

# Aerospace Standards

## Newsletter

Volume III, Issue 3

June 2012

**SAE International**

Creating globally harmonized standards. Moving industry forward.

### Document added to SAE's suite of standards that protect against counterfeit electronic parts

To meet the needs of the global aerospace industry, SAE International has issued a new technical standard to combat the increasing volume of fraudulent and counterfeit electronic parts entering the aerospace supply chain. Such counterfeit parts can pose significant risks to performance, reliability, and safety for aircraft.

The new standard, "ARP6178: Fraudulent/Counterfeit Electronic Parts; Tool for Risk Assessment of Distributors," helps to assure customer satisfaction with regard to the products manufactured by aerospace industry

organizations. The standard requires that such products must meet or exceed regulatory authority requirements; it essentially provides a checklist that buyers can use to evaluate parts brokers.

ARP6178—issued by SAE International's G-19DR, Distributor Risk Characterization Committee—supplements two other SAE International technical standards dealing with counterfeit aerospace parts:

- AS5553: Counterfeit Electronic Parts; Avoidance, Detection, Mitigation, which was adopted by NASA and the U.S. Department of Defense and standardizes methods for electronic counterfeit part mitigation outlining processes for electronic design/parts management, supplier management, procurement, part verification, materials control, and response strategies when suspect parts are found.
- AS6081: Counterfeit Electronic Parts; Avoidance Protocol, Distributors, which describes a program that certifies distributors/suppliers to the requirements of AS5553. While it assists distributors in implementing a risk mitigation program, it maintains certified distributors of electronic components whose use of these controls is designed to ensure delivery of authentic products.



New SAE standard, "ARP6178: Fraudulent/Counterfeit Electronic Parts; Tool for Risk Assessment of Distributors," provides a checklist that buyers can use to evaluate parts brokers. (NASA)

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### Document Publication

(Jan through May 31, 2011)

The largest, most respected aerospace standards development organization.

SAE Document Publication Status	Number Published
Issued	35
Revised	196
Reaffirmed	275
Cancelled	18
Stabilized	121

To review recently published document titles, visit <http://www.sae.org/standards/>

## Counterfeit materiel standard published

A new standard—created to provide uniform requirements, practices and methods to improve the likelihood of only acquiring authentic and conforming materiel of any type in any industry sector—was issued by the **SAE G-21 Counterfeit Materiel Committee** in May.

"AS6174: Counterfeit Materiel; Assuring Acquisition of Authentic and Conforming Materiel," standardizes practices to maximize the availability of authentic materiel (made from the proper materials using proper processes with required testing) and to procure materiel from reliable sources.

AS6174 also standardizes practices to assure authenticity and conformance of procured materiel, control materiel identified as fraudulent or counterfeit, and report counterfeit materiel to other potential users and government investigative agencies.

The document standardizes requirements, practices and methods related to materiel management, parts management, supply chain management, procurement, inspection, and testing/evaluation to assure the authenticity and conformance of materiel being acquired. It is recommended for use by all contracting organizations that procure materiel, whether the materiel is procured directly or integrated into assemblies or equipment.

The standard was created in response to an increasing volume of counterfeit materiel entering the supply chain, posing significant performance, reliability and safety risks.

## Saunders elected to serve as SAE Aerospace VP

**Gregory E. Saunders** has been selected as 2012-14 SAE International Vice President—Aerospace. The elected position is a three-year term, filling the void left by Charla K. Wise.

The Vice President—Aerospace is responsible for providing leadership and continuity for SAE International's aerospace initiative and for integrating its needs across SAE International's programs for standards, events, and educational programs. SAE International also elects vice presidents for its automotive and commercial vehicle sectors.

Saunders is Director of the Defense Standardization Program Office (DSPO), which serves as the Secretary's Executive Agent for the Defense Standardization Program. In this capacity, Saunders is responsible for policies and procedures governing development and use of Military Specifications and Standards, Qualified Products and Manufacturers Lists, use of industry standards, development of performance specifications and Commercial Item Descriptions. He also oversees DOD activities to mitigate the impact of diminishing manufacturing sources, and leads an initiative to develop Joint Standardization Boards to address enterprise-wide standardization issues in specific commodity and technology areas. He is also Vice Chair of the Defense Standardization Council.

