

SURFACE VEHICLE RECOMMENDED PRACTICE

J2012™

DEC2016

Issued 1992-06
Revised 2016-12

Superseding J2012 MAR2013

Diagnostic Trouble Code Definitions

RATIONALE

As DTC usage has increased with the introduction of new technology to vehicle systems (hybrid, diesel, etc.) it has become necessary to restructure the document to accommodate these changes. This restructuring includes the removal of Table Titles, and DTCs will no longer be grouped by functional areas. Also being updated are the usage notes to provide further guidance in the usage of DTCs with the new technology (i.e., smart sensors and actuators).

FOREWORD

On-Board Diagnostic (OBD) regulations require passenger cars, and light and medium duty trucks, to report standardized fault codes for malfunctions detected by the OBD system. This document with SAE J2012DA defines the standardized set of fault codes.

SAE J2012 was originally developed to meet U.S. OBD requirements for 1996 and later model year vehicles. ISO 15031-6 was based on SAE J2012 and was intended to meet European OBD requirements for 2000 and later model year vehicles. This document is technically equivalent to ISO 15031-6, with new and revised fault codes included.

TABLE OF CONTENTS

1.	SCOPE.....	2
1.1	Purpose.....	2
1.2	Differences from ISO Document.....	3
2.	REFERENCES.....	3
2.1	Applicable Documents.....	3
3.	DEFINITIONS.....	6
4.	GENERAL SPECIFICATIONS.....	7
5.	FORMAT STRUCTURE.....	7
5.1	Description.....	7
5.2	ISO/SAE Controlled Codes (Core DTCs).....	9
5.3	Manufacturer Controlled Codes (Non-Uniform DTCs).....	9
5.4	Body System Groupings.....	10
5.5	Chassis System Groupings.....	10
5.6	Powertrain System Groupings.....	10
5.7	Network and Vehicle Integration Groupings.....	10

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Sae J2012 Diagnostic Trouble Code Definitions

Werner Zimmermann, Ralf Schmidgall

A red circular graphic with a gradient, appearing as a partial circle or a stylized arrow pointing to the right, located to the right of the authors' names.

Sae J2012 Diagnostic Trouble Code Definitions:

Diagnostic Trouble Code Definitions Vehicle E E System Diagnostic Standards Committee, 2013 This document supersedes SAE J2012 DEC2007 and is technically equivalent to ISO 15031 6 2010 with the exceptions described in Section 1 2 This document is intended to define the standardized Diagnostic Trouble Codes DTC that On Board Diagnostic OBD systems in vehicles are required to report when malfunctions are detected SAE J2012 may also be used for decoding of enhanced diagnostic DTCs and specifies the ranges reserved for vehicle manufacturer specific usage This document includes a Diagnostic Trouble Code format bA description of the standardized set of Diagnostic Trouble Codes and descriptions contained in SAE J2012 DA The two most significant bytes of a DTC may be decoded according to two different lists DTC Format Identifier 0x00 and 0x04 cA description of the standardized set of Diagnostic Trouble Codes subtypes known as Failure Types contained in SAE J2012 DA applies only when three byte DTCs are used SAE J2012 is being republished with no appendices to complement the SAE J2012 DA document that is now available The prior version of SAE J2012 was technically equivalent to ISO 15031 6 2005 The ISO document was subsequently edited and published as an International Standard ISO 15031 6 2010 including minor editorial changes This version of SAE J2012 includes all of the editorial changes that were included in the published version of the ISO document This version is updated to include the latest standardized fault structures application information and references to SAE J2012 DA In this update the standardized DTC and FTB lists are published only in SAE J2012 DA

Code of Federal Regulations, 2000 *Code of Federal Regulations* Miriam E. Conteh-Morgan, 2004 Special edition of the Federal register containing a codification of documents of general applicability and future effect as of July 1 with ancillaries

Bussysteme in der Fahrzeugtechnik Werner Zimmermann, Ralf Schmidgall, 2014-07-08 Dieses Fachbuch gibt einen Überblick über die in der Kfz Elektronik verbreiteten Bussysteme wie CAN FlexRay LIN oder MOST deren Protokolle und die Softwarearchitektur moderner Steuergeräte Die Beschreibung erfolgt aus der Sicht von Ingenieuren die diese Systeme in der Praxis einsetzen und in Fahrzeuge integrieren müssen Ausführlich wird auf die hieren Schichten der ISO SAE und ASAM Transport und Diagnoseprotokolle sowie deren Anwendung eingegangen Neben der Kommunikation wird die Softwarearchitektur der Steuergeräte mit Betriebssystem und Basissoftware vorgestellt wie sie im Rahmen von AUTOSAR OSEK VDX und HIS definiert werden Neu in dieser Auflage wurden CAN FD Automotive Ethernet OTX und WWH OBD aufgenommen

