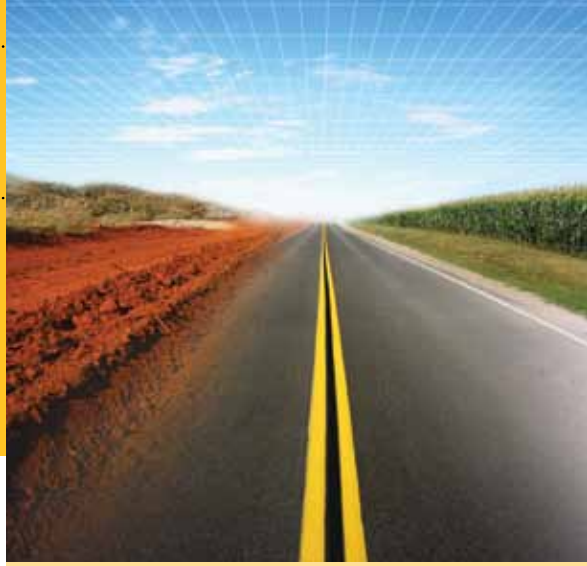
Ground Vehicle Standards *Newsletter*

Volume II, Issue 3
July 2011

SAE International®

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

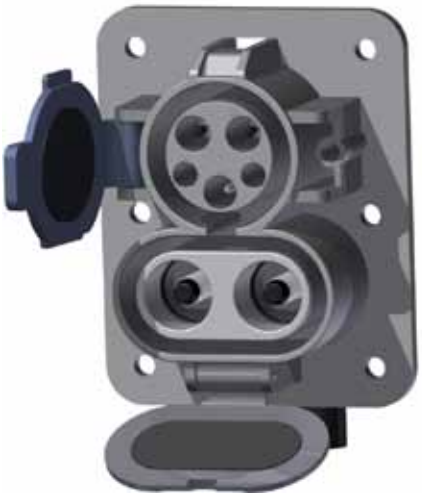


New SAE quick charge EV connector standard gaining momentum

Electric car manufacturers in the U.S. are leaning toward the adoption of a new quick-charge connector standard proposed by SAE International, according to recent reports. This charge format provides for a single, multi-function interface built into the vehicle, rather than two separate plugs.

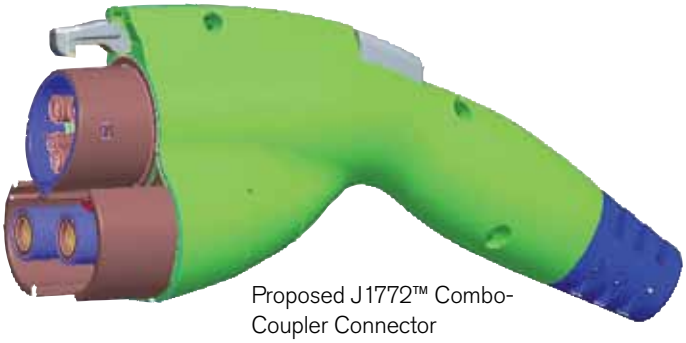
"Automotive companies are lobbying for only one opening for powering the car to allow for cleaner design," said Craig Childers, a zero-emissions specialist at the California Air Resources Board, as quoted on the *All Cars Electric* website.

As Jack Pokrzywa, Director of SAE International's Ground Vehicle Standards program explained to *Electric Vehicle Update*, "The approach in the U.S., which is also gaining more support in Europe, is to have a combination coupler that will be an AC as well as a DC standard." The SAE J1772™ combo-coupler charging standard is being developed through a consensus based process with the participation of more than 100 international stakeholders from car manufacturers, electric utilities, EV charging station companies, suppliers, and software companies. This standard is estimated to be approved and released around the beginning of 2012.



Proposed J1772™ Combo-Coupler receptacle

The proposed SAE J1772™ combo-coupler is designed to accommodate AC L1&L2 and DC L1&L2 charging all in a single vehicle inlet. Vehicles using this coupler could be capable of being charged at 12 amp - from a regular 110 VAC wall outlet (1.4kw), up to 80 amp @ 240 VAC (19.2kw) or up to 200 amp – 200 to 450 VDC 90kw DC. Communications between the vehicle and off-board charger as well as communication between the vehicle and smart grid will be done by Power Line Carrier



Proposed J1772™ Combo-Coupler Connector

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Issue Highlights:

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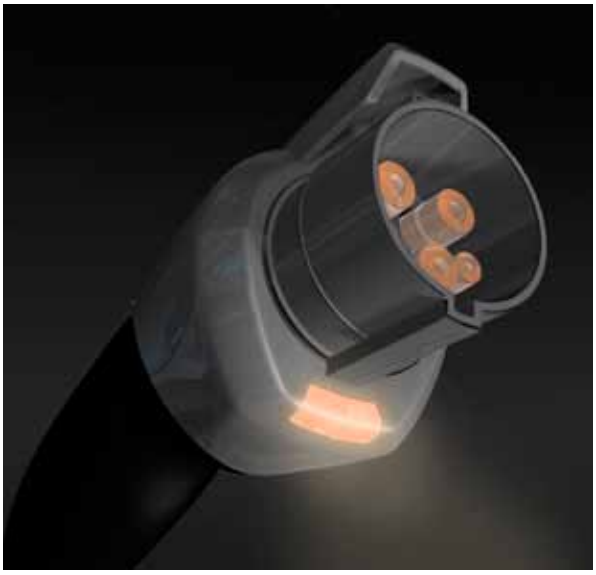

Current J1772™ AC Level 1 & 2 EV Charge Connector

(PLC) technology and requires no extra pins in the coupler. The communications technology also enables other customer focused features such a accessing the vehicle infotainment system to download multimedia files or receive diagnostic information from the vehicle. Other DC L2 charging system proposals require a separate coupler for AC and DC charging as well as unique control interfaces of AC and DC charging. The SAE Combo solution represents an integrated solution to charging allowing for future customer features enabled by communication with the vehicle.

