

SAFE News

Dedicated to Ensuring Personal Safety and Protection in Land, Sea, Air, and Space Environments

SAFE Association – Our 61st Year

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President's Comments



Robert Fulghum wrote, "I believe that imagination is stronger than knowledge. That myth is more potent than history. That dreams are more powerful than facts. That hope always triumphs over experience. That laughter is the only cure for grief. And I

believe that love is stronger than death"

Chris Motta was the SAFE Association President for 46 days and in that very short time he streamlined our communications process, set up email accounts to formalize the organizations business transactions, developed a survey, started a presidents blog, started the process to develop a Military Liaison committee, outlined his goals, sought input from each individual on the Board of Directors, initiated the start of the 2018 symposium process, set up a board meeting, discussed the importance of SAFE with US Navy and Air Force leadership, and started the dialogue on how to increase membership. That was Chris...a person who wanted to make things better. To say Chris believed in SAFE is an understatement. It was not the organization, but the people and what those people could do for so many that drove Chris to be so active.

In December 2017, we lost the President of our Association, a Veteran, and a friend. He and I had known and worked with each other on projects for the last 10 years. He was a passionate and caring individual; he believed in doing what was right, he believed in leaving people to get on with their job, he believed in

accountability, and he believed that we all could achieve so much more. His recent passion was understanding or developing a way to get real time feedback from the members as well as using available technology to provide instant feedback to what was going on around them. His actions led to the organization adopting for the first time a feedback survey system that could give us real time data during association events. Chris wanted to make sure that the membership had a voice.

Very recently, Chris and I had a chance to sit down at a bar and solve the problems of the world. The drinks flowed, the conversations were all over the place and the laughter was fantastic. The take-a-ways were his passion, love, and devotion he had for his family. They were never too far from his heart. Despite the level of travel he did, he could in a second tell you what his kids were up to, what they were working on, and what he was missing. Just recently I was very fortunate to meet Chris and his wife Candice. When she walked into the area where we were, Chris lit up...We were talking, and his eyes were moving towards Candice. You could tell that he was very deeply in love and was very openly happy. Chris was a person whose love for his family was real, you could see it, you could feel it.

For 20 plus years Chris was involved in the aviation field and working in the life support and survival equipment sector for the past 10 years. From 1979 to 1989, Chris served in the United States Navy. During his 10 years of active military service, Chris held several key roles and leadership positions at various F-14 and F-18 operational, and test & evaluation commands. Following his separation from active duty, Chris entered the automotive aftermarket industry where he held sales and operations management positions within Delphi, Exide Technologies, and Interstate Battery Systems of America.

(Continued on page 3)

2018 SAFE ASSOCIATION - BOARD OF DIRECTORS

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<https://www.facebook.com/pages/SAFE-Association/182879935059392>

Reminder to All SAFE Members:

It is important that the SAFE Association has your current contact information so we can contact you and distribute SAFE products, such as the Newsletter. Periodically, please go to the "Member Login" at the top, right corner of the SAFE Association web page. When the SAFE Directory appears, click on **"Manage Your Profile"** at the top, left. Please review your personal information and, if anything needs to be changed, click on **"Update Your Profile"** at the top or **"Make Changes"** at the bottom. When you are done updating, just click **"Save Profile"**. Thank you!! Your efforts are much appreciated!!

(Continued from page 1)

Since December of 2006, Chris has been the Business Development Manager at Cobham St. Petersburg FL. Chris was responsible for increasing Cobham's market presence within the survival equipment sector with products such as auto-inflators, water-activated parachute releases, ground vehicle restraints, along with fixed-wing and rotary-wing crew seating restraint systems. In November of 2016 Chris was promoted to Key Account Manager, responsible for the Cobham Mission Systems Sector products within Lockheed-Martin (Sikorsky) and UTAS.

How appropriate I think in times like this that we remember Robert Fulghum's beautiful words. Chris's love for family and the association was strong and his commitment to service to his organization and country were second to none. General Douglas MacArthur wrote, "A true leader has the confidence to stand alone, the courage to make tough decisions, and the compassion to listen to the needs of others. He does not set out to be the leader but becomes one by the equality of his actions and the integrity of his intent."

Chris's was a father, a Veteran, a leader, and our association's biggest fan and supporter. I will miss our discussions, his laughter, his determination, and his energy. So long my friend, until we gather again...

NOTE: A "Go fund me" account has been established for anyone wishing to make monetary donations to Connor's (Chris' son's) future education. This is not a solicitation and there is no pressure to donate. This also is an opportunity to share stories, pictures, etc. on the page. <https://www.gofundme.com/chris-motta-memorial-fund>

SAFE Europe 2018 Venue & Programme Outline!

The 25th Annual SAFE Europe Symposium & Exhibition will be held at Carden Park, Cheshire, UK from 26th to 28th March 2018. Nestled in 1000 acres of countryside this is an ideal venue for another productive and successful event. The hotel is 12 miles from Chester, 25 miles from Liverpool and 50 miles from Manchester. London Euston to Chester by train takes approx 2 hours. We encourage delegates and exhibitors to register early.



Global Programme

25th March

- 1900hrs Welcome Drinks and Dinner

26th March

- 0800hrs Opening Sessions and Key Note

27th March

- 0900hrs Opening Session and Key Note
- 1930hrs Jubilee Dinner

28th March

- 0930hrs Company Visit
- 1600hrs End Program

A room rate of **£109 per night inc breakfast** is still available until **9th Feb 2018**, just mention **SAFE Europe** when you contact Carden Park (<http://www.cardenpark.co.uk>) to secure this rate.

Registration is now open. All Delegates and Exhibitors are invited to register online at <http://www.safeeurope.co.uk>. Presenters should submit abstracts online please.

Reminder: SAFE Association Benefits!

INDIVIDUALS:

- Quarterly SAFE Newsletter
- Proceedings from the SAFE Annual Symposium
- All Symposium-related Mailings
- Reduced Symposium registration cost.
- Access to members only area of the SAFE Association website
- Voting privileges for your SAFE Board of Directors
- Submission information for our Annual Awards Program

CORPORATE MEMBERS:

- Quarterly SAFE Newsletter
- Proceedings from the SAFE Annual Symposium
- All Symposium-related mailings
- Reduced Symposium registration cost.
- Access to members only area of the SAFE Association website
- Voting privileges for the SAFE Board of Directors
- Submission information for our Annual Awards Program
- Corporate listing and description of products and services on SAFE Association website with link to company website.
- Reduced registration and exhibit space fees for the SAFE Annual Symposium
- Free use of the SAFE Newsletter to deliver news releases- such as personnel changes, new products, new office locations, and contact information
- Corporate Membership includes a Primary and Secondary Corporate Representative

UP-COMING MEETINGS

MEETING

SAFE Europe 25th ANNUAL SYMPOSIUM & EXHIBITION

56th ANNUAL SAFE Symposium

DATE

March 26 - 28, 2018

October 15 - 17, 2018

LOCATION

Carden Park, Cheshire, UK

Grand Sierra Resort, Reno, NV

UNI PAC III

Life Support International takes part in mission expansion capability of US Navy's P8 Poseidon Multi Mission Aircraft (MMA)

2017 | Sales & Marketing, Life Support International, Inc.

Commencing early 2017, Life Support International (LSI) and the Commonwealth of Australia entered an exclusive contract to design and develop a unique Search & Rescue Kit for Air Drop from P8 Poseidon MMA. Partners include Australia, Boeing and the U.S. Navy.



