



SURFACE VEHICLE RECOMMENDED PRACTICE

J2475™

JUL2024

Issued 2000-01
Revised 2024-07

Superseding J2475 FEB2020

Wheel End Assembly and Axle Spindle Interface Dimensions - Truck and Bus

RATIONALE

This document has been revised to make minor changes to Scope and Figures.

1. SCOPE

This recommended practice contains dimensions and tolerances for spindles in the interface area. Interfacing components include axle spindle, bearing cones, bearing spacer, and seal. This recommended practice is intended for axles commonly used on Class 7 and 8 commercial vehicles. Included are SAE axle configurations FF, FL, I80, L, N, P, R, U, and W.

1.1 Purpose

The purpose of this recommended practice is to establish dimensional guidelines to promote a functional standardization of spindle dimensions for wheel end assemblies. Proper hub component dimensions can then be established.

2. REFERENCES

2.1 Related Publications

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

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 J393 Nomenclature - Wheels, Hubs, and Rims for Commercial Vehicles

SAE J1842 Disc Wheel Hub/Spoke Wheel and Axle Interface Dimensions - Truck and Bus

3. DEFINITIONS

A list of basic nomenclature is described in 3.1 and shown in Figures 1, 2, and 3.

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Documents

Standard, visit Sharing Hub

3.1 Feature Definitions

A: Typical outboard bearing cone (per American Bearing Manufacturers Association [ABMA])

B: Typical inboard bearing cone (per ABMA)

C: Inboard bearing cone spindle length

D: Spindle transition length

E: Outboard bearing cone spindle starting length

F: Outboard bearing spindle diameter

G: Spindle transition diameter

H: Inboard bearing spindle diameter

J: Seal shoulder length

K: Seal shoulder diameter

R1: Spindle transition fillet radius

R2: Inboard bearing spindle fillet radius (per ABMA)

R3: Seal shoulder fillet radius

4. PROCEDURE

A line of maximum material for the spindle is established as shown in the figures with dimensions. All dimensions are in millimeters (inches).

Figure 1 and Table 1 refer to trailer axles.

Figure 2 and Table 2 refer to non-powered front axles.

Figure 3 and Table 3 refer to powered rear axles.

Table 4 refers to spindle threads for all axle configurations.