SURFACE VEHICLE STANDARD

J1962™ JUL2016

Issued 1992-06
Revised 2016-07

Superseding J1962 SEP2015

Diagnostic Connector

RATIONALE

This document is being revised by the SAE J1962 Task Force in response to a request from the California Air Resources Board (CARB) to SAE for clarification regarding the access area to the vehicle diagnostic connector that is intended to provide proper clearance for the mating of the scan tool connector to the vehicle.

As a result of the CARB request, the SAE Vehicle E/E System Diagnostic Standards Committee approved the task of reviewing and revising for clarification this SAE J1962 Specification.

FOREWORD

On-Board Diagnostic (OBD) regulations require passenger cars, and light and medium duty trucks, to be equipped with a standardized connector for purposes of access to on-board diagnostic information by “generic” test equipment. This document describes the requirements for the physical connection and associated pin usage to allow for standard access to the OBD data.

SAE J1962 was originally developed to meet U.S. OBD requirements for 1996 and later model year vehicles. ISO 15031-3 was based on SAE J1962 and was intended to meet European OBD requirements for 2000 and later model year vehicles, and added a modified connector type to accommodate vehicles with a 24 V system.

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1. SCOPE

1.1 Purpose

This document supersedes SAE J1962 200204, and is technically equivalent to ISO/DIS 15031-3: December 14, 2001.

This document is intended to satisfy the requirements of an OBD connector as required by U.S. On-Board Diagnostic (OBD) regulations. The diagnostic connection specified in this document consists of two mating connectors, the vehicle connector and the external test equipment connector.

This document specifies:

a. The functional requirements for the vehicle connector. These functional requirements are separated into four principal areas: connector location/access, connector design, connector contact allocation, and electrical requirements for connector and related electrical circuits,

b. The functional requirements for the external test equipment connector. These functional requirements are separated into three principal areas: connector design, connector contact allocation, and electrical requirements for connector and related electrical circuits.

1.2 Differences from ISO Document

The ISO 15031-3 document is intended to satisfy the OBD requirements in countries other than the U.S., and includes functionality not required or not allowed in the U.S.

Notable exceptions are:

a. U.S. OBD regulations specify a connector location that may be more restrictive than specified in this document or the ISO 15031-3 document.

b. U.S. OBD regulations do not allow greater than 20 V at the SAE J1962 connector. Only the Type A connector as defined in this document is allowable.

NOTE: A comma is used as a decimal marker for numeric values shown within the figures of this document.

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 +1 724-776-4970 (outside USA), www.sae.org.

SAE J1850 Class B Data Communication Network Interface

SAE J1978 OBD II Scan Tool – Equivalent to ISO/DIS 15031-4

2.1.2 ISO Publications

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

ISO 8092-2:2000	Road Vehicles - Connections for On-Board Electrical Wiring Harnesses - Part 2: Definitions, Test Methods and General Performance Requirements
ISO 9141-2:1994	Road Vehicles - Diagnostic Systems - Part 2: CARB Requirements for Interchange of Digital Information
ISO 9141-2:1994/Amd.1:1996	Road Vehicles - Diagnostic systems - Part 2: CARB Requirements for Interchange of Digital Information - Amendment 1
ISO 14230-4:2000	Road Vehicles - Keyword Protocol 2000 for Diagnostic Systems - Part 4: Requirements for Emission-Related Systems
ISO 15031-3:2016 (Ed. 2)	Road vehicles - Communication between Vehicle and External Test Equipment for Emissions-Related Diagnostics - Part 3: Diagnostic Connector and Related Electrical Circuits, Specification and Use
ISO/FDIS 15765-4: February 10, 2016	Road vehicles - Diagnostics on Controller Area Network (CAN) - Part 4: Requirements for Emissions-Related Systems
ISO 16750-2	Road vehicles - Environmental Conditions and Testing for Electrical and Electronical Equipment - Part 2: Electrical Load

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 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 J1930	Electrical/Electronic Systems Diagnostic Terms, Definitions, Abbreviations, and Acronyms – Equivalent to ISO/TR 15031-2
SAE J1979	E/E Diagnostic Test Modes – Equivalent to ISO 15031-5:2015 (Ed.3)
SAE J2012	Diagnostic Trouble Code Definitions – Equivalent to ISO 15031-6:2015 (Ed.3)