

## ASTM Volume 05.04, March 2025

D7720-21 Standard Guide for Statistically Evaluating Measurand Alarm Limits when Using Oil Analysis to Monitor Equipment and Oil for Fitness and Contamination

D7577-12(2021) Standard Test Method for Determining the Accelerated Iron Corrosion Rating of Denatured Fuel Ethanol and Ethanol Fuel Blends

D7740-20 Standard Practice for Optimization, Calibration, and Validation of Atomic Absorption Spectrometry for Metal Analysis of Petroleum Products and Lubricants

D7974-21 Standard Test Method for Determination of Farnesane, Saturated Hydrocarbons, and Hexahydrofarnesol Content of Synthesized Iso-Paraffins (SIP) Fuel for Blending with Jet Fuel by Gas Chromatography

D8022-20 Standard Test Method for Roll Stability of Lubricating Grease in Presence of Water (Wet Roll Stability Test)

D7920-21 Standard Test Method for Determination of Fuel Methanol (M99) and Methanol Fuel Blends (M10 to M99) by Gas Chromatography

D7798-20 Standard Test Method for Boiling Range Distribution of Petroleum Distillates with Final Boiling Points up to 538 °C by Ultra Fast Gas Chromatography (UF GC)

D7806-20 Standard Test Method for Determination of Biodiesel (Fatty Acid Methyl Ester) and Triglyceride Content in Diesel Fuel Oil Using Mid-Infrared Spectroscopy (FTIR Transmission Method)

D7483-21 Standard Test Method for Determination of Dynamic Viscosity and Derived Kinematic Viscosity of Liquids by Oscillating Piston Viscometer

D7669-20 Standard Guide for Practical Lubricant Condition Data Trend Analysis

D7973-19 Standard Guide for Monitoring Failure Mode Progression in Plain Bearings

D7689-21 Standard Test Method for Cloud Point of Petroleum Products and Liquid Fuels (Mini Method)

D7683-21 Standard Test Method for Cloud Point of Petroleum Products and Liquid Fuels (Small Test Jar Method)

D7960-21 Standard Specification for Unleaded Aviation Gasoline Test Fuel Containing Non-hydrocarbon Components

D8049-21 Standard Test Method for Determining Concentration, Count, and Size Distribution of Solid Particles and Water in Light and Middle Distillate Fuels by Direct Imaging Analyzer

D7862-21 Standard Specification for Butanol for Blending with Gasoline for Use as Automotive Spark-Ignition Engine Fuel

D7463-21 Standard Test Method for Adenosine Triphosphate (ATP) Content of Microorganisms in Fuel, Fuel/Water Mixtures, and Fuel Associated Water

D7794-21 Standard Practice for Blending Mid-Level Ethanol Fuel Blends for Flexible-Fuel Vehicles with Automotive Spark-Ignition Engines

D7843-21 Standard Test Method for Measurement of Lubricant Generated Insoluble Color Bodies in In-Service Turbine Oils using Membrane Patch Colorimetry

D8094-21 Standard Test Method for Determination of Water Content of Liquefied Petroleum Gases (LPG) Using an Online Electronic Moisture Analyzer

D7524-20 Standard Test Method for Determination of Static Dissipater Additives (SDA) in Aviation Turbine Fuel and Middle Distillate Fuels—High Performance Liquid Chromatograph (HPLC) Method

D7621-16(2021) Standard Test Method for Determination of Hydrogen Sulfide in Fuel Oils by Rapid Liquid Phase Extraction

D7618-13(2021) Standard Specification for Ethyl Tertiary-Butyl Ether (ETBE) for Blending with Aviation Spark-Ignition Engine Fuel

D7751-16(2021) Standard Test Method for Determination of Additive Elements in Lubricating Oils by EDXRF Analysis

D7719-21a Standard Specification for High Aromatic Content Unleaded Hydrocarbon Aviation Gasoline Test Fuel

D7889-21 Standard Test Method for Field Determination of In-Service Fluid Properties Using IR Spectroscopy