The proposed SAE J1772™ combo coupler design provides interchangeability of the J1772™ AC level 1 and AC level 2 charge connector currently used by OEM's. The adaptability of the new J1772™ combo-coupler receptacle to the previous J1772™ design connector provides OEM's and EVSE suppliers with cost effective options.

J1772 Task Force lead instructs SAE webinar in August

Gery Kissel, Task Force Lead for J1772 (*Electric Vehicle and Plug-in Electric Vehicle Conductive Charge Coupler*) will be the instructor for a new SAE Webinar titled "Plug-In Vehicle Conductive Charging, SAE J1772 Explained" on August 9 and 11, 2011.

Gery Kissel to instruct upcoming SAE webinar "Vehicle and Plug-in Electric Vehicle Conductive Charge Coupler"

The webinar will cover the details behind the J1772 conductive charging interface, looking at overall plug-in vehicle charge strategy, electric safety strategy, electrical and physical interface requirements, and control strategy.

In addition to the J1172 Task Force, Mr. Kissel is active in numerous SAE standards committees. He is the Task Force Co-Lead for J2894 (Vehicle On-Board Charger Quality), and a member of the Fuel Cell Standards Committee, the Hybrid Committee, and the Fuel Cell Safety Workgroup. He was the former Task Force Lead for J1776 (Recommended Practice for Electric and Hybrid Electric Vehicle Battery Systems Crash Integrity Testing).

Several members of the Hybrid Committee were also consulted and approved the proposal for this webinar.

The two-session webinar will be presented live via WebEx™ including a 90-minute session on August 9, 2011 and a two-hour session August 11, 2011. Both sessions begin at 10:30 a.m. ET. Attendees will gain enhanced knowledge of the properties of the Control Pilot and Proximity circuits and the vehicle and Electric Vehicle Supply Equipment (EVSE) control responses necessary for SAE J1772 compliance.

To register for this seminar visit at the SAE website at http://www.sae.org/pdevent/WB1046

IEEE Standards Association and SAE International agree to collaborate on Smart Grid and vehicle-electrification standards

The IEEE Standards Association (IEEE-SA) and SAE International recently signed a memorandum of understanding (MOU) to establish a strategic partnership in vehicular technology related to the Smart Grid. In doing so, IEEE-SA and SAE International are striving to create a more efficient and collaborative standards development environment for the industry participants that they serve.

"Our stakeholders have keen interest in the Smart Grid because it's the infrastructure needed to recharge hybrid and electric vehicles," said Jack Pokrzywa, director of global ground vehicle standards with SAE International. "IEEE-SA is a natural partner for us in this area because of its international leadership position in Smart Grid standards development. Closer collaboration between SAE International and IEEE-SA will benefit industry by accelerating more meaningful standards that drive greater improvements in market access, cost reductions and technological innovation."

Both SAE International and IEEE-SA already have made significant contributions in standards in areas such as plug-in electric vehicles (PEVs), vehicle-to-grid (V2G) communications and power and the Smart Grid. SAE International Ground Vehicle Standards Technical Committees are leading the vehicle transportation industry in the development of standards to provide safer processes and practices for effective implementation of hybrid/electric vehicles. A total of 24 SAE International Ground Vehicle electrification committees with over 780 members have developed 46 standards and are currently working on over 30 new standards in process.

IEEE, the world's largest professional association advancing technology for humanity, has more than 100 standards and standards in development relevant to the Smart Grid, including more than 20 named in the U.S. National Institute of Standards and Technology (NIST) Framework and Roadmap for Smart Grid Interoperability Standards. Under terms of the MOU signed by IEEE-SA and SAE International in February 2011, each organization will share its draft standards related to the Smart Grid and vehicle electricification for input from the other.

"We are very excited about the potential of this strategic partnership with SAE International in vehicular technology related to the Smart Grid," said Judith Gorman, managing director, IEEE Standards Association. "By establishing an environment for closer collaboration with this globally recognized thought leader in the mobility industry, both IEEE-SA and SAE International will be able to more quickly roll out better standards. And that translates into faster realization of the revolution that the Smart Grid promises in terms of production, delivery and use of electricity for industry and consumers alike worldwide."

GM Chairman and CEO Akerson touts standards development

The development, adoption, and promotion of standards was emphasized by Dan Akerson, Chairman and CEO of General Motors Corporation, during his address at the SAE 2011 World Congress Banquet on April 14.

"It's very important that we work together, with SAE, to develop and promote common standards for the industry as a whole," Akerson said. "Common standards allow the industry to achieve better results sooner and more efficiently, and (they) accelerate acceptance of new products by the public at large."

Akerson said that electric vehicle development is creating new sectors within the automotive industry, and that common standards will be important to the growth of those sectors. He cited the SAE-led effort to define a common electric vehicle conductive charging system ("the one now in use on the Chevy Volt," he noted) as an example of how standards can facilitate growth in those new sectors.

"If we have to focus on meeting many different standards, we will fragment our engineering efforts and make it harder to achieve the results we all want to see," Akerson said. "Let's work together, let's work through SAE, and let's establish the standards that facilitate the electric vehicle industry we all want to see."

An update on opposition to the recent EU proposal to WTO on international standards

A hot topic at recent meetings of many standards development organizations (SDOs), including many SAE International standards committee meetings, has been a controversial proposal recently made by the European Union (EU) delegation to the World Trade Organization's (WTO) Negotiating Group on Non-Agricultural Market Access (NAMA).

The EU proposal expressed a strong preference for standards issued by organizations such as the International Organization for Standards (ISO) and International Electrotechnical Commission (IEC). In doing so, the proposal suggests that only these standards be recognized as "relevant international standards."

