

NATA Safety 1st eToolkit

Welcome to the 25th issue of the NATA Safety 1st eToolkit, our monthly online safety newsletter, supporting the NATA Safety 1st Management System (SMS) for Ground.

This monthly newsletter highlights known and emerging trends, environmental and geographical matters, as well as advances in operational efficiency and safety. Flight and ground safety have been enhanced and many accidents prevented because of shared experiences.



The NATA Safety 1st Management System (SMS) for Ground is underway and many of the tools discussed in this and other eToolkits will be provided to SMS and PLST participants.

NEW SMS TRAINING DVD

NATA Safety 1st and technical partner SH&E recently completed the first in the SMS series of DVD training aides focused on emerging trends in the aviation community. This first DVD training aide is titled: Safety Awareness – Ramp Communications Volume 1.



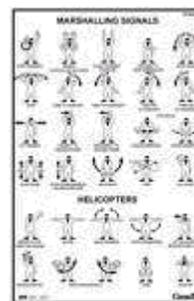
As the industry is very familiar with the Professional Line Service Technician (PLST) core training series, NATA Safety 1st and SH&E decided it was time to address the emerging trends that are becoming more and more prevalent within the ground handling and air operations community.

First and foremost, the Safety 1st Team focused on communication as the number one challenge to any ramp-ground operations environment. While ramp communication has always been a component of any ground operation, the methods in which we communicate, between cockpit and ground, have never really been consistent. Most of us learned about the use of hand signals from the Aeronautical Information Manual (AIM). You may remember the

chart with the little fellow in various positions. From this table, we all learned how to signal “Stop” and left or right turn, but the subtleties were never taught very well. We’ve progressed significantly since then.

Military pilots and ground crews have been provided more formalized training and it shows.

Watch any properly trained military team marshal in a transport, and you see a well-oiled, precision that respects the complexities of both worlds.



Obviously there are complexities. The pilots are handling a very complex piece of equipment, communicating with ground operations, addressing customer/passenger needs and managing all of this while taxiing to the correct parking spot without hitting anything. On the ground, the ramp team has an equally complex task. They have a schedule to deal with, many aircraft coming in and all want

service at a particular time and sequence; fuel, catering, ground transportation, luggage handling and parking for the Gulfstream. Then there are others who are expecting their passengers any minute but are experiencing a delay, other last minute changes and...whew, you get the picture.

What we hope to teach in this first of many SMS training aides is the concept of the professional ramp. The professional ramp is comprised of professional line service technicians who are trained to perform clear, concise hand signals and accurate radio communications in any environment. They also use the correct tools for the job, like appropriate personal protective equipment (PPE) and ramp tools; including proper chocks, fluorescent cones, day/night wands, fluorescent vests,



In This Issue:

- ▶ New SMS Training DVD..... 1
- ▶ A Word from Our Readers 2
- ▶ Bits and Bytes 3
- ▶ Participant Reminder..... 4
- ▶ Incident Roundup 5
- ▶ Aircraft De/Anti-Icing Training 6
- ▶ Continuing Education 7



NATA Safety 1st eToolkit

whistles, etc. They do this while understanding and watching everything else that is happening on the ramp.

By understanding each other's duties and responsibilities, crews and ground personnel can work together to protect one another. Understanding the complexities of each other's jobs will make the ramp a safer, more professional environment. Your passengers WILL notice and appreciate your professionalism.

The aviation environment (the portion inside the fence) is where the show is performed every day, rain or shine. The passengers know this as well and watch everything that you do on the ramp. Your professionalism, - your precision, is noticed by the passengers and the flight crews. And this becomes one more reason why they might prefer to transit your ramp rather than the competition.

The new DVD will be available from NATA Safety 1st in October. Details will be provided in the near future. Once incorporated into your training regimen, it will enhance the safety, quality and professionalism of your operation.

HOT Tables Available for 2006-2007 Winter Season

The Federal Aviation Administration (FAA) has released the Deicing Holdover Time (HOT) Guidelines for winter 2006-2007. Click the following link to download your copy in Word:

http://www.faa.gov/other_visit/aviation_industry/airline_operators/airline_safety/media/FAAHOT2006-2007.doc

A Word from Our Readers

For what it's worth...

The article on misfueling is really good and obviously written by experienced people. That's one thing that many of these articles seem to lack.