Prior to this assignment, Saunders was the Deputy Director for Acquisition Practices in the Office of the Secretary of Defense where he was responsible for many of the same issues and was one of the principal proponents of commercial acquisition. He served on two Defense Science Board Studies chaired by Secretary of Defense William Perry, and was responsible for DOD's implementation of its recommendations, has testified before Congress, and has served on numerous study groups.

Saunders is Chairman of the Board of Directors of ASTM International, serves on the Board of the American National Standards Institute (ANSI) and chairs its Appeals Board, and **chairs the Aerospace Council of SAE International**. He is the U.S. representative to a NATO Board and is the Department of Defense Representative on the Interagency Committee on Standards Policy.

Saunders is an engineering graduate of the University of Evansville.



## SAE sponsors council charged with developing global aircraft deicing standards

SAE International, ICAO (International Civil Aviation Organization), and IATA (International Air Transport Association) are sponsors of the recently created Council for Globalized Aircraft Deicing Standards. The council held its second meeting on May 6 in Prague, Czech Republic.

The Council focuses on the promotion of harmonized aircraft ground deicing procedures, training procedures, and quality control procedures.

Many national aviation authorities (NAAs), ICAO, SAE, and airline associations have developed recommended practices for aircraft ground deicing and anti-icing with the intention of providing unified standards. However, the differences between these recommended practices was significant enough to prevent operators for adopting any single one of these standards.

In 2011, IATA approached the **SAE's G-12 Aircraft Ground Deicing Steering Committee**, explaining that IATA had received a mandate from its Operations Committee (comprised of major airline members) to develop a globally harmonized deicing procedure. IATA proposed to work with SAE to develop these standards.



Attendees at the initial meeting of the SAE ICAO IATA Council for Globalized Aircraft Deicing Standards, held in Montreal in November 2011.

The problem of multiple standards has become more apparent as centralized deicing facilities (CDF) started operating in many countries. The adoption of harmonized standards will improve safety by reducing the chance of discrepancies between the deicing performed and the deicing expected by the flight crew. It will also increase efficiency by reducing the training required by service providers, thus simplifying contracts and reducing the costs of airline audits.

The council, which includes members from international aerospace associations, governmental agencies (including the FAA and Transport Canada), OEMs, and service providers, will hold its next meeting in October in Montreal.

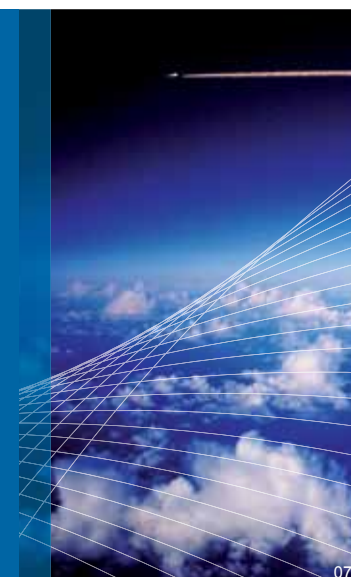
**SAE International**

**The Standard for Aerospace Innovation**

SAE International knows that it is people who advance technology. Since 1916 it has worked hand-in-hand with the aerospace community to find solutions to its most common problems through such globally adopted technical documents as Aerospace Standards (AS), Aerospace Material Specifications (AMS), Aerospace Industry Reports (AIR), and Aerospace Recommended Practices (ARP)—becoming the world's largest, most respected aerospace standards development organization.

While its rich standards development history enables SAE International to offer an array of capabilities to serve industry's growing need for future harmonized solutions, a full suite of learning resources – including lifelong engineering education, technical publishing, and events – work to ensure the pipeline of future engineering talent and keep today's practitioners at the forefront of professional growth.