SAE is one of the SDOs actively involved in monitoring this situation and making sure that the positions of SDOs are being heard. SAE's Government Affairs Office consulted with the U.S. Chamber of Commerce, which sent an April 14th letter to the United States Trade Representative, National Security Council and National Economic Council, and Office of Management and Budget expressing "strong opposition" to the EU delegation's proposal to the WTO. In addition, the U.S. Delegation to World Trade Organization has circulated a proposal in opposition to the EU proposal.

The Chamber of Commerce letter, signed by 20 trade associations including the American Automotive Policy Council, National Association of Manufacturers, Association of Global Automakers, and Renewable Fuels Association, states that EU's proposal on international standards "restricts choice and flexibility, not only by naming their list of preferred standardizing bodies and suggesting that only standards developed by these bodies are relevant internationally within the context of the WTO Agreement on Technical Barriers to Trade, but by essentially requiring countries to use standards from those bodies." SAE was instrumental in securing the signature of the Association of Global Automakers on the Chamber letter.

The letter concludes that "the EU NAMA proposal restricts flexibility and choice in the global standards marketplace" and urges the Office of the U.S Trade Representative to oppose it.

Similarly, the U.S. WTO delegation, in a March 28th communication to the WTO Negotiating Group on Market Access, wrote that the EU proposals would "put the World Trade Organization in the position of picking winners and losers among non-governmental, private sector bodies that produce standards."

The U.S. delegation offered a counter proposal featuring text which reaffirmed earlier WTO agreements that defined international standards based on the concept of a "Committee Decision."

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This defined an international standard as one developed in accordance with six principles: openness; transparency; impartiality and consensus; relevance and effectiveness; coherence; and the development dimension. Standards developed by SAE International meet all the above requirements. Therefore, SAE is recognized as a global standards developing organization and fully supports the position of the U.S. delegation.

Second summit on safe implementation of electric vehicles scheduled for September 27-28

The National Fire Protection Association (NFPA) and SAE International will co-sponsor the 2nd Annual Electric Vehicle Safety Standards Summit September 27-28, 2011, at the Marriott Detroit Renaissance Center Hotel in Detroit, Michigan.

The *2nd* Annual Electric Vehicle Safety Standards Summit is a continuation of the dialogue begun at last year's groundbreaking Summit initiated in order to support the rapid implementation of electric and hybrid electric vehicles in North America. The Summit provides a forum in which all relevant individuals, organizations and agencies can contribute to the development of action plans regarding the codes and standards necessary to effectively address safety as it relates to electrified vehicles and their infrastructure.

Last year's Summit led to the identification of three areas for action plan development: vehicle charging infrastructure; battery hazards identification and protection; and training for emergency responders. A summary report of last year's Summit is available at http://www.nfpa.org/assets/files/PDF/Research/RFUSNEVSSSummit.pdf .

Safety representatives of vehicle and equipment manufacturers, fire protection specialists, electrical safety organizations and emergency responders, as well as governmental entities at the federal, state and local level involved in enhancing consumer safety and interagency communications, are encouraged to participate in the Summit.

"Hybrid-electric and electric vehicles continue to proliferate on our roadways and it is important to build on the positive progress now occurring in the safety infrastructure. We need to remain vigilant in our pursuit of safety on behalf of consumers and emergency responders while working closely with all who are trying to advance this important new technology," said Christian Dubay, P.E., NFPA vice president codes and standards and chief engineer.

Dave Baxter, SAE Motor Vehicle Council Chair, said, "SAE International is pleased to collaborate with NFPA in hosting a summit that brings together key stakeholders to identify the necessary standards development activities and associated deployment strategies."

Registration information will be available on the SAE International website at http://www.sae.org/events/nevss/ .

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/

Spotlight on Sustainability

A look at the activities of the Green Technologies Systems Group

SAE's Green Technology Systems Group serves as a guiding body for consensus standards development for environmental sustainability issues in the automotive sector.

The group has undertaken many recent activities, including partnering with the Sustainable Development Program Committee to develop and present a "Green Chemistry" session at the SAE 2011 World Congress.

The group has a major focus on materials, particularly biobased materials in vehicles. Examples of automobile biobased components include biobased resins, soy-based resins, bio-fillers in plastic, natural fiber filler in plastics, and sustainable fabrics.

Addressing this topic, the Green Technologies Systems Group hosted a "Workshop to Characterize Biobased Materials in Vehicles" in Detroit on April 15. This workshop focused on cooperation between the automotive sector and the United States Department of Agriculture (USDA) regarding the USDA's BioPreferred Program.

That program will dictate standards established by the government for biobased materials use in vehicles. Workshop speakers gave various perspectives on the USDA standards.

"The workshop opened up a dialog between the USDA and the automotive sector, and we look forward to being the focal point for ongoing discussions," said **Patricia Beattie, PhD, the Chair of the Green Technology Systems Group.**

Members of the group also participated in the Automotive Industry session at the Green Chemistry and Engineering Conference on June 21-23 in Washington, DC. The group is also currently working on the development of two standards: J2960, "Implementation of Green Chemistry and Engineering within the Automotive Sector"; and JJ2965, "Terminology and Definitions for Green Innovation and Sustainable Practices in the Automotive Industry"

If you would like to be involved in the activities of the green standards development committees, call 1.248.273.2455 or contact Pat Ebejer at pebejer@sae.org

Future editions of this column in the Ground Vehicle Standards Newsletter will examine work on topics such as alternative refrigerants, brake materials, fuel cells, and electric vehicles.

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

SAE Ground Vehicle Standards "On The Road"

A re-cap of recent and upcoming events at which SAE will participate

▪ Jack Pokrzywa, SAE International Director of Ground Vehicle Standards, spoke at the Plug-In Electric Vehicle Infrastructure USA 2011 event, March 31-April 1, in San Diego, California. He also spoke at the ANSI Workshop on Standards and Codes for Electric Vehicles on April 5-6 in Bethesda, Maryland.

