



AEROSPACE RECOMMENDED PRACTICE

ARP6152™

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Aircraft Tires Service Overload Capability

RATIONALE

Many OEMs impose an overload condition on the tire that exceeds the current 1.5 factor required in TSO-C62e. The overload condition described herein is recommended in support of FAR 25.1309 (a) and (b) considering continued safe flight and landing following the loss of load carrying capability of one tire on a multiple tire landing gear. In addition to maximizing safety, economic damage is mitigated by ensuring the remaining tire(s) on a landing gear perform their intended function following the loss of load carrying capability of one tire on a multiple tire landing gear. A service overload test should be a recommended practice to achieve a minimum level of safety for aircraft certified under 14 CFR Part 25.

ARP6152 has been reaffirmed to comply with the SAE Five-Year Review policy.

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Documents

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1. SCOPE

This SAE Aerospace Recommended Practice (ARP) defines a procedure for demonstrating service overload capability for new, main and nose landing gear, radial or bias tires fitted on multiple wheel landing gear of Part 25 certified aircraft.

1.1 Purpose

The purpose of this ARP is to provide a recommended procedure for the testing of aircraft tires for multiple tire landing gears under the foreseeable condition that one of the tires on the landing gear loses its load carrying capability during normal operations of the aircraft, resulting in a condition where the remaining tire(s) on the landing gear must carry the landing gear loads for the remainder of the flight. It is the performance of the highest loaded remaining tire which is the focus of this ARP.

Compliance with this report is not considered approval for installation on any category aircraft. The OEM for the platform for which the equipment is intended should be consulted for concurrence with the approaches proposed herein as an acceptable qualification demonstration for aircraft tires under overload conditions.

1.2 Application

This ARP is applicable to aircraft tires subject to TSO-C62 and for installation on 14 CFR Part 25 aircraft and should be considered for any aircraft configuration changes that cause any re-assessment of the design data used for the approval of the tires (e.g., to achieve TSO-C62 approval) or for the installation approval of the tires on the aircraft.

The procedures recommended herein are considered to represent an acceptable performance standard in support of FAR 25.1309 (a) and (b). OEMs may have internal standards that differ from those prescribed herein based on company specific lessons learned.

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.

2.1.1 FAA Publications

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

TSO-C62e Tires, dated 09/29/06

TSO-C135a Transport Airplane Wheels and Wheel and Brake Assemblies, dated 07/01/09

2.2 Acronyms

AMM	Aircraft Maintenance Manual
CG	Center of Gravity
FAR	Federal Aviation Regulations
F _{OL}	Overload Factor
MPH	Miles per Hour