



# AEROSPACE RECOMMENDED PRACTICE

ARP5918™

REV. A

Issued 2006-07  
Reaffirmed 2011-11  
Revised 2022-07

Superseding ARP5918

Standard Test Criteria for Aircraft Refuelers

## RATIONALE

This SAE Aerospace Recommended Practice contains general criteria for the inspection and test procedure to be used to evaluate the operation and performance of an Aircraft Refueler. This revision ensures that all industry best practices and guidelines have been incorporated into the recommended practice to create synergy between the relevant global guidelines for the testing of flow performance of aircraft refuelers.

### 1. SCOPE

This SAE Aerospace Recommended Practice (ARP) establishes the minimum recommended Test Stand Setup and Procedures for inspecting and testing Aircraft Refuelers. The inspection and test procedure shall be used to evaluate the operation and performance of an Aircraft Refueler to assure that it meets the minimum refueling performance criteria and is fit for aircraft fueling and/or defueling operations. These procedures shall be used to test new Aircraft Refuelers and may be used to perform routine tests to confirm that the Aircraft Refuelers comply with the minimum performance criteria as specified herein.

This document covers all types of Aircraft Refuelers, stationary (e.g., cabinet type units) or mobile (e.g., hydrant service vehicles, tankers, etc.).

NOTE: Aircraft refueling vehicle design and operating requirements are provided in separate SAE ARP Documents.

NOTE: This document does NOT address Aircraft Refuelers with operating pressure above 150 psi although many of the paragraphs can be used as a guideline.

### 2. APPLICABLE DOCUMENTS

The following publications form a part of this document to the extent specified herein. The latest issue of SAE publications shall apply. The applicable issue of other publications shall be the issue in effect on the date of the purchase order. In the event of conflict between the text of this document and references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

SAE Executive Standards Committee Rules provide that: "This report is published by SAE to advance the state of technical and engineering sciences. The use of this report is entirely voluntary, and its applicability and suitability for any particular use, including any patent infringement arising therefrom, is the sole responsibility of the user."

SAE reviews each technical report at least every five years at which time it may be revised, reaffirmed, stabilized, or cancelled. SAE invites your written comments and suggestions.

Copyright © 2022 SAE International

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of SAE.

TO PLACE A DOCUMENT ORDER: Tel: 877-606-7323 (inside USA and Canada)  
Tel: +1 724-776-4970 (outside USA)  
Fax: 724-776-0790  
Email: CustomerService@sae.org  
http://www.sae.org

SAE WEB ADDRESS:

For more information on this standard, visit  
<https://www.sae.org/standards/content/ARP5918A/>

## 2.1 SAE Publications

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (inside USA and Canada) or +1 724-776-4970 (outside USA), [www.sae.org](http://www.sae.org).

AIR1375 Minimum Safety Requirements for Special Purpose Airline Ground Support Equipment

AIR4783 Glossary of Terms - Aircraft Ground Refueling

ARP1247 Aerospace Ground Support Equipment - General Requirements

ARP5818 Aircraft Refueling Vehicle Design and Performance Requirements

AS5877 Detailed Specification for Aircraft Pressure Refueling Nozzle

SAE Handbook

## 2.2 EI Publications

Available from Energy Institute 61 New Cavendish Street London, W1G 7AR, UK; t: +44 (0) 20 7467 7100, <https://publishing.energyinst.org/>.

EI Bulletin 1529 API/EI Standard for Aviation Fueling Hose

EI Bulletin 1542 Identification Markings for Dedicated Aviation Fuel Manufacturing and Distribution Facilities, Airport Storage and Mobile Fueling Equipment

EI Bulletin 1540 DESIGN, CONSTRUCTION, OPERATION AND MAINTENANCE OF AVIATION FUELING FACILITIES

EI Bulletin 1581 Specifications and Qualifications Procedures for Aviation Jet Fuel Filter/Separators EI Bulletin 1582 Similarity for EI 1581 Aviation Jet Fuel Filter/Separators

EI Bulletin 1583 Specifications and Qualifications Procedures for Aviation Jet Fuel Filter Monitors with Absorbent Type Elements

EI Bulletin 1584 EI Standard for Four-Inch Hydrant System Components and Arrangements

EI Bulletin 1588 Barrier Filtration

EI Bulletin 1599 Dirt Defense Filter

EI Bulletin 1598 Free Water Sensor

## 2.3 ASME Publications

Available from ASME, P.O. Box 2900, 22 Law Drive, Fairfield, NJ 07007-2900, Tel: 800-843-2763 (U.S./Canada), 001 800 843-2763 (Mexico), 973-882-1170 (outside North America), [www.asme.org](http://www.asme.org).

ASME B31.3 Process Piping

## 2.4 ASTM Publications

Available from ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959, Tel: 610-832-9585, [www.astm.org](http://www.astm.org).

ASTM D 910 Standard Specification for Aviation Gasolines

ASTM D 1655 Standard Specification for Aviation Turbine Fuels

ASTM D 6615 Standard Specification for Jet B Wide-Cut Aviation Turbine Fuels

## 2.5 ATA Publications

Available from Air Transport Association of America, Inc., 1301 Pennsylvania Avenue, NW, Suite 1100, Washington, DC 20004-1707, Tel: 202-626-4000, [www.airlines.org](http://www.airlines.org).

ATA Specification 103 Standards for Jet Fuel Quality Control at Airports

## 2.6 Joint Inspection Group Publications

To be supplied with Purchase Specifications if compliance with this Publication is required.

JIG 9 Guidelines for Aviation Fuel Quality and Operating Procedures for Joint into Plane Fueling Services

## 2.7 National Fire Protection Agency Publications

Available from NFPA, 1 Batterymarch Park, Quincy, MA 02169-7471, Tel: 617-770-3000, [www.nfpa.org](http://www.nfpa.org).

NFPA 10 Standard for Portable Fire Extinguishers

NFPA 385 Tank Vehicles for Flammable and Combustible Liquids NFPA 407 Standards for Aircraft Fuel Servicing

## 2.8 United States - Code of Federal Regulations (CFR) Publications

Available from the United States Government Printing Office, 732 North Capitol Street, NW, Washington, DC 20401, Tel: 202-512-0000.

Transportation (DOT) 49 CFR 178, 180, 393, 571

## 2.9 Local Requirements

Available from the local State, Municipality, Governmental Unit, Local Agency, or Airport Owner or Operator's office as required by the Vehicle Purchase Specifications.

## 3. DEFINITIONS

Definitions for terms or phrases as used in this document are defined in AIR4783, ARP4974, and ARP5818. Other terms or phrases as used in this document shall be defined as follows.

**ACCURACY OF A COMPONENT OR SYSTEM:** The component or system operate and perform to a level of accuracy as referenced or stated herein.

**AIRCRAFT REFUELER OEM:** The original equipment manufacturer of the aircraft refueler.

**BACK PRESSURE:** The pressure gauge reading measured directly downstream of the listed component.

**BACK-PRESSURE CONTROL VALVE:** The valve on the test stand that is adjusted to produce a pressure reading in the test stand manifold.