▪ **Members of the HADD (Human Accommodations and Design Devices) Standards Committee Ron Rose and Meg Wallace**, and SAE Ground Vehicle Standards staff member Keith Wilson made presentations at Ward's Auto Interiors Conference on May 17 in Dearborn, Michigan.

▪ **Robert Gaylen, Chair of the SAE Battery Standardization Steering Committee** spoke at the IQPC Automotive Battery Technology Conference on May 9 in Wiesbaden, Germany. He is also scheduled to speak at the 2011 EV Battery Tech USA Summit on September 27-28 in Troy, Michigan.

▪ Jack Pokrzywa and SAE Ground Vehicle Standards staff member Peter Byk met with senior National Highway Traffic Safety Administration (NHTSA) staff members at NNHTSA Headquarters in Washington, DC on May 25 to discuss vehicle safety initiatives.

▪ Peter Byk made a presentation to the U.S Department of Commerce on May 25 in Washington, DC, discussing SAE standards for electric vehicle technology and smart grid development. He and Keith Wilson also attended the Michigan DOT Connected Vehicle Conference on June 1 in Dearborn, Michigan.

▪ Keith Wilson represented SAE at the 22nd International Technical Conference on the Enhanced Safety of Vehicles, sponsored by NHTSA on June 13-16 in Washington, DC.

▪ SAE participated in the ANSI (American National Standards Institute) Electric Vehicle Standards Panel on June 201-21 in Detroit, Michigan. The meeting was held to initiate work on a strategic roadmap identifying the standards and conformity assessment programs needed to enable the widespread acceptance and deployment of electric vehicles and associated infrastructure in the United States. SAE Ground Vehicle Standards staff members chaired three work groups on energy storage systems, vehicle components, and vehicle user interface.

▪ SAE International recently provided comments to the International Trade Administration pertaining to regulatory cooperation between the United States and the European Union that would help eliminate or reduce unnecessary divergences in regulation and in standards used in regulations that impede U.S. exports.

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

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
- Brasilian National Standards Organization (ABNT)
- American National Standards Institute (ANSI)
- Automotive Electronics Council (AEC)
- International Organization for Standardization (ISO); US representative

SAE participates in APEC Smart Grid Interoperability Meeting

Jack Pokrzywa, SAE International Director of Ground Vehicle Standards, spoke about standards for electric vehicles and the need for international harmonization of such standards at a meeting of the APEC (Asia-Pacific Economic Cooperation) Regulatory Cooperation Advancement Mechanism on Trade-Related Standards and Technical Regulations (ARCAM) on May 12-13 in Big Sky, Montana.

The ARCAM "Dialog on Smart Grid Interoperability Standards" brought together trade officials, regulators, and private sector stakeholders to discuss actions that APEC member economies can take to prevent trade barriers related to Smart Grid interoperability standards.

SAE was invited by the U.S. Department of Commerce to participate in this meeting. The meeting was presided over by George Arnold, National Coordinator for Smart Grid Interoperability at the National Institute of Standards and Technology.

At the session titled "Case Study – Electric Vehicles," Pokrzywa discussed the need for cooperation between standards developing organizations (SDOs) in order to open up electric vehicle markets, reduce costs and improve reliability. Without harmonization, he said, vehicle OEMs will have to package different charge receptacles and have different vehicle controls.

As a result of this meeting, "SAE gained visibility in countries that had no idea SAE existed, or that we developed standards for electric vehicles," Pokrzywa said.

Volunteer spotlight: SAE Awards

Congratulations to the following SAE 2011 Technical Standards Board Outstanding Contribution Award winners…

Gary B. Bessee, Southwest Research Institute, Motor Vehicle Council

Francine Bovard, Alcoa LLC, Materials, Processes & Parts Council

Michael Duoba, Argonne National Laboratory, Motor Vehicle Council

Walker H. Flint, Construction, Agricultural & Off-Road Machinery Council

Robert Galyen, Magna International, Motor Vehicle Council

David C. Kelley, Subcarrier Systems Corp., Motor Vehicle Council

Richard Edward Kuhlman, Fuels and Lubricants Council

Dr. David A. Lamb, US Army TARDEC, Materials, Processes & Parts Council

Alan Leupold, CNH Global NV, Construction, Agricultural & Off-Road Machinery Council

Joseph D. Miller, TRW Automotive US LLC, Motor Vehicle Council

Prof. Kin P. Moy, Youngstown State University, Motor Vehicle Council

Walter Ross, Specialized Vehicle & Equipment Council

Larry L. Smith, Infineum USA LP, Fuels & Lubricants Council

Frank J. Wassilak, Motor Vehicle Council

Nominate a deserving individual for an SAE award

As our most valued resource, those engaged in SAE's mission are best qualified to identify outstanding achievements made by their peers. Look closely at those with whom you work. Honor their excellence and celebrate their dedication and consider nominating them for one of the following SAE awards related to the work of the SAE Standards Development process. Submit nominations at www.sae.org/awards Need assistance with an award nomination? Contact the SAE Awards staff at awards@sae.org, 1-877-606-7323 (U.S. and Canada only) or 1-724-776-4970 (outside U.S. and Canada).

Henry Souther Standards Award

Nomination Deadline: August 31

Honoring Henry Souther, 1911 SAE President and known as the father of the SAE standards, this award acknowledges accomplishments in standards development in the disciplines of environment, safety, materials, testing and emissions. It is administered by the Environmental Award Committee under the auspices of the SAE Sustainable Development Program Committee.

Technical Standards Board Outstanding Contribution Award

Nomination Deadline: December 31

This award recognizes individuals for outstanding service in the technical committee activities of the Society. This includes valuable contributions to the work of SAE technical committees, unusual leadership in the activities of an SAE technical committee, significant contributions as a representative of the Society to the accomplishments of technical committees of other organizations or of government agencies, and outstanding contributions to SAE technical committee work in the form of research, test methods and procedures, and/or development of standards. It is administered by the SAE Technical Standards Board.