L.S.A., List of C.F.R. Sections Affected, 2004

Code of Federal Regulations, Title 40, Protection of Environment, Pt. Pt. 85-86 (Sec. 86.600-1 to End), Revised as of July 1, 2011 U. s. Government Printing Office, 2011-11-16

Code of Federal Regulations Office of the Federal Register (U.S.) Staff, U S Office of the Federal Register, 2011-10-17

The Code of Federal Regulations of the United States of America, 2003 The Code of Federal Regulations is the codification of the general and permanent rules published in the Federal Register by the executive departments and agencies of the Federal Government

Code of Federal Regulations, Title 40, Protection of

Environment, Pt. Pt. 85-86 (Sec. 86.599-99), Revised as of July 1, 2009, 2009-10-27 *Federal Register*, 2012-10 CAN System Engineering Wolfhard Lawrenz, 2013-12-05 This book addresses the various challenges and open questions relating to CAN communication networks Opening with a short introduction into the fundamentals of CAN the book then examines the problems and solutions for the physical layout of networks including EMC issues and topology layout Additionally a discussion of quality issues with a particular focus on test techniques is presented Each chapter features a collection of illuminating insights and detailed technical information supplied by a selection of internationally regarded experts from industry and academia Features presents thorough coverage of architectures implementations and application of CAN transceiver data link layer and so called higher layer software explains CAN EMC characteristics and countermeasures as well as how to design CAN networks demonstrates how to practically apply and test CAN systems includes examples of real networks from diverse applications in automotive engineering avionics and home heating technology **Methode zur Reifegradsteigerung mittels Fehlerkategorisierung von Diagnoseinformationen in der Fahrzeugentwicklung** Barbara Krausz, 2018-10-08 Barbara Krausz stellt eine Methode vor mit welcher der Reifegrad in der Fahrzeugentwicklung mittels Fehlerkategorisierung von Diagnoseinformationen gesteigert werden kann Dazu ordnet sie gel ste Fehlerf lle bzw Fehlerspeichereintr ge zuvor definierten Ursachenkategorien zu Die Kategorien w hlt die Autorin hierbei so dass eine Unterscheidung zwischen entwicklungsspezifischen und serienrelevanten Ursachen m glich ist Sie trainiert einen geeigneten Klassifikator mit den gel sten Trainingsf llen und ordnet die F lle anhand der hnlichkeit der Fehlerumgebungsdaten den entsprechenden Ursachenkategorien zu Mit dieser Methode wird die Fehleranalyse in der Fahrzeugentwicklung beschleunigt und der Reifegrad der Diagnose bereits vor dem SOP Start of Production erh ht Die Autorin Barbara Krausz ist bei einem gro en deutschen Automobilhersteller als Entwicklungsingenieurin in der Powertrain Entwicklung f r PKW t tig Sie promovierte am Institut f r Verbrennungsmotoren und Kraftfahrwesen IVK der Universit t Stuttgart Code of Federal Regulations Office of the Federal Register (U.S.), U. s. Government Printing Office, 2011-10-17 *Title 40 Protection of Environment Part 86 (§ 86.600-1 to end of part 86) (Revised as of July 1, 2013)* Office of The Federal Register, Enhanced by IntraWEB, LLC, 2014-07-01 40 CFR Protection of Environment Code of Federal Regulations, Title 40, Protection of Environment, PT. PT. 85-86 (SEC. 86.599-99), Revised as of July 1, 2010, 2010-10-07 *Elektronik in der Fahrzeugtechnik* Kai Borgeest, 2008-08-17 Im Sommersemester 2005 hielt ich an der Hochschule Aschaffenburg erstmalig die Vorlesung Kfz Elektronik f r Studenten der Mechatronik und der Elektrotechnik beide im achten mester Das Ziel sollte sein die Teilnehmer die bereits Kenntnisse in Elektronik und Infor tik mitbringen zu bef higen erfolgreich die vielen interessanten Aufgaben bei einem Au mobilzulieferer oder einem Autohersteller zu meistern Aber welche Kenntnisse sind das Man k nnte nun jedes einzelne elektronische System im Fahrzeug detailliert vorstellen Das mag sogar ganz interessant erscheinen deswegen werden wir das auch im Buch tun aber kurz und b ndig es hilft dem Ingenieur aber nicht unbedingt weiter zuverl ssige

