icing Inhibitor (FSII) program that includes equipment, procedures, training, and documentation specific to the injection and sale of Jet A with or without FSII including, but not limited to, the following:

- NATA GA Misfueling Prevention Online Program (PreventMisfueling.com)
- NATA DEF Contamination Prevention (PreventMisfueling.com)
- EI 1538 “Handling of Fuel System Icing Inhibitor and Aviation Fuel Containing FSII at Airports”
- EI 1597 “Procedures for Overwing Fueling to Ensure Delivery of the Correct Fuel Grade to an Aircraft”
- ASTM Manual 5 “Aviation Fuel Quality Control Procedures”

Equipment & FSII Inventory

- Ensure FSII meets ASTM D4171 “Standard Specification for Fuel System Icing Inhibitor” and is stored and handled in accordance with manufacturer’s recommendations
- FSII containers (e.g. totes, drums, pails/tanks):
  - Prominently labeled to identify product and secured with a padlock
  - Charged desiccant filter on vent
  - 5-gallon plastic pails should be replaced per EI-1538
  - Follow EI-1538 and/or manufacturer for FSII shelf life
- FSII additive injector system designed for aviation applications
- Graduated cylinder (1000 ml) to test FSII injection rate using bypass test method from manufacturer
- FSII Additive Test Kit (B/2) to test jet fuel with FSII at storage tank or refueler
- Where FSII is not available on equipment, install and maintain “FSII not Available” decals on refuelers, fueling dispensers and fueling hoses to ensure proper identification of fuel type (send email to TrustedFuel@p66.com for free decals)

Procedures

- FSII injection systems and FSII containers:
  - Ensure FSII additive remains free from contaminants (e.g. water, dirt) and other products (e.g. Diesel Exhaust Fluid (DEF), TKS de-icing fluid)
  - Document all transfers of FSII additive to refuelers or any fueling dispenser that has a FSII injector
  - Daily inspection of the components (e.g. tanks, lines, valves, desiccant filters) and remove from service if any deficiencies are discovered
  - Calibrate additive injectors per manufacturer’s guidance, at least monthly, to ensure a FSII additive concentration rate of 0.10 to 0.15 volume % (recommend 0.125)
- FSII additive injected into refueler or storage tank: confirm FSII additive concentration is within 0.10 to 0.15 volume % using a FSII Additive Test Kit (B/2)
- FSII additive injected at the aircraft wing: confirm fuel order with customers (Jet A with or without FSII) and document on fuel ticket
- FBO use of aerosol cans to dispense FSII additive into fuel is prohibited

FSII Not Available at the FBO (if applicable) _____

Adhere to a quality assurance program that includes equipment, procedures, training, and documentation specific to sale of Jet A without Fuel System Icing Inhibitor (FSII) including, but not limited to, the following:

- NATA GA Misfueling Prevention Online Program (PreventMisfueling.com)
- EI 1597 “Procedures for Overwing Fueling to Ensure Delivery of the Correct Fuel Grade to an Aircraft”

Equipment

- Install and maintain “FSII not Available” decals on refuelers, fueling dispensers and fueling hoses to ensure proper identification of fuel type (send email to TrustedFuel@p66.com for free decals)

Procedures

- Confirm with customers that Jet A does not contain FSII additive and document on fuel ticket
- Communicate to the public that Jet A with FSII additive is not available (e.g. Ac-U-Kwik, AirNav, FBO website)
- FBO use of aerosol cans to dispense FSII additive into fuel is prohibited