



AEROSPACE RECOMMENDED PRACTICE

ARP1302™

REV. A

Issued 1973-03
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Superseding ARP1302

(R) Filter Patch Testing Procedures for Aerospace Hydraulic Non-Rotating Equipment

RATIONALE

This document has been updated to incorporate technical and editorial changes as a result of the Five-Year Review.

ARP1302A has been reaffirmed to comply with the SAE Five-Year Review policy.

1. SCOPE

This SAE Aerospace Recommended Practice (ARP) provides a procedure for obtaining filter patch test samples from the following types of aerospace non-rotating hydraulic equipment:

- Mechanical/Hydraulic Units
- Electro/Hydraulic Units
- Pneumatic/Hydraulic Units

1.1 Purpose

This ARP provides the recommended practices to obtain and evaluate filter patch tests for aerospace hydraulic non-rotating equipment which are to be used in a quality control program to ensure that:

- The equipment meets cleanliness standards
- The equipment is not generating contaminants
- The equipment is operating properly prior to delivery to the customer

This is to promote an improvement in cleanliness standards in aerospace hydraulic circuits. It is expected that this will promote a longer service life in non-rotating hydraulic equipment such as electrohydraulic servo-valves and slide valves.

2. REFERENCES

2.1 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.

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Documents

Standard, visit Sharing Hub

2.1.1 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.

AIR787	Filter Element Cleaning Methods
ARP4285	Aerospace – Evaluation of Particulate Contamination in Hydraulic Fluid – Membrane Procedure
ARP4386	Terminology and Definitions for Aerospace Fluid Power, Actuation and Control Technologies
AS1241	Fire Resistant Phosphate Ester Hydraulic Fluid for Aircraft

2.1.2 U.S. Government Publications

Copies of these documents are available online at <https://quicksearch.dla.mil>.

MIL-F-8815	Filter and Filter Elements, Fluid Pressure, Hydraulic Line, 15 Micron Absolute And 5 Micron Absolute, Type II Systems; General Specification For
MIL-PRF-83282	Hydraulic Fluid, Fire Resistant, Synthetic Hydrocarbon Base, Metric, Nato Code Number H-537
MIL-PRF-87257	Hydraulic Fluid, Fire Resistant; Low Temperature, Synthetic Hydrocarbon Base, Aircraft And Missile
MIL-PRF-5606	Hydraulic Fluid, Petroleum Base; Aircraft; Missile and Ordnance

2.1.3 ISO Publications

Copies of these documents are available online at <http://webstore.ansi.org/>.

ISO16889	Hydraulic Fluid Power – Filters – Multi-pass Method for Evaluating Filtration Performance of a Filter Element
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2.2 Definitions

Refer to ARP4386 for general hydraulic system terms that are used in this Aerospace Recommended Practice.

MEMBRANE FILTER: A sheet or film of a polymer that has pores of a uniform size, used especially for ultrafiltration.

FILTER PATCH: A filter patch is a membrane on which unit generated contaminants have been collected, depending upon the degree of filtration used during the test.

NOTE: This patch is analyzed and compared with a “standard” patch which has been mutually established between the equipment manufacturer and the customer, and serves as a basis for rejection or acceptance of hardware prior to delivery, or at customer receiving inspection.

INLET FILTER PATCH: This is a patch that is used to collect contaminants upstream of a hydraulic filter.

NOTE: An inlet filter patch provides an indication of the contaminant level or cleanliness of the fluid provided in the system for testing the unit.