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.

Standards development committees seeking volunteers

Chassis Systems Specifically, Electric Power Steering Committee; Hydraulic Brake Components Committee; Brake Linings Standards Committee; and Highway Tire Forum Steering Committee

Electrical Systems Specifically, Vehicle E/E/ Systems Diagnostics; Electrical Distribution Systems Steering; Electrical Connectors Electrical Harness Covering; Electromagnetic Compatibility; Vehicle Network for Multiplex & Data Communications; Automotive Electronic Systems Reliability; Vehicle Flat Panel Display; Circuit Protection; Vehicle Electric Power Supply; Functional Safety; and Vehicle Electrical Systems Security

Fuel Cells Specifically, Fuel Cell Performance

Materials, Processes and Parts Acoustical Materials; Automotive Adhesives and Sealants; Carbon and Alloy Steels Committee; Metals Technical; Plastics; Spring; and Vibration Control

Powertrain Systems Specifically, Battery Standardization; Gasoline Fuel Injection; Belt Drive; Vehicle and Engine Emissions Standards; and Filter Test Methods

Service Development Technology Committee

Truck and Bus Specifically, Truck and Bus Wheel

Vehicle Engineering Systems Specifically, Odometer / Speedometer; Exterior Sound Level; Vehicle Aerodynamics

Vehicle Safety Systems Specifically, Seat Belt Systems, Inflatable Restraints

Express interest at http://www.sae.org/standardsdev/participationReq.ht

Upcoming Standards Technical Committee Meetings

A current schedule can be found on the SAE website.

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

New committees, chairs & vice chairs

Lenora Hardee, Navistar Inc. – Chair, Truck and Bus Human Factors Committee

Dennis Winn, Orscheln Products LLC – Chair, Truck and Bus Corrosion Committee

Thomas Livernois, Design Research Engineering – Chair, Odometer and Speedometer Standards Committee

Paul Aurand, Performance Friction Corp. – Chair, Brake Lining Standards Committee

David Antanaitis, General Motors Corp. – Chair, Hydraulic Brake Components Standards Committee

Mark Riefe, General Motors Corp. – Vice Chair, Hydraulic Brake Components Standards Committee

Michael Messman, Clemson-ICAR – Chair, Tire Tests for Road-Load Tire Model Parameters Task Force

Tom Forest, General Motors Corp. – Chair, Vehicle Electrical System Security Committee

Jack Danahy, IBM – Vice Chair, Vehicle Electrical System Security Committee

Dave Hartfelder, General Motors Corp. – Chair, Functional Safety Committee

Vehicle Electrical System Security Committee – New Committee

John Capp, General Motors Corp. – Chair, Active Safety Systems

Volunteer recognition: Document Sponsors (April & May 2011)

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.

Mohamed Abdelhamid, Robert Bosch LLC
Gregory Anderson, Scalia Safety Engineering
Pete Chisholm, Mercury Marine
Robert Dall
Ernest DeVincent, Getrag Corp
Greg Dvorchak, Hendrickson
Peter Filip, Southern Illinois Univ at Carbondale
Daniel Fritz, FXI
Gregory Gillham, Detroit Diesel Corp
Roger Graves, Eaton Truck Component Operations
Al Gunther
Michael Haldenwanger, General Motors Company
John Hall, JCH Consulting Company
Steven Haney, Parker Hannifin Corp
Brett Herrmann, Bergstrom Inc
William Hill
Annette Irwin, General Motors Company
Richard Johnson, The Battery Consultancy LLC
Paul Johnston, Meritor Wabco
John Kremer, General Motors
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David Mohr, Performance Friction Corp
Christopher Morgan, Autoliv ASP
Timothy Neveau, Continental Automotive Systems US Inc
Mark Place, Air-Way Manufacturing Corp
Joseph Robbins, Arizona Desert Testing LLC
Walter Ross
Richard Scholer, Chrysler
Theodore Selby, Savant Inc
Frank Severini, Consolidated Metco Inc
Thomas Soupal, Meritor Wabco
Amos Stackhouse
Douglas Stein, Autoliv ASP
Daniel Stern
Jim Vizanko, Yamaha Motor Corp USA
Frank Wassilak
Richard Wood, Solus-Solutions and Technologies
Garold Yurko
Mark Zachos, DG Technologies

Documents in progress (March – May 2011)

Committee	Doc	Title
TRUCK AND BUS COUNCIL		
Truck and Aerodynamics and Fuel Economy Committee	J2966	CFD Simulation Guidelines for Commercial and Heavy Ground Vehicle Applications
	J2971	Truck and Bus Aerodynamics Device Terminology
	J2978	Road Load Measurement Using Coastdown Techniques
Truck and Bus Tire Pressure Management Systems Committee	J2848-3	Tire Pressure Systems Management (CTIS) Type – Medium and Heavy Duty Trucks
Work Truck Safety Committee	J2967	Ready Mix Concrete Truck Safety Requirements
MOTOR VEHICLE COUNCIL		
Automatic Transmission Friction Standards Committee	J2968	Fatigue Life Procedure for Wet Friction Materials
Brake Linings Standards Committee	J2975	Measurement of Copper and other elements in Brake Friction Materials
Fuel Cell Standards Committee	J2601-2	Fueling Protocols for Heavy Duty Gaseous Hydrogen Surface Vehicles
	J2601-3	Fueling Protocol for Gaseous Hydrogen Powered Industrial Trucks
Fuel Systems Standards Committee	J2973	Fuel Components and Systems Leak Tightness Specifications and Test Practices (or Methods)
Green Technology Systems Group	J2965	Terminology and Definitions for Green Innovation and Sustainable Practices in the Automotive Industry
Interior Climate Control Service Committee	J2970	Minimum Performance Requirements, Hydrogen-nitrogen Electronic Leak Detectors
Safety and Human Factors Steering Committee	J2972	Definition of Automotive Hands-Free Operation of a Person-to-Person Voice and/or Data Wireless
Vehicle Battery Standards Committee	J2974	Technical Information Report on Automotive Battery Recycling