D8071-21 Standard Test Method for Determination of Hydrocarbon Group Types and Select Hydrocarbon and Oxygenate Compounds in Automotive Spark-Ignition Engine Fuel Using Gas Chromatography with Vacuum Ultraviolet Absorption Spectroscopy Detection (GC-VUV)

D7622-20 Standard Test Method for Total Mercury in Crude Oil Using Combustion and Direct Cold Vapor Atomic Absorption Method with Zeeman Background Correction

D7623-20 Standard Test Method for Total Mercury in Crude Oil Using Combustion-Gold Amalgamation and Cold Vapor Atomic Absorption Method

D7756-19 Standard Test Method for Residues in Liquefied Petroleum (LP) Gases by Gas Chromatography with Liquid, On-Column Injection

D7807-20 Standard Test Method for Determination of Boiling Range Distribution of Hydrocarbon and Sulfur Components of Petroleum Distillates by Gas Chromatography and Chemiluminescence Detection

D7876-13(2018) Standard Practice for Practice for Sample Decomposition Using Microwave Heating (With or Without Prior Ashing) for Atomic Spectroscopic Elemental Determination in Petroleum Products and Lubricants

D7451-21 Standard Test Method for Water Separation Properties of Light and Middle Distillate, and Compression and Spark-Ignition Engine Fuels

D7464-20 Standard Practice for Manual Sampling of Liquid Fuels, Associated Materials and Fuel System Components for Microbiological Testing

D7578-20 Standard Guide for Calibration Requirements for Elemental Analysis of Petroleum Products and Lubricants

D7923-19 Standard Test Method for Water in Ethanol and Hydrocarbon Blends by Karl Fischer Titration

D7739-11(2020) Standard Practice for Thermal Oxidative Stability Measurement via Quartz Crystal Microbalance

D7752-18 Standard Practice for Evaluating Compatibility of Mixtures of Hydraulic Fluids

D7454-19 Standard Test Method for Determination of Vibrated Bulk Density of Calcined Petroleum Coke using a Semi-Automated Apparatus

D7827-19 Standard Test Method for Measuring n-Heptane Induced Phase Separation of Asphaltene from Heavy Fuel Oils as Separability Number by an Optical Device

D7898-14(2020) Standard Practice for Lubrication and Hydraulic Filter Debris Analysis (FDA) for Condition Monitoring of Machinery

D7579-09(2019) Standard Test Method for Pyrolysis Solids Content in Pyrolysis Liquids by Filtration of Solids in Methanol

D7995-19 Standard Test Method for Total Water in Liquid Butane by Liquefied Gas Sampler and Coulometric Karl Fischer Titration

D7917-14(2018) Standard Practice for Inductive Wear Debris Sensors in Gearbox and Drivetrain Applications

D7946-19 Standard Test Method for Initial pH (i-pH)-Value of Petroleum Products

D7845-20 Standard Test Method for Determination of Chemical Species in Marine Fuel Oil by Multidimensional Gas Chromatography/Mass Spectrometry

D8110-17 Standard Test Method for Elemental Analysis of Distillate Products by Inductively Coupled Plasma Mass Spectrometry (ICP-MS)

D7591-12(2017) Standard Test Method for Determination of Free and Total Glycerin in Biodiesel Blends by Anion Exchange Chromatography

D7620-10(2020) Standard Test Method for Determination of Total Sulfur in Liquid Hydrocarbon Based Fuels by Continuous Injection, Air Oxidation and Ultraviolet Fluorescence Detection

D7718-11(2019) Standard Practice for Obtaining In-Service Samples of Lubricating Grease

D7994-17 Standard Test Method for Total Fluorine, Chlorine, and Sulfur in Liquid Petroleum Gas (LPG) by Oxidative Pyrohydrolytic Combustion Followed by Ion Chromatography Detection (Combustion Ion Chromatography-CIC)

D8011-19 Standard Specification for Natural Gasoline as a Blendstock in Ethanol Fuel Blends or as a Denaturant for Fuel Ethanol

