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OBD-II Communications Anomaly List

RATIONALE

The technical report covers technology, products, or processes which are mature and not likely to change in the foreseeable future. Therefore, no further changes are expected due to the SAE J1979 updated protocol requirements.

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FOREWORD

The SAE J1699-4 Task Force, a member of SAE E/E Diagnostics Steering Committee, has created this document to serve as a guide to common anomalies which may affect OBD communication using SAE J1850VPW, SAE J1850PWM, ISO 9141-2, ISO 14230-4, or ISO 15765-4 protocol between vehicle emission OBD ECUs and Diagnostic Equipment that utilizes generic services defined in SAE J1979.

Content of this document includes actual failures confirmed by investigation of actual vehicle units-in-operation, review and clarification of recommended practice documentation, and implementation guidance required to enable diagnosis on early model vehicles so that diagnostic equipment can obtain generic data content from vehicle systems that may have been released to the field with anomalous behavior.

Guidance in this document may not be compliant with currently published ISO or SAE Standards or Recommended Practices. Content within this document may also include items which have been the subject of misinterpretation of said Standards or Recommended Practices.

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1. SCOPE

To define a list of anomalies related to OBD Communications. Misinterpretations of various OBD Communications Standards and Recommended Practices have resulted in OBD “no-communications” situations in the field. This Information Report identifies the most prevalent of these.

1.1 Purpose

To provide guidance to diagnostic equipment (handheld scan tools, vehicle communication interfaces, inspection software systems) manufacturers, Vehicle OEMs, and Government Regulation authorities (CARB, EPA, etc.) in identifying issues with OBD Communications.

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 724-776-4970 (outside USA), www.sae.org.

SAE J1850	Class B Data Communications Network Interface
SAE J1930	Electrical/Electronic Systems Diagnostic Terms, Definitions, Abbreviations, and Acronyms - Equivalent to ISO/TR 15031-2
SAE J1978	OBD II Scan Tool - Equivalent to ISO/DIS 15031-4:December 14, 2001
SAE J1979	E/E Diagnostic Test Modes
SAE J2012	Diagnostic Trouble Code Definitions
SAE J2178-1	Class B Data Communication Network Messages - Detailed Header Formats and Physical Address Assignments