

# Ground Vehicle Standards Newsletter

Volume II, Issue 1  
January 2011

**SAE International**

Creating harmonized standards solutions. Moving the on- and off-road vehicle industry forward.



## SAE/NFPA release EV safety standards report

A summary report from the U.S. National Electric Vehicle Safety Standards Summit, held last October 21-22 at Cobo Center in Detroit, MI, has been released. The summit, co-hosted by SAE International and the National Fire Protection Association (NFPA), focused on how current codes and standards address safety and electrical infrastructure concerns related to electric vehicles.

The summary report is available on the SAE website.

[http://www.sae.org/servlets/pressRoom?OBJECT\\_TYPE=PressReleases&PAGE=showRelease&RELEASE\\_ID=1403](http://www.sae.org/servlets/pressRoom?OBJECT_TYPE=PressReleases&PAGE=showRelease&RELEASE_ID=1403)

The purpose of the summit was to develop the base elements for an action plan for the safe implementation of electric vehicles. Highlighting SAE's leadership role in this area, the event brought together key individuals, organizations, and agencies to develop a common knowledge to ensure that fire and electrical safety standards that impact electric vehicles will not serve as a barrier to their deployment.

NFPA launched an Electric Vehicle Safety Training project in 2010 to help firefighters and other first responders prepare for the growing number of electric vehicles on the roads in the United States. It provides first responders with information they need to most effectively deal with potential emergency situations involving electric vehicles.

"NFPA looks at procedures and accessibility, while SAE looks at the safety of vehicles," explained Argonne National Laboratory's **Ted Bohn, a member of SAE's Battery Standards Committee**, who spoke at the summit. "One aspect of the summit was to find out what information is needed by people who teach training courses on how to address electric vehicles fires. For example, where do safety standards come in when trying to establish a set of standardized practices for putting out a battery fire?"

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Bohn gave a presentation titled "Vehicle Standards Update: Hybrid Safety." In addition, **Robert Galyen, Magna e-car, Chair of the Battery Standards Committee**, spoke on "Battery and Labeling Standards" and another **committee member, Galen Ressler** of General Motors LLC, spoke on "Hybrid/Electric Vehicle Battery Safety Standards."

SAE will be developing specific action plans to address three key areas identified in the report: vehicle charging infrastructure; battery hazards identification and protection; and training for emergency responders and enforcement officials. In addition, plans are underway for another SAE/NFPA co-sponsored Electric Vehicle Safety Summit in the fall of 2011.

SAE's Battery Standards Committee also plans to publish a new standard J2929, *Electric and Hybrid Vehicle Propulsion Battery System Safety Standard – Lithium-based Rechargeable Cells*, early in 2011. The committee is also planning to publish revisions to seven standards which impact electric vehicle batteries during 2011.

## New standards categories to go into effect

In an effort to improve its standards classification system, and to reduce confusion for standards users, SAE International is restructuring and simplifying its system.

With the implementation of the new SAE International Standards Classification System, every SAE standard will be published with a classification label and a clear definition of the classification. The change entails the elimination and combination of certain classifications and the addition of others. The categories of "Non-Current," "Amendment" and "Re-Issued" have been eliminated, while a "Stabilized" category has been added.

The new classifications will be available for committees to begin using in late December 2010.

With these changes, SAE takes a step to address the lack of consistency among the many Standards Developing Organizations (SDOs) with respect to the nomenclature used to designate classifications of standards. A recent survey of just eight SDOs identified over 20 different categories of standards. As a result of this vast array of categories, the actual definitions of the many classifications in use are often found to be unclear and confusing to standards users.

### Following are the definitions of the new SAE standards categories:

- **Issued** – The first time a technical report is published.
- **Revised** – An active technical report has been updated and re-published.
- **Reaffirmed** – A technical report which has been reviewed by the technical committee and determined to be current with no need for immediate revision.
- **Stabilized** – A technical report that has been 'frozen' at the last active revision level.
- **Cancelled** – A technical report that is deemed to be 'not fit for use' due to technical reasons or when its technical requirements are totally superseded by another document.

Reasons that a document may be "Stabilized" include if it covers technology, products, or processes which are mature and not likely to change in the foreseeable future; if it covers technology, products, or processes for which a technical expertise no longer resides in the owning committee; or if the committee cannot find users for it.

### The following criteria will apply to a status of "Cancelled:"

- A Cancelled technical report will carry a clear rationale statement and, if at all possible, will direct users to alternative technical reports.
- A technical report shall not be cancelled based only on administrative reasons such as no identified use, existence of newer technology, or no committee expertise, etc.
- Determination that a document is not fit for use may be made when there is a clear safety issue with continued use, or when there has been a government requirement that can only be accommodated by elimination of the document.

All historical "legacy" technical reports will be grandfathered into the new systems using their existing categories. If you have any questions, please contact your committee's SAE Staff Representative or the SAE Customer Service Department – [customerservice@sae.org](mailto:customerservice@sae.org).

## SAE represented at high speed rail conference

**Jack Pokrzywa, Director of Ground Vehicle Standards for SAE International**, addressed attendees at the U.S. High Speed Rail Association's "High Speed Rail 2010" conference held Nov. 14-16 in New York, NY. Pokrzywa spoke about the necessity of standards development, and how standards can benefit the high speed rail industry.

The U.S. High Speed Rail Association unveiled its vision for a 17,000-mi (27,360-km) network of rail service that would crisscross the U.S. by 2030 with electric trains traveling up to 220 mph (354 km/h). Projects would begin in the busiest corridors known as mega regions and then gradually spread to wider regions so that many cities could benefit.

