



Automotive Industry Action Group

B-11

Tire and Wheel Label and Radio Frequency Identification (RFID) Standard



Automotive Industry Action Group

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FOREWORD

The Radio Frequency Identification (RFID) Tire and Wheel Identification Sub-Group of the Automatic Identification Data Collection Work Group prepared this open standard. The AIAG believes that acceptance and implementation of this standard will maximize the benefits of auto ID as an industry-wide productivity tool. Without standards, industry use of auto ID technology would be encumbered by the use of many different protocols and interpretations of use.

The mission of the RFID Tire and Wheel ID sub-group is to electronically transfer Tire ID data and / or a unique identifier from the tire and / or wheel to wherever it is needed, even after the tire is assembled to the wheel and the tire / wheel assembly is mounted on the vehicle.

In selecting and developing this standard, it was the goal of the project team to arrive at a workable solution for all without unduly penalizing any industry segment. The team obtained input from automotive industry companies; non-automotive industry companies; RFID technology providers; and bar code printing, scanning, and label companies. In developing this standard, the project team considered current RFID, bar code, and 2D symbology parts-identification systems; the needs of supplying and receiving locations; marking and scanning technologies; and label and RFID system design techniques. After many deliberations, consensus was reached and this tire identification standard was developed.

Release 4 of the B-11 incorporated information consistent with the guidelines established in this standard for wheels. With the inclusion of this information, the B-11 document fulfills the requirement outlined by the Work Request originally submitted to the AIAG in February 2001 and, with the exclusion of providing the EPC data structure, is considered complete.

Release 5, dated May 5, 2004, was a preliminary outline of the EPC data syntax structure.

This release to the B-11, Release 6, October 25, 2006, provides a comprehensive implementation plan for the use of EPC and ISO-based data on the same RFID Tag.



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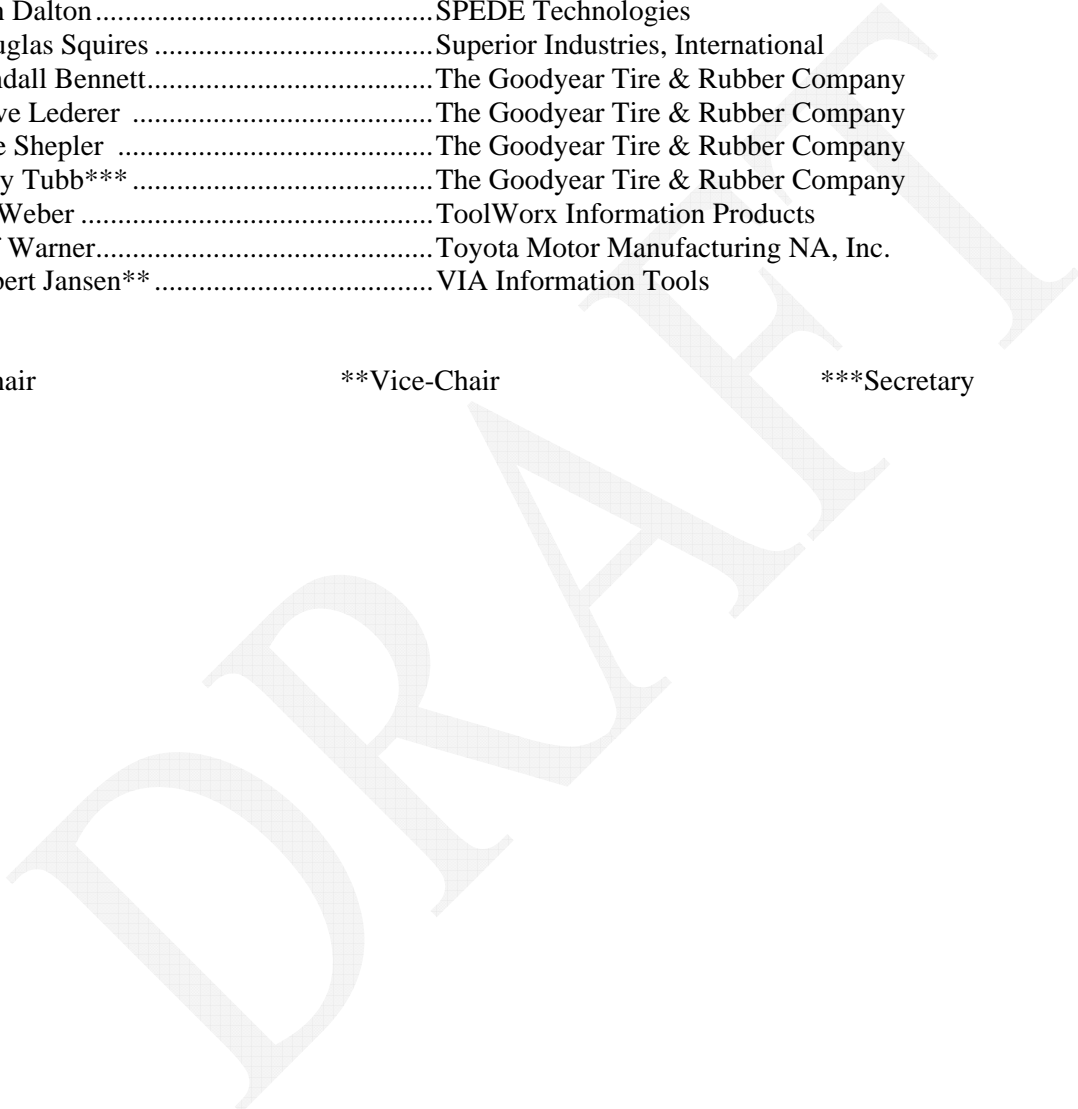
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INTRODUCTION

