



SURFACE VEHICLE RECOMMENDED PRACTICE

J2686™

DEC2022

Issued 2012-03
Reaffirmed 2017-10
Revised 2022-12

Superseding J2686 OCT2017

Brake Drum Qualification Recommended Practice

RATIONALE

The previous version of this SAE Recommended Practice referenced a standard (FMVSS 121) that is out of date. This revision removes the date of the document, allowing the reference document to be the current level of FMVSS 121.

1. SCOPE

This SAE Recommended Practice is intended for qualification testing for brake drums used on highway commercial vehicles with air brakes using an inertia-dynamometer procedure.

This document consists of two distinct tests: Part A, durability and speed maintenance test, and Part B, heat check drag sequence test. Each test can be considered to be an independent evaluation of the brake drum which tests different properties.

1.1 Purpose

This document establishes uniform inertia-dynamometer procedures to determine the integrity and durability when the brake drum is subjected to various functional modes.

2. REFERENCES

2.1 Applicable Documents

The following publications form a part of this specification to the extent specified herein. Unless otherwise indicated, the latest issue of SAE publications shall apply.

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.

SAE J294 Service Brake Structural Integrity Test Procedure - Vehicles Over 4500 kg (10000 pounds) GVWR

SAE J2115 Air Brake Performance and Wear Test Code, Commercial Vehicle Inertia Dynamometer

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:

Full document details: SAE J2686_202212

For more information on this standard, visit
https://www.sae.org/standards/content/J2686_202212/

Documents
Document Sharing Hub

2.2 Related Publications

The following publications are provided for information purposes only and are not a required part of this SAE Technical Report.

2.2.1 Code of Federal Regulations (CFR) Publications

Available from the United States Government Printing Office, 732 North Capitol Street, NW, Washington, DC 20401, Tel: 202-512-1800, www.gpo.gov.

49 CFR 571.121 Air Brake Systems - Trucks, Buses, and Trailers

3. DEFINITIONS

3.1 BRAKE RETARDATION FORCE

Brake torque/SLR.

3.2 BRAKE TORQUE

Test weight · SLR · deceleration rate/acceleration due to gravity.

3.3 CAM TORQUE

Air chamber size · air pressure · slack adjuster moment arm.

3.4 CYCLE TIME

Time interval from the beginning of one brake application to the beginning of the next.

3.5 GAWR

Gross axle weight rating.

3.6 IBLT

Initial brake lining temperature.

3.7 IBDT

Initial brake drum temperature.

3.8 SLR

Static loaded radius of the tire.