D8120-17 Standard Test Method for Ferrous Debris Quantification

D7666-12(2019) Standard Specification for Triglyceride Burner Fuel

D7717-11(2021) Standard Practice for Preparing Volumetric Blends of Denatured Fuel Ethanol and Gasoline Blendstocks for Laboratory Analysis

D7919-14(2021) Standard Guide for Filter Debris Analysis (FDA) Using Manual or Automated Processes

D7670-10(2021) Standard Practice for Processing In-service Fluid Samples for Particulate Contamination Analysis Using Membrane Filters

D8126-21 Standard Test Method for Efficient Basicity Determination by Potentiometric Hydrochloric Acid Titration

D7667-21 Standard Test Method for Determination of Corrosiveness to Silver by Automotive Spark-Ignition Engine Fuel—Thin Silver Strip Method

D7671-21 Standard Test Method for Corrosiveness to Silver by Automotive Spark-Ignition Engine Fuel—Silver Strip Method

D7796-21 Standard Test Method for Analysis of Ethyl tert-Butyl Ether (ETBE) by Gas Chromatography

D8046-21 Standard Guide for Pumpability of Heat Transfer Fluids

D7501-22 Standard Test Method for Determination of Fuel Filter Blocking Potential of Biodiesel Fuel Blendstock (B100) by Cold Soak Filtration Test (CSFT)

D7528-22 Standard Test Method for Bench Oxidation of Engine Oils by ROBO Apparatus

D7685-11(2022) Standard Practice for In-Line, Full Flow, Inductive Sensor for Ferromagnetic and Non-ferromagnetic Wear Debris Determination and Diagnostics for Aero-Derivative and Aircraft Gas Turbine Engine Bearings

D7795-15(2022)e1 Standard Test Method for Acidity in Ethanol and Ethanol Blends by Titration

D7915-22 Standard Practice for Application of Generalized Extreme Studentized Deviate (GESD) Technique to Simultaneously Identify Multiple Outliers in a Data Set

D7548-22 Standard Test Method for Determination of Accelerated Iron Corrosion in Petroleum Products

D8128-22 Standard Guide for Monitoring Failure Mode Progression in Industrial Applications with Rolling Element Ball Type Bearings

D7619-22 Standard Test Method for Sizing and Counting Particles in Light and Middle Distillate Fuels, by Automatic Particle Counter

D8073-22 Standard Test Method for Determination of Water Separation Characteristics of Aviation Turbine Fuel by Small Scale Water Separation Instrument

D7778-15(2022)e1 Standard Guide for Conducting an Interlaboratory Study to Determine the Precision of a Test Method

D7453-22 Standard Practice for Sampling of Petroleum Products for Analysis by Process Stream Analyzers and for Process Stream Analyzer System Validation

D7808-22 Standard Practice for Determining the Site Precision of a Process Stream Analyzer on Process Stream Material

D7589-16e1 Standard Test Method for Measurement of Effects of Automotive Engine Oils on Fuel Economy of Passenger Cars and Light-Duty Trucks in Sequence VID Spark Ignition Engine

D7468-22 Standard Test Method for Cummins ISM Test

D7847-22 Standard Guide for Interlaboratory Studies for Microbiological Test Methods

D7755-11(2022) Standard Practice for Determining the Wear Volume on Standard Test Pieces Used by High-Frequency, Linear-Oscillation (SRV) Test Machine

D7665-22 Standard Guide for Evaluation of Biodegradable Heat Transfer Fluids

D7863-22 Standard Guide for Evaluation of Convective Heat Transfer Coefficient of Liquids

D8009-22 Standard Practice for Manual Piston Cylinder Sampling for Volatile Crude Oils, Condensates, and Liquid Petroleum Products

D7844-22a Standard Test Method for Condition Monitoring of Soot in In-Service Lubricants by Trend Analysis using Fourier Transform Infrared (FT-IR) Spectrometry

D7412-22 Standard Test Method for Condition Monitoring of Phosphate Antiwear Additives in In-Service Petroleum and Hydrocarbon Based Lubricants by Trend Analysis Using Fourier Transform Infrared (FT-IR) Spectrometry