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## SAE Aerospace Standards workshops held in India

SAE International Aerospace Standards and PRI (Performance Review Institute), in partnership with SAE India, presented two workshops in India in early June designed to inform the Indian aerospace industry about SAE aerospace standards and encourage Indian aerospace technical experts to participate in standards development. Attendees also discussed PRI and the NADCAP program and its resources.

Seventy-five delegates attended the workshop held in Bangalore on June 5<sup>th</sup>, and 110 attendees participated in the workshop in Hyderabad on June 7<sup>th</sup>. Presenters included **Ed Manns, Director of SAE Aerospace Standards, and Joseph Pinto, Vice President and Chief Operating Officer, Performance Review Institute.**

The workshops also featured panel discussions featuring enthusiastic question and answer sessions. SAE Aerospace Standards and PRI staff pledged to continue the dialog with the Indian aerospace community.

## Certification programs requirements standard published

“SAE AS9104/1: Requirements for Aviation, Space and Defense Quality Management Certification Programs,” was published in January 2012.

Issued by the **G-14 Americas Aerospace Quality Standards Committee**, this document is the keystone in the 9104-series trilogy which also includes:

- AS9104/2: Requirements for Oversight of Aerospace Quality Management System Registration/Certification Programs
- AS9104/3: Requirements for Aerospace Auditor Competency and Training Courses

AS9104/1 defines the basic requirements for managing the Aerospace Quality Management Systems (AQMS) certification scheme. It provides a number of enhancements to the International Aerospace Quality Group (IAQG) Industry Controlled Other Party (ICOP) process for the assessment and certification of supplier quality systems,

Transition rules to AS9104/1 have been established via the Supplement Rules Document (SR002) located in the OASIS database. These rules provide transition requirements and target dates for all stakeholders (such as accreditation bodies, certification bodies, and certified organizations). Transitions will be complete once accredited certification bodies have been re-accredited to the new standard. Certification bodies will be contacting their clients to implement required changes.

## FAA rule making committee meeting hosted at SAE headquarters

SAE International's World Headquarters in Warrendale, PA hosted a meeting of the Federal Aviation Administration's (FAA) Parts 23 Aviation Rule Making Committee from May 22-24.

Approximately 50 attendees – including personnel from the FAA, EASA (European Aviation Safety Agency), Transport Canada, the Civil Aviation Administration of China, the National Civil Aviation Agency of Brazil, manufacturers, avionics companies, and the repair industry – participated in the meeting.



Attendees at the FAA Parts 23 Aviation Rule Making Committee meeting.

SAE's hosting of this meeting reflected the FAA goal that the Parts 23 rule should rely more heavily on voluntary consensus standards, which would increase safety while reducing the cost of certifying an airplane. Following established industry standards (such as SAE standards) is one means of compliance with the rule, so identifying more standards which can be considered means of compliance would make the certification process more cost-efficient.

Currently, approximately 200 SAE standards are referenced as means of compliance in FAA regulations.

## New aeronautical information committee to develop ARP on display of information to pilots

The **Aeronautical Information Committee**, a new Committee of the **SAE G-10 Aerospace Behavioral Engineering Technology Committee**, has been formed to develop an Aerospace Recommended Practice (ARP) document that will guide the graphical display of NOTAM (Notice to Airmen) information in the cockpit.

The Committee held its first meeting at the annual G-10 meeting in Melbourne, Florida in January and it is currently holding virtual meetings every other week. **Chaired by Kathlyn Hoekstra**, Project Manager, in the Federal Aviation Administration's (FAA) Air Traffic Organization, the Committee includes more than 80 members, including representatives from the FAA, OEMs, avionics manufacturers, software developers, the U.S. military, and international organizations.

The Committee's human factors expertise will be used to develop recommendations on how to display information to pilots using text, symbols and icons. Such information includes closed runways, restricted airspace, or other aeronautical information. This information can be viewed in the cockpit on an installed electronic flight bag (EFB) or portable tablet computer (such as an iPad).