I was a lineman for many years, and I tend to disagree with the idea that the "duckbill" jet spout is a good solution to the misfueling problem. I have never liked ideas that substitute technology for training or brains. There is really no way to effectively prevent a lineman from misfueling an aircraft if he or she is determined to do their assigned task - even if it is wrong. I have even seen linemen use funnels to get jet fuel

into tanks when the duckbill wouldn't fit. The problem with duckbills is that once the lineman knows he has to use it to fuel aircraft with smaller fueling ports, the different size becomes a non-issue. There are even adapters sold to help line techs get fuel into a smaller sized fueling port when the duckbill doesn't fit. Duckbill spouts don't work because they don't send the right message to the person doing the job. It's a bit like using a fine line pen or a felt tip, and we all use whatever tool is handy. The duckbill focuses on the instrument not the task.

I think a more effective use of technology would be to condition the lineman and alert him or her to potential problems. While I know the jet spout attempts to do this by making the job more difficult, the spout itself sends a limited message. It is just another physical oddity of aviation. I think a better solution would be to use color-coding more effectively. Rather than create physical barriers that don't work, why not create visible signposts? If every avgas thing a lineman touched were blue and every jet thing were some other color (orange or yellow for example, not black), I think linemen might stop when the colors didn't match. We could make fueling nozzles (not just handles or spouts) the correct color. Paint is cheap and effective. Even if most of it gets worn off, it still works if kept up with on any sort of routine.

We could also paint the inside or install collars in aircraft fueling ports to indicate the color. I'll bet someone could even invent a colored membrane that you would have to push the spout through. We don't have to ask aircraft owners to mess up their beautiful paint jobs by putting rings on their wings or painting fuel caps a different color - unless they want to do that of course. I believe linemen would get used to seeing matching colors all the time. I believe they would get so used to it that they would suddenly stop when they opened a fuel cap and saw a mismatched color.

We could reinforce color coding by giving line men blue pads for avgas orders and yellow or orange pads for jet fuel orders, we could paint strategic areas of fuel trucks. Operators could even paint entire trucks the correct color so pilots would readily see what type of fuel was about to go into their aircraft. Operators could still use their own imaging to decorate their trucks. Some might even use color-coding to sell the idea that they are one more step safer than their competitors. Imagine blue or yellow trucks driving around airports. Line techs would get so used to seeing the correct color that a different color would stand out when suddenly encountered. After a while, everyone would know what fuel was where.

I think line personnel are a lot smarter than most people seem to think. They are just like the rest of us. They need training

and experience before they do their jobs well. In the meantime, they need good clues, not physical barriers that don't always work. If we are going to continue using duckbills, maybe we could color-code them to make them more effective, but my vote would be to get rid of them. If they don't work in every situation, they are simply not effective. The bottom line is that nothing works without training, and some operators don't seem to have time to train until something makes them do it.

Thanks for the information and keep up the good work. Safety 1st is a great program.

Thank you for your comments on our feature article on Misfueling and our program. We appreciate hearing from all our readers and encourage further discussion on this subject. Please send your ideas and comments to Safety1st.

Bits & Bytes

Deadly Drink



Have you ever poured a foreign substance into a nearby bottle and neglected properly dispose of it? Be sure to mark all containers with a label and NEVER use common drinking bottles to dispose of toxic liquids. The following story is a hard lesson to learn, but one that is easily avoided when correct label and disposal procedures are followed.

A metalworker died in early August two days after drinking from a bottle he thought contained an energy drink. The bottle was in his truck and had a Gatorade label on it, but unbeknownst to him, it actually contained a highly toxic liquid called Antique Black used to age metal. He grabbed and drank half a mouthful before spitting the other half out. He realized immediately that he had ingested the highly corrosive and toxic acid and told his co-worker who drove him to a nearby hospital. Unfortunately there is no antidote for ingestion of highly toxic Antique Black and his life was cut short because of this deadly mistake.

The Future of Ground Support Vehicles -- UPS and EPA partner to develop hybrid delivery vehicle

Late last month, United Parcel Service (UPS) and the Environmental Protection Agency (EPA) announced that future UPS delivery trucks will not be the same as they

unveiled the world's most fuel-efficient and cost-effective delivery vehicle. The EPA and UPS partnered to develop the first of its kind truck that uses EPA-patented hydraulic hybrid technology that can improve fuel efficiency by 60-70 percent in urban driving and lower greenhouse gas emissions by 40 percent.