D7414-22 Standard Test Method for Condition Monitoring of Oxidation in In-Service Petroleum and Hydrocarbon Based Lubricants by Trend Analysis Using Fourier Transform Infrared (FT-IR) Spectrometry

D7415-22 Standard Test Method for Condition Monitoring of Sulfate By-Products in In-Service Petroleum and Hydrocarbon Based Lubricants by Trend Analysis Using Fourier Transform Infrared (FT-IR) Spectrometry

D7624-22 Standard Test Method for Condition Monitoring of Nitration in In-Service Petroleum and Hydrocarbon-Based Lubricants by Trend Analysis Using Fourier Transform Infrared (FT-IR) Spectrometry

D7721-22 Standard Practice for Determining the Effect of Fluid Selection on Hydraulic System or Component Efficiency

D7872-13(2022) Standard Test Method for Determining the Concentration of Pipeline Drag Reducer Additive in Aviation Turbine Fuels

D7874-13(2022) Standard Guide for Applying Failure Mode and Effect Analysis (FMEA) to In-Service Lubricant Testing

D7873-22a Standard Test Method for Determination of Oxidation Stability and Insolubles Formation of Inhibited Turbine Oils at 120 °C Without the Inclusion of Water (Dry TOST Method)

D7757-22 Standard Test Method for Silicon in Gasoline and Related Products by Monochromatic Wavelength Dispersive X-ray Fluorescence Spectrometry

D7961-22 Standard Practice for Calibrating U-tube Density Cells over Large Ranges of Temperature and Pressure

D7590-22 Standard Guide for Measurement of Remaining Primary Antioxidant Content In In-Service Industrial Lubricating Oils by Linear Sweep Voltammetry

D7963-22 Standard Test Method for Determination of Contamination Level of Fatty Acid Methyl Esters in Middle Distillate and Residual Fuels Using Flow Analysis by Fourier Transform Infrared Spectroscopy—Rapid Screening Method

D7593-22 Standard Test Method for Determination of Fuel Dilution for In-Service Engine Oils by Gas Chromatography

D7975-22 Standard Test Method for Determination of Vapor Pressure of Crude Oil: VPCRx-F(Tm°C) (Manual Expansion Field Method)



D7423-23 Standard Test Method for Determination of Oxygenates in C2, C3, C4, and C5 Hydrocarbon Matrices by Gas Chromatography and Flame Ionization Detection

D8045-17(2023) Standard Test Method for Acid Number of Crude Oils and Petroleum Products by Catalytic Thermometric Titration

D7603-23 Standard Test Method for Determination of Storage Stability and Compatibility in Automotive Gear Oils

D7687-23 Standard Test Method for Measurement of Cellular Adenosine Triphosphate in Fuel and Fuel-associated Water With Sample Concentration by Filtration

D7686-23 Standard Test Method for Field-Based Condition Monitoring of Soot in In-Service Lubricants Using a Fixed-Filter Infrared (IR) Instrument

D7797-23 Standard Test Method for Determination of the Fatty Acid Methyl Esters Content of Aviation Turbine Fuel Using Flow Analysis by Fourier Transform Infrared Spectroscopy—Rapid Screening Method

D8047-23 Standard Test Method for Evaluation of Engine Oil Aeration Resistance in a Caterpillar C13 Direct-Injected Turbocharged Automotive Diesel Engine

D8098-23 Standard Test Method for Permanent Gases in C2 and C3 Hydrocarbon Products by Gas Chromatography and Pulse Discharge Helium Ionization Detector

D8127-23 Standard Test Method for Coupled Particulate and Elemental Analysis using X-ray Fluorescence (XRF) for In-Service Lubricants

D7418-23 Standard Practice for Set-Up and Operation of Fourier Transform Infrared (FT-IR) Spectrometers for In-Service Oil Condition Monitoring

D7544-23 Standard Specification for Pyrolysis Liquid Biofuel

D8004-23 Standard Test Method for Fuel Dilution of In-Service Lubricants Using Surface Acoustic Wave Sensing