New, revised & stabilized SAE Technical Standards (January – March 2011)

Committee	Doc	Title	Status	Pub Date
Agricultural Tractor Standards Committee	J167_201104	Overhead Protection for Agricultural Tractors - Test Procedures and Performance Requirements	Reaffirmed	04/01/11
	J974_201104	Flashing Warning Lamp for Agricultural Equipment	Reaffirmed	04/01/11
Lighting and Marking	J99_201103	Lighting and Marking of Industrial Equipment on Highways	Stabilized	03/08/11
Fuels and Lubricants TC 1 Engine Lubrication	J183_201104	Engine Oil Performance and Engine Service Classification (Other than "Energy Conserving")	Revised	04/06/11
Textile and Flexible Plastics Committee	J1530_201105	Test Method for Determining Resistance to Fiber Loss, Resistance to Abrasion and Bearding of Automotive Carpet Materials	Revised	05/26/11
	J1961_201105	Accelerated Exposure of Automotive Exterior Materials Using a Solar Fresnel Reflector Apparatus	Revised	05/16/11
	J2661_201105	Optical Imaging Evaluation of Impact Damage Resistance Testing on Exterior Finishes	Issued	05/26/11
	J948_201105	Test Method for Determining Resistance to Abrasion of Automotive Bodycloth, Vinyl, and Leather, and the Snagging of Automotive Bodycloth	Revised	05/26/11
Hydraulic Hose and Hose Fittings Committee	J1231_201105	Formed Tube Ends for Hose Connections and Hose Fittings	Revised	05/16/11
Collision Repair Committee	J1555_201105	Recommended Practice for Optimizing Automobile Damageability and Repairability	Revised	05/02/11
	J2376_201105	New-Vehicle Collision Repair Information	Revised	05/16/11
Accident Investigation and Reconstruction Practices Cmte	J224_201105	Collision Deformation Classification	Reaffirmed	05/18/11
Brake Linings Standards Committee	J2581_201103	Thermal Transport Properties Germane to Friction Materials and Brakes	Reaffirmed	03/08/11
Brake NVH Standards Committee	J2933_201103	Verification of Brake Rotor Modal Frequencies	Issued	03/01/11
Seat Belt Systems Standards Committee	J1803_201104	Seat Belt Restraint Systems Hardware - Glossary of Terms	Revised	04/06/11
Interior Climate Control Committee	J1627_201104	Performance Criteria for Electronic Refrigerant Leak Detectors	Stabilized	04/01/11
	J1657_201104	Selection Criteria for Retrofit Refrigerants to Replace CFC-12 (R-12) in Mobile Air-Conditioning Systems	Stabilized	04/01/11
	J1660_201104	Fittings and Labels for Retrofit of CFC-12 (R-12) Mobile Air-Conditioning Systems to HFC-134a (R-134a)	Stabilized	04/01/11
	J1661_201104	Procedure Retrofitting CFC-12 (R-12) Mobile Air-Conditioning Systems to HFC-134a (R-134a)	Stabilized	04/01/11
	J1771_201105	Criteria for Refrigerant Identification Equipment for Use with Mobile Air-Conditioning Systems	Stabilized	05/26/11
	J1989_201105	Recommended Service Procedure for the Containment of Cfc-12 (R-12)	Stabilized	05/26/11
	J1990_201105	Recovery and Recycle Equipment for Mobile Automotive Air-Conditioning Systems	Stabilized	05/26/11
	J638_201105	Motor Vehicle Heater Test Procedure	Stabilized	05/26/11
	J953_201105	Passenger Car Backlight Defogging System	Stabilized	05/26/11
Restraint Systems Standards Steering Committee	J128_201103	Occupant Restraint System Evaluation - Passenger Cars and Light-Duty Trucks	Stabilized	03/22/11
Inflatable Restraints Committee	J2531_201103	Impulse Noise from Automotive Inflatable Devices	Revised	03/06/11