"EPA and our partners are not just delivering packages with this UPS truck – we are delivering environmental benefits to the American people," said EPA Administrator Stephen L. Johnson. "President Bush is moving technology breakthroughs from the labs to the streets. We are doing what is good for our environment, good for our economy, and good for our nation's energy security."

According to the EPA's press release, laboratory tests show that this hybrid technology has the potential to dramatically improve the fuel economy for package delivery vehicles, shuttle and transit buses, and refuse pickup. More than 1,000 gallons of fuel each year could be saved per vehicle. The EPA estimates that upfront costs for the hybrid components could be recouped in fewer than three years for a typical delivery vehicle and that the net savings over the vehicle's lifespan could exceed \$50,000, assuming current fuel prices.

The vehicle features a full hydraulic hybrid powertrain and a unique hydraulic hybrid propulsion system integrated with the drive axle. Hydraulic motors and hydraulic tanks are used to store energy, in contrast to electric motors and batteries used in electric hybrid vehicles. Like other hybrid systems, energy saved when applying the brakes is reused to help accelerate the vehicle. Following a road tour of EPA Regional offices, the vehicle will be delivering UPS packages across Michigan this summer.



This partnership is occurring through Cooperative Research and Development Agreements, which Congress established to facilitate technology transfer of patented inventions from national laboratories to industry and the marketplace. Partners on the project are Eaton Corp., UPS, International Truck and Engine Corp., U.S. Army – National Automotive Center, and Morgan-Olson. Major technical support was provided by FEV Engine Technology Inc. and Southwest Research Institute.



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NATA To Showcase Aviation Documentary On Capitol Hill



On September 22, NATA will host an event to show the general aviation documentary “[One Six Right](#)” to Members of Congress and Congressional Staff. The film, produced and directed by Brian Terwilliger, documents the history of Van Nuys Airport – one of the busiest general aviation airports in the world. Using stunning aerial photography, “One Six Right” perfectly

captures the joy and emotions of flying. The film contains dozens of interviews with pilots, air traffic controllers, historians, and other aviation enthusiasts, who colorfully chronicle Van Nuys Airport’s unique history, including the airport’s role in the careers of both Amelia Earhart and Marilyn Monroe.

The event will take place on Friday, September 22, at noon in room 2167 of the Rayburn House Office Building, the Committee on Transportation and Infrastructure hearing room. Lunch will be provided, compliments of NATA.

The film will be playing single-night limited engagements across several other cities in the U.S. starting August 17th and will end in mid-November in Hollywood, CA. [Click here to review the city tour.](#)

Aviation Insurance Markets Expand

In the first part of 2006, the aviation industry saw the biggest expansion of aviation insurance markets in years. The two largest companies to enter the market include Allianz Global Risk and Starr Aviation.

Starr Aviation is located in Atlanta, Georgia and will offer insurance products to the general aviation industry to include commercial, corporate and private aircraft owner coverage. Allianz Global Risk is based in New York, as well as regionally, and will provide insurance products to the commercial and corporate aviation community. Both companies are affiliated with respected insurers within the aviation industry and will open up additional insurance options to the industry.

Habla Espanol? English to Spanish Dictionary for Safety Professionals

OR-OSHA has an English to Spanish dictionary for Safety Professionals available for [download](#). The dictionary was developed for two audiences. First it is directed at English-speaking employers. Second it is directed at English-Speaking Latino / Hispanic workers, supervisors and employers wishing to improve occupational safety and health communication. It’s a great reference!

Rental Agency Target Pilots

A new online resource is available from Enterprise Rent-A-Car for GA pilots’ easy access to rental cars. Pilots can access the site, http://www.enterprise.com/car_rental/deeplinkmap.do?bid=022, and put the airport identifier in for rental car availability. Depending on the airport, there may be a rental office, or Enterprise will deliver the car to the FBO. Enterprise will also provide pick up services and shuttle to the nearest facility.

NATA Safety 1st Management System (SMS) Reporting – REMINDER TO ALL PARTICIPANTS

SMS participants report near miss events, incidents and accident information by email, fax or online to our third-party consultant, SH&E. SH&E reviews, sanitizes (removes identifying information) and then shares information as lessons for our participants. Shortened summations of these events are and will be shared in future eToolkit issues.

Please make sure to refer to your SMS guide on how to submit these reports. Thank you for your assistance.