“The rationale for the work is the explosion of the use of iPads in the cockpit,” explained Hoekstra. “The iPads have the necessary software on them, with all the static or regular charting information – such as moving maps, airport diagrams, instrument approach charts, etc. – displayed. Without standards, anyone can produce anything which might lead to bad human factors decisions and complications when pilots move from one avionics suite to another. Also, creating standards for depicting this information has the potential to save the industry money on future training and development costs.”

The ARP document will include a recommended process that a symbol designer could complete to have their symbols approved for use by the regulator. Additionally, an appendix to the document would show examples of symbols for different types of NOTAMs, and how they might be displayed on an iPad or installed EFB in the cockpit. Some validation which shows that the symbols improve pilot understanding or performance is also planned.

This ARP was requested by the RTCA Special Committee 206 (Aeronautical Information Service Data Link) to assist them with their efforts. To meet the request that balloting be completed by the fall of 2013, the Committee is planning to have a first draft completed by August of this year.

## New! Corporate Sponsorship of SAE Standards Technical Committee Meetings

Build your company's brand – target very specific technology niches – support standards development

SAE is the world's largest aerospace standards development organization. Its consensus based program is the forum through which the global industry collaborates on and sets expectations for vehicle reliability, quality, safety, efficiency, and compliance.

Thousands of engineers from companies throughout the supply chain and around the world serve on some 250 SAE technical committees developing, revising, and keeping current more than 8,400 technical standards—standards that address the full spectrum of aerospace business from design, integrate, build and operate to such critical issues ranging from fuel to weather.

Whether your organization is involved in SAE standards activities or not, you can put your company's name directly in front of those that create industry's standards—while they are creating them—by purchasing one of many sponsorship opportunities now offered around SAE Aerospace Standards Technical Committee Meetings.

**For sponsorship levels and opportunities available contact:**  
SAE Sales 1.724.772.4078 or Aerospace Standards 1.724.772.8542  
On the web, go to [www.sae.org/standards](http://www.sae.org/standards) and "Technical Committee Meeting Schedule"



**SAE International**

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## SAE Aerospace Europe Office coordinates workshop on standards for military community

The SAE Aerospace Standards Europe office, in conjunction with the UK MoD (Ministry of Defence) Defence Standards Team, facilitated the "Improving Standardization Management in Defence Acquisition" Workshop on May 10-11 at the Farnborough Aerospace Centre in Farnborough, England.

The workshop was designed to promote cooperation between industry contractors and military procurement and engineering functions, focusing on the role that standards play in defining customer needs for equipment and services. Hosted by BAE Systems, the event attracted more than 70 attendees from UK defence contractors and suppliers, both to the MoD and the global aerospace and defence industry.

**David Alexander, Senior Coordinator, SAE Aerospace Standards Europe**, provided an overview of SAE's standards activities, focusing on how SAE standards serve the military community and how SAE interacts with regulator bodies in Europe and worldwide.

A number of members of SAE's standards committees also gave presentations at the workshop, showcasing instances where standardization is assisting the aerospace community.

**Sarah Skinner, Chair of the G-19CI Continuous Improvement Committee** spoke on counterfeit awareness. **Dave Johnson of the G-12 Aircraft Ground Deicing Steering Committee** discussed the role of SAE standards on the impact of environmental legislation on anti-icing fluids. **Peter Foote, Vice Chair of the SAE Integrated Vehicle Health Management (IVHM) Steering Group** gave a presentation on how standardization is facilitating the development of Integrated Vehicle Health Management.

The workshop also identified areas where existing standards and processes may be inadequate, and where further clarification is required in order to streamline contract negotiations. The meeting also identified a requirement to inform military project offices at an early stage in the project lifecycle of the availability of standards, and the need to include military project staff in the development of standards.



Darko Topler of the NATO Standardization Agency speaks at the "Improving Standardization Management in Defence Acquisition" workshop in May.

