



# SURFACE VEHICLE RECOMMENDED PRACTICE

J2803™

JUN2020

Issued

2020-06

## Dimension Compatibility for Commercial Vehicle Wheels to Air Disc Brake Calipers - Truck and Bus

### RATIONALE

The purpose of this document is to define a boundary line for current air disc brake calipers on 22.5 x 8.25 inch wheels, similar to the clearance lines for drum brakes provided in SAE J1865. One notable difference between this specification and the SAE J1865 drum brake specification is that the clearance lines in SAE J1865 do not account for the swept area of the valve stem.

#### 1. SCOPE

This SAE Recommended Practice defines the boundary line for establishing dimensional compatibility between air disc brake calipers and 22.5 x 8.25 inch disc wheels, including bent valve stems on steel wheels and manufacturer recommended valve stems on aluminum wheels. The line establishes the minimum wheel with valve stem envelope to allow interchangeability. The line does not accommodate customer-specific wheels (such as OEM-specific stylized wheels) or customer-specific brakes.

This document addresses dimensional characteristics only and makes no reference to the performance, operational dynamic deflections or heat dissipation of the system. It is up to the system integrator to ensure sufficient clearance exists between the caliper, wheel and valve stem to provide safe operating conditions. Mounting systems as noted are referenced in SAE J694.

#### 2. REFERENCES

##### 2.1 Applicable Documents

The following publications form a part of this specification to the extent specified herein. Unless otherwise specified, 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](http://www.sae.org).

|           |                                                                                                                         |
|-----------|-------------------------------------------------------------------------------------------------------------------------|
| SAE J393  | Nomenclature - Wheels, Hubs, and Rims for Commercial Vehicles                                                           |
| SAE J694  | Disc Wheel and Hub or Drum Interface Dimensions - Truck and Bus                                                         |
| SAE J1671 | Outboard Mounted Brake Drum/Disc Wheel Hub Interface Dimensions - Truck and Bus                                         |
| SAE J1865 | Dimensional Compatibility for Commercial Vehicles Fitment of Complete Wheels in Drum Brake Applications - Truck and Bus |

SAE Technical Standards Board 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 © 2020 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](mailto:CustomerService@sae.org)  
<http://www.sae.org>

SAE WEB ADDRESS:

Full document details: SAE J2803\_202006

For more information on this standard, visit  
[https://www.sae.org/standards/content/J2803\\_202006](https://www.sae.org/standards/content/J2803_202006)

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 ISO Publications

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

ISO 3911 Wheel/Rim - Nomenclature, Designation, Marking and Units Measurement

ISO 4107 Commercial Vehicles - Wheel Hub Attachment Dimensions

## 3. DEFINITIONS

A detailed list of related nomenclature is contained in SAE J393.

## 4. BOUNDARY LINE

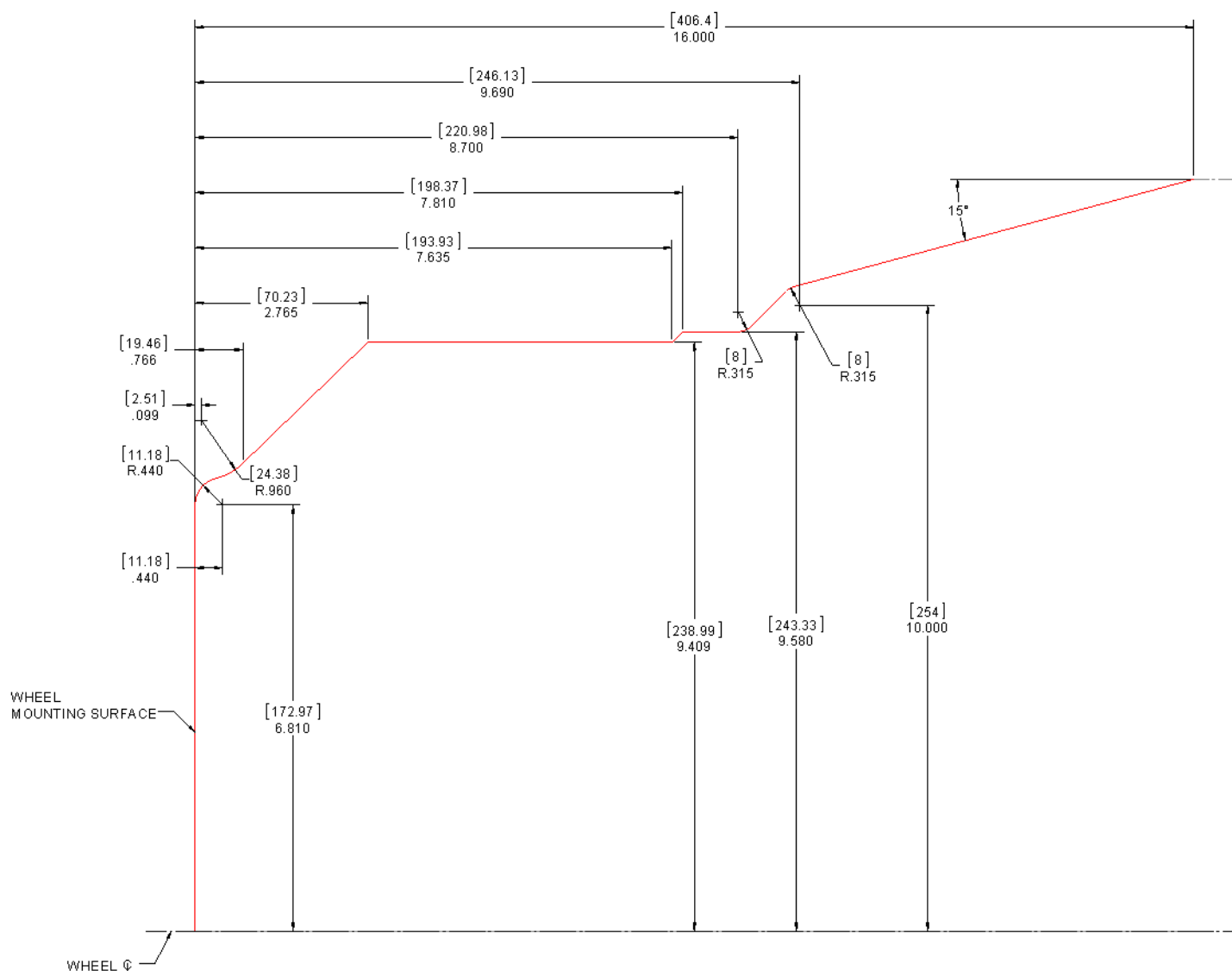


**Figure 1 - Wheel boundary line for 22.5 x 8.25 inch wheels with valve stems mounting system III**



**Documents**

Document Sharing Hub