This revision of the Automotive Industry Action Group (AIAG) B-11 standard, with the original being published in 1994, provides guidelines for printing and placing tire and wheel identification bar code labels (Section 3) and read / write RFID Tags (Section 5). This standard is designed to help automate the collection of tire and wheel information and the mounting and assembly process of tires and wheels with vehicles in the OEM environment. The standard provides information about the manufacturer, tire and wheel size, type, and additional optional information as outlined in this standard and as agreed to by the supplier and OEM.

This tire and wheel application standard is based on the AIAG B-4 Parts Identification and Tracking Standard, with additional information specific to printing, programming, and placing tire and wheel identification bar code labels and RFID Tags.

It is the supplier's responsibility to provide bar coded symbols and RFID Tags that meet this standard. Strict adherence to these specifications for the tire and wheel identification bar code label(s) and RFID Tags will reduce implementation costs and increase benefits throughout the industry.

In this document, the word "**SHALL**" indicates a requirement and the word "**SHOULD**" indicates a recommendation.

Label dimensions SHOULD be in accordance with the dimensions shown between arrows.

All exhibits are for illustrative purposes only and may not be to scale or comply with bar code print quality standards.

Before the adoption of this revision to the B-11 (Revision 6), no mechanism existed in EPC Gen2 v1.0.9 or ISO/IEC 18000, Part 6c to notify the reader that additional information, beyond the Unique Item Identifier, exists in User Memory (MB11₂) and may be read, nor does a mechanism exist to enable a search of User Memory for specific data objects.

Several markets--including automotive, pharmaceutical, and aerospace--have expressed an interest in additional information beyond the UII (or in the case of EPCglobal, Inc., the EPC).

Further, the tire industry needs to provide identically tagged product to both the retail / mass merchandise and automotive OEMs. In the specific example of tires, there exists a need to identify additional traceability information beyond the EPC.

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1 DEFINITIONS

There are many terms and definitions associated with the subject of this standard that have special meaning to this industry. Definitions of other related terms used in this document can be found in the documents referenced in Section 7 References.

Table 1. Terms and Definitions

TERM	DEFINITION
2D	See Two-Dimensional Symbol .
Addressability	The ability to address bits, bytes, fields, files, or other portions of memory in the Tag .
AIM	Association for Automatic Identification and Mobility .
Alignment	The orientation of the Tag to the reader in pitch, roll, and yaw. This situation applies to both bar code symbols and RFID Tags .
Alphanumeric	A character set that contains alphabetic characters (letters) and numeric digits (numbers) and usually other characters such as punctuation marks. Used in both bar code symbols and RFID Tags .
ANS ANSI	American National Standards Institute document prefix.
ANS MH10 ANSI MH10.8	Unit Loads & Transport Packages committee under ANSI. Coding and Labeling of Unit Loads subcommittee under ANS MH10.
Antenna	Antennas are the conductive elements that radiate and / or receive radio frequency energy to and from the Tag .
Autodiscrimination	The ability of a bar code reader to automatically distinguish between two or more symbologies (e.g., Code 39, Code 128, Data Matrix, QR Code).
Bar Code Label	A generic term covering labels that have Linear Bar Codes and / or 2D symbologies, with or without human-readable data, printed on them. For the purposes of this standard, only 2D symbologies will be printed on the labels.
Bar Code Symbol	A generic term covering both Linear Bar Code and 2D symbologies.
Bi-directional	The capability of operating in either direction; e.g., both read and write. Also, the ability to be read from and / or written to from either side of the RFID Tag .