### Delivery options for SAE Technical Standards

The more than 10,000 standards in the SAE database now include historical standards, and can be accessed through one of the targeted solutions below:

- **SAE Digital Library** is the industry's most comprehensive resource, encompassing 175,000+ technical papers, standards, and related publications from SAE and other renowned organizations. A customizable corporate solution! [digitallibrary.sae.org](http://digitallibrary.sae.org)
- **SAE Subscriptions** are online portfolios of SAE standards or technical papers focused on targeted technologies and industries. [subscriptions.sae.org](http://subscriptions.sae.org)
- **SAE AeroPaks** let you decide how many aerospace standards you need and when you need them. Choose from packages that provide up to 10, 15, 25, 35, or 50 downloads per year. [sae.org/aeropaks](http://sae.org/aeropaks)
- **SAE Aerospace Standards on DVD** provide convenient, portable access to thousands of Aerospace Materials Specifications or Aerospace Standards. Updated quarterly, each DVD also includes a fully-searchable index containing summary information. [store.sae.org/cdstan.htm](http://store.sae.org/cdstan.htm)
- **SAE Aerospace Quality Standards on the Web** aids suppliers in maintaining their aerospace quality management certification with a comprehensive, easy-to-maintain subscription service that provides assistance in navigating the necessary International Aerospace Quality Group (IAQG) documents. [store.sae.org/aeroqa/](http://store.sae.org/aeroqa/)

## IHS, SAE partner to provide technical data resources for aerospace engineers

IHS entered into a new agreement with SAE International to include SAE Technical Papers in IHS ESDU Aerodynamics Design products. Under this agreement, technical papers on more than 1400 specific aerospace design topics developed by SAE International were made available Dec. 1, 2011, with IHS ESDU Aerospace Design data and methods to provide a comprehensive collection of resources and tools for design engineers.

"IHS enables design engineers in aerospace companies around the world to create innovative designs that meet performance and cost objectives in less time," said IHS Vice President-Design and Supply Chain, Don Lesem. "Through our close partnership with SAE International we can deliver a unique collection of data, methods, and tools to improve the engineer's design and development capabilities."

IHS and SAE International recognize the challenges of tighter budgets, shorter development cycles, and increased global competition that aerospace manufacturers face. Many companies are also facing a knowledge vacuum due to an aging workforce that adds to their risks.

"IHS has been a trusted reseller of SAE International developed products for almost 40 years, and we are excited about this latest product partnership," said SAE International Director of Sales & Marketing Scott Sward. "We continually seek to develop affiliations that leverage our technical resources to advance the capabilities of vehicle and system designers. With SAE Technical Papers now available in the IHS ESDU Aerospace Design service, customers can easily access the broadest collection of current engineering expertise."

SAE Technical Papers provide the perspective of the leading subject matter experts in the aerospace field presented at major technical conferences worldwide. Now, designers can quickly get to the latest information on a broad range of engineering topics along with methods and tools to solve complex design and performance problems more effectively. To learn more about IHS ESDU and SAE Technical Papers, visit [www.ihsesdu.com](http://www.ihsesdu.com)

## New SAE Technical Standards Board chair begins role

The SAE International Technical Standards Board (TSB) met on May 10 & 11, 2012 at SAE International World Headquarters in Warrendale, PA. During the meeting, **Greg Saunders, current SAE Aerospace Vice President**, moved into the role of past TSB chair and **Ragiemra Amato**, Delphi Automotive, stepped into the role of Technical Standards Board Chair through 2013. **Charon Morgan**, General Motors, volunteered to become membership chair.

Meeting highlights included:

- SAE business unit leaders spoke about their respective department's recent activities and involvement with Standards.
- The seven Councils reporting to the TSB reported on their Council's recent activities as well as progress made towards improving metrics performance.
- The TSB's strategic plan was also reviewed and new TSB objectives were suggested.

The next Technical Standards Board meeting will be held November 7-8, 2012 and will be hosted by **John Cristiano** of the University of Michigan, Dearborn.



Incoming/current SAE Technical Standards Board (TSB) Chair Ragiemra Amato recognizes outgoing TSB Chair Greg Saunders for his service to the board.