Produkte unter den Anforderungen der Automobilbranche zu entwickeln Oft arbeitet er lange Zeit nur an einem Teilsystem im Fahrzeug muss dieses Teilsystem aber in all seinen Facetten Hardware Software Gesamtsystem kennen Er muss wissen wie ein Elektronikmodul aufzubauen ist das mal mit der Temperatur des hei en Motorraums arbeiten muss und mal mit klirrendem Frost Neben den Temperaturen gibt es noch weitere Anforderungen die aus anderen Anw dungsfeldern der Elektronik nicht so bekannt sind Eine ganz besonders wichtige Anforderung ist der Preis Noch gr er sind die Unterschiede bei der Software Wer sich mit PC gut a kennt wird schnell bemerken dass Steuerger te im Auto im Vergleich zum PC recht eigen tige Rechner sind Ein Entwicklungsingenieur im Automobilbereich sollte auch einige gru legende Kenntnisse zum Thema Zuverl ssigkeit mitbringen *Verfahren zur Feststellung der Sicherheit von vernetzten, elektronischen Systemen im Kraftfahrzeug* Michael Grimm,2007 **Title 40 Protection of Environment Part 85 to § 86.599-99 (Revised as of July 1, 2013)** Office of The Federal Register, Enhanced by IntraWEB, LLC,2014-07-01 40 CFR Protection of Environment *Official Journal of the European Communities* ,1997 **Code of Federal Regulations, Title 40, Protection of Environment, Pt. 86 (Sec. 86.600-1-End), Revised as of July 1, 2006** ,2006-10-24 The Code of Federal Regulations is a codification of the general and permanent rules published in the Federal Register by the Executive departments and agencies of the United States Federal Government

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Table of Contents Sae J2012 Diagnostic Trouble Code Definitions

1. Understanding the eBook Sae J2012 Diagnostic Trouble Code Definitions
 - The Rise of Digital Reading Sae J2012 Diagnostic Trouble Code Definitions
 - Advantages of eBooks Over Traditional Books
2. Identifying Sae J2012 Diagnostic Trouble Code Definitions
 - Exploring Different Genres
 - Considering Fiction vs. Non-Fiction
 - Determining Your Reading Goals
3. Choosing the Right eBook Platform
 - Popular eBook Platforms
 - Features to Look for in an Sae J2012 Diagnostic Trouble Code Definitions
 - User-Friendly Interface
4. Exploring eBook Recommendations from Sae J2012 Diagnostic Trouble Code Definitions
 - Personalized Recommendations
 - Sae J2012 Diagnostic Trouble Code Definitions User Reviews and Ratings
 - Sae J2012 Diagnostic Trouble Code Definitions and Bestseller Lists
5. Accessing Sae J2012 Diagnostic Trouble Code Definitions Free and Paid eBooks
 - Sae J2012 Diagnostic Trouble Code Definitions Public Domain eBooks
 - Sae J2012 Diagnostic Trouble Code Definitions eBook Subscription Services

- Sae J2012 Diagnostic Trouble Code Definitions Budget-Friendly Options
- 6. Navigating Sae J2012 Diagnostic Trouble Code Definitions eBook Formats
 - ePub, PDF, MOBI, and More
 - Sae J2012 Diagnostic Trouble Code Definitions Compatibility with Devices
 - Sae J2012 Diagnostic Trouble Code Definitions Enhanced eBook Features
- 7. Enhancing Your Reading Experience
 - Adjustable Fonts and Text Sizes of Sae J2012 Diagnostic Trouble Code Definitions
 - Highlighting and Note-Taking Sae J2012 Diagnostic Trouble Code Definitions
 - Interactive Elements Sae J2012 Diagnostic Trouble Code Definitions
- 8. Staying Engaged with Sae J2012 Diagnostic Trouble Code Definitions
 - Joining Online Reading Communities
 - Participating in Virtual Book Clubs
 - Following Authors and Publishers Sae J2012 Diagnostic Trouble Code Definitions
- 9. Balancing eBooks and Physical Books Sae J2012 Diagnostic Trouble Code Definitions
 - Benefits of a Digital Library
 - Creating a Diverse Reading Collection Sae J2012 Diagnostic Trouble Code Definitions
- 10. Overcoming Reading Challenges
 - Dealing with Digital Eye Strain
 - Minimizing Distractions
 - Managing Screen Time
- 11. Cultivating a Reading Routine Sae J2012 Diagnostic Trouble Code Definitions
 - Setting Reading Goals Sae J2012 Diagnostic Trouble Code Definitions
 - Carving Out Dedicated Reading Time
- 12. Sourcing Reliable Information of Sae J2012 Diagnostic Trouble Code Definitions
 - Fact-Checking eBook Content of Sae J2012 Diagnostic Trouble Code Definitions
 - Distinguishing Credible Sources
- 13. Promoting Lifelong Learning
 - Utilizing eBooks for Skill Development
 - Exploring Educational eBooks
- 14. Embracing eBook Trends

- Integration of Multimedia Elements
- Interactive and Gamified eBooks

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