The conference included a series of endorsements for high-speed rail from U.S. Transportation Secretary Ray LaHood and other current and former transportation leaders. Secretary LaHood discussed the administration's support of a \$500 billion initiative to develop high-speed rail systems to link 80% of Americans within 25 years. LaHood likened the dawn of high-speed rail to other turning points in American transportation history, such as the interstate highway system in the 1950s.

*From SAE Update*

## Register your company in the SAE International Wheel Conformance Program & Database

**Wheel manufacturers: Gain the competitive advantage this new program offers!**

The SAE Wheel Conformance Program & Database allows companies to further distinguish themselves and their aftermarket wheels to meeting wheel identification criteria specified within SAE standard **J-2530, Aftermarket Wheels – Passenger Cars and Light Truck Performance Requirements and Test Procedures**. Developed in response to industry requests, it is sure to be a vital resource for the wheel industry, retailers, and consumers seeking manufacturers who meet this important standard.

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## Revision to heavy duty OBD communications compliance standard published

A revised version of *J1939/84, OBD Communication Compliance Test Cases for Heavy Duty Components and Vehicles* was published in December 2010. Issued by the **Truck and Bus Control and Communications Network Committee**, this recommended practice serves as a guide for testing vehicles for compliance with California ARB (Air Resources Board) and other requirements for emissions-related on-board diagnostic (OBD) functions for heavy duty engines used in medium and heavy duty (HD) vehicles.

Originally published in 2008, this purpose of this standard is to verify that vehicles and/or components are capable of communicating a required set of information, in accordance with the diagnostic test messages specified in SAE J1939/73, to fulfill the off-board diagnostic tool interface requirements contained in government regulations. It describes the tests, test methods, and results for verifying diagnostics communication from an off-board diagnostic tool to a vehicle or component.

The original 2008 publication established consensus principles for testing an engine's J1939 diagnostic communications software interface, as installed in a vehicle. The new 2010 revision expands these principles into a framework for U.S. Environmental Protection Agency rules, and California's Heavy Duty OBD rules, explains **Eric T. Swenson, Chairman of the Truck and Bus Electrical and Electronics Steering Committee**.

"Section 6 now provides sequences for SAE J1939/73 Diagnostic Application Layer queries to obtain the information required by the HD OBD rule under engine-off and engine-running conditions," Swenson said. "Section 5 describes the coordination required between an engine manufacturer and a vehicle manufacturer to successfully run the test sequences given in Section 6 in order to fulfill the Production Vehicle Evaluation requirements (13 CCR 1971.1 (I)(1))."

The committee is already considering future updates to J1939/84, including the issue of dynamic data collection and possible refinements for the automated assessment of returned data.

"Specific content will depend on a consensus opinion on what data values can be reliably (and invariably) returned to make black and white calls about content not meeting the HD OBD rule," Swenson said, "because defining unequivocal failures must be done with utmost care to avoid classification errors."

## New edition of J1939 standards manual available

The new 2010 edition of the "SAE Truck and Bus Control and Communications Network Standards Manual" is now available. The book contains the 17 primary standards in the J1939 family, and includes one new standard and four revised standards.

Developed by **SAE's Truck and Bus Control and Communications Subcommittee**, J1939 has become the preferred CAN for numerous applications such as on-highway trucks, off-highway equipment, agricultural equipment, construction equipment, fire/rescue equipment, materials handling, fleets, and marine vehicles.

New to the 2010 edition is *J2403, Medium/Heavy Duty E/E Systems Diagnosis Nomenclature*. The "SAE Truck and Bus Control and Communications Network Standards Manual, 2010 Edition" (Product Code: HS-1939/2010) is available for \$355. To order, or for more information, visit <http://store.sae.org>.

### Delivery options for SAE Technical Standards

- Handbook Supplements (HS) – Bound collections of technology related standards and reports offered at less than the collective price of the individual standards in the collection.
- JPaks - Online Standards Plans – A customizable subscription plan that lets you pay for just the documents you need and use, full text search capabilities and an alert page keep you aware of changes and updates.
- Standards on CD-ROM – An entire SAE standards library in a medium that is fast, easy to use and remains current throughout the year.
- Databases and customizable corporate solutions. Visit <http://standards.sae.org/>

## SAE's electric vehicle standards activities to be highlighted at national, international conferences

SAE International's initiatives on vehicle electrification and transportation connectivity will be highlighted at a number of forthcoming national and international meetings on electric vehicles.

In the coming months, SAE ground vehicle standards representatives will speak at conferences in San Francisco and London which focus on electric vehicle charging and electric vehicle batteries. Activities such as the new Vehicle Electrification portal ([www.evsae.com](http://www.evsae.com)), SAE's SmartGrid standards harmonization efforts (including collaborations with other organizations), and recent SAE standards related to this field (including those electric vehicle conductive charge couplers, and fuel economy of hybrid-electric vehicles, among others) will be spotlighted.

SAE will be a Supporting Organization for the "EV Charging Infrastructure USA 2011" summit, February 28 – March 1 in San Francisco. **Jack Pokrzywa, Director of Ground Vehicle Standards, SAE International**, will make a presentation on the topic of "Explaining What Progress is Being Made to Standardize EV Charging Technologies and Increase Interoperability to Facilitate EV Use in the Future."