## Inaugural SAE Aerospace Electronics & Avionics Systems Conference to be held

With the theme of "Air Vehicle Energy Management," the conference will focus on efficiency optimization for modern aircraft, including the closer integration of systems and optimization of power/thermal/energy management with support of novel avionics, integrated vehicle health management, and control system architecture.

Highlighted by technical sessions, panel discussions, and keynote addresses, the conference will present information of value to engineers, scientists, designers, program managers, and government and research personnel. It is scheduled for October 30-November 1 in Phoenix, AZ.

Keynote speakers at the opening session will be: Bob Witwer, Vice President of Advanced Technology, Honeywell Aerospace; Don Winter, Vice President of Flight & Systems Technologies, The Boeing Company; Tom Blakely, Vice President and F-35 Chief Engineer, Lockheed Martin Aeronautics Company; and Chris Hernandez, Chief Technology Officer, Vice President, Technology Development Advanced Programs and Technology, Northrop Grumman Aerospace Systems.

The conference's sessions on Integrated Vehicle Health Management (IVHM) reflects SAE's continuing focus on this topic. Other SAE IVHM-related activities include the **HM-1 Integrated Vehicle Health Management Committee**, the **IVHM Steering Group**, and aerospace health management standardization activities.

The SAE 2012 Aerospace Electronics and Avionics Systems Conference will be co-located with the SAE 2012 Power Systems Conference. For more information, visit [www.sae.org/events/aeas/](http://www.sae.org/events/aeas/)

## SAE standards committee meeting fee waived for A4A member airline staff

Airlines for America (A4A), formerly known as Air Transport Association of America, Inc. (ATA) and SAE International will help shape the aviation industry together in 2012. Through a renewal in their SAE Annual Corporate Contribution to Aerospace Standards, A4A will facilitate increased participation from their airlines in having the committee registration fee waived. Staff from A4A member airlines, which include Alaska Airlines, American Airlines, Atlas Air, Continental, Delta, Federal Express Corp, Hawaiian Airlines, Jet Blue Airways, Southwest Airlines, United Airlines, UPS Airlines, and US Airways, can attend all SAE Aerospace Standards Committee meetings with no registration fee in 2012.

Increased participation is encouraged and welcome from all airlines that A4A encompass.

Please contact an SAE International for additional details on how to increase participation or supply a contact name to invite to participate on an SAE Aerospace Standards Development Committee.

### Standards Development Leader and Partner

SAE has become the world's largest standards development organization by partnering with industry for nearly 100 years to discover solutions to its common problems. Today, it works with companies – and other SDO's around the world—to create and harmonize standards for the advancement of the global aerospace industry.

- AeroSpace and Defence Industries Association of Europe (ASD)
- Society of Japanese Aerospace Companies (SJAC)
- NATO Standardization Agency (NSA)
- European Organization for Civil Aviation Equipment (EUROCAE)
- International Air Transport Association (IATA)
- National Center for Advanced Materials Performance (NCAMP)
- Federal Aviation Administration (FAA)
- European Aviation Safety Agency (EASA)
- International Civil Aviation Organization (ICAO).

## "SAE Standards Development 101" course attracts new committee members

Over the past year, the **SAE A-6 Committee, Aerospace Actuation, Control and Fluid Power Systems**, has been adding courses to their committee meetings to help introduce more engineers to the benefits of standards and their development.

Introductory courses on actuation, control, and fluid power topics are designed to illustrate how SAE Aerospace Standards are created and maintained. The benefits of using SAE standards related to these issues are covered as are the benefits gained by networking with hydraulic and flight control suppliers, primes and military and commercial operators serving on the on SAE standards committees.

These courses are resulting in the number of new attendees at A-6 meetings. In fact, the number of new attendees at the last two A-6 meetings was double that of the past. New document sponsors and committee membership have also increased.

Long-time committee member experts created the material for these courses and SAE structured them into official SAE training classes. The courses were each four hours in length and the students receive 0.4 CEUs credit for each course.

