

SURFACE VEHICLE RECOMMENDED PRACTICE

J2012™

DEC2016

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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.

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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 höheren 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

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. 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 *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. 86.599-99), 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 bündig es hilft dem Ingenieur aber nicht unbedingt weiter zuverlässige 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 heißen Motorraums arbeiten muss und mal mit klirrendem Frost Neben den Temperaturen gibt es noch weitere Anforderungen die aus anderen Anwendungsfeldern der Elektronik nicht so bekannt sind Eine ganz besonders wichtige Anforderung ist der Preis Noch größer sind die Unterschiede bei der Software Wer sich mit PC gut auskennt wird schnell bemerken dass Steuergeräte im Auto im Vergleich zum PC recht eigenartige Rechner sind Ein Entwicklungsingenieur im Automobilbereich sollte auch einige grundlegende Kenntnisse zum Thema Zuverlässigkeit 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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1120 000 1118 600 1097 685 1096 625 1074 000 1072 360 7h 1076 000 1078 000 1098 000 1099 400 1122 000 p 1 5 2 3 4 5
6 7 8 9 10 12 14 44 ac 0 150 0 250 0 500 1 000 r1 0 075 0 125 0 25 0 5 r2 0 15

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web the following table defines recommended industry standard sizes for external acme general purpose threads per american national standard asme ansi b1 5 there are three classes of general purpose acme threads 2g 3g and 4g each class provides some clearance on all standard size diameters for free movement and are used in

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web this acme thread general purpose design calculator will determine the three classes of general purpose 2g 3g and 4g for the external and internal threads in application it is suggested that external and internal threads of the same class be used together for general purpose assemblies class 2g being the preferred choice