His address will examine how the 2009 Recovery and Reinvestment Act has shifted focus to a more consumer-interactive network, and what this means for the technologies that are part of this network. He will also discuss the importance of standards for individual smart grid components, and provide background on SAE's interoperability standards – and the role they will play in enabling EV uptake in the near future.

This meeting, with the theme of "Developing Commercially Viable EV Charging Infrastructure: Multi-Stakeholder Business Models for Making EV Charging Profitable," brings together electric utilities, vehicle OEMs, city planners and government regulators. SAE members will receive a special 15% discount off the regular registration fee.

The following month, **Robert L. Galyen, Chair of the SAE International Battery Committee** will speak at "EV Battery Tech 2011," which will be held March 30 – April 1 in London. He will discuss the current activities of the committee. SAE will again be a Supporting Organization for this event, with members receiving a 15% discount off the registration fee here as well.

This conference examines practical solutions for driving down the cost and improving the performance of EV batteries. Representatives from OEMs in the U.S., Europe and Asia will discuss the latest research on ways to cost-efficiently increase the energy density, life cycle, range, and safety of EV batteries.

Tentatively plans are also underway for SAE's participation in other EV-related meetings, including the "Plug-In Electrical Infrastructure USA 2011" meeting from March 31-April 1 in San Diego.



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**SAE International**  
*Creating harmonized standards solutions.  
Moving the on- and off-road vehicle industry forward.*

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## SAE launches new vehicle electrification website and digital-magazine series

SAE's new Vehicle Electrification web portal at [evsae.com](http://evsae.com) went live in October. It was created to be the "go-to" source for engineering professionals looking for the latest technical information on technology advances, product solutions, supplier news, and vehicle-development trends from the most plugged-in experts in the electrified-vehicle field.

Engineers charged with developing the technology solutions that will drive electrification will be able to find information on the latest SAE books, events, technical papers, standards, and training—as well as content from an increasing number of SAE partners.

In addition, SAE's *Automotive Engineering International* is launching a special digital magazine series devoted to the most significant hybrid and electric vehicles and the current and future technologies being developed for them.

The first issue, which launched Nov. 4, tells the full development story of the 2011 Chevrolet Volt—the first production extended-range electric representing the next wave of electrified vehicles that will open an exciting chapter in efficient, clean transportation choices.

When veteran General Motors engineer Jon Lauckner sketched out his idea for a new type of electrified propulsion system for his boss, Bob Lutz, in 2006, he reckoned there were two major hurdles to actually reaching production.



The first hurdle was simply getting the idea for an "extended range" electric vehicle approved. But Lutz, then GM's Vice Chairman for Product Development, was immediately convinced this was something the automaker had to do. The second hurdle was far more daunting. For Lauckner's idea to work as conceived, it needed a high-power/high-energy automotive battery that did not exist.

Lutz likened the program to a "moon shot," because of the high level of invention

and critical-path engineering required to meet the aggressive 2010 production target. Lauckner remained confident that the issue of developing a suitable battery would be solved.

"We have the best technical organization in the industry," Lauckner said a year into Volt's development. "We're going to execute this program and deliver an exceptional new vehicle as planned."

With volume production of the 2011 Chevrolet Volt now under way, the development team and its strategic suppliers have delivered on Lauckner's promises.

Four more Vehicle Electrification Special Edition digital magazine issues are planned for 2011—in February, May, August, and November—focusing on other significant electrification advancements in vehicles and technologies.

From SAE Update

## Standards development committees seeking volunteers

The important work of the SAE Standards Development Program depends on people like you, volunteers from industry who give their time and expertise to serve on SAE technical committees. And, while the committees are some 7,000 volunteers strong, there is a current need for participants in the following areas. If you wish to impact the future of industry through standards development, express your interest at <http://www.sae.org/standardsdev/participationReq.htm>

**Powertrain** specifically Starter Battery; Gasoline Fuel Injection; Belt Drive; Battery Standardization; Vehicle and Engine Emissions

**Chassis Systems** specifically Electric Power Steering; Hydraulic Brake Components

**Electrical Systems** specifically Circuit Protection; Vehicle Electric Power Supply

**Materials** specifically Acoustical Materials; Automotive Adhesives and Sealants; Carbon and Alloy Steels; Collision Repair; Metals Technical; Plastics; Spring; Vibration Control

**Vehicle Engineering Systems** specifically Odometer / Speedometer

**Vehicle Safety Systems** specifically Seat Belt Systems Standards; Inflatable Restraints Standards; Safety System Components Standards Advisory Group

**Fuel Cells** specifically Fuel Cell Performance

**SAE Green Technology Systems Group**

## New committee chairs & vice chairs

**John Kremer**, Chair, Auto Trans-transaxle Committee

**Mark Zachos**, DG Technologies – Chair, Vehicle EE Diagnostic Standards Committee

**Robert Gruszczynski**, Audi of America Inc. – Vice Chair, Vehicle EE Diagnostic Standards Committee

**Keith Hodgson**, Ford - Chair, Automotive Electronic Systems Reliability Standards Committee

**Rebeca Delgado**, Freescale Semiconductor – Chair, Communication Transceivers Qualification Requirements Task Force under the Vehicle Architecture fir Data Communications Standards Committee

**Richard Kautz**, Ford - Chair, Low Frequency Magnetic Field Exposure Task Force

**Jerry Mount**, Conoco Phillips Company - Chair, Fuels and Lubricants TC 3 Driveline and Chassis Lubrication Committee under the EMC Committee

**Paul Baltusis**, Ford – Chair, J1979 Review Task Force under the Vehicle EE System Diagnostic Standards Committee

**Chris May**, Exxon Mobil – Chair, Engine Oil Viscosity Classification Task Force under the TC1 Committee

### Engineering Aids from SAE

SAE provides products that support testing procedures set forth in SAE standards, Recommended Practices, Information Reports, and other SAE documents including the **OSCAR H-Point Machine**, which is used in the design of seating and interior packages and in conjunction with SAE J 826 (rev. 1995), FMVSS regulations, and ISO standards—making it the required design and auditing tool for current production.