Course topics and their respective instructors are: Flight Control Systems, instructor **Dominique van den Bossche**; Hydraulic Servo-Actuation instructor **Scott Schaefer**; Sealing Systems, instructor **Alan Schofield**; Hydraulic Systems instructor **Jon Jeffery**; Filtration & Contamination, instructor **Leonard Bensch**; and Electro Mechanical Actuation, instructor **David Manzanares**.

Courses will be available at the A-6 Mesa, AZ meeting this fall and will be announced later this summer.

## E-36 Committee busy as it holds 50th meeting

The **SAE E-36 Electronic Engine Controls Committee** held its 50th meeting from March 6-8 in Monterey, California.

The committee, which addresses all facets – design, installation, maintenance, and in-service experience – of electronic aircraft engine control systems and components, has published three documents (one new, two revised) in the past year. The committee is dedicated to creating, preparing, and maintaining all relevant specifications, standards, and requirements for electronic engine control systems.

Participants in the E-36 committee include representatives from OEMs, suppliers, processors, consulting firms, government, and others in the aerospace and defense industries.

Most recently, the committee published a revision of "AIR4250B: Electronic Engine Control Specifications and Standards" in January. In August 2011, the committee released a revision of "AIR5060A: Electronic Engine Control Design Guide for Electromagnetic Environmental Effects" and the new standard, "AIR6181: Electronic Propulsion Control System/Aircraft Interface Control Documents."

The committee is also currently working on the development of six standards.

### Attn: All Aerospace Standards Committee Members— SAE wants your feedback!

To help improve its Aerospace Standards Committee meetings, SAE is soliciting feedback from committee members who have attended these meetings. Please take a moment to visit the link below and share your opinions and comments via this quick survey. Or, if you have attended a meeting over the last three months, look for an email soon inviting you to share your thoughts.

<http://www.surveymonkey.com/s/2012AerospaceStandards>

## Upcoming SAE technical committee meetings

This list is current as of publication. For updates/changes and meetings beyond October 2012, go to <http://www.sae.org/standards/aerospace/schedule>

June 18-22	E-31, Aircraft Exhaust Emissions Measurement, San Diego, CA, USA
July 9-13	S-18, Airplane Safety Assessment, Denver, CO, USA
July 16-19	AS-1, Aircraft Systems & Systems Integration Committees, Cambridge, United Kingdom
July 17-18	Registration Management Committee (RMC), Minneapolis, MN, USA
July 19-20	RMC Auditor Workshop, Minneapolis, MN, USA
July 24-26	S-16, Turbine Engine Inlet Flow Distortion, Snowmass Village, CO, USA
August 13-16	G-10, Aerospace Behavioral Engineering Technology (ABET), San Diego, CA, USA
September 10-13	G-14, AAQSC, AAQG, RMC and Team Meetings, Denver, CO, USA
September 11-14	S-9, Cabin Safety Provisions, Oklahoma City, OK, USA
September 12-13	A-20, Aircraft Lighting, Denver, CO, USA
September 18-20	AE-2, Lightning, Anchorage, AK, USA
September 18-20	E-36, Electronic Engine Controls, San Diego, CA, USA
September 18-20	Aircraft Seat, Orlando, FL, USA
September 19-21	G-3, Aerospace Couplings, Fittings, Hose and Tubing Assemblies, Bremen, Germany
September 24-27	AMS Metals Group, Pittsburgh, PA, USA
September 24-28	AMS CACRC, Commercial Aircraft Composite Repair, Seattle, WA, USA
September 25-27	ACBG – Airframe Control Bearings Group, Pax River, MD, USA
October 1-3	E-25, General Standards for Aerospace and Propulsion Systems, San Diego, CA, USA
October 2-4	E-32, Aerospace Propulsion Systems Health Management, San Antonio, TX, USA
October 2-4	AE-5, Aerospace Fuel, Oil & Oxidizer Systems, Vancouver, BC, Canada
October 2-4	E-32, Aerospace Propulsion Systems Health Management, Cleveland, OH, USA
October 8-10	AGE-2, Air Cargo & Aircraft Ground Equipment & Systems, San Francisco, CA, USA
October 9-11	AE-8A, Systems Installation and AE-8D, Wire & Cable committees, Louisville, KY, USA
October 15-17	E-34, Propulsion Lubricants, Portland, OR, USA
October 16-18	AE-5, Aerospace Landing Gear Systems, Bar Harbor, ME, USA
October 18	AMS M, Aerospace Greases, Portland, OR, USA
October 22-25	A-6, Aerospace Fluid Power, Actuation & Control Technologies, Mesa, AZ, USA
October 23-25	A-10, Aircraft Oxygen, Reno, NV, USA
October 23-26	AE-8C1, Connectors and AE-8C2 Terminating Devices, Charleston, SC, USA
October 29 – November 1	ASG – Avionics Systems Group meeting (AS-1, AS-2, AS-3, AS-4), Mesa, AZ, USA
November 1-2	AE-7, Aerospace Electrical Power and Equipment committees, Mesa, AZ, USA

