

FOREWORD

This terminology is intended to be sufficient to allow meaningful communication between vehicle dynamics professionals who need to describe the static and dynamic characteristics of automobiles, light trucks, and trailers. The terminology is to be used for presenting results and findings concerning the longitudinal, lateral, vertical and rotational dynamic performance of the applicable vehicles as predicted by analyses and simulations or as measured in tests and operational situations.

The purpose of this terminology is not to cover all terms in the manner of a dictionary or terms found in a basic engineering textbook. Rather, this document contains compatible definitions that have been carefully selected to aid in conveying ideas with rigor and accuracy in a readily understood and generally acceptable manner.

The terminology draws upon terms and definitions previously appearing in SAE J670e and ISO 8855 and further develops those that are applicable to the subjects covered by this document. For application to the study of vehicle dynamics, the tire terminology in this document contains pertinent definitions extracted from or based upon SAE J2047. Definitions for many chassis components are also provided.

Many of the definitions in the document contain terms appearing in italic font. Definitions for terms in italic may be found elsewhere in the document.

INTRODUCTION

ISO 8855:1991 is the international standard corresponding to SAE J670. The scopes of these two standards are different. The scope of SAE J670 is limited to passenger cars and light trucks with two axles, plus those vehicles in combination with single-axle trailers. The scope of ISO 8855 additionally includes heavy commercial vehicles, with multiple axles and multiple units. SAE J670 recognizes axis systems with both Z-Up and Z-Down orientations, while ISO 8855 only recognizes the Z-Up orientation. SAE J670 defines five axis systems: Earth, intermediate, vehicle, tire, and wheel, while ISO 8855 defines four axis systems: Earth, intermediate, vehicle, and wheel (equivalent to the SAE J670 tire system). SAE J670 accommodates four-wheel steering, while ISO 8855 does not. SAE J670 accommodates an inclined road surface that is non-uniform, while ISO 8855 is limited to application on a flat, horizontal road surface. SAE J670 includes definitions for many suspension and steering components, while component definitions are not included in ISO 8855. SAE J670 also defines many more terms (over 600) than are defined in ISO 8855 (approximately 130).

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