Also available is the newly designed **HPM II H-Point Machine**, which includes enhancements over the OSCAR H-Point machine for use in advance design applications.

Available at <http://store.sae.org/ea/>



## Smisek retires as committee chair

**Ron Smisek** retired as **Chair of SAE International's Vehicle EE System Diagnostic Standards Committee** in November. He had been Chairperson since 1987.

Smisek has also served on SAE's Board of Directors from 2006-09 and on the Technical Standards Board from 2002-06, serving as Chairperson in 2004-05. He was an SAE Motor Vehicle Council member from 2004 through 2008.

Ron has been an outstanding member and supporter of SAE, and specifically of SAE standards development, throughout his entire SAE membership term. His understanding of intellectual property issues enabled several works-in-progress to be published in a timelier manner.



Ron Smisek (right), who served as Chair of SAE's Vehicle EE System Diagnostic Standards Committee since 1987 before retiring in November, receives a certificate of appreciation presented by newly elected committee chair Mark Zachos (left).

## Volunteer recognition: Document Sponsors (October – December 2010)

The SAE Standards Development Program thanks its Document Sponsors. These individuals have served not only as active committee members but have dedicated their time and talent in guiding the development of standards documents from the preparation of all drafts through balloting and publication.

*Thank you.*

Gary Bessee, Southwest Research Institute

Jeff Crandall, Univ of Virginia

Jimmy Eavenson, Commercial Turf Products Ltd

Robert Furey, Furey & Associates LLC

William Hill

Jerry Hubbell

Lee Lackey, Noregon Systems Inc

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Robert Schade, Tru-Line Manufacturing Co

Jeffery Smith, Vee Engineering

Donald Smolenski, General Motors LLC

Jerry Steffy, Harley-Davidson Motor Co

Mark Stepper, Cummins Inc

Garold Yurko, Tyco Electronics Corp

Mark Zachos, DG Technologies



## Standards activities promoted at Electronica conference in Munich

SAE International was represented at the Electronica 2010 event held in Munich from Nov. 9-12. SAE standards activities were discussed at the conference and trade show, which focused on electronic components, systems, and applications and attracted more than 70,000 attendees. The topics of vehicle safety, energy efficiency, and sustainability dominated the program of the Electronica Automotive Conference.



Jack Pokrzywa, Director, SAE Ground Vehicle Standards, addresses attendees at the Electronica 2010 conference in Munich on Nov. 9.

**Helmut Keller, SAE International Automotive Electronics Reliability Committee Co-Chair and Chairman, Europe** (and Head of ZVEI, the German trade association of electronic suppliers) was a featured speaker at a forum on “Robustness Validation for MEMS.”

**Jack Pokrzywa, Director, SAE Ground Vehicle Standards**, provided a presentation titled “The Roadmap for Smart Grid Interoperability Standards.” He discussed SAE’s leadership in addressing the challenges of transportation connectivity, including SAE’s new Vehicle Electrification portal ([www.evsa.com](http://www.evsa.com)); SAE’s SmartGrid standards harmonization activities (including collaborations with other organizations); and recent SAE standards on electric vehicle conductive charge couplers and fuel economy of hybrid-electric vehicles, among others.

**Keith Wilson, Technical Project Specialist**, represented SAE products, solutions, and services in the Automotive Hall. The event’s exhibit featured numerous components and systems for electric vehicles, including components for power electronics and charging stations.

SAE was also invited to ZVEI’s Automotive Application Group Executive Committee meeting to present the current status of robustness validation activity in the U.S.

*From SAE Update*

### Standards Consortium Administration

With over a century of experience providing the common engineering requirements for new mobility vehicles, SAE can be a key component in developing any consortium-based activity, providing the expertise and worldwide technological and human resources to help you turn your vision into a successful operating reality.

Each client maintains its desired degree of autonomy, flexibility, and control. Client/project-tailored services include:

- A legal framework
- Fiscal oversight
- Policy and procedure development
- Publishing and distribution services
- Marketing and public relations activities

## Upcoming Standards Technical Committee Meetings

A current schedule can be found on the SAE website.



<http://www.sae.org/standards/>

## SAE's Troy office hosts C63 committee meeting

SAE's Automotive Headquarters in Troy, Michigan hosted a meeting of the **Accredited Standards Committee C63® Electromagnetic Compatibility** in October. The latest issue of the committee's newsletter praises the meeting facility and the cooperation of SAE staff. Accredited by the American National Standards Institute (ANSI), this committee develops electromagnetic compatibility standards.

## SAE Standards at SAE 2011 World Congress



The essential automotive technology event is right around the bend! The SAE 2011 World Congress will be held April 12-14 at Cobo Center in Detroit, MI, USA. During the event, some 60 SAE standards technical committees will meet including the Motor Vehicle Council which is made up of the Chassis, Electrical, Powertrain, Vehicle Engineering/Safety, and Materials committees.