NATA Safety 1st eToolkit

INCIDENT ROUNDUP

- ❑ Challenger – aircraft suffered severe hail damage while on parked on the ramp. Weather forecast predicted potential for hail.
- ❑ Airbus A320 engine dropped by maintenance crew during removal, possible tooling failure.
- ❑ Hangar Collapse – reported 63mph peak gust and strong winds collapse hangar with 5 jet aircraft damaged.
- ❑ Lear 35 pressure vessel – While attempting to tow aircraft, operator failed to notice brakes were set, causing nose gear actuator to puncture the pressure vessel.
- ❑ Piper Cherokee Arrow was being repositioned to parking area by a mechanic and lineman. The mechanic attempted to attach the tow bar and it caught the prop causing the towbar to strike the lineman.
- ❑ Boeing Douglas DC9, while parked and unoccupied, was struck by a fuel truck that broke the aircraft navigation light lens. No injuries were reported.
- ❑ As EAA came to a close, a passenger in an RV-6 homebuilt was killed when a Grumman TBM Avenger ran into it from behind while taxiing at the Oshkosh airport. Both the Avenger (a very large WWII tail dragger with limited forward visibility) and the RV were in line for departure on the taxiway when the accident occurred. The propeller of the Avenger sliced into the RV and killed the passenger. The pilot of the RV was unhurt, as were the two on board the Avenger.
- ❑ Boeing McDonnell Douglas DC9-82 was struck by a tug while at the gate. No passengers were on board, no injuries reported, damage reported was minor.
- ❑ A food service truck traveling at around 20 mph crashed into a Boeing 737. The aircraft was facing west and was spun 90 degrees. The plane sustained damage to its fuselage, and vehicle's driver sustained injuries.
- ❑ Beech King Air, while connected to an APU on FBO ramp began to smoke and a minor fire was reported on the unit.
- ❑ Boeing 747-400 aircraft, while taxiing, was struck in the number four engine by a main deck loader vehicle. No injuries reported.
- ❑ Bombardier CL-600, while parked on the ramp, rolled into a fuel truck. No injuries reported, damage to the undercarriage of the nose.
- ❑ Boeing 717-200, while parked at the gate, was struck under the left wing area by two baggage carts. No injuries.



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Aircraft De/Anti-Icing Training

WHAT: Aircraft De/Anti-Icing Seminar

WHEN / WHERE: September 21, 2006 8 AM – 4 PM at the New England Air Museum in Windsor Locks, CT
October 25, 2006 from 8 AM – 4 PM at the Crown Plaza at the Detroit Metro Airport in Detroit, MI

WHO SHOULD ATTEND:

Line Service Technicians

Ground Personnel

Flight Crews

Dispatch Personnel

NATA Safety 1st & Leading Edge proudly bring you the most up-to-date De/Anti-Ice training available September 21, 2006 in Windsor Locks, Connecticut and October 25, 2006 in Detroit, Michigan. Whether you are new or need a refresher, you will come away with the latest and safest De/Anti-Icing procedures available to prepare for the upcoming winter season. In-depth training includes the clean aircraft concept, critical aircraft surfaces, de/anti-icing fluids, holdover guidelines / tables and recognizing fluid failures. Attendees receive a certificate of completion from NATA Safety 1st & Leading Edge.

- Yes, sign me up for September 21st at the New England Air Museum in Windsor Locks, CT
- Yes, sign me up for October 25th at the Crown Plaza Detroit Metro Airport in Detroit, MI

Register Online: http://www.nata.aero/events/event_detail.jsp?EVENT_ID=821

PAYMENT MUST ACCOMPANY FORM

NATA Member Price: \$450/Person
Non-NATA Member Price: \$550/Person

COMPLETED FORM TO:

Fax: (703) 845-0396
Mail: NATA
4226 King Street
Alexandria, VA 22302

Payment Type: ___ Check Enclosed ___ MasterCard ___ Visa ___ American Express

Credit Card #: _____ Exp. Date: _____

Name on Card: _____ Signature: _____



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CONTINUING EDUCATION

General Education Offerings

Aircraft De/Anti-Icing Training

September 21, 2006

New England Air Museum

Website: http://www.nata.aero/events/event_detail.jsp?EVENT_ID=821

LAST Line Service Supervisor Training Seminar

November 29 & 30, 2006

Hotel & Seminar: AmeriSuites, San Antonio, TX

Additional Details & Registration Online:

http://www.nata.aero/events/event_detail.jsp?EVENT_ID=366

“Sixty years ago I knew everything. Now I know nothing. Education is the progressive discovery of our ignorance.”