### Consensus Based Standards and More from SAE

In addition to its world renowned consensus based and globally adopted technical standards SAE provides a full complement of standards capabilities:

- Consensus Standards ▪ Committee Management ▪ Standards Consortium ▪ Administration Database Creation and Management ▪ Accreditation and Certification

## *Thank you* ... for your contributions to the SAE Aerospace Standards Annual Corporate Contribution Program

SAE International acknowledges the following organizations who have contributed to funding the Standards Development Program during the time period of January through May 2012—supporters who acknowledge the benefits common engineering requirements bring to a global industry and their businesses.

3M/AC Technology	IPECO, Inc.
Adel Wiggins Group	Israel Aircraft Industries, Ltd.
Aero Mag 2000 Yul, Inc.	J & M Products, Inc.
Air BP Lubricants	JBT Aerotech
Air Cruisers Company/ Zodiac	Judd Wire, Inc.
Airlines for America (A4A)	Kilfrost Inc.
Alaska Airlines	Leach International North America
American Airlines	Lockheed Martin Aeronautics Company
Atlas Air	Meggitt Aircraft Braking Systems
Continental	Mi-Tech Metals, Inc
Delta	Moog Inc.
Federal Express Corp.	NASCO Aircraft Brake, Inc.
Hawaiian Airlines	National Utilities Company/NUCO
Jet Blue Airways	Nexans
Southwest Airlines	N*ICE Aircraft Services & Support GmbH
United Airlines	Northrop Grumman Corporation
UPS Airlines	Pacific Scientific Company
US Airways	Pall Aeropower Corporation
Alcoa Fastening Systems	Parker (Hannifin) Corporation
AMSAFE Aviation	PPG Aerospace
Amphenol Fiber Systems International	Polymod Technologies, Inc.
Astronics DME Corporation	Pratt & Whitney Corporation
The Boeing Company	Rainier Rubber Company
Cessna Aircraft Company	Rockwell Collins
Crissair, Inc.	Rolls-Royce Corporation
Cryotech Deicing Technology	Safe Flight Instrument Corporation
Curtiss-Wright	Sargent Controls & Aerospace
EASA	Satco, Inc.
EATON	Souriau
Electro Adapter, Inc.	Switlik Parachute Company, Inc.
Electronics, Inc.	Teledyne Microelectronics
Emhart Fastening Technologies	Tensolite/Carlisle Interconnect Tech.
FAA- Federal Aviation Administration	The Lee Company
GE Aircraft Engines/GE Aviation	Thermax/CDT, Inc.
Glenair, Inc.	Thomas & Betts Corporation
Global Ground Support	Tiodize Company, Inc.
Greene, Tweed & Company	Trelleborg Sealing Solutions US, Inc.
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- ▶ Use SAE AS5553 Counterfeit Electronic Parts; Avoidance, Detection, Mitigation. (Published 2009)
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Evaluate whether your distributors can detect counterfeit parts from entering *their* inventories.

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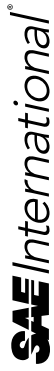
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