



AEROSPACE RECOMMENDED PRACTICE

ARP5632™

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Rotorcraft: Application of Existing Aircraft Designed Tires, Wheels and Brakes

RATIONALE

ARP5632 has been reaffirmed to comply with the SAE five-year review policy.

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Full document details: SAE ARP5632

For more information on this standard, visit
<https://www.sae.org/standards/content/ARP5632/>

Documents

Document Sharing Hub

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1. SCOPE

This document covers recommendations for the application of existing qualified and approved in-service fixed wing aircraft tires, wheels and brakes to military and commercial rotorcraft.

NOTE: This document does not address the use of radial tires due to insufficient data to support their approved use on rotorcraft, see paragraph 4.3.14 for specific impact on ground resonance.

1.1 Purpose

This document provides recommended parameters and data to enable evaluation of existing aircraft tires, wheels and brakes for rotorcraft applications. It is intended for use by commercial and military personnel in formulating detail design and performance specifications. It is not intended to be used as a procurement document.

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.

2.1 SAE Publications

Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Telephone: 877-606-7323 (inside USA and Canada) or 724-776-4970 (outside USA), Web address: <http://www.sae.org>

AIR1064	Brake Dynamics
AIR1489	Aerospace Landing Gear Terminology
AIR1934	Use of Structural Carbon Heat Sink Brakes on Aircraft
AIR4762	Compilation of Freezing Brake Experience and Suggested Designs and Operating Procedures Required to Prevent Its Occurrence
ARP813	Maintainability Recommendations for Aircraft Wheel and Brake Design
ARP1070	Design and Testing of Antiskid Brake Control Systems for Total Aircraft Compatibility
ARP1493	Wheel and Brake Design and Test Requirements for Military Aircraft
ARP1821	Aircraft Ground Flotation Analysis Methods
ARP4955	Recommended Practice for the Measurement of Static and Dynamic Properties of Aircraft Tires
ARP5381	Minimum Performance Recommendations for Part 23, 27, and 29 Aircraft Wheels, Brakes, and Wheel and Brake Assemblies
AS1188	Aircraft Tire Inflation-Deflation Equipment
AS 4833	Minimum Performance Standards for New Aircraft Tires

2.2 U.S. Government Publications

2.2.1 FAA Publications

Available from Federal Aviation Administration, 800 Independence Avenue, SW, Washington, DC 20591, Tel: 866-835-5322, www.faa.gov.

AC 145-4	Inspection, Retread, Repair, and Alterations Of Aircraft Tires
AC 20-97B	High-Speed Tire Maintenance and Operational Practices
AC 27-1B	Certification of Normal Category Rotorcraft; Paragraphs AC 27.731 Wheels, AC27.733 Tires and AC 27.735 Brakes
AC 29-2C	Certification of Transport Category Rotorcraft; Paragraphs AC 29.731 Wheels, AC 29.733 Tires and AC 29.735 Brakes
Title 14 Part 23	Airworthiness Standards: Normal, Utility, Acrobatic, and Commuter Category Airplanes; Paragraphs 23.731 Wheels, 23.733 Tires and 23.735 Brakes
Title 14 Part 25	Airworthiness Standards: Transport Category Airplanes; Paragraphs 25.731 Wheels, 25.733 Tires and 25.735 Brakes
TSO-C26	Aircraft Wheels and Brakes
TSO-C62	Aircraft Tires

2.2.2 DoD Publications

Available from the Document Automation and Production Service (DAPS), Building 4/D, 700 Robbins Avenue, Philadelphia, PA 19111-5094, Tel: 215-697-6257, <http://assist.daps.dla.mil/quicksearch/>.

MIL-PRF-5606	Hydraulic Fluid, Petroleum Base; Aircraft, Missile, And Ordnance
MIL-B-8075	Brake Control Systems, Antiskid, Aircraft Wheels, General Specification For
MIL-B-8584	Brake Systems, Wheel, Aircraft Design Of
MIL-PRF-83282	Hydraulic Fluid, Fire Resistant, Synthetic Hydrocarbon Base
MIL-PRF-87257	Hydraulic Fluid, Fire Resistant; Low Temperature, Synthetic Hydrocarbon Base, Aircraft And Missile
MIL-PRF-5041	Tires, Ribbed Tread, Pneumatic, Aircraft
MIL-W-5013	Wheel and Brake Assemblies Aircraft, General Specification For

2.3 Definitions – See definitions in AIR1489.