D7547-23 Standard Specification for Hydrocarbon Unleaded Aviation Gasoline

D7691-23 Standard Test Method for Multielement Analysis of Crude Oils Using Inductively Coupled Plasma Atomic Emission Spectrometry (ICP-AES)

D8111-23a Standard Test Method for Evaluation of Automotive Engine Oils in the Sequence IIH, Spark-Ignition Engine

D7482-17(2023) Standard Practice for Sampling, Storage, and Handling of Hydrocarbons for Mercury Analysis

D8070-23 Standard Test Method for Screening of Fuels and Fuel Associated Aqueous Specimens for Microbial Contamination by Lateral Flow Immunoassay

D7563-23 Standard Test Method for Evaluation of the Ability of Engine Oil to Emulsify Water and Simulated Ed85 Fuel

D7646-23 Standard Test Method for Determination of Cooling Characteristics of Aqueous Polymer Quenchants for Aluminum Alloys by Cooling Curve Analysis

D7900-23 Standard Test Method for Determination of Light Hydrocarbons in Stabilized Crude Oils by Gas Chromatography

D7467-23 Standard Specification for Diesel Fuel Oil, Biodiesel Blend (B6 to B20)

D8114-23a Standard Test Method for Measurement of Effects of Automotive Engine Oils on Fuel Economy of Passenger Cars and Light-Duty Trucks in Sequence VIE Spark Ignition

D7829-23 Standard Guide for Sediment and Water Determination in Crude Oil

D7922-23 Standard Test Method for Determination of Glycol for In-Service Engine Oils by Gas Chromatography

D7484-23a Standard Test Method for Evaluation of Automotive Engine Oils for Valve-Train Wear Performance in Cummins ISB Medium-Duty Diesel Engine

D8074-23 Standard Test Method for Evaluation of Diesel Engine Oils in DD13 Diesel Engine

D7901-23 Standard Specification for Dimethyl Ether for Fuel Purposes

D7754-23 Standard Test Method for Determination of Trace Oxygenates in Automotive Spark-Ignition Engine Fuel by Multidimensional Gas Chromatography

D7918-23 Standard Test Method for Measurement of Flow Properties and Evaluation of Wear, Contaminants, and Oxidative Properties of Lubricating Grease by Die Extrusion Method and Preparation

D7945-23 Standard Test Method for Determination of Dynamic Viscosity and Derived Kinematic Viscosity of Liquids by Constant Pressure Viscometer

D8097-23 Standard Test Method for Determination of Bulk Density for Specific Size Fractions of Calcined Petroleum Coke Using a Transaxial Pressure Pycnometer

D7422-23 Standard Test Method for Evaluation of Diesel Engine Oils in T-12 Exhaust Gas Recirculation Diesel Engine

D7420-23 Standard Test Method for Determining Tribomechanical Properties of Grease Lubricated Plastic Socket Suspension Joints Using a High-Frequency, Linear-Oscillation (SRV) Test Machine

D8029-23 Standard Specification for Biodegradable, Low Aquatic Toxicity Hydraulic Fluids

D7421-23 Standard Test Method for Determining Extreme Pressure Properties of Lubricating Oils Using High-Frequency, Linear-Oscillation (SRV) Test Machine

D7546-24 Standard Test Method for Determination of Moisture in New and In-Service Lubricating Oils and Additives by Relative Humidity Sensor

D7647-24 Standard Test Method for Automatic Particle Counting of Lubricating and Hydraulic Fluids Using Dilution Techniques to Eliminate the Contribution of Water and Interfering Soft Particles by Light Extinction

D8112-24 Standard Guide for Obtaining In-Service Samples of Turbine Operation Related Lubricating Fluid

D7959-24 Standard Test Method for Chloride Content Determination of Aviation Turbine Fuels using Chloride Test Strip

D8048-24 Standard Test Method for Evaluation of Diesel Engine Oils in T-13 Diesel Engine

D7594-24e1 Standard Test Method for Determining Fretting Wear Resistance of Lubricating Greases Under High Hertzian Contact Pressures Using a High-Frequency, Linear-Oscillation (SRV) Test Machine