Are you attending this event and are interested in learning more about the important work of the SAE standards development program? SAE standards staff will be available to tell you more. Visit [www.sae.org/congress](http://www.sae.org/congress) for details on where at the Congress you can meet with SAE standards representatives.

## An economical pathway for joint venture research: the Cooperative Research Program of SAE

Cooperative research ventures serve to bring more minds to the challenges and issues faced by industry. The result is a more robust project than each participating organization could complete independently. The pooling of financial resources also affords each participant more efficient use of their research budgets and eliminates duplication of efforts. Whether moving forward on the development of fuel cell standards...researching alternative refrigerants to HFC 134a...or developing a database of human body measurements to foster ergonomic designs, SAE's Cooperative Research Program can assist your company in its collaborative research needs.

To learn more contact Gary Pollak, Program Manager +1-724-772-7196; [gary@sae.org](mailto:gary@sae.org)



## SAE launches historical standards online

More than 5,000 historical automotive and aerospace standards are now available from SAE International. Part of SAE International's website enhancements, these standards are previous versions of technical standards that have since been revised. They are being sold individually in print and electronic formats.

Now when visitors search specific standards on the SAE International Web site-at [standards.sae.org](http://standards.sae.org)-the results will display all available prior versions of each standard, noting when they were published. Including access to historical standards is part of an overall enhancement of SAE International's Web site and online experience.

Historical standards can provide important information to all mobility engineering professionals. The ability to see the evolution of a standard provides valuable insight into the development and design of specific parts, components, systems, or vehicles. This not only gives engineers an historical perspective on a given standard, but allows them to track general technology trends and patterns over time.

For maintenance engineers, historical standards provide critical access to the specifications required to maintain products with long life cycles. In such cases, engineers need to have the standard that was in place at the time the design was implemented so that they know how to repair or replace particular parts, components, or systems. Historical standards also can be used to train and develop an educated, well-informed engineering staff, especially in organizations where senior engineers retire without having fully transferred their accumulated knowledge.

For more information on the newly available historical standards, visit [standards.sae.org/](http://standards.sae.org/).

*From SAE Update*

### **SAE: A Global Partner in Standards Development**

In addition to the maintenance and development of its family of technical standards, SAE International is also an active partner with other standards development organizations, government agencies, and regulatory bodies to support the newest, most robust, and comprehensive standards products for a changing global marketplace.

- US Department of Transportation
- Society of Automotive Engineers of Japan (JSAE)
- German Electrical and Electronic Manufacturers Association (ZVEI)
- US Federal Highway Administration
- China Automotive Technology & Research Center (CATARC)
- National Highway Traffic Safety Administration
- Korean Agency for Technology and Standards (KATS)
- US Department of Energy
- Japan Automobile Research Institute (JARI)
- US Environmental Protection Agency
- Brazilian National Standards Organization (ABNT)
- American National Standards Institute (ANSI)
- Automotive Electronics Council (AEC)
- International Organization for Standardization (ISO); US representative



## Acknowledgement: 2010 Corporate Support

SAE International wishes to acknowledge those companies who contributed to the funding of this year's SAE Standards Development Program. Thank you for helping write the future of the ground vehicle industry.

*Thank you.*

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American Honda Motor Co Inc  
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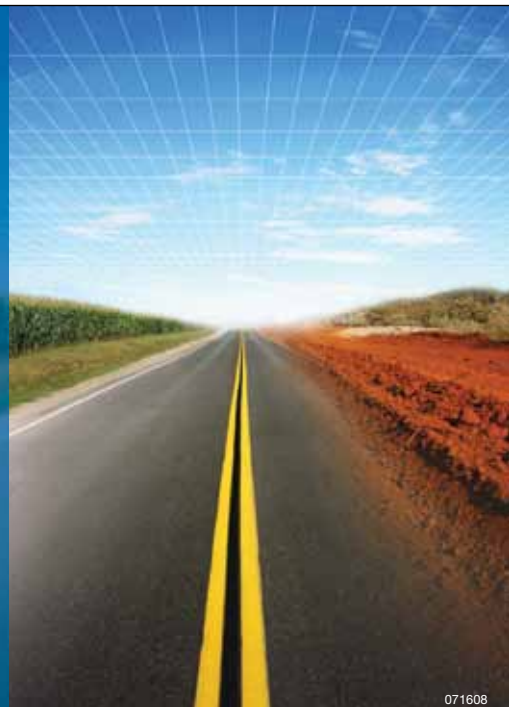
**For On- and Off-Road Harmonized Standards Solutions, All Roads Lead to SAE**

Since 1905, SAE International has been providing the common engineering requirements for new mobility products, advanced technologies, and applications. It is uniquely positioned to provide innovative standards solutions to the global on- and off-road industries and their engineering challenges.

For automotive vehicles, SAE plays the central role in developing essential North American emissions and safety standards to meet some of the most stringent regulations in the world. Through ISO, it plays a key role in bringing standards for and from the United States market to the global table. As the center of expertise on Commercial Vehicle/ConAgg standards development, many of its standards are adopted by ANSI and ISO.

SAE offers a full suite of standards capabilities—committee management, consensus-based standards development, consortium administration, cooperative research, and database development—providing industry, companies, and individuals with extensive opportunities to participate, influence, grow, and prosper.