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Committee	Doc	Title	Status	Pub Date
Vehicle Architecture For Data Communications Standards	J2178/1_201104	Class B Data Communication Network Messages - Detailed Header Formats and Physical Address Assignments	Stabilized	04/01/11
	J2178/2_201104	Class B Data Communication Network Messages - Part 2: Data Parameter Definitions	Stabilized	04/01/11
	J2178/3_201105	Class B Data Communication Network Messages - Part 3 - Frame IDs for Single-Byte Forms of Headers	Stabilized	05/02/11
	J2178/4_201104	Class B Data Communication Network Messages - Message Definitions forThree Byte Headers	Stabilized	04/01/11
Connector Systems Standards Committee	J858_201105	Electrical Terminals Blade Type	Stabilized	05/18/11
Cooling Systems Standards Committee	J164_201103	Radiator Caps and Filler Necks	Revised	03/22/11
Hydraulic Brake Components Standards Committee	J1601_201103	Rubber Cups for Hydraulic Actuating Cylinders	Stabilized	03/16/11
Hybrid Committee	J2847/1_201105	Communication between Plug-in Vehicles and the Utility Grid	Revised	05/09/11
Road Illumination Devices Standards Committee	J2738_201104	Improved Roadway Illumination: Information Resource	Reaffirmed	04/14/11
	J583_201103	Front Fog Lamp	Revised	03/01/11
Dummy Testing and Equipment Committee	J2857_201103	Hybrid III 3-Year Old Child Dummy User's Manual	Issued	03/22/11
Automatic Transmission Transaxle Committee	J2310_201105	Rectangular Cross Section Polymeric Sealing Rings	Revised	05/02/11
	J640_201103	Symbols for Hydrodynamic Drives	Cancelled	03/28/11
	J643_201104	Hydrodynamic Drive Test Code	Revised	04/04/11
	J646_201104	Planetary Gears – Terminology	Revised	04/04/11
Vehicle Battery Standards Committee	J537_201105	Storage Batteries	Revised	05/23/11
Wheel Standards Committee	J1981_201104	Road Hazard Impact Test for Wheel and Tire Assemblies (Passenger Car, Light Truck, and Multipurpose Vehicles)	Reaffirmed	04/25/11
	J1986_201104	Balance Weight and Rim Flange Design Specifications, Test Procedures, and Performance Recommendations	Revised	04/28/11
Marine Technical Steering Committee	J1378_201103	Electric Hourmeter Specification	Stabilized	03/08/11
	J2005_201104	Stationary Sound Level Measurement Procedure for Recreational Motorboats	Reaffirmed	04/01/11
Marine Electrical Systems Committee	J1171_201103	External Ignition Protection of Marine Electrical Devices	Reaffirmed	03/08/11
Snowmobile Technical Committee	J192_201103	Maximum Exterior Sound Level for Snowmobiles	Revised	03/06/11
	J278_201103	Snowmobile Stop Lamp	Reaffirmed	03/12/11
	J279_201103	Snowmobile Tail Lamp (Rear Position Lamp)	Reaffirmed	03/12/11
	J280_201103	Snowmobile Headlamps	Reaffirmed	03/12/11
Truck and Bus Foundation Brake Committee	J1802/1_201105	Test Component Specifications	Revised	05/16/11
	J294_201105	Service Brake Structural Integrity Test Procedure-Vehicles Over 4500 kg (10000 lb) GVWR	Reaffirmed	05/19/11
	J662_201105	Brake Block Chamfer	Stabilized	05/17/11
Truck and Bus Brake Systems Committee	J2580_201103	Identification and Installation of Air Brake System Components	Reaffirmed	03/16/11
Truck and Bus Brake Supply and Control Components Committee	J1859_201105	Test Procedures for Determining Air Brake Valve Input-Output Characteristics	Revised	05/16/11
	J1860_201105	Labeling Air Brake Valves with Their Performance (Input-Output) Characteristics	Revised	05/16/11
Air Brake Tubing and Tube Ftg Committee	J2494/1_201105	Dimensional Specifications for Metallic Body Push-to-Connect Fittings Used on a Vehicular Air Brake System	Revised	05/10/11
Truck and Bus Wheel Committee	J179_201104	Labeling - Disc Wheels and Demountable Rims – Trucks	Stabilized	04/14/11
	J2133_201103	Disc Wheel Radial Runout Low Point Marking	Stabilized	03/30/11
	J851_201103	Dimensions - Wheels for Demountable Rims, Demountable Rims, and Spacer Bands - Truck and Bus	Stabilized	03/30/11
Truck and Bus Windshield Wipers and Climate Control Committee	J2646_201105	Cab Air-Conditioning Test Procedure - Heavy Trucks with and without Sleepers	Issued	05/10/11
Truck and Bus Total Vehicle Steering Committee	J1490_201105	Measurement and Presentation of Truck Ride Vibrations	Stabilized	05/17/11
	J2180_201105	A Tilt Table Procedure for Measuring the Static Rollover Threshold for HeavyTrucks	Stabilized	05/17/11
	J2245_201105	Recommended Practice for Splash and Spray Evaluation	Stabilized	05/17/11
	J682_201105	Rear Wheel Splash and Stone Throw Protection	Stabilized	05/17/11
	J683_201105	Tire Chain Clearance - Trucks, Buses (Except Suburban, Intercity, and Transit Buses), and Combinations of Vehicles	Stabilized	05/17/11
Truck and Bus Aerodynamics and Fuel Economy Committee	J1264_201105	Joint RCCC/SAE Fuel Consumption Test Procedure (Short Term In-ServiceVehicle) Type 1	Stabilized	05/10/11
Truck Bus Control and Communications Network Committee	J1939/01_201105	On-Highway Equipment Control and Communication Network	Revised	05/23/11
	J1939/71_201103	Vehicle Application Layer (Through May 2010)	Revised	03/15/11
	J1939/75_201105	Application Layer - Generator Sets and Industrial	Revised	05/16/11
	J1939_201104	Serial Control and Communications Heavy Duty Vehicle Network - Top Level Document	Revised	04/14/11

SAE International

Ground Vehicle Standards Committees & Staff Contacts

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

Motor Vehicle Council

Powertrain Systems Group

- Air Cleaner Test Code Standards
- All Wheel Drivetrain Standards
- Automatic Transmission Friction
- Automatic Transmission Transaxle
- Battery Committee
  - Testing
  - Safety
  - Recycling
  - Labeling
  - Transportation
  - Recycling
  - Truck and Bus
- Diesel Fuel Injection Equipment
- Driveline
- Engine Power Test Code
- Filter Test Methods
- Fuel Systems
- Gasoline Fuel Injection
- Hybrid
  - Electric Motor Rating
  - Communications
  - Connector
- Emissions
- Lev II Filler Pipe Assembly
- Manual Transmission Transaxle
- Permeation
- Piston Ring
- Power Test Code
- Transmission Axle Driveline

Chassis Systems Group

- 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 & Steering Hose
  - Hydraulic Brake Components

Vehicle Safety Systems

- Accident Investigation & Reconstruction
- Active Safety Systems
- Restraints System Standards Steering
  - Child Restraints
  - Belt Systems
  - Inflatable Restraints
- Safety Systems Components Advisory Group
  - Human Biomechanics & Simulation
    - Steering Cmte
    - Dummy Testing & Equip
    - Dummy Dev Eval Advisory Group
  - Impact & Rollover Test Procedures
  - Safety Test Instrumentation