D7861-24 Standard Test Method for Determination of Fatty Acid Methyl Esters (FAME) in Diesel Fuel by Linear Variable Filter (LVF) Array Based Mid-Infrared Spectroscopy

D8072-24 Standard Classification for Reporting Solids and Insoluble Water Contamination of Hydrocarbon-Based Petroleum Products When Analyzed by Imaging Instrumentation

D8056-24 Standard Guide for Elemental Analysis of Crude Oil

D7527-24 Standard Test Method for Measurement of Antioxidant Content in Lubricating Greases by Linear Sweep Voltammetry

D7549-24 Standard Test Method for Evaluation of Heavy-Duty Engine Oils under High Output Conditions—Caterpillar C13 Test Procedure

D7417-24 Standard Test Method for Analysis of In-Service Lubricants Using Particular Four-Part Integrated Tester (Atomic Emission Spectroscopy, Infrared Spectroscopy, Viscosity, and Laser Particle Counter)

D7899-24 Standard Test Method for Measuring the Merit of Dispersancy of In-Service Engine Oils with Blotter Spot Method

D7777-24 Standard Test Method for Density, Relative Density, or API Gravity of Liquid Petroleum by Portable Digital Density Meter

D7419-24 Standard Test Method for Determination of Total Aromatics and Total Saturates in Lube Basestocks by High Performance Liquid Chromatography (HPLC) with Refractive Index Detection

D7455-24 Standard Practice for Sample Preparation of Petroleum and Lubricant Products for Elemental Analysis

D7826-24 Standard Guide for Evaluation of New Aviation Gasolines and New Aviation Gasoline Additives

D8076-24 Standard Specification for 95, 98, and 100 Research Octane Number Test Fuels for Automotive Spark-Ignition Engines

D7416-24 Standard Practice for Analysis of In-Service Lubricants Using a Particular Five-Part (Dielectric Permittivity, Time-Resolved Dielectric Permittivity with Switching Magnetic Fields, Laser Particle Counter, Microscopic Debris Analysis, and Orbital Vis

D7500-24 Standard Test Method for Determination of Boiling Range Distribution of Distillates and Lubricating Base Oils—in Boiling Range from 100 °C to 735 °C by Gas Chromatography

D7525-14(2024) Standard Test Method for Oxidation Stability of Spark Ignition Fuel—Rapid Small Scale Oxidation Test (RSSOT)

D7545-14(2024) Standard Test Method for Oxidation Stability of Middle Distillate Fuels—Rapid Small Scale Oxidation Test (RSSOT)

D7452-24a Standard Test Method for Evaluation of the Load Carrying Properties of Lubricants Used for Final Drive Axles, Under Conditions of High Speed and Shock Loading

D7596-24 Standard Test Method for Automatic Particle Counting and Particle Shape Classification of Oils Using a Direct Imaging Integrated Tester

D7875-24 Standard Test Method for Determination of Butanol and Acetone Content of Butanol for Blending with Gasoline by Gas Chromatography

D7753-24 Standard Test Method for Hydrocarbon Types and Benzene in Light Petroleum Distillates by Gas Chromatography

D7690-24 Standard Practice for Microscopic Characterization of Particles from In-Service Lubricants by Analytical Ferrography

D7566-24d Standard Specification for Aviation Turbine Fuel Containing Synthesized Hydrocarbons

D7825-24 Standard Practice for Generating a Process Stream Property Value through Application of a Process Stream Analyzer

D7450-24 Standard Specification for Performance of Rear Axle Gear Lubricants Intended for API Category GL-5 Service

D7688-24 Standard Test Method for Evaluating Lubricity of Diesel Fuels by the High-Frequency Reciprocating Rig (HFRR) by Visual Observation

D7684-24 Standard Guide for Microscopic Characterization of Particles from In-Service Lubricants

D8003-24 Standard Test Method for Determination of Light Hydrocarbons and Cut Point Intervals in Live Crude Oils and Condensates by Gas Chromatography

D7978-24 Standard Test Method for Determination of the Viable Aerobic Microbial Content of Fuels and Associated Water—Thixotropic Gel Culture Method