[www.sae.org](http://www.sae.org)



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## **Gain a competitive advantage. Impact your bottom line. Invest in standards.**

Standards. The workhorse documents that commonize practices, processes, and products throughout the ground vehicle industry are also paramount to the advancement of technology. Standards documents are more than the practices of today. They account for history and anticipate the future of technology, regulation, and business. The direct benefits of standards are simple in concept but extraordinary in their global impact toward ever-safer, cleaner, more efficient worldwide transportation.

### **Technical standards enable and enhance:**

- consistent and clear expectations for product performance and reliability
- regulatory compliance
- consistent product quality
- compatibility and interoperability
- more efficient procurement

### **Standardization also:**

- lowers trade barriers
- lowers purchasing costs
- decreases design time
- promotes innovation
- increases new technology speed to market

Because industry can rely on standards for globally harmonized solutions to common issues, individual companies can devote more time and resources to advance their proprietary technology. In this way, standards help foster competition, which advances the collective technology of industry and in turn, creates the need for new and revised standards. This has been the cycle for ground vehicle standards solutions.

And, at the heart of those solutions is SAE International, the recognized leader in mobility engineering for over 100 years. It plays the central role in developing North American automotive standards and a key role in bringing US documents to the global standards table, working hand-in-hand with the global community to advance industry.

While participation in the standards development process helps the advancement of the industry it can also contribute to the advancement of your company and personal career.

### **Corporate Benefits**

- Input into the direction of the standards
- Competitive intelligence through advance knowledge of standard direction
- Advance warning of pending regulations and influence over the technical basis of the regulation
- Insight into the competitive environment
- Product liability protections
- Strong relationships with customers and suppliers
- Association with the leading society for advancing mobility technology

### **Individual Benefits**

- Professional development from continuous working contact with peers
- Peer recognition for advancing your industry's sectors technologies
- Excellent networking and learning opportunities from product developers/users around the world
- Discover emerging technologies
- Contribute to the industry's body of technical knowledge

To learn more about SAE Technical Standards Development—and for a schedule of Technical Committee meetings—visit us on the web at <http://www.sae.org/standards/>

**Become a better you. Volunteer for an SAE Standards Development Committee.**



## Documents in progress (October – December 2010)

### Truck and Bus Council

Committee	Doc	Title
Truck and Bus Brake Systems Committee	J2957	Hybrid Vehicle Brake Communication

### Motor Vehicle Council

Committee	Doc	Title
Electromagnetic Compatibility (EMC) Standards Committee	J2959	Methods of Measurement of Magnetic Field in Vehicles for Assessment of Occupant Exposure, 1 Hz to 300 kHz
Green Technology Systems Group	J2960	Implementation of Green Chemistry and Green Engineering Principles within the Automotive Sector
Human Biomechanics and Simulations Standards Steering Committee	J2949	H-III50M Ankle Update to Eliminate Electrical Signal Noise
Hybrid Committee	J2931/3	PLC Communication for Plug-in Electric Vehicles
	J2931/4	Broadband PLC Communication for Plug-in Electric Vehicles
Inflatable Restraints Committee	J2961	Linear Impact Test for Passenger Airbag Modules Component Testing

### Materials, Processes & Parts Council

Ground Vehicle Reliability Committee	J2958	Report on Unmanned Ground Vehicle Reliability
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## New & revised SAE Technical Standards (October – December 2010)

### Construction, Agricultural & Off-Road Machinery Council

Committee	Doc	Title	Status	Pub date
Tire and Rim	J2611_201012	Off-Road Tire Replacement Guidelines	Issued	12/07/10

### Fuels & Lubricant Council

Fuel & Lubricants TC2 Industrial Lubricants	MS1002_201012	Lubricants, Industrial Oils, and Related Products Type C (Gears) Specification	Revised	12/01/10
	MS1004_201010	Lubricants, Industrial Oils, and Related Products Type H (Hydraulic Fluids) - Specification	Revised	10/14/10
Fuels and Lubricants TC 7 Fuels	J312_201011	Automotive Gasolines	Revised	11/05/10

### Materials, Processes & Parts Council

Metallic Tubing Committee	J526_201011	Welded Low-Carbon Steel Tubing Suitable for Bending, Flaring, Beading, Forming and Brazing	Revised	11/05/10
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### Motor Vehicle Council

Vehicle E E System Diagnostic Standards Committee	J2534/2_201010	Optional Pass-Thru Features	Revised	10/26/10
Filter Test Methods Standards Committee	J1488_201010	Emulsified Water/Fuel Separation Test Procedure	Revised	10/22/10
	J1839_201010	Coarse Droplet Water/Fuel Separation Test Procedure	Revised	10/20/10
Human Biomechanics and Simulations Standards Steering Cmte	J2782_201010	Performance Specifications for a Midsize Male Pedestrian Research Dummy	Issued	10/14/10
	J2868_201010	Pedestrian Dummy Full Scale Test Results and Resource Materials	Issued	10/14/10

### Specialized Vehicle & Equipment Council

Motorcycle Technical Steering Committee	J1192_201011	Performance of Audible Warning Devices for Motorcycles	Issued	11/05/10
	J1306_201010	Motorcycle Auxiliary Front Lamps	Revised	10/14/10

### Special Purpose Vehicle Committee

	J2258_201012	Light Utility Vehicles	Revised	12/08/10
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### Truck & Bus Council

Truck and Bus Human Factors Committee	J1750_201010	Describing and Evaluating the Truck Driver's Viewing Environment	Revised	10/22/10
Truck Crashworthiness Committee	J2420_201010 COE	Frontal Strength Evaluation - Dynamic Loading Heavy Trucks	Revised	10/14/10
Truck and Bus Windshield Wipers and Climate Control Comm	J1612_201010	Cab Heating Systems Test Procedure and Performance Requirements--Trucks, and Multipurpose Vehicles	Issued	10/26/10
Truck and Bus Tire Committee	J2675_201010	Combined Cornering and Braking Test for Truck and Bus Tires	Revised	10/26/10
Truck and Bus Low Speed Communication Network Committee	J1708_201012	Serial Data Communications Between Microcomputer Systems in Heavy-Duty Vehicle Applications	Revised	12/09/10
	J2497_201012	Power Line Carrier Communications for Commercial Vehicles	Revised	12/09/10
Truck Bus Control and Communications Network Committee	J1939/21_201012	Data Link Layer	Revised	12/17/10
	J1939/84_201012	OBD Communications Compliance Test Cases for Heavy Duty Components and Vehicles	Revised	12/02/10

Match your expertise with the many SAE Technical Standards Development Committees that are writing the common engineering requirements for the advancement of the ground vehicle industry.

<p><b>Construction, Agricultural &amp; Off-Road Machinery Council</b></p> <p>Common Tests Technical Steering Cmte Hydraulics Electrical Components Cold Weather Operations Human Factors Technical Advisory Grp Machine Controls – Operator Machine Displays and Symbols Operator Seating and Ride Operator Accommodation Machine Technical Steering Cmte Loaders, Crawlers, Scrapers &amp; Attachments Sweeper, Cleaner &amp; Machinery Industrial Equipment Forestry &amp; Logging Equipment Excavators Roadbuilding Machinery Tire &amp; Rim Trenching &amp; Boing Operator Protection Tech Advisory Grp Personal Protection (General) Braking Lighting and Marking Protective Structures Sound Level Technical Steering Cmte Earth Moving Machinery Sound Level Back-up and Forward Warning Alarms</p>	<p><b>Specialized Vehicle &amp; Equipment Council</b></p> <p>Personal Watercraft Small Engine &amp; Powered Equip Snowmobile Special Purpose Vehicle Motorcycle Technical Steering Cmte Motorcycle Sound Marine Technical Steering Cmte Marine Engine Fuel Systems Marine Electrical Systems Trailer Gooseneck &amp; Fifth Wheel Trailer Dynamics Conventional Towing to 20,000 lbs Trailer Terminology Ship Systems &amp; Equip Steering Cmte Fluid Systems &amp; Components Fasteners System Cleanliness and Filter</p>	<p><b>Motor Vehicle Council</b></p> <p><b>Chassis Systems Group</b> Brake Forum Steering Cmte Brake Linings Standards Dynamometer Test Code Standards Road Test Procedures Standards Brake NVH Standards Highway Tire Forum Steering Cmte Vehicle Dynamics Standards Wheel Standards Hydraulic Brake Actuating Forum Adv. Grp. Brake Fluids Standards Automotive Brake &amp; Steering Hose Hydraulic Brake Components Power Steering Pump Noise Steering Cmte</p> <p><b>Powertrain Systems Group</b> Air Cleaner Test Code Standards All Wheel Drivetrain Standards Automatic Transmission Friction Automatic Transmission Transaxle Battery Committee Testing Safety Recycling Labeling Diesel Exhaust Aftertreatment Diesel Fuel Injection Equipment Driveline Engine Power Test Code Filter Test Methods Fuel Systems Gasoline Fuel Injection Hybrid Electric Motor Rating Communications Ignition Systems Lev. II Filter Pipe Assembly Manual Transmission Transaxle Penetration Piston Ring Power Test Code Transmission Axle Driveline</p> <p><b>Vehicle Engineering Systems</b> Comfort &amp; Convenience Advanced Traveler Information Systems Controls &amp; Displays Cooling Systems Dedicated Short Range Communications Human Accommodations and Design Devices In-cabin Climate Control Sound Signaling Advisory Group Speedometer &amp; Odometer Volatile Organic Compounds <b>Exterior and Performance</b> Glazing Materials Light Duty Vehicle Performance &amp; Economy Measurements Light Vehicle Exterior Sound Road Vehicle Aerodynamics Tow Vehicle Trailer Rating WIN/WMI Wiper Standards</p> <p><b>Lighting Coordinating Advisory Group</b> Heavy Duty Lighting Standards Road Illumination Devices Standards Signaling and Marking Devices Standards Test Methods and Equipment Standards Emergency Warning Lights and Devices Lighting Materials Standards International Lighting Advisory Group Lighting Standard Practices International Cooperation</p> <p><b>Vehicle Safety Systems</b> Accident Investigation &amp; Reconstruction Active Safety Systems Restraints System Standards Steering Child Restraints Belt Systems Inflatable Restraints Human Biomechanics &amp; Simulation Steering Cmte Dummy Testing &amp; Equip Dummy Dev Eval Advisory Group Impact &amp; Rollover Test Procedures Safety Test Instrumentation</p> <p><b>Fuel Cells Standards Cmte</b> Performance Safety</p> <p><b>Service Development Technical Committee</b> Service Towability Collision Graphics Based Service Info</p>	<p><b>Truck &amp; Bus Council</b></p> <p>Advanced &amp; Hybrid Powertrain Steering Cmte Alternative Fuels Axle Clutch, Transmission &amp; Power Take-Off Engines Hybrid and Electric Vehicle Hybrid Safety Hybrid Energy Storage Hydraulic Hybrids Body &amp; Occupant Environment Steering Cmte Track Crashworthiness Windshield Wipers &amp; Climate Control Human Factors Electrical/Electronic Steering Cmte Low Speed Communications Network Control and Communications Network Event Data Recorder Electrical Systems Brake and Stability Control Steering Cmte Foundation Brake Brake Actuator Brake Systems Electronically Controlled Brake Systems Brake Supply and Control Hydraulic Brake Wheel Stability Control Systems Air Brake Tubing &amp; Tube Fittings Total Vehicle Steering Cmte Tire Pressure Management Systems Corrosion Vehicle Characterization Coupling &amp; Interchangeability Noise, Vibration and Harshness (NVH) Aerodynamics/Fuel Economy Tire</p>	<p><b>Materials, Processes &amp; Parts Council</b></p> <p>Automotive Corrosion &amp; Prevention Acoustical Materials Fasteners Metals Technical Executive Steering Cmte Carbon &amp; Alloy Steels Metals Test Procedures Automotive Iron &amp; Steel Castings Sheet &amp; Strip Steel Elev Tep Prop of Ferrous Metals Automotive Adhesives &amp; Sealants Plastics Spine B92 Spring Steering Cmte Coil Spring Leaf Spring Pneumatic Spring Torsion Bar Spring &amp; Stabilizer Bars Textile &amp; Flexible Plastics /FAI Vibration Control Fluid Conductors Connectors Steering Cmte C1 Hydraulic Tube Fittings C2 Hydraulic Hose &amp; Hose Fittings C3 Training &amp; Education C5 Metallic Tubing Cmte on Automotive Rubber Specs Non-Hydraulic Hose Hose/Clamp Performance &amp; Compatibility Fatigue Design &amp; Eval Advisory Group Surface Enhancement Material Properties Structural Analysis Fatigue Lifetime Predictions Road Load Data Acquisition Component Testing &amp; Simulation Squeak and Ith Compatibility Task Force Ground Vehicle Reliability</p>	
<p><b>Fuels &amp; Lubricants Council</b></p> <p>Technical Committee 1 – Engine Lubrication Technical Committee 3 – Driveline &amp; Chassis Lubrication Technical Committee 7 – Fuels Technical Committee 8 – Aviation Piston Fuels and Lubricants Industrial Lubricants</p>	<p><b>Cooperative Research Projects</b></p> <p>Alternative Refrigerants CRP1234yf Alt Refrigerant Assessment CRP150 Low GWP Alt Refrigerants Assessment Gage R&amp;R of HPM High Temperature Battery Study Emergency Vehicle Lighting Truck Cab Anthropometric Study Vehicle Sound Level for Pedestrians H<sub>2</sub> Fuel Cell Station Breakaways, Hoses, Fittings and Nozzles Plastics Suitable for use with H<sub>2</sub></p> <p>High Strain Rate Plastics IMAC ITS Projects Otolitic Trauma CAESAR Ergonomics</p> <p>H-Point Machines WMI/IVIN WMC/PIN Wheel Conformance</p>	<p><b>Electrical Systems Group</b></p> <p>Automotive Electronic Systems Reliability Circuit Protection &amp; Switch Devices Electrical Distribution Systems Electromagnetic Compatibility (EMC) Electronic Design Automation Embedded Software Starter Motor Vehicle Architecture for Data Communications Vehicle E/E Systems Diagnostic Vehicle Electric Power Supply Vehicular Flat Panel Display Event Data Recorder</p> <p><b>Automotive Quality &amp; Process Improvement Committee</b></p>	<p><b>Vehicle Safety Systems</b></p> <p>Accident Investigation &amp; Reconstruction Active Safety Systems Restraints System Standards Steering Child Restraints Belt Systems Inflatable Restraints Human Biomechanics &amp; Simulation Steering Cmte Dummy Testing &amp; Equip Dummy Dev Eval Advisory Group Impact &amp; Rollover Test Procedures Safety Test Instrumentation</p> <p><b>Fuel Cells Standards Cmte</b></p> <p>Performance Safety</p> <p><b>Service Development Technical Committee</b></p> <p>Service Towability Collision Graphics Based Service Info</p>	<p><b>Materials, Processes &amp; Parts Council</b></p> <p>Automotive Corrosion &amp; Prevention Acoustical Materials Fasteners Metals Technical Executive Steering Cmte Carbon &amp; Alloy Steels Metals Test Procedures Automotive Iron &amp; Steel Castings Sheet &amp; Strip Steel Elev Tep Prop of Ferrous Metals Automotive Adhesives &amp; Sealants Plastics Spine B92 Spring Steering Cmte Coil Spring Leaf Spring Pneumatic Spring Torsion Bar Spring &amp; Stabilizer Bars Textile &amp; Flexible Plastics /FAI Vibration Control Fluid Conductors Connectors Steering Cmte C1 Hydraulic Tube Fittings C2 Hydraulic Hose &amp; Hose Fittings C3 Training &amp; Education C5 Metallic Tubing Cmte on Automotive Rubber Specs Non-Hydraulic Hose Hose/Clamp Performance &amp; Compatibility Fatigue Design &amp; Eval Advisory Group Surface Enhancement Material Properties Structural Analysis Fatigue Lifetime Predictions Road Load Data Acquisition Component Testing &amp; Simulation Squeak and Ith Compatibility Task Force Ground Vehicle Reliability</p>	
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