– Will Durant

SH&E

The NATA **Safety 1st eToolkit** is brought to you by NATA **Safety 1st** SMS and SH&E. SH&E is the leading expert in safety and operational integrity evaluations and safety management consulting. SH&E has developed a proprietary evaluation methodology, called Safety Architecture, which is unique within the industry as it focuses on systemic surveillance and process evaluation. This is a systems and controls look at how an operator manages those technical functions that support aviation operations.

Subscribe To NATA Safety 1st eToolkit. If you are not currently a subscriber to NATA **Safety 1st eToolkit** and would like to receive it on a regular basis, please send an email to Safety1st@nata.aero with the word "Subscribe" in the header. Please include your name, title, company and e-mail address. **Safety 1st eToolkit** is distributed free of charge to NATA member companies and NATA **Safety 1st** participants.

2006 Schedules: Aviation Safety and Security Offerings

Embry-Riddle Aeronautical University's Center for Aerospace Safety/Security Education (CASE)

Website: http://www.avsaf.org/case/programs_events.html

Southern California Safety Institute

Website: <http://www.scsi-inc.com/>

The GW Aviation Institute

Aviation Safety and Security Certificate Program

Website: http://www2.gwu.edu/~aviation/safetyandsecurity/ss_courses.html

Transportation Safety Institute

Website:

<http://www.tsi.dot.gov/divisions/Aviation/aviation.htm>

University of Southern California

Aviation Safety and Security Program

Website: <http://viterbi.usc.edu/aviation/>

Inclement Weather Preparation

Emergency Preparedness:

<http://www.nsc.org/issues/prepare.htm>

High Winds Preparedness:

http://www.natasafety1st.org/etoolkit/Safety1st_eToolkit_3_101504.pdf

How to Secure Your Hangar Doors:

http://www.natasafety1st.org/etoolkit/Safety1st_eToolkit_5_121604.pdf

Hurricane Preparedness:

<http://www.nata.aero/about/HurricaneKatrinaResources.jsp>

http://www.floridadisaster.org/hurricane_aware/english/disaster_prevention.shtml

<http://www.fema.gov/hazard/hurricane/index.shtm>

Thunderstorm Preparedness:

<http://www.fema.gov/hazard/thunderstorm/index.shtm>

Order Form

NATA Safety 1st® Management System (SMS) for Ground



4226 King Street
Alexandria, VA 22302
(703) 845-9000
Fax: (703) 845-0396

Yes, we want to sign up for the NATA SMS for Ground! We understand the following will be included in the price of our participation in the SMS:

- ▶ SMS Guide
- ▶ SMS Webcast Tutorials
- ▶ SMS Consultation by Telephone or email
- ▶ SMS Secure, Online Event Reporting Form
- ▶ SMS Monthly Online Newsletter
- ▶ SMS Root Cause Analysis

Contact Information (please print legibly)

CEO/Owner _____ Email _____

Safety Coordinator _____ Email _____

Company _____

Street Address _____

City _____ State _____ Zip _____

Phone _____ Fax _____ Email _____

Pricing

The prices below reflect the total number of employees at your facility. This number should include all you FBO locations. Please note that we will correspond with one Safety Coordinator per company and will require additional company information once established in the program. Please check appropriate box below.

- \$600 for NATA Safety 1st participants / NATA Members with 0-50 employees
- \$1,200 for NATA Safety 1st participants / NATA Members with 51-150 employees
- \$1,800 for NATA Safety 1st participants / NATA Members with more than 150 employees

Payment

Check enclosed (Please make payable to Aviation Training Institute, LLC.)

Please charge my MasterCard Visa American Express

Credit card number _____ Expiration _____

Signature _____ Name on card _____

Fax to (703) 845-8176 or mail to NATA Safety 1st® SMS, 4226 King Street, Alexandria, VA 22302

Agreement

I understand as CEO/Manager of this facility, Safety is our #1 priority. As such, the authority and responsibility to implement this program is placed with me. I will provide the resources necessary to ensure the safety of our customers, their equipment, our employees and the environment in our daily operations

Signed this date _____ CEO/Owner Signature _____