- Driver Vision
- Safety & Human Factors Steering Cmte
- Vehicle Sound for Pedestrians (VSP)

Electrical Systems Group

- Vehicle E/E Systems Diagnostic
- Electronic Design Automation
- Vehicle Arch. for Data Communications
- Vehicle Electric Power Supply
- Embedded Software
- Automotive Electronic Systems Reliability
- Vehicular Flat Panel Display
- Electromagnetic Compatibility (EMC)
- Electrical Distribution Systems Steering Cmte.
  - Connector Systems
  - Cable Standards
  - Harness Covering
- Circuit Protection & Switch Devices
- Functional Safety
- Automotive OEM EMC
- Event Data Recorder

Fuel Cells Standards Cmte

- Emissions
- Interface
- Performance
- Safety

Vehicle Engineering Systems

Comfort & Convenience

- Adaptive Devices
- Advanced Traveler Information Systems
- Controls & Displays
- Cooling Systems
- Dedicated Short Range Communications
- Human Accommodations and Design Devices
- Interior Climate Control
- Sound Signaling Advisory Group
- Speedometer & Odometer
- Volatile Organic Compounds

Exterior and Performance

- Glazing Materials
- Light Duty Vehicle Performance & Economy Measurements
- Light Vehicle Exterior Sound
- Road Vehicle Aerodynamics
- Tow Vehicle Trailer Rating
- WIN/WMI
- Wiper Standards
- Dynamical Modeling and Simulation Committee

Lighting Coordinating Advisory Group

- 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

Green Technology Systems Group

- Green Bio-Materials Task Force
- Green Terminology Task Force

Service Development Technical Committee

- Service Towability
- Collision
- Graphics Based Service Info

Automotive Quality & Process Improvement Committee

Truck & Bus Council

- Advanced & Hybrid Powertrain Steering Cmte
  - Alternative Fuels
  - Axle
  - Clutch, Transmission & Power Take-Off
  - Engines
  - Hybrid Safety
  - Hydraulic Hybrids
- Body & Occupant Environment Steering Cmte
  - Truck Crashworthiness
  - Windshield Wipers & 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 & Tube Fittings
- Total Vehicle Steering Cmte
  - Tire Pressure Management Systems
  - Corrosion
  - Vehicle Characterization
  - Coupling & Interchangeability
  - Noise, Vibration and Harshness (NVH)
  - Aerodynamics/Fuel Economy
  - Tire

Materials, Processes & Parts Council

- Automotive Corrosion & Prevention
- Acoustical Materials
- Fasteners
- Metals Technical Executive Steering Cmte
  - Carbon & Alloy Steels
  - Metals Test Procedures
  - Automotive Iron & Steel Castings
  - Sheet & Strip Steel
  - Elev Tep Prop of Ferrous Metals
- Automotive Adhesives & Sealants
- Plastics
- Spline B92
- Spring Steering Cmte
  - Coil Spring
  - Leaf Spring
  - Pneumatic Spring
  - Torsion Bar Spring & Stabilizer Bars
- Textile & Flexible Plastics /IFAI
- Vibration Control
- Fluid Conductors Connectors Steering Cmte
  - C1 Hydraulic Tube Fittings
  - C2 Hydraulic Hose & Hose Fittings
  - C5 Metallic Tubing
- Cmte on Automotive Rubber Specs
- Non-Hydraulic Hose
- Hose/Clamp Performance & Compatibility
- Fatigue Design & Eval Advisory Group
  - Surface Enhancement
  - Material Properties
  - Structural Analysis
  - Fatigue Lifetime Predictions
  - Road Load Data Acquisition
  - Component Testing & Simulation
- Squeak and Itch Compatibility Task Force
- Ground Vehicle Reliability
  - Terrain Modeling Task Force
  - Software System Reliability Subcommittee
  - Unmanned Ground Vehicle Reliability TF
  - CBM (Condition Based Management) SC

Construction, Agricultural & Off-Road Machinery Council

- 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 & Attachments
  - Sweeper, Cleaner & Machinery Industrial Equipment
  - Forestry & Logging Equipment
  - Excavators
  - Roadbuilding Machinery
  - Tire & Rim
  - Trenching & Boring
- 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

Specialized Vehicle & Equipment Council

- Personal Watercraft
- Small Engine & 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 & Fifth Wheel
  - Trailer Dynamics
  - Conventional Towing to 20,000 lbs
  - Trailer Terminology
- Ship Systems & Equip Steering Cmte
  - Fluid Systems & Components
  - Fasteners
  - System Cleanliness and Filter

Fuels & Lubricants Council

- Technical Committee 1 – Engine Lubrication
- Technical Committee 2 – Industrial Lubricants
- Technical Committee 3 – Driveline & Chassis Lubrication
- Technical Committee 7 - Fuels

Cooperative Research Projects

- MAC Refrigerant Blends (MRB CRP)
- Alternative Refrigerants
- CRP1234yf Alt Refrigerant Assessment
- CRP150 Low GWP Alt Refrigerants Assessment
- High Temperature Battery Study
- Emergency Vehicle Lighting
- Truck Cab Anthropometric Study
- Vehicle Sound Level for Pedestrians
- H_2 Fuel Cell Station Breakaways, Hoses, Fittings and Nozzles
- High Strain Rate Plastics
- IMAC
- ITS Projects
- CAESAR
- Ergonomics
- Gage R&R of HPM
- Otologic Trauma
- Plastics Suitable for use with H_2

Standards Derivative Programs

- Horsepower Certification
- J2746 Software Assessment Repository
- On Board Diagnostics Databases
- MAC Equipment Conformance
- H-Point Machines
- WMI/VIN
- WMC/PIN
- Wheel Conformance

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