The U.S. Navy's new super fleet of Boeing P8 Poseidon's is now operational. The Military Multi Mission Aircraft (MMA) was designed by *Boeing Defense Space & Security*, modeled after the 737. The P8 Aircraft will be replacing legacy P3 Fleets. The 21st century world has posed new threats and increased zones of conflict. The aircraft will provide advanced maritime intelligence, surveillance, Reconnaissance & Response (MISSR) and conducts Anti-submarine warfare (ASW), interdiction, early warning self-protection, carrying of weapons and many other diverse mission applications.

LSI had been selected by and entered an exclusive contract with the Commonwealth of Australia to design an Air Drop Search and Rescue System for the P-8A Aircraft. Coined the UNI-PAC III, this system will increase the P8's Multi Mission Capabilities as a Search & Rescue Military Aircraft. UNI-PAC III is the next generation of LSI's UNI-PAC Air Drop Search & Rescue systems.

LSI's design of the Air Drop Search and Rescue System for the P8 is based on the Company's legacy Bomb Bay mounted UNI-PAC Developed in 1992. LSI's product is now paving the way for the future of military Search & rescue operations.

The UNI-PAC III system will increase the P8's Multi-Mission Capabilities as a Search & Rescue Military Aircraft.

As the name implies – the UNI-PAC is a complete Air Droppable System self-contained in a singular canister that includes all the major components of multi-container systems. Each system may be configured to carry a multi-person raft, survival kit, medical supplies, rations, water, communications equipment, etc. The legacy UNI-PAC design has been proved safe and accurate. The multi stage progressive deploy and deceleration system ensures repeatable performance every time.

UNI-PAC II, a universal aircraft application system was conceived in 2008. Life Support International's UNI-PAC systems are accepted worldwide, in use by over 16 countries. With the development of UNI-PAC II, LSI has been working on a joint program with *The Boeing Company, the US NAVY*, and the Royal Australian Airforce (RAAF) on the design, development and Integration of LSI's UNI-PAC II Air Drop System into the P8 Weapons Bay. To date, the UNI-PAC II is now fully approved for use by the US Navy for P8 Program's search and rescue missions.

The new system, designated UNI-PAC III, will enable the P-8 Poseidon to deliver up to five Airdrop Systems from the aircraft weapons bay. Each system will contain a 20-person life raft, food rations and water to last up to five days, and a satellite tracking system to remain in communications with survivors from anywhere in the world. Each system is totally independent allowing the aircraft to drop as few as 1 system to support up to 20-30 survivors or the full complement of five systems able to provide rescue support for up to 150 persons.

The UNI-PAC III System is scheduled for delivery in 2018. ■

(Photo and Caption Credit: NAS Jacksonville Facebook page: Lt. Laura Ibarra of Patrol Squadron 45 (based at Naval Air Station Jacksonville),

NEW MINIATURE IP68 RATED DATA RECORDER



Seal Beach, CA - (August 2017) - The new SLICE IP68 data acquisition system is designed to capture physical signals in challenging environments. Targeted at applications with size or mass constraints, SLICE IP68's 60 x 60 mm footprint makes it easy to embed in most test articles. The rugged housing is impervious to shock, water and dust, making SLICE ideal for testing in inclement weather or in environments that may cause condensation on the instrumentation.

SLICE features onboard signal conditioning, supporting a variety of external sensors including bridge and IEPE transducers for gathering critical measurements like acceleration, displacement, strain, pressure, temperature, voltage and more. Data direct-writes to 16 GB internal flash memory.



"SLICE IP68 goes well beyond the minimum rating requirements, so it's ready to take a beating and still deliver the quality data customers expect," points out Dan Chikami, DTS Product Manager.

SLICE IP68 is based on the proven performance and architecture of the popular SLICE NANO and MICRO from Diversified Technical Systems (DTS). The 3-channel sensor input layers are stacked and configurable up to 24-channels. Higher channel count systems are created by daisy-chaining SLICE stacks together. SLICE IP68 is ideal for flight testing, ejection seat measurements, onboard small UAVs, heavy equipment, off-road testing, and vehicle ride and handling (cars, motorcycles, bicycles), and marine applications.

About DTS: Since 1990, DTS data recorders and sensors have been used worldwide for automotive crash testing, military blast testing and in crash test dummies. The U.S. Army named a DTS helmet sensor as one of "The Greatest Inventions." Inc. Magazine has named DTS three times as one of the fastest-growing private companies in the U.S. Headquartered in Seal Beach, California, DTS also has technical centers in Michigan, United Kingdom, France, Japan and Asia-Pacific. www.dtsweb.com.

FOR MORE INFORMATION

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GENTEX AWARDED NAVY CONTRACT FOR LASER EYE PROTECTION SPECTACLES FOR PILOTS



New Technology Provides Advanced Level of Protection
Against High-Intensity Visible Laser Sources

Carbondale, PA, November 02, 2017. Gentex Corporation, a global leader in personal protection and situational awareness solutions for defense forces, emergency responders, and industrial personnel announced today it has been awarded a contract by the U.S. Navy for design, development, test and evaluation, and production of Laser Eye Protection (LEP) Threat Spectacles (including the prescription Rx component) and protective carrying cases. The contract supports the Navy's Laser Eye Protection Threat Spectacle Program, and also provides Gentex options for delivery of Low Rate Initial Production and Full Rate Production units.

The Gentex spectacle solution will provide the Navy with a mature, fully compliant design for day/night, multiple wavelength protection that will address the needs of its fixed and rotary wing aircrew that are exposed to laser threats, which have been on the rise.

"We're proud to continue to support the military in combating laser threats encountered by aircrew with our latest laser eye protection technology," said Robert McCay, vice president aircrew and aircraft maintainer systems, Gentex Corporation. "Based on decades of experience with military laser eye protection, Gentex was previously chosen to provide Laser Eye Protection Spectacles for the DoD's F-35 Program, and Gentex EDU-7/P Laser Eye Protection Spectacles to the Navy."

Proven to be scalable to visor applications, the laser protective filter in the Gentex spectacles utilize the latest, most advanced laser eye protection materials developed for and tested by both the NAVAIR and USAF/AFRL advanced technology development and demonstrator programs.

While the Gentex technology being used to develop the new Navy Laser Eye Protection Threat Spectacles is currently International Traffic in Arms Regulations (ITAR) controlled, Gentex commercially offers Dazzle Laser Defense Eyewear. The laser glare-reduction lenses in the Dazzle Eyewear are available in day and night versions, and designed to maintain see-through color perception while providing necessary protection from green and blue commercial lasers. Laser protection is achieved using special optical absorbing dye and lens coating technologies. Dazzle Eyewear is available in visor formats for Gentex rotary wing helmets, and flight-helmet compatible spectacles that are compatible with additional headborne equipment, such as Helmet Mounted Displays and Night Vision Goggles.

Gentex Corporation is the leading supplier of high-performance flight equipment for aircraft maintainers and military, law enforcement, and rescue aircrew worldwide. The company's comprehensive portfolio of Gentex, ALPHA, and Aegisound products include scalable helmet systems, and advanced hearing protection and communication solutions.

About Gentex Corporation

Leveraging a history that spans over 100 years, Gentex Corporation is a leading provider of innovative solutions that enhance personal protection and situational awareness for global defense forces, emergency responders, and industrial personnel operating in high performance environments. The company's product portfolio includes helmet system platforms and capability upgrades for defense and security forces, sold under the Gentex, Ops-Core, ALPHA, Cromwell, and Argus brands; Aegisound hearing protection and communications products for military and industrial personnel; PureFlo industrial respiratory protection systems; Dual Mirror aluminized fabrics; and Filtron light management technology. Privately held, Gentex is headquartered in Carbondale, Pennsylvania, and supports its global customers through a worldwide distributor network and five other facilities in the U.S. and the U.K. Learn more at www.gentexcorp.com.

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Gentex Introduces New Hearing Protection and Communications, and Respiratory Protection Products at SAFE Symposium



Expanded Portfolio Advances Protection and Performance Capabilities of Aircrew

Carbondale, PA, October 27, 2017. Gentex Corporation, a global leader in personal protection and situational awareness solutions for defense forces, emergency responders, and industrial personnel will introduce several new hearing protection and communication products to the U.S. market at this year's SAFE Symposium, featuring the Gentex Wire-Free Communication Earplugs (WCEP). Designed for aircrew requiring double hearing protection, the wire-free earplugs improve reliability and user experience.

The new Gentex Wire-Free Communication Earplugs improve passive noise attenuation and eliminate snag, breakage, and hot spots associated with earplug wires, while simplifying helmet donning and doffing. The Gentex WCEP are shipped with Comply™ Canal Tips and provide a NRR of 30 dB. The Gentex WCEP provides double layer hearing protection noise attenuation at a price that is a lower cost alternative to typical Active Noise Reduction (ANR) Headsets.

"The introduction of the Gentex Wire-Free Communication Earplugs demonstrates our commitment to strengthen and grow our hearing protection and communications offering, and further expand in this category internationally," said Robert McCay, vice president aircrew and aircraft maintainer systems, Gentex Corporation. "We're excited to demonstrate the Wire-Free Communication Earplugs and all of our new solutions at this year's SAFE Symposium, and honored to have been chosen again to provide our expertise during the symposium on the latest in aircrew helmet system technology." Product experts from Gentex Corporation will lead the presentation "The Evolution of Rotary Wing Helmets," scheduled on Tuesday, October 31st from 3:00 PM - 4:30 PM.

Other products being introduced by Gentex at this year's SAFE Symposium include the Gentex Mini Dynamic Oxygen Mask Microphone (MDMM), developed to replace the existing Gentex M-169/AIC Oxygen Mask Microphone. The MDMM's small profile design allows for greater operator flexibility with microphone placement. Gentex Aircrew Helmet Noise Reduction (AHNR) Technology, which is DoD and MoD qualified to reduce noise exposure for aircrew flying in louder aircraft and during longer missions; and the Gentex Low Profile Particulate Respirator, a low-profile, half-mask respirator that offers 99.97% filtration efficiency against a wide range of particulate contaminants encountered by doorgunners and other rear aircrew.

Gentex Corporation is the leading supplier of high-performance flight equipment for aircraft maintainers and military, law enforcement, and rescue aircrew worldwide. The company's comprehensive portfolio of Gentex, ALPHA, and Aegisound products include scalable helmet systems, and advanced hearing protection and communication solutions.

The SAFE Symposium takes place October 30th through November 1st in Orlando, Florida. Gentex Corporation is located in booth #521. Product experts and executives from Gentex will be on hand to meet with customers and media throughout the symposium. To attend the Gentex presentation on the evolution of Rotary Wing helmets, please visit the SAFE Symposium website. For more information on Gentex Corporation's aircrew and aircraft maintainer portfolio, visit www.gentexcorp.com/air.

About Gentex Corporation

Leveraging a history that spans over 100 years, Gentex Corporation is a leading provider of innovative solutions that enhance personal protection and situational awareness for global defense forces, emergency responders, and industrial personnel operating in high performance environments. The company's product portfolio includes helmet system platforms and capability upgrades for defense and security forces, sold under the Gentex, Ops-Core, ALPHA, Cromwell, and Argus brands; Aegisound hearing protection and communications products for military and industrial personnel; PureFlo industrial respiratory protection systems; Dual Mirror aluminized fabrics; and Filtron light management technology. Privately held, Gentex is headquartered in Carbondale, Pennsylvania, and supports its global customers through a worldwide distributor network and five other facilities in the U.S. and the U.K. Learn more at www.gentexcorp.com.

Comply is a trademark of Hearing Components, Inc

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FOR IMMEDIATE RELEASE:

Essex Industries Receives Additional Orders from USAF for 500 Gallon LOX Trailers

Saint Louis, Missouri – Essex Industries has received additional orders from the United States Air Force and Coast Guard for the new 500 Gallon LOX Trailers. Delivery is scheduled to run through September 2018. The USAF will deploy most of these at domestic bases, as well as US bases in Oman, Japan, South Korea and Italy.

The Essex 500 Gallon LOX Trailer is a mobile liquid oxygen storage tank assembly. Designed for the transport and storage of LOX at airbases and military installations, the 500 Gallon LOX Trailer provides a logistics solution for flight line LOX requirements.

The 500 Gallon LOX Trailer can be used with all Essex LOX converters, BMOS, BMOS-FS, MMOS, NPTLOX, PTLOX and 50 Gallon LOX Carts. A 500 Gallon LIN Trailer for the transport and storage of liquid nitrogen is also available.

Both 500 Gallon Trailers are qualified to Air Force PD13WRGRVEA05 and environmentally tested to MIL-STD-810.

Founded in 1947, Essex Industries is a leading supplier to the Aerospace and Defense market, providing platform controls, aircraft components, emergency breathing and liquid oxygen equipment. For more information on Essex products, visit www.essexindustries.com

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THINGS TO UNDERSTAND ABOUT EJECTION SEATS AND THEIR TIME-SENSITIVE COMPONENTS

This discussion helps define the importance of maintaining ejection seat configuration and currency to ensure that, when required, the seat will provide the highest probability for a safe escape, and safe descent to the ground under a good parachute. A great amount of effort is put into design, development and qualification testing of an ejection seat system before it is put into service to ensure its reliability and safety. It is critical to maintain and use the ejection seat within the scope for which it was designed, assuring the highest level of reliability and safety. Reliability is dependent on the configuration of the seat, from the smallest screw, to the personal parachute system configuration, and the age of the pyrotechnic devices, the helmet, and harness the pilot is wearing. Changes to any aspect of the system increases the risk of a disastrous result when the handle is pulled. It is a system with every component being key to its success. This discussion is an attempt to describe the details of a qualified escape system and how important it is to maintain it as your last resort.

It is critical to maintain and use the ejection seat within the scope for which it was designed, assuring the highest level of reliability and safety

Design and Qualification

An ejection seat is typically designed to perform at aircraft speeds from 0 to 600 knots. Most are designed to work reliably with pilot weights between approximately 140 pounds and 220 pounds. The latest generation seats are designed to accommodate aircrew weights ranging from 103 pounds up to 245 pounds. Qualification of an ejection seat is based on:

- 1- the performance of the airplane
- 2- the weight of the aircrew
- 3- the limited capabilities of the components and subsystems
- 4- the aircrew ensemble
- 5- the sequencing of events

Typically, qualification begins with individual testing of each component and subsystems followed by the testing of the full-up ejection seat system. The full-up escape system testing requires the successful completion of 22 sled tests where seats are ejected at different speeds and carrying different weights of occupants equipped with different flight equipment options. Through this process, the seat is qualified as a complete system, including:

The full-up escape system testing requires the successful completion of 22 sled tests

- 1- specific pyrotechnic (CAD/PAD) devices,
- 2- specific parachute system, and
- 3- specific aircrew flight equipment (helmet, mask, harness, etc.)

This extensive, detailed testing qualifies the SYSTEM to minimize risk and maximize the probability of a safe ejection. Any changes to a proven QUALIFIED system must be carefully evaluated by professionals and may require testing to ensure the continued reliability and safety of the system. Many variables effect the performance of an ejection seat – changes increase chances that things will go wrong.



Pyrotechnic Components, CAD/PAD

Some of the most important subcomponents of an ejection seat system are the Cartridge Actuated Devices and Propellant Actuates Devices. The military term is “CAD/PAD.” In most cases there are between 10 and 20 such devices performing varied tasks during an ejection sequence.

- A gas generator will “haul-back” the occupant into the seat just prior to ejection
- A pyrotechnic time delay provides correct sequencing of events such as canopy jettison or fracture, ejection seat initiation and safe separation of front and rear seats
- A CAD/PAD item will provide time delay sequencing of the Catapult and Rocket Motor that propels the ejection seat up and away from the aircraft

- A CAD/PAD item provides Drogue Parachute deployment or parachute spreading for quick-parachute deployment scenarios, such as low altitude ejections
- CAD/PAD items provide deployment of survival kit and locator beacon
- CAD/PAD items will delay parachute opening until a safe speed or altitude is reached

All CAD/PAD items have completed extensive qualification testing for its specific application. Each CAD/PAD item is made up of different constituents and each item is exposed to different environments during its life. Assigned life of each item is different. Life is assigned by an authority like the US Navy or the US Air Force (not by the manufacturer). Its assigned life is based on testing that shows where degradation of performance is seen during surveillance testing throughout the life of the CAD/PAD item. CAD/PAD items should not be used past their assigned life. Performance of the item is has reduced reliability and may become hazardous.

It is very important to understand that these items are life-limited. A CAD/PAD device is not good forever. Each of these components has an assigned life based on real testing data and solid performance history data. CAD/PAD items will have a storage or “shelf” life, and an installed or “service” life (Shelf/Service Life). Life of an item can be as little as 2 years or as much as 15 years. Today’s modern CAD/PAD items are typically assigned lives of 5 to 10 years.

The constituents that make up the Energetic Materials (propellant, powder, etc.) of a CAD/PAD device are age-sensitive and are effected by temperature. These materials change properties and characteristics over time and temperature. Long-times and high-temperatures are the enemy of CAD/PAD items. It is important to store CAD/PAD items in cool storage magazines when not installed in the aircraft and to park airplanes under awnings or in hangars to minimize the effect of elevated temperatures resulting from sunlight exposure. Changes in CAD/PAD performance can range from slower performance to faster performance, to simply not functioning at all. The constituents are chemicals. Chemicals change over time and at different rates based on temperature. Materials change and may get more sensitive over time and exposure to temperatures. The change may result in the auto-ignition of the item.

In July of 2007 a PDRM (Parachute Deployment Rocket Motor) in the ejection seat of an aircraft sitting on the ramp at China Lake, California auto-ignited. The resulting explosion destroyed the canopy and severely damaged the ejection seat (photo below).

Fortunately there was no one in the seat or near the airplane at the time. The subsequent investigation revealed that the Energetic Materials had consumed the stabilizer and the reaction heated the propellant to its auto-ignition temperature. Propellant decomposition is accelerated by exposure to high temperatures. This item was simply sitting in the airplane on the ramp, and went off.



CAD/PAD items degrade in different ways. From lower gas pressure, to different times in a time delay, to auto-ignition as seen above.

CAD/PAD time delays that are expected to deliver a quarter second delay between canopy jettison and seat ejection, may become 3 seconds, or become immediate with change over time and temperature exposure. A time delay is a critical component with a qualified life expectancy. You cannot depend on CAD/PAD items after their assigned life has expired. The risk is too great.

Cloth/Fabric Items

Other items of concern regarding shelf/service life, as well as time and temperature exposure are the fabric items. Fabric items such as harnesses, risers, lap belts, inertia reel straps, drogue chutes and personnel parachutes are all life limited like CAD/PAD items. They require periodic inspection and replacement when they reach their assigned life or when inspection reveals issues that could cause failure during an ejection. Failure of any of these items during an ejection could be disastrous. Qualified, trained personnel verify and maintain the performance of these critical items per specific specifications.

“I would hate to have a torso harness break after a successful ejection. It would be like a nice drive into the water.”

Ejection Seats

Ejection seats fly in aircraft under extreme environments like shock, vibration, temperature, humidity, salt/fog conditions and extreme g-levels. The ejection seat is expected to work when it is required, regardless of the environment it has to live within. An ejection seat is an amazingly efficient piece of safety equipment. An ejection seat has a maintenance schedule, like the aircraft, like your car, and is maintained per specific technical documentation by trained personnel. Typically there is a minor inspection at one year and a major inspection/overhaul at 6 years. All seats are not the same though. See the applicable technical documentation. Corrosion or cracks can be found during inspections and are repaired or treated as required. Certified technicians familiar with the ejection seat and the nuances of particular ejection seats are required for correct maintenance. An ejection seat maintainer is trained specifically for that system, much like an engine maintainer is trained for that expertise.



Summarizing

In summary, it is imperative that the entire escape system be:

1. Operated and maintained in accordance with applicable technical documentation and the aircraft manufacturer’s instructions
2. Equipped with serviceable, qualified, time-life compliant components

Failure to do so can result in serious injuries or even fatalities.

F-16 Aircraft, ACES II Ejection Seat. Successful Ejection!



Canopy Jettison prior to seat initiation using a rocket motor and explosive bolt. Pilot is hauled back into the seat. Time delay functions.

Ejection Seat initiated, catapult functions, then Rocket Motor ignites. Airspeed is sensed, and the drogue parachute begins to deploy. This can be seen just behind the pilot’s helmet

Bob LaFrance
President, Task Aerospace

SAFE Membership News

It has been only a few months since the very successful SAFE Symposium in Orlando, FL. It was wonderful to attend and to see the continued passion of the attendees for the primary goal of SAFE, the preservation of human life. So, it was a great honor when I was selected to chair the Membership Committee for this great organization.

Let me introduce myself. My name is Joshua Minton and I have been involved in providing for the safety of aircrew since I became one myself and was offered a little job called ALSE Technician at my Army National Guard Unit. This quickly became an area of great passion for me and has shaped both my military and civilian career over the past 20 years.

Membership in SAFE is something that must help you grow personally and professionally and I can attest, for me, it has done both. And now that membership growth is my new goal as Chair of the Membership Committee, I look forward to working with you to both, increase the association's membership, as well as its value to you as a Member.

Ted Poe and Bob LaFrance, the two previous membership chairs have been very helpful in handing the reins over to me. Chief Poe began some very good efforts that are proving to be successful in bringing attention to the SAFE Organization. Ted gathered many ideas and distilled them to a list of goals which, while not quixotic in any way are not ones that are accomplished overnight. Bob was instrumental in accomplishing many of those goals and has passed the controls for me to continue with this direction while exploring still new ideas to continue the growth of our great organization. These slow and steady accomplishments provide a much tighter footing than something that can be accomplished in a short period of time and will help us continue to build on the strong foundation of this organization and bring in the next generation of Members who will continue this growth.

Why should an individual or corporation become a Member and continue to be a Member of SAFE? Obviously, to remain a successful organization with a strong and growing membership, we need to know the answer to this and many more questions.

How does SAFE ensure that:

- a Member can gain both personally and professionally?
- a Member can gain visibility into his or her industry and its technologies?
- a Member must have the option to both teach as well as learn?
- a Member should have access to industry history. (You can find many dinosaurs (long standing Members of SAFE) walking around the exhibit hall during the Symposium. They would love to tell their story. After all, they are passionate about what they have done and will do.)

Who are the Members? They are passionate about what they do, what they develop, what they test, and what they deliver.

How can we encourage others to attend the Symposium as well as become Members? They are clearly passionate about the business of saving lives, just like the rest of us. So far we are off to a great start with 139 new Members since the Symposium, but we have much more work to do.

Thank you for the opportunity to help grow the SAFE Organization. I look forward to hearing from every one of the Members, as well as non-Members. I look forward to hearing ideas and look forward to making them a reality. As a Member of the SAFE board, I am very interested in hearing from you, so please, feel free to offer ideas and suggestions to help this organization continue to be the cornerstone for all of us who have been here a while and to those who are soon to join this great organization.

Sincerely,

Joshua Minton

NEW INDIVIDUAL MEMBERS

First Name	Last Name	City	State / Country
Scott	Adley	Valley Lee	MD
Amber	Aguirre	Davenport	IA
Hartman	Aguirre	Davenport	IA
Asif	Ahmed	Davenport	IA
Martin	Andries	WPAFB	OH
Zach	Auclair	Bohemia	NY
Martin	Austin	Land O'Lakes	FL
Rae	Azorandia	Indian Head	MD
Firat	Barlas	Ankara	Turkey
Tonya	Belz	Davenport	IA
Mycalene	Berkbuegler	St. Louis	MO
Matthew	Bevan	Laurel	MD
Camille	Bilger	Higher Denham	United Kingdom
Randall	Blackburn	Patuxent River	MD
Alison	Boboris	Ronkonkoma	NY
Kelly	Bohr	Davenport	IA
Kelly	Bordeaux	Beaufort	NC
Joannes	Bos	Soesterberg	Netherlands
James	Brault	Davenport	IA
Henri	Broussalian	Davenport	IA
Christine	Brown	Patuxent River	MD
Pieter	Bruggencate	Winnipeg	Canada
Jonathan	Buff	Waxhaw	NC
Richard	Butcher	Salisbury	United Kingdom
Jason	Cangas	Davenport	IA
Tara	Capecci	Patuxent River	MD
Adam	Carlisle	Patuxent River	MD
Joe	Columbo	Richboro	PA
Shannon	Covault	Davenport	IA
Eric	Cruikshank	Davenport	IA
Timothy	Culbertson	West Point	UT
Chad	Cuomo	Madison	AL
Cindy	Davis	Davenport	IA
Jay	Dean	Tampa	FL
Laura	DeBaillie	Davenport	IA
Ann	Dietzel - Bailey	Davenport	IA
Jon	Dixon, III	Brandon	FL
Luis	Dominguez	Madrid	Spain
Mike	Donahue	Davenport	IA
Ken	Eaton	Davenport	IA
Melissa	Elder	Davenport	IA
Johan	Eriksson	Örebro	Sweden
Richard	Evans	Universal City	TX
Sharron	Ferguson	Davenport	IA
Mike	Fields	Davenport	IA
Constantinos	Franceskides	Maidenhead	United Kingdom
Igor	Garcia	Davenport	IA
Trevor	Gilliland	Rocklin	CA
Paul	Gilmore	Hollywood	MD
Dennis	Gordge	Patuxent River	MD
Yuill	Gordon	Ontario	Canada
Dennis	Gulbranson	West Point	UT
Sami	Hakola	Tampere	Finland
Andrew	Hall	O'Fallon	IL
James	Hardman	BEDS	United Kingdom
Robert	Hastings	Alexandra	VA
James	Hatfield	Davenport	IA
Michelle	Henning	Davenport	IA
Deanna	Hessling	Davenport	IA
Marty	Hills	Davenport	IA
Darrel	Hopper	Beavercreek	OH
Terri	Hubbard	Derby	KS
Robert	Hudson	Boerne	TX
Michael	Jaffee	Patuxent River	MD
Mark	Jeffrey	Blakeview	South Australia
Chuck	Johnson	Davenport	IA
Carol	Joiner	Huntsville	AL
Erin	Kennedy	Leonardtown	MD
Andrew	Kididis	WPAFB	OH
Leslie	Kindling	Arlington	VA
Daniel	Kitsis	Davenport	IA
Cary	Kleem	Houston	TX

NEW INDIVIDUAL MEMBERS Continued

First Name	Last Name	City	State / Country
Paul	Koester	Henderson	NV
Mitsuo	Konna	Tokyo	Japan
Gerald	Kowalski	Orange Park	FL
Tanja	Kropf	Vista	CA
Lance	Labun	Tempe	AZ
Pam	Lang	Davenport	IA
James	Laselute	Hill AFB	UT
Reinhard	Lill	Schleswig	Germany
Bengt	Lindgren	Linköping	Sweden
Kim	Lindstrom	Davenport	IA
Amanda	Lippert	California	MD
John	Lucius	St. Petersburg	FL
Steve	Mann	Ottawa	Canada
Debra	McLean	Natick	MA
Ted	Meeuwssen		Netherlands
Joseph	Melotik	Patuxent River	MD
Sheila	Milburn	Lexington Park	MD
Allison	Miller	Davenport	IA
Jarrett	Moore	San Diego	CA
Thomas	Morgan	San Antonio	TX
Joseph	Muklevicz	Camarillo	CA
Daniel	Newins	Ronkonkoma	NY
DJ	Oleary	Davenport	IA
Matthew	Pack	Patuxent River	MD
Dave	Padula	Lexington Park	MD
Dan	Paetz	Davenport	IA
Jacob	Pegg	Greenville	SC
Michael	Pena	Saint John	IN
Adam	Peterson	Goodyear	AZ
Henry	Plavak	Davenport	IA
Dawn	Ponton	St. Petersburg	FL
Richard	Ratcliffe	Newquay	England
Jim	Roberts	Davenport	IA
Jeremy	Rolin	Luke AFB	AZ
Richard	Rosengren	Linköping	Sweden
Mark	Ruddell	Kirtland AFB	NM
Gustavus	Rush	Patuxent River	MD
Rachael	Ryan	Great Mills	MD
James	Sandberg	Bushwood	MD
Jason	Sayre	Hampton	VA
Jacques	Schaap	Rhenen	Netherlands
Steve	Schroeder	Davenport	IA
Keith	Sedgwick	Bristol	United Kingdom
katie	Skogmo	Troy	MI
Jurgen	Smith	La Plata	MD
Martin	Smith	Bristol	United Kingdom
Christina	Snyder	Trinity	FL
Anthony	Specht	Davenport	IA
Cassandra	Stanfill	Beavercreek	OH
Christine	Stanley	Patuxent River	MD
William	Stossmeister	Greensboro	NC
William	Strang	King George	VA
Hadley	Sulpizio	Norfolk	VA
Chris	Taylor	Beavercreek	OH
Zachary	Thiede	Davenport	IA
Dana	Thomas	Rocklin	CA
Maria	Thorpe	Patuxent River	MD
Matt	Tubolino	Marietta	GA
Julia	Varner	Davenport	IA
Paul	Vieveijzer	Soesterberg	The Netherlands
Phillip	Wellner	California City	CA
Wilfred	Wells	Lexington Park	MD
Carrell	Whaley	Jacksonville	FL
Alexander	Woods	Indian Head	MD
Jon	Wooten	Scottsdale	AZ
Kranz	Yaron	Haifa	Israel
Mallory	Yates	Houston	TX

NEW CORPORATE MEMBER

Name	City	State / Country
Sage Technologies	Warminster	PA



2017 SAFE Symposium Summary

The 55th SAFE Association Annual Symposium is now History and I am proud to report that it was considered a success as well as profitable for the association. From the very start on Sunday 29 October with Golf, a Run and a no-host social to the close on Wednesday 1 November, the event provided 536 individuals and 62 industry organizations the ability to exchange ideas, build relationships, and provide numerous opportunities to learn about new technology, theory's, as well as catch up with friends and colleagues. During this event we saw 132 new members sign up as well as corporate participation and membership grow. We would like to welcome Lea & Sachs, Inc., Sage Technologies, Inc. and ADS, Inc. to the SAFE family.



Our Symposium continued the tradition of being the premier forum for military professionals, academics, engineers, and industry leaders who join together with one goal:

advancing personal safety and protection in the air, on land, in space, and in marine environments around the world. The 2017 platform provided a powerful platform for introducing innovation, providing educational opportunities, and networking while strengthening the disciplines of our community. The knowledge shared and relationships created will last a life time!



Our technical sessions included panels, briefings, and valuable opportunities that enhanced shared ideas on a global scale.

Attendees explored the technological advancements and innovations in safety and life-sustaining equipment by visiting 62 industry partners exhibiting at this year's symposium.

This year we introduced several new events. As we moved to a more electronic minded approach, all the information was online while printed copies of the Technical Program was provided to each attendee during registration.

This year we saw 80 plus outstanding papers and presentations that reflected the current issues and technology in our community. This year we saw many changes and based on the feedback from numerous individuals and sponsors we will continue to improve and place in stone the changes we made this year for 2018 in Reno.





We saw 18 different meetings take place, to include Association specific meetings, chapter meetings, Corporate Meetings, Business Development meetings as well as US Gov. Sponsored One-on-One specific meetings. On the final day of the Symposium,



we hosted a two day Industry Day for the PMA-202 team.



Many thanks to our leader of the pack, Marcia Baldwin who organized once again a first class show. Our thanks to volunteers, Larry Farmer, who ran registration, and to Joel Albinowski, who made sure everyone got a shirt and kept the awards running smoothly. Thank you to Onsite Medical for their EMT support, and to the City of Orlando for sharing their pretty Eagle Nest Park with us.

Our 2017 SAFE 5 K was another major success (SAFE 5k Runner 2017 photos and race results are posted at: <https://www.safeassociation.com/index.cfm/page/5k-2017-results>.) Our extreme thanks to all the Runners and Walkers for their participation in helping make this another fun event. The 2017 results are:

Thank you to our Sponsors for another year of your outstanding support. We had excellent prizes for the top finishers, as well as for our raffle.

Sponsors

Bally Ribbon Mills
Cobham Mission Systems Division
Dayton T. Brown, Inc.
FXC/Guardian Parachute
Life Support International
Nammo Talley Inc.
W. L. Gore & Associates

Capewell Aerial Systems
CORE Survival, Inc.
East/West Industries, Inc.
Gentex Corporation
Massif Mountain Gear
Switlik Survival Product
Zodiac Aero Evacuation Systems

A huge THANKS goes to Chris Batista and the team at 5k Race Director. We appreciate your course marking, time scoring, photography, cheering section and keeping everyone on the right path.

Golf Tournament: Another great tournament and a fantastic course. Our thanks and appreciation go to Ebby Bryce and team that worked so hard to get everything organized and the venue switched. This year's winners were:

First Place:

Patrick Gillette, Pete Stoddard, Alex McGill, and Tom Blachowski

Second Place: Bob LaFrance, Buck Willow, Joe Lynch, and Sonya Bryce

Closest to Pin: Lynn Thompson

Men's Long Drive: Chris Albery

Women's Long Drive: Sonya Bryce

In all, the 2017 Symposium was a success because of you, our individual and corporate members. I would like to thank personally all of our Sponsors, our 2017 Board of Directors, Glenn Paskoff for developing a great technical program, and our administrator Stacy for all the work and behind the curtain work...

In closing, I would like to thank each of our speakers, panel members, technical presenters, moderators, exhibitors, and our individual and corporate sustaining members for their commitment and dedication to SAFE. So 2017 event is now behind us and the 2018 symposium is now approaching...I look forward to seeing you in Reno, until then...BE SAFE

Race Results

Female Winners						
Place	Name	Country	Bib No	Race Overall	Total Time	Pace
1	Karen Vanstroncke	Belgium	591	4	21:52.3	7:01M
Female 30 to 39						
Place	Name	Country	Bib No	Race Overall	Total Time	Pace
1	Dorota Blichaj	Belgium	581	20	37:13.5	11:56M
2	Jackie Helm	Germany	587	25	43:44.6	14:01M
Male Winners						
Place	Name	Country	Bib No	Race Overall	Total Time	Pace
1	Harm Karlsson	Sweden	513	1	17:33.4	5:35M
Male 30 to 39						
Place	Name	Country	Bib No	Race Overall	Total Time	Pace
1	Paul Parker	UK	579	3	20:24.0	6:35M
2	Patrick Slank	Belgium	580	21	37:14.0	11:56M
3	Peter Durieux	Netherlands	587	22	41:41.1	13:22M
Male 40 to 49						
Place	Name	Country	Bib No	Race Overall	Total Time	Pace
1	Görry Fröberg	Sweden	592	2	19:23.3	5:25M
2	Peter Longman	UK	575	5	21:53.3	7:01M
3	Sven Van Der Linden	Belgium	582	6	22:21.5	7:10M
4	John Ekblad	Sweden	588	7	23:48.6	7:38M
5	Yusef Steirman	Netherlands	591	10	24:42.2	7:55M
6	Peter Crijlaers	Belgium	589	12	25:24.3	8:08M
7	Andy Hancock	UK	573	16	26:16.6	8:25M

Race Results

Male 50 to 59						
Place	Name	Country	Bib No	Race Overall	Total Time	Pace
1	Rob O'Brien	Sweden	576	8	22:27.4	7:05M
2	Ronald Bennett	Netherlands	582	9	24:31.8	7:51M
3	Colleen Hester	USA	584	13	25:02.9	8:10M
4	Greg Case	USA	585	14	25:10.7	8:23M
5	Brian Johnson	Norway	585	15	25:12.1	8:24M
6	Richard Duthier	UK	588	17	25:36.5	8:33M
7	Markus Böyer	Germany	583	18	25:37.1	8:33M
8	Glenn Luthman	USA	578	23	41:41.2	13:22M
	Edward Liu	Germany	574	24	43:43.7	14:01M
Male 60 and Over						
Place	Name	Country	Bib No	Race Overall	Total Time	Pace
1	Mark Jones	USA	572	11	21:54.0	7:00M
2	Chris Hooper	USA	571	19	24:46.5	8:10M

SAFE Association Awards Ceremony at 2017 Symposium

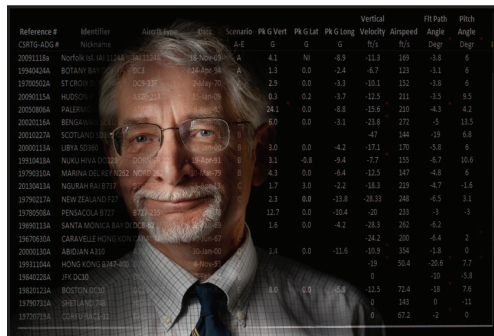


A key component of every Symposium is the presentation of Industry recognitions to deserving awardees. Since the first Symposium, the Association provides a professional platform for peers to acknowledge individuals and organizations that have made significant contributions to this industry and to the Association. For the 55th Symposium Annual Symposium Awards Program the Board was privileged to have been able to respond to nominations submitted by Association Members for most Awards. Awards Committee Chair and Immediate Past President Joe Spinosa emceed the program with 2017 President David DeSimone, 2018 President Chris Motta and, 2017 Symposium Chair, Ted Poe.



MICHAEL R. GROST CAREER ACHIEVEMENT AWARD -

Presented to a person who, throughout his or her career, has made significant contributions in the field of safety or survival.



Lance Labun, PhD

Dr. Labun has spent the last 26 years in the aerospace & defense industry primarily working to develop new technology to reduce the frequency and severity of injuries. As well as reduce fatalities sustained in rotary wing aircraft crashes. Dr. Labun is the key contributor in developing the new Selectable Profile EA (SPEA) system in a program sponsored by AATD.

The SPEA system has demonstrated the capability of expanding the survivable vertical crash envelope of helicopters by approximately 50 percent over currently used criteria and systems. This system is currently being developed for use on the Orion space vehicle to protect the astronauts in their weakened condition from exposure to the long durations of weightlessness that they will experience in traveling to and from Mars. Dr. Labun's contributions to the field of crash safety are commendable and are worthy of today's recognition.

The SAFE Board of Directors honors Lance Labun with the 2017 Michael Grost Career Achievement Award.



TEAM ACHIEVEMENT AWARD -

Presented to a team which has made a recent outstanding contribution in the field of safety or survival through an advancement in the education, knowledge, science, application of investigative techniques, or engineering associated with a significant improvement in safety or survival.

T-45 Onboard Oxygen Generating System (OBOGS) Team



The T-45 Onboard Oxygen Generating System (OBOGS) team dramatically reduced Engineering Change Proposals (ECP), contracting, production, and Fleet introduction standard process times to drive the Integrated Master Schedule (IMS) from three years to a little over nine (9) months, while decreasing projected costs by almost \$12 million.

The GGU-7 Carbon Monoxide (CO) Catalyst is a critical material solution targeted at mitigating increasing Physiological Episode (PE) trends, including hypoxia, in T-45 aircraft. There have been 419 F/A-18/ EA-18G and 88 T-45 PE events reported, making this issue Commander Naval Air Force's number one safety priority since 2015.

In summary, the combined Government and Industry team was able to significantly reduce the cycle time to deliver this new and improved capability to the T-45 community, while greatly decreasing projected costs. This multi-disciplinary team leveraged Speed to the Fleet tenets to modify acquisition, engineering, and test processes that eliminated common organizational and process road blocks.

For these accomplishments, the Association presents the Team Achievement Award to the T-45 Onboard Oxygen Generating System (OBOGS) Team. Representing the Team are: Mr. Paul Gilmore and Mr. Scott Adley.

Congratulations to you all.

GENERAL SPRUANCE INDIVIDUAL ACHIEVEMENT AWARD -

Presented to a person who has made a recent outstanding contribution in the safety or survival field. This may have been through leadership or through advancement in the education, knowledge, science, application of investigative techniques, or engineering associated with a significant improvement in safety or survival.

LCDR Kimberly Littell



Lieutenant Commander Kimberly Littell is serving as Branch Head, Aeromedical Division, Naval Safety Center. LCDR Littell has served as the focal point for critical data collection, presentation and exchange in support of a top tier Naval Aviation safety concern regarding the rate and severity of Physiological Episodes in the F18 and T45 aircraft platforms.

Her contributions have had a direct and positive impact on the collective efforts of 10 diverse organizations striving to achieve the root cause and corrective actions necessary to reduce and eventually eliminate the occurrence of

both hypoxia and decompression illness across Naval Aviation.

Lieutenant Commander Littell's leadership, sound understanding of all aspects of Aerospace Medicine, and dedication to improving the readiness and safety for all within Naval Aviation position herself at the top of her field. She embodies the caliber of professional recognized yearly by this association

The SAFE Board of Directors is pleased to recognize Kimberly Littell for the 2017 General Spruance Individual Achievement Award.



MURRAY P. KOCH INDUSTRY AWARD -

Presented to those members of industry who have made significant contributions in the advancement of technology or hardware for safety and survival applications.



Mr. Steve Roberts

The US Air Force announced on 15 May 2017 that it will end a restriction that prohibits pilots in the F-35 fighter jet from weighing less than 136 pounds

From notification of the issue to approval by the Department of Defense, Steve oversaw Martin-Baker Engineering, Design, Testing, and Development teams while providing

daily input and communications to Lockheed Martin Aircraft, the Joint Program Office as well as the United States Air Force and Navy program leadership

With every effort being reviewed, Steve Roberts oversaw the most-scrutinized and intensively tested ejection seat program in history. Over a 12 month period, a robust test program evaluated all modifications across the pilot size and speed ranges. At the end, the program successfully met all the physiological head and neck load requirements.

Steve Roberts efforts, leadership and work ethics ensures today that the JSF program has the most technically advanced and 100% compliant ejection seat in production.

For contributions and accomplishments in life saving product testing and for his dedication to this industry, the SAFE Association honors Mr. Steve Roberts.



HONORARY LIFE MEMBER AWARD-

Up to two honorees each year presented by the Board of Directors to a Member or Members in recognition of many years of service to this industry and service to the Association

This year, the SAFE Association is pleased to honor Mr. Stephen Merriman and Mr. Barry Shope.



Mr. Stephen Merriman

Stephen Merriman is recognized for his long-time representation of SAFE with the DOD HFE Technical Advisory Group and for his role as Publications Committee Chair.



Mr. Barry Shope

Barry Shope is recognized for his years of leadership within the SAFE Association at the Chapter level, as well as roles on the Association Board including past years as Symposium Chair and President (accepting the award on behalf of Mr. Barry Shope is Mr. Rick Valazquez.

Thank you both for your dedication to the Association



PRESIDENTS AWARD-

A discretionary award by the President acknowledging outstanding volunteer contributions during the year to the Association.



Mr. Glenn Paskoff

Board of Directors Chair for the 2017 Science & Technology Committee Mr. Glenn Paskoff was presented the 2017 President's Award. He was recognized for his outstanding dedication and years' work in putting together recent SAFE Symposiums Technical Program and Journal.



Congratulations to all our 2017 awardees!



The SAFE Board sincerely encourages Members to think of deserving colleagues for all upcoming 2018 Awards and submit a nomination directly through our website at: www.safeassociation.com

To nominate you must be a current SAFE Association Member.

If not a current Member - it is easy to become one at our website.

Flight Helmet Cords Can Impede Egress

- Understand the hazard of direct-to-airframe cord connections

The problem

- In the event of an accident or emergency in which an aircraft occupant wearing a flight helmet needs to egress quickly (such as a ditching, water impact, or fire), fast and unimpeded egress from the aircraft is essential for survival. **Direct-to-airframe intercommunication system (ICS) cord connections between the flight helmet and the airframe can impede egress during an accident or emergency.**¹
- **The cord connecting the flight helmet to the aircraft's ICS might not release readily from the airframe ICS port if the direction of egress is contrary to the direction needed to easily release the cord** (see figures 1a and 1b). For instance, if a cord needs to be pulled downward for release and an aircraft occupant is attempting a sideward egress, the cord may not release readily, which could cause excess delays in egress.

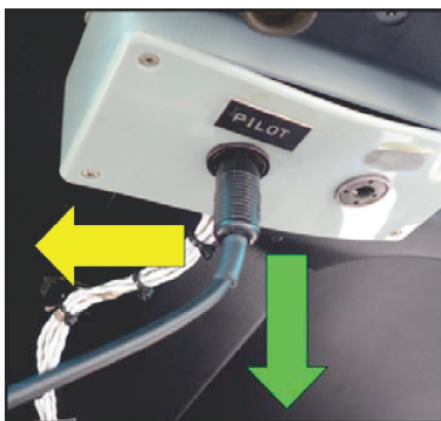


PHOTO BY NTSB

Figures 1a and 1b. Airbus (formerly Eurocopter) AS-350 B2 (left) and Piper PA-18-150 (right) pilot-seat airframe ICS ports. The green arrows show the direction needed to easily release the ICS cords, and the yellow arrows show the direction of occupant egress.

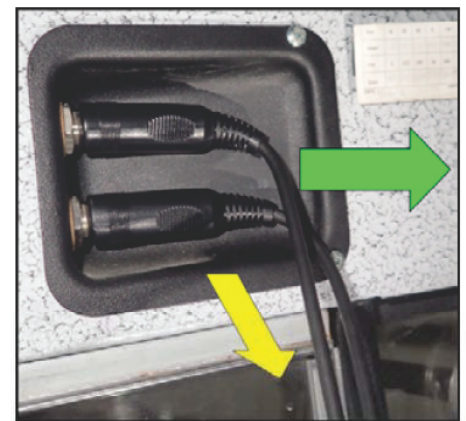


PHOTO BY NTSB

¹ For communication purposes, the flight helmet is connected to the aircraft's ICS via a cord that plugs into the airframe ICS port.

Related accidents

The National Transportation Safety Board (NTSB) and the Transportation Safety Board of Canada (TSB) have investigated two accidents in which flight helmet direct-to-airframe ICS cord connections have affected egress. Although the occupants were able to egress in both cases, the potential for adverse outcomes exists.

■ **The pilot of an MD Helicopters (formerly Hughes) MD-369E lost control while filling a water bucket at night over a lake** (see figures 2 and 3).

After the helicopter impacted the water, inverted, and started sinking, the pilot pulled himself out of the cockpit. **He reported that, as he came out of the cockpit underwater, he felt his flight helmet tug backwards; the ICS cord was still attached to the airframe ICS port.**



Figure 2. Helicopter in water.
PHOTO BY TWO BEAR AIR 2 LLC (OPERATOR)



Figure 3. Recovered helicopter.
PHOTO BY FAA

The pilot removed his flight

helmet, surfaced, and swam to the shore without further incident; he sustained minor injuries. ([GAA15LA217](#))

■ **An Airbus Helicopters (formerly Messerschmitt-Bölkow-Blohm) MBB B0105 impacted water while flying at low altitude over a bay in snow and darkening conditions in Canada** (see figure 4). The helicopter

sank, and the pilot and passenger were able to egress from the helicopter. After the egress, the pilot died from hypothermia, and the passenger drowned. **A postaccident examination of the pilot's flight helmet revealed that the end fitting of the ICS cord was fractured where it attached to the port. Metal remnants showed that the cord was being pulled sideways toward the pilot's door (as opposed to downward for release) when the fracture occurred;** a postaccident test of a similar fitting required a 70-lb pull before the cord failed. (TSB Report [A05A0155](#))



PHOTO BY TSB (CANADA)

Figure 4. Recovered helicopter.

What can YOU do?

- Ensure that you and your passengers understand and are proficient with the egress procedures for the aircraft that you are operating before you take off.
- Use a compatible intermediate cord between the ICS cord and the airframe ICS port to facilitate a clean separation during egress. The intermediate cord is a cord connecting to the airframe ICS port on one end and to the ICS cord on the other end, allowing the ICS cord to be disconnected in the direction of egress.
- Ensure that ICS cords are secured from potential snagging or entanglement with components such as flight controls.

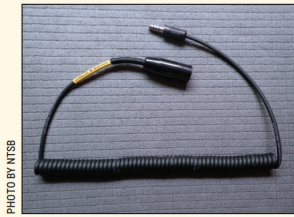


Figure 5. Exemplar intermediate cord.

Interested in more information?

The following resources address flight helmet ICS cord connection hazards:

- MD Helicopters' [Operational Safety Notice OSN2015-001](#) discusses the hazard of direct-to-airframe ICS cord connections with flight helmets (and references GAA15LA217).
- Transport Canada's article titled "Debrief: Post-Accident Survivability—Direct-to-Airframe Helmet Cord Connections" in [Aviation Safety Letter 4/2006](#) addresses the hazard of direct-to-airframe ICS cord connections with flight helmets (and references A05A0155).
- The US Army's [Flightfax from June 2001](#) discusses overwater flight operations and the hazard of flight helmet ICS cords impeding egress.

The NTSB has produced a [video](#) regarding this issue, which includes one investigator's tips on what you can do to be prepared and alleviate the hazard of direct-to-airframe ICS cord connections.

The report for the NTSB accident referenced in this Safety Alert is accessible by the NTSB accident number from the [Aviation Accident Database](#) link, and the NTSB accident's public docket is accessible from the [Accident Dockets](#) link for the Docket Management System.

The NTSB's Aviation Information Resources web page, www.nts.gov/air, provides convenient access to NTSB aviation safety products. This Safety Alert and others can be accessed from the [Aviation Safety Alerts](#) link.

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The NTSB is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant accidents in other modes of transportation—highway, marine, railroad, and pipeline. The NTSB determines the probable cause of the accidents and issues safety recommendations aimed at preventing future accidents. For more information, visit <http://www.nts.gov>.

What's Next?

To All Association Members- As you can see from the information in this Winter Newsletter, the Association had a successful symposium and 2017. Our grateful appreciation for all the work accomplished by the 2017 Board of Directors. Your 2018 board is continuing the process and all I can say is it will be a very good year. The 2018 board met 6 February at Pax River MD and started the process of defining and building our goals for 2018/2019. In early March, we will be sending out information based on that board meeting so that every member can see where we are focused and what we are expecting to accomplish. Starting with our Spring Newsletter, we will be covering all the goals and how we are doing to accomplish those important items. As we move forward, our primary objective is to keep you informed, provide useful & timely information, as well as, grow this great association. So what can you expect next? As an association we need to decide on where the next venues for the annual symposiums will take place. We will be establishing a working group to build that list and then we will submit it to the membership in the Fall Newsletter. During the Symposium, everyone attending will be able to voice and vote for where we go from 2020 to 2024. In the Winter 2019 Newsletter, we will announce those locations so that everyone can then start planning for those events. We look forward to the journey that is in front of us as well as learning more about the people of this great organization. Until our next newsletter